CERTIFICATION TEST REPORT

Report Number. : 11792114-E10V2

Applicant	:	APPLE, INC. 1 INFINITE LOOP CUPERTINO, CA 95014, U.S.A.
Model	:	A1865, A1903
FCC ID	:	BCG-E3161A
EUT Description	:	SMARTPHONE
Test Standard(s)	:	FCC CFR47 PART 27

Date Of Issue:
September 06, 2017

Prepared by:
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NVLAP TESTING
NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	08/17/2017	Initial Review	--
V2	09/06/2017	Updated report to address TCB's questions	Tina Chu

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: APPLE, INC.
1 INFINITE LOOP
CUPERTINO, CA 95014, U.S.A.

EUT DESCRIPTION: SMARTPHONE

MODEL: A1865, A1903

SERIAL NUMBER: C39TX02MJ8PT

DATE TESTED: MAY 8, 2017 – JULY 1, 2017

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC CFR47 PART 27	Pass

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested 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 herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. 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 Verification Services Inc. By:

MENGISTU MEKURIA
SENIOR ENGINEER
UL VERIFICATION SERVICES INC.

Prepared By:

TINA CHU
TEST ENGINEER
UL VERIFICATION SERVICES INC.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.26:2015, FCC CFR 47 Part 2, FCC KDB 971168 D01 v02r02, KDB 971168 D02 v01, Part 27.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☐ Chamber A (IC:2324B-1)	☒ Chamber D (IC:22541-1)
☐ Chamber B (IC:2324B-2)	☒ Chamber E (IC:22541-2)
☐ Chamber C (IC:2324B-3)	☒ Chamber F (IC:22541-3)
	☐ Chamber G (IC:22541-4)
	☐ Chamber H (IC:22541-5)

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://ts.nist.gov/standards/scopes/2000650.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:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 9KHz to 0.15 MHz	3.84 dB
Conducted Disturbance, 0.15 to 30 MHz	3.65 dB
Radiated Disturbance, 9KHz to 30 MHz	3.15 dB
Radiated Disturbance, 30 to 1000 MHz	5.36 dB
Radiated Disturbance,1000 to 18000 MHz	4.32 dB
Radiated Disturbance,18000 to 26000 MHz	4.45 dB
Radiated Disturbance,26000 to 40000 MHz	5.24 dB
Occupied Channel Bandwidth	±0.39 %
Temperature	±0.9 °C
Supply voltages	±0.45 %
Time	±0.02 %

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The Equipment under Test is a mobile phone with GSM, GPRS, EGPRS, UMTS, LTE, TD-SCDMA and CDMA technologies. It also supports IEEE 802.11a/b/g/n/ac, Bluetooth®, GPS and NFC. The device has a built-in inductive charging receiver which is not user accessible. The rechargeable battery is not user accessible.

5.2. DIFFERENCE IN MODEL NUMBER

Model A1865 and A1903 are identical. Two models numbers are allocated for marketing and logistic purpose only.

5.3. MAXIMUM OUTPUT POWER

EUT includes different power levels for head use configuration and body use configuration and the below tables contain the highest of all configurations EIRP output powers as follows:

5.3.1. LAT 1

OUTPUT POWER FOR LTE BAND 7

Part 27 / RSS199 LTE Band 7				
Bandwidth (MHz)	Frequency Range (MHz)	Modulation	EIRP (Average)	
			dBm	mW
10+20	2500 - 2570	QPSK	24.0	251.2
		16QAM	22.9	195.0
		64QAM	21.0	125.9
20+10		QPSK	23.9	245.5
		16QAM	23.0	199.5
		64QAM	21.5	141.3
15+15		QPSK	24.0	251.2
		16QAM	23.0	199.5
		64QAM	21.6	144.5
15+20		QPSK	24.0	251.2
		16QAM	23.0	199.5
		64QAM	21.4	138.0
20+15		QPSK	24.0	251.2
		16QAM	23.1	204.2
		64QAM	20.7	117.5
20+20		QPSK	24.0	251.2
		16QAM	23.0	199.5
		64QAM	21.5	141.3

OUTPUT POWER FOR LTE BAND 41

Part 27 LTE Band 41				
Bandwidth (MHz)	Frequency Range (MHz)	Modulation	EIRP (Average)	
			dBm	mW
5+20	2496-2690	QPSK	24.0	251.2
		16QAM	23.1	204.2
		64QAM	21.3	134.9
20+5		QPSK	24.0	251.2
		16QAM	22.9	195.0
		64QAM	21.3	134.9
10+20		QPSK	23.9	245.5
		16QAM	22.8	190.5
		64QAM	21.3	134.9
20+10		QPSK	23.8	239.9
		16QAM	22.7	186.2
		64QAM	21.3	134.9
15+15		QPSK	24.0	251.2
		16QAM	23.0	199.5
		64QAM	21.3	134.9
15+20		QPSK	24.0	251.2
		16QAM	22.9	195.0
		64QAM	21.3	134.9
20+15		QPSK	24.0	251.2
		16QAM	22.8	190.5
		64QAM	21.3	134.9
20+20		QPSK	24.0	251.2
		16QAM	22.8	190.5
		64QAM	21.2	131.8

5.3.2. UAT 1

OUTPUT POWER FOR LTE BAND 7

Part 27 / RSS199 LTE Band 7				
Bandwidth (MHz)	Frequency Range (MHz)	Modulation	EIRP (Average)	
			dBm	mW
10+20	2500 - 2570	QPSK	16.2	41.7
		16QAM	15.2	33.1
		64QAM	13.6	22.9
20+10		QPSK	16.2	41.7
		16QAM	15.1	32.4
		64QAM	13.4	21.9
15+15		QPSK	16.1	40.7
		16QAM	15.1	32.4
		64QAM	13.5	22.4
15+20		QPSK	16.1	40.7
		16QAM	15.2	33.1
		64QAM	13.3	21.4
20+15		QPSK	16.1	40.7
		16QAM	15.3	33.9
		64QAM	13.4	21.9
20+20		QPSK	16.1	40.7
		16QAM	15.1	32.4
		64QAM	13.2	20.9

OUTPUT POWER FOR LTE BAND 41

Part 27 LTE Band 41				
Bandwidth (MHz)	Frequency Range (MHz)	Modulation	EIRP (Average)	
			dBm	mW
5+20	2496-2690	QPSK	16.3	42.7
		16QAM	15.5	35.5
		64QAM	13.7	23.4
20+5		QPSK	16.3	42.7
		16QAM	15.2	33.1
		64QAM	13.5	22.4
10+20		QPSK	16.2	41.7
		16QAM	15.3	33.9
		64QAM	13.7	23.4
20+10		QPSK	16.3	42.7
		16QAM	15.2	33.1
		64QAM	13.6	22.9
15+15		QPSK	16.3	42.7
		16QAM	15.3	33.9
		64QAM	13.6	22.9
15+20		QPSK	16.2	41.7
		16QAM	15.3	33.9
		64QAM	13.7	23.4
20+15		QPSK	16.3	42.7
		16QAM	15.3	33.9
		64QAM	13.4	21.9
20+20		QPSK	16.3	42.7
		16QAM	15.4	34.7
		64QAM	13.6	22.9

5.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was version 0.34.01.

5.5. MAXIMUM ANTENNA GAIN

Please see table below:

LTE BANDS	LAT 1 Antenna Gain (dBi)	UAT 1 Antenna Gain (dBi)
LTE Band 7, 2500 – 2570 MHz	0.2	-3.35
LTE Band 41, 2496 – 2690 MHz	0.2	-2.99

5.6. WORST-CASE CONFIGURATION AND MODE

The EUT supports LTE dual carrier Bands of: Band 7 and Band 41.

The EUT was investigated in three orthogonal orientations X/Y/Z on both LAT 1 and UAT 1 antennas, it was determined that X (Flatbed) orientation was worst-case orientation for all bands on both antennas without AC/DC adapter, headphones, or laptop.

Radiated spurious emissions were investigated below 30MHz, 30MHz-1GHz and above 1GHz. There were no emissions found on below 30MHz and 30MHz-1GHz.

Tests were performed on the conducted test at LAT 1 antenna as worst case since it has higher output powers. Only output power and occupied bandwidth were performed on the 64QAM due to power is lower than QPSK/16QAM.

All of the test modes for each test items are the worst case configuration after investigation.

For simultaneous transmission of multiple channels in the 2.4GHz and Cellular bands, tests were conducted for various configurations having the highest power, least separation in frequencies and widest operation bandwidths. No noticeable new emission was found.

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List			
Description	**Manufacturer**	**Model**	**Serial Number**
AC/DC adapter	HP	HNSTNN-DA40	WDWR7OBAR9AKS8
Laptop	HP	HP ProBook 450 G2	CND5367Z97

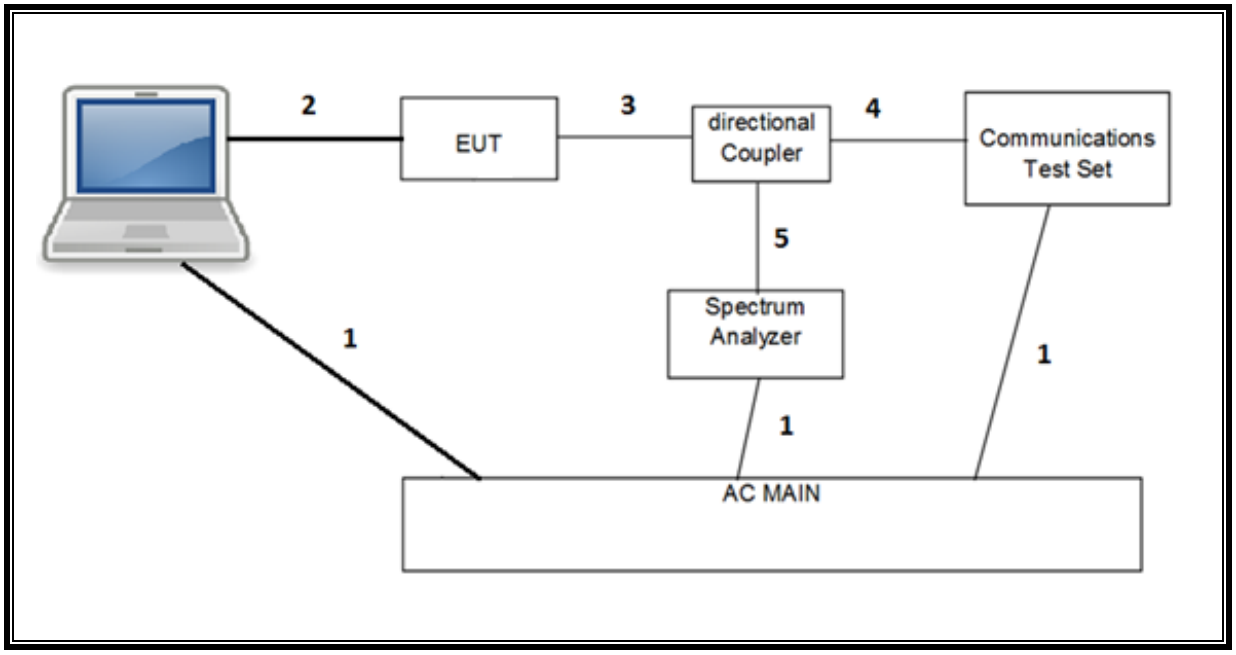
I/O CABLES (RF Conducted Test)

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	AC	1	US 115V	Un-shielded	2.0m	N/A
2	USB	1	DC	Un-shielded	1.0m	N/A
3	RF In/Out	1	EUT	Un-shielded	0.6m	N/A
4	RF In/Out	1	Communication Test Set	Un-shielded	1.2m	N/A
5	RF In/Out	1	Barrel	N/A	N/A	N/A

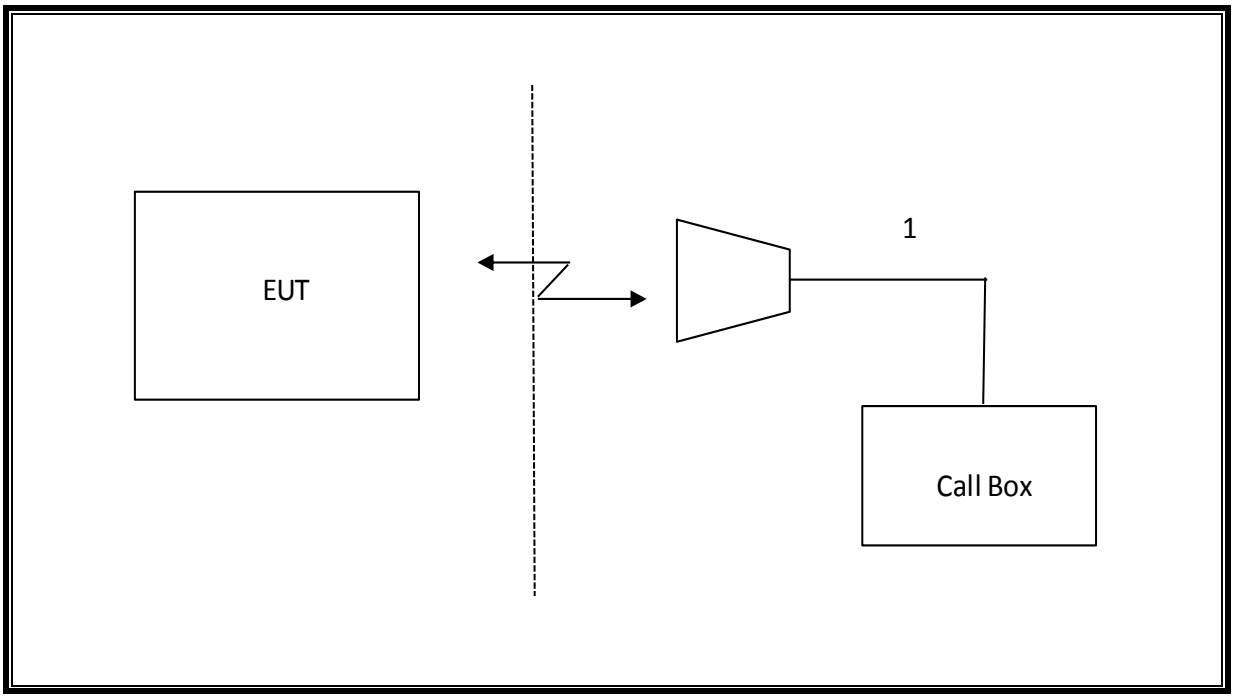
I/O CABLES (RF Radiated Test)

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	RF In/Out	1	Antenna	Un-shielded	5m	NA

CONDUCTED SETUP



RADIATED SETUP



6. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T862	4/20/2018
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB1	T243	10/11/2017
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	T286	6/2/2018
Amplifier, 1 to 18GHz	Miteq	AFS42-00101800-25-S-42	T740	11/29/17
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T340	12/14/2017
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T863	6/9/2018
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	T900	5/31/2018
Amplifier, 1 to 18GHz	Miteq	AFS42-00101800-25-S-42	T1131	9/23/2017
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	T285	6/24/2018
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T1113	12/20/2017
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T119	3/28/2018
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB1	T122	1/31/2018
Amplifier, 1 to 18GHz	Miteq	AFS42-00101800-25-S-42	T742	11/29/2017
*Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	T173	6/17/2017
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T1113	12/20/2017
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	AE0038201512	connection purpose only
Spectrum Analyzer, PSA 3Hz to 44GHz	Keysight	E4446A	T123	10/20/2017
Directional Coupler	KRYTAR	152610	T1536	4/24/2018
Directional Coupler	KRYTAR	152610	T1537	4/24/2018
Power Meter, P-series single channel	Keysight	N1911A	T1265	12/14/2017
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight	N1921A	T750	10/17/2017
Filter, HPF 3.0GHz	MICROTRONICS	HPM17543	T487	1/28/2018
Filter, HPF 1.2GHz	Micro-Tronics	WHKX1.2/15G-6ST	T1182	6/1/2018
*Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight	N9030A	T1210	6/30/2017
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T959	7/9/2017
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T971	8/5/2017
Chamber Environmental	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	T754	9/10/2017
Antenna, Horn 1-18GHz	Emco	3115	T59	11/18/2017
Amplifier, 26.5GHz to 40GHz	Miteq	NSP 4000 SP2	T88	4/29/2018
Amplifier, 1 to 26.5GHz, 23.5dB Gain minimum	Keysight	8449B	T404	7/5/2017
*Antenna, Horn 18 to 26.5GHz	ARA	MWH-1826/B	T447	6/16/2017
Antenna, Horn 18 to 26.5GHz	ARA	MWH-1826/B	T449	6/12/2018
Antenna, Horn 26.5GHz to 40GHz	ARA	MWH-2640	T90	8/19/2017
Spectrum Analyzer	Keysight	8564E	T106	9/7/2017
Antenna, Active Loop 9KHz to 30MHz	EMCO	6502	T1616	12/12/2017

NOTE: Equipment that calibrated during the testing period was set for test after the calibration.

*Testing is completed before equipment expiration date.

7. TRANSMITTER OUTPUT POWER (CONDUCTED AND EIRP)

RULE PART(S)

FCC: §2.1046, §27.50

EIRP LIMIT

FCC 27.50 (h) The following power limits shall apply in the BRS and EBS:

(2)Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

TEST PROCEDURE

All LTE bands conducted average power is obtained from the CMW500 telecommunication test set.

3GPP TR 36.827, TR.36 830 and TR 36.831

ANSI C63.26:2015
KDB 971168 Section 5.6

ERP/EIRP = PMeas + GT − LC

where: ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm);
PMeas = measured transmitter output power or PSD, in dBm or dBW;
GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);
LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.2

For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

MODES TESTED

- LTE Band 7
- LTE Band 41

RESULT

EUT includes different power levels for head use configuration and body use configuration and the below tables contain the highest of all configurations average conducted and EIRP output powers as follows:

7.1. LAT 1

7.1.1. LTE BAND 7

ID:	40813	Date:	5/18/17

OUTPUT POWER FOR LTE BAND 7 (10.0MHz + 20.0MHz)

Antenna Gain (dBi)	0.2

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10MHz / 20MHz	2505.5	2519.9	QPSK	1	49	1	0	23.7	23.9	33.0	-9.2
				50	0	100	0	21.8	22.0	33.0	-11.0
			16QAM	1	49	1	0	22.5	22.7	33.0	-10.3
				50	0	100	0	20.8	21.0	33.0	-12.0
			64QAM	1	49	1	0	20.8	21.0	33.0	-12.0
				50	0	100	0	**20.8**	**21.0**	33.0	-12.0
	2525.6	2540.0	QPSK	1	49	1	0	23.4	23.6	33.0	-9.4
				50	0	100	0	21.6	21.8	33.0	-11.2
			16QAM	1	49	1	0	22.5	22.7	33.0	-10.3
				50	0	100	0	20.8	21.0	33.0	-12.0
			64QAM	1	49	1	0	20.6	20.8	33.0	-12.2
				50	0	100	0	20.8	21.0	33.0	-12.0
	2545.6	2560.0	QPSK	1	49	1	0	**23.8**	**24.0**	33.0	-9.0
				50	0	100	0	21.8	22.0	33.0	-11.1
			16QAM	1	49	1	0	**22.7**	**22.9**	33.0	-10.2
				50	0	100	0	21.6	21.8	33.0	-11.2
			64QAM	1	49	1	0	20.5	20.7	33.0	-12.3
				50	0	100	0	20.6	20.8	33.0	-12.2

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 10.0MHz)

Antenna Gain (dBi)	0.2

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20MHz / 10MHz	2510.0	2524.4	QPSK	1	99	1	0	**23.7**	**23.9**	33.0	-9.1
				1	0	1	49	15.3	15.5	33.0	-17.5
				100	0	50	0	21.8	22.0	33.0	-11.0
			16QAM	1	99	1	0	22.5	22.7	33.0	-10.3
				1	0	1	49	15.2	15.4	33.0	-17.7
				100	0	50	0	21.2	21.4	33.0	-11.6
			64QAM	1	99	1	0	20.8	21.0	33.0	-12.0
				1	0	1	49	15.5	15.7	33.0	-17.4
				100	0	50	0	21.2	21.4	33.0	-11.6
	2530.1	2544.5	QPSK	1	99	1	0	23.6	23.8	33.0	-9.2
				1	0	1	49	15.3	15.5	33.0	-17.5
				100	0	50	0	21.8	22.0	33.0	-11.1
			16QAM	1	99	1	0	**22.8**	**23.0**	33.0	-10.0
				1	0	1	49	15.1	15.3	33.0	-17.7
				100	0	50	0	21.2	21.4	33.0	-11.6
			64QAM	1	99	1	0	20.9	21.1	33.0	-11.9
				1	0	1	49	15.3	15.5	33.0	-17.5
				100	0	50	0	**21.3**	**21.5**	33.0	-11.5
	2550.1	2564.5	QPSK	1	99	1	0	23.6	23.8	33.0	-9.2
				1	0	1	49	15.2	15.4	33.0	-17.7
				100	0	50	0	21.8	22.0	33.0	-11.0
			16QAM	1	99	1	0	22.6	22.8	33.0	-10.2
				1	0	1	49	15.1	15.3	33.0	-17.7
				100	0	50	0	21.1	21.3	33.0	-11.7
			64QAM	1	99	1	0	20.9	21.1	33.0	-11.9
				1	0	1	49	15.4	15.6	33.0	-17.4
				100	0	50	0	21.3	21.5	33.0	-11.5

OUTPUT POWER FOR LTE BAND 7 (15.0MHz + 15.0MHz)

Antenna Gain (dBi)	0.2

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15MHz / 15MHz	2507.5	2522.5	QPSK	1	74	1	0	23.7	23.9	33.0	-9.1
				75	0	75	0	21.7	21.9	33.0	-11.1
			16QAM	1	74	1	0	22.7	22.9	33.0	-10.1
				75	0	75	0	20.7	20.9	33.0	-12.1
			64QAM	1	74	1	0	**21.4**	**21.6**	33.0	-11.4
				75	0	75	0	20.7	20.9	33.0	-12.2
	2527.5	2542.5	QPSK	1	74	1	0	**23.8**	**24.0**	33.0	-9.0
				75	0	75	0	21.7	21.9	33.0	-11.2
			16QAM	1	74	1	0	**22.8**	**23.0**	33.0	-10.1
				75	0	75	0	20.7	20.9	33.0	-12.1
			64QAM	1	74	1	0	21.0	21.2	33.0	-11.8
				75	0	75	0	20.5	20.7	33.0	-12.3
	2547.5	2562.5	QPSK	1	74	1	0	23.4	23.6	33.0	-9.5
				75	0	75	0	21.6	21.8	33.0	-11.2
			16QAM	1	74	1	0	22.2	22.4	33.0	-10.6
				75	0	75	0	20.6	20.8	33.0	-12.2
			64QAM	1	74	1	0	21.0	21.2	33.0	-11.8
				75	0	75	0	20.6	20.8	33.0	-12.3

OUTPUT POWER FOR LTE BAND 7 (15.0MHz + 20.0MHz)

Antenna Gain (dBi)	0.2

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15MHz / 20MHz	2507.8	2524.9	QPSK	1	74	1	0	**23.8**	**24.0**	33.0	-9.0
				75	0	100	0	21.8	22.0	33.0	-11.1
			16QAM	1	74	1	0	**22.8**	**23.0**	33.0	-10.0
				75	0	100	0	20.8	21.0	33.0	-12.1
			64QAM	1	74	1	0	20.4	20.6	33.0	-12.4
				75	0	100	0	20.9	21.1	33.0	-11.9
	2525.3	2542.4	QPSK	1	74	1	0	23.6	23.8	33.0	-9.2
				75	0	100	0	21.7	21.9	33.0	-11.2
			16QAM	1	74	1	0	22.7	22.9	33.0	-10.1
				75	0	100	0	20.7	20.9	33.0	-12.1
			64QAM	1	74	1	0	20.6	20.8	33.0	-12.2
				75	0	100	0	**21.2**	**21.4**	33.0	-11.7
	2542.9	2560.0	QPSK	1	74	1	0	23.6	23.8	33.0	-9.2
				75	0	100	0	21.7	21.9	33.0	-11.2
			16QAM	1	74	1	0	22.5	22.7	33.0	-10.3
				75	0	100	0	20.7	20.9	33.0	-12.2
			64QAM	1	74	1	0	20.5	20.7	33.0	-12.3
				75	0	100	0	20.7	20.9	33.0	-12.1

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 15.0MHz)

Antenna Gain (dBi)	0.2

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20MHz / 15MHz	2510.0	2527.1	QPSK	1	99	1	0	**23.8**	**24.0**	33.0	-9.1
				100	0	75	0	21.9	22.1	33.0	-10.9
			16QAM	1	99	1	0	22.8	23.0	33.0	-10.0
				100	0	75	0	21.1	21.3	33.0	-11.7
			64QAM	1	99	1	0	**20.5**	**20.7**	33.0	-12.3
				100	0	75	0	20.3	20.5	33.0	-12.5
	2527.6	2544.7	QPSK	1	99	1	0	23.7	23.9	33.0	-9.1
				100	0	75	0	21.9	22.1	33.0	-10.9
			16QAM	1	99	1	0	22.6	22.8	33.0	-10.3
				100	0	75	0	21.1	21.3	33.0	-11.8
			64QAM	1	99	1	0	20.2	20.4	33.0	-12.6
				100	0	75	0	20.4	20.6	33.0	-12.4
	2545.1	2562.2	QPSK	1	99	1	0	23.6	23.8	33.0	-9.2
				100	0	75	0	21.9	22.1	33.0	-10.9
			16QAM	1	99	1	0	**22.9**	**23.1**	33.0	-9.9
				100	0	75	0	21.0	21.2	33.0	-11.8
			64QAM	1	99	1	0	20.5	20.7	33.0	-12.4
				100	0	75	0	20.3	20.5	33.0	-12.5

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 20.0MHz)

Antenna Gain (dBi)	0.2

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20MHz/ 20MHz	2510.0	2529.8	QPSK	1	99	1	0	23.7	23.9	33.0	-9.1
				1	0	1	99	15.1	15.3	33.0	-17.7
				100	0	100	0	21.8	22.0	33.0	-11.0
			16QAM	1	99	1	0	22.6	22.8	33.0	-10.2
				1	0	1	99	15.3	15.5	33.0	-17.5
				100	0	100	0	21.1	21.3	33.0	-11.7
			64QAM	1	99	1	0	21.0	21.2	33.0	-11.8
				1	0	1	99	15.2	15.4	33.0	-17.6
				100	0	100	0	21.1	21.3	33.0	-11.7
	2525.1	2544.9	QPSK	1	99	1	0	**23.8**	**24.0**	33.0	-9.0
				1	0	1	99	15.3	15.5	33.0	-17.5
				100	0	100	0	21.8	22.0	33.0	-11.1
			16QAM	1	99	1	0	22.7	22.9	33.0	-10.1
				1	0	1	99	15.2	15.4	33.0	-17.6
				100	0	100	0	21.1	21.3	33.0	-11.7
			64QAM	1	99	1	0	21.3	21.5	33.0	-11.5
				1	0	1	99	14.3	14.5	33.0	-18.5
				100	0	100	0	**21.3**	**21.5**	33.0	-11.5
	2540.2	2560.0	QPSK	1	99	1	0	23.7	23.9	33.0	-9.1
				1	0	1	99	15.2	15.4	33.0	-17.6
				100	0	100	0	21.8	22.0	33.0	-11.0
			16QAM	1	99	1	0	**22.8**	**23.0**	33.0	-10.1
				1	0	1	99	15.3	15.5	33.0	-17.5
				100	0	100	0	21.0	21.2	33.0	-11.8
			64QAM	1	99	1	0	21.0	21.2	33.0	-11.8
				1	0	1	99	15.3	15.5	33.0	-17.5
				100	0	100	0	21.2	21.4	33.0	-11.6

7.1.2. LTE BAND 41

ID:	50820	Date:	5/19/17

OUTPUT POWER FOR LTE BAND 41 (5.0MHz + 20.0MHz)

Antenna Gain (dBi)	0.2

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5MHz / 20MHz	2499.3	2511.0	QPSK	1	24	1	0	23.7	23.9	33.0	-9.1
				25	0	100	0	21.8	22.0	33.0	-11.0
			16QAM	1	24	1	0	**22.9**	**23.1**	33.0	-9.9
				25	0	100	0	20.9	21.1	33.0	-11.9
			64QAM	1	24	1	0	20.9	21.1	33.0	-11.9
				25	0	100	0	**21.1**	**21.3**	33.0	-11.7
	2583.8	2595.5	QPSK	1	24	1	0	**23.8**	**24.0**	33.0	-9.0
				25	0	100	0	21.7	21.9	33.0	-11.1
			16QAM	1	24	1	0	22.8	23.0	33.0	-10.1
				25	0	100	0	20.8	21.0	33.0	-12.1
			64QAM	1	24	1	0	21.0	21.2	33.0	-11.8
				25	0	100	0	21.1	21.3	33.0	-11.7
	2668.3	2680.0	QPSK	1	24	1	0	23.5	23.7	33.0	-9.3
				25	0	100	0	21.5	21.7	33.0	-11.4
			16QAM	1	24	1	0	22.8	23.0	33.0	-10.0
				25	0	100	0	20.4	20.6	33.0	-12.4
			64QAM	1	24	1	0	20.9	21.1	33.0	-11.9
				25	0	100	0	21.1	21.3	33.0	-11.7

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 5.0MHz)

Antenna Gain (dBi)	0.2

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20MHz / 5MHz	2506.0	2517.7	QPSK	1	99	1	0	23.6	23.8	33.0	-9.2
				1	0	1	24	15.3	15.5	33.0	-17.6
				100	0	25	0	21.5	21.7	33.0	-11.3
			16QAM	1	99	1	0	**22.7**	**22.9**	33.0	-10.1
				1	0	1	24	15.1	15.3	33.0	-17.7
				100	0	25	0	20.6	20.8	33.0	-12.2
			64QAM	1	99	1	0	20.9	21.1	33.0	-11.9
				1	0	1	24	15.5	15.7	33.0	-17.3
				100	0	25	0	21.0	21.2	33.0	-11.8
	2590.5	2602.2	QPSK	1	99	1	0	**23.8**	**24.0**	33.0	-9.0
				1	0	1	24	15.2	15.4	33.0	-17.7
				100	0	25	0	21.4	21.6	33.0	-11.4
			16QAM	1	99	1	0	22.6	22.8	33.0	-10.2
				1	0	1	24	15.1	15.3	33.0	-17.7
				100	0	25	0	20.5	20.7	33.0	-12.3
			64QAM	1	99	1	0	21.0	21.2	33.0	-11.8
				1	0	1	24	15.4	15.6	33.0	-17.4
				100	0	25	0	**21.1**	**21.3**	33.0	-11.7
	2675.0	2686.7	QPSK	1	99	1	0	23.5	23.7	33.0	-9.4
				1	0	1	24	14.7	14.9	33.0	-18.1
				100	0	25	0	21.3	21.5	33.0	-11.5
			16QAM	1	99	1	0	22.1	22.3	33.0	-10.8
				1	0	1	24	14.6	14.8	33.0	-18.2
				100	0	25	0	20.0	20.2	33.0	-12.8
			64QAM	1	99	1	0	20.8	21.0	33.0	-12.0
				1	0	1	24	15.4	15.6	33.0	-17.4
				100	0	25	0	20.9	21.1	33.0	-11.9

OUTPUT POWER FOR LTE BAND 41 (10.0MHz + 20.0MHz)

Antenna Gain (dBi)	0.2

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10MHz / 20MHz	2501.5	2515.9	QPSK	1	49	1	0	**23.7**	**23.9**	33.0	-9.2
				50	0	100	0	21.7	21.9	33.0	-11.1
			16QAM	1	49	1	0	22.6	22.8	33.0	-10.2
				50	0	100	0	20.7	20.9	33.0	-12.2
			64QAM	1	49	1	0	20.9	21.1	33.0	-12.0
				50	0	100	0	**21.1**	**21.3**	33.0	-11.7
	2583.6	2598.0	QPSK	1	49	1	0	23.5	23.7	33.0	-9.3
				50	0	100	0	21.5	21.7	33.0	-11.3
			16QAM	1	49	1	0	22.4	22.6	33.0	-10.5
				50	0	100	0	20.5	20.7	33.0	-12.3
			64QAM	1	49	1	0	20.9	21.1	33.0	-11.9
				50	0	100	0	21.0	21.2	33.0	-11.8
	2665.6	2680.0	QPSK	1	49	1	0	23.4	23.6	33.0	-9.4
				50	0	100	0	21.3	21.5	33.0	-11.6
			16QAM	1	49	1	0	**22.6**	**22.8**	33.0	-10.2
				50	0	100	0	20.3	20.5	33.0	-12.5
			64QAM	1	49	1	0	21.0	21.2	33.0	-11.8
				50	0	100	0	21.0	21.2	33.0	-11.8

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 10.0MHz)

Antenna Gain (dBi)	0.2

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20MHz / 10MHz	2506.0	2520.4	QPSK	1	49	1	0	**23.6**	**23.8**	33.0	-9.2
				50	0	100	0	21.5	21.7	33.0	-11.3
			16QAM	1	49	1	0	22.5	22.7	33.0	-10.3
				50	0	100	0	20.5	20.7	33.0	-12.3
			64QAM	1	49	1	0	20.9	21.1	33.0	-11.9
				50	0	100	0	21.1	21.3	33.0	-11.7
	2588.1	2602.5	QPSK	1	49	1	0	23.4	23.6	33.0	-9.4
				50	0	100	0	21.4	21.6	33.0	-11.4
			16QAM	1	49	1	0	**22.5**	**22.7**	33.0	-10.3
				50	0	100	0	20.4	20.6	33.0	-12.4
			64QAM	1	49	1	0	21.0	21.2	33.0	-11.8
				50	0	100	0	**21.1**	**21.3**	33.0	-11.7
	2670.1	2684.5	QPSK	1	49	1	0	23.5	23.7	33.0	-9.3
				50	0	100	0	21.4	21.6	33.0	-11.4
			16QAM	1	49	1	0	22.0	22.2	33.0	-10.8
				50	0	100	0	20.4	20.6	33.0	-12.4
			64QAM	1	49	1	0	21.0	21.2	33.0	-11.8
				50	0	100	0	21.0	21.2	33.0	-11.8

OUTPUT POWER FOR LTE BAND 41 (15.0MHz + 15.0MHz)

Antenna Gain (dBi)	0.2

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15MHz / 15MHz	2503.5	2518.5	QPSK	1	74	1	0	**23.8**	**24.0**	33.0	-9.0
				75	0	75	0	21.6	21.8	33.0	-11.3
			16QAM	1	74	1	0	**22.8**	**23.0**	33.0	-10.0
				75	0	75	0	20.6	20.8	33.0	-12.2
			64QAM	1	74	1	0	20.9	21.1	33.0	-11.9
				75	0	75	0	21.1	21.3	33.0	-11.8
	2585.5	2600.5	QPSK	1	74	1	0	23.8	24.0	33.0	-9.1
				75	0	75	0	21.4	21.6	33.0	-11.5
			16QAM	1	74	1	0	22.4	22.6	33.0	-10.4
				75	0	75	0	20.4	20.6	33.0	-12.4
			64QAM	1	74	1	0	**21.1**	**21.3**	33.0	-11.7
				75	0	75	0	21.1	21.3	33.0	-11.8
	2667.5	2682.5	QPSK	1	74	1	0	23.5	23.7	33.0	-9.3
				75	0	75	0	21.3	21.5	33.0	-11.5
			16QAM	1	74	1	0	22.3	22.5	33.0	-10.5
				75	0	75	0	20.4	20.6	33.0	-12.4
			64QAM	1	74	1	0	21.1	21.3	33.0	-11.7
				75	0	75	0	21.0	21.2	33.0	-11.8

OUTPUT POWER FOR LTE BAND 41 (15.0MHz + 20.0MHz)

Antenna Gain (dBi)	0.2

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15MHz / 20MHz	2503.8	2520.9	QPSK	1	74	1	0	23.8	24.0	33.0	-9.1
				75	0	100	0	21.8	22.0	33.0	-11.1
			16QAM	1	74	1	0	22.7	22.9	33.0	-10.2
				75	0	100	0	20.8	21.0	33.0	-12.0
			64QAM	1	74	1	0	**21.1**	**21.3**	33.0	-11.7
				75	0	100	0	21.1	21.3	33.0	-11.8
	2583.3	2600.4	QPSK	1	74	1	0	**23.8**	**24.0**	33.0	-9.0
				75	0	100	0	21.6	21.8	33.0	-11.2
			16QAM	1	74	1	0	**22.7**	**22.9**	33.0	-10.1
				75	0	100	0	20.7	20.9	33.0	-12.2
			64QAM	1	74	1	0	20.9	21.1	33.0	-11.9
				75	0	100	0	21.0	21.2	33.0	-11.8
	2662.9	2680.0	QPSK	1	74	1	0	23.6	23.8	33.0	-9.2
				75	0	100	0	21.3	21.5	33.0	-11.5
			16QAM	1	74	1	0	22.4	22.6	33.0	-10.4
				75	0	100	0	20.3	20.5	33.0	-12.5
			64QAM	1	74	1	0	20.9	21.1	33.0	-11.9
				75	0	100	0	21.0	21.2	33.0	-11.8

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 15.0MHz)

Antenna Gain (dBi)	0.2

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20MHz / 15MHz	2506.0	2523.1	QPSK	1	99	1	0	**23.8**	**24.0**	33.0	-9.0
				100	0	75	0	21.6	21.8	33.0	-11.2
			16QAM	1	99	1	0	22.6	22.8	33.0	-10.2
				100	0	75	0	20.6	20.8	33.0	-12.2
			64QAM	1	99	1	0	20.8	21.0	33.0	-12.1
				100	0	75	0	**21.1**	**21.3**	33.0	-11.7
	2585.6	2602.7	QPSK	1	99	1	0	23.7	23.9	33.0	-9.2
				100	0	75	0	21.4	21.6	33.0	-11.4
			16QAM	1	99	1	0	**22.6**	**22.8**	33.0	-10.2
				100	0	75	0	20.4	20.6	33.0	-12.4
			64QAM	1	99	1	0	20.9	21.1	33.0	-11.9
				100	0	75	0	21.0	21.2	33.0	-11.8
	2665.1	2682.2	QPSK	1	99	1	0	23.6	23.8	33.0	-9.2
				100	0	75	0	21.4	21.6	33.0	-11.4
			16QAM	1	99	1	0	22.4	22.6	33.0	-10.4
				100	0	75	0	20.3	20.5	33.0	-12.5
			64QAM	1	99	1	0	21.1	21.3	33.0	-11.7
				100	0	75	0	21.0	21.2	33.0	-11.8

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 20.0MHz)

Antenna Gain (dBi)	0.2

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20MHz/ 20MHz	2506.0	2525.8	QPSK	1	99	1	0	**23.8**	**24.0**	33.0	-9.1
				1	0	1	99	15.3	15.5	33.0	-17.6
				100	0	100	0	21.6	21.8	33.0	-11.2
			16QAM	1	99	1	0	**22.6**	**22.8**	33.0	-10.2
				1	0	1	99	15.3	15.5	33.0	-17.6
				100	0	100	0	20.6	20.8	33.0	-12.2
			64QAM	1	99	1	0	**21.0**	**21.2**	33.0	-11.8
				1	0	1	99	15.4	15.6	33.0	-17.4
				100	0	100	0	21.0	21.2	33.0	-11.8
	2583.1	2602.9	QPSK	1	99	1	0	23.6	23.8	33.0	-9.2
				1	0	1	99	15.2	15.4	33.0	-17.6
				100	0	100	0	21.4	21.6	33.0	-11.4
			16QAM	1	99	1	0	22.6	22.8	33.0	-10.2
				1	0	1	99	15.1	15.3	33.0	-17.7
				100	0	100	0	20.4	20.6	33.0	-12.4
			64QAM	1	99	1	0	21.0	21.2	33.0	-11.8
				1	0	1	99	15.5	15.7	33.0	-17.3
				100	0	100	0	21.0	21.2	33.0	-11.8
	2660.2	2680.0	QPSK	1	99	1	0	23.6	23.8	33.0	-9.2
				1	0	1	99	14.9	15.1	33.0	-17.9
				100	0	100	0	21.3	21.5	33.0	-11.5
			16QAM	1	99	1	0	22.5	22.7	33.0	-10.3
				1	0	1	99	14.7	14.9	33.0	-18.1
				100	0	100	0	20.4	20.6	33.0	-12.4
			64QAM	1	99	1	0	21.0	21.2	33.0	-11.8
				1	0	1	99	15.5	15.7	33.0	-17.4
				100	0	100	0	21.0	21.2	33.0	-11.8

7.2. UAT 1

7.2.1. LTE BAND 7

ID:	50820	Date:	5/19/17

OUTPUT POWER FOR LTE BAND 7 (10.0MHz + 20.0MHz)

Antenna Gain (dBi)	-3.35

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10MHz / 20MHz	2505.5	2519.9	QPSK	1	49	1	0	**19.5**	**16.2**	33.0	-16.8
				50	0	100	0	17.5	14.1	33.0	-18.9
			16QAM	1	49	1	0	**18.6**	**15.2**	33.0	-17.8
				50	0	100	0	16.6	13.3	33.0	-19.7
			64QAM	1	49	1	0	16.6	13.3	33.0	-19.8
				50	0	100	0	16.5	13.2	33.0	-19.9
	2525.6	2540.0	QPSK	1	49	1	0	19.3	15.9	33.0	-17.1
				50	0	100	0	17.5	14.2	33.0	-18.8
			16QAM	1	49	1	0	18.4	15.1	33.0	-17.9
				50	0	100	0	16.6	13.2	33.0	-19.8
			64QAM	1	49	1	0	**16.9**	**13.6**	33.0	-19.4
				50	0	100	0	16.2	12.9	33.0	-20.2
	2545.6	2560.0	QPSK	1	49	1	0	19.4	16.1	33.0	-17.0
				50	0	100	0	17.5	14.1	33.0	-18.9
			16QAM	1	49	1	0	18.3	15.0	33.0	-18.0
				50	0	100	0	16.6	13.3	33.0	-19.7
			64QAM	1	49	1	0	16.5	13.2	33.0	-19.8
				50	0	100	0	16.1	12.8	33.0	-20.3

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 10.0MHz)

Antenna Gain (dBi)	-3.35

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20MHz / 10MHz	2510.0	2524.4	QPSK	1	99	1	0	**19.5**	**16.2**	33.0	-16.9
				1	0	1	49	10.9	7.6	33.0	-25.5
				100	0	50	0	17.5	14.2	33.0	-18.9
			16QAM	1	99	1	0	18.4	15.1	33.0	-17.9
				1	0	1	49	10.9	7.6	33.0	-25.5
				100	0	50	0	16.8	13.4	33.0	-19.6
			64QAM	1	99	1	0	**16.8**	**13.4**	33.0	-19.6
				1	0	1	49	10.7	7.4	33.0	-25.6
				100	0	50	0	16.2	12.9	33.0	-20.2
	2530.1	2544.5	QPSK	1	99	1	0	19.5	16.1	33.0	-16.9
				1	0	1	49	11.0	7.7	33.0	-25.4
				100	0	50	0	17.5	14.2	33.0	-18.8
			16QAM	1	99	1	0	**18.5**	**15.1**	33.0	-17.9
				1	0	1	49	11.0	7.7	33.0	-25.4
				100	0	50	0	16.8	13.5	33.0	-19.5
			64QAM	1	99	1	0	16.6	13.2	33.0	-19.8
				1	0	1	49	11.2	7.8	33.0	-25.2
				100	0	50	0	16.3	13.0	33.0	-20.1
	2550.1	2564.5	QPSK	1	99	1	0	19.4	16.1	33.0	-17.0
				1	0	1	49	10.9	7.6	33.0	-25.5
				100	0	50	0	17.4	14.1	33.0	-18.9
			16QAM	1	99	1	0	18.5	15.1	33.0	-17.9
				1	0	1	49	10.9	7.6	33.0	-25.5
				100	0	50	0	16.7	13.3	33.0	-19.7
			64QAM	1	99	1	0	16.6	13.3	33.0	-19.8
				1	0	1	49	11.1	7.8	33.0	-25.3
				100	0	50	0	16.3	13.0	33.0	-20.1

OUTPUT POWER FOR LTE BAND 7 (15.0MHz + 15.0MHz)

Antenna Gain (dBi)	-3.35

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15MHz / 15MHz	2507.5	2522.5	QPSK	1	74	1	0	**19.4**	**16.1**	33.0	-16.9
				75	0	75	0	17.2	13.9	33.0	-19.2
			16QAM	1	74	1	0	**18.4**	**15.1**	33.0	-17.9
				75	0	75	0	16.2	12.9	33.0	-20.1
			64QAM	1	74	1	0	16.6	13.3	33.0	-19.7
				75	0	75	0	16.2	12.9	33.0	-20.2
	2527.5	2542.5	QPSK	1	74	1	0	19.2	15.9	33.0	-17.1
				75	0	75	0	17.2	13.8	33.0	-19.2
			16QAM	1	74	1	0	18.2	14.8	33.0	-18.2
				75	0	75	0	16.2	12.9	33.0	-20.2
			64QAM	1	74	1	0	**16.8**	**13.5**	33.0	-19.6
				75	0	75	0	16.5	13.2	33.0	-19.9
	2547.5	2562.5	QPSK	1	74	1	0	19.4	16.0	33.0	-17.0
				75	0	75	0	17.5	14.2	33.0	-18.8
			16QAM	1	74	1	0	18.4	15.0	33.0	-18.0
				75	0	75	0	16.5	13.1	33.0	-19.9
			64QAM	1	74	1	0	16.5	13.2	33.0	-19.9
				75	0	75	0	16.6	13.3	33.0	-19.8

OUTPUT POWER FOR LTE BAND 7 (15.0MHz + 20.0MHz)

Antenna Gain (dBi)	-3.35

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15MHz / 20MHz	2507.8	2524.9	QPSK	1	74	1	0	**19.5**	**16.1**	33.0	-16.9
				75	0	100	0	17.5	14.2	33.0	-18.8
			16QAM	1	74	1	0	**18.5**	**15.2**	33.0	-17.8
				75	0	100	0	16.5	13.2	33.0	-19.9
			64QAM	1	74	1	0	16.6	13.3	33.0	-19.8
				75	0	100	0	16.2	12.9	33.0	-20.2
	2525.3	2542.4	QPSK	1	74	1	0	19.4	16.0	33.0	-17.0
				75	0	100	0	17.3	13.9	33.0	-19.1
			16QAM	1	74	1	0	18.3	14.9	33.0	-18.1
				75	0	100	0	16.2	12.9	33.0	-20.1
			64QAM	1	74	1	0	16.6	13.3	33.0	-19.8
				75	0	100	0	16.1	12.8	33.0	-20.3
	2542.9	2560.0	QPSK	1	74	1	0	19.4	16.0	33.0	-17.0
				75	0	100	0	17.5	14.1	33.0	-18.9
			16QAM	1	74	1	0	18.3	15.0	33.0	-18.0
				75	0	100	0	16.5	13.1	33.0	-19.9
			64QAM	1	74	1	0	**16.7**	**13.3**	33.0	-19.7
				75	0	100	0	16.1	12.8	33.0	-20.3

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 15.0MHz)

Antenna Gain (dBi)	-3.35

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20MHz / 15MHz	2510.0	2527.1	QPSK	1	99	1	0	**19.5**	**16.1**	33.0	-16.9
				100	0	75	0	17.4	14.1	33.0	-18.9
			16QAM	1	99	1	0	18.4	15.1	33.0	-17.9
				100	0	75	0	16.7	13.4	33.0	-19.6
			64QAM	1	99	1	0	16.4	13.0	33.0	-20.0
				100	0	75	0	16.1	12.8	33.0	-20.3
	2527.6	2544.7	QPSK	1	99	1	0	19.3	16.0	33.0	-17.1
				100	0	75	0	17.4	14.1	33.0	-19.0
			16QAM	1	99	1	0	**18.6**	**15.3**	33.0	-17.8
				100	0	75	0	16.7	13.4	33.0	-19.7
			64QAM	1	99	1	0	16.7	13.4	33.0	-19.7
				100	0	75	0	16.2	12.9	33.0	-20.2
	2545.1	2562.2	QPSK	1	99	1	0	19.4	16.0	33.0	-17.0
				100	0	75	0	17.5	14.1	33.0	-18.9
			16QAM	1	99	1	0	18.4	15.0	33.0	-18.0
				100	0	75	0	16.6	13.3	33.0	-19.8
			64QAM	1	99	1	0	**16.8**	**13.4**	33.0	-19.6
				100	0	75	0	16.3	13.0	33.0	-20.1

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 20.0MHz)

Antenna Gain (dBi)	-3.35

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20MHz/ 20MHz	2510.0	2529.8	QPSK	1	99	1	0	**19.5**	**16.1**	33.0	-16.9
				1	0	1	99	10.9	7.6	33.0	-25.5
				100	0	100	0	17.5	14.1	33.0	-18.9
			16QAM	1	99	1	0	18.4	15.0	33.0	-18.0
				1	0	1	99	11.1	7.8	33.0	-25.3
				100	0	100	0	16.6	13.3	33.0	-19.8
			64QAM	1	99	1	0	16.4	13.1	33.0	-20.0
				1	0	1	99	11.0	7.6	33.0	-25.4
				100	0	100	0	16.3	13.0	33.0	-20.1
	2525.1	2544.9	QPSK	1	99	1	0	19.4	16.0	33.0	-17.0
				1	0	1	99	10.9	7.6	33.0	-25.5
				100	0	100	0	17.4	14.0	33.0	-19.0
			16QAM	1	99	1	0	**18.4**	**15.1**	33.0	-17.9
				1	0	1	99	10.8	7.5	33.0	-25.5
				100	0	100	0	16.4	13.0	33.0	-20.0
			64QAM	1	99	1	0	16.3	13.0	33.0	-20.1
				1	0	1	99	11.1	7.7	33.0	-25.3
				100	0	100	0	16.2	12.9	33.0	-20.2
	2540.2	2560.0	QPSK	1	99	1	0	19.4	16.0	33.0	-17.0
				1	0	1	99	10.9	7.6	33.0	-25.5
				100	0	100	0	17.5	14.1	33.0	-18.9
			16QAM	1	99	1	0	18.3	15.0	33.0	-18.0
				1	0	1	99	10.8	7.5	33.0	-25.6
				100	0	100	0	16.6	13.2	33.0	-19.8
			64QAM	1	99	1	0	**16.5**	**13.2**	33.0	-19.8
				1	0	1	99	10.7	7.4	33.0	-25.7
				100	0	100	0	16.3	13.0	33.0	-20.1

7.2.2. LTE BAND 41

ID:	52297	Date:	5/19/17

OUTPUT POWER FOR LTE BAND 41 (5.0MHz + 20.0MHz)

Antenna Gain (dBi)	-2.99

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
5MHz / 20MHz	2499.3	2511.0	QPSK	1	24	1	0	19.1	16.1	33.0	-16.9
				25	0	100	0	17.2	14.2	33.0	-18.8
			16QAM	1	24	1	0	18.2	15.2	33.0	-17.8
				25	0	100	0	16.2	13.2	33.0	-19.8
			64QAM	1	24	1	0	16.6	13.6	33.0	-19.5
				25	0	100	0	16.4	13.4	33.0	-19.6
	2583.8	2595.5	QPSK	1	24	1	0	19.2	16.2	33.0	-16.8
				25	0	100	0	17.2	14.2	33.0	-18.8
			16QAM	1	24	1	0	**18.5**	**15.5**	33.0	-17.5
				25	0	100	0	16.4	13.4	33.0	-19.6
			64QAM	1	24	1	0	16.2	13.2	33.0	-19.9
				25	0	100	0	**16.6**	**13.7**	33.0	-19.4
	2668.3	2680.0	QPSK	1	24	1	0	**19.3**	**16.3**	33.0	-16.7
				25	0	100	0	17.3	14.3	33.0	-18.7
			16QAM	1	24	1	0	18.3	15.3	33.0	-17.8
				25	0	100	0	16.5	13.5	33.0	-19.5
			64QAM	1	24	1	0	16.6	13.6	33.0	-19.4
				25	0	100	0	16.4	13.5	33.0	-19.6

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 5.0MHz)

Antenna Gain (dBi)	-2.99

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20MHz / 5MHz	2506.0	2517.7	QPSK	1	99	1	0	19.3	16.3	33.0	-16.8
				1	0	1	24	11.0	8.0	33.0	-25.0
				100	0	25	0	17.2	14.2	33.0	-18.8
			16QAM	1	99	1	0	18.1	15.1	33.0	-17.9
				1	0	1	24	10.9	7.9	33.0	-25.1
				100	0	25	0	16.2	13.2	33.0	-19.8
			64QAM	1	99	1	0	16.4	13.4	33.0	-19.6
				1	0	1	24	11.0	8.0	33.0	-25.0
				100	0	25	0	16.4	13.4	33.0	-19.6
	2590.5	2602.2	QPSK	1	99	1	0	19.2	16.2	33.0	-16.8
				1	0	1	24	10.9	7.9	33.0	-25.1
				100	0	25	0	17.2	14.2	33.0	-18.8
			16QAM	1	99	1	0	18.1	15.1	33.0	-17.9
				1	0	1	24	10.8	7.8	33.0	-25.2
				100	0	25	0	16.1	13.1	33.0	-19.9
			64QAM	1	99	1	0	16.1	13.1	33.0	-19.9
				1	0	1	24	10.8	7.8	33.0	-25.2
				100	0	25	0	**16.5**	**13.5**	33.0	-19.6
	2675.0	2686.7	QPSK	1	99	1	0	**19.3**	**16.3**	33.0	-16.7
				1	0	1	24	10.9	7.9	33.0	-25.1
				100	0	25	0	17.2	14.3	33.0	-18.8
			16QAM	1	99	1	0	**18.2**	**15.2**	33.0	-17.8
				1	0	1	24	10.8	7.8	33.0	-25.2
				100	0	25	0	16.4	13.4	33.0	-19.6
			64QAM	1	99	1	0	16.2	13.2	33.0	-19.8
				1	0	1	24	10.7	7.8	33.0	-25.3
				100	0	25	0	16.3	13.3	33.0	-19.7

OUTPUT POWER FOR LTE BAND 41 (10.0MHz + 20.0MHz)

Antenna Gain (dBi)	-2.99

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
10MHz / 20MHz	2501.5	2515.9	QPSK	1	49	1	0	19.1	16.1	33.0	-16.9
				50	0	100	0	17.2	14.2	33.0	-18.8
			16QAM	1	49	1	0	18.2	15.2	33.0	-17.8
				50	0	100	0	16.1	13.1	33.0	-19.9
			64QAM	1	49	1	0	**16.6**	**13.7**	33.0	-19.4
				50	0	100	0	16.4	13.4	33.0	-19.6
	2583.6	2598.0	QPSK	1	49	1	0	**19.2**	**16.2**	33.0	-16.8
				50	0	100	0	17.3	14.4	33.0	-18.7
			16QAM	1	49	1	0	**18.3**	**15.3**	33.0	-17.7
				50	0	100	0	16.4	13.4	33.0	-19.6
			64QAM	1	49	1	0	16.5	13.5	33.0	-19.5
				50	0	100	0	16.6	13.6	33.0	-19.4
	2665.6	2680.0	QPSK	1	49	1	0	19.2	16.2	33.0	-16.8
				50	0	100	0	17.1	14.1	33.0	-18.9
			16QAM	1	49	1	0	18.1	15.1	33.0	-17.9
				50	0	100	0	16.4	13.4	33.0	-19.6
			64QAM	1	49	1	0	16.3	13.3	33.0	-19.7
				50	0	100	0	16.4	13.4	33.0	-19.7

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 10.0MHz)

Antenna Gain (dBi)	-2.99

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20MHz / 10MHz	2506.0	2520.4	QPSK	1	99	1	0	**19.3**	**16.3**	33.0	-16.7
				100	0	50	0	17.1	14.1	33.0	-18.9
			16QAM	1	99	1	0	**18.2**	**15.2**	33.0	-17.8
				100	0	50	0	16.3	13.3	33.0	-19.7
			64QAM	1	99	1	0	16.5	13.5	33.0	-19.5
				100	0	50	0	16.5	13.6	33.0	-19.5
	2588.1	2602.5	QPSK	1	99	1	0	19.2	16.2	33.0	-16.8
				100	0	50	0	17.2	14.2	33.0	-18.8
			16QAM	1	99	1	0	18.1	15.1	33.0	-17.9
				100	0	50	0	16.2	13.2	33.0	-19.8
			64QAM	1	99	1	0	16.1	13.1	33.0	-19.9
				100	0	50	0	16.4	13.4	33.0	-19.6
	2670.1	2684.5	QPSK	1	99	1	0	19.2	16.2	33.0	-16.8
				100	0	50	0	17.2	14.2	33.0	-18.8
			16QAM	1	99	1	0	18.1	15.1	33.0	-17.9
				100	0	50	0	16.3	13.3	33.0	-19.7
			64QAM	1	99	1	0	**16.6**	**13.6**	33.0	-19.4
				100	0	50	0	16.5	13.5	33.0	-19.6

OUTPUT POWER FOR LTE BAND 41 (15.0MHz + 15.0MHz)

Antenna Gain (dBi)	-2.99

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15MHz / 15MHz	2503.5	2518.5	QPSK	1	74	1	0	**19.3**	**16.3**	33.0	-16.7
				75	0	75	0	17.2	14.2	33.0	-18.8
			16QAM	1	74	1	0	**18.3**	**15.3**	33.0	-17.7
				75	0	75	0	16.5	13.6	33.0	-19.5
			64QAM	1	74	1	0	**16.6**	**13.6**	33.0	-19.4
				75	0	75	0	16.5	13.5	33.0	-19.5
	2585.5	2600.5	QPSK	1	74	1	0	19.2	16.2	33.0	-16.8
				75	0	75	0	17.2	14.2	33.0	-18.8
			16QAM	1	74	1	0	18.3	15.3	33.0	-17.7
				75	0	75	0	16.1	13.1	33.0	-19.9
			64QAM	1	74	1	0	16.4	13.5	33.0	-19.6
				75	0	75	0	16.5	13.5	33.0	-19.5
	2667.5	2682.5	QPSK	1	74	1	0	19.2	16.2	33.0	-16.8
				75	0	75	0	17.3	14.3	33.0	-18.7
			16QAM	1	74	1	0	18.2	15.2	33.0	-17.8
				75	0	75	0	16.2	13.2	33.0	-19.8
			64QAM	1	74	1	0	16.1	13.1	33.0	-19.9
				75	0	75	0	16.4	13.4	33.0	-19.6

OUTPUT POWER FOR LTE BAND 41 (15.0MHz + 20.0MHz)

Antenna Gain (dBi)	-2.99

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
15MHz / 20MHz	2503.8	2520.9	QPSK	1	74	1	0	19.1	16.1	33.0	-16.9
				75	0	100	0	17.1	14.1	33.0	-18.9
			16QAM	1	74	1	0	18.3	15.3	33.0	-17.7
				75	0	100	0	16.2	13.2	33.0	-19.8
			64QAM	1	74	1	0	16.4	13.4	33.0	-19.6
				75	0	100	0	16.5	13.5	33.0	-19.5
	2583.3	2600.4	QPSK	1	74	1	0	19.1	16.1	33.0	-16.9
				75	0	100	0	17.2	14.3	33.0	-18.8
			16QAM	1	74	1	0	18.1	15.1	33.0	-17.9
				75	0	100	0	16.3	13.3	33.0	-19.8
			64QAM	1	74	1	0	16.5	13.5	33.0	-19.6
				75	0	100	0	**16.6**	**13.7**	33.0	-19.4
	2662.9	2680.0	QPSK	1	74	1	0	**19.2**	**16.2**	33.0	-16.8
				75	0	100	0	17.3	14.3	33.0	-18.7
			16QAM	1	74	1	0	**18.3**	**15.3**	33.0	-17.7
				75	0	100	0	16.4	13.5	33.0	-19.6
			64QAM	1	74	1	0	16.1	13.1	33.0	-19.9
				75	0	100	0	16.4	13.4	33.0	-19.6

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 15.0MHz)

Antenna Gain (dBi)	-2.99

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20MHz / 15MHz	2506.0	2523.1	QPSK	1	99	1	0	**19.3**	**16.3**	33.0	-16.7
				100	0	75	0	17.1	14.1	33.0	-18.9
			16QAM	1	99	1	0	**18.3**	**15.3**	33.0	-17.7
				100	0	75	0	16.1	13.1	33.0	-19.9
			64QAM	1	99	1	0	16.1	13.1	33.0	-20.0
				100	0	75	0	16.4	13.4	33.0	-19.6
	2585.6	2602.7	QPSK	1	99	1	0	19.1	16.1	33.0	-16.9
				100	0	75	0	17.2	14.2	33.0	-18.8
			16QAM	1	99	1	0	18.1	15.1	33.0	-17.9
				100	0	75	0	16.2	13.2	33.0	-19.8
			64QAM	1	99	1	0	16.1	13.1	33.0	-19.9
				100	0	75	0	16.3	13.3	33.0	-19.7
	2665.1	2682.2	QPSK	1	99	1	0	19.2	16.2	33.0	-16.8
				100	0	75	0	17.2	14.2	33.0	-18.8
			16QAM	1	99	1	0	18.3	15.3	33.0	-17.7
				100	0	75	0	16.3	13.3	33.0	-19.7
			64QAM	1	99	1	0	**16.4**	**13.4**	33.0	-19.6
				100	0	75	0	16.4	13.4	33.0	-19.6

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 20.0MHz)

Antenna Gain (dBi)	-2.99

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Limit (dBm)	Margin (dB)
20MHz/ 20MHz	2506.0	2525.8	QPSK	1	99	1	0	**19.3**	**16.3**	33.0	-16.7
				1	0	1	99	10.9	7.9	33.0	-25.1
				100	0	100	0	17.1	14.1	33.0	-18.9
			16QAM	1	99	1	0	**18.3**	**15.4**	33.0	-17.7
				1	0	1	99	10.9	7.9	33.0	-25.1
				100	0	100	0	16.1	13.1	33.0	-19.9
			64QAM	1	99	1	0	16.6	13.6	33.0	-19.5
				1	0	1	99	11.0	8.0	33.0	-25.0
				100	0	100	0	16.5	13.5	33.0	-19.5
	2583.1	2602.9	QPSK	1	99	1	0	19.2	16.2	33.0	-16.8
				1	0	1	99	10.8	7.8	33.0	-25.2
				100	0	100	0	17.3	14.4	33.0	-18.7
			16QAM	1	99	1	0	18.2	15.2	33.0	-17.8
				1	0	1	99	10.8	7.8	33.0	-25.2
				100	0	100	0	16.2	13.2	33.0	-19.8
			64QAM	1	99	1	0	**16.6**	**13.6**	33.0	-19.4
				1	0	1	99	10.7	7.7	33.0	-25.3
				100	0	100	0	16.5	13.5	33.0	-19.5
	2660.2	2680.0	QPSK	1	99	1	0	19.2	16.3	33.0	-16.8
				1	0	1	99	10.8	7.8	33.0	-25.2
				100	0	100	0	17.1	14.1	33.0	-18.9
			16QAM	1	99	1	0	18.2	15.2	33.0	-17.8
				1	0	1	99	11.0	8.0	33.0	-25.0
				100	0	100	0	16.2	13.2	33.0	-19.9
			64QAM	1	99	1	0	16.4	13.4	33.0	-19.6
				1	0	1	99	10.9	7.9	33.0	-25.1
				100	0	100	0	16.3	13.3	33.0	-19.7

8. CONDUCTED TEST RESULTS

8.1. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The -26dB bandwidth was also measured and recorded.

MODES TESTED

- LTE Band 7
- LTE Band 41

RESULTS

LTE BAND 7

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 7	20MHz + 10MHz BAND QPSK	100/0 + 50/0	2535	28.085	32.82
	20MHz + 10MHz BAND 16QAM			28.019	30.10
	20MHz + 10MHz BAND 64QAM			27.893	29.99
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.719	40.35
	20MHz + 20MHz BAND 16QAM			37.678	40.06
	20MHz + 20MHz BAND 64QAM			37.663	40.24
	10MHz + 20MHz BAND QPSK	50/0 + 100/0		28.035	30.23
	10MHz + 20MHz BAND 16QAM			28.110	30.14
	10MHz + 20MHz BAND 64QAM			27.915	29.88
	15MHz + 15MHz BAND QPSK	75/0 + 75/0		28.585	30.91
	15MHz + 15MHz BAND 16QAM			28.582	30.80
	15MHz + 15MHz BAND 64QAM			28.601	30.69
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		32.910	35.19
	15MHz + 20MHz BAND 16QAM			32.871	35.21
	15MHz + 20MHz BAND 64QAM			32.783	34.80
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		32.930	35.16
	20MHz + 15MHz BAND 16QAM			32.829	35.13
	20MHz + 15MHz BAND 64QAM			32.632	34.82

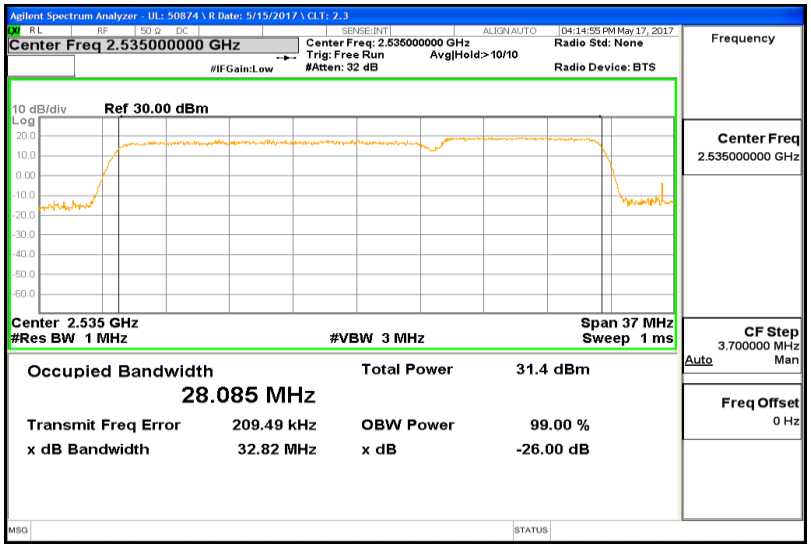
LTE BAND 41

BAND	MODE	RB SIZE/ RB OFFSET	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 41 (FCC)	20MHz + 5MHz BAND QPSK	100/0 + 25/0	2593	23.329	25.39
	20MHz + 5MHz BAND 16QAM			23.273	25.70
	20MHz + 5MHz BAND 64QAM			23.242	25.05
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.665	41.17
	20MHz + 20MHz BAND 16QAM			37.661	40.15
	20MHz + 20MHz BAND 64QAM			37.549	39.93
	5MHz + 20MHz BAND QPSK	25/0 + 100/0		23.395	25.69
	5MHz + 20MHz BAND 16QAM			23.331	25.35
	5MHz + 20MHz BAND 64QAM			23.126	24.94
	10MHz + 20MHz BAND QPSK	50/0 + 100/0		28.128	32.30
	10MHz + 20MHz BAND 16QAM			28.050	29.94
	10MHz + 20MHz BAND 64QAM			27.930	29.80
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		28.055	30.45
	20MHz + 10MHz BAND 16QAM			28.013	30.05
	20MHz + 10MHz BAND 64QAM			27.998	30.00
	15MHz + 15MHz BAND QPSK	75/0 + 75/0		28.656	33.07
	15MHz + 15MHz BAND 16QAM			28.630	31.06
	15MHz + 15MHz BAND 64QAM			28.544	30.62
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		32.954	37.15
	15MHz + 20MHz BAND 16QAM			32.910	37.30
	15MHz + 20MHz BAND 64QAM			32.672	35.10
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		32.967	35.01
	20MHz + 15MHz BAND 16QAM			32.833	36.27
	20MHz + 15MHz BAND 64QAM			32.802	35.04

8.1.1. LTE BAND 7

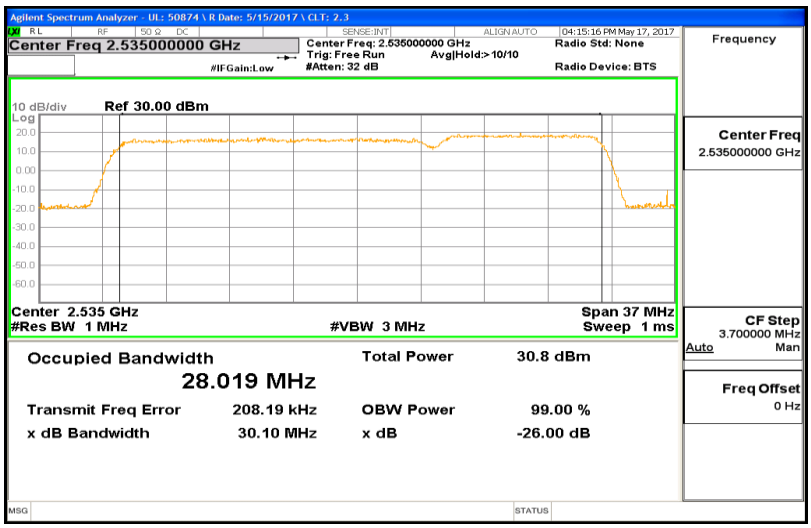
QPSK, (20.0MHz + 10.0MHz BAND WIDTH)

MID CH, RB100-0 + 50-0



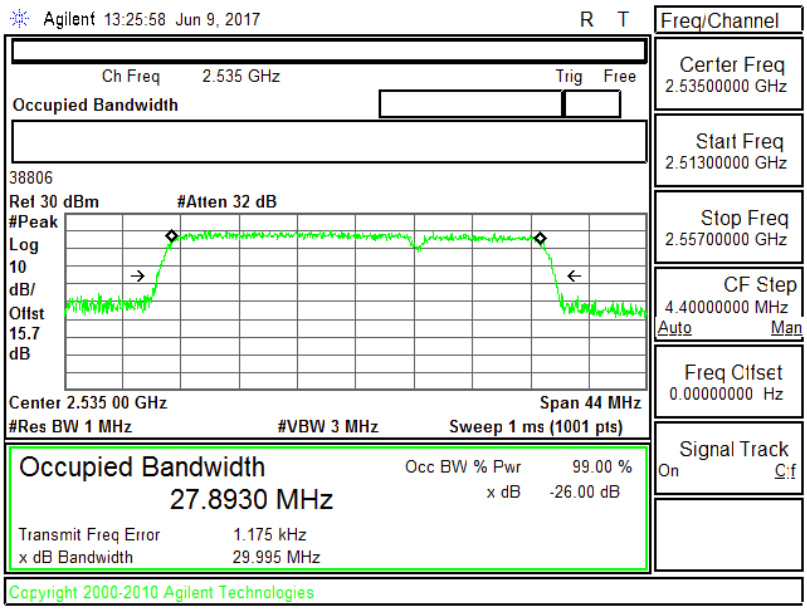
16QAM, (20.0MHz + 10.0MHz BAND WIDTH)

MID CH, RB100-0 + 50-0



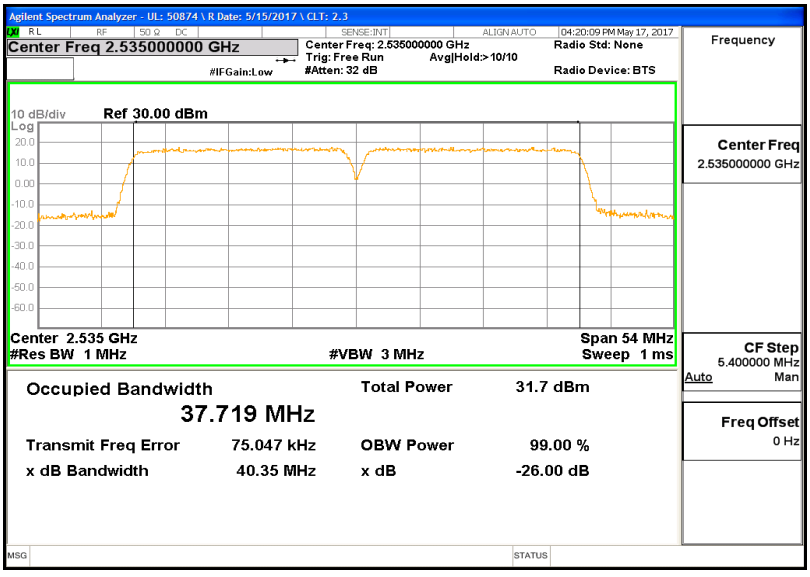
64QAM, (20.0MHz + 10.0MHz BAND WIDTH)

MID CH, RB100-0 + 50-0



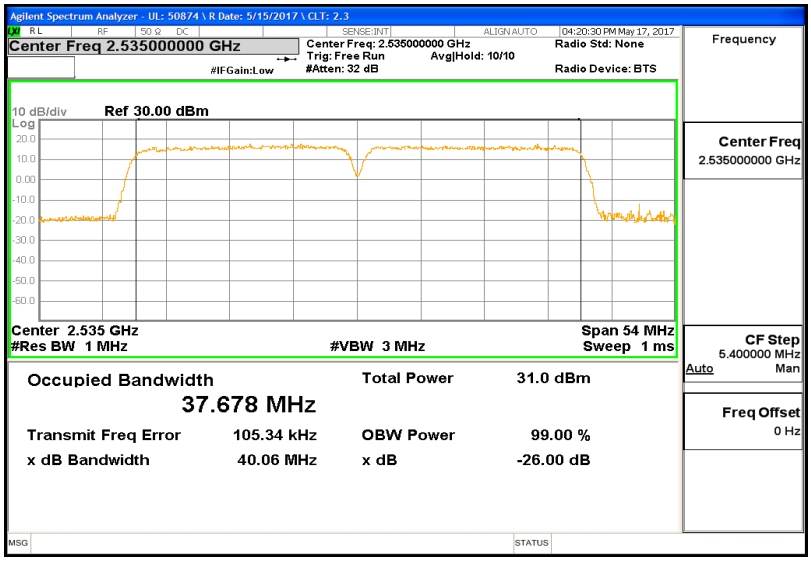
QPSK, (20.0MHz + 20.0MHz BAND WIDTH)

MID CH, RB100-0 + 100-0



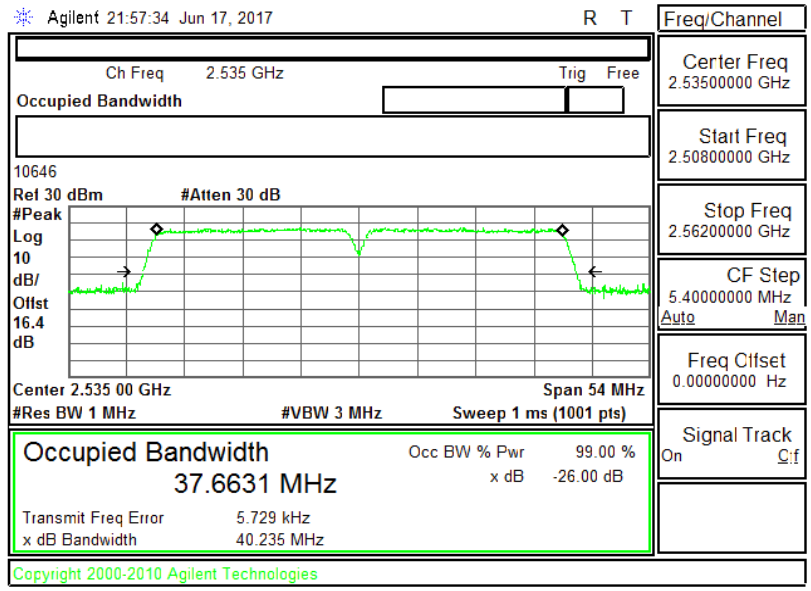
16QAM, (20.0MHz + 20.0MHz BAND WIDTH)

MID CH, RB100-0 + 100-0

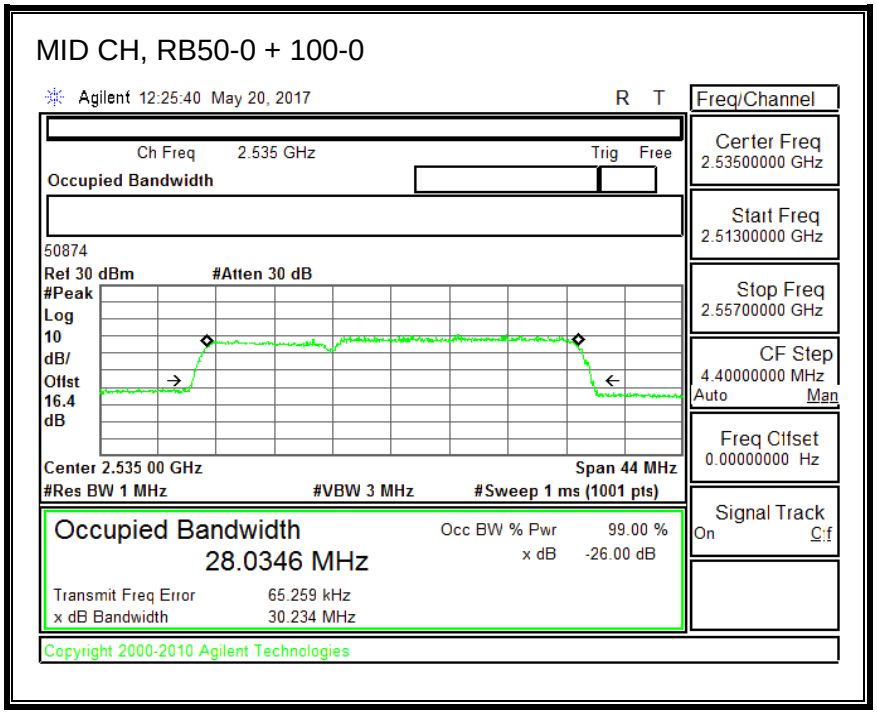


64QAM, (20.0MHz + 20.0MHz BAND WIDTH)

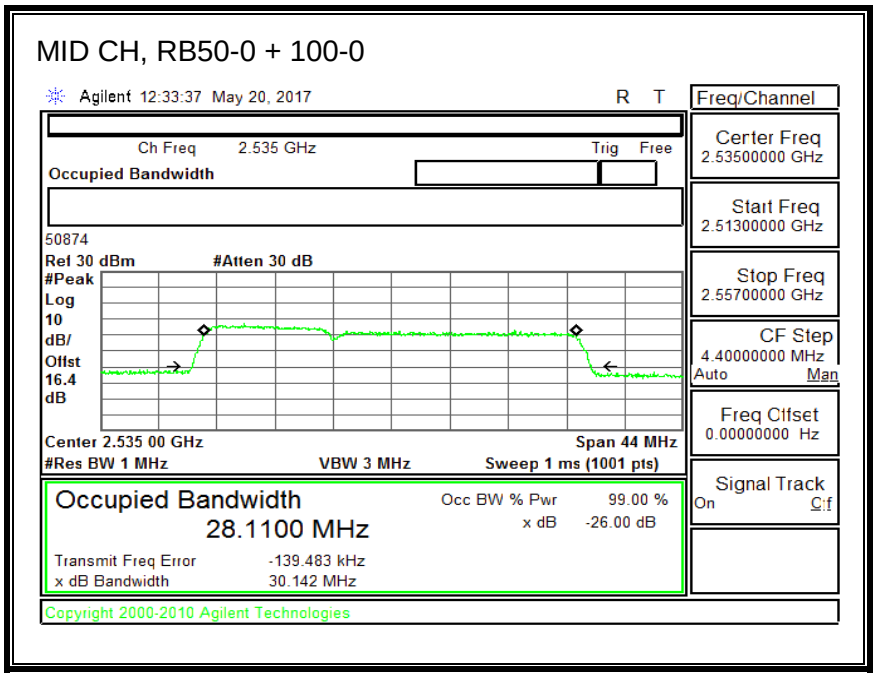
MID CH, RB100-0 + 100-0



QPSK, (10.0MHz + 20.0MHz BAND WIDTH)

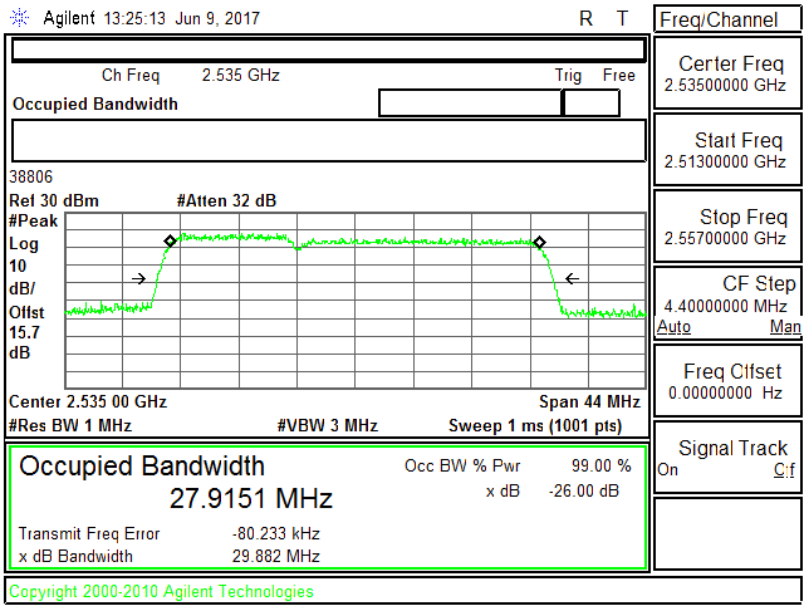


16QAM, (10.0MHz + 20.0MHz BAND WIDTH)



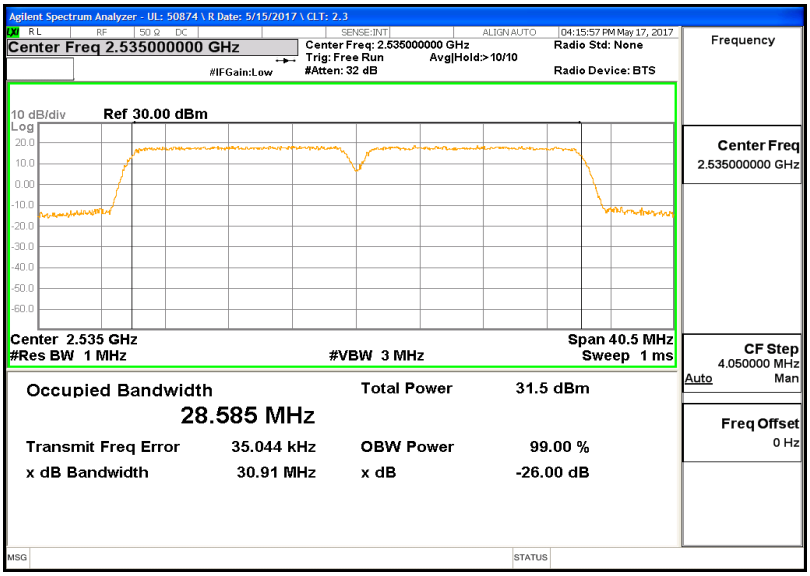
64QAM, (10.0MHz + 20.0MHz BAND WIDTH)

MID CH, RB50-0 + 100-0

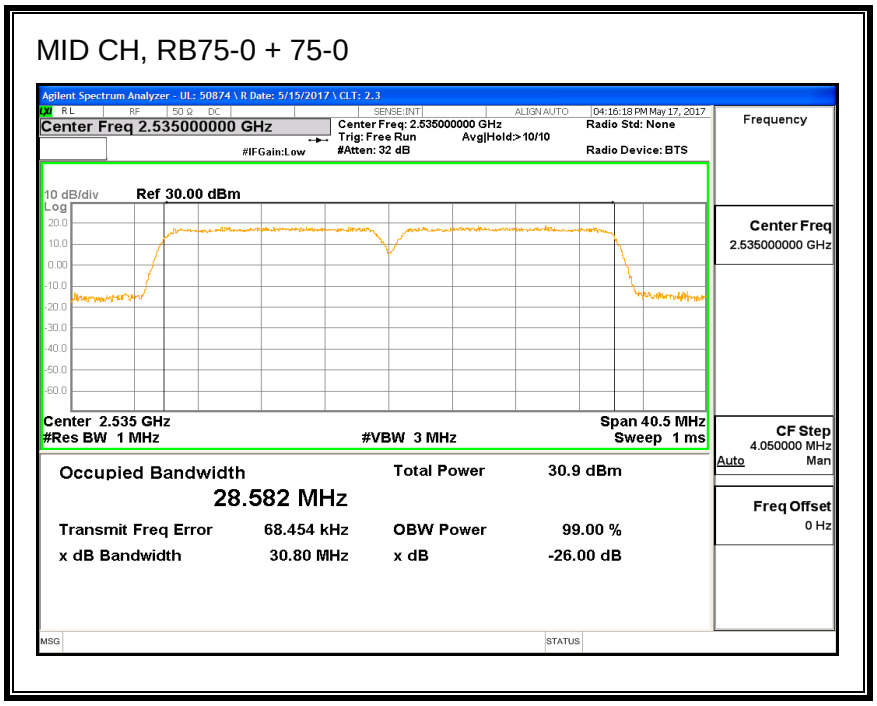


QPSK, (15.0MHz + 15.0MHz BAND WIDTH)

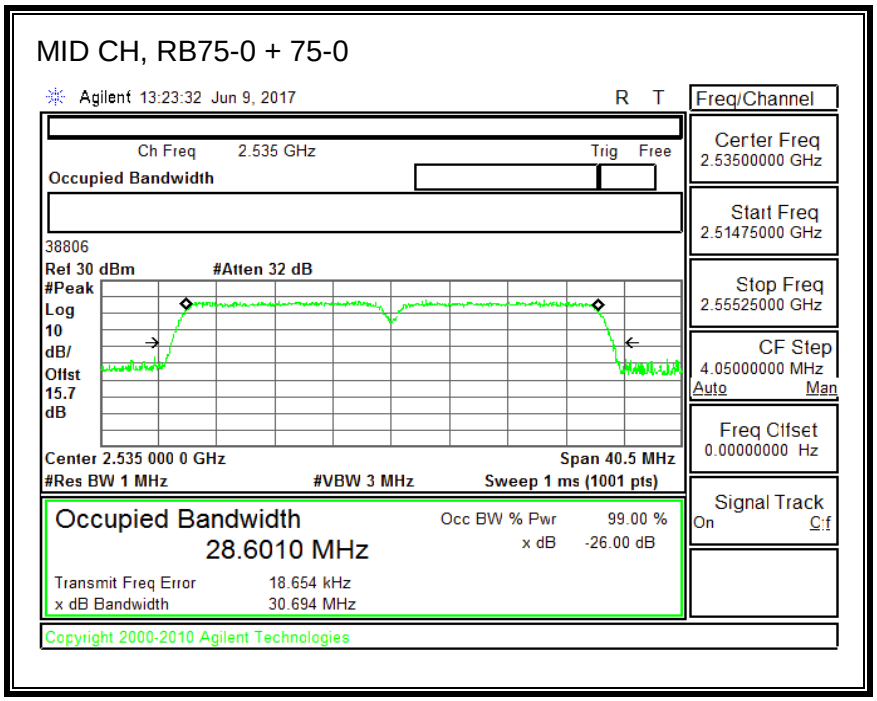
MID CH, RB75-0 + 75-0



16QAM, (15.0MHz + 15.0MHz BAND WIDTH)

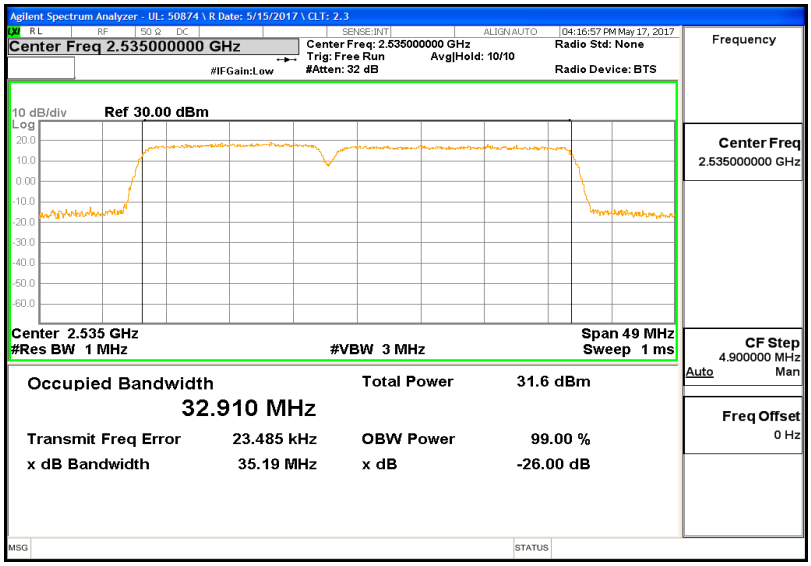


64QAM, (15.0MHz + 15.0MHz BAND WIDTH)



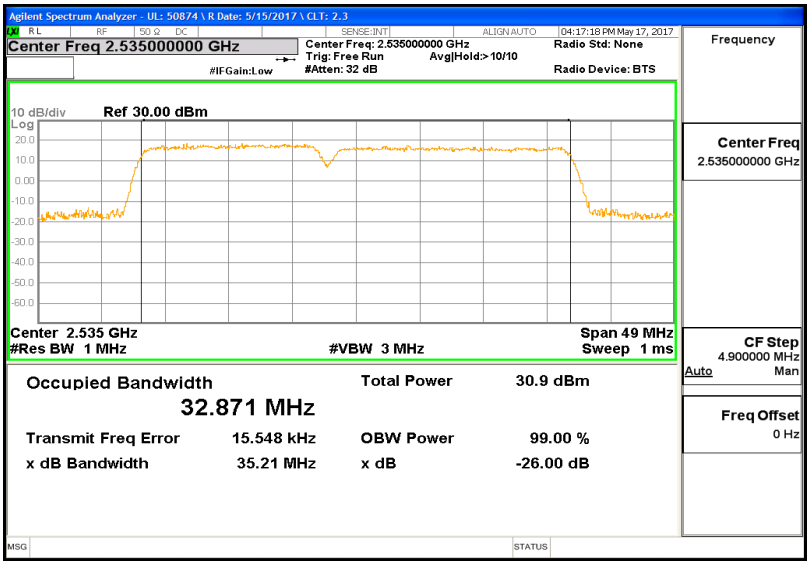
QPSK, (15.0MHz + 20.0MHz BAND WIDTH)

MID CH, RB75-0 + 100-0



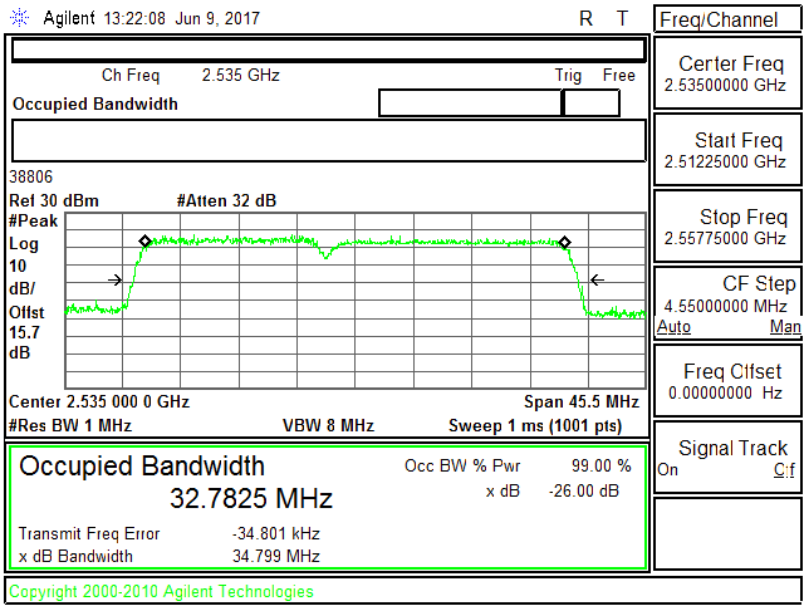
16QAM, (15.0MHz + 20.0MHz BAND WIDTH)

MID CH, RB75-0 + 100-0



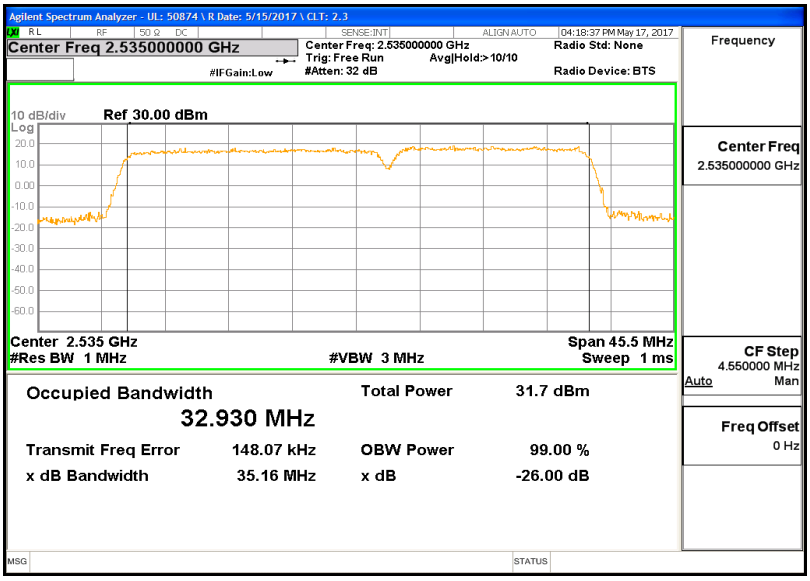
64QAM, (15.0MHz + 20.0MHz BAND WIDTH)

MID CH, RB75-0 + 100-0



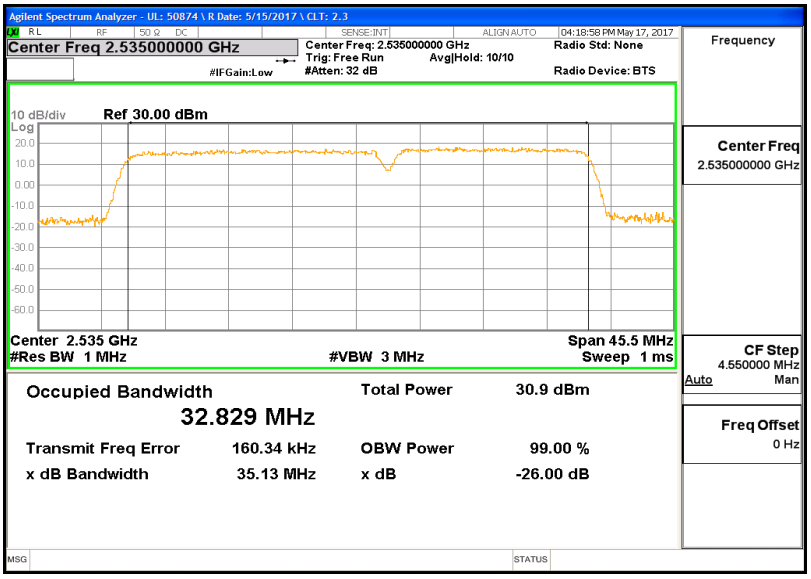
QPSK, (20.0MHz + 15.0MHz BAND WIDTH)

MID CH, RB100-0 + 75-0



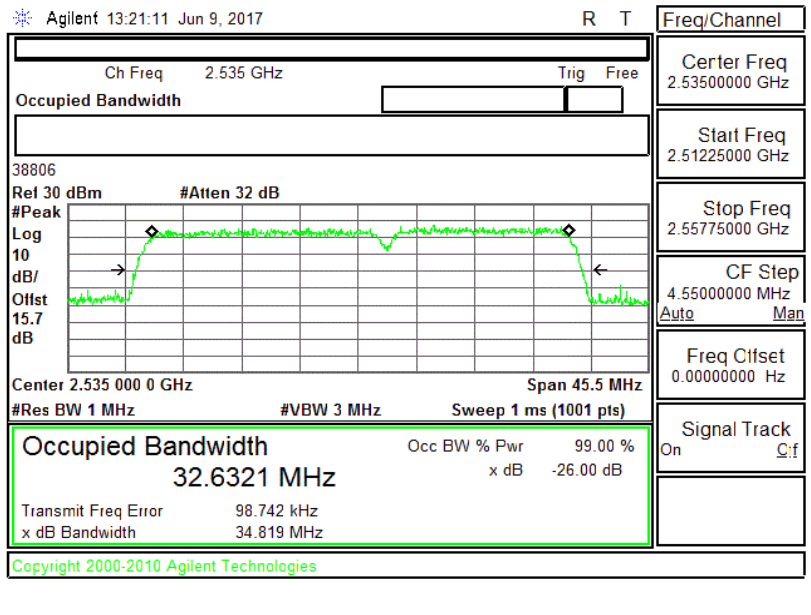
16QAM, (20.0MHz + 15.0MHz BAND WIDTH)

MID CH, RB100-0 + 75-0



64QAM, (20.0MHz + 15.0MHz BAND WIDTH)

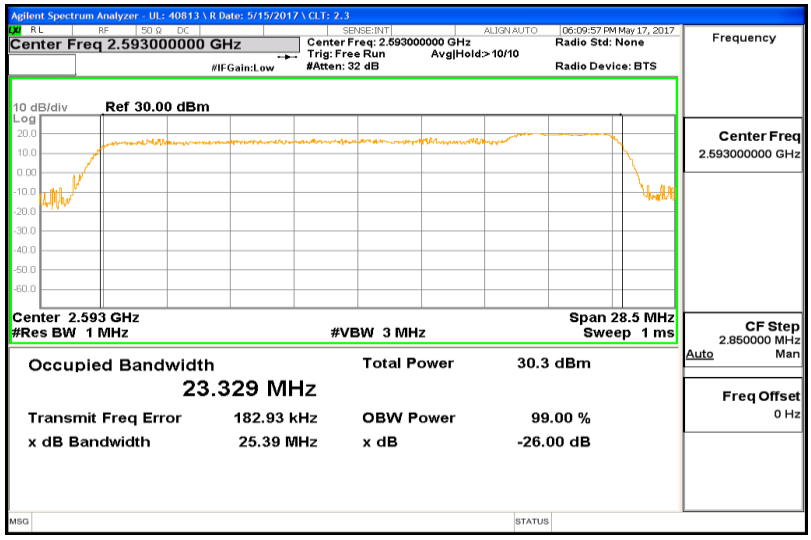
MID CH, RB100-0 + 75-0



8.1.2. LTE BAND 41

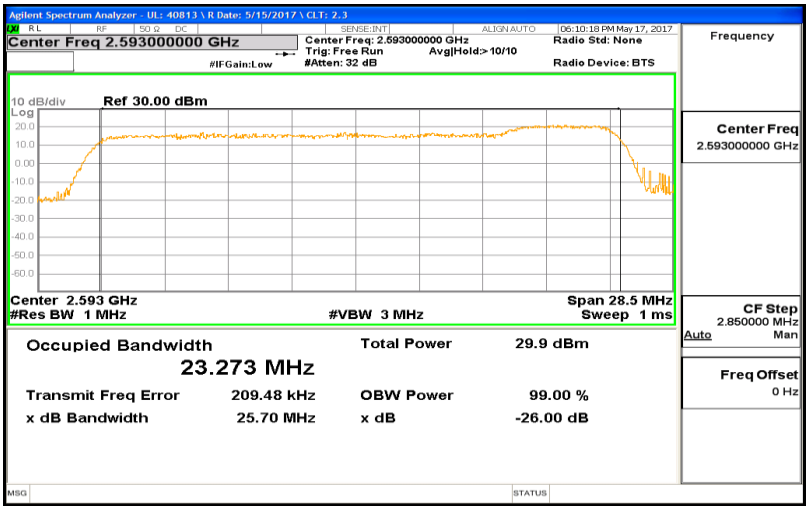
QPSK, (20.0MHz + 5.0MHz BAND WIDTH)

MID CH, RB100-0 + 25-0

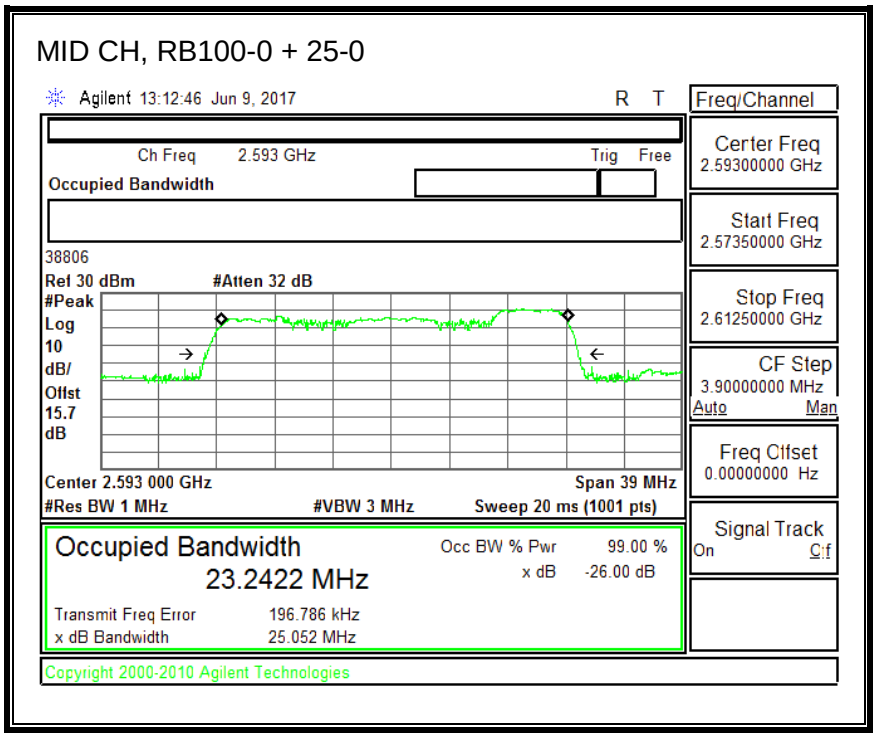


16QAM, (20.0MHz + 5.0MHz BAND WIDTH)

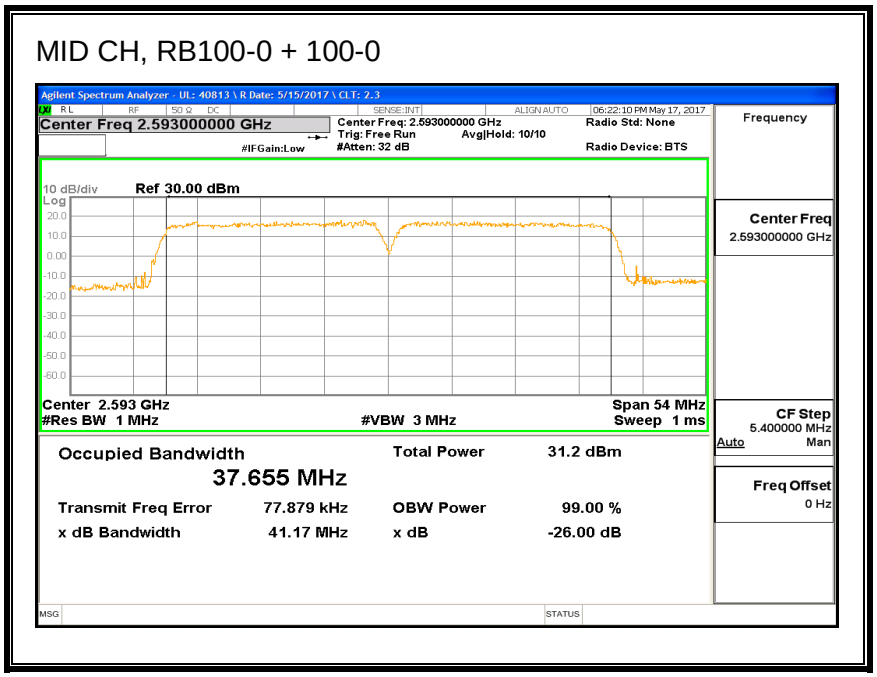
MID CH, RB100-0 + 25-0



64QAM, (20.0MHz + 5.0MHz BAND WIDTH)

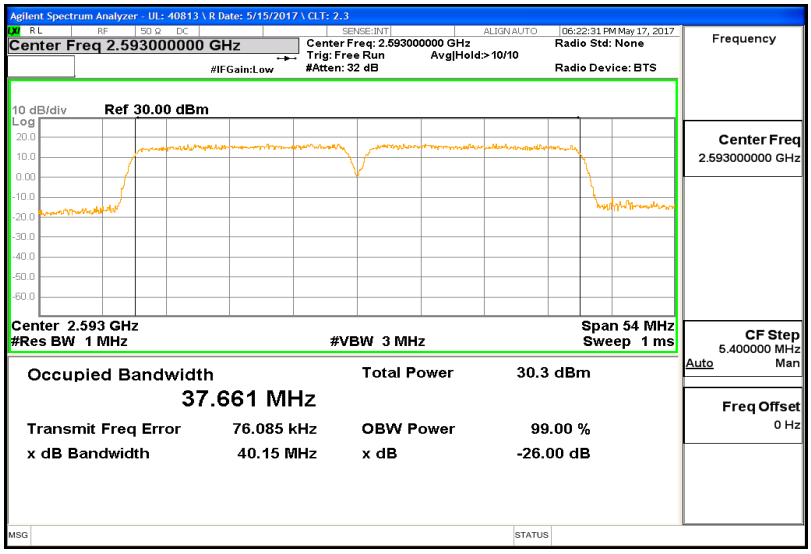


QPSK, (20.0MHz + 20.0MHz BAND WIDTH)



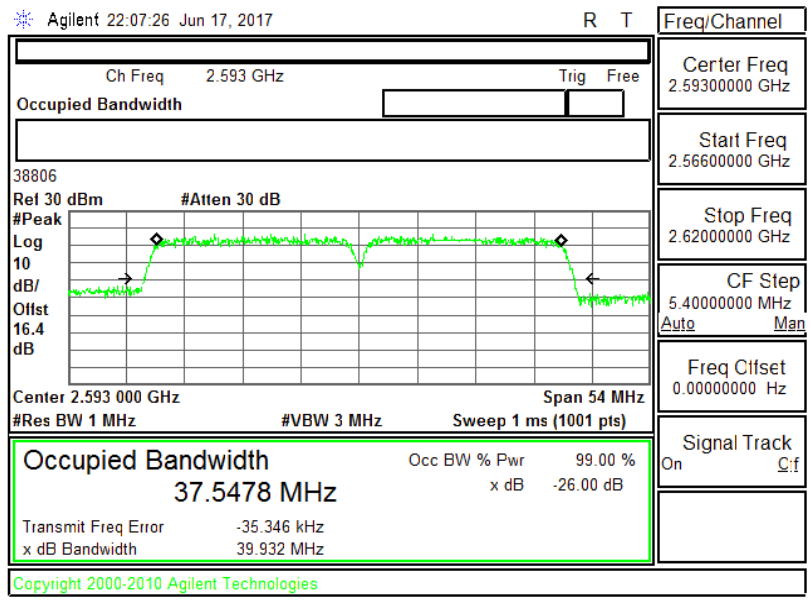
16QAM, (20.0MHz + 20.0MHz BAND WIDTH)

MID CH, RB100-0 + 100-0



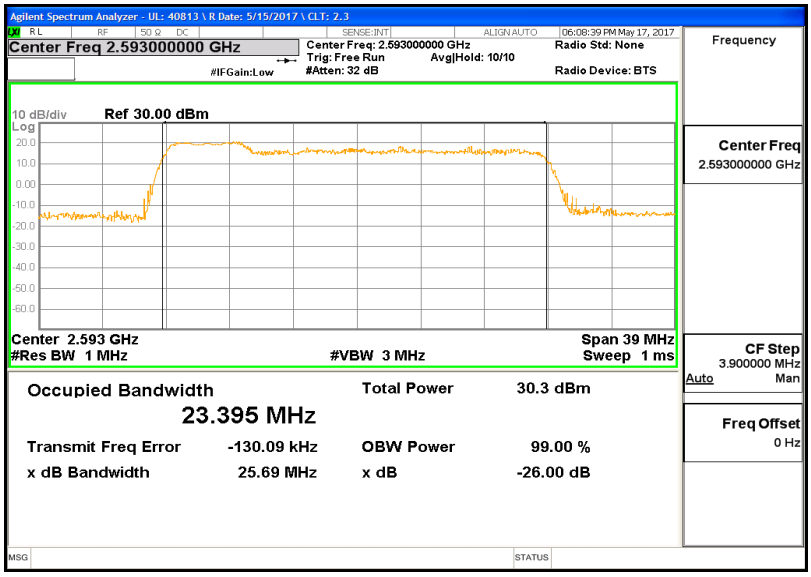
64QAM, (20.0MHz + 20.0MHz BAND WIDTH)

MID CH, RB100-0 + 100-0



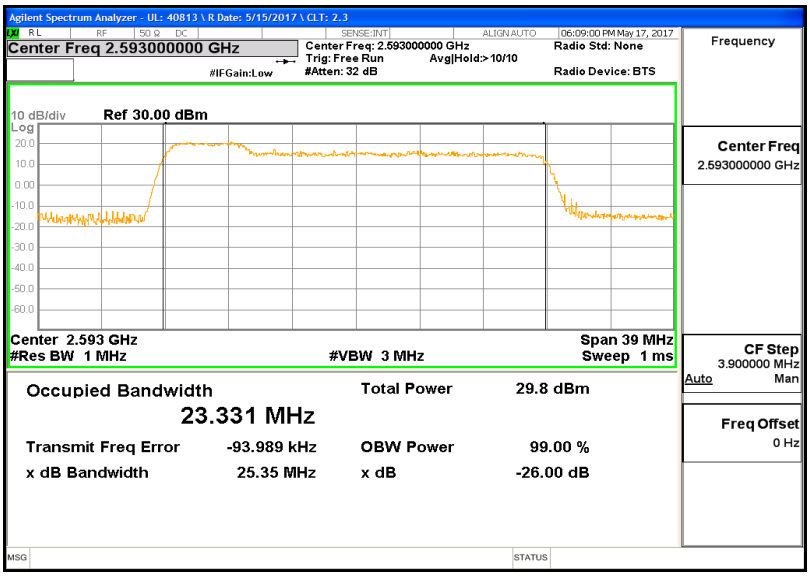
QPSK, (5.0MHz + 20.0MHz BAND WIDTH)

MID CH, RB25-0 + 100-0



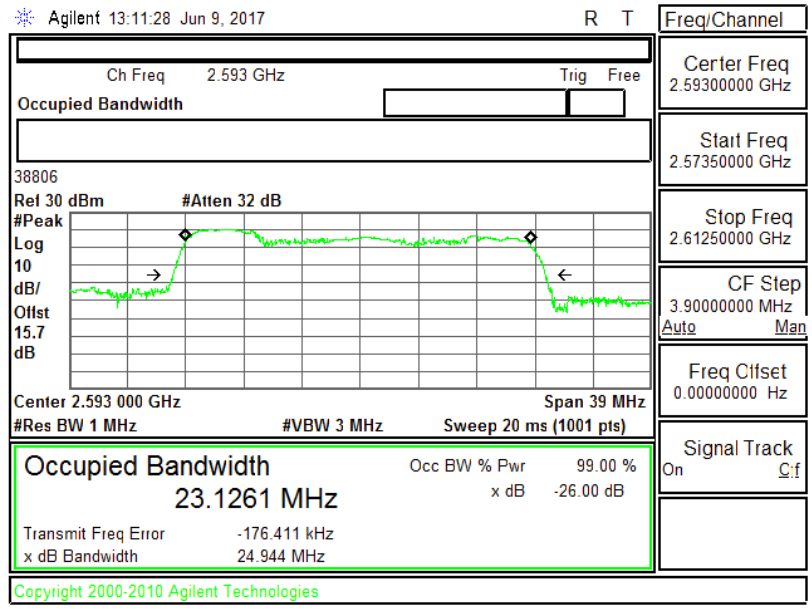
16QAM, (5.0MHz + 20.0MHz BAND WIDTH)

MID CH, RB25-0 + 100-0



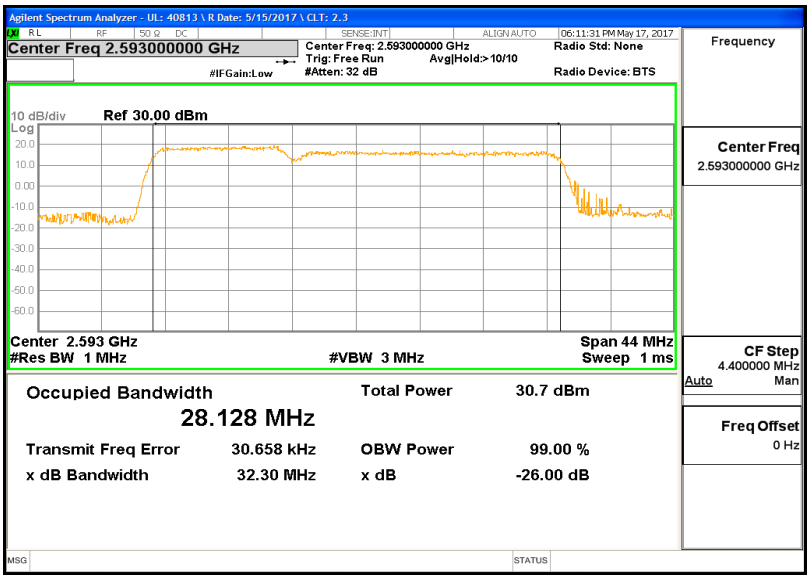
64QAM, (5.0MHz + 20.0MHz BAND WIDTH)

MID CH, RB25-0 + 100-0

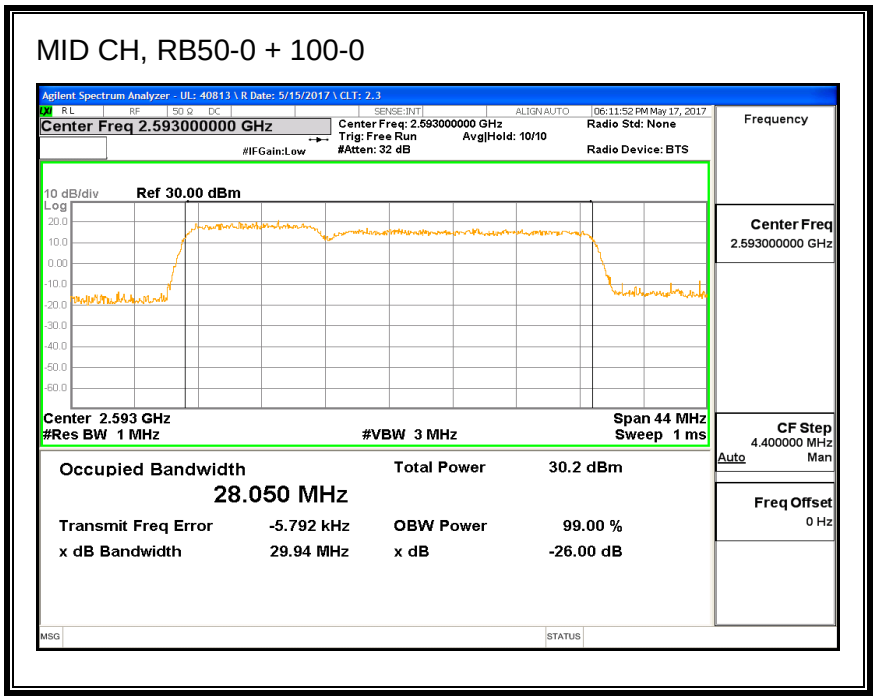


QPSK, (10.0MHz + 20.0MHz BAND WIDTH)

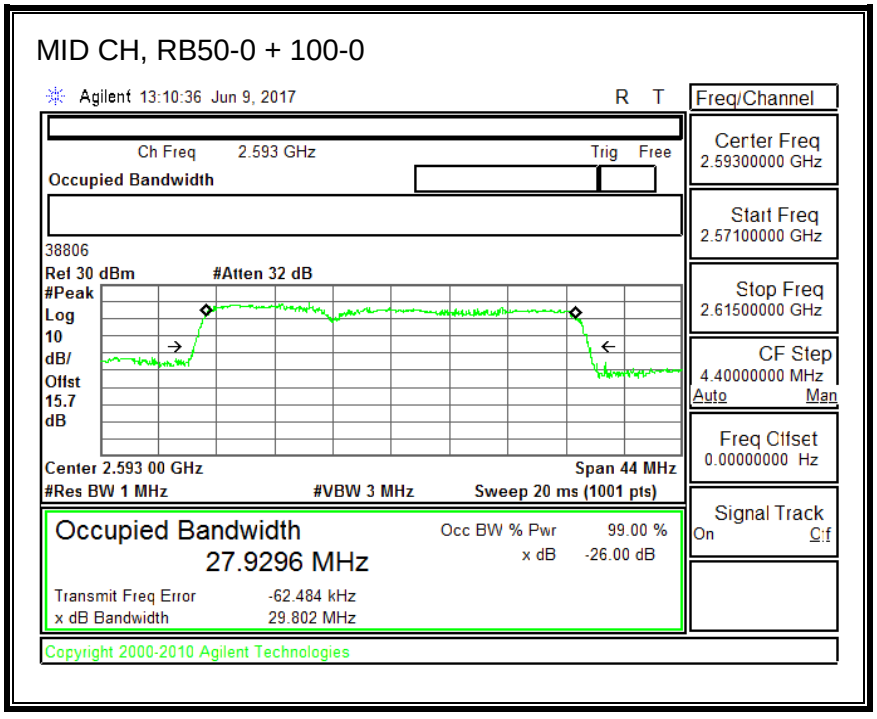
MID CH, RB50-0 + 100-0



16QAM, (10.0MHz + 20.0MHz BAND WIDTH)

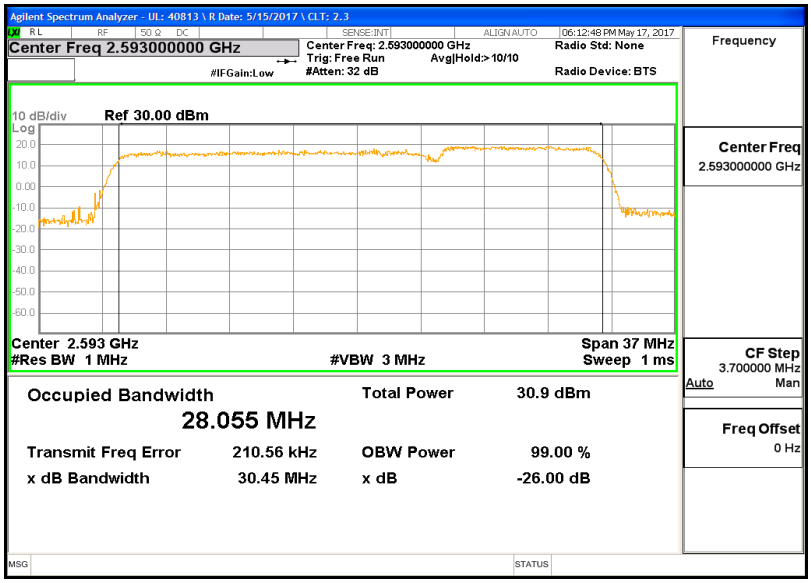


64QAM, (10.0MHz + 20.0MHz BAND WIDTH)



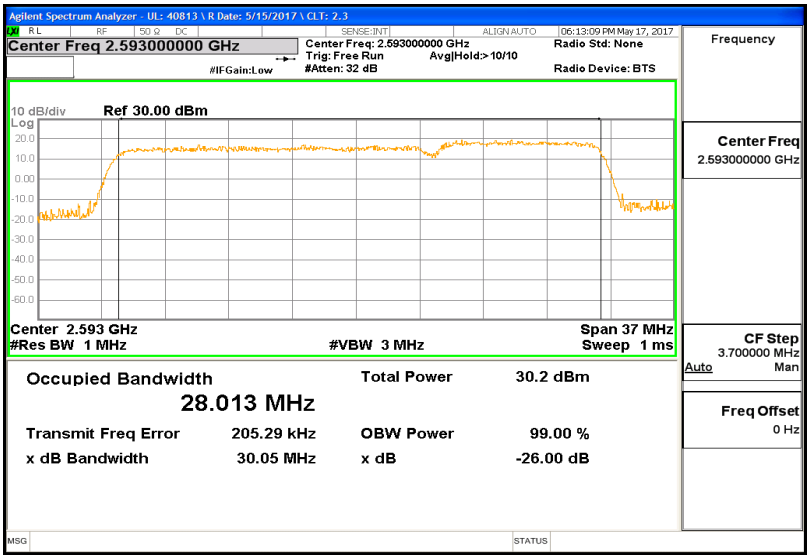
QPSK, (20.0MHz + 10.0MHz BAND WIDTH)

MID CH, RB100-0 + 50-0



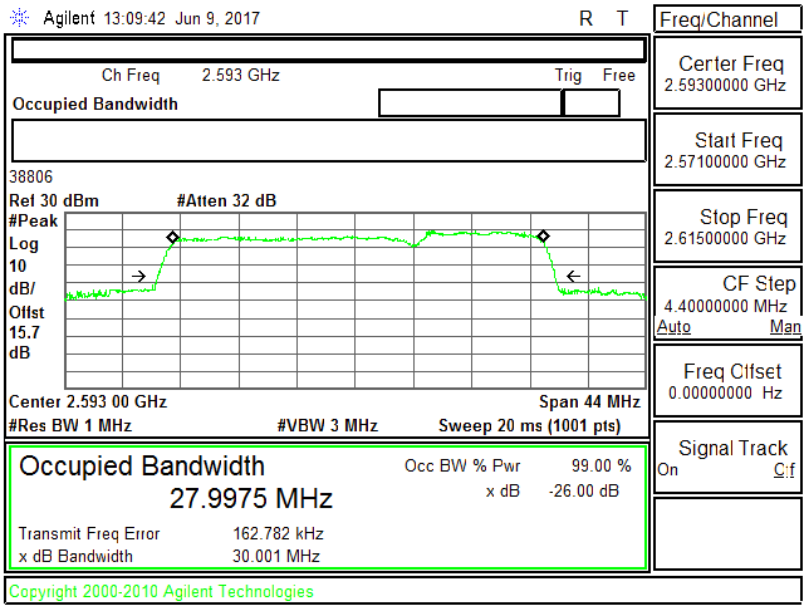
16QAM, (20.0MHz + 10.0MHz BAND WIDTH)

MID CH, RB100-0 + 50-0



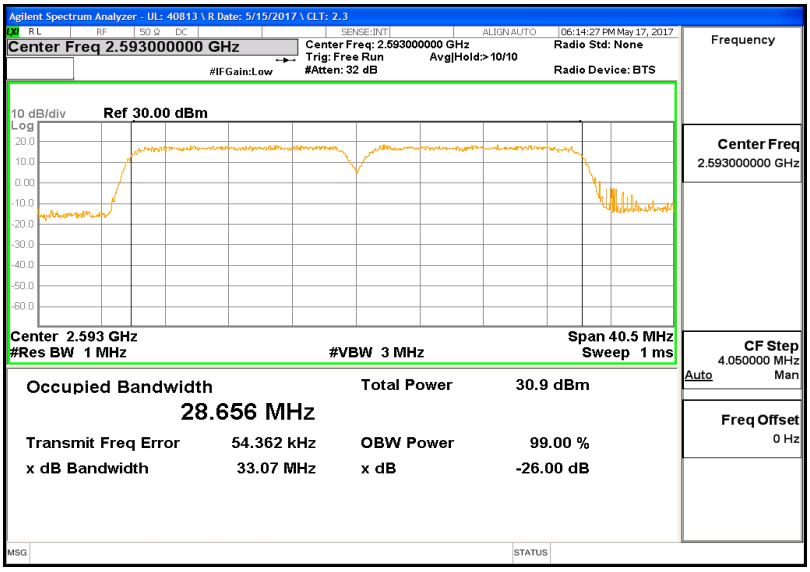
64QAM, (20.0MHz + 10.0MHz BAND WIDTH)

MID CH, RB100-0 + 50-0



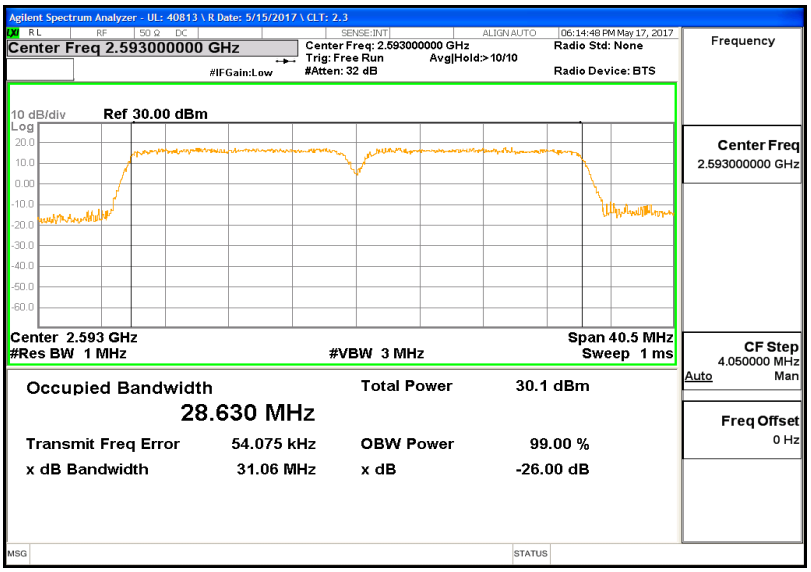
QPSK, (15.0MHz + 15.0MHz BAND WIDTH)

MID CH, RB75-0 + 75-0



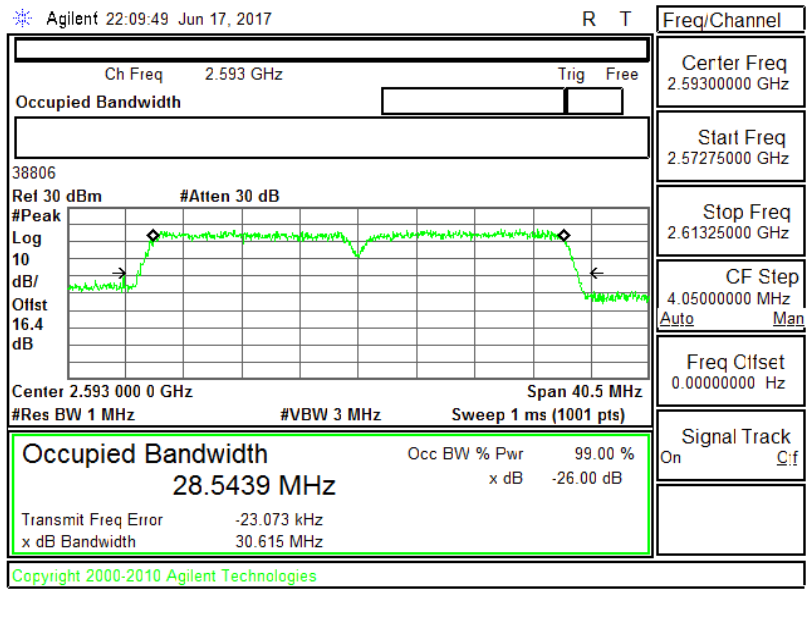
16QAM, (15.0MHz + 15.0MHz BAND WIDTH)

MID CH, RB75-0 + 75-0



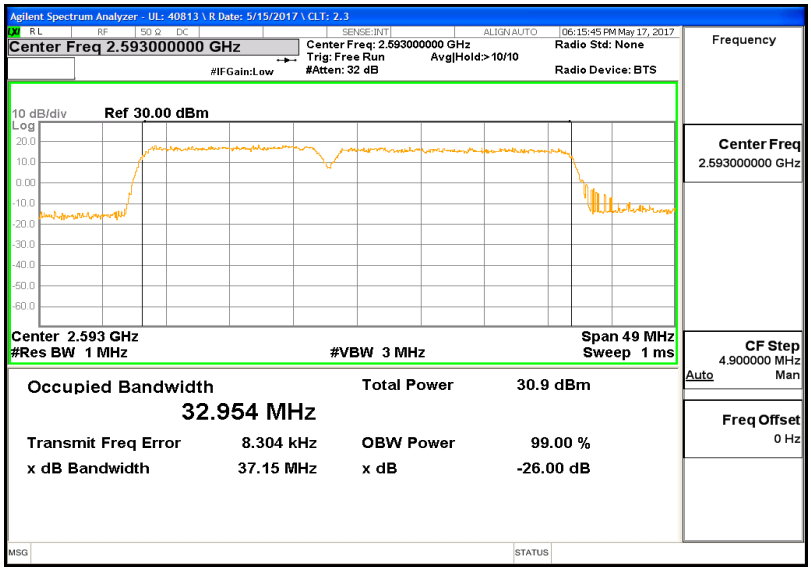
64QAM, (15.0MHz + 15.0MHz BAND WIDTH)

MID CH, RB75-0 + 75-0



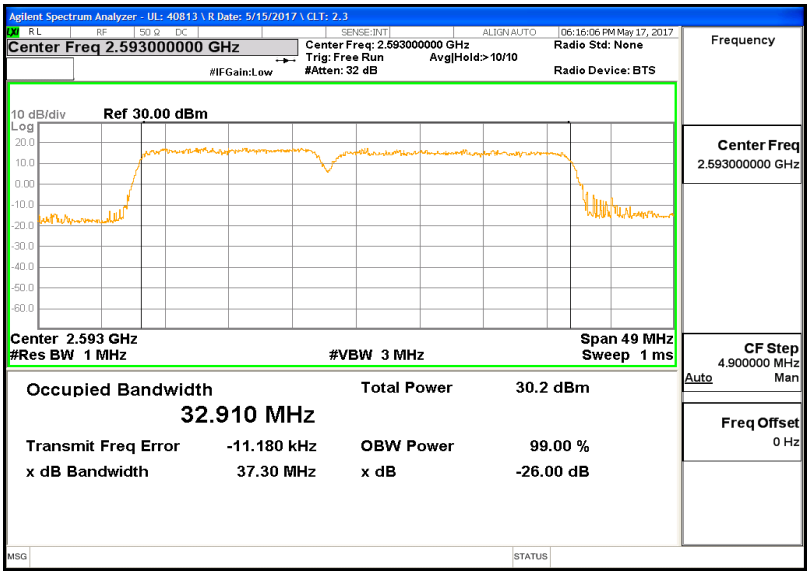
QPSK, (15.0MHz + 20.0MHz BAND WIDTH)

MID CH, RB75-0 + 100-0



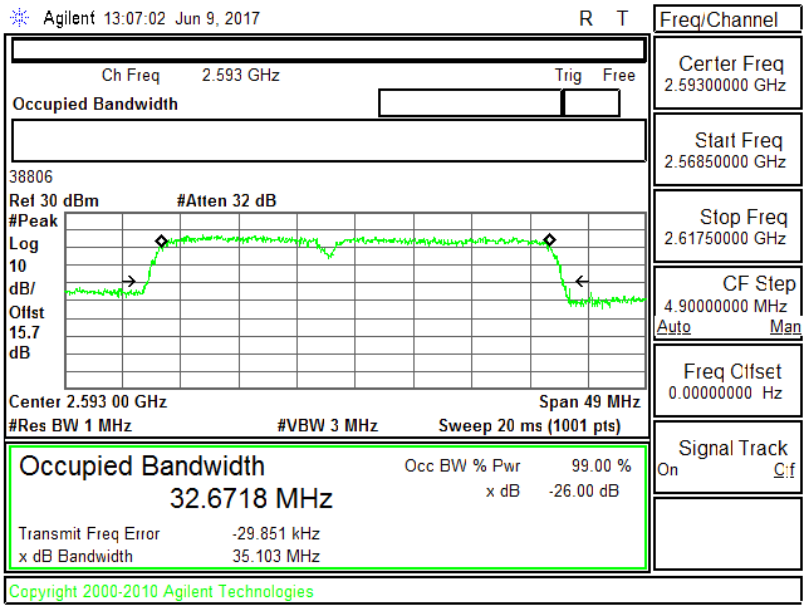
16QAM, (15.0MHz + 20.0MHz BAND WIDTH)

MID CH, RB75-0 + 100-0



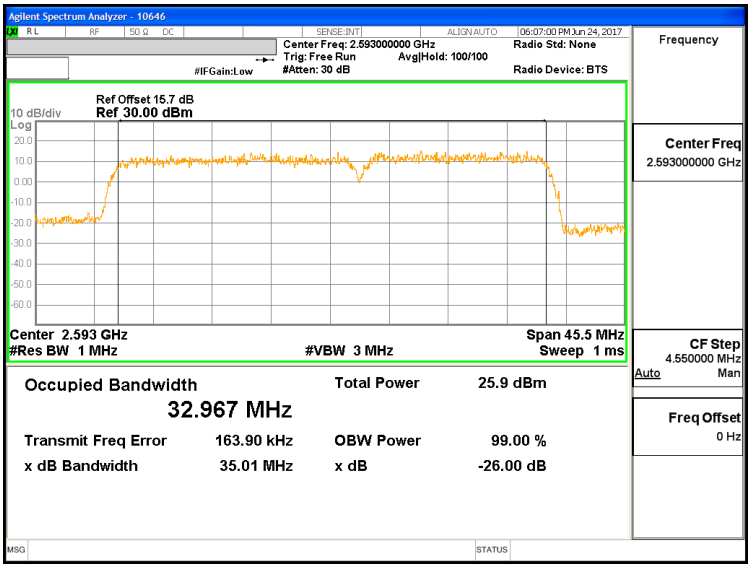
64QAM, (15.0MHz + 20.0MHz BAND WIDTH)

MID CH, RB75-0 + 100-0



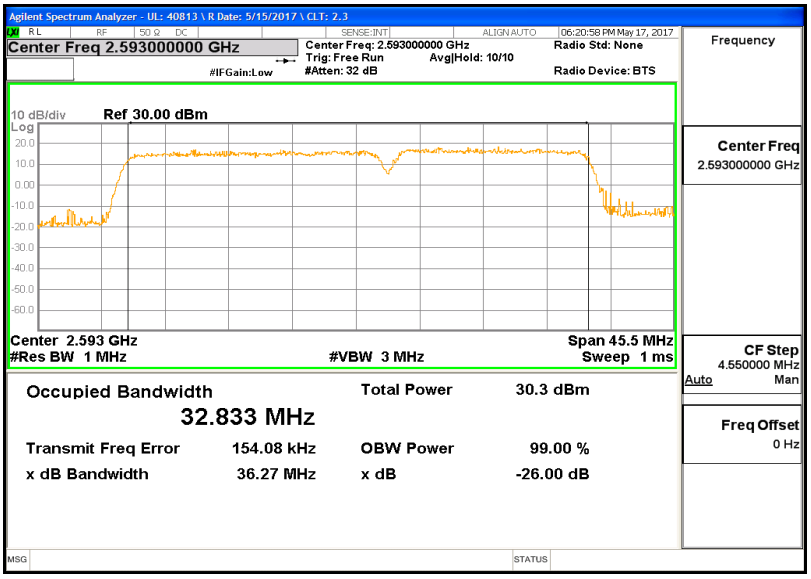
QPSK, (20.0MHz + 15.0MHz BAND WIDTH)

MID CH, RB100-0 + 75-0



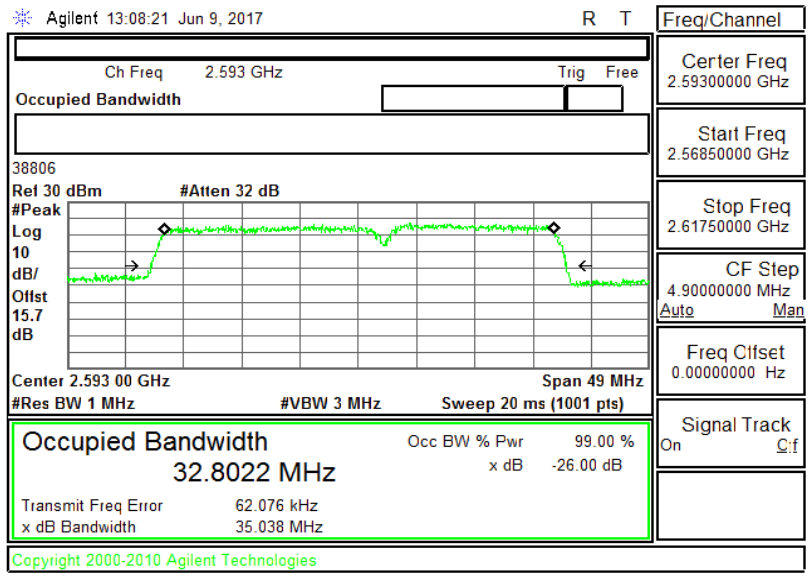
16QAM, (20.0MHz + 15.0MHz BAND WIDTH)

MID CH, RB100-0 + 75-0



64QAM, (20.0MHz + 15.0MHz BAND WIDTH)

MID CH, RB100-0 + 75-0



8.2. EMISSION MASK

RULE PART(S)

FCC: §2.1051, §27.53

LIMITS

FCC: §27.53
(m)(6) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

(m)(4) For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.Show citation box.

TEST PROCEDURE FOR FCC PART 27

The transmitter output was connected to a CMW500Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

Set resolution bandwidth to at least 1% of emission bandwidth.

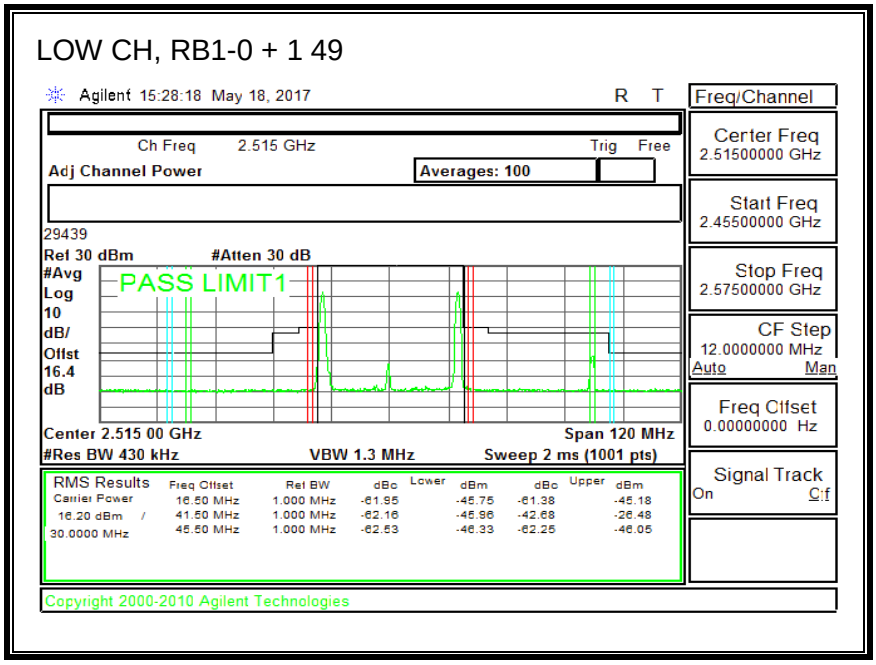
MODES TESTED

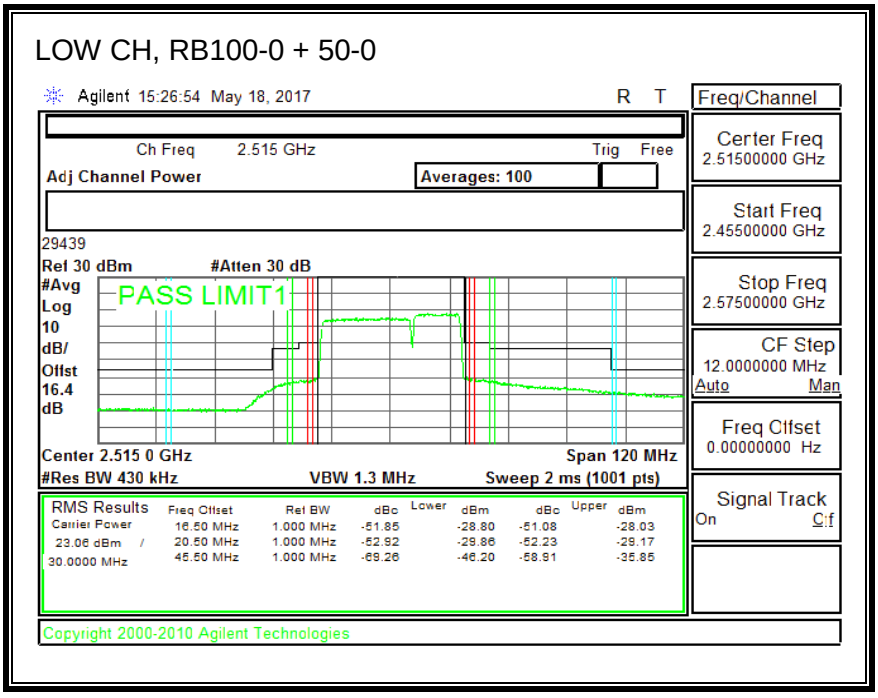
- LTE Band 7
- LTE Band 41

RESULTS

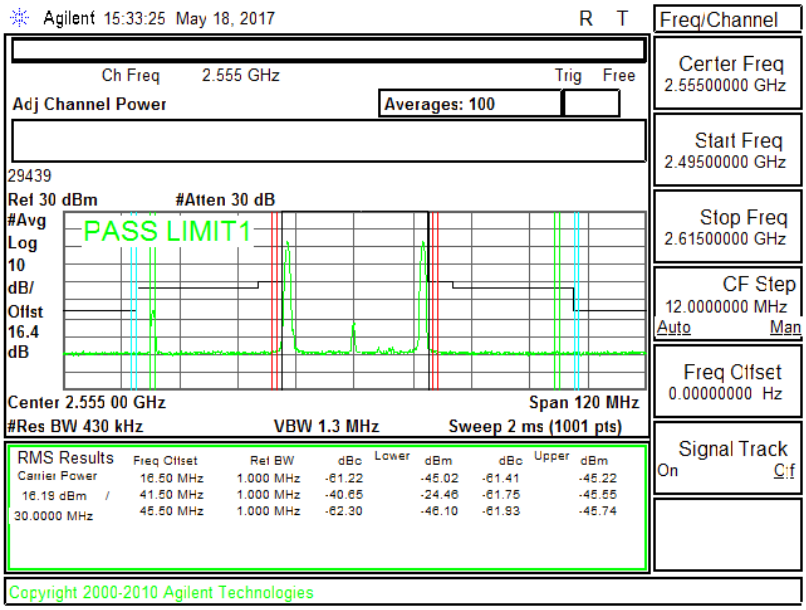
8.2.1. LTE BAND 7

QPSK, (20.0 MHz + 10.0 MHz BAND WIDTH)

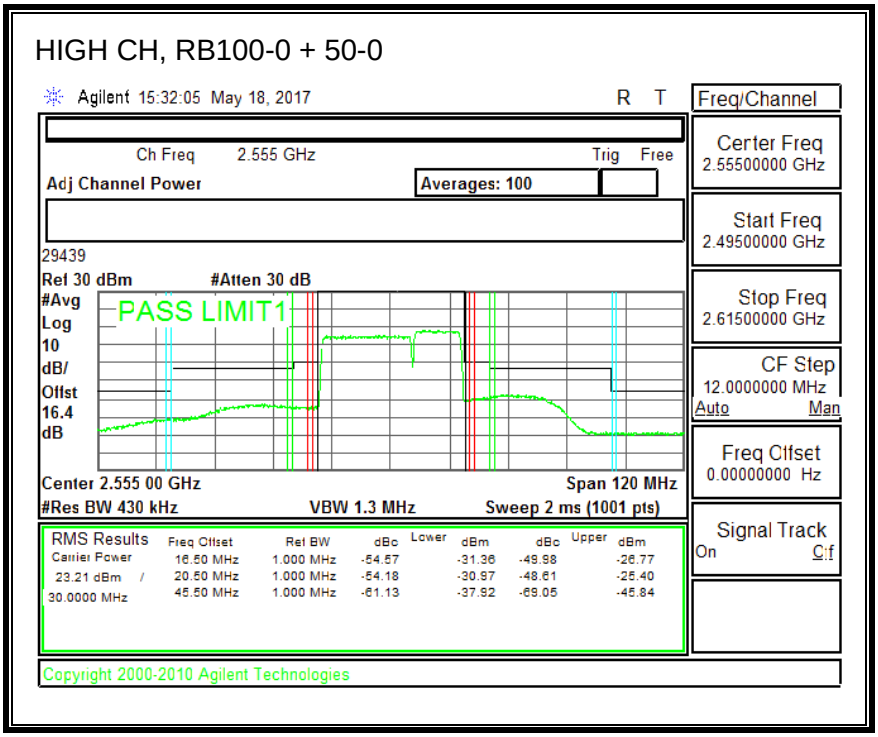




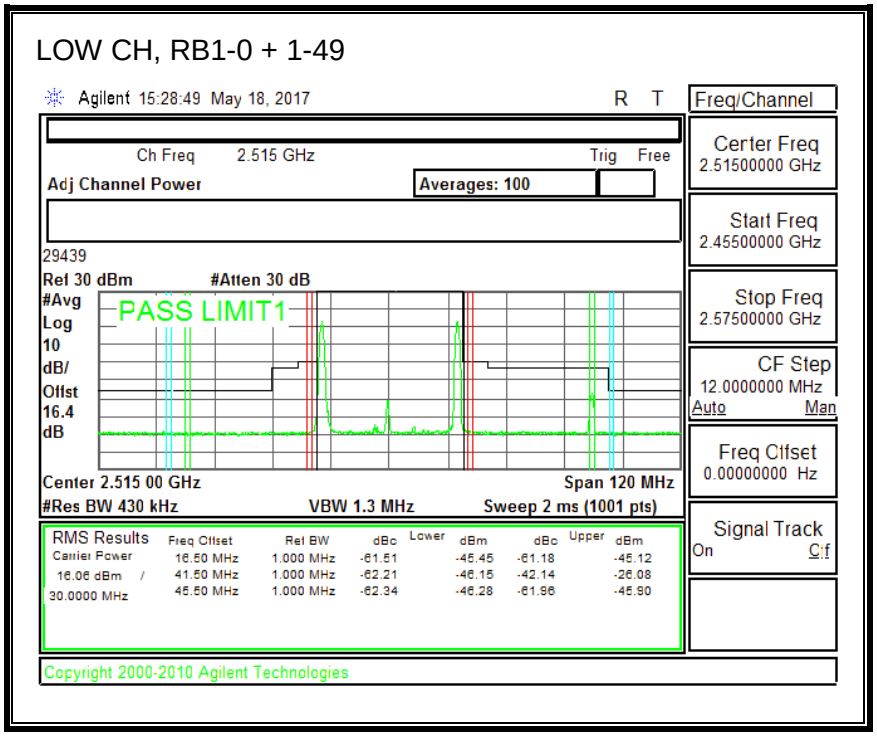
HIGH CH, RB1-0 + 1 49

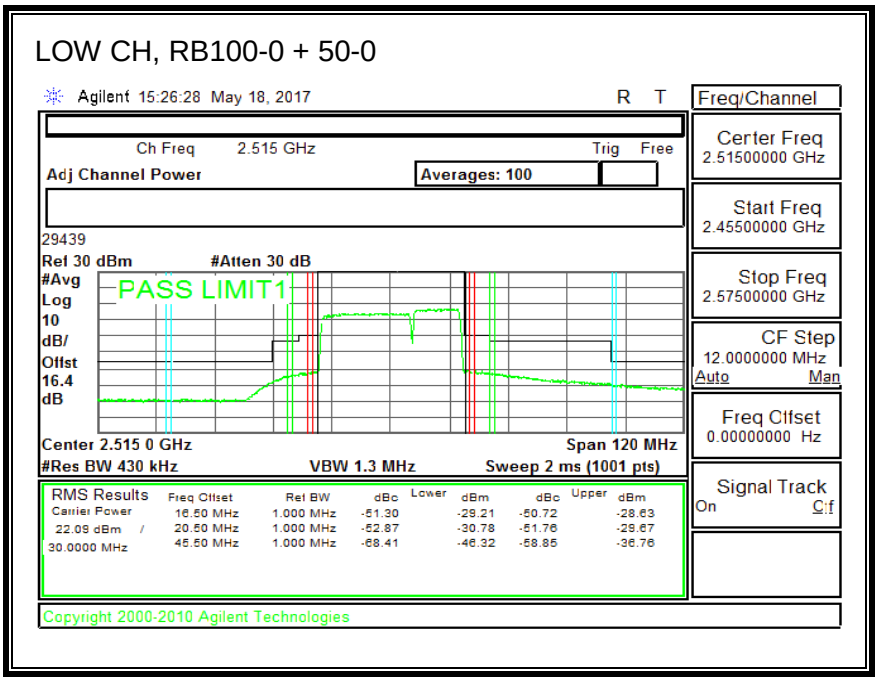


HIGH CH, RB100-0 + 50-0

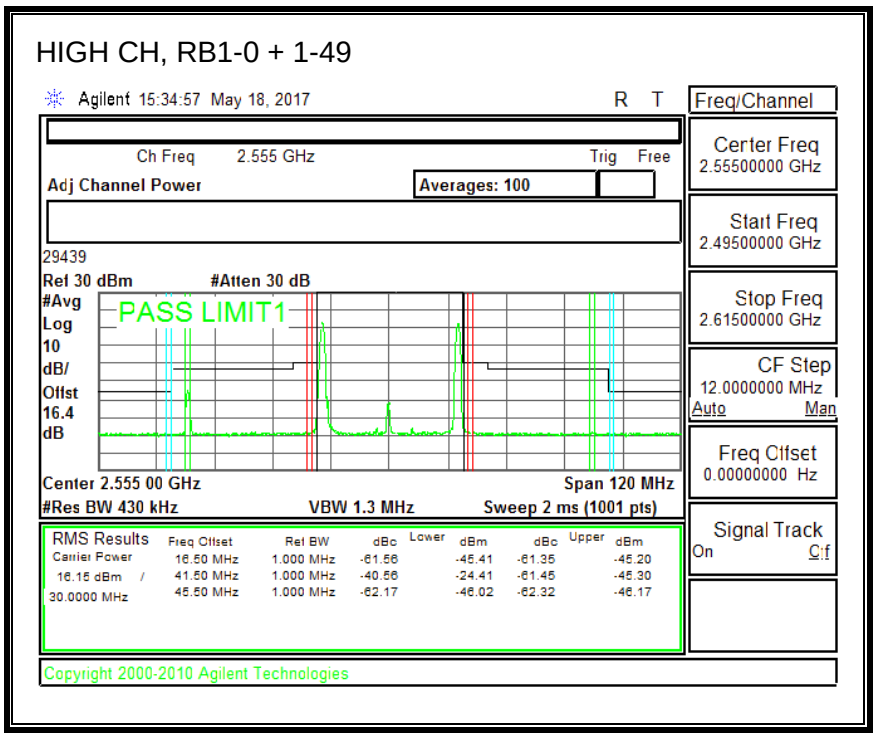


16QAM (20.0 MHz + 10.0 MHz BAND WIDTH)

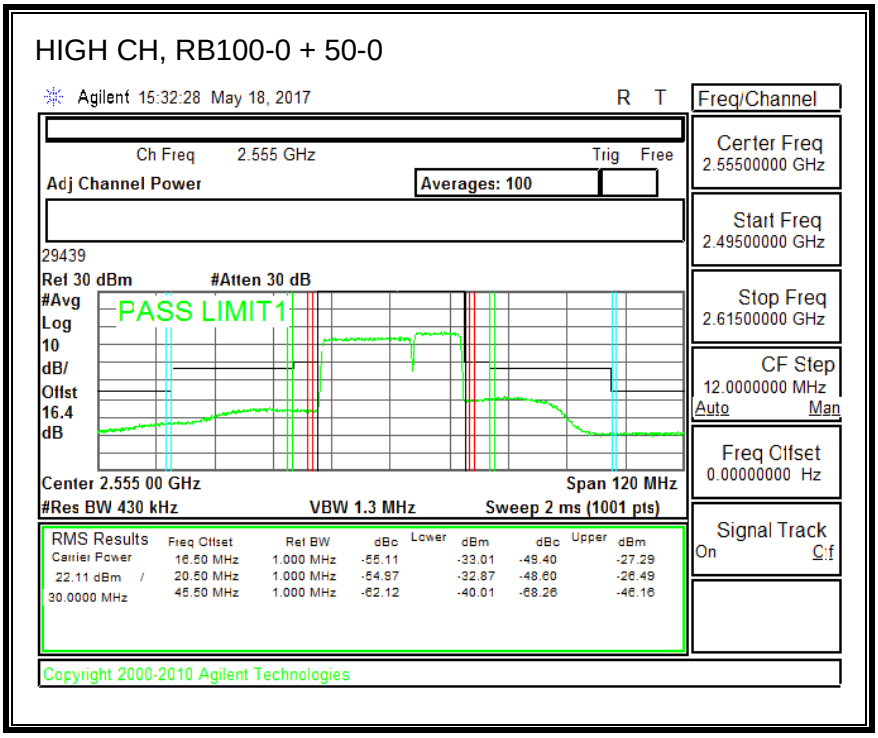




HIGH CH, RB1-0 + 1-49

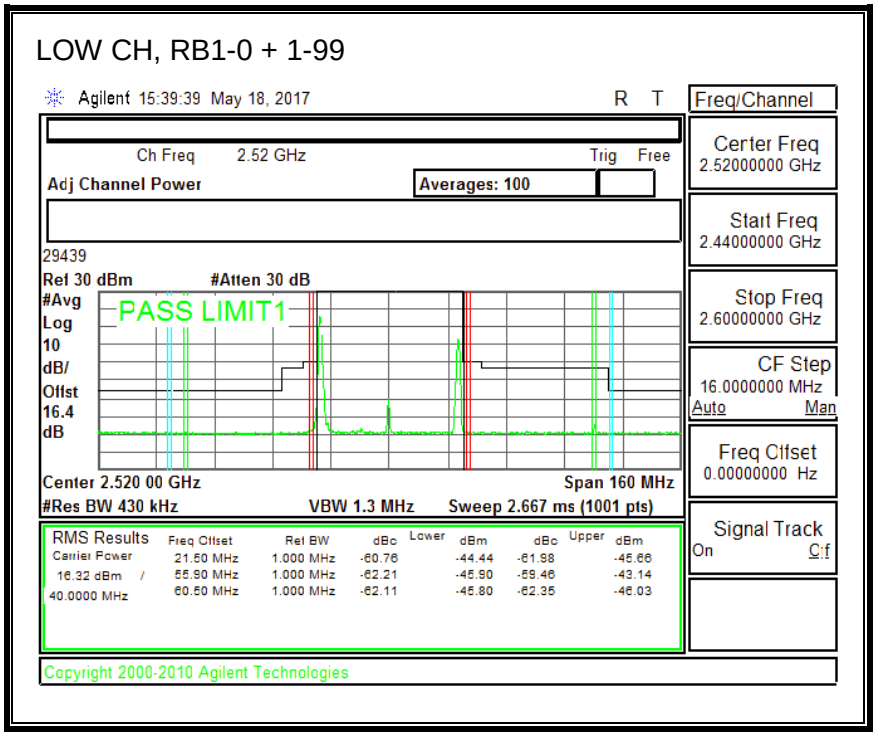


HIGH CH, RB100-0 + 50-0

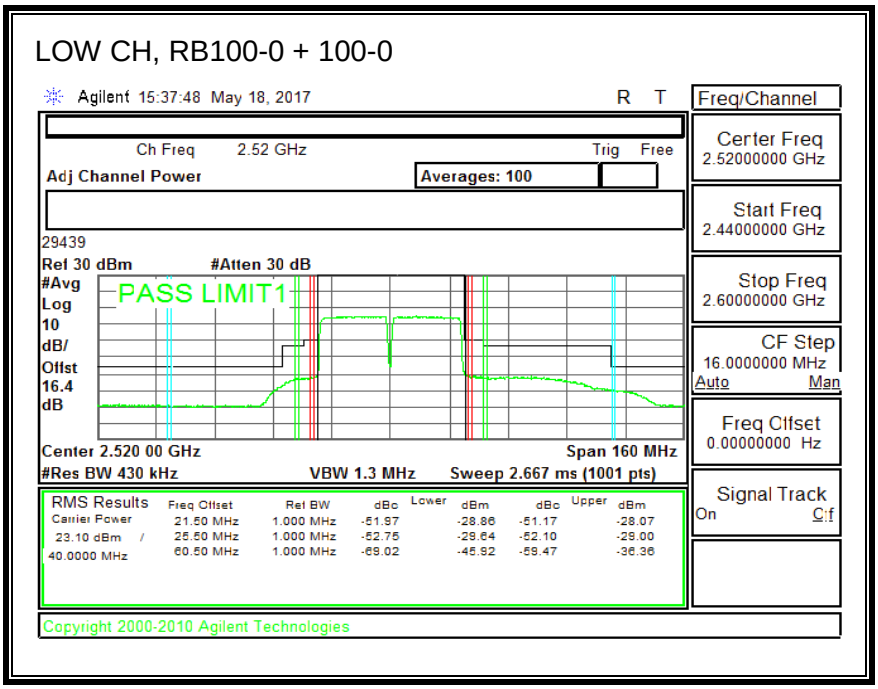


QPSK, (20.0 MHz + 20.0 MHz BAND WIDTH)

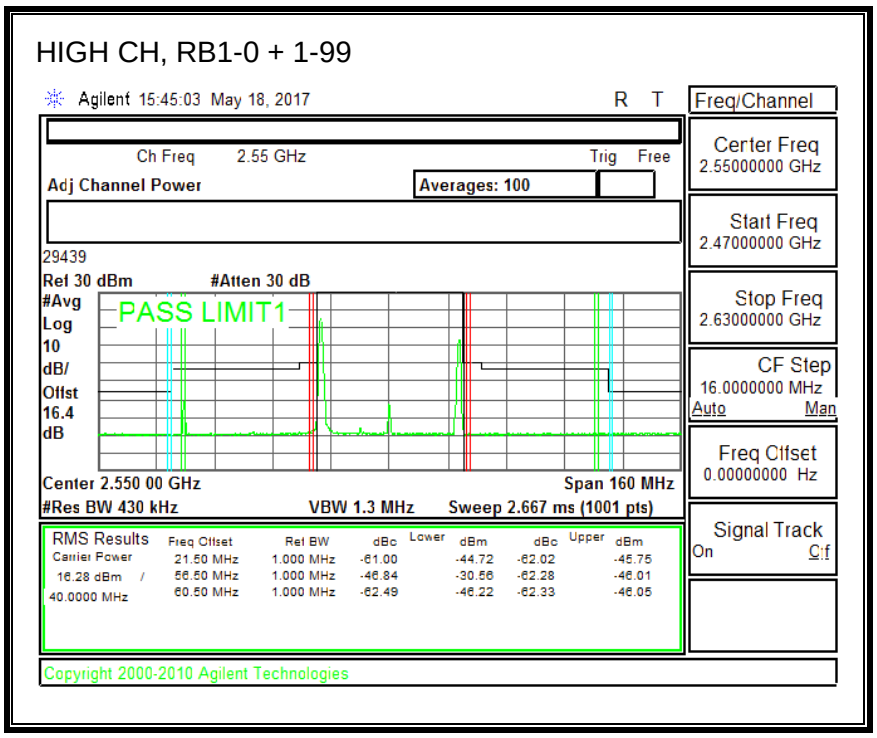
LOW CH, RB1-0 + 1-99



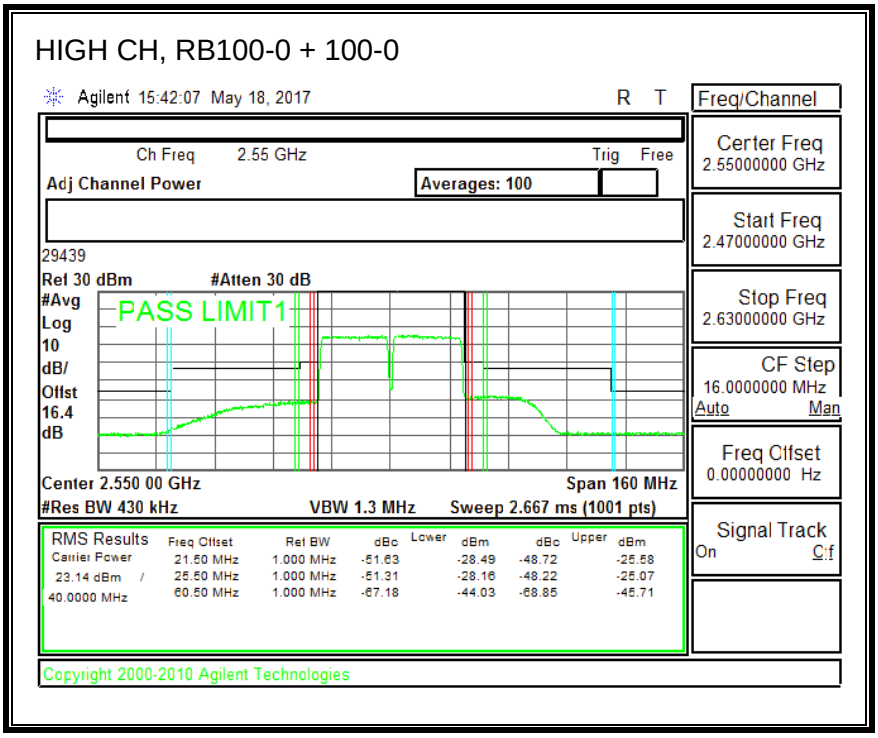
LOW CH, RB100-0 + 100-0



HIGH CH, RB1-0 + 1-99

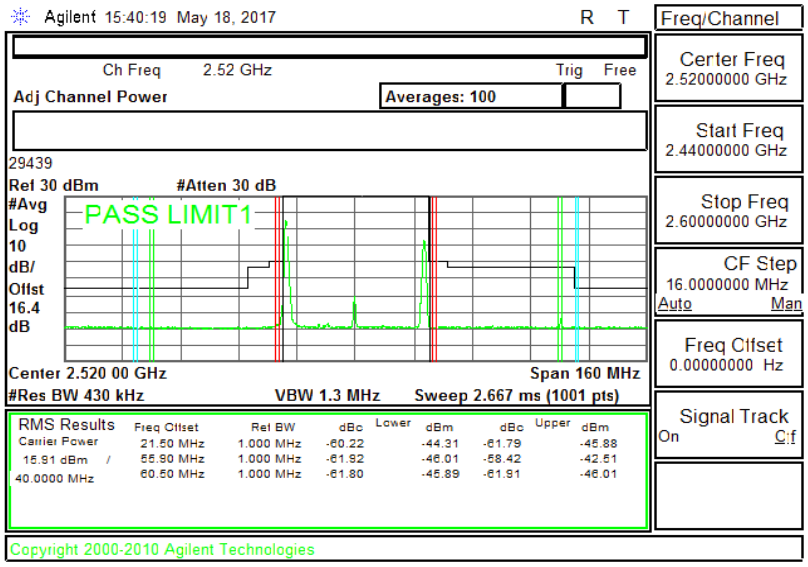


HIGH CH, RB100-0 + 100-0

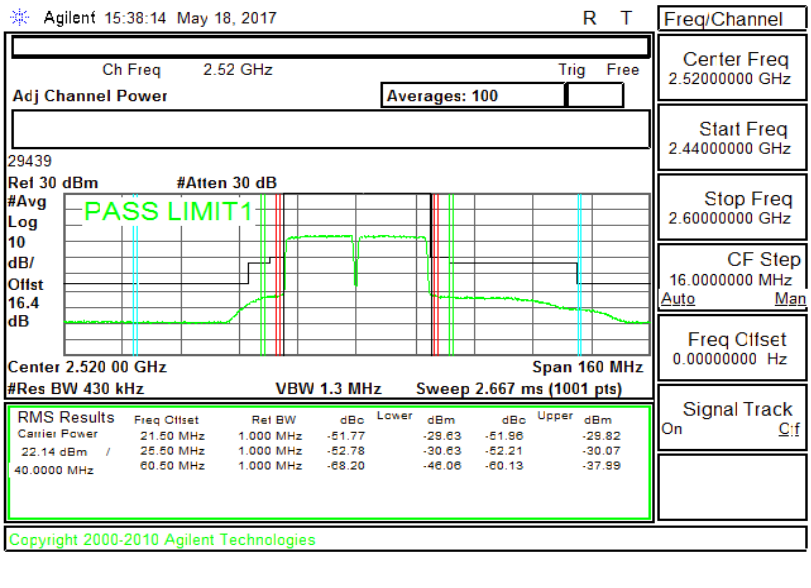


16QAM (20.0 MHz + 20.0 MHz BAND WIDTH)

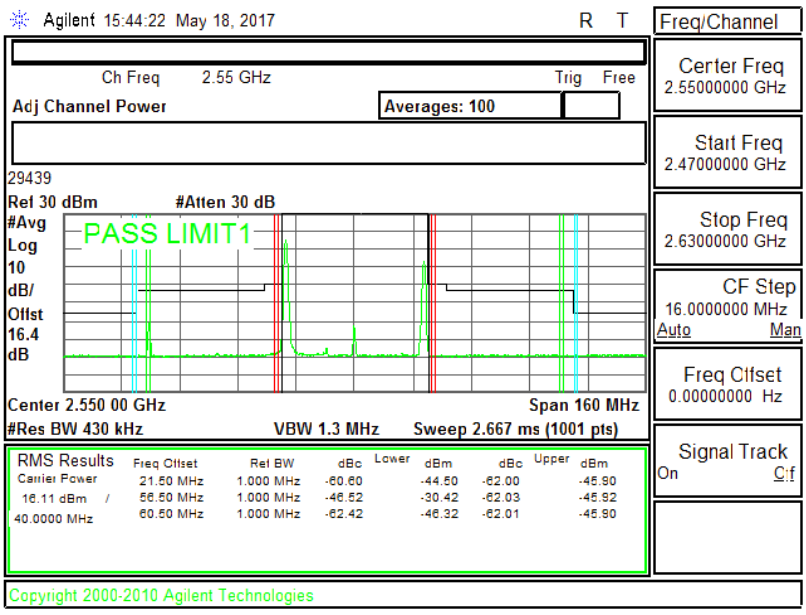
LOW CH, RB1-0+ 1-99



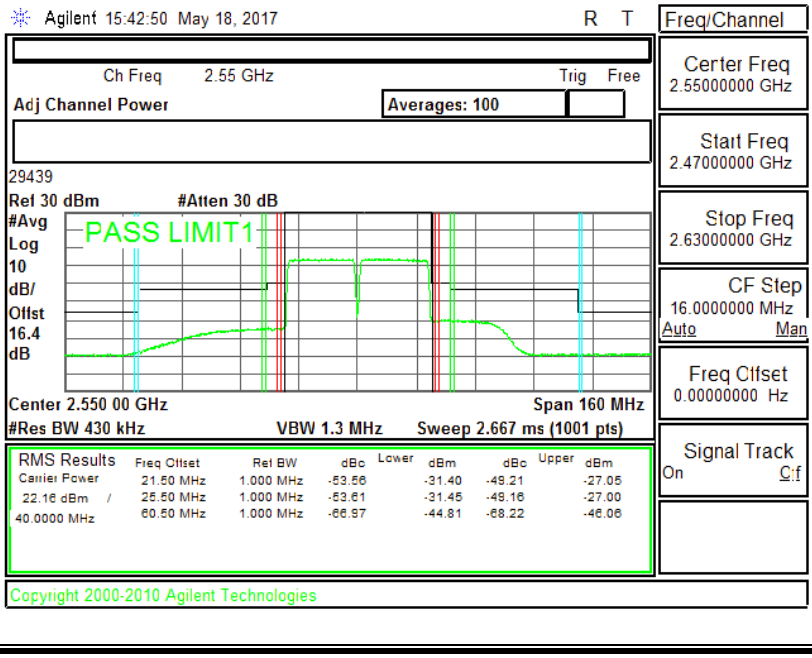
LOW CH, RB100-0 + 100-0



HIGH CH, RB1-0 + 1 99

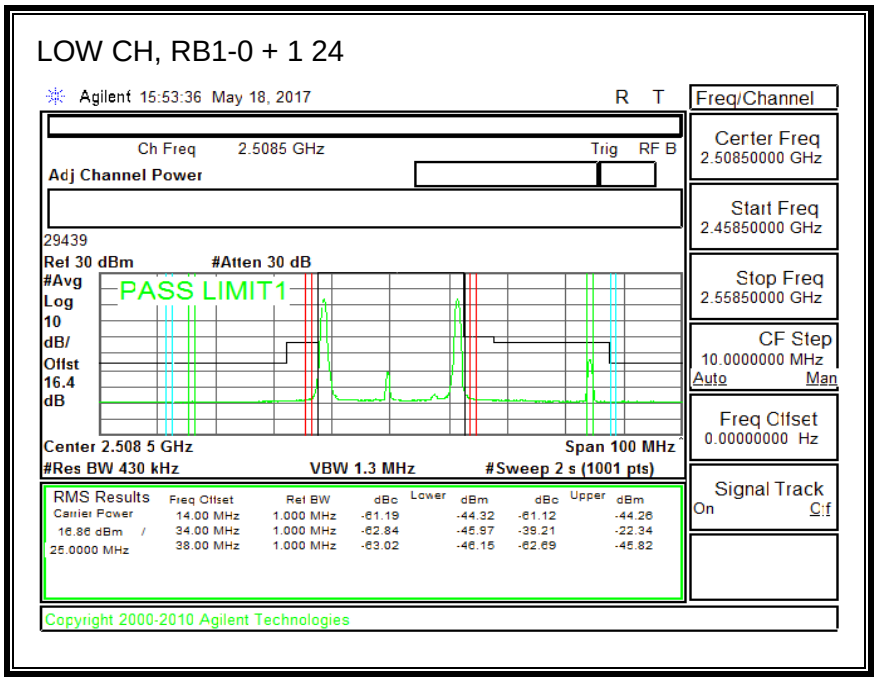


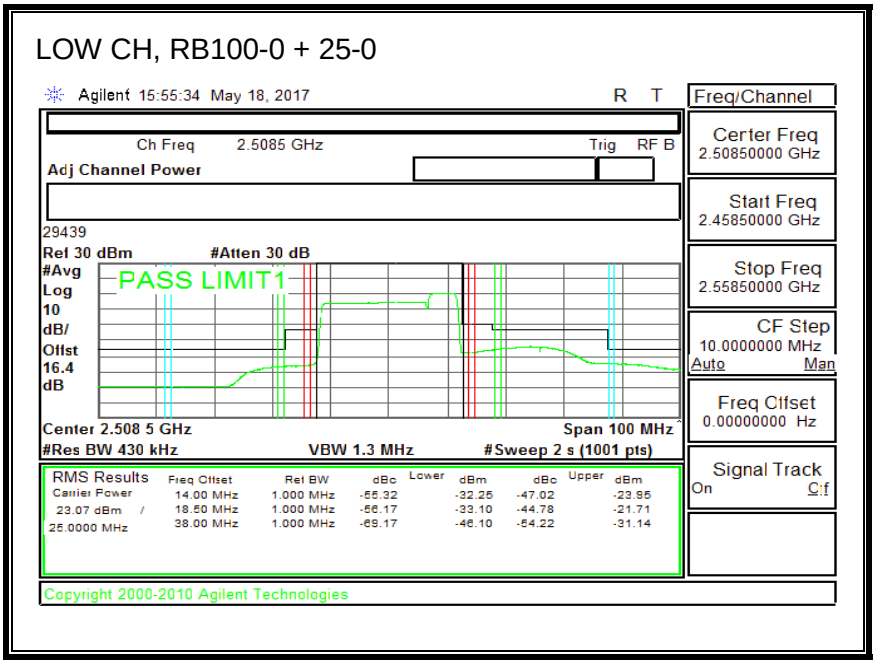
HIGH CH, RB100-0 + 100-0



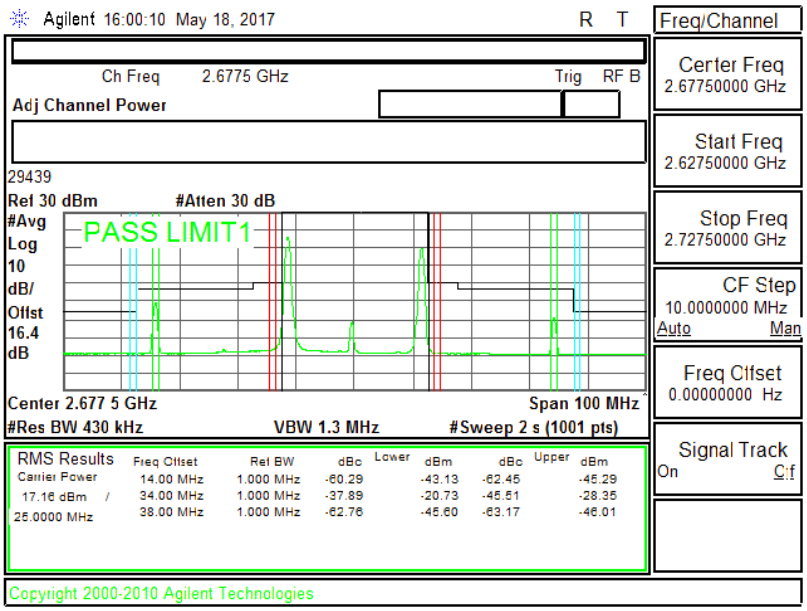
8.2.2. LTE BAND 41

QPSK, (20.0 MHz + 5.0 MHz BAND WIDTH)

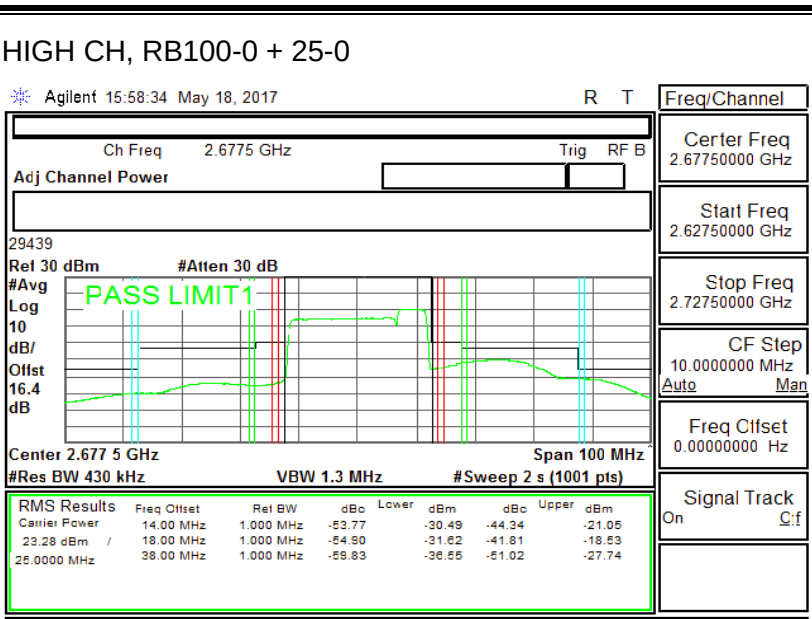




HIGH CH, RB1-0 + 1-24

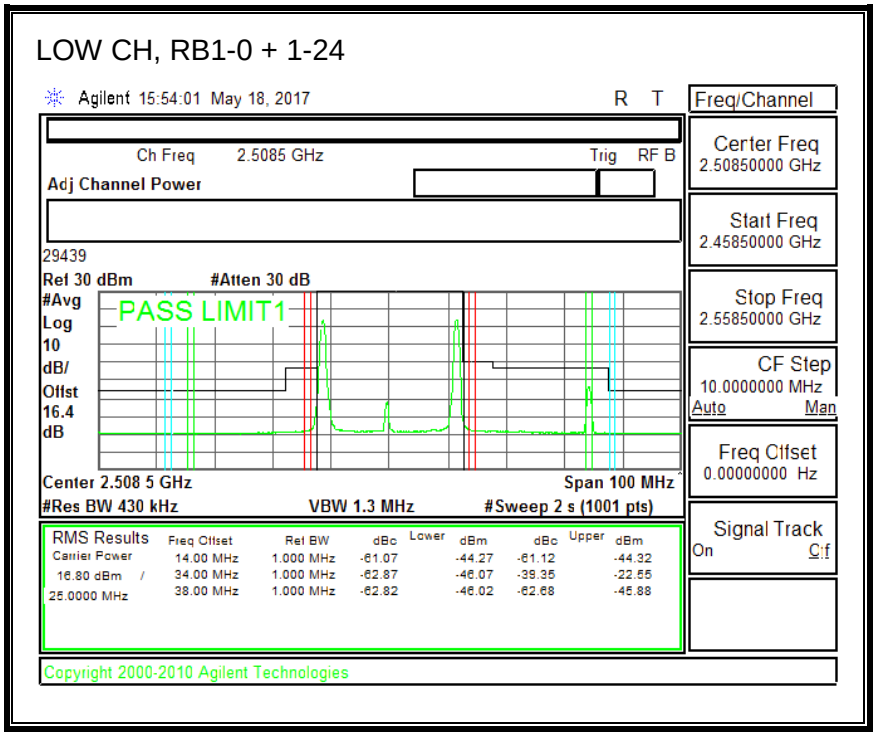


HIGH CH, RB100-0 + 25-0

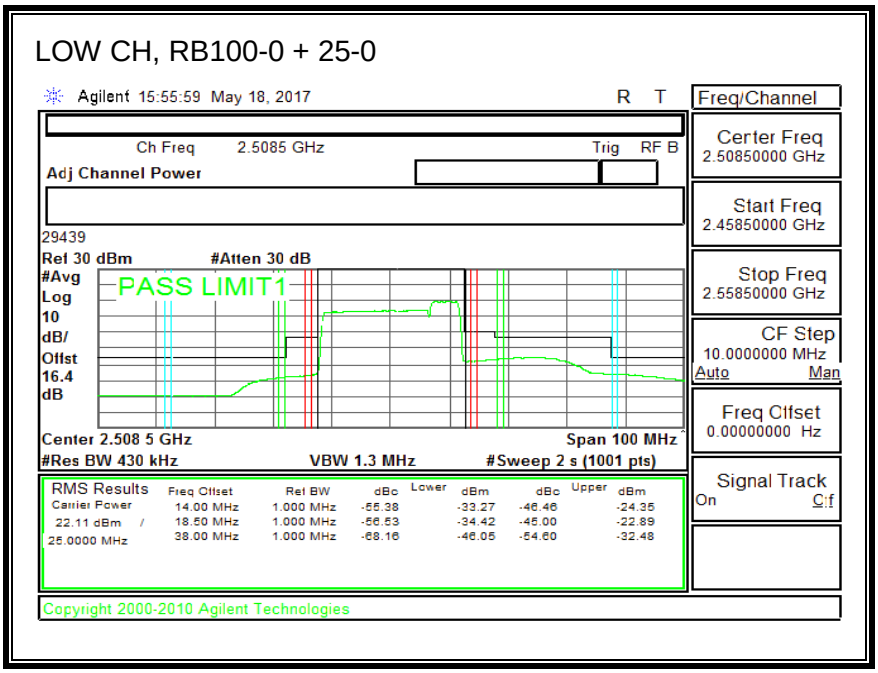


16QAM (20.0 MHz + 5.0 MHz BAND WIDTH)

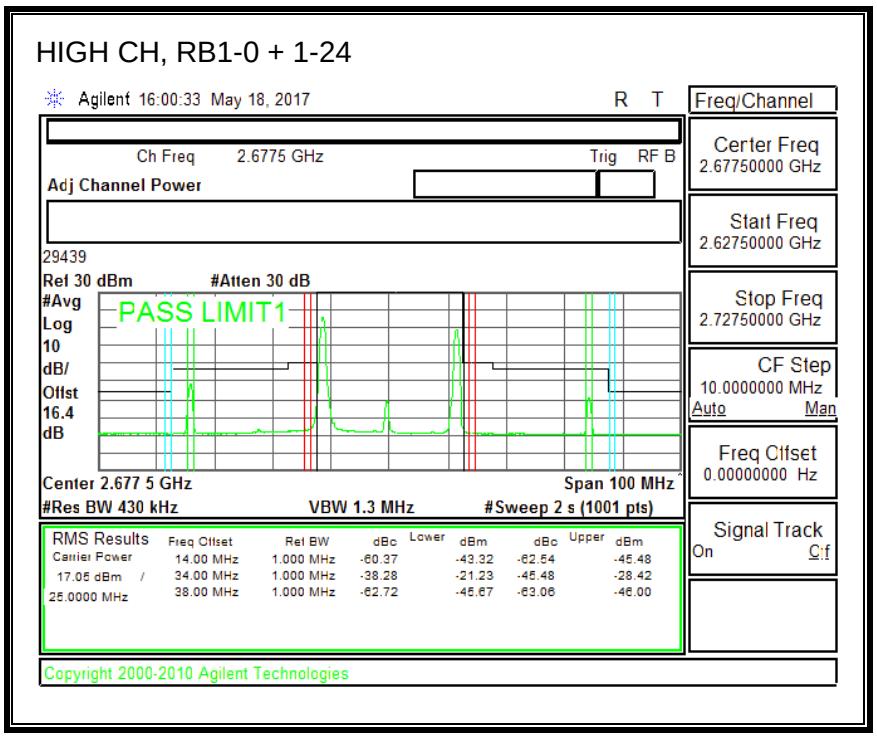
LOW CH, RB1-0 + 1-24



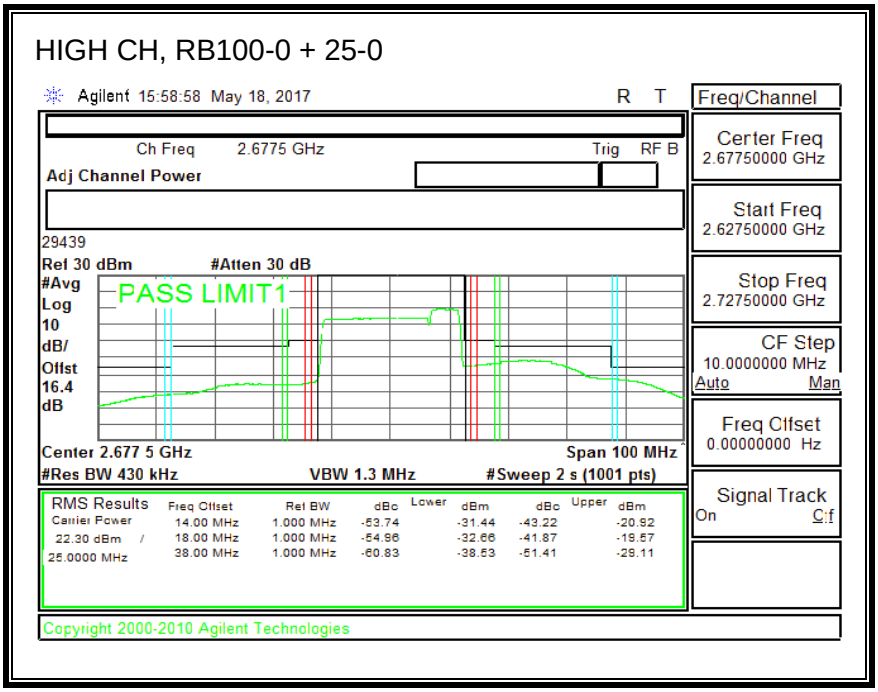
LOW CH, RB100-0 + 25-0



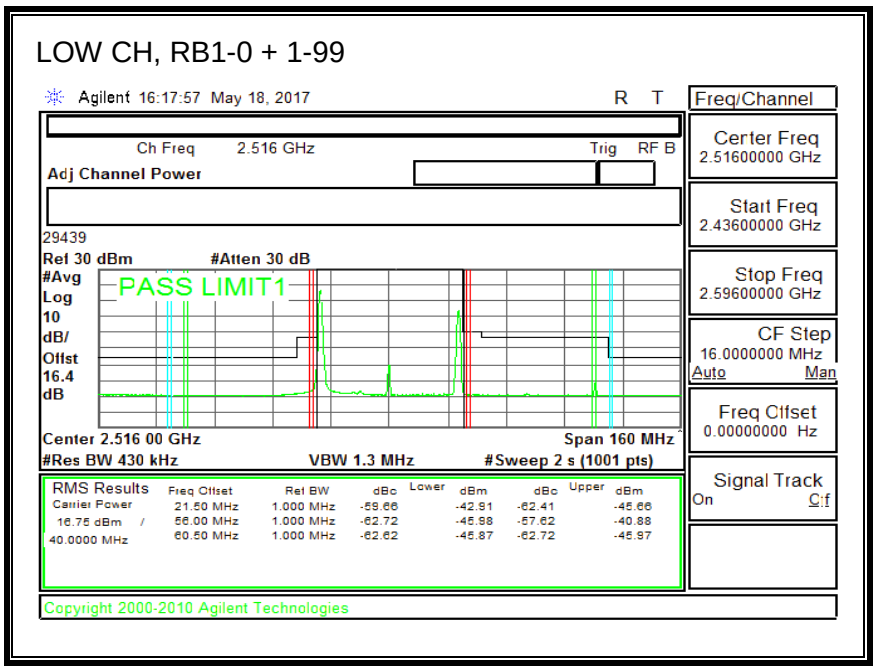
HIGH CH, RB1-0 + 1-24

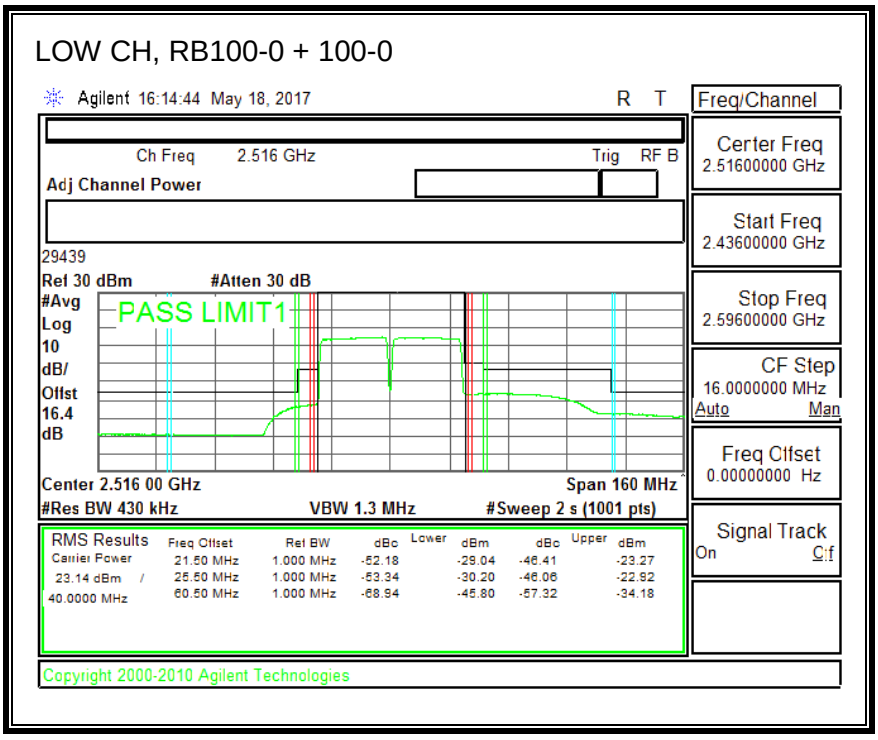


HIGH CH, RB100-0 + 25-0

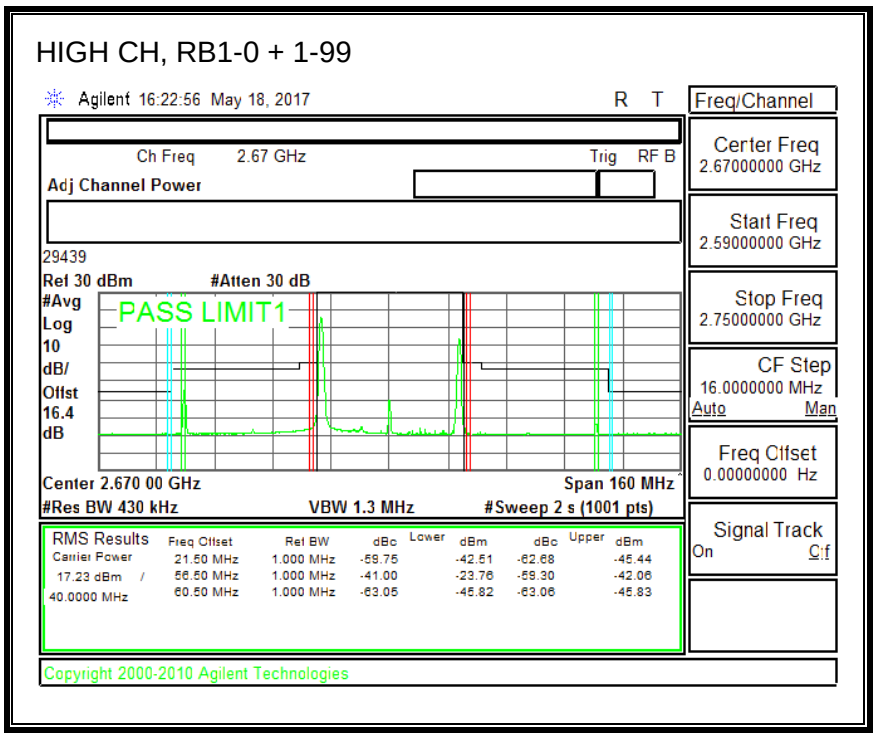


QPSK, (20.0 MHz + 20.0 MHz BAND WIDTH)

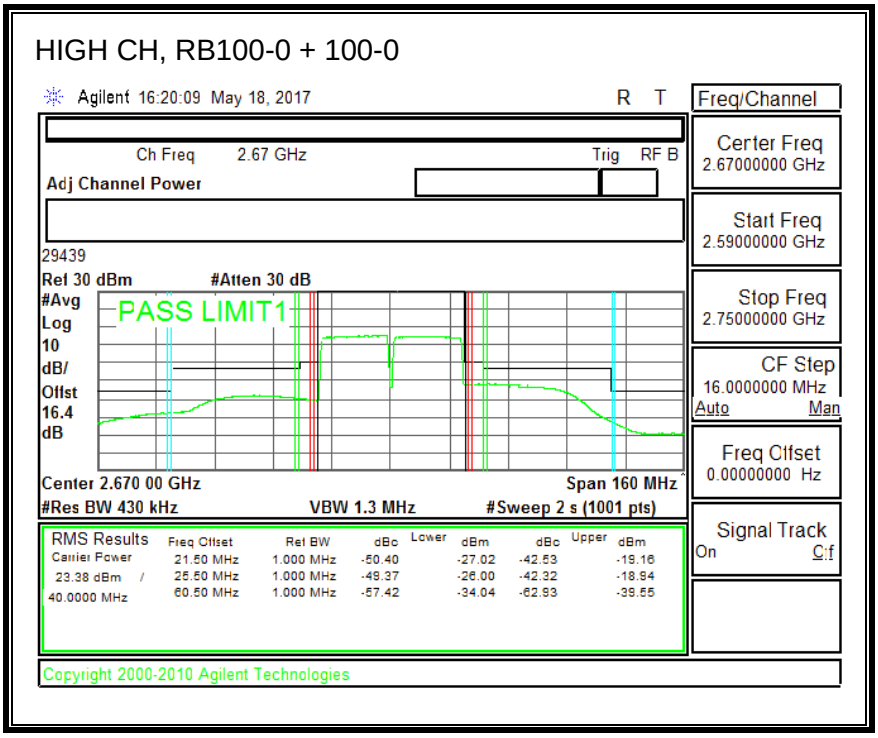




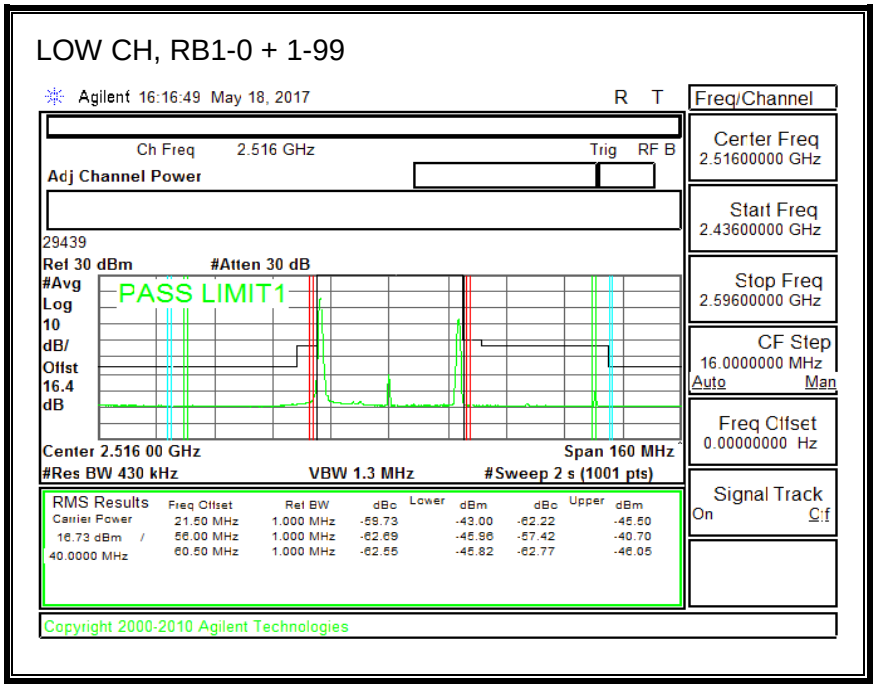
HIGH CH, RB1-0 + 1-99

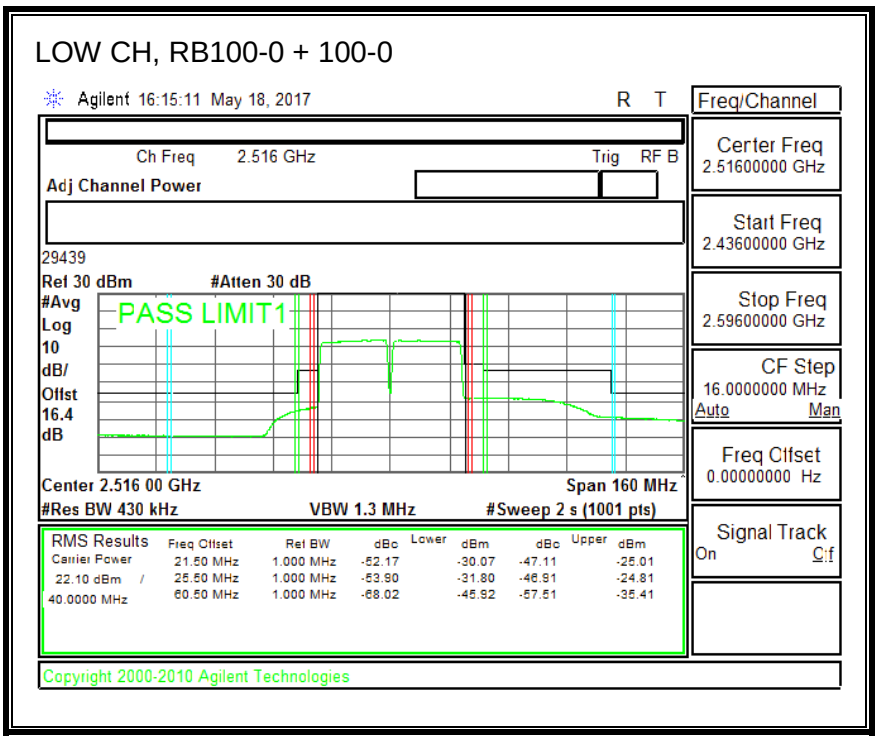


HIGH CH, RB100-0 + 100-0

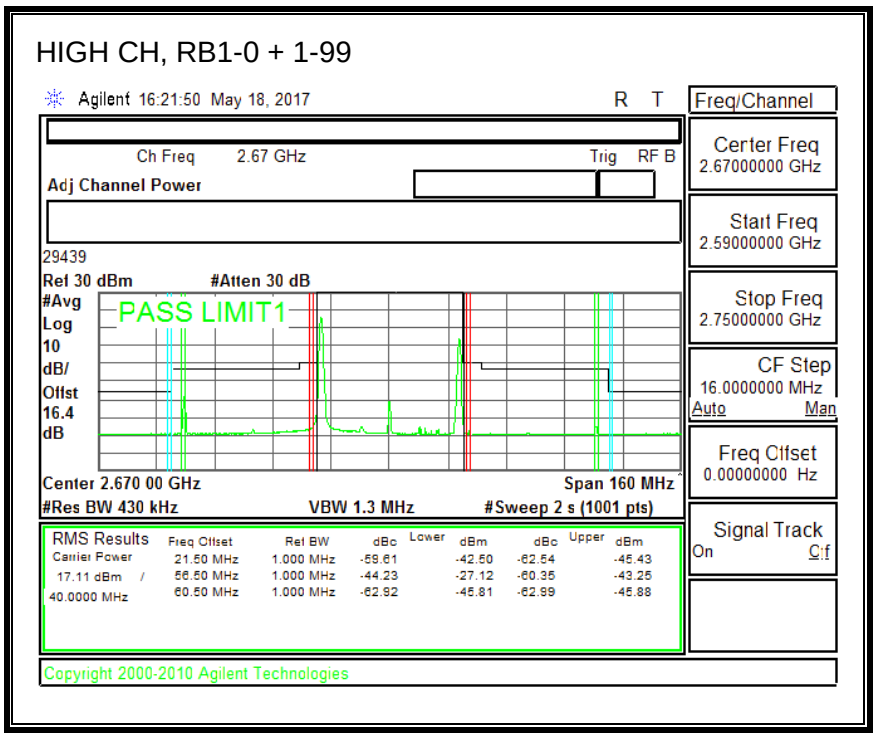


16QAM (20.0 MHz + 20.0 MHz BAND WIDTH)

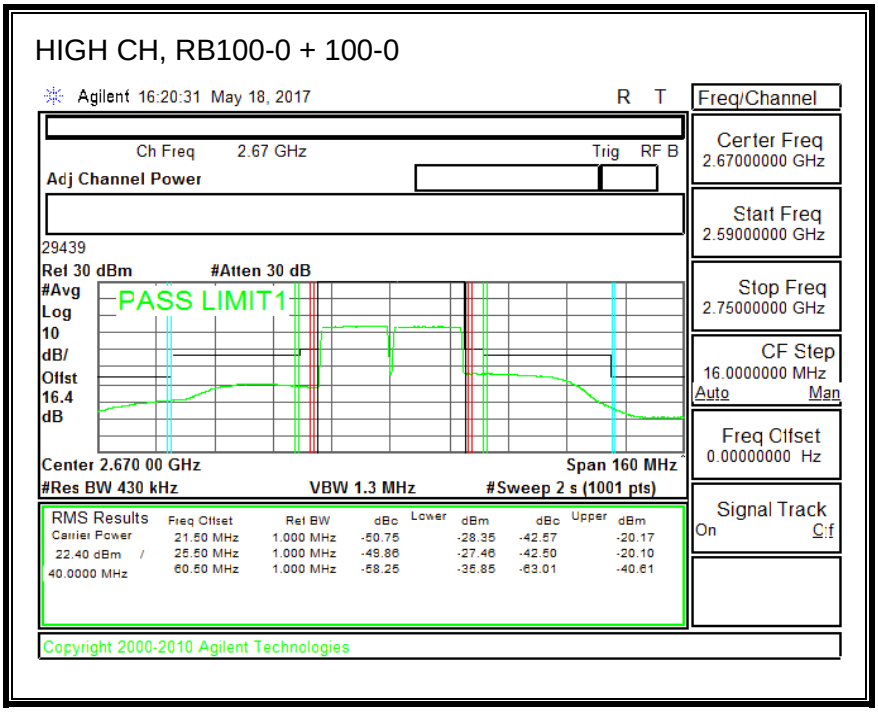




HIGH CH, RB1-0 + 1-99



HIGH CH, RB100-0 + 100-0



8.3. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §27.53

LIMITS

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

TEST PROCEDURE

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

For each out of band emissions measurement:

- Set display line at -25 dBm
- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz. (NOTE: Worst case set RBW/VBW to 1MHz/3MHz)

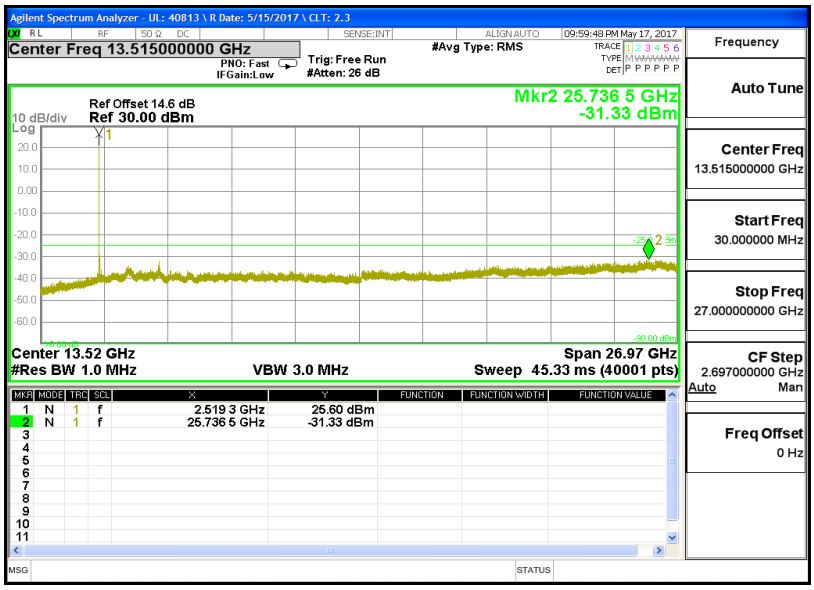
MODES TESTED

- LTE Band 7
- LTE Band 41

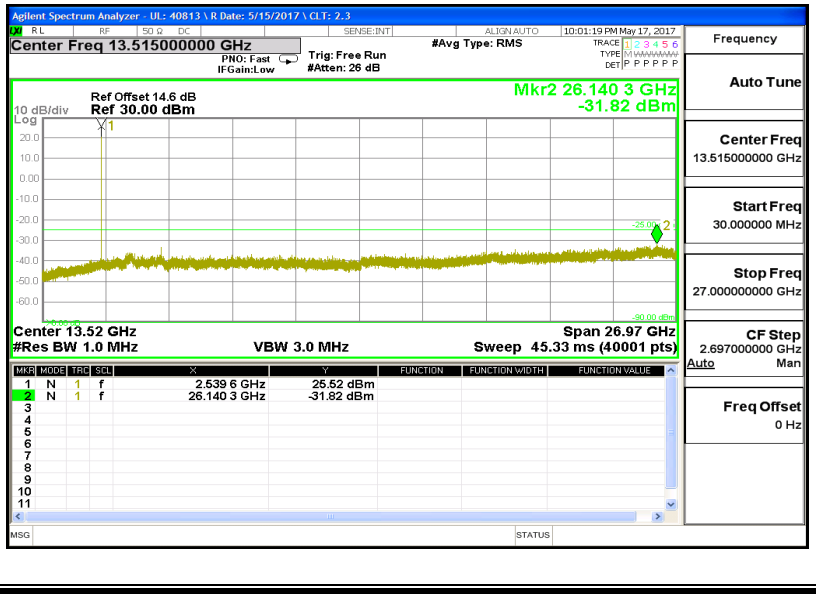
8.3.1. LTE BAND 7

QPSK, (20.0 MHz+ 10.0 MHz BAND WIDTH)

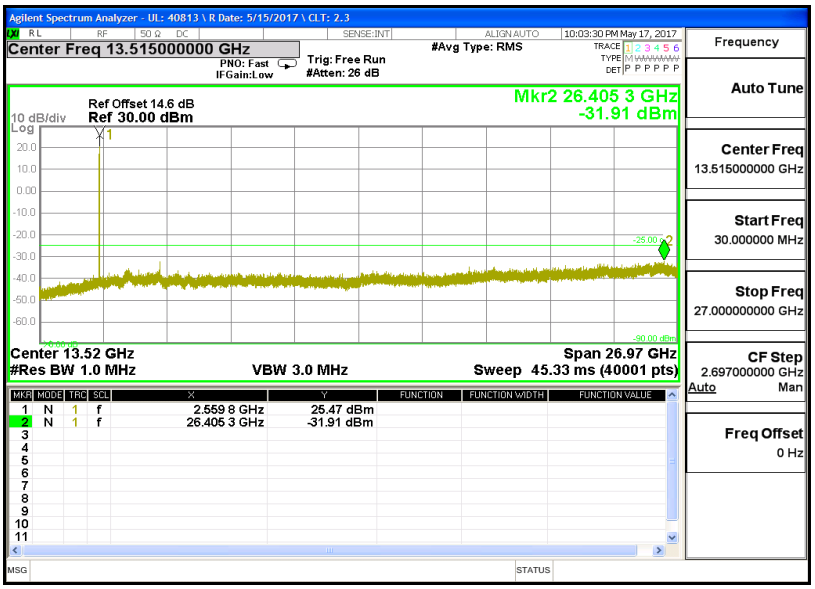
LOW, RB1-99 + 1-0, 30 TO 27000 MHz



MID, RB1-99 + 1-0, 30 TO 27000 MHz

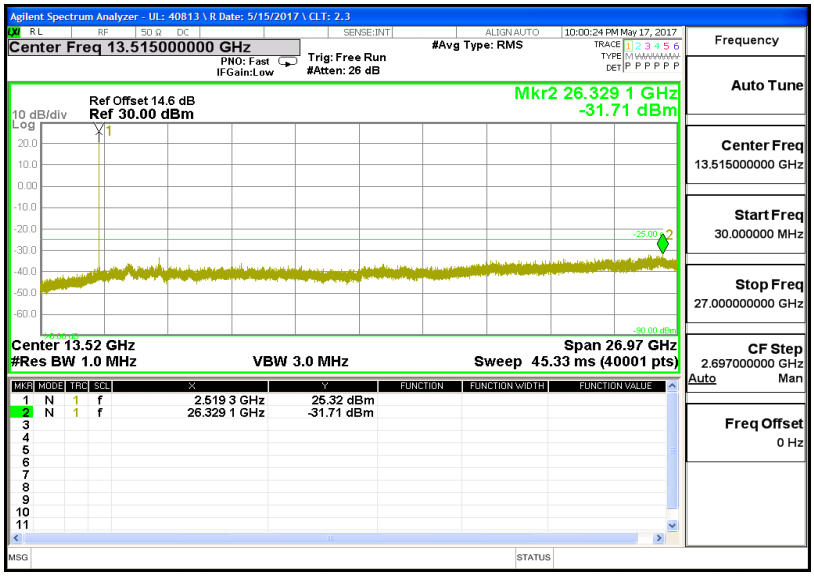


HIGH, RB1-99 + 1-0, 30 TO 27000 MHz

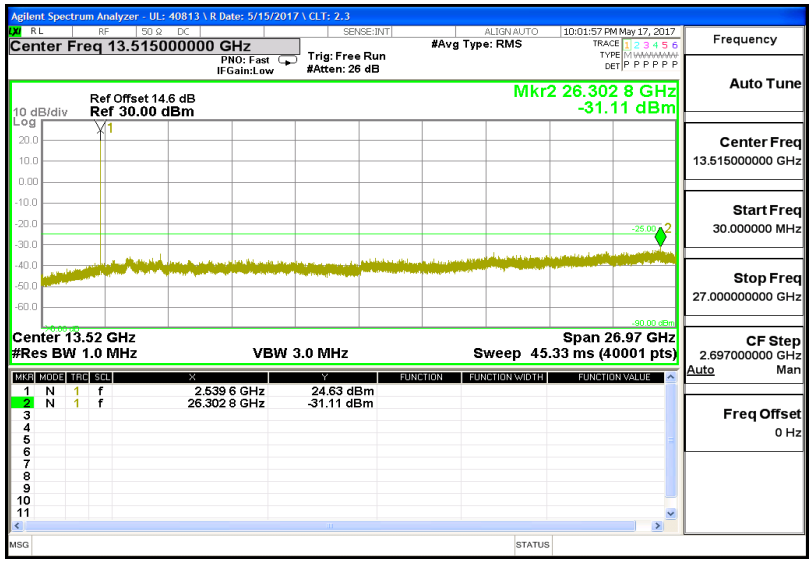


16QAM, (20.0 MHz+ 10.0 MHz BAND WIDTH)

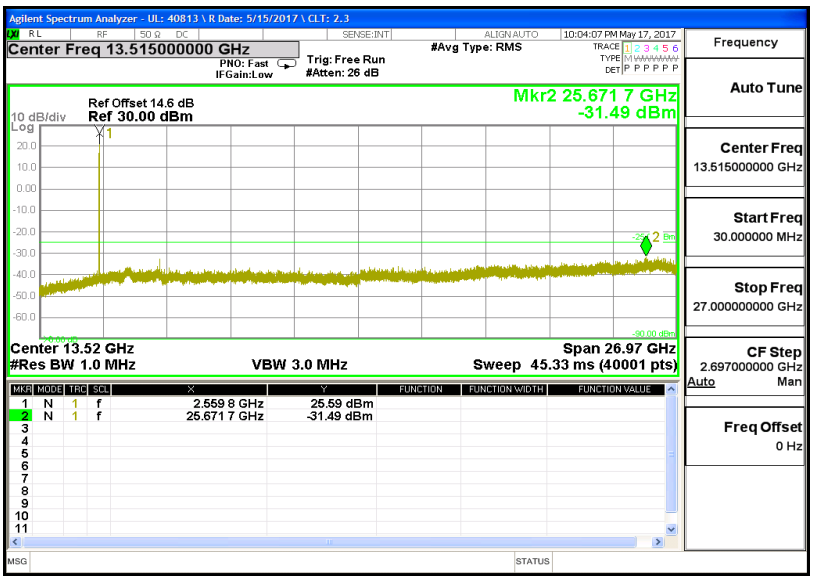
LOW, RB1-99 + 1-0, 30 TO 27000 MHz



MID, RB1-99 + 1-0, 30 TO 27000 MHz

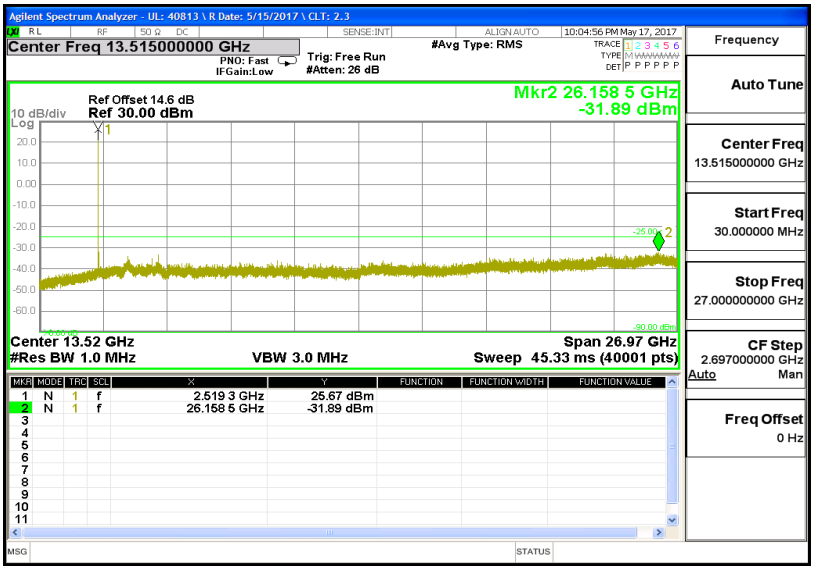


HIGH, RB1-99 + 1-0, 30 TO 27000 MHz

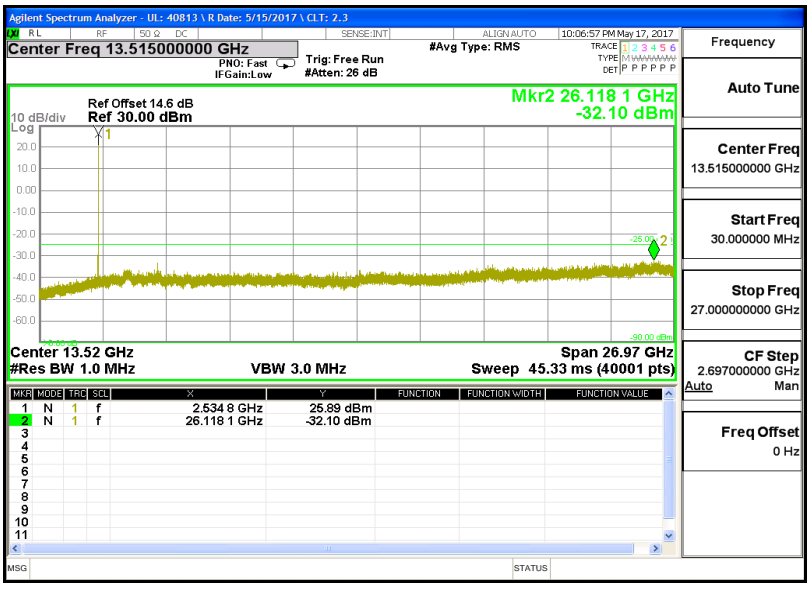


QPSK, (20.0 MHz+ 20.0 MHz BAND WIDTH)

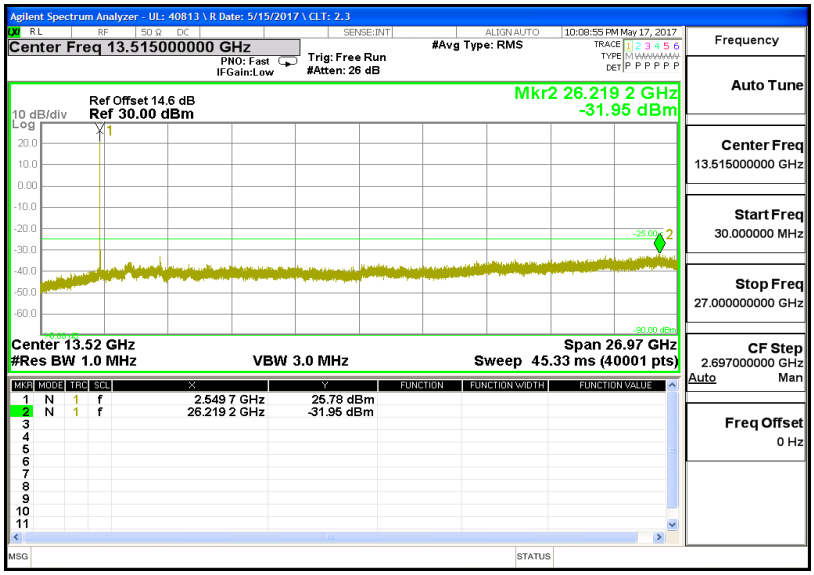
LOW, RB1-99 + 1-0, 30 TO 27000 MHz



MID, RB1-99 + 1-0, 30 TO 27000 MHz

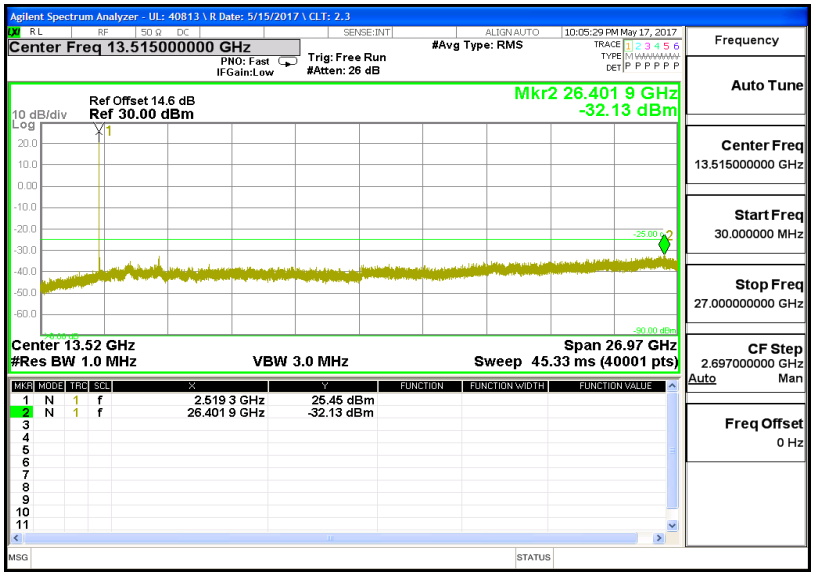


HIGH, RB1-99 + 1-0, 30 TO 27000 MHz

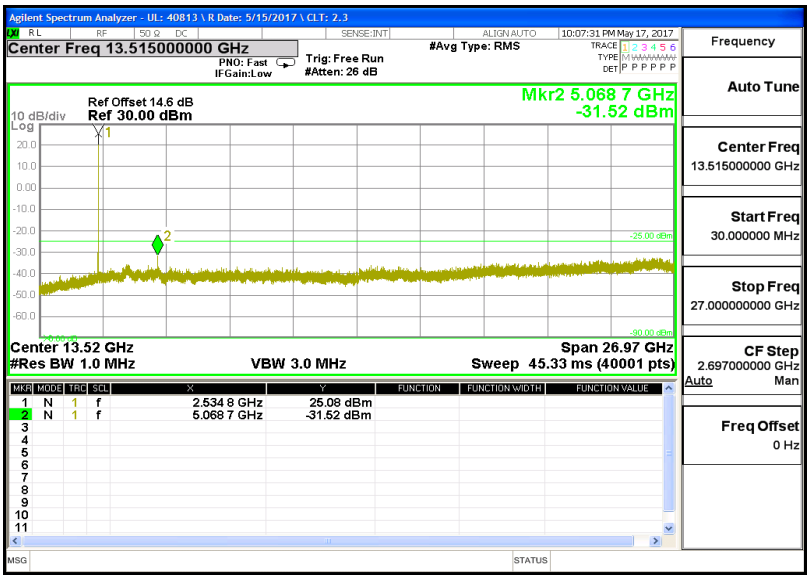


16QAM, (20.0 MHz+ 20.0 MHz BAND WIDTH)

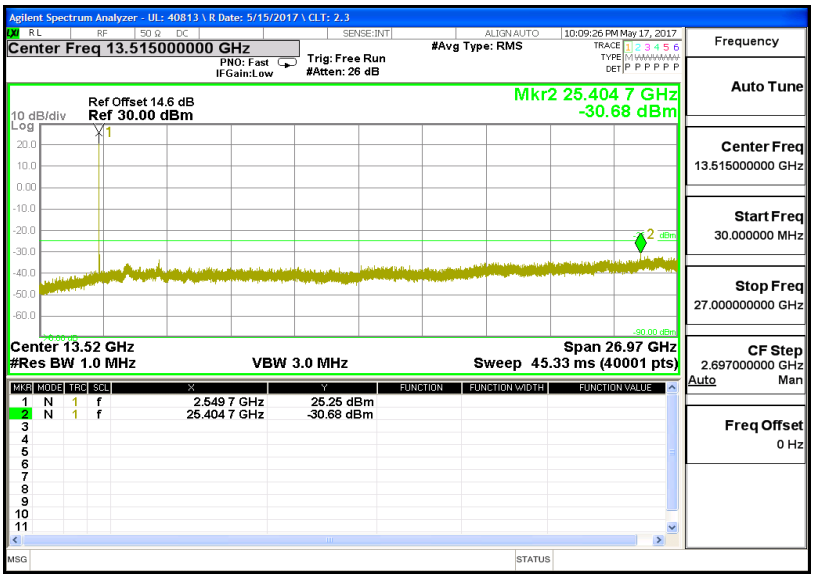
LOW, RB1-99 + 1-0, 30 TO 27000 MHz



MID, RB1-99 + 1-0, 30 TO 27000 MHz



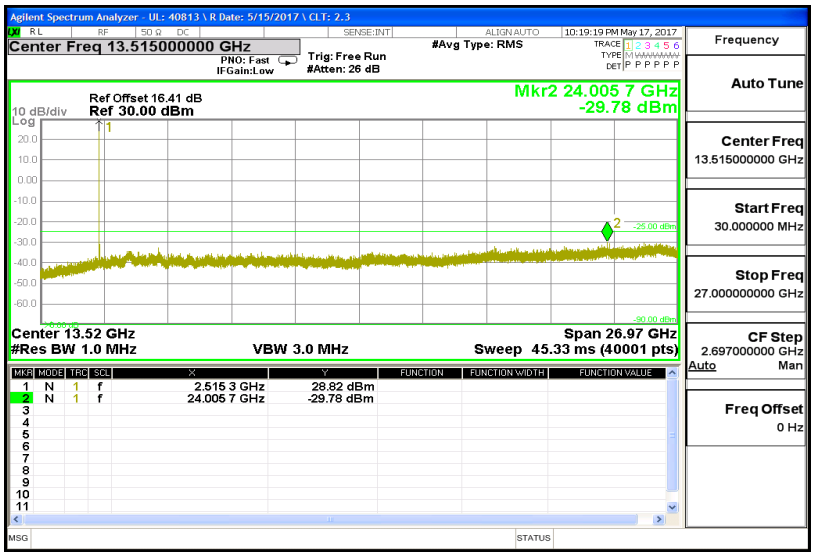
HIGH, RB1-99 + 1-0, 30 TO 27000 MHz



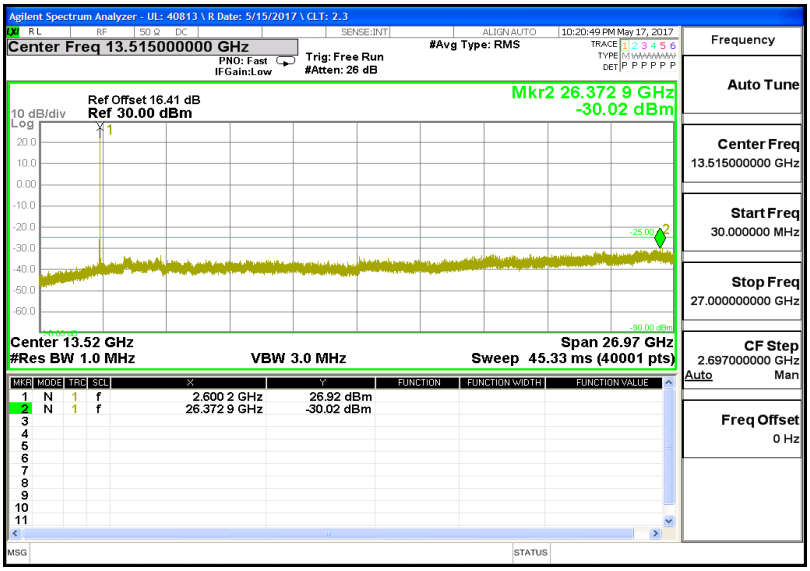
8.3.2. LTE BAND 41

QPSK, (20.0 MHz+ 5.0 MHz BAND WIDTH)

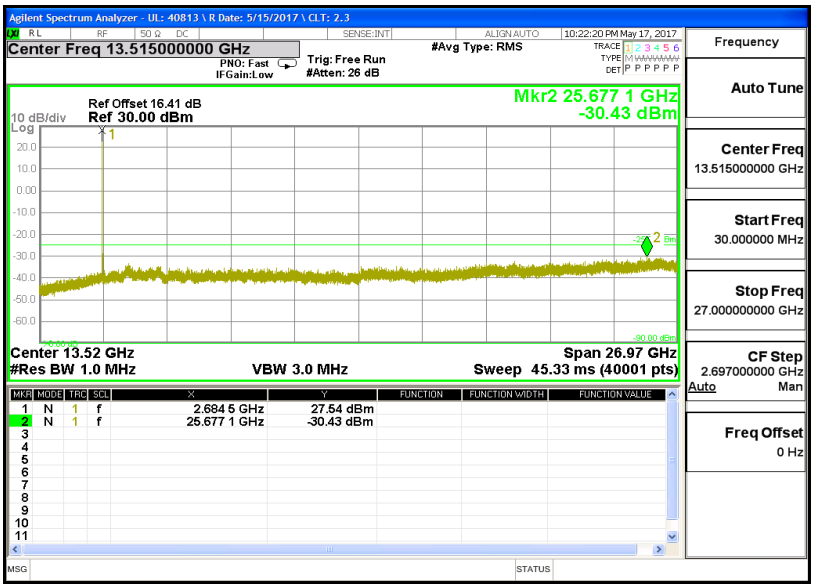
LOW, RB1-99 + 1-0, 30 TO 27000 MHz



MID, RB1-99 + 1-0, 30 TO 27000 MHz

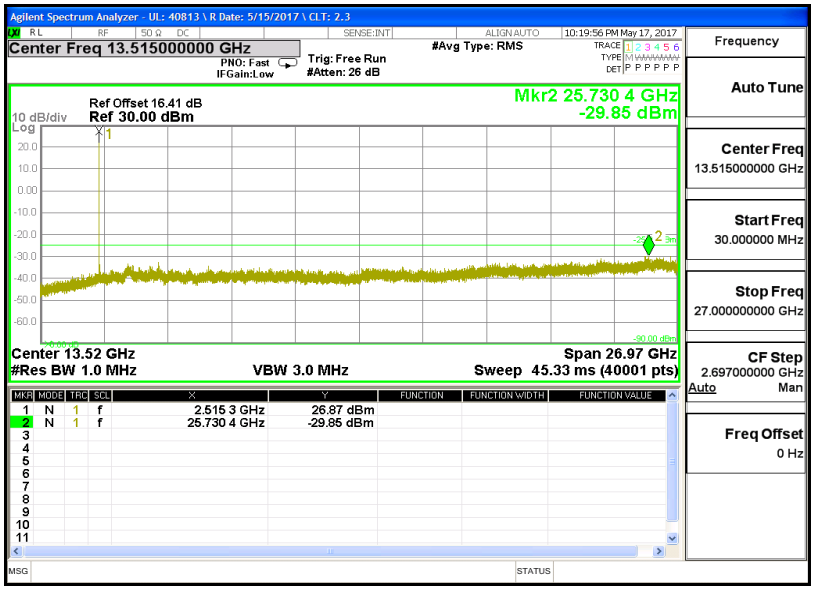


HIGH, RB1-99 + 1-0, 30 TO 27000 MHz

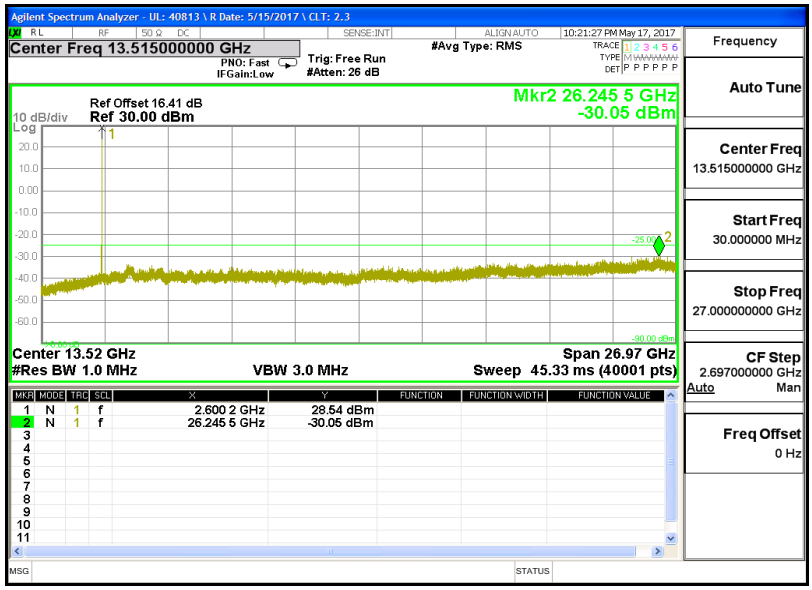


16QAM, (20.0 MHz+ 5.0 MHz BAND WIDTH)

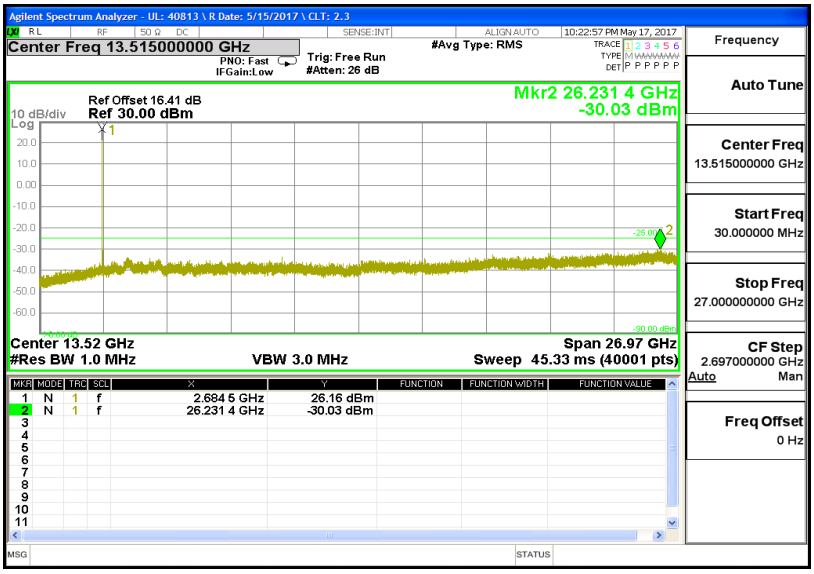
LOW, RB1-99 + 1-0, 30 TO 27000 MHz



MID, RB1-99 + 1-0, 30 TO 27000 MHz

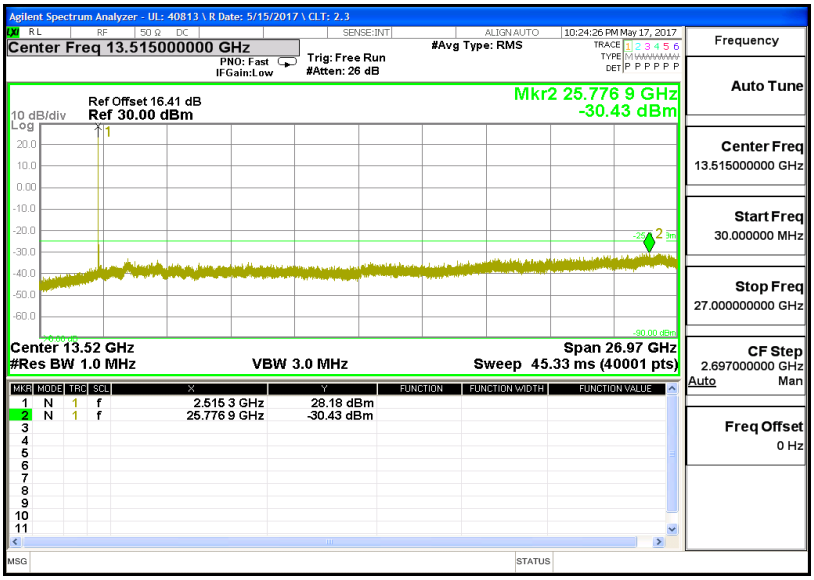


HIGH, RB1-99 + 1-0, 30 TO 27000 MHz

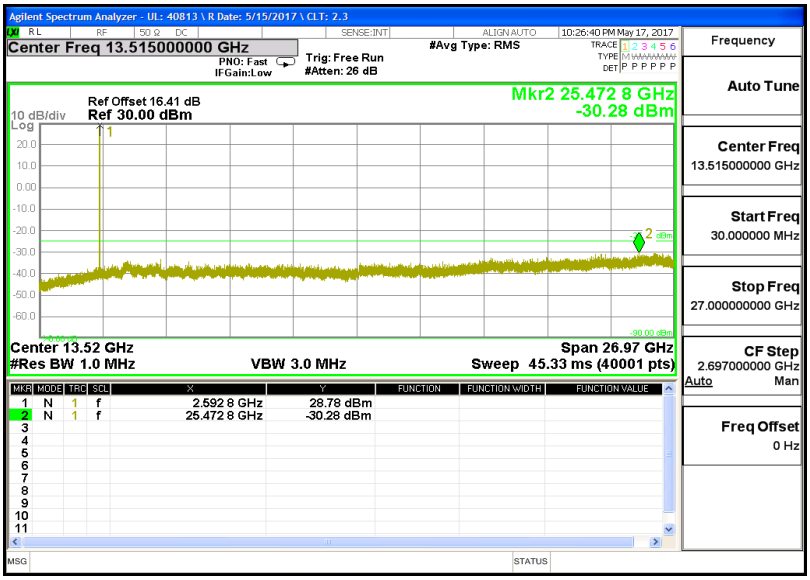


QPSK, (20.0 MHz+ 20.0 MHz BAND WIDTH)

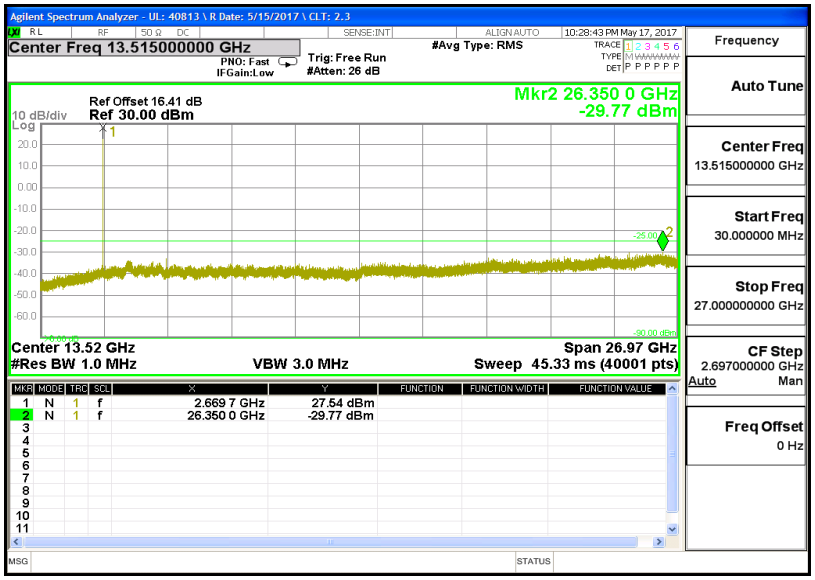
LOW, RB1-99 + 1-0, 30 TO 27000 MHz



MID, RB1-99 + 1-0, 30 TO 27000 MHz

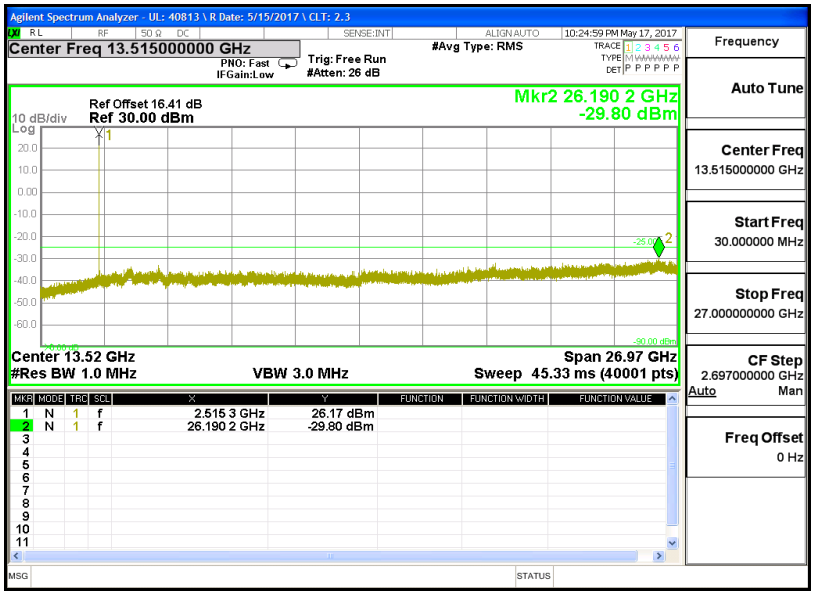


HIGH, RB1-99 + 1-0, 30 TO 27000 MHz

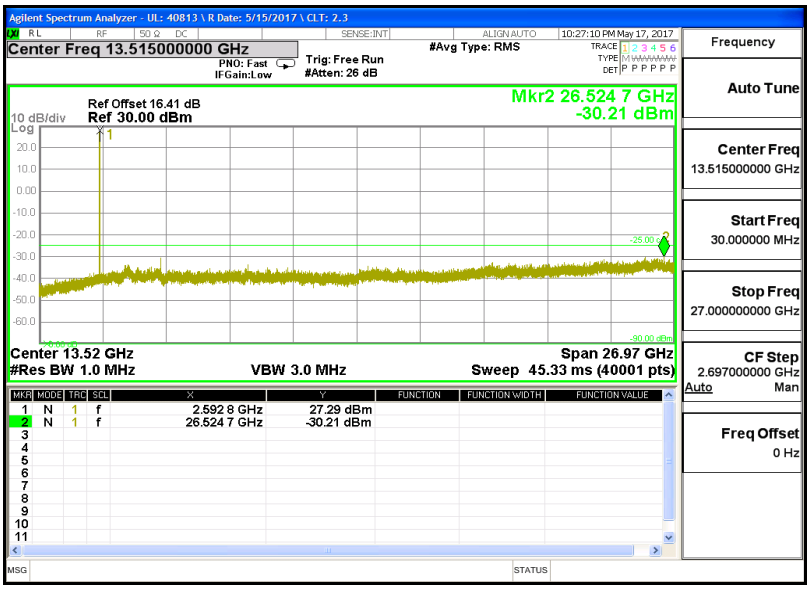


16QAM, (20.0 MHz+ 20.0 MHz BAND WIDTH)

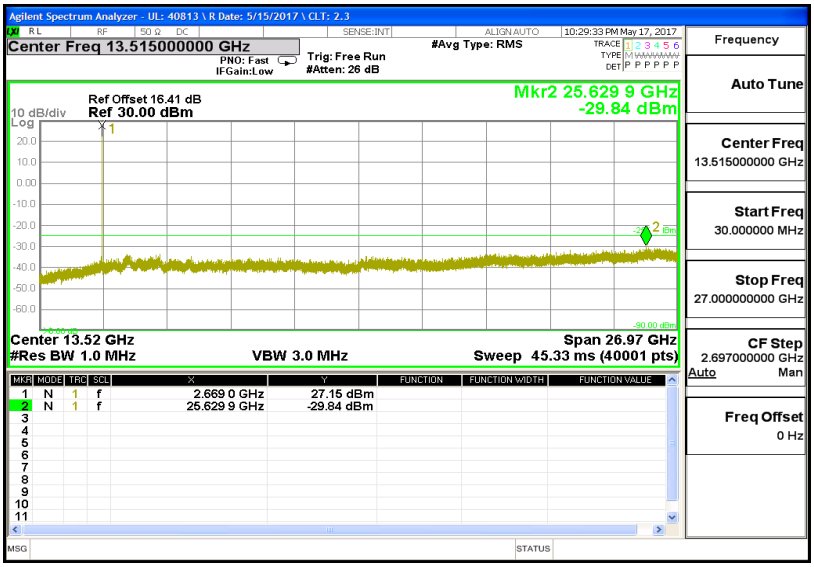
LOW, RB1-99 + 1-0, 30 TO 27000 MHz



MID, RB1-99 + 1-0, 30 TO 27000 MHz



HIGH, RB1-99 + 1-0, 30 TO 27000 MHz



9. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §27.54

LIMITS

§27.54
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- Temp. = −30° to +50°C
- Voltage = (85% - 115%)

  Low voltage, 3.23VDC, Normal, 3.8VDC and High voltage, 4.37VDC.
  End Voltage, 3.2VDC.

Frequency Stability vs Temperature:
The EUT is place inside a temperature chamber. The temperature is set to 20ºC and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until +50ºC is reached.

Frequency Stability vs Voltage:
The peak frequency error is recorded (worst-case).

MODES TESTED

- LTE Band 7
- LTE Band 41

RESULTS

See the following pages.

9.1. LTE BAND 7

ID:	38602	Date:	5/17/17

QPSK, (20MHz + 10MHz BANDWIDTH)

Limit		2500	2570	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	2501.1437	2568.9137		
Extreme (50C)		2501.1437	2568.9137	25.3	0.010
Extreme (40C)		2501.1437	2568.9137	27.8	0.011
Extreme (30C)		2501.1437	2568.9137	18.2	0.007
Extreme (10C)		2501.1437	2568.9137	23.9	0.009
Extreme (0C)		2501.1437	2568.9137	21.2	0.008
Extreme (-10C)		2501.1437	2568.9137	-47.5	-0.019
Extreme (-20C)		2501.1436	2568.9136	-51.5	-0.020
Extreme (-30C)		2501.1436	2568.9136	-56.2	-0.022
20C	15%	2501.1437	2568.9137	28.1	0.011
	-15%	2501.1437	2568.9137	24.3	0.010
	End Point	2501.1437	2568.9137	25.4	0.010

QPSK, (20MHz + 20MHz BANDWIDTH)

Limit		2500	2570	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	2501.1930	2568.9180		
Extreme (50C)		2501.1930	2568.9180	23.7	0.009
Extreme (40C)		2501.1930	2568.9180	-20.4	-0.008
Extreme (30C)		2501.1930	2568.9180	-28.8	-0.011
Extreme (10C)		2501.1930	2568.9180	-36.6	-0.014
Extreme (0C)		2501.1930	2568.9180	49.4	0.019
Extreme (-10C)		2501.1929	2568.9179	-51.5	-0.020
Extreme (-20C)		2501.1929	2568.9179	-56.2	-0.022
Extreme (-30C)		2501.1929	2568.9179	-67.3	-0.027
20C	15%	2501.1930	2568.9180	34.0	0.013
	-15%	2501.1930	2568.9180	33.7	0.013
	End Point	2501.1930	2568.9180	33.9	0.013

9.2. LTE BAND 41

ID:	38602	Date:	5/17/17

QPSK, (20MHz + 5MHz BANDWIDTH)

Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	2497.0744	2689.1076		
Extreme (50C)		2497.0744	2689.1076	-24.5	-0.009
Extreme (40C)		2497.0744	2689.1076	-21.2	-0.008
Extreme (30C)		2497.0744	2689.1076	-27.9	-0.011
Extreme (10C)		2497.0744	2689.1076	-25.5	-0.010
Extreme (0C)		2497.0744	2689.1076	-27.6	-0.011
Extreme (-10C)		2497.0744	2689.1076	-28.3	-0.011
Extreme (-20C)		2497.0744	2689.1076	-37.4	-0.014
Extreme (-30C)		2497.0744	2689.1076	-42.2	-0.016
20C	15%	2497.0744	2689.1076	-30.7	-0.012
	-15%	2497.0744	2689.1076	-30.6	-0.012
	End Point	2497.0744	2689.1076	-31.1	-0.012

QPSK, (20MHz + 20MHz BANDWIDTH)

Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	2496.8540	2688.8227		
Extreme (50C)		2496.8540	2688.8227	26.9	0.010
Extreme (40C)		2496.8540	2688.8227	-30.5	-0.012
Extreme (30C)		2496.8540	2688.8227	-47.8	-0.018
Extreme (10C)		2496.8539	2688.8226	-52.4	-0.020
Extreme (0C)		2496.8540	2688.8227	-47.3	-0.018
Extreme (-10C)		2496.8540	2688.8227	-45.2	-0.017
Extreme (-20C)		2496.8539	2688.8226	-61.5	-0.024
Extreme (-30C)		2496.8539	2688.8226	-70.3	-0.027
20C	15%	2496.8539	2688.8226	-66.1	-0.025
	-15%	2496.8539	2688.8226	-68.9	-0.027
	End Point	2496.8539	2688.8226	-67.1	-0.026

10. PEAK-TO-AVERAGE RATIO

In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

RESULT

Test was performed on LAT 1 antenna; full resource block (FRB) for each bandwidth combination was used to measure as the worst case. The results from all CCDF measurements are passed with 13dB peak-to-average ratio criteria.

10.1.1. LTE BAND 7

ID:	50820	Date:	5/17/17

Mode	Channel Band-	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Ratio
					Peak	Average	
LTE Band 7	10MHz / 20MHz	2525.6	2540.0	QPSK	27.01	21.96	5.05
				16QAM	27.63	20.94	6.69
	15 MHz / 15MHz	2527.5	2542.5	QPSK	29.25	21.89	7.36
				16QAM	29.28	20.91	8.37
	15MHz / 20MHz	2525.3	2542.4	QPSK	29.33	21.89	7.44
				16QAM	29.35	20.92	8.43
	20MHz / 10MHz	2530.1	2544.5	QPSK	27.73	21.99	5.74
				16QAM	27.76	20.99	6.77
	20MHz / 15MHz	2527.6	2544.7	QPSK	27.63	21.98	5.65
				16QAM	27.74	20.99	6.75
	20MHz / 20MHz	2525.1	2544.9	QPSK	29.15	21.95	7.20
				16QAM	29.10	20.97	8.13
Duty Cycle Correction Factor			0				
Peak to Average Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

10.1.2. LTE BAND 41

ID:	50820	Date:	5/18/17

Mode	Channel Band-	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Ratio
					Peak	Average	
LTE Band 41 (FCC)	5MHz / 20MHz	2583.8	2595.5	QPSK	26.63	14.86	4.77
				16QAM	25.93	13.89	5.04
	10MHz / 20MHz	2583.6	2598.0	QPSK	26.40	14.87	4.53
				16QAM	25.93	13.82	5.11
	15MHz / 15MHz	2585.5	2600.5	QPSK	26.64	14.86	4.78
				16QAM	25.81	13.82	4.99
	15MHz / 20MHz	2583.3	2600.4	QPSK	26.71	14.86	4.85
				16QAM	25.56	13.93	4.63
	20MHz / 5MHz	2590.5	2602.2	QPSK	26.66	14.9	4.76
				16QAM	25.80	13.94	4.86
	20MHz / 10MHz	2588.1	2602.5	QPSK	26.70	14.91	4.79
				16QAM	25.70	13.82	4.88
	20MHz / 15MHz	2585.6	2602.7	QPSK	26.52	14.88	4.64
				16QAM	26.08	13.93	5.16
	20MHz / 20MHz	2583.1	2602.9	QPSK	26.55	14.95	4.60
				16QAM	25.85	13.95	4.90
Duty Cycle Correction Factor			7				
Peak to Average Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

11. RADIATED TEST RESULTS

11.1. FIELD STRENGTH OF SPURIOUS RADIATION, LAT 1

RULE PART(S)

FCC: §2.1053, §27.53

LIMIT

§27.53 (h) For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log10(P) dB.

TEST PROCEDURE

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

The unwanted emission power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth in the 1 MHz band immediately outside and adjacent to the channel edge of the equipment. Beyond the 1 MHz band immediately outside the channel edge of the equipment, a resolution bandwidth of 1 MHz shall be employed. A narrower resolution bandwidth is allowed to be used provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz or 1% of the occupied bandwidth as applicable.

The power of any unwanted emissions measured from the channel edge of the equipment shall be attenuated below the transmitter power, P (dBW), as follows:

a. for base station and subscriber equipment, other than mobile subscriber equipment, the attenuation shall not be less than 43 + 10 Log10 (p), dB; and

b. for mobile subscriber equipment, the attenuation shall not be less than 43 + 10 Log10 (p), dB at the channel edges and 55 + 10 Log10 (p) at 5.5 MHz away and beyond the channel edges where p in (a) and (b) is the transmitter power measured in watts.

MODES TESTED

- LTE Band 7
- LTE Band 41

RESULTS

11.1.1. LTE BAND 7

QPSK LTE BAND 7 (20.0MHZ + 10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 06/02/17
Test Engineer: 48013
Configuration: EUT Only
Mode: LTE Band 7, QPSK UL CA 20/10

Test Equipment:
Substitution: Horn T344 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber D	3m Chamber D	Filter	LTE B7

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2510MHz)+2524.4MHz 1-99 1-0										
5.03	-66.7	H	3.0	-16.3	33.0	1.0	-48.2	-25.0	-23.2	
7.55	-69.5	H	3.0	-15.0	30.2	1.0	-44.2	-25.0	-19.2	
10.07	-69.5	H	3.0	-11.9	27.3	1.0	-38.1	-25.0	-13.1	
5.03	-67.5	V	3.0	-17.5	33.0	1.0	-49.4	-25.0	-24.4	
7.55	-68.5	V	3.0	-13.8	30.2	1.0	-43.0	-25.0	-18.0	
10.07	-69.3	V	3.0	-12.3	27.3	1.0	-38.6	-25.0	-13.6	
Mid Channel (2530.1MHz)+2544.5MHz 1-99 1-0										
5.07	-66.4	H	3.0	-15.9	33.0	1.0	-47.9	-25.0	-22.9	
7.61	-69.3	H	3.0	-14.7	30.1	1.0	-43.8	-25.0	-18.8	
10.15	-69.5	H	3.0	-11.8	27.3	1.0	-38.2	-25.0	-13.2	
5.07	-66.9	V	3.0	-16.8	33.0	1.0	-48.7	-25.0	-23.7	
7.61	-67.8	V	3.0	-13.0	30.1	1.0	-42.2	-25.0	-17.2	
10.15	-67.9	V	3.0	-10.9	27.3	1.0	-37.2	-25.0	-12.2	
High Channel (2550.1MHz)+2564.5MHz 1-99 1-0										
5.11	-68.8	H	3.0	-18.2	32.9	1.0	-50.1	-25.0	-25.1	
7.67	-69.3	H	3.0	-14.6	30.1	1.0	-43.7	-25.0	-18.7	
10.23	-70.5	H	3.0	-12.9	27.4	1.0	-39.2	-25.0	-14.2	
5.11	-67.4	V	3.0	-17.2	32.9	1.0	-49.2	-25.0	-24.2	
7.67	-68.2	V	3.0	-13.4	30.1	1.0	-42.5	-25.0	-17.5	
10.23	-68.8	V	3.0	-11.7	27.4	1.0	-38.1	-25.0	-13.1	

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16QAM LTE BAND 7 (20.0MHZ + 10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 06/02/17
Test Engineer: 40813
Configuration: EUT Only
Mode: LTE Band 7, 16QAM UL CA 20/10

Test Equipment:
Substitution: Horn T344 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber D	3m Chamber D	Filter	LTE B7

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2510MHz)+2524.4MHz 1-99 1-0										
5.03	-66.5	H	3.0	-16.1	33.0	1.0	-48.1	-25.0	-23.1	
7.55	-68.2	H	3.0	-13.7	30.2	1.0	-42.9	-25.0	-17.9	
10.07	-69.7	H	3.0	-12.1	27.3	1.0	-38.4	-25.0	-13.4	
5.03	-65.9	V	3.0	-15.8	33.0	1.0	-47.8	-25.0	-22.8	
7.55	-69.4	V	3.0	-14.7	30.2	1.0	-43.9	-25.0	-18.9	
10.07	-70.2	V	3.0	-13.2	27.3	1.0	-39.5	-25.0	-14.5	
Mid Channel (2530.1MHz)+2544.5MHz 1-99 1-0										
5.07	-66.3	H	3.0	-15.8	33.0	1.0	-47.7	-25.0	-22.7	
7.61	-67.4	H	3.0	-12.8	30.1	1.0	-42.0	-25.0	-17.0	
10.15	-68.5	H	3.0	-10.8	27.3	1.0	-37.2	-25.0	-12.2	
5.07	-66.3	V	3.0	-16.2	33.0	1.0	-48.1	-25.0	-23.1	
7.61	-69.3	V	3.0	-14.6	30.1	1.0	-43.7	-25.0	-18.7	
10.15	-68.4	V	3.0	-11.3	27.3	1.0	-37.6	-25.0	-12.6	
High Channel (2550.1MHz)+2564.5MHz 1-99 1-0										
5.11	-67.9	H	3.0	-17.3	32.9	1.0	-49.2	-25.0	-24.2	
7.67	-69.8	H	3.0	-15.1	30.1	1.0	-44.2	-25.0	-19.2	
10.23	-69.6	H	3.0	-12.0	27.4	1.0	-38.4	-25.0	-13.4	
5.11	-66.5	V	3.0	-16.3	32.9	1.0	-48.3	-25.0	-23.3	
7.67	-68.7	V	3.0	-13.9	30.1	1.0	-42.9	-25.0	-17.9	
10.23	-70.5	V	3.0	-13.4	27.4	1.0	-39.8	-25.0	-14.8	

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QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 06/02/17
Test Engineer: 40813
Configuration: EUT Only
Mode: LTE Band 7, QPSK UL CA 20/20

Test Equipment:
Substitution: Horn T344 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber D	3m Chamber D	Filter	LTE B7

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2510MHz)+ 2529.8MHz 1-99 1-0										
5.04	-64.2	H	3.0	-16.1	36.1	1.0	-51.2	-25.0	-26.2	
7.56	-67.5	H	3.0	-17.8	36.3	1.0	-53.1	-25.0	-28.1	
10.08	-68.0	H	3.0	-12.6	33.4	1.0	-45.0	-25.0	-20.0	
5.04	-66.2	V	3.0	-16.7	36.3	1.0	-51.9	-25.0	-26.9	
7.56	-69.5	V	3.0	-15.9	34.8	1.0	-49.7	-25.0	-24.7	
10.08	-70.0	V	3.0	-14.0	32.1	1.0	-45.0	-25.0	-20.0	
Mid Channel (2525.1MHz)+2544.9MHz 1-99 1-0										
5.07	-67.5	H	3.0	-16.6	36.0	1.0	-51.5	-25.0	-26.5	
7.61	-69.3	H	3.0	-16.2	35.2	1.0	-50.5	-25.0	-25.5	
10.14	-68.3	H	3.0	-12.0	32.0	1.0	-43.0	-25.0	-18.0	
5.07	-67.0	V	3.0	-19.3	36.1	1.0	-54.4	-25.0	-29.4	
7.61	-69.1	V	3.0	-14.4	30.2	1.0	-43.5	-25.0	-18.5	
10.14	-69.2	V	3.0	-12.2	27.3	1.0	-38.5	-25.0	-13.5	
High Channel (2540.2MHz)+2560Mhz 1-99 1-0										
5.10	-67.5	H	3.0	-18.3	36.2	1.0	-53.5	-25.0	-28.5	
7.65	-70.2	H	3.0	-19.5	36.0	1.0	-54.5	-25.0	-29.5	
10.20	-69.6	H	3.0	-13.4	32.0	1.0	-44.4	-25.0	-19.4	
5.10	-66.3	V	3.0	-19.3	36.3	1.0	-54.5	-25.0	-29.5	
7.65	-68.8	V	3.0	-17.5	35.8	1.0	-52.4	-25.0	-27.4	
10.20	-68.8	V	3.0	-11.7	27.4	1.0	-38.1	-25.0	-13.1	

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16QAM LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 06/02/17
Test Engineer: 40813
Configuration: EUT Only
Mode: LTE Band 7, 16QAM UL CA 20/20

Test Equipment:
Substitution: Horn T344 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber D	3m Chamber D	Filter	LTE B7

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2510MHz)+ 2529.8MHz 1-99 1-0										
5.04	-67.2	H	3.0	-16.8	33.0	1.0	-48.8	-25.0	-23.8	
7.56	-69.0	H	3.0	-14.4	30.2	1.0	-43.6	-25.0	-18.6	
10.08	-69.8	H	3.0	-12.2	27.3	1.0	-38.5	-25.0	-13.5	
5.04	-66.4	V	3.0	-16.4	33.0	1.0	-48.3	-25.0	-23.3	
7.56	-68.9	V	3.0	-14.2	30.2	1.0	-43.5	-25.0	-18.5	
10.08	-69.1	V	3.0	-12.1	27.3	1.0	-38.4	-25.0	-13.4	
Mid Channel (2525.1MHz)+2544.9MHz 1-99 1-0										
5.07	-67.1	H	3.0	-16.6	33.0	1.0	-48.5	-25.0	-23.5	
7.61	-69.5	H	3.0	-14.9	30.2	1.0	-44.0	-25.0	-19.0	
10.14	-70.1	H	3.0	-12.4	27.3	1.0	-38.8	-25.0	-13.8	
5.07	-66.1	V	3.0	-16.0	33.0	1.0	-48.0	-25.0	-23.0	
7.61	-67.6	V	3.0	-12.8	30.2	1.0	-42.0	-25.0	-17.0	
10.14	-69.0	V	3.0	-12.0	27.3	1.0	-38.3	-25.0	-13.3	
High Channel (2540.2MHz)+2560Mhz 1-99 1-0										
5.10	-67.5	H	3.0	-17.0	32.9	1.0	-48.9	-25.0	-23.9	
7.65	-68.4	H	3.0	-13.7	30.1	1.0	-42.8	-25.0	-17.8	
10.20	-68.9	H	3.0	-11.2	27.4	1.0	-37.6	-25.0	-12.6	
5.10	-67.2	V	3.0	-17.0	32.9	1.0	-49.0	-25.0	-24.0	
7.65	-68.3	V	3.0	-13.5	30.1	1.0	-42.6	-25.0	-17.6	
10.20	-70.3	V	3.0	-13.2	27.4	1.0	-39.5	-25.0	-14.5	

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11.1.2. LTE BAND 41

QPSK LTE BAND 41 (20.0MHZ + 5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 06/02/17
Test Engineer: 40813
Configuration: EUT Only
Mode: LTE Band 41, QPSK UL CA 20/5

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber D	3m Chamber D	Filter	LTE B41

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2506MHz) +2517.7MHz 1-99, 1-0										
5.02	-67.2	H	3.0	-16.8	33.0	1.0	-48.8	-25.0	-23.8	
7.54	-69.1	H	3.0	-14.6	30.2	1.0	-43.9	-25.0	-18.9	
10.05	-69.8	H	3.0	-12.2	27.3	1.0	-38.5	-25.0	-13.5	
5.02	-67.8	V	3.0	-17.7	33.0	1.0	-49.7	-25.0	-24.7	
7.54	-68.9	V	3.0	-14.2	30.2	1.0	-43.5	-25.0	-18.5	
10.05	-69.7	V	3.0	-12.7	27.3	1.0	-38.9	-25.0	-13.9	
Mid Channel (2590.5MHz)+2602.2MHz 1-99, 1-0										
5.19	-68.0	H	3.0	-17.3	32.9	1.0	-49.2	-25.0	-24.2	
7.79	-70.3	H	3.0	-15.5	29.9	1.0	-44.4	-25.0	-19.4	
10.39	-70.7	H	3.0	-13.0	27.5	1.0	-39.5	-25.0	-14.5	
5.19	-68.5	V	3.0	-18.3	32.9	1.0	-50.2	-25.0	-25.2	
7.79	-71.1	V	3.0	-16.2	29.9	1.0	-45.2	-25.0	-20.2	
10.39	-69.9	V	3.0	-12.7	27.5	1.0	-39.2	-25.0	-14.2	
High Channel (2675MHz)+2686.7MHz 1-99, 1-0										
5.36	-69.1	H	3.0	-18.1	32.7	1.0	-49.8	-25.0	-24.8	
8.04	-69.2	H	3.0	-14.0	29.6	1.0	-42.6	-25.0	-17.6	
10.72	-69.3	H	3.0	-11.6	27.7	1.0	-38.2	-25.0	-13.2	
5.36	-68.9	V	3.0	-18.3	32.7	1.0	-50.0	-25.0	-25.0	
8.04	-67.3	V	3.0	-12.1	29.6	1.0	-40.8	-25.0	-15.8	
10.72	-67.5	V	3.0	-10.2	27.7	1.0	-36.8	-25.0	-11.8	

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16QAM LTE BAND 41 (20.0MHZ + 5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 06/02/17
Test Engineer: 40813
Configuration: EUT Only
Mode: LTE Band 41, 16QAM UL CA 20/5

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber D	3m Chamber D	Filter	LTE B41

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2506MHz) +2517.7MHz 1-99, 1-0										
5.02	-67.0	H	3.0	-16.6	33.0	1.0	-48.6	-25.0	-23.6	
7.54	-69.7	H	3.0	-15.2	30.2	1.0	-44.4	-25.0	-19.4	
10.05	-70.1	H	3.0	-12.5	27.3	1.0	-38.8	-25.0	-13.8	
5.02	-68.0	V	3.0	-18.0	33.0	1.0	-50.0	-25.0	-25.0	
7.54	-70.2	V	3.0	-15.6	30.2	1.0	-44.8	-25.0	-19.8	
10.05	-71.1	V	3.0	-14.1	27.3	1.0	-40.3	-25.0	-15.3	
Mid Channel (2590.5MHz)+2602.2MHz 1-99, 1-0										
5.19	-69.5	H	3.0	-18.9	32.9	1.0	-50.7	-25.0	-25.7	
7.79	-70.4	H	3.0	-15.5	29.9	1.0	-44.5	-25.0	-19.5	
10.39	-70.1	H	3.0	-12.5	27.5	1.0	-38.9	-25.0	-13.9	
5.19	-69.0	V	3.0	-18.8	32.9	1.0	-50.7	-25.0	-25.7	
7.79	-69.9	V	3.0	-14.9	29.9	1.0	-43.9	-25.0	-18.9	
10.39	-69.8	V	3.0	-12.6	27.5	1.0	-39.1	-25.0	-14.1	
High Channel (2675MHz)+2686.7MHz 1-99, 1-0										
5.36	-69.8	H	3.0	-18.8	32.7	1.0	-50.5	-25.0	-25.5	
8.04	-68.0	H	3.0	-12.9	29.6	1.0	-41.5	-25.0	-16.5	
10.72	-69.4	H	3.0	-11.7	27.7	1.0	-38.4	-25.0	-13.4	
5.36	-70.3	V	3.0	-19.7	32.7	1.0	-51.3	-25.0	-26.3	
8.04	-69.8	V	3.0	-14.6	29.6	1.0	-43.3	-25.0	-18.3	
10.72	-70.4	V	3.0	-13.0	27.7	1.0	-39.7	-25.0	-14.7	

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QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 06/02/17
Test Engineer: 40813
Configuration: EUT Only
Mode: LTE Band 41, QPSK UL CA 20/20

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber D	3m Chamber D	Filter	LTE B41

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2506MHz) + 2525.8MHz 1-99 1-0										
5.03	-67.2	H	3.0	-16.8	33.0	1.0	-48.7	-25.0	-23.7	
7.55	-69.9	H	3.0	-15.3	30.2	1.0	-44.6	-25.0	-19.6	
10.06	-70.7	H	3.0	-13.1	27.3	1.0	-39.4	-25.0	-14.4	
5.03	-68.7	V	3.0	-18.7	33.0	1.0	-50.6	-25.0	-25.6	
7.55	-70.5	V	3.0	-15.8	30.2	1.0	-45.0	-25.0	-20.0	
10.06	-69.3	V	3.0	-12.2	27.3	1.0	-38.5	-25.0	-13.5	
Mid Channel (2583.1MHz) + 2602.9MHz 1-99 1-0										
5.19	-67.1	H	3.0	-16.5	32.9	1.0	-48.4	-25.0	-23.4	
7.78	-69.1	H	3.0	-14.3	29.9	1.0	-43.2	-25.0	-18.2	
10.37	-70.4	H	3.0	-12.8	27.5	1.0	-39.2	-25.0	-14.2	
5.19	-67.6	V	3.0	-17.4	32.9	1.0	-49.3	-25.0	-24.3	
7.78	-68.9	V	3.0	-14.0	29.9	1.0	-42.9	-25.0	-17.9	
10.37	-70.9	V	3.0	-13.7	27.5	1.0	-40.2	-25.0	-15.2	
High Channel (2660.2MHz) + 2680MHz 1-99 1-0										
5.34	-68.7	H	3.0	-17.8	32.7	1.0	-49.5	-25.0	-24.5	
8.01	-67.7	H	3.0	-12.6	29.7	1.0	-41.3	-25.0	-16.3	
10.68	-69.6	H	3.0	-11.8	27.6	1.0	-38.5	-25.0	-13.5	
5.34	-69.0	V	3.0	-18.4	32.7	1.0	-50.1	-25.0	-25.1	
8.01	-66.8	V	3.0	-11.6	29.7	1.0	-40.3	-25.0	-15.3	
10.68	-70.3	V	3.0	-13.0	27.6	1.0	-39.6	-25.0	-14.6	

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16QAM LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #:
Date: 06/02/17
Test Engineer: 40813
Configuration: EUT Only
Mode: LTE Band 41, 16QAM UL CA 20/20

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber D	3m Chamber D	Filter	LTE B41

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2506MHz) + 2525.8MHz 1-99 1-0										
5.03	-66.6	H	3.0	-16.2	33.0	1.0	-48.2	-25.0	-23.2	
7.55	-70.2	H	3.0	-15.7	30.2	1.0	-44.9	-25.0	-19.9	
10.06	-68.9	H	3.0	-11.3	27.3	1.0	-37.6	-25.0	-12.6	
5.03	-67.3	V	3.0	-17.3	33.0	1.0	-49.2	-25.0	-24.2	
7.55	-68.7	V	3.0	-14.0	30.2	1.0	-43.2	-25.0	-18.2	
10.06	-69.5	V	3.0	-12.5	27.3	1.0	-38.7	-25.0	-13.7	
Mid Channel (2583.1MHz) + 2602.9MHz 1-99 1-0										
5.19	-68.8	H	3.0	-18.2	32.9	1.0	-50.0	-25.0	-25.0	
7.78	-69.5	H	3.0	-14.7	29.9	1.0	-43.6	-25.0	-18.6	
10.37	-69.8	H	3.0	-12.1	27.5	1.0	-38.6	-25.0	-13.6	
5.19	-68.4	V	3.0	-18.2	32.9	1.0	-50.0	-25.0	-25.0	
7.78	-68.8	V	3.0	-13.9	29.9	1.0	-42.8	-25.0	-17.8	
10.37	-69.8	V	3.0	-12.6	27.5	1.0	-39.1	-25.0	-14.1	
High Channel (2660.2MHz) + 2680MHz 1-99 1-0										
5.34	-69.2	H	3.0	-18.3	32.7	1.0	-50.0	-25.0	-25.0	
8.01	-68.7	H	3.0	-13.6	29.7	1.0	-42.2	-25.0	-17.2	
10.68	-69.8	H	3.0	-12.1	27.6	1.0	-38.7	-25.0	-13.7	
5.34	-69.9	V	3.0	-19.3	32.7	1.0	-51.0	-25.0	-26.0	
8.01	-69.1	V	3.0	-14.0	29.7	1.0	-42.6	-25.0	-17.6	
10.68	-69.8	V	3.0	-12.5	27.6	1.0	-39.1	-25.0	-14.1	

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11.2. FIELD STRENGTH OF SPURIOUS RADIATION, UAT 1

11.2.1. LTE BAND 7

QPSK LTE BAND 7 (20.0MHZ + 10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 11792114
Date: 06/10/17
Test Engineer: 40813
Configuration: EUT Only
Mode: LTE Band 7, QPSK UL CA 20/10

Test Equipment:
Substitution: Horn T344 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber F	3m Chamber F	Filter	LTE B7

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2510MHz)+2524.4MHz 1-99 1-0										
5.03	-65.2	H	3.0	-12.6	34.2	1.0	-45.8	-25.0	-20.8	
7.55	-67.4	H	3.0	-10.8	33.5	1.0	-43.3	-25.0	-18.3	
10.07	-67.4	H	3.0	-7.6	31.7	1.0	-38.2	-25.0	-13.2	
5.03	-66.4	V	3.0	-13.6	34.2	1.0	-46.8	-25.0	-21.8	
7.55	-66.4	V	3.0	-10.1	33.5	1.0	-42.6	-25.0	-17.6	
10.07	-67.5	V	3.0	-7.8	31.7	1.0	-38.4	-25.0	-13.4	
Mid Channel (2530.1MHz)+2544.5MHz 1-99 1-0										
5.07	-67.5	H	3.0	-14.9	34.2	1.0	-48.1	-25.0	-23.1	
7.61	-67.5	H	3.0	-10.9	33.4	1.0	-43.3	-25.0	-18.3	
10.15	-67.3	H	3.0	-7.4	31.7	1.0	-38.2	-25.0	-13.2	
5.07	-66.1	V	3.0	-13.2	34.2	1.0	-46.4	-25.0	-21.4	
7.61	-67.4	V	3.0	-11.0	33.4	1.0	-43.4	-25.0	-18.4	
10.15	-67.6	V	3.0	-7.7	31.7	1.0	-38.5	-25.0	-13.5	
High Channel (2550.1MHz)+2564.5MHz 1-99 1-0										
5.11	-66.6	H	3.0	-13.9	34.2	1.0	-47.1	-25.0	-22.1	
7.67	-67.3	H	3.0	-10.6	33.4	1.0	-43.0	-25.0	-18.0	
10.23	-66.7	H	3.0	-6.8	31.8	1.0	-37.6	-25.0	-12.6	
5.11	-66.3	V	3.0	-13.3	34.2	1.0	-46.5	-25.0	-21.5	
7.67	-66.3	V	3.0	-9.8	33.4	1.0	-42.2	-25.0	-17.2	
10.23	-67.5	V	3.0	-7.6	31.8	1.0	-38.4	-25.0	-13.4	

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16QAM LTE BAND 7 (20.0MHZ + 10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 11792114
Date: 06/10/17
Test Engineer: 40813
Configuration: EUT Only
Mode: LTE Band 7, 16QAM UL CA 20/10

Test Equipment:
Substitution: Horn T344 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber F	3m Chamber F	Filter	LTE B7

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2510MHz)+2524.4MHz 1-99 1-0										
5.03	-66.1	H	3.0	-13.5	34.2	1.0	-46.7	-25.0	-21.7	
7.55	-67.6	H	3.0	-11.1	33.5	1.0	-43.6	-25.0	-18.6	
10.07	-67.0	H	3.0	-7.1	31.7	1.0	-37.8	-25.0	-12.8	
5.03	-65.6	V	3.0	-12.8	34.2	1.0	-46.0	-25.0	-21.0	
7.55	-65.8	V	3.0	-9.4	33.5	1.0	-41.9	-25.0	-16.9	
10.07	-66.9	V	3.0	-7.1	31.7	1.0	-37.8	-25.0	-12.8	
Mid Channel (2530.1MHz)+2544.5MHz 1-99 1-0										
5.07	-65.8	H	3.0	-13.1	34.2	1.0	-46.3	-25.0	-21.3	
7.61	-67.2	H	3.0	-10.6	33.4	1.0	-43.0	-25.0	-18.0	
10.15	-67.2	H	3.0	-7.3	31.7	1.0	-38.0	-25.0	-13.0	
5.07	-67.0	V	3.0	-14.1	34.2	1.0	-47.3	-25.0	-22.3	
7.61	-67.6	V	3.0	-11.1	33.4	1.0	-43.6	-25.0	-18.6	
10.15	-66.3	V	3.0	-6.4	31.7	1.0	-37.2	-25.0	-12.2	
High Channel (2550.1MHz)+2564.5MHz 1-99 1-0										
5.11	-67.0	H	3.0	-14.2	34.2	1.0	-47.4	-25.0	-22.4	
7.67	-67.2	H	3.0	-10.5	33.4	1.0	-42.9	-25.0	-17.9	
10.23	-67.0	H	3.0	-7.0	31.8	1.0	-37.8	-25.0	-12.8	
5.11	-66.3	V	3.0	-13.3	34.2	1.0	-46.5	-25.0	-21.5	
7.67	-66.7	V	3.0	-10.2	33.4	1.0	-42.6	-25.0	-17.6	
10.23	-66.7	V	3.0	-6.7	31.8	1.0	-37.5	-25.0	-12.5	

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QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 11792114
Date: 06/10/17
Test Engineer: 40813
Configuration: EUT Only
Mode: LTE Band 7, QPSK UL CA 20/20

Test Equipment:
Substitution: Horn T344 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber F	3m Chamber F	Filter	LTE B7

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2510MHz)+ 2529.8MHz 1-99 1-0										
5.04	-65.5	H	3.0	-17.4	36.1	1.0	-52.5	-25.0	-27.5	
7.56	-66.7	H	3.0	-17.0	36.3	1.0	-52.2	-25.0	-27.2	
10.08	-66.7	H	3.0	-11.3	33.4	1.0	-43.7	-25.0	-18.7	
5.04	-66.5	V	3.0	-17.0	36.3	1.0	-52.2	-25.0	-27.2	
7.56	-66.9	V	3.0	-13.3	34.8	1.0	-47.1	-25.0	-22.1	
10.08	-67.6	V	3.0	-11.6	32.1	1.0	-42.6	-25.0	-17.6	
Mid Channel (2525.1MHz)+2544.9MHz 1-99 1-0										
5.07	-67.3	H	3.0	-16.3	36.0	1.0	-51.2	-25.0	-26.2	
7.61	-67.3	H	3.0	-14.3	35.2	1.0	-48.5	-25.0	-23.5	
10.14	-67.2	H	3.0	-10.9	32.0	1.0	-41.9	-25.0	-16.9	
5.07	-66.4	V	3.0	-18.7	36.1	1.0	-53.8	-25.0	-28.8	
7.61	-67.1	V	3.0	-10.7	33.5	1.0	-43.2	-25.0	-18.2	
10.14	-67.7	V	3.0	-7.9	31.7	1.0	-38.6	-25.0	-13.6	
High Channel (2540.2MHz)+2560Mhz 1-99 1-0										
5.10	-66.8	H	3.0	-17.7	36.2	1.0	-52.9	-25.0	-27.9	
7.65	-67.1	H	3.0	-16.4	36.0	1.0	-51.4	-25.0	-26.4	
10.20	-67.4	H	3.0	-11.1	32.0	1.0	-42.2	-25.0	-17.2	
5.10	-66.7	V	3.0	-19.7	36.3	1.0	-54.9	-25.0	-29.9	
7.65	-67.5	V	3.0	-16.3	35.8	1.0	-51.1	-25.0	-26.1	
10.20	-67.6	V	3.0	-7.7	31.8	1.0	-38.5	-25.0	-13.5	

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16QAM LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 11792114
Date: 06/10/17
Test Engineer: 40813
Configuration: EUT Only
Mode: LTE Band 7, 16QAM UL CA 20/20

Test Equipment:
Substitution: Horn T344 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber F	3m Chamber F	Filter	LTE B7

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2510MHz)+ 2529.8MHz 1-99 1-0										
5.04	-66.5	H	3.0	-13.9	34.2	1.0	-47.1	-25.0	-22.1	
7.56	-67.0	H	3.0	-10.5	33.5	1.0	-43.0	-25.0	-18.0	
10.08	-66.9	H	3.0	-7.0	31.7	1.0	-37.7	-25.0	-12.7	
5.04	-67.2	V	3.0	-14.3	34.2	1.0	-47.5	-25.0	-22.5	
7.56	-67.9	V	3.0	-11.5	33.5	1.0	-44.0	-25.0	-19.0	
10.08	-67.7	V	3.0	-7.9	31.7	1.0	-38.6	-25.0	-13.6	
Mid Channel (2525.1MHz)+2544.9MHz 1-99 1-0										
5.07	-67.7	H	3.0	-15.0	34.2	1.0	-48.2	-25.0	-23.2	
7.61	-67.4	H	3.0	-10.8	33.5	1.0	-43.2	-25.0	-18.2	
10.14	-65.6	H	3.0	-5.7	31.7	1.0	-36.4	-25.0	-11.4	
5.07	-67.3	V	3.0	-14.4	34.2	1.0	-47.6	-25.0	-22.6	
7.61	-68.1	V	3.0	-11.7	33.5	1.0	-44.1	-25.0	-19.1	
10.14	-68.6	V	3.0	-8.8	31.7	1.0	-39.5	-25.0	-14.5	
High Channel (2540.2MHz)+2560Mhz 1-99 1-0										
5.10	-66.1	H	3.0	-13.4	34.2	1.0	-46.5	-25.0	-21.5	
7.65	-66.7	H	3.0	-10.0	33.4	1.0	-42.4	-25.0	-17.4	
10.20	-67.2	H	3.0	-7.3	31.8	1.0	-38.1	-25.0	-13.1	
5.10	-67.0	V	3.0	-14.0	34.2	1.0	-47.2	-25.0	-22.2	
7.65	-67.1	V	3.0	-10.6	33.4	1.0	-43.1	-25.0	-18.1	
10.20	-67.4	V	3.0	-7.5	31.8	1.0	-38.3	-25.0	-13.3	

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11.2.2. LTE BAND 41

QPSK LTE BAND 41 (20.0MHZ + 5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 11792114
Date: 06/10/17
Test Engineer: 40813
Configuration: EUT Only
Mode: LTE Band 41, QPSK UL CA 20/5

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber F	3m Chamber F	Filter	LTE B41

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2506MHz) +2517.7MHz 1-99, 1-0										
5.02	-66.7	H	3.0	-14.1	34.2	1.0	-47.3	-25.0	-22.3	
7.54	-67.6	H	3.0	-11.1	33.5	1.0	-43.6	-25.0	-18.6	
10.05	-67.3	H	3.0	-7.5	31.7	1.0	-38.1	-25.0	-13.1	
5.02	-66.4	V	3.0	-13.5	34.2	1.0	-46.7	-25.0	-21.7	
7.54	-67.6	V	3.0	-11.3	33.5	1.0	-43.8	-25.0	-18.8	
10.05	-67.2	V	3.0	-7.5	31.7	1.0	-38.1	-25.0	-13.1	
Mid Channel (2590.5MHz)+2602.2MHz 1-99, 1-0										
5.19	-67.0	H	3.0	-14.1	34.2	1.0	-47.3	-25.0	-22.3	
7.79	-67.7	H	3.0	-10.9	33.3	1.0	-43.2	-25.0	-18.2	
10.39	-66.5	H	3.0	-6.5	31.9	1.0	-37.4	-25.0	-12.4	
5.19	-66.3	V	3.0	-13.2	34.2	1.0	-46.4	-25.0	-21.4	
7.79	-66.6	V	3.0	-10.0	33.3	1.0	-42.3	-25.0	-17.3	
10.39	-67.5	V	3.0	-7.4	31.9	1.0	-38.3	-25.0	-13.3	
High Channel (2675MHz)+2686.7MHz 1-99, 1-0										
5.36	-67.5	H	3.0	-14.4	34.2	1.0	-47.6	-25.0	-22.6	
8.04	-65.1	H	3.0	-8.0	33.1	1.0	-40.1	-25.0	-15.1	
10.72	-68.0	H	3.0	-7.8	32.2	1.0	-39.0	-25.0	-14.0	
5.36	-67.6	V	3.0	-14.2	34.2	1.0	-47.4	-25.0	-22.4	
8.04	-66.8	V	3.0	-9.8	33.1	1.0	-41.9	-25.0	-16.9	
10.72	-66.9	V	3.0	-6.5	32.2	1.0	-37.7	-25.0	-12.7	

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16QAM LTE BAND 41 (20.0MHZ + 5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 11792114
Date: 06/10/17
Test Engineer: 40813
Configuration: EUT Only
Mode: LTE Band 41, 16QAM UL CA 20/5

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber F	3m Chamber F	Filter	LTE B41

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2506MHz) +2517.7MHz 1-99, 1-0										
5.02	-66.1	H	3.0	-13.5	34.2	1.0	-46.7	-25.0	-21.7	
7.54	-67.8	H	3.0	-11.3	33.5	1.0	-43.8	-25.0	-18.8	
10.05	-67.4	H	3.0	-7.6	31.7	1.0	-38.3	-25.0	-13.3	
5.02	-66.8	V	3.0	-14.0	34.2	1.0	-47.2	-25.0	-22.2	
7.54	-67.0	V	3.0	-10.7	33.5	1.0	-43.2	-25.0	-18.2	
10.05	-66.2	V	3.0	-6.5	31.7	1.0	-37.1	-25.0	-12.1	
Mid Channel (2590.5MHz)+2602.2MHz 1-99, 1-0										
5.19	-66.7	H	3.0	-13.9	34.2	1.0	-47.1	-25.0	-22.1	
7.79	-68.0	H	3.0	-11.2	33.3	1.0	-43.5	-25.0	-18.5	
10.39	-67.3	H	3.0	-7.3	31.9	1.0	-38.2	-25.0	-13.2	
5.19	-66.1	V	3.0	-12.9	34.2	1.0	-46.1	-25.0	-21.1	
7.79	-66.4	V	3.0	-9.8	33.3	1.0	-42.1	-25.0	-17.1	
10.39	-67.9	V	3.0	-7.8	31.9	1.0	-38.7	-25.0	-13.7	
High Channel (2675MHz)+2686.7MHz 1-99, 1-0										
5.36	-67.1	H	3.0	-14.0	34.2	1.0	-47.1	-25.0	-22.1	
8.04	-66.9	H	3.0	-9.7	33.1	1.0	-41.8	-25.0	-16.8	
10.72	-65.9	H	3.0	-5.7	32.2	1.0	-36.9	-25.0	-11.9	
5.36	-67.6	V	3.0	-14.2	34.2	1.0	-47.4	-25.0	-22.4	
8.04	-66.7	V	3.0	-9.7	33.1	1.0	-41.8	-25.0	-16.8	
10.72	-66.5	V	3.0	-6.1	32.2	1.0	-37.3	-25.0	-12.3	

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QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 11792114
Date: 06/10/17
Test Engineer: 40813
Configuration: EUT Only
Mode: LTE Band 41, QPSK UL CA 20/20

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber F	3m Chamber F	Filter	LTE B41

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2506MHz) + 2525.8MHz 1-99 1-0										
5.03	-67.1	H	3.0	-14.5	34.2	1.0	-47.7	-25.0	-22.7	
7.55	-66.9	H	3.0	-10.4	33.5	1.0	-42.9	-25.0	-17.9	
10.06	-68.1	H	3.0	-8.3	31.7	1.0	-39.0	-25.0	-14.0	
5.03	-67.0	V	3.0	-14.2	34.2	1.0	-47.4	-25.0	-22.4	
7.55	-67.8	V	3.0	-11.4	33.5	1.0	-43.9	-25.0	-18.9	
10.06	-67.2	V	3.0	-7.4	31.7	1.0	-38.1	-25.0	-13.1	
Mid Channel (2583.1MHz) + 2602.9MHz 1-99 1-0										
5.19	-66.2	H	3.0	-13.4	34.2	1.0	-46.6	-25.0	-21.6	
7.78	-66.2	H	3.0	-9.4	33.3	1.0	-41.7	-25.0	-16.7	
10.37	-66.0	H	3.0	-5.9	31.9	1.0	-36.9	-25.0	-11.9	
5.19	-65.4	V	3.0	-12.2	34.2	1.0	-45.4	-25.0	-20.4	
7.78	-68.0	V	3.0	-11.3	33.3	1.0	-43.7	-25.0	-18.7	
10.37	-66.9	V	3.0	-6.8	31.9	1.0	-37.7	-25.0	-12.7	
High Channel (2660.2MHz) + 2680MHz 1-99 1-0										
5.34	-67.0	H	3.0	-14.0	34.2	1.0	-47.1	-25.0	-22.1	
8.01	-67.4	H	3.0	-10.3	33.1	1.0	-42.4	-25.0	-17.4	
10.68	-67.0	H	3.0	-6.7	32.2	1.0	-37.9	-25.0	-12.9	
5.34	-67.4	V	3.0	-14.1	34.2	1.0	-47.3	-25.0	-22.3	
8.01	-67.4	V	3.0	-10.4	33.1	1.0	-42.6	-25.0	-17.6	
10.68	-66.9	V	3.0	-6.5	32.2	1.0	-37.7	-25.0	-12.7	

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16QAM LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber

Company:
Project #: 11792114
Date: 06/10/17
Test Engineer: 40813
Configuration: EUT Only
Mode: LTE Band 41, 16QAM UL CA 20/20

Test Equipment:
Substitution: Horn T59 Substitution, and 8ft SMA Cable

Chamber	Pre-amplifer	Filter	Limit
3m Chamber F	3m Chamber F	Filter	LTE B41

Frequency (GHz)	SA reading (dBm)	Ant. Pol. (H/V)	Distance	EIRP @ TX Ant End (dBm)	Preamp	Attenuator	EIRP	Limit	Delta	Notes
Low Channel (2506MHz) + 2525.8MHz 1-99 1-0										
5.03	-66.5	H	3.0	-13.9	34.2	1.0	-47.1	-25.0	-22.1	
7.55	-67.6	H	3.0	-11.1	33.5	1.0	-43.6	-25.0	-18.6	
10.06	-67.5	H	3.0	-7.6	31.7	1.0	-38.3	-25.0	-13.3	
5.03	-66.7	V	3.0	-13.8	34.2	1.0	-47.0	-25.0	-22.0	
7.55	-67.6	V	3.0	-11.3	33.5	1.0	-43.8	-25.0	-18.8	
10.06	-67.2	V	3.0	-7.4	31.7	1.0	-38.1	-25.0	-13.1	
Mid Channel (2583.1MHz) + 2602.9MHz 1-99 1-0										
5.19	-66.2	H	3.0	-13.4	34.2	1.0	-46.6	-25.0	-21.6	
7.78	-67.9	H	3.0	-11.1	33.3	1.0	-43.4	-25.0	-18.4	
10.37	-67.1	H	3.0	-7.0	31.9	1.0	-37.9	-25.0	-12.9	
5.19	-65.9	V	3.0	-12.8	34.2	1.0	-45.9	-25.0	-20.9	
7.78	-67.9	V	3.0	-11.3	33.3	1.0	-43.6	-25.0	-18.6	
10.37	-66.9	V	3.0	-6.8	31.9	1.0	-37.8	-25.0	-12.8	
High Channel (2660.2MHz) + 2680MHz 1-99 1-0										
5.34	-67.0	H	3.0	-13.9	34.2	1.0	-47.1	-25.0	-22.1	
8.01	-67.1	H	3.0	-10.0	33.1	1.0	-42.1	-25.0	-17.1	
10.68	-66.9	H	3.0	-6.6	32.2	1.0	-37.8	-25.0	-12.8	
5.34	-67.1	V	3.0	-13.8	34.2	1.0	-47.0	-25.0	-22.0	
8.01	-66.5	V	3.0	-9.5	33.1	1.0	-41.7	-25.0	-16.7	
10.68	-66.3	V	3.0	-6.0	32.2	1.0	-37.1	-25.0	-12.1	

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