

Parallel Wireless Inc.

CWS-3050-05

FCC 22H:2016 Converged Wireless System

Report # KMWC0071 Rev 01





NVLAP Lab Code: 200676-0

CERTIFICATE OF TEST



Last Date of Test: September 28, 2016 Parallel Wireless Inc. Model: CWS-3050-05

Radio Equipment Testing

Standards

Specification	Method
FCC 22H:2016	ANSI/TIA/EIA-603-D-2010

Results

Method Clause	Test Description	Applied	Results	Comments
2.2.1	Conducted Output Power	Yes	Pass	
2.2.1	Peak To Average Ratio	Yes	Pass	
2.2.2	Frequency Stability	Yes	Pass	
2.2.3	Occupied Bandwidth	Yes	Pass	
2.2.12	Out of Band Emissions	Yes	Pass	
2.2.13	Band Edge Compliance	Yes	Pass	
2.2.13	Spurious Conducted Emissions	Yes	Pass	
2.2.13	Intermodulation	Yes	Pass	
2.2.17.2	ERP of Fundamental	No	N/A	Not requested

Deviations From Test Standards

None

Approved By:

Victor Ratinoff, Operations Manager

Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information.

REVISION HISTORY



Revision Number	Description	Date	Page Number
01	Removed LTE20 data	11/22/16	Multiple

ACCREDITATIONS AND AUTHORIZATIONS



United States

FCC - Designated by the FCC as a Telecommunications Certification Body (TCB). Certification chambers, Open Area Test Sites, and conducted measurement facilities are listed with the FCC.

A2LA - Accredited by A2LA to ISO / IEC 17065 as a product certifier. This allows Northwest EMC to certify transmitters to FCC and IC specifications.

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

Canada

ISED - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB). Certification chambers and Open Area Test Sites are filed with ISED.

European Union

European Commission - Validated by the European Commission as a Notified Body under the R&TTE Directive.

Australia/New Zealand

ACMA - Recognized by ACMA as a CAB for the acceptance of test data.

Korea

MSIP / RRA - Recognized by KCC's RRA as a CAB for the acceptance of test data.

Japan

VCCI - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

Taiwan

BSMI – Recognized by BSMI as a CAB for the acceptance of test data.

NCC - Recognized by NCC as a CAB for the acceptance of test data.

Singapore

IDA - Recognized by IDA as a CAB for the acceptance of test data.

Israel

MOC - Recognized by MOC as a CAB for the acceptance of test data.

Hong Kong

OFCA – Recognized by OFCA as a CAB for the acceptance of test data.

Vietnam

MIC - Recognized by MIC as a CAB for the acceptance of test data.

SCOPE

For details on the Scopes of our Accreditations, please visit:

http://www.nwemc.com/accreditations/ http://gsi.nist.gov/global/docs/cabs/designations.html

MEASUREMENT UNCERTAINTY



Measurement Uncertainty

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error qualified by a probability distribution.

A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found included as part of the applicable test description page. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable), and are available upon request.

The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

Test	+ MU	<u>- MU</u>
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	2.4 dB	-2.4 dB

FACILITIES







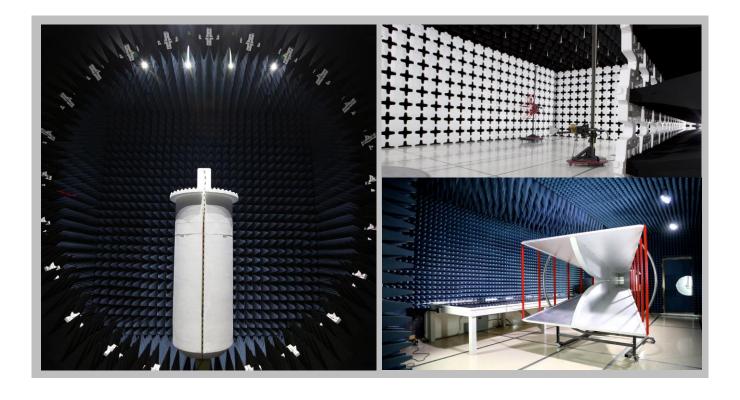
CaliforniaLabs OC01-13
41 Tesla
Irvine, CA 92618
(949) 861-8918

MinnesotaLabs MN01-08, MN10
9349 W Broadway Ave.
Brooklyn Park, MN 55445
(612)-638-5136

New York Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 554-8214 Oregon Labs EV01-12 22975 NW Evergreen Pkwy Hillsboro, OR 97124 (503) 844-4066 **Texas**Labs TX01-09
3801 E Plano Pkwy
Plano, TX 75074
(469) 304-5255

WashingtonLabs NC01-05
19201 120th Ave NE
Bothell, WA 98011
(425)984-6600

(949) 861-8918	(612)-638-5136	(315) 554-8214	(503) 844-4066	(469) 304-5255	(425)984-6600		
	NVLAP						
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200761-0	NVLAP Lab Code: 200630-0	NVLAP Lab Code:201049-0	NVLAP Lab Code: 200629-0		
	Innov	ation, Science and Eco	nomic Development Car	ada			
2834B-1, 2834B-3	2834E-1	N/A	2834D-1, 2834D-2	2834G-1	2834F-1		
	BSMI						
SL2-IN-E-1154R	SL2-IN-E-1152R	N/A	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R		
	VCCI						
A-0029	A-0109	N/A	A-0108	A-0201	A-0110		
Recognized Phase I CAB for ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA							
US0158	US0175	N/A	US0017	US0191	US0157		



PRODUCT DESCRIPTION



Client and Equipment Under Test (EUT) Information

Company Name:	Parallel Wireless Inc.
Address:	1 Tara Blvd, Suite #404
City, State, Zip:	Nashua, NH 03062
Test Requested By:	Edward Lee of KMW Communications
Model:	CWS-3050-05
First Date of Test:	September 26, 2016
Last Date of Test:	September 28, 2016
Receipt Date of Samples:	September 26, 2016
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

Tower based Converged Wireless System Base Station operating in the UMTS Band 5 with WCDMA and LTE Band 5 with 5 MHz and 10 MHz channel bandwidths.

Testing Objective:

To demonstrate compliance of the Cellular radio to FCC 22H requirements.

CONFIGURATIONS



Configuration KMWC0071-1

Software/Firmware Running during test	
Description	Version
eNB2440_20160729_v0_1_41.pkg	41

EUT					
Description	Manufacturer	Model/Part Number	Serial Number		
Converged Wireless System Base Station	Parallel Wireless Inc.	CWS-3050-05	K162600004		

Peripherals in test setup boundary					
Description	Manufacturer	Model/Part Number	Serial Number		
High Power Terminator	Telcon	KTMO400800060	1111-0064		
Laptop	Samsung	NP300V5A	HGHS93-JBA00674K		
Laptop Power Supply	Delta Electronics, Inc.	SADP-90FH D	CNBA4400215ABZ040C18685		

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Cable	No	5m	No	CWS-3050 Tower	DC Mains
RF Output Cable x2	Yes	5m	No	CWS-3050 Tower	High Power Terminator
Ethernet Cable	No	2.5m	No	CWS-3050 Tower	Laptop
AC Cable	No	1.5m	No	AC Mains	Laptop Power Supply
DC Cable	No	2.0m	Yes	Laptop	Laptop Power Supply

Configuration KMWC0071-2

Software/Firmware Running during test			
Description	Version		
eNB2440_20160729_v0_1_41.pkg	41		

EUT					
Description	Manufacturer	Model/Part Number	Serial Number		
Converged Wireless System Base Station	Parallel Wireless Inc.	CWS-3050-05	K162600004		

Peripherals in test setup boun	idary		
Description	Manufacturer	Model/Part Number	Serial Number
High Power Terminator	Telcon	KTMO400800060	1111-0064
High Power Terminator	Telcon	KTMO400800060	1111-0004

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Cable	No	5m	No	CWS-3050 Tower	DC Mains
Ethernet Cable	No	2.5m	No	CWS-3050 Tower	Unterminated
AISG Cable	Yes	3m	No	CWS-3050 Tower	Unterminated
AISG (ALM) Cable	Yes	6.1m	No	CWS-3050 Tower	Unterminated
RF Output Cable x2	Yes	5m	No	CWS-3050 Tower	High Power Terminator
Optical Cable	No	10m	No	CWS-3050 Tower	Unterminated
Ground Braid	No	2m	No	CWS-3050 Tower	Ground

MODIFICATIONS



Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
4	0/00/0040	Conducted	Tested as	No EMI suppression	EUT remained at
1	9/26/2016	Output Power	delivered to Test Station.	devices were added or modified during this test.	Northwest EMC following the test.
2	9/26/2016	Peak To Average Ratio	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
3	9/26/2016	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
4	9/26/2016	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
5	9/26/2016	Spurious Emissions at the Antenna Terminals	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
6	9/26/2016	Intermodulation	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
7	9/26/2016	Frequency Stability	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
8	9/28/2016	Out of Band Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Meter - Power	ETS Lindgren	7002-006	SRB	12/14/2015	12/14/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The RF output power was measured with the EUT set to the modes called out in the datasheet. The power measurement was made using a direct connection between the RF output of the EUT and an RF Power Sensor which only measures across the high time of the burst of the carrier.

The observed duty cycle was noted but not needed to calculate the ERP.

ERP = Max Measured Power + Antenna gain (dBi)

The measurements from Port 1 and Port 2 were summed to determine the total average power in ERP.

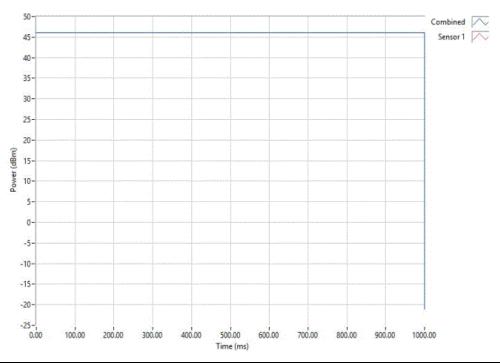
CONDUCTED OUTPUT POWER



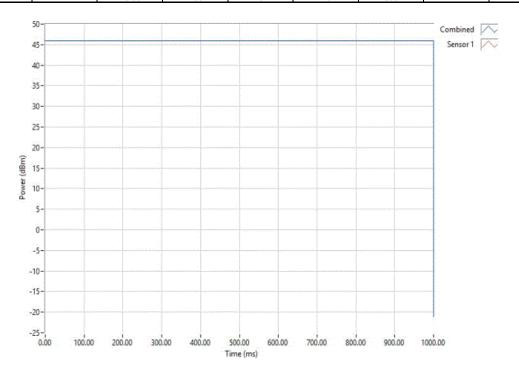
FUT	: CWS-3050-05							Work Order:	KMWC0071	
Serial Number:									09/26/16	
	: KMW Communications							Temperature:		
	Edward Lee								38.4% RH	
Project:								Barometric Pres.:		
Tested by:	Johnny Candelas			Power	: 48VDC			Job Site:	OC13	
TEST SPECIFICAT	TONS				Test Method					
FCC 22H:2016					ANSI/TIA/EIA-603-D	-2010				
COMMENTS					•					
Power Level Settin	ng 40W. Reference Level Of	fset: DC Block + 30dB Atte	nuator + 20d	IB Attenuator +	Power Divider + Cab	le Loss = 55.0dB t	otal.			
DEVIATIONS EDGI	M TEST STANDARD									
	W IESI SIANDARD									
None										
Configuration #	1	Signature	8	e d	Collection of the second					
		Olgridiaro			Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
Antenna Port 1					r wr (dbiii)	Cycle (78)	Gaiii (GDI)	(ubiii)	(Waits)	Results
, and mar or r	Low Channel LTE5, 871.5 M	ИНz			46.00	100	0	46	500	Pass
	Mid Channel LTE5, 881.5 M				45.99	100	0	46	500	Pass
	High Channel LTE5, 891.5 I				45.96	100	Ö	46	500	Pass
	Low Channel LTE10, 874 M				45.98	100	0	46	500	Pass
	Mid Channel LTE10, 881.5 I				45.99	100	Ö	46	500	Pass
	High Channel LTE10, 889 M				45.97	100	0	46	500	Pass
Antenna Port 2							-			
	Low Channel LTE5, 871.5 N	ИНz			45.97	100	0	46	500	Pass
	Mid Channel LTE5, 881.5 M				45.98	100	0	46	500	Pass
	High Channel LTE5, 891.5				45.95	100	0	46	500	Pass
	Low Channel LTE10, 874 M	1Hz			45.97	100	0	46	500	Pass
	Mid Channel LTE10, 881.5 I				45.99	100	0	46	500	Pass
	High Channel LTE10, 889 M	ИHz			45.99	100	0	46	500	Pass
Antenna Port 1 MIM	10									
	Low Channel LTE5, 871.5 N	ИHz			45.97	100	0	46	500	Pass
	Mid Channel LTE5, 881.5 M	1Hz			45.97	100	0	46	500	Pass
	High Channel LTE5, 891.5	MHz			45.99	100	0	46	500	Pass
	Low Channel LTE10, 874 M	1Hz			45.99	100	0	46	500	Pass
	Mid Channel LTE10, 881.5 I				45.99	100	0	46	500	Pass
	High Channel LTE10, 889 M	ИНz			45.99	100	0	46	500	Pass
Antenna Port 2 MIM										
	Low Channel LTE5, 871.5 N				45.99	100	0	46	500	Pass
	Mid Channel LTE5, 881.5 M				46.00	100	0	46	500	Pass
	High Channel LTE5, 891.5				45.99	100	0	46	500	Pass
	Low Channel LTE10, 874 M				45.99	100	0	46	500	Pass
	Mid Channel LTE10, 881.5 I				45.98	100	0	46	500	Pass
	High Channel LTE10, 889 M	ИHz			45.98	100	0	46	500	Pass
Linear Sum of the P	ower	Po	ort 1 (mW)	Port 2 (mW)	Sum (mW)	Sum (dBm)				
	Low Channel LTE5, 871.5 N	MHz	39536.7	39719.2	79255.8	48.99	0	48.99	500	Pass
	Mid Channel LTE5, 881.5 M	1Hz	39536.7	39810.7	79347.4	49.00	0	49.00	500	Pass
	High Channel LTE5, 891.5	MHz	39719.2	39719.2	79438.3	49.00	0	49.00	500	Pass
	Low Channel LTE10, 874 M	lHz	39719.2	39719.2	79438.3	49.00	0	49.00	500	Pass
	Mid Channel LTE10, 881.5 I	MHz	39719.2	39627.8	79347.0	49.00	0	49.00	500	Pass
	High Channel LTE10, 889 N	ИHz	39719.2	39627.8	79347.0	49.00	0	49.00	500	Pass



		Antenna Port 1	, Low Channel LT	E5, 871.5 MHz			
	Avg Cond	Duty	Antenna	EIRP	Limit		
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results	_
	46.00	100	0	46	500	Pass	l

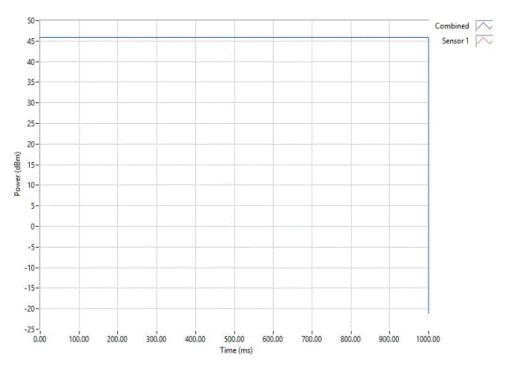


	Antenna Port 1, Mid Channel LTE5, 881.5 MHz								
		Avg Cond	Duty	Antenna	EIRP	Limit			
_		Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results		
l		45.99	100	0	46	500	Pass		

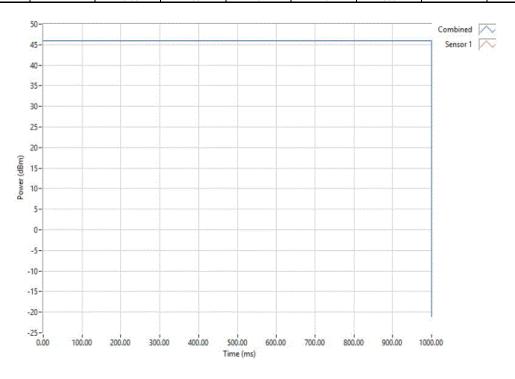




		Antenna Port 1,	High Channel L	ΓΕ5, 891.5 MHz			
	Avg Cond	Duty	Antenna	EIRP	Limit		
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results	
	45.96	100	0	46	500	Pass	

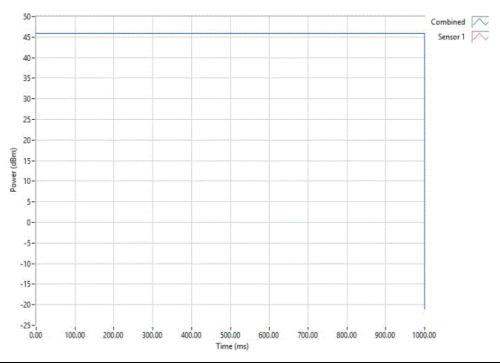


Antenna Port 1, Low Channel LTE10, 874 MHz								
	Avg Cond	Duty	Antenna	EIRP	Limit			
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results		
	45.98	100	0	46	500	Pass		

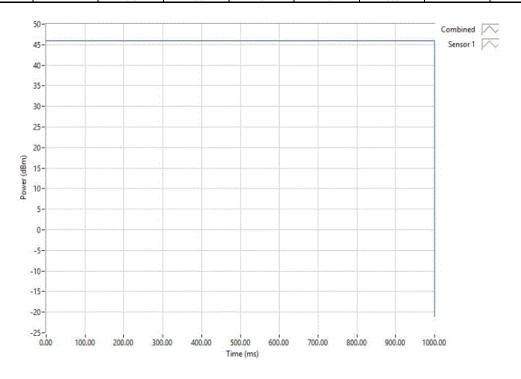




	Antenna Port 1	Mid Channel LT	E10, 881.5 MHz		
Avg Cond	Duty	Antenna	EIRP	Limit	
Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
45.99	100	0	46	500	Pass



Antenna Port 1, High Channel LTE10, 889 MHz								
	Avg Cond	Duty	Antenna	EIRP	Limit			
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results		
	45.97	100	0	46	500	Pass		

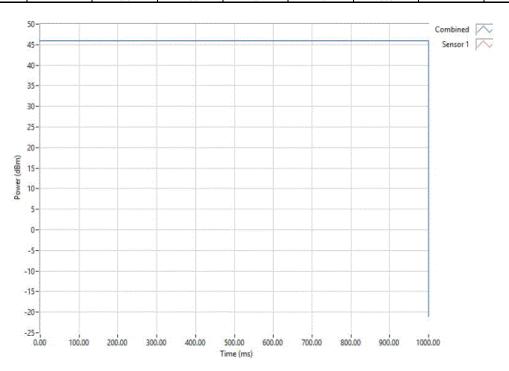




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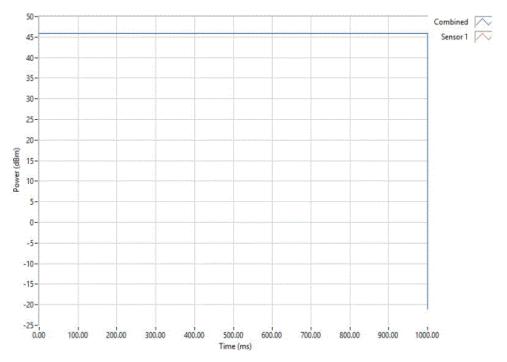
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		Antenna Port 2,	Low Channel LT	E5, 871.5 MHz		
Į.	Avg Cond	Duty	Antenna	EIRP	Limit	
P	owr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
	45.97	100	0	46	500	Pass

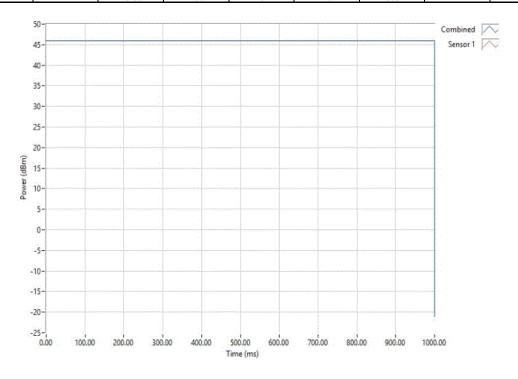




		Antenna Port 2	, Mid Channel LT	E5, 881.5 MHz		
	Avg Cond	Duty	Antenna	EIRP	Limit	
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
	45.98	100	0	46	500	Pass

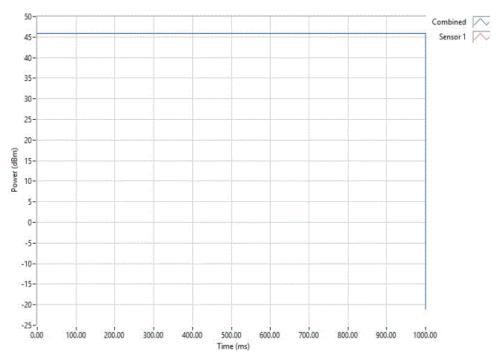


		Antenna Port 2,	, High Channel L ⁻	ΓΕ5, 891.5 MHz		
	Avg Cond	Duty	Antenna	EIRP	Limit	
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
í r	45.95	100	0	46	500	Pass

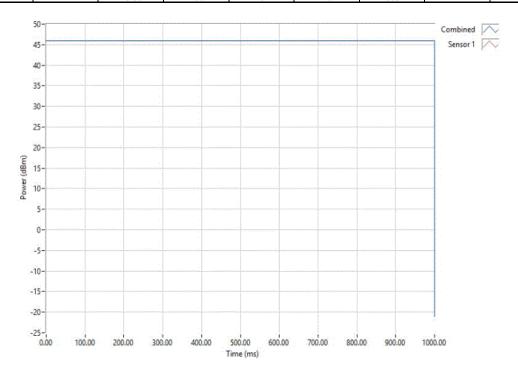




		Antenna Port 2	, Low Channel L	TE10, 874 MHz		
	Avg Cond	Duty	Antenna	EIRP	Limit	
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
I	45.97	100	0	46	500	Pass

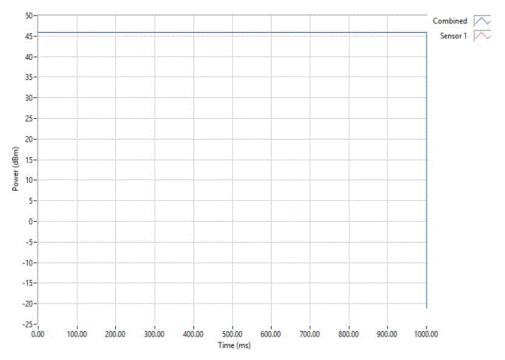


		Antenna Port 2,	Mid Channel LTI	E10, 881.5 MHz		
	Avg Cond	Duty	Antenna	EIRP	Limit	
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
l [45.99	100	0	46	500	Pass





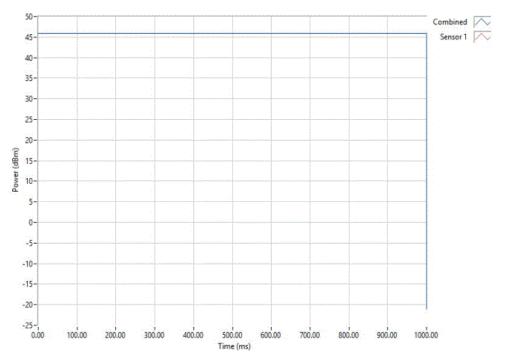
		Antenna Port 2	, High Channel L	TE10, 889 MHz		
	Avg Cond	Duty	Antenna	EIRP	Limit	
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
Í.	45.99	100	0	46	500	Pass



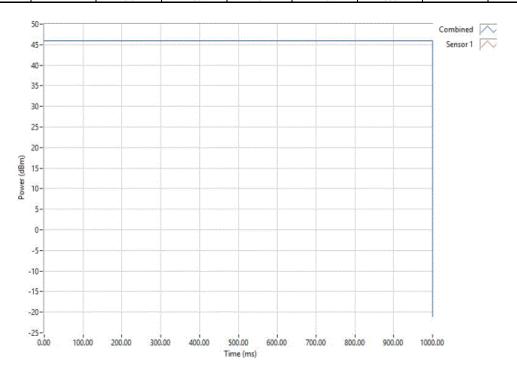
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Α	ntenna Port 1 MI	MO, Low Channe	I LTE5, 871.5 MF	lz	
Avg Cond	Duty	Antenna	EIRP	Limit	
 Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
45.97	100	0	46	500	Pass

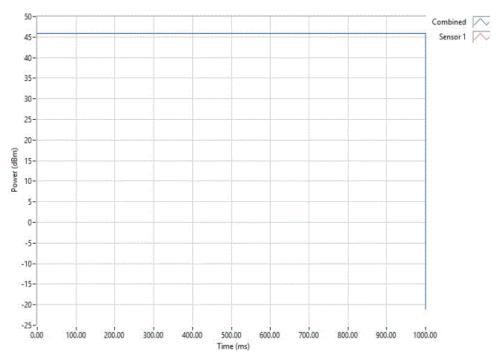


A	Intenna Port 1 MI	MO, Mid Channe	I LTE5, 881.5 MF	łz	
Avg Cond	Duty	Antenna	EIRP	Limit	
 Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
45.97	100	0	46	500	Pass

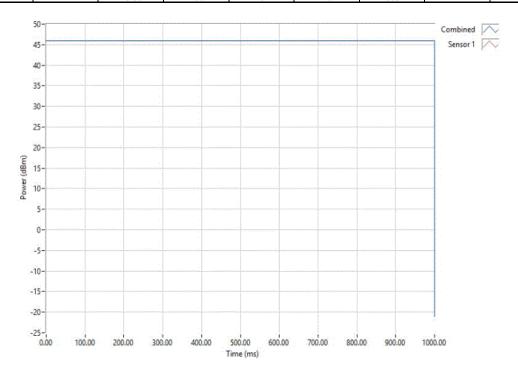




Antenna Port 1 MIMO, High Channel LTE5, 891.5 MHz							
	Avg Cond	Duty	Antenna	EIRP	Limit		
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results	
	45.99	100	0	46	500	Pass	

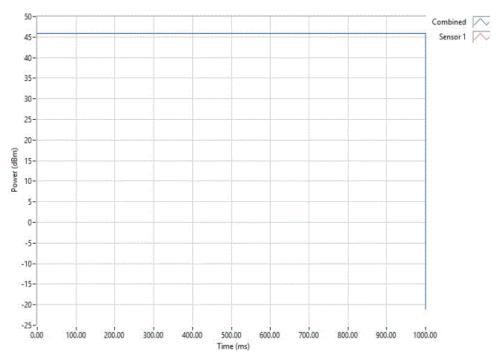


	А	Intenna Port 1 MI	MO, Low Channe	I LTE10, 874 MH	Z	
	Avg Cond	Duty	Antenna	EIRP	Limit	
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
	45.99	100	0	46	500	Pass

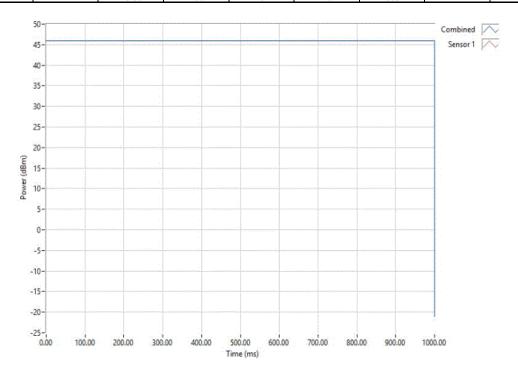




	Antenna Port 1 MIMO, Mid Channel LTE10, 881.5 MHz									
	Avg Cond Duty Antenna EIRP Limit									
		Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results			
1		45.99	100	0	46	500	Pass			



	Antenna Port 1 MIMO, High Channel LTE10, 889 MHz Avg Cond Duty Antenna EIRP Limit Pwr (dBm) Cycle (%) Gain (dBi) (dBm) (Watts) Results							
	Avg Cond	Duty	Antenna	EIRP	Limit			
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results		
Ι	45.99	100	0	46	500	Pass		

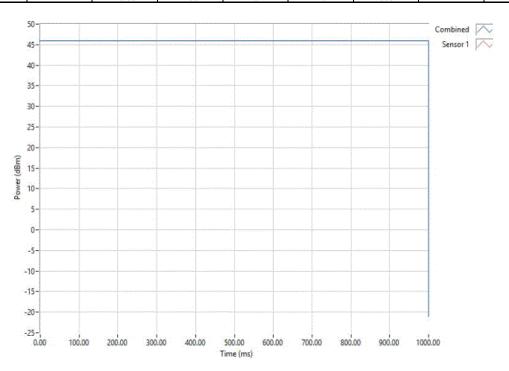




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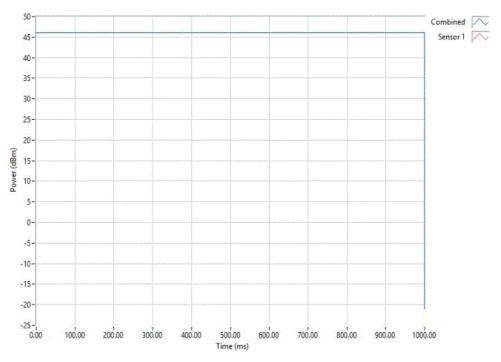
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	Antenna Port 2 MIMO, Low Channel LTE5, 871.5 MHz Avg Cond Duty Antenna EIRP Limit Pwr (dBm) Cycle (%) Gain (dBi) (dBm) (Watts) Results							
Avg	Cond	Duty	Antenna	EIRP	Limit			
Pwr	(dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results		
45	.99	100	0	46	500	Pass		

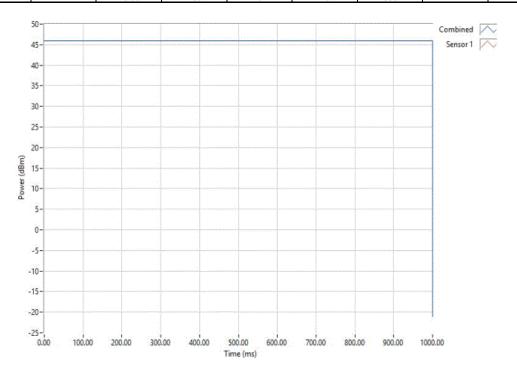




Antenna Port 2 MIMO, Mid Channel LTE5, 881.5 MHz									
Avg Cond Duty Antenna EIRP Limit									
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results	_		
	46.00	100	0	46	500	Pass	İ		

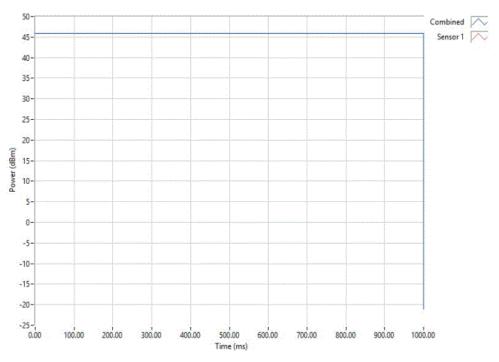


	Antenna Port 2 MIMO, High Channel LTE5, 891.5 MHz Avg Cond Duty Antenna EIRP Limit Pwr (dBm) Cycle (%) Gain (dBi) (dBm) (Watts) Results							
	Avg Cond	Duty	Antenna	EIRP	Limit			
_	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results		
	45.99	100	0	46	500	Pass		

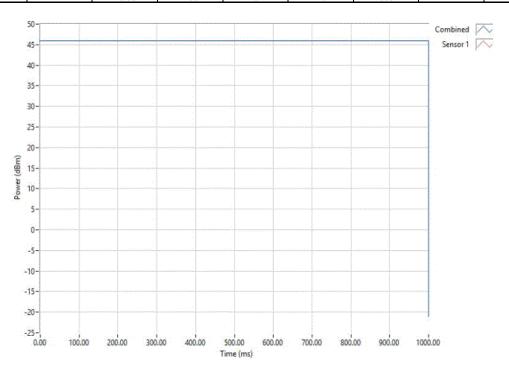




Antenna Port 2 MIMO, Low Channel LTE10, 874 MHz									
Avg Cond Duty Antenna EIRP Limit									
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results			
	45.99	100	0	46	500	Pass			

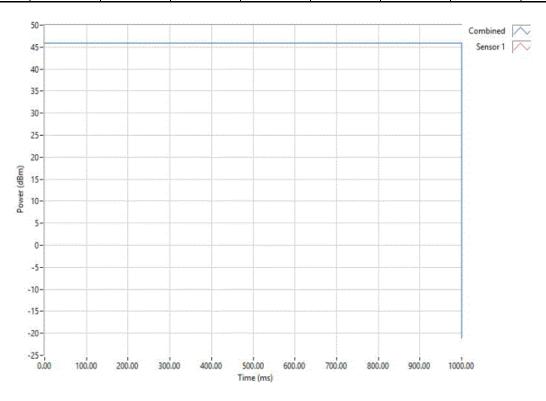


	Antenna Port 2 MIMO, Mid Channel LTE10, 881.5 MHz Avg Cond Duty Antenna EIRP Limit Pwr (dBm) Cycle (%) Gain (dBi) (dBm) (Watts) Results							
	Avg Cond	Duty	Antenna	EIRP	Limit			
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results		
	45.98	100	0	46	500	Pass		





Antenna Port 2 MIMO, High Channel LTE10, 889 MHz									
Avg Cond	Duty	Antenna	EIRP	Limit					
Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results				
45.98	100	0	46	500	Pass				





Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

0 4 0					
Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Meter - Power	ETS Lindgren	7002-006	SRB	12/14/2015	12/14/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The RF output power was measured with the EUT set to the modes called out in the datasheet. The power measurement was made using a direct connection between the RF output of the EUT and an RF Power Sensor which only measures across the high time of the burst of the carrier.

The observed duty cycle was noted but not needed to calculate the ERP.

ERP = Max Measured Power + Antenna gain (dBi)

The measurements from Port 1 and Port 2 were summed to determine the total average power in ERP.

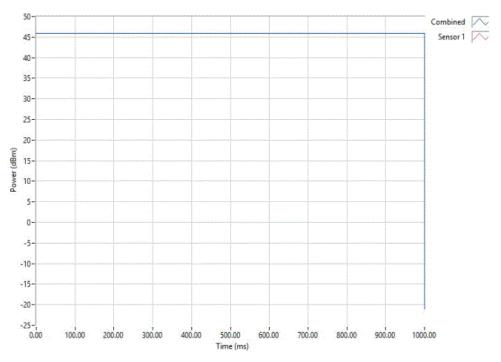
CONDUCTED OUTPUT POWER



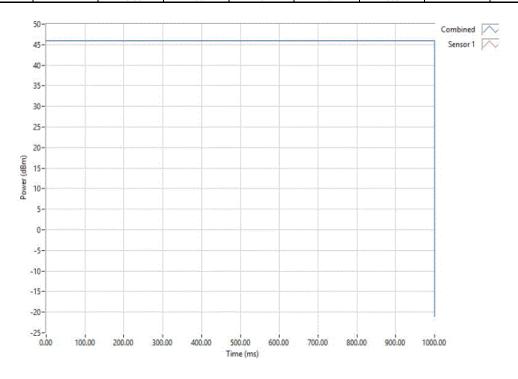
	: CWS-3050-05				Work Order: KMWC0071					
Serial Number:			·		·			09/26/16		
Customer	: KMW Communications						Temperature:	22.3 °C		
	: Edward Lee						Humidity:			
Project:	: None									
	: Johnny Candelas		Power:	48VDC		Job Site: OC13				
TEST SPECIFICAT	TIONS			Test Method						
FCC 22H:2016				ANSI/TIA/EIA-603-E	0-2010					
COMMENTS										
Power Level Settin	ng 40W. Reference Level Offset: DC Block + 30dB	Attenuator + 20	dB Attenuator +	Power Divider + Cal	ole Loss = 55.0dB	total.				
	M TEST STANDARD									
None										
			0 1	Car.						
Configuration #	1		ce .	Carre						
	Signature	U	i.							
				Avg Cond	Duty	Antenna	EIRP	Limit		
L				Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results	
Antenna Port 1				45.07	400		40	F00		
	Low Channel WCDMA, 871.4 MHz			45.97	100	0	46	500	Pass	
	Mid Channel WCDMA, 881.4 MHz			45.98	100 100	0	46	500 500	Pass	
Antenna Port 2	High Channel WCDMA, 891.6 MHz			45.99	100	0	46	500	Pass	
Antenna Port 2	Low Channel WCDMA, 871.4 MHz			46	100	0	46	500	Pass	
	Mid Channel WCDMA, 881.4 MHz			46	100	0	46	500	Pass	
	High Channel WCDMA, 891.6 MHz			45.97	100	0	46	500	Pass	
Antenna Port 1 MIM				40.81	100	U	40	300	F d 5 5	
Antenna i ort i ivilivi	Low Channel WCDMA, 871,4 MHz			46	100	0	46	500	Pass	
	Mid Channel WCDMA, 881.4 MHz			45.98	100	0	46	500	Pass	
	High Channel WCDMA, 891.6 MHz			45.98	100	0	46	500	Pass	
Antenna Port 2 MIM				40.00	100		70	300	1 433	
/ Intornia i ort 2 min	Low Channel WCDMA, 871,4 MHz			45.98	100	0	46	500	Pass	
	Mid Channel WCDMA, 881.4 MHz			45.96	100	0	46	500	Pass	
	High Channel WCDMA, 891.6 MHz			45.99	100	Ō	46	500	Pass	
Linear Sum of the P										
		Port 1 (mW)	Port 2 (mW)	Sum (mW)	Sum (dBm)					
	Low Channel WCDMA, 871.4 MHz	39810.7	39627.8	79438.5	49.00	0	49	500	Pass	
	Mid Channel WCDMA, 881.4 MHz	39627.8	39445.7	79073.5	48.98	0	49	500	Pass	
	High Channel WCDMA, 891.6 MHz	39627.8	39719.2	79347.0	49.00	0	49	500	Pass	



		Antenna Port 1, L	ow Channel WC	DMA, 871.4 MHz			
	Avg Cond	Duty	Antenna	EIRP	Limit		
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results	_
	45.97	100	0	46	500	Pass	ĺ

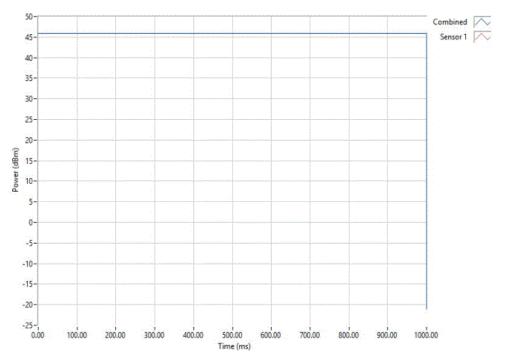


	Antenr	na Port 1, M	lid Channel WC	DMA, 881.4 MHz		
Avg C	ond [Outy	Antenna	EIRP	Limit	
 Pwr (d	IBm) Cyc	cle (%)	Gain (dBi)	(dBm)	(Watts)	Results
45.	98	100	0	46	500	Pass

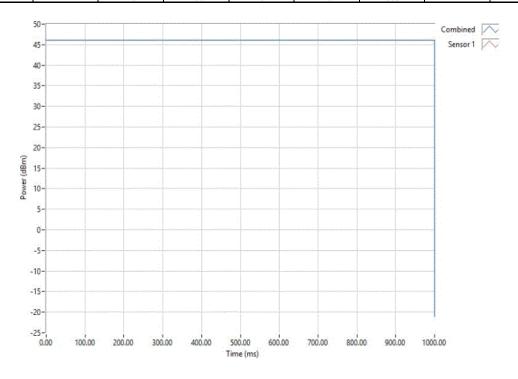




	Antenna Port 1, F	High Channel WC	DMA, 891.6 MHz		
Avg Cond	Duty	Antenna	EIRP	Limit	
Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
45.99	100	0	46	500	Pass

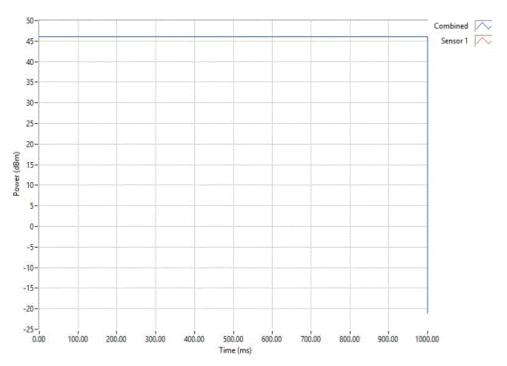


		Antenna Port 2, L	ow Channel WC	DMA, 871.4 MHz		
	Avg Cond	Duty	Antenna	EIRP	Limit	
_	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
	46	100	0	46	500	Pass

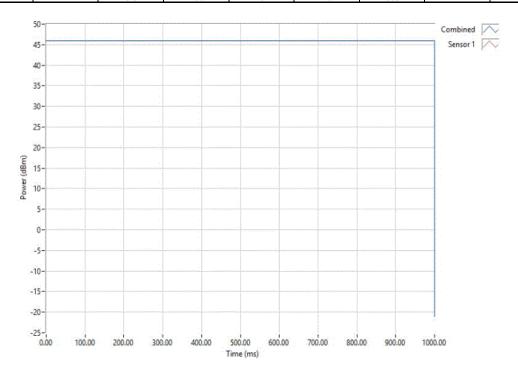




		Antenna Port 2, I	Mid Channel WCl	DMA, 881.4 MHz			
	Avg Cond	Duty	Antenna	EIRP	Limit		
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results	
	46	100	0	46	500	Pass	i

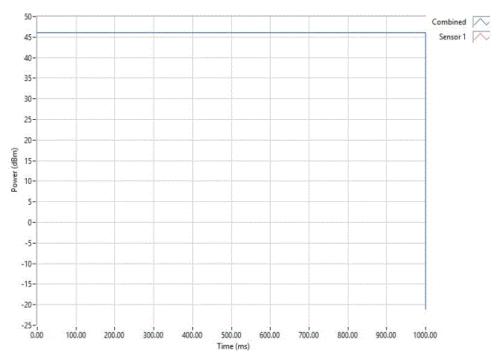


		Antenna Port 2, F	ligh Channel WC	DMA, 891.6 MHz	<u>'</u>	
	Avg Cond	Duty	Antenna	EIRP	Limit	
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
	45.97	100	0	46	500	Pass

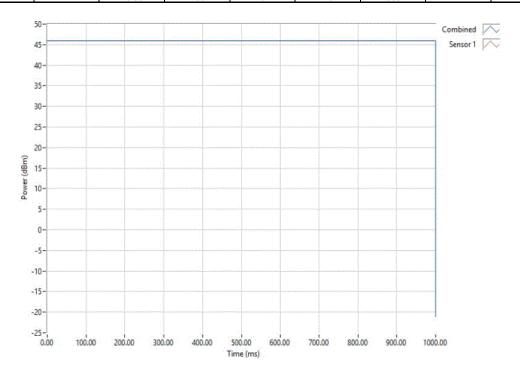




	Ant	enna Port 1 MIM	O, Low Channel	WCDMA, 871.4 N	ИHz	
	Avg Cond	Duty	Antenna	EIRP	Limit	
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
I	46	100	0	46	500	Pass

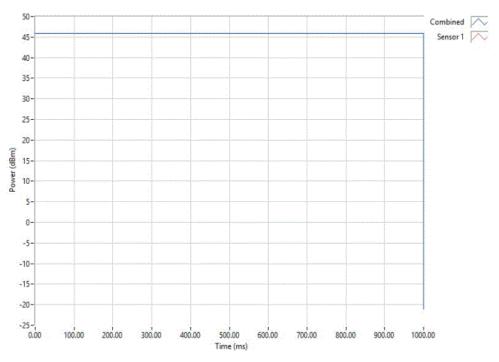


	An	tenna Port 1 MIM	O, Mid Channel \	WCDMA, 881.4 N	1Hz	
	Avg Cond	Duty	Antenna	EIRP	Limit	
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
	45.98	100	0	46	500	Pass

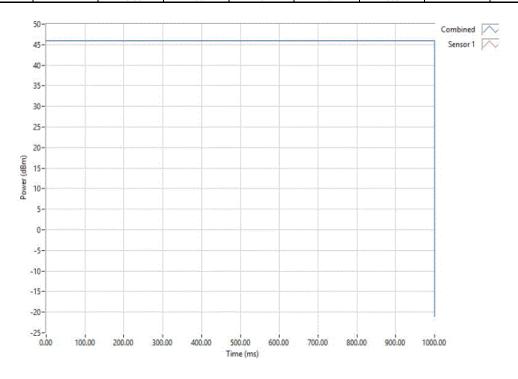




	Ant	enna Port 1 MIM	O, High Channel	WCDMA, 891.6 N	ИHz	
	Avg Cond	Duty	Antenna	EIRP	Limit	
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
I	45.98	100	0	46	500	Pass

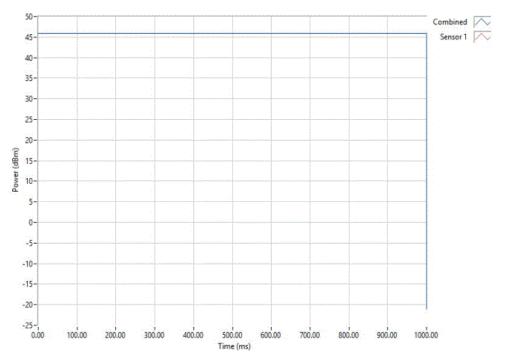


	Ant	enna Port 2 MIM	O, Low Channel \	NCDMA, 871.4 N	ИHz	
	Avg Cond	Duty	Antenna	EIRP	Limit	
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
	45.98	100	0	46	500	Pass

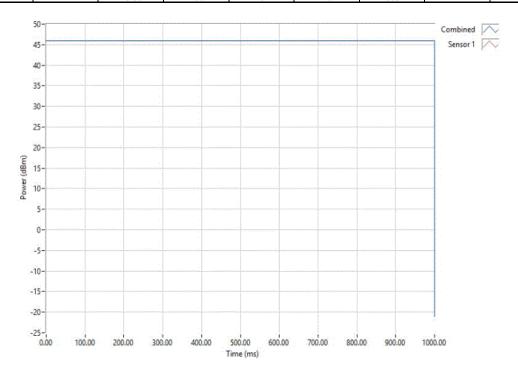




	An	tenna Port 2 MIM	O, Mid Channel \	WCDMA, 881.4 N	1Hz	
	Avg Cond	Duty	Antenna	EIRP	Limit	
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
I	45.96	100	0	46	500	Pass



	Ant	enna Port 2 MIM	O, High Channel '	WCDMA, 891.6 N	ЛHz	
	Avg Cond	Duty	Antenna	EIRP	Limit	
	Pwr (dBm)	Cycle (%)	Gain (dBi)	(dBm)	(Watts)	Results
	45.99	100	0	46	500	Pass



PEAK TO AVERAGE RATIO - LTE BAND 5



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
500hm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

Because the conducted Output Power was measured using a RMS Average detector, the Peak to Average Ratio was measured to show that the maximum peak-max-hold spectrum to the maximum of the average spectrum does not exceed 13 dB.

The spectrum analyzer settings were as follows:

Span set to encompass the entire emission bandwidth, centered on the transmit channel.

The largest difference between the following two traces was calculated:

▶1st Trace: Peak detector and trace max-hold.

▶2nd Trace: The same procedure and settings as was used for conducted Output Power.

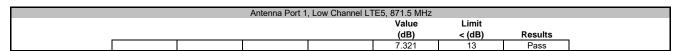
PEAK TO AVERAGE RATIO - LTE BAND 5

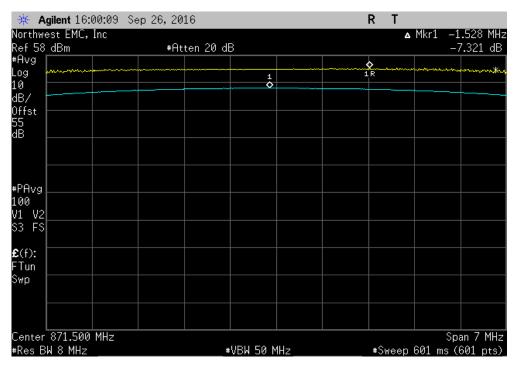


EUT:	: CWS-3050-05					Work Order:	KMWC0071	
Serial Number:							09/26/16	
	: Parallel Wireless Inc.					Temperature:		
	Edward Lee						38.4% RH	
Project:						Barometric Pres.:		
	Johnny Candelas		Power	: 48VDC		Job Site:	OC13	
TEST SPECIFICAT	TIONS			Test Method				
FCC 22H:2016				ANSI/TIA/EIA-603-D-2010				
COMMENTS								
	M TEST STANDARD	offset: DC Block + 30dB Attenuator + 2	200B Attenuator +	Power Divider + Cable Loss = 55.	odb total.			
None	WI IESI SIANDARD							
None			-					
Configuration #	1	Signature	fe d.	and the same of th				
	1		fe d.	- Collection - Col		Value (dB)	Limit < (dB)	Results
Configuration # Antenna Port 1	1	Signature	fe d.	lather .		(dB)	< (dB)	
	Low Channel LTE5, 871.5	Signature MHz	for de			(dB) 7.321	< (dB)	Pass
	Mid Channel LTE5, 881.5 I	Signature MHz MHz	fe d	- Caller		7.321 7.048	< (dB) 13 13	Pass Pass
	Mid Channel LTE5, 881.5 High Channel LTE5, 891.5	Signature MHz MHz MHz	fe d.			7.321 7.048 7.334	< (dB) 13 13 13	Pass Pass Pass
	Mid Channel LTE5, 881.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 I	Signature MHz MHz MHz MHz MHz	fe d.	- Collection		7.321 7.048 7.334 9.617	< (dB) 13 13 13 13 13	Pass Pass Pass Pass
	Mid Channel LTE5, 881.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 Mid Channel LTE10, 881.5	Signature MHz MHz MHz MHz MHz MHz MHz MHz	fr d.	- Lather		7.321 7.048 7.334 9.617 9.748	< (dB) 13 13 13 13 13 13	Pass Pass Pass Pass Pass
Antenna Port 1	Mid Channel LTE5, 881.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 I	Signature MHz MHz MHz MHz MHz MHz MHz MHz	g. d.			7.321 7.048 7.334 9.617	< (dB) 13 13 13 13 13	Pass Pass Pass Pass
	Mid Channel LTE5, 881.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 Mid Channel LTE10, 881.5 High Channel LTE10, 889	Signature MHz MHz MHz MHz MHz MHz MHz MH	ge d.			7.321 7.048 7.334 9.617 9.748 10.085	< (dB) 13 13 13 13 13 13 13	Pass Pass Pass Pass Pass Pass
Antenna Port 1	Mid Channel LTE5, 881.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 Mid Channel LTE10, 881.5 High Channel LTE10, 889 Low Channel LTE5, 871.5	Signature MHz MHz MHz MHz MHz MHz MHz MHz MHz MH	f. d.			7.321 7.048 7.334 9.617 9.748 10.085	< (dB) 13 13 13 13 13 13 13 13	Pass Pass Pass Pass Pass Pass Pass Pass
Antenna Port 1	Mid Channel LTE5, 881.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 I Mid Channel LTE10, 881.5 High Channel LTE10, 889 Low Channel LTE5, 871.5 Mid Channel LTE5, 881.5	Signature MHz MHz MHz MHz MHz MHz MHz MHz MHz MH	fe d.	- Caller		7.321 7.048 7.334 9.617 9.748 10.085	< (dB) 13 13 13 13 13 13 13 13 13 13	Pass Pass Pass Pass Pass Pass Pass Pass
Antenna Port 1	Mid Channel LTE5, 881.5 High Channel LTE16, 891.5 Low Channel LTE10, 874 Mid Channel LTE10, 881.5 High Channel LTE10, 889.5 Low Channel LTE5, 871.5 Mid Channel LTE5, 881.5 High Channel LTE5, 881.5	Signature MHz MHz MHz MHz MHz MHz MHz MHz MHz MH	f. d.			7.321 7.048 7.334 9.617 9.748 10.085 7.349 7.095 7.44	< (dB) 13 13 13 13 13 13 13 13 13 13 13 13 13	Pass Pass Pass Pass Pass Pass Pass Pass
Antenna Port 1	Mid Channel LTE5, 881.5 High Channel LTE10, 874. Low Channel LTE10, 874 Mid Channel LTE10, 881.5 High Channel LTE10, 889. Low Channel LTE5, 881.5 High Channel LTE5, 881.5 Low Channel LTE5, 881.5 Low Channel LTE10, 874	Signature MHz MHz MHz MHz MHz MHz MHz MHz MHz MH	f. d.			7.321 7.048 7.334 9.617 9.748 10.085 7.349 7.095 7.44 9.719	< (dB) 13 13 13 13 13 13 13 13 13 13 13 13 13	Pass Pass Pass Pass Pass Pass Pass Pass
Antenna Port 1	Mid Channel LTE5, 881.5 High Channel LTE16, 891.5 Low Channel LTE10, 874 Mid Channel LTE10, 881.5 High Channel LTE10, 889.5 Low Channel LTE5, 871.5 Mid Channel LTE5, 881.5 High Channel LTE5, 881.5	Signature MHz MHz MHz MHz MHz MHz MHz MHz MHz MH	fr d.			7.321 7.048 7.334 9.617 9.748 10.085 7.349 7.095 7.44	< (dB) 13 13 13 13 13 13 13 13 13 13 13 13 13	Pass Pass Pass Pass Pass Pass Pass Pass

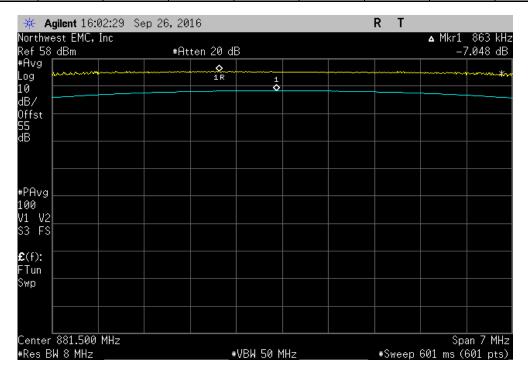
PEAK TO AVERAGE RATIO - LTE BAND 5



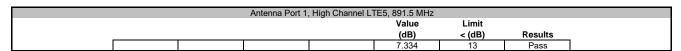


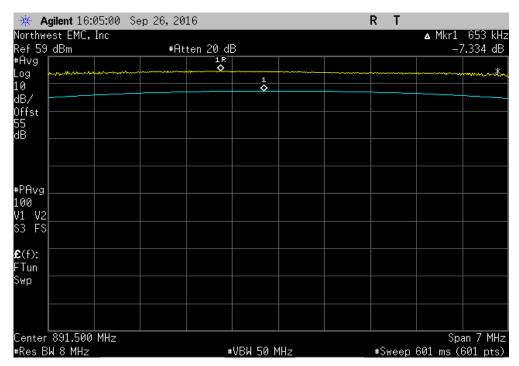


Antenna Port 1, Mid Channel LTE5, 881.5 MHz						
				Value	Limit	
				(dB)	< (dB)	Results
				7.048	13	Pass

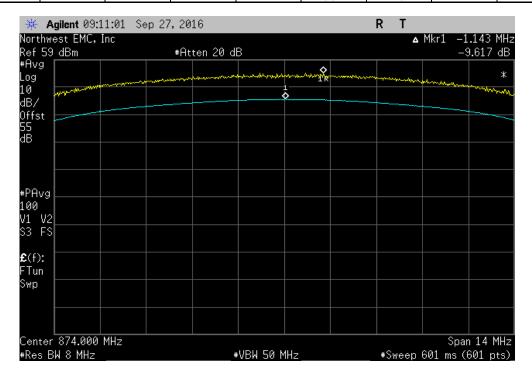




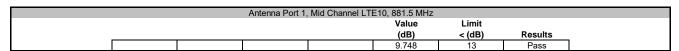


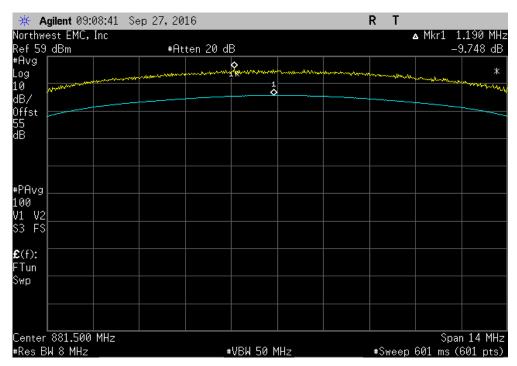


	Antenna Port 1	, Low Channel L	ΓΕ10, 874 MHz		
			Value	Limit	
			(dB)	< (dB)	Results
			9.617	13	Pass

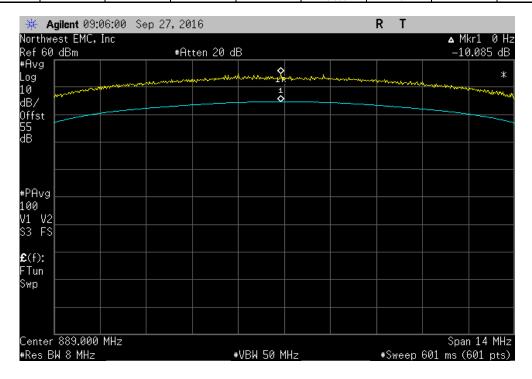








	Antenna Port 1	, High Channel L	TE10, 889 MHz		
			Value	Limit	
			(dB)	< (dB)	Results
			10.085	13	Pass

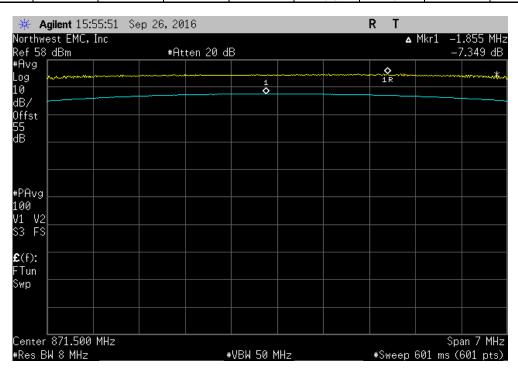




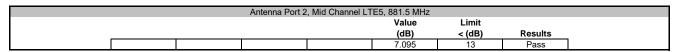
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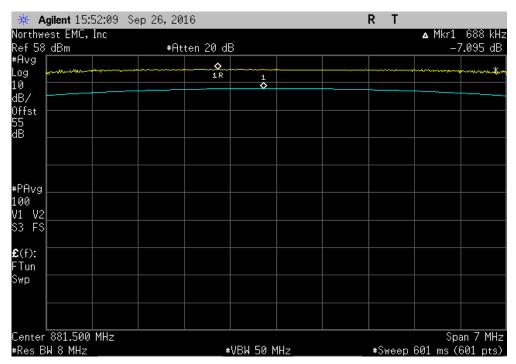
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	Antenna Port 2	, Low Channel LT	E5, 871.5 MHz		
			Value	Limit	
			(dB)	< (dB)	Results
			7.349	13	Pass

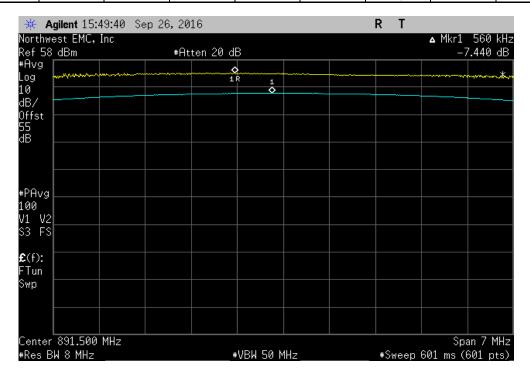




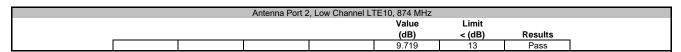


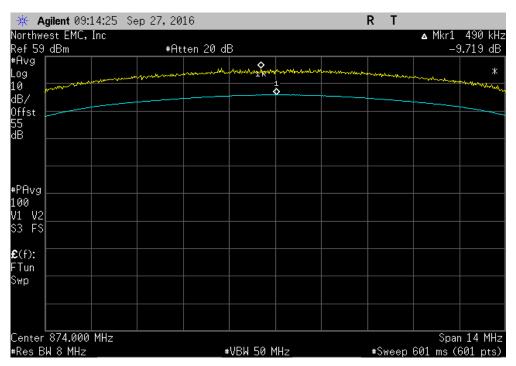


	Antenna Port 2	, High Channel L	ΓΕ5, 891.5 MHz		
			Value	Limit	
			(dB)	< (dB)	Results
			7.44	13	Pass

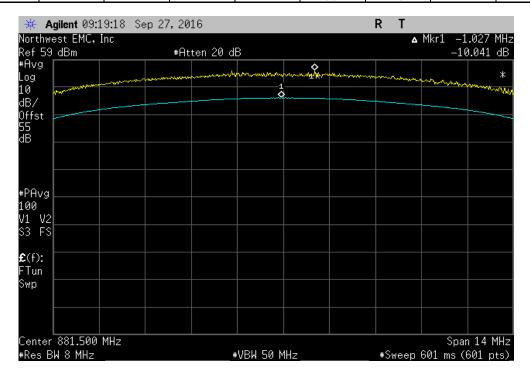






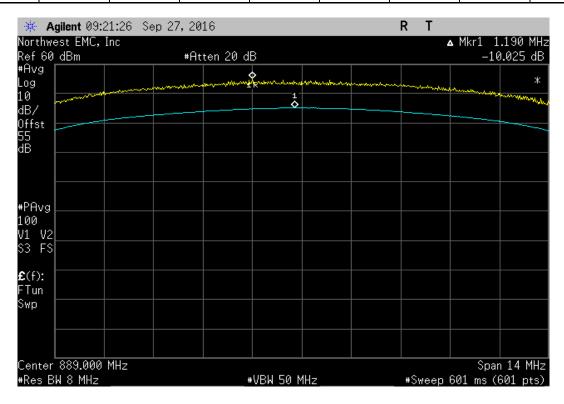


	Antenna Port 2,	Mid Channel LTI	E10, 881.5 MHz		
			Value	Limit	
			(dB)	< (dB)	Results
			10.041	13	Pass





	Antenna Port 2	, High Channel L	TE10, 889 MHz		
			Value	Limit	
			(dB)	< (dB)	Results
			10.025	13	Pass





Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

Because the conducted Output Power was measured using a RMS Average detector, the Peak to Average Ratio was measured to show that the maximum peak-max-hold spectrum to the maximum of the average spectrum does not exceed 13 dB.

The spectrum analyzer settings were as follows:

Span set to encompass the entire emission bandwidth, centered on the transmit channel.

The largest difference between the following two traces was calculated:

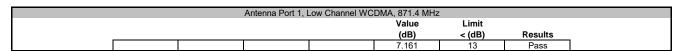
>1st Trace: Peak detector and trace max-hold.

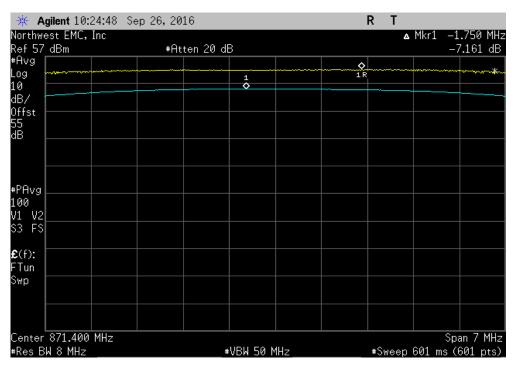
>2nd Trace: The same procedure and settings as was used for conducted Output Power.



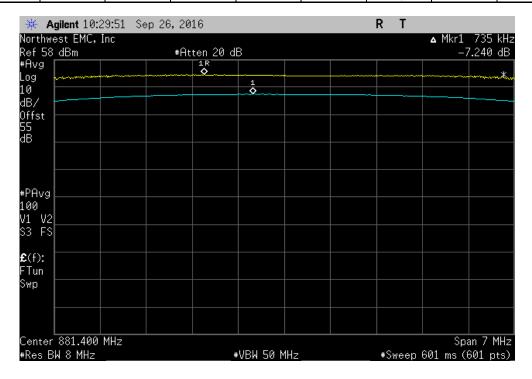
EUT	: CWS-3050-05				Work Order:	KMWC0071	
Serial Number	: K162600004				Date:	09/26/16	
Customer	: Parallel Wireless Inc.				Temperature:	22.3 °C	,
Attendees	: Edward Lee				Humidity:	38.4% RH	
Project	: None				Barometric Pres.:	1016 mbar	,
	: Johnny Candelas		Power:	48VDC	Job Site:	OC13	
TEST SPECIFICAT	TIONS			Test Method			
FCC 22H:2016				ANSI/TIA/EIA-603-D-2010			
COMMENTS							
Power Level Setti	ng 40W. Reference Level O	offset: DC Block + 30dB Attenuator + 2	20dB Attenuator + F	Power Divider + Cable Loss = 55.0dB	total.		
	M TEST STANDARD						
None							
			1				
Configuration #	1		fe ve	Colle			
		Signature	3				
					Value	Limit	
					(dB)	< (dB)	Results
Antenna Port 1							
	Low Channel WCDMA, 87				7.161	13	Pass
	Mid Channel WCDMA, 88	1.4 MHz			7.24	13	Pass
	High Channel WCDMA, 89	91.6 MHz			7.484	13	Pass
Antenna Port 2							
	Low Channel WCDMA, 87	1.4 MHz			7.177	13	Pass
	Mid Channel WCDMA, 88	1.4 MHz			7.265	13	Pass
	High Channel WCDMA, 89	91.6 MHz			7.5	13	Pass



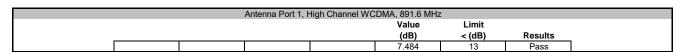


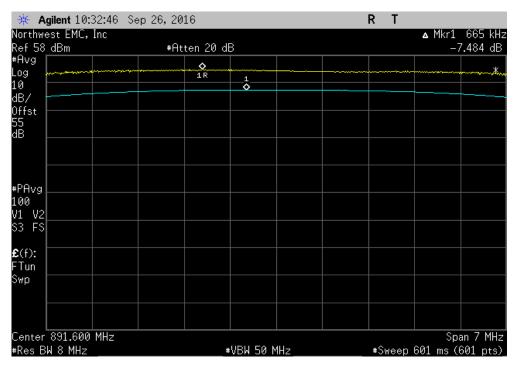


Antenna Port 1, Mid Channel WCDMA, 881.4 MHz								
				Value	Limit			
				(dB)	< (dB)	Results		
				7.24	13	Pass		

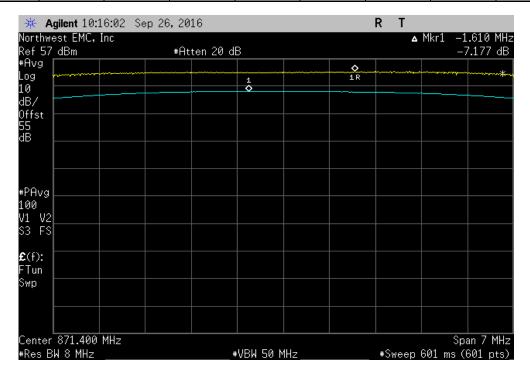




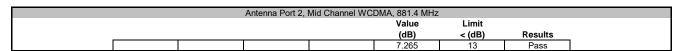


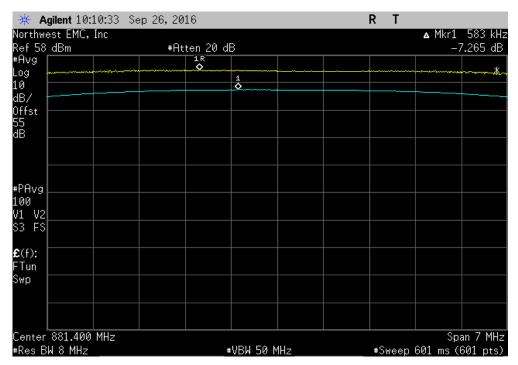


	Antenna Port 2, L	ow Channel WC	DMA, 871.4 MHz		
			Value	Limit	
			(dB)	< (dB)	Results
			7.177	13	Pass

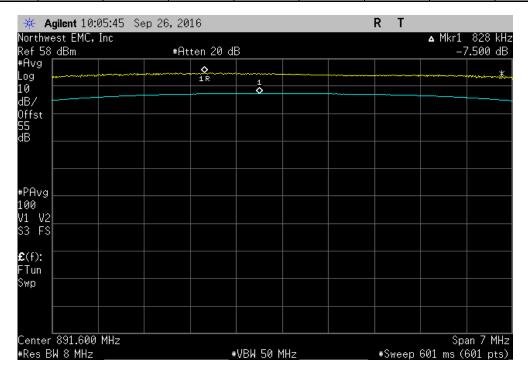








	Antenna Port 2, F	ligh Channel WC	DMA, 891.6 MHz		
			Value	Limit	
			(dB)	< (dB)	Results
			7.5	13	Pass





Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

1201 24011 1112111					
Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPHS-32-3.5-SCT/AC	TBE	NCR	NCR
Thermometer	Omega Engineering, Inc.	HH311	DUC	10/3/2014	10/3/2017
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

Testing was done with an absence of modulation in a CW mode of operation.

The primary supply voltage was varied from 85 % to 115% of the nominal voltage. Using a temperature chamber, the transmit frequency was recorded at the extremes of the specified temperature range (-30° to +50° C) at 10°C intervals.

Per the requirements of FCC Part 22.355, the specified limits for Fixed Base Station use is 1.5 ppm.

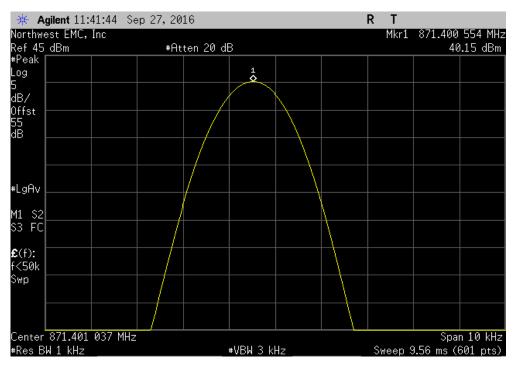


EUT: CWS-3050-05
Serial Number: K162600004
Customer: Parallel Wireless Inc. Work Order: KMWC0071 Date: 09/26/16 Temperature: 22.3 °C Attendees: Edward Lee Humidity: 38.4% RH Project: None
Tested by: Johnny Candelas
TEST SPECIFICATIONS Barometric Pres.: 1016 mba Power: 48VDC Test Method Job Site: OC13 FCC 22H:2016 ANSI/TIA/EIA-603-D-2010 COMMENTS Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 55.0dB total. DEVIATIONS FROM TEST STANDARD Configuration # Signature Assigned Value (MHz) Value (MHz) Results (ppm) (ppm) Antenna Port 1 Normal Temperature and Voltage Low Channel CW, 871.4 MHz 871.400554 871.4 Pass 0.6 Mid Channel CW 881 5 MHz 881 500559 881.5 0.6 1.5 Pass High Channel CW, 891.6 MHz 891.600589 Pass 891.6 0.7 Extreme Vol tage, 55.2 VDC Low Channel CW, 871.4 MHz 871.400553 871.4 0.6 1.5 Pass Mid Channel CW, 881.5 MHz High Channel CW, 891.6 MHz 881.500576 881.5 0.7 Pass 891.600589 0.7 Pass Extreme Voltage, 40.8 VDC Low Channel CW, 871.4 MHz 871.400553 871.4 0.6 1.5 Pass Mid Channel CW, 881.5 MHz 881.500576 881.5 0.7 1.5 Pass High Channel CW, 891.6 MHz 891.60059 Pass 891.6 0.7 Extreme Ter nperature, -30°C Low Channel CW, 871.4 MHz 871.400103 871.4 0.1 1.5 Pass Mid Channel CW, 881.5 MHz 881.500109 881.5 0.1 1.5 Pass High Channel CW, 891.6 MHz 891.600105 891.6 Pass 0.1 Extreme Te perature. -20°C Low Channel CW, 871.4 MHz Pass 871.400236 871.4 0.3 1.5 1.5 1.5 Mid Channel CW, 881.5 MHz 881 500242 881.5 0.3 Pass High Channel CW, 891.6 MHz Pass 891.600255 891.6 0.3 Extreme Te nperature, -10°C Low Channel CW, 871.4 MHz 871.40037 Pass 871.4 0.4 1.5 Mid Channel CW, 881.5 MHz 881 500376 881.5 0.4 15 Pass High Channel CW, 891.6 MHz 891.600388 891.6 Pass 0.4 Extreme Te nperature, 0°C Low Channel CW, 871.4 MHz 871.400503 871.4 Pass 0.6 1.5 1.5 1.5 Mid Channel CW, 881.5 MHz 881 500509 881.5 0.6 Pass High Channel CW, 891.6 MHz 891.600507 Pass Extreme Ter nperature, +10°C Low Channel CW, 871.4 MHz 871.400503 871.4 0.6 Pass 1.5 Mid Channel CW, 881.5 MHz 881.500509 881.5 0.6 1.5 Pass High Channel CW, 891.6 MHz 891.600522 891.6 Pass 0.6 Extreme Te nperature, +20°C Low Channel CW, 871.4 MHz 871.400503 871.4 0.6 1.5 Pass Mid Channel CW, 881.5 MHz 881.500509 881.5 0.6 1.5 Pass High Channel CW, 891.6 MHz 891.600522 891.6 0.6 Pass nperature, +30°C Low Channel CW, 871.4 MHz Extreme Te 0.6 Pass 1.5 Mid Channel CW, 881.5 MHz 881 500526 881.5 0.6 1.5 1.5 Pass High Channel CW, 891.6 MHz Pass 891.600539 0.6 Extreme Te perature, +40°C Low Channel CW, 871.4 MHz 871.400587 871.4 0.7 Pass 1.5 Mid Channel CW 881 5 MHz 881 50061 881.5 0.7 1.5 Pass High Channel CW, 891.6 MHz 891.600622 Pass 891.6 0.7 Extreme Te nperature, +50°C Low Channel CW, 871.4 MHz 871.40067 Pass 871.4 0.8 1.5 Mid Channel CW, 881.5 MHz 881.500676 881.5 0.8 Pass High Channel CW, 891.6 MHz 891.60069 Pass Antenna Port 2 Normal Temperature and Voltage Low Channel CW, 871.4 MHz 871.40057 871.4 0.7 1.5 Pass Mid Channel CW, 881.5 MHz 0.7 1.5 Pass High Channel CW, 891.6 MHz Extreme Voltage, 55.2 VDC 891 600589 891 6 0.7 1.5 Pass Low Channel CW, 871.4 MHz Mid Channel CW, 881.5 MHz 871 400587 871.4 0.7 Pass 0.7 881.50058 1.5 Pass High Channel CW, 891.6 MHz 891.600589 891.6 0.7 Pass Extreme Voltage, 40.8 VDC Low Channel CW, 871.4 MHz 871 40057 871.4 0.7 1.5 Pass Mid Channel CW, 881.5 MHz 881.500593 881.5 0.7 1.5 Pass High Channel CW, 891.6 MHz 891.600589 891.6 0.7 1.5 Pass Extreme Temperature, -30°C Low Channel CW 871 4 MHz 871 400153 871 4 0.2 1.5 Pass Mid Channel CW, 881.5 MHz 881.500142 881.5 0.2 1.5 Pass High Channel CW, 891.6 MHz 891.600138 891 6 02 Pass Extreme Temperature, -20°C Low Channel CW, 871.4 MHz 871.400236 871.4 0.3 Pass Mid Channel CW, 881.5 MHz 0.3 881.500242 Pass High Channel CW, 891.6 MHz 891 600238 891 6 0.3 1.5 Pass Extreme Temperature, -10°C Low Channel CW, 871.4 MHz 871.400387 871.4 0.4 1.5 Pass Mid Channel CW, 881.5 MHz 881.500376 0.4 1.5 1.5 Pass High Channel CW, 891.6 MHz 891 60039 891 6 0.4 Pass

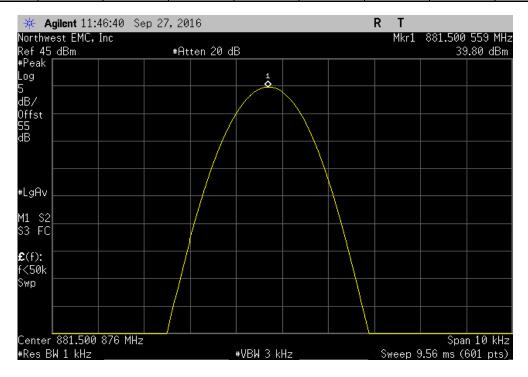
Extreme Temperature, 0°C					
Low Channel CW, 871.4 MHz	871.400487	871.4	0.6	1.5	Pass
Mid Channel CW, 881.5 MHz	881.500493	881.5	0.6	1.5	Pass
High Channel CW, 891.6 MHz	891.600505	891.6	0.6	1.5	Pass
Extreme Temperature, +10°C					
Low Channel CW, 871.4 MHz	871.400503	871.4	0.6	1.5	Pass
Mid Channel CW, 881.5 MHz	881.500509	881.5	0.6	1.5	Pass
High Channel CW, 891.6 MHz	891.600522	891.6	0.6	1.5	Pass
Extreme Temperature, +20°C					
Low Channel CW, 871.4 MHz	871.400503	871.4	0.6	1.5	Pass
Mid Channel CW, 881.5 MHz	881.500509	881.5	0.6	1.5	Pass
High Channel CW, 891.6 MHz	891.600505	891.6	0.6	1.5	Pass
Extreme Temperature, +30°C					
Low Channel CW, 871.4 MHz	871.40052	871.4	0.6	1.5	Pass
Mid Channel CW, 881.5 MHz	881.500514	881.5	0.6	1.5	Pass
High Channel CW, 891.6 MHz	891.60054	891.6	0.6	1.5	Pass
Extreme Temperature, +40°C					
Low Channel CW, 871.4 MHz	871.400604	871.4	0.7	1.5	Pass
Mid Channel CW, 881.5 MHz	881.50061	881.5	0.7	1.5	Pass
High Channel CW, 891.6 MHz	891.600606	891.6	0.7	1.5	Pass
Extreme Temperature, +50°C					
Low Channel CW, 871.4 MHz	871.40067	871.4	0.8	1.5	Pass
Mid Channel CW, 881.5 MHz	881.500676	881.5	0.8	1.5	Pass
High Channel CW, 891.6 MHz	891.60069	891.6	0.8	1.5	Pass



	Antenna Port 1,	, Normal Temper	ature and Voltage	e, Low Channel C	W, 871.4 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		871.400554	871.4	0.6	1.5	Pass

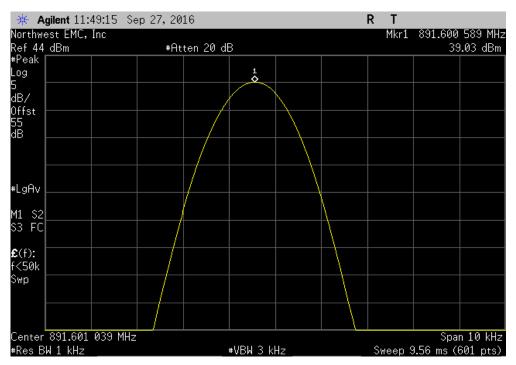


	Antenna Port 1	, Normal Temper	rature and Voltag	e, Mid Channel C	W, 881.5 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		881.500559	881.5	0.6	1.5	Pass

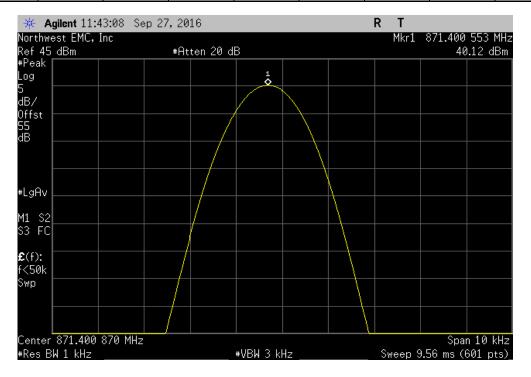




	Antenna Port 1	Normal Temper	ature and Voltage	e, High Channel C	CW, 891.6 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		891.600589	891.6	0.7	1.5	Pass

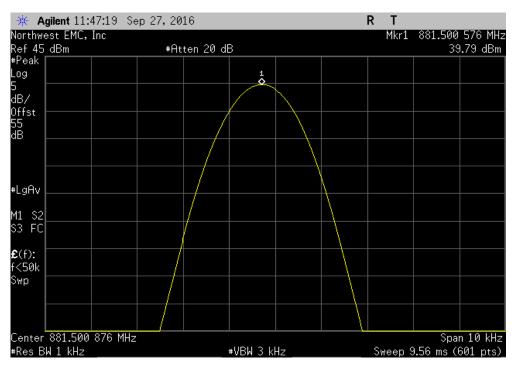


	Antenna Por	t 1, Extreme Volt	age, 55.2 VDC, I	ow Channel CW	, 871.4 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		871.400553	871.4	0.6	1.5	Pass

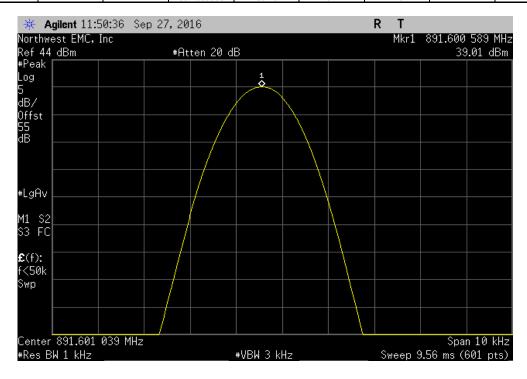




	Antenna Port 1, Ex	treme Vol	tage, 55.2 VDC, I	Mid Channel CW,	881.5 MHz		
	Mea	asured	Assigned	Error	Limit		
	Valu	e (MHz)	Value (MHz)	(ppm)	(ppm)	Results	
	881.	500576	881.5	0.7	1.5	Pass	i

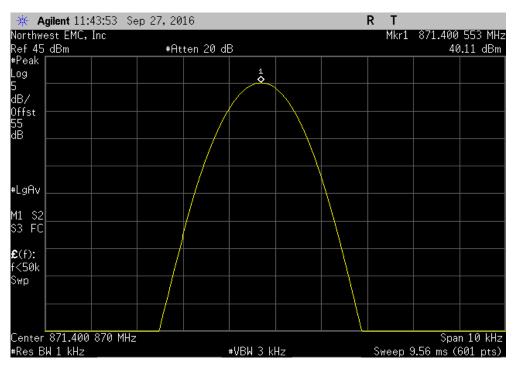


	Antenna Port 1	1, Extreme Volt	age, 55.2 VDC, F	ligh Channel CW	, 891.6 MHz	
		Measured	Assigned	Error	Limit	
	1	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		891.600589	891.6	0.7	1.5	Pass

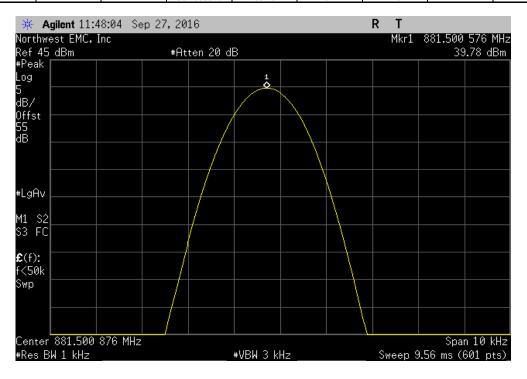




	Antenna Port	1, Extreme Volt	age, 40.8 VDC, L	ow Channel CW,	, 871.4 MHz		
		Measured	Assigned	Error	Limit		
_		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results	_
[871.400553	871.4	0.6	1.5	Pass	ĺ

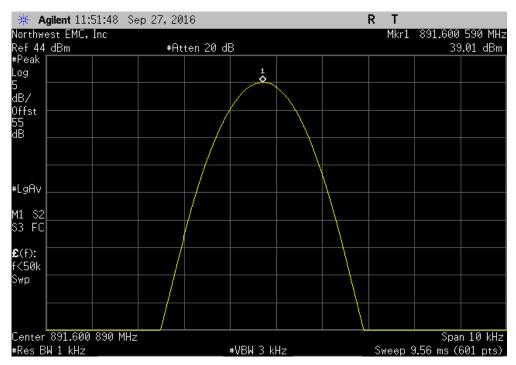


	Antenna Port 1	I, Extreme Vol	tage, 40.8 VDC, I	Mid Channel CW,	, 881.5 MHz	
		Measured	Assigned	Error	Limit	
	V	/alue (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	8	881.500576	881.5	0.7	1.5	Pass

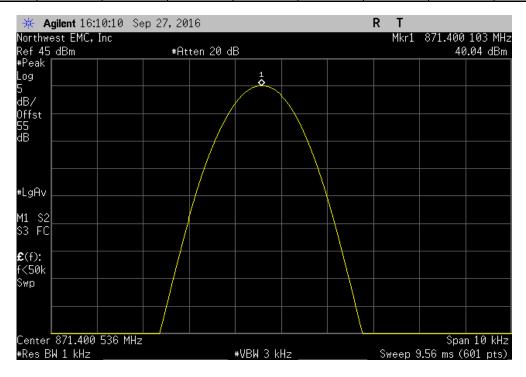




	Antenna Por	t 1, Extreme Volt	age, 40.8 VDC, H	High Channel CW	, 891.6 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
l		891.60059	891.6	0.7	1.5	Pass

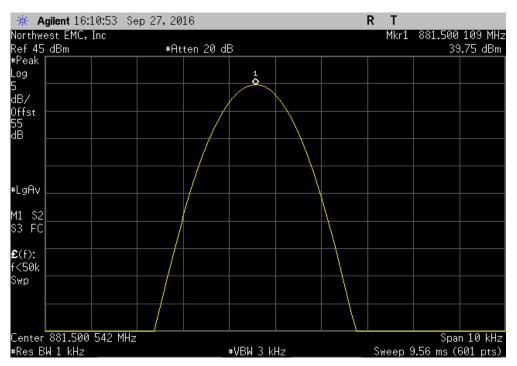


	Antenna Por	t 1, Extreme Tem	perature, -30°C,	Low Channel CW	/, 871.4 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		871.400103	871.4	0.1	1.5	Pass

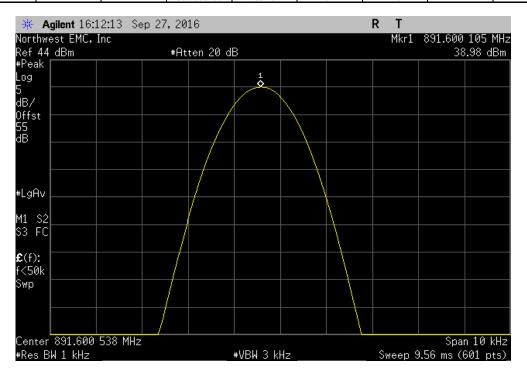




	Antenna Port 1, Extreme	Temperature, -30°C	Mid Channel CW	, 881.5 MHz		
	Measured	l Assigned	Error	Limit		
	Value (MH	z) Value (MHz)	(ppm)	(ppm)	Results	
	881.50010	9 881.5	0.1	1.5	Pass	1

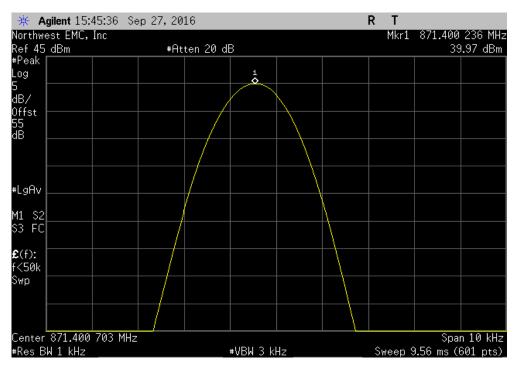


	Antenna Port 1	, Extreme Tem	perature, -30°C,	High Channel CW	V, 891.6 MHz	
		Measured	Assigned	Error	Limit	
	,	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		891.600105	891.6	0.1	1.5	Pass

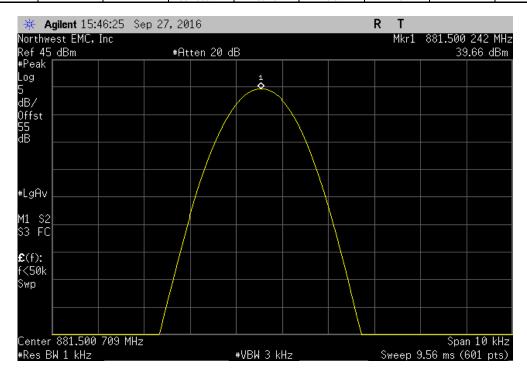




	Antenna Port	1, Extreme Tem	perature, -20°C,	Low Channel CW	, 871.4 MHz		
		Measured	Assigned	Error	Limit		
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results	_
1		871.400236	871.4	0.3	1.5	Pass	1

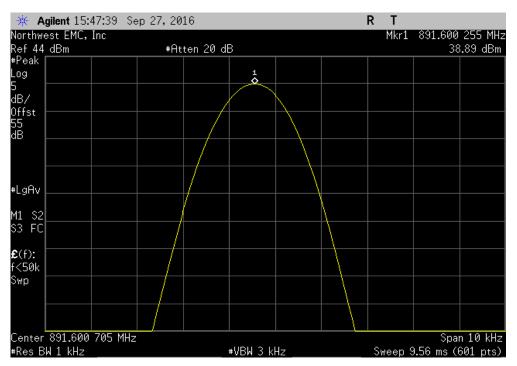


	Antenna Port 1	, Extreme Tem	perature, -20°C,	Mid Channel CW	, 881.5 MHz	
		Measured	Assigned	Error	Limit	
	1	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		881.500242	881.5	0.3	1.5	Pass

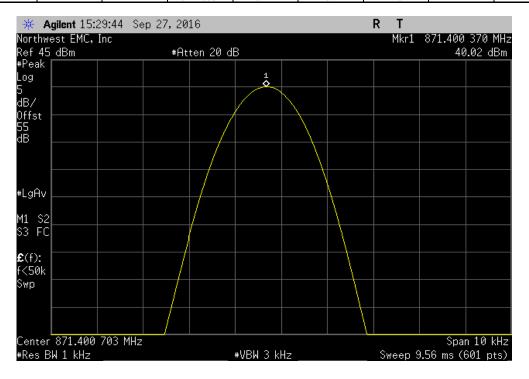




	Antenna Port 1	1, Extreme Tem	perature, -20°C, l	High Channel CW	, 891.6 MHz		
		Measured	Assigned	Error	Limit		
_		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results	
		891.600255	891.6	0.3	1.5	Pass	

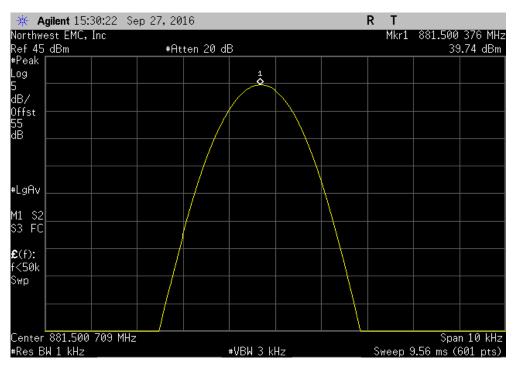


	Antenna Por	t 1, Extreme Tem	perature, -10°C,	Low Channel CW	/, 871.4 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		871.40037	871.4	0.4	1.5	Pass

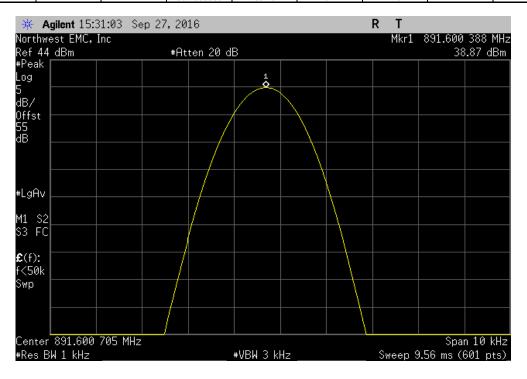




	Antenna Port 1, Extreme Te	mperature, -10°C,	Mid Channel CW	, 881.5 MHz		
	Measured	Assigned	Error	Limit		
_	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results	_
	881.500376	881.5	0.4	1.5	Pass	

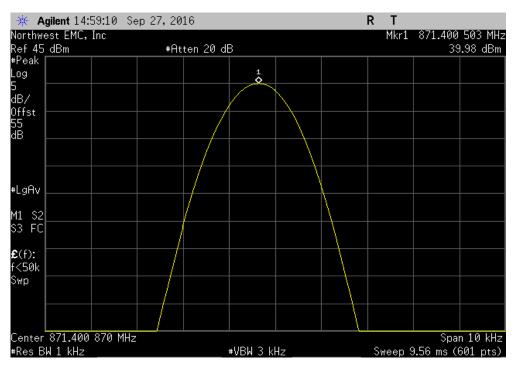


	Antenna Port 1, I	Extreme Tem	perature, -10°C,	High Channel CW	/, 891.6 MHz	
	ı	Measured	Assigned	Error	Limit	
	V	alue (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	8	91.600388	891.6	0.4	1.5	Pass

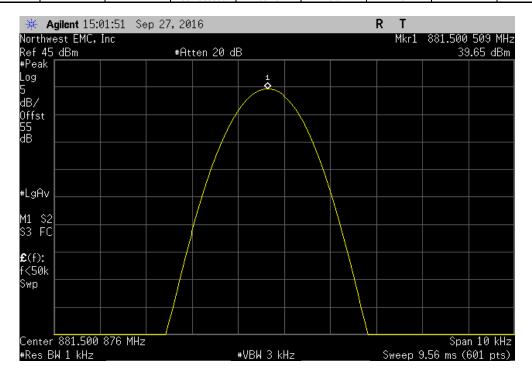




	Antenna Por	rt 1, Extreme Ter	mperature, 0°C, L	ow Channel CW,	871.4 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		871.400503	871.4	0.6	1.5	Pass

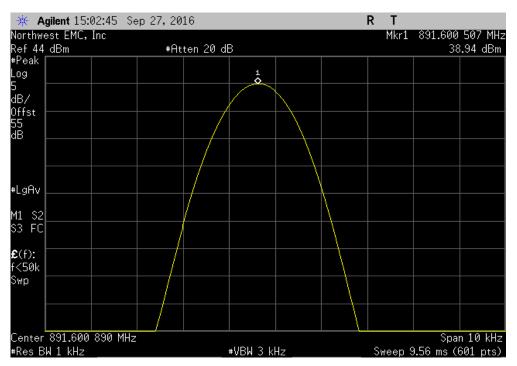


	Antenna Port 1, Extreme Te	emperature, 0°C, N	Mid Channel CW,	881.5 MHz	
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i	881.500509	881.5	0.6	1.5	Pass

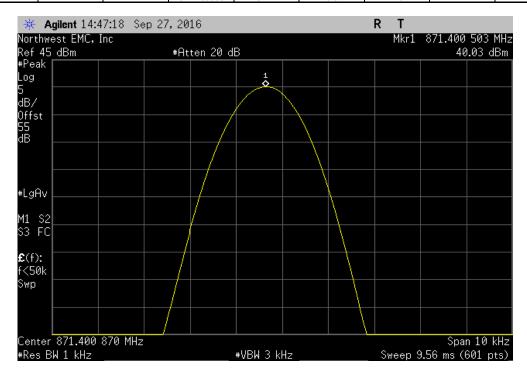




	Antenna Port	t 1, Extreme Ter	mperature, 0°C, F	ligh Channel CW	891.6 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		891.600507	891.6	0.6	1.5	Pass

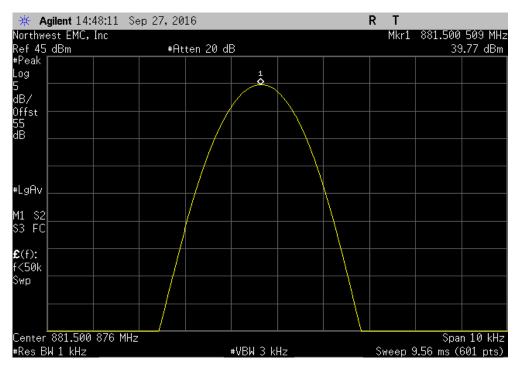


	Antenna Port	1, Extreme Tem	perature, +10°C,	Low Channel CW	V, 871.4 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		871.400503	871.4	0.6	1.5	Pass

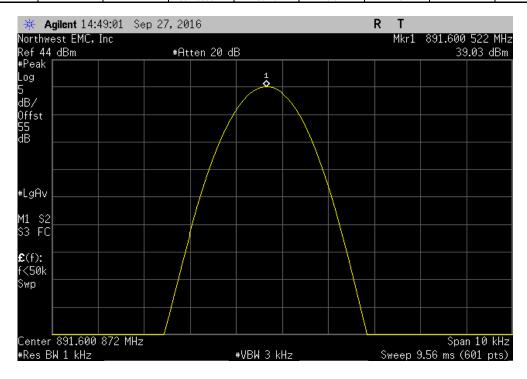




	Antenna Por	1, Extreme Tem	perature, +10°C,	Mid Channel CW	, 881.5 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		881.500509	881.5	0.6	1.5	Pass

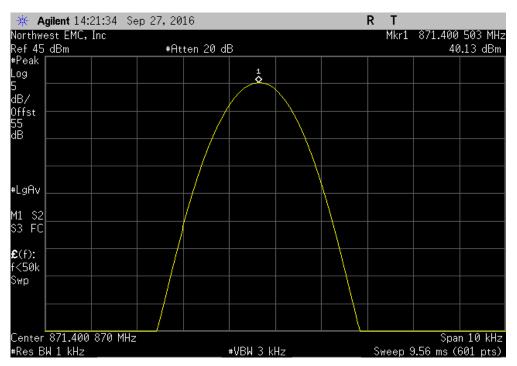


	Antenna Port	1, Extreme Tem	perature, +10°C,	High Channel CV	V, 891.6 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		891.600522	891.6	0.6	1.5	Pass

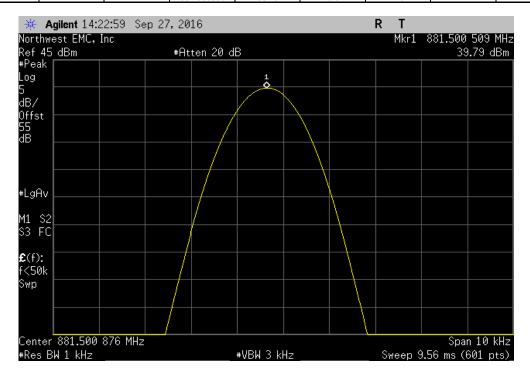




	Antenna Port	: 1, Extreme Tem	perature, +20°C,	Low Channel CW	/, 871.4 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		871.400503	871.4	0.6	1.5	Pass

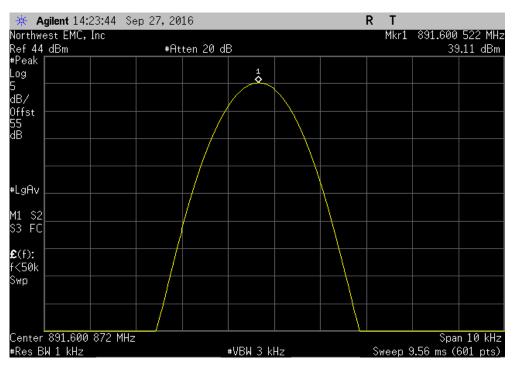


	Antenna Port	1, Extreme Tem	perature, +20°C,	Mid Channel CW	/, 881.5 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		881.500509	881.5	0.6	1.5	Pass

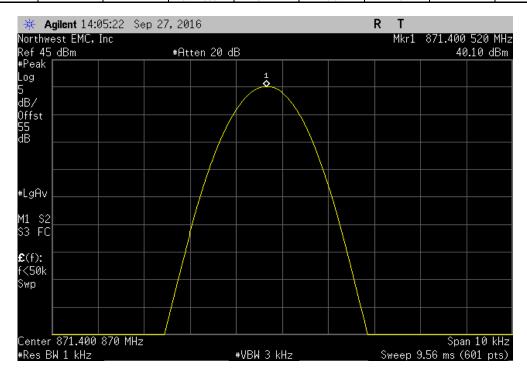




	Antenna Port	1, Extreme Temp	perature, +20°C,	High Channel CV	/, 891.6 MHz		
		Measured	Assigned	Error	Limit		
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results	
		891.600522	891.6	0.6	1.5	Pass	ł

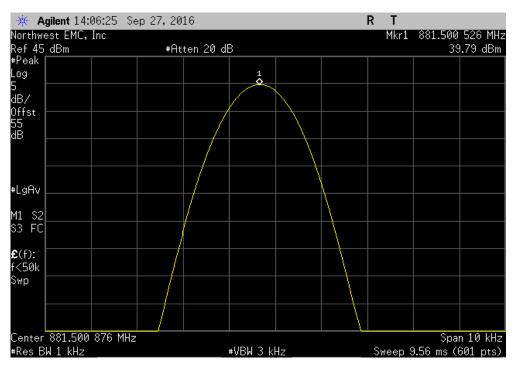


	Antenna Por	t 1, Extreme Tem	perature, +30°C,	Low Channel CV	V, 871.4 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		871.40052	871.4	0.6	1.5	Pass

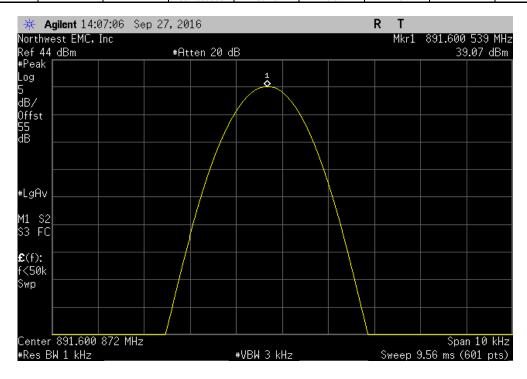




	Antenna Port 1,	, Extreme Tem	perature, +30°C,	Mid Channel CW	, 881.5 MHz		
		Measured	Assigned	Error	Limit		
	1	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results	_
,	1	881.500526	881.5	0.6	1.5	Pass	1

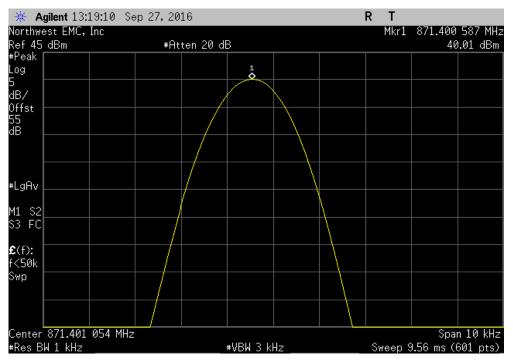


	Antenna Port	1, Extreme Temp	perature, +30°C,	High Channel CV	V, 891.6 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		891.600539	891.6	0.6	1.5	Pass

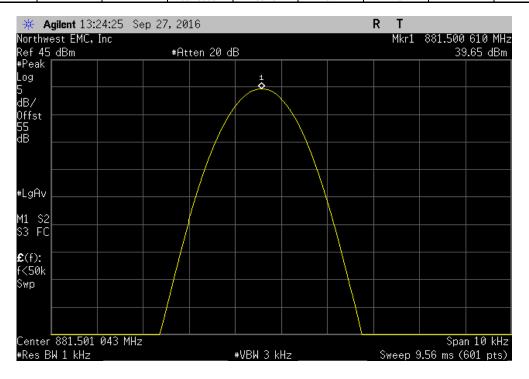




	Antenna Port	1, Extreme Tem	perature, +40°C,	Low Channel CW	/, 871.4 MHz		
		Measured	Assigned	Error	Limit		
_		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results	_
,		871.400587	871.4	0.7	1.5	Pass	

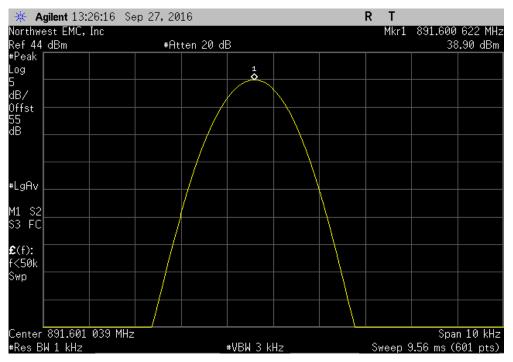


	Antenna Por	t 1, Extreme Tem	perature, +40°C,	Mid Channel CW	/, 881.5 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		881.50061	881.5	0.7	1.5	Pass

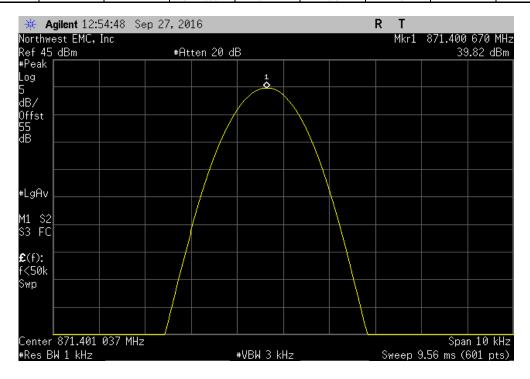




	Antenna Port	1, Extreme Tem	perature, +40°C,	High Channel CV	V, 891.6 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		891.600622	891.6	0.7	1.5	Pass

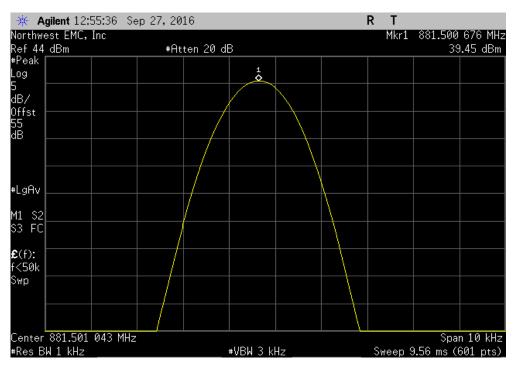


	Antenna Por	t 1, Extreme Tem	perature, +50°C,	Low Channel CV	V, 871.4 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		871.40067	871.4	0.8	1.5	Pass

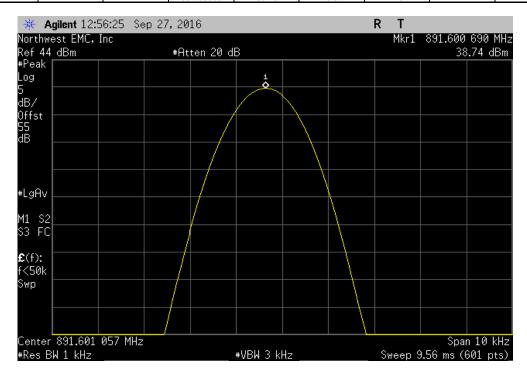




	Antenna Port	1, Extreme Tem	perature, +50°C,	Mid Channel CW	, 881.5 MHz		
		Measured	Assigned	Error	Limit		
_		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results	_
ı		881.500676	881.5	8.0	1.5	Pass	ł

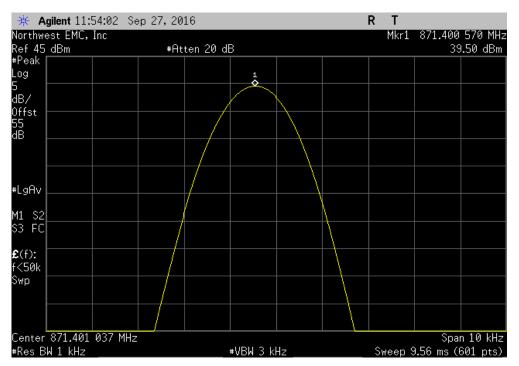


	Antenna Port	1, Extreme Temp	perature, +50°C,	High Channel CV	V, 891.6 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		891.60069	891.6	0.8	1.5	Pass

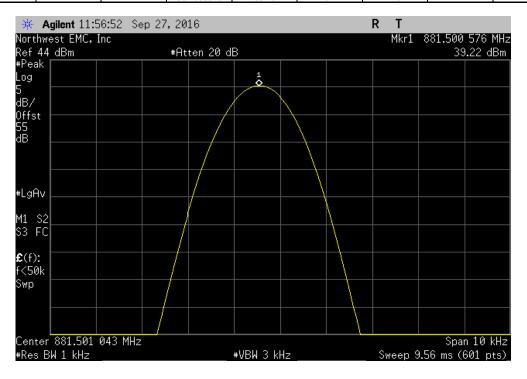




	Antenna Port 2	, Normal Temper	ature and Voltage	e, Low Channel C	W, 871.4 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
l		871.40057	871.4	0.7	1.5	Pass

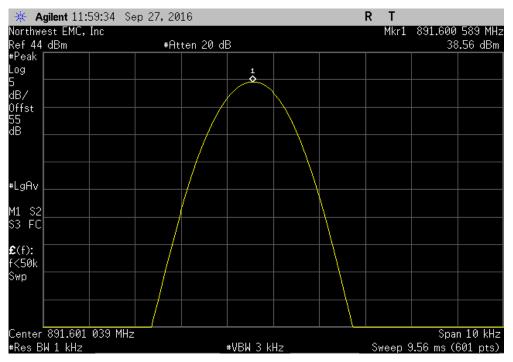


	Antenna Port 2,	Normal Temper	rature and Voltag	e, Mid Channel C	W, 881.5 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		881.500576	881.5	0.7	1.5	Pass

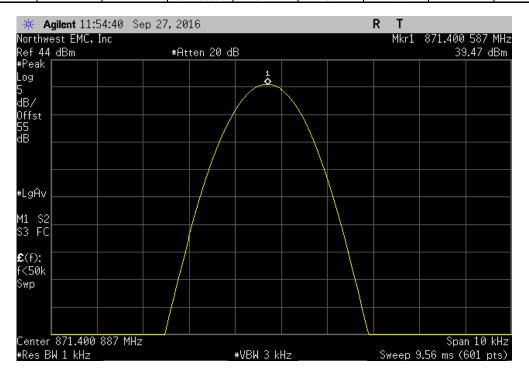




	Antenna Port 2,	Normal Temper	ature and Voltage	e, High Channel C	CW, 891.6 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		891.600589	891.6	0.7	1.5	Pass

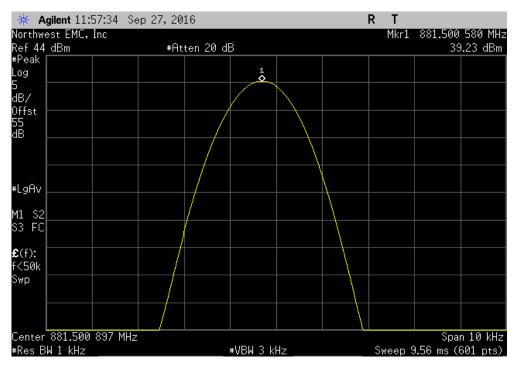


	Antenna Port	2, Extreme Volt	tage, 55.2 VDC, I	ow Channel CW	, 871.4 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		871.400587	871.4	0.7	1.5	Pass

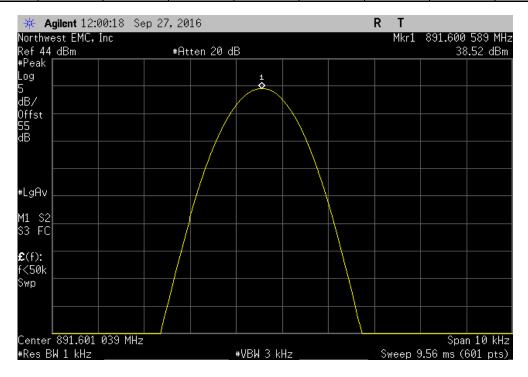




	Antenna Port 2, Extreme Vo	Itage, 55.2 VDC,	Mid Channel CW	, 881.5 MHz	
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	881.50058	881.5	0.7	1.5	Pass

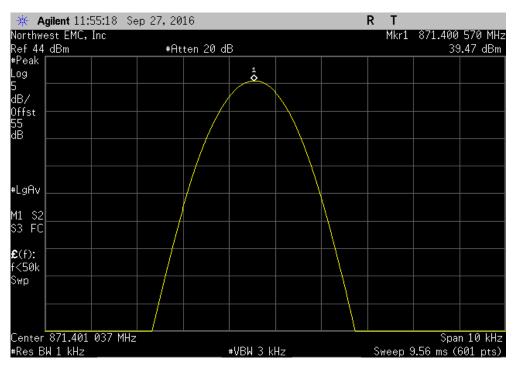


	Antenna Port	2, Extreme Volt	age, 55.2 VDC, I	ligh Channel CW	, 891.6 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		891.600589	891.6	0.7	1.5	Pass

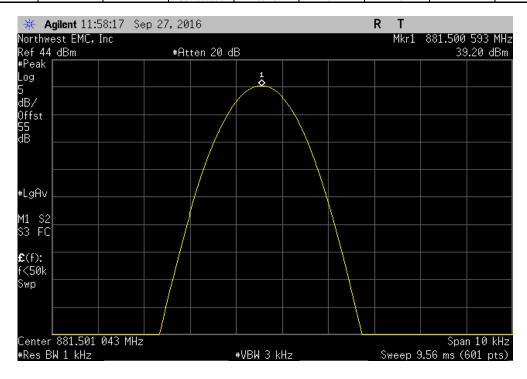




	Antenna Poi	t 2, Extreme Volt	tage, 40.8 VDC, I	ow Channel CW	871.4 MHz		
		Measured	Assigned	Error	Limit		
_		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results	_
		871.40057	871.4	0.7	1.5	Pass	ł

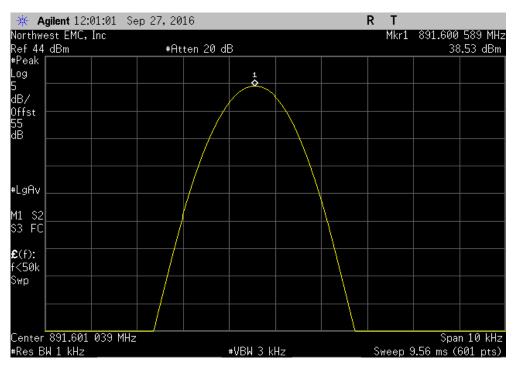


	Antenna Port 2, Extreme	Voltage, 40.8 VDC,	Mid Channel CW	, 881.5 MHz	
	Measure	I Assigned	Error	Limit	
	Value (MH	z) Value (MHz)	(ppm)	(ppm)	Results
	881.50059	3 881.5	0.7	1.5	Pass

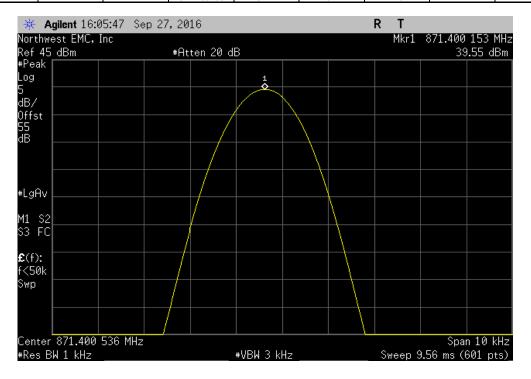




	Antenna Por	t 2, Extreme Volt	age, 40.8 VDC, I	High Channel CW	, 891.6 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
j .		891.600589	891.6	0.7	1.5	Pass

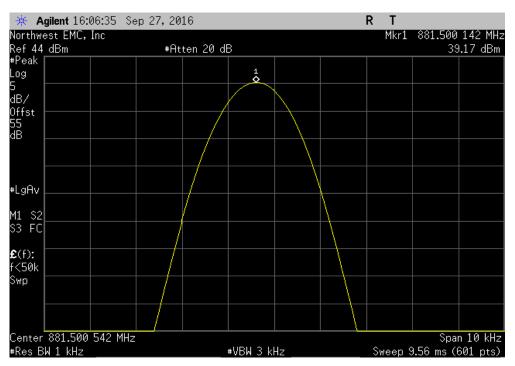


	Antenna Port 2, E	xtreme Tem	perature, -30°C,	Low Channel CW	/, 871.4 MHz	
	M	easured	Assigned	Error	Limit	
	Val	ue (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	87	1.400153	871.4	0.2	1.5	Pass

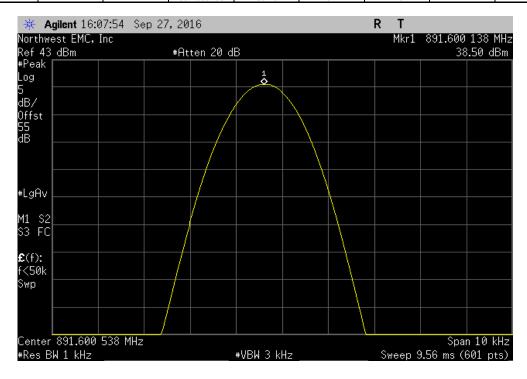




	Antenna Port 2, Extrer	ne Temperatur	e, -30°C, Mi	lid Channel CW	, 881.5 MHz		
	Measu	red Ass	igned	Error	Limit		
	Value (I	VIHz) Value	(MHz)	(ppm)	(ppm)	Results	
	881.500)142 88	31.5	0.2	1.5	Pass	

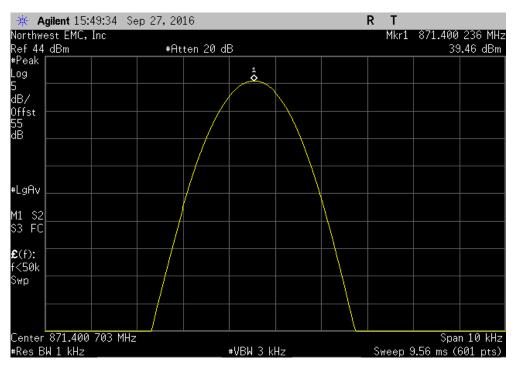


	Antenna Port 2, Extreme Tem	perature, -30°C,	High Channel CV	V, 891.6 MHz	
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	891.600138	891.6	0.2	1.5	Pass

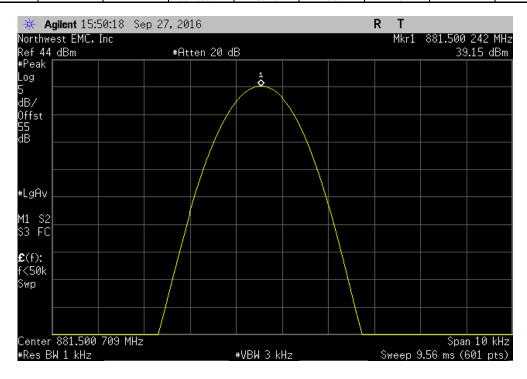




	Antenna Port 2	2, Extreme Tem	perature, -20°C,	Low Channel CW	, 871.4 MHz		
		Measured	Assigned	Error	Limit		
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results	
		871.400236	871.4	0.3	1.5	Pass	

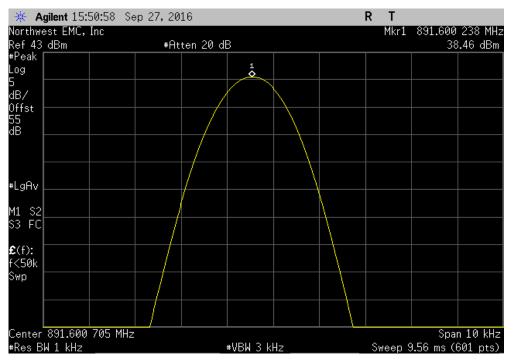


	Antenna Port 2, Extreme	Temperature, -20°C	, Mid Channel C	W, 881.5 MHz	
	Measure	d Assigned	Error	Limit	
	Value (Mi	dz) Value (MHz)	(ppm)	(ppm)	Results
	881.5002	42 881.5	0.3	1.5	Pass

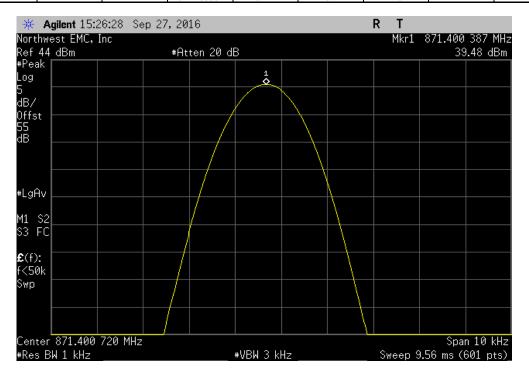




	Antenna Port	2, Extreme Tem	perature, -20°C, l	High Channel CW	/, 891.6 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
j .		891.600238	891.6	0.3	1.5	Pass

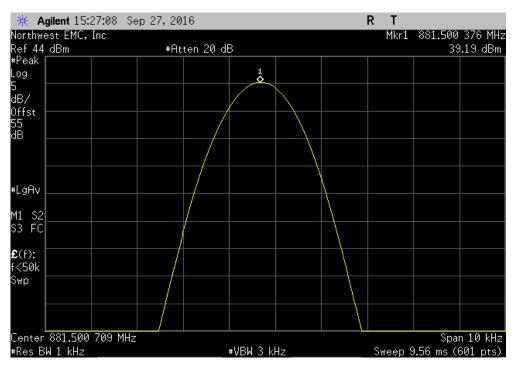


	Antenna Port	2, Extreme Tem	perature, -10°C,	Low Channel CW	/, 871.4 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		871.400387	871.4	0.4	1.5	Pass

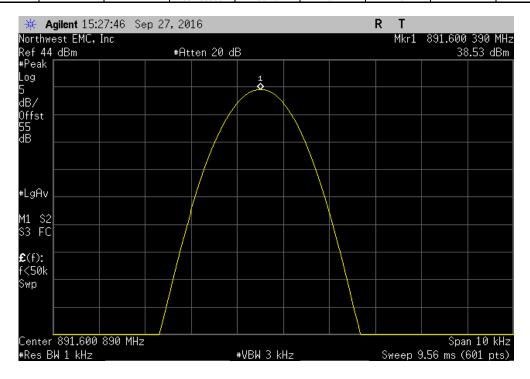




	Antenna Port 2, Extrem	e Temper	ature, -10°C,	Mid Channel CW	, 881.5 MHz		
	Measu	ed	Assigned	Error	Limit		
	Value (N	Hz) V	alue (MHz)	(ppm)	(ppm)	Results	
	881.500	376	881.5	0.4	1.5	Pass	

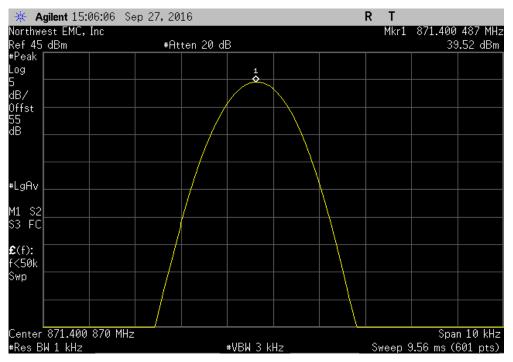


	Antenna Port	2, Extreme Tem	perature, -10°C,	High Channel CV	V, 891.6 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		891.60039	891.6	0.4	1.5	Pass

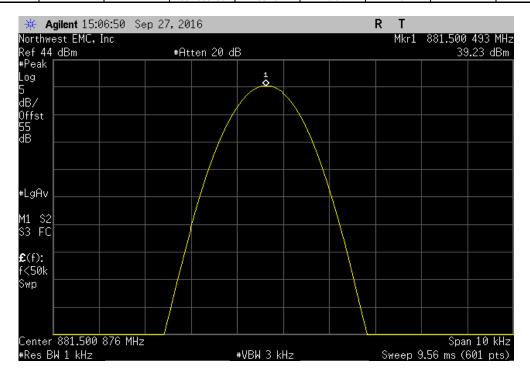




	Antenna Port 2, Ex	xtreme Ter	mperature, 0°C, L	ow Channel CW,	871.4 MHz		
	Me	asured	Assigned	Error	Limit		
_	Valu	ıe (MHz)	Value (MHz)	(ppm)	(ppm)	Results	_
l	871	.400487	871.4	0.6	1.5	Pass	1

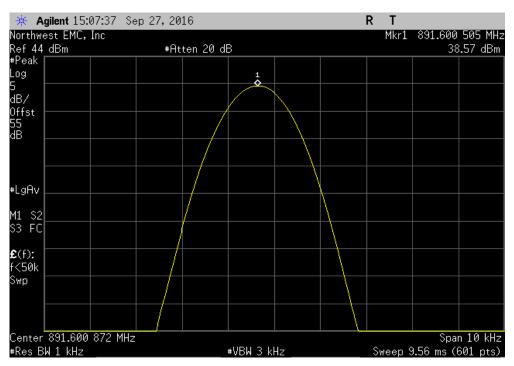


	Antenna Port 2, Extreme Te	mperature, 0°C, N	Mid Channel CW,	881.5 MHz	
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
1	881.500493	881.5	0.6	1.5	Pass

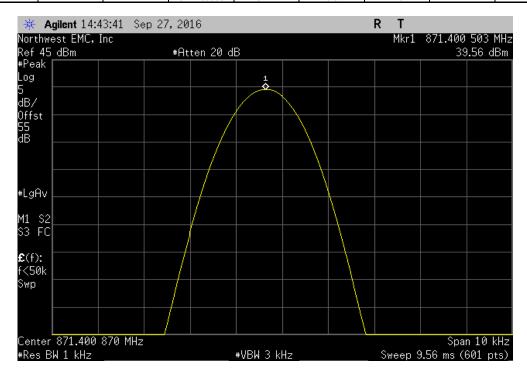




	Antenna Port 2, Extreme	emperature, 0°C, I	High Channel CW	, 891.6 MHz		
	Measured	Assigned	Error	Limit		
	Value (MHz) Value (MHz)	(ppm)	(ppm)	Results	_
i	891.600505	891.6	0.6	1.5	Pass	

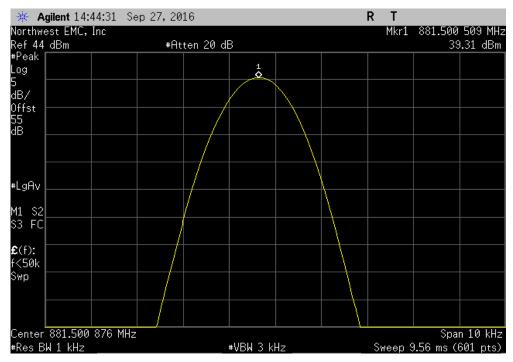


	Antenna Port 2,	Extreme Tem	perature, +10°C,	Low Channel CW	/, 871.4 MHz	
		Measured	Assigned	Error	Limit	
	\	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		871.400503	871.4	0.6	1.5	Pass

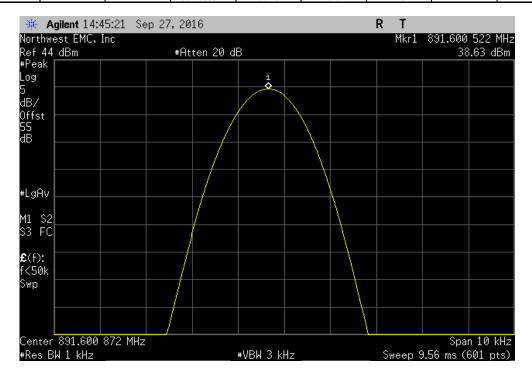




	Antenna Por	2, Extreme Tem	perature, +10°C,	Mid Channel CW	, 881.5 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
ı		881.500509	881.5	0.6	1.5	Pass

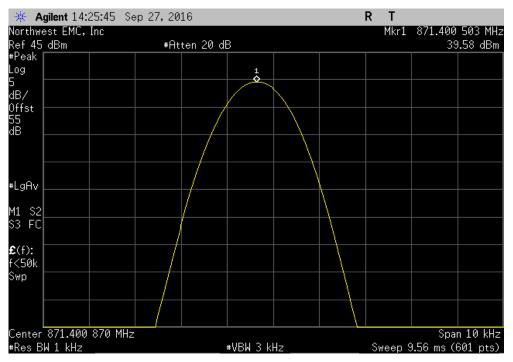


	Antenna Port 2, Extreme Te	nperature, +10°C,	High Channel C\	N, 891.6 MHz	
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	891.600522	891.6	0.6	1.5	Pass

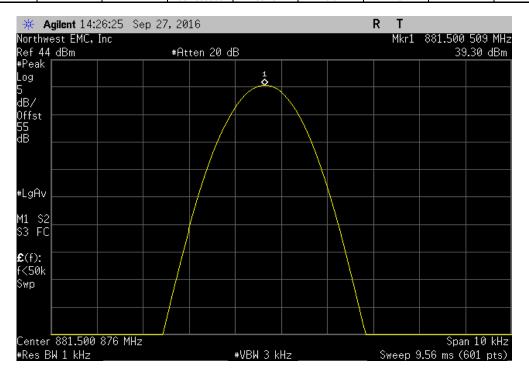




	Antenna Port	2, Extreme Tem	perature, +20°C,	Low Channel CW	/, 871.4 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
1		871.400503	871.4	0.6	1.5	Pass

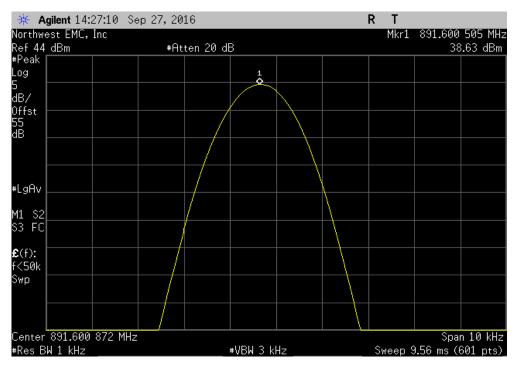


	Antenna Port	2, Extreme Tem	perature, +20°C,	Mid Channel CW	/, 881.5 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		881.500509	881.5	0.6	1.5	Pass

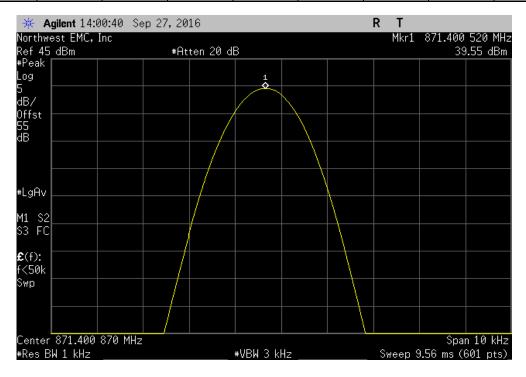




	Antenna Port 2	2, Extreme Temp	perature, +20°C,	High Channel CW	/, 891.6 MHz		
		Measured	Assigned	Error	Limit		
_		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results	_
i		891.600505	891.6	0.6	1.5	Pass	

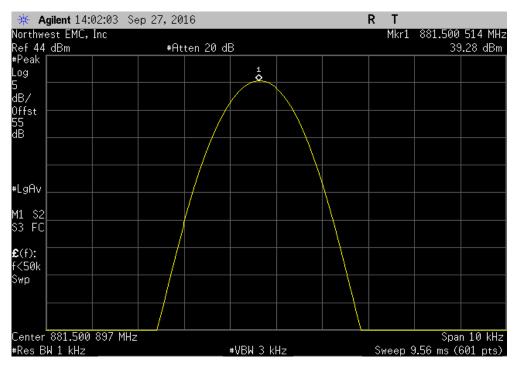


	Antenna Por	t 2, Extreme Tem	perature, +30°C,	Low Channel CW	/, 871.4 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		871.40052	871.4	0.6	1.5	Pass

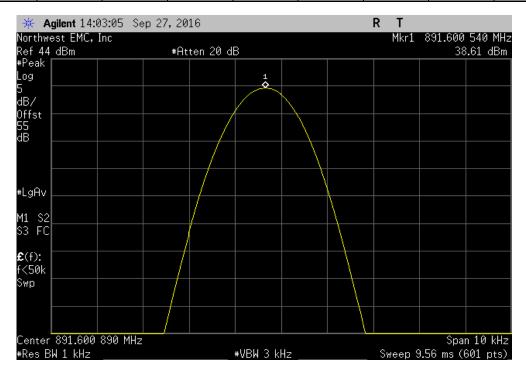




	Antenna Port 2, Extreme T	emperature, +30°C	, Mid Channel CW	/, 881.5 MHz		
	Measured	Assigned	Error	Limit		
_	Value (MHz) Value (MHz)	(ppm)	(ppm)	Results	_
ĺ	881.500514	881.5	0.6	1.5	Pass	

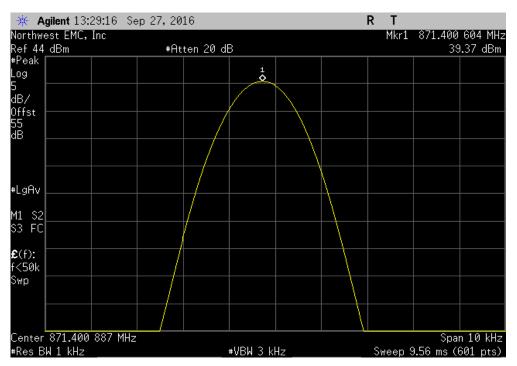


	Antenna Port	2, Extreme Tem	perature, +30°C,	High Channel CV	V, 891.6 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		891.60054	891.6	0.6	1.5	Pass

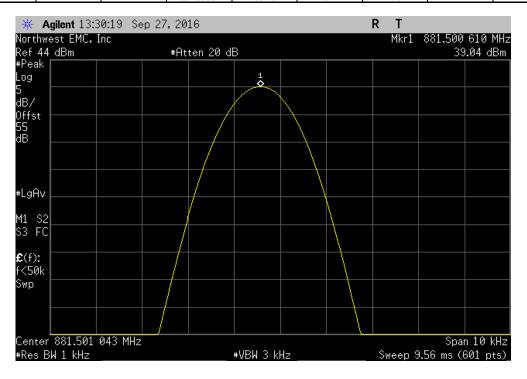




	Antenna Port 2, E	Extreme Temp	perature, +40°C,	Low Channel CW	, 871.4 MHz		
	N	Measured	Assigned	Error	Limit		
_	Va	alue (MHz)	Value (MHz)	(ppm)	(ppm)	Results	
,	87	71.400604	871.4	0.7	1.5	Pass	

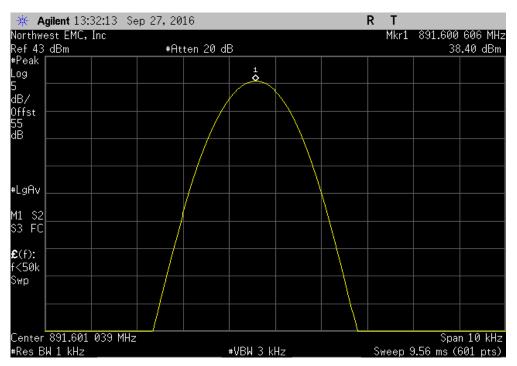


	Antenna Por	t 2, Extreme Tem	perature, +40°C,	Mid Channel CW	/, 881.5 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		881.50061	881.5	0.7	1.5	Pass

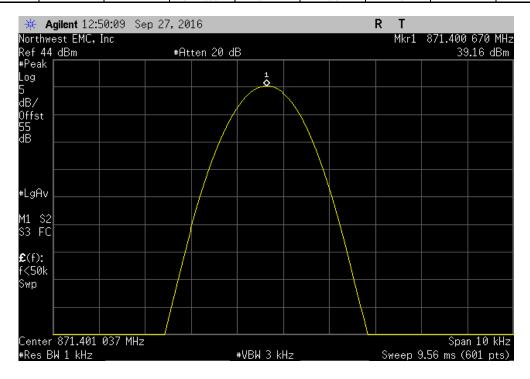




	Antenna Port 2	2, Extreme Temp	perature, +40°C,	High Channel CV	/, 891.6 MHz		
		Measured	Assigned	Error	Limit		
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results	
1		891.600606	891.6	0.7	1.5	Pass	1

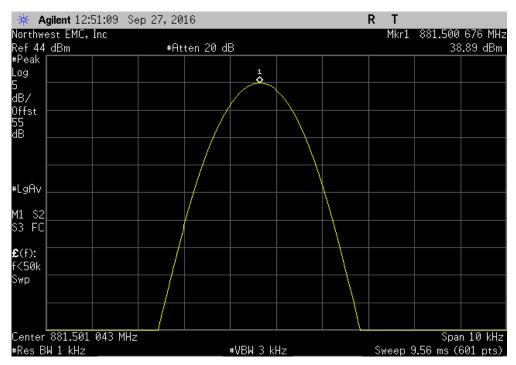


	Antenna Port	t 2, Extreme Tem	perature, +50°C,	Low Channel CV	V, 871.4 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		871.40067	871.4	0.8	1.5	Pass

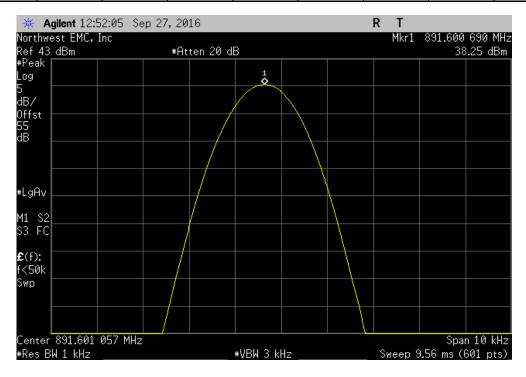




	Antenna Port 2, Extrem	e Tem	perature, +50°C,	Mid Channel CW	/, 881.5 MHz		
	Measu	red	Assigned	Error	Limit		
_	Value (I	/Hz)	Value (MHz)	(ppm)	(ppm)	Results	_
1	881.500	676	881.5	0.8	1.5	Pass	



	Antenna Port	2, Extreme Temp	perature, +50°C,	High Channel CV	V, 891.6 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		891.60069	891.6	0.8	1.5	Pass





Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

·					
Des	cription	Manufacturer	Model	Last Cal.	Cal. Due
High Power A	ttenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenua	tor - 20dB	N/A	N/A	NCR	NCR
Powe	Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm	Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Powe	r Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The spectrum analyzer settings were as follows:

- >RBW = Approx. 1% of the emission bandwidth (B). This was an iterative process to determine the RBW based on the emissions bandwidth (B).
- >VBW= > RBW
- >A peak detector was used
- ➤Trace max hold.

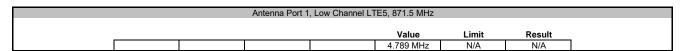
The spectrum analyzer occupied bandwidth measurement function was then used to measure the 26 dB emission bandwidth.

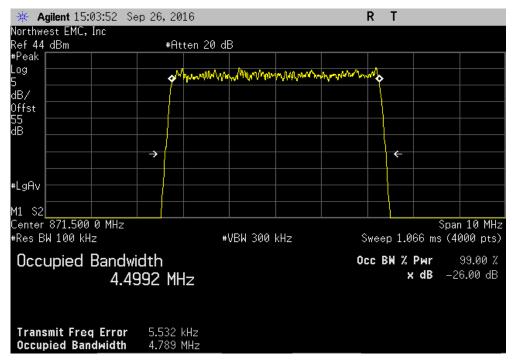
There is no required limit to be met in the rule part for this test. The purpose of the test is to report the results.



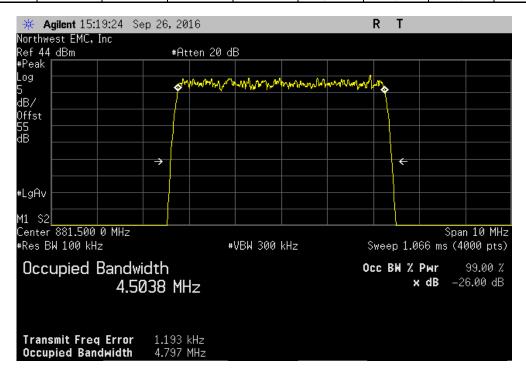
	CWS-3050-05					Work Order:		
Serial Number:	K162600004						09/26/16	
Customer:	Parallel Wireless Inc.					Temperature:	22.3 °C	
	Edward Lee						38.4% RH	
Project:						Barometric Pres.:		
	Johnny Candelas		Power:	48VDC		Job Site:	OC13	
TEST SPECIFICAT	IONS			Test Method				
FCC 22H:2016				ANSI/TIA/EIA-603-D-2010				
COMMENTS								
		offset: DC Block + 30dB Attenuator + 2	20dB Attenuator +	Power Divider + Cable Loss = 55.0	dB total.			
	M TEST STANDARD							
None								
Configuration #	1		Ce d	Collection .				
Comiguration #		Signature	1					
	<u> </u>		3			Value	Limit	Result
Antenna Port 1	Law Observable TEE 074.5	Signature						
	Low Channel LTE5, 871.5	Signature MHz	3			4.789 MHz	N/A	N/A
	Mid Channel LTE5, 881.5 I	Signature MHz MHz				4.789 MHz 4.797 MHz	N/A N/A	N/A N/A
	Mid Channel LTE5, 881.5 High Channel LTE5, 891.5	Signature MHz MHz MHz MHz	3			4.789 MHz 4.797 MHz 4.805 MHz	N/A N/A N/A	N/A N/A N/A
	Mid Channel LTE5, 881.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 I	Signature MHz MHz i MHz MHz MHz	3			4.789 MHz 4.797 MHz 4.805 MHz 9.503 MHz	N/A N/A N/A N/A	N/A N/A N/A N/A
	Mid Channel LTE5, 881.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 Mid Channel LTE10, 881.5	Signature MHz MHz MHz MHz MHz MHz MHz				4.789 MHz 4.797 MHz 4.805 MHz 9.503 MHz 9.599 MHz	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A
Antenna Port 1	Mid Channel LTE5, 881.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 I	Signature MHz MHz MHz MHz MHz MHz MHz				4.789 MHz 4.797 MHz 4.805 MHz 9.503 MHz	N/A N/A N/A N/A	N/A N/A N/A N/A
	Mid Channel LTE5, 881.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 Mid Channel LTE10, 881.5 High Channel LTE10, 889	Signature MHz MHz MHz MHz MHz MHz MHz MH	3			4.789 MHz 4.797 MHz 4.805 MHz 9.503 MHz 9.599 MHz	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A
Antenna Port 1	Mid Channel LTE5, 881.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 Mid Channel LTE10, 881.5 High Channel LTE10, 889 Low Channel LTE5, 871.5	Signature MHz MHz MHz MHz MHz MHz MHz MHz MHz MH				4.789 MHz 4.797 MHz 4.805 MHz 9.503 MHz 9.599 MHz 9.58 MHz	N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A
Antenna Port 1	Mid Channel LTE5, 881.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 I Mid Channel LTE10, 881.5 High Channel LTE10, 889 Low Channel LTE5, 871.5 Mid Channel LTE5, 881.5	Signature MHz MHz MHz MHz MHz MHz MHz MHz MHz MH				4.789 MHz 4.797 MHz 4.805 MHz 9.503 MHz 9.599 MHz 9.58 MHz 4.787 MHz	N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A
Antenna Port 1	Mid Channel LTE5, 881.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 Mid Channel LTE10, 881.5 High Channel LTE10, 889 Low Channel LTE5, 871.5	Signature MHz MHz MHz MHz 5 MHz				4.789 MHz 4.797 MHz 4.805 MHz 9.503 MHz 9.599 MHz 9.58 MHz 4.787 MHz 4.787 MHz	N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A
Antenna Port 1	Mid Channel LTE5, 881.5 High Channel LTE16, 891.5 Low Channel LTE10, 874 Mid Channel LTE10, 881.5 High Channel LTE10, 889 Low Channel LTE5, 871.5 Mid Channel LTE5, 881.5 High Channel LTE5, 881.5	Signature MHz MHz MHz MHz MHz MHz MHz MHz MHz MH				4.789 MHz 4.797 MHz 4.805 MHz 9.503 MHz 9.599 MHz 9.58 MHz 4.787 MHz 4.798 MHz	N/A N/A N/A N/A N/A N/A N/A	NIA NIA NIA NIA NIA NIA NIA NIA
Antenna Port 1	Mid Channel LTE5, 881.5 High Channel LTE16, 891.5 Low Channel LTE10, 874 Mid Channel LTE10, 881.5 High Channel LTE10, 889. Low Channel LTE5, 871.5 Mid Channel LTE5, 881.5 High Channel LTE5, 881.5 Low Channel LTE3, 891.5	Signature MHz MHz MHz MHz SMHz MHz MHz MHz MHz MHz MHz MHz MHz MHz	3			4.789 MHz 4.797 MHz 4.805 MHz 9.503 MHz 9.599 MHz 9.58 MHz 4.787 MHz 4.798 MHz 4.793 MHz 9.55 MHz	N/A N/A N/A N/A N/A N/A N/A N/A	N/A



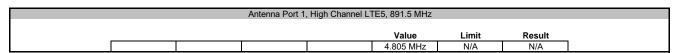


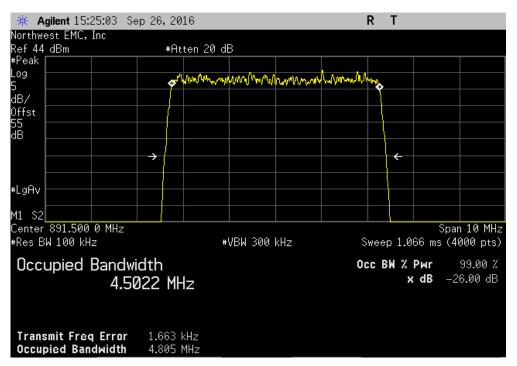


	Antenna Port 1	, Mid Channel LT	E5, 881.5 MHz		
			Value	Limit	Result
			4.797 MHz	N/A	N/A

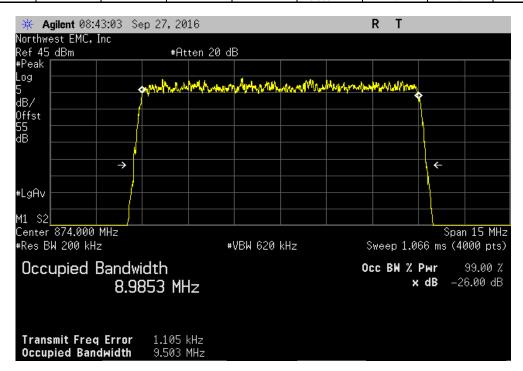




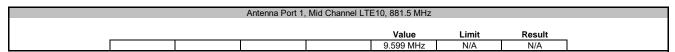


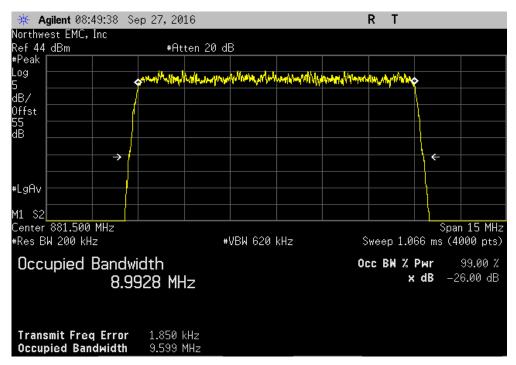


	Antenna Port 1	, Low Channel L	ΓΕ10, 874 MHz		
			Value	Limit	Result
			9.503 MHz	N/A	N/A

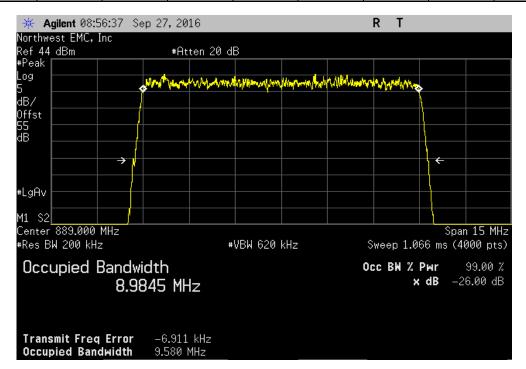




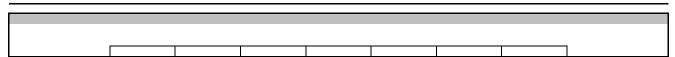




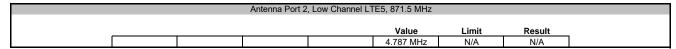
		Antenna Port 1	, High Channel L	ΓΕ10, 889 MHz		
				Value	Limit	Result
1				9.58 MHz	N/A	N/A

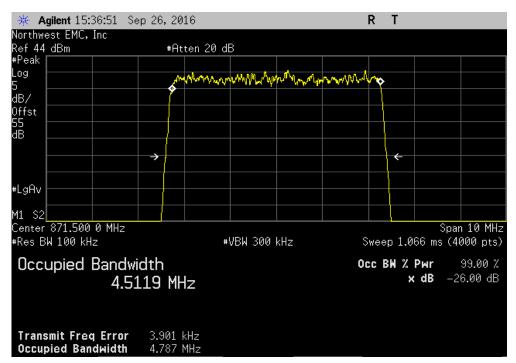




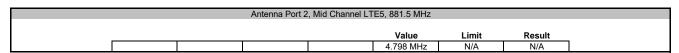


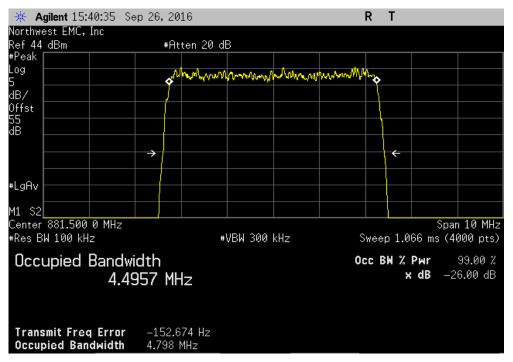
Intentionally Left Blank



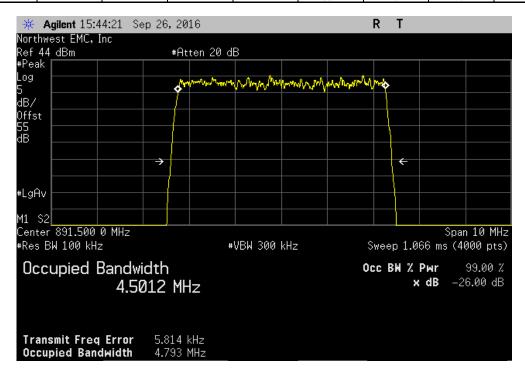




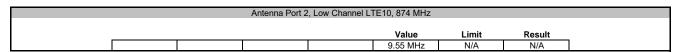


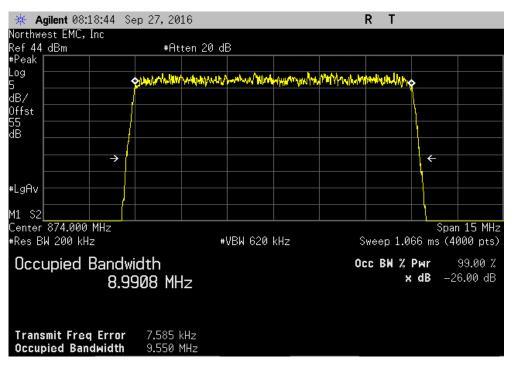


	Antenna Port 2	, High Channel L ⁻	ΓΕ5, 891.5 MHz		
			Value	Limit	Result
			4.793 MHz	N/A	N/A

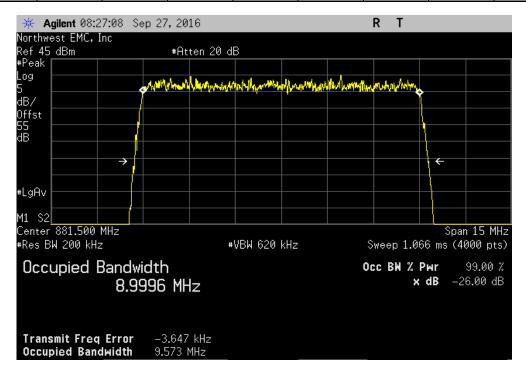






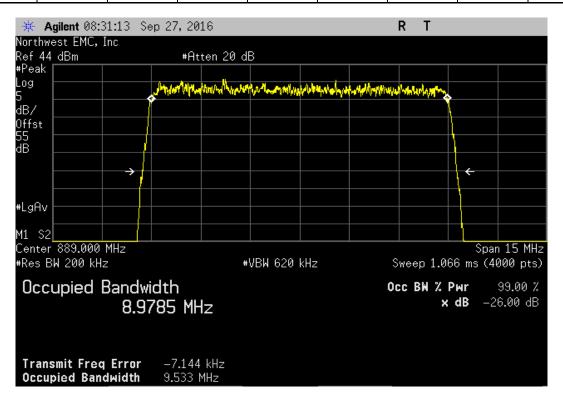


Malan Banda		Antenna Port 2,	Mid Channel LTI	E10, 881.5 MHz		
				Value	Limit	Result





Antenna Port 2, High Channel LTE10, 889 MHz								
					Value	Limit	Result	
					9.533 MHz	N/A	N/A	





Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The spectrum analyzer settings were as follows:

>RBW = Approx. 1% of the emission bandwidth (B). This was an iterative process to determine the RBW based on the emissions bandwidth (B).

>VBW= > RBW

>A peak detector was used

>Trace max hold.

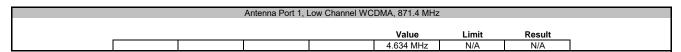
The spectrum analyzer occupied bandwidth measurement function was then used to measure the 26 dB emission bandwidth.

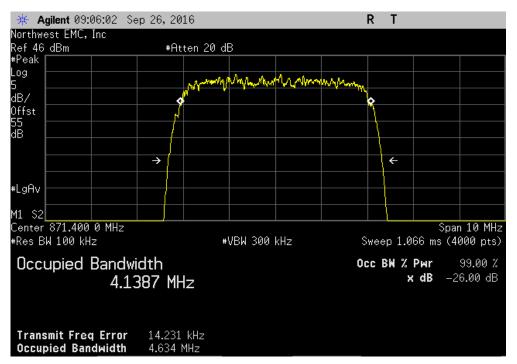
There is no required limit to be met in the rule part for this test. The purpose of the test is to report the results.



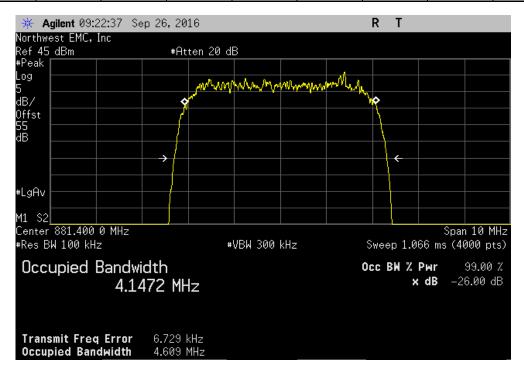
EUT	: CWS-3050-05				Work Order	: KMWC0071	
Serial Number	: K162600004				Date	: 09/26/16	
Customer	: Parallel Wireless Inc.				Temperature	: 22.3 °C	
Attendees	: Edward Lee				Humidity	: 38.4% RH	
Project	:: None				Barometric Pres.	: 1016 mbar	
	: Johnny Candelas		Power:	48VDC	Job Site	: OC13	
TEST SPECIFICAT	TIONS			Test Method			
FCC 22H:2016 ANSI/TIA/EIA-603-D-2010							
COMMENTS							
Power Level Setti	ng 40W. Reference Level C	Offset: DC Block + 30dB Attenuator + 2	20dB Attenuator + F	Power Divider + Cable Loss = 55.0dE	3 total.		
	•						
DEVIATIONS FRO	M TEST STANDARD						
None							
			1				
Configuration #	1		fe st.	Collection .			
		Signature	3				
					Value	Limit	Result
Antenna Port 1							
	Low Channel WCDMA, 87	'1.4 MHz			4.634 MHz	N/A	N/A
	Mid Channel WCDMA, 88	1.4 MHz			4.609 MHz	N/A	N/A
	High Channel WCDMA, 89	91.6 MHz			4.635 MHz	N/A	N/A
Antenna Port 2							
	Low Channel WCDMA, 87	1.4 MHz			4.602 MHz	N/A	N/A
	Mid Channel WCDMA, 88	1.4 MHz			4.64 MHz	N/A	N/A
	High Channel WCDMA, 89	91.6 MHz			4.658 MHz	N/A	N/A



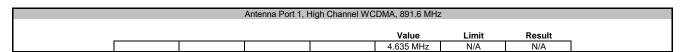


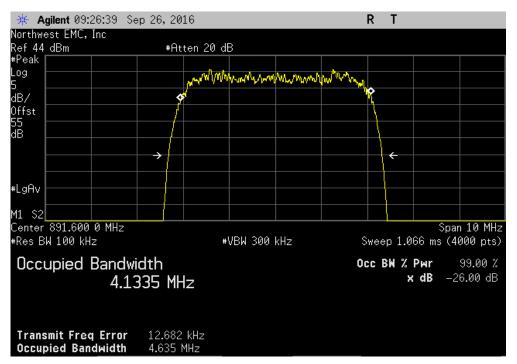


Antenna Port 1, Mid Channel WCDMA, 881.4 MHz								
					Value	Limit	Result	
					4.609 MHz	N/A	N/A	

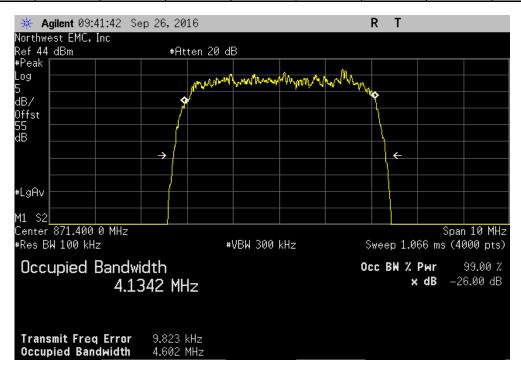




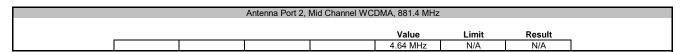


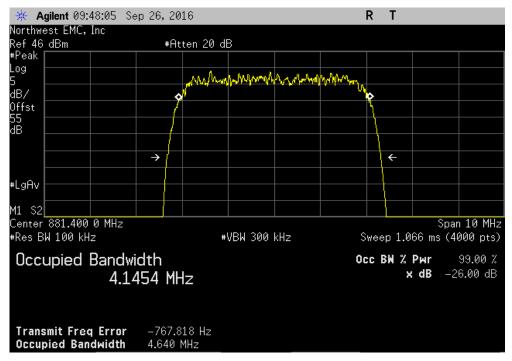


Antenna Port 2, Low Channel WCDMA, 871.4 MHz									
					Value	Limit	Result		
					4.602 MHz	N/A	N/A		

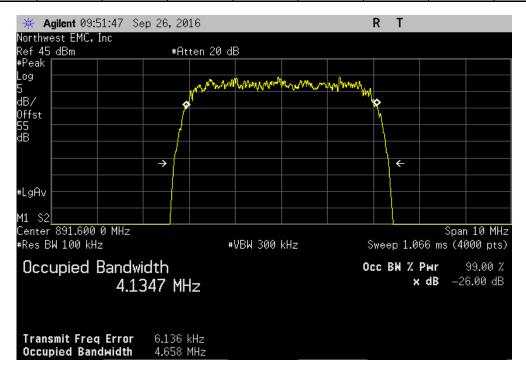








Antenna Port 2, High Channel WCDMA, 891.6 MHz								
					Value	Limit	Result	
					4.658 MHz	N/A	N/A	



OUT OF BAND EMISSIONS



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit

MODES OF OPERATION

Transmitting at LTE5, Low Ch(871.5MHZ), Mid Ch(881.5MHz), High Ch(891.5MHz) Transmitting at LTE10, Low Ch(874MHZ), Mid Ch(881.5MHz), High Ch(889MHz) Transmitting at WCDMA, Low Ch(871.4MHZ), Mid Ch(881.4MHz), High Ch(891.6MHz)

POWER SETTINGS INVESTIGATED

48VDC

CONFIGURATIONS INVESTIGATED

KMWC0071 - 2

FREQUENCY RANGE INVESTIGATED

01 1 5	O: E	0000 1411
Start Frequency 30 MHz	Stop Frequency	8000 MHz
Glart i requerity 150 Mil 12	Olop I requestoy	10000 IVII IZ

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT

0 4 0					
Description	Manufacturer	Model	ID	Last Cal.	Interval
Filter - Band Pass/Notch	K&L Microwave	3TNF-500/1000-N/N	HFR	3/3/2016	12 mo
Attenuator	S.M. Electronics	SA6-20	REO	3/28/2016	12 mo
Attenuator	S.M. Electronics	SA18H-10	REN	3/28/2016	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	PAD	8/15/2016	12 mo
Cable	ESM Cable Corp.	1-8GHz cables	OCX	9/19/2016	12 mo
Cable	ESM Cable Corp.	30-1GHz cables	OCW	9/19/2016	12 mo
Filter - High Pass	Micro-Tronics	HPM50108	HGP	3/28/2016	12 mo
Filter - Low Pass	Micro-Tronics	LPM50003	HGO	3/28/2016	12 mo
Antenna - Biconilog	EMCO	3142	AXB	11/6/2015	24 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVJ	8/15/2016	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIR	6/23/2016	24 mo
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAY	11/5/2015	12 mo

TEST DESCRIPTION

The highest gain antenna to be used with the EUT was tested for final measurements. The EUT was configured for the lowest, a middle, and the highest transmit frequency in each operational band. For each configuration, the spectrum was scanned throughout the specified range. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.10). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

For licensed transmitters, the FCC references TIA/EIA-603 as the measurement procedure standard. TIA/EIA-603 Section 2.2.12 describes a method for measuring radiated spurious emissions that utilizes an antenna substitution method:

At an approved test site, the transmitter is place on a remotely controlled turntable, and the measurement antenna is placed 3 meters from the transmitter. The turntable azimuth is varied to maximize the level of spurious emissions. The height of the measurement antenna is also varied from 1 to 4 meters. The amplitude and frequency of the highest emissions are noted. The transmitter is then replaced with a ½ wave dipole that is successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator is connected to the dipole (horn antenna for frequencies above 1 GHz), and its output is adjusted to match the level previously noted for each frequency. The output of the signal generator is recorded, and by factoring in the cable loss to the antenna and its gain; the power (dBm) into an ideal ½ wave dipole antenna is determined for each radiated spurious emission.

OUT OF BAND EMISSIONS



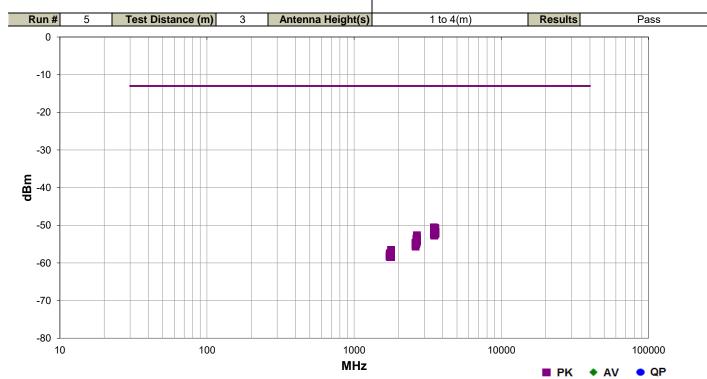
PSA-ESCI 2016.07.22 EmiR5 2016.07.22.1

Work Order:	KMWC0071	Date:	09/28/16	2 2						
Project:	None	Temperature:	22 °C	Die duy						
Job Site:	OC07	Humidity:	42.9% RH							
Serial Number:	K162600004	Barometric Pres.:	1016 mbar	Tested by: Mike Tran						
EUT:	CWS-3050-05									
Configuration:										
Customer:	Parallel Wireless Inc.									
Attendees:	Edward Lee									
EUT Power:	48VDC									
Operating Mode:	Transmitting at LTE5, Low Ch(871.5MHZ), Mid Ch(881.5MHz), High Ch(891.5MHz) Transmitting at LTE10, Low Ch(874MHZ), Mid Ch(881.5MHz), High Ch(889MHz) Transmitting at WCDMA, Low Ch(871.4MHZ), Mid Ch(881.4MHz), High Ch(891.6MHz)									
Deviations:	None									
Comments:	None									
		·								

Test Specifications

FCC 22H:2016

Test Method ANSI/TIA/EIA-603-D-2010



Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
3487.042	1.0	311.0	Horz	PK	8.85E-09	-50.5	-13.0	-37.5	LTE5, Low Ch, EUT Horz
3564.992	1.3	201.0	Vert	PK	8.46E-09	-50.7	-13.0	-37.7	LTE5, High Ch, EUT Vert
3488.292	1.0	181.0	Vert	PK	7.20E-09	-51.4	-13.0	-38.4	LTE5, Low Ch, EUT Vert
3565.267	1.0	150.0	Horz	PK	7.03E-09	-51.5	-13.0	-38.5	LTE5, High Ch, EUT Horz
3483.942	2.5	294.0	Horz	PK	7.03E-09	-51.5	-13.0	-38.5	Dual LTE5+LTE10, Low Ch, EUT Horz
3484.717	3.3	331.0	Horz	PK	6.87E-09	-51.6	-13.0	-38.6	Dual WCDMA+WCDMA, Low Ch, EUT Horz
3526.825	2.7	227.0	Horz	PK	6.87E-09	-51.6	-13.0	-38.6	WCDMA, Mid Ch, EUT Vert
3486.958	2.2	76.0	Horz	PK	6.72E-09	-51.7	-13.0	-38.7	Dual LTE5+WCDMA, Low Ch, EUT Horz
3564.250	1.0	209.0	Vert	PK	6.72E-09	-51.7	-13.0	-38.7	WCDMA, High Ch, EUT Horz
3565.042	2.4	311.0	Horz	PK	6.56E-09	-51.8	-13.0	-38.8	WCDMA, High Ch, EUT Vert
3488.017	1.0	288.0	Vert	PK	6.41E-09	-51.9	-13.0	-38.9	Dual LTE5+LTE5, Low Ch, EUT Vert

Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
3568.500	2.9	99.0	Horz	PK	6.41E-09	-51.9	-13.0	-38.9	WCDMA, High Ch, EUT on Side
3565.017	1.0	320.0	Vert	PK	6.41E-09	-51.9	-13.0	-38.9	WCDMA, High Ch, EUT Vert
3525.617	1.1	230.0	Vert	PK	6.27E-09	-52.0	-13.0	-39.0	LTE10, Mid Ch, EUT Vert
3555.292	1.0	86.0	Vert	PK	6.27E-09	-52.0	-13.0	-39.0	LTE10, High Ch, EUT Vert
3526.450	3.0	40.0	Vert	PK	6.27E-09	-52.0	-13.0	-39.0	WCDMA, Mid Ch, EUT Horz
3484.342	1.1	343.0	Horz	PK	6.27E-09	-52.0	-13.0	-39.0	WCDMA, Low Ch, EUT Vert
3495.108	1.0	194.0	Vert	PK	6.13E-09	-52.1	-13.0	-39.1	LTE10, Low Ch, EUT Vert
3526.150	1.2	124.0	Horz	PK	6.13E-09	-52.1	-13.0	-39.1	LTE10, Mid Ch, EUT Horz
3486.850	3.7	352.0	Vert	PK	6.13E-09	-52.1	-13.0	-39.1	Dual LTE5+LTE10, Low Ch, EUT Vert
3497.750	1.0	325.0	Vert	PK	6.13E-09	-52.1	-13.0	-39.1	Dual LTE10+WCDMA, Low Ch, EUT Vert
3566.558	1.0	92.0	Vert	PK	6.13E-09	-52.1	-13.0	-39.1	WCDMA, High Ch, EUT on Side
3556.833	1.3	90.0	Horz	PK	5.99E-09	-52.2	-13.0	-39.2	LTE10, High Ch, EUT Horz
3486.525	1.6	244.0	Vert	PK	5.99E-09	-52.2	-13.0	-39.2	Dual LTE5+WCDMA, Low Ch, EUT Vert
3484.725 3567.525	1.3 1.0	259.0 209.0	Vert	PK PK	5.99E-09	-52.2 -52.2	-13.0	-39.2 -39.2	Dual WCDMA+WCDMA, Low Ch, EUT Vert
3485.267	1.0	120.0	Horz Horz	PK PK	5.99E-09 5.85E-09	-52.2 -52.3	-13.0 -13.0	-39.2	WCDMA, High Ch, EUT Horz Dual LTE5+LTE5, Low Ch, EUT Horz
3485.392	2.5	75.0	Vert	PK	5.85E-09	-52.3 -52.3	-13.0	-39.3	WCDMA, Low Ch, EUT Horz
3525.675	1.0	243.0	Horz	PK	5.59E-09	-52.5	-13.0	-39.5	LTE5, Mid Ch, EUT Horz
3525.983	2.4	67.0	Vert	PK	5.59E-09	-52.5	-13.0	-39.5	LTE5, Mid Ch, EUT Vert
3494.275	1.0	94.0	Horz	PK	5.59E-09	-52.5	-13.0	-39.5	LTE10, Low Ch, EUT Horz
2674.035	1.0	135.0	Horz	PK	5.46E-09	-52.6	-13.0	-39.6	LTE5, High Ch, EUT Horz
3496.525	1.0	44.0	Horz	PK	5.33E-09	-52.7	-13.0	-39.7	Dual LTE10+WCDMA, Low Ch, EUT Horz
2673.960	1.0	47.0	Vert	PK	4.44E-09	-53.5	-13.0	-40.5	LTE5, High Ch, EUT Vert
2645.433	1.0	62.0	Horz	PK	4.44E-09	-53.5	-13.0	-40.5	LTE5, Mid Ch, EUT Horz
2673.775	2.0	206.0	Horz	PK	4.34E-09	-53.6	-13.0	-40.6	LTE5, High Ch, EUT Vert
2674.825	1.0	13.0	Vert	PK	4.24E-09	-53.7	-13.0	-40.7	LTE 5, High Ch, EUT on Side
2674.605	1.0	238.0	Vert	PK	4.14E-09	-53.8	-13.0	-40.8	LTE5, High Ch, EUT Horz
2676.325	3.3	101.0	Horz	PK	3.95E-09	-54.0	-13.0	-41.0	LTE 5, High Ch, EUT on Side
2672.975	1.0	166.0	Vert	PK	3.78E-09	-54.2	-13.0	-41.2	WCDMA, High Ch, EUT Horz
2674.242	1.0	193.0	Horz	PK	3.61E-09	-54.4	-13.0	-41.4	WCDMA, High Ch, EUT Vert
2614.075	1.0	55.0	Horz	PK	3.44E-09	-54.6	-13.0	-41.6	LTE5, Low Ch, EUT Horz
2613.308	1.0	94.0	Vert	PK	3.37E-09	-54.7	-13.0	-41.7	LTE5, Low Ch, EUT Vert
2641.650	1.0	112.0	Horz	PK	3.29E-09	-54.8	-13.0	-41.8	WCDMA, Mid Ch, EUT Vert
2641.983	1.0	275.0	Vert	PK	3.29E-09	-54.8	-13.0	-41.8	WCDMA, Mid Ch, EUT Horz
2643.492	1.0	141.0	Vert	PK	3.14E-09	-55.0	-13.0	-42.0	LTE5, Mid Ch, EUT Vert
2611.833	1.0	135.0	Vert	PK	3.07E-09	-55.1	-13.0	-42.1	WCDMA, Low Ch, EUT Horz
2611.517	1.0	196.0	Horz	PK	2.74E-09	-55.6	-13.0	-42.6	WCDMA, Low Ch, EUT Vert
1781.017	1.0	118.0	Vert	PK	2.22E-09	-56.5	-13.0	-43.5	LTE5, High Ch, EUT Vert
1744.667	1.0	114.0	Vert	PK	1.81E-09	-57.4 57.7	-13.0	-44.4	LTE5, Low Ch, EUT Vert
1780.533	2.0	153.0 144.0	Horz	PK	1.69E-09	-57.7 57.0	-13.0	-44.7	LTE5, High Ch, EUT Horz
1761.258	1.0		Vert	PK	1.61E-09	-57.9	-13.0	-44.9 45.0	LTE5, Mid Ch, EUT Horz
1765.475 1743.933	1.0 1.0	244.0 305.0	Horz Vert	PK PK	1.57E-09 1.57E-09	-58.0 -58.0	-13.0 -13.0	-45.0 -45.0	LTE5, Mid Ch, EUT Horz WCDMA, Low Ch, EUT Horz
1743.933	1.0	196.0	Horz	PK PK	1.57E-09 1.50E-09	-58.2	-13.0	-45.0 -45.2	LTE5, Low Ch, EUT Horz
1784.442	2.9	350.0	Horz	PK	1.50E-09 1.50E-09	-56.2 -58.2	-13.0	-45.2 -45.2	WCDMA, High Ch, EUT Vert
1760.650	1.8	214.0	Horz	PK	1.50E-09	-58.2	-13.0	-45.2 -45.2	WCDMA, Mid Ch, EUT Vert
1741.992	2.2	70.0	Horz	PK	1.47E-09	-58.3	-13.0	-45.2 -45.3	WCDMA, Iviid Cri, EUT Vert
1782.067	3.7	266.0	Vert	PK	1.44E-09	-58.4	-13.0	-45.4	WCDMA, High Ch, EUT Horz
1765.217	1.0	360.0	Vert	PK	1.44E-09	-58.4	-13.0	-45.4	WCDMA, Mid Ch, EUT Horz
	-							-	



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

I EOI EQUI MENT					
Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The spurious RF conducted emissions at the authorized bands per FCC 22(H) were measured with the EUT transmitting at the data rate(s) listed in the datasheet.

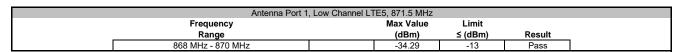
An average RMS detector was used to match the method used during Output Power. The screen capture shows the margin between the measured value and the limit at the band edge.

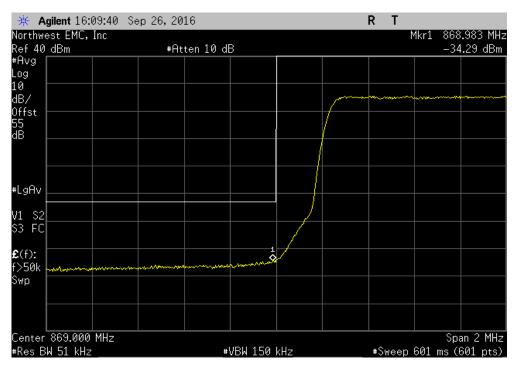
BAND EDGE COMPLIANCE



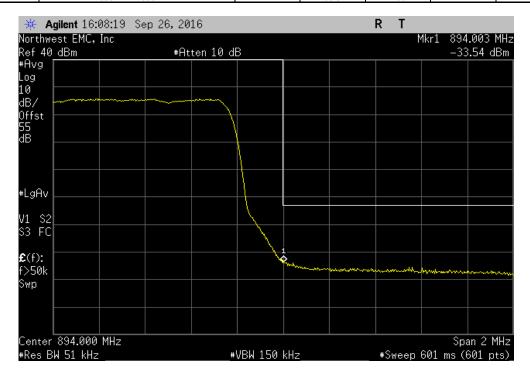
EUT:	CWS-3050-05					Work Order:	KMWC0071	
Serial Number:	K162600004					Date:	09/26/16	
Customer:	Parallel Wireless Inc.					Temperature:	22.3 °C	
Attendees:	Edward Lee					Humidity:	38.4% RH	
Project:	None					Barometric Pres.: '	1016 mbar	
	Johnny Candelas		Power:	48VDC		Job Site:	OC13	
TEST SPECIFICAT	TIONS			Test Method				
FCC 22H:2016			/	ANSI/TIA/EIA-603-D-2010				
COMMENTS								
Power Level Settin	ng 40W. Reference Level C	Offset: DC Block + 30dB Attenuator +	20dB Attenuator +	Power Divider + Cable Loss = 55.0d	B total.		·	
	M TEST STANDARD							
None None	M IESI SIANDARD							
None	M IESI SIANDARD		le di					
	M IESI SIANDARD		fe d.	l.M.				
None	M IESI SIANDARD	Signature	fe d.			May Valuo	Limit	
None	M IESI SIANDARD		fe d.	Frequency		Max Value (dBm)	Limit < (dBm)	Result
None Configuration #	1		fe d.			Max Value (dBm)	Limit ≤ (dBm)	Result
None	1	Signature	7	Frequency Range		(dBm)	≤ (dBm)	
None Configuration # Antenna Port 1	1 Low Channel LTE5, 871.5	Signature Signature		Frequency Range 868 MHz - 870 MHz		(dBm) -34.29	≤ (dBm) -13	Pass
None Configuration # Antenna Port 1	Low Channel LTE5, 871.5 High Channel LTE5, 891.5	Signature MHz 5 MHz	8	Frequency Range		-34.29 -33.54	≤ (dBm) -13 100	Pass Pass
None Configuration # Antenna Port 1	Low Channel LTE5, 871.5 High Channel LTE5, 891.5 Low Channel LTE10, 874	Signature MHz 5 MHz MHz		Frequency Range 868 MHz - 870 MHz 893 MHz - 895 MHz		-34.29 -33.54 -32.66	≤ (dBm) -13	Pass
None Configuration # Antenna Port 1	Low Channel LTE5, 871.5 High Channel LTE5, 891.5	Signature MHz 5 MHz MHz		Frequency Range 868 MHz - 870 MHz 893 MHz - 895 MHz 868 MHz - 870 MHz		-34.29 -33.54	≤ (dBm) -13 100 -13	Pass Pass Pass
None Configuration # Antenna Port 1	Low Channel LTE5, 871.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 High Channel LTE10, 889	Signature MHz 5 MHz MHz MHz MHz MHz MHz	1	Frequency Range 868 MHz - 870 MHz 893 MHz - 895 MHz 868 MHz - 870 MHz		-34.29 -33.54 -32.66	≤ (dBm) -13 100 -13	Pass Pass Pass
None Configuration # Antenna Port 1 Antenna Port 2	Low Channel LTE5, 871.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 High Channel LTE10, 889 Low Channel LTE5, 871.5	Signature MHz 5 MHz MHz MHz MHz MHz	1 1 1 1	Frequency Range 868 MHz - 870 MHz 893 MHz - 895 MHz 868 MHz - 870 MHz 893 MHz - 895 MHz		(dBm) -34.29 -33.54 -32.66 -32.35	-13 100 -13 -13	Pass Pass Pass Pass
None Configuration # Antenna Port 1 Antenna Port 2	Low Channel LTE5, 871.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 High Channel LTE10, 889	Signature MHz 5 MHz MHz MHz MHz MHz MHz MHz MHz	3	Frequency Range 868 MHz - 870 MHz 893 MHz - 895 MHz 868 MHz - 870 MHz 893 MHz - 895 MHz		-34.29 -33.54 -32.66 -32.35	≤ (dBm) -13 100 -13 -13 -13	Pass Pass Pass Pass
None Configuration # Antenna Port 1 Antenna Port 2	Low Channel LTE5, 871.5 High Channel LTE5, 891.5 Low Channel LTE10, 874 High Channel LTE10, 889 Low Channel LTE5, 871.5 High Channel LTE5, 891.5	Signature MHz 5 MHz MHz MHz 5 MHz 5 MHz 5 MHz 6 MHz	3	Frequency Range 868 MHz - 870 MHz 893 MHz - 895 MHz 868 MHz - 870 MHz 893 MHz - 895 MHz 868 MHz - 870 MHz 868 MHz - 870 MHz		(dBm) -34.29 -33.54 -32.66 -32.35 -34.78 -33.55	≤ (dBm) -13 100 -13 -13 -13	Pass Pass Pass Pass Pass Pass





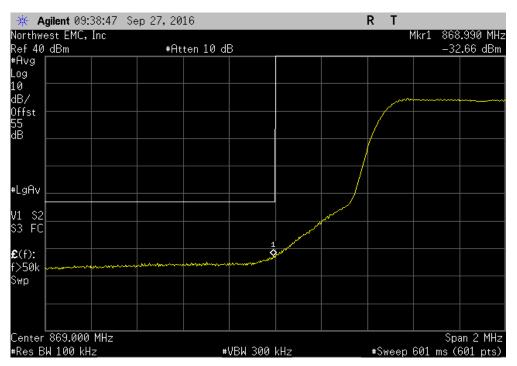


	Antenna Port 1	, High Channel L ⁻	ΓΕ5, 891.5 MHz		
	Frequency		Max Value	Limit	
_	Range		(dBm)	≤ (dBm)	Result
1	893 MHz - 895 MHz		-33.54	100	Pass

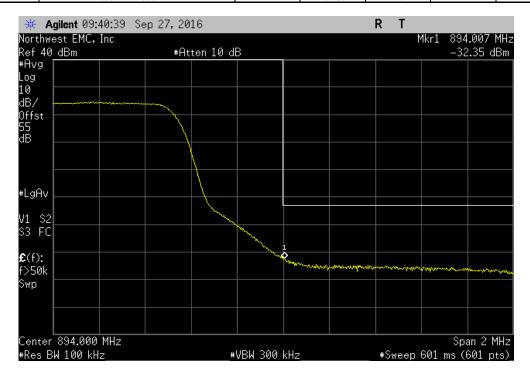




Antenna Port 1	. Low Channel LTE10, 874 I	ИHz	
Frequency	Max Va	lue Limit	
Range	(dBm) ≤ (dBm)	Result
868 MHz - 870 MHz	-32.6	-13	Pass

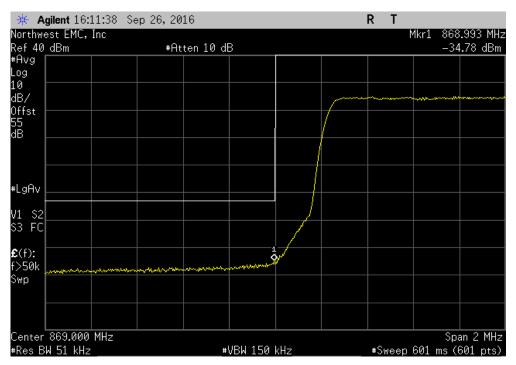


Antenna Port 1	, High Channel L	TE10, 889 MHz		
Frequency		Max Value	Limit	
 Range		(dBm)	≤ (dBm)	Result
893 MHz - 895 MHz		-32.35	-13	Pass

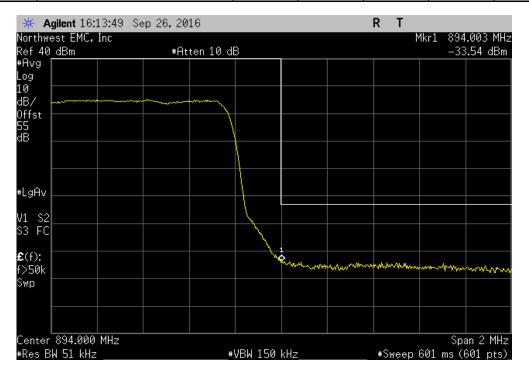




Antenna Port 2,	Low Channel LTE5, 871.5 MHz		
Frequency	Max Value	Limit	
Range	(dBm)	≤ (dBm)	Result
868 MHz - 870 MHz	-34.78	-13	Pass



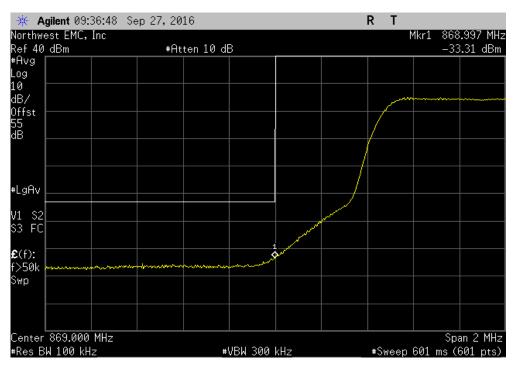
	Antenna Port 2	, High Channel L∃	E5, 891.5 MHz		
	Frequency		Max Value	Limit	
_	Range		(dBm)	≤ (dBm)	Result
ı	893 MHz - 895 MHz		-33.55	100	Pass



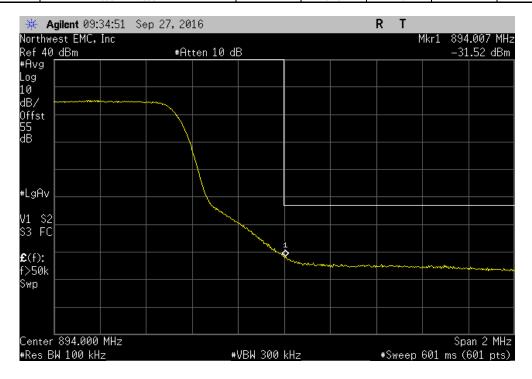
BAND EDGE COMPLIANCE - LTE BAND 5



Antenna Port 2,	Low Channel LTE10, 874 MHz		
Frequency	Max Value	Limit	
Range	(dBm)	≤ (dBm)	Result
868 MHz - 870 MHz	-33.31	-13	Pass



Antenna Port 2, High Channel LTE10, 889 MHz					
	Frequency		Max Value	Limit	
	Range		(dBm)	≤ (dBm)	Result
	893 MHz - 895 MHz		-31.52	-13	Pass





Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

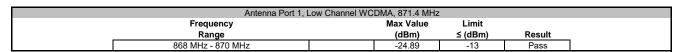
The spurious RF conducted emissions at the authorized bands per FCC 22H were measured with the EUT transmitting at the data rate(s) listed in the datasheet.

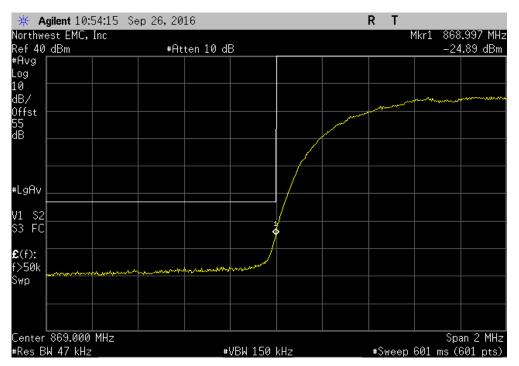
An average RMS detector was used to match the method used during Output Power. The screen capture shows the margin between the measured value and the limit at the band edge.



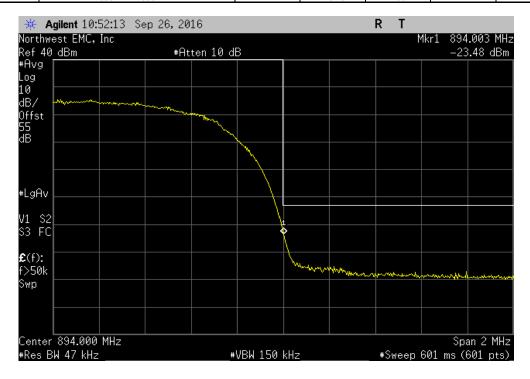
EUT: CWS-3050-05			Work Order:	KMWC0071	
Serial Number: K162600004			Date:	09/26/16	
Customer: Parallel Wireless Inc.			Temperature:	22.3 °C	
Attendees: Edward Lee			Humidity:	38.4% RH	
Project: None			Barometric Pres.:	1016 mbar	
Tested by: Johnny Candelas		Power: 48VDC	Job Site:	OC13	
TEST SPECIFICATIONS		Test Method			
FCC 22H:2016		ANSI/TIA/EIA-603-D-2010			
COMMENTS					
Power Level Setting 40W Reference Level	Offset: DC Block + 30dB Attenuator	+ 20dB Attenuator + Power Divider + Cable Loss = 55.0dB	total		
one. Level colling form Kelerence Level	photo Do Block i coub / Mondato.	1 2002 / 11011000 1 1 0 1101 2 11100 1 0 0 0 0 0	· · · · · · · · · · · · · · · · · · ·		
DEVIATIONS FROM TEST STANDARD					
None					
		Se dille			
Configuration # 1		Je d. Coller			
	Signature				
		Frequency	Max Value	Limit	
		Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
Antenna Port 1					Result
Antenna Port 1 Low Channel WCDMA, 8	71.4 MHz				Result
		Range	(dBm)	≤ (dBm)	
Low Channel WCDMA, 8 High Channel WCDMA,		Range 868 MHz - 870 MHz	(dBm) -24.89	≤ (dBm) -13	Pass
	391.6 MHz	Range 868 MHz - 870 MHz	(dBm) -24.89	≤ (dBm) -13	Pass





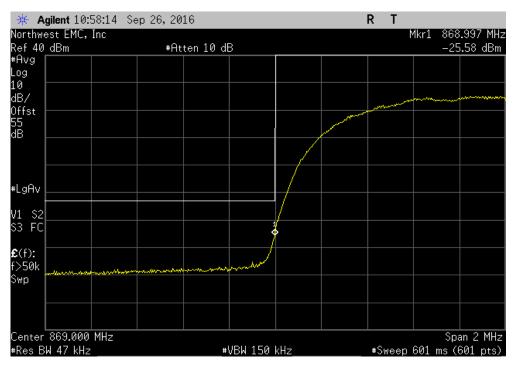


	Antenna Port 1, High Channel WCDMA, 891.6 MHz					
	Frequency		Max Value	Limit		
	Range		(dBm)	≤ (dBm)	Result	
,	893 MHz - 895 MHz		-23.48	100	Pass	

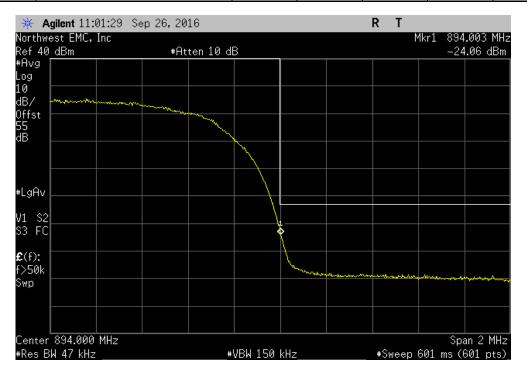




Antenna Port 2, Low Channel WCDMA, 871,4 MHz						
	Frequency		Max Value	Limit		
	Range		(dBm)	≤ (dBm)	Result	
	868 MHz - 870 MHz		-25.58	-13	Pass	



Antenna Port 2, High Channel WCDMA, 891.6 MHz						
	Frequency		Max Value	Limit		
_	Range		(dBm)	≤ (dBm)	Result	
ĺ	893 MHz - 895 MHz		-24.06	100	Pass	





Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Filter - High Pass	Micro-Tronics	HPM50108	HGX	7/25/2016	7/25/2017
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. Analyzer plots utilizing a 1 MHz resolution bandwidth and no video filtering were made for each mode listed in the datasheet.

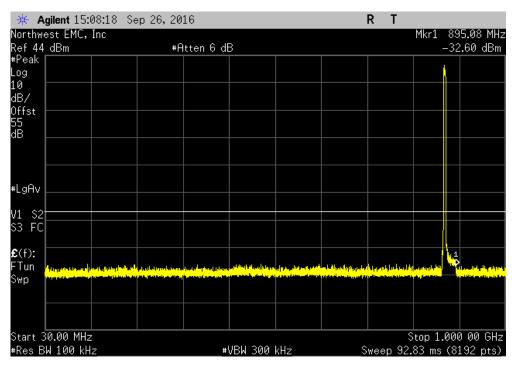
The peak conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than or equal to the limit.



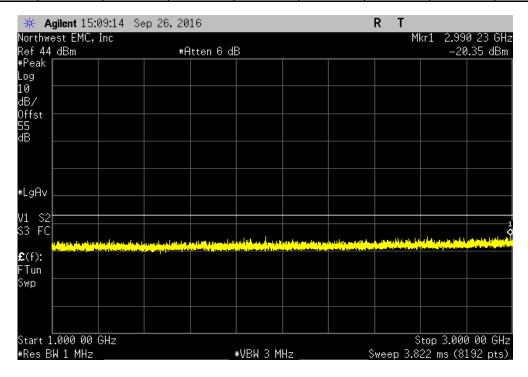
	LOWIG SOFO OF				,	LANGOOTA	
	CWS-3050-05					KMWC0071	
Serial Number						09/26/16	
	Parallel Wireless Inc.				Temperature		
	Edward Lee					38.4% RH	
Project					Barometric Pres.		
	Johnny Candelas		Power:	48VDC	Job Site	OC13	
TEST SPECIFICAT	TONS			Test Method			
FCC 22H:2016				ANSI/TIA/EIA-603-D-2010			
COMMENTS							
	ar 40W Deference Level Of	ffset: DC Block + 30dB Attenu	eter - 20dB Attenueter -	Dawer Divider - Cable I aca	EE OdD total		
Power Level Settil	ig 40W. Reference Level Of	inset: DC Block + 300B Attenu	ator + 200B Attenuator +	Power Divider + Cable Loss	= 55.00B total.		
DEVIATIONS EDO	M TEST STANDARD						
None	MI IESI SIANDARD						
None							
Configuration #	1		fe d.				
Comiguration #		Cimnatura					
		Signature		Francis	Max Value	Limit	
i				Frequency		Limit	Decul
				Range	(dBm)	≤ (dBm)	Result
Antenna Port 1						40	
	Low Channel LTE5, 871.5 M			30 MHz - 1 GHz	-32.6	-13	Pass
	Low Channel LTE5, 871.5 I			1 GHz - 3 GHz	-20.35	-13	Pass
	Low Channel LTE5, 871.5 I			3 GHz - 9 GHz	-19.27	-13	Pass
	Mid Channel LTE5, 881.5 N			30 MHz - 1 GHz	-30.14	-13	Pass
	Mid Channel LTE5, 881.5 N	MHz		1 GHz - 3 GHz	-20.5	-13	Pass
	Mid Channel LTE5, 881.5 N	MHz		3 GHz - 9 GHz	-20.16	-13	Pass
	High Channel LTE5, 891.5	MHz		30 MHz - 1 GHz	-32.08	-13	Pass
	High Channel LTE5, 891.5	MHz		1 GHz - 3 GHz	-19.94	-13	Pass
	High Channel LTE5, 891.5	MHz		3 GHz - 9 GHz	-19.97	-13	Pass
	Low Channel LTE10, 874 M			30 MHz - 1 GHz	-27.5	-13	Pass
	Low Channel LTE10, 874 M			1 GHz - 3 GHz	-20.79	-13	Pass
	Low Channel LTE10, 874 M			3 GHz - 9 GHz	-18.67	-13	Pass
	Mid Channel LTE10, 881.5			30 MHz - 1 GHz	-29.33	-13	Pass
	Mid Channel LTE10, 881.5			1 GHz - 3 GHz	-20.34	-13	Pass
	Mid Channel LTE10, 881.5			3 GHz - 9 GHz	-20.06	-13	Pass
	High Channel LTE10, 889 M			30 MHz - 1 GHz	-29.98	-13	Pass
	High Channel LTE10, 889 M			1 GHz - 3 GHz	-29.96	-13	Pass
				3 GHz - 9 GHz	-20.66 -18.91	-13 -13	Pass
Antenna Port 2	High Channel LTE10, 889 N	IVITZ		3 GHZ - 9 GHZ	-10.91	-13	Pass
Antenna Port 2	1 Ob11 TES 074 5	N 41 1—		00 MH = 4 OH=	20.5	40	D
	Low Channel LTE5, 871.5 I			30 MHz - 1 GHz	-30.5 -19.96	-13 -13	Pass
	Low Channel LTE5, 871.5 I			1 GHz - 3 GHz			Pass
	Low Channel LTE5, 871.5 M			3 GHz - 9 GHz	-19.53	-13	Pass
	Mid Channel LTE5, 881.5 N			30 MHz - 1 GHz	-32.05	-13	Pass
	Mid Channel LTE5, 881.5 N			1 GHz - 3 GHz	-20.38	-13	Pass
	Mid Channel LTE5, 881.5 N			3 GHz - 9 GHz	-19.84	-13	Pass
	High Channel LTE5, 891.5			30 MHz - 1 GHz	-30.22	-13	Pass
	High Channel LTE5, 891.5			1 GHz - 3 GHz	-20.95	-13	Pass
	High Channel LTE5, 891.5			3 GHz - 9 GHz	-18.92	-13	Pass
	Low Channel LTE10, 874 M			30 MHz - 1 GHz	-24.04	-13	Pass
	Low Channel LTE10, 874 M			1 GHz - 3 GHz	-20.97	-13	Pass
	Low Channel LTE10, 874 N	ИНZ		3 GHz - 9 GHz	-19.74	-13	Pass
	Mid Channel LTE10, 881.5	MHz		30 MHz - 1 GHz	-29.56	-13	Pass
	Mid Channel LTE10, 881.5	MHz		1 GHz - 3 GHz	-20.56	-13	Pass
	Mid Channel LTE10, 881.5			3 GHz - 9 GHz	-19.42	-13	Pass
	High Channel LTE10, 889 M			30 MHz - 1 GHz	-30.88	-13	Pass
	High Channel LTE10, 889 M			1 GHz - 3 GHz	-19.81	-13	Pass
	High Channel LTE10, 889 M			3 GHz - 9 GHz	-19.76	-13	Pass
	ingii Onamei Li E iu, 669 l	IVII 12		5 GHZ - 8 GHZ	-18.76	-13	1.422



	Antenna Port 1, Low Channel L	TE5, 871.5 MHz		
Frequency		Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
30 MHz - 1 GHz		-32.6	-13	Pass

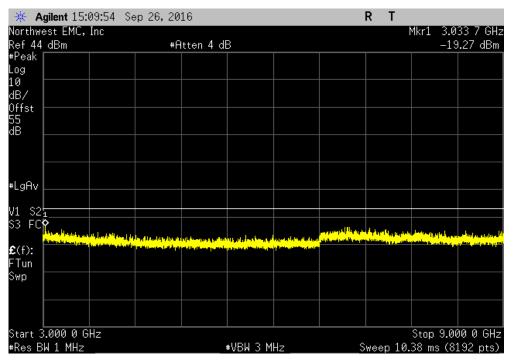


	Antenna Port 1, Low Channel LTE5, 871.5 MHz						
	Frequency		Max Value	Limit			
_	Range		(dBm)	≤ (dBm)	Result		
ĺ	1 GHz - 3 GHz		-20.35	-13	Pass		

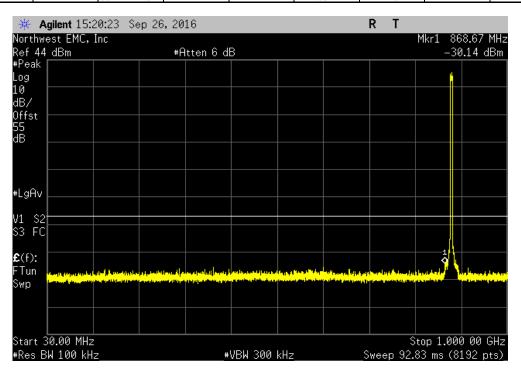




Antenna Port 1, Low Channel LTE5, 871.5 MHz					
Frequency	Max Value	Limit			
Range	(dBm)	≤ (dBm)	Result		
3 GHz - 9 GHz	-19.27	-13	Pass		

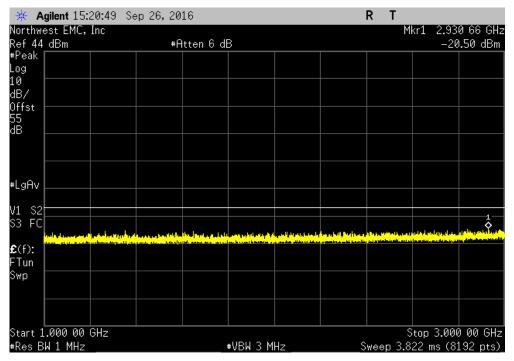


	Antenna Port 1, Mid Channel LTE5, 881.5 MHz					
Frequency	Max ^v	alue Limit				
Range	(dE	m) ≤ (dBm)	Result			
30 MHz - 1 GHz	-30	14 -13	Pass			

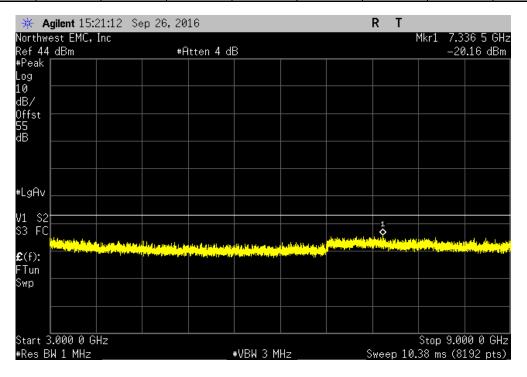




Antenna Port 1, Mid Channel LTE5, 881.5 MHz					
Frequency			Limit		
Range		(dBm)	≤ (dBm)	Result	
1 GHz - 3 GHz		-20.5	-13	Pass	

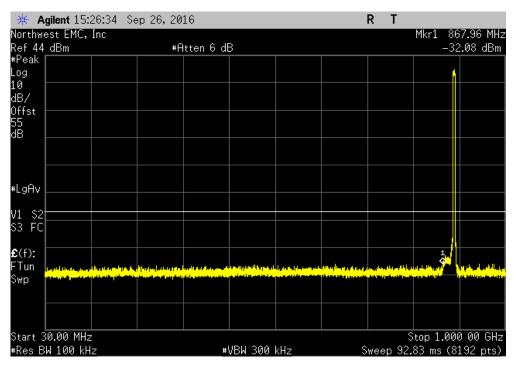


Antenna Port 1, Mid Channel LTE5, 881.5 MHz					
Frequency	Max Value	Limit			
Range	(dBm)	≤ (dBm)	Result		
3 GHz - 9 GHz	-20.16	-13	Pass		

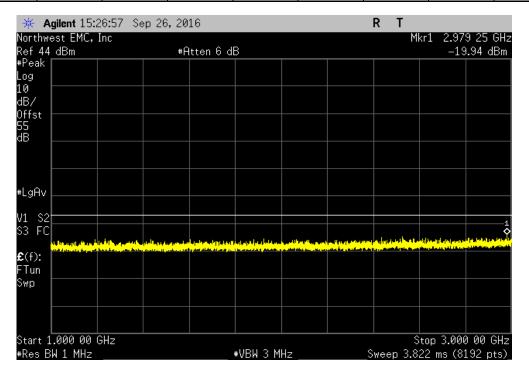




Antenna Port 1,	, High Channel LTE5, 891.5 MHz			
Frequency	Max Value	Limit		
Range	(dBm)	≤ (dBm)	Result	
30 MHz - 1 GHz	-32.08	-13	Pass	

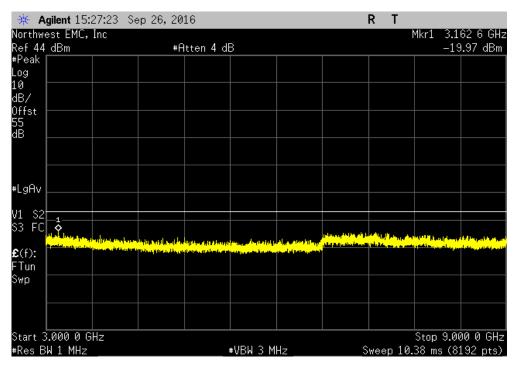


	Antenna Port 1, High Channel LTE5, 891.5 MHz					
	Frequency		Max Value	Limit		
_	Range		(dBm)	≤ (dBm)	Result	
ĺ	1 GHz - 3 GHz		-19.94	-13	Pass	

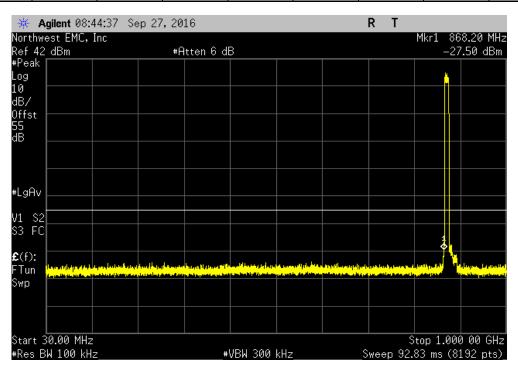




Antenna Port 1, High Channel LTE5, 891.5 MHz						
Frequency			Max Value	Limit		
Range			(dBm)	≤ (dBm)	Result	
3 GHz - 9 GHz			-19.97	-13	Pass	l

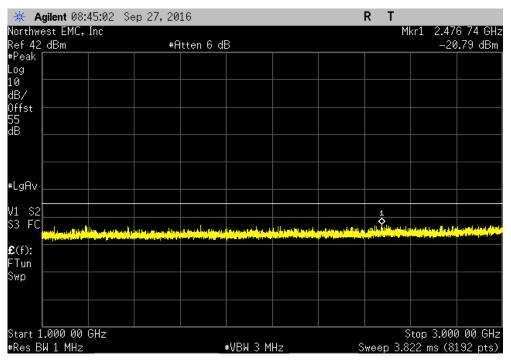


Antenna Port 1, Low Channel LTE10, 874 MHz					
Frequency		Max Value	Limit		
Range		(dBm)	≤ (dBm)	Result	
30 MHz - 1 GHz		-27.5	-13	Pass	

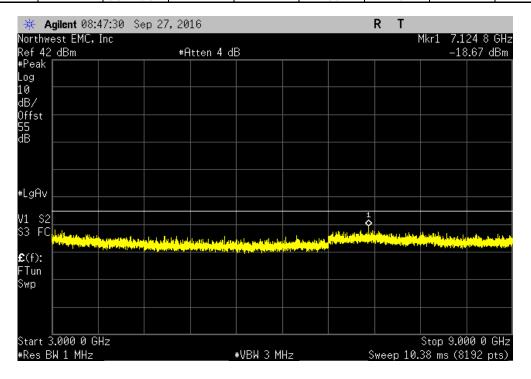




	Antenna Port 1, Low Channel LTE10, 874 MHz						
Frequency			Limit				
Range		(dBm)	≤ (dBm)	Result			
1 GHz - 3 GHz		-20.79	-13	Pass			

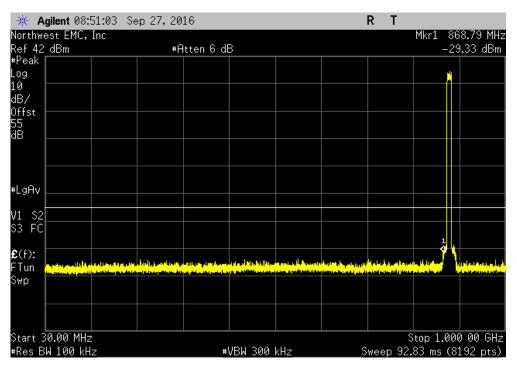


	Antenna Port 1, Low Channel LTE10, 874 MHz					
F	Frequency Max Value					
	Range		(dBm)	≤ (dBm)	Result	
3 (GHz - 9 GHz		-18.67	-13	Pass	

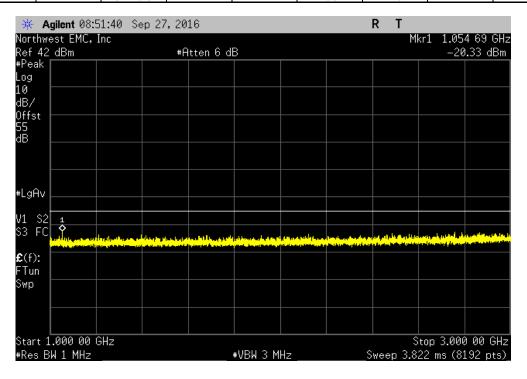




Antenna Port 1, Mid Channel LTE10, 881.5 MHz					
Frequency		Max Value	Limit		
Range		(dBm)	≤ (dBm)	Result	
30 MHz - 1 GHz		-29.33	-13	Pass	

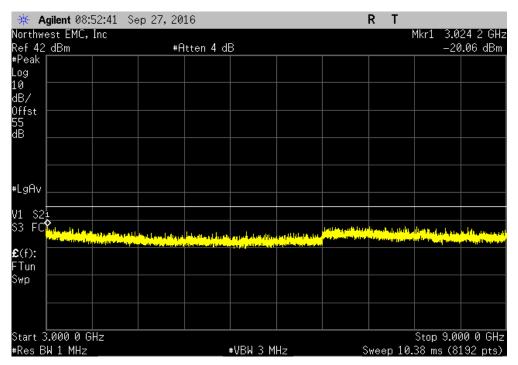


Antenna Port 1, Mid Channel LTE10, 881.5 MHz					
Frequency		Max Value	Limit		
 Range		(dBm)	≤ (dBm)	Result	
1 GHz - 3 GHz		-20.34	-13	Pass	

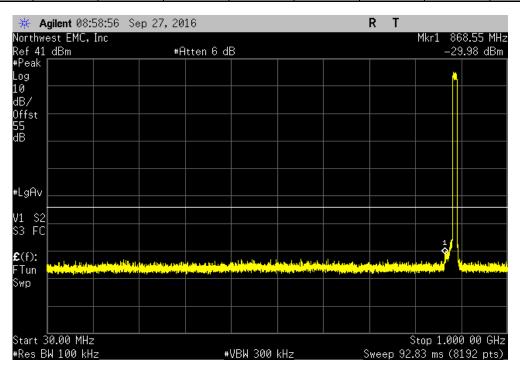




	Antenna Port 1, Mid Channel LT	E10, 881.5 MHz		
Frequency		Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
3 GHz - 9 GHz		-20.06	-13	Pass

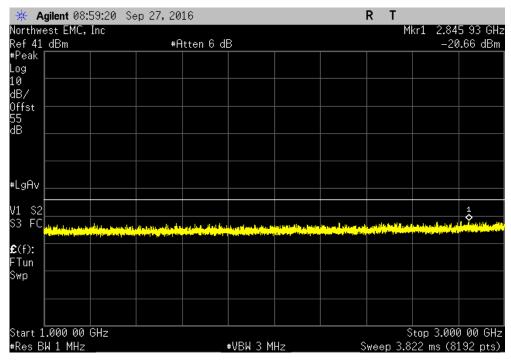


Antenna Port	1, High Channel LT	TE10, 889 MHz		
Frequency		Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
30 MHz - 1 GHz		-29.98	-13	Pass

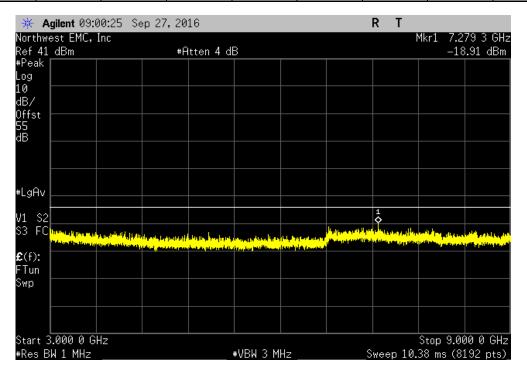




	Antenna Port 1, High Channel LT	E10, 889 MHz		
Frequency	·	Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
1 GHz - 3 GHz		-20.66	-13	Pass



	Antenna Por	: 1, High Channel L	TE10, 889 MHz			
	Frequency		Max Value	Limit		
	Range		(dBm)	≤ (dBm)	Result	
1	3 GHz - 9 GHz		-18.91	-13	Pass	

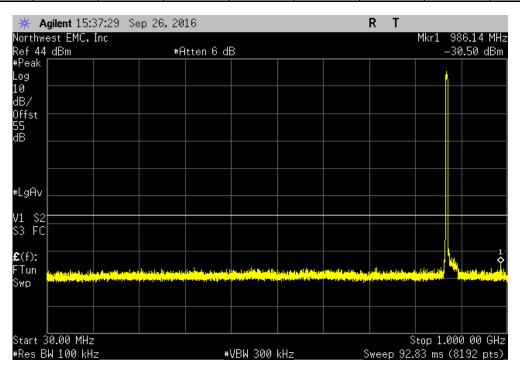




1	1	1		· ·	I

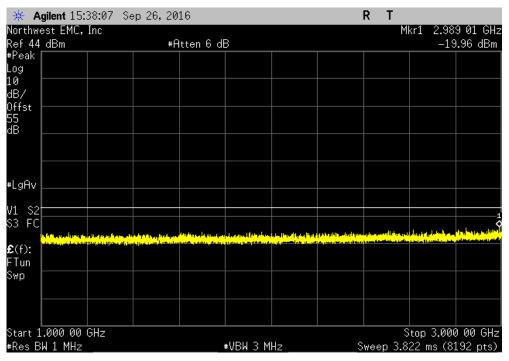
Intentionally Left Blank

Antenna Port 2, Low Channel LTE5, 871.5 MHz						
Frequency		Max Value	Limit			
 Range		(dBm)	≤ (dBm)	Result		
30 MHz - 1 GHz		-30.5	-13	Pass		

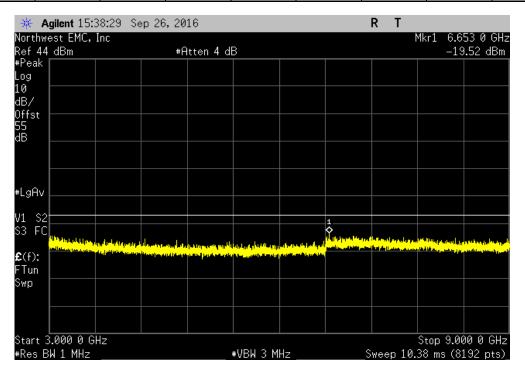




	Antenna Port 2, Low Channel LTE	5, 871.5 MHz		
Frequency		Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
1 GHz - 3 GHz		-19.96	-13	Pass

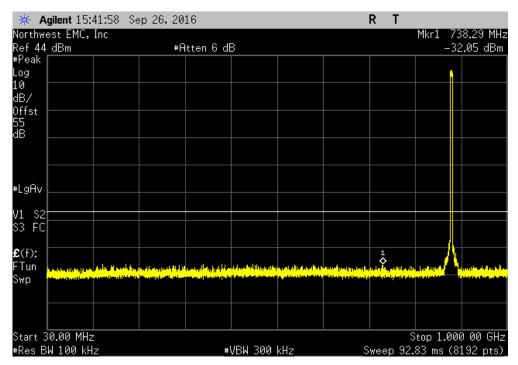


	Antenna Port 2, Low Channel LTE5, 871.5 MHz					
	Frequency		Max Value	Limit		
	Range		(dBm)	≤ (dBm)	Result	
ĺ	3 GHz - 9 GHz		-19.53	-13	Pass	

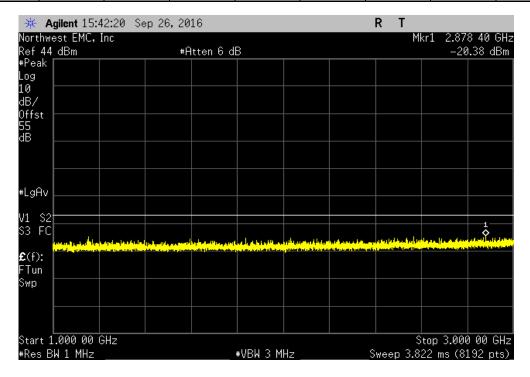




	Antenna Port 2, Mid Channel LT	E5, 881.5 MHz		
Frequency		Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
30 MHz - 1 GHz		-32.05	-13	Pass

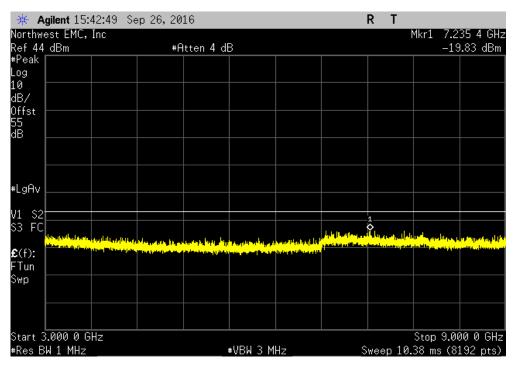


Antenna Port	2, Mid Channel LTE5, 881.5 MHz		
Frequency	Max Value	Limit	
Range	(dBm)	≤ (dBm)	Result
1 GHz - 3 GHz	-20.38	-13	Pass

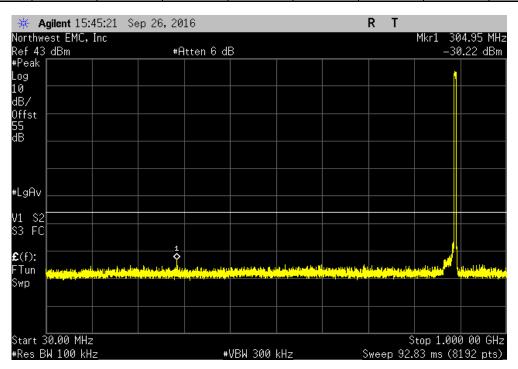




	Antenna Port 2, M	/lid Channel LTE5, 881.5 MHz		
Fred	quency	Max Value	Limit	
R	ange	(dBm)	≤ (dBm)	Result
3 GHz	z - 9 GHz	-19.84	-13	Pass

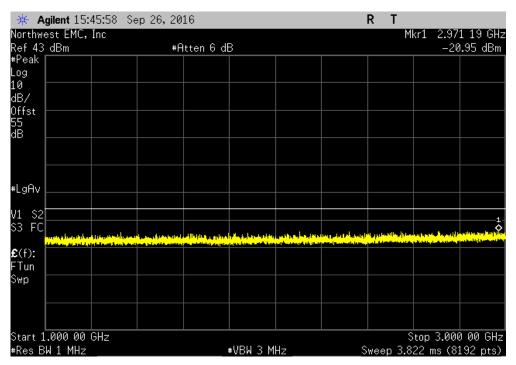


Antenna Port 2, High Channel LTE5, 891.5 MHz							
Frequency Max Value Limit							
Range		(dBm)	≤ (dBm)	Result			
30 MHz - 1 GHz		-30.22	-13	Pass			

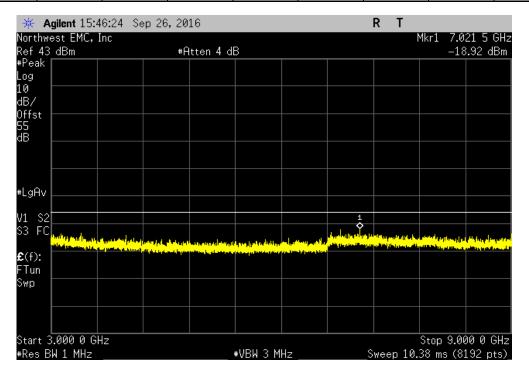




Antenna Port 2, High Channel LTE5, 891.5 MHz							
Frequency		Max Value	Limit				
Range		(dBm)	≤ (dBm)	Result			
1 GHz - 3 GHz		-20.95	-13	Pass			

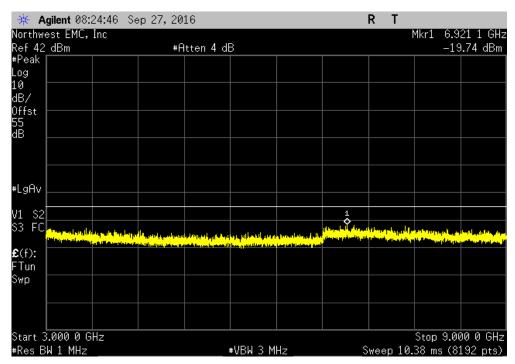


	Antenna Port 2, High Channel LTE5, 891.5 MHz						
	Frequency Max Value Limit						
_	Range		(dBm)	≤ (dBm)	Result		
ĺ	3 GHz - 9 GHz		-18.92	-13	Pass		

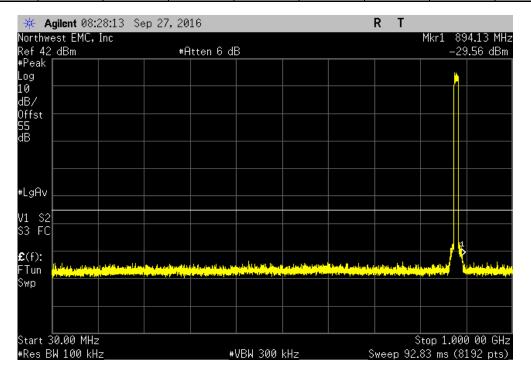




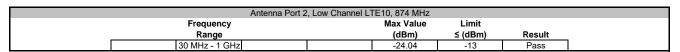
Antenna Port 2, Low Channel LTE10, 874 MHz							
Frequency			Max Value	Limit			
Range			(dBm)	≤ (dBm)	Result		
3 GHz - 9 GHz			-19.74	-13	Pass	I	

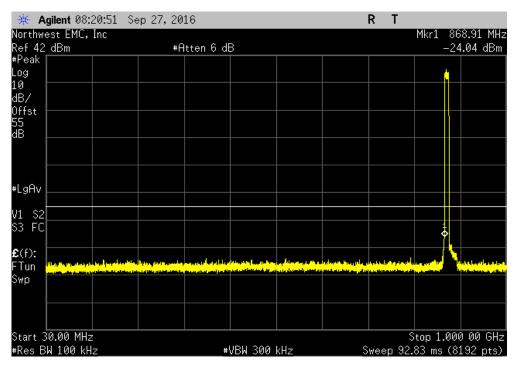


Antenna Port 2, Mid Channel LTE10, 881.5 MHz							
	Frequency		Max Value	Limit			
Range			(dBm)	≤ (dBm)	Result		
	30 MHz - 1 GHz		-29.56	-13	Pass		

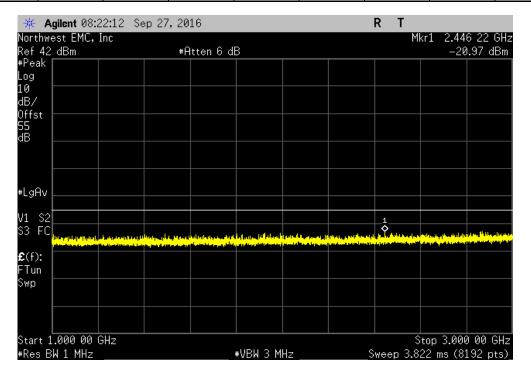






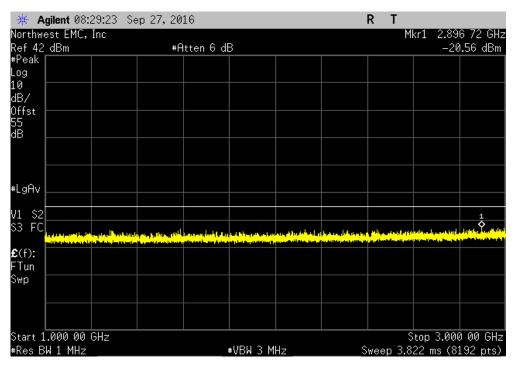


	Antenna Port 2, Low Channel LTE10, 874 MHz						
	Frequency		Max Value	Limit			
_	Range		(dBm)	≤ (dBm)	Result		
ĺ	1 GHz - 3 GHz		-20.97	-13	Pass		

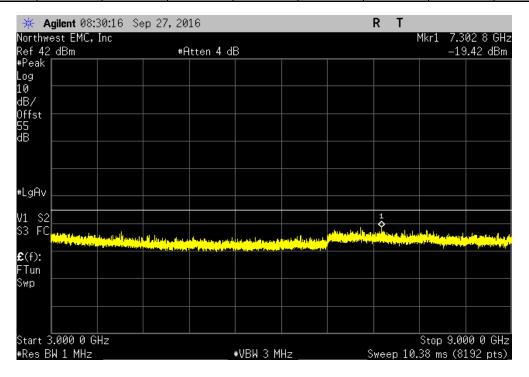




	Antenna Port 2, Mid Channel LT	E10, 881.5 MHz		
Frequency		Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
1 GHz - 3 GHz		-20.56	-13	Pass

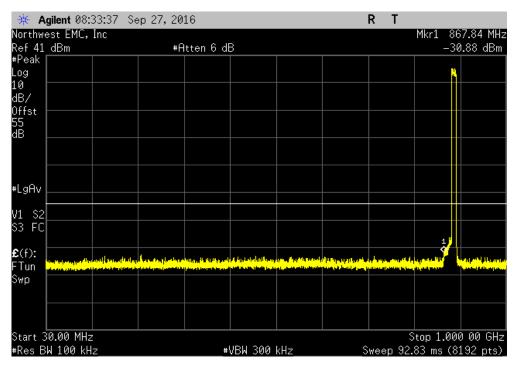


	Antenna Port 2, Mid Channel LTE10, 881.5 MHz						
	Frequency Max Value Limit						
_	Range		(dBm)	≤ (dBm)	Result		
ĺ	3 GHz - 9 GHz		-19.42	-13	Pass		

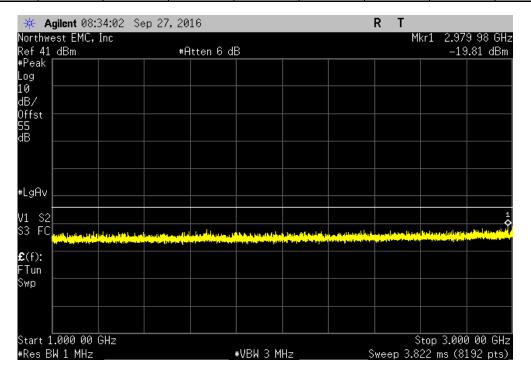




Antenna Port 2, High Channel LTE10, 889 MHz							
Frequency	-	Max Value	Limit				
Range		(dBm)	≤ (dBm)	Result			
30 MHz - 1 GHz		-30.88	-13	Pass			

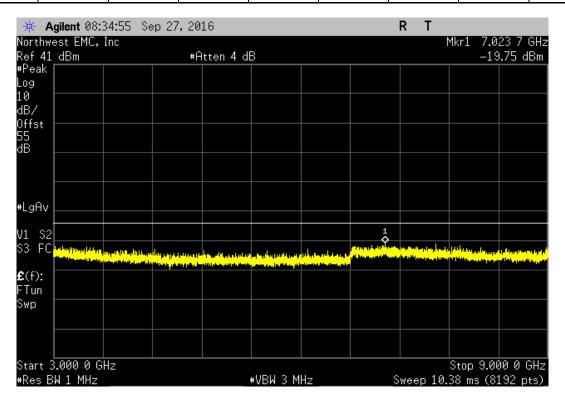


	Antenna Port 2, High Channel LTE10, 889 MHz						
	Frequency		Max Value	Limit			
_	Range		(dBm)	≤ (dBm)	Result		
ĺ	1 GHz - 3 GHz		-19.81	-13	Pass		





Antenna Port 2, High Channel LTE10, 889 MHz							
Frequency		Max Value	Limit				
Range		(dBm)	≤ (dBm)	Result			
3 GHz - 9 GHz		-19.76	-13	Pass			





Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Filter - High Pass	Micro-Tronics	HPM50108	HGX	7/25/2016	7/25/2017
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. Analyzer plots utilizing a 1 MHz resolution bandwidth and no video filtering were made for each mode listed in the datasheet.

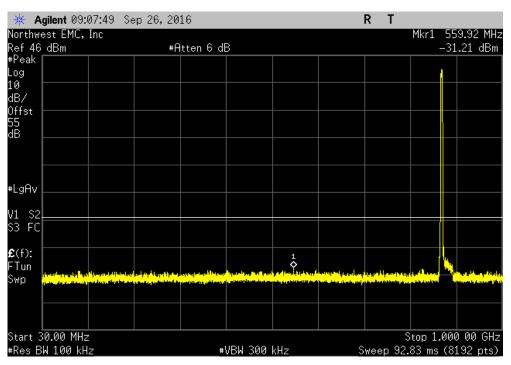
The peak conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than or equal to the limit.



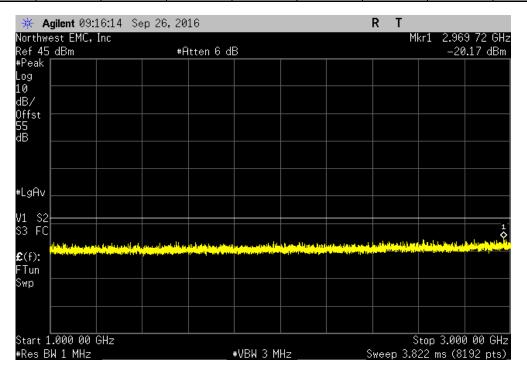
	: CWS-3050-05				Work Order:		
Serial Number:						09/26/16	
	Parallel Wireless Inc.				Temperature:		
	Edward Lee					38.4% RH	
Project:					Barometric Pres.:		
	Johnny Candelas		Power:	48VDC	Job Site:	OC13	
TEST SPECIFICAT	TONS			Test Method			
FCC 22H:2016				ANSI/TIA/EIA-603-D-2010			
COMMENTS							
		t: DC Block + 30dB Attenuator + 20	dB Attenuator + F	Power Divider + Cable Loss = 55.0dB t	otal.		
DEVIATIONS FROM	M TEST STANDARD						
None							
Configuration #	1	Signature	he di	Little .			
				Frequency	Max Value	Limit	
				Range	(dBm)	≤ (dBm)	Result
Antenna Port 1							
	Low Channel WCDMA, 871.4 N			30 MHz - 1 GHz	-31.21	-13	Pass
	Low Channel WCDMA, 871.4 M			1 GHz - 3 GHz	-20.17	-13	Pass
	Low Channel WCDMA, 871.4 M			3 GHz - 9 GHz	-19.99	-13	Pass
	Mid Channel WCDMA, 881.4 M	√lHz		30 MHz - 1 GHz	-31.49		
	Mid Channel WCDMA, 881.4 N					-13	Pass
				1 GHz - 3 GHz	-20.93	-13	Pass
	Mid Channel WCDMA, 881.4 M	MHz		1 GHz - 3 GHz 3 GHz - 9 GHz	-20.93 -20.34	-13 -13	Pass Pass
	Mid Channel WCDMA, 881.4 M High Channel WCDMA, 891.6	MHz MHz		1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz	-20.93 -20.34 -31.93	-13 -13 -13	Pass Pass Pass
	Mid Channel WCDMA, 881.4 M High Channel WCDMA, 891.6 High Channel WCDMA, 891.6	MHz MHz MHz		1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz	-20.93 -20.34 -31.93 -20.28	-13 -13 -13 -13	Pass Pass Pass Pass
	Mid Channel WCDMA, 881.4 M High Channel WCDMA, 891.6	MHz MHz MHz		1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz	-20.93 -20.34 -31.93	-13 -13 -13	Pass Pass Pass
Antenna Port 2	Mid Channel WCDMA, 881.4 M High Channel WCDMA, 891.6 High Channel WCDMA, 891.6 High Channel WCDMA, 891.6	MHz MHz MHz MHz		1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 9 GHz	-20.93 -20.34 -31.93 -20.28 -20.48	-13 -13 -13 -13 -13	Pass Pass Pass Pass Pass
Antenna Port 2	Mid Channel WCDMA, 881.4 M High Channel WCDMA, 891.6 High Channel WCDMA, 891.6 High Channel WCDMA, 891.6 Low Channel WCDMA, 871.4 N	MHz MHz MHz MHz MHz		1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz	-20.93 -20.34 -31.93 -20.28 -20.48	-13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass
Antenna Port 2	Mid Channel WCDMA, 881.4 M High Channel WCDMA, 891.6 High Channel WCDMA, 891.6 Low Channel WCDMA, 891.6 Low Channel WCDMA, 871.4 N Low Channel WCDMA, 871.4 N	MHz MHz MHz MHz MHz MHz	_	1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz	-20.93 -20.34 -31.93 -20.28 -20.48 -31.38 -20.43	-13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass
Antenna Port 2	Mid Channel WCDMA, 881.4 M High Channel WCDMA, 891.6 High Channel WCDMA, 891.6 High Channel WCDMA, 891.6 Low Channel WCDMA, 871.4 N Low Channel WCDMA, 871.4 N Low Channel WCDMA, 871.4 N	MHz MHz MHz MHz MHz MHz MHz	_	1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 9 GHz	-20.93 -20.34 -31.93 -20.28 -20.48 -31.38 -20.43 -20.29	-13 -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass Pass
Antenna Port 2	Mid Channel WCDMA, 881.4 M High Channel WCDMA, 891.6 High Channel WCDMA, 891.6 High Channel WCDMA, 891.6 Low Channel WCDMA, 871.4 N Low Channel WCDMA, 871.4 N Mid Channel WCDMA, 871.4 N	MHz MHz MHz MHz MHz MHz MHz MHz	_	1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz	-20.93 -20.34 -31.93 -20.28 -20.48 -31.38 -20.43 -20.29 -31.27	-13 -13 -13 -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass Pass
Antenna Port 2	Mid Channel WCDMA, 881.4 M High Channel WCDMA, 891.6 High Channel WCDMA, 891.6 Low Channel WCDMA, 871.4 N Low Channel WCDMA, 871.4 N Low Channel WCDMA, 871.4 N Mid Channel WCDMA, 881.4 M Mid Channel WCDMA, 881.4 M	MHz MHz MHz MHz MHz MHz MHz MHz MHz	_	1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz	-20.93 -20.34 -31.93 -20.28 -20.48 -31.38 -20.43 -20.29 -31.27 -20.14	-13 -13 -13 -13 -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass Pass
Antenna Port 2	Mid Channel WCDMA, 881.4 M High Channel WCDMA, 891.6 High Channel WCDMA, 891.6 High Channel WCDMA, 871.4 N Low Channel WCDMA, 871.4 N Low Channel WCDMA, 871.4 N Mid Channel WCDMA, 881.4 M Mid Channel WCDMA, 881.4 M Mid Channel WCDMA, 881.4 M	MHz	_	1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 30 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 30 GHz - 9 GHz 3 GHz - 9 GHz	-20.93 -20.34 -31.93 -20.28 -20.48 -31.38 -20.43 -20.29 -31.27 -20.14 -20.13	-13 -13 -13 -13 -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass Pass
Antenna Port 2	Mid Channel WCDMA, 881.4 M High Channel WCDMA, 891.6 High Channel WCDMA, 891.6 High Channel WCDMA, 891.6 Low Channel WCDMA, 871.4 M Low Channel WCDMA, 871.4 M Mid Channel WCDMA, 871.4 M Mid Channel WCDMA, 881.4 M Mid Channel WCDMA, 881.4 M High Channel WCDMA, 881.4 M	MHz		1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 9 GHz 3 GHz - 9 GHz 3 GHz - 9 GHz 3 GHz - 1 GHz	-20.93 -20.34 -31.93 -20.28 -20.48 -31.38 -20.43 -20.29 -31.27 -20.14 -20.13 -31.37	-13 -13 -13 -13 -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass Pass
Antenna Port 2	Mid Channel WCDMA, 881.4 M High Channel WCDMA, 891.6 High Channel WCDMA, 891.6 High Channel WCDMA, 871.4 N Low Channel WCDMA, 871.4 N Low Channel WCDMA, 871.4 N Mid Channel WCDMA, 881.4 M Mid Channel WCDMA, 881.4 M Mid Channel WCDMA, 881.4 M	MHz		1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 30 GHz - 9 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 30 GHz - 9 GHz 3 GHz - 9 GHz	-20.93 -20.34 -31.93 -20.28 -20.48 -31.38 -20.43 -20.29 -31.27 -20.14 -20.13	-13 -13 -13 -13 -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass Pass



Antenna Port 1, Low Channel WCDMA, 871.4 MHz					
Frequency		Max Value	Limit		
Range		(dBm)	≤ (dBm)	Result	
30 MHz - 1 GHz		-31.21	-13	Pass	

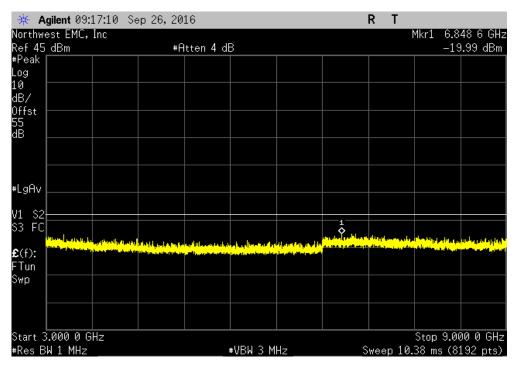


Antenna Port 1, Low Channel WCDMA, 871.4 MHz					
Frequency	Max Value	Limit			
Range	(dBm)	≤ (dBm)	Result		
1 GHz - 3 GHz	-20.17	-13	Pass		

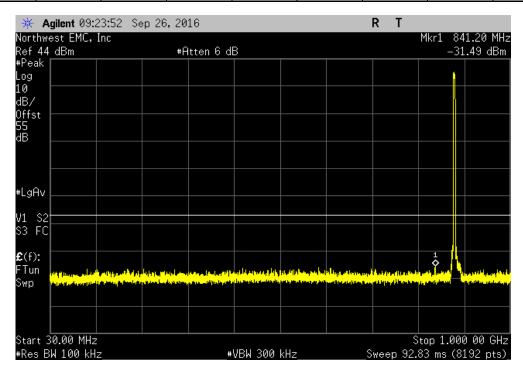




	Antenna Port 1, Low Channel WC	DMA, 871.4 MHz		
Frequency		Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
3 GHz - 9 GHz		-19.99	-13	Pass

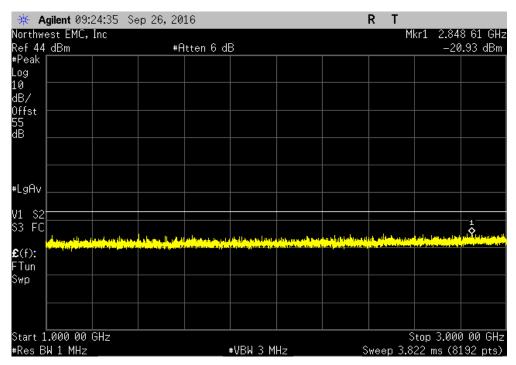


	Antenna Port 1, Mid Channel WCDMA, 881.4 MHz					
	Frequency		Max Value	Limit		
_	Range		(dBm)	≤ (dBm)	Result	
l	30 MHz - 1 GHz		-31.49	-13	Pass	

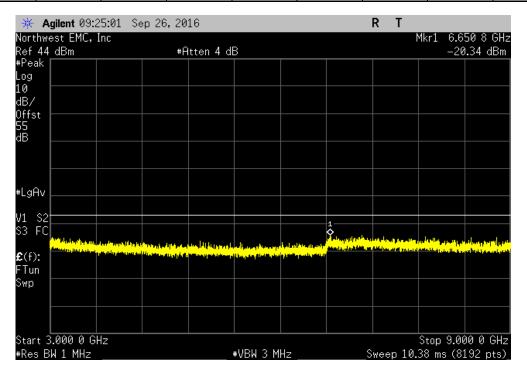




Antenna Port 1, Mid Channel WCDMA, 881.4 MHz					
Frequency		Max Value	Limit		
Range		(dBm)	≤ (dBm)	Result	
1 GHz - 3 GHz		-20.93	-13	Pass	

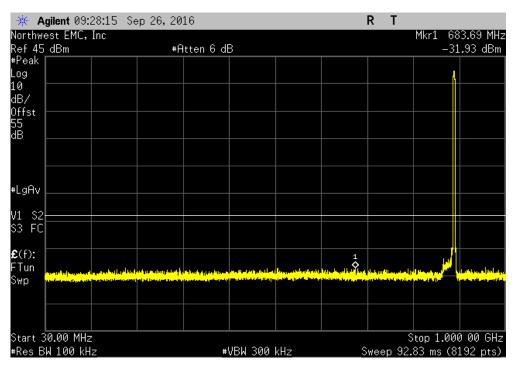


Antenna Port 1, Mid Channel WCDMA, 881.4 MHz					
	Frequency		Max Value	Limit	
_	Range		(dBm)	≤ (dBm)	Result
l	3 GHz - 9 GHz		-20.34	-13	Pass

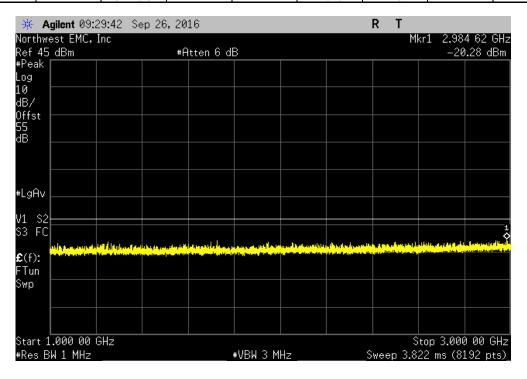




Antenna Port 1, Hi	gh Channel WCDMA, 891.6 MHz			
Frequency	Max Value	Limit		
Range	(dBm)	≤ (dBm)	Result	
30 MHz - 1 GHz	-31.93	-13	Pass	

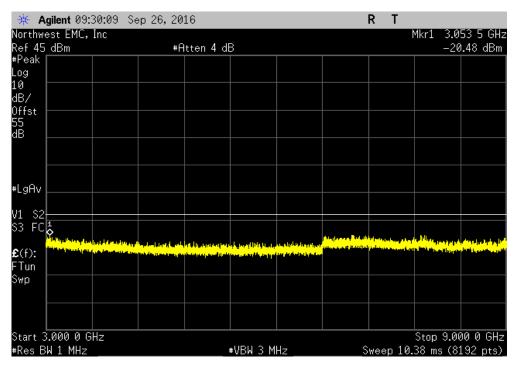


	Antenna Port 1, High Channel WCDMA, 891.6 MHz					
Free	quency		Max Value	Limit		
R	ange		(dBm)	≤ (dBm)	Result	
1 GH:	z - 3 GHz		-20.28	-13	Pass	

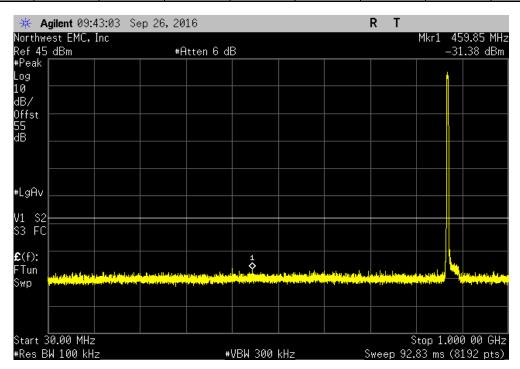




	Antenna Port 1, Hi	igh Channel WCDMA, 891.6 MHz		
	Frequency	Max Value	Limit	
	Range	(dBm)	≤ (dBm)	Result
1	3 GHz - 9 GHz	-20.48	-13	Pass

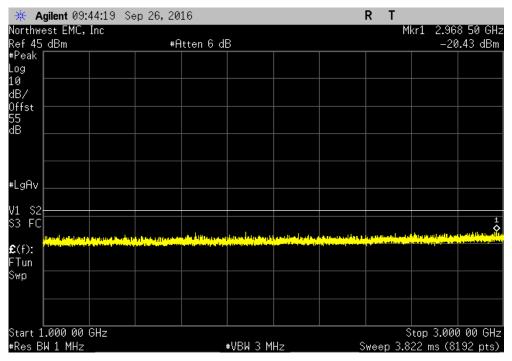


Antenna Port 2, Low Channel WCDMA, 871.4 MHz						
	Frequency		Max Value	Limit		
_	Range		(dBm)	≤ (dBm)	Result	
l	30 MHz - 1 GHz		-31.38	-13	Pass	

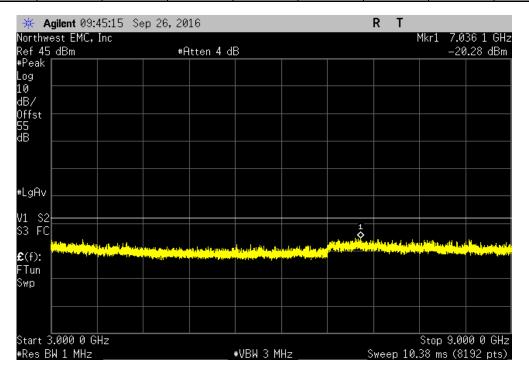




Antenna Port 2, Low C	hannel WCDMA, 871.4 MHz			
Frequency	Max Value	Limit		
Range	(dBm)	≤ (dBm)	Result	
1 GHz - 3 GHz	-20.43	-13	Pass	

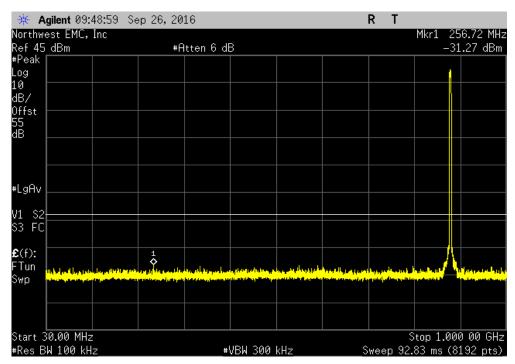


Antenna Port 2, l	ow Channel WCDMA, 871.4 MHz	4	
Frequency	Max Value	Limit	
Range	(dBm)	≤ (dBm)	Result
3 GHz - 9 GHz	-20.29	-13	Pass

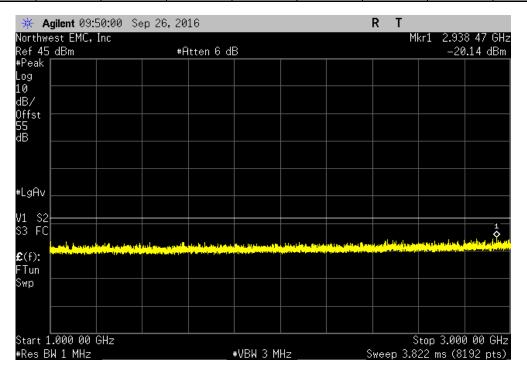




Antenna Port 2, M	lid Channel WCDMA, 881.4 MHz			
Frequency	Max Value	Limit		
Range	(dBm)	≤ (dBm)	Result	
30 MHz - 1 GHz	-31.27	-13	Pass	

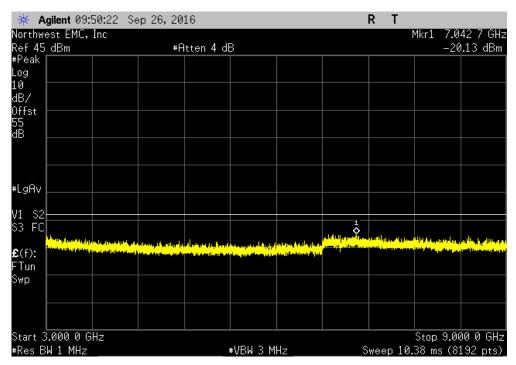


Antenna Port 2	, Mid Channel WC	DMA, 881.4 MHz			
Frequency		Max Value	Limit		
Range		(dBm)	≤ (dBm)	Result	
1 GHz - 3 GHz		-20.14	-13	Pass	

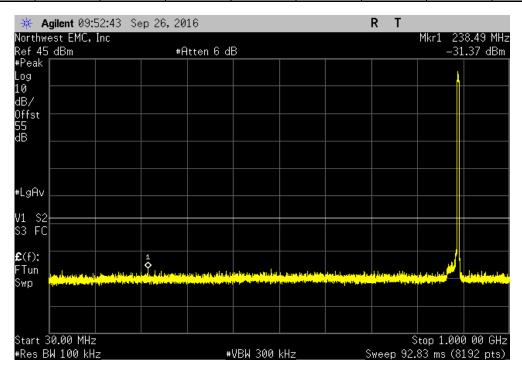




Antei	nna Port 2, Mid Channel W	CDMA, 881.4 MHz			
Frequency		Max Value	Limit		
Range		(dBm)	≤ (dBm)	Result	
3 GHz - 9 GHz		-20.13	-13	Pass	l



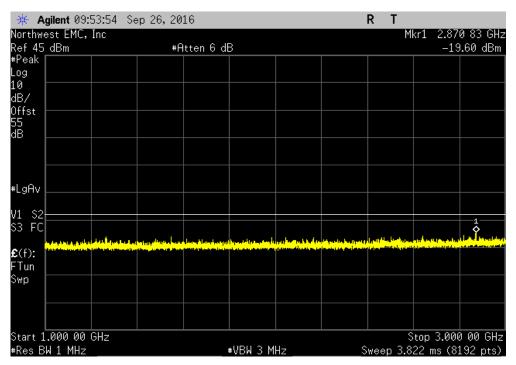
	Antenna Port 2	High Channel WC	DMA, 891.6 MHz		
	Frequency		Max Value	Limit	
_	Range		(dBm)	≤ (dBm)	Result
l	30 MHz - 1 GHz		-31.37	-13	Pass



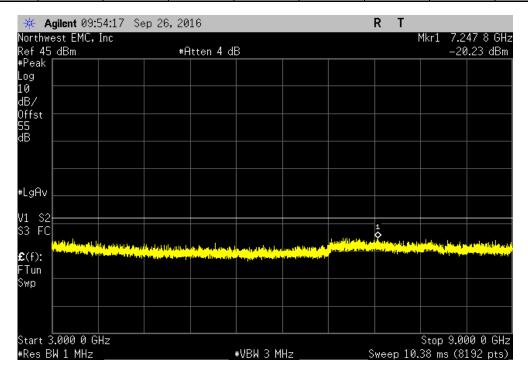
SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - WCDMA



An	ntenna Port 2, High Channel WC	DMA, 891.6 MHz			
Frequency		Max Value	Limit		
Range		(dBm)	≤ (dBm)	Result	
1 GHz - 3 GHz		-19.6	-13	Pass	



Antenna Port 2, High Channel WCDMA, 891.6 MHz					
	Frequency		Max Value	Limit	
_	Range		(dBm)	≤ (dBm)	Result
l	3 GHz - 9 GHz		-20.23	-13	Pass





Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Filter - High Pass	Micro-Tronics	HPM50108	HGX	7/25/2016	7/25/2017
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

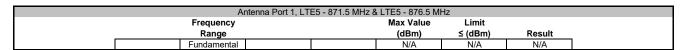
The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. Analyzer plots utilizing a 1 MHz resolution bandwidth and no video filtering were made for each mode listed in the datasheet.

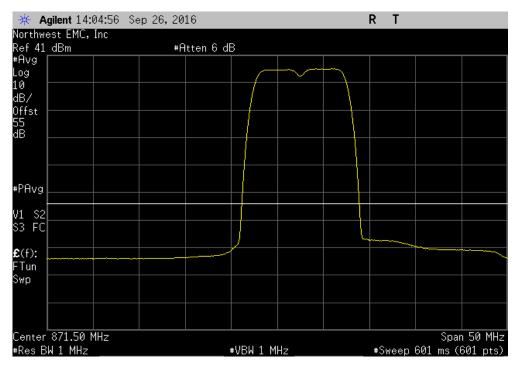
The peak conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than or equal to the limit.



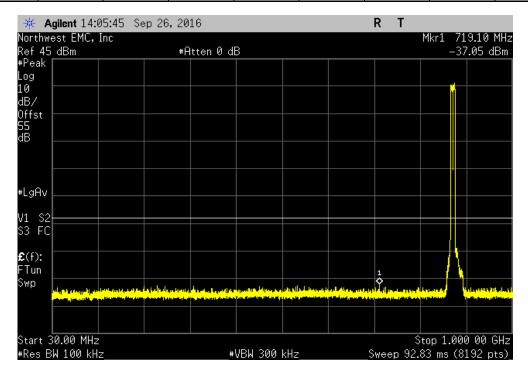
	CWS-3050-05			Work Order:		
Serial Number:					09/26/16	
	Parallel Wireless Inc.			Temperature:		
	Edward Lee			Humidity:		
Project:			Power 40VDC	Barometric Pres.:		
Tested by: TEST SPECIFICATI	Johnny Candelas		Power: 48VDC	Job Site:	UC13	
FCC 22H:2016	IUNO		Test Method ANSI/TIA/EIA-603-D-2010			
1 00 2211.2010			ANSI/ HA/EIA-003-D-2010			
COMMENTS						
	g 40W. Reference Level O	ffset: DC Block + 30dB Atter	nuator + 20dB Attenuator + Power Divider + Cable Loss = 55.0dB	total.		
	M TEST STANDARD					
None	1					
Configuration #	1	-	for d. Com			
		Signature	Frequency	Max Value	Limit	
			Frequency Range	Max value (dBm)	Limit ≤ (dBm)	Result
Antenna Port 1			runge	(ubiii)	= (~Diii)	vouit
	LTE5 - 871.5 MHz & LTE5	- 876.5 MHz	Fundamental	N/A	N/A	N/A
	LTE5 - 871.5 MHz & LTE5		30 MHz - 1 GHz	-37.05	-13	Pass
	LTE5 - 871.5 MHz & LTE5		1 GHz - 3 GHz	-26.27	-13	Pass
	LTE5 - 871.5 MHz & LTE5		3 GHz - 9 GHz	-23.74	-13	Pass
	LTE5 - 871.5 MHz & LTE5		Fundamental	N/A	N/A	N/A
	LTE5 - 871.5 MHz & LTE5		30 MHz - 1 GHz	-29.22	-13	Pass
	LTE5 - 871.5 MHz & LTE5		1 GHz - 3 GHz	-26.52	-13	Pass
	LTE5 - 871.5 MHz & LTE5 LTE5 - 871.5 MHz & LTE10		3 GHz - 9 GHz Fundamental	-23.62 N/A	-13 N/A	Pass N/A
	LTE5 - 871.5 MHz & LTE10		30 MHz - 1 GHz	-29.16	-13	Pass
	LTE5 - 871.5 MHz & LTE10		1 GHz - 3 GHz	-26.01	-13	Pass
	LTE5 - 871.5 MHz & LTE10		3 GHz - 9 GHz	-23.7	-13	Pass
	WCDMA - 871.4 MHz & W		Fundamental	N/A	N/A	N/A
	WCDMA - 871.4 MHz & W		30 MHz - 1 GHz	-25.68	-13	Pass
	WCDMA - 871.4 MHz & W		1 GHz - 3 GHz	-26.57	-13	Pass
	WCDMA - 871.4 MHz & W		3 GHz - 9 GHz	-23.8	-13	Pass
	LTE5 - 871.5 MHz & WCD		Fundamental	N/A	N/A	N/A
	LTE5 - 871.5 MHz & WCD		30 MHz - 1 GHz	-28.91	-13	Pass
	LTE5 - 871.5 MHz & WCDI		1 GHz - 3 GHz	-26.42	-13	Pass
	LTE5 - 871.5 MHz & WCD		3 GHz - 9 GHz	-23.37	-13 N/A	Pass
	LTE10 - 874 MHz & WCDN		Fundamental 30 MHz - 1 GHz	N/A -29.86	N/A	N/A
	LTE10 - 874 MHz & WCDN LTE10 - 874 MHz & WCDN		30 MHZ - 1 GHZ 1 GHz - 3 GHz	-29.86 -26.83	-13 -13	Pass Pass
	LTE10 - 874 MHz & WCDN		3 GHz - 3 GHz	-20.03 -24.1	-13 -13	Pass
Antenna Port 2			3 OF IZ - 0 OF IZ	-2-T. 1	10	. 355
	LTE5 - 871.5 MHz & LTE5	- 876.5 MHz	Fundamental	N/A	N/A	N/A
	LTE5 - 871.5 MHz & LTE5	- 876.5 MHz	30 MHz - 1 GHz	-37.31	-13	Pass
	LTE5 - 871.5 MHz & LTE5		1 GHz - 3 GHz	-26.22	-13	Pass
	LTE5 - 871.5 MHz & LTE5		3 GHz - 9 GHz	-24.1	-13	Pass
	LTE5 - 871.5 MHz & LTE5		Fundamental	N/A	N/A	N/A
	LTE5 - 871.5 MHz & LTE5		30 MHz - 1 GHz	-30.65	-13	Pass
	LTE5 - 871.5 MHz & LTE5		1 GHz - 3 GHz 3 GHz - 9 GHz	-25.85 -24	-13 -13	Pass Pass
	LTE5 - 871.5 MHz & LTE5 LTE5 - 871.5 MHz & LTE10		3 GHz - 9 GHz Fundamental	-24 N/A	-13 N/A	Pass N/A
	LTE5 - 871.5 MHz & LTE10		30 MHz - 1 GHz	-30.48	-13	Pass
	LTE5 - 871.5 MHz & LTE10		1 GHz - 3 GHz	-26.34	-13	Pass
	LTE5 - 871.5 MHz & LTE10		3 GHz - 9 GHz	-23.28	-13	Pass
	WCDMA - 871.4 MHz & W		Fundamental	N/A	N/A	N/A
	WCDMA - 871.4 MHz & W		30 MHz - 1 GHz	-27.1	-13	Pass
	WCDMA - 871.4 MHz & W		1 GHz - 3 GHz	-26.49	-13	Pass
	WCDMA - 871.4 MHz & W		3 GHz - 9 GHz	-24.46	-13	Pass
	LTE5 - 871.5 MHz & WCDI		Fundamental	N/A	N/A	N/A
	LTE5 - 871.5 MHz & WCD		30 MHz - 1 GHz	-27.92	-13	Pass
	LTE5 - 871.5 MHz & WCD		1 GHz - 3 GHz	-26.34	-13	Pass
	LTE5 - 871.5 MHz & WCDI		3 GHz - 9 GHz	-24.37	-13 N/A	Pass
	LTE10 - 874 MHz & WCDN LTE10 - 874 MHz & WCDN		Fundamental 30 MHz - 1 GHz	N/A -30.43	N/A -13	N/A Pass
	LTE10 - 874 MHz & WCDN		30 MHz - 1 GHz 1 GHz - 3 GHz	-30.43 -26.36	-13 -13	Pass Pass
	LTE10 - 874 MHz & WCDN		3 GHz - 3 GHz	-20.30 -24.21	-13 -13	Pass
	LILIO-074 WIIIZ & WODIN	VI 1 - 00 1.0 IVII IZ	3 01 12 - 3 01 12	-24.21	-13	1 000





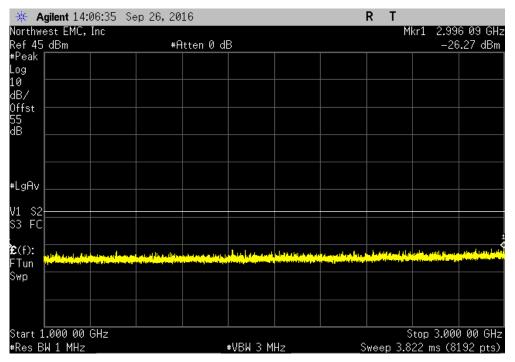


Antenna Port 1, LTE5 - 871.5 MHz & LTE5 - 876.5 MHz					
	Frequency		Max Value	Limit	
_	Range		(dBm)	≤ (dBm)	Result
	30 MHz - 1 GHz		-37.05	-13	Pass

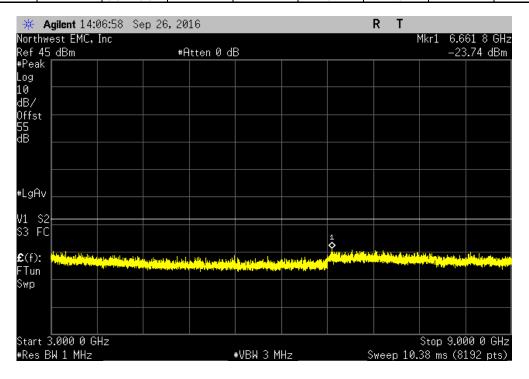




	Antenna Port 1, LTI	E5 - 871.5 MHz 8	LTE5 - 876.5 MI	Нz	
Fr	equency		Max Value	Limit	
	Range		(dBm)	≤ (dBm)	Result
1 G	Hz - 3 GHz		-26.27	-13	Pass

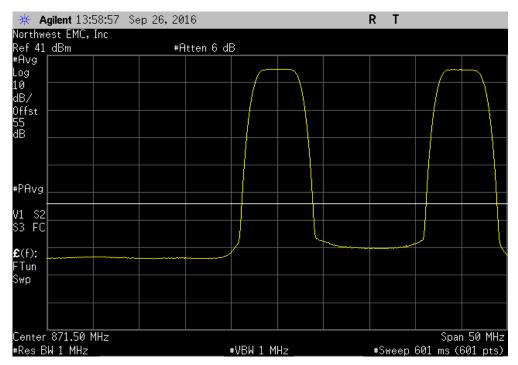


Antenna Port 1, LTE5 - 871.5 MHz & LTE5 - 876.5 MHz					
Frequency	Max Value	Limit			
Range	(dBm)	≤ (dBm)	Result		
3 GHz - 9 GHz	-23.74	-13	Pass		

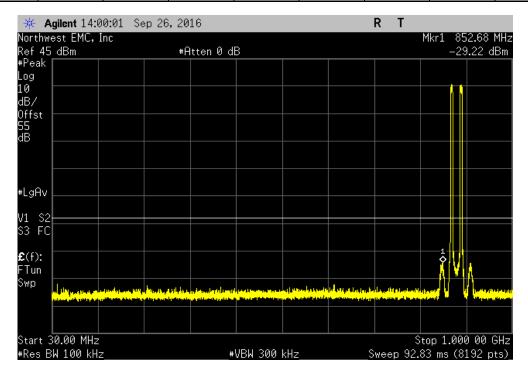




	A	0.1755 004514		
	Antenna Port 1, LTE5 - 871.5 MHz	2 & LTE5 - 891.5 MI	ΗZ	
Freque	ency	Max Value	Limit	
Ran	ge	(dBm)	≤ (dBm)	Result
Fundam	nental	N/A	N/A	N/A

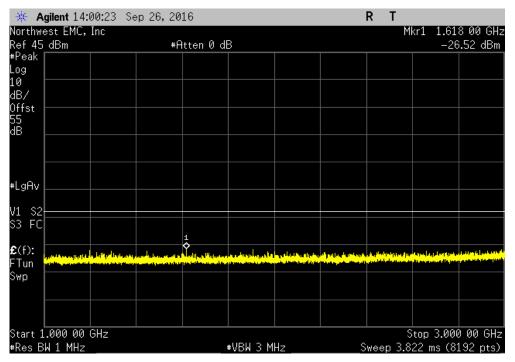


Antenna Port 1, LTE5 - 871.5 MHz & LTE5 - 891.5 MHz					
	Frequency		Max Value	Limit	
_	Range		(dBm)	≤ (dBm)	Result
l	30 MHz - 1 GHz		-29.22	-13	Pass

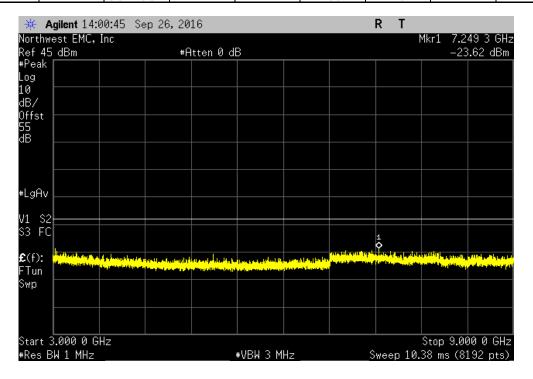




Antenna Port 1, LTE5 - 871.5 MHz & LTE5 - 891.5 MHz					
Frequency	Max Value	Limit			
Range	(dBm)	≤ (dBm)	Result		
1 GHz - 3 GHz	-26.52	-13	Pass		

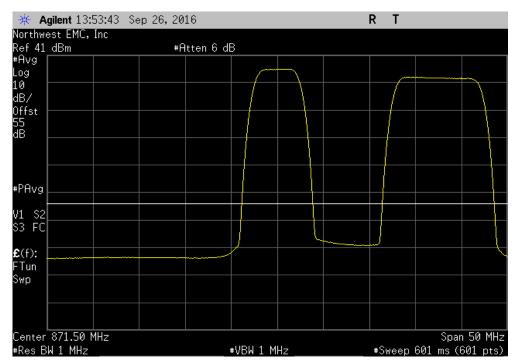


Antenna Port 1, LTE5 - 871.5 MHz & LTE5 - 891.5 MHz					
Frequency		Max Value	Limit		
Range		(dBm)	≤ (dBm)	Result	
3 GHz - 9 GHz		-23.62	-13	Pass	

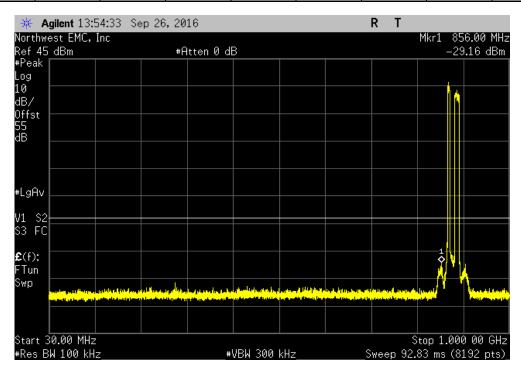




	Antenna Port 1, LTE5 - 871.5 M	1Hz & LTE10 - 889 MI	Нz	
Frequenc	y	Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
Fundament	al	N/A	N/A	N/A

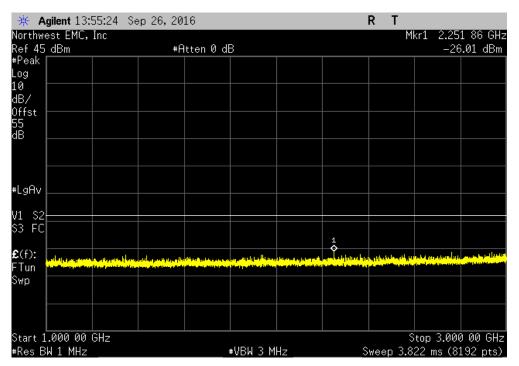


Antenna Port 1, L	TE5 - 871.5 MHz 8	& LTE10 - 889 MF	łz		
Frequency		Max Value	Limit		
Range		(dBm)	≤ (dBm)	Result	_
30 MHz - 1 GHz		-29.16	-13	Pass	

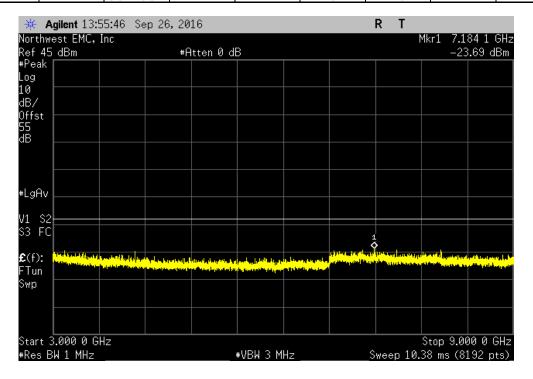




Antenr	na Port 1, LTE5 - 871.5 MHz	& LTE10 - 889 MF	łz	
Frequency		Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
1 GHz - 3 GHz		-26.01	-13	Pass

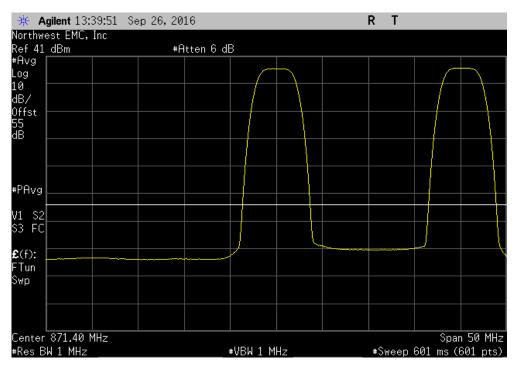


Antenna Port 1, LTE5 - 871.5 MHz & LTE10 - 889 MHz					
	Frequency		Max Value	Limit	
	Range		(dBm)	≤ (dBm)	Result
	3 GHz - 9 GHz		-23.7	-13	Pass

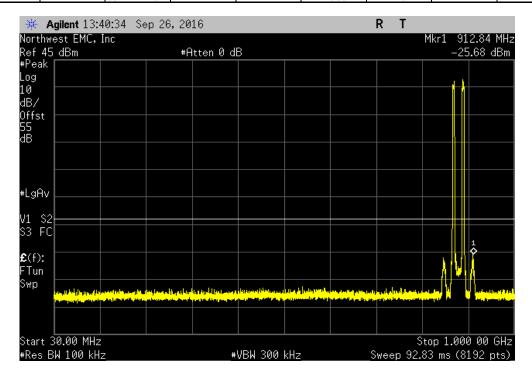




Antenna Port 1 WCDN	MA - 871.4 MHz & WCDMA - 891.6	S MHz	
Frequency	Max Value	Limit	
Range	(dBm)	≤ (dBm)	Result
Fundamental	N/A	N/A	N/A

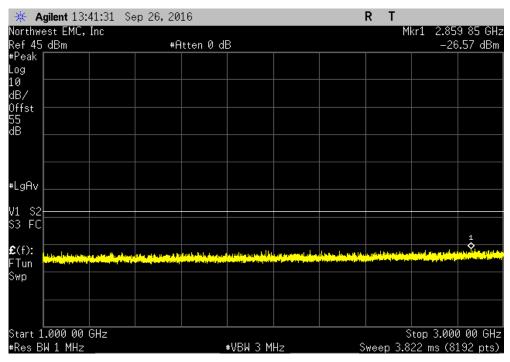


Antenna Port 1, WCDMA - 871.4 MHz & WCDMA - 891.6 MHz				
Frequency	Max Value	Limit		
Range	(dBm)	≤ (dBm)	Result	
30 MHz - 1 GHz	-25.68	-13	Pass	

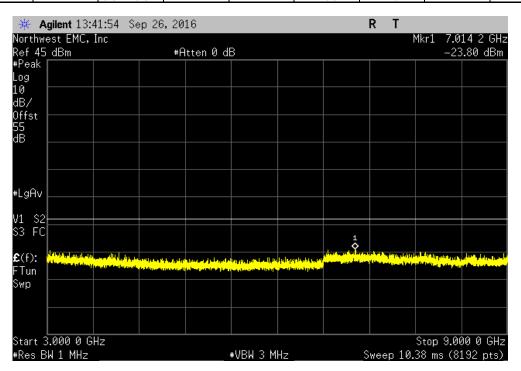




Antenna Port 1, WCDMA - 871.4 MHz & WCDMA - 891.6 MHz					
	Frequency		Max Value	Limit	
	Range		(dBm)	≤ (dBm)	Result
1	GHz - 3 GHz		-26.57	-13	Pass

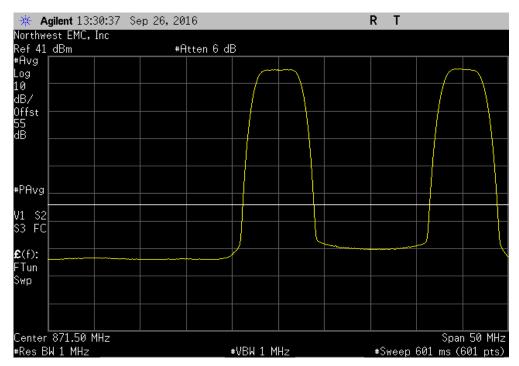


Antenna Port 1, WCDMA - 871.4 MHz & WCDMA - 891.6 MHz				
Frequency	Max Value	Limit		
Range	(dBm)	≤ (dBm)	Result	
3 GHz - 9 GHz	-23.8	-13	Pass	

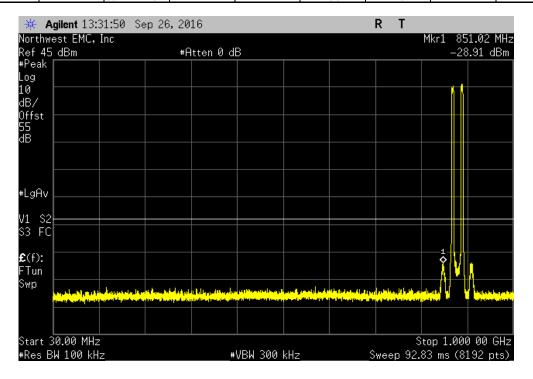




Antenna Port 1, LTE5 - 871.5 MHz & WCDMA - 891.6 MHz					
	Frequency		Max Value	Limit	
	Range		(dBm)	≤ (dBm)	Result
	Fundamental		N/A	N/A	N/A

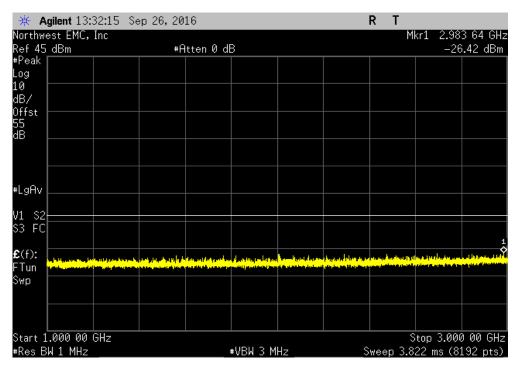


Antenna Port 1, LTE5 - 871.5 MHz & WCDMA - 891.6 MHz				
Frequency	Max Value	Limit		
Range	(dBm)	≤ (dBm)	Result	
30 MHz - 1 GHz	-28.91	-13	Pass	

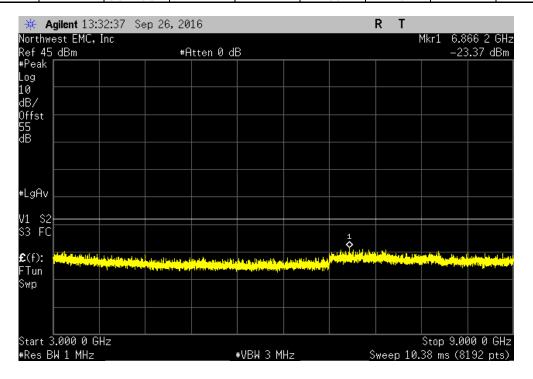




Antenna Port 1, LTE	5 - 871.5 MHz & \	NCDMA - 891.6 N	ИНz		
Frequency		Max Value	Limit		
Range		(dBm)	≤ (dBm)	Result	
1 GHz - 3 GHz		-26.42	-13	Pass	

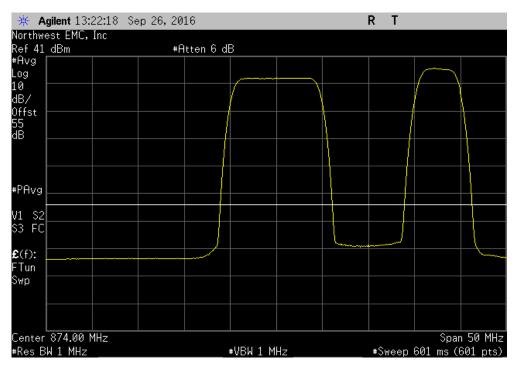


Antenna Port 1, LTE5 - 871.5 MHz & WCDMA - 891.6 MHz				
Frequency	Max Value	Limit		
Range	(dBm)	≤ (dBm)	Result	
3 GHz - 9 GHz	-23.37	-13	Pass	

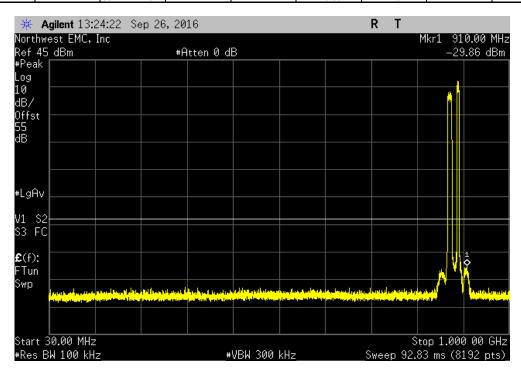




Antenna Port 1, LTE10 - 874 MHz & WCDMA - 891.6 MHz					
	Frequency		Max Value	Limit	
	Range		(dBm)	≤ (dBm)	Result
	Fundamental		N/A	N/A	N/A

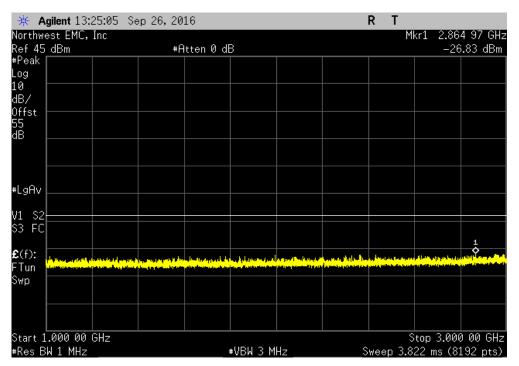


Antenna Port 1, LTE10 - 874 MHz & WCDMA - 891.6 MHz					
Frequency	Max Value	Limit			
Range	(dBm)	≤ (dBm)	Result		
30 MHz - 1 GHz	-29.86	-13	Pass		

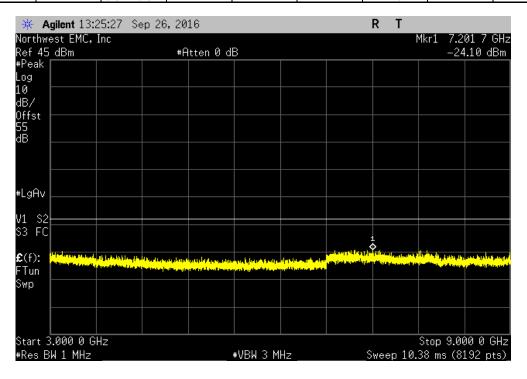




Antenna Port 1, LTE10 - 874 MHz & WCDMA - 891.6 MHz					
	Frequency		Max Value	Limit	
	Range		(dBm)	≤ (dBm)	Result
	1 GHz - 3 GHz		-26.83	-13	Pass

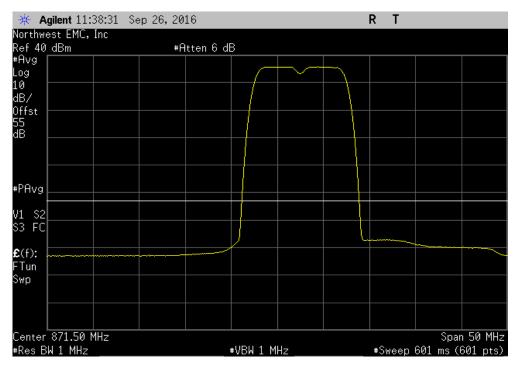


Antenna Port 1, LTE10 - 874 MHz & WCDMA - 891.6 MHz					
Frequency	Max Value	Limit			
Range	(dBm)	≤ (dBm)	Result		
3 GHz - 9 GHz	-24.1	-13	Pass		

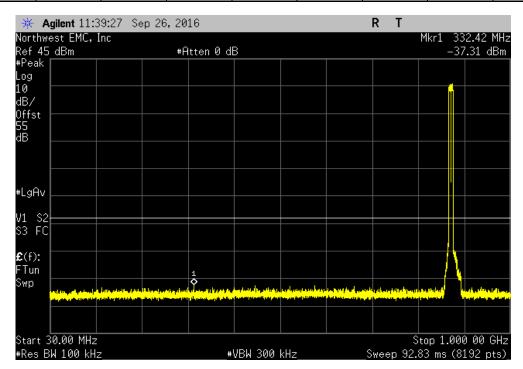




Antenna Port 2, LTE5 - 871.5 MHz & LTE5 - 876.5 MHz					
Fr	equency		Max Value	Limit	
	Range		(dBm)	≤ (dBm)	Result
Fur	ndamental		N/A	N/A	N/A

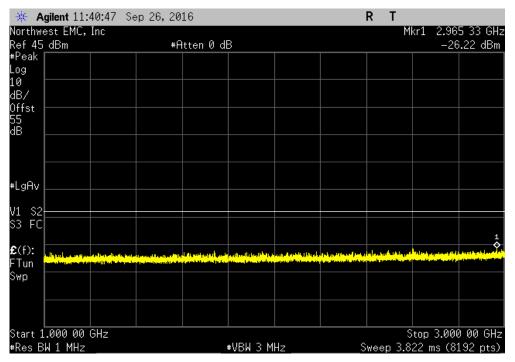


Antenna Port 2, LTE5 - 871.5 MHz & LTE5 - 876.5 MHz					
	Frequency		Max Value	Limit	
_	Range		(dBm)	≤ (dBm)	Result
	30 MHz - 1 GHz		-37.31	-13	Pass

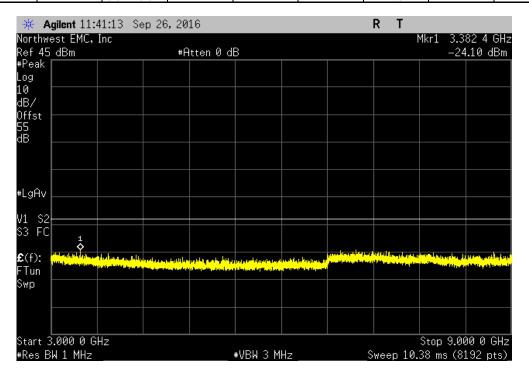




Antenna Port 2, LTE5 - 871.5 MHz & LTE5 - 876.5 MHz					
Fre	quency		Max Value	Limit	
R	ange		(dBm)	≤ (dBm)	Result
1 GH:	z - 3 GHz		-26.22	-13	Pass

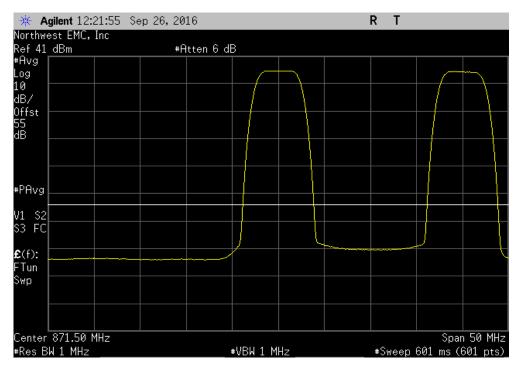


Antenna Port 2, LTE5 - 871.5 MHz & LTE5 - 876.5 MHz					
	Frequency		Max Value	Limit	
	Range		(dBm)	≤ (dBm)	Result
	3 GHz - 9 GHz		-24.1	-13	Pass

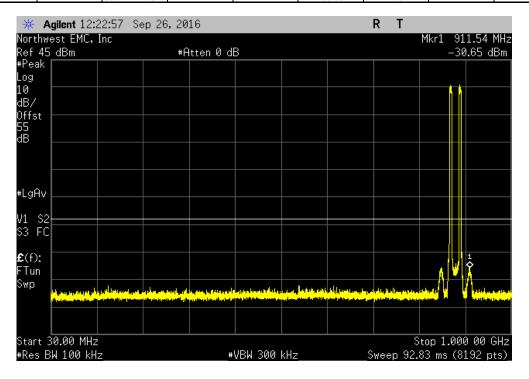




Antenna Port 2, LTE5 - 871.5 MHz & LTE5 - 891.5 MHz				
Frequency		Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
Fundamental		N/A	N/A	N/A

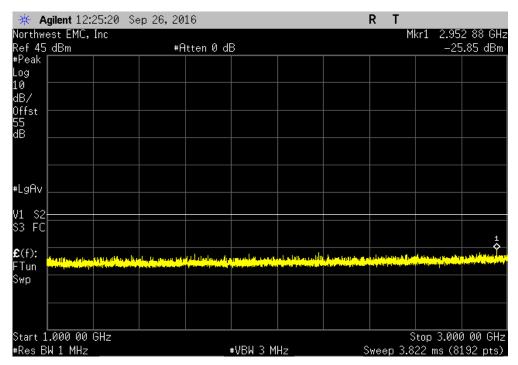


Antenna Port 2, LTE5 - 871.5 MHz & LTE5 - 891.5 MHz					
Frequency	Max Value	Limit			
Range	(dBm)	≤ (dBm)	Result		
30 MHz - 1 GHz	-30.65	-13	Pass		

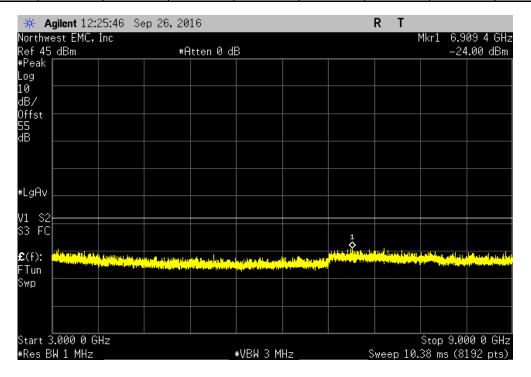




Antenna Port 2, LTE5 - 8	71.5 MHz & LTE5 - 891.5 MHz		
Frequency	Max Value	Limit	
Range	(dBm)	≤ (dBm)	Result
1 GHz - 3 GHz	-25.85	-13	Pass

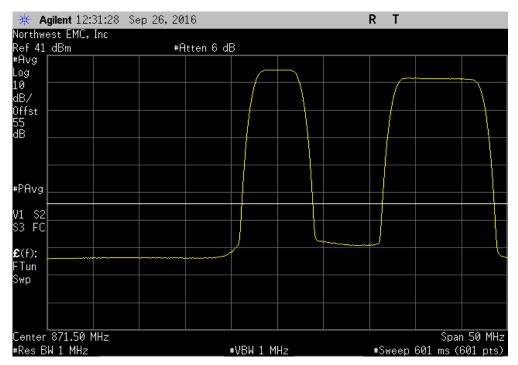


Antenna Port 2, LTE5 - 871.5 MHz & LTE5 - 891.5 MHz					
	Frequency		Max Value	Limit	
_	Range		(dBm)	≤ (dBm)	Result
l	3 GHz - 9 GHz		-24	-13	Pass

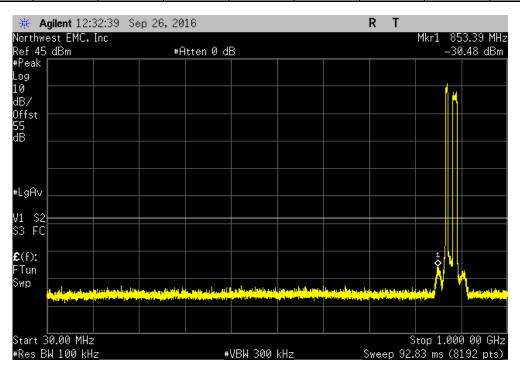




	Antenna Port 2, LT	E5 - 871.5 MHz 8	LTE10 - 889 MH	łz	
F	requency		Max Value	Limit	
	Range		(dBm)	≤ (dBm)	Result
Fu	undamental		N/A	N/A	N/A

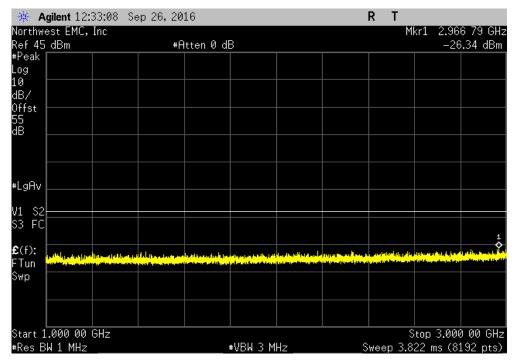


Antenna Port 2, LT	E5 - 871.5 MHz 8	k LTE10 - 889 MF	łz	
Frequency		Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
30 MHz - 1 GHz		-30.48	-13	Pass

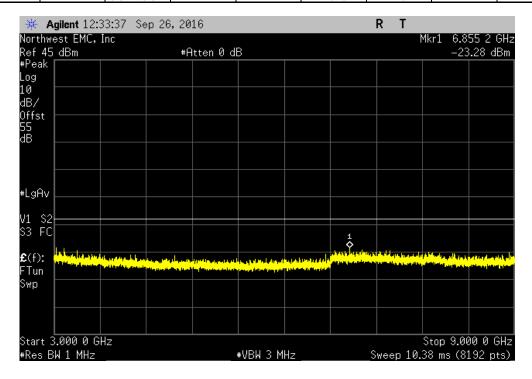




Antenna Port 2, LTE5 - 871.5 MHz & LTE10 - 889 MHz Frequency Max Value Limit Range (dBm) ≤ (dBm) Result				
	Antenna Port 2. LTE5	5 - 871.5 MHz & LTE10 - 889 MI	-lz	
	Fraguency	Max Value	Limit	
Range (dBm) ≤ (dBm) Result	Frequency	wax value	Limit	
	Range	(dBm)	≤ (dBm)	Result
	1 GHz - 3 GHz	-26.34	-13	Pass

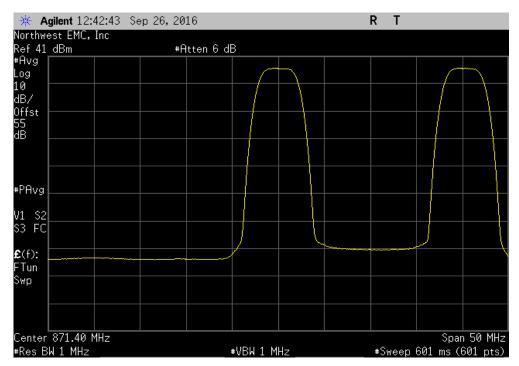


	Antenna Port 2, LTI	E5 - 871.5 MHz & LTE10 - 889 M	Hz	
	Frequency	Max Value	Limit	
	Range	(dBm)	≤ (dBm)	Result
İ	3 GHz - 9 GHz	-23.28	-13	Pass

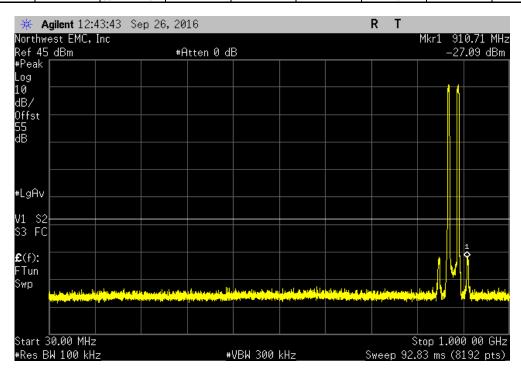




Antenna Port 2, WCDMA - 871.4 MHz & WCDMA - 891.6 MHz Frequency Max Value Limit Range (dBm) < (dBm) Result					
	Antenna l	Port 2. WCDMA - 871.4 MHz 8	& WCDMA - 891.6	6 MHz	
	Francianav	, -	May Value	Limit	
Range (dBm) < (dBm) Result	Frequency		wax value	Limit	
	Range		(dBm)	≤ (dBm)	Result
	I I Fundamental I		N/A	N/A	l N/A

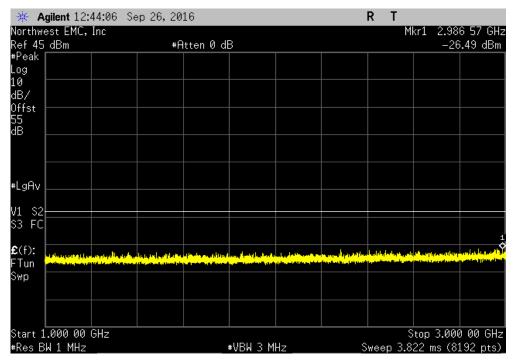


Antenna Port 2, WCDMA -	871.4 MHz & WCDMA - 891.	6 MHz	
Frequency	Max Value	Limit	
Range	(dBm)	≤ (dBm)	Result
30 MHz - 1 GHz	-27.1	-13	Pass

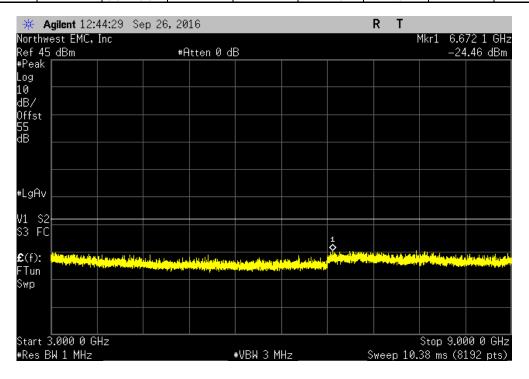




Antenna Port	2. WCDMA - 871.4 MHz 8	& WCDMA - 891.6	MHz	
Frequency	,	Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
1 GHz - 3 GHz		-26.49	-13	Pass

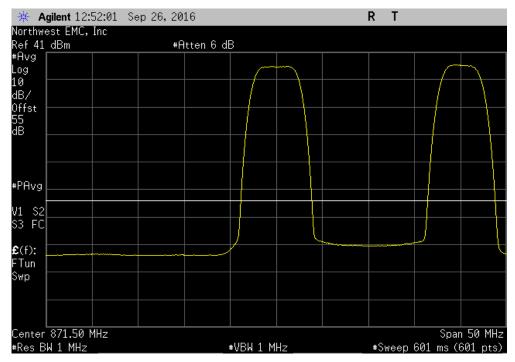


Antenna Port 2, WCDMA -	871.4 MHz & WCDMA - 891.	6 MHz	
Frequency	Max Value	Limit	
Range	(dBm)	≤ (dBm)	Result
3 GHz - 9 GHz	-24.46	-13	Pass

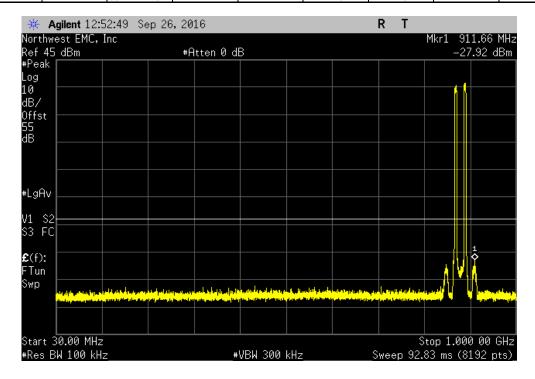




Antenna Port 2. LTE	5 - 871.5 MHz & WCDMA - 891.6	ИНz	
Frequency	Max Value	Limit	
Range	(dBm)	≤ (dBm)	Result
Fundamental	N/A	N/A	N/A

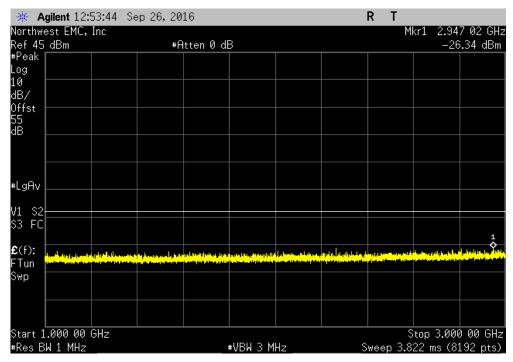


Antenna Port 2, LTE5 - 87	71.5 MHz & WCDMA - 891.6	MHz	
Frequency	Max Value	Limit	
Range	(dBm)	≤ (dBm)	Result
30 MHz - 1 GHz	-27.92	-13	Pass

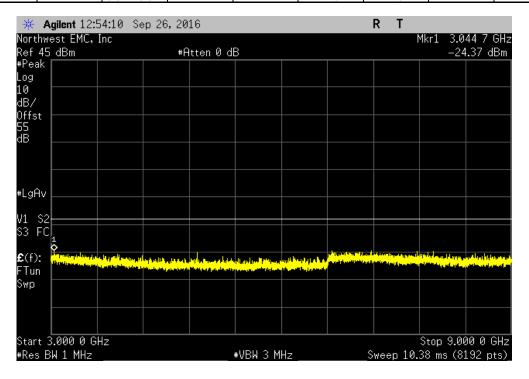




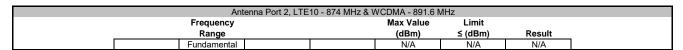
Antenna Port 2, LTE	5 - 871.5 MHz & \	WCDMA - 891.6 N	ЛHz		
Frequency		Max Value	Limit		
Range		(dBm)	≤ (dBm)	Result	
1 GHz - 3 GHz		-26.34	-13	Pass	

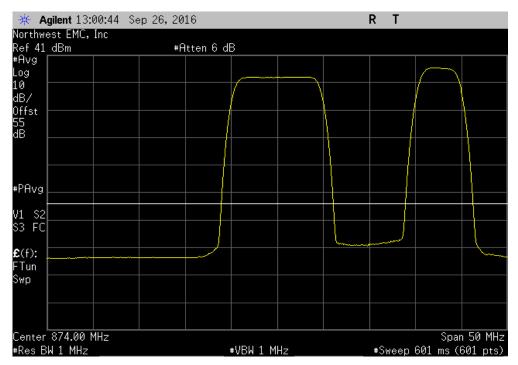


Antenna Port 2, LTE5 - 871.	5 MHz & WCDMA - 891.6	MHz	
Frequency	Max Value	Limit	
Range	(dBm)	≤ (dBm)	Result
3 GHz - 9 GHz	-24.37	-13	Pass

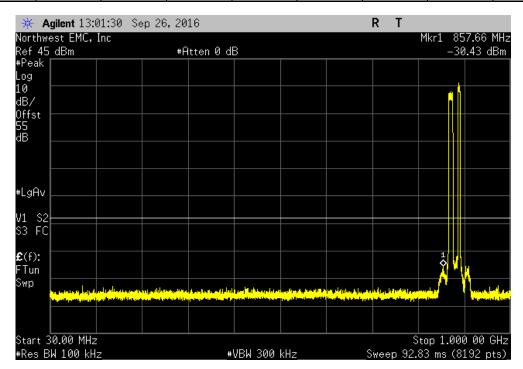






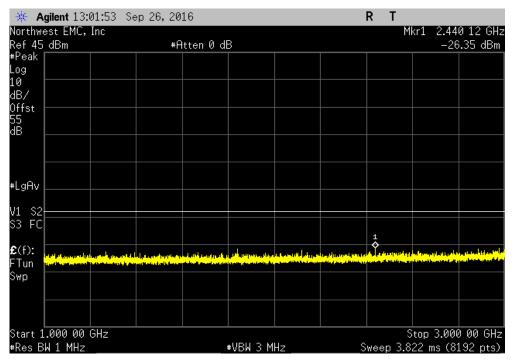


	Antenna Port 2, LT	E10 - 874 MHz & \	VCDMA - 891.6 N	ЛHz	
	Frequency		Max Value	Limit	
_	Range		(dBm)	≤ (dBm)	Result
	30 MHz - 1 GHz		-30.43	-13	Pass





	Antenna Port 2, LTE1	0 - 874 MHz & W	CDMA - 891.6 M	1Hz	
	Frequency		Max Value	Limit	
	Range		(dBm)	≤ (dBm)	Result
1	GHz - 3 GHz		-26.36	-13	Pass



Antenna Port 2, L	TE10 - 874 MHz & \	NCDMA - 891.6 N	ЛHz	
Frequency		Max Value	Limit	
 Range		(dBm)	≤ (dBm)	Result
3 GHz - 9 GHz		-24.21	-13	Pass

