

FCC Test Report

FCC ID : 2AD8UFTHC01
Equipment : Dual Band UE Relay
Model No. : FTHC
Brand Name : Nokia
Applicant : Nokia Solutions and Networks,OY
Address : 1455 W Shure Drive Arlington Heights, Illinois
United States 60004
Standard : 47 CFR FCC Part 27 Subpart M
Received Date : Jan. 07, 2016
Tested Date : Jan. 14 ~ Feb. 02, 2016

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Approved & Reviewed by:



Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
FG610705P27	Rev. 01	Initial issue	Mar. 17, 2016
FG610705P27	Rev. 02	Modified test channel to test frequency of section 2.2	Mar. 21, 2016
FG610705P27	Rev. 03	Modified applicant name (Page 1)	Apr. 06, 2016

Summary of Test Results

FCC Rules	Test Items	Worst Case Measured	Limit	Result
2.1046 / 27.50(h)(2)	Output power	26.38 dBm	2 Watts(33dBm)	Pass
2.1053 / 27.53(m)(2)(v)	Radiated Emissions	-30.73 dBm	-13 dBm	Pass
2.1051 / 27.53(m)(2)(v)	Conducted Emissions	-26.63 dBm	-13 dBm	Pass
2.1051 / 27.53(m)(2)(v)	Channel Edge Measurement	-17.638 dBm	-13 dBm	Pass
27.53(m)(6)	Emission Bandwidth	19.55 MHz	N/A	Pass
2.1055 / 27.54	Frequency Stability	0.018 ppm	Fundamental emission stays within the authorized frequency block.	Pass

1 General Description

1.1 Information

The device has two different samples which were designed with or without EUDM parts.

Sample 01: with EUDM parts

Sample 02: w/o EUDM parts.

1.1.1 Specification of the Equipment under Test (EUT)

Operating Frequency (MHz)	Channel Bandwidth: 5MHz: 2498.5~2567.5 Channel Bandwidth: 10MHz: 2501~2565 Channel Bandwidth: 15MHz: 2503.5~2562.5 Channel Bandwidth: 20MHz: 2506~2560
Modulation Type	Uplink: QPSK, 16QAM, 64QAM Downlink: QPSK, 16QAM, 64QAM, 256QAM
Duplex Mode	TDD
Category	Cat 5 & Cat 6
Release Version	11
H/W Version	V01
S/W Version	01.01.02.089
TX/RX function	1TX / 4RX

1.1.2 Maximum Conducted Power and Emission Designator

Mode	Modulation	Maximum Conducted Power (W)	Emission Designator
LTE Band 41, CB: 5MHz	QPSK	0.419	4M48G7D
LTE Band 41, CB: 5MHz	16QAM	0.341	4M47W7D
LTE Band 41, CB: 5MHz	64QAM	0.332	4M46W7D
LTE Band 41, CB: 10MHz	QPSK	0.418	8M93G7D
LTE Band 41, CB: 10MHz	16QAM	0.345	8M92W7D
LTE Band 41, CB: 10MHz	64QAM	0.310	8M93W7D
LTE Band 41, CB: 15MHz	QPSK	0.429	13M4G7D
LTE Band 41, CB: 15MHz	16QAM	0.386	13M4W7D
LTE Band 41, CB: 15MHz	64QAM	0.359	13M4W7D
LTE Band 41, CB: 20MHz	QPSK	0.435	17M9G7D
LTE Band 41, CB: 20MHz	16QAM	0.357	17M9W7D
LTE Band 41, CB: 20MHz	64QAM	0.330	17M8W7D

1.1.3 Antenna Details

Ant. No.	Type	Gain (dBi)	Connector	Remark
1	Patch	11	i-Pex	---

1.1.4 EUT Operational Condition

Power Supply Type	56Vdc from POE (support unit only.) Brand Name: PHIHONG Model Name: POE16R-1AFG Power Rating: I/P: 100-240Vac, 0.8A, 50-60Hz, 32-44VA O/P: 56Vdc, 0.275A		
Operational Climatic	<input checked="" type="checkbox"/> Tnom (20°C)	<input checked="" type="checkbox"/> Tmax (60°C)	<input checked="" type="checkbox"/> Tmin (-40°C)

1.1.5 Accessories

N/A

1.1.6 Operating Channel List

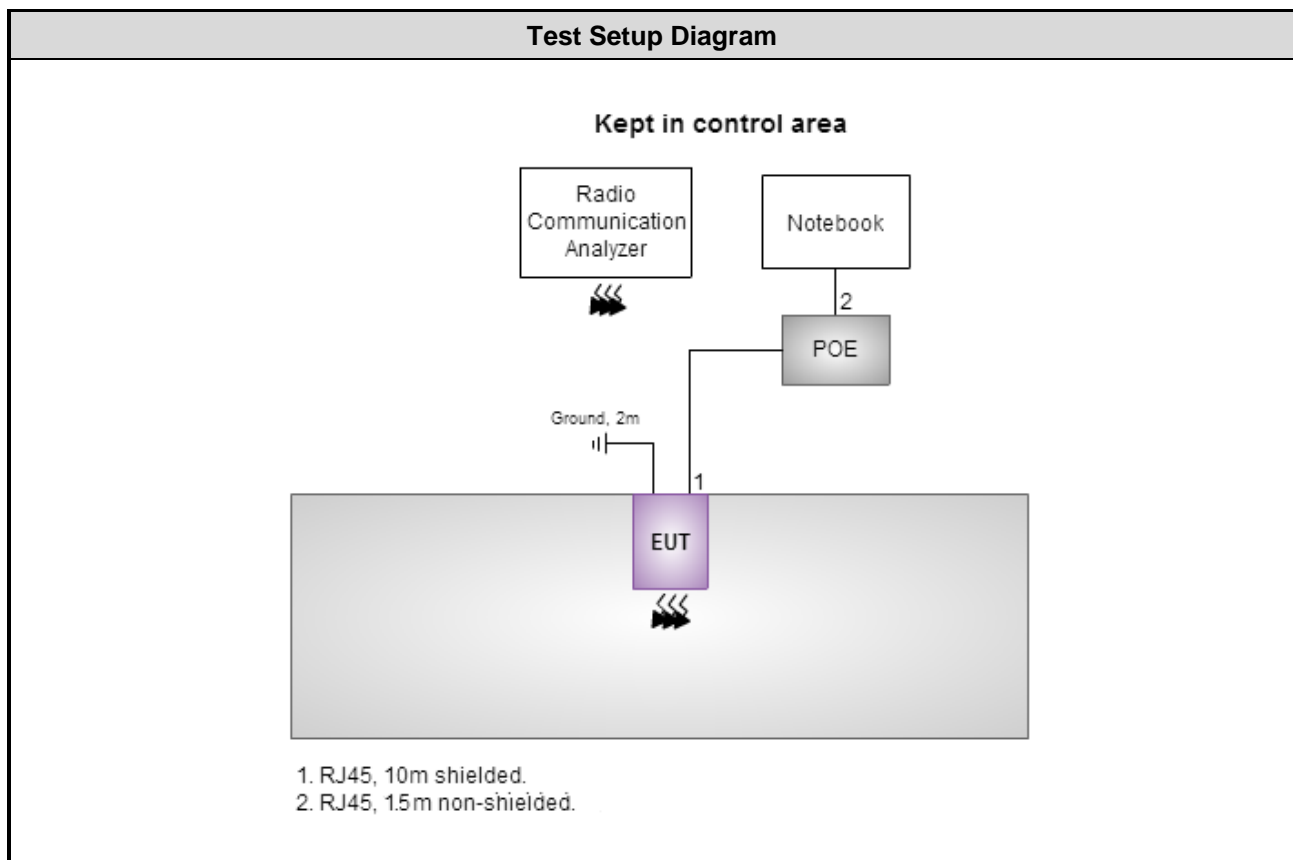
LTE Band 41		
Channel Bandwidth (MHz)	Channel	Frequency (MHz)
5	39675	2498.5
5	40020	2533.0
5	40365	2567.5
10	39700	2501.0
10	40020	2533.0
10	40340	2565.0
15	39725	2503.5
15	40020	2533.0
15	40315	2562.5
20	39750	2506.0
20	40020	2533.0
20	40290	2560.0

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	S/N	Signal cable / Length (m)
1	Notebook	DELL	Latitude E6440	2PXMD12	RJ45, 1.5m non-shielded w/o core.
2	Radio Communication Analyzer	Anritsu	MT8820C	6201240341	---
3	POE	PHIHONG	POE16R-1AFG	---	RJ45, 10m shielded w/o core.

Note: No.3 was supplied by applicant.

1.3 Test Setup Chart



1.4 The Equipment List

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101498	Dec. 13, 2015	Dec. 12, 2016
Receiver	R&S	ESR3	101658	Nov. 04, 2015	Nov. 03, 2016
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 20, 2015	Aug. 19, 2016
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 16, 2015	Dec. 15, 2016
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 04, 2015	Nov. 03, 2016
Loop Antenna	R&S	HFH2-Z2	11900	Nov. 16, 2015	Nov. 15, 2016
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Dec. 10, 2015	Dec. 09, 2016
Preamplifier	Burgeon	BPA-530	SN:100219	Sep. 10, 2015	Sep. 09, 2016
Preamplifier	Agilent	83017A	MY39501308	Oct. 02, 2015	Oct. 01, 2016
Preamplifier	EMC	EMC184045B	980192	Sep. 01, 2015	Aug. 31, 2016
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 10, 2015	Dec. 09, 2016
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 10, 2015	Dec. 09, 2016
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 10, 2015	Dec. 09, 2016
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Dec. 10, 2015	Dec. 09, 2016
LF cable 10M	Woken	CFD400NL-LW	CFD400NL-002	Dec. 10, 2015	Dec. 09, 2016
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Feb. 03, 2015	Feb. 02, 2016
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Nov. 27, 2015	Nov. 26, 2016
Power Meter	Anritsu	ML2495A	1241002	Sep. 21, 2015	Sep. 20, 2016
Power Sensor	Anritsu	MA2411B	1207366	Sep. 21, 2015	Sep. 20, 2016
Signal Generator	R&S	SMB100A	175727	Oct. 05, 2015	Oct. 04, 2016
Radio Communication Analyzer	Anritsu	MT8820C	6201240341	Mar. 19, 2015	Mar. 18, 2016
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

According to the specification of EUT, the EUT must comply with following standards.

47 CFR FCC Part 27 Subpart M

ANSI C63.4-2014

ANSI/TIA-603-D 2010

FCC KDB 971168 D01 Power Meas License Digital Systems v02r02

FCC KDB 971168 D02 Misc OOBE License Digital Systems v01

FCC KDB 412172 D01 Determining ERP and EIRP v01r01

1.6 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor ($k=2$))

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	± 34.134 Hz
Conducted power	± 0.808 dB
Frequency error	± 34.134 Hz
Conducted emission	± 2.670 dB
Radiated emission ≤ 1 GHz	± 3.66 dB
Radiated emission > 1 GHz	± 5.63 dB
Temperature	± 0.6 °C

2 Test Configuration

2.1 Testing Condition and Location Information

Test Item	Test Site	Ambient Condition	Tested By
RF conducted	TH01-WS	20°C / 62%	Felix Sung
Radiated Emissions	03CH01-WS	22°C / 63%	Aska Huang

➤ FCC site registration No.: 657002

➤ IC site registration No.: 10807A-1

2.2 The Worst Test Modes and Channel Details

Test item	Channel Bandwidth	Modulation	Test Frequency (MHz)
Output Power	5 MHz	QPSK / 16QAM / 64QAM	2498.5 / 2533.0 / 2567.5
Conducted Emissions	10 MHz	QPSK / 16QAM / 64QAM	2501.0 / 2533.0 / 2565.0
Occupied Bandwidth	15 MHz	QPSK / 16QAM / 64QAM	2503.5 / 2533.0 / 2562.5
	20 MHz	QPSK / 16QAM / 64QAM	2506.0 / 2533.0 / 2560.0
Radiated Emission ≤ 1GHz	5 MHz	QPSK	2498.5
	10 MHz	QPSK	2501.0
	15 MHz	QPSK	2503.5
	20 MHz	QPSK	2506.0
Radiated Emission > 1GHz	5 MHz	QPSK	2498.5 / 2533.0 / 2567.5
	10 MHz	QPSK	2501.0 / 2533.0 / 2565.0
	15 MHz	QPSK	2503.5 / 2533.0 / 2562.5
	20 MHz	QPSK	2506.0 / 2533.0 / 2560.0
Band Edge	5 MHz	QPSK / 16QAM / 64QAM	2498.5 / 2567.5
	10 MHz	QPSK / 16QAM / 64QAM	2501.0 / 2565.0
	15 MHz	QPSK / 16QAM / 64QAM	2503.5 / 2562.5
	20 MHz	QPSK / 16QAM / 64QAM	2506.0 / 2560.0
Frequency Stability	5 MHz	QPSK	2533.0
	10 MHz	QPSK	2533.0
	15 MHz	QPSK	2533.0
	20 MHz	QPSK	2533.0
Note: Sample 01 (with EUDM) & Sample 02 (w/o EUDM) had been covered during the pretest and found that Sample 01 (with EUDM) was the worst case and was selected for final test.			

3 Test Results

3.1 Output Power

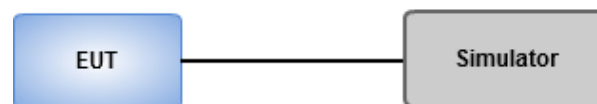
3.1.1 Limit of Output Power

All user stations are limited to 2.0 watts transmitter output power

3.1.2 Test Procedures

1. The EUT links up with simulator and is set to maximum output power level at low / middle / high channel.
2. Measure the output power of low / middle / high channel of the EUT

3.1.3 Test Setup



3.1.4 Test Result of Conducted power (dBm)

Band / Channel Bandwidth			LTE Band 41 / CB: 5MHz		
Channel			39675	40020	40365
Frequency (MHz)			2498.5	2533.0	2567.5
Mode	RB	RB Offset	Maximum AV Power (dBm)		
QPSK	1	0	26.22	25.37	25.19
	1	12	25.88	25.35	25.18
	1	24	25.57	25.15	24.96
	12	0	25.04	24.53	24.35
	12	6	25.03	24.55	24.36
	12	11	24.94	24.48	24.29
	25	0	24.97	24.49	24.29
16QAM	1	0	25.33	24.61	24.52
	1	12	25.11	24.55	24.44
	1	24	24.85	24.42	24.24
	12	0	24.17	23.56	23.38
	12	6	24.06	23.59	23.40
	12	11	23.97	23.52	23.34
	25	0	24.03	23.54	23.34
64QAM	1	0	25.21	24.22	24.15
	1	12	24.92	24.19	24.03
	1	24	24.71	24.11	23.83
	12	0	23.73	23.18	23.11
	12	6	23.71	23.20	23.05
	12	11	23.55	23.14	22.98
	25	0	23.52	23.11	22.99

Band / Channel Bandwidth			LTE Band 41 / CB: 10MHz		
Channel			39700	40020	40340
Frequency (MHz)			2501.0	2533.0	2565.0
Mode	RB	RB Offset	Maximum AV Power (dBm)		
QPSK	1	0	26.21	25.51	25.32
	1	24	25.87	25.44	25.21
	1	49	25.45	25.16	24.88
	25	0	25.11	24.58	24.30
	25	12	25.04	24.62	24.35
	25	24	24.91	24.48	24.29
	50	0	24.87	24.52	24.34
16QAM	1	0	25.38	24.64	24.38
	1	24	25.14	24.71	24.47
	1	49	24.70	24.40	24.13
	25	0	24.17	23.62	23.35
	25	12	24.10	23.68	23.40
	25	24	23.97	23.54	23.34
	50	0	23.91	23.55	23.38
64QAM	1	0	24.92	24.22	23.95
	1	24	24.62	24.18	23.86
	1	49	24.13	23.86	23.62
	25	0	23.66	23.14	22.87
	25	12	23.58	23.19	22.93
	25	24	23.45	23.05	22.88
	50	0	23.41	23.02	22.91

Band / Channel Bandwidth			LTE Band 41 / CB: 15MHz		
Channel			39725	40020	40315
Frequency (MHz)			2503.5	2533.0	2562.5
Mode	RB	RB Offset	Maximum AV Power (dBm)		
QPSK	1	0	26.32	25.77	25.45
	1	37	25.62	25.28	25.24
	1	74	25.76	25.43	25.38
	36	0	24.94	24.46	24.24
	36	18	24.88	24.43	24.23
	36	37	24.68	24.34	24.17
	75	0	24.85	24.38	24.20
16QAM	1	0	25.87	24.97	24.62
	1	37	24.82	24.48	24.23
	1	74	24.97	24.63	24.39
	36	0	23.95	23.46	23.25
	36	18	23.89	23.43	23.23
	36	37	23.68	23.34	23.17
	75	0	23.89	23.40	23.24
64QAM	1	0	25.55	24.65	24.30
	1	37	24.48	23.95	23.87
	1	74	24.61	24.02	24.06
	36	0	23.65	23.09	23.01
	36	18	23.63	22.98	22.99
	36	37	23.42	22.95	22.93
	75	0	23.61	22.96	22.97

Band / Channel Bandwidth			LTE Band 41 / CB: 20MHz		
Channel			39750	40020	40290
Frequency (MHz)			2506.0	2533.0	2560.0
Mode	RB	RB Offset	Maximum AV Power (dBm)		
QPSK	1	0	26.38	25.76	25.46
	1	49	25.57	25.18	25.12
	1	99	25.56	25.30	25.09
	50	0	25.08	24.59	24.38
	50	24	24.70	24.38	24.16
	50	49	24.80	24.44	24.23
	100	0	24.86	24.49	24.31
16QAM	1	0	25.53	25.02	24.73
	1	49	24.80	24.44	24.24
	1	99	24.79	24.58	24.36
	50	0	24.09	23.64	23.42
	50	24	23.71	23.42	23.20
	50	49	23.80	23.49	23.29
	100	0	23.89	23.52	23.35
64QAM	1	0	25.18	24.67	24.31
	1	49	24.42	24.09	23.90
	1	99	24.40	24.19	24.03
	50	0	23.76	23.31	23.12
	50	24	23.38	23.11	22.91
	50	49	23.48	23.17	22.98
	100	0	23.64	23.32	23.15

3.2 Radiated Emissions

3.2.1 Limit of Radiated Emissions

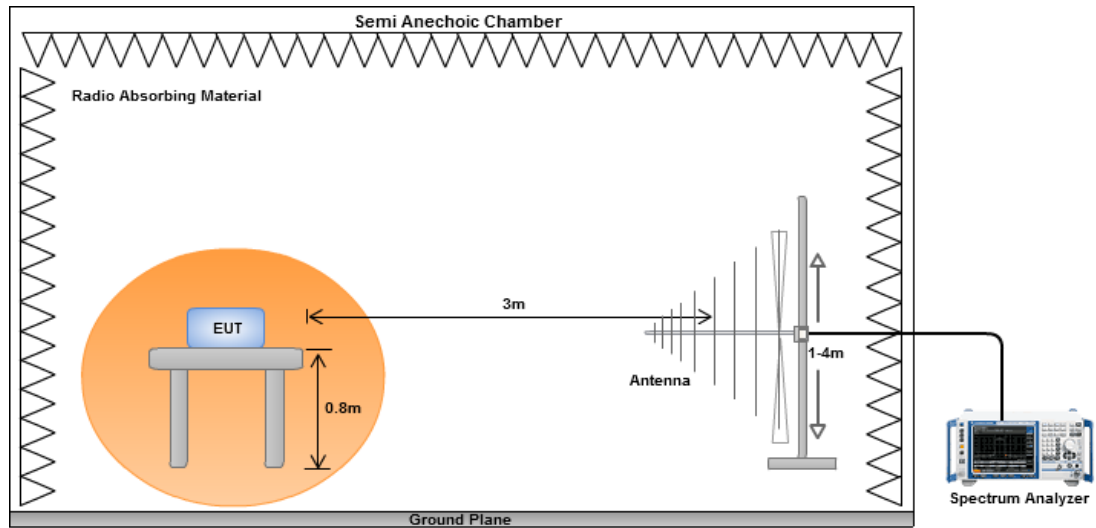
For all fixed digital user stations, the attenuation factor shall be not less than $43 + 10 \log (P)$ dB at the channel edge

3.2.2 Test Procedures

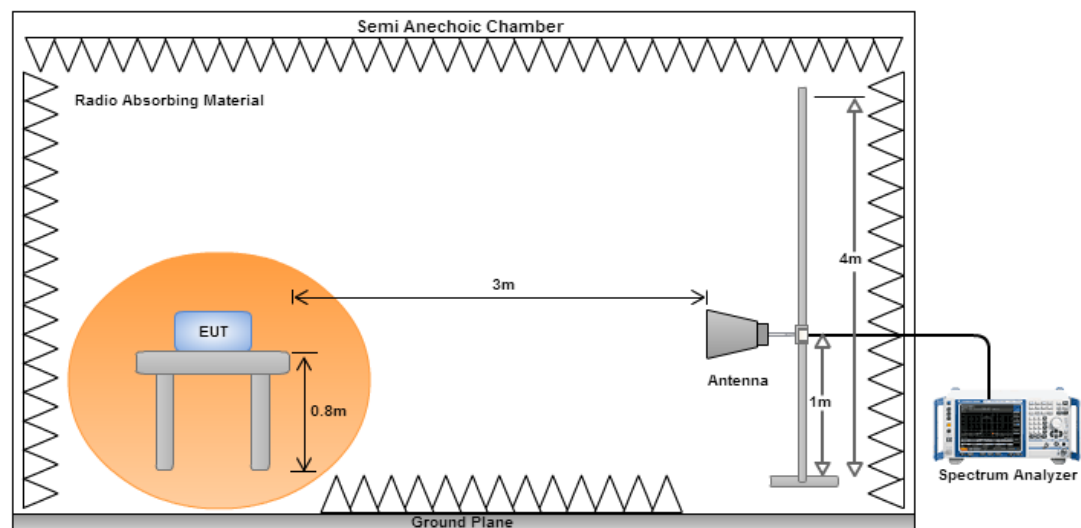
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360° . A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at a height of 0.8 m test table above the ground plane.
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360° , the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.
4. After finding the max radiated emission, substitution method will be used for getting effective radiated power. EUT will be removed and substitution antenna will be placed at same position. Signal generator will output CW signal to substitution antenna through a RF cable. Rotate turntable and move antenna to find maximum radiated emission. Adjust output power of signal generator to let the maximum radiated emission is same as step 3. Record the output power level.
5. $E.I.R.P = \text{output power of step 4} + \text{gain of substitution antenna} - \text{cable loss of RF cable}$.

3.2.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



3.2.4 Test Result of Radiated Emissions below 1GHz

Mode		LTE Band 41, CB: 5MHz, 1RB, Offset 0, Channel: 39675					
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
32.91	H	-41.62	-13.00	-28.62	-40.23	-27.97	-13.65
51.34	H	-52.12	-13.00	-39.12	-47.77	-41.71	-10.41
83.35	H	-50.24	-13.00	-37.24	-38.51	-48.93	-1.31
98.87	H	-51.67	-13.00	-38.67	-41.24	-52.04	0.37
127.97	H	-56.66	-13.00	-43.66	-46.57	-55.50	-1.16
140.58	H	-55.96	-13.00	-42.96	-47.23	-54.40	-1.56
32.91	V	-33.80	-13.00	-20.80	-21.81	-20.15	-13.65
52.31	V	-51.01	-13.00	-38.01	-40.54	-40.85	-10.16
80.44	V	-56.35	-13.00	-43.35	-26.01	-54.17	-2.18
107.60	V	-54.64	-13.00	-41.64	-45.26	-54.51	-0.13
124.09	V	-57.24	-13.00	-44.24	-49.74	-56.22	-1.02
173.56	V	-60.82	-13.00	-47.82	-54.05	-62.20	1.38

Note: EIRP = S.G Power value + Correction factor.

Mode		LTE Band 41, CB: 10MHz, 1RB, Offset 0, Channel: 39700					
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
32.91	H	-41.40	-13.00	-28.40	-40.01	-27.75	-13.65
51.34	H	-52.22	-13.00	-39.22	-47.87	-41.81	-10.41
83.35	H	-49.66	-13.00	-36.66	-37.93	-48.35	-1.31
98.87	H	-50.91	-13.00	-37.91	-40.48	-51.28	0.37
127.97	H	-59.83	-13.00	-46.83	-49.74	-58.67	-1.16
160.95	H	-58.16	-13.00	-45.16	-48.81	-57.79	-0.37
32.91	V	-33.72	-13.00	-20.72	-21.73	-20.07	-13.65
52.31	V	-50.44	-13.00	-37.44	-39.97	-40.28	-10.16
80.44	V	-56.36	-13.00	-43.36	-46.02	-54.18	-2.18
104.69	V	-54.30	-13.00	-41.30	-44.51	-54.35	0.05
248.25	V	-58.77	-13.00	-45.77	-52.44	-63.21	4.44
455.83	V	-57.95	-13.00	-44.95	-52.89	-61.96	4.01

Note: EIRP = S.G Power value + Correction factor.

Mode		LTE Band 41, CB: 15MHz, 1RB, Offset 0, Channel: 39725					
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
32.91	H	-41.39	-13.00	-28.39	-40.00	-27.74	-13.65
52.31	H	-51.39	-13.00	-38.39	-46.48	-41.23	-10.16
85.29	H	-50.41	-13.00	-37.41	-38.50	-49.69	-0.72
98.87	H	-50.70	-13.00	-37.70	-40.27	-51.07	0.37
140.58	H	-57.68	-13.00	-44.68	-48.95	-56.12	-1.56
174.53	H	-59.58	-13.00	-46.58	-49.54	-61.09	1.51
32.91	V	-35.05	-13.00	-22.05	-23.06	-21.40	-13.65
52.31	V	-49.63	-13.00	-36.63	-39.16	-39.47	-10.16
92.08	V	-55.43	-13.00	-42.43	-44.58	-56.02	0.59
104.69	V	-55.02	-13.00	-42.02	-45.23	-55.07	0.05
127.97	V	-58.25	-13.00	-45.25	-50.84	-57.09	-1.16
143.49	V	-60.81	-13.00	-47.81	-53.84	-59.41	-1.40

Note: EIRP = S.G Power value + Correction factor.

Mode		LTE Band 41, CB: 20MHz, 1RB, Offset 0, Channel: 39750					
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
32.91	H	-41.53	-13.00	-28.53	-40.14	-27.88	-13.65
51.34	H	-52.13	-13.00	-39.13	-47.78	-41.72	-10.41
83.35	H	-50.94	-13.00	-37.94	-39.21	-49.63	-1.31
99.84	H	-51.54	-13.00	-38.54	-41.10	-51.88	0.34
139.61	H	-57.54	-13.00	-44.54	-48.79	-55.96	-1.58
171.62	H	-58.46	-13.00	-45.46	-48.57	-59.57	1.11
32.91	V	-34.74	-13.00	-21.74	-22.75	-21.09	-13.65
45.52	V	-49.56	-13.00	-36.56	-38.80	-37.92	-11.64
80.44	V	-56.71	-13.00	-43.71	-46.37	-54.53	-2.18
107.60	V	-55.77	-13.00	-42.77	-46.39	-55.64	-0.13
124.09	V	-56.45	-13.00	-43.45	-48.95	-55.43	-1.02
281.23	V	-51.59	-13.00	-38.59	-44.90	-55.92	4.33

Note: EIRP = S.G Power value + Correction factor.

3.2.5 Test Result of Radiated Emissions above 1GHz

Mode	LTE Band 41, CB: 5MHz, 1RB, Offset 0, Channel: 39675						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
4992.66	H	-31.30	-13.00	-18.30	-48.65	-37.62	6.32
7488.99	H	-42.50	-13.00	-29.50	-63.24	-45.93	3.43
9985.32	H	-36.41	-13.00	-23.41	-60.52	-38.54	2.13
4992.66	V	-32.32	-13.00	-19.32	-48.56	-38.64	6.32
7488.99	V	-38.48	-13.00	-25.48	-58.21	-41.91	3.43
9985.32	V	-38.76	-13.00	-25.76	-60.15	-40.89	2.13

Mode	LTE Band 41, CB: 5MHz, 1RB, Offset 0, Channel: 40020						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
5061.68	H	-30.75	-13.00	-17.75	-48.35	-37.10	6.35
7592.52	H	-42.15	-13.00	-29.15	-62.25	-45.42	3.27
10123.36	H	-36.29	-13.00	-23.29	-60.49	-38.22	1.93
5061.68	V	-32.28	-13.00	-19.28	-48.76	-38.63	6.35
7592.52	V	-37.80	-13.00	-24.80	-57.54	-41.07	3.27
10123.36	V	-38.60	-13.00	-25.60	-60.31	-40.53	1.93

Mode	LTE Band 41, CB: 5MHz, 1RB, Offset 0, Channel: 40365						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
5130.68	H	-31.34	-13.00	-18.34	-49.22	-37.71	6.37
7696.02	H	-39.92	-13.00	-26.92	-60.32	-43.14	3.22
10261.36	H	-36.28	-13.00	-23.28	-60.46	-38.01	1.73
5130.68	V	-31.93	-13.00	-18.93	-48.66	-38.30	6.37
7696.02	V	-38.56	-13.00	-25.56	-58.41	-41.78	3.22
10261.36	V	-38.29	-13.00	-25.29	-60.34	-40.02	1.73

Note: EIRP = S.G Power value + Correction factor.

Mode	LTE Band 41, CB: 10MHz, 1RB, Offset 0, Channel: 39700						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
4993.18	H	-31.18	-13.00	-18.18	-48.53	-37.50	6.32
7489.77	H	-41.80	-13.00	-28.80	-62.53	-45.23	3.43
9986.36	H	-36.27	-13.00	-23.27	-60.39	-38.40	2.13
4993.18	V	-32.40	-13.00	-19.40	-48.64	-38.72	6.32
7489.77	V	-38.97	-13.00	-25.97	-58.69	-42.40	3.43
9986.36	V	-38.99	-13.00	-25.99	-60.38	-41.12	2.13

Mode	LTE Band 41, CB: 10MHz, 1RB, Offset 0, Channel: 40020						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
5057.18	H	-30.73	-13.00	-17.73	-48.32	-37.08	6.35
7585.77	H	-41.18	-13.00	-28.18	-61.32	-44.46	3.28
10114.36	H	-36.34	-13.00	-23.34	-60.54	-38.28	1.94
5057.18	V	-32.22	-13.00	-19.22	-116.00	-38.57	6.35
7585.77	V	-38.78	-13.00	-25.78	-58.53	-42.06	3.28
10114.36	V	-38.72	-13.00	-25.72	-60.41	-40.66	1.94

Mode	LTE Band 41, CB: 10MHz, 1RB, Offset 0, Channel: 40340						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
5121.18	H	-31.51	-13.00	-18.51	-49.34	-37.88	6.37
7681.77	H	-41.00	-13.00	-28.00	-61.35	-44.23	3.23
10242.36	H	-36.30	-13.00	-23.30	-60.47	-38.06	1.76
5121.18	V	-32.83	-13.00	-19.83	-49.51	-39.20	6.37
7681.77	V	-38.42	-13.00	-25.42	-58.26	-41.65	3.23
10242.36	V	-38.45	-13.00	-25.45	-60.44	-40.21	1.76

Note: EIRP = S.G Power value + Correction factor.

Mode	LTE Band 41, CB: 15MHz, 1RB, Offset 0, Channel: 39725						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
4993.68	H	-31.13	-13.00	-18.13	-48.49	-37.45	6.32
7490.52	H	-41.51	-13.00	-28.51	-62.23	-44.94	3.43
9987.36	H	-36.42	-13.00	-23.42	-60.54	-38.55	2.13
4993.68	V	-32.23	-13.00	-19.23	-48.47	-38.55	6.32
7490.52	V	-38.90	-13.00	-25.90	-58.63	-42.33	3.43
9987.36	V	-39.05	-13.00	-26.05	-60.44	-41.18	2.13

Mode	LTE Band 41, CB: 15MHz, 1RB, Offset 0, Channel: 40020						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
5052.66	H	-31.33	-13.00	-18.33	-48.90	-37.68	6.35
7578.99	H	-41.15	-13.00	-28.15	-61.33	-44.44	3.29
10105.32	H	-36.32	-13.00	-23.32	-60.51	-38.27	1.95
5052.66	V	-32.72	-13.00	-19.72	-49.16	-39.07	6.35
7578.99	V	-38.82	-13.00	-25.82	-58.56	-42.11	3.29
10105.32	V	-38.67	-13.00	-25.67	-60.33	-40.62	1.95

Mode	LTE Band 41, CB: 15MHz, 1RB, Offset 0, Channel: 40315						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
5111.69	H	-31.42	-13.00	-18.42	-49.21	-37.78	6.36
7667.53	H	-40.24	-13.00	-27.24	-60.54	-43.48	3.24
10223.38	H	-36.54	-13.00	-23.54	-60.72	-38.33	1.79
5111.69	V	-32.59	-13.00	-19.59	-49.24	-38.95	6.36
7667.53	V	-39.30	-13.00	-26.30	-59.12	-42.54	3.24
10223.38	V	-38.43	-13.00	-25.43	-60.38	-40.22	1.79

Note: EIRP = S.G Power value + Correction factor.

Mode	LTE Band 41, CB: 20MHz, 1RB, Offset 0, Channel: 39750						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
4994.18	H	-31.19	-13.00	-18.19	-48.55	-37.52	6.33
7491.27	H	-39.61	-13.00	-26.61	-60.33	-43.04	3.43
9988.36	H	-33.52	-13.00	-20.52	-57.64	-35.65	2.13
4994.18	V	-32.53	-13.00	-19.53	-48.77	-38.86	6.33
7491.27	V	-38.71	-13.00	-25.71	-58.44	-42.14	3.43
9988.36	V	-38.99	-13.00	-25.99	-60.38	-41.12	2.13

Mode	LTE Band 41, CB:20MHz, 1RB, Offset 0, Channel: 40020						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
5048.20	H	-30.95	-13.00	-17.95	-48.50	-37.30	6.35
7572.30	H	-40.16	-13.00	-27.16	-60.39	-43.46	3.30
10096.40	H	-36.38	-13.00	-23.38	-60.57	-38.35	1.97
5048.20	V	-32.91	-13.00	-19.91	-49.34	-39.26	6.35
7572.30	V	-38.72	-13.00	-25.72	-58.46	-42.02	3.30
10096.40	V	-38.70	-13.00	-25.70	-60.34	-40.67	1.97

Mode	LTE Band 41, CB:20MHz, 1RB, Offset 0, Channel: 40290						
Frequency (MHz)	Antenna Polarity	E.I.R.P (dBm)	Limit (dBm)	Margin (dB)	S.A Reading (dBm)	S.G Power Vaule (dBm)	Correction Factor (dB)
5102.20	H	-31.69	-13.00	-18.69	-49.45	-38.05	6.36
7653.30	H	-40.17	-13.00	-27.17	-60.41	-43.41	3.24
10204.40	H	-33.65	-13.00	-20.65	-57.83	-35.47	1.82
5102.20	V	-32.73	-13.00	-19.73	-49.35	-39.09	6.36
7653.30	V	-37.83	-13.00	-24.83	-57.63	-41.07	3.24
10204.40	V	-38.43	-13.00	-25.43	-60.33	-40.25	1.82

Note: EIRP = S.G Power value + Correction factor.

3.3 Conducted Emissions

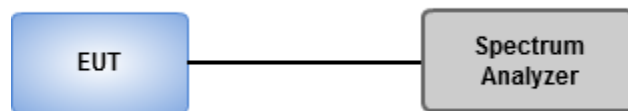
3.3.1 Limit of Conducted Emissions

For all fixed digital user stations, the attenuation factor shall be not less than $43 + 10 \log (P)$ dB at the channel edge

3.3.2 Test Procedures

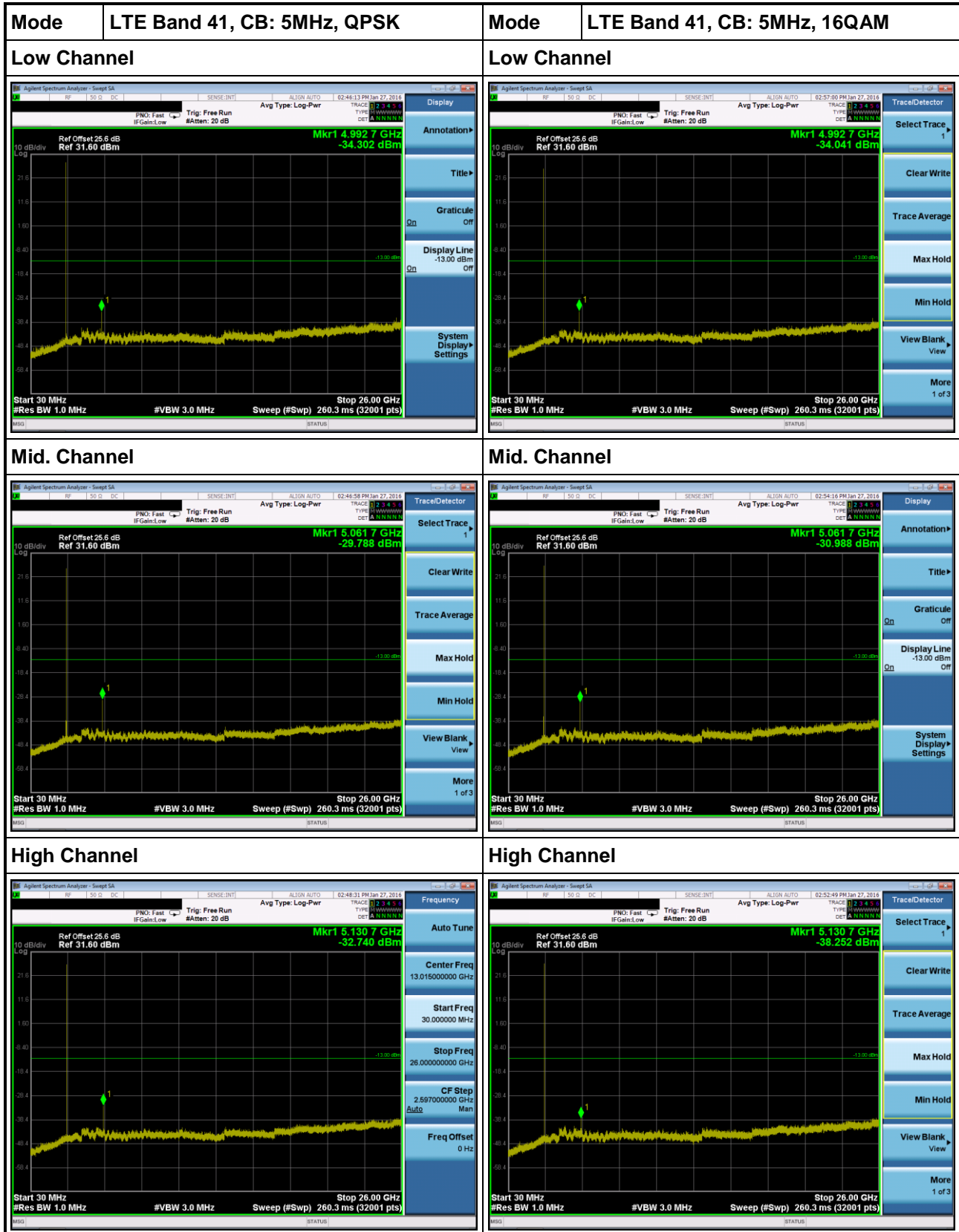
1. Lowest, middle and highest operating channels are tested for this item.
2. Scan frequency range is from 30MHz~26GHz.
3. Set RBW = 1MHz, VBW = 3MHz, detector = average, sweep time = auto.
4. Record the max trace value and capture the test plot of each sub frequency band.

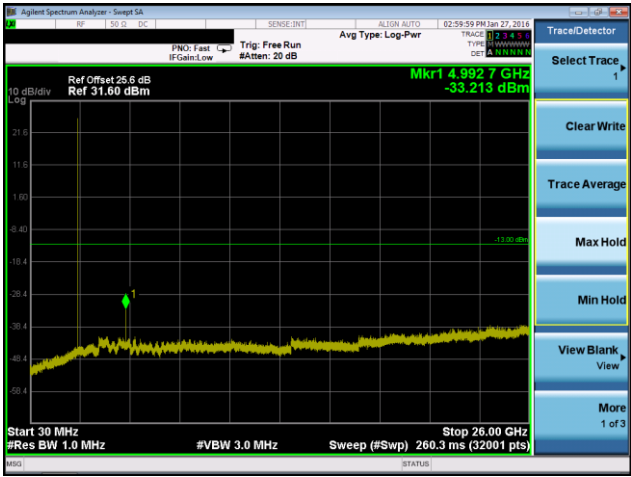
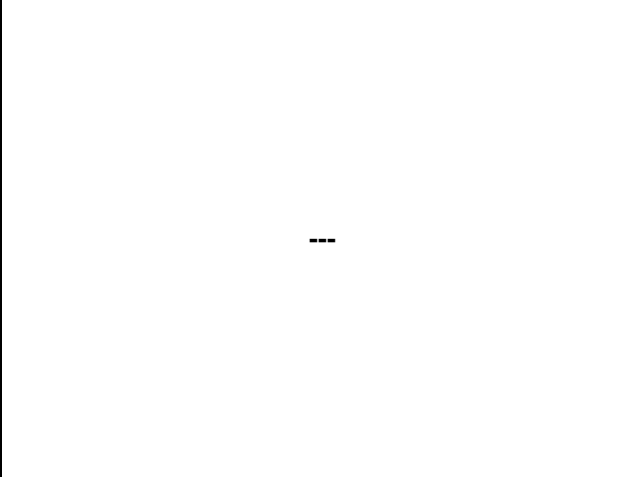
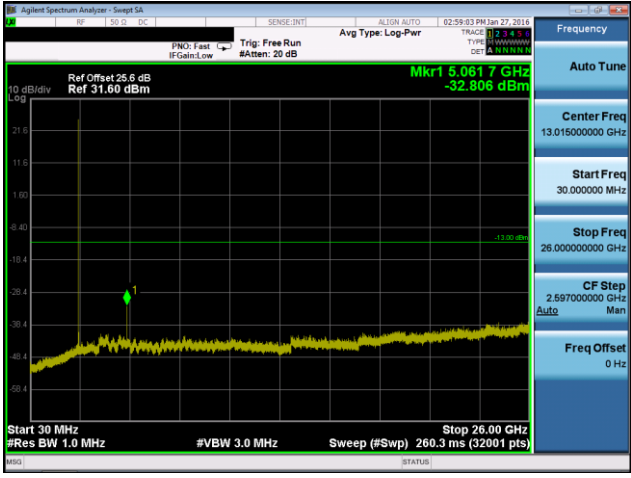
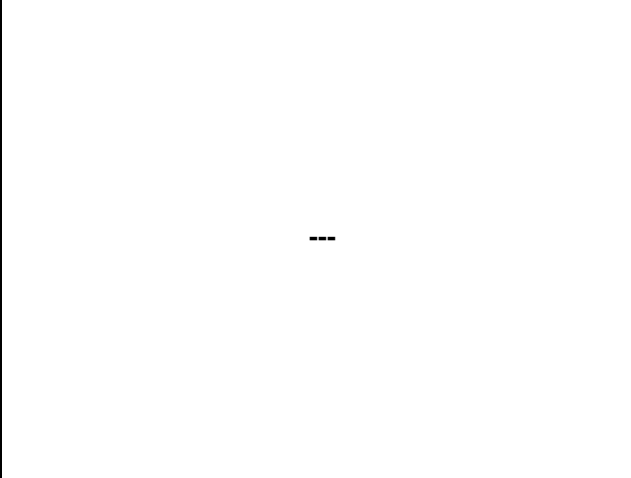
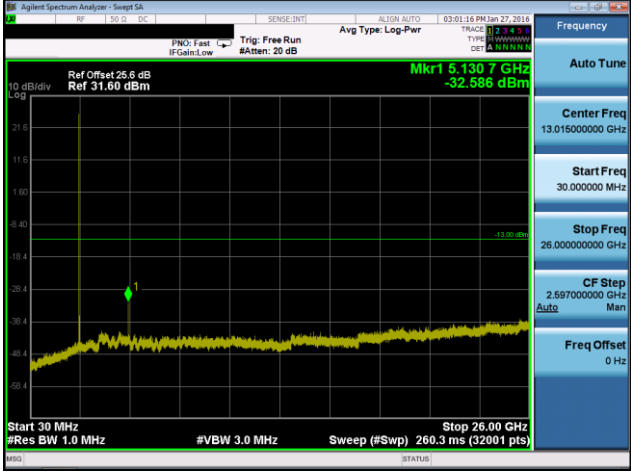

3.3.3 Test Setup



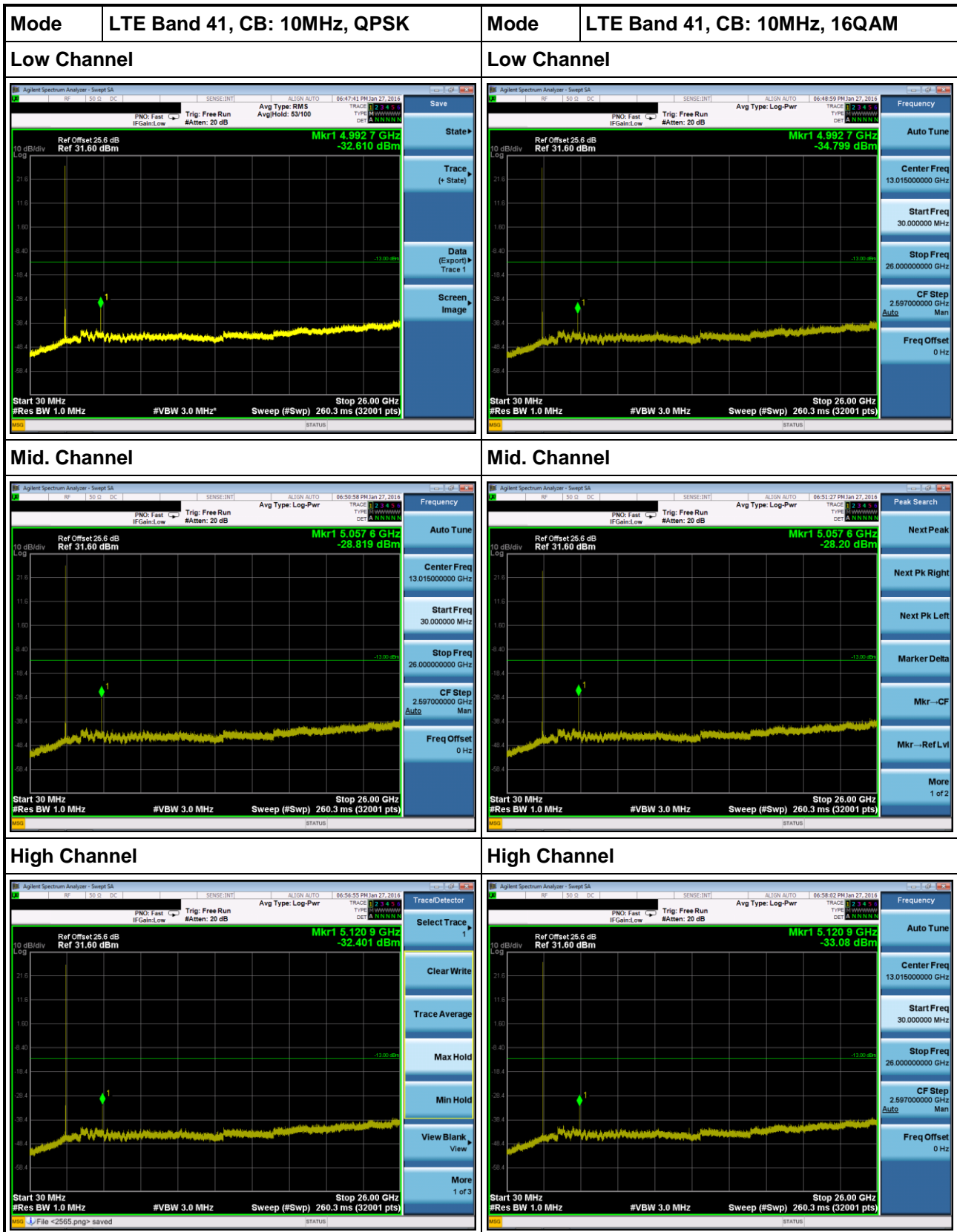
3.3.4 Test Result of Conducted Emissions

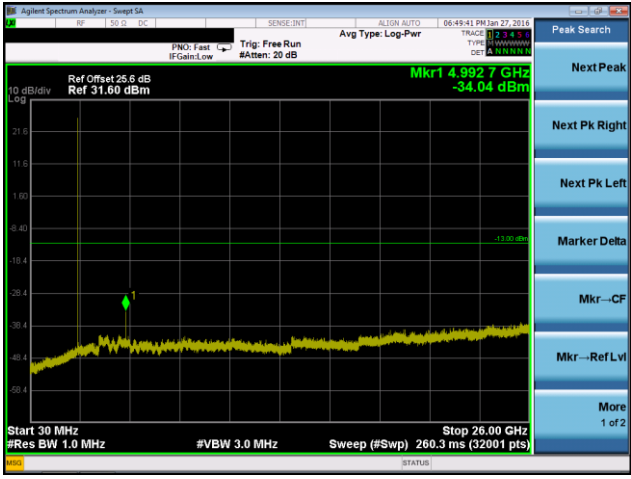

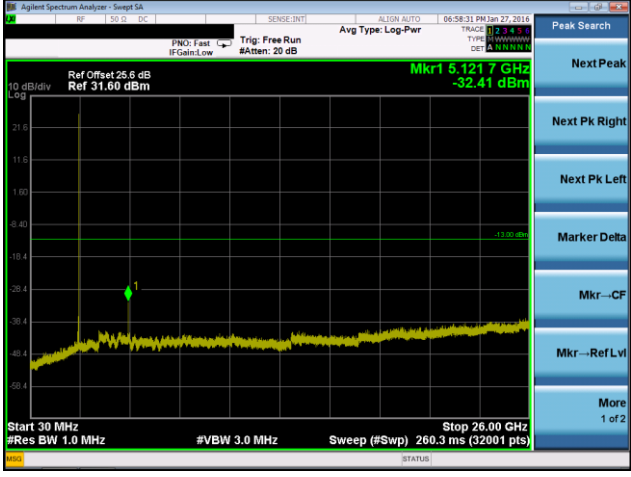
LTE Band 41, CB: 5MHz



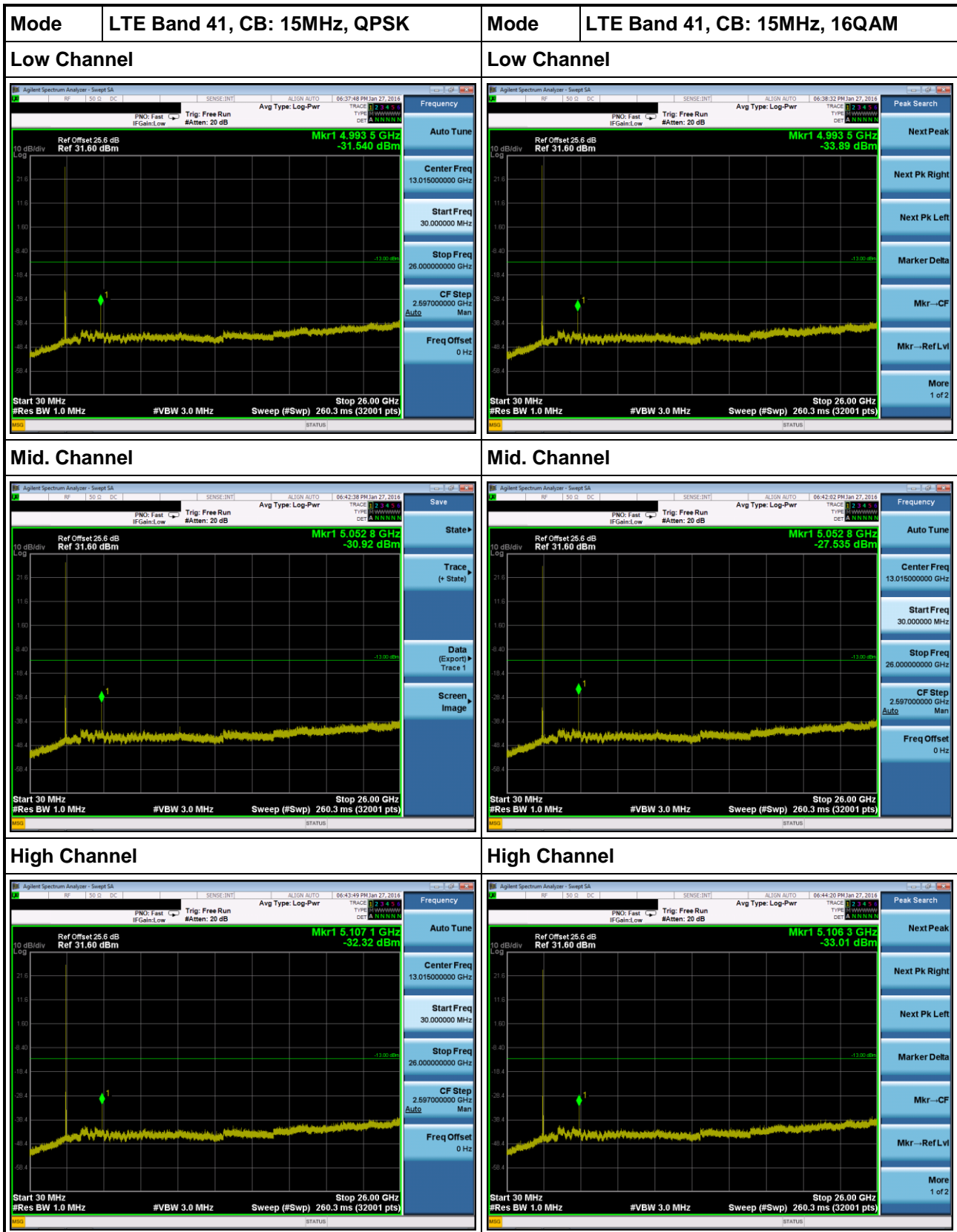
Mode	LTE Band 41, CB: 5MHz, 64QAM	Mode	---
Low Channel		Low Channel	
			
Mid. Channel		Mid. Channel	
			
High Channel		High Channel	
			

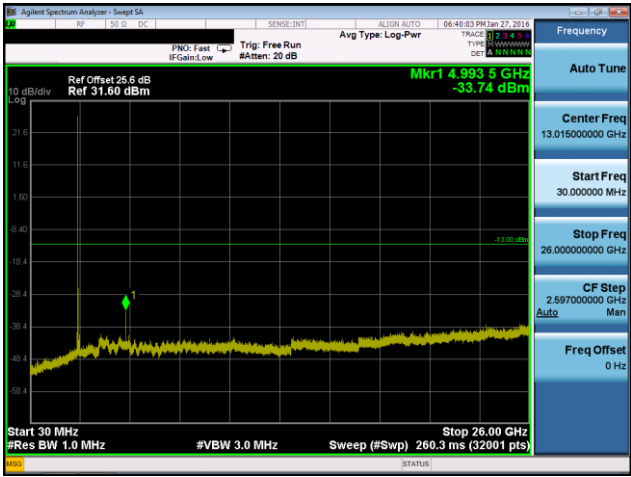
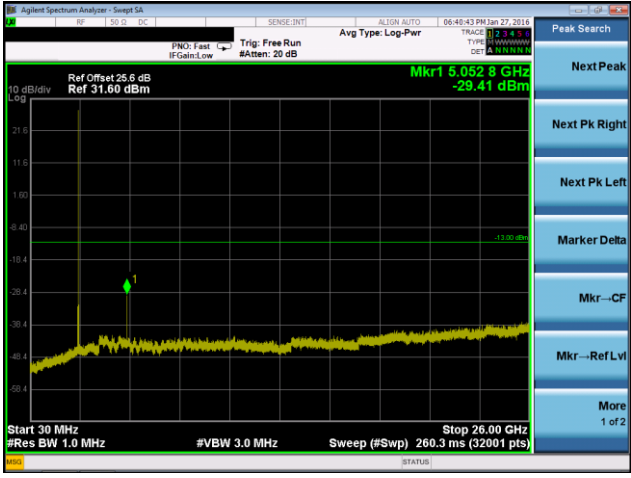
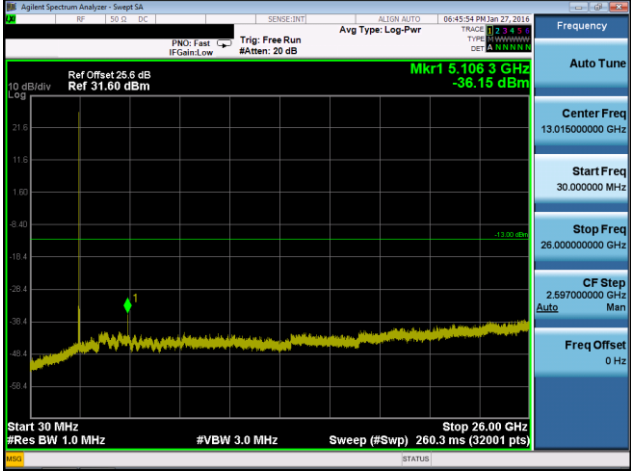
LTE Band 41, CB: 10MHz



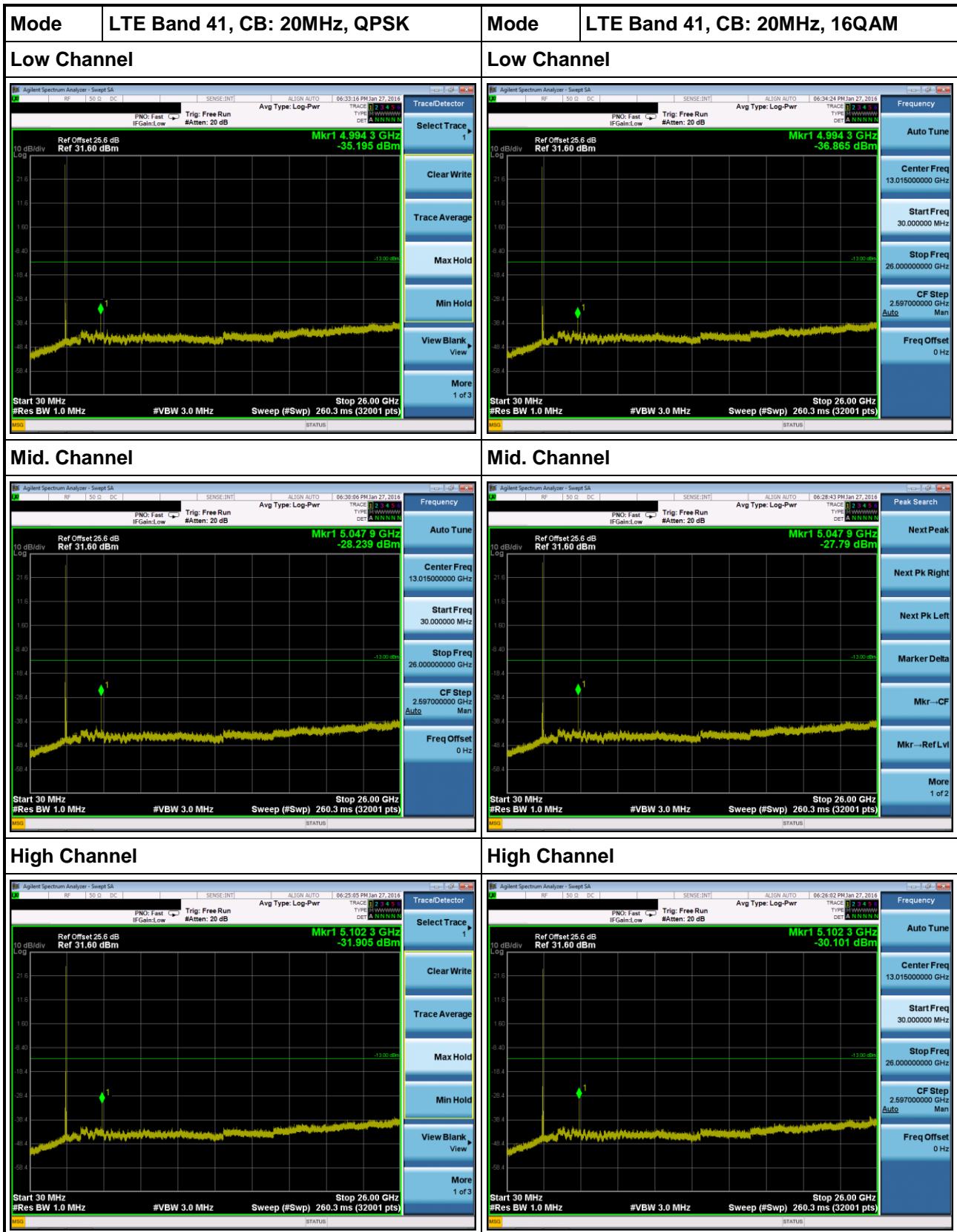
Mode	LTE Band 41, CB: 10MHz, 64QAM	Mode	---
Low Channel		Low Channel	
		---	
Mid. Channel		Mid. Channel	
		---	
High Channel		High Channel	
		---	

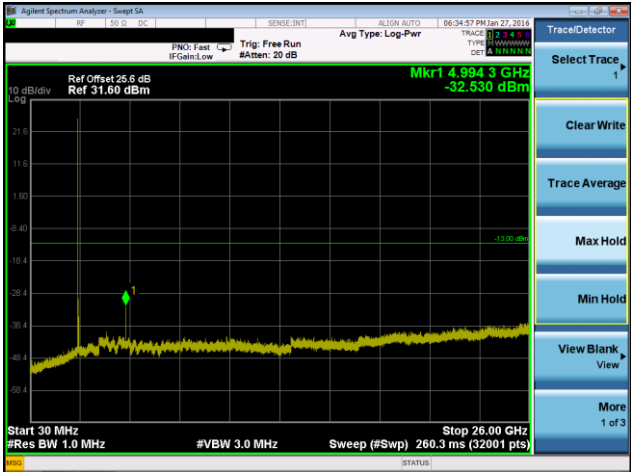
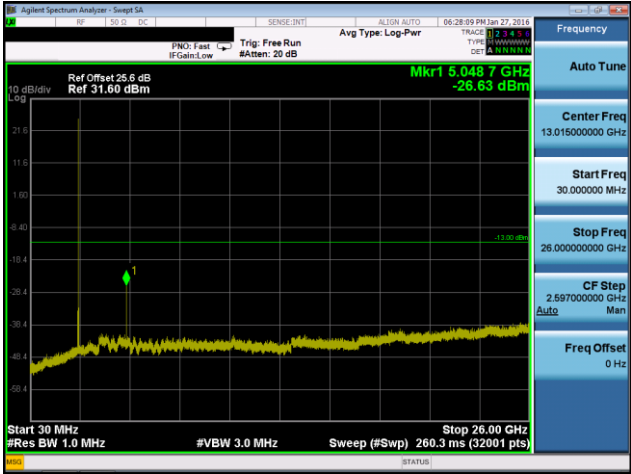
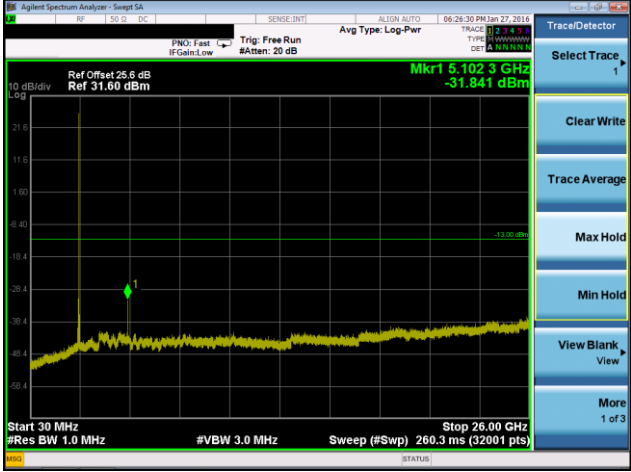
LTE Band 41, CB: 15MHz



Mode	LTE Band 41, CB: 15MHz, 64QAM	Mode	---
Low Channel		Low Channel	---
Mid. Channel		Mid. Channel	---
High Channel		High Channel	---

LTE Band 41, CB: 20MHz



Mode	LTE Band 41, CB: 20MHz, 64QAM	Mode	---
Low Channel		Low Channel	
		---	
Mid. Channel		Mid. Channel	
		---	
High Channel		High Channel	
		---	