



**FCC CFR47 PART 15 SUBPART C
INDUSTRY CANADA RSS-210 ISSUE 8**

CERTIFICATION TEST REPORT

FOR

Intelligent Backhaul Radio ISM 5.8GHz band

MODEL NUMBER: IBR-1A

FCC ID: 2AAEH-101

IC: 11158A-101

REPORT NUMBER: 13U14996-2

ISSUE DATE: 2013-12-03

Prepared for
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NVLAP LAB CODE 100255-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	2013-09-15	Initial Issue	Joseph Danisi
--	2013-09-20	Corrected the DTS FCC ID to 2AAEH-101. On page 7 corrected the frequency ranges. On page 14 and 24 corrected frequency to 5832.	Joseph Danisi
--	2013-10-22	Corrected the antenna gain from 12 to 10.5, corrected EUT description.	Joseph Danisi
--	2013-11-19	Added sample calculation, added better description, added additional KDB, clarified throughout report J48 & J49 and notes information.	Joseph Danisi
--	2013-11-22	Removed references to 802.11 proprietary, corrected limits in section 8.4.	Joseph Danisi
--	2013-12-03	Corrected table 5.2 power.	Joseph Danisi

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: CBF NETWORKS, INC., DBA FASTBACK NETWORKS
2460 N. FIRST STREET, SUITE 200
SAN JOSE, CA 95131

EUT DESCRIPTION: Intelligent Backhaul Radio ISM 5.8GHz band

MODEL: IBR-1A

SERIAL NUMBER: 53

DATE TESTED: 2013-05-02 to 2013-09-16

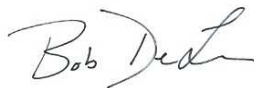
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Pass
INDUSTRY CANADA RSS-210 Issue 8 Annex 8	Pass
INDUSTRY CANADA RSS-GEN Issue 3	Pass

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards, using test results reported in the test report documents referenced below and/or documentation furnished by the applicant. All indications of Pass/Fail in this report are opinions expressed by UL LLC based on interpretations of these calculations. The results show that the equipment is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation, as described by the referenced documents. This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For UL By:

Tested By:



Bob DeLisi
WiSE Principal Engineer
UL

Joseph Danisi
WiSE Project Lead
UL

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 3, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 1285 Walt Whitman Rd. Melville, NY 11747, USA.

UL Melville is accredited by NVLAP, Laboratory Code 100255-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/1002550.htm>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamp Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m} \end{aligned}$$

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	± 3.3 dB
Radiated Disturbance, 30 to 1000 MHz	± 4.00 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

P-P outdoor radio in 5GHz unlicensed with a proprietary communication management interface Intelligent Backhaul Radio model IBR-1A.

Overview:

IBR combines a Carrier Ethernet switch and an AnyLOS™ radio that can simultaneously operate in non-, near-, and clear line of sight radio conditions. It is designed for small cell deployment in dense urban environments where line of sight between radios is difficult or impossible to achieve.

IBR is small, passively-cooled, and environmentally protected for use mainly in macro-cellular backhaul, commercial services fiber fill-in, and small cell backhaul applications. It can be mounted on masts, poles, walls, cell towers, or in other such locations and requires little or no alignment when the radios are pointed in the general direction of one another.

Transmit & Receive Frequencies:

There are two versions of IBR that operate together to form the two ends of a link.

IBR58, a 5.8 GHz radio, transmits in the band from 5.725 GHz to 5.85 GHz and receives in the band from 5.25 GHz to 5.35 GHz.

IBR53, a 5.3 GHz radio, transmits in the band from 5.25 GHz to 5.35 GHz and receives in the band from 5.725 GHz to 5.85 GHz.

Radio Features:

IBR uses adaptive rate modulation, proprietary interference avoidance and cancellation techniques, and antenna array signal processing to deliver reliable and secure high speed data transmission over links where line-of-sight between radios is difficult or impossible to achieve.

This device uses 35MHz, 18MHz and 9MHz bandwidths with QPSK, QAM16, QAM64, QAM256 modulation. It transmits either single stream (SISO) or dual stream uncorrelated MIMO.

Note: J48 and J49 are utilized throughout the report this indication is identical to Chain 0 and Chain 1 which indicates two antennas there is no difference in this labeling except for the client identifies the two antenna ports as J48 and J49.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

9MHz Bandwidth

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5743-5832	N/A	26.08	405.51

18MHz Bandwidth

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5734-5841	N/A	27.23	528.45

35MHz Bandwidth

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
5730-5845	N/A	27.55	568.85

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a Dipole array antenna, with a maximum gain of 10.5 dBi.

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was Build Sun Revision: 574M.

The test utility software used during testing was Micro monitor 1.18.0.

5.5. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X, Y, Z, it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

Based on the baseline scan, the worst-case data rates were:

35MHz bandwidth QAM 4
18MHz bandwidth QAM 4
9MHz bandwidth QAM 4
Data rate 30 Msamples/s

KDB 662911 D01 V02r01 has been followed where applicable to the MIMO device.

5.6 DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Lenovo	Think pad	N/A	N/A
POE	PHIHONG	POE 36U-1AT-R	N/A	N/A
Smart Class Ethernet	JDSU	HST-3000	N/A	N/A
Smart Class Ethernet	JDSU	SCE-1	N/A	N/A
Smart Class Ethernet	JDSU	SCE-2	N/A	N/A

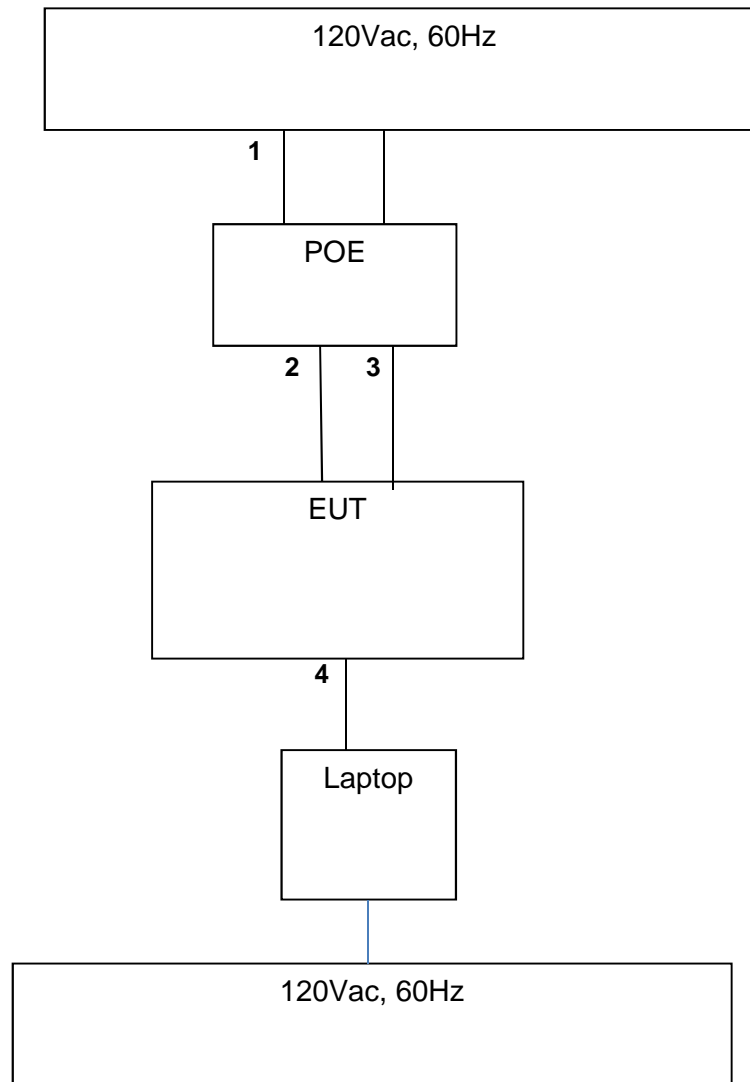
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	1	1	AC Mains	Power Cord	1	N/A
2	2		POE(Power over Ethernet)	Shielded	About 12m	N/A
3	3	1	Ethernet	Shielded	About 12m	N/A
4	4	1	USB-to-Serial Adapter	Shielded	About 12m	N/A

TEST SETUP

The EUT is a P-P outdoor radio used as a stand-alone device. Test software exercised the radio module

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Radiated Emissions					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
30-1000MHz					
EMI Receiver	Rohde & Schwarz	ESIB26	ME5B-081	2013-01-29	2014-01-31
Log-P Antenna	Schaffner	UPA6109	44068	2013-04-03	2014-04-03
Bicon Antenna	Schaffner	VBA6106A	54	2013-04-03	2014-04-03
Bias Tee	Miteq	AM-1523-7687	44392	N/A	N/A
Bias Tee	Miteq	AM-1523-7687	44393	N/A	N/A
Preamp	Miteq	AM-3A-000110-7687	44391	N/A	N/A
Preamp	Miteq	AM-3A-000110-7687	44394	N/A	N/A
Switch Driver	HP	11713A	ME7A-627	N/A	N/A
System Controller	Sunol Sciences	SC99V	44396	N/A	N/A
Camera Controller	Panasonic	WV-CU254	44395	N/A	N/A
RF Switch Box	UL	1	44398	N/A	N/A
Measurement Software	UL	Version 9.5	44740	N/A	N/A
Multimeter	Fluke	83III	ME5B-305	2013-01-28	2014-01-31
Above 1GHz (Band Optimized System)					
EMI Receiver	Rohde & Schwarz	ESIB40	34968	2013-01-30	2014-01-31
Horn Antenna (1-2 GHz)	ETS	3161-01 (26°)**	51442	2008-03-28	See * below
Horn Antenna (2-4 GHz)	ETS	3161-02 (22°)**	48107	2007-09-27	See * below
Horn Antenna (4-8 GHz)	ETS	3161-03 (22°)**	48106	2007-09-27	See * below
Horn Antenna (8-12 GHz)	ETS	3160-07 (26°)**	8933	2008-11-24	See * below
Horn Antenna (12-18 GHz)	ETS	3160-08 (26°)**	8932	2007-09-27	See * below
Horn Antenna (18-26.5 GHz)	ETS	3160-09 (27°)**	8947	2007-09-26	See * below
Horn Antenna (26.5-40 GHz)	ETS	3160-10 (27°)**	73004	2007-09-26	See * below
Signal Path Controller	HP	11713A	50250	N/A	N/A
Gain Controller	HP	11713A	50251	N/A	N/A
RF Switch / Preamp Fixture	UL	BOMS1	50249	N/A	N/A
System Controller	UL	BOMS2	50252	N/A	N/A
Measurement Software	UL	Version 9.5	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	4268	2012-12-22	2014-12-22
Multimeter	Fluke	83III	ME5B-305	2013-01-28	2014-01-31

Radiated Emissions					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
<p>* - Note: As allowed by the calibration standard ANSI C63.4 Section 4.4.2, standard gain horns need only a one-time calibration. Only if physical damage occurs will the horn antenna require re-calibration.</p> <p>Gain standard horn antennas (sometimes called standard gain horn antennas) need not be calibrated beyond that which is provided by the manufacturer unless they are damaged or deterioration is suspected, or they are used at a distance closer than $2D^2/\lambda$. Gain standard horn antennas have gains that are fixed by their dimensions and dimensional tolerances.</p> <p>** - Number in parentheses denotes antenna beam width.</p>					

Conducted Emissions					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
Conducted Emissions – GP 1					
EMI Receiver	Rohde & Schwarz	ESIB26	ME5B-081	2013-01-29	2014-01-31
LISN	EMCO	3825/2R	ME5-790	2013-02-01	2014-02-28
LISN	Solar	9252-50-R-24-BNC	ME5A-636	2013-02-01	2014-02-28
Switch Driver	HP	11713A	44397	N/A	N/A
RF Switch Box	UL	4	44404	N/A	N/A
Measurement Software	UL	Version 9.5	44736	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43734	2012-03-13	2014-03-13
Multimeter	Fluke	83III	ME5B-305	2013-01-28	2014-01-31

Bench Tests					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
RF Room 1					
Power Meter	HP	437B	71769	2013-01-13	2014-01-13
Spectrum Analyzer	Agilent	E4446A	72822	2013-01-29	2014-01-31
Power Sensor	Rohde & Schwarz	NRP-Z81	75345	2013-01-30	2014-01-31
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	4268	2012-12-22	2014-12-22

7. MEASUREMENT METHODS

KDB 558074 D01 DTS Measurement Guidance v03 was referenced during testing. Maximum Peak Conducted Power was measured using the method of Section 9.1.2, thus PKPSD is used for power spectral density.

Unwanted emissions within Restricted Bands are measured using traditional radiated procedures.

KDB 662911 D01 V02r01 has been followed where applicable to the MIMO device.

8. ANTENNA PORT TEST RESULTS

8.1.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

The minimum 6 dB bandwidth shall be at least 500 kHz.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer with the RBW set at 100 KHz and VBW at 300 KHz.

RESULTS 35MHz

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5743	30.920	31.000	0.5
Mid	5788	30.920	30.830	0.5
High	5832	31.330	31.170	0.5

Note: Chain 0=J48 Chain1=J49 35MHz bandwidth QAM4

RESULTS 18MHz

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5734	16.330	15.670	0.5
Mid	5788	15.670	15.580	0.5
High	5841	15.580	15.580	0.5

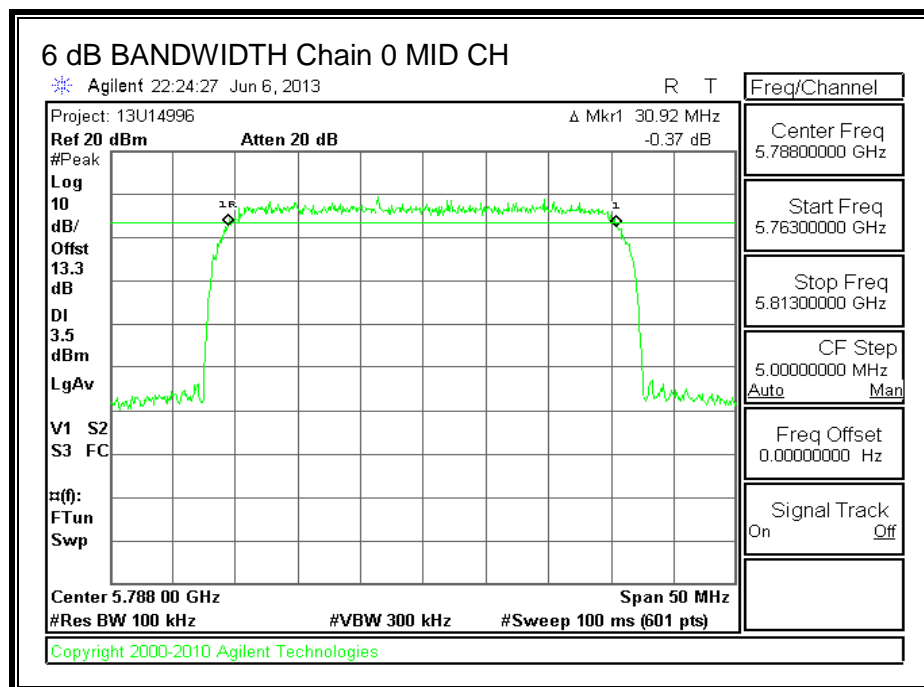
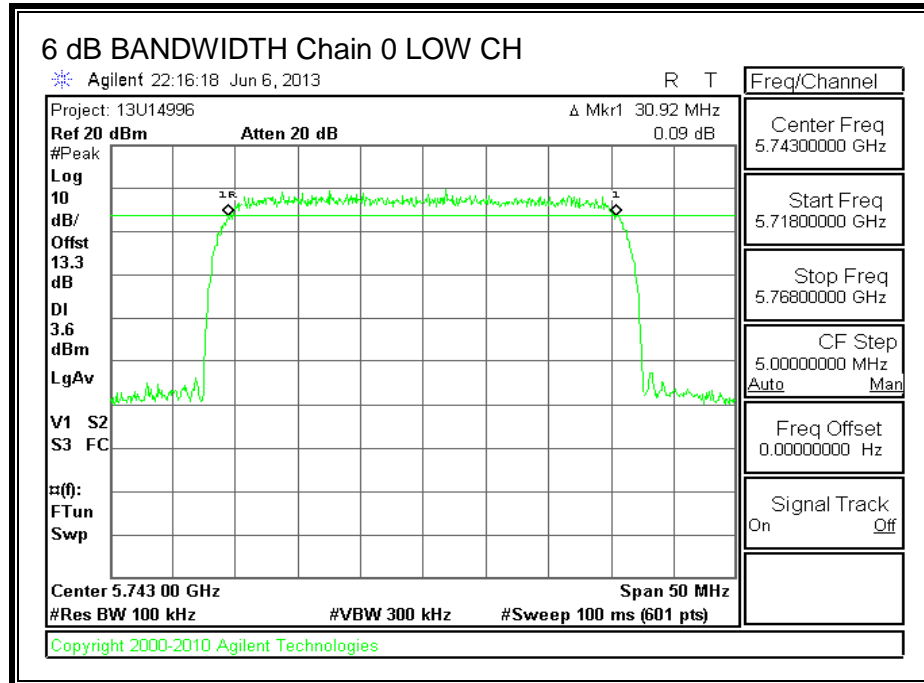
Note: Chain 0=J48 Chain1=J49 18MHz bandwidth QAM4

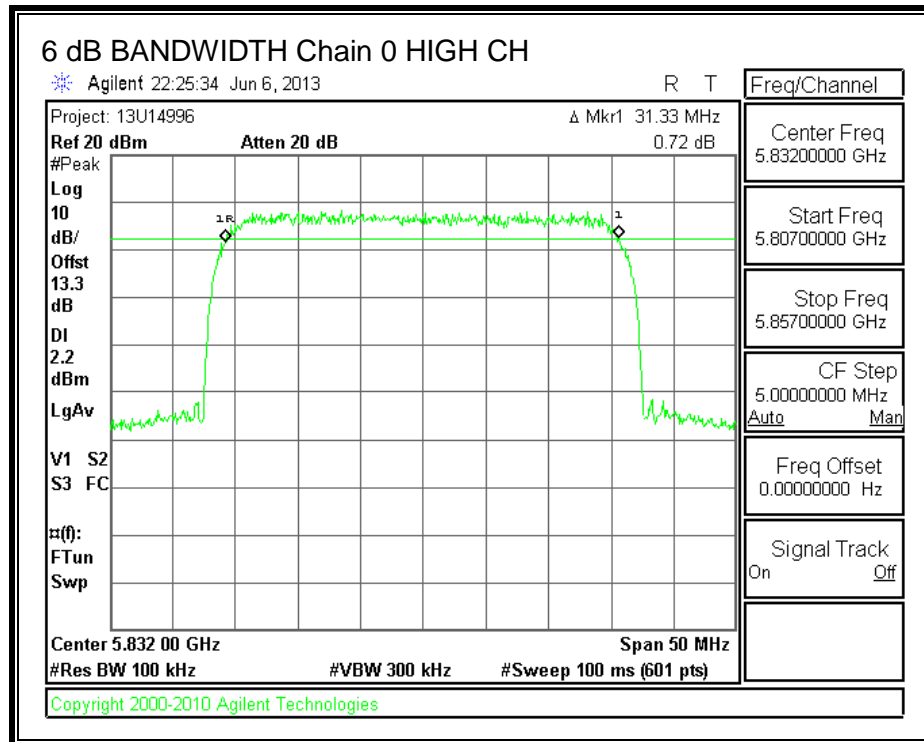
RESULTS 9MHz

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5730	7.875	7.875	0.5
Mid	5788	7.800	7.950	0.5
High	5845	7.900	7.850	0.5

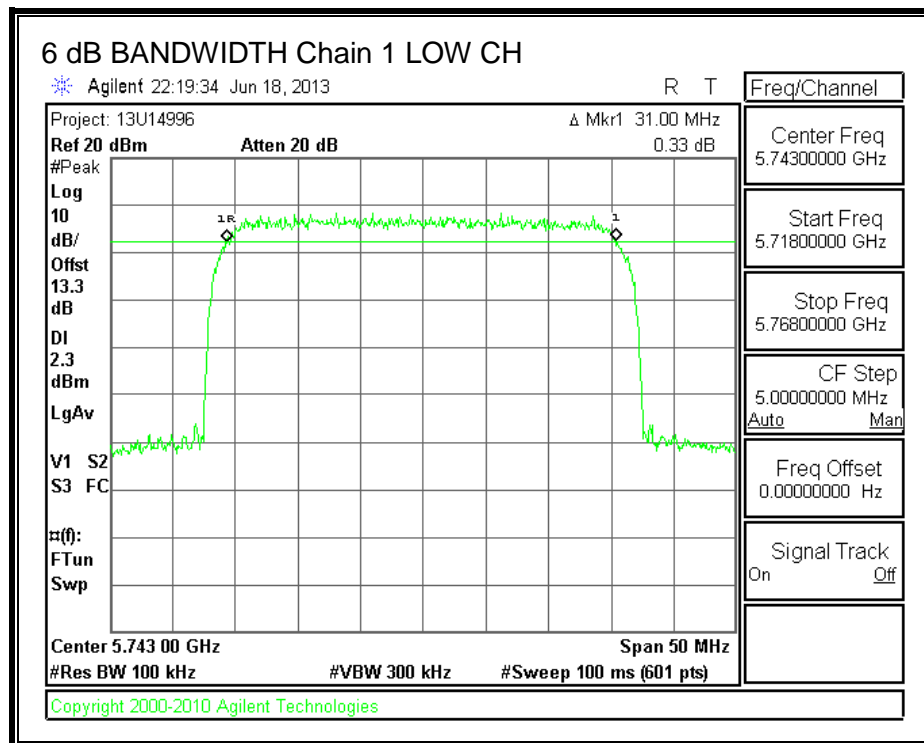
Note: Chain 0=J48 Chain1=J49 9MHz bandwidth QAM4

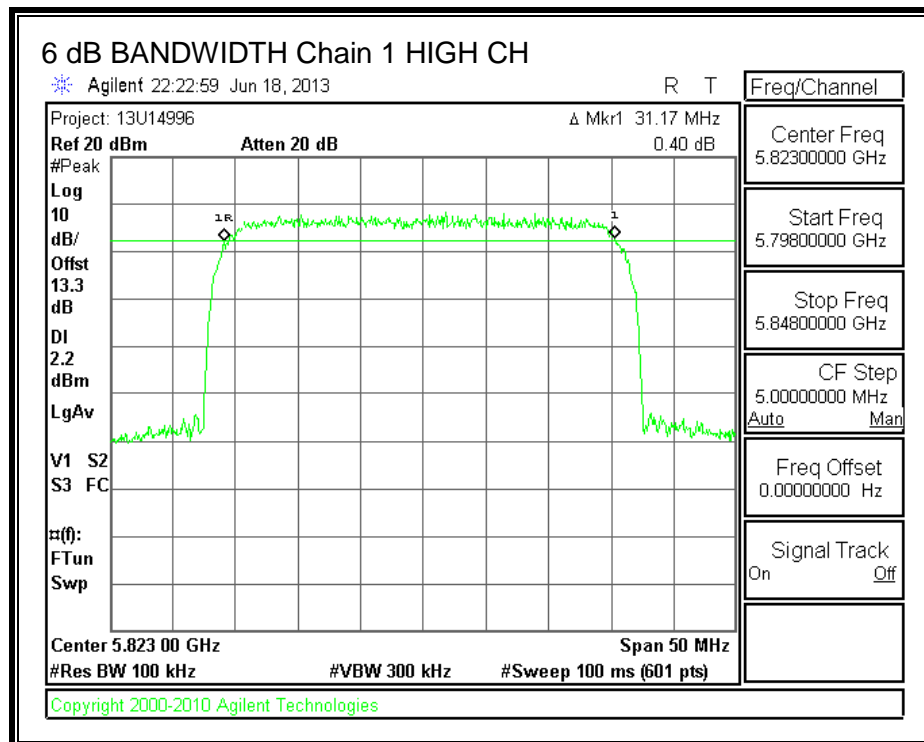
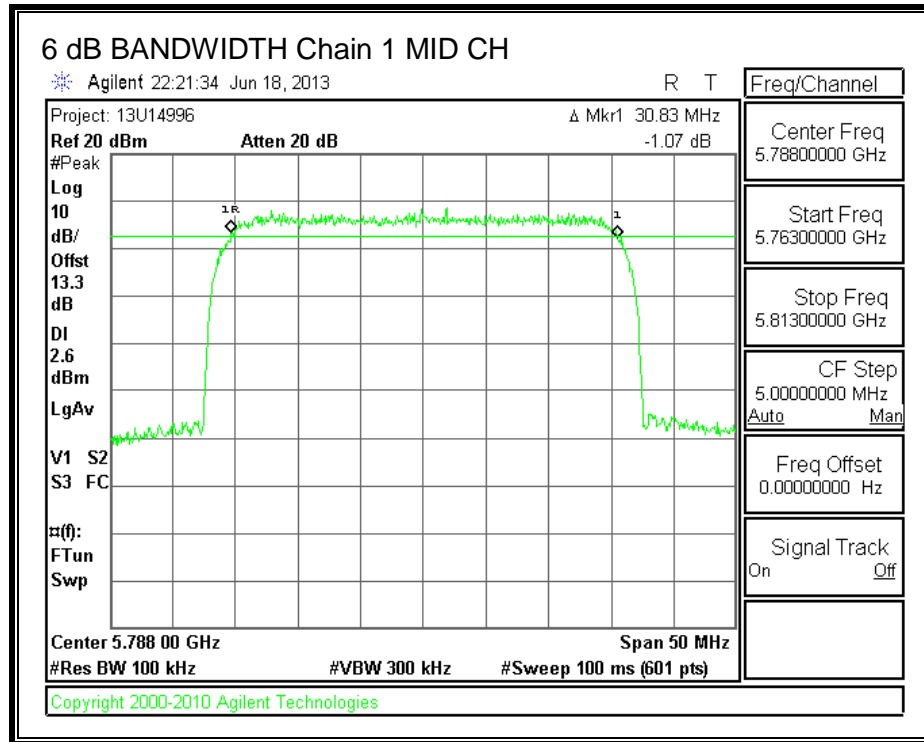
6 dB BANDWIDTH, Chain 0 35MHz setting



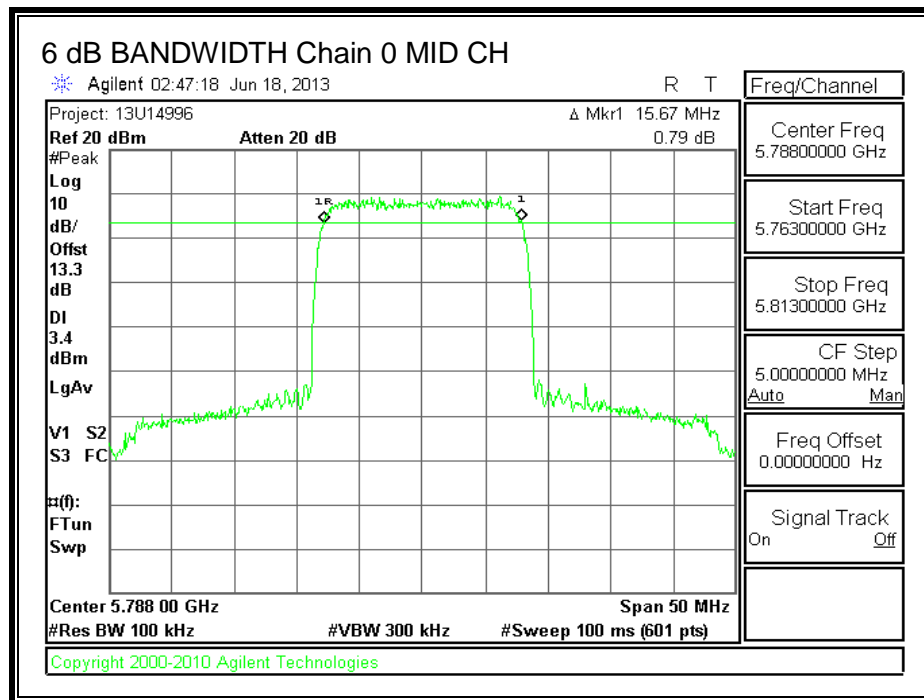
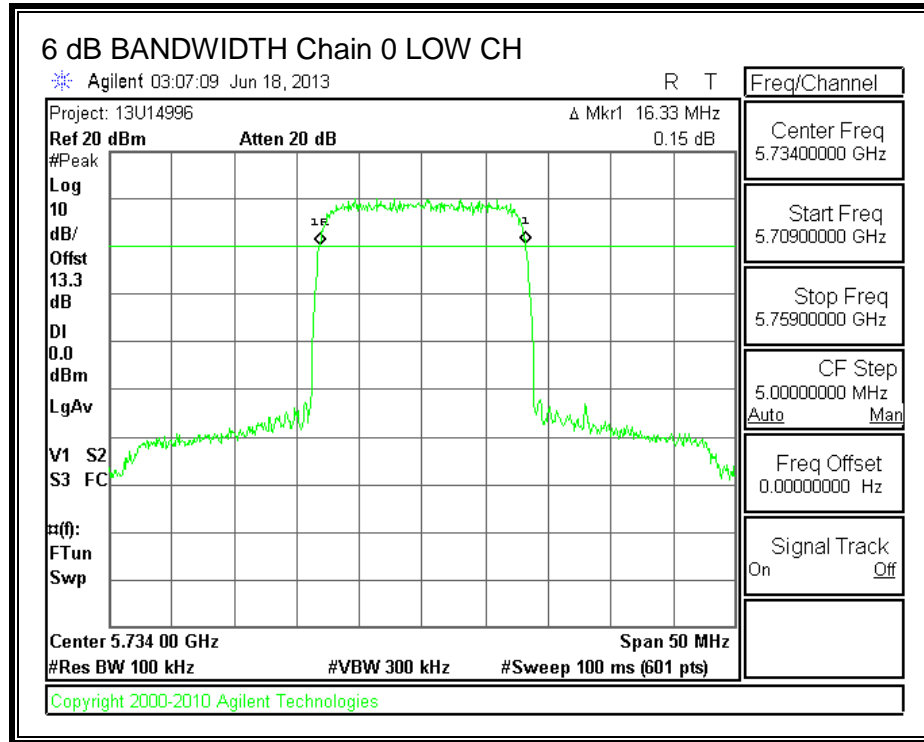


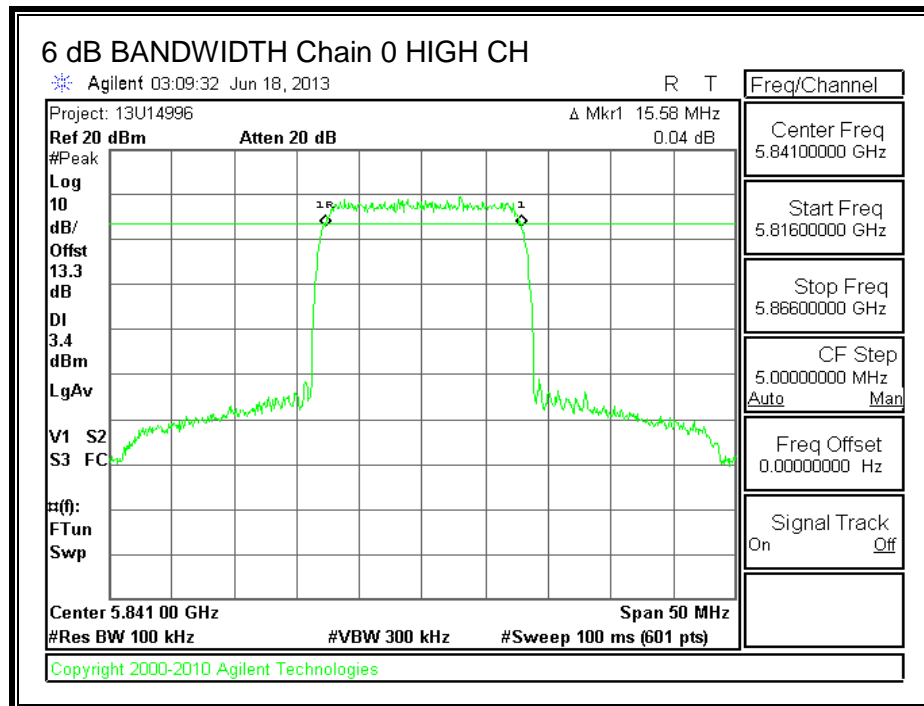
6 dB BANDWIDTH, Chain 1 35MHz setting



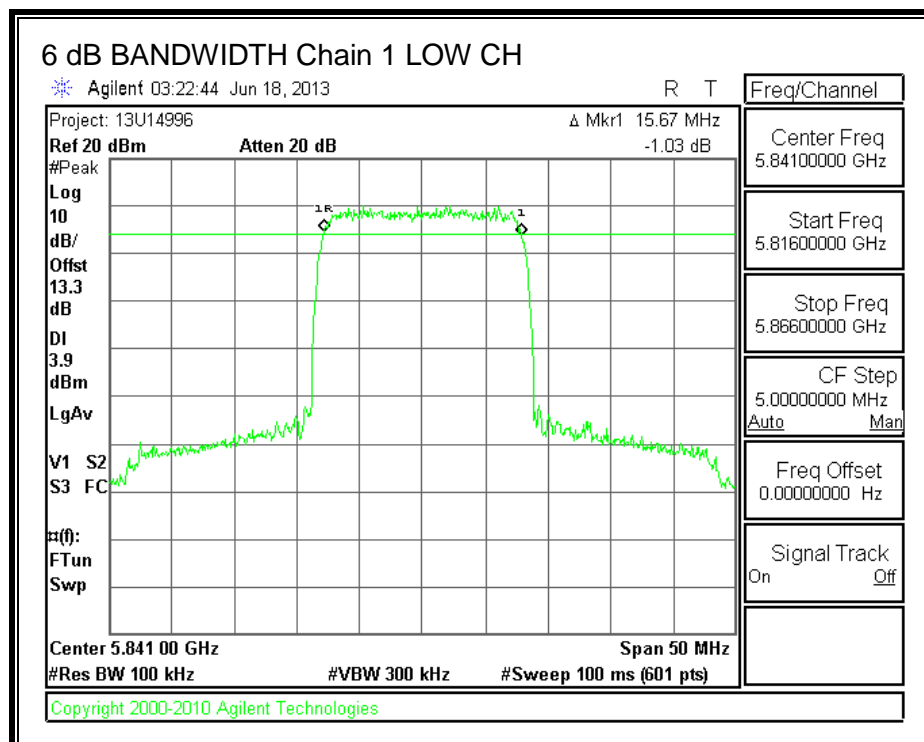


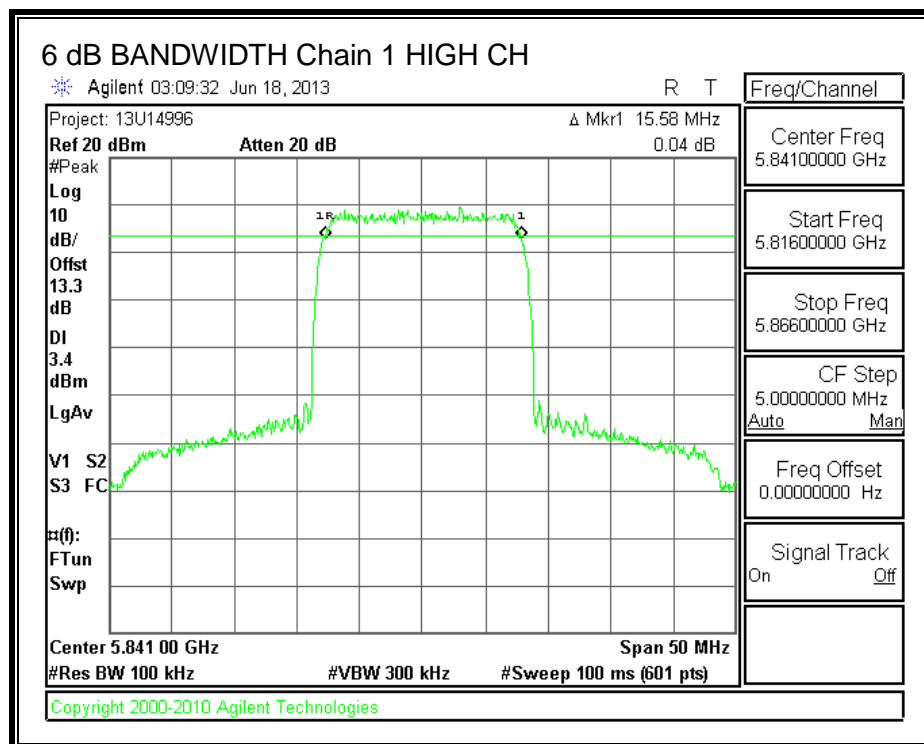
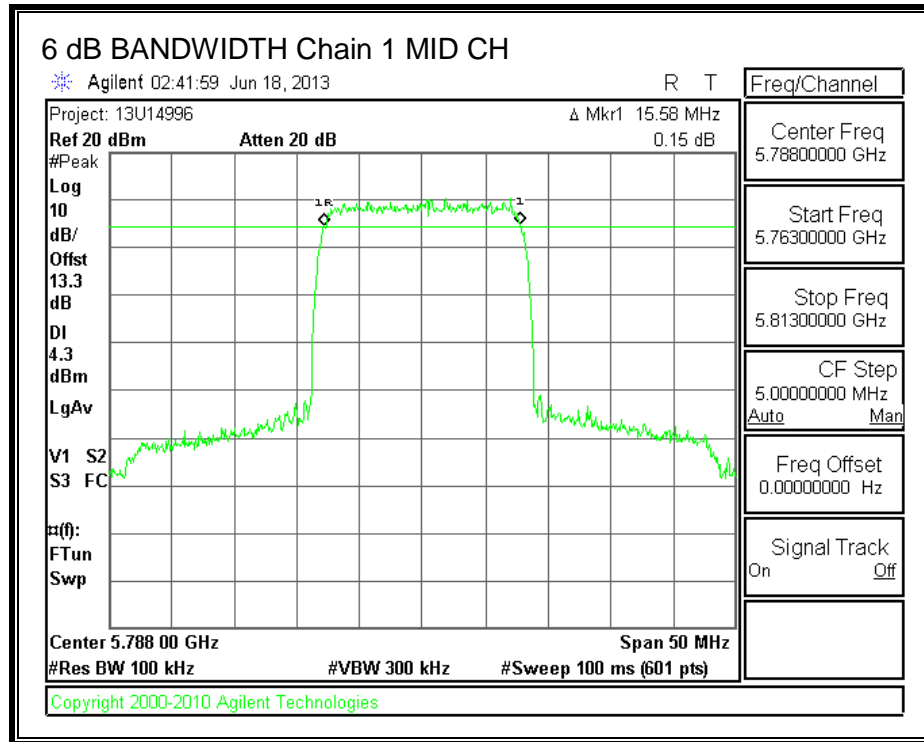
6 dB BANDWIDTH, Chain 0 18MHz setting



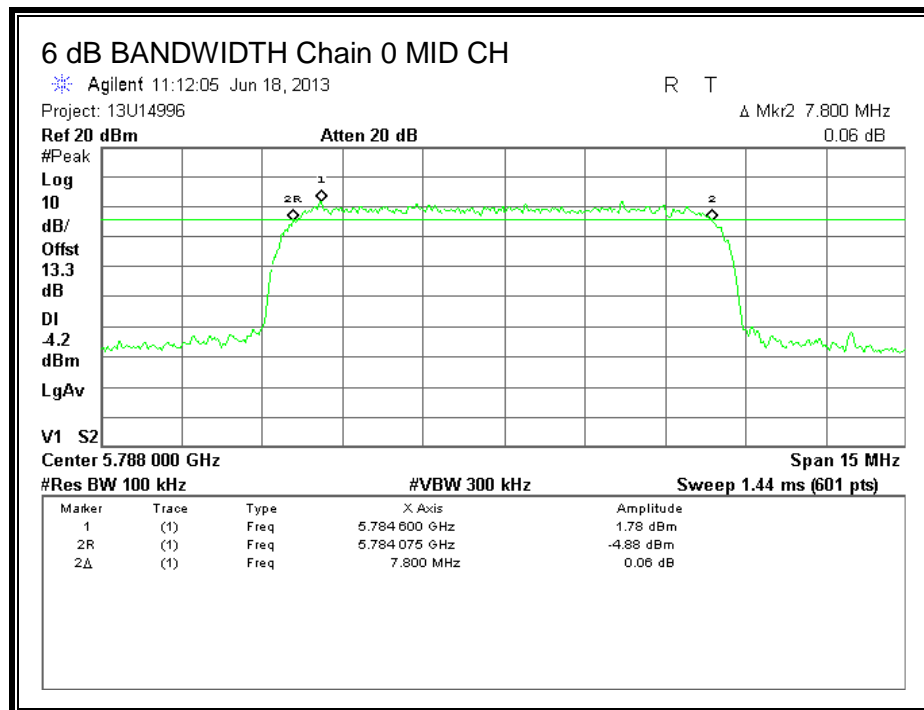
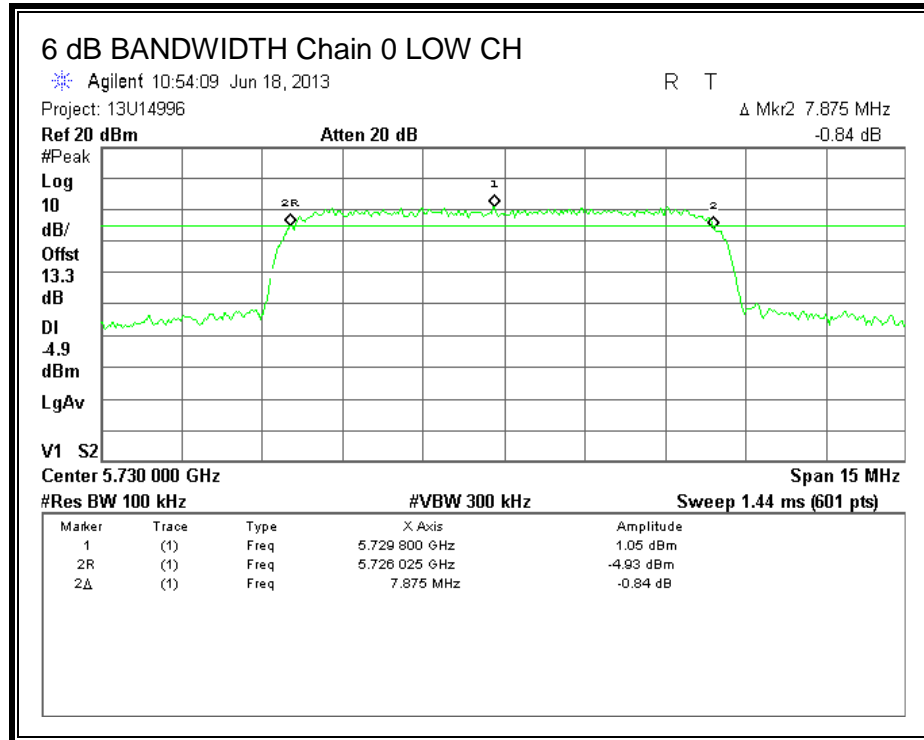


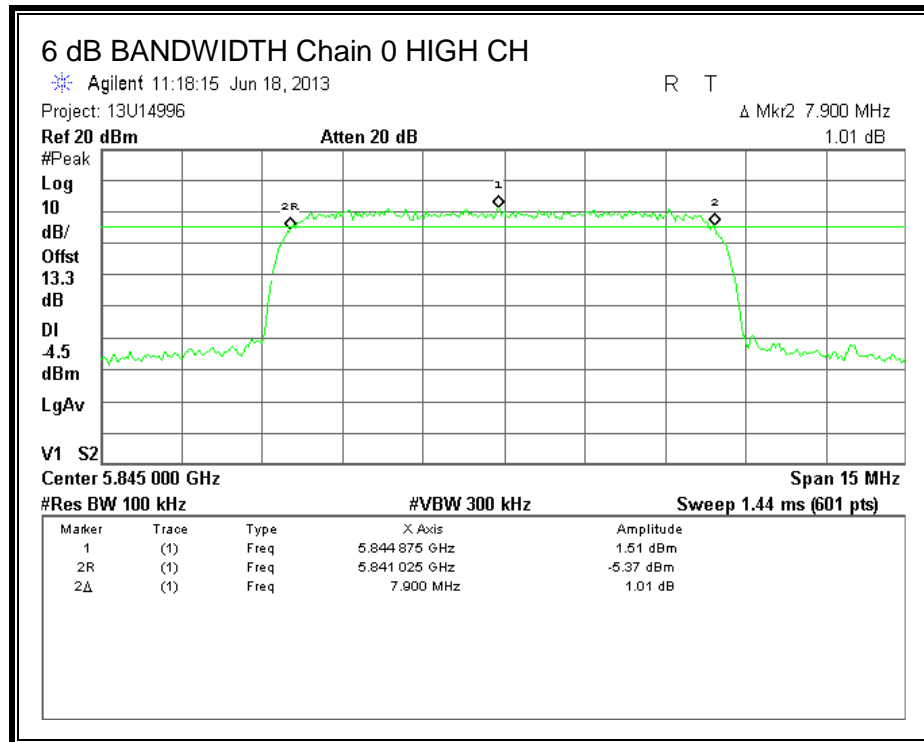
6 dB BANDWIDTH, Chain 1 18MHz setting



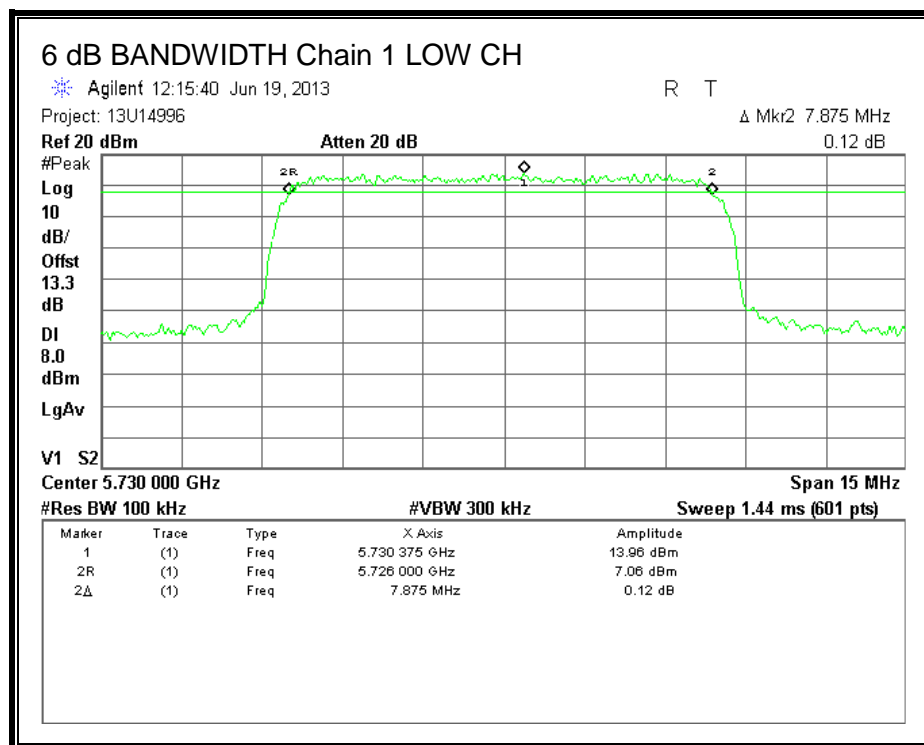


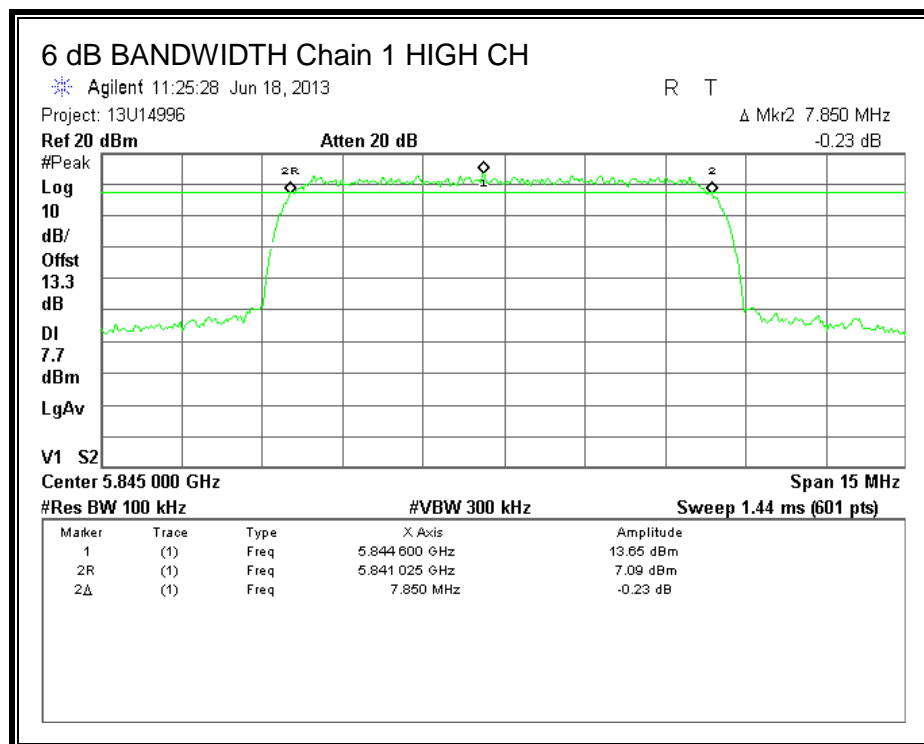
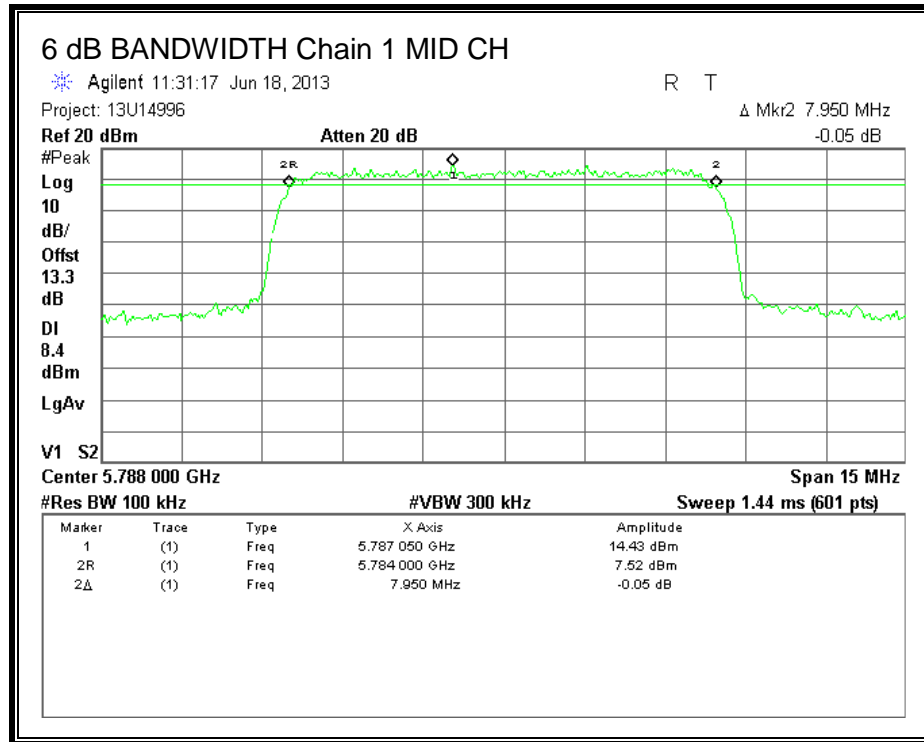
6 dB BANDWIDTH, Chain 0 9MHz setting





6 dB BANDWIDTH, Chain 1 9MHz setting





8.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS 35MHz

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5743	31.4940	31.7400
Mid	5788	31.3800	31.6800
High	5832	31.6300	31.5060

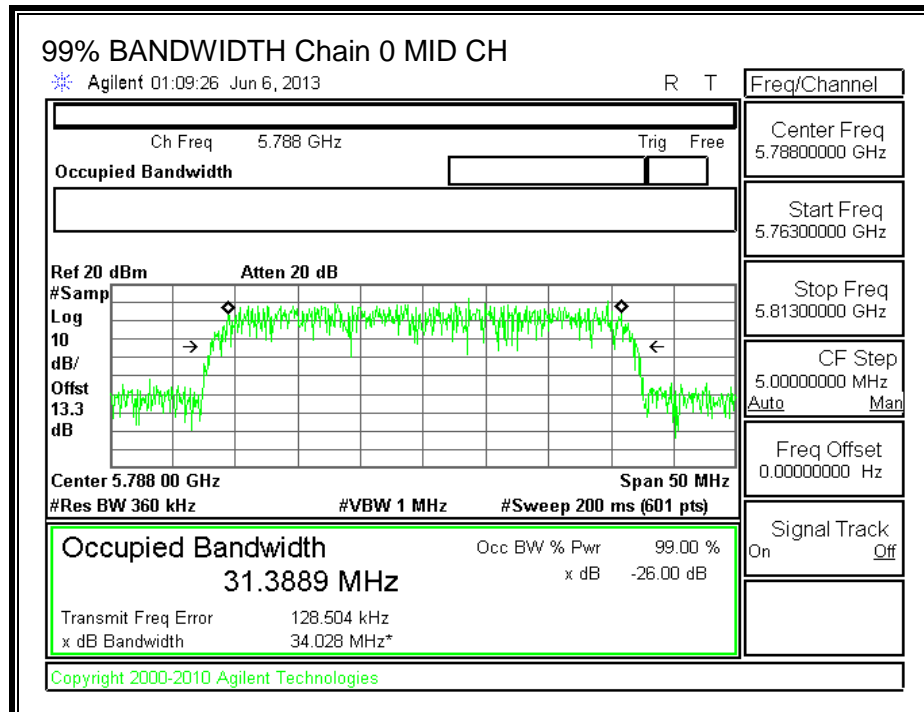
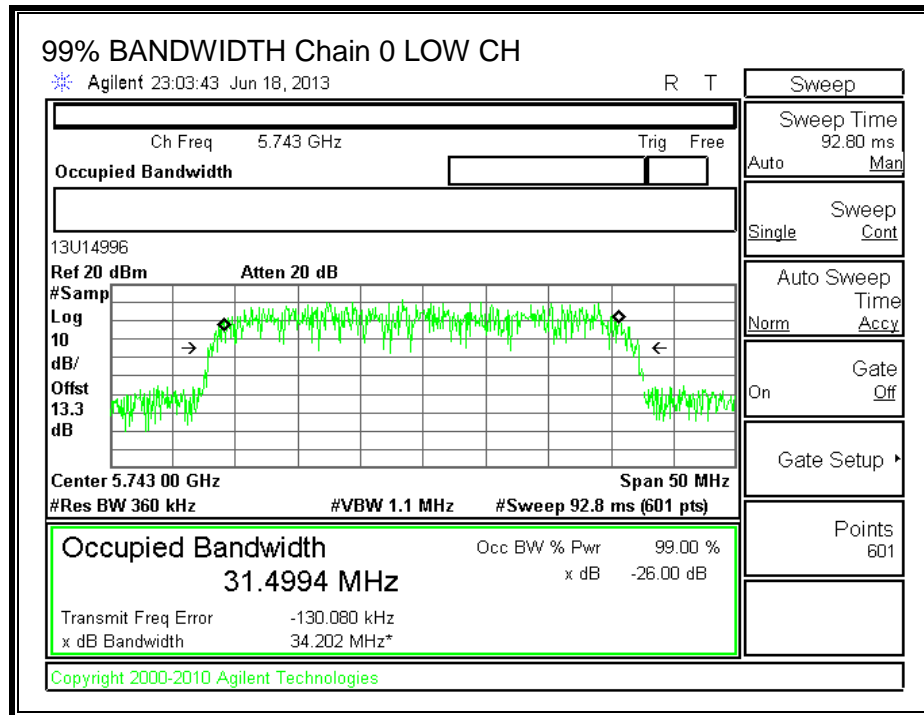
RESULTS 18MHz

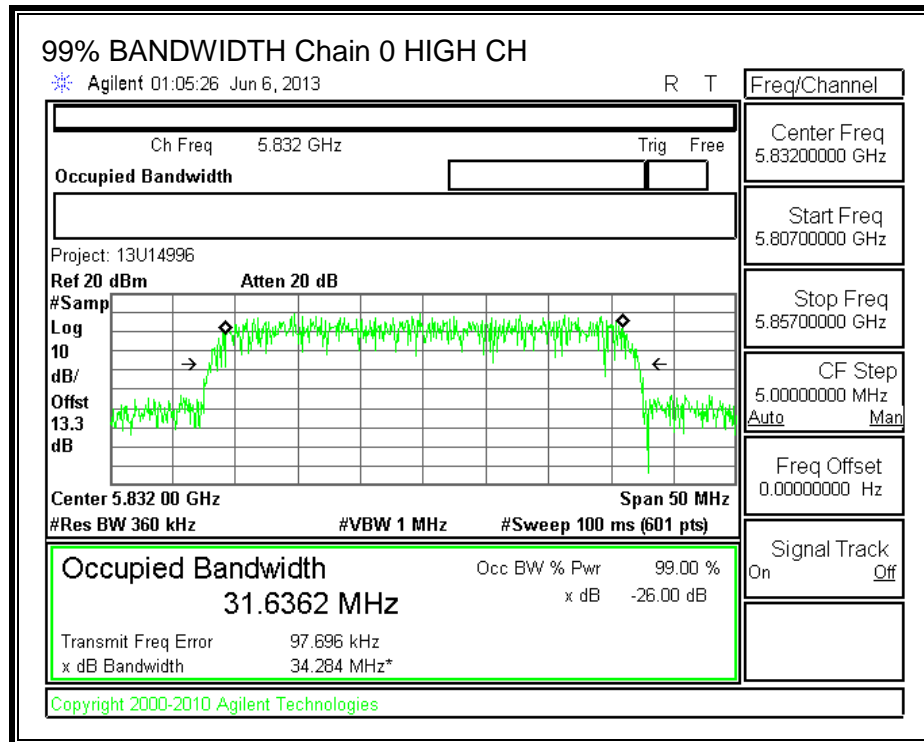
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5734	16.1200	15.8000
Mid	5788	15.9000	16.0000
High	5841	15.9000	15.7000

RESULTS 9MHz

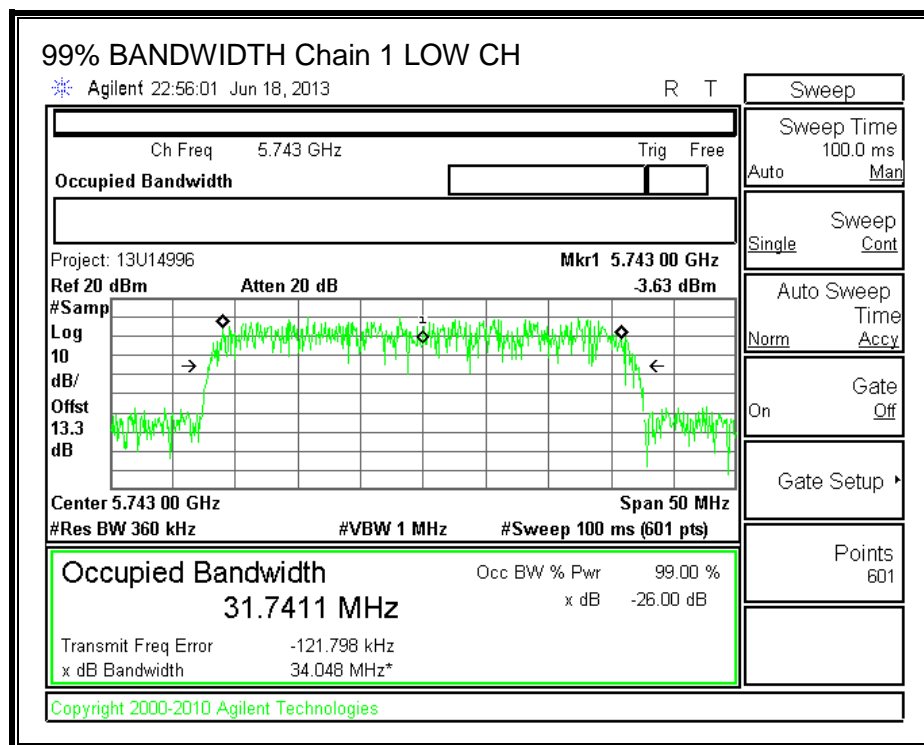
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5730	7.9000	7.9000
Mid	5788	7.9000	7.9000
High	5845	7.9000	7.9000

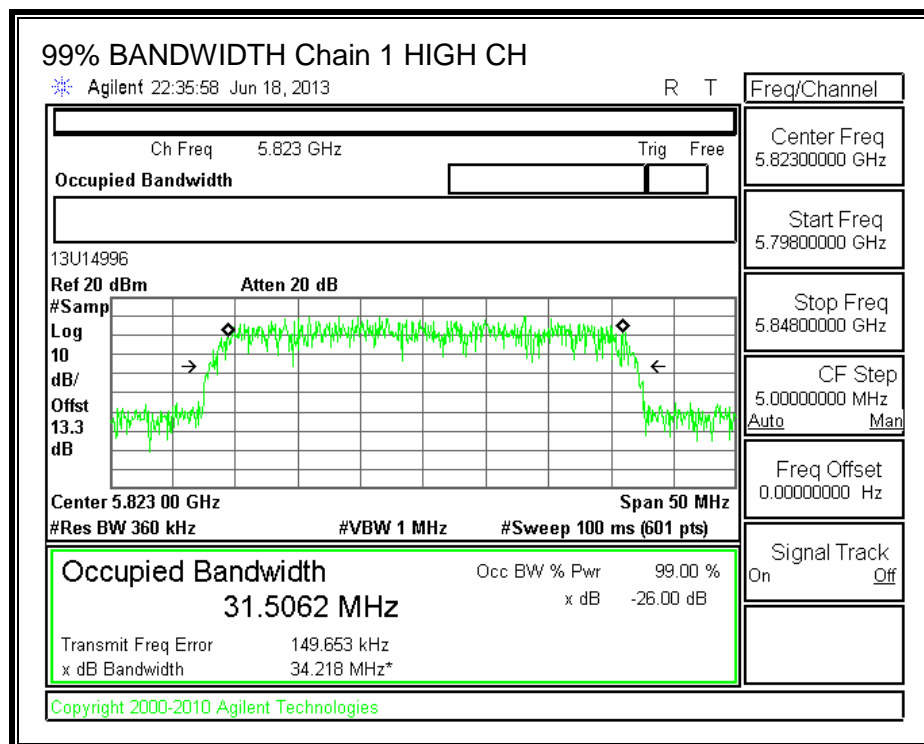
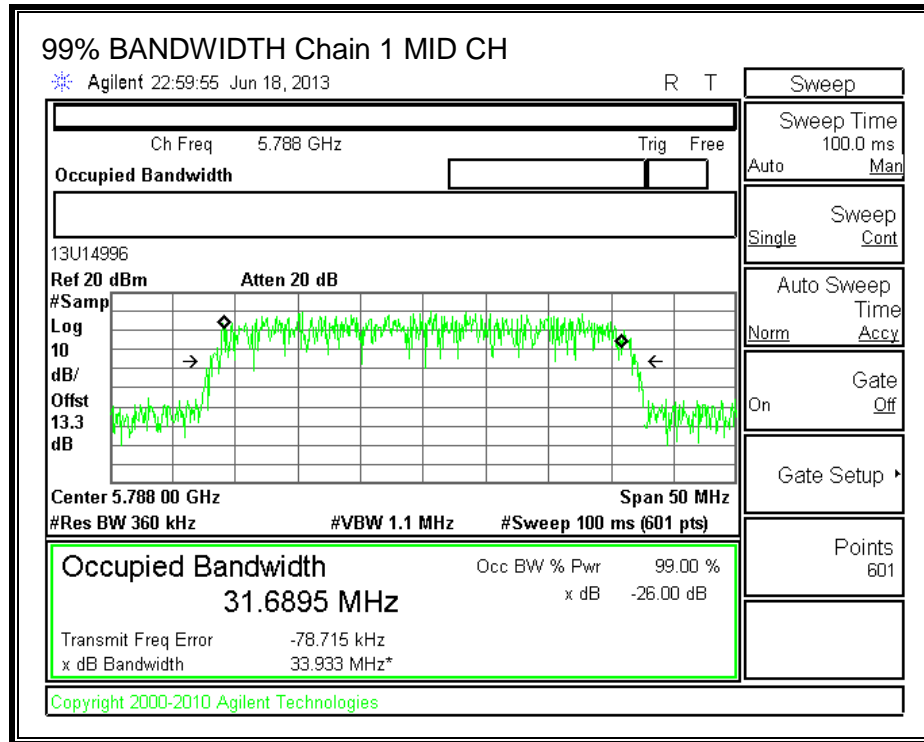
99% BANDWIDTH, Chain 0 35MHz setting



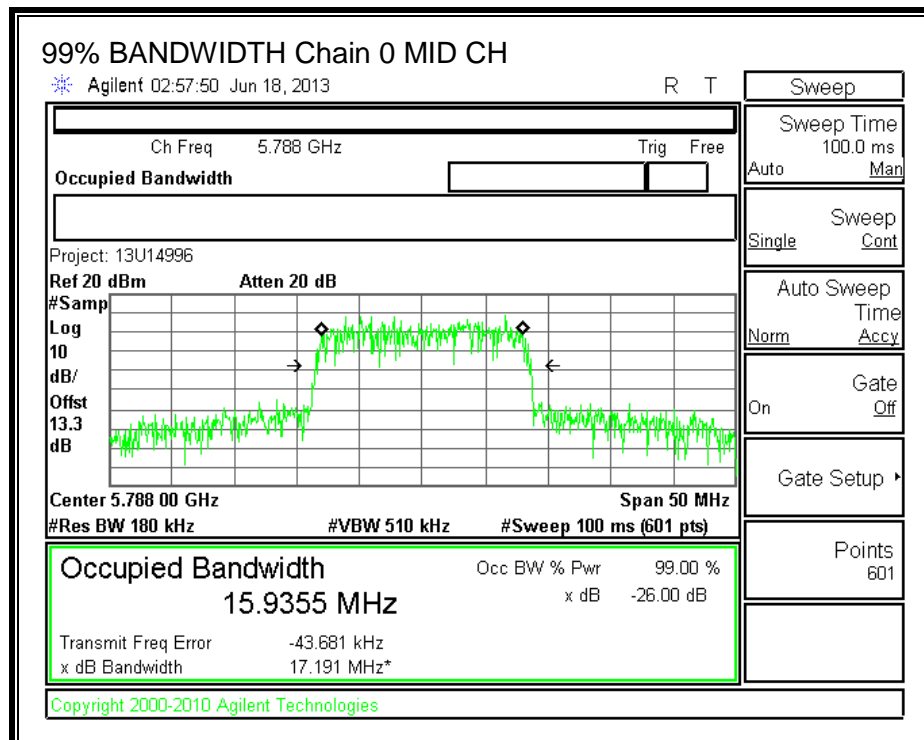
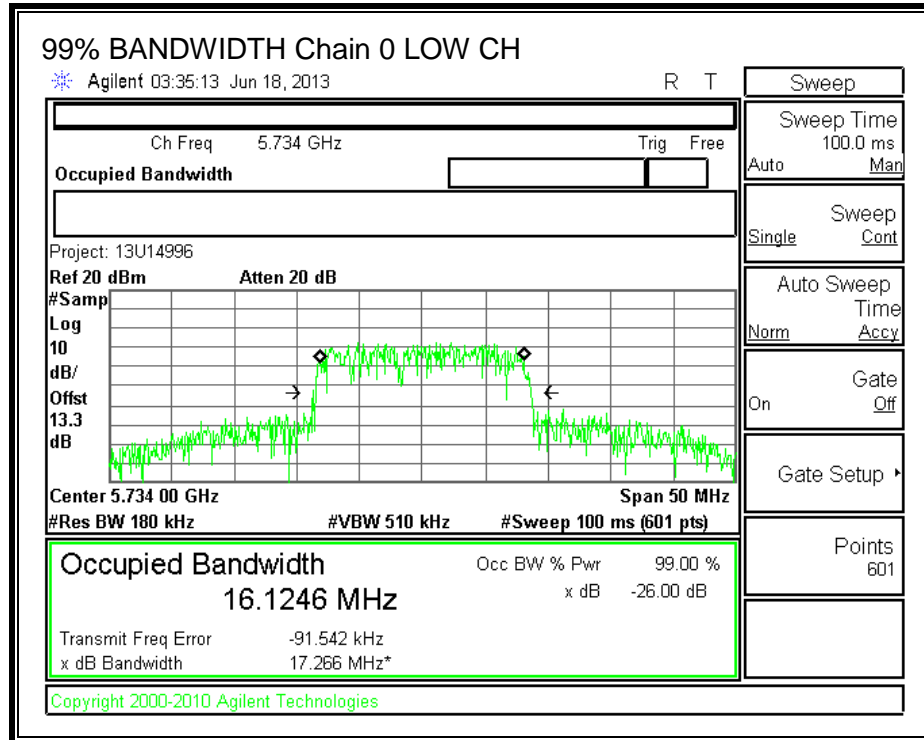


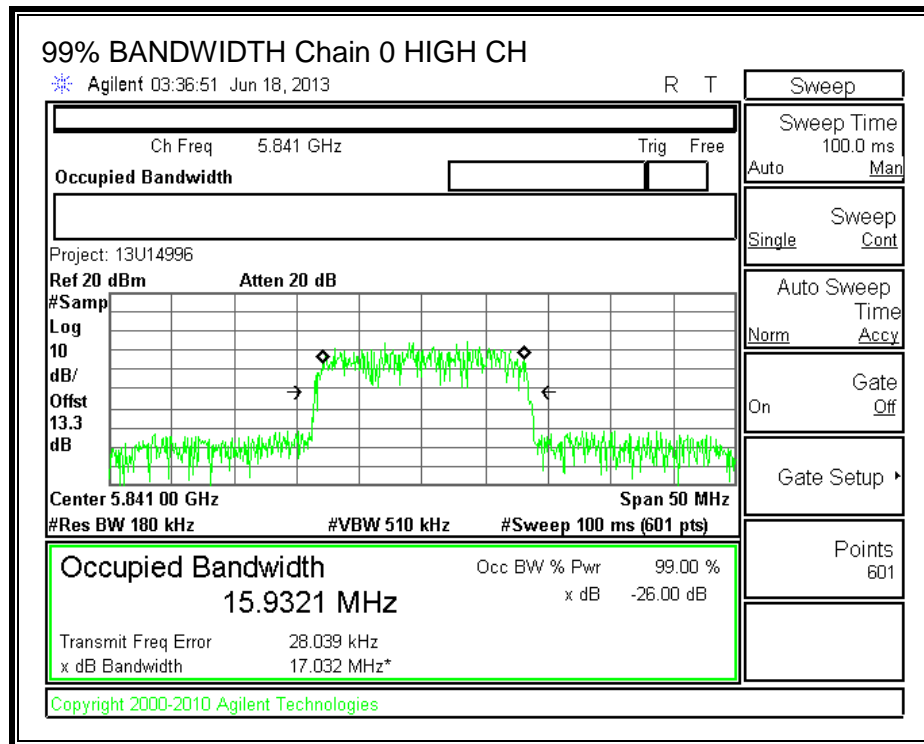
99% BANDWIDTH, Chain 1 35MHz setting



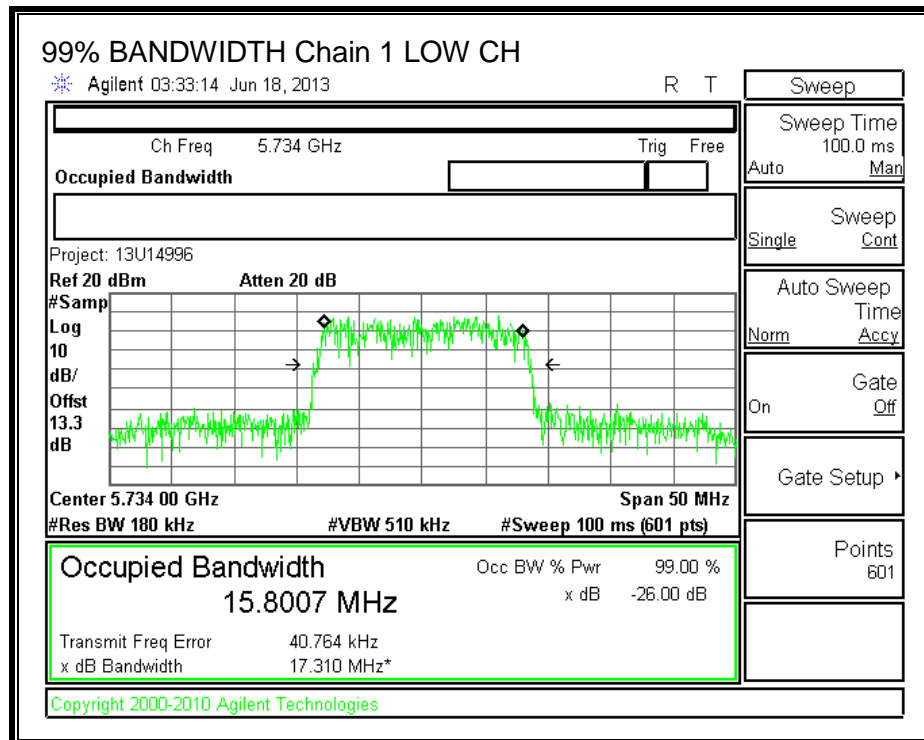


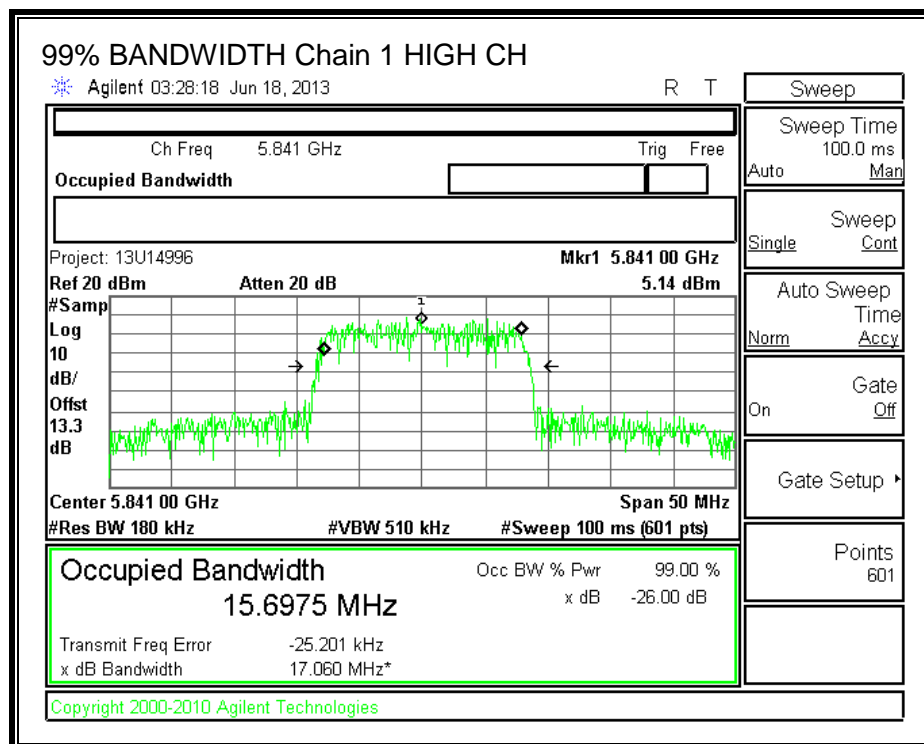
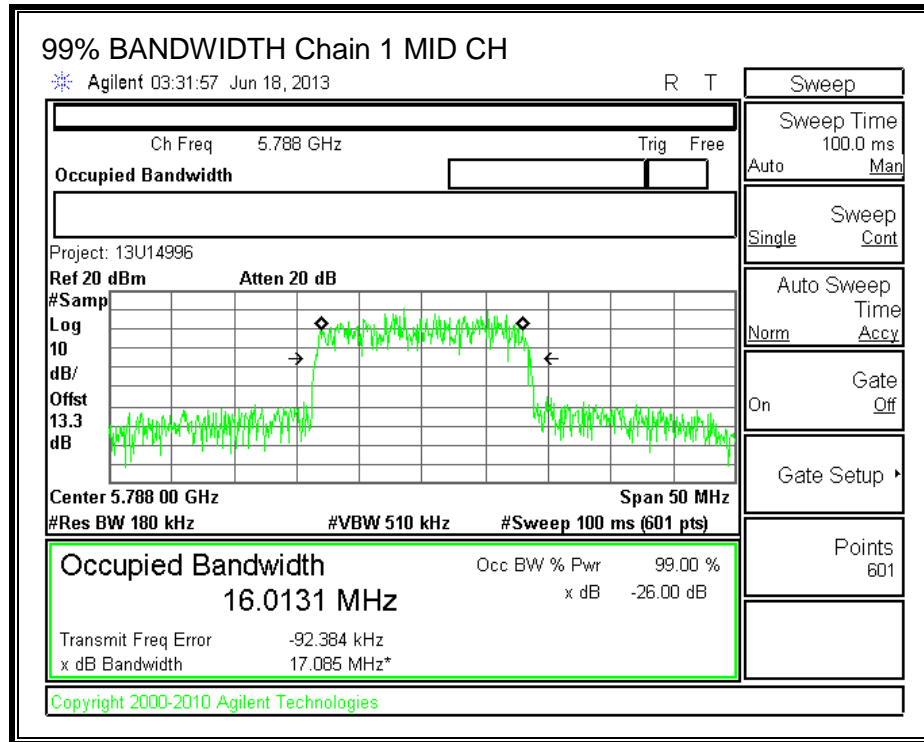
99% BANDWIDTH, Chain 0 18MHz setting



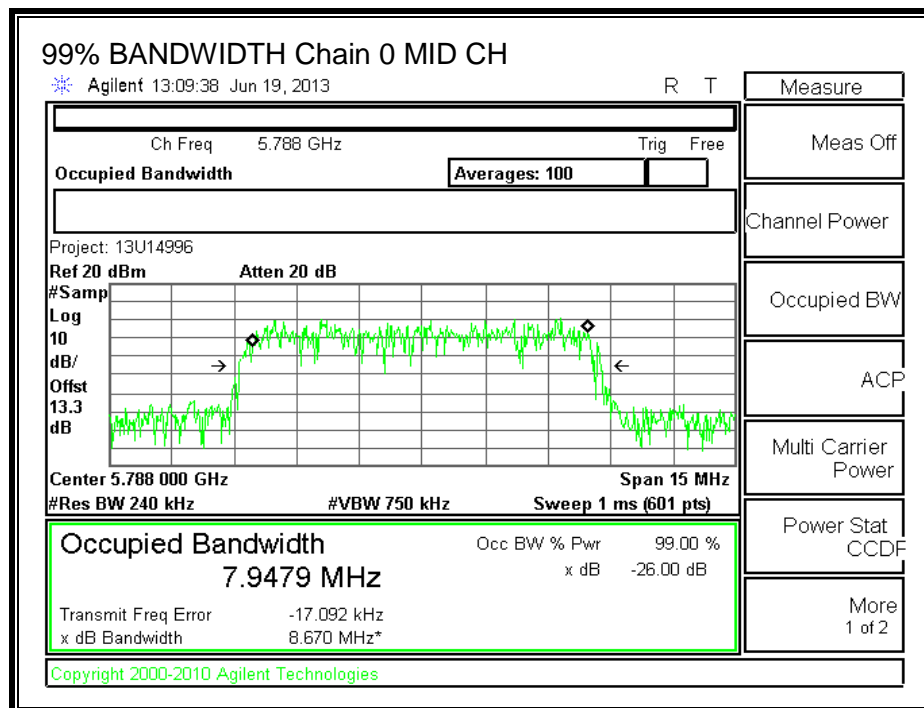
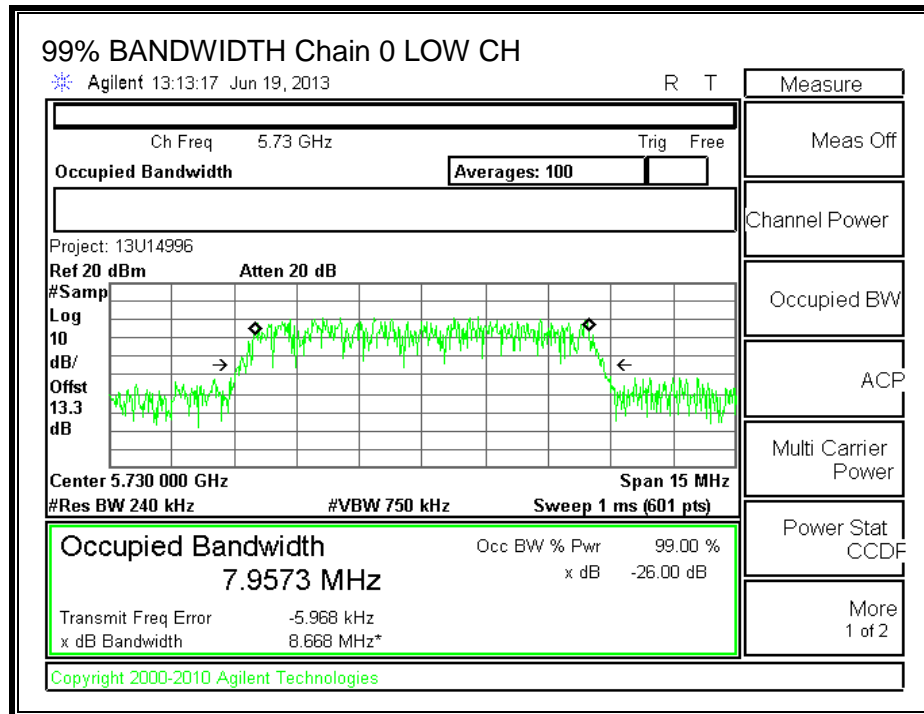


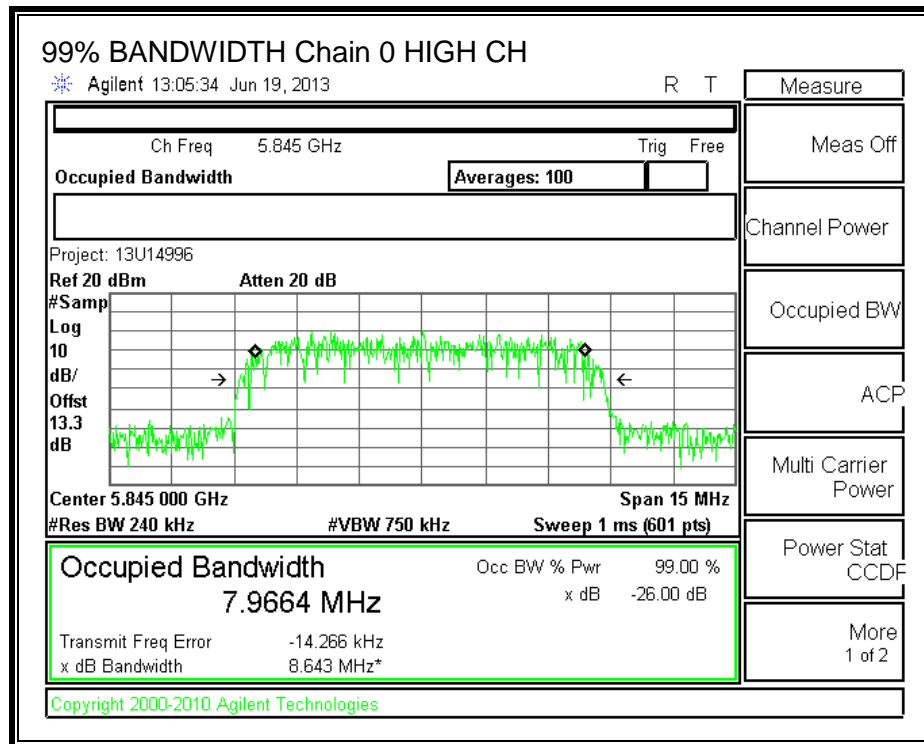
99% BANDWIDTH, Chain 1 18MHz setting



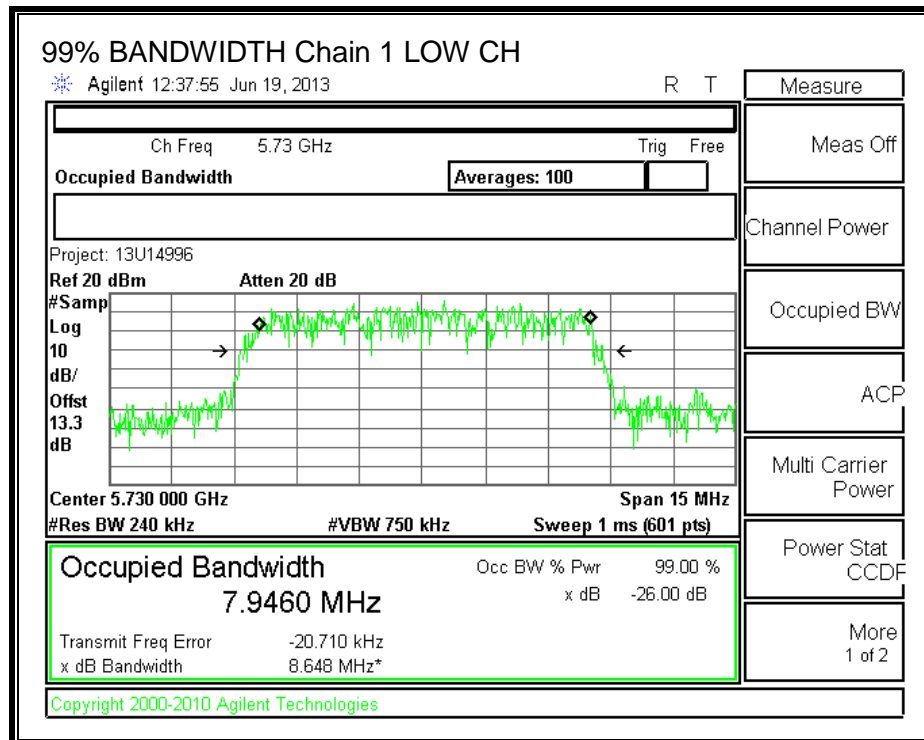


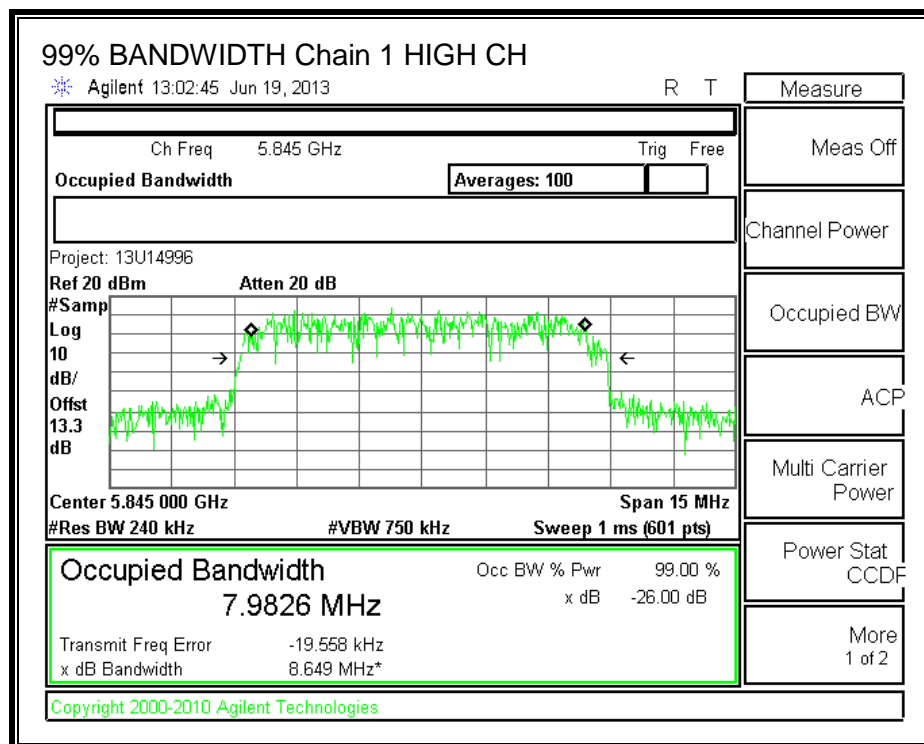
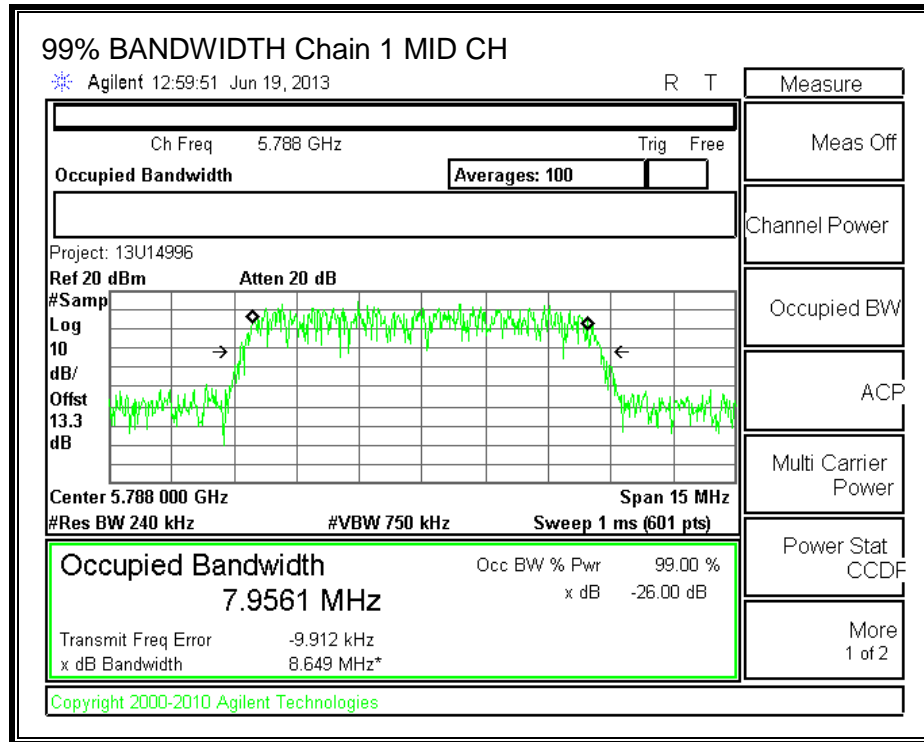
99% BANDWIDTH, Chain 0 9MHz setting





99% BANDWIDTH, Chain 1 9MHz setting





8.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 13.34 dB (including 10 dB pad and 3.34 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Sample calculation for total power 35MHz: $10 \cdot \log(10^{C4/10} + 10^{D4/10})$

Where C4= Chain 0(22.18dBm) measured power and D4= Chain 1(21.41dBm)

RESULTS 35MHz

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5743	22.18	21.41	24.82
Mid	5788	21.58	21.14	24.38
High	5832	21.80	21.35	24.59

Note: Chain 0=J48 Chain1=J49 35MHz bandwidth QAM4

RESULTS 35MHz

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5743	22.17	21.40	24.81
Mid	5788	21.58	21.12	24.37
High	5832	21.61	21.32	24.48

Note: Chain 0=J48 Chain1=J49 35MHz bandwidth QAM16

RESULTS 35MHz

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5743	22.16	21.41	24.81
Mid	5788	21.60	21.12	24.38
High	5832	21.51	21.33	24.43

Note: Chain 0=J48 Chain1=J49 35MHz bandwidth QAM64

RESULTS 35MHz

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5743	22.14	21.39	24.79
Mid	5788	21.57	21.10	24.35
High	5832	21.51	21.33	24.43

Note: Chain 0=J48 Chain1=J49 35MHz bandwidth QAM256

RESULTS 18MHz

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5734	20.63	20.76	23.71
Mid	5788	20.01	20.36	23.20
High	5841	19.96	20.49	23.24

Note: Chain 0=J48 Chain1=J49 18MHz bandwidth QAM4

RESULTS 18MHz

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5734	20.58	20.76	23.68
Mid	5788	19.96	20.35	23.17
High	5841	19.92	20.46	23.21

Note: Chain 0=J48 Chain1=J49 18MHz bandwidth QAM16

RESULTS 18MHz

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5734	20.60	20.75	23.69
Mid	5788	20.00	20.34	23.18
High	5841	19.94	20.47	23.22

Note: Chain 0=J48 Chain1=J49 18MHz bandwidth QAM64

RESULTS 18MHz

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5734	20.59	20.72	23.67
Mid	5788	19.97	20.32	23.16
High	5841	19.93	20.46	23.21

Note: Chain 0=J48 Chain1=J49 18MHz bandwidth QAM256

RESULTS 9MHz

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5730	22.39	21.53	24.99
Mid	5788	21.88	21.11	24.52
High	5845	21.80	21.14	24.49

Note: Chain 0=J48 Chain1=J49 9MHz bandwidth QAM4

RESULTS 9MHz

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5730	22.36	21.51	24.97
Mid	5788	21.84	21.08	24.49
High	5845	21.74	21.14	24.46

Note: Chain 0=J48 Chain1=J49 9MHz bandwidth QAM16

RESULTS 9MHz

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5730	22.34	21.55	24.97
Mid	5788	21.86	21.13	24.52
High	5845	21.80	21.16	24.50

Note: Chain 0=J48 Chain1=J49 9MHz bandwidth QAM64

RESULTS 9MHz

Channel	Frequency (MHz)	Chain 0 Power (dBm)	Chain 1 Power (dBm)	Total Power (dBm)
Low	5730	22.38	21.51	24.98
Mid	5788	21.12	21.14	24.14
High	5845	21.15	21.13	24.15

Note: Chain 0=J48 Chain1=J49 9MHz bandwidth QAM256

8.4. OUTPUT POWER

LIMITS

FCC §15.247

IC RSS-210 A8.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Systems operating in the 5725-5850 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter peak output power.

For Point to Point applications in the 5.8 GHz DTS band, the limit of the output peak power shall be the same as specified without any reduction due to antenna gain being higher than 6 dBi.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
10.50	10.50	10.50

Sample calculation for total corrected power 35MHz: $10 \cdot \log(10^{C15/10} + 10^{D15/10})$
C15= Chain 0(24.62) measured power and D15= Chain 1(24.07) measured power

Sample calculation for Max power: $36 - 10.5 = 25.50\text{dBm}$

Max power = EIRP (36) – Antenna gain (10.5)

RESULTS 35MHz

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	5743	10.50	30.00	30	36	30.00
Mid	5788	10.50	30.00	30	36	30.00
High	5832	10.50	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	5743	24.62	24.07	27.36	30.00	-2.64
Mid	5788	24.07	24.97	27.55	30.00	-2.45
High	5832	23.55	23.55	26.56	30.00	-3.44

RESULTS 18MHz

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	5734	10.50	25.50	30	36	30.00
Mid	5788	10.50	25.50	30	36	30.00
High	5841	10.50	25.50	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	5734	24.60	23.80	27.23	30.00	-2.77
Mid	5788	24.03	23.55	26.81	30.00	-3.19
High	5841	23.63	23.85	26.75	30.00	-3.25

RESULTS 9MHz

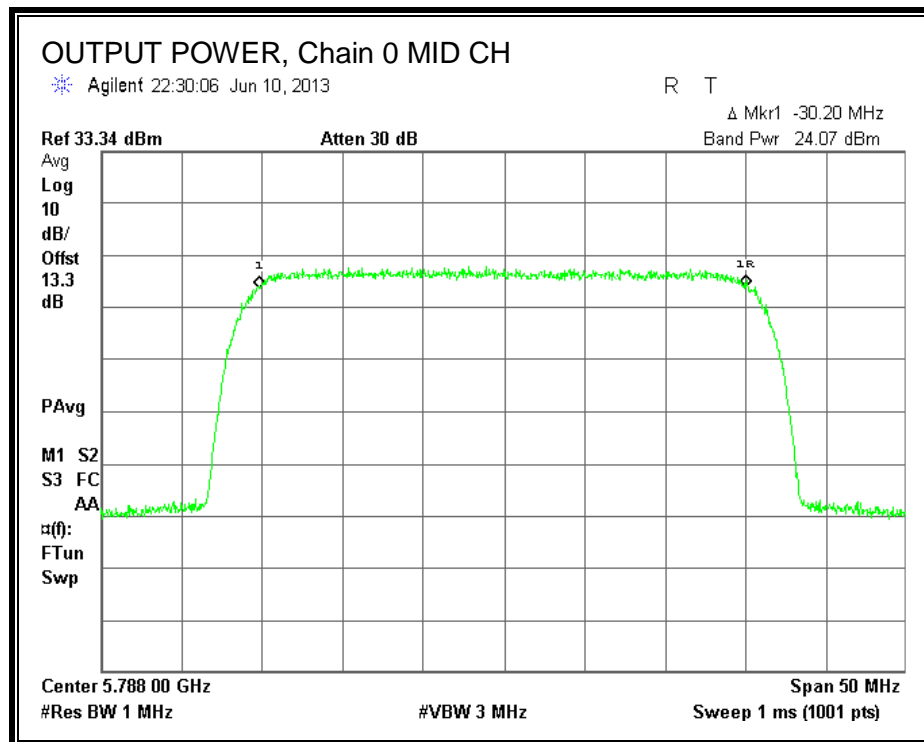
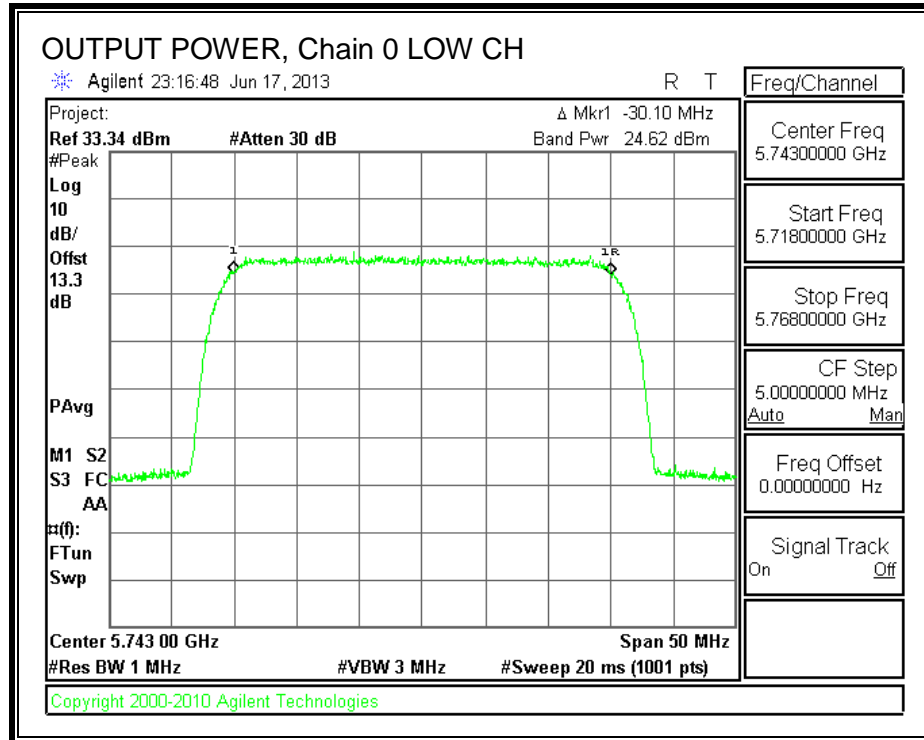
Limits

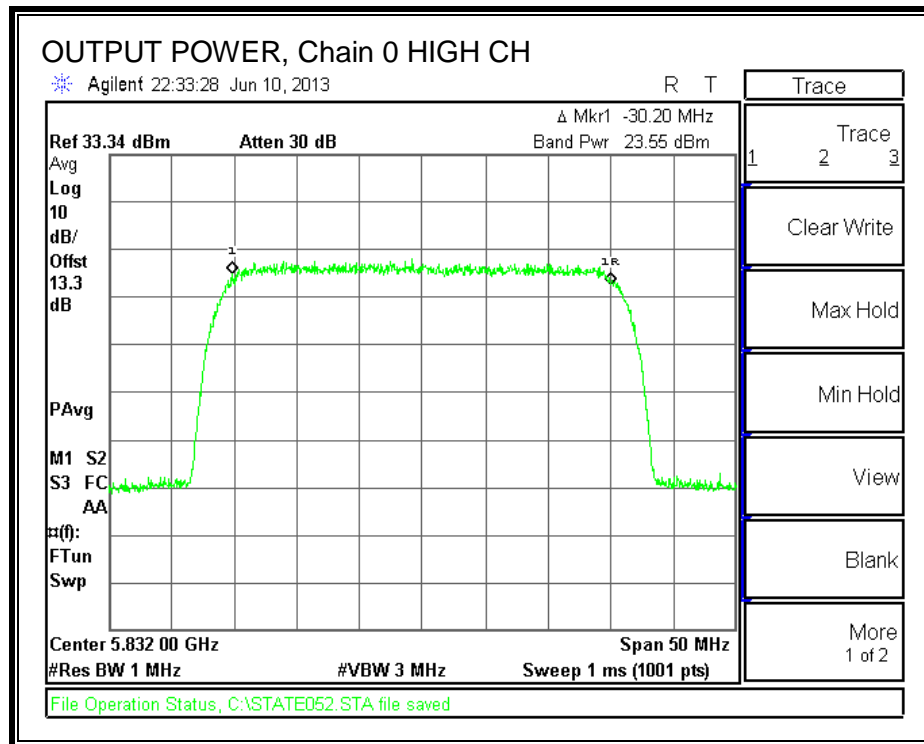
Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	5730	10.50	25.50	30	36	30.00
Mid	5788	10.50	25.50	30	36	30.00
High	5845	10.50	25.50	30	36	30.00

Results

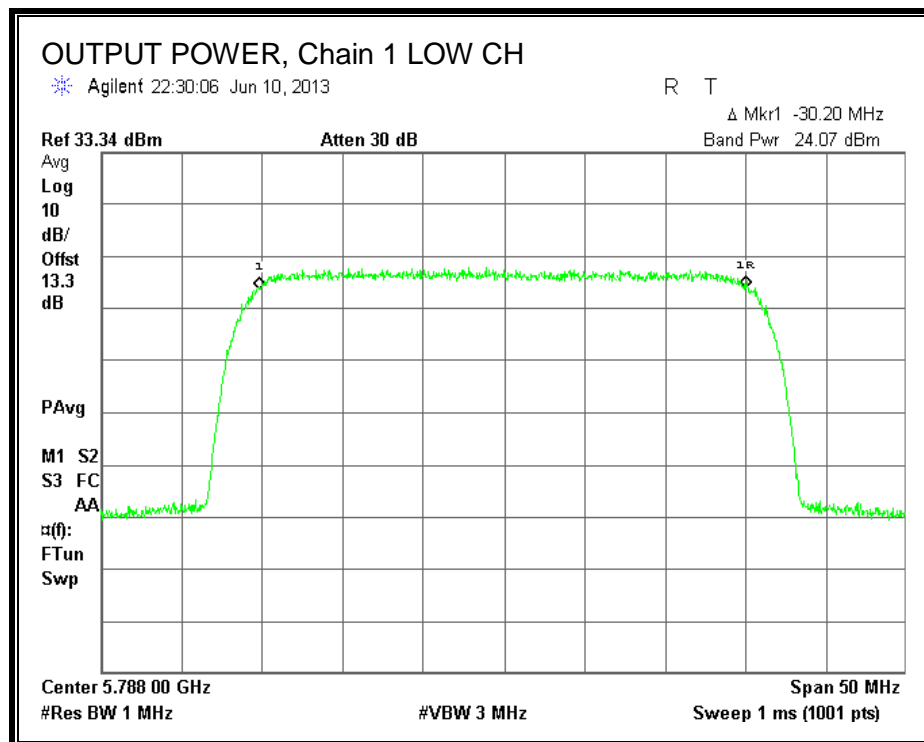
Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	5730	23.41	22.69	26.08	30.00	-3.92
Mid	5788	22.48	22.10	25.30	30.00	-4.70
High	5845	22.19	22.15	25.18	30.00	-4.82

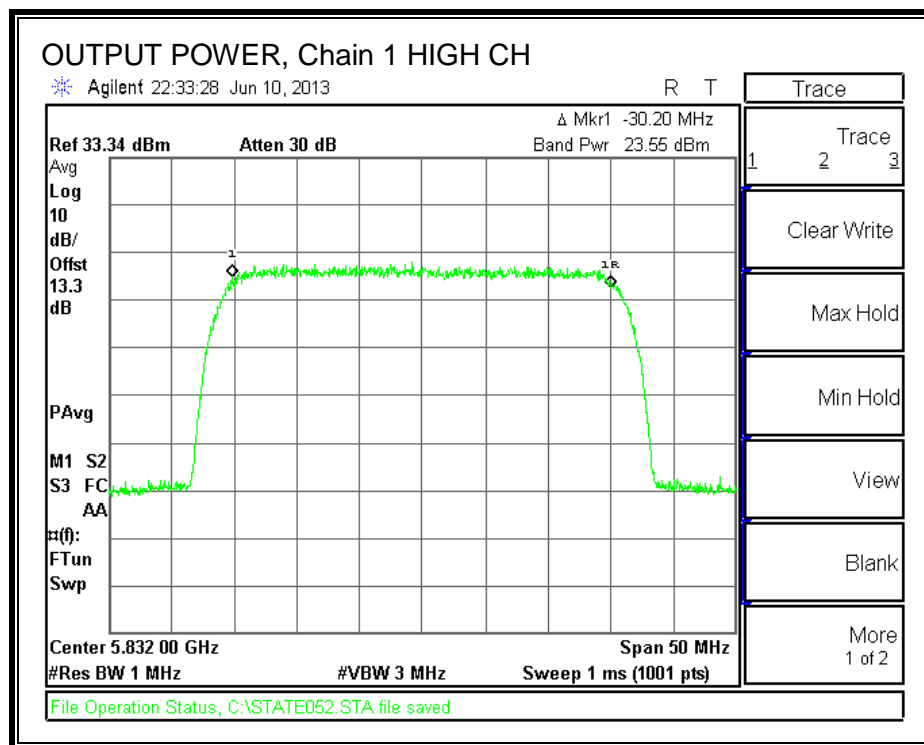
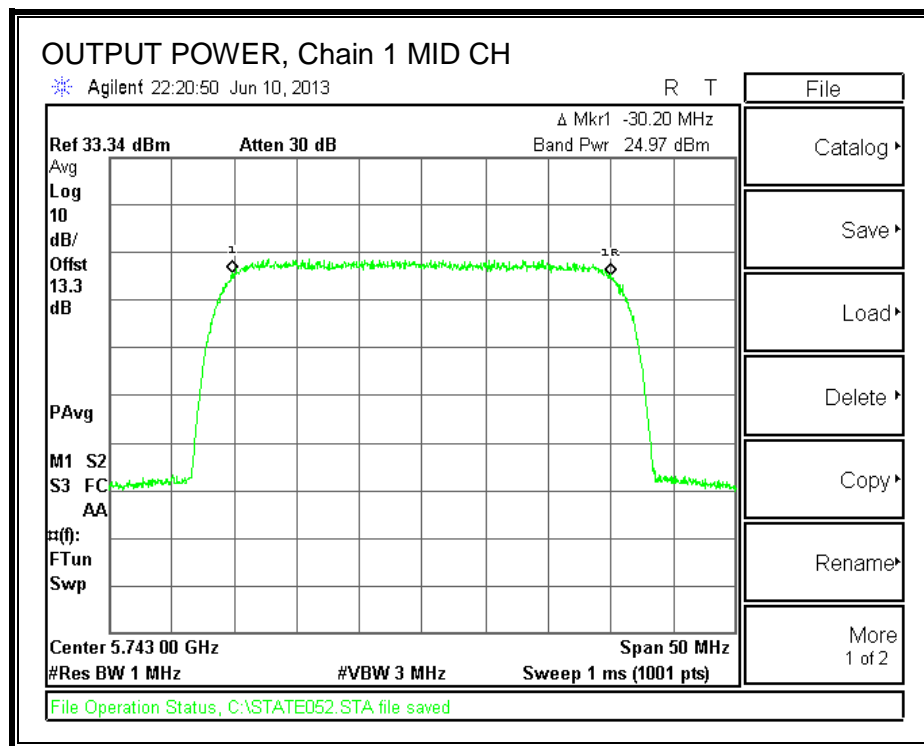
OUTPUT POWER, Chain 0 35MHz setting



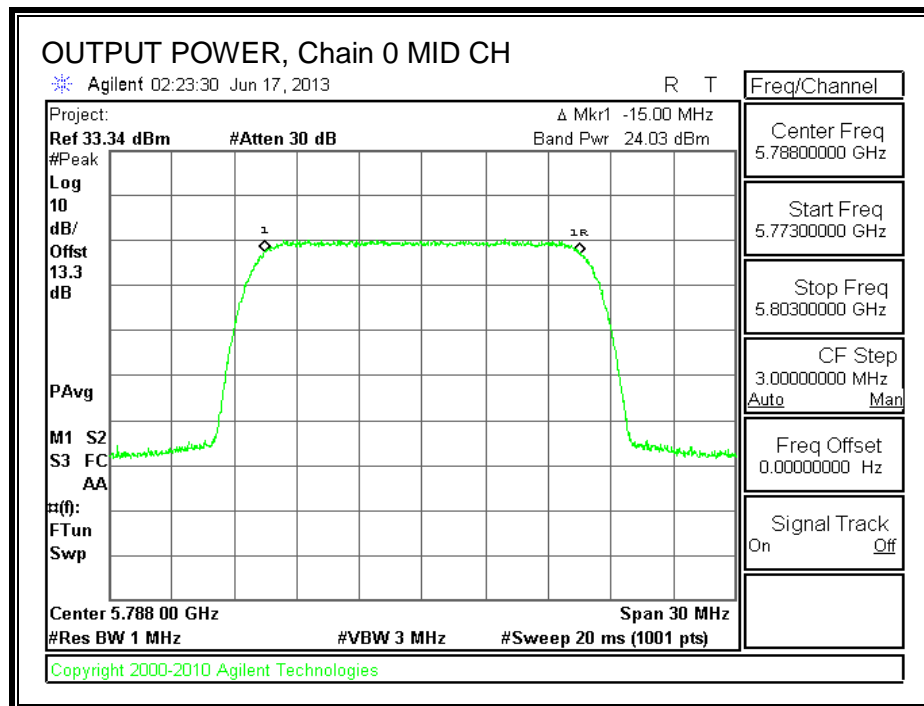
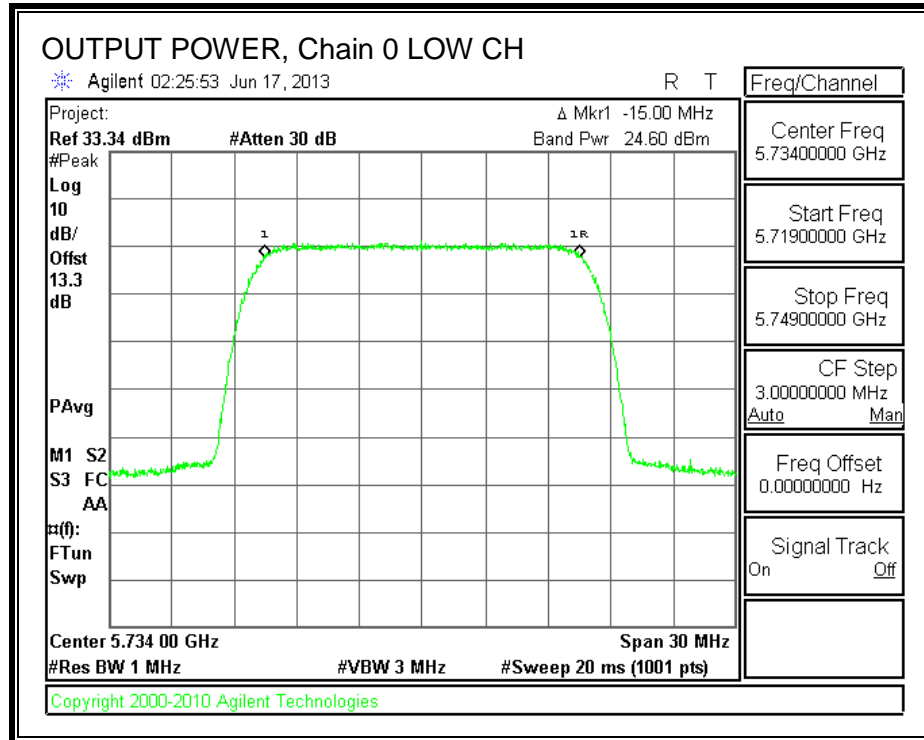


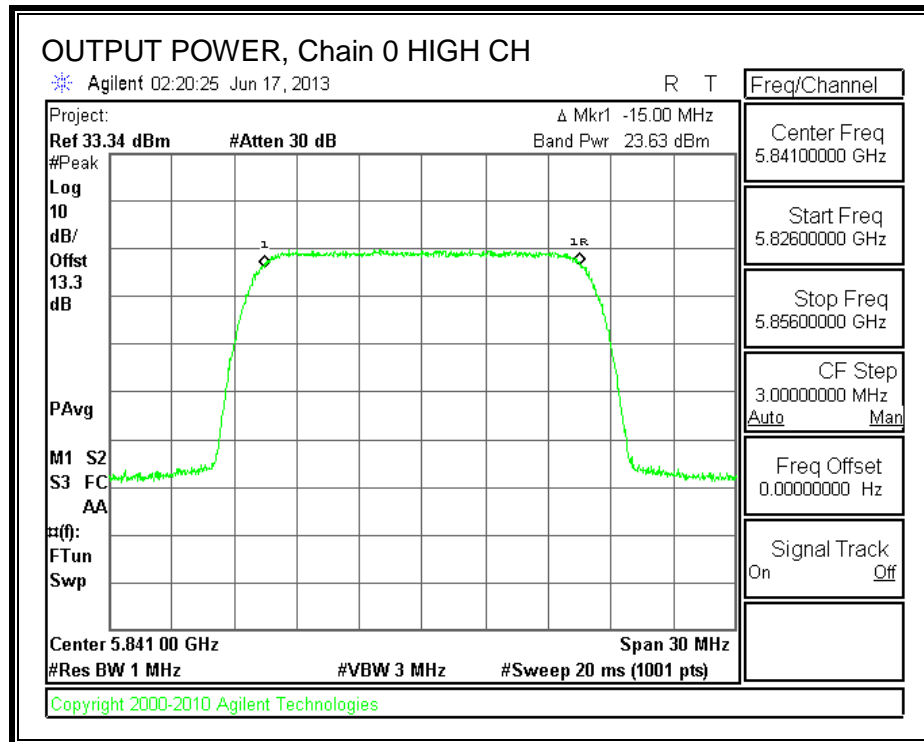
OUTPUT POWER, Chain 1 35MHz setting



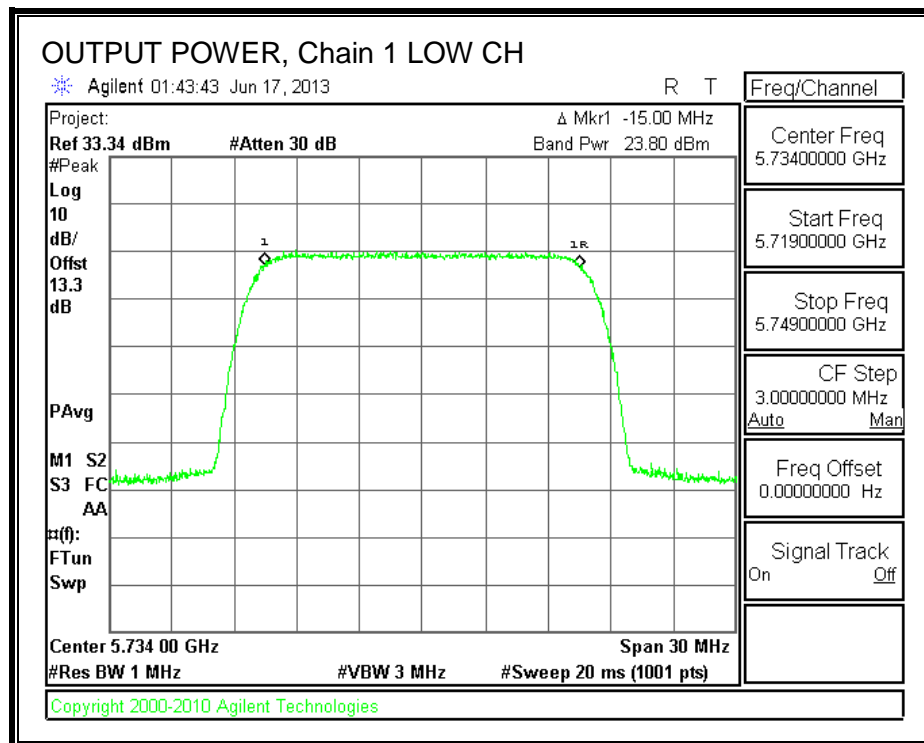


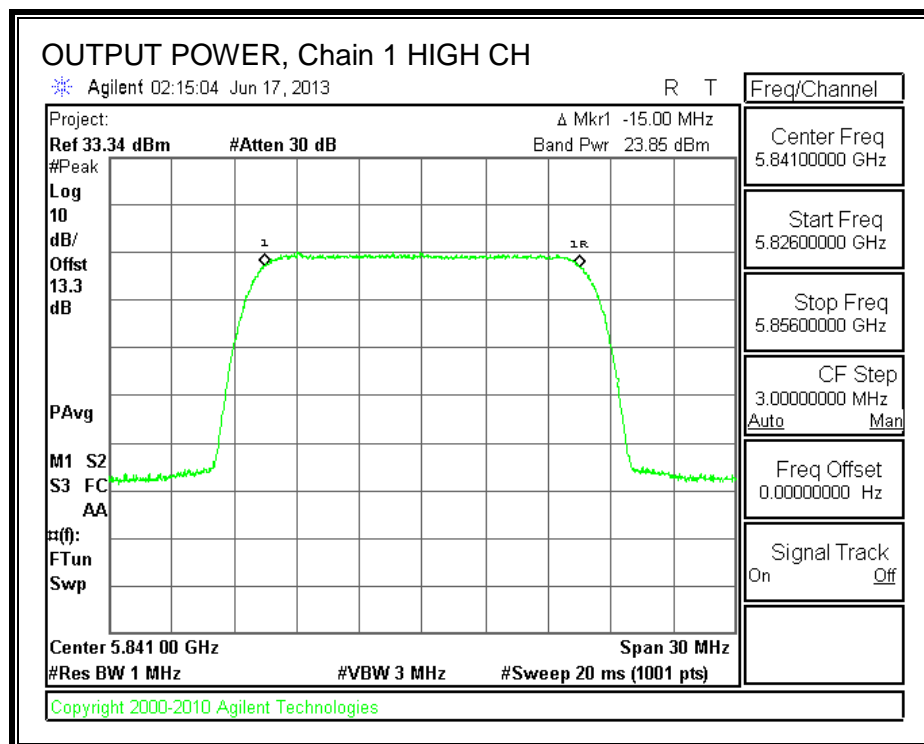
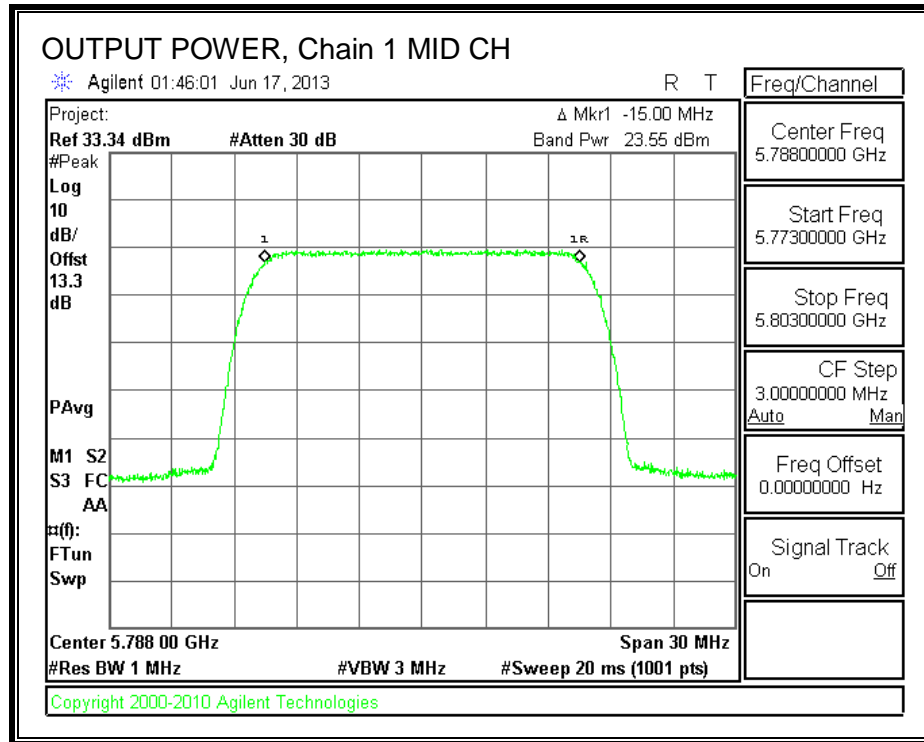
OUTPUT POWER, Chain 0 18MHz setting



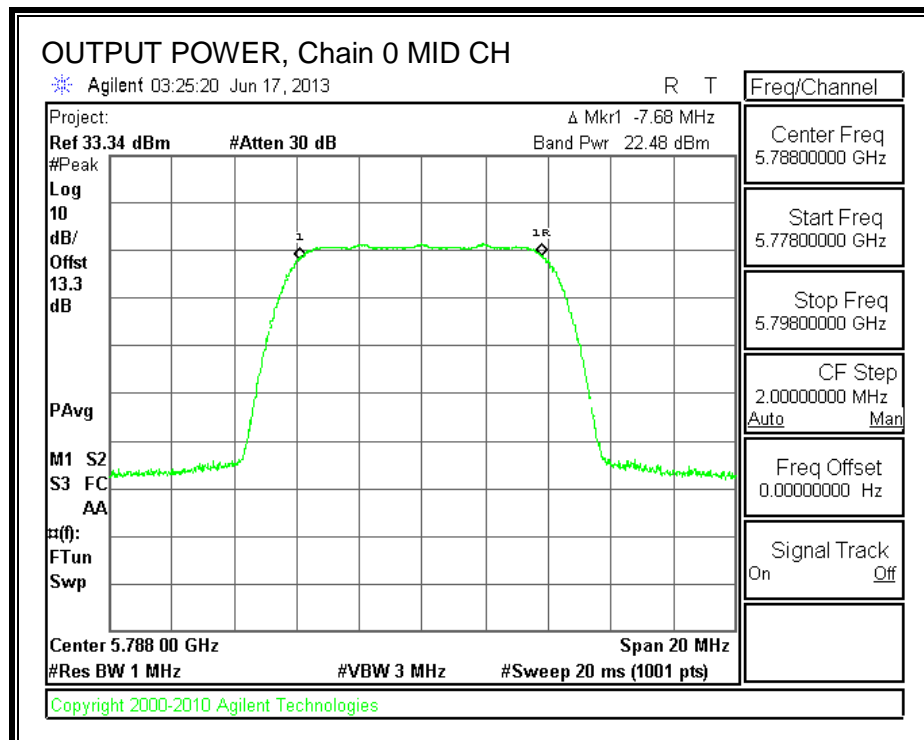
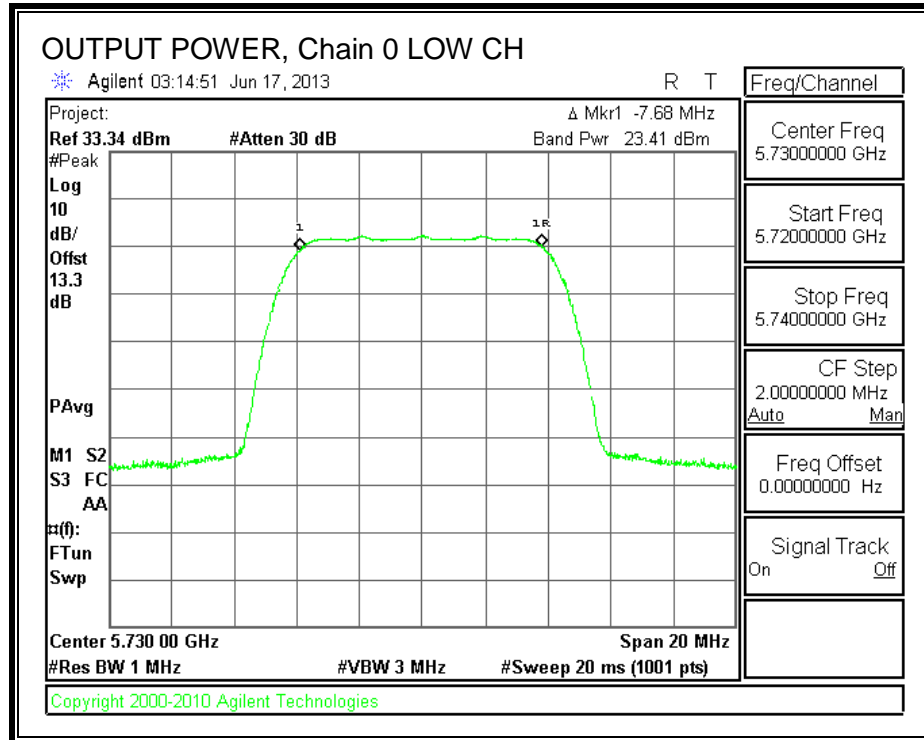


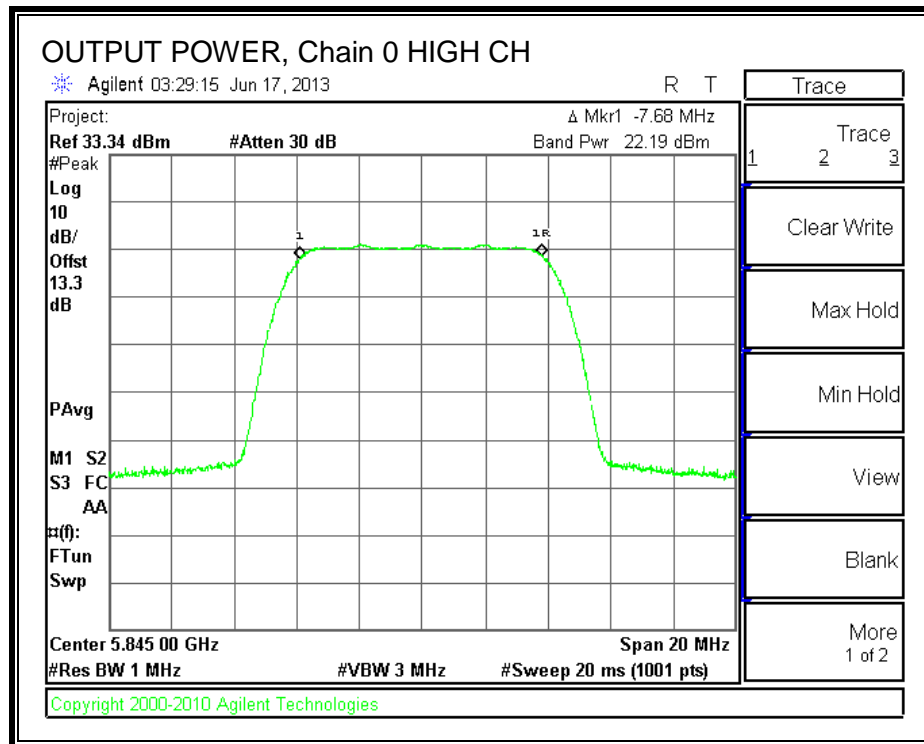
OUTPUT POWER, Chain 1 18MHz setting



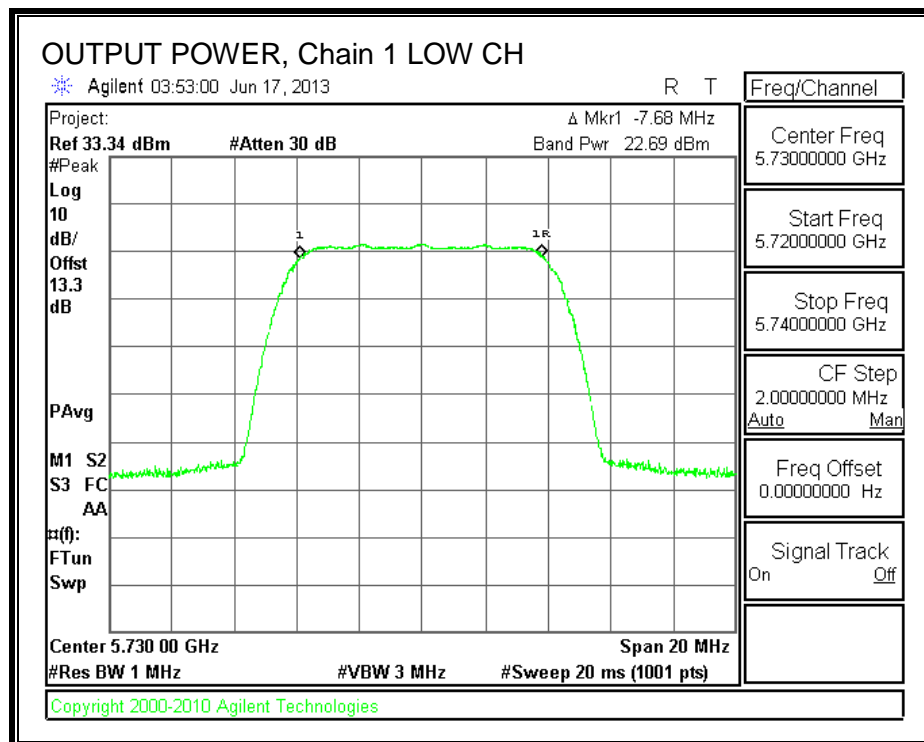


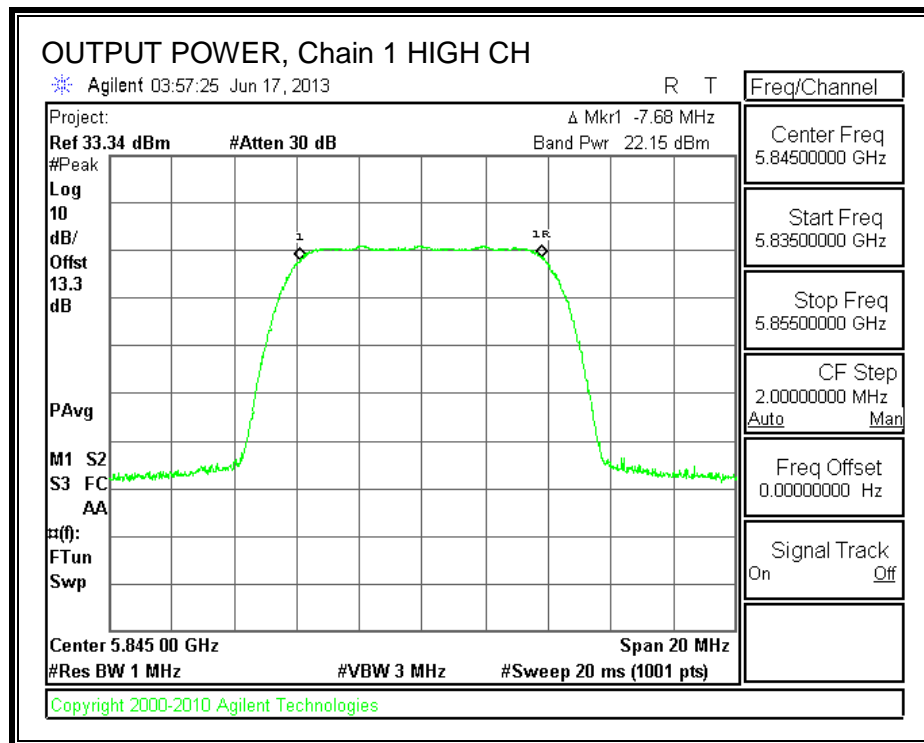
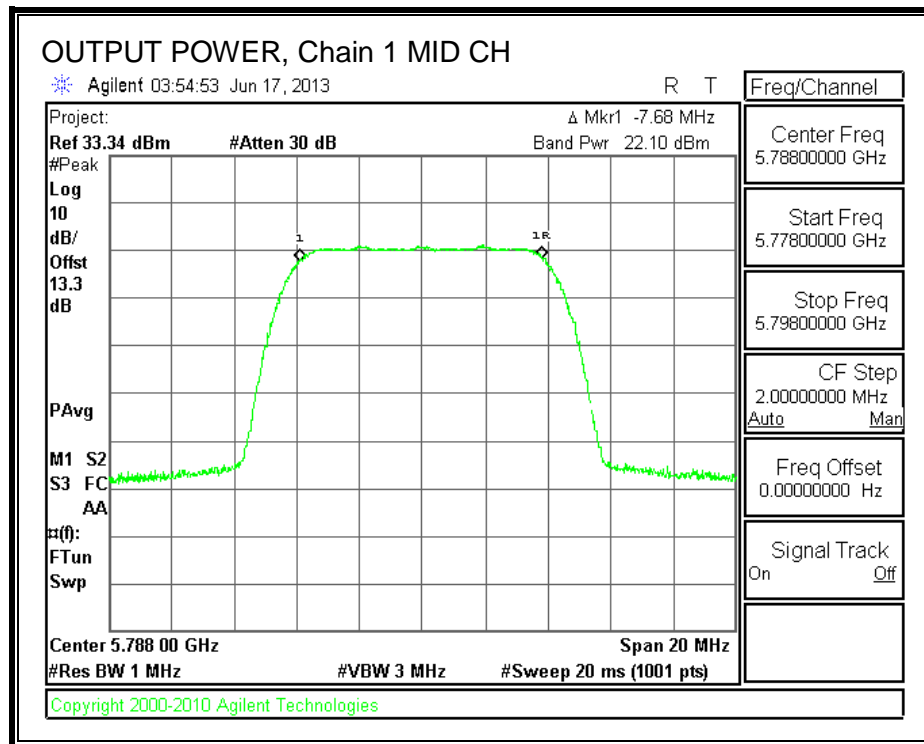
OUTPUT POWER, Chain 0 9MHz setting





OUTPUT POWER, Chain 1 9MHz setting





8.5. PSD

LIMITS

FCC §15.247

IC RSS-210 A8.2

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

RESULTS 35MHz

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
Low	5743	-4.41	-5.55	-1.93	8.0	-9.9
Mid	5785	-5.27	-5.17	-2.21	8.0	-10.2
High	5832	-5.69	-4.58	-2.09	8.0	-10.1

RESULTS 18MHz

PSD Results

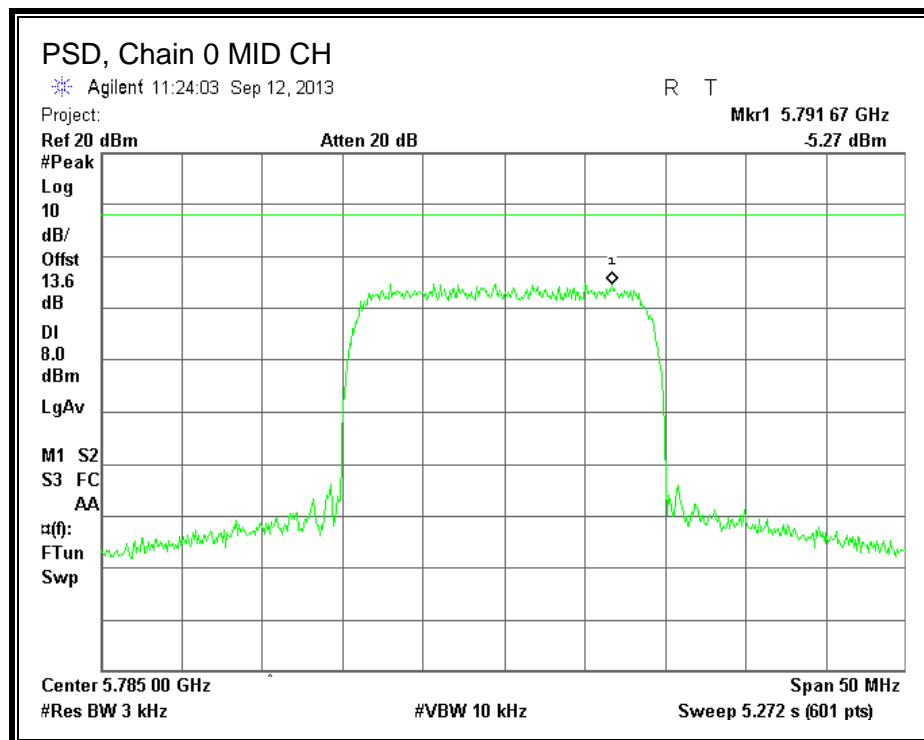
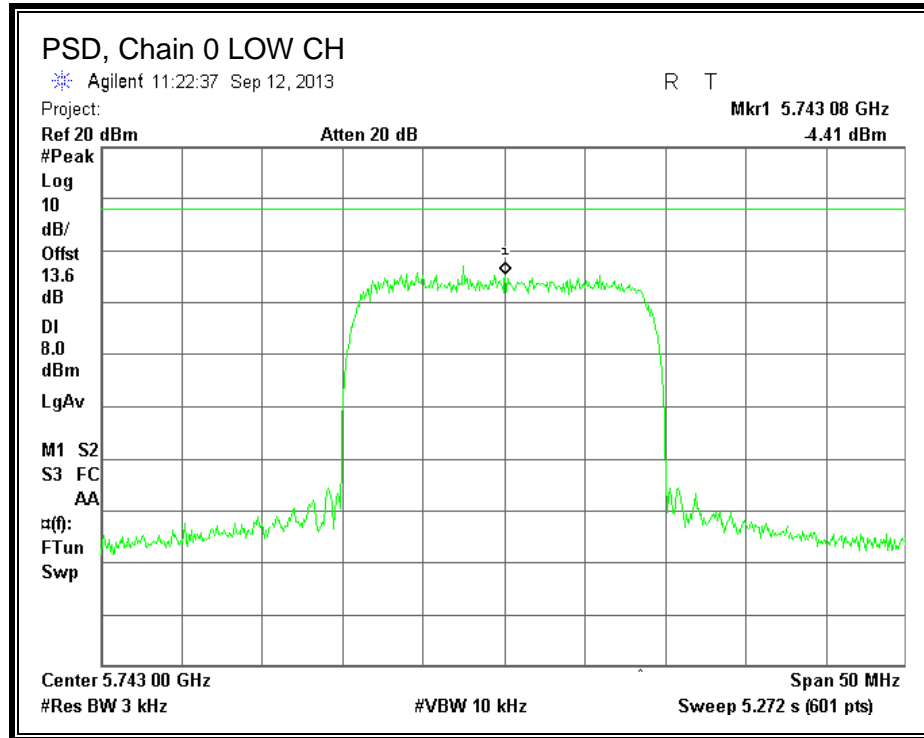
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
Low	5734	-7.63	-4.06	-2.48	8.0	-10.5
Mid	5785	-6.79	-4.79	-2.67	8.0	-10.7
High	5841	-5.62	-4.33	-1.92	8.0	-9.9

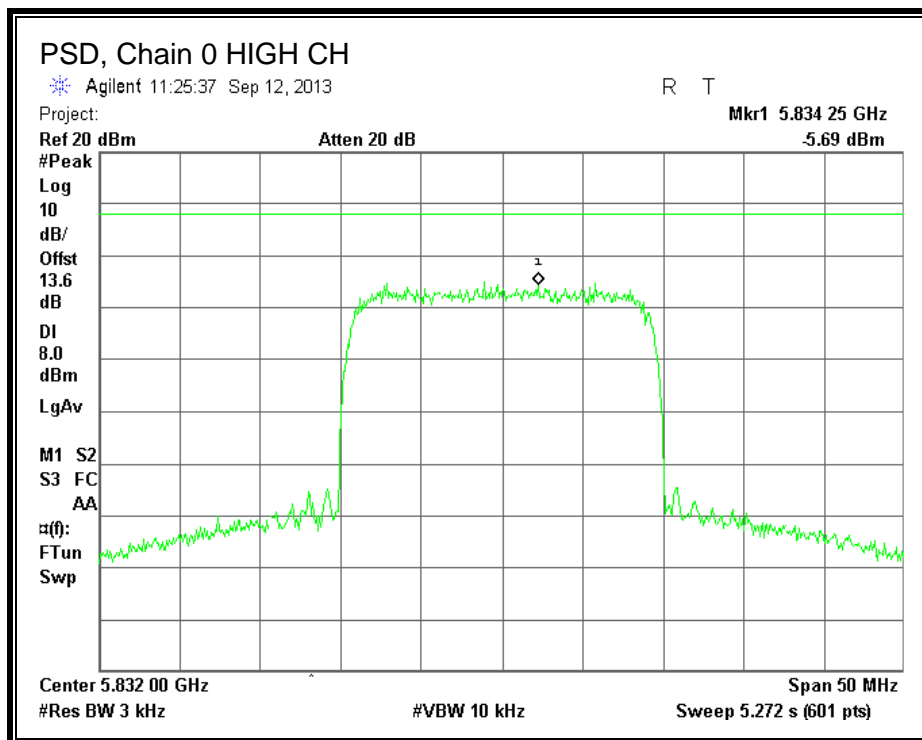
RESULTS 9MHz

PSD Results

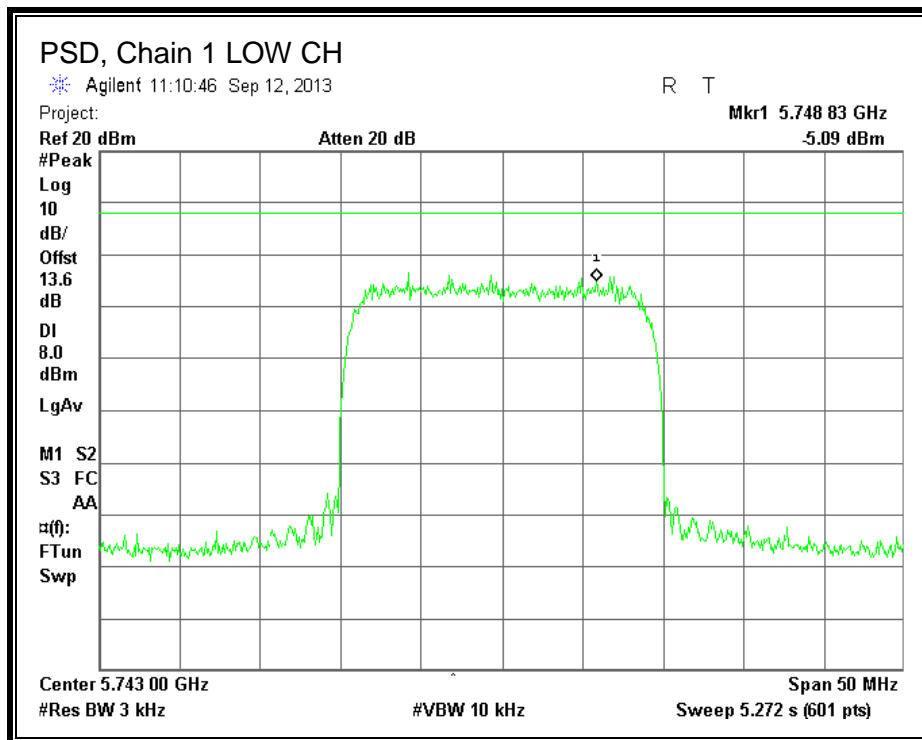
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
Low	5730	-1.15	-1.01	1.93	8.0	-6.1
Mid	5785	-0.88	-1.30	1.93	8.0	-6.1
High	5845	-1.26	-1.60	1.58	8.0	-6.4

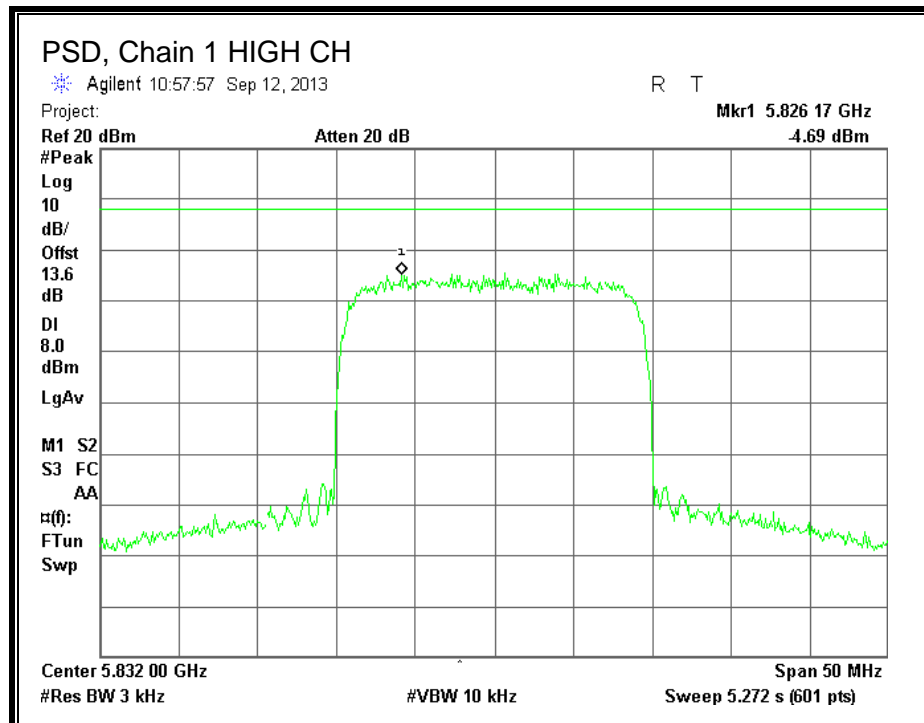
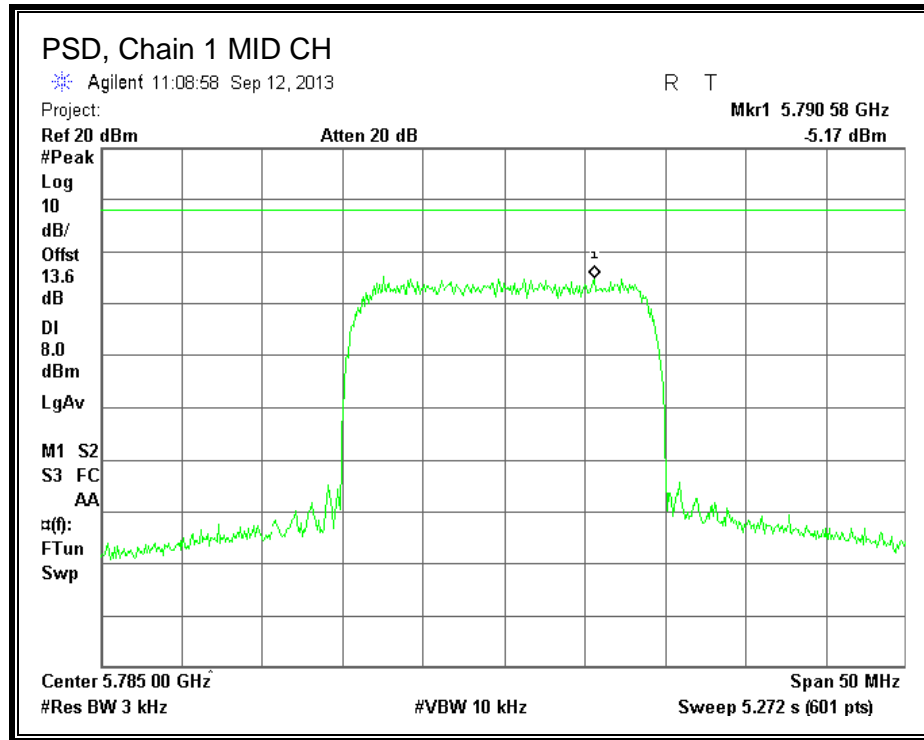
PSD, Chain 0 35MHz setting



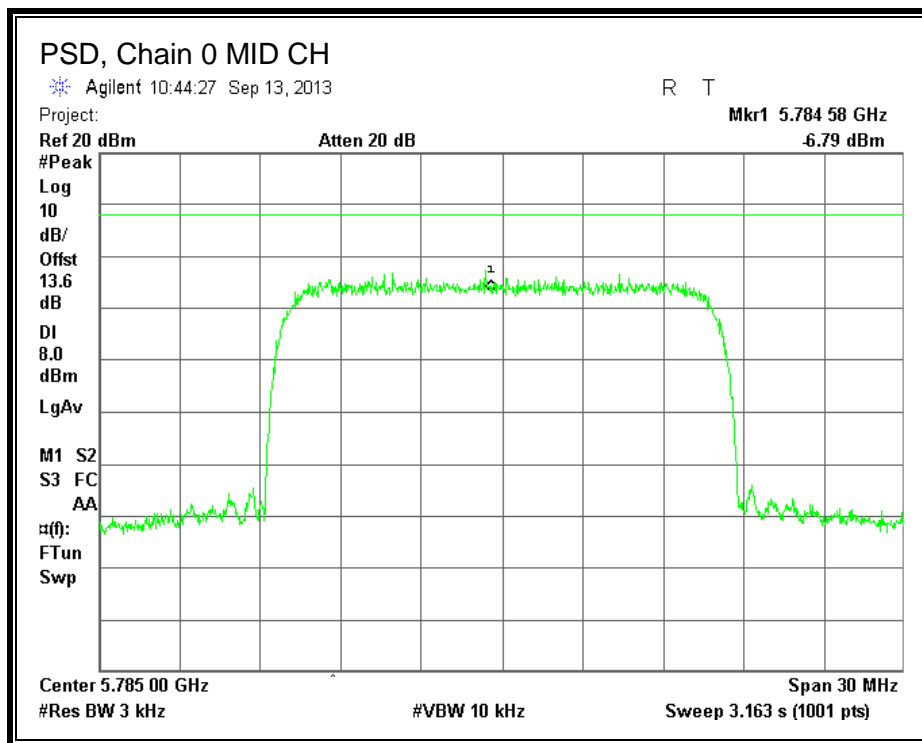
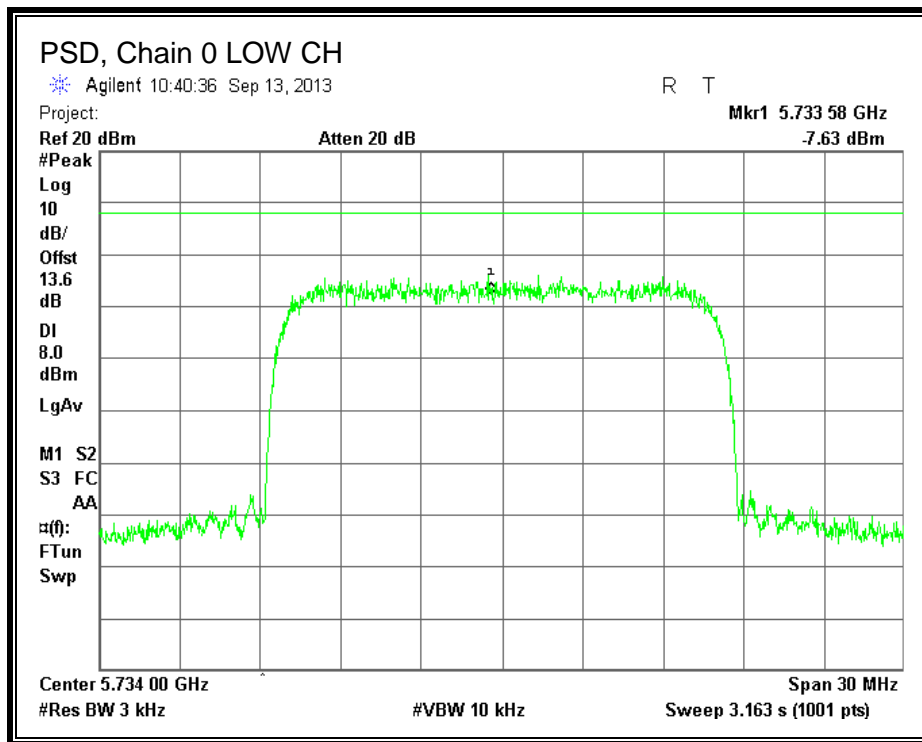


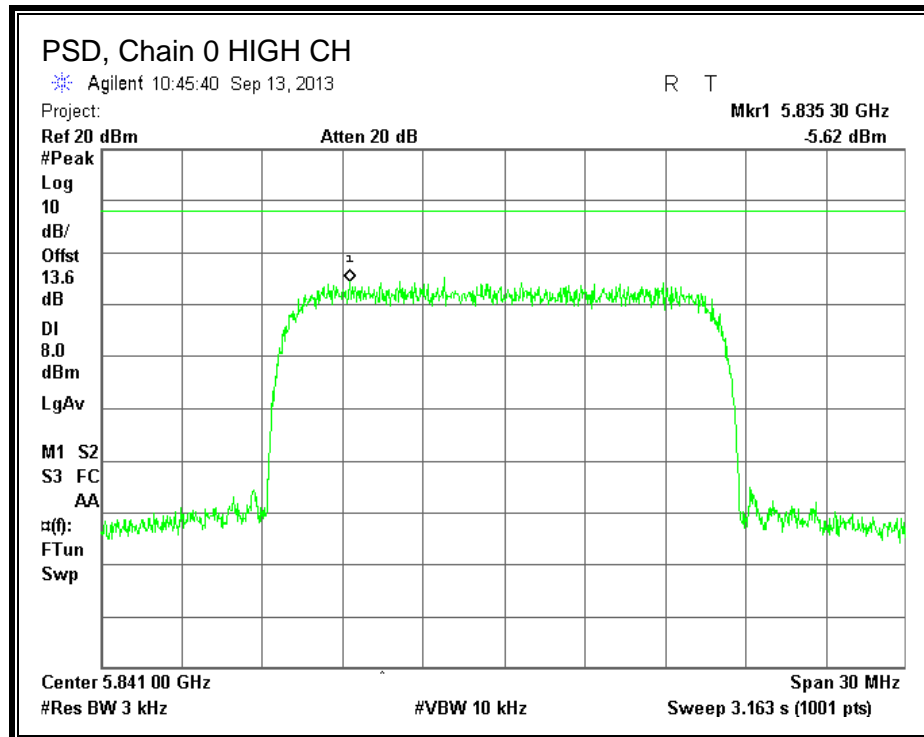
PSD, Chain 1 35MHz setting



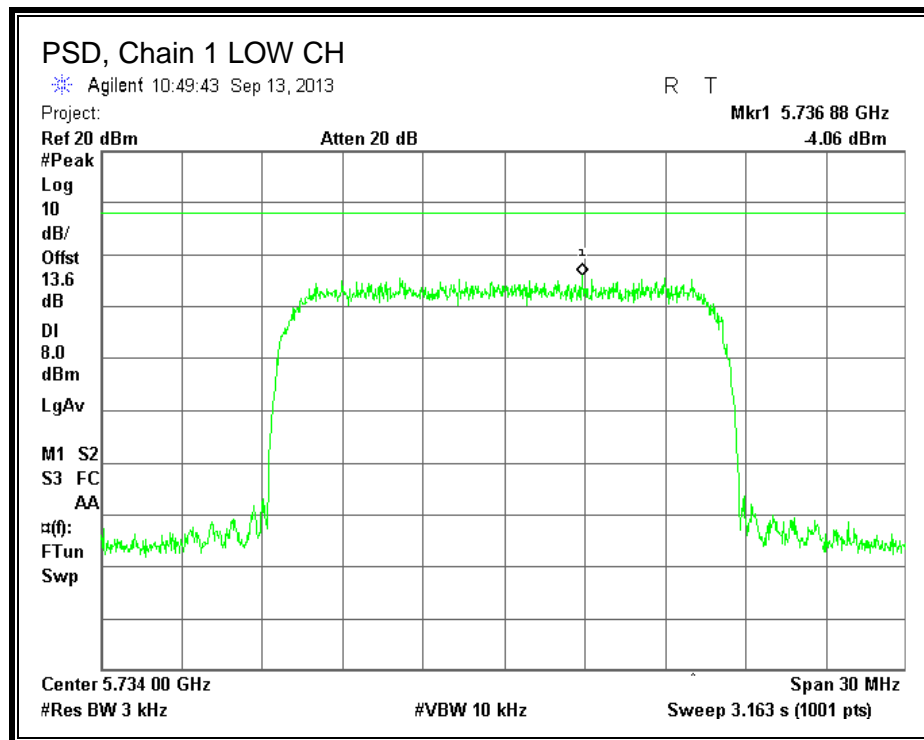


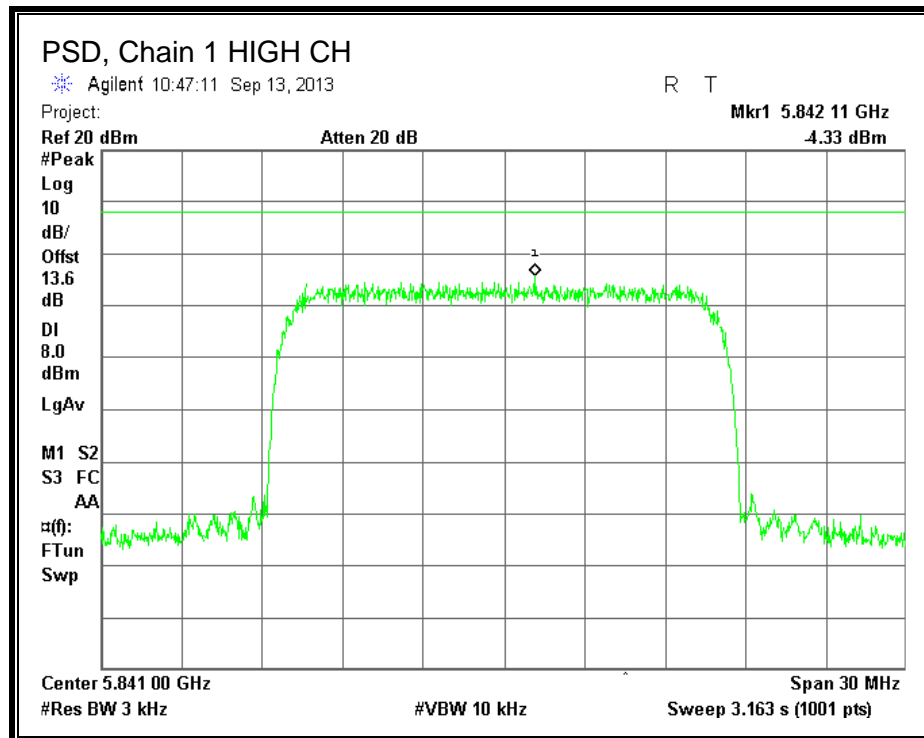
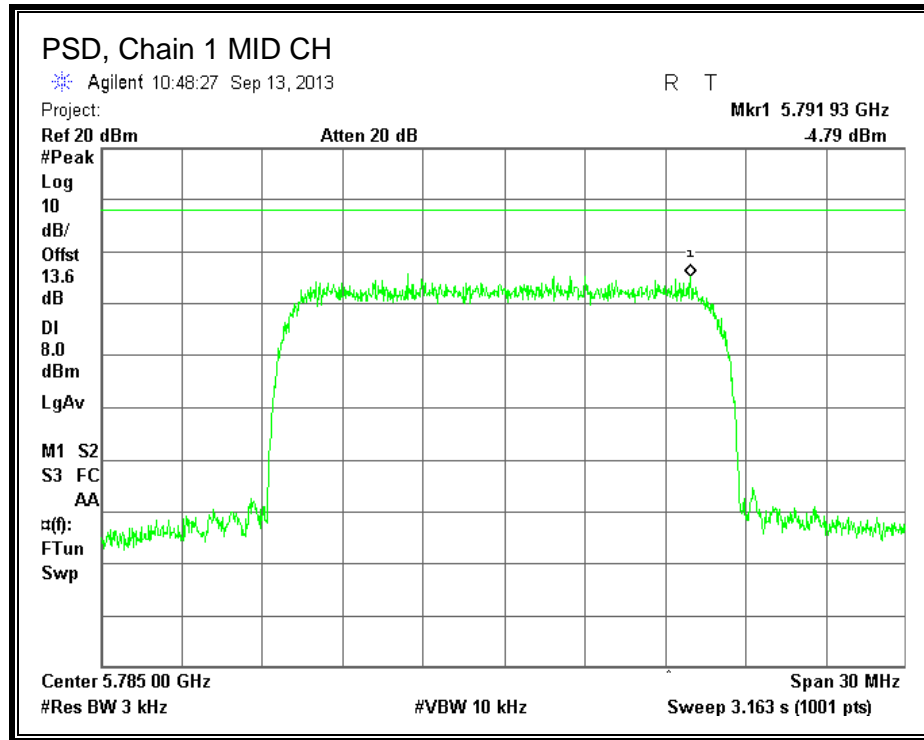
PSD, Chain 0 18MHz setting



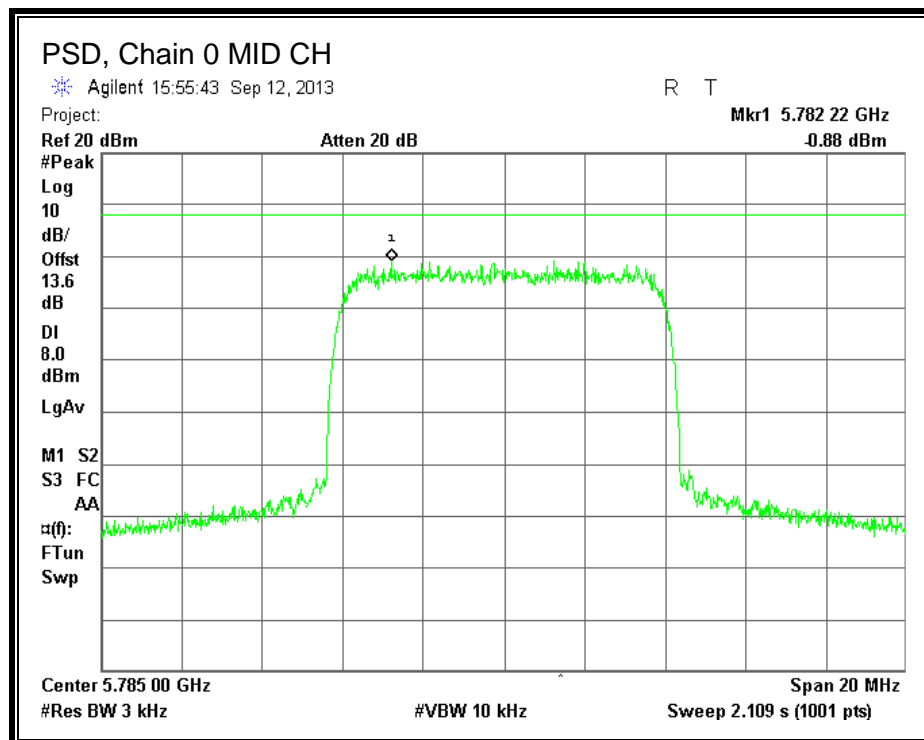
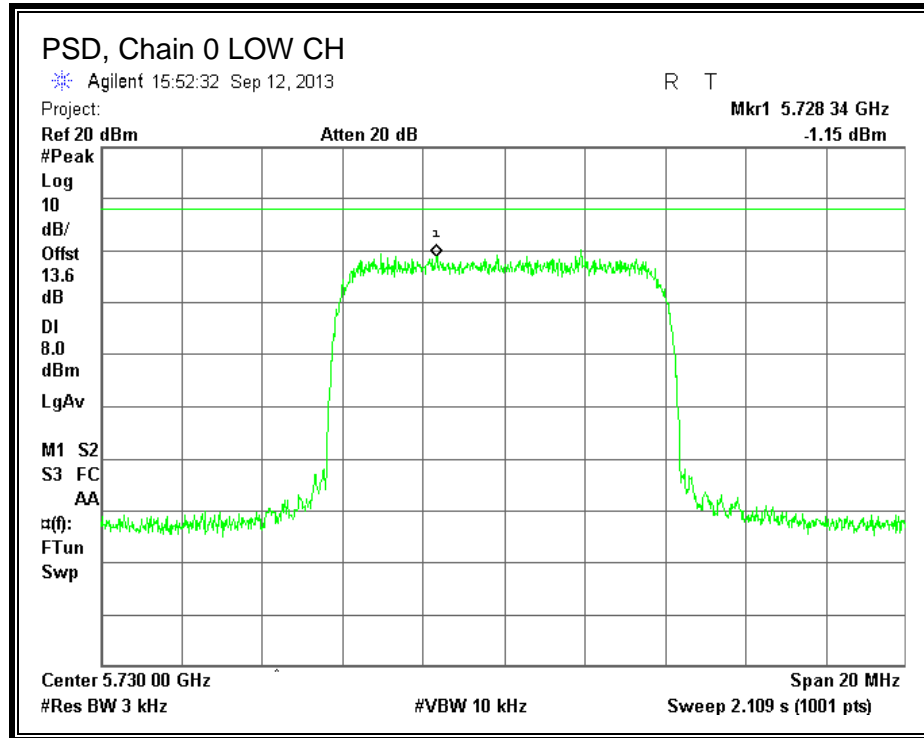


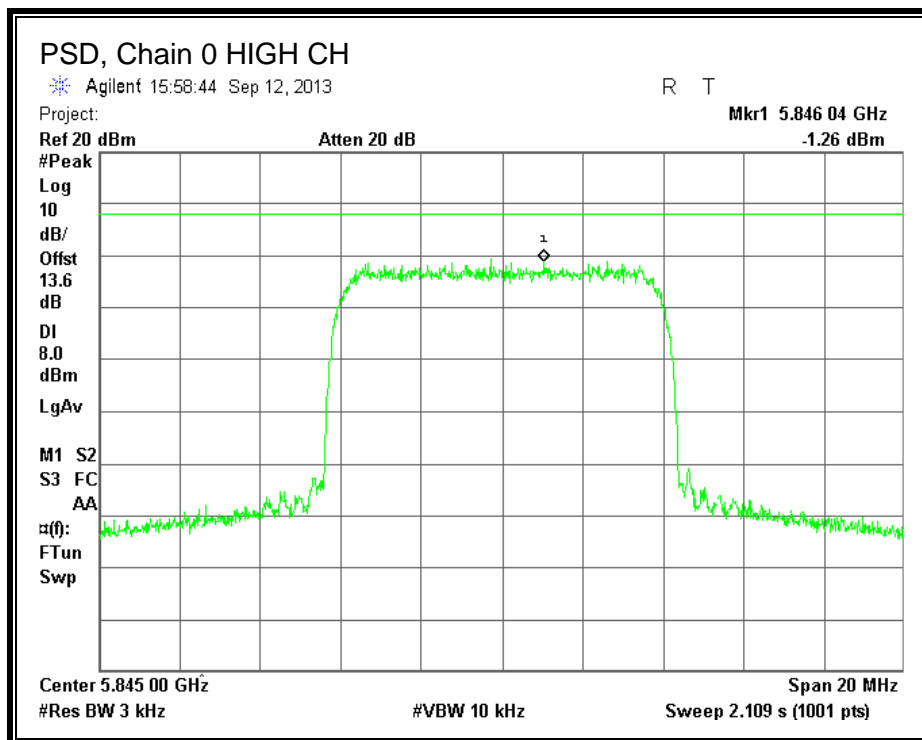
PSD, Chain 1 18MHz setting



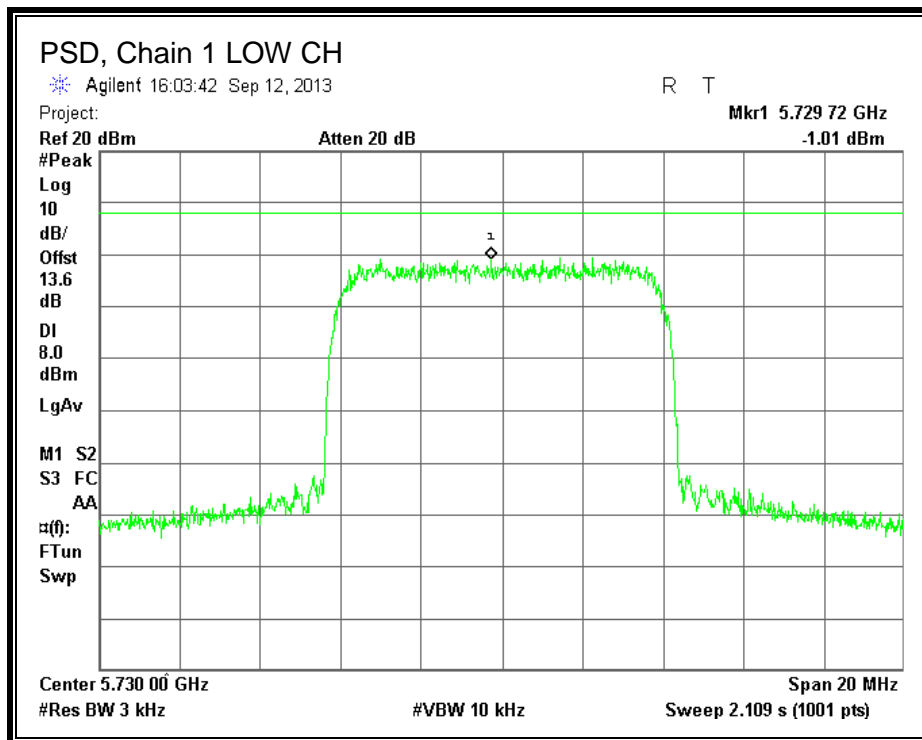


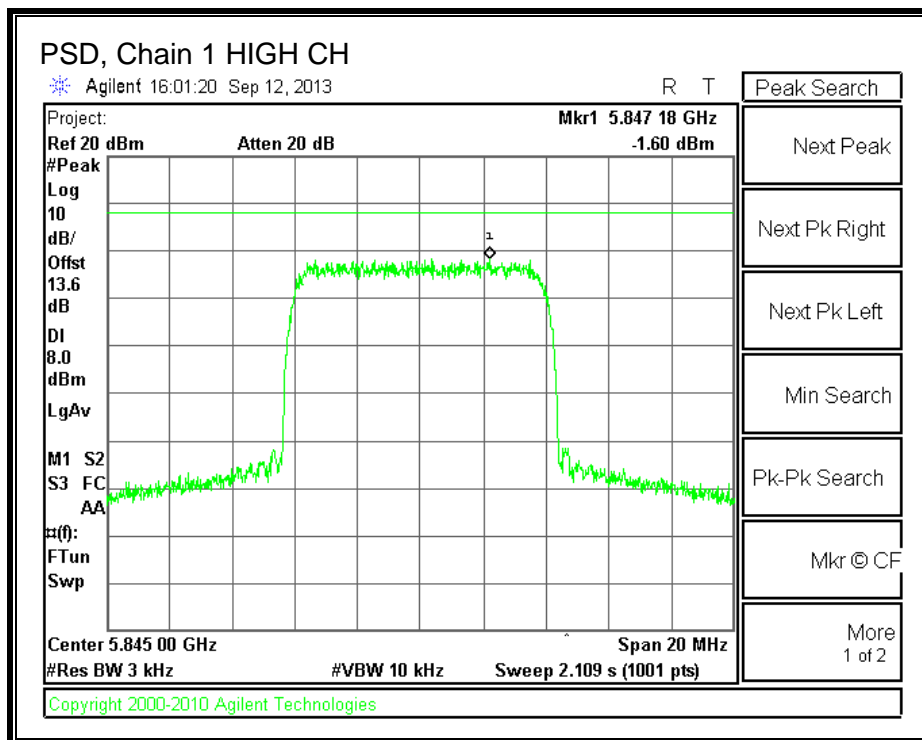
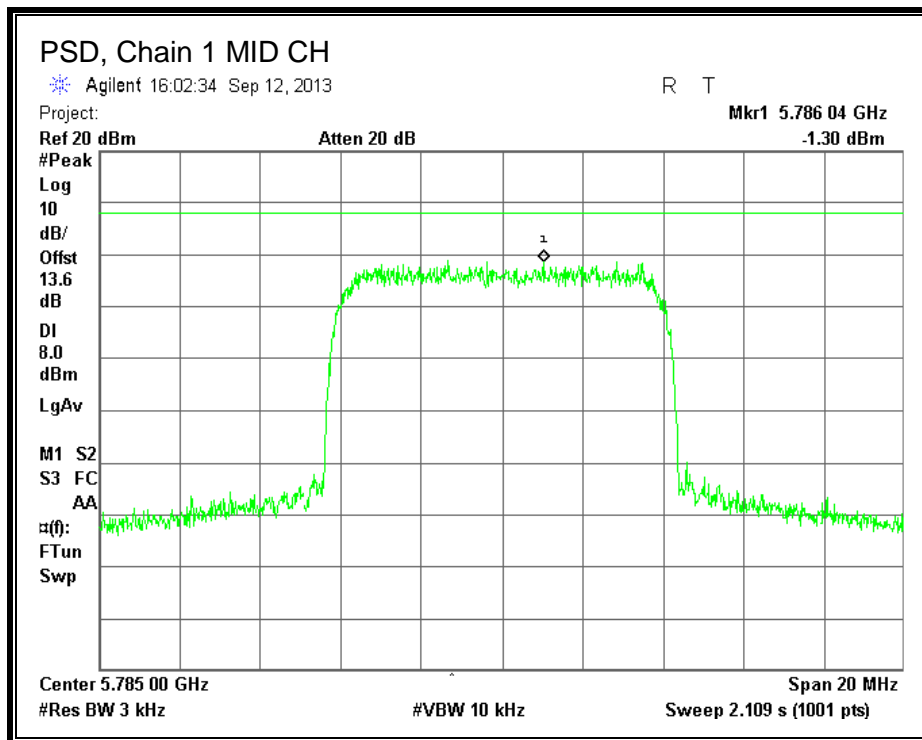
PSD, Chain 0 9MHz setting





PSD, Chain 1 9MHz setting





8.6. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

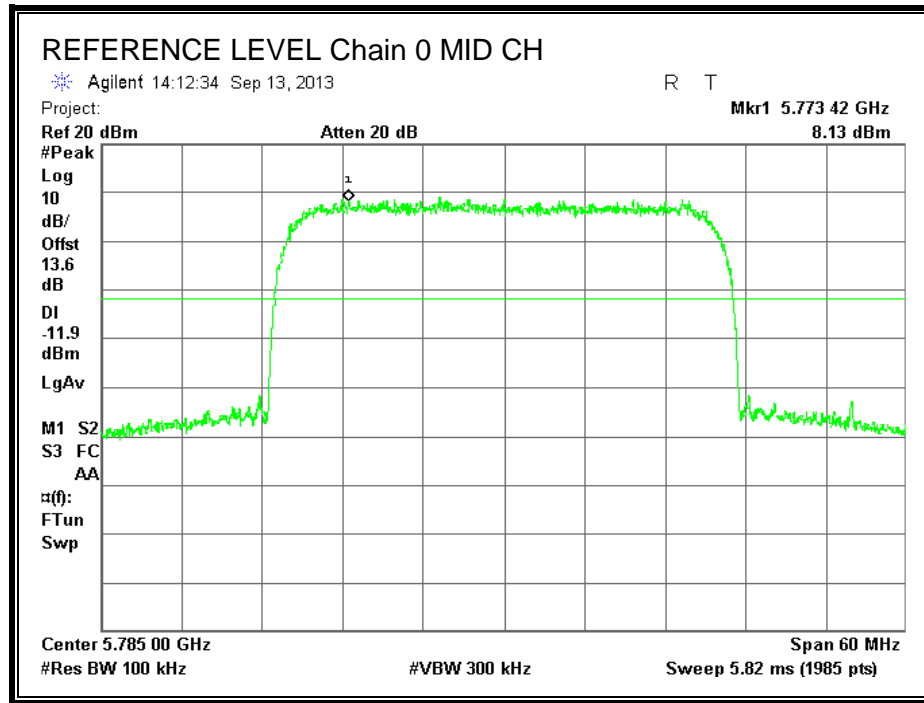
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

TEST PROCEDURE

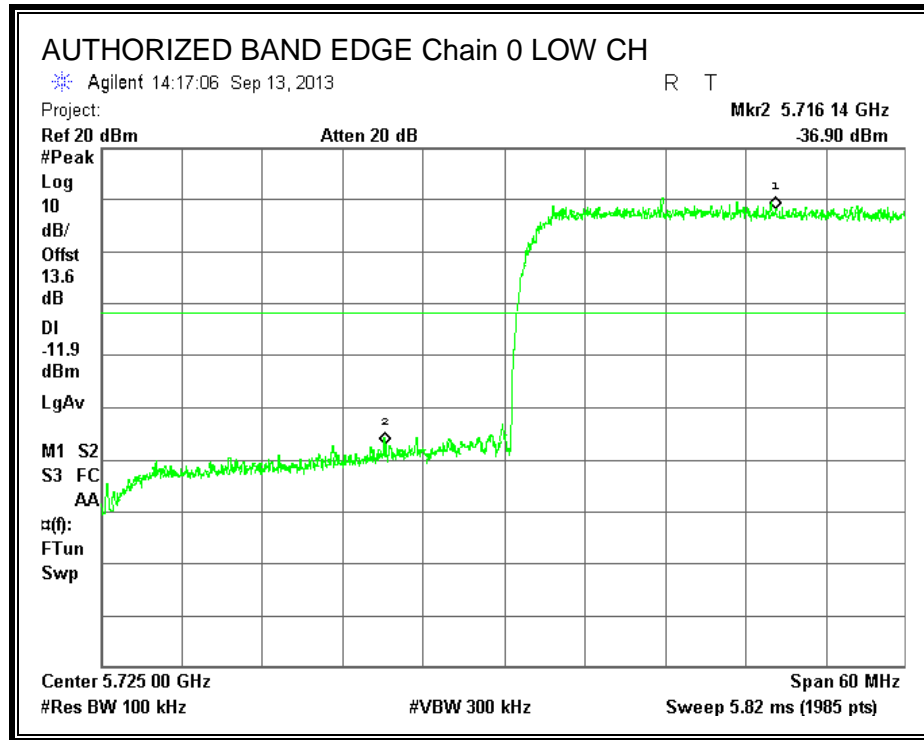
The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

RESULTS 35MHz setting

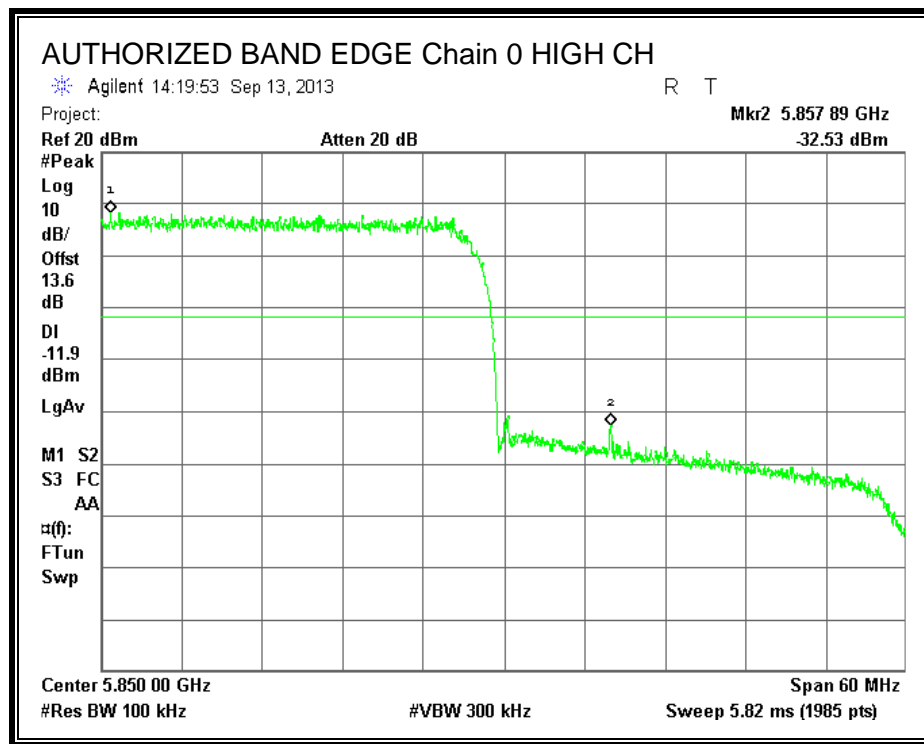
IN-BAND REFERENCE LEVEL, Chain 0



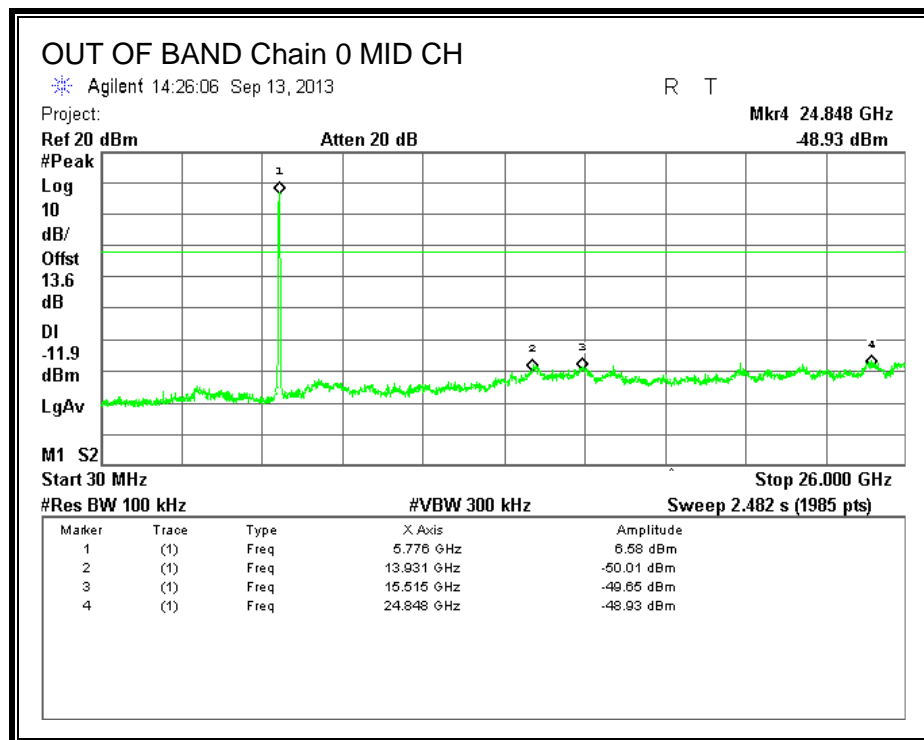
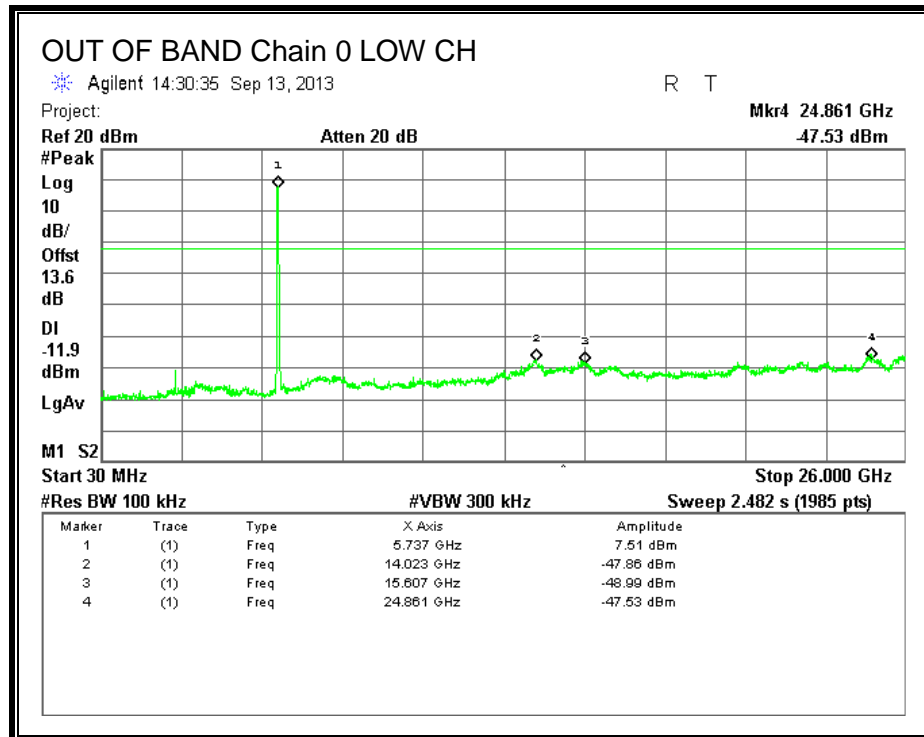
LOW CHANNEL BANDEDGE, Chain 0

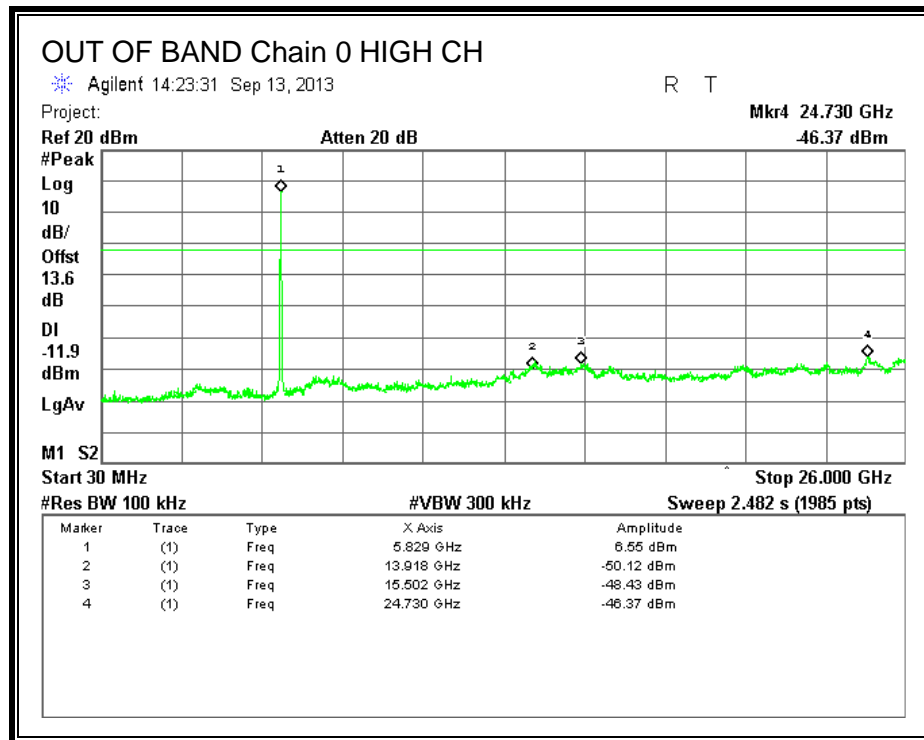


HIGH CHANNEL BANDEDGE, Chain 0



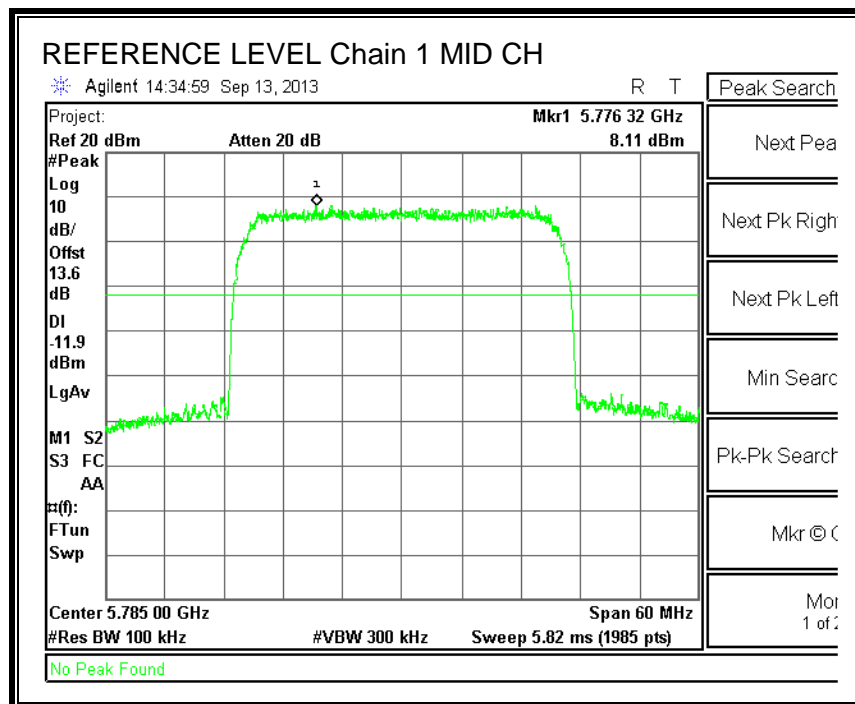
OUT-OF-BAND EMISSIONS, Chain 0



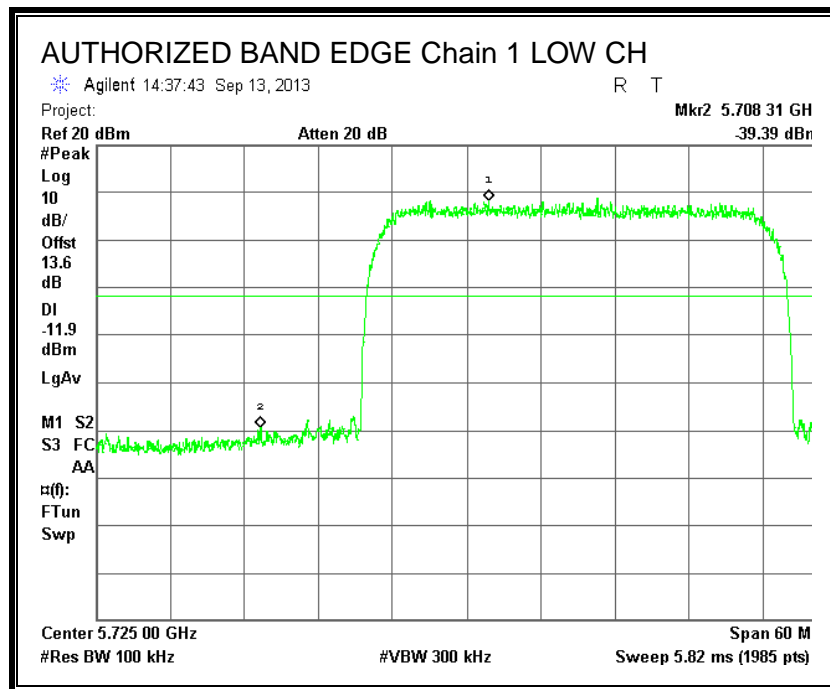


RESULTS 35MHz setting

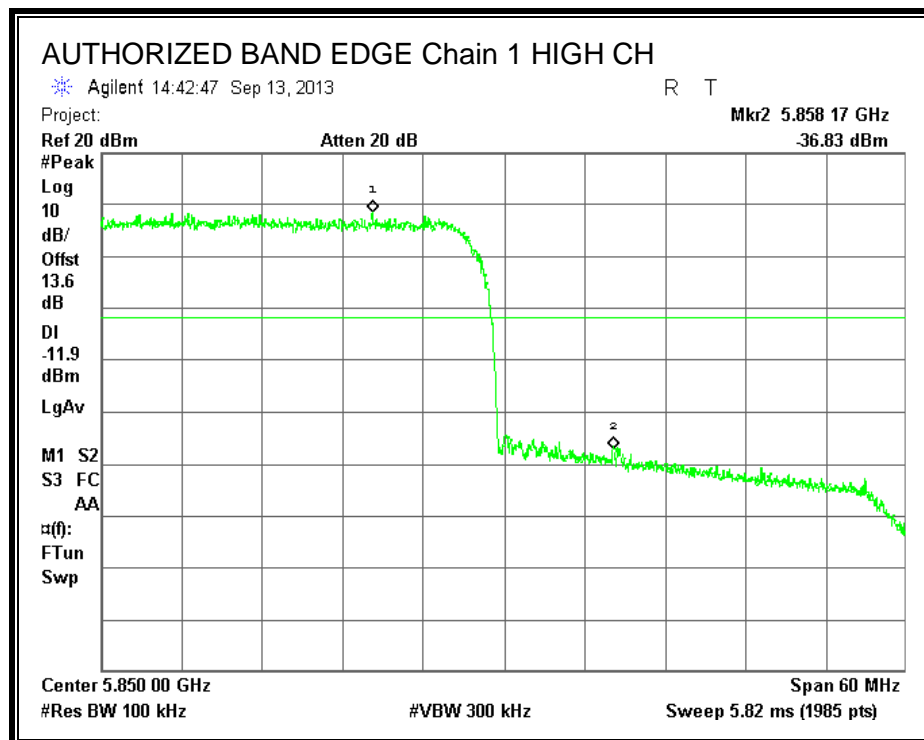
IN-BAND REFERENCE LEVEL, Chain 1



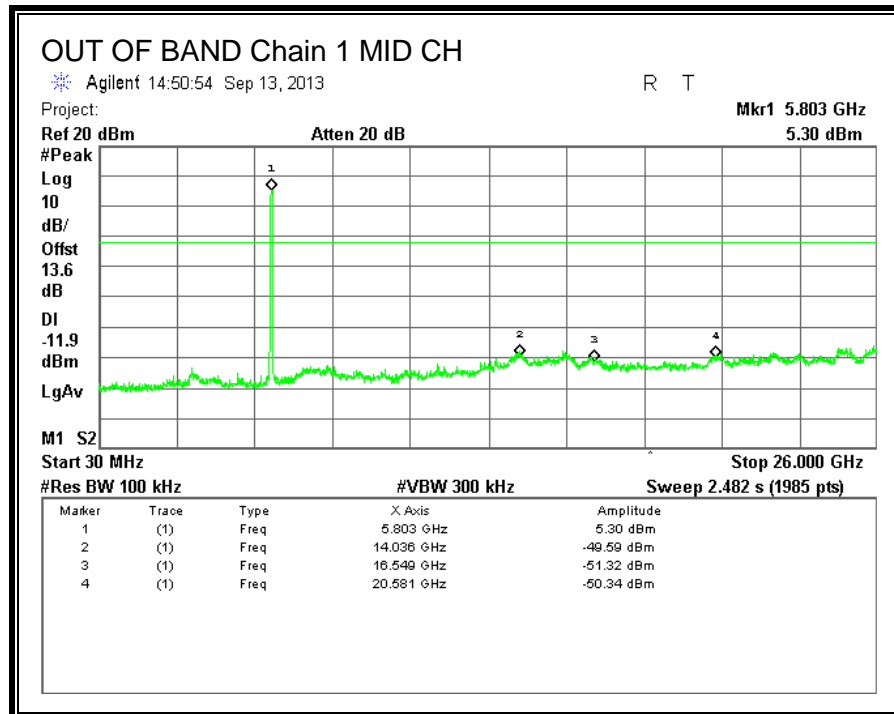
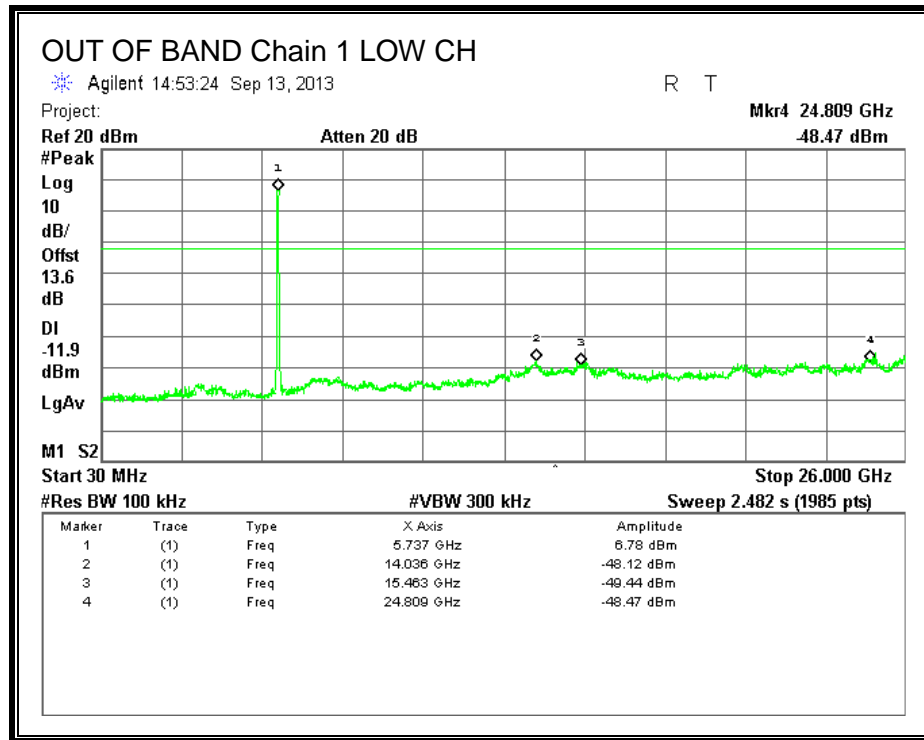
LOW CHANNEL BANDEDGE, Chain 1

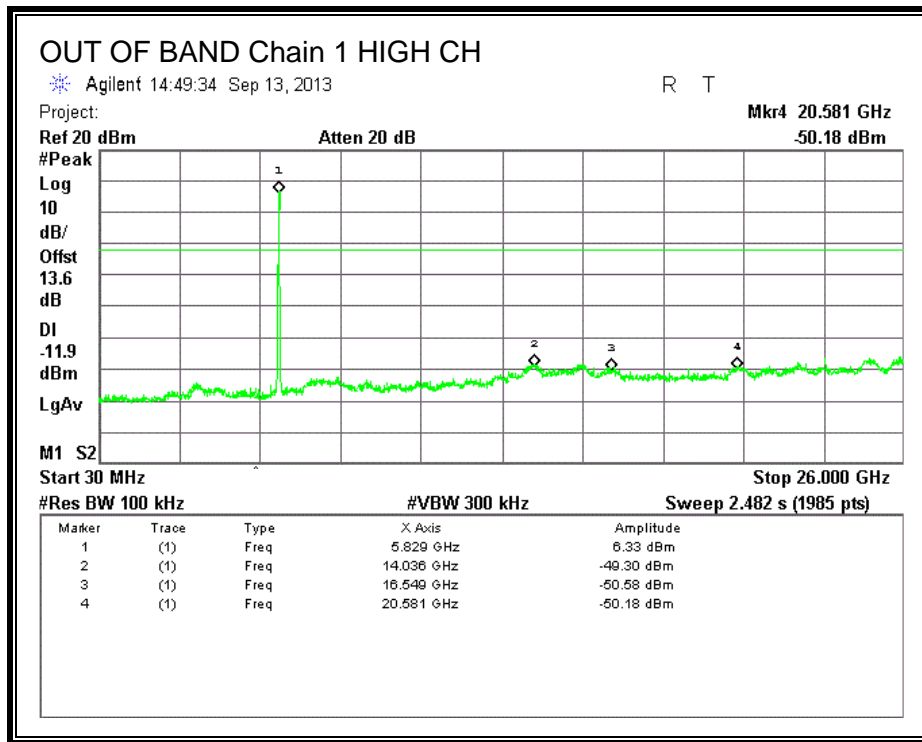


HIGH CHANNEL BANDEDGE, Chain 1



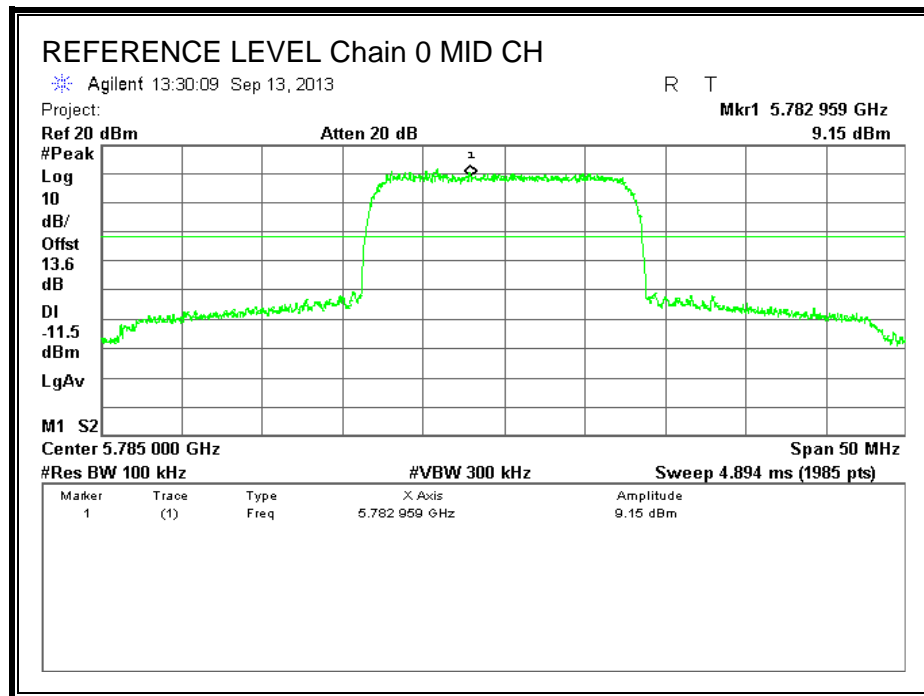
OUT-OF-BAND EMISSIONS, Chain 1



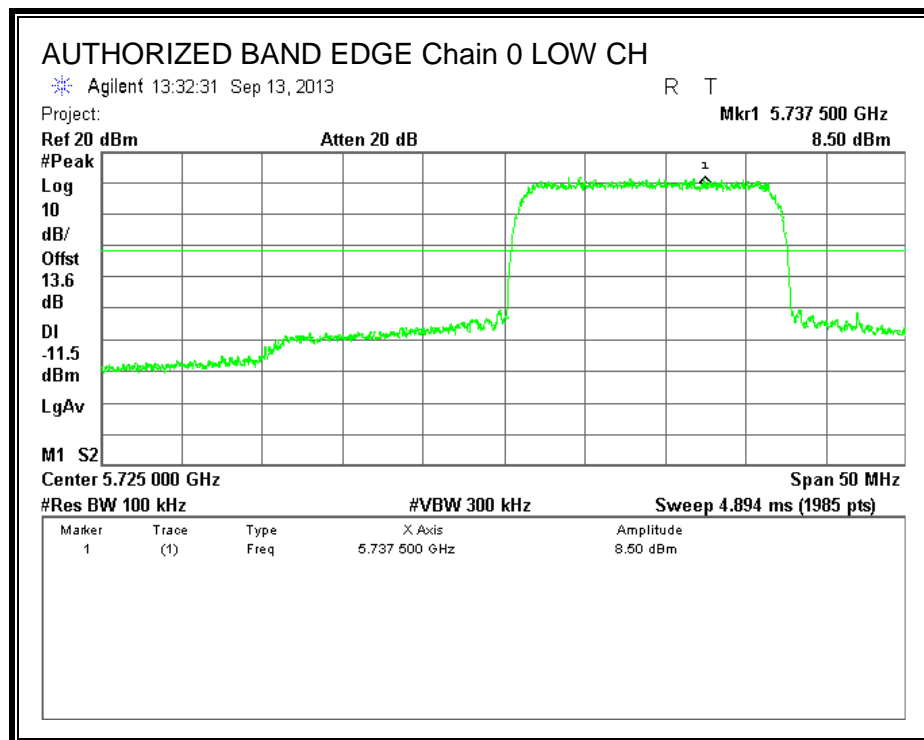


RESULTS 18MHz setting

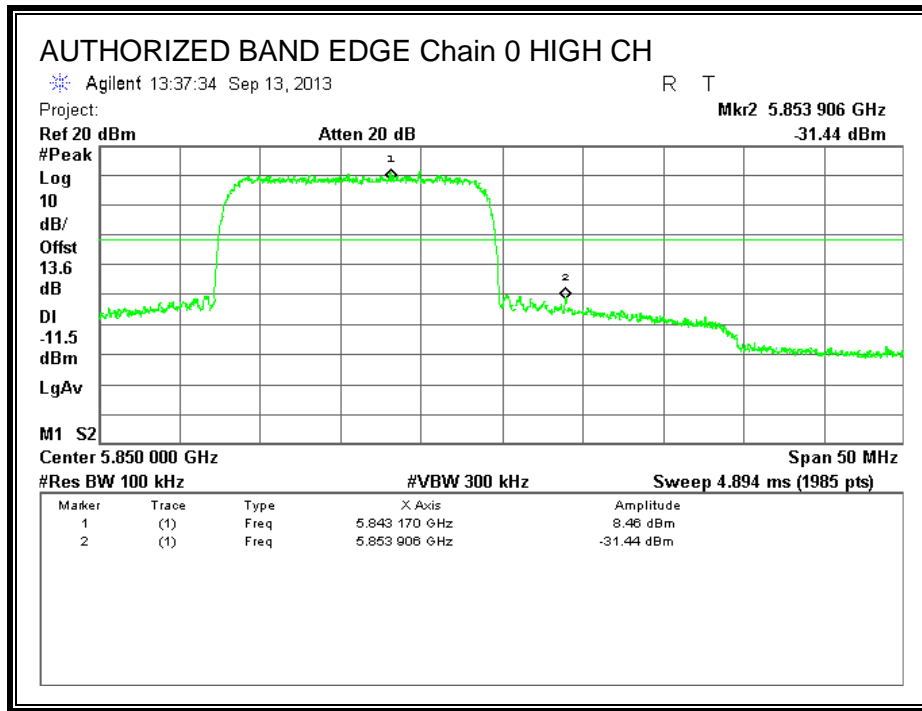
IN-BAND REFERENCE LEVEL, Chain 0



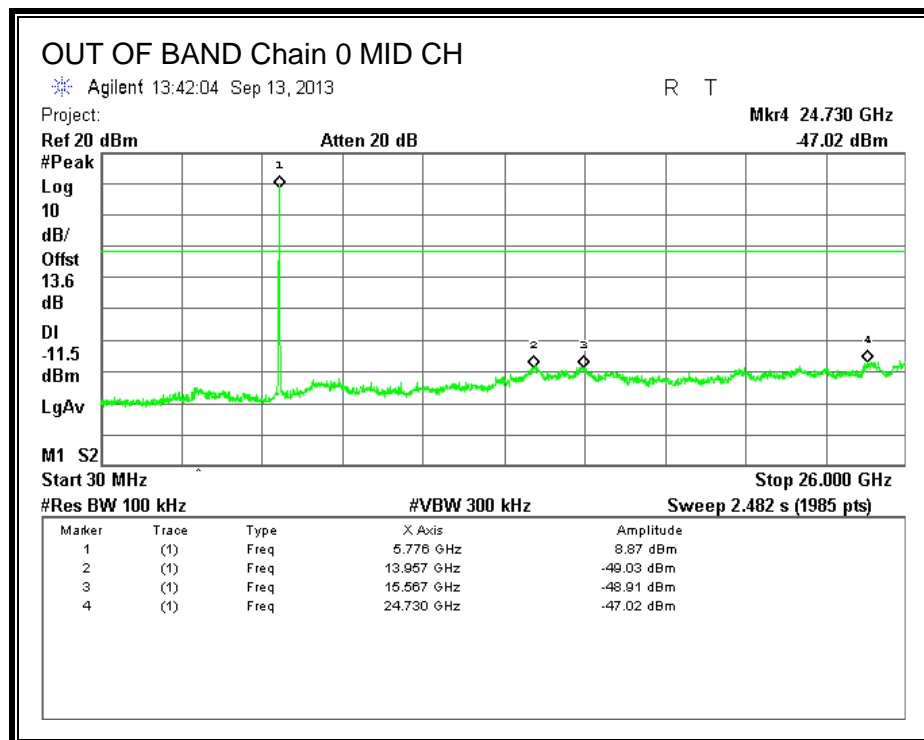
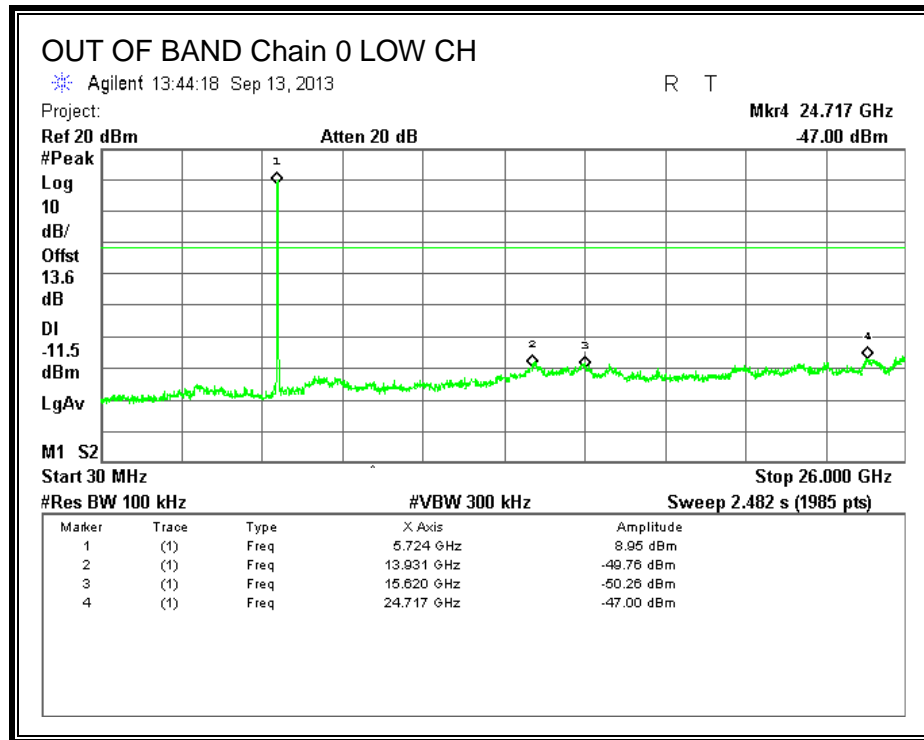
LOW CHANNEL BANDEDGE, Chain 0

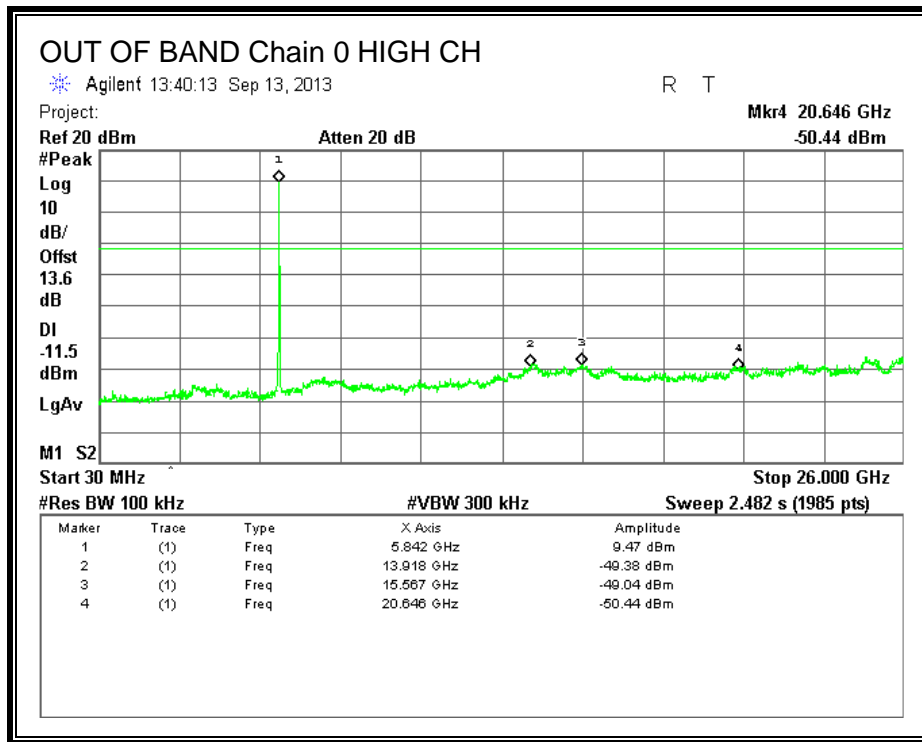


HIGH CHANNEL BANDEDGE, Chain 0

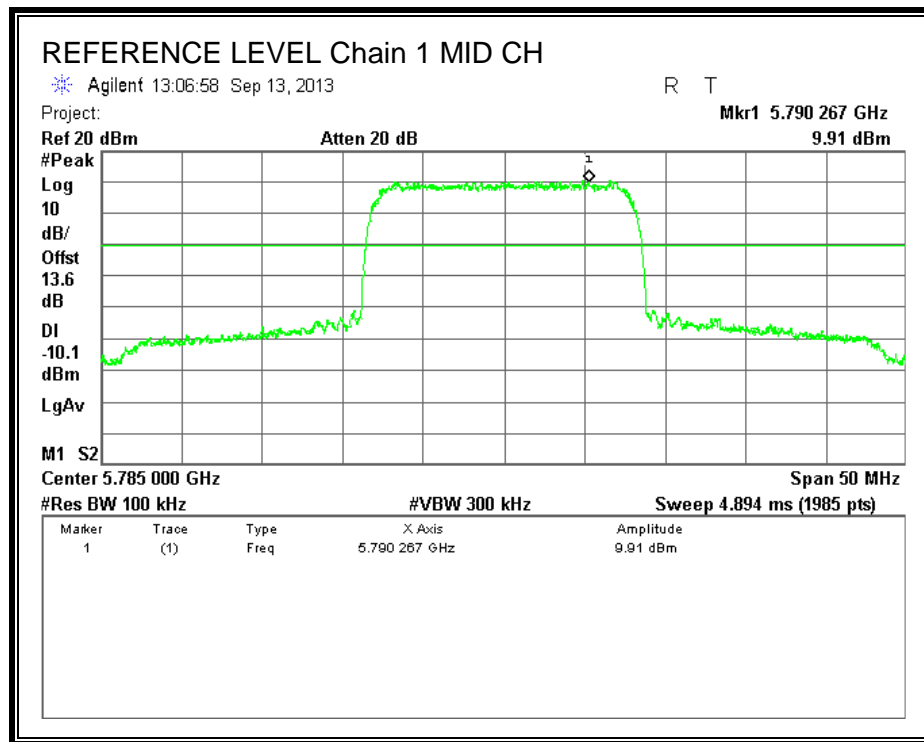


OUT-OF-BAND EMISSIONS, Chain 0

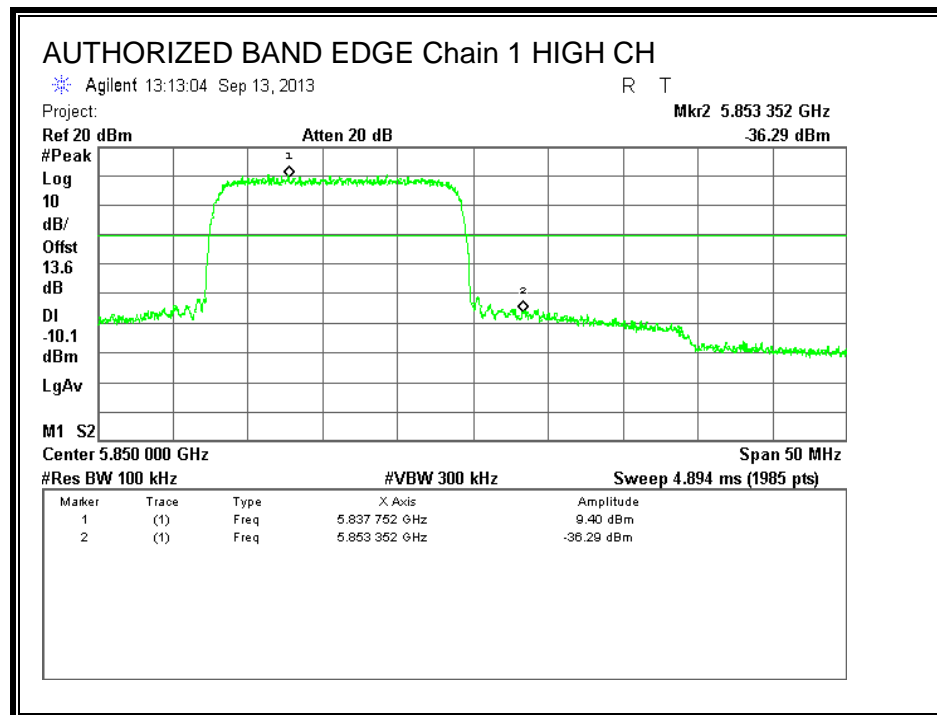
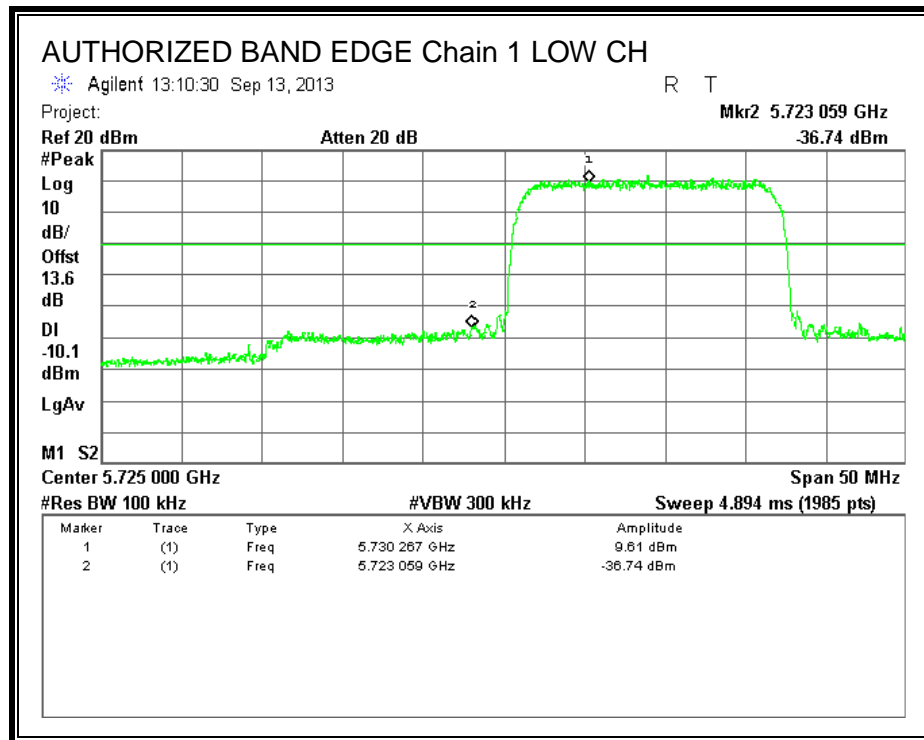




IN-BAND REFERENCE LEVEL, Chain 1 18MHz setting

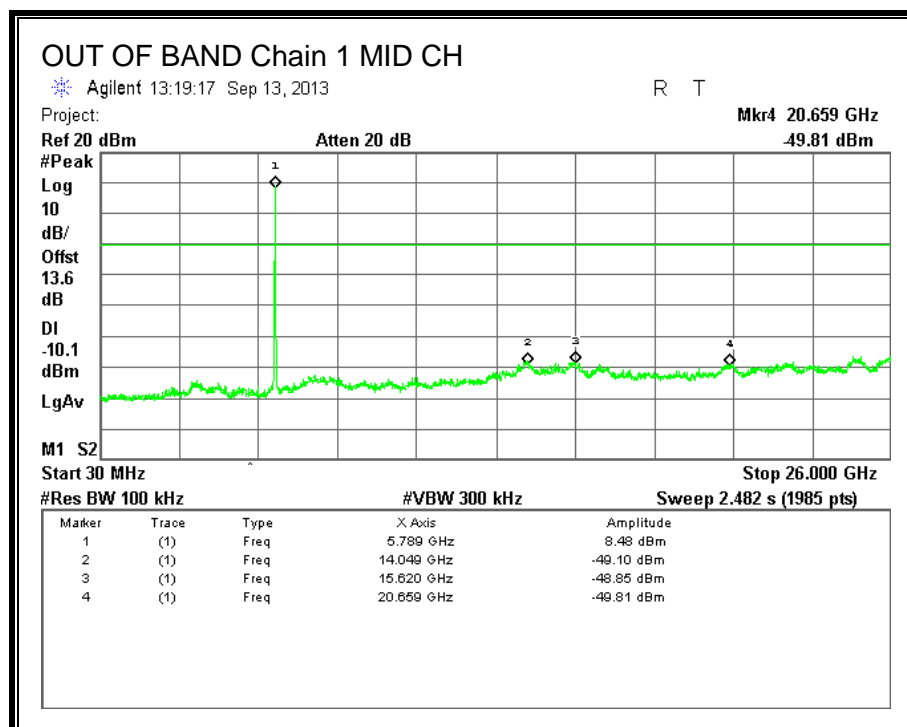
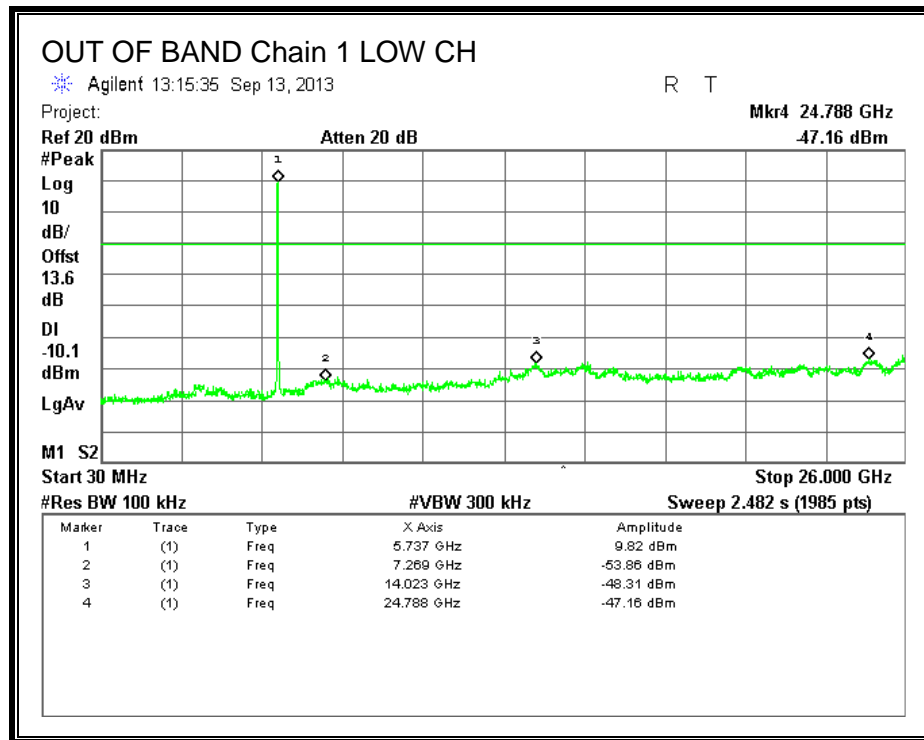


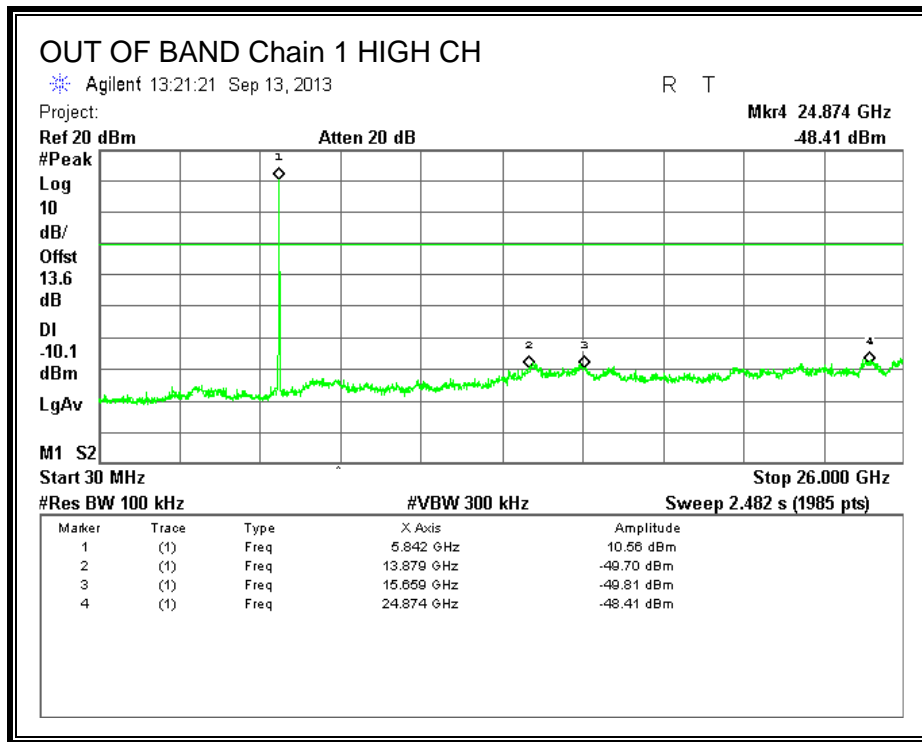
LOW CHANNEL BANDEDGE, Chain 1



HIGH CHANNEL BANDEDGE, Chain 1

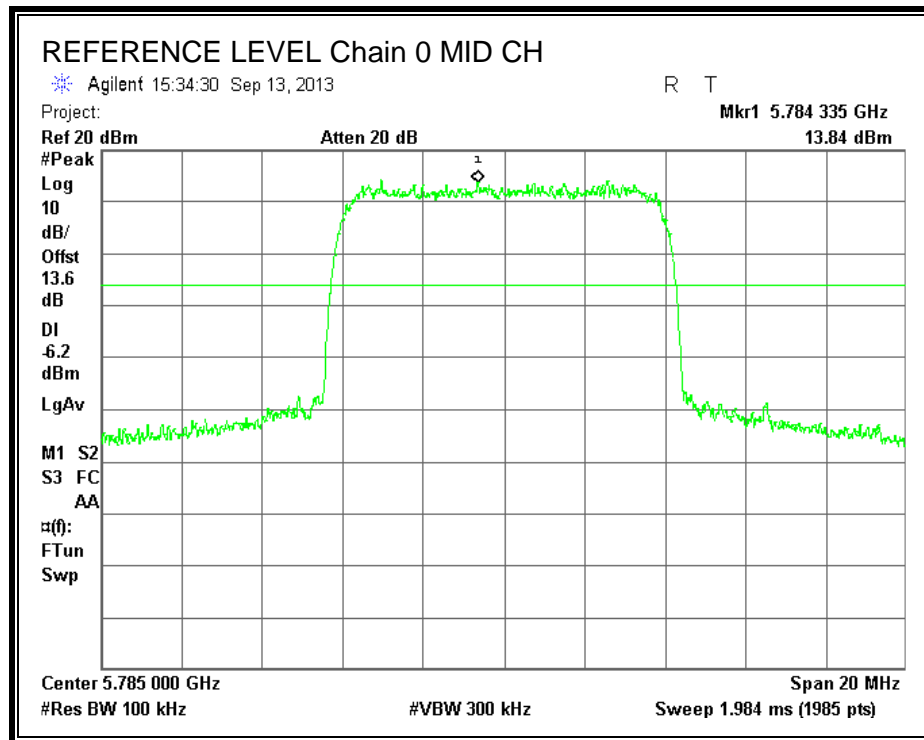
OUT-OF-BAND EMISSIONS, Chain 1



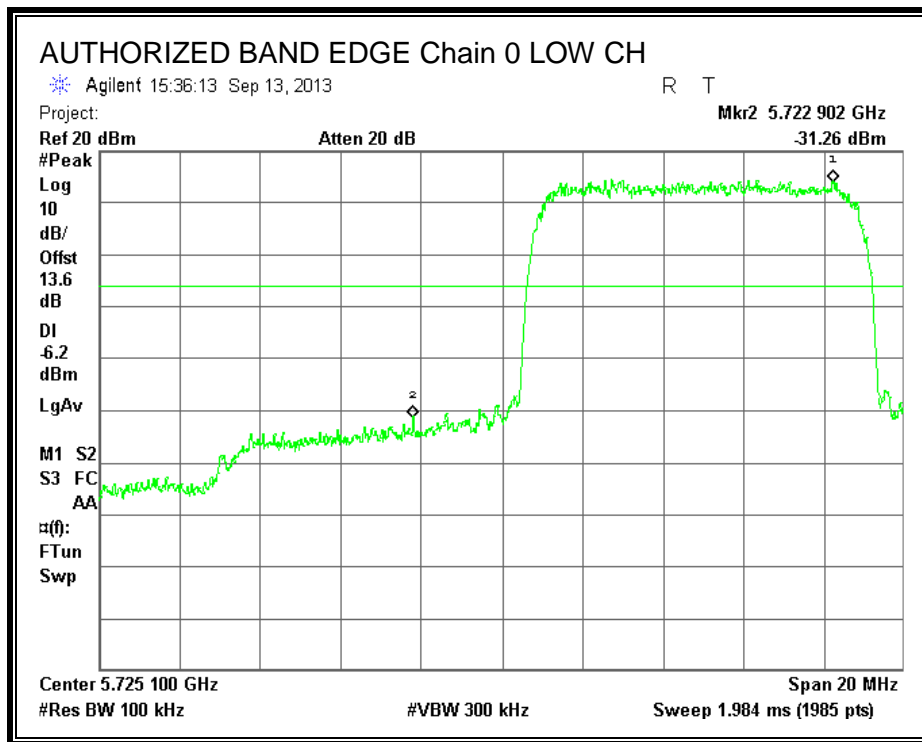


RESULTS 9MHz setting

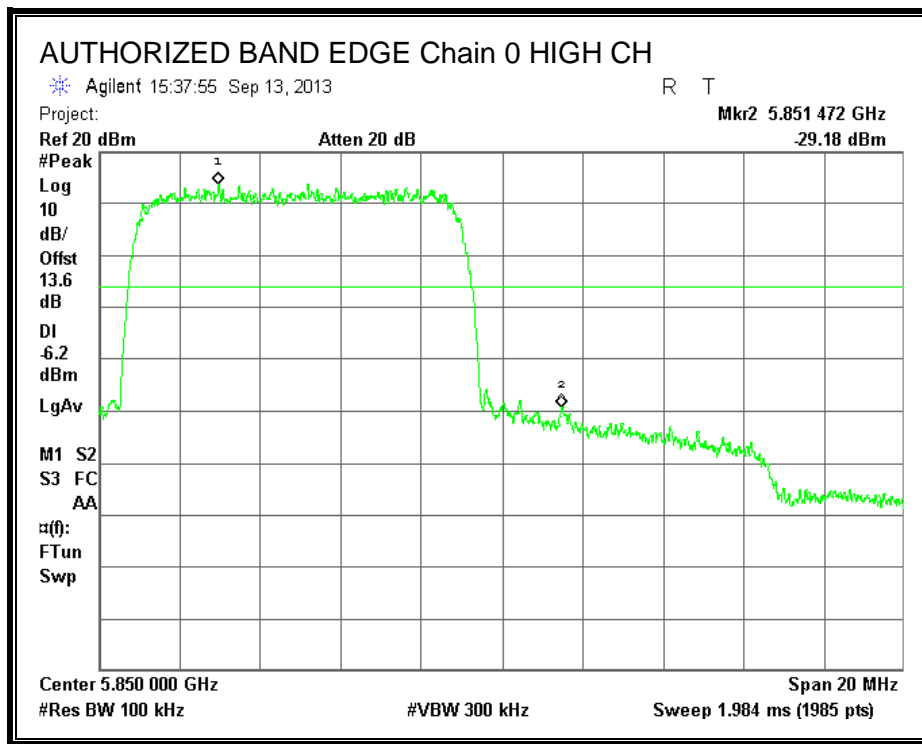
IN-BAND REFERENCE LEVEL, Chain 0



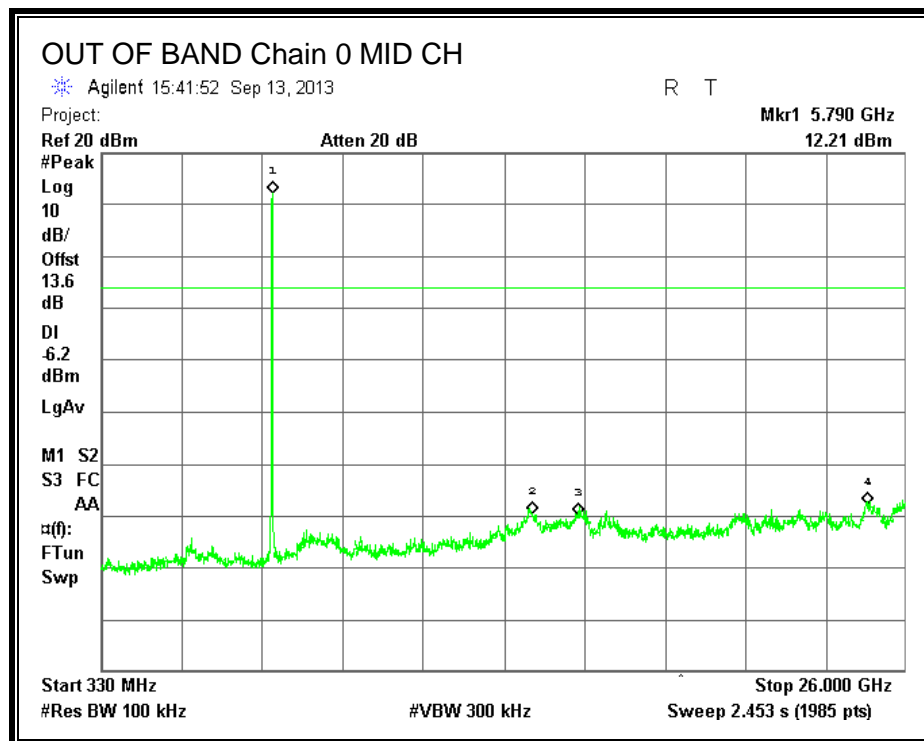
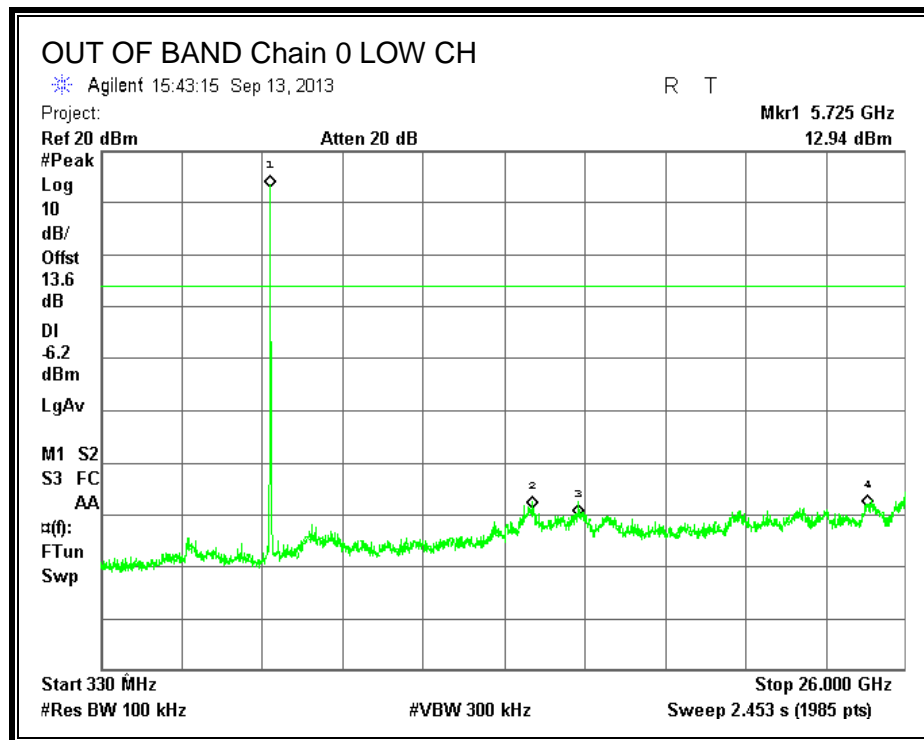
LOW CHANNEL BANDEDGE, Chain 0

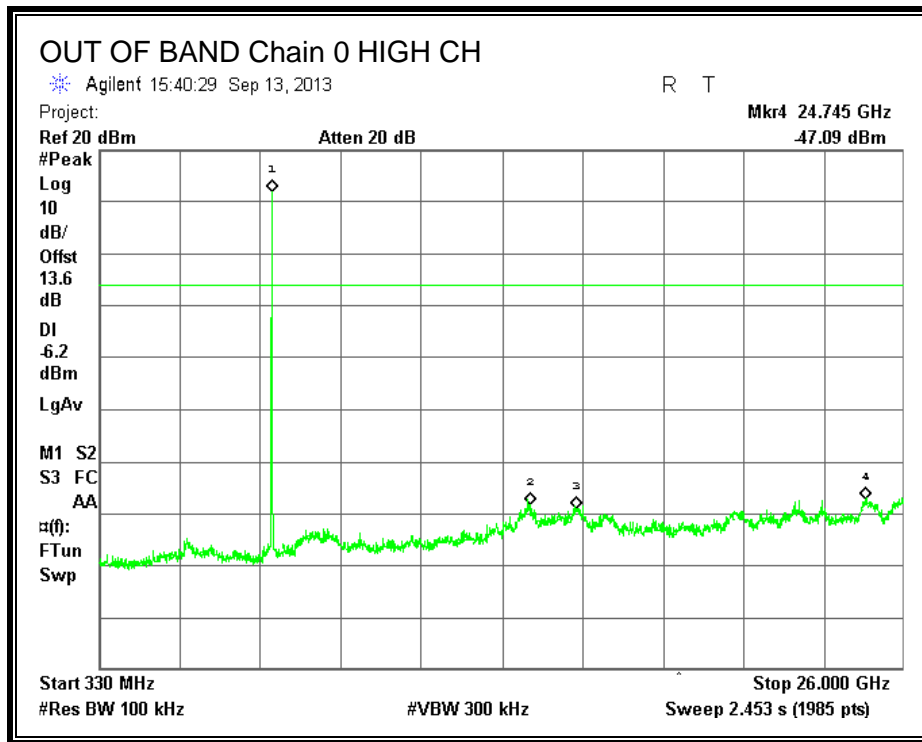


HIGH CHANNEL BANDEDGE, Chain 0



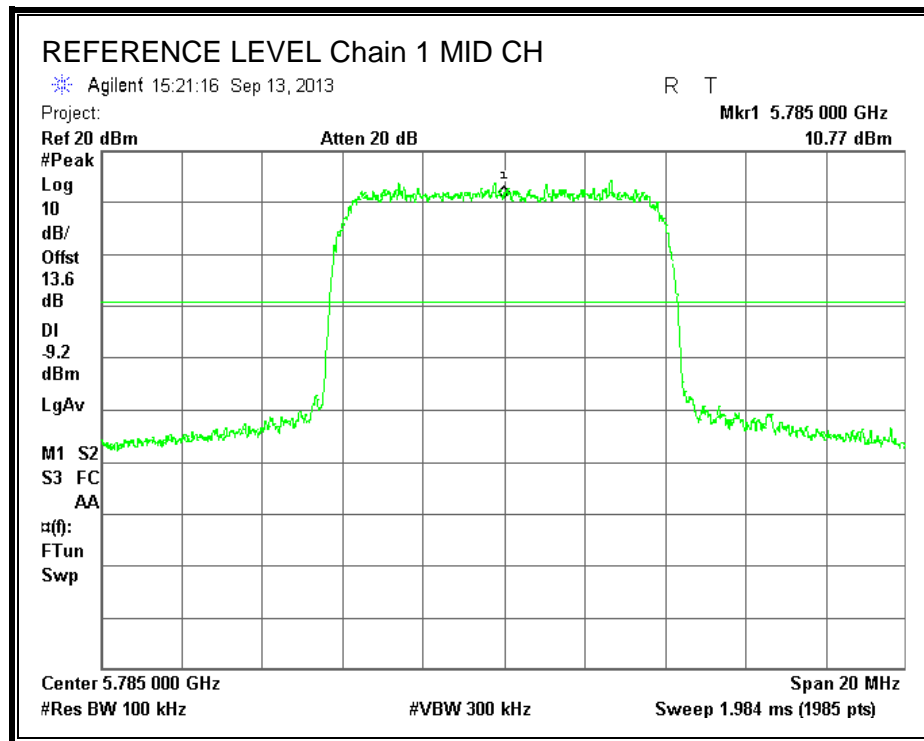
OUT-OF-BAND EMISSIONS, Chain 0



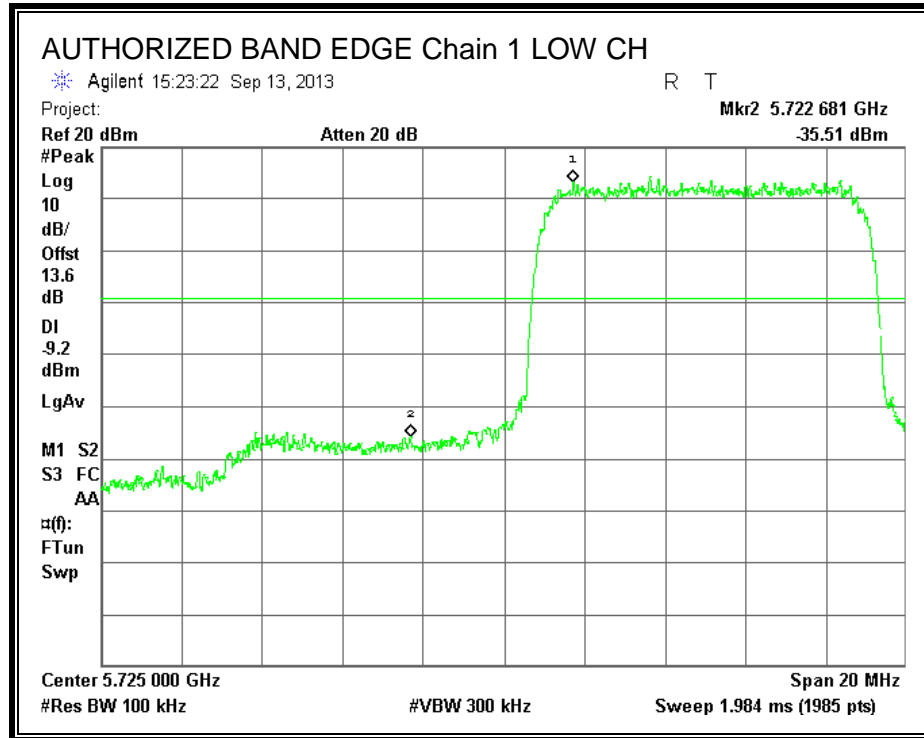


RESULTS 9MHz setting

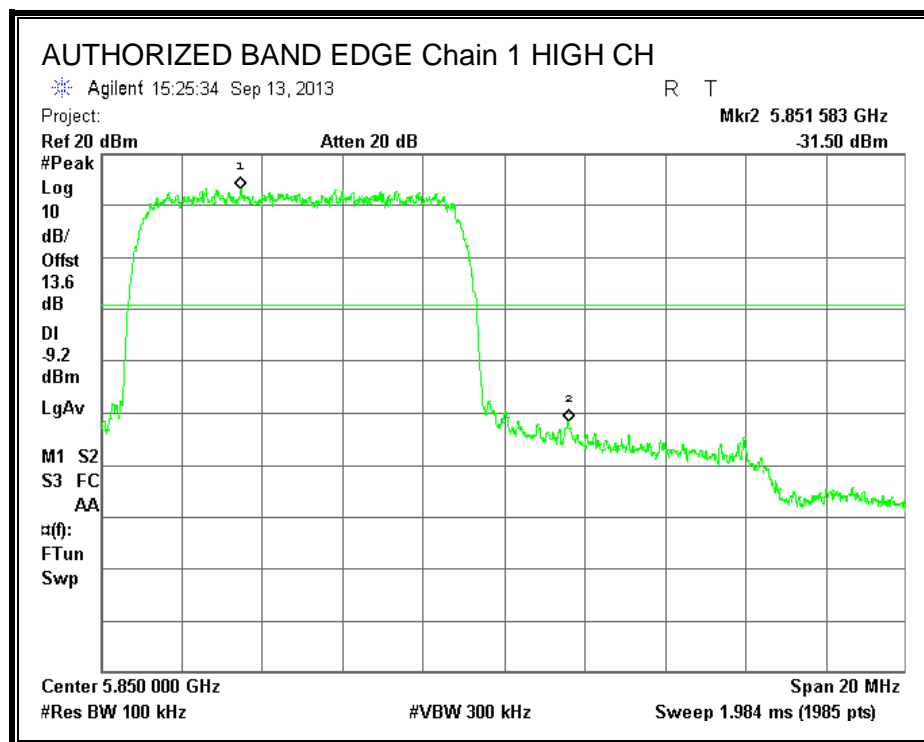
IN-BAND REFERENCE LEVEL, Chain 1

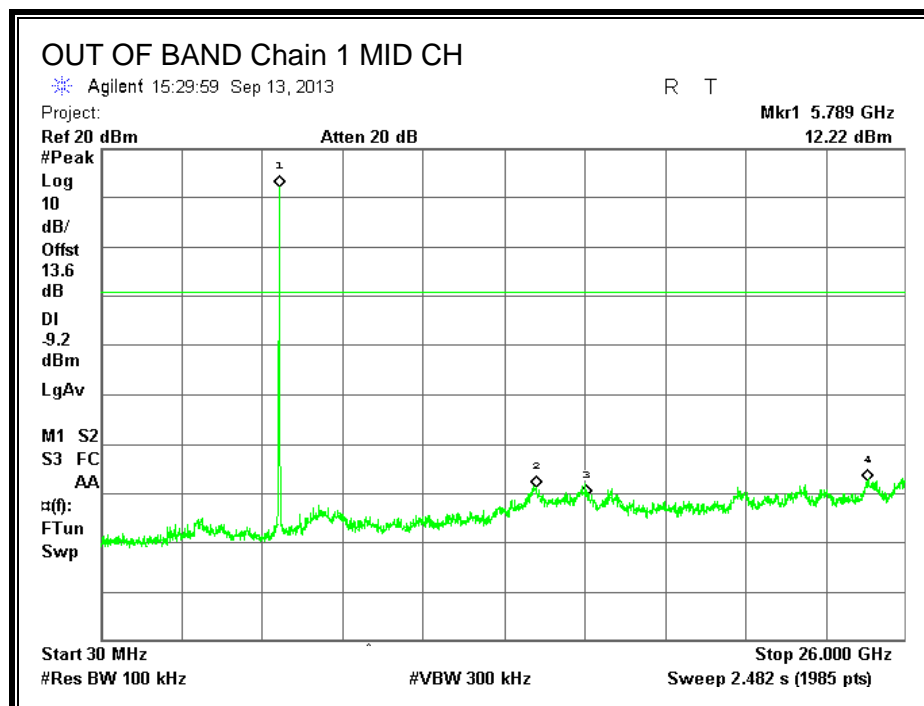
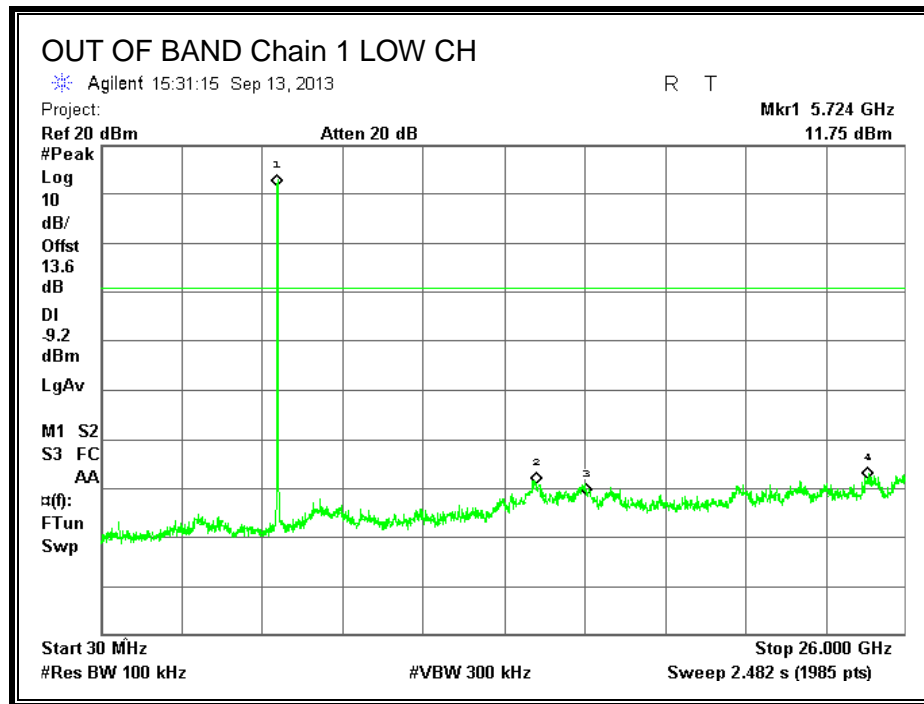


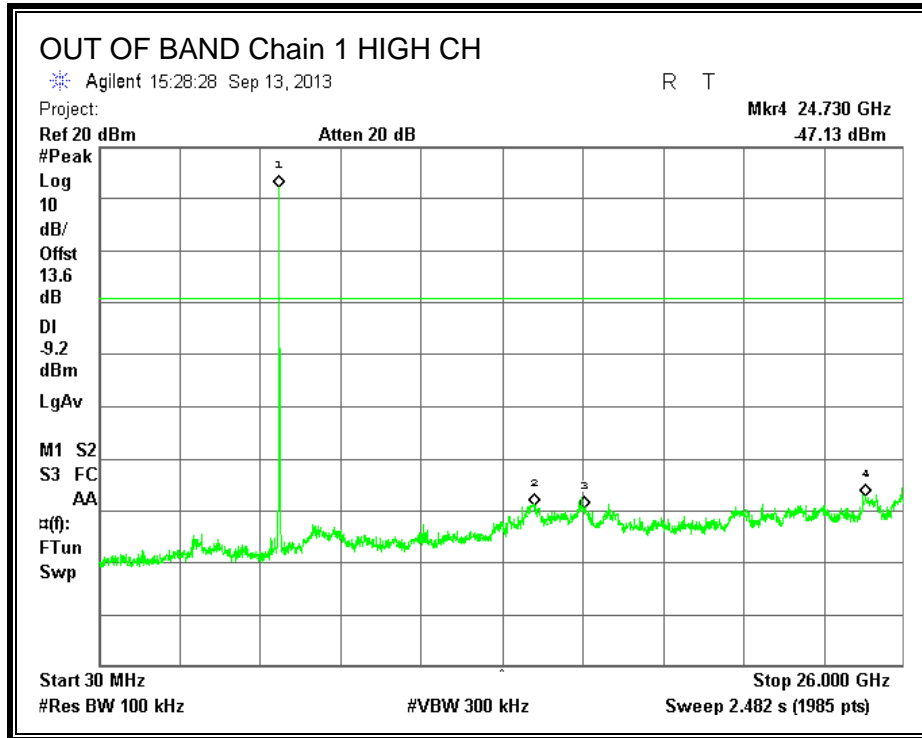
LOW CHANNEL BANDEDGE, Chain 1



HIGH CHANNEL BANDEDGE, Chain 1







9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

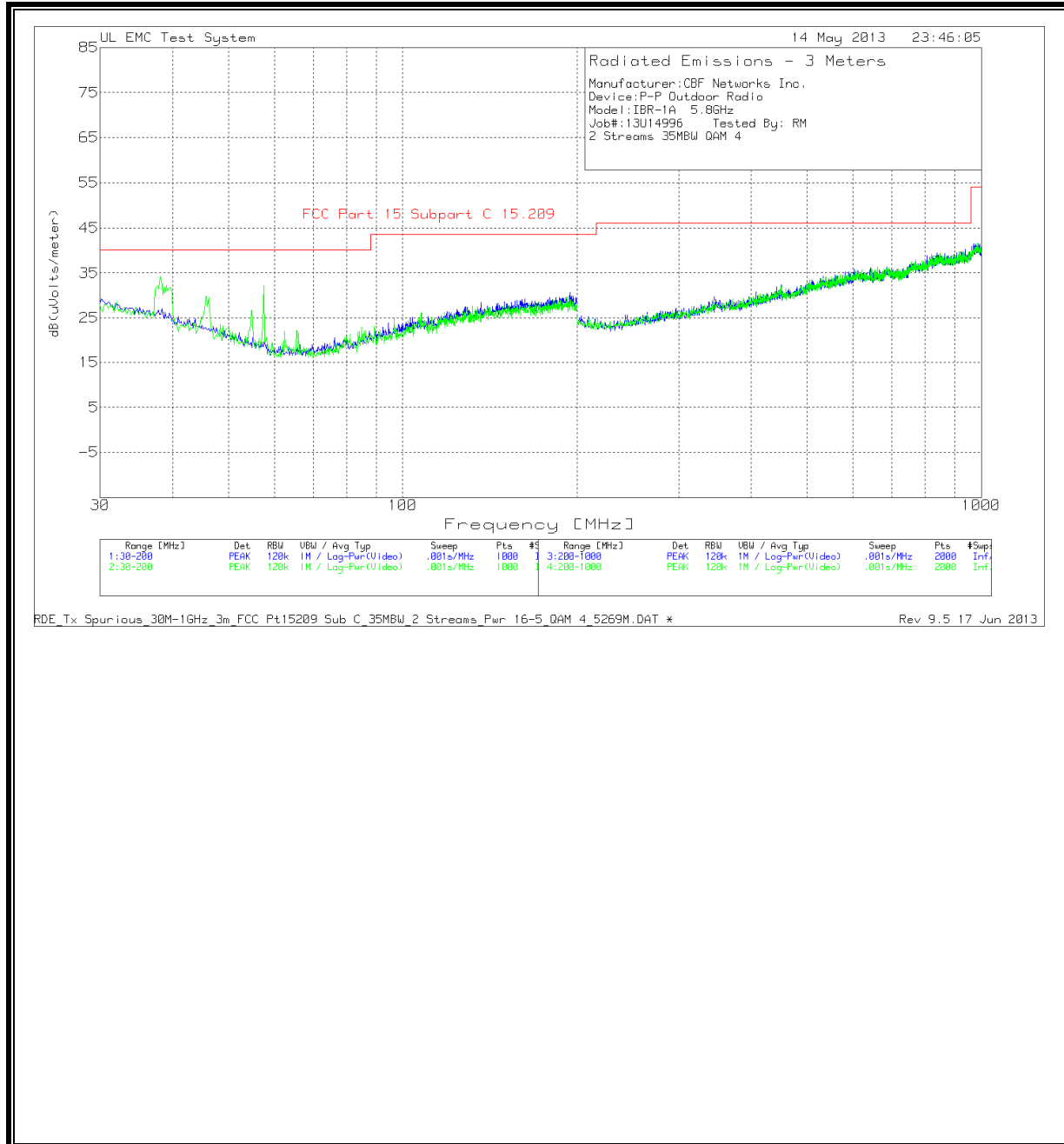
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 1 MHz for peak measurements and as applicable for average measurements.

The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

9.2 WORST-CASE BELOW 1 GHz

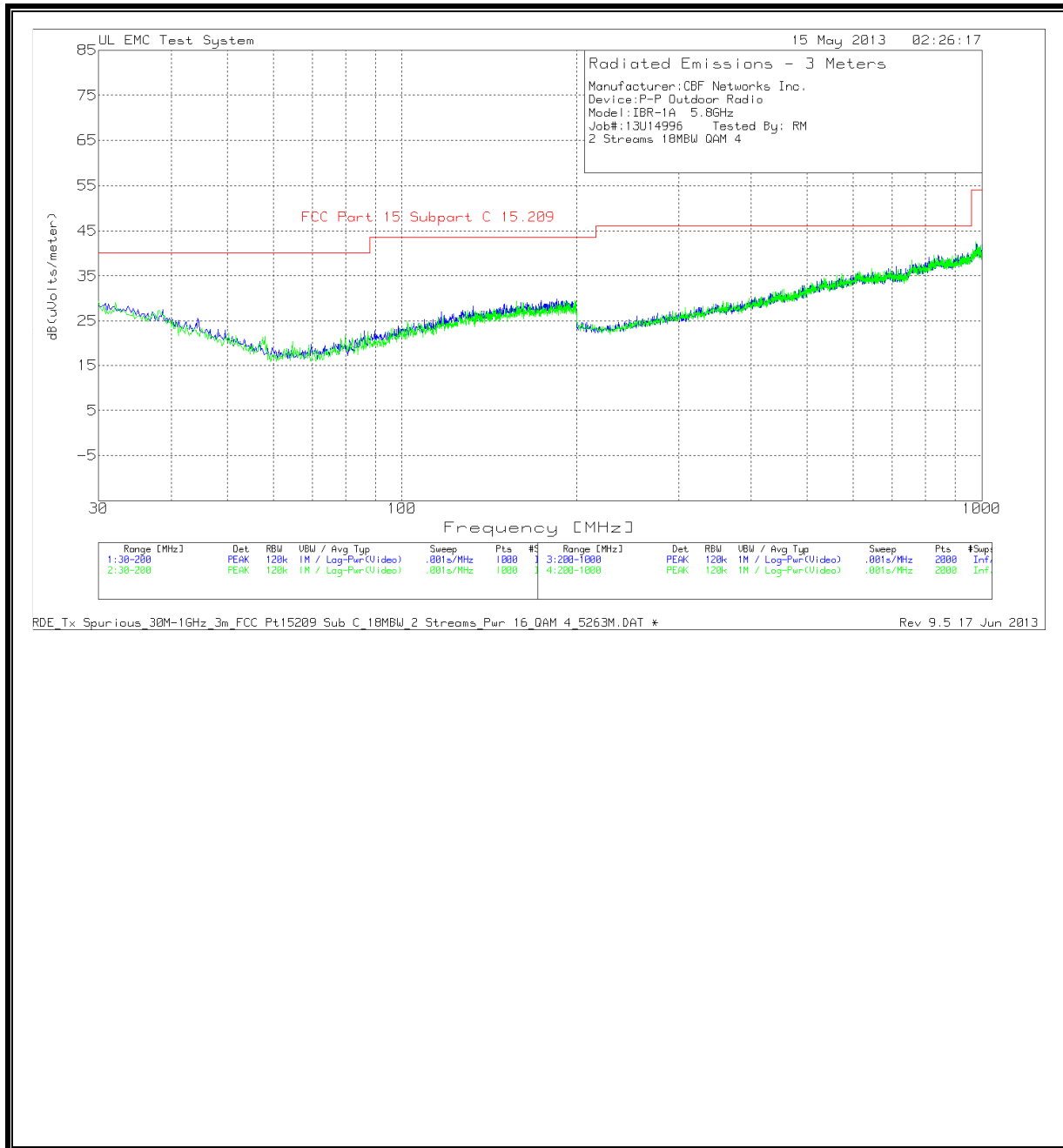
SPURIOUS EMISSIONS 30 TO 1000 MHz (35MHz WORST-CASE CONFIGURATION, HORIZONTAL AND VERTICAL)



HORIZONTAL AND VERTICAL DATA

Manufacturer: CBF Networks Inc.										
Device: P-P Outdoor Radio										
Model:IBR-1A 5.8GHz										
Job#:13U14996 Tested By: RM										
2 Streams 35MBW QAM 4										
Horizontal 30 - 200MHz										
Test Frequency	Meter Reading (dBuV)	Detector	AF-43441	GL-3M	Corrected Reading dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
136.36	7.54	QP	14.1	0.7	22.34	43.5	-21.16	222	161	H
Vertical 30 - 200MHz										
Test Frequency	Meter Reading (dBuV)	Detector	AF-43441	GL-3M	Corrected Reading dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
38.2882	7.78	QP	14.8	0.2	22.78	40	-17.22	104	139	V
45.66	6.44	QP	11.9	0.1	18.44	40	-21.56	158	327	V
54.845	6.71	QP	8.1	0.1	14.91	40	-25.09	159	249	V
57.5419	9.49	QP	7.1	0.2	16.79	40	-23.21	9	112	V
107.0492	9.09	QP	11.8	0.5	21.39	43.5	-22.11	93	121	V
PK - Peak detector										
QP - Quasi-Peak detector										

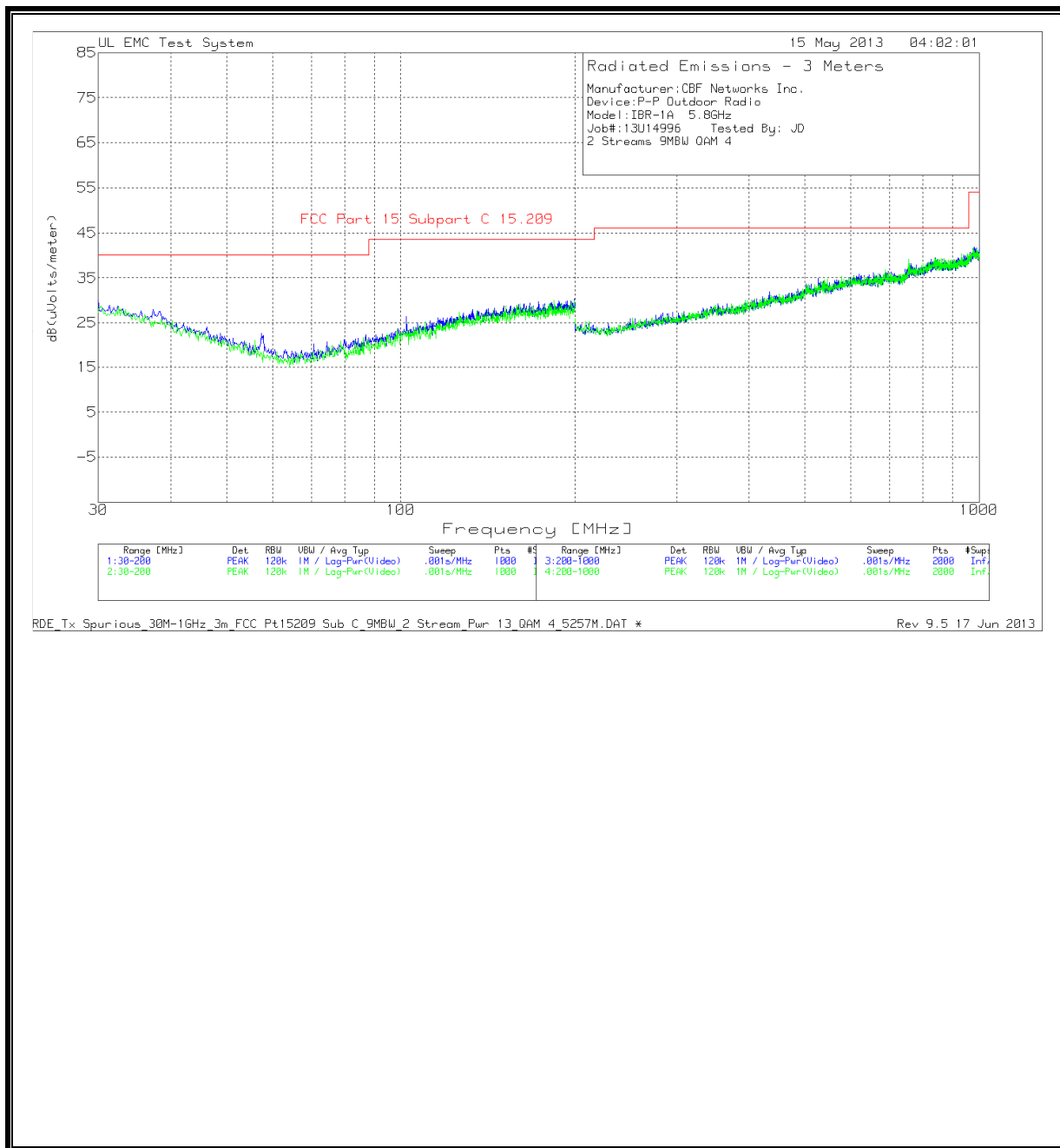
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL AND VERTICAL)



HORIZONTAL AND VERTICAL DATA

Manufacturer: CBF Networks Inc.										
Device: P-P Outdoor Radio										
Model:IBR-1A 5.8GHz										
Job#:13U14996 Tested By: RM										
2 Streams 18MBW QAM 4										
Horizontal 30 - 200MHz										
Test Frequency (MHz)	Meter Reading(dBuV)	Detector	AF-43441	GL-3M	Corrected Reading dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
38.6787	12.69	PK	14.7	0.2	27.59	40	-12.41	12	200	H
44.4645	13.14	PK	12.3	0.2	25.64	40	-14.36	210	100	H
132.6126	13.83	PK	14	0.5	28.33	43.5	-15.17	135	100	H
Vertical 30 - 200MHz										
Test Frequency (MHz)	Meter Reading(dBuV)	Detector	AF-43441	GL-3M	Corrected Reading dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
38.1682	12.24	PK	14.9	0.2	27.34	40	-12.66	349	100	V
58.0781	14.18	PK	7	0.2	21.38	40	-18.62	183	100	V
157.6276	13.61	PK	15.2	0.6	29.41	43.5	-14.09	58	100	V
PK - Peak detector										

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL AND VERTICAL)



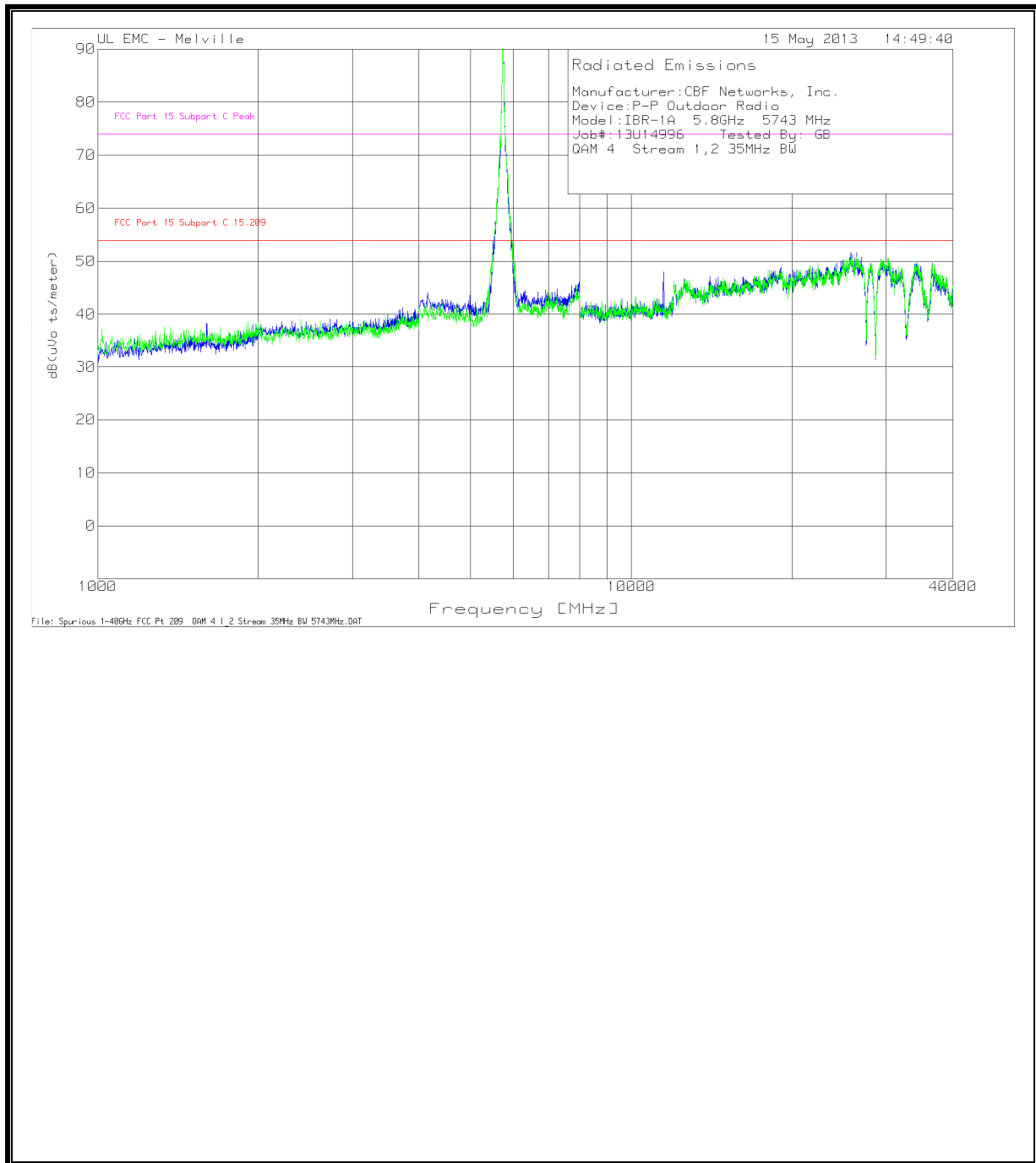
HORIZONTAL AND VERTICAL DATA

Manufacturer: CBF Networks Inc.										
Device: P-P Outdoor Radio										
Model:IBR-1A 5.8GHz										
Job#:13U14996 Tested By: JD										
2 Streams 9MBW QAM 4										
Horizontal 30 - 200MHz										
Test Frequency (MHz)	Meter Reading(dBuV)	Detector	AF-43441	GL-3M	Corrected Reading dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
37.3173	12.84	PK	15.1	0.1	28.04	40	-11.96	19	200	H
57.9079	14.75	PK	7.1	0.2	22.05	40	-17.95	92	100	H
102.3223	14.87	PK	11.1	0.4	26.37	43.5	-17.13	286	100	H
172.7728	13.85	PK	15.2	0.7	29.75	43.5	-13.75	69	399	H
Vertical 30 - 200MHz										
Test Frequency (MHz)	Meter Reading(dBuV)	Detector	AF-43441	GL-3M	Corrected Reading dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
32.5526	11.69	PK	16.9	0	28.59	40	-11.41	351	100	V
56.036	13.08	PK	7.7	0.2	20.98	40	-19.02	210	100	V
79.3493	11.68	PK	7.5	0.3	19.48	40	-20.52	10	100	V
184.3443	12.69	PK	15.7	0.7	29.09	43.5	-14.41	185	100	V
72.2022	10.46	PK	6.3	0.4	17.16	40	-22.84	332	100	V
Horizontal 200 - 1000MHz										
Test Frequency (MHz)	Meter Reading(dBuV)	Detector	AF-44067	GL-3M	Corrected Reading dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
529.7649	13.68	PK	18.6	1.5	33.78	46	-12.22	253	400	H
767.0835	13.33	PK	21.5	2	36.83	46	-9.17	85	99	H
982.7914	14.47	PK	24.6	2.2	41.27	54	-12.73	244	300	H
Vertical 200 - 1000MHz										
Test Frequency (MHz)	Meter Reading(dBuV)	Detector	AF-44067	GL-3M	Corrected Reading dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
546.1731	14.65	PK	18.6	1.5	34.75	46	-11.25	56	100	V
687.8439	14.16	PK	20.9	1.7	36.76	46	-9.24	113	400	V
834.7174	13.78	PK	22.6	2.1	38.48	46	-7.52	331	300	V
975.5878	14.2	PK	24.5	2.2	40.9	54	-13.1	164	100	V
PK - Peak detector										

9.3 TRANSMITTER ABOVE 1 GHz

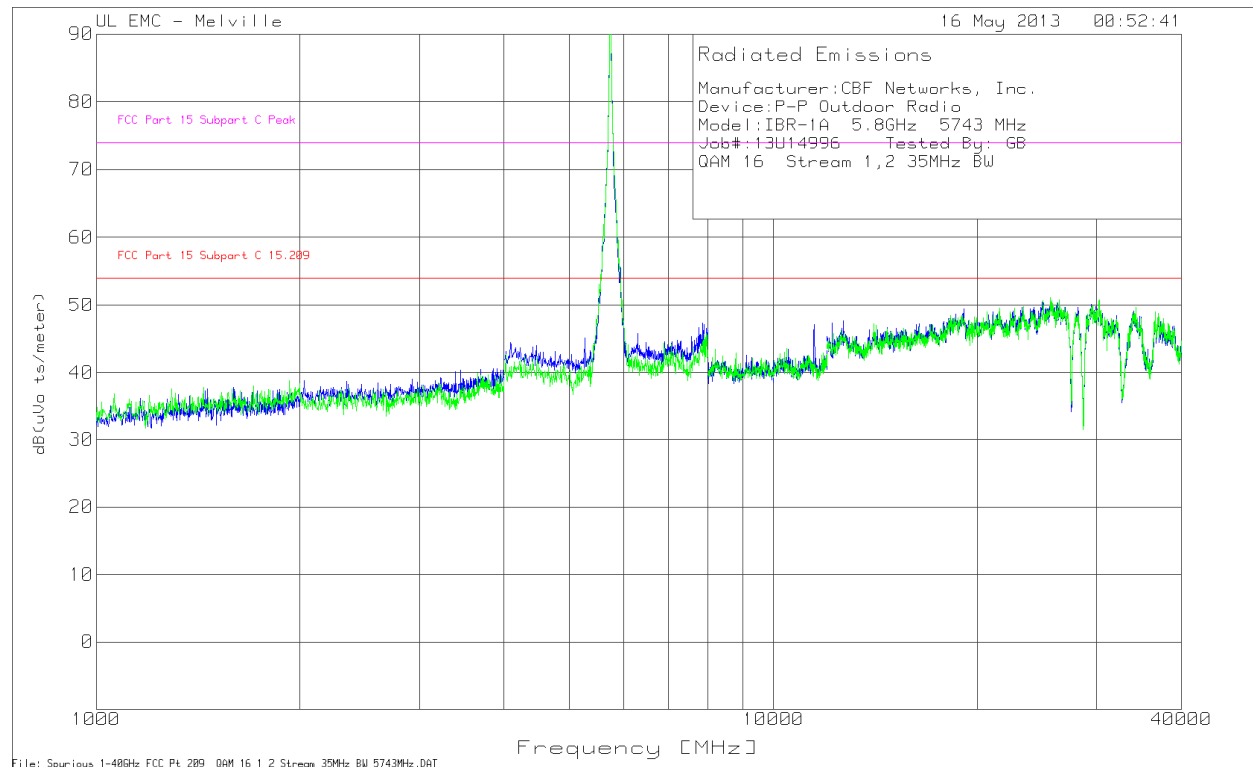
9.3.1 TX ABOVE 1 GHz IN THE 5.8 GHz BAND

HARMONICS AND SPURIOUS EMISSIONS 35MHz Bandwidth



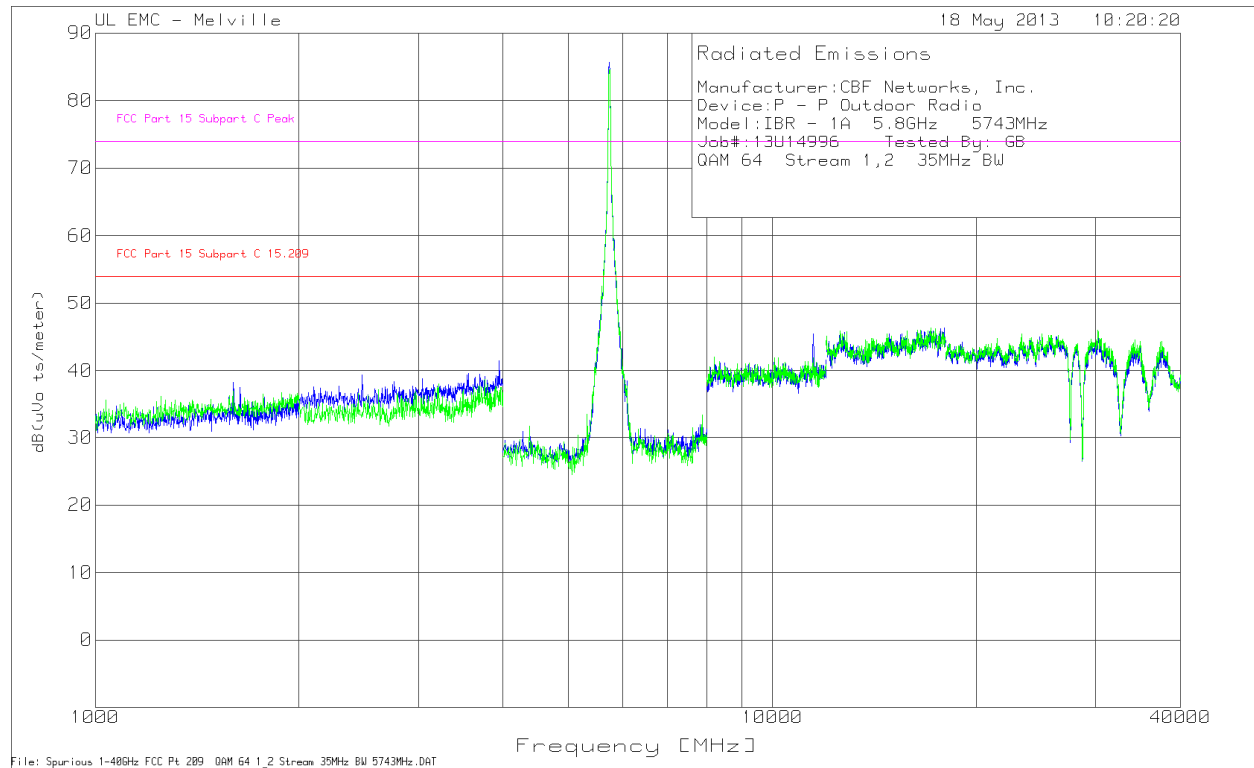
Manufacturer: CBF Networks, Inc.												
Device: P-P Outdoor Radio												
Model:IBR-1A 5.8GHz 5743 MHz												
Job#:13U14996 Tested By: GB												
QAM 4 Stream 1,2 35MHz BW												
Horizontal 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11486.25	59.21	PK2	33.4	-47.82	44.79	54	-9.21	74	-29.21	2	349	Horz
11495.85	48.34	MAv1	33.4	-47.99	33.75	54	-20.25	74	-40.25	2	349	Horz
11495.27	57.83	PK2	33.4	-47.99	43.24	54	-10.76	74	-30.76	189	346	Vert
11492.97	47.57	MAv1	33.4	-47.85	33.12	54	-20.88	74	-40.88	189	346	Vert
Horizontal 18000 - 26500MHz												
Test Frequency	Meter Reading	Detector	AF-8947 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
22964.9	60.09	PK2	40.7	-51.95	48.84	54	-5.16	74	-25.16	360	280	Vert
22971.81	50.37	MAv1	40.7	-51.9	39.17	54	-14.83	74	-34.83	360	280	Vert
22968.74	59.03	PK2	40.7	-51.96	47.77	54	-6.23	74	-26.23	151	106	Horz
22972.77	49.33	MAv1	40.7	-51.88	38.15	54	-15.85	74	-35.85	151	106	Horz
25716.84	61.1	PK2	40.9	-51.26	50.74	54	-3.26	74	-23.26	114	100	Horz
25725.16	50.7	MAv1	40.9	-51.28	40.32	54	-13.68	74	-33.68	114	100	Horz
25801.16	60.06	PK2	40.9	-50.84	50.12	54	-3.88	74	-23.88	47	100	Vert
26402.49	61.19	PK2	41.1	-51.19	51.1	54	-2.9	74	-22.9	145	188	Horz
26410.89	50.5	MAv1	41.1	-51.02	40.58	54	-13.42	74	-33.42	145	188	Horz
Horizontal 26500 - 40000MHz												
Test Frequency	Meter Reading	Detector	AF-73004 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
30243.07	52.52	PK2	44	-39.82	56.7	54	2.7	74	-17.3	234	177	Horz
30241.49	40.87	MAv1	44	-39.86	45.01	54	-8.99	74	-28.99	234	177	Horz
PK2 - KDB558074 v02 10.2.3.2/8.1.1 Method: Maximum Peak												
MAv1 - KDB558074 v02 10.2.3.2/8.2.1 Option 1 Maximum RMS Average												

HARMONICS AND SPURIOUS EMISSIONS



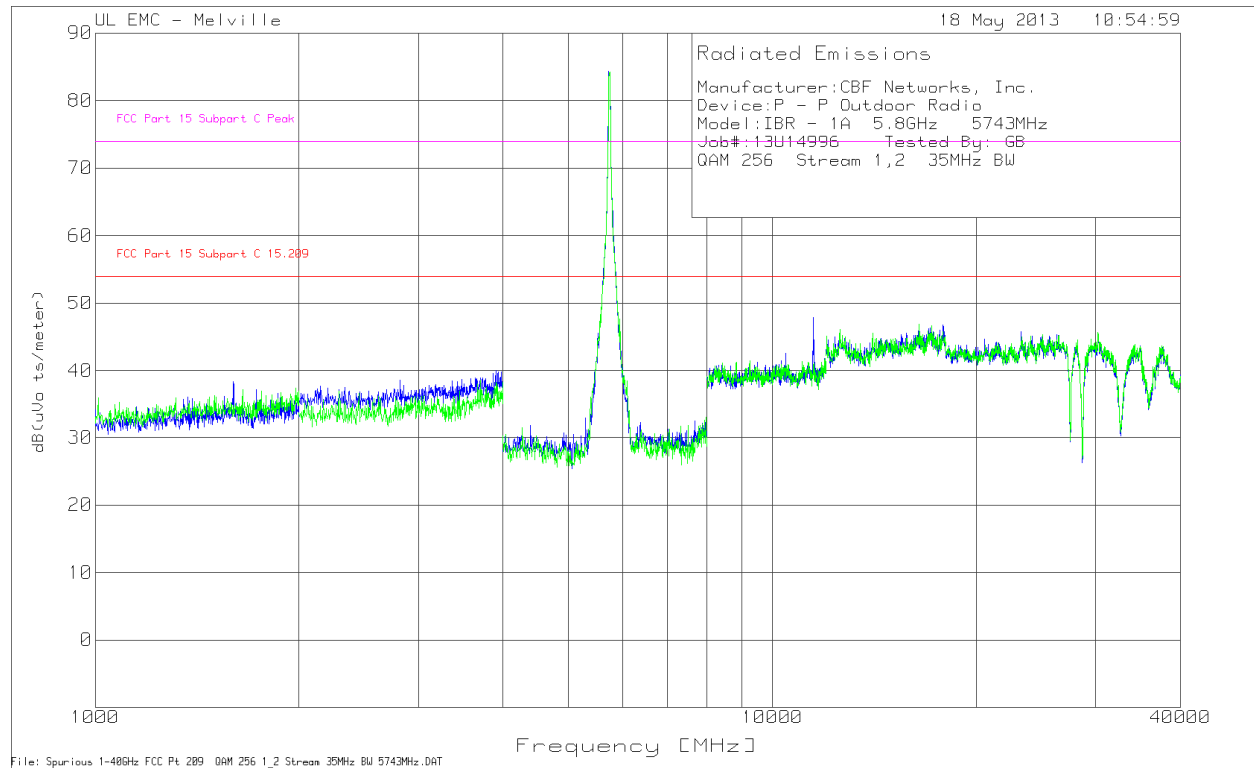
Manufacturer: CBF Networks, Inc.												
Device: P-P Outdoor Radio												
Model:IBR-1A 5.8GHz 5743 MHz												
Job#:13U14996 Tested By: GB												
QAM 16 Stream 1,2 35MHz BW												
Horizontal 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11480.46	65.05	PK2	33.4	-47.69	50.76	54	-3.24	74	-23.24	41	110	Horz
11480.47	54.19	MAv1	33.4	-47.69	39.9	54	-14.1	74	-34.1	41	110	Horz
11486.09	61.18	PK2	33.4	-47.83	46.75	54	-7.25	74	-27.25	341	100	Vert
11486.1	48.94	MAv1	33.4	-47.83	34.51	54	-19.49	74	-39.49	341	100	Vert
Horizontal 18000 - 26500MHz												
Test Frequency	Meter Reading	Detector	AF-8947 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
22973.74	59.52	PK2	40.6	-51.86	48.26	54	-5.74	74	-25.74	322	100	Horz
22974.45	48.68	MAv1	40.6	-51.85	37.43	54	-16.57	74	-36.57	322	100	Horz
22972.24	60.15	PK2	40.7	-51.89	48.96	54	-5.04	74	-25.04	87	104	Vert
22972.11	48.72	MAv1	40.7	-51.9	37.52	54	-16.48	74	-36.48	87	104	Vert
PK2 - KDB558074 v02 10.2.3.2/8.1.1 Method: Maximum Peak												
MAv1 - KDB558074 v02 10.2.3.2/8.2.1 Option 1 Maximum RMS Average												

HARMONICS AND SPURIOUS EMISSIONS



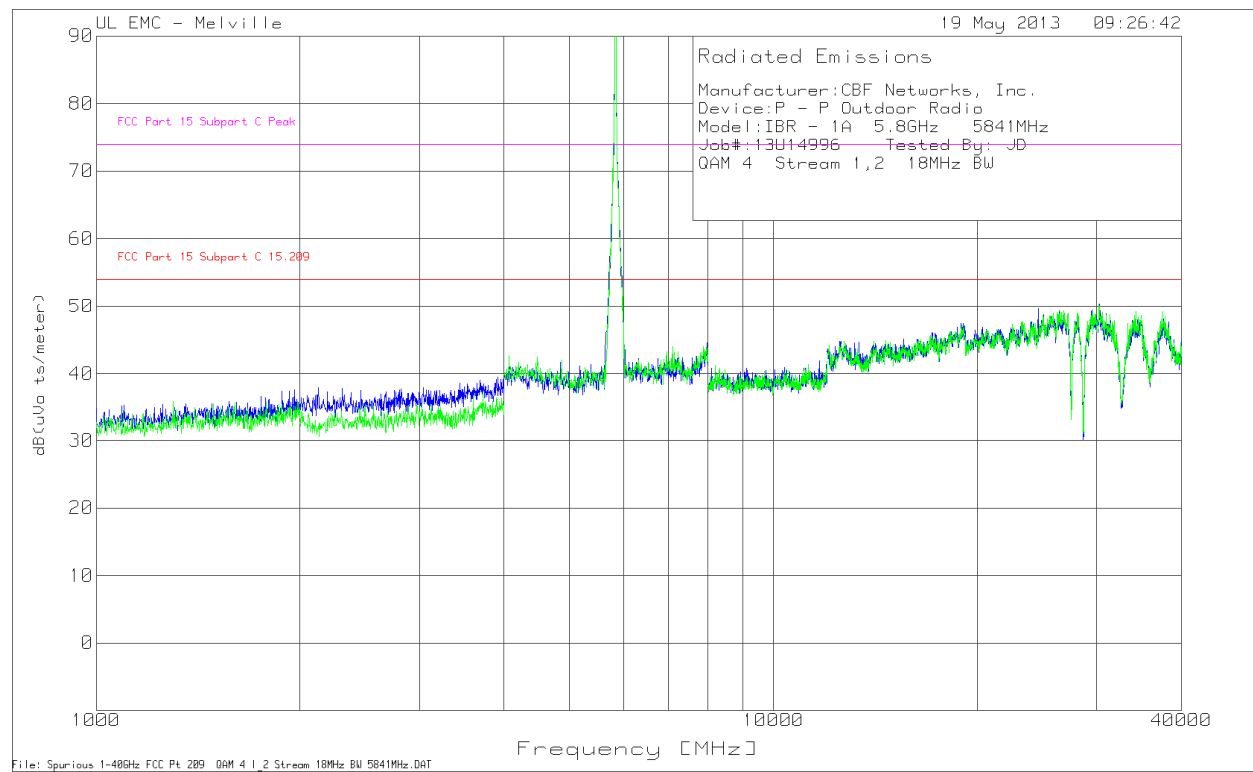
Manufacturer: CBF Networks, Inc.												
Device: P - P Outdoor Radio												
Model: IBR - 1A 5.8GHz 5743MHz												
Job#:13U14996 Tested By: GB												
QAM 64 Stream 1,2 35MHz BW												
Horizontal 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor [dB]	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11488.48	58.86	PK2	33.4	-47.71	44.55	54	-9.45	74	-29.45	53	400	Vert
11490.71	47.94	MAv1	33.4	-47.68	33.66	54	-20.34	74	-40.34	53	400	Vert
11488.81	62.12	PK2	33.4	-47.69	47.83	54	-6.17	74	-26.17	41	100	Horz
11487.72	51.5	MAv1	33.4	-47.75	37.15	54	-16.85	74	-36.85	41	100	Horz
Horizontal 18000 - 26500MHz												
Test Frequency	Meter Reading	Detector	AF-8947 [dB/m]	BOMS Factor [dB]	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
22971.96	61.34	PK2	40.7	-51.9	50.14	54	-3.86	74	-23.86	306	100	Horz
22972.69	50.01	MAv1	40.7	-51.88	38.83	54	-15.17	74	-35.17	306	100	Horz
22972.4	59.38	PK2	40.7	-51.89	48.19	54	-5.81	74	-25.81	128	100	Vert
22973.22	49.23	MAv1	40.7	-51.87	38.06	54	-15.94	74	-35.94	128	100	Vert
PK2 - KDB558074 v02 10.2.3.2/8.1.1 Method: Maximum Peak												
MAv1 - KDB558074 v02 10.2.3.2/8.2.1 Option 1 Maximum RMS Average												

HARMONICS AND SPURIOUS EMISSIONS



Manufacturer: CBF Networks, Inc.												
Device: P - P Outdoor Radio												
Model: IBR - 1A 5.8GHz 5743MHz												
Job#:13U14996 Tested By: GB												
QAM 256 Stream 1,2 35MHz BW												
Horizontal 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11486.02	59.24	PK2	33.4	-47.83	44.81	54	-9.19	74	-29.19	132	103	Horz
11487.19	48.53	MAv1	33.4	-47.77	34.16	54	-19.84	74	-39.84	132	103	Horz
11485.72	61.03	PK2	33.4	-47.85	46.58	54	-7.42	74	-27.42	28	101	Vert
11485.74	48.92	MAv1	33.4	-47.85	34.47	54	-19.53	74	-39.53	28	101	Vert
Horizontal 18000 - 26500MHz												
Test Frequency	Meter Reading	Detector	AF-8947 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
22971.96	61.36	PK2	40.7	-51.9	50.16	54	-3.84	74	-23.84	0	101	Vert
22972.78	50.17	MAv1	40.7	-51.88	38.99	54	-15.01	74	-35.01	0	101	Vert
22972.41	59.45	PK2	40.7	-51.89	48.26	54	-5.74	74	-25.74	223	101	Horz
22972.76	49.07	MAv1	40.7	-51.88	37.89	54	-16.11	74	-36.11	223	101	Horz
PK2 - KDB558074 v02 10.2.3.2/8.1.1 Method: Maximum Peak												
MAv1 - KDB558074 v02 10.2.3.2/8.2.1 Option 1 Maximum RMS Average												

HARMONICS AND SPURIOUS EMISSIONS 18MHz Bandwidth



Manufacturer: CBF Networks, Inc.												
Device: P - P Outdoor Radio												
Model: IBR - 1A 5.8GHz 5841MHz												
Job#:13U14996 Tested By: JD												
QAM 4 Stream 1,2 18MHz BW												
Horizontal 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor [dB]	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11681.94	60.26	PK2	33.6	-48.7	45.16	54	-8.84	74	-28.84	288	134	Horz
Horizontal 18000 - 26500MHz												
Test Frequency	Meter Reading	Detector	AF-8947 [dB/m]	BOMS Factor [dB]	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
24575	58.18	PK2	40.9	-50.96	48.12	54	-5.88	74	-25.88	303	331	Horz
24575	44.87	MAv1	40.9	-50.96	34.81	54	-19.19	74	-39.19	303	331	Horz
Horizontal 26500 - 40000MHz												
Test Frequency	Meter Reading	Detector	AF-73004 [dB/m]	BOMS Factor [dB]	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
30297	45.69	MAv1	44	-40.85	48.84	54	-5.16	74	-25.16	104	386	Horz
Vertical 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor [dB]	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11682	54.13	PK2	33.6	-48.7	39.03	54	-14.97	74	-34.97	255	137	Vert
11682	42.79	MAv1	33.6	-48.7	27.69	54	-26.31	74	-46.31	255	137	Vert

PK2 - KDB558074 v02 10.2.3.2/8.1.1 Method: Maximum Peak

MAv1 - KDB558074 v02 10.2.3.2/8.2.1 Option 1 Maximum RMS Average

Manufacturer: CBF Networks, Inc.

Device: P - P Outdoor Radio

Model: IBR - 1A 5.8GHz 5841MHz

Job#:13U14996 Tested By: JD

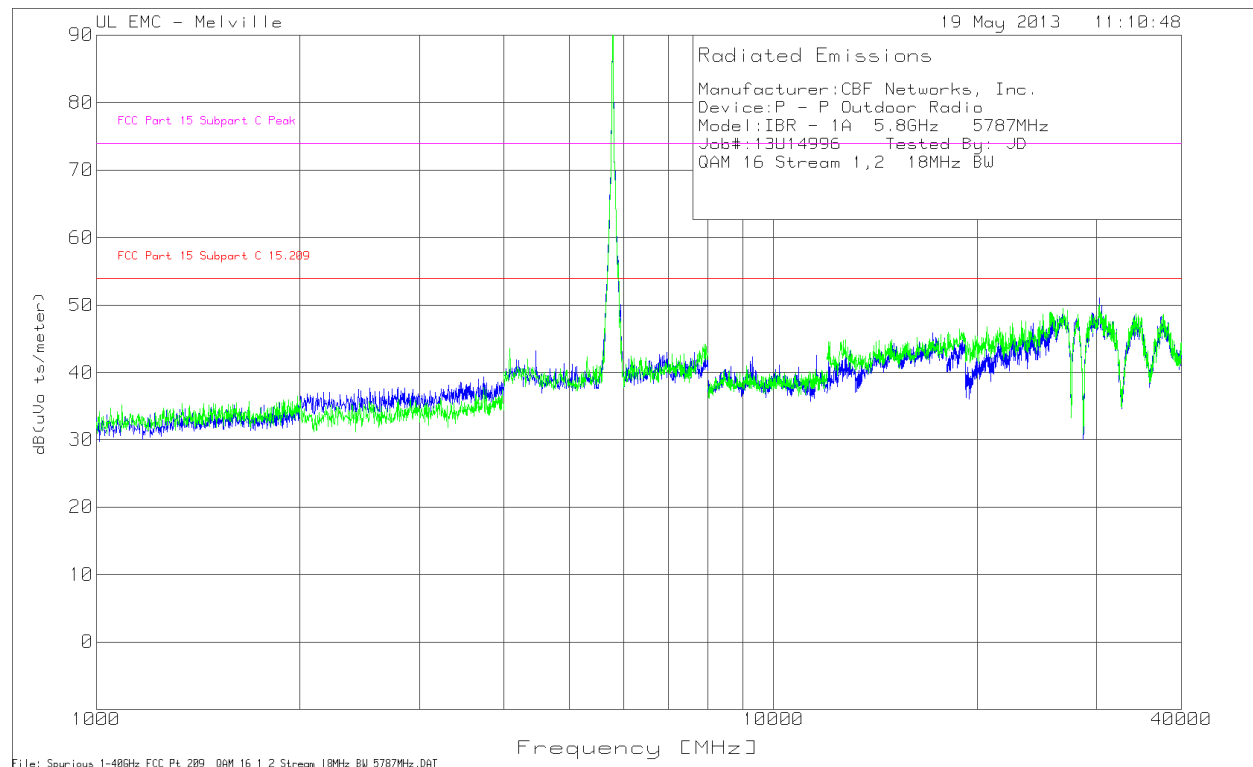
QAM 4 Stream 1,2 18MHz BW

Vertical 18000 - 26500MHz												
Test Frequency	Meter Reading	Detector	AF-8947 [dB/m]	BOMS Factor [dB]	dB(uVols/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
23280	60.1	PK2	40.9	-51.31	49.69	54	-4.31	74	-24.31	5	306	Vert
23280	45.95	MAv1	40.9	-51.31	35.54	54	-18.46	74	-38.46	5	306	Vert
Vertical 26500 - 40000MHz												
Test Frequency	Meter Reading	Detector	AF-73004 [dB/m]	BOMS Factor [dB]	dB(uVols/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
30229	46.03	MAv1	44.5	-40.16	50.37	54	-3.63	74	-23.63	204	323	Vert

PK2 - KDB558074 v02 10.2.3.2/8.1.1 Method: Maximum Peak

MAv1 - KDB558074 v02 10.2.3.2/8.2.1 Option 1 Maximum RMS Average

HARMONICS AND SPURIOUS EMISSIONS



Manufacturer: CBF Networks, Inc.												
Device: P - P Outdoor Radio												
Model: IBR - 1A 5.8GHz 5787MHz												
Job#:13U14996 Tested By: JD												
QAM 16 Stream 1,2 18MHz BW												
Horizontal 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11574	63.59	PK2	33.5	-48.34	48.75	54	-5.25	74	-25.25	295	138	Horz
Horizontal 18000 - 26500MHz												
Test Frequency	Meter Reading	Detector	AF-8947 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
26487.5	59.12	PK2	41.2	-51.59	48.73	54	-5.27	74	-25.27	120	173	Horz
26500	59.02	PK2	41.2	-51.33	48.89	54	-5.11	74	-25.11	120	173	Horz
26500	46.88	MAV1	41.2	-51.33	36.75	54	-17.25	74	-37.25	120	173	Horz
Horizontal 26500 - 40000MHz												
Test Frequency	Meter Reading	Detector	AF-73004 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
30243	42.93	MAV1	44	-39.82	47.11	54	-6.89	74	-26.89	266	303	Horz
Vertical 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11574	57.17	PK2	33.5	-48.34	42.33	54	-11.67	74	-31.67	111	386	Vert

PK2 - KDB558074 v02 10.2.3.2/8.1.1 Method: Maximum Peak

MAV1 - KDB558074 v02 10.2.3.2/8.2.1 Option 1 Maximum RMS Average

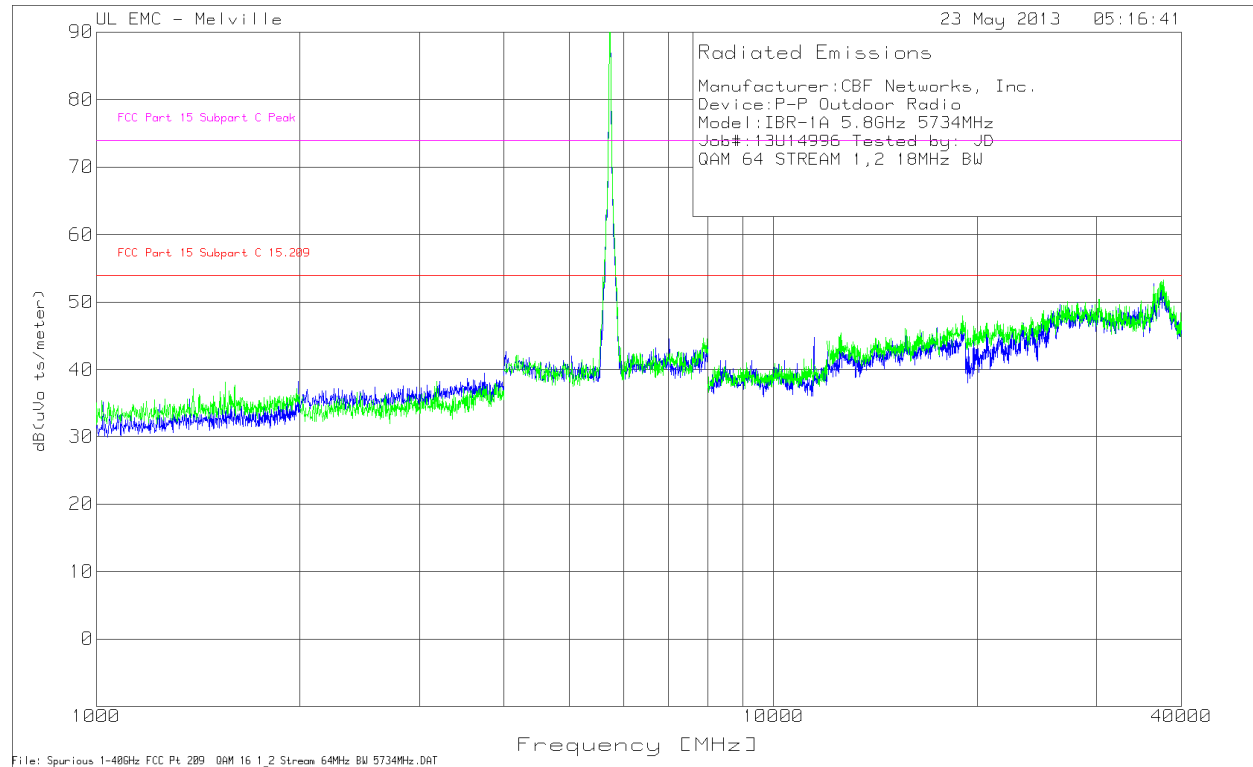
Manufacturer: CBF Networks, Inc.												
Device: P - P Outdoor Radio												
Model: IBR - 1A 5.8GHz 5787MHz												
Job#:13U14996 Tested By: JD												
QAM 16 Stream 1,2 18MHz BW												

Vertical 18000 - 26500MHz												
Test Frequency	Meter Reading	Detector	AF-8947 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
25614	58.56	PK2	40.9	-50.33	49.13	54	-4.87	74	-24.87	60	219	Vert
25614	46.38	PK2	40.9	-50.33	36.95	54	-17.05	74	-37.05	60	219	Vert
Vertical 26500 - 40000MHz												
Test Frequency	Meter Reading	Detector	AF-73004 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
30243	43.45	MAv1	44.5	-39.82	48.13	54	-5.87	74	-25.87	124	195	Vert

PK2 - KDB558074 v02 10.2.3.2/8.1.1 Method: Maximum Peak

MAv1 - KDB558074 v02 10.2.3.2/8.2.1 Option 1 Maximum RMS Average

HARMONICS AND SPURIOUS EMISSIONS



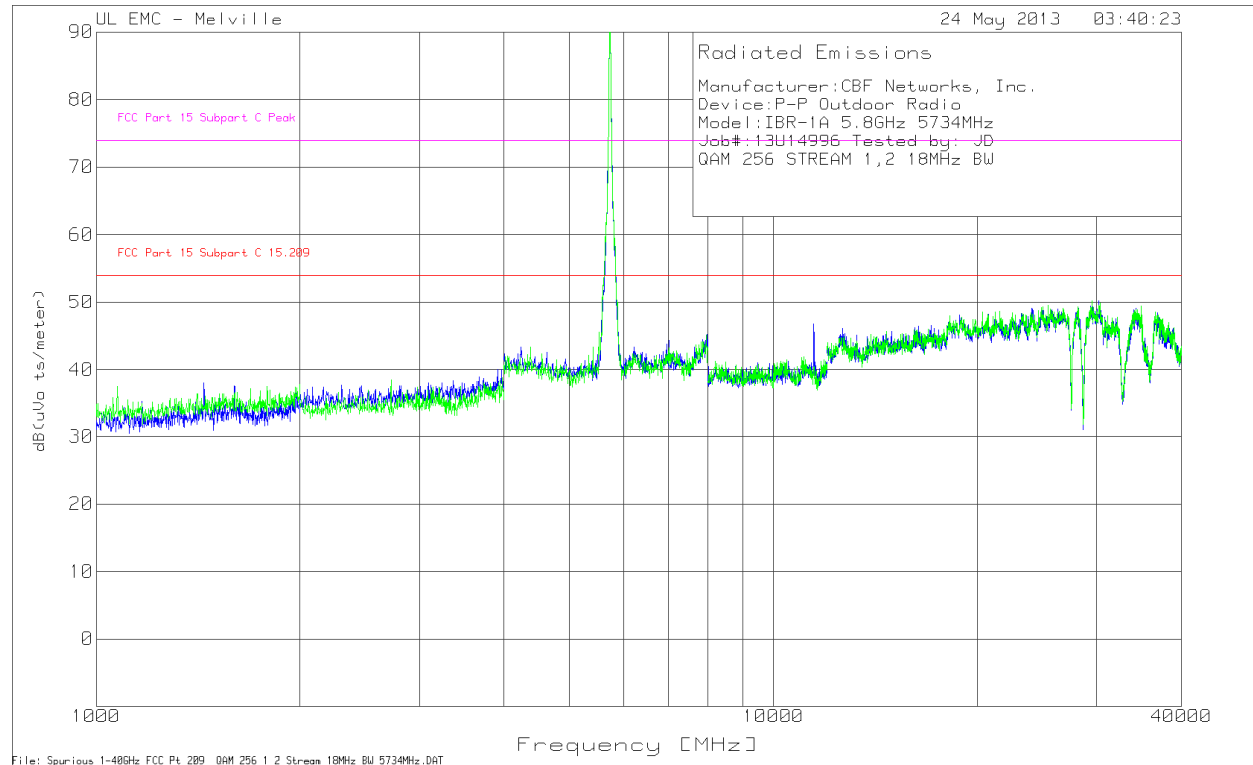
Manufacturer: CBF Networks, Inc.												
Device: P-P Outdoor Radio												
Model:IBR-1A 5.8GHz 5734MHz												
Job#:13U14996 Tested by: JD												
QAM 64 STREAM 1,2 18MHz BW												
Horizontal 1000 - 2000MHz												
Test Frequency	Meter Reading	Detector	AF-51442 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1508.84	56.92	PK2	20.8	-44.13	33.59	54	-20.41	74	-40.41	360	100	Horz
1512.47	44.86	MAv1	20.8	-43.8	21.86	54	-32.14	74	-52.14	360	100	Horz
Horizontal 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11467.35	63.97	PK2	33.4	-48.22	49.15	54	-4.85	74	-24.85	293	100	Horz
11468.3	54.27	MAv1	33.4	-48.31	39.36	54	-14.64	74	-34.64	293	100	Horz
Horizontal 18000 - 26500MHz												
Test Frequency	Meter Reading	Detector	AF-8947 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
19011.58	65.88	PK2	40.7	-56.01	50.57	54	-3.43	74	-23.43	209	384	Horz
19003.58	55.6	MAv1	40.7	-56.13	40.17	54	-13.83	74	-33.83	209	384	Horz
26443.43	46.49	MAv1	41.2	-51.36	36.33	54	-17.67	74	-37.67	279	349	Horz

PK2 - KDB558074 v02 10.2.3.2/8.1.1 Method: Maximum Peak

MAv1 - KDB558074 v02 10.2.3.2/8.2.1 Option 1 Maximum RMS Average

Manufacturer: CBF Networks, Inc.												
Device: P-P Outdoor Radio												
Model:IBR-1A 5.8GHz 5734MHz												
Job#:13U14996 Tested by: JD												
QAM 64 STREAM 1,2 18MHz BW												
Horizontal 26500 - 40000MHz												
Test Frequency	Meter Reading	Detector	AF-73004 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
36415.33	39.54	MAV1	44.1	-39.08	44.56	54	-9.44	74	-29.44	126	365	Horz
37527	39.75	MAV1	43.9	-40.07	43.58	54	-10.42	74	-30.42	256	314	Horz
Vertical 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11468.1	59.03	PK2	33.4	-48.29	44.14	54	-9.86	74	-29.86	360	346	Vert
11467.05	49.03	MAV1	33.4	-48.19	34.24	54	-19.76	74	-39.76	360	346	Vert
Vertical 18000 - 26500MHz												
Test Frequency	Meter Reading	Detector	AF-8947 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
22938.19	61.91	PK2	40.8	-51.86	50.85	54	-3.15	74	-23.15	166	379	Vert
22937.03	51.34	MAV1	40.8	-51.91	40.23	54	-13.77	74	-33.77	166	379	Vert
19020.22	65.48	PK2	40.9	-56.12	50.26	54	-3.74	74	-23.74	253	319	Vert
19016.68	55.06	MAV1	40.9	-56.12	39.84	54	-14.16	74	-34.16	253	319	Vert
26246.8	45.46	MAV1	41.1	-50.84	35.72	54	-18.28	74	-38.28	349	342	Vert
Vertical 26500 - 40000MHz												
Test Frequency	Meter Reading	Detector	AF-73004 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
30256.76	46.07	PK2	44.5	-40.12	50.45	54	-3.55	74	-23.55	332	100	Vert
30256	38.05	MAV1	44.5	-40.09	42.46	54	-11.54	74	-31.54	72	297	Vert
37608.11	48.71	PK2	44.6	-39.98	53.33	54	-0.67	74	-20.67	262	100	Vert
37608	40.52	MAV1	44.6	-39.98	45.14	54	-8.86	74	-28.86	0	391	Vert
PK2 - KDB558074 v02 10.2.3.2/8.1.1 Method: Maximum Peak												
MAV1 - KDB558074 v02 10.2.3.2/8.2.1 Option 1 Maximum RMS Average												

HARMONICS AND SPURIOUS EMISSIONS



Manufacturer: CBF Networks, Inc.												
Device: P-P Outdoor Radio												
Model:IBR-1A 5.8GHz 5734MHz												
Job#:13U14996 Tested by: JD												
QAM 256 STREAM 1,2 18MHz BW												
Horizontal 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor [dB]	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11461.96	66.86	PK2	33.4	-48.09	52.17	54	-1.83	74	-21.83	306	124	Horz
11462.69	56.06	MAv1	33.4	-48.07	41.39	54	-12.61	74	-32.61	306	124	Horz
Horizontal 18000 - 26500MHz												
Test Frequency	Meter Reading	Detector	AF-8947 [dB/m]	BOMS Factor [dB]	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
22936.08	60.73	PK2	40.7	-51.95	49.48	54	-4.52	74	-24.52	85	102	Horz
22943.31	50.04	MAv1	40.7	-51.76	38.98	54	-15.02	74	-35.02	85	102	Horz
Horizontal 26500 - 40000MHz												
Test Frequency	Meter Reading	Detector	AF-73004 [dB/m]	BOMS Factor [dB]	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
29500.45	53.45	PK2	43.9	-41.66	55.69	54	-	74	-18.31	347	103	Horz
29500.35	42.44	MAv1	43.9	-41.65	44.69	54	-9.31	74	-29.31	347	103	Horz
30229.2	52.21	PK2	44	-40.17	56.04	54	-	74	-17.96	266	114	Horz
30228.28	41.07	MAv1	44	-40.15	44.92	54	-9.08	74	-29.08	266	114	Horz

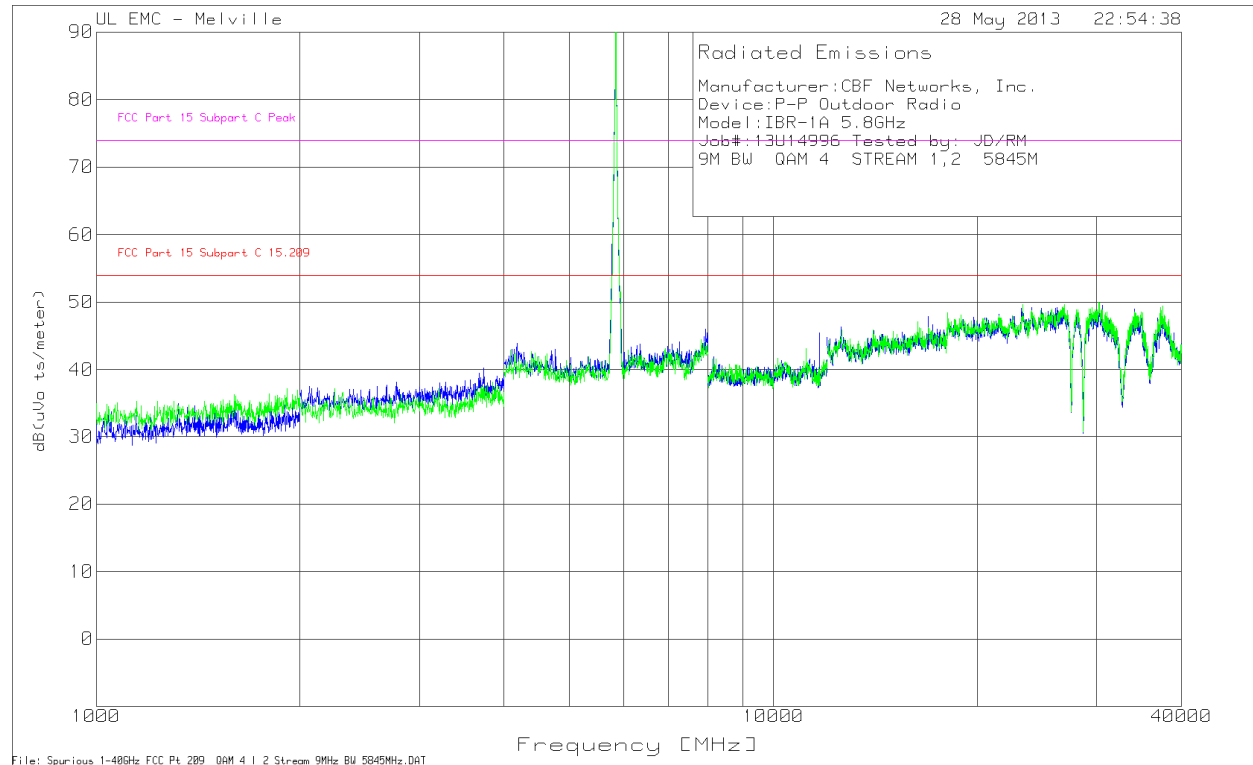
PK2 - KDB558074 v02 10.2.3.2/8.1.1 Method: Maximum Peak

MAv1 - KDB558074 v02 10.2.3.2/8.2.1 Option 1 Maximum RMS Average

Manufacturer: CBF Networks, Inc.												
Device: P-P Outdoor Radio												
Model:IBR-1A 5.8GHz 5734MHz												
Job#:13U14996 Tested by: JD												
QAM 256 STREAM 1,2 18MHz BW												

Vertical 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor [dB]	dB(uVolts / meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11463.33	58.96	PK2	33.4	-48.05	44.31	54	-9.69	74	-29.69	360	162	Vert
11467.61	48.55	RMS	33.4	-48.24	33.71	54	-20.29	74	-40.29	360	162	Vert
Vertical 18000 - 26500MHz												
Test Frequency	Meter Reading	Detector	AF-8947 [dB/m]	BOMS Factor [dB]	dB(uVolts / meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
22939.71	61.31	PK2	40.8	-51.79	50.32	54	-3.68	74	-23.68	360	392	Vert
22943.05	50.9	RMS	40.8	-51.76	39.94	54	-14.06	74	-34.06	360	392	Vert
Vertical 26500 - 40000MHz												
Test Frequency	Meter Reading	Detector	AF-73004 [dB/m]	BOMS Factor [dB]	dB(uVolts / meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
29504.11	54.22	PK2	44.1	-41.7	56.62	54	-	74	-17.38	305	397	Vert
29500.13	43.59	RMS	44.1	-41.65	46.04	54	-7.96	74	-27.96	305	397	Vert
PK2 - KDB558074 v02 10.2.3.2/8.1.1 Method: Maximum Peak												
MAv1 - KDB558074 v02 10.2.3.2/8.2.1 Option 1 Maximum RMS Average												

HARMONICS AND SPURIOUS EMISSIONS 9MHz Bandwidth

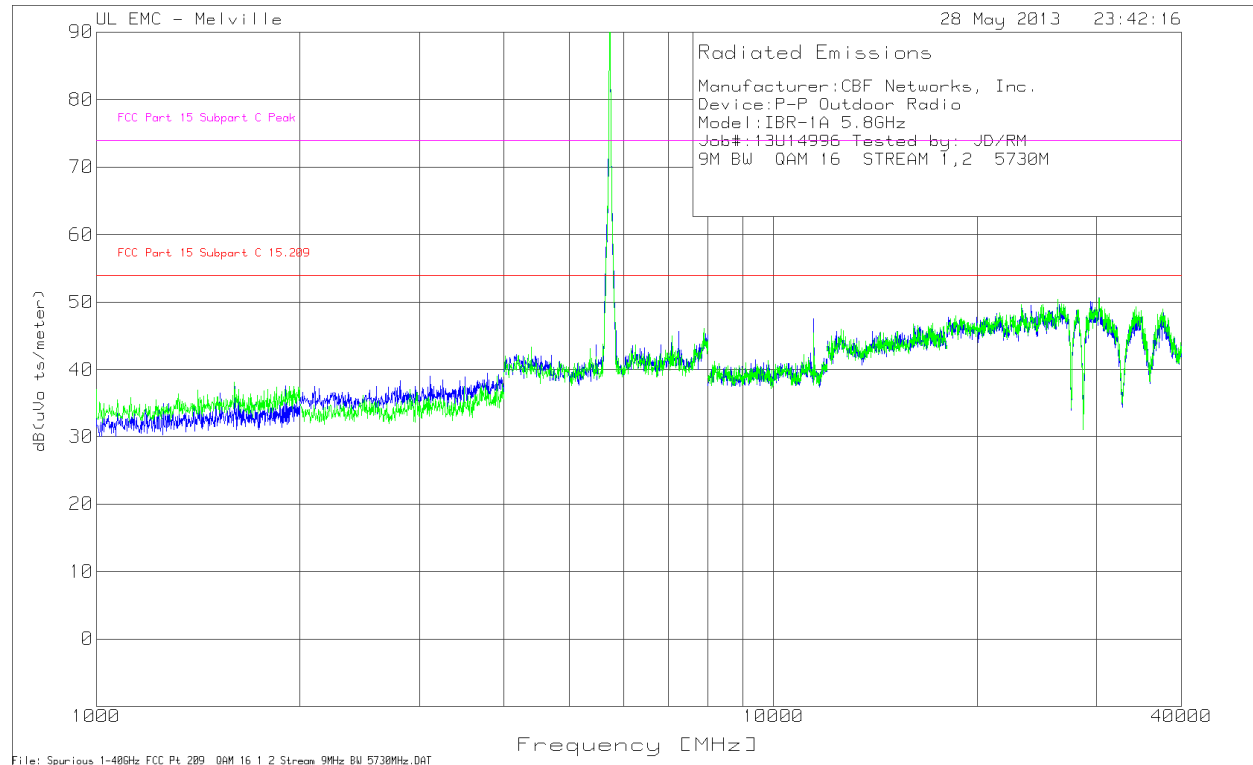


Manufacturer: CBF Networks, Inc.												
Device: P-P Outdoor Radio												
Model:IBR-1A 5.8GHz												
Job#:13U14996 Tested by: JD/RM												
9M BW QAM 4 STREAM 1,2												
Horizontal 2000 - 4000MHz												
Test Frequency	Meter Reading	Detector	AF-48107 [dB/m]	BOMS Factor (dB)	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
2773.547	58.73	PK	21.7	-42.24	38.19	54	-15.81	74	-35.81	210	100	Horz
Horizontal 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor (dB)	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11695.39	60.64	PK	33.6	-48.78	45.46	54	-8.54	74	-28.54	310	100	Horz
Horizontal 12000 - 18000MHz												
Test Frequency	Meter Reading	Detector	AF-8932 [dB/m]	BOMS Factor (dB)	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
12589.18	56.16	PK	37.3	-47.08	46.38	54	-7.62	74	-27.62	317	100	Horz
16905.81	58.48	PK	37.4	-47.99	47.89	54	-6.11	74	-26.11	194	100	Horz
Vertical 1000 - 2000MHz												
Test Frequency	Meter Reading	Detector	AF-51442 [dB/m]	BOMS Factor (dB)	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1911.824	59.04	PK	21.7	-43.72	37.02	54	-16.98	74	-36.98	147	100	Vert
Vertical 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor (dB)	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11687.38	55.34	PK	33.6	-48.87	40.07	54	-13.93	74	-33.93	359	100	Vert
Vertical 18000 - 26500MHz												
Test Frequency	Meter Reading	Detector	AF-8947 [dB/m]	BOMS Factor (dB)	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
18085.17	64.47	PK	41	-57.07	48.4	54	-5.6	74	-25.6	6	100	Vert

PK - Peak detector

Manufacturer: CBF Networks, Inc.												
Device: P-P Outdoor Radio												
Model:IBR-1A 5.8GHz												
Job#:13U14996 Tested by: JD/RM												
9M BW QAM 4 STREAM 1,2 5845M												
Horizontal 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11689.98	68.19	PK2	33.6	-48.86	52.93	54	-1.07	74	-21.07	294	117	Horz
11690	58.41	MAv1	33.6	-48.86	43.15	54	-10.85	74	-30.85	294	117	Horz
11690.18	61.17	PK2	33.6	-48.86	45.91	54	-8.09	74	-28.09	353	340	Vert
11690.23	50.33	MAv1	33.6	-48.86	35.07	54	-18.93	74	-38.93	353	340	Vert
PK - Peak detector												
RMS - RMS detection												
PK2 - KDB558074 v02 10.2.3.2/8.1.1 Method: Maximum Peak												
MAv1 - KDB558074 v02 10.2.3.2/8.2.1 Option 1 Maximum RMS Average												

HARMONICS AND SPURIOUS EMISSIONS 9MHz Bandwidth

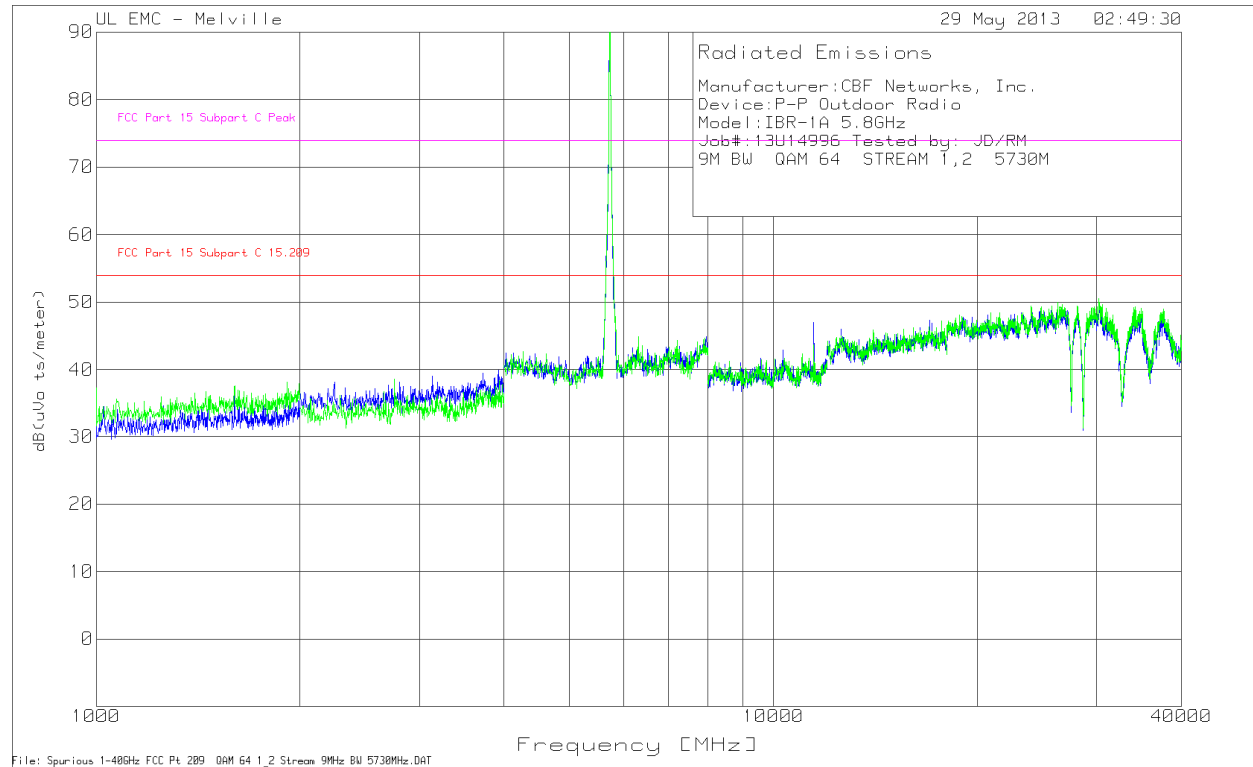


Manufacturer: CBF Networks, Inc.												
Device: P-P Outdoor Radio												
Model:IBR-1A 5.8GHz												
Job#:13U14996 Tested by: JD/RM												
9M BW QAM 16 STREAM 1,2 5730M												
Horizontal 1000 - 2000MHz												
Test Frequency	Meter Reading	Detector	AF-51442 [dB/m]	BOMS Factor (dB)	dB(uVolts/ meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1601.202	60.3	PK	21.2	-43.97	37.53	54	-16.47	74	-36.47	112	100	Horz
Horizontal 4000 - 8000MHz												
Test Frequency	Meter Reading	Detector	AF-48106 [dB/m]	BOMS Factor (dB)	dB(uVolts/ meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
7238.477	59.9	PK	27.9	-42.08	45.72	54	-8.28	74	-28.28	220	100	Horz
Horizontal 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor (dB)	dB(uVolts/ meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11462.93	62.27	PK	33.4	-48.06	47.61	54	-6.39	74	-26.39	280	100	Horz
Vertical 1000 - 2000MHz												
Test Frequency	Meter Reading	Detector	AF-51442 [dB/m]	BOMS Factor (dB)	dB(uVolts/ meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1599.198	61	PK	21.2	-43.98	38.22	54	-15.78	74	-35.78	195	100	Vert
Vertical 4000 - 8000MHz												
Test Frequency	Meter Reading	Detector	AF-48106 [dB/m]	BOMS Factor (dB)	dB(uVolts/ meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
7887.776	59.08	PK	29	-41.97	46.11	54	-7.89	74	-27.89	200	100	Vert
Vertical 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor (dB)	dB(uVolts/ meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11462.93	60.09	PK	33.4	-48.06	45.43	54	-8.57	74	-28.57	342	100	Vert

PK - Peak detector

Manufacturer: CBF Networks, Inc.												
Device: P-P Outdoor Radio												
Model:IBR-1A 5.8GHz												
Job#:13U14996 Tested by: JD/RM												
9M BW QAM 16 STREAM 1,2 5730M												
Horizontal 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11459.86	66.4	PK2	33.4	-48.16	51.64	54	-2.36	74	-22.36	313	107	Horz
11460.1	55.59	MAv1	33.4	-48.15	40.84	54	-13.16	74	-33.16	313	107	Horz
11459.96	66.58	PK2	33.4	-48.16	51.82	54	-2.18	74	-22.18	357	107	Vert
11460	55.43	MAv1	33.4	-48.16	40.67	54	-13.33	74	-33.33	357	107	Vert
Horizontal 18000 - 26500MHz												
Test Frequency	Meter Reading	Detector	AF-8947 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
22919.85	61.62	PK2	40.7	-51.53	50.79	54	-3.21	74	-23.21	42	110	Horz
22920.02	50.72	MAv1	40.7	-51.53	39.89	54	-14.11	74	-34.11	42	110	Horz
22919.96	61.1	PK2	40.7	-51.53	50.27	54	-3.73	74	-23.73	356	347	Vert
22919.47	49.33	MAv1	40.7	-51.54	38.49	54	-15.51	74	-35.51	356	347	Vert
PK2 - KDB558074 v02 10.2.3.2/8.1.1 Method: Maximum Peak												
MAv1 - KDB558074 v02 10.2.3.2/8.2.1 Option 1 Maximum RMS Average												

HARMONICS AND SPURIOUS EMISSIONS 9MHz Bandwidth

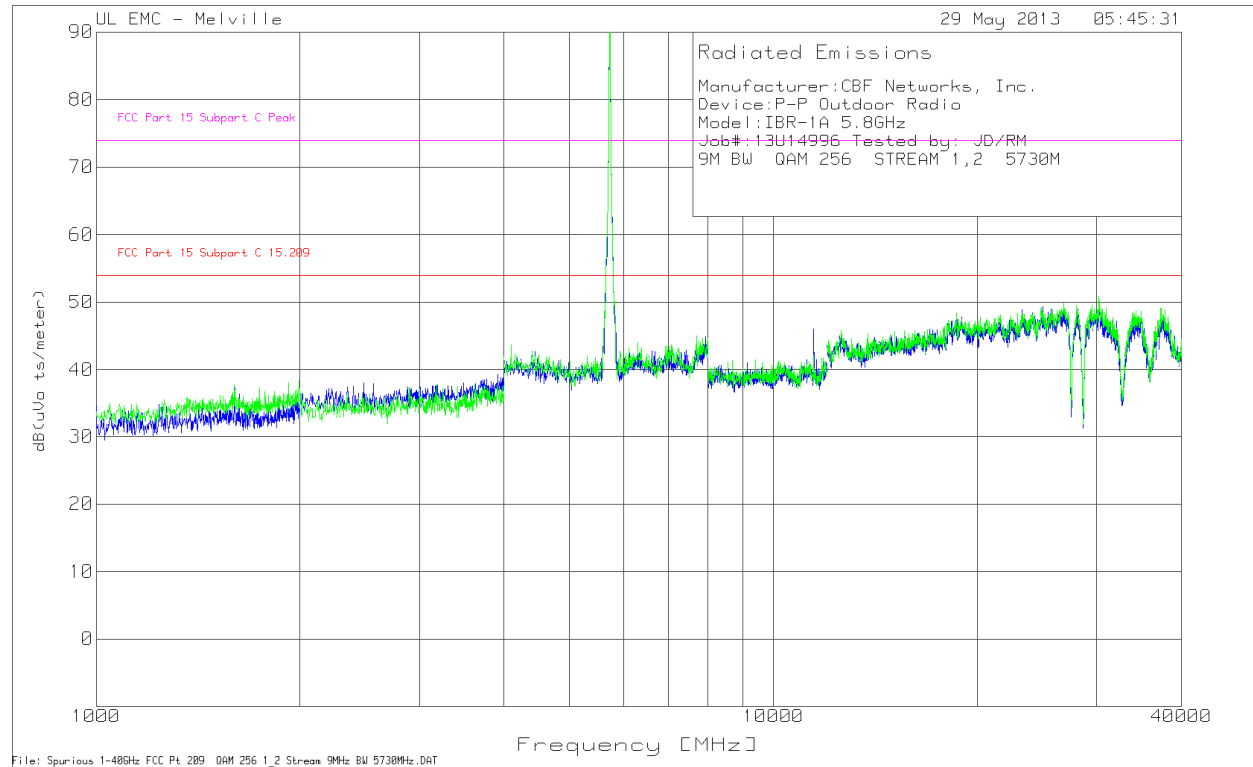


Manufacturer: CBF Networks, Inc.													
Device: P-P Outdoor Radio													
Model:IBR-1A 5.8GHz													
Job#:13U14996 Tested by: JD/RM													
9M BW QAM 64 STREAM 1,2 5730M													
Horizontal 1000 - 2000MHz													
Test Frequency	Meter Reading	Detector	AF-51442 [dB/m]	BOMS Factor (dB)	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity	
1599.198	59.73	PK	21.2	-43.98	36.95	54	-17.05	74	-37.05	104	100	Horz	
Horizontal 8000 - 12000MHz													
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor (dB)	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity	
11462.93	61.65	PK	33.4	-48.06	46.99	54	-7.01	74	-27.01	35	100	Horz	
Vertical 1000 - 2000MHz													
Test Frequency	Meter Reading	Detector	AF-51442 [dB/m]	BOMS Factor (dB)	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity	
1601.202	60.41	PK	21.2	-43.97	37.64	54	-16.36	74	-36.36	212	100	Vert	
Vertical 4000 - 8000MHz													
Test Frequency	Meter Reading	Detector	AF-48106 [dB/m]	BOMS Factor (dB)	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity	
6316.633	59.75	PK	27.8	-42.61	44.94	54	-9.06	74	-29.06	200	100	Vert	
7214.429	58.88	PK	27.9	-42.38	44.4	54	-9.6	74	-29.6	183	100	Vert	
Vertical 8000 - 12000MHz													
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor (dB)	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity	
11462.93	58.33	PK	33.4	-48.06	43.67	54	-10.33	74	-30.33	341	100	Vert	

PK - Peak detector

Manufacturer: CBF Networks, Inc.												
Device: P-P Outdoor Radio												
Model:IBR-1A 5.8GHz												
Job#:13U14996 Tested by: JD/RM												
9M BW QAM 64 STREAM 1,2 5730M												
Horizontal 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor [dB]	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11460.12	66.06	PK2	33.4	-48.15	51.31	54	-2.69	74	-22.69	312	158	Horz
11459.77	55.21	MAv1	33.4	-48.16	40.45	54	-13.55	74	-33.55	312	158	Horz
11460.06	65.23	PK2	33.4	-48.15	50.48	54	-3.52	74	-23.52	324	125	Vert
11459.81	52.17	MAv1	33.4	-48.16	37.41	54	-16.59	74	-36.59	324	125	Vert
Horizontal 18000 - 26500MHz												
Test Frequency	Meter Reading	Detector	AF-8947 [dB/m]	BOMS Factor [dB]	dB(uVolts /meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
22919.89	60.5	PK2	40.7	-51.53	49.67	54	-4.33	74	-24.33	355	111	Vert
22919.95	49.63	MAv1	40.7	-51.53	38.8	54	-15.2	74	-35.2	355	111	Vert
22919.55	59.88	PK2	40.7	-51.54	49.04	54	-4.96	74	-24.96	73	131	Horz
22919.59	49.01	MAv1	40.7	-51.54	38.17	54	-15.83	74	-35.83	73	131	Horz
PK2 - KDB558074 v02 10.2.3.2/8.1.1 Method: Maximum Peak												
MAv1 - KDB558074 v02 10.2.3.2/8.2.1 Option 1 Maximum RMS Average												

HARMONICS AND SPURIOUS EMISSIONS 9MHz Bandwidth



Manufacturer: CBF Networks, Inc.												
Device: P-P Outdoor Radio												
Model:IBR-1A 5.8GHz												
Job#:13U14996 Tested by: JD/RM												
9M BW QAM 256 STREAM 1,2 5730M												
Horizontal 1000 - 2000MHz												
Test Frequency	Meter Reading	Detector	AF-51442 [dB/m]	BOMS Factor (dB)	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1599.198	60.15	PK	21.2	-43.98	37.37	54	-16.63	74	-36.63	130	100	Horz
Horizontal 2000 - 4000MHz												
Test Frequency	Meter Reading	Detector	AF-48107 [dB/m]	BOMS Factor (dB)	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
2480.962	59.42	PK	21.3	-42.66	38.06	54	-15.94	74	-35.94	149	100	Horz
Horizontal 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor (dB)	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11462.93	60.64	PK	33.4	-48.06	45.98	54	-8.02	74	-28.02	292	100	Horz
Vertical 1000 - 2000MHz												
Test Frequency	Meter Reading	Detector	AF-51442 [dB/m]	BOMS Factor (dB)	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1991.984	59.52	PK	22.2	-43.3	38.42	54	-15.58	74	-35.58	213	100	Vert
Vertical 4000 - 8000MHz												
Test Frequency	Meter Reading	Detector	AF-48106 [dB/m]	BOMS Factor (dB)	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
4096.192	58.65	PK	27.9	-42.87	43.68	54	-10.32	74	-30.32	180	100	Vert
Vertical 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor (dB)	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11454.91	56.98	PK	33.4	-48.18	42.2	54	-11.8	74	-31.8	342	100	Vert

PK - Peak detector

Manufacturer: CBF Networks, Inc.												
Device: P-P Outdoor Radio												
Model:IBR-1A 5.8GHz												
Job#:13U14996 Tested by: JD/RM												
9M BW QAM 256 STREAM 1,2 5730M												
Horizontal 8000 - 12000MHz												
Test Frequency	Meter Reading	Detector	AF-8933 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
11460.26	65.83	PK2	33.4	-48.15	51.08	54	-2.92	74	-22.92	312	127	Horz
11460.09	55.59	MAv1	33.4	-48.15	40.84	54	-13.16	74	-33.16	312	127	Horz
11459.85	65.32	PK2	33.4	-48.16	50.56	54	-3.44	74	-23.44	331	102	Vert
11460.13	53	MAv1	33.4	-48.15	38.25	54	-15.75	74	-35.75	331	102	Vert
Horizontal 18000 - 26500MHz												
Test Frequency	Meter Reading	Detector	AF-8947 [dB/m]	BOMS Factor [dB]	dB(uVolts/meter)	FCC Part 15 Subpart C 15.209	Margin (dB)	FCC Part 15 Subpart C Peak	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
22920.24	61.15	PK2	40.7	-51.53	50.32	54	-3.68	74	-23.68	44	120	Horz
22919.87	50.44	MAv1	40.7	-51.53	39.61	54	-14.39	74	-34.39	44	120	Horz
22919.72	60.14	PK2	40.7	-51.53	49.31	54	-4.69	74	-24.69	0	135	Vert
22920.17	49.29	MAv1	40.7	-51.53	38.46	54	-15.54	74	-35.54	0	135	Vert
PK2 - KDB558074 v02 10.2.3.2/8.1.1 Method: Maximum Peak												
MAv1 - KDB558074 v02 10.2.3.2/8.2.1 Option 1 Maximum RMS Average												

9 AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 [*]	56 to 46 [*]
0.5-5	56	46
5-30	60	50

^{*} Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

WORST EMISSIONS

Manufacturer: CBF Networks, Inc.
Device: P-P outdoor Radio
Model: IBR-1A DTS 5.8GHz
Job: 13U14996
Tested by: DC/JD

6	Test	Meter	Transducer	Gain/Loss	Level	Limit:1	2	3	4	5
No.	Frequency [MHz]	Reading (dBuV)	Factor [dB]	Factor [dB]	(dB(uVolts))					
=====										
Line - L1	.15	- 30MHz								
2	.15	15.97 Av	0	10	25.97	66	-	-	-	-
				Margin [dB]		-40.03	-	-	-	-
4	.1815	31.54 Av	0	10	41.54	64.4	-	-	-	-
				Margin [dB]		-22.86	-	-	-	-
6	.258	16.71 Av	0	10	26.71	61.5	-	-	-	-
				Margin [dB]		-34.79	-	-	-	-
8	.267	23.8 Av	0	10	33.8	61.2	-	-	-	-
				Margin [dB]		-27.4	-	-	-	-
10	.294	32.52 Av	0	10	42.52	60.4	-	-	-	-
				Margin [dB]		-17.88	-	-	-	-
12	.42	24.23 Av	0	10	34.23	57.4	-	-	-	-
				Margin [dB]		-23.17	-	-	-	-
14	.546	21.09 Av	0	10	31.09	56	-	-	-	-
				Margin [dB]		-24.91	-	-	-	-
16	.7215	22.21 Av	0	10	32.21	56	-	-	-	-
				Margin [dB]		-23.79	-	-	-	-
18	.987	16.41 Av	0	10	26.41	56	-	-	-	-
				Margin [dB]		-29.59	-	-	-	-
20	1.392	22.28 Av	0	10.1	32.38	56	-	-	-	-
				Margin [dB]		-23.62	-	-	-	-
22	1.635	20.72 Av	0	10.1	30.82	56	-	-	-	-
				Margin [dB]		-25.18	-	-	-	-
24	1.941	17.46 Av	0	10.1	27.56	56	-	-	-	-
				Margin [dB]		-28.44	-	-	-	-
26	3.291	21.11 Av	0	10.1	31.21	56	-	-	-	-
				Margin [dB]		-24.79	-	-	-	-
28	6.783	20.37 Av	0	10.3	30.67	60	-	-	-	-
				Margin [dB]		-29.33	-	-	-	-
30	14.532	29.64 Av	0	10.9	40.54	60	-	-	-	-
				Margin [dB]		-19.46	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C Avg

PK - Peak detector
QP - Quasi-Peak detector
LgAv - Log average detection
LnAv - Linear average detector

Manufacturer: CBF Networks, Inc.
Device: P-P outdoor Radio
Model: IBR-1A DTS 5.8GHz
Job: 13U14996
Tested by: DC/JD

Test	Meter	Transducer	Gain/Loss	Level	Limit:1	2	3	4	5
6									
No.	Frequency [MHz]	Reading (dBuV)	Factor [dB]	Factor [dB]	(dB(uVolts))				
=====									
Neutral .15 - 30MHz -----									
32	.1815	31.62 Av	0	10	41.62	64.4	-	-	-
				Margin [dB]		-22.78	-	-	-
34	.303	29.09 Av	0	10	39.09	60.2	-	-	-
				Margin [dB]		-21.11	-	-	-
36	.52575	28.6 Av	0	10.1	38.7	56	-	-	-
				Margin [dB]		-17.3	-	-	-
38	.726	19.16 Av	0	10.1	29.26	56	-	-	-
				Margin [dB]		-26.74	-	-	-
40	1.2705	23.49 Av	0	10.1	33.59	56	-	-	-
				Margin [dB]		-22.41	-	-	-
42	1.617	24.41 Av	0	10.1	34.51	56	-	-	-
				Margin [dB]		-21.49	-	-	-
44	3.282	21.93 Av	0	10.2	32.13	56	-	-	-
				Margin [dB]		-23.87	-	-	-
46	7.7595	17.56 Av	0	10.4	27.96	60	-	-	-
				Margin [dB]		-32.04	-	-	-
48	14.775	32.34 Av	0	11	43.34	60	-	-	-
				Margin [dB]		-16.66	-	-	-

LIMIT 1: FCC Part 15 Subpart C Avg

PK - Peak detector
QP - Quasi-Peak detector
LgAv - Log average detection
LnAv - Linear average detector

Manufacturer: CBF Networks, Inc.
Device: P-P outdoor Radio
Model: IBR-1A DTS 5.8GHz
Job: 13U14996
Tested by:DC/JD.

Test	Meter	Transducer	Gain/Loss	Level	Limit:1	2	3	4	5
6									
Frequency [MHz]	Reading (dBuV)	Factor [dB]	Factor (dB(uVolts)) [dB]						
=====									
Line - L1 .15 - 30MHz									
.1518	39.16 QP	0	10	49.16	65.9	55.9	-	-	-
			Margin [dB]:		-16.74	-6.74	-	-	-
.1509	39.66 QP	0	10	49.66	65.95	55.95	-	-	-
			Margin [dB]:		-16.29	-6.29	-	-	-
.1833	40.15 QP	0	10	50.15	64.33	54.33	-	-	-
			Margin [dB]:		-14.18	-4.18	-	-	-
.2535	29.18 QP	0	10	39.18	61.64	51.64	-	-	-
			Margin [dB]:		-22.46	-12.46	-	-	-
.2643	29.72 QP	0	10	39.72	61.3	51.3	-	-	-
			Margin [dB]:		-21.58	-11.58	-	-	-
.2904	38.9 QP	0	10	48.9	60.51	50.51	-	-	-
			Margin [dB]:		-11.61	-1.61	-	-	-
.4245	33.47 QP	0	10	43.47	57.36	47.36	-	-	-
			Margin [dB]:		-13.89	-3.89	-	-	-
.5451	36.62 QP	0	10	46.62	56	46	-	-	-
			Margin [dB]:		-9.38	-	-	-	-
.7251	35.12 QP	0	10	45.12	56	46	-	-	-
			Margin [dB]:		-10.88	-	-	-	-
.9834	30.1 QP	0	10	40.1	56	46	-	-	-
			Margin [dB]:		-15.9	-5.9	-	-	-
1.3929	34.83 QP	0	10.1	44.93	56	46	-	-	-
			Margin [dB]:		-11.07	-1.07	-	-	-
1.6305	33.83 QP	0	10.1	43.93	56	46	-	-	-
			Margin [dB]:		-12.07	-2.07	-	-	-
1.9374	34.36 QP	0	10.1	44.46	56	46	-	-	-
			Margin [dB]:		-11.54	-1.54	-	-	-
3.2955	35.1 QP	0	10.1	45.2	56	46	-	-	-
			Margin [dB]:		-10.8	-	-	-	-
6.7875	31.05 QP	0	10.3	41.35	60	50	-	-	-
			Margin [dB]:		-18.65	-8.65	-	-	-
14.5302	27.71 QP	0	10.9	38.61	60	50	-	-	-
			Margin [dB]:		-21.39	-11.39	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

PK - Peak detector
QP - Quasi-Peak detector

LIMIT 1: FCC Part 15 Subpart C QPk
LIMIT 2: FCC Part 15 Subpart C Avg

Manufacturer: CBF Networks, Inc.
Device: P-P outdoor Radio
Model: IBR-1A DTS 5.8GHz
Job: 13U14996
Tested by:DC/JD.

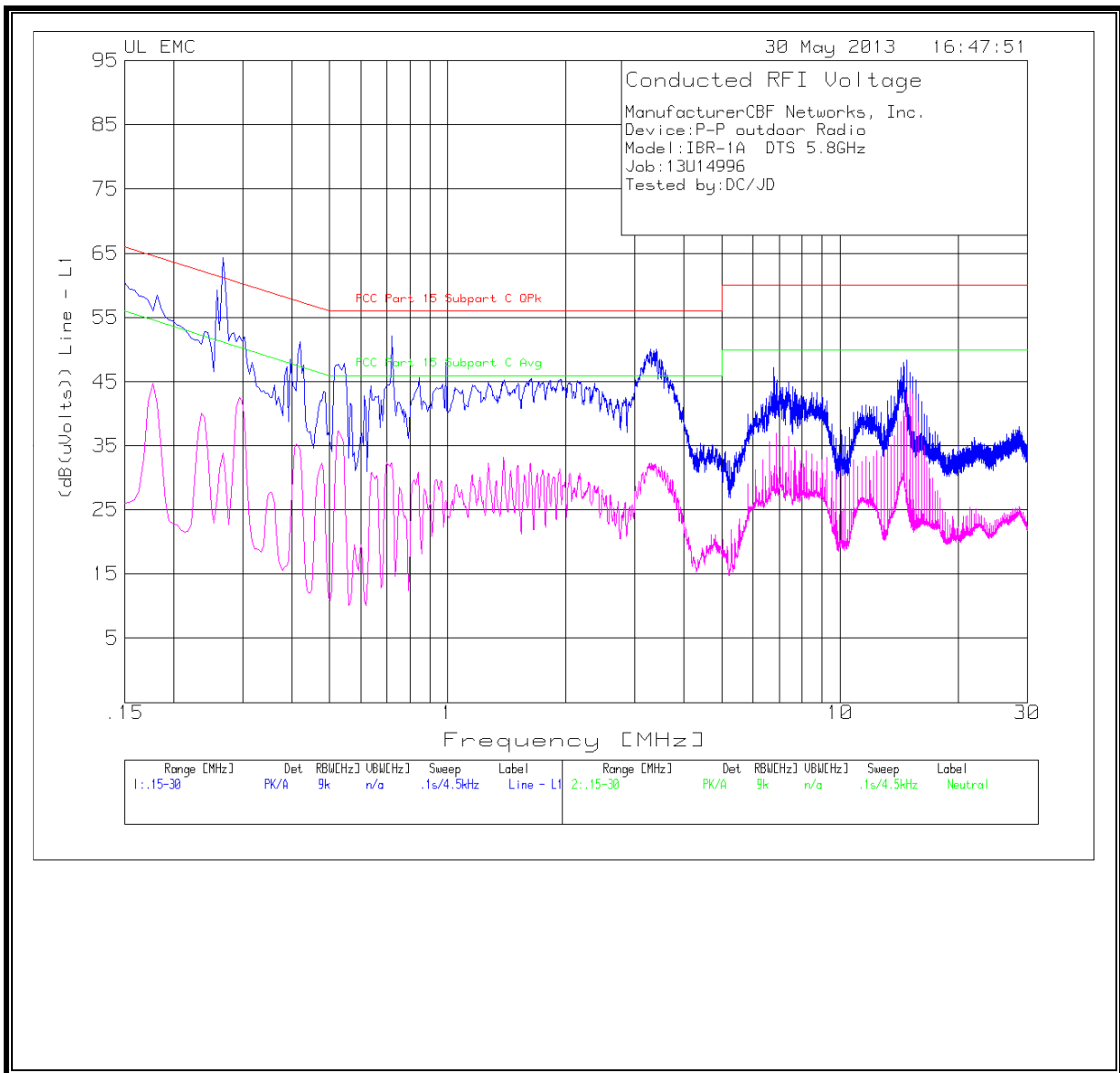
Test	Meter	Transducer	Gain/Loss	Level	Limit:1	2	3	4	5
Neutral .15 - 30MHz									
.1833	40.34 QP	0	10	50.34	64.33	54.33	-	-	-
			Margin [dB]:		-13.99	-3.99	-	-	-
.303	39.65 QP	0	10	49.65	60.16	50.16	-	-	-
			Margin [dB]:		-10.51	-	-	-	-
.52395	38.36 QP	0	10.1	48.46	56	46	-	-	-
			Margin [dB]:		-7.54	-	-	-	-
.7287	36.26 QP	0	10.1	46.36	56	46	-	-	-
			Margin [dB]:		-9.64	-	-	-	-
1.2705	35.75 QP	0	10.1	45.85	56	46	-	-	-
			Margin [dB]:		-10.15	-	-	-	-
1.6161	35.22 QP	0	10.1	45.32	56	46	-	-	-
			Margin [dB]:		-10.68	-	-	-	-
3.2865	35.78 QP	0	10.2	45.98	56	46	-	-	-
			Margin [dB]:		-10.02	-	-	-	-
7.7622	23.06 QP	0	10.4	33.46	60	50	-	-	-
			Margin [dB]:		-26.54	-16.54	-	-	-
14.7714	25.06 QP	0	11	36.06	60	50	-	-	-
			Margin [dB]:		-23.94	-13.94	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

PK - Peak detector
QP - Quasi-Peak detector

LIMIT 1: FCC Part 15 Subpart C QPk
LIMIT 2: FCC Part 15 Subpart C Avg

LINE 1 RESULTS



LINE 2 RESULTS

