



CERTIFICATION TEST REPORT

Report Number. : 12696946-E7V3

Applicant : APPLE INC.
1 APPLE PARK WAY
CUPERTINO, CA 95014, U.S.A

Model : A2111, A2222 AND A2223

FCC ID : BCG-E3309A

EUT Description : SMARTPHONE

Test Standard(s) : FCC CFR47 PART 22H, 24E, 27, 90S, AND 96

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Revision History

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V2	7/31/2019	Addressing TCB Questions	Mengistu Mekuria
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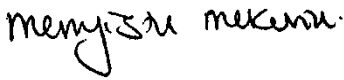
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1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE INC. 1 APPLE PARK WAY, CUPERTINO, CA 95014, U.S.A.
Model	A2111, A2222 AND A2223
FCC ID	BCG-E3309A
EUT Description	SMARTPHONE
Serial Number	C7CYQ004MT74 (Conducted), C7CYP0F0MT5Q (Radiated)
Date Tested	FEBRUARY 18, 2019 to AUGUST 05, 2019
Applicable Standards	PART 22H, 24E, 27, 90S, AND 96
Test Results	COMPLIES
UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. 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 the U.S. government.	
Approved & Released By:	Prepared By:
	
Mengistu Mekuria Project Engineer UL Verification Services Inc.	Lieu Nguyen Laboratory 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, Part 22, Part 24, Part 27, Part 90S, Part 90S, and 96, FCC KDB 971168 D01 v03r01/ D02 v02r01, KDB 412172 D01 v01r01.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, and 47658 Kato Road, 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	47658 Kato Rd.
☐ Chamber A (ISED:2324B-1)	☐ Chamber D (ISED:22541-1)	☐ Chamber I (ISED: 2324A-5)
☒ Chamber B (ISED:2324B-2)	☐ Chamber E (ISED:22541-2)	☐ Chamber J (ISED: 2324A-6)
☐ Chamber C (ISED:2324B-3)	☐ Chamber F (ISED:22541-3)	☐ Chamber K (ISED: 2324A-1)
	☐ Chamber G (ISED:22541-4)	☐ Chamber L (ISED: 2324A-3)
	☐ Chamber H (ISED:22541-5)	

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. Chambers above are covered under Industry Canada company address and respective code.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

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

RADIATED EMISSIONS

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

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.
36.5 dBuV + 0 dB + 10.1 dB + 0 dB = 46.6 dBuV

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	2.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.88 dB
Radiated Disturbance, 1000 to 18000 MHz	4.24 dB
Radiated Disturbance, 18000 to 26000 MHz	4.37 dB
Radiated Disturbance, 26000 to 40000 MHz	5.17 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 Apple iPhone is a smartphone with multimedia functions (music, application support, and video), cellular GSM, GPRS, EGPRS, UMTS, LTE, TD-SCDMA, CDMA, IEEE 802.11a/b/g/n/ac/ax, Bluetooth, Ultra-Wide band, GPS and NFC. All models support at least one UICC based SIM. The second SIM, if present, is either UICC based pSIM (physical SIM) or e-SIM (electronic SIM). The device has a built-in inductive charging receiver. The rechargeable battery is also not user accessible.

5.2. DIFFERENCE IN MODEL NUMBER

Model A2111, A2222 and A2223 is electrically identical to Model 2111. Three model numbers are allocated for marketing and logistic purposes only. A2111 was used to perform all final tests.

5.3. MAXIMUM OUTPUT POWER

ERP/EIRP LIMIT

FCC: \$2.1046, \$22.913, \$24.232, \$27.50, \$90.635, and \$90.541

EIRP/ERP TEST PROCEDURE

ANSI C63.26:2015
KDB 971168 D01 Section 5.6

$$\text{ERP/EIRP} = \text{PMeas} + \text{GT} - \text{LC}$$

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.

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.

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 ERP/EIRP output powers as follows:

LTE BAND 2

Part 24								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		-2.00						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
1.4	QPSK	1850.7	1909.3	25.7	23.67	0.233	1086.5	1M09G7W
	16QAM			24.9	22.93	0.196	1086.8	1M09D7W
	64QAM			23.5	21.48	0.140	1093	1M09D7W
3.0	QPSK	1851.5	1908.5	25.6	23.62	0.230	2690.9	2M69G7W
	16QAM			24.9	22.86	0.193	2701.1	2M70D7W
	64QAM			23.4	21.44	0.139	2710	2M71D7W
5.0	QPSK	1852.5	1907.5	25.7	23.65	0.232	4498.5	4M50G7W
	16QAM			25.0	23.00	0.200	4504.1	4M50D7W
	64QAM			23.7	21.70	0.148	4502.6	4M50D7W
10.0	QPSK	1855.0	1905.0	25.7	23.70	0.234	8995.2	9M00G7W
	16QAM			25.0	23.05	0.202	8997.9	9M00D7W
	64QAM			23.6	21.63	0.145	9009.5	9M01D7W
15.0	QPSK	1857.5	1902.5	25.7	23.69	0.234	13425.8	13M4G7W
	16QAM			25.0	23.05	0.202	13420.1	13M4D7W
	64QAM			23.6	21.58	0.144	13493	13M5D7W
20.0	QPSK	1860.0	1900.0	25.7	23.68	0.234	17907.6	17M9G7W
	16QAM			25.1	23.10	0.204	17932.9	17M9D7W
	64QAM			23.8	21.78	0.151	17947	17M9D7W

LTE BAND 5

Part 22H								
ERP Limit (W)		7.00						
Antenna Gain (dBi)		-3.20						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
1.4	QPSK	824.7	848.3	25.6	20.24	0.106	1087.7	1M09G7W
	16QAM			24.8	19.43	0.088	1087.1	1M09D7W
	64QAM			23.7	18.39	0.069	1091	1M09D7W
3.0	QPSK	825.5	847.5	25.6	20.23	0.105	2689.6	2M69G7W
	16QAM			24.9	19.56	0.090	2694.5	2M69D7W
	64QAM			23.8	18.44	0.070	2706.9	2M71D7W
5.0	QPSK	826.5	846.5	25.7	20.30	0.107	4503.2	4M50G7W
	16QAM			25.0	19.63	0.092	4511.4	4M51D7W
	64QAM			23.9	18.56	0.072	4503	4M50D7W
10.0	QPSK	829.0	844.0	25.7	20.35	0.108	8992.9	8M99G7W
	16QAM			24.9	19.59	0.091	8990.5	8M99D7W
	64QAM			24.0	18.65	0.073	9011.5	9M01D7W

LTE BAND 7

Part 27								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		-2.10						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
5.0	QPSK	2502.5	2567.5	25.6	23.53	0.226	4508.6	4M51G7W
	16QAM			25.2	23.06	0.202	4500.6	4M50D7W
	64QAM			23.9	21.81	0.152	4501.5	4M50D7W
10.0	QPSK	2505.0	2565.0	25.7	23.58	0.228	8997	9M00G7W
	16QAM			25.1	23.05	0.202	8999.4	9M00D7W
	64QAM			23.9	21.77	0.150	9009.1	9M01D7W
15.0	QPSK	2507.5	2562.5	25.7	23.57	0.227	13444.6	13M4G7W
	16QAM			25.1	23.03	0.201	13461.2	13M5D7W
	64QAM			23.9	21.77	0.150	13467	13M5D7W
20.0	QPSK	2510.0	2560.0	25.7	23.60	0.229	17864.9	17M9G7W
	16QAM			25.2	23.09	0.204	17942.8	17M9D7W
	64QAM			24.0	21.93	0.156	17935	17M9D7W

LTE BAND 12

Part 27								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-3.40						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
1.4	QPSK	699.7	715.3	25.6	20.06	0.101	1085.5	1M09G7W
	16QAM			24.9	19.31	0.085	1091.5	1M09D7W
	64QAM			23.8	18.22	0.066	1098.8	1M10D7W
3.0	QPSK	700.5	714.5	25.5	19.98	0.099	2687.5	2M69G7W
	16QAM			24.8	19.28	0.085	2703.1	2M70D7W
	64QAM			23.7	18.12	0.065	2706.6	2M71D7W
5.0	QPSK	701.5	713.5	25.6	20.03	0.101	4494.6	4M49G7W
	16QAM			25.0	19.41	0.087	4493.8	4M49D7W
	64QAM			23.9	18.30	0.068	4496.9	4M50D7W
10.0	QPSK	704.0	711.0	25.7	20.15	0.104	8997.2	9M00G7W
	16QAM			25.0	19.45	0.088	8998.6	9M00D7W
	64QAM			23.9	18.37	0.069	9012.3	9M01D7W

LTE BAND 13

Part 27								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-3.80						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
5.0	QPSK	779.5	784.5	25.6	19.62	0.092	4479.5	4M48G7W
	16QAM			24.9	18.91	0.078	4505.2	4M51D7W
	64QAM			23.3	17.39	0.055	4498.2	4M50D7W
10.0	QPSK	782.0	782.0	25.7	19.75	0.094	8973.6	8M97G7W
	16QAM			24.9	18.94	0.078	8974.5	8M97D7W
	64QAM			23.4	17.40	0.055	8990.8	8M99D7W

LTE BAND 14

Part 90R								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-4.00						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
5.0	QPSK	790.5	795.5	25.7	19.55	0.090	4481.9	4M48G7W
	16QAM			25.1	18.94	0.078	4480.5	4M48D7W
	64QAM			23.4	17.21	0.053	4500.2	4M50D7W
10.0	QPSK	793.0	793.0	25.7	19.57	0.091	9009.2	9M01G7W
	16QAM			25.1	18.90	0.078	8990.4	8M99D7W
	64QAM			23.3	17.19	0.052	9007.9	9M01D7W

LTE BAND 17

Part 27								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-3.40						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
5.0	QPSK	706.5	713.5	25.6	20.08	0.102	4507	4M51G7W
	16QAM			25.0	19.42	0.088	4512.2	4M51D7W
	64QAM			23.8	18.29	0.067	4496.6	4M50D7W
10.0	QPSK	709.0	711.0	25.7	20.15	0.104	8992.2	8M99G7W
	16QAM			25.0	19.42	0.087	9014.1	9M01D7W
	64QAM			23.9	18.38	0.069	9014.4	9M01D7W

LTE BAND 25

Part 24								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		-2.00						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
1.4	QPSK	1850.7	1914.3	25.2	23.24	0.211	1088.9	1M09G7W
	16QAM			24.5	22.49	0.177	1084.3	1M08D7W
	64QAM			23.7	21.71	0.148	1092.7	1M09D7W
3.0	QPSK	1851.5	1913.5	25.3	23.35	0.216	2695.6	2M70G7W
	16QAM			24.5	22.55	0.180	2690.2	2M69D7W
	64QAM			23.5	21.50	0.141	2705.7	2M71D7W
5.0	QPSK	1852.5	1912.5	25.6	23.59	0.228	4506.3	4M51G7W
	16QAM			25.0	22.98	0.199	4492.9	4M49D7W
	64QAM			24.0	21.97	0.157	4500.9	4M50D7W
10.0	QPSK	1855.0	1910.0	25.7	23.70	0.234	8992.7	8M99G7W
	16QAM			25.0	23.04	0.201	8989.7	8M99D7W
	64QAM			23.9	21.94	0.156	9026.9	9M03D7W
15.0	QPSK	1857.5	1907.5	25.6	23.60	0.229	13453.8	13M5G7W
	16QAM			24.9	22.91	0.195	13465.4	13M5D7W
	64QAM			23.9	21.90	0.155	13498	13M5D7W
20.0	QPSK	1860.0	1905.0	25.5	23.48	0.223	17913.5	17M9G7W
	16QAM			24.9	22.88	0.194	17900.3	17M9D7W
	64QAM			24.0	21.96	0.157	17968	18M0D7W

LTE BAND 26

Part 90S								
ERP Limit (W)		100.00						
Antenna Gain (dBi)		-3.20						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
1.4	QPSK	814.7	823.3	25.6	20.24	0.106	1092.3	1M09G7W
	16QAM			24.8	19.47	0.089	1090.5	1M09D7W
	64QAM			23.7	18.33	0.068	1094.6	1M09D7W
3.0	QPSK	815.5	822.5	25.6	20.23	0.105	2690.6	2M69G7W
	16QAM			24.8	19.47	0.089	2688	2M69D7W
	64QAM			23.5	18.18	0.066	2705.1	2M71D7W
5.0	QPSK	816.5	821.5	25.7	20.32	0.108	4503.6	4M50G7W
	16QAM			25.1	19.75	0.094	4497.1	4M50D7W
	64QAM			23.7	18.37	0.069	4494.6	4M49D7W
10.0	QPSK	819.0	819.0	25.7	20.35	0.108	9010.3	9M01G7W
	16QAM			25.0	19.64	0.092	8978.6	8M98D7W
	64QAM			23.6	18.27	0.067	9010.2	9M01D7W

LTE BAND 30

Part 27								
EIRP Limit (W)		0.25						
Antenna Gain (dBi)		-2.80						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
5.0	QPSK	2307.5	2312.5	25.7	22.90	0.195	4511.1	4M51G7W
	16QAM			25.1	22.34	0.171	4500.4	4M50D7W
	64QAM			24.6	21.75	0.150	4496	4M50D7W
10.0	QPSK	2310.0	2310.0	25.7	22.86	0.193	9004.7	9M00G7W
	16QAM			25.1	22.26	0.168	9030.5	9M03D7W
	64QAM			24.5	21.69	0.148	9015.4	9M02D7W

LTE BAND 41

Part 27								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		-2.10						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
5.0	QPSK	2498.5	2687.5	28.6	26.46	0.443	4475.4	4M48G7W
	16QAM			28.1	25.96	0.394	4469.3	4M47D7W
	64QAM			26.9	24.76	0.299	4486.8	4M49D7W
10.0	QPSK	2501.0	2685.0	28.7	26.60	0.457	8956.3	8M96G7W
	16QAM			28.2	26.12	0.409	8909.7	8M91D7W
	64QAM			27.0	24.89	0.308	8994.8	8M99D7W
15.0	QPSK	2503.5	2682.5	28.7	26.56	0.453	13414.5	13M4G7W
	16QAM			28.0	25.93	0.392	13326.2	13M3D7W
	64QAM			26.9	24.84	0.305	13465	13M5D7W
20.0	QPSK	2506.0	2680.0	28.7	26.56	0.453	17905.1	17M9G7W
	16QAM			28.2	26.12	0.409	17898.9	17M9D7W
	64QAM			27.0	24.93	0.311	17924	17M9D7W

LTE BAND 48

Part 96 / RSS 192								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		-2.70						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
5.0	QPSK	3552.5	3697.5	25.4	22.70	0.186	4466.9	4M47G7W
	16QAM			25.4	22.74	0.188	4482.4	4M48D7W
	64QAM			23.7	21.01	0.126	4488.9	4M49D7W
10.0	QPSK	3555.0	3695.0	25.7	23.00	0.200	8959.8	8M96G7W
	16QAM			25.6	22.90	0.195	8926.5	8M93D7W
	64QAM			23.8	21.08	0.128	8953.2	8M95D7W
15.0	QPSK	3557.5	3692.5	25.6	22.90	0.195	13394.2	13M4G7W
	16QAM			25.5	22.80	0.191	13432.1	13M4D7W
	64QAM			23.8	21.07	0.128	13434	13M4D7W
20.0	QPSK	3560.0	3690.0	25.7	23.00	0.200	17899.6	17M9G7W
	16QAM			25.7	23.00	0.200	17928.6	17M9D7W
	64QAM			24.1	21.39	0.138	17882	17M9D7W

LTE BAND 66

Part 27								
EIRP Limit (W)		1.00						
Antenna Gain (dBi)		-2.20						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
1.4	QPSK	1710.7	1779.3	25.7	23.46	0.222	1084.1	1M08G7W
	16QAM			24.8	22.61	0.182	1088.6	1M09D7W
	64QAM			23.7	21.54	0.143	1092.8	1M09D7W
3.0	QPSK	1711.5	1778.5	25.7	23.50	0.224	2701	2M70G7W
	16QAM			25.0	22.79	0.190	2686.2	2M69D7W
	64QAM			23.7	21.53	0.142	2698.6	2M70D7W
5.0	QPSK	1712.5	1777.5	25.5	23.34	0.216	4510.2	4M51G7W
	16QAM			24.8	22.61	0.182	4499.5	4M50D7W
	64QAM			23.9	21.72	0.149	4494.6	4M49D7W
10.0	QPSK	1715.0	1775.0	25.6	23.40	0.219	8970.6	8M97G7W
	16QAM			24.9	22.72	0.187	8987.7	8M99D7W
	64QAM			23.9	21.66	0.147	8997.8	9M00D7W
15.0	QPSK	1717.5	1772.5	25.5	23.34	0.216	13441	13M4G7W
	16QAM			25.0	22.75	0.188	13445.6	13M4D7W
	64QAM			23.9	21.65	0.146	13477	13M5D7W
20.0	QPSK	1720.0	1770.0	25.6	23.42	0.220	17872.6	17M9G7W
	16QAM			25.1	22.86	0.193	17922.9	17M9D7W
	64QAM			23.9	21.74	0.149	17940	17M9D7W

LTE BAND 71

Part 27								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-3.50						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
5.0	QPSK	665.5	695.5	25.6	19.95	0.099	4486.9	4M49G7W
	16QAM			25.0	19.40	0.087	4493.1	4M49D7W
	64QAM			23.8	18.15	0.065	4493.4	4M49D7W
10.0	QPSK	668.0	693.0	25.7	20.05	0.101	8979.6	8M98G7W
	16QAM			25.0	19.38	0.087	8982.3	8M98D7W
	64QAM			23.9	18.23	0.067	9020.7	9M02D7W
15.0	QPSK	670.5	690.5	25.6	19.97	0.099	13433.1	13M4G7W
	16QAM			24.9	19.29	0.085	13440.2	13M4D7W
	64QAM			23.9	18.25	0.067	13476	13M5D7W
20.0	QPSK	673.0	688.0	25.6	19.93	0.098	17902.7	17M9G7W
	16QAM			25.0	19.31	0.085	17833.7	17M8D7W
	64QAM			24.0	18.38	0.069	17910	17M9D7W

5.4. SOFTWARE AND FIRMWARE

The EUT Firmware installed during testing was version: 19-01.1919.01_27-0.22.00-27.

5.5. MAXIMUM ANTENNA GAIN

Please see table below:

LTE Bands	ANT 1 Antenna Gain (dBi)	ANT 2 Antenna Gain (dBi)	ANT 3 Antenna Gain (dBi)	ANT 4 Antenna Gain (dBi)
LTE Band 2, 1850 – 1910 MHz	-2.0	-1.1	-	-
LTE Band 4, 1710 – 1755 MHz	-2.2	-1.9	-	-
LTE Band 5, 824 – 849 MHz	-3.2	-5.4	-	-
LTE Band 7, 2500 – 2570 MHz	-2.1	-3.7	-	-
LTE Band 12, 699 – 716 MHz	-3.4	-4.4	-	-
LTE Band 13, 777 – 787 MHz	-3.8	-5.2	-	-
LTE Band 14, 788 – 798 MHz	-4.0	-5.3	-	-
LTE Band 17, 704 – 716 MHz	-3.4	-4.4	-	-
LTE Band 25, 1850 – 1915 MHz	-2.0	-1.1	-	-
LTE Band 26, 814 – 824 MHz (FCC Part 90S)	-3.2	-5.4	-	-
LTE Band 30, 2305 – 2315 MHz	-2.8	-5.0	-	-
LTE Band 41, 2496 – 2690 MHz (FCC)	-2.1	-3.7	-	-
LTE Band 48, 3550 – 3700 MHz	-	-	-2.7	-5.3
LTE Band 66, 1710 – 1780 MHz	-2.2	-1.9	-	-
LTE Band 71, 663 – 698 MHz (FCC)	-3.5	-4.0	-	-

Note:

Conducted Port 1 can support Ant 1 and Ant 3 while Port 2 supports Ant 2 and Ant 4. These ports have a switching system between the two antennas of different frequency ranges.

5.6. WORST-CASE CONFIGURATION AND MODE

The EUT supports LTE Bands of:

Band 2, Band 4, Band 5, Band 7, Band 12, Band 13, Band 14, Band 17, Band 25, Band 26, Band 30, Band 41, Band 48, Band 66 and Band 71.

LTE Band 4 (1710-1755MHz, 5/10/15/20MHz bandwidth) is covered by LTE Band 66 because it is a subset of LTE band 66 and they have same output power.

FCC rule Part 22.905 of LTE Band 26 (824-849MHz) is covered by LTE Band 5 of same rule since they have the same output power and supported bandwidths.

The worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were measured on QPSK, 16QAM and 64QAM modulations. It was found that QPSK and 16QAM results were worst case. All testing was performed using QPSK and 16QAM modulations to represent the worst case. Tests were performed on the conducted test at Ant 1 antenna as worst case since it has higher output powers.

The EUT was investigated in three orthogonal orientations X/Y/Z on both Ant 1 and Ant 2 antennas. For Ant 1 antenna, it was determined that X (Flatbed) orientation was worst-case orientation for cell and 48 bands; Y(Landscape) orientation was worst-case orientation for pcs, 7, 30, 38 and 41 bands without AC/DC adapter. For Ant 2 antenna, it was determined that X (Flatbed) orientation was worst-case orientation for all bands without AC/DC adapter.

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

For simultaneous transmission of multiple channels in the 2.4GHz/5GH WLAN, UWB, 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
Laptop AC/DC adapter	Apple	85W MagSafe 2	C0651730MMM6P4AL
Laptop	Apple	Macbook Pro	C02PM012G3QD
Laptop	Apple	Macbook Pro	C02P52HGG085

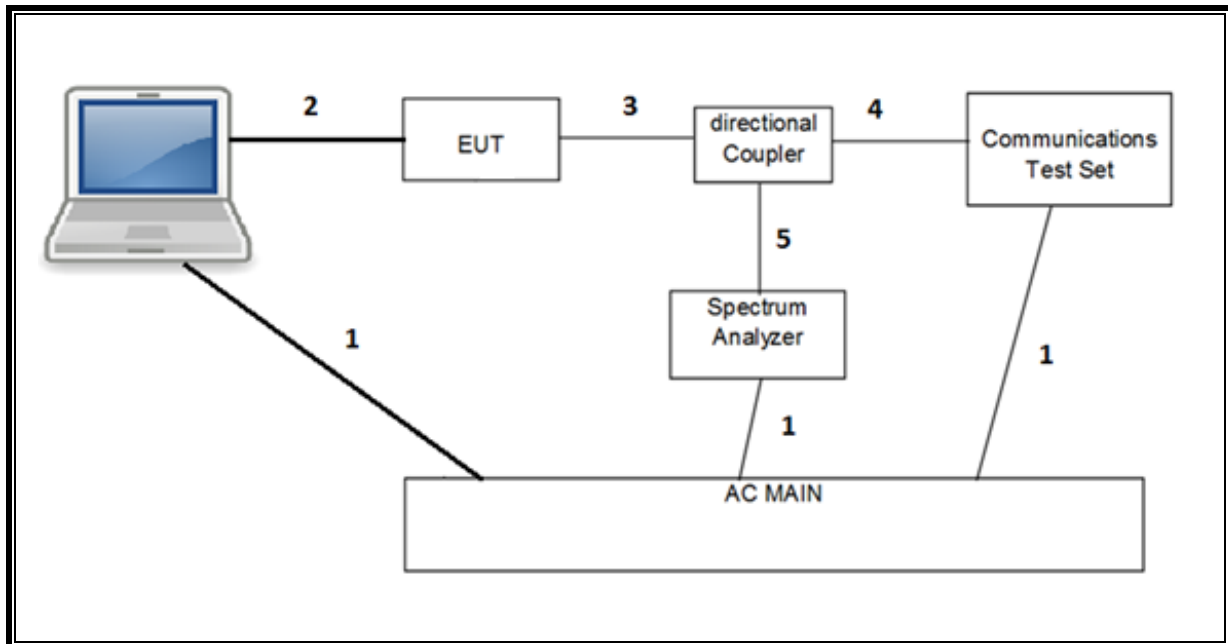
I/O CABLES (RF Conducted Test)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	3	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

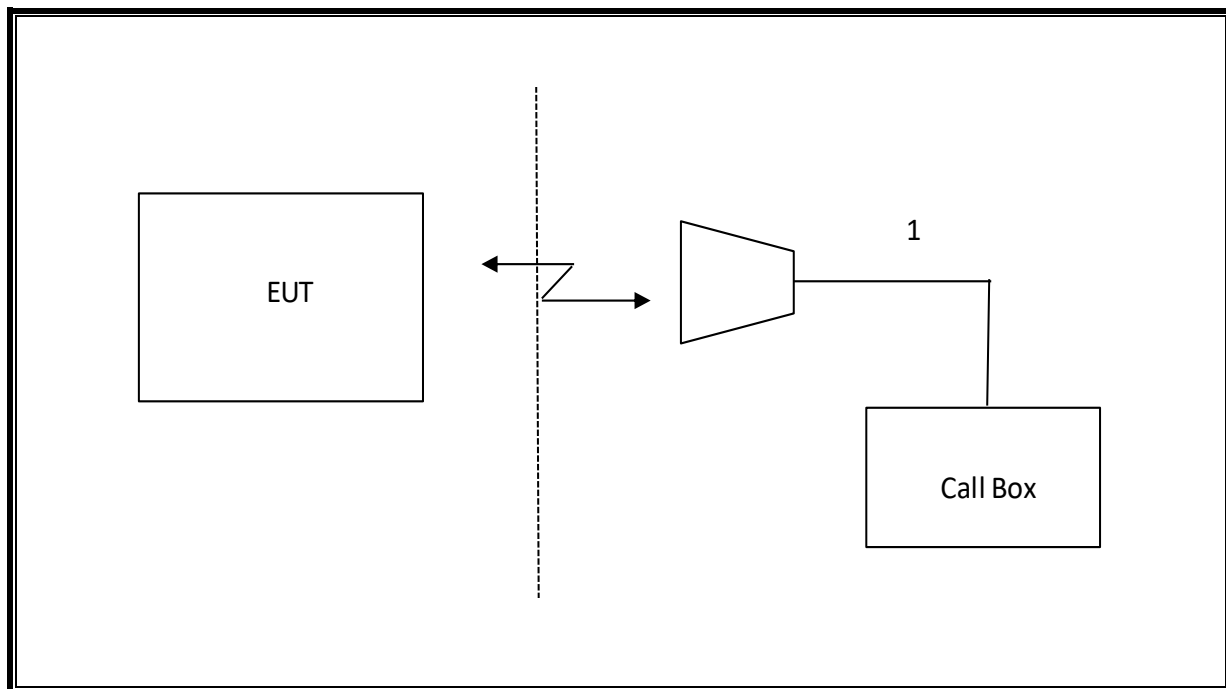
I/O CABLES (RF Radiated Test)

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	5.0m	N/A

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
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	T15	08/15/2019
Amplifier, 18-26GHz	Agilent	8449B	T404	3/23/2020
Amplifier, 26-40GHz	Miteq	TTA2640	T1804	3/23/2020
Spectrum Analyzer, PXA 3Hz to 44GHz	Agilent	N9030A	T905	1/24/2020
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T340	01/22/2020
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T1454	01/23/2020
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T908	01/23/2020
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T339	01/29/2020
Amplifier, 1 to 18GHz	MITEQ	AFS42-00101800-25-S-42	T931	05/11/2020
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	PRE0180176	11/01/2019
Spectrum Analyzer, PSA, 3Hz to 44GHz	Keysight	E4446A	T177	04/12/2019
Spectrum Analyzer, PSA, 3Hz to 44GHz	Keysight	E4446A	T123	01/28/2020
Spectrum Analyzer, PSA, 3Hz to 44GHz	Keysight	E4440A	T198	01/30/2020
Spectrum Analyzer, PSA, 3Hz to 44GHz	Keysight	E4440A	T99	1/28/2020
Directional Coupler	KRYTAR	152610	T1536	04/27/2019
Directional Coupler	KRYTAR	152610	T1537	04/27/2019
Wireless Communications Test Set, 8960 Series 10	Agilent	E5515C	T211	05/10/2020
Filter, HPF 3.0GHz	Micro-Tronics	HPM17543	T487	12/04/2019
Filter, HPF 1.2GHz	Micro-Tronics	WHKX1.2/15G-6ST	T1182	05/19/2019
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight	N9030A	T459	07/25/2019
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T959	02/16/2020
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T1871	02/18/2020
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T921	02/18/2020
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T376	02/21/2020
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T958	02/20/2020
Chamber, Environmental	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	T754	08/15/2019
Power Meter, P-series single channel	Keysight	N1911A	T1268	01/31/2020
Power Sensor	Keysight	N1921A	T1228	07/10/2019
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T346	05/14/2020
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T344	05/07/2020
Antenna, Horn 18-26GHz	ARA	MWH-1826/B	T447	6/16/2019
Antenna, Horn 26-40GHz	ARA	MWH-2640/B	T446	8/9/2019
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	PRE0181574	08/01/2019
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	PRE0077974	05/13/2020
Antenna, Active Loop 9KHz to 30MHz	EMCO	6502	T1616	10/18/2019
UL AUTOMATION SOFTWARE				
CLT Software	UL	UL RF	Ver 9.5, April 26, 2016	
Power Measurement Software	UL	UL RF	Ver 2.2, June 2017	

NOTES:

- For equipment listed above that had a calibration due during the testing period, its use was paused to allow for calibration.

7. RF OUTPUT POWER VERIFICATION

CONDUCTED OUTPUT POWER MEASUREMENT PROCEDURE

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

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3

Modulation	Channel bandwidth / Transmission bandwidth (N_{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of "NS_01".3

Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	NA
NS_03	6.6.2.2.1	2, 4, 10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2	41	5	>6	≤ 1
			10, 15, 20	See Table 6.2.4-4	
NS_05	6.6.3.3.1	1	10, 15, 20	≥ 50	≤ 1
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	n/a
NS_07	6.6.2.2.3 6.6.3.3.2	13	10	Table 6.2.4-2	Table 6.2.4-2
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4-3	Table 6.2.4-3
NS_11	6.6.2.2.1	23 ¹	1.4, 3, 5, 10	Table 6.2.4-5	Table 6.2.4-5
..					
NS_32	-	-	-	-	-

Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.

7.1. LTE BAND 2

ID:	39004	Date:	2/27/19
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OUTPUT POWER FOR LTE BAND 2 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				18607	18900	19193	18607	18900	19193
				1850.7 MHz	1880.0 MHz	1909.3 MHz	1850.7 MHz	1880.0 MHz	1909.3 MHz
1.4	QPSK	1	0	25.1	25.2	25.7	18.4	17.9	18.1
		1	2	25.1	25.2	25.7	18.4	17.9	18.1
		1	5	25.2	25.1	25.6	18.4	17.9	18.1
		3	0	25.0	25.0	25.5	18.3	17.8	17.9
		3	1	25.1	25.0	25.5	18.4	17.8	17.9
		3	2	25.1	24.9	25.4	18.3	17.8	17.9
		6	0	24.0	24.0	24.4	17.2	16.8	16.8
	16QAM	1	0	24.3	24.4	24.9	17.6	17.2	17.4
		1	2	24.4	24.3	24.8	17.5	17.1	17.3
		1	5	24.4	24.3	24.9	17.5	17.2	17.3
		3	0	24.1	24.1	24.6	17.3	16.9	17.0
		3	1	24.1	24.1	24.6	17.3	16.8	17.0
		3	2	24.1	24.0	24.6	17.2	16.8	17.0
		6	0	23.0	22.8	23.5	16.2	15.7	16.0
	64QAM	1	0	23.3	23.0	23.4	16.6	16.1	16.3
		1	2	23.3	22.9	23.3	16.6	16.1	16.3
		1	5	23.3	22.9	23.5	16.7	16.2	16.4
		3	0	23.0	22.7	23.2	16.4	16.0	16.1
		3	1	23.0	22.7	23.2	16.3	16.0	16.2
		3	2	23.0	22.7	23.2	16.3	15.9	16.2
		6	0	21.9	21.7	22.1	15.2	14.9	15.1

OUTPUT POWER FOR LTE BAND 2 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				18615	18900	19185	18615	18900	19185
				1851.5 MHz	1880.0 MHz	1908.5 MHz	1851.5 MHz	1880.0 MHz	1908.5 MHz
3.0	QPSK	1	0	25.1	25.1	25.5	18.4	17.8	18.1
		1	7	25.3	25.0	25.6	18.3	17.9	18.1
		1	14	25.2	25.0	25.5	18.3	17.8	18.0
		8	0	24.0	24.0	24.4	17.2	16.7	17.0
		8	4	24.0	24.0	24.4	17.2	16.7	16.9
		8	7	24.0	23.9	24.4	17.2	16.7	16.9
		15	0	24.0	24.0	24.4	17.2	16.8	16.9
	16QAM	1	0	24.4	24.3	24.7	17.5	17.1	17.3
		1	7	24.4	24.2	24.9	17.5	17.1	17.3
		1	14	24.5	24.2	24.8	17.6	17.1	17.2
		8	0	23.0	22.9	23.3	16.2	15.7	15.9
		8	4	23.1	22.9	23.4	16.2	15.7	15.8
		8	7	23.1	22.8	23.4	16.2	15.7	15.9
		15	0	23.1	22.8	23.4	16.2	15.7	15.9
	64QAM	1	0	23.1	23.0	23.4	16.3	16.1	16.3
		1	7	23.1	23.1	23.4	16.5	16.2	16.4
		1	14	23.1	22.9	23.4	16.3	16.1	16.4
		8	0	21.7	21.7	22.0	15.1	14.9	15.2
		8	4	21.7	21.7	22.1	15.1	14.9	15.1
		8	7	21.7	21.7	22.1	15.1	14.9	15.1
		15	0	21.7	21.7	22.0	15.1	14.9	15.0

OUTPUT POWER FOR LTE BAND 2 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				18625	18900	19175	18625	18900	19175
				1852.5 MHz	1880.0 MHz	1907.5 MHz	1852.5 MHz	1880.0 MHz	1907.5 MHz
5.0	QPSK	1	0	25.1	25.2	25.4	18.5	17.9	18.2
		1	12	25.2	25.2	25.5	18.4	17.8	18.1
		1	24	25.3	25.2	25.7	18.3	17.9	18.1
		12	0	24.1	24.2	24.4	17.4	16.8	17.2
		12	6	24.1	24.2	24.4	17.3	16.8	17.1
		12	11	24.2	24.1	24.4	17.2	16.9	17.1
		25	0	24.1	24.1	24.4	17.3	16.9	17.1
	16QAM	1	0	24.5	24.5	24.8	17.7	17.2	17.5
		1	12	24.5	24.4	24.8	17.7	17.1	17.5
		1	24	24.6	24.4	25.0	17.5	17.1	17.5
		12	0	23.1	23.1	23.4	16.3	15.9	16.2
		12	6	23.1	23.1	23.5	16.3	15.9	16.2
		12	11	23.2	23.1	23.5	16.3	15.9	16.1
		25	0	23.1	23.0	23.4	16.3	15.8	16.1
	64QAM	1	0	23.1	23.1	23.5	16.4	16.3	16.7
		1	12	23.1	23.1	23.6	16.4	16.3	16.6
		1	24	23.2	23.1	23.7	16.5	16.3	16.6
		12	0	21.9	21.7	22.1	15.3	15.0	15.2
		12	6	21.8	21.8	22.1	15.3	15.0	15.2
		12	11	21.9	21.7	22.2	15.3	15.0	15.1
		25	0	21.8	21.8	22.1	15.2	15.0	15.2

OUTPUT POWER FOR LTE BAND 2 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				18650	18900	19150	18650	18900	19150
				1855.0 MHz	1880.0 MHz	1905.0 MHz	1855.0 MHz	1880.0 MHz	1905.0 MHz
10.0	QPSK	1	0	25.3	25.2	25.4	18.5	17.9	18.4
		1	24	25.4	25.2	25.5	18.3	17.9	18.3
		1	49	25.6	25.3	25.7	18.2	18.0	18.1
		25	0	24.3	24.3	24.4	17.4	17.0	17.3
		25	12	24.3	24.3	24.5	17.3	17.0	17.3
		25	24	24.5	24.2	24.6	17.2	17.0	17.2
		50	0	24.4	24.2	24.5	17.3	17.0	17.3
	16QAM	1	0	24.5	24.6	24.6	17.7	17.2	17.6
		1	24	24.6	24.5	24.8	17.5	17.2	17.6
		1	49	24.8	24.5	25.0	17.5	17.3	17.5
		25	0	23.3	23.3	23.4	16.5	16.1	16.4
		25	12	23.4	23.3	23.5	16.4	16.0	16.3
		25	24	23.6	23.3	23.6	16.2	16.1	16.3
		50	0	23.4	23.3	23.5	16.3	16.0	16.3
	64QAM	1	0	23.2	23.1	23.2	16.5	16.2	16.5
		1	24	23.1	23.1	23.4	16.5	16.3	16.5
		1	49	23.4	23.3	23.6	16.7	16.4	16.5
		25	0	22.0	22.0	22.2	15.4	15.2	15.5
		25	12	22.1	22.0	22.3	15.4	15.2	15.5
		25	24	22.2	22.1	22.3	15.4	15.3	15.4
		50	0	22.2	22.1	22.3	15.4	15.2	15.5

OUTPUT POWER FOR LTE BAND 2 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				18675	18900	19125	18675	18900	19125
				1857.5 MHz	1880.0 MHz	1902.5 MHz	1857.5 MHz	1880.0 MHz	1902.5 MHz
15.0	QPSK	1	0	25.3	25.3	25.4	18.4	17.9	18.3
		1	37	25.5	25.2	25.4	18.2	17.9	18.3
		1	74	25.4	25.3	25.7	18.0	18.0	18.2
		36	0	24.4	24.3	24.3	17.4	17.0	17.4
		36	16	24.5	24.3	24.4	17.2	17.0	17.4
		36	35	24.5	24.3	24.5	17.1	17.0	17.3
		75	0	24.5	24.2	24.5	17.2	17.0	17.4
	16QAM	1	0	24.4	24.7	24.7	17.5	17.1	17.6
		1	37	24.7	24.5	24.7	17.4	17.2	17.6
		1	74	24.7	24.6	25.0	17.3	17.4	17.5
		36	0	23.4	23.3	23.4	16.4	16.1	16.5
		36	16	23.5	23.3	23.4	16.3	16.1	16.4
		36	35	23.5	23.3	23.5	16.2	16.0	16.3
		75	0	23.5	23.3	23.4	16.3	16.0	16.4
	64QAM	1	0	23.2	23.2	23.2	16.6	16.1	16.3
		1	37	23.4	23.2	23.3	16.6	16.3	16.5
		1	74	23.5	23.3	23.6	16.6	16.4	16.5
		36	0	22.1	22.1	22.1	15.5	15.2	15.4
		36	16	22.2	22.1	22.2	15.4	15.2	15.5
		36	35	22.3	22.1	22.3	15.3	15.3	15.5
		75	0	22.2	22.0	22.2	15.3	15.2	15.5

OUTPUT POWER FOR LTE BAND 2 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				18700	18900	19100	18700	18900	19100
				1860.0 MHz	1880.0 MHz	1900.0 MHz	1860.0 MHz	1880.0 MHz	1900.0 MHz
20.0	QPSK	1	0	25.3	25.3	25.4	18.5	17.9	18.2
		1	49	25.4	25.2	25.3	18.2	17.9	18.3
		1	99	25.4	25.4	25.7	17.9	18.1	18.1
		50	0	24.4	24.3	24.3	17.3	17.0	17.4
		50	24	24.5	24.2	24.4	17.1	17.0	17.4
		50	49	24.4	24.3	24.5	17.0	17.0	17.3
		100	0	24.5	24.2	24.4	17.1	17.0	17.4
	16QAM	1	0	24.6	24.7	24.9	17.8	17.3	17.5
		1	49	24.8	24.5	24.7	17.6	17.2	17.6
		1	99	24.7	24.7	25.1	17.2	17.5	17.5
		50	0	23.4	23.3	23.3	16.3	16.1	16.4
		50	24	23.5	23.2	23.4	16.2	16.1	16.4
		50	49	23.5	23.4	23.5	16.1	16.1	16.3
		100	0	23.5	23.3	23.4	16.2	16.1	16.4
	64QAM	1	0	23.1	23.4	23.5	16.5	16.4	16.6
		1	49	23.3	23.2	23.3	16.6	16.4	16.6
		1	99	23.2	23.5	23.8	16.1	16.5	16.7
		50	0	22.1	22.0	22.2	15.4	15.1	15.3
		50	24	22.2	22.0	22.1	15.3	15.2	15.5
		50	49	22.2	22.1	22.3	15.2	15.2	15.5
		100	0	22.2	22.0	22.2	15.3	15.2	15.5

7.2. LTE BAND 5

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OUTPUT POWER FOR LTE BAND 5 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				20407	20525	20643	20407	20525	20643
				824.7 MHz	836.5 MHz	848.3 MHz	824.7 MHz	836.5 MHz	848.3 MHz
1.4	QPSK	1	0	25.2	25.6	25.2	24.3	24.1	24.0
		1	2	25.1	25.5	25.2	24.3	24.1	24.0
		1	5	25.2	25.6	25.2	24.3	24.1	24.1
		3	0	25.1	25.5	25.1	24.2	23.9	23.9
		3	1	25.0	25.5	25.1	24.2	23.9	23.9
		3	2	25.0	25.4	25.0	24.2	23.9	23.9
	16QAM	6	0	23.9	24.4	24.0	23.1	22.9	22.8
		1	0	24.5	24.8	24.6	23.5	23.3	23.4
		1	2	24.4	24.8	24.5	23.5	23.3	23.3
		1	5	24.4	24.8	24.5	23.5	23.4	23.3
		3	0	24.1	24.5	24.1	23.3	23.0	23.1
		3	1	24.1	24.5	24.1	23.3	23.0	23.0
	64QAM	3	2	24.1	24.5	24.2	23.2	23.0	23.0
		6	0	23.0	23.3	22.9	22.1	21.9	21.9
		1	0	23.6	23.7	23.5	22.8	22.3	22.3
		1	2	23.5	23.7	23.5	22.7	22.4	22.4
		1	5	23.6	23.7	23.4	22.9	22.4	22.3
		3	0	23.2	23.4	23.3	22.5	22.0	22.2
		3	1	23.2	23.4	23.3	22.5	22.0	22.1
		3	2	23.2	23.4	23.3	22.5	22.0	22.1
		6	0	22.1	22.4	22.2	21.3	21.0	21.0

OUTPUT POWER FOR LTE BAND 5 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				20415	20525	20635	20415	20525	20635
				825.5 MHz	836.5 MHz	847.5 MHz	825.5 MHz	836.5 MHz	847.5 MHz
3.0	QPSK	1	0	25.2	25.5	25.3	24.3	24.0	24.0
		1	7	25.3	25.6	25.3	24.4	24.0	24.1
		1	14	25.3	25.5	25.1	24.3	24.0	24.0
		8	0	24.0	24.4	24.1	23.1	22.8	22.9
		8	4	24.0	24.4	24.1	23.1	22.8	22.9
		8	7	24.0	24.4	24.1	23.1	22.8	22.9
	16QAM	15	0	24.1	24.5	24.1	23.2	22.9	22.9
		1	0	24.5	24.9	24.6	23.5	23.3	23.2
		1	7	24.5	24.8	24.5	23.5	23.3	23.4
		1	14	24.5	24.7	24.4	23.5	23.3	23.3
		8	0	23.0	23.4	23.1	22.2	21.8	21.8
		8	4	23.0	23.4	23.0	22.2	21.9	21.8
	64QAM	8	7	23.0	23.4	23.0	22.2	21.9	21.8
		15	0	23.1	23.4	23.0	22.2	21.9	21.8
		1	0	23.5	23.8	23.5	22.7	22.2	22.4
		1	7	23.5	23.7	23.6	22.7	22.3	22.5
		1	14	23.6	23.6	23.5	22.6	22.2	22.3
		8	0	22.1	22.4	22.1	21.3	20.9	21.0
		8	4	22.1	22.3	22.1	21.3	20.9	21.0
		8	7	22.1	22.3	22.1	21.3	20.9	20.9
		15	0	22.1	22.3	22.2	21.3	20.9	21.0

OUTPUT POWER FOR LTE BAND 5 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				20425	20525	20625	20425	20525	20625
				826.5 MHz	836.5 MHz	846.5 MHz	826.5 MHz	836.5 MHz	846.5 MHz
5.0	QPSK	1	0	25.2	25.7	25.4	24.4	24.2	24.1
		1	12	25.3	25.6	25.3	24.4	24.1	24.0
		1	24	25.4	25.6	25.2	24.4	24.2	24.0
		12	0	24.1	24.6	24.3	23.2	23.0	22.9
		12	6	24.2	24.6	24.2	23.3	23.0	22.9
		12	11	24.3	24.6	24.2	23.3	23.0	22.9
		25	0	24.3	24.6	24.2	23.3	23.0	22.9
	16QAM	1	0	24.6	25.0	24.8	23.7	23.6	23.5
		1	12	24.7	24.9	24.7	23.7	23.4	23.4
		1	24	24.9	24.8	24.6	23.8	23.4	23.5
		12	0	23.1	23.5	23.2	22.2	22.0	22.0
		12	6	23.1	23.5	23.2	22.3	22.0	22.0
		12	11	23.3	23.5	23.2	22.3	22.0	21.9
		25	0	23.2	23.5	23.2	22.3	22.0	21.9
	64QAM	1	0	23.6	23.9	23.6	22.8	22.5	22.5
		1	12	23.7	23.8	23.6	22.8	22.5	22.5
		1	24	23.8	23.8	23.7	22.9	22.4	22.4
		12	0	22.2	22.5	22.2	21.4	21.2	21.0
		12	6	22.2	22.5	22.2	21.5	21.1	21.1
		12	11	22.3	22.5	22.3	21.5	21.1	21.0
		25	0	22.3	22.5	22.2	21.4	21.1	21.1

OUTPUT POWER FOR LTE BAND 5 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				20450	20525	20600	20450	20525	20600
				829.0 MHz	836.5 MHz	844.0 MHz	829.0 MHz	836.5 MHz	844.0 MHz
10.0	QPSK	1	0	25.3	25.6	25.6	24.5	24.4	24.2
		1	24	25.5	25.6	25.4	24.5	24.1	24.1
		1	49	25.7	25.5	25.3	24.3	24.2	24.2
		25	0	24.5	24.6	24.4	23.4	23.3	23.2
		25	12	24.5	24.7	24.4	23.4	23.1	23.1
		25	24	24.5	24.6	24.4	23.4	23.2	23.1
		50	0	24.5	24.7	24.4	23.5	23.2	23.1
	16QAM	1	0	24.5	24.9	24.9	23.7	23.9	23.5
		1	24	24.8	24.9	24.8	23.7	23.5	23.4
		1	49	24.9	24.8	24.7	23.6	23.5	23.4
		25	0	23.4	23.7	23.4	22.5	22.3	22.2
		25	12	23.6	23.7	23.4	22.5	22.2	22.1
		25	24	23.6	23.6	23.4	22.4	22.2	22.1
		50	0	23.6	23.7	23.4	22.5	22.2	22.1
	64QAM	1	0	23.4	23.9	23.7	22.8	22.8	22.5
		1	24	23.7	23.8	23.6	22.8	22.6	22.4
		1	49	24.0	23.6	23.7	22.6	22.6	22.4
		25	0	22.5	22.7	22.4	21.6	21.4	21.3
		25	12	22.6	22.7	22.4	21.6	21.3	21.3
		25	24	22.7	22.6	22.4	21.6	21.4	21.3
		50	0	22.6	22.7	22.5	21.6	21.4	21.3

7.3. LTE BAND 7

ID:	39004	Date:	2/27/19
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OUTPUT POWER FOR LTE BAND 7 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				20775	21100	21425	20775	21100	21425
				2502.5 MHz	2535.0 MHz	2567.5 MHz	2502.5 MHz	2535.0 MHz	2567.5 MHz
5.0	QPSK	1	0	25.4	25.6	25.2	19.7	19.2	19.2
		1	12	25.4	25.6	25.2	19.6	19.3	19.2
		1	24	25.3	25.5	25.3	19.7	19.3	19.2
		12	0	24.2	24.5	24.2	18.5	18.2	18.1
		12	6	24.2	24.5	24.2	18.5	18.2	18.1
		12	11	24.2	24.5	24.2	18.5	18.2	18.1
		25	0	24.3	24.5	24.2	18.6	18.2	18.1
	16QAM	1	0	24.8	25.2	24.7	18.9	18.7	18.6
		1	12	24.7	25.0	24.7	18.9	18.7	18.5
		1	24	24.7	25.0	24.7	18.9	18.8	18.6
		12	0	23.3	23.5	23.1	17.6	17.3	17.1
		12	6	23.3	23.5	23.1	17.6	17.3	17.1
		12	11	23.3	23.5	23.1	17.6	17.3	17.1
		25	0	23.2	23.4	23.2	17.6	17.3	17.1
	64QAM	1	0	23.7	23.9	23.4	18.0	17.8	17.4
		1	12	23.6	23.8	23.4	17.9	17.8	17.4
		1	24	23.6	23.8	23.5	18.0	17.9	17.5
		12	0	22.2	22.3	22.0	16.5	16.4	16.2
		12	6	22.2	22.2	22.0	16.5	16.4	16.1
		12	11	22.2	22.3	22.0	16.4	16.4	16.2
		25	0	22.2	22.3	22.0	16.5	16.4	16.1

OUTPUT POWER FOR LTE BAND 7 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				20800	21100	21400	20800	21100	21400
				2505.0 MHz	2535.0 MHz	2565.0 MHz	2505.0 MHz	2535.0 MHz	2565.0 MHz
10.0	QPSK	1	0	25.4	25.7	25.4	19.7	19.4	19.3
		1	24	25.4	25.6	25.3	19.6	19.4	19.3
		1	49	25.3	25.5	25.4	19.6	19.4	19.3
		25	0	24.4	24.7	24.3	18.7	18.4	18.3
		25	12	24.3	24.6	24.3	18.7	18.4	18.3
		25	24	24.3	24.5	24.3	18.7	18.5	18.4
		50	0	24.4	24.6	24.2	18.7	18.4	18.3
	16QAM	1	0	24.8	25.1	24.9	19.1	18.8	18.6
		1	24	24.7	25.0	24.8	18.9	18.8	18.6
		1	49	24.7	24.9	24.8	18.9	18.8	18.6
		25	0	23.5	23.7	23.3	17.7	17.4	17.5
		25	12	23.4	23.7	23.3	17.7	17.5	17.5
		25	24	23.4	23.6	23.4	17.7	17.5	17.4
		50	0	23.4	23.6	23.4	17.7	17.4	17.4
	64QAM	1	0	23.7	23.9	23.6	17.8	17.8	17.4
		1	24	23.6	23.7	23.4	17.7	17.8	17.4
		1	49	23.6	23.7	23.5	17.8	17.8	17.5
		25	0	22.5	22.6	22.1	16.7	16.6	16.3
		25	12	22.4	22.5	22.2	16.6	16.6	16.2
		25	24	22.4	22.5	22.2	16.7	16.7	16.2
		50	0	22.4	22.5	22.2	16.6	16.6	16.3

OUTPUT POWER FOR LTE BAND 7 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				20825	21100	21375	20825	21100	21375
				2507.5 MHz	2535.0 MHz	2562.5 MHz	2507.5 MHz	2535.0 MHz	2562.5 MHz
15.0	QPSK	1	0	25.4	25.7	25.4	19.7	19.5	19.3
		1	37	25.4	25.6	25.2	19.7	19.5	19.4
		1	74	25.4	25.4	25.3	19.6	19.5	19.3
		36	0	24.4	24.6	24.3	18.7	18.4	18.3
		36	16	24.3	24.6	24.2	18.7	18.4	18.4
		36	35	24.3	24.5	24.2	18.7	18.5	18.3
		75	0	24.3	24.6	24.2	18.7	18.4	18.4
	16QAM	1	0	24.8	25.1	24.8	19.1	18.9	18.7
		1	37	24.7	25.1	24.7	19.1	18.8	18.7
		1	74	24.7	24.8	24.7	19.0	18.7	18.6
		36	0	23.5	23.7	23.4	17.8	17.5	17.4
		36	16	23.4	23.7	23.3	17.9	17.6	17.5
		36	35	23.3	23.6	23.3	17.8	17.6	17.5
		75	0	23.3	23.6	23.3	17.8	17.5	17.5
	64QAM	1	0	23.7	23.9	23.7	17.9	17.6	17.6
		1	37	23.5	23.7	23.5	17.9	17.6	17.5
		1	74	23.7	23.6	23.5	17.9	17.6	17.5
		36	0	22.4	22.5	22.3	16.7	16.5	16.3
		36	16	22.4	22.4	22.2	16.7	16.6	16.3
		36	35	22.4	22.5	22.2	16.7	16.6	16.3
		75	0	22.3	22.4	22.1	16.6	16.5	16.3

OUTPUT POWER FOR LTE BAND 7 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				20850	21100	21350	20850	21100	21350
				2510.0 MHz	2535.0 MHz	2560.0 MHz	2510.0 MHz	2535.0 MHz	2560.0 MHz
20.0	QPSK	1	0	25.4	25.6	25.3	19.7	19.4	19.4
		1	49	25.3	25.6	25.3	19.6	19.4	19.3
		1	99	25.7	25.4	25.3	19.5	19.4	19.3
		50	0	24.3	24.7	24.3	18.7	18.4	18.3
		50	24	24.3	24.6	24.3	18.7	18.5	18.3
		50	49	24.4	24.5	24.2	18.6	18.5	18.3
		100	0	24.3	24.6	24.3	18.7	18.5	18.3
	16QAM	1	0	24.8	25.2	24.7	19.2	18.8	18.8
		1	49	24.7	25.1	24.8	19.0	18.8	18.7
		1	99	25.1	24.9	24.7	19.0	18.7	18.6
		50	0	23.4	23.7	23.4	17.8	17.5	17.4
		50	24	23.4	23.7	23.4	17.8	17.5	17.5
		50	49	23.5	23.6	23.3	17.7	17.6	17.5
		100	0	23.3	23.6	23.3	17.7	17.5	17.4
	64QAM	1	0	23.6	24.0	23.8	17.8	17.9	17.7
		1	49	23.5	23.9	23.7	17.6	17.8	17.5
		1	99	23.8	23.8	23.7	17.6	17.8	17.6
		50	0	22.3	22.6	22.4	16.6	16.5	16.3
		50	24	22.3	22.4	22.3	16.6	16.6	16.3
		50	49	22.4	22.4	22.1	16.6	16.5	16.3
		100	0	22.3	22.4	22.2	16.6	16.5	16.2

7.4. LTE BAND 12

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OUTPUT POWER FOR LTE BAND 12 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				23017	23095	23173	23017	23095	23173
				699.7 MHz	707.5 MHz	715.3 MHz	699.7 MHz	707.5 MHz	715.3 MHz
1.4	QPSK	1	0	25.5	25.4	25.5	24.2	24.2	24.4
		1	2	25.4	25.3	25.6	24.1	24.2	24.3
		1	5	25.4	25.4	25.6	24.1	24.1	24.3
		3	0	25.3	25.2	25.3	24.0	24.0	24.1
		3	1	25.3	25.1	25.4	24.0	24.0	24.1
		3	2	25.3	25.1	25.4	24.1	24.0	24.1
		6	0	24.2	24.1	24.3	22.9	23.0	23.0
	16QAM	1	0	24.6	24.6	24.8	23.4	23.6	23.7
		1	2	24.6	24.7	24.8	23.3	23.5	23.5
		1	5	24.6	24.7	24.9	23.4	23.5	23.5
		3	0	24.3	24.3	24.5	23.1	23.2	23.2
		3	1	24.4	24.3	24.5	23.0	23.1	23.2
		3	2	24.3	24.3	24.5	23.1	23.1	23.2
		6	0	23.2	23.1	23.4	21.9	21.9	22.2
	64QAM	1	0	23.6	23.7	23.6	22.6	22.3	22.6
		1	2	23.6	23.6	23.6	22.5	22.2	22.5
		1	5	23.5	23.6	23.8	22.4	22.2	22.3
		3	0	23.2	23.2	23.4	22.1	22.0	22.1
		3	1	23.2	23.2	23.4	22.1	22.0	22.1
		3	2	23.2	23.2	23.4	22.1	22.0	22.1
		6	0	22.0	22.2	22.3	20.9	20.9	20.8

OUTPUT POWER FOR LTE BAND 12 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				23025	23095	23165	23025	23095	23165
				700.5 MHz	707.5 MHz	714.5 MHz	700.5 MHz	707.5 MHz	714.5 MHz
3.0	QPSK	1	0	25.4	25.3	25.3	24.1	24.1	24.4
		1	7	25.4	25.4	25.5	24.2	24.2	24.5
		1	14	25.2	25.3	25.5	24.1	24.1	24.3
		8	0	24.2	24.1	24.1	23.0	22.9	23.3
		8	4	24.2	24.1	24.2	22.9	23.0	23.2
		8	7	24.2	24.1	24.3	22.9	22.9	23.2
		15	0	24.2	24.2	24.4	23.0	23.0	23.3
	16QAM	1	0	24.7	24.5	24.5	23.3	23.4	23.7
		1	7	24.6	24.7	24.7	23.4	23.5	23.8
		1	14	24.4	24.6	24.8	23.4	23.3	23.6
		8	0	23.2	23.1	23.1	22.0	21.9	22.2
		8	4	23.2	23.1	23.1	21.9	22.0	22.2
		8	7	23.2	23.1	23.2	21.9	21.9	22.2
		15	0	23.2	23.1	23.3	21.9	22.0	22.3
	64QAM	1	0	23.3	23.4	23.4	22.2	22.3	22.5
		1	7	23.3	23.6	23.7	22.2	22.1	22.4
		1	14	23.2	23.5	23.7	22.4	22.2	22.3
		8	0	21.9	22.1	22.1	20.9	20.8	21.1
		8	4	21.9	22.1	22.1	20.8	20.8	20.9
		8	7	21.9	22.1	22.2	20.9	20.8	20.9
		15	0	21.9	22.2	22.2	20.8	20.8	20.9

OUTPUT POWER FOR LTE BAND 12 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				23035	23095	23155	23035	23095	23155
				701.5 MHz	707.5 MHz	713.5 MHz	701.5 MHz	707.5 MHz	713.5 MHz
5.0	QPSK	1	0	25.4	25.3	25.3	24.2	24.2	24.4
		1	12	25.3	25.4	25.3	24.2	24.1	24.4
		1	24	25.4	25.4	25.6	24.2	24.2	24.3
		12	0	24.3	24.3	24.2	23.1	23.0	23.3
		12	6	24.2	24.3	24.2	23.1	23.0	23.3
		12	11	24.2	24.3	24.3	23.1	23.1	23.3
		25	0	24.3	24.3	24.3	23.1	23.1	23.3
	16QAM	1	0	24.8	24.6	24.7	23.6	23.5	23.7
		1	12	24.7	24.7	24.7	23.5	23.4	23.8
		1	24	24.8	24.7	25.0	23.6	23.5	23.8
		12	0	23.3	23.2	23.2	22.1	22.1	22.3
		12	6	23.2	23.3	23.3	22.1	22.1	22.3
		12	11	23.1	23.2	23.3	22.1	22.1	22.3
		25	0	23.2	23.2	23.3	22.1	22.0	22.3
	64QAM	1	0	23.6	23.6	23.6	22.5	22.4	22.6
		1	12	23.6	23.7	23.5	22.5	22.3	22.6
		1	24	23.6	23.6	23.9	22.6	22.4	22.4
		12	0	22.1	22.3	22.0	21.0	21.0	21.2
		12	6	22.2	22.3	22.1	21.1	21.0	21.2
		12	11	22.2	22.3	22.3	21.1	21.0	21.0
		25	0	22.2	22.3	22.2	21.1	21.0	21.2

OUTPUT POWER FOR LTE BAND 12 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				23060	23095	23130	23060	23095	23130
				704.0 MHz	707.5 MHz	711.0 MHz	704.0 MHz	707.5 MHz	711.0 MHz
10.0	QPSK	1	0	25.5	25.4	25.4	24.3	24.2	24.2
		1	24	25.4	25.4	25.4	24.2	24.2	24.4
		1	49	25.4	25.4	25.7	24.3	24.5	24.5
		25	0	24.3	24.3	24.3	23.2	23.2	23.2
		25	12	24.4	24.3	24.4	23.1	23.2	23.3
		25	24	24.4	24.3	24.4	23.2	23.2	23.4
		50	0	24.4	24.3	24.3	23.1	23.2	23.4
	16QAM	1	0	24.8	24.7	24.8	23.5	23.6	23.7
		1	24	24.6	24.7	24.7	23.5	23.6	23.7
		1	49	24.8	24.8	25.0	23.5	23.8	23.8
		25	0	23.4	23.3	23.4	22.2	22.2	22.2
		25	12	23.4	23.4	23.4	22.2	22.2	22.3
		25	24	23.4	23.4	23.4	22.2	22.2	22.5
		50	0	23.4	23.3	23.3	22.2	22.2	22.4
	64QAM	1	0	23.5	23.4	23.8	22.5	22.4	22.5
		1	24	23.5	23.7	23.5	22.5	22.4	22.5
		1	49	23.8	23.6	23.9	22.3	22.7	22.5
		25	0	22.4	22.4	22.4	21.3	21.2	21.2
		25	12	22.3	22.5	22.3	21.1	21.2	21.4
		25	24	22.4	22.4	22.4	21.2	21.3	21.4
		50	0	22.4	22.4	22.3	21.2	21.2	21.3

7.5. LTE BAND 13

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OUTPUT POWER FOR LTE BAND 13 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				23207	23230	23255	23207	23230	23255
				779.5 MHz	782.0 MHz	784.5 MHz	779.5 MHz	782.0 MHz	784.5 MHz
5.0	QPSK	1	0	25.6	25.5	25.2	24.4	24.4	24.4
		1	12	25.5	25.2	25.2	24.3	24.3	24.3
		1	24	25.3	25.3	25.3	24.3	24.3	24.2
		12	0	24.5	24.2	24.1	23.2	23.2	23.2
		12	6	24.4	24.1	24.2	23.2	23.2	23.2
		12	11	24.3	24.1	24.2	23.2	23.2	23.2
		25	0	24.4	24.2	24.2	23.3	23.3	23.2
	16QAM	1	0	24.8	24.9	24.6	23.6	23.7	23.7
		1	12	24.7	24.6	24.6	23.5	23.7	23.6
		1	24	24.6	24.7	24.7	23.6	23.6	23.6
		12	0	23.4	23.3	23.0	22.2	22.2	22.2
		12	6	23.3	23.2	23.2	22.2	22.3	22.2
		12	11	23.3	23.2	23.2	22.1	22.2	22.1
		25	0	23.3	23.1	23.2	22.2	22.2	22.2
	64QAM	1	0	23.2	23.3	23.2	22.6	22.6	22.5
		1	12	23.3	23.3	23.1	22.5	22.7	22.5
		1	24	23.2	23.2	23.2	22.7	22.7	22.5
		12	0	21.8	21.8	21.8	21.1	21.2	21.1
		12	6	21.8	21.8	21.9	20.9	21.2	21.2
		12	11	21.8	21.8	21.9	21.1	21.2	21.1
		25	0	21.9	21.8	21.9	21.2	21.2	21.1

OUTPUT POWER FOR LTE BAND 13 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				N/A	23230	N/A	N/A	23230	N/A
				N/A	782.0 MHz	N/A	N/A	782.0 MHz	N/A
10.0	QPSK	1	0		25.7			24.5	
		1	24		25.3			24.3	
		1	49		25.4			24.3	
		25	0		24.5			23.3	
		25	12		24.3			23.3	
		25	24		24.3			23.3	
		50	0		24.4			23.4	
	16QAM	1	0		24.9			23.7	
		1	24		24.6			23.7	
		1	49		24.7			23.6	
		25	0		23.4			22.3	
		25	12		23.3			22.3	
		25	24		23.3			22.3	
		50	0		23.4			22.3	
	64QAM	1	0		23.3			22.6	
		1	24		23.2			22.6	
		1	49		23.4			22.6	
		25	0		22.0			21.2	
		25	12		22.0			21.4	
		25	24		22.1			21.4	
		50	0		22.1			21.3	

7.6. LTE BAND 14

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OUTPUT POWER FOR LTE BAND 14 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				23305	23330	23355	23305	23330	23355
				790.5 MHz	793.0 MHz	795.5 MHz	790.5 MHz	793.0 MHz	795.5 MHz
5.0	QPSK	1	0	25.6	25.6	25.6	24.2	24.1	24.3
		1	12	25.6	25.6	25.6	24.2	24.2	24.3
		1	24	25.6	25.7	25.6	24.2	24.4	24.3
		12	0	24.5	24.5	24.4	23.0	23.0	23.1
		12	6	24.5	24.5	24.5	23.1	23.1	23.2
		12	11	24.5	24.5	24.5	23.0	23.1	23.3
		25	0	24.5	24.5	24.5	23.1	23.2	23.3
	16QAM	1	0	24.9	25.0	25.0	23.5	23.6	23.6
		1	12	24.9	25.0	25.0	23.5	23.7	23.7
		1	24	24.8	25.1	25.0	23.5	23.8	23.8
		12	0	23.5	23.5	23.4	22.0	22.0	22.2
		12	6	23.4	23.5	23.5	22.0	22.1	22.3
		12	11	23.4	23.5	23.5	22.0	22.2	22.3
		25	0	23.4	23.5	23.5	22.0	22.2	22.3
	64QAM	1	0	23.2	23.3	23.3	22.5	22.7	22.6
		1	12	23.3	23.4	23.2	22.5	22.7	22.7
		1	24	23.3	23.3	23.3	22.6	22.9	22.6
		12	0	21.9	21.9	21.9	21.1	21.1	21.3
		12	6	21.9	21.8	21.9	21.1	21.2	21.3
		12	11	21.9	21.8	21.9	21.0	21.2	21.3
		25	0	21.9	21.9	21.9	21.1	21.2	21.3

OUTPUT POWER FOR LTE BAND 14 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				N/A	23330	N/A	N/A	23330	N/A
				N/A	793.0 MHz	N/A	N/A	793.0 MHz	N/A
10.0	QPSK	1	0		25.7			24.2	
		1	24		25.6			24.3	
		1	49		25.7			24.5	
		25	0		24.6			23.2	
		25	12		24.6			23.3	
		25	24		24.7			23.4	
		50	0		24.6			23.4	
	16QAM	1	0		25.0			23.5	
		1	24		25.0			23.6	
		1	49		25.1			23.9	
		25	0		23.7			22.2	
		25	12		23.6			22.3	
		25	24		23.7			22.4	
		50	0		23.7			22.4	
	64QAM	1	0		23.3			22.5	
		1	24		23.3			22.7	
		1	49		23.3			22.8	
		25	0		22.0			21.2	
		25	12		22.0			21.3	
		25	24		22.0			21.5	
		50	0		22.0			21.4	

7.7. LTE BAND 17

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OUTPUT POWER FOR LTE BAND 17 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				23755	23790	23825	23755	23790	23825
				706.5 MHz	710.0 MHz	713.5 MHz	706.5 MHz	710.0 MHz	713.5 MHz
5.0	QPSK	1	0	25.4	25.4	25.4	24.1	24.0	24.3
		1	12	25.4	25.4	25.3	24.0	24.1	24.4
		1	24	25.5	25.4	25.6	24.1	24.3	24.3
		12	0	24.3	24.3	24.2	23.0	22.9	23.2
		12	6	24.3	24.2	24.3	23.0	23.0	23.3
		12	11	24.3	24.2	24.3	23.0	23.1	23.3
		25	0	24.3	24.3	24.4	22.9	23.1	23.3
	16QAM	1	0	24.6	24.9	24.7	23.5	23.5	23.7
		1	12	24.7	24.8	24.7	23.3	23.5	23.8
		1	24	24.7	24.9	25.0	23.3	23.8	23.7
		12	0	23.2	23.3	23.2	21.9	21.9	22.2
		12	6	23.3	23.3	23.2	21.9	21.9	22.2
		12	11	23.3	23.3	23.3	22.0	22.1	22.2
		25	0	23.2	23.3	23.3	21.9	22.0	22.2
	64QAM	1	0	23.7	23.8	23.5	22.5	22.4	22.5
		1	12	23.7	23.6	23.6	22.4	22.6	22.5
		1	24	23.8	23.8	23.8	22.2	22.7	22.3
		12	0	22.3	22.3	22.1	20.9	20.9	21.2
		12	6	22.2	22.2	22.2	20.9	21.0	21.2
		12	11	22.3	22.1	22.3	20.9	21.1	21.1
		25	0	22.3	22.2	22.3	20.9	21.1	21.2

OUTPUT POWER FOR LTE BAND 17 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				23780	23790	23800	23780	23790	23800
				709.0 MHz	710.0 MHz	711.0 MHz	709.0 MHz	710.0 MHz	711.0 MHz
10.0	QPSK	1	0	25.4	25.4	25.4	24.2	24.0	24.2
		1	24	25.5	25.4	25.4	24.1	24.1	24.3
		1	49	25.5	25.5	25.7	24.5	24.4	24.4
		25	0	24.4	24.4	24.4	23.1	23.0	23.1
		25	12	24.4	24.3	24.4	23.1	23.1	23.2
		25	24	24.4	24.4	24.4	23.4	23.3	23.4
		50	0	24.4	24.4	24.4	23.1	23.2	23.3
	16QAM	1	0	24.7	24.7	24.8	23.4	23.4	23.6
		1	24	24.9	24.7	24.8	23.3	23.5	23.6
		1	49	24.8	24.7	25.0	23.7	23.8	23.7
		25	0	23.4	23.4	23.4	22.1	22.1	22.1
		25	12	23.4	23.4	23.4	22.2	22.2	22.3
		25	24	23.4	23.4	23.4	22.4	22.4	22.4
		50	0	23.4	23.4	23.4	22.2	22.2	22.4
	64QAM	1	0	23.6	23.6	23.7	22.4	22.4	22.3
		1	24	23.6	23.5	23.6	22.4	22.3	22.5
		1	49	23.7	23.6	23.9	22.5	22.5	22.5
		25	0	22.5	22.5	22.5	21.0	21.1	21.1
		25	12	22.4	22.3	22.3	21.1	21.2	21.3
		25	24	22.3	22.3	22.4	21.3	21.3	21.3
		50	0	22.4	22.3	22.4	21.2	21.3	21.3

7.8. LTE BAND 25

ID:	39004	Date:	2/18/19
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OUTPUT POWER FOR LTE BAND 25 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				26047	26365	26683	26047	26365	26683
				1850.7 MHz	1882.5 MHz	1914.3 MHz	1850.7 MHz	1882.5 MHz	1914.3 MHz
1.4	QPSK	1	0	25.2	25.1	25.2	18.5	17.9	18.1
		1	2	25.2	25.0	25.2	18.4	17.8	18.1
		1	5	25.2	25.1	25.2	18.4	17.9	18.1
		3	0	25.0	25.0	25.1	18.4	17.8	18.0
		3	1	25.1	25.0	25.0	18.4	17.8	18.0
		3	2	25.1	25.0	25.1	18.4	17.8	18.0
		6	0	24.0	23.9	24.0	17.8	17.3	17.3
	16QAM	1	0	24.5	24.2	24.5	18.1	17.6	17.8
		1	2	24.4	24.2	24.4	18.1	17.6	17.8
		1	5	24.5	24.3	24.5	18.1	17.6	17.8
		3	0	24.1	24.0	24.2	17.8	17.4	17.5
		3	1	24.2	24.0	24.2	17.8	17.4	17.5
		3	2	24.2	24.0	24.2	17.7	17.3	17.5
		6	0	23.1	22.8	23.0	16.7	16.2	16.5
	64QAM	1	0	23.7	23.2	23.5	17.4	16.7	16.8
		1	2	23.6	23.2	23.5	17.2	16.6	16.7
		1	5	23.6	23.3	23.4	17.3	16.8	16.7
		3	0	23.4	23.1	23.3	17.0	16.5	16.6
		3	1	23.4	23.1	23.4	17.0	16.5	16.6
		3	2	23.3	23.1	23.3	17.0	16.5	16.6
		6	0	22.1	22.1	22.2	15.8	15.5	15.5

OUTPUT POWER FOR LTE BAND 25 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				26055	26365	26675	26055	26365	26675
				1851.5 MHz	1882.5 MHz	1913.5 MHz	1851.5 MHz	1882.5 MHz	1913.5 MHz
3.0	QPSK	1	0	25.1	25.0	25.3	18.4	17.9	18.1
		1	7	25.2	25.1	25.3	18.3	17.9	18.1
		1	14	25.2	25.1	25.2	18.3	17.9	18.0
		8	0	24.0	23.9	24.2	17.8	17.3	17.4
		8	4	24.0	23.9	24.2	17.8	17.3	17.4
		8	7	24.0	24.0	24.2	17.7	17.3	17.4
	16QAM	15	0	24.0	24.0	24.2	17.8	17.3	17.5
		1	0	24.4	24.3	24.5	18.1	17.6	17.8
		1	7	24.4	24.4	24.5	18.1	17.6	17.8
		1	14	24.5	24.3	24.4	18.0	17.7	17.8
		8	0	23.0	22.9	23.1	16.7	16.2	16.5
		8	4	23.1	22.9	23.1	16.7	16.2	16.4
	64QAM	8	7	23.1	22.9	23.1	16.7	16.3	16.5
		15	0	23.1	22.9	23.1	16.7	16.3	16.5
		1	0	23.3	23.3	23.5	17.0	16.7	16.8
		1	7	23.5	23.4	23.5	17.1	16.8	16.7
		1	14	23.4	23.5	23.4	17.0	16.8	16.7
		8	0	22.0	22.0	22.1	15.7	15.4	15.5
		8	4	22.0	22.0	22.1	15.7	15.4	15.5
		8	7	22.0	22.0	22.1	15.7	15.4	15.5
		15	0	22.1	22.0	22.1	15.7	15.4	15.4

OUTPUT POWER FOR LTE BAND 25 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				26065	26365	26665	26065	26365	26665
				1852.5 MHz	1882.5 MHz	1912.5 MHz	1852.5 MHz	1882.5 MHz	1912.5 MHz
5.0	QPSK	1	0	25.2	25.2	25.6	18.4	17.9	18.2
		1	12	25.2	25.2	25.4	18.4	17.9	18.2
		1	24	25.3	25.2	25.3	18.3	18.0	18.1
		12	0	24.1	24.1	24.5	17.9	17.4	17.6
		12	6	24.1	24.1	24.3	17.9	17.4	17.6
		12	11	24.2	24.1	24.3	17.8	17.4	17.7
		25	0	24.1	24.1	24.3	17.9	17.4	17.6
	16QAM	1	0	24.5	24.4	25.0	18.2	17.7	18.1
		1	12	24.6	24.4	24.8	18.2	17.6	18.0
		1	24	24.7	24.5	24.7	18.1	17.8	17.9
		12	0	23.1	23.1	23.5	16.9	16.4	16.6
		12	6	23.1	23.1	23.4	16.8	16.4	16.6
		12	11	23.2	23.1	23.3	16.8	16.4	16.6
		25	0	23.2	23.1	23.3	16.8	16.4	16.6
	64QAM	1	0	23.5	23.4	24.0	17.1	16.8	17.2
		1	12	23.5	23.4	23.8	17.1	16.8	17.0
		1	24	23.5	23.6	23.7	17.1	16.9	17.0
		12	0	22.2	22.2	22.5	15.9	15.5	15.7
		12	6	22.2	22.1	22.3	15.9	15.6	15.6
		12	11	22.2	22.2	22.3	15.9	15.5	15.6
		25	0	22.2	22.2	22.4	15.9	15.6	15.6

OUTPUT POWER FOR LTE BAND 25 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				26090	26365	26640	26090	26365	26640
				1855.0 MHz	1882.5 MHz	1910.0 MHz	1855.0 MHz	1882.5 MHz	1910.0 MHz
10.0	QPSK	1	0	25.3	25.2	25.6	18.5	18.0	18.3
		1	24	25.4	25.2	25.7	18.3	17.9	18.2
		1	49	25.6	25.3	25.3	18.3	18.1	18.2
		25	0	24.3	24.2	24.6	18.0	17.5	17.8
		25	12	24.4	24.3	24.6	17.9	17.5	17.7
		25	24	24.5	24.3	24.4	17.7	17.5	17.7
		50	0	24.4	24.3	24.6	17.8	17.5	17.7
	16QAM	1	0	24.6	24.5	24.8	18.2	17.7	18.1
		1	24	24.6	24.5	25.0	18.0	17.7	18.0
		1	49	24.8	24.6	24.7	18.0	17.9	17.9
		25	0	23.4	23.2	23.6	17.0	16.6	16.8
		25	12	23.4	23.2	23.7	16.9	16.6	16.7
		25	24	23.5	23.3	23.5	16.8	16.6	16.8
		50	0	23.4	23.3	23.5	16.8	16.6	16.8
	64QAM	1	0	23.5	23.5	23.8	17.2	16.7	17.1
		1	24	23.6	23.5	23.9	17.3	16.9	17.1
		1	49	23.7	23.7	23.7	17.3	16.9	16.9
		25	0	22.4	22.4	22.7	16.1	15.7	16.0
		25	12	22.5	22.4	22.7	16.1	15.8	15.9
		25	24	22.6	22.5	22.6	16.1	15.8	15.9
		50	0	22.5	22.5	22.6	16.1	15.8	15.9

OUTPUT POWER FOR LTE BAND 25 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				26115	26365	26615	26115	26365	26615
				1857.5 MHz	1882.5 MHz	1907.5 MHz	1857.5 MHz	1882.5 MHz	1907.5 MHz
15.0	QPSK	1	0	25.3	25.3	25.4	18.5	18.0	18.4
		1	37	25.5	25.2	25.6	18.2	18.0	18.3
		1	74	25.4	25.3	25.3	18.0	18.2	18.2
		36	0	24.4	24.3	24.5	17.9	17.6	17.8
		36	16	24.5	24.3	24.6	17.8	17.6	17.8
		36	35	24.5	24.4	24.5	17.7	17.6	17.7
		75	0	24.5	24.3	24.6	17.7	17.6	17.8
	16QAM	1	0	24.5	24.6	24.7	18.1	17.7	18.1
		1	37	24.7	24.5	24.9	18.0	17.8	18.0
		1	74	24.7	24.7	24.6	17.9	18.1	18.0
		36	0	23.4	23.3	23.6	16.9	16.6	16.8
		36	16	23.5	23.3	23.6	16.8	16.6	16.8
		36	35	23.5	23.3	23.6	16.8	16.7	16.7
		75	0	23.5	23.3	23.6	16.8	16.6	16.8
	64QAM	1	0	23.6	23.5	23.5	17.2	16.7	17.0
		1	37	23.8	23.5	23.9	17.2	16.9	17.0
		1	74	23.9	23.7	23.6	17.1	16.9	16.8
		36	0	22.5	22.4	22.6	16.1	15.8	16.0
		36	16	22.6	22.5	22.7	16.0	15.8	16.0
		36	35	22.6	22.5	22.7	15.9	15.8	15.8
		75	0	22.5	22.4	22.7	15.9	15.8	15.9

OUTPUT POWER FOR LTE BAND 25 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				26140	26365	26590	26140	26365	26590
				1860.0 MHz	1882.5 MHz	1905.0 MHz	1860.0 MHz	1882.5 MHz	1905.0 MHz
20.0	QPSK	1	0	25.3	25.3	25.4	18.5	18.0	18.4
		1	49	25.5	25.2	25.5	18.2	17.9	18.3
		1	99	25.4	25.4	25.4	18.0	18.3	18.2
		50	0	24.4	24.3	24.4	17.9	17.6	17.9
		50	24	24.4	24.2	24.5	17.7	17.5	17.8
		50	49	24.4	24.3	24.6	17.6	17.6	17.7
		100	0	24.4	24.3	24.6	17.7	17.6	17.8
	16QAM	1	0	24.7	24.8	24.7	18.3	17.8	18.1
		1	49	24.8	24.6	24.8	18.2	17.7	18.0
		1	99	24.8	24.9	24.7	17.8	18.2	18.0
		50	0	23.4	23.3	23.5	16.9	16.6	17.0
		50	24	23.5	23.3	23.5	16.8	16.6	16.9
		50	49	23.5	23.3	23.6	16.7	16.7	16.8
		100	0	23.5	23.3	23.6	16.7	16.6	16.9
	64QAM	1	0	23.5	23.6	23.7	17.1	16.8	17.1
		1	49	23.6	23.6	23.9	17.0	16.9	17.2
		1	99	23.6	24.0	23.8	16.6	17.1	17.0
		50	0	22.5	22.5	22.5	16.0	15.7	16.0
		50	24	22.6	22.5	22.6	15.9	15.8	16.0
		50	49	22.6	22.5	22.7	15.8	15.8	15.9
		100	0	22.6	22.4	22.6	15.8	15.7	16.0

7.9. LTE BAND 26

ID:	39004	Date:	2/27/19
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OUTPUT POWER FOR LTE BAND 26 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				26697	26740	26783	26697	26740	26783
				814.7 MHz	819.0 MHz	823.3 MHz	814.7 MHz	819.0 MHz	823.3 MHz
1.4	QPSK	1	0	25.6	25.5	25.6	24.1	24.1	24.4
		1	2	25.5	25.5	25.6	24.0	24.1	24.4
		1	5	25.5	25.5	25.6	24.0	24.2	24.5
		3	0	25.4	25.4	25.4	23.9	24.0	24.3
		3	1	25.4	25.4	25.4	23.9	24.0	24.3
		3	2	25.4	25.4	25.4	23.9	24.1	24.3
		6	0	24.3	24.3	24.3	22.9	23.1	23.2
	16QAM	1	0	24.7	24.8	24.8	23.3	23.5	23.6
		1	2	24.7	24.7	24.7	23.3	23.4	23.6
		1	5	24.7	24.7	24.7	23.2	23.5	23.7
		3	0	24.4	24.4	24.5	23.0	23.1	23.4
		3	1	24.4	24.4	24.5	22.9	23.1	23.4
		3	2	24.5	24.4	24.5	23.0	23.2	23.4
		6	0	23.3	23.2	23.4	21.8	22.0	22.3
	64QAM	1	0	23.6	23.5	23.4	22.7	22.7	22.7
		1	2	23.7	23.5	23.4	22.5	22.7	22.7
		1	5	23.7	23.4	23.4	22.6	22.7	22.7
		3	0	23.3	23.3	23.1	22.4	22.4	22.5
		3	1	23.3	23.3	23.1	22.3	22.4	22.4
		3	2	23.4	23.3	23.0	22.4	22.4	22.4
		6	0	22.1	22.2	22.0	21.3	21.2	21.4

OUTPUT POWER FOR LTE BAND 26 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				26705	26740	26775	26705	26740	26775
				815.5 MHz	819.0 MHz	822.5 MHz	815.5 MHz	819.0 MHz	822.5 MHz
3.0	QPSK	1	0	25.6	25.4	25.5	24.1	24.0	24.2
		1	7	25.5	25.5	25.6	24.1	24.2	24.4
		1	14	25.5	25.4	25.5	24.1	24.1	24.4
		8	0	24.4	24.3	24.4	22.9	23.0	23.1
		8	4	24.3	24.3	24.4	22.9	22.9	23.2
		8	7	24.3	24.3	24.4	22.9	23.0	23.2
		15	0	24.4	24.4	24.4	22.9	23.1	23.2
	16QAM	1	0	24.7	24.7	24.7	23.4	23.2	23.5
		1	7	24.8	24.6	24.8	23.4	23.4	23.6
		1	14	24.7	24.6	24.7	23.2	23.5	23.6
		8	0	23.4	23.3	23.3	21.9	21.9	22.1
		8	4	23.3	23.2	23.4	21.9	21.9	22.1
		8	7	23.3	23.2	23.3	21.9	22.0	22.1
		15	0	23.3	23.2	23.4	21.9	22.0	22.2
	64QAM	1	0	23.4	23.5	23.4	22.6	22.5	22.6
		1	7	23.5	23.5	23.5	22.6	22.7	22.8
		1	14	23.4	23.3	23.4	22.5	22.7	22.7
		8	0	22.0	22.2	22.0	21.2	21.2	21.3
		8	4	22.1	22.1	22.0	21.2	21.2	21.3
		8	7	22.1	22.1	22.0	21.2	21.2	21.4
		15	0	22.1	22.1	22.1	21.2	21.2	21.3

OUTPUT POWER FOR LTE BAND 26 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				26715	26740	26765	26715	26740	26765
				816.5 MHz	819.0 MHz	821.5 MHz	816.5 MHz	819.0 MHz	821.5 MHz
5.0	QPSK	1	0	25.7	25.6	25.5	24.2	24.1	24.2
		1	12	25.6	25.5	25.5	24.1	24.2	24.3
		1	24	25.6	25.6	25.6	24.1	24.3	24.5
		12	0	24.5	24.5	24.4	23.0	23.1	23.2
		12	6	24.5	24.5	24.5	23.0	23.1	23.2
		12	11	24.5	24.5	24.5	23.0	23.1	23.3
		25	0	24.6	24.5	24.5	23.0	23.2	23.2
	16QAM	1	0	25.1	24.9	24.9	23.6	23.4	23.6
		1	12	25.0	24.8	24.9	23.4	23.5	23.6
		1	24	24.9	24.9	24.9	23.5	23.6	23.8
		12	0	23.5	23.5	23.4	22.0	22.0	22.2
		12	6	23.5	23.5	23.5	22.0	22.0	22.2
		12	11	23.4	23.4	23.5	22.0	22.1	22.3
		25	0	23.5	23.4	23.5	22.0	22.1	22.2
	64QAM	1	0	23.6	23.7	23.6	22.7	22.6	22.7
		1	12	23.7	23.6	23.5	22.6	22.7	22.8
		1	24	23.7	23.5	23.6	22.6	22.7	23.0
		12	0	22.2	22.3	22.2	21.3	21.2	21.3
		12	6	22.3	22.3	22.1	21.3	21.3	21.4
		12	11	22.3	22.3	22.1	21.3	21.3	21.5
		25	0	22.3	22.3	22.1	21.2	21.3	21.4

OUTPUT POWER FOR LTE BAND 26 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				N/A	26740	N/A	N/A	26740	N/A
				N/A	819.0 MHz	N/A	N/A	819.0 MHz	N/A
10.0	QPSK	1	0		25.7			24.2	
		1	24		25.5			24.2	
		1	49		25.7			24.5	
		25	0		24.6			23.1	
		25	12		24.6			23.2	
		25	24		24.6			23.4	
		50	0		24.6			23.3	
	16QAM	1	0		25.0			23.5	
		1	24		24.8			23.5	
		1	49		24.9			23.7	
		25	0		23.7			22.2	
		25	12		23.6			22.2	
		25	24		23.6			22.4	
		50	0		23.6			22.3	
	64QAM	1	0		23.6			22.7	
		1	24		23.6			22.6	
		1	49		23.5			22.9	
		25	0		22.5			21.4	
		25	12		22.5			21.5	
		25	24		22.4			21.6	
		50	0		22.5			21.6	

7.10. LTE BAND 30

ID:	39004	Date:	2/26/18
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OUTPUT POWER FOR LTE BAND 30 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				27685	27710	27735	27685	27710	27735
				2307.5 MHz	2310.0 MHz	2312.5 MHz	2307.5 MHz	2310.0 MHz	2312.5 MHz
5.0	QPSK	1	0	25.5	25.5	25.5	20.5	20.4	20.2
		1	12	25.5	25.6	25.6	20.3	20.3	20.2
		1	24	25.6	25.7	25.6	20.3	20.2	20.3
		12	0	24.4	24.4	24.6	19.3	19.3	19.2
		12	6	24.4	24.5	24.6	19.3	19.3	19.1
		12	11	24.4	24.5	24.6	19.3	19.2	19.2
		25	0	24.5	24.5	24.6	19.4	19.3	19.2
	16QAM	1	0	24.9	24.8	25.0	19.8	19.5	19.5
		1	12	24.9	24.9	25.1	19.7	19.5	19.5
		1	24	24.9	25.1	25.1	19.7	19.5	19.6
		12	0	23.4	23.4	23.6	18.4	18.3	18.2
		12	6	23.5	23.5	23.6	18.4	18.3	18.2
		12	11	23.4	23.5	23.6	18.3	18.2	18.2
		25	0	23.4	23.5	23.5	18.4	18.2	18.1
	64QAM	1	0	24.2	24.4	24.4	18.7	18.7	18.7
		1	12	24.3	24.5	24.4	18.6	18.6	18.7
		1	24	24.4	24.6	24.4	18.6	18.5	18.6
		12	0	22.9	23.0	23.1	17.5	17.4	17.2
		12	6	23.0	23.0	23.1	17.5	17.4	17.3
		12	11	23.0	23.0	23.1	17.5	17.4	17.3
		25	0	23.0	23.0	23.1	17.5	17.4	17.3

OUTPUT POWER FOR LTE BAND 30 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				N/A	27710	N/A	N/A	27710	N/A
				N/A	2310.0 MHz	N/A	N/A	2310.0 MHz	N/A
10.0	QPSK	1	0		25.6			20.5	
		1	24		25.7			20.4	
		1	49		25.7			20.3	
		25	0		24.6			19.4	
		25	12		24.6			19.4	
		25	24		24.7			19.3	
		50	0		24.7			19.4	
	16QAM	1	0		24.9			19.8	
		1	24		25.0			19.6	
		1	49		25.1			19.6	
		25	0		23.6			18.5	
		25	12		23.7			18.4	
		25	24		23.7			18.3	
		50	0		23.7			18.4	
	64QAM	1	0		24.2			18.7	
		1	24		24.4			18.6	
		1	49		24.5			18.6	
		25	0		23.2			17.6	
		25	12		23.3			17.5	
		25	24		23.3			17.5	
		50	0		23.3			17.6	

7.11. LTE BAND 41

ID:	19467	Date:	3/8/19
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OUTPUT POWER FOR LTE BAND 41 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				39675	40620	41565	39675	40620	41565
				2498.5 MHz	2593.0 MHz	2687.5 MHz	2498.5 MHz	2593.0 MHz	2687.5 MHz
5.0	QPSK	1	0	26.8	28.6	28.4	19.7	21.3	18.5
		1	12	27.7	28.5	28.5	21.5	21.3	18.4
		1	24	27.7	28.5	28.5	21.5	21.3	18.4
		12	0	24.6	27.4	27.4	18.4	20.2	17.3
		12	6	24.6	27.4	27.4	18.4	20.2	17.3
		12	11	26.6	27.4	27.4	20.5	20.2	17.3
		25	0	24.6	27.4	27.4	18.5	20.2	17.3
	16QAM	1	0	25.1	28.1	27.9	19.1	20.8	20.8
		1	12	27.1	27.9	27.9	20.9	20.7	20.7
		1	24	27.1	28.0	27.9	21.0	20.8	20.7
		12	0	23.6	26.4	26.5	17.4	19.2	19.2
		12	6	23.6	26.4	26.4	17.4	19.2	19.3
		12	11	25.7	26.4	26.4	19.5	19.2	19.3
		25	0	23.6	26.5	26.4	14.5	19.2	19.3
	64QAM	1	0	24.0	26.8	26.6	17.2	19.0	19.0
		1	12	26.0	26.8	26.7	19.0	19.0	18.8
		1	24	26.0	26.9	26.6	19.1	19.1	18.9
		12	0	22.5	25.3	25.4	15.8	17.7	17.6
		12	6	22.5	25.3	25.2	15.8	17.7	17.5
		12	11	24.6	25.3	25.2	17.7	17.7	17.6
		25	0	22.6	25.4	25.3	15.7	17.6	17.5

OUTPUT POWER FOR LTE BAND 41 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				39700	40620	41540	39700	40620	41540
				2501.0 MHz	2593.0 MHz	2685.0 MHz	2501.0 MHz	2593.0 MHz	2685.0 MHz
10.0	QPSK	1	0	24.8	28.7	28.4	18.5	21.3	21.3
		1	24	27.7	28.6	28.4	21.5	21.2	21.2
		1	49	27.7	28.6	28.5	21.4	21.2	21.2
		25	0	24.7	27.7	27.5	18.5	20.2	20.3
		25	12	26.7	27.6	27.4	20.4	20.2	20.2
		25	24	25.7	27.6	27.5	19.4	20.2	20.2
		50	0	24.7	27.6	27.5	18.4	20.2	20.2
	16QAM	1	0	24.1	28.2	27.8	17.9	20.7	20.5
		1	24	27.1	28.0	27.8	20.8	20.6	20.5
		1	49	27.2	28.0	27.8	20.7	20.6	20.5
		25	0	23.8	26.7	26.5	17.5	19.3	19.3
		25	12	25.8	26.7	26.4	19.5	19.3	19.3
		25	24	24.8	26.7	26.5	18.4	19.3	19.3
		50	0	23.8	26.6	26.4	17.4	19.3	19.3
	64QAM	1	0	23.0	27.0	26.6	16.2	19.1	18.8
		1	24	26.1	26.9	26.7	19.0	19.0	18.8
		1	49	26.2	27.0	26.7	19.2	19.1	18.8
		25	0	22.7	25.6	25.4	15.8	17.8	17.7
		25	12	24.6	25.5	25.4	17.8	17.8	17.7
		25	24	23.7	25.6	25.5	16.8	17.8	17.7
		50	0	22.6	25.5	25.4	15.8	17.8	17.6

OUTPUT POWER FOR LTE BAND 41 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				39725	40620	41515	39725	40620	41515
				2503.5 MHz	2593.0 MHz	2682.5 MHz	2503.5 MHz	2593.0 MHz	2682.5 MHz
15.0	QPSK	1	0	24.7	28.7	28.3	18.6	21.4	21.3
		1	37	27.7	28.6	28.4	21.5	21.3	21.3
		1	74	27.6	28.6	28.4	21.5	21.3	21.3
		36	0	23.6	27.6	27.3	17.6	20.3	17.4
		36	16	26.7	27.6	27.4	20.5	20.3	17.4
		36	35	25.7	27.5	27.4	19.5	20.3	17.4
		75	0	23.7	27.5	27.3	17.4	20.3	17.4
	16QAM	1	0	24.0	28.0	27.7	18.0	20.7	17.8
		1	37	27.1	28.0	27.7	20.9	20.6	17.8
		1	74	27.1	28.0	27.7	20.9	20.7	17.7
		36	0	22.8	26.6	26.5	16.6	19.4	19.5
		36	16	25.8	26.7	26.5	19.5	19.5	19.5
		36	35	24.7	26.6	26.5	18.5	19.5	19.4
		75	0	22.8	26.6	26.4	16.5	19.4	19.4
	64QAM	1	0	23.0	26.9	26.6	16.3	19.1	19.0
		1	37	26.1	26.9	26.5	19.1	19.1	18.9
		1	74	26.1	26.9	26.6	19.4	19.1	18.8
		36	0	21.6	25.5	25.3	14.9	17.8	17.8
		36	16	24.7	25.5	25.4	17.9	17.9	17.8
		36	35	23.7	25.5	25.5	16.9	17.8	17.8
		75	0	21.6	25.5	25.3	14.8	17.8	17.6

OUTPUT POWER FOR LTE BAND 41 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				39750	40620	41490	39750	40620	41490
				2506.0 MHz	2593.0 MHz	2680.0 MHz	2506.0 MHz	2593.0 MHz	2680.0 MHz
20.0	QPSK	1	0	24.6	28.7	28.4	18.5	21.1	21.2
		1	49	27.7	28.6	28.4	21.4	21.2	21.1
		1	99	27.7	28.7	28.5	21.5	21.2	21.2
		50	0	23.6	27.6	27.3	17.4	20.1	20.1
		50	24	26.5	27.6	27.3	20.3	20.1	20.1
		50	49	25.6	27.5	27.4	19.4	20.1	20.1
		100	0	23.6	27.5	27.3	17.3	20.1	20.1
	16QAM	1	0	24.0	28.2	27.9	17.9	20.7	20.6
		1	49	27.2	28.2	27.8	20.9	20.7	20.5
		1	99	27.2	28.1	28.0	21.1	20.7	20.6
		50	0	22.6	26.7	26.3	16.4	19.2	19.2
		50	24	25.6	26.6	26.4	19.4	19.2	19.1
		50	49	24.7	26.6	26.4	18.4	19.2	19.1
		100	0	22.6	26.6	26.4	16.3	19.2	19.1
	64QAM	1	0	23.0	26.8	26.8	16.0	19.0	18.9
		1	49	26.0	26.8	26.7	19.1	19.0	18.8
		1	99	26.1	27.0	26.8	19.3	19.0	18.7
		50	0	21.6	25.5	25.3	14.7	17.6	17.6
		50	24	24.6	25.5	25.3	17.8	17.6	17.6
		50	49	23.6	25.5	25.5	16.9	17.7	17.6
		100	0	21.5	25.4	25.3	14.7	17.6	17.6

7.12. LTE BAND 48

ID:	19467	Date:	2/27/19
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OUTPUT POWER FOR LTE BAND 48 (5 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 4		
				Conducted Average (dBm)			Conducted Average (dBm)		
				55265 3552.5 MHz	55990 3625.0	56715 3697.5	55260 3552.5	55990 3625.0 MHz	56715 3697.5 MHz
5.0	QPSK	1	0	20.9	25.3	21.0	18.5	22.2	18.5
		1	12	20.4	24.9	20.5	18.0	21.8	18.0
		1	24	21.0	25.4	21.1	18.5	22.2	18.4
		12	0	19.9	24.9	19.9	17.5	21.3	17.6
		12	6	19.8	24.8	19.8	17.5	21.2	17.5
		12	11	19.9	24.9	19.8	17.5	21.2	17.5
		25	0	19.8	24.9	19.8	17.4	21.1	17.4
	16QAM	1	0	20.2	25.3	20.3	17.8	21.7	17.8
		1	12	19.9	24.9	19.8	17.4	21.0	17.2
		1	24	20.4	25.4	20.4	17.8	21.7	17.7
		12	0	18.7	23.8	18.7	16.4	20.2	16.4
		12	6	18.6	23.7	18.6	16.4	20.1	16.3
		12	11	18.7	23.8	18.6	16.4	20.1	16.3
		25	0	18.6	23.7	18.6	16.3	20.1	16.3
	64QAM	1	0	19.3	23.6	19.3	16.8	20.5	16.8
		1	12	18.9	23.3	18.9	16.5	20.0	16.3
		1	24	19.3	23.7	19.4	16.9	20.4	16.8
		12	0	17.5	21.8	17.6	15.2	19.0	14.9
		12	6	17.5	21.8	17.7	15.3	19.1	15.0
		12	11	17.5	21.9	17.7	15.3	19.1	15.1
		25	0	17.5	22.0	17.7	15.3	19.0	15.2

OUTPUT POWER FOR LTE BAND 48 (10 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 4		
				Conducted Average (dBm)			Conducted Average (dBm)		
				55290 3555 MHz	55990 3625.0 MHz	56690 3695 MHz	55290 3555 MHz	55990 3625.0 MHz	56690 3695 MHz
10.0	QPSK	1	0	21.0	25.4	21.0	18.3	22.5	18.5
		1	24	20.8	25.2	20.7	18.0	22.2	18.1
		1	49	21.0	25.7	21.0	18.2	22.3	18.3
		25	0	19.8	25.0	19.7	17.2	21.4	17.4
		25	12	19.8	24.9	19.7	17.2	21.3	17.4
		25	24	19.8	25.0	19.8	17.2	21.4	17.4
		50	0	19.6	24.8	19.6	17.0	21.1	17.2
	16QAM	1	0	20.2	25.6	20.3	17.5	21.7	17.9
		1	24	20.0	25.3	20.1	17.2	21.5	17.6
		1	49	20.2	25.5	20.3	17.4	21.6	17.7
		25	0	18.7	23.9	18.6	16.2	20.2	16.4
		25	12	18.7	23.8	18.6	16.1	20.2	16.3
		25	24	18.7	24.0	18.6	16.1	20.2	16.3
		50	0	18.6	23.8	18.5	16.0	20.1	16.3
	64QAM	1	0	19.1	23.7	19.3	16.5	20.6	16.8
		1	24	18.8	23.4	19.2	16.2	20.2	16.5
		1	49	18.9	23.8	19.3	16.4	20.5	16.6
		25	0	17.7	22.2	17.7	15.2	19.3	15.4
		25	12	17.7	22.1	17.7	15.1	19.2	15.3
		25	24	17.7	22.2	17.7	15.2	19.2	15.3
		50	0	17.5	22.1	17.6	15.0	19.1	15.2

OUTPUT POWER FOR LTE BAND 48 (15 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 4		
				Conducted Average (dBm)			Conducted Average (dBm)		
				55315	55990	56665	55315	55990	56665
				3557.5 MHz	3625.0 MHz	3692.5 MHz	3557.5 MHz	3625.0 MHz	3692.5 MHz
15.0	QPSK	1	0	20.9	25.4	20.8	18.4	22.3	18.4
		1	37	20.5	25.1	20.5	18.1	21.9	18.0
		1	74	20.8	25.6	20.9	18.4	22.1	18.3
		36	0	19.8	24.9	19.7	17.4	21.3	17.5
		36	16	19.7	24.9	19.7	17.4	21.3	17.4
		36	35	19.7	25.0	19.7	17.4	21.3	17.4
		75	0	19.5	24.8	19.5	17.2	21.1	17.1
	16QAM	1	0	20.1	25.5	20.2	17.6	21.7	17.8
		1	37	19.7	25.2	19.8	17.3	21.3	17.4
		1	74	20.0	25.5	20.3	17.6	21.5	17.7
		36	0	18.7	23.9	18.7	16.4	20.3	16.4
		36	16	18.7	23.9	18.7	16.4	20.3	16.4
		36	35	18.6	23.9	18.7	16.3	20.3	16.4
		75	0	18.5	23.7	18.5	16.2	20.1	16.1
	64QAM	1	0	19.2	23.7	19.3	16.8	20.7	16.8
		1	37	18.7	23.3	19.0	16.5	20.2	16.4
		1	74	19.0	23.8	19.4	16.8	20.4	16.7
		36	0	17.7	22.2	17.7	15.4	19.3	15.4
		36	16	17.7	22.2	17.7	15.4	19.3	15.3
		36	35	17.6	22.2	17.7	15.3	19.2	15.3
		75	0	17.5	22.0	17.6	15.2	19.0	15.1

OUTPUT POWER FOR LTE BAND 48 (20 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 4		
				Conducted Average (dBm)			Conducted Average (dBm)		
				55340	55990	56640	55340	55990	56640
				3560 MHz	3625.0 MHz	3690 MHz	3560 MHz	3625.0 MHz	3690 MHz
20.0	QPSK	1	0	21.0	25.6	20.8	18.4	22.4	18.5
		1	49	20.7	25.2	20.6	18.1	22.2	18.3
		1	99	20.9	25.7	21.0	18.3	22.3	18.4
		50	0	19.8	25.0	19.6	17.3	21.4	17.5
		50	24	19.4	24.8	19.3	17.0	21.1	17.2
		50	49	19.7	25.1	19.7	17.3	21.4	17.4
		100	0	19.5	24.8	19.4	17.0	21.1	17.3
	16QAM	1	0	18.4	25.6	18.2	17.7	21.7	17.8
		1	49	18.0	25.3	18.1	17.4	21.5	17.6
		1	99	18.3	25.7	18.4	17.6	21.6	17.7
		50	0	18.8	23.9	18.6	16.3	20.4	16.5
		50	24	18.4	23.7	18.3	16.0	20.1	16.2
		50	49	18.6	24.0	18.6	16.2	20.3	16.4
		100	0	18.5	23.8	18.4	16.0	20.1	16.3
	64QAM	1	0	18.4	24.1	18.3	16.8	20.8	16.8
		1	49	18.0	23.7	18.0	16.4	20.6	16.6
		1	99	18.2	24.0	18.2	16.6	20.7	16.7
		50	0	17.8	22.3	17.7	15.3	19.3	15.5
		50	24	17.4	22.0	17.4	14.9	19.0	15.2
		50	49	17.6	22.3	17.7	15.2	19.3	15.4
		100	0	17.5	22.2	17.5	15.0	19.1	15.3

7.13. LTE BAND 66

ID:	19467	Date:	2/27/19
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OUTPUT POWER FOR LTE BAND 66 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				131979	132322	132665	131979	132322	132665
				1710.7 MHz	1745.0 MHz	1779.3 MHz	1710.7 MHz	1745.0 MHz	1779.3 MHz
1.4	QPSK	1	0	25.5	25.7	25.1	21.4	21.3	21.1
		1	2	25.3	25.6	25.1	21.3	21.3	21.0
		1	5	25.4	25.6	25.1	21.3	21.3	21.1
		3	0	25.3	25.5	25.0	21.2	21.1	20.9
		3	1	25.2	25.5	25.0	21.1	21.1	20.9
		3	2	25.2	25.5	25.0	21.1	21.1	20.9
	16QAM	6	0	24.2	24.5	24.0	20.1	20.1	19.8
		1	0	24.7	24.8	24.4	20.4	20.6	20.4
		1	2	24.7	24.7	24.4	20.4	20.6	20.3
		1	5	24.7	24.8	24.3	20.4	20.6	20.3
		3	0	24.4	24.5	24.1	20.2	20.3	20.1
		3	1	24.4	24.5	24.1	20.1	20.3	20.0
	64QAM	3	2	24.4	24.6	24.1	20.1	20.2	20.0
		6	0	23.3	23.5	22.9	19.0	19.1	19.0
		1	0	23.5	23.7	23.6	19.9	19.5	19.3
		1	2	23.5	23.6	23.5	19.8	19.5	19.4
		1	5	23.5	23.7	23.5	19.8	19.4	19.3
		3	0	23.2	23.5	23.2	19.5	19.1	19.1
	64QAM	3	1	23.2	23.6	23.2	19.5	19.1	19.1
		3	2	23.2	23.5	23.2	19.5	19.1	19.1
		6	0	22.2	22.4	22.0	18.2	18.1	18.0

OUTPUT POWER FOR LTE BAND 66 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				131987	132322	132657	131987	132322	132657
				1711.5 MHz	1745.0 MHz	1778.5 MHz	1711.5 MHz	1745.0 MHz	1778.5 MHz
3.0	QPSK	1	0	25.4	25.6	25.1	21.2	21.4	21.1
		1	7	25.4	25.7	25.1	21.3	21.3	21.1
		1	14	25.3	25.6	25.1	21.3	21.2	21.0
		8	0	24.2	24.5	23.9	20.1	20.2	19.9
		8	4	24.2	24.5	23.9	20.1	20.1	19.9
		8	7	24.3	24.5	23.9	20.1	20.1	20.0
	16QAM	15	0	24.2	24.5	23.9	20.1	20.1	20.0
		1	0	24.5	24.9	24.4	20.5	20.7	20.4
		1	7	24.6	25.0	24.3	20.5	20.6	20.4
		1	14	24.6	24.9	24.3	20.5	20.5	20.4
		8	0	23.3	23.5	22.9	19.1	19.2	18.9
		8	4	23.3	23.5	22.9	19.1	19.1	18.9
	64QAM	8	7	23.2	23.5	22.9	19.1	19.1	18.9
		15	0	23.2	23.5	22.9	19.0	19.1	18.9
		1	0	23.3	23.6	23.3	19.4	19.4	19.2
		1	7	23.4	23.7	23.4	19.5	19.5	19.3
		1	14	23.4	23.7	23.3	19.6	19.4	19.3
		8	0	22.0	22.4	22.0	18.2	18.1	17.9
	64QAM	8	4	22.0	22.3	22.0	18.2	18.0	17.9
		8	7	22.0	22.3	22.1	18.2	18.0	17.9
		15	0	22.0	22.3	22.0	18.2	18.0	17.9

OUTPUT POWER FOR LTE BAND 66 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				131997	132322	132647	131997	132322	132647
				1712.5 MHz	1745.0 MHz	1777.5 MHz	1712.5 MHz	1745.0 MHz	1777.5 MHz
5.0	QPSK	1	0	25.4	25.5	25.2	21.3	21.5	21.2
		1	12	25.4	25.5	25.0	21.3	21.3	21.1
		1	24	25.3	25.5	25.1	21.4	21.2	21.1
		12	0	24.3	24.5	24.1	20.2	20.3	20.0
		12	6	24.3	24.5	24.0	20.2	20.2	20.0
		12	11	24.3	24.4	24.0	20.3	20.2	20.0
		25	0	24.3	24.5	24.0	20.2	20.2	20.1
	16QAM	1	0	24.8	24.7	24.6	20.6	20.7	20.6
		1	12	24.7	24.8	24.4	20.6	20.6	20.5
		1	24	24.7	24.8	24.5	20.7	20.5	20.5
		12	0	23.3	23.5	23.1	19.2	19.3	19.1
		12	6	23.3	23.5	23.0	19.2	19.3	19.1
		12	11	23.3	23.5	23.0	19.3	19.2	19.1
		25	0	23.3	23.4	23.0	19.2	19.2	19.1
	64QAM	1	0	23.6	23.8	23.6	19.9	19.7	19.6
		1	12	23.5	23.9	23.4	19.8	19.6	19.5
		1	24	23.6	23.9	23.5	19.9	19.7	19.5
		12	0	22.2	22.5	22.3	18.4	18.2	18.3
		12	6	22.2	22.5	22.2	18.4	18.2	18.2
		12	11	22.2	22.4	22.2	18.4	18.2	18.2
		25	0	22.2	22.4	22.2	18.4	18.2	18.2
		25	0	22.2	22.4	22.2	18.4	18.2	18.2

OUTPUT POWER FOR LTE BAND 66 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				132022	132322	132622	132022	132322	132622
				1715.0 MHz	1745.0 MHz	1775.0 MHz	1715.0 MHz	1745.0 MHz	1775.0 MHz
10.0	QPSK	1	0	25.4	25.5	25.5	21.4	21.4	21.2
		1	24	25.4	25.6	25.2	21.5	21.4	21.2
		1	49	25.5	25.6	25.1	21.4	21.2	21.1
		25	0	24.4	24.6	24.3	20.3	20.4	20.1
		25	12	24.4	24.6	24.2	20.4	20.3	20.2
		25	24	24.4	24.6	24.1	20.4	20.2	20.2
		50	0	24.4	24.6	24.2	20.4	20.3	20.2
	16QAM	1	0	24.6	24.8	24.9	20.6	20.8	20.5
		1	24	24.6	24.9	24.6	20.7	20.7	20.6
		1	49	24.7	24.9	24.5	20.7	20.5	20.6
		25	0	23.5	23.6	23.4	19.4	19.5	19.2
		25	12	23.5	23.7	23.3	19.5	19.5	19.2
		25	24	23.5	23.7	23.2	19.5	19.3	19.3
		50	0	23.5	23.6	23.3	19.5	19.4	19.2
	64QAM	1	0	23.5	23.7	23.8	19.7	19.6	19.6
		1	24	23.5	23.8	23.6	19.8	19.5	19.6
		1	49	23.6	23.9	23.4	19.7	19.6	19.6
		25	0	22.5	22.6	22.5	18.6	18.4	18.4
		25	12	22.5	22.7	22.4	18.6	18.4	18.4
		25	24	22.5	22.7	22.4	18.7	18.5	18.4
		50	0	22.5	22.6	22.5	18.6	18.4	18.4
		50	0	22.5	22.6	22.5	18.6	18.4	18.4

OUTPUT POWER FOR LTE BAND 66 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				132047	132322	132597	132047	132322	132597
				1717.5 MHz	1745.0 MHz	1772.5 MHz	1717.5 MHz	1745.0 MHz	1772.5 MHz
15.0	QPSK	1	0	25.3	25.5	25.5	21.3	21.5	21.0
		1	37	25.4	25.5	25.3	21.4	21.3	21.1
		1	74	25.5	25.5	25.1	21.5	21.2	21.1
		36	0	24.4	24.5	24.4	20.4	20.5	20.1
		36	16	24.5	24.6	24.3	20.4	20.4	20.1
		36	35	24.5	24.6	24.2	20.4	20.2	20.1
		75	0	24.5	24.6	24.3	20.4	20.3	20.1
	16QAM	1	0	24.6	24.9	24.9	20.6	20.9	20.3
		1	37	24.8	24.9	24.7	20.7	20.7	20.5
		1	74	24.8	25.0	24.4	20.8	20.5	20.5
		36	0	23.5	23.6	23.4	19.4	19.5	19.2
		36	16	23.5	23.7	23.3	19.4	19.4	19.2
		36	35	23.5	23.7	23.2	19.5	19.3	19.2
		75	0	23.5	23.6	23.3	19.4	19.3	19.2
	64QAM	1	0	23.6	23.7	23.7	19.8	19.6	19.5
		1	37	23.7	23.8	23.7	19.8	19.6	19.6
		1	74	23.9	23.8	23.5	19.6	19.5	19.5
		36	0	22.4	22.6	22.5	18.6	18.4	18.3
		36	16	22.5	22.6	22.5	18.6	18.4	18.5
		36	35	22.5	22.7	22.4	18.5	18.5	18.4
		75	0	22.5	22.6	22.5	18.6	18.4	18.4

OUTPUT POWER FOR LTE BAND 66 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				132072	132322	132572	132072	132322	132572
				1720.0 MHz	1745.0 MHz	1770.0 MHz	1720.0 MHz	1745.0 MHz	1770.0 MHz
20.0	QPSK	1	0	25.4	25.6	25.6	21.4	21.4	21.1
		1	49	25.4	25.5	25.5	21.5	21.3	21.1
		1	99	25.5	25.6	25.1	21.4	21.2	21.1
		50	0	24.4	24.5	24.5	20.4	20.5	20.0
		50	24	24.4	24.6	24.3	20.5	20.3	20.1
		50	49	24.4	24.6	24.3	20.5	20.3	20.1
		100	0	24.4	24.6	24.3	20.4	20.4	20.0
	16QAM	1	0	24.7	25.1	25.0	20.6	20.9	20.4
		1	49	24.7	24.9	24.8	20.8	20.8	20.5
		1	99	24.8	25.0	24.5	20.8	20.7	20.4
		50	0	23.5	23.6	23.5	19.4	19.5	19.1
		50	24	23.4	23.6	23.4	19.6	19.4	19.1
		50	49	23.4	23.6	23.3	19.6	19.3	19.2
		100	0	23.4	23.6	23.3	19.5	19.4	19.1
	64QAM	1	0	23.5	23.9	23.8	19.6	19.7	19.7
		1	49	23.4	23.9	23.9	19.5	19.7	19.7
		1	99	23.7	23.9	23.7	19.6	19.8	19.7
		50	0	22.4	22.5	22.6	18.6	18.3	18.3
		50	24	22.4	22.6	22.5	18.5	18.4	18.3
		50	49	22.6	22.6	22.4	18.4	18.5	18.4
		100	0	22.4	22.6	22.4	18.5	18.3	18.3

7.14. LTE BAND 71

ID:	19467	Date:	2/18/19
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OUTPUT POWER FOR LTE BAND 71 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				133147	133297	133447	133147	133297	133447
				665.5 MHz	680.5 MHz	695.5 MHz	665.5 MHz	680.5 MHz	695.5 MHz
5.0	QPSK	1	0	25.4	25.6	25.2	23.1	24.0	24.1
		1	12	25.5	25.5	25.2	24.2	24.0	24.2
		1	24	25.6	25.4	25.2	24.2	24.0	24.3
		12	0	24.3	24.4	24.1	23.2	22.9	23.1
		12	6	24.4	24.4	24.1	23.1	22.9	22.7
		12	11	24.5	24.3	24.1	23.1	22.9	23.1
		25	0	24.4	24.3	24.1	23.1	22.9	23.2
	16QAM	1	0	24.8	24.9	24.7	23.7	23.4	23.5
		1	12	24.9	24.7	24.6	23.6	23.4	23.7
		1	24	25.0	24.7	24.6	23.5	23.5	23.7
		12	0	23.3	23.4	23.1	22.2	21.9	22.1
		12	6	23.4	23.4	23.1	22.1	21.9	22.1
		12	11	23.4	23.3	23.1	22.1	21.9	22.1
		25	0	23.4	23.3	23.1	22.1	21.9	22.1
	64QAM	1	0	23.8	23.7	23.6	22.7	22.5	22.6
		1	12	23.7	23.7	23.7	22.7	22.5	22.6
		1	24	23.8	23.7	23.7	22.7	22.4	22.7
		12	0	22.4	22.2	22.2	21.4	21.1	21.1
		12	6	22.3	22.2	22.2	21.4	21.1	21.1
		12	11	22.4	22.3	22.2	21.4	21.0	21.2
		25	0	22.3	22.3	22.1	21.4	21.1	21.1

OUTPUT POWER FOR LTE BAND 71 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				133172	133297	133422	133172	133297	133422
				668.0 MHz	680.5 MHz	693.0 MHz	668.0 MHz	680.5 MHz	693.0 MHz
10.0	QPSK	1	0	25.6	25.7	25.3	24.5	24.2	24.1
		1	24	25.7	25.5	25.2	24.2	24.0	24.2
		1	49	25.5	25.4	25.3	24.1	24.0	24.4
		25	0	24.6	24.6	24.2	23.2	23.1	23.0
		25	12	24.6	24.5	24.2	23.1	23.1	23.1
		25	24	24.5	24.4	24.3	23.0	23.1	23.3
		50	0	24.6	24.5	24.3	23.1	23.1	23.2
	16QAM	1	0	24.9	25.0	24.6	23.7	23.6	23.5
		1	24	25.0	24.8	24.6	23.5	23.5	23.5
		1	49	24.9	24.6	24.6	23.4	23.4	23.7
		25	0	23.6	23.6	23.3	22.3	22.1	22.1
		25	12	23.7	23.5	23.2	22.2	22.1	22.2
		25	24	23.5	23.4	23.3	22.1	22.1	22.3
		50	0	23.6	23.5	23.2	22.2	22.1	22.2
	64QAM	1	0	23.7	23.7	23.5	22.7	22.8	22.7
		1	24	23.9	23.9	23.6	22.7	22.6	22.5
		1	49	23.9	23.8	23.6	22.6	22.6	22.6
		25	0	22.5	22.5	22.4	21.5	21.4	21.3
		25	12	22.6	22.5	22.3	21.5	21.3	21.3
		25	24	22.6	22.5	22.4	21.4	21.3	21.3
		50	0	22.6	22.5	22.3	21.5	21.3	21.3

OUTPUT POWER FOR LTE BAND 71 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				133197	133297	133397	133197	133297	133397
				670.5 MHz	680.5 MHz	690.5 MHz	670.5 MHz	680.5 MHz	690.5 MHz
15.0	QPSK	1	0	25.6	25.6	25.3	24.5	24.2	24.0
		1	37	25.5	25.4	25.3	24.1	24.1	24.0
		1	74	25.3	25.2	25.3	24.0	24.0	24.4
		36	0	24.6	24.6	24.2	23.3	23.1	22.9
		36	16	24.5	24.5	24.2	23.1	23.1	23.1
		36	35	24.5	24.3	24.2	23.1	23.0	23.2
		75	0	24.4	24.4	24.2	23.1	23.1	23.1
	16QAM	1	0	24.8	24.9	24.6	23.8	23.5	23.4
		1	37	24.8	24.8	24.7	23.4	23.5	23.5
		1	74	24.6	24.6	24.7	23.3	23.5	23.7
		36	0	23.7	23.7	23.3	22.3	22.2	22.0
		36	16	23.6	23.5	23.3	22.2	22.1	22.2
		36	35	23.5	23.4	23.2	22.2	22.1	22.3
		75	0	23.5	23.5	23.3	22.2	22.1	22.1
	64QAM	1	0	23.7	23.8	23.7	22.9	22.8	22.5
		1	37	23.9	23.9	23.6	22.7	22.6	22.7
		1	74	23.6	23.6	23.6	22.8	22.6	22.7
		36	0	22.5	22.5	22.3	21.6	21.5	21.3
		36	16	22.6	22.5	22.4	21.5	21.4	21.4
		36	35	22.5	22.6	22.4	21.4	21.4	21.3
		75	0	22.6	22.5	22.4	21.4	21.4	21.4

OUTPUT POWER FOR LTE BAND 71 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				133222	133297	133372	133222	133297	133372
				673.0 MHz	680.5 MHz	688.0 MHz	673.0 MHz	680.5 MHz	688.0 MHz
20.0	QPSK	1	0	25.5	25.5	25.6	24.4	24.1	24.1
		1	49	25.5	25.3	25.2	24.0	24.1	24.0
		1	99	25.4	25.4	25.3	24.1	24.2	24.3
		50	0	24.6	24.2	24.3	23.1	23.0	23.0
		50	24	24.5	24.2	24.3	23.1	22.9	23.1
		50	49	24.4	24.2	24.2	23.0	23.1	23.2
		100	0	24.4	24.2	24.3	23.1	23.0	23.1
	16QAM	1	0	24.9	25.0	24.9	23.8	23.5	23.4
		1	49	24.8	24.7	24.6	23.5	23.5	23.4
		1	99	24.8	24.8	24.6	23.5	23.6	23.7
		50	0	23.6	23.3	23.4	22.1	22.1	22.1
		50	24	23.5	23.3	23.3	22.1	22.0	22.1
		50	49	23.4	23.3	23.2	22.0	22.2	22.2
		100	0	23.5	23.3	23.3	22.1	22.1	22.1
	64QAM	1	0	23.7	24.0	24.0	22.7	22.8	22.7
		1	49	23.6	23.8	23.7	22.5	22.8	22.8
		1	99	23.6	23.7	23.8	22.6	22.7	22.8
		50	0	22.7	22.4	22.5	21.5	21.4	21.3
		50	24	22.5	22.4	22.3	21.4	21.4	21.4
		50	49	22.4	22.4	22.4	21.4	21.4	21.3
		100	0	22.6	22.4	22.3	21.4	21.4	21.4

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 middle channel in each band. The 99% and -26dB bandwidths was also measured and recorded.

MODES TESTED

- LTE Band 2
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 14
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 30
- LTE Band 41
- LTE Band 48
- LTE Band 66
- LTE Band 71

RESULTS

There is no limit required and power is the same for low, middle and high channel; therefore, only middle channel was tested.

LTE BAND 2

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 2	1.4MHz, QPSK	6/0	1880.0	1.0865	1.243
	1.4MHz, 16QAM			1.0868	1.237
	1.4MHz, 64QAM			1.0930	1.249
	3MHz, QPSK	15/0		2.6909	2.981
	3MHz, 16QAM			2.7011	2.975
	3MHz, 64QAM			2.7100	2.995
	5MHz, QPSK	25/0		4.4985	4.965
	5MHz, 16QAM			4.5041	4.958
	5MHz, 64QAM			4.5026	4.935
	10MHz, QPSK	50/0		8.9952	10.192
	10MHz, 16QAM			8.9979	10.276
	10MHz, 64QAM			9.0095	10.420
	15MHz, QPSK	75/0		13.4258	15.364
	15MHz, 16QAM			13.4201	15.258
	15MHz, 64QAM			13.4930	15.680
	20MHz, QPSK	100/0		17.9076	19.918
	20MHz, 16QAM			17.9329	19.927
	20MHz, 64QAM			17.9470	19.860

LTE BAND 5

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 5	1.4MHz, QPSK	6/0	836.5	1.0877	1.242
	1.4MHz,16QAM			1.0871	1.241
	1.4MHz 64QAM			1.0910	1.246
	3MHz, QPSK	15/0		2.6896	2.982
	3MHz, 16QAM			2.6945	2.983
	3MHz 64QAM			2.7069	2.981
	5MHz, QPSK	25/0		4.5032	4.892
	5MHz, 16QAM			4.5114	4.945
	5MHz 64QAM			4.5030	4.930
	10MHz, QPSK	50/0		8.9929	10.313
	10MHz, 16QAM			8.9905	10.374
	10MHz 64QAM			9.0115	10.450

LTE BAND 7

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 7	5MHz, QPSK	25/0	2535.0	4.5086	4.937
	5MHz, 16QAM			4.5006	4.939
	5MHz 64QAM			4.5015	4.920
	10MHz, QPSK	50/0		8.9970	10.380
	10MHz, 16QAM			8.9994	10.355
	10MHz 64QAM			9.0091	10.360
	15MHz, QPSK	75/0		13.4446	15.069
	15MHz, 16QAM			13.4612	15.345
	15MHz 64QAM			13.4670	15.350
	20MHz, QPSK	100/0		17.8649	19.638
	20MHz, 16QAM			17.9428	19.882
	20MHz 64QAM			17.9350	20.010

LTE BAND 12

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 12	1.4 MHz, QPSK	6/0	707.5	1.0855	1.241
	1.4 MHz,16QAM			1.0915	1.243
	1.4 MHz 64QAM			1.0988	1.245
	3 MHz, QPSK	15/0		2.6875	2.977
	3 MHz, 16QAM			2.7031	2.992
	3 MHz 64QAM			2.7066	2.989
	5 MHz, QPSK	25/0		4.4946	4.933
	5 MHz, 16QAM			4.4938	4.942
	5 MHz 64QAM			4.4969	4.944
	10 MHz, QPSK	50/0		8.9972	10.358
	10 MHz, 16QAM			8.9986	10.415
	10 MHz 64QAM			9.0123	10.440

LTE BAND 13

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 13	5 MHz, QPSK	25/0	782.0	4.4795	4.804
	5 MHz, 16QAM			4.5052	4.913
	5 MHz 64QAM			4.4982	4.929
	10 MHz, QPSK	50/0		8.9736	10.155
	10 MHz, 16QAM			8.9745	10.170
	10 MHz 64QAM			8.9908	10.250

LTE BAND 14

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 14	5 MHz, QPSK	25/0	793.0	4.4819	4.885
	5 MHz, 16QAM			4.4805	4.886
	5M Hz 64QAM			4.5002	4.935
	10 MHz, QPSK	50/0		9.0092	10.371
	10 MHz, 16QAM			8.9904	10.307
	10 MHz 64QAM			9.0079	10.330

LTE BAND 17

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 17	5 MHz, QPSK	25/0	710.0	4.5070	4.961
	5 MHz, 16QAM			4.5122	4.956
	5 MHz 64QAM			4.4966	4.936
	10 MHz, QPSK	50/0		8.9922	10.272
	10 MHz, 16QAM			9.0141	10.267
	10 MHz 64QAM			9.0144	10.430

LTE BAND 25

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 25	1.4MHz, QPSK	6/0	1882.5	1.0889	1.243
	1.4MHz,16QAM			1.0843	1.244
	1.4MHz 64QAM			1.0927	1.245
	3MHz, QPSK	15/0		2.6956	2.976
	3MHz, 16QAM			2.6902	2.987
	3MHz 64QAM			2.7057	2.982
	5MHz, QPSK	25/0		4.5063	4.904
	5MHz, 16QAM			4.4929	4.948
	5MHz 64QAM			4.5009	4.937
	10MHz, QPSK	50/0		8.9927	10.312
	10MHz, 16QAM			8.9897	10.509
	10MHz 64QAM			9.0269	10.480
	15MHz, QPSK	75/0		13.4538	15.285
	15MHz, 16QAM			13.4654	15.281
	15MHz 64QAM			13.4980	15.400
	20MHz, QPSK	100/0		17.9135	19.551
	20MHz, 16QAM			17.9003	20.049
	20MHz 64QAM			17.9680	20.240

LTE BAND 26

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 26	1.4 MHz, QPSK	1/0	819.0	0.3394	0.458
	1.4 MHz,16QAM			0.2568	0.355
	1.4 MHz, QPSK	6/0		1.0923	1.245
	1.4 MHz,16QAM			1.0905	1.238
	1.4 MHz 64QAM			1.0946	1.245
	3 MHz, QPSK	1/0		0.2395	0.356
	3 MHz, 16QAM			0.2671	0.379
	3 MHz, QPSK	15/0		2.6906	2.982
	3 MHz, 16QAM			2.6880	2.996
	3 MHz 64QAM			2.7051	2.984
	5 MHz, QPSK	1/0		0.2301	0.395
	5 MHz, 16QAM			0.2300	0.405
	5 MHz, QPSK	25/0		4.5036	4.928
	5 MHz, 16QAM			4.4971	4.925
	5 MHz 64QAM			4.4946	4.943
	10 MHz, QPSK	1/0		0.2729	0.426
	10 MHz, 16QAM			0.2652	0.406
	10 MHz, QPSK	50/0		9.0103	10.313
	10 MHz, 16QAM			8.9786	10.249
	10 MHz 64QAM			9.0102	10.430

LTE BAND 30

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 30	5MHz, QPSK	25/0	2310.0	4.5111	4.915
	5MHz, 16QAM			4.5004	4.943
	5MHz 64QAM			4.4960	4.908
	10MHz, QPSK	50/0		9.0047	10.400
	10MHz, 16QAM			9.0305	10.470
	10MHz 64QAM			9.0154	10.400

LTE BAND 41

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 41	5MHz, QPSK	25/0	2593.0	4.4754	4.647
	5MHz, 16QAM			4.4693	4.875
	5MHz 64QAM			4.4868	4.881
	10MHz, QPSK	50/0		8.9563	11.685
	10MHz, 16QAM			8.9097	11.613
	10MHz 64QAM			8.9948	11.880
	15MHz, QPSK	75/0		13.4145	14.745
	15MHz, 16QAM			13.3262	17.427
	15MHz 64QAM			13.4650	16.830
	20MHz, QPSK	100/0		17.9051	23.151
	20MHz, 16QAM			17.8989	25.391
	20MHz 64QAM			17.9240	24.390

LTE BAND 48

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 48	5MHz, QPSK	25/0	3625.0	4.4669	4.977
	5MHz, 16QAM			4.4824	4.953
	5MHz 64QAM			4.4889	4.795
	10MHz, QPSK	50/0		8.9598	10.062
	10MHz, 16QAM			8.9265	9.821
	10MHz 64QAM			8.9532	10.050
	15MHz, QPSK	75/0		13.3942	14.647
	15MHz, 16QAM			13.4321	14.673
	15MHz 64QAM			13.4340	14.820
	20MHz, QPSK	100/0		17.8996	18.672
	20MHz, 16QAM			17.9286	19.132
	20MHz 64QAM			17.8820	18.920

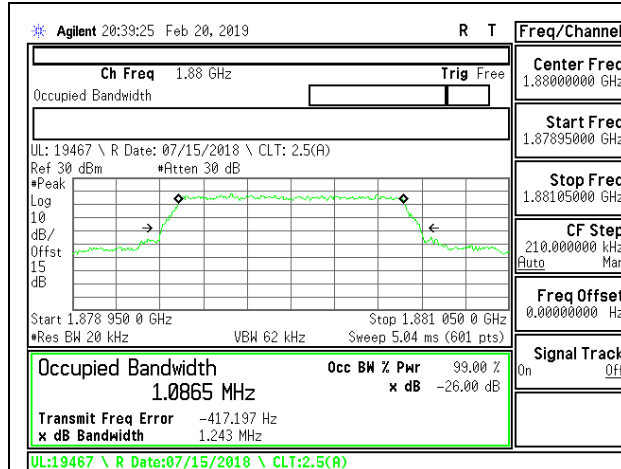
LTE BAND 66

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 66	1.4MHz, QPSK	6/0	1745.0	1.0841	1.239
	1.4MHz,16QAM			1.0886	1.242
	1.4MHz 64QAM			1.0928	1.246
	3MHz, QPSK	15/0		2.7010	2.993
	3MHz, 16QAM			2.6862	2.984
	3MHz 64QAM			2.6986	2.988
	5MHz, QPSK	25/0		4.5102	4.878
	5MHz, 16QAM			4.4995	4.944
	5MHz 64QAM			4.4946	4.930
	10MHz, QPSK	50/0		8.9706	10.417
	10MHz, 16QAM			8.9877	10.324
	10MHz 64QAM			8.9978	10.370
	15MHz, QPSK	75/0		13.4410	15.339
	15MHz, 16QAM			13.4456	15.077
	15MHz 64QAM			13.4770	15.430
	20MHz, QPSK	100/0		17.8726	19.729
	20MHz, 16QAM			17.9229	19.994
	20MHz 64QAM			17.9400	19.720

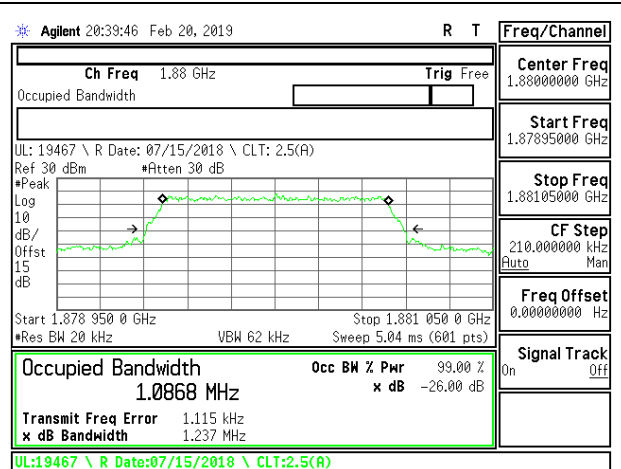
LTE BAND 71

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 71	5MHz, QPSK	1/0	680.5	0.267	0.445
	5MHz, 16QAM			0.268	0.426
	5MHz, QPSK	25/0		4.4869	4.878
	5MHz, 16QAM			4.4931	4.904
	5MHz 64QAM			4.4934	4.928
	10MHz, QPSK	1/0		0.573	0.668
	10MHz, 16QAM			0.676	0.770
	10MHz, QPSK	50/0		8.9796	10.306
	10MHz, 16QAM			8.9823	10.401
	10MHz 64QAM			9.0207	10.430
	15MHz, QPSK	1/0		0.660	0.768
	15MHz, 16QAM			0.790	0.982
	15MHz, QPSK	75/0		13.4331	15.098
	15MHz, 16QAM			13.4402	15.222
	15MHz 64QAM			13.4760	15.330
	20MHz, QPSK	1/0		0.820	1.113
	20MHz, 16QAM			0.837	1.135
	20MHz, QPSK	100/0		17.9027	19.665
	20MHz, 16QAM			17.8337	19.578
	20MHz 64QAM			17.9100	19.900

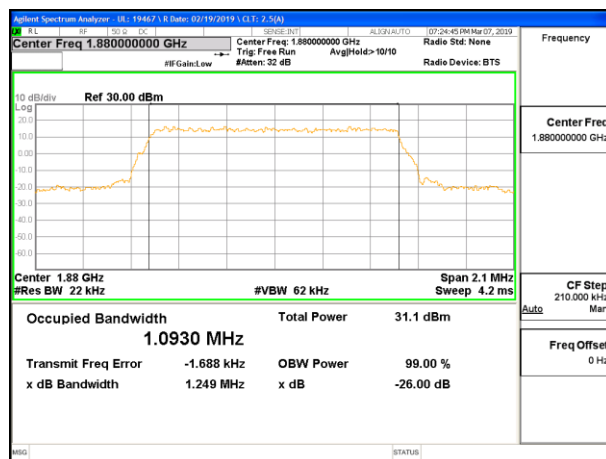
8.1.1. LTE BAND 2



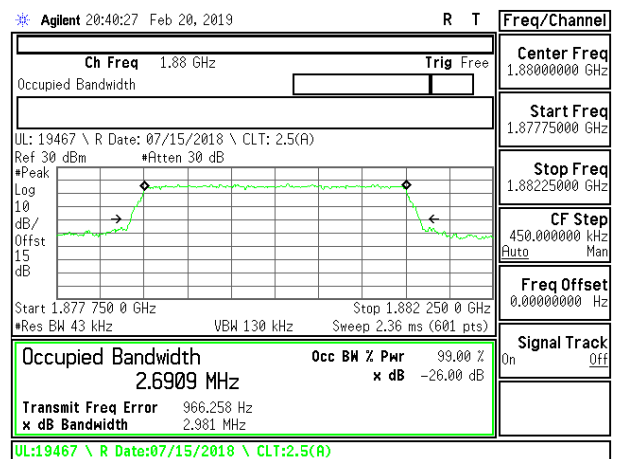
LTE B2 1.4MHz QPSK Middle Channel RB6-0



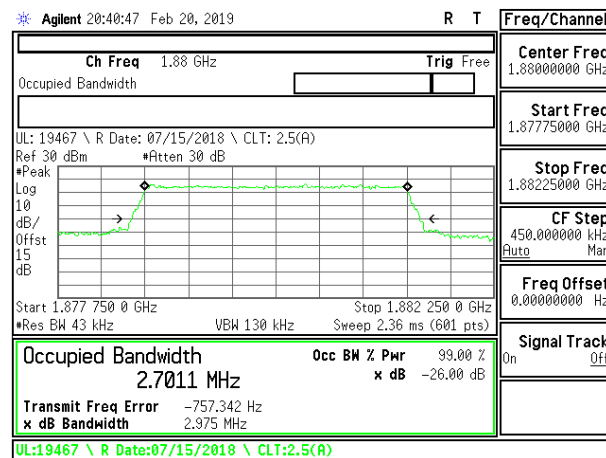
LTE B2 1.4MHz 16QAM Middle Channel RB6-0



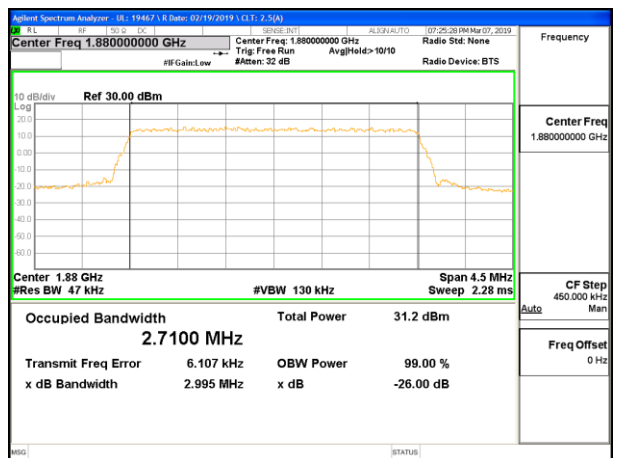
LTE B2 1.4MHz 64QAM Middle Channel RB6-0



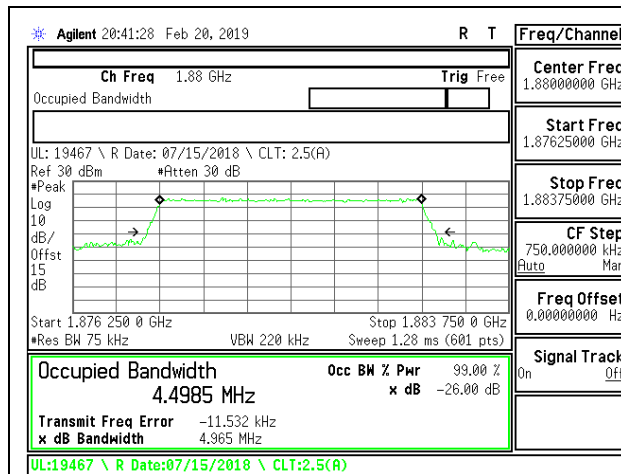
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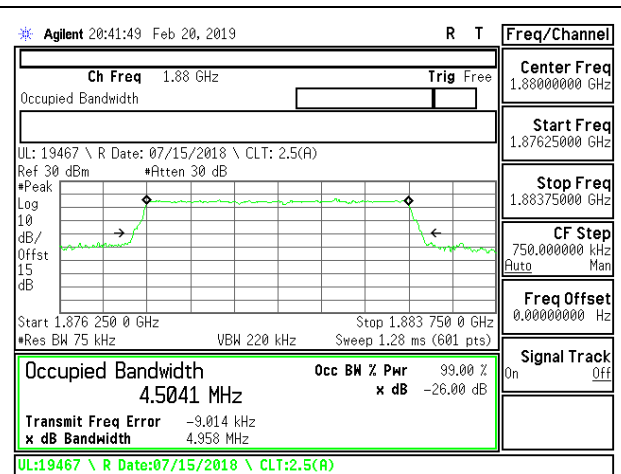
LTE B2 3MHz 16QAM Middle Channel RB15-0



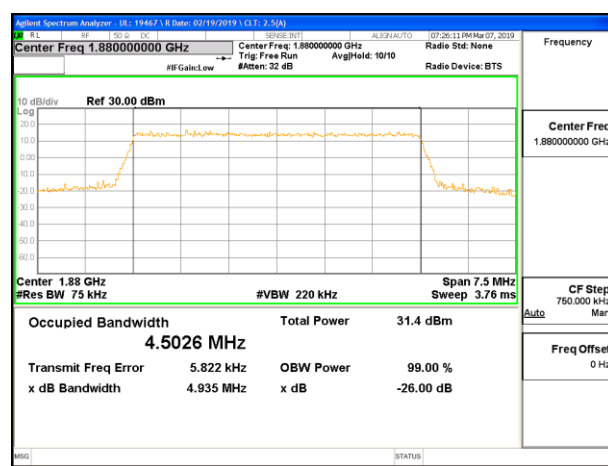
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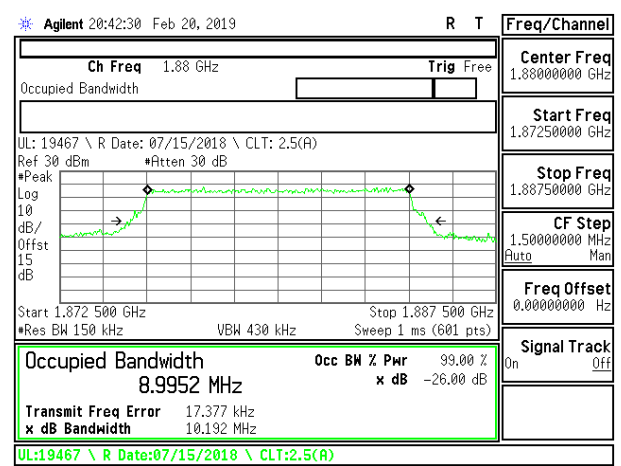
LTE B2 5MHz QPSK Middle Channel RB25-0



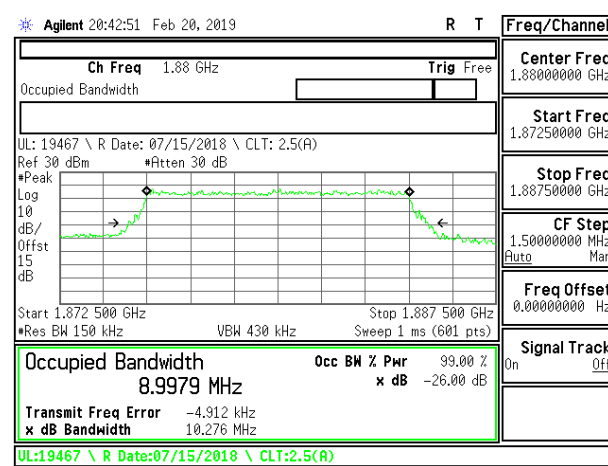
LTE B2 5MHz 16QAM Middle Channel RB25-0



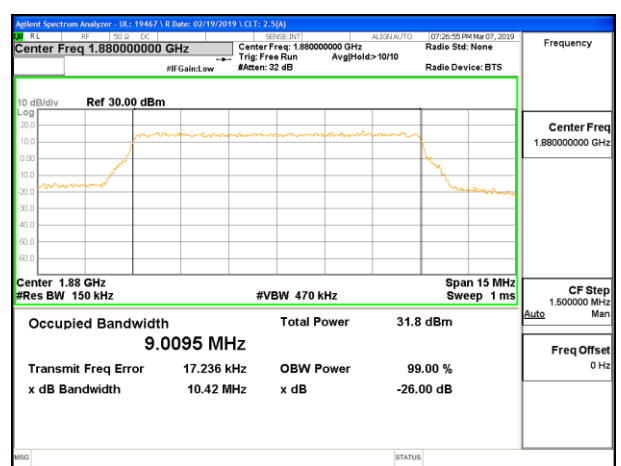
LTE B2 5MHz 64QAM Middle Channel RB25-0



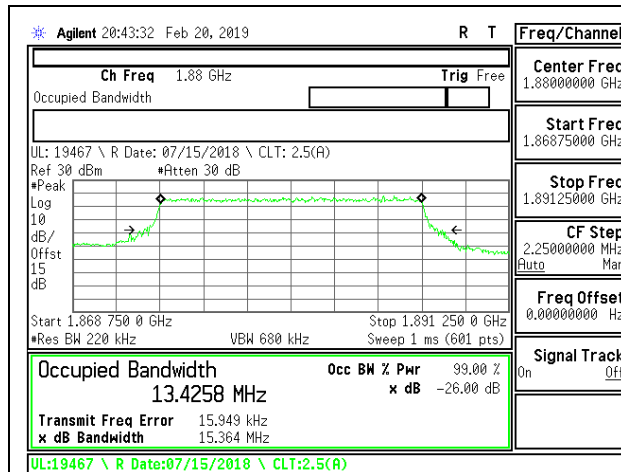
LTE B2 10MHz QPSK Middle Channel RB50-0



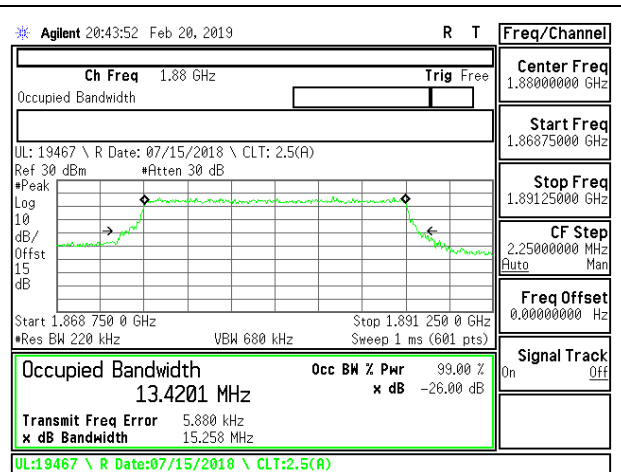
LTE B2 10MHz 16QAM Middle Channel RB50-0



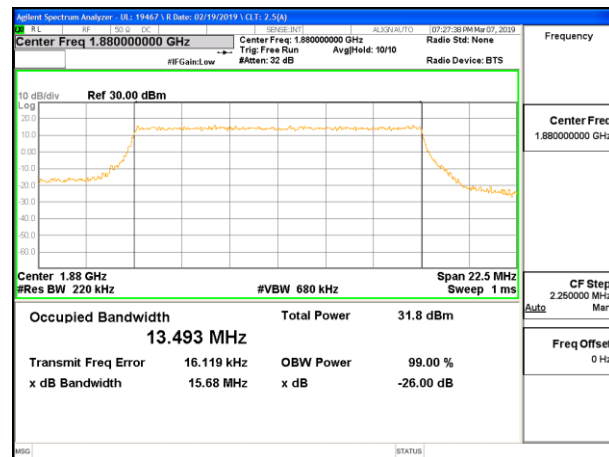
LTE B2 10MHz 64QAM Middle Channel RB50-0



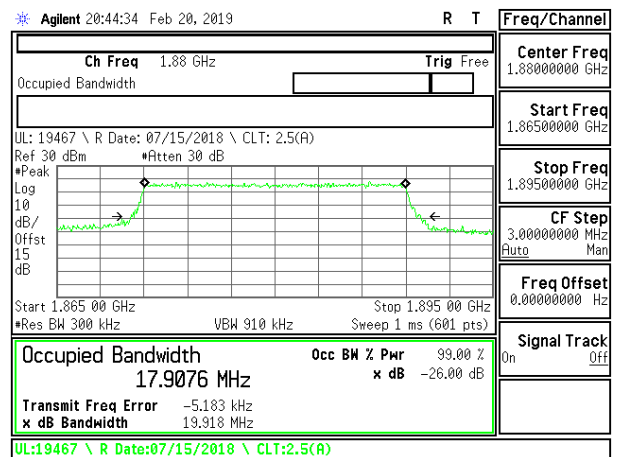
LTE B2 15MHz QPSK Middle Channel RB75-0



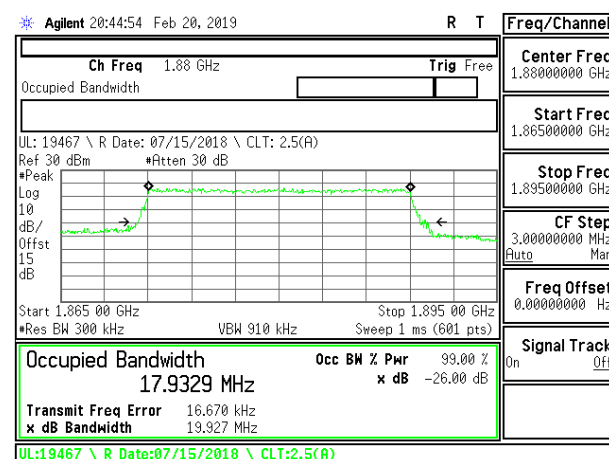
LTE B2 15MHz 16QAM Middle Channel RB75-0



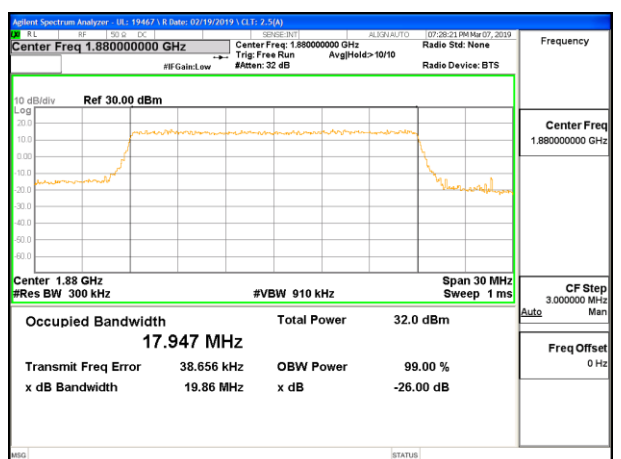
LTE B2 15MHz 64QAM Middle Channel RB75-0



LTE B2 20MHz QPSK Middle Channel RB100-0

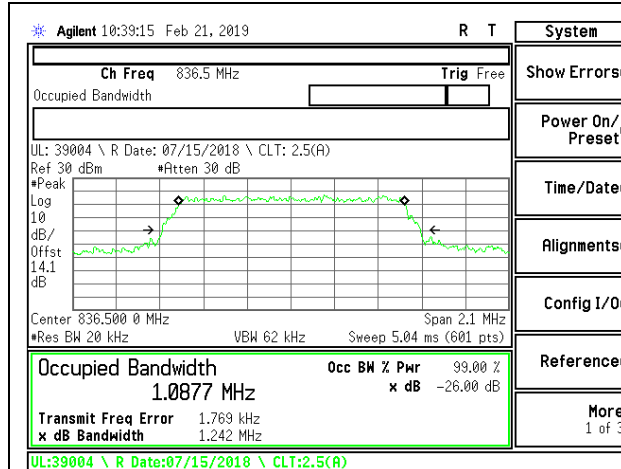


LTE B2 20MHz 16QAM Middle Channel RB100-0

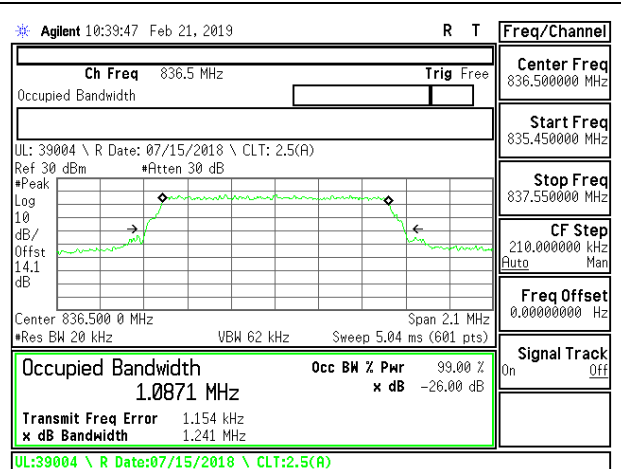


LTE B2 20MHz 64QAM Middle Channel RB100-0

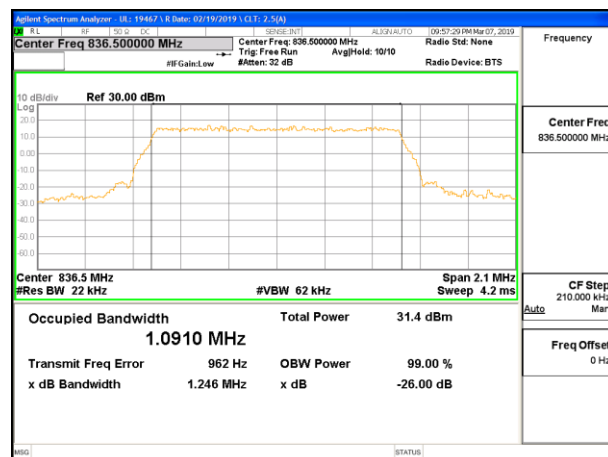
8.1.2. LTE BAND 5



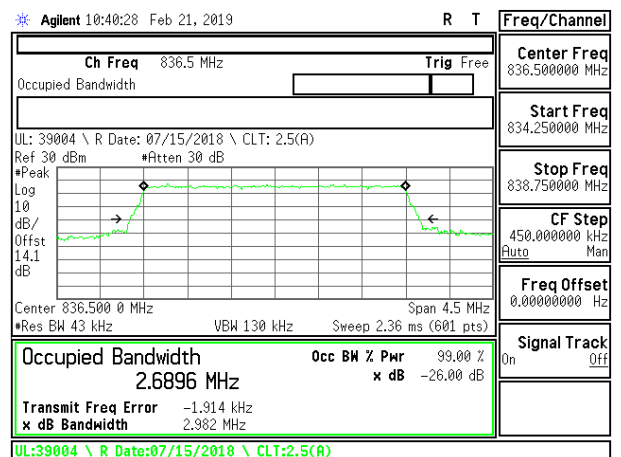
LTE B5 1.4MHz QPSK Middle Channel RB6-0



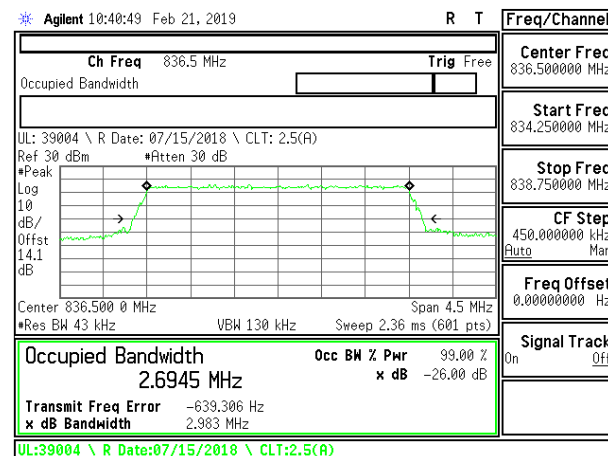
LTE B5 1.4MHz 16QAM Middle Channel RB6-0



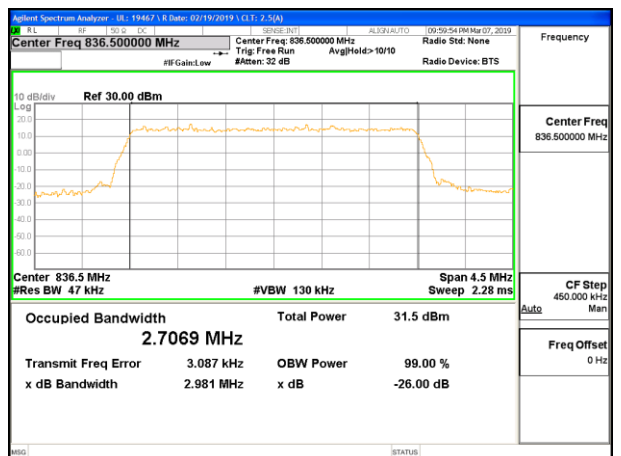
LTE B5 1.4MHz 64QAM Middle Channel RB6-0



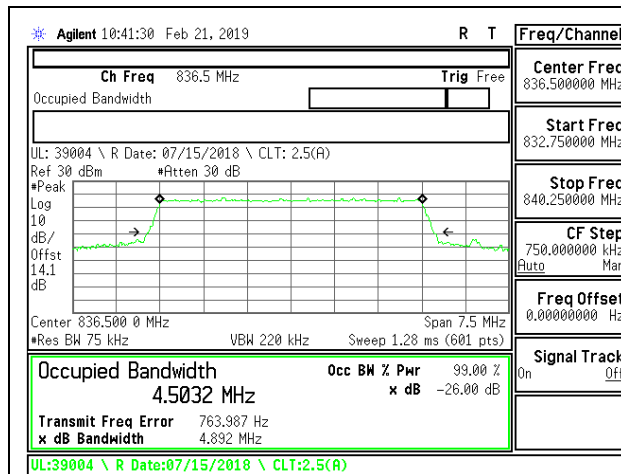
LTE B5 3MHz QPSK Middle Channel RB15-0



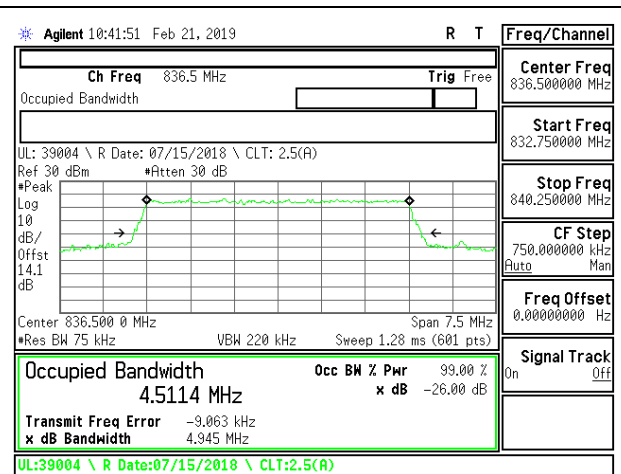
LTE B5 3MHz 16QAM Middle Channel RB15-0



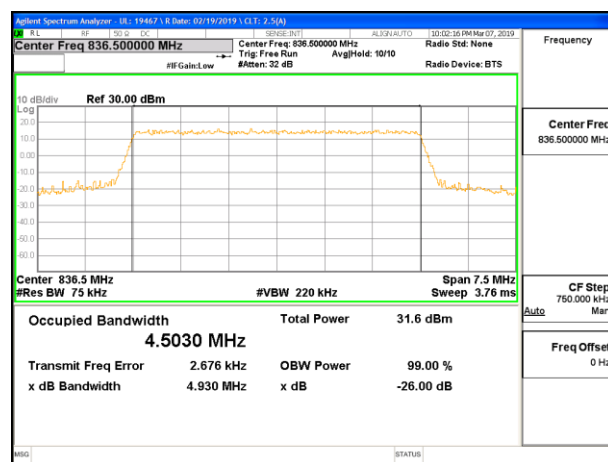
LTE B5 3MHz 64QAM Middle Channel RB15-0



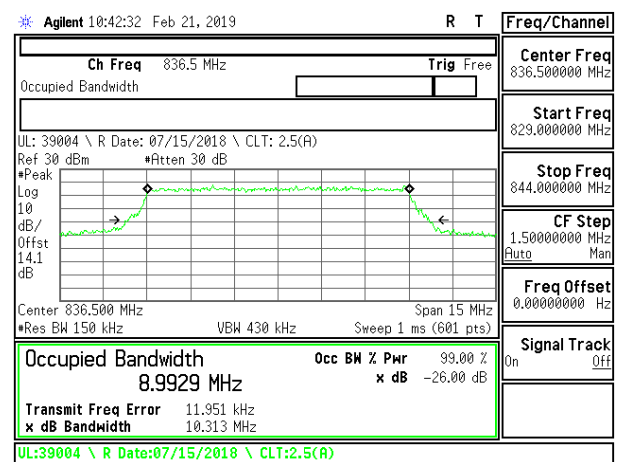
LTE B5 5MHz QPSK Middle Channel RB25-0



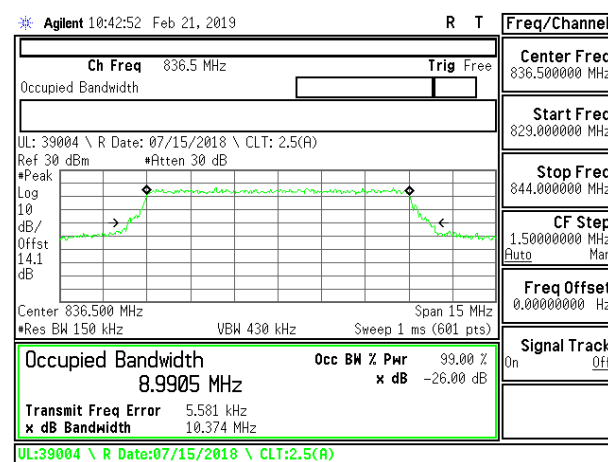
LTE B5 5MHz 16QAM Middle Channel RB25-0



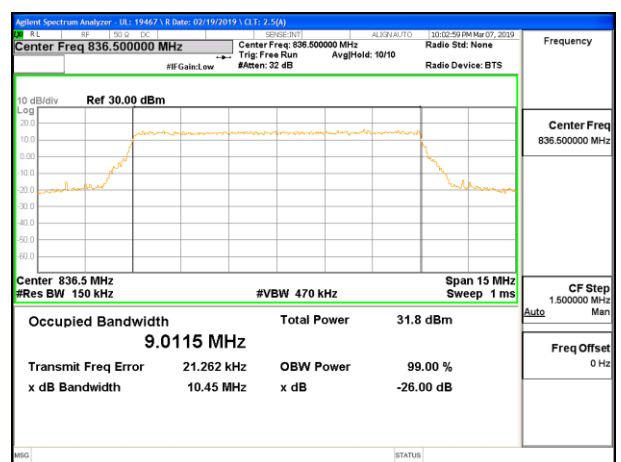
LTE B5 5MHz 64QAM Middle Channel RB25-0



LTE B5 10MHz QPSK Middle Channel RB50-0

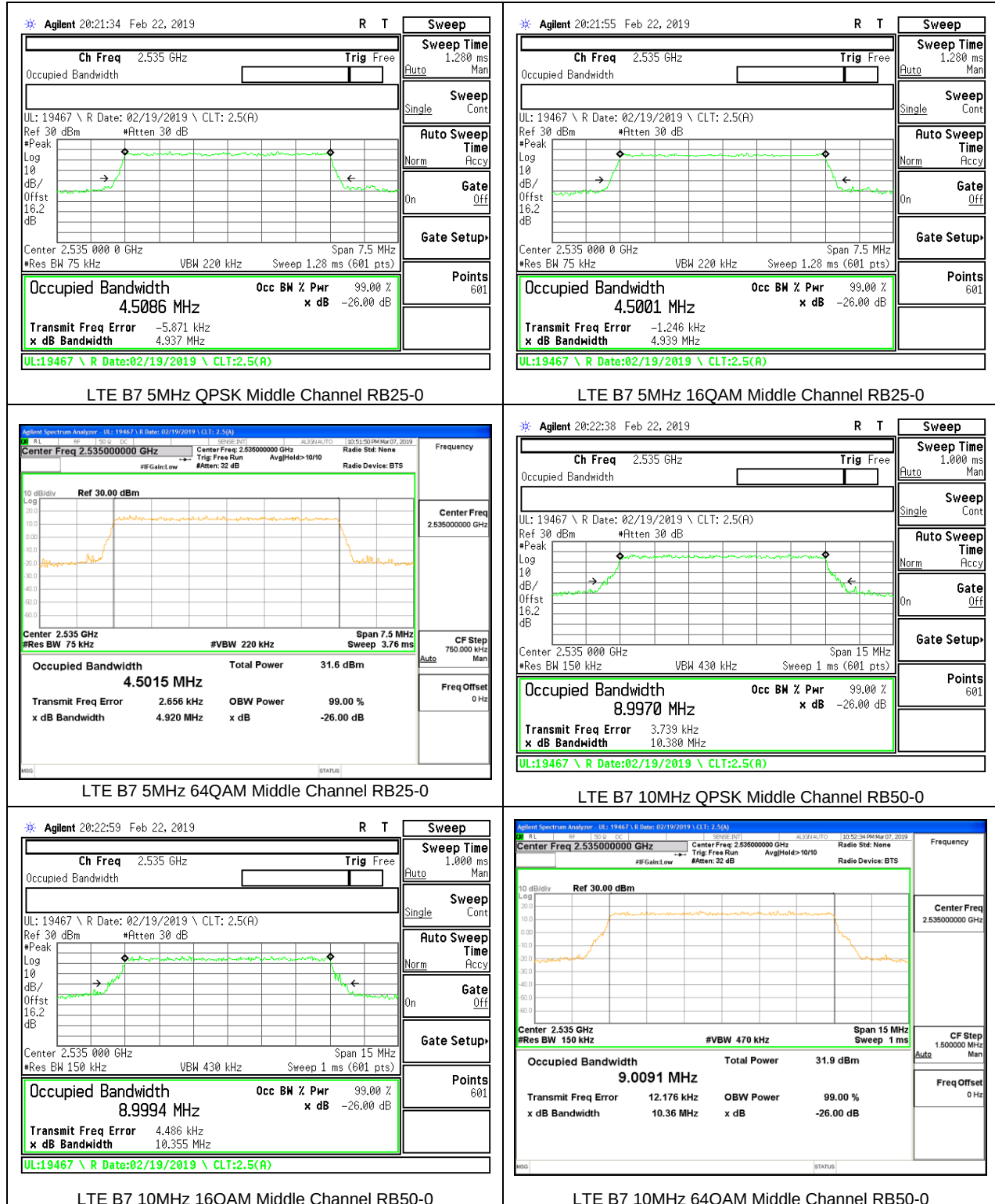


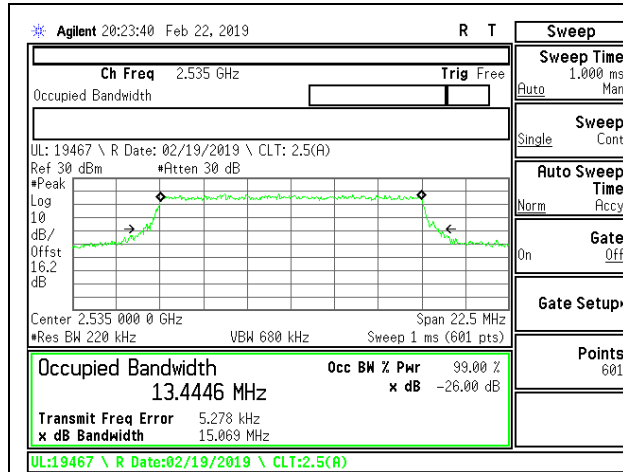
LTE B5 10MHz 16QAM Middle Channel RB50-0



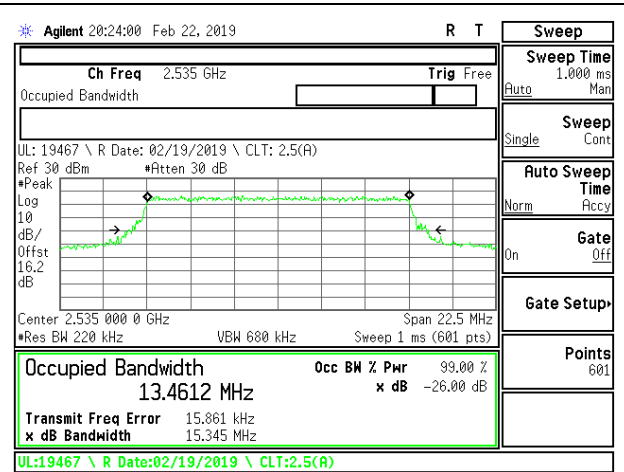
LTE B5 10MHz 64QAM Middle Channel RB50-0

8.1.3. LTE BAND 7

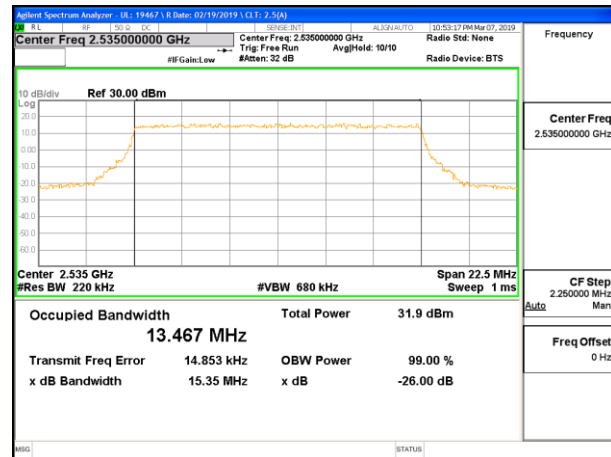




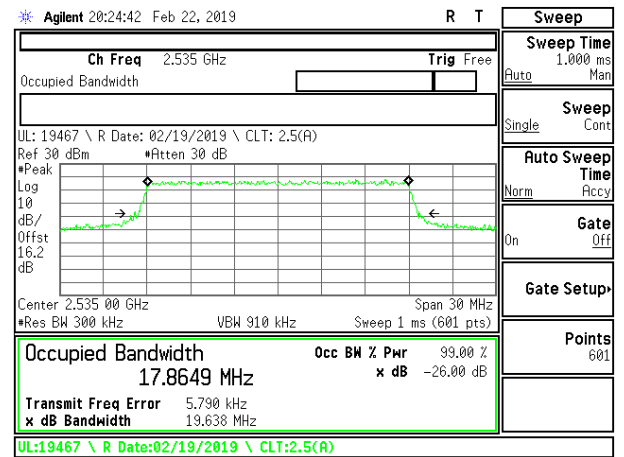
LTE B7 15MHz QPSK Middle Channel RB75-0



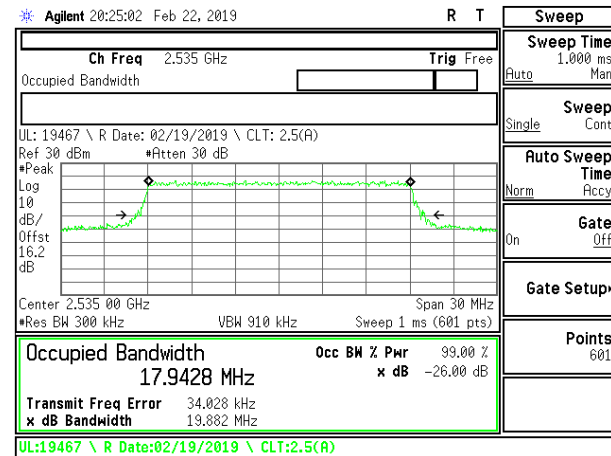
LTE B7 15MHz 16QAM Middle Channel RB75-0



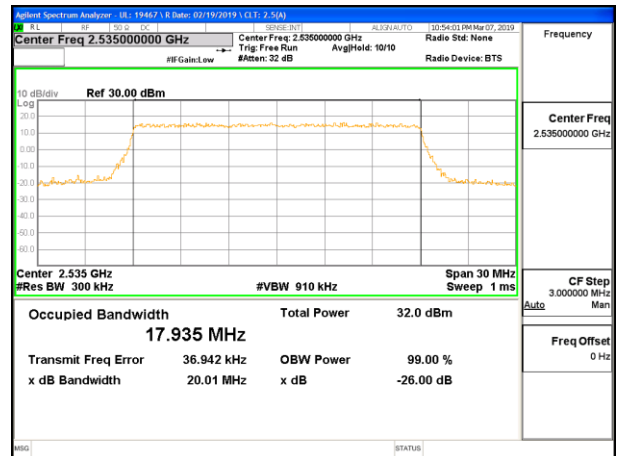
LTE B7 15MHz 64QAM Middle Channel RB75-0



LTE B7 20MHz QPSK Middle Channel RB100-0

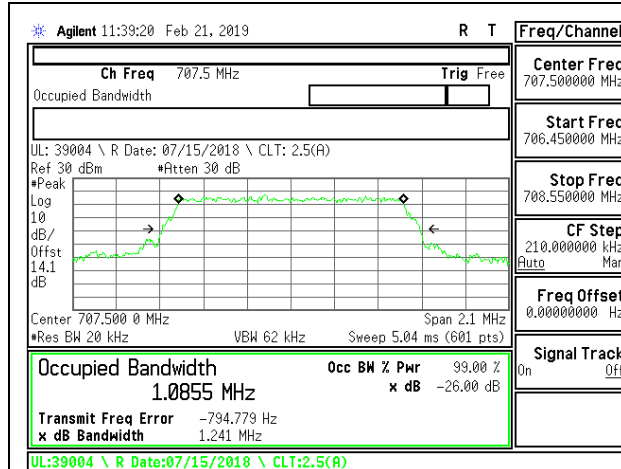


LTE B7 20MHz 16QAM Middle Channel RB100-0

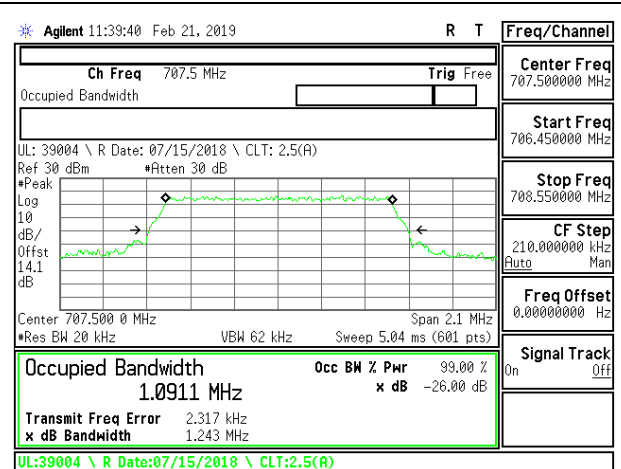


LTE B7 20MHz 64QAM Middle Channel RB100-0

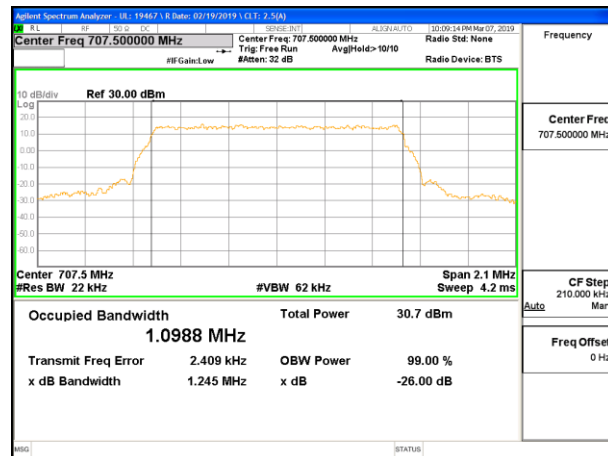
8.1.4. LTE BAND 12



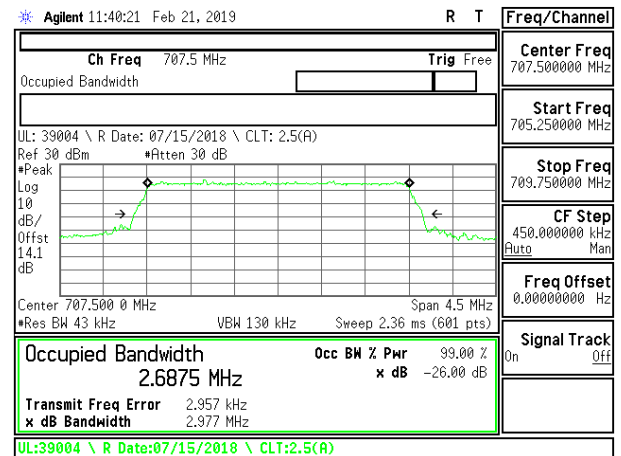
LTE B12 1.4MHz QPSK Middle Channel RB6-0



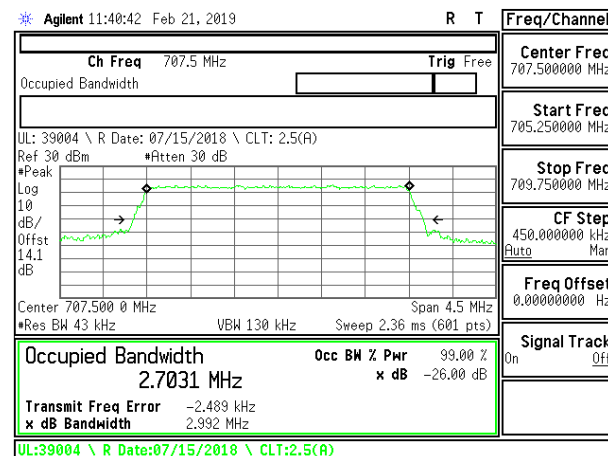
LTE B12 1.4MHz 16QAM Middle Channel RB6-0



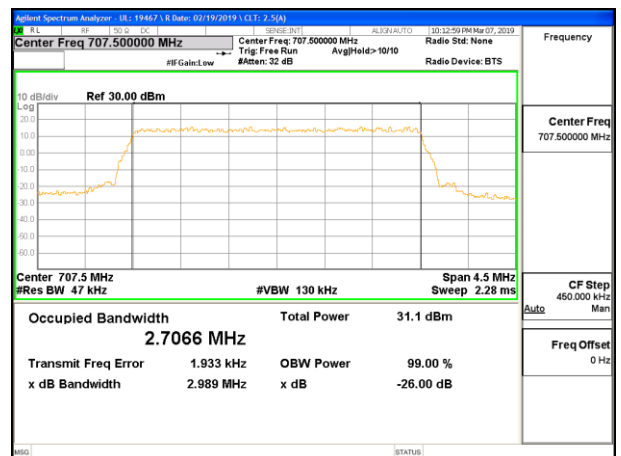
LTE B12 1.4MHz 64QAM Middle Channel RB6-0



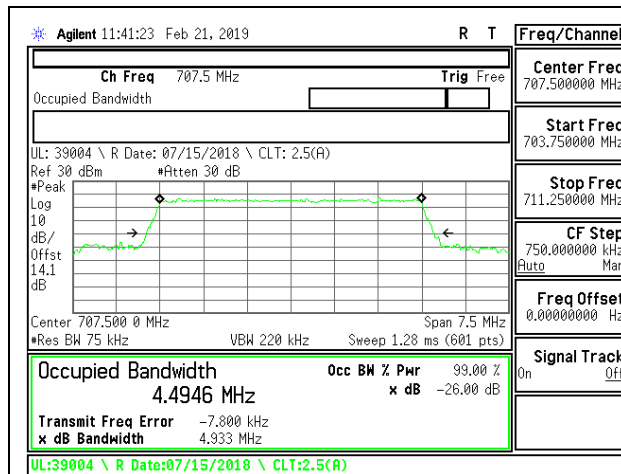
LTE B12 3MHz QPSK Middle Channel RB15-0



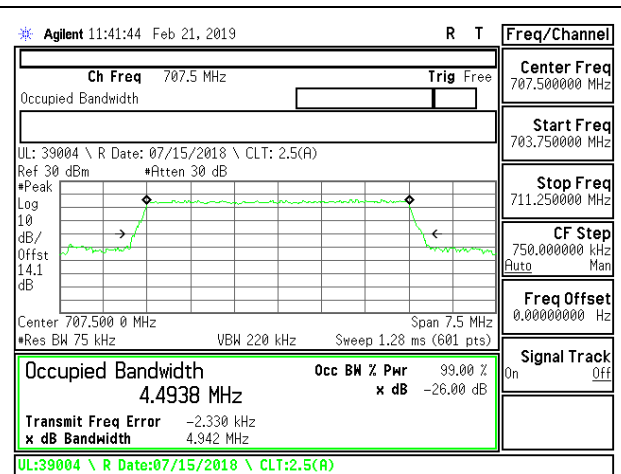
LTE B12 3MHz 16QAM Middle Channel RB15-0



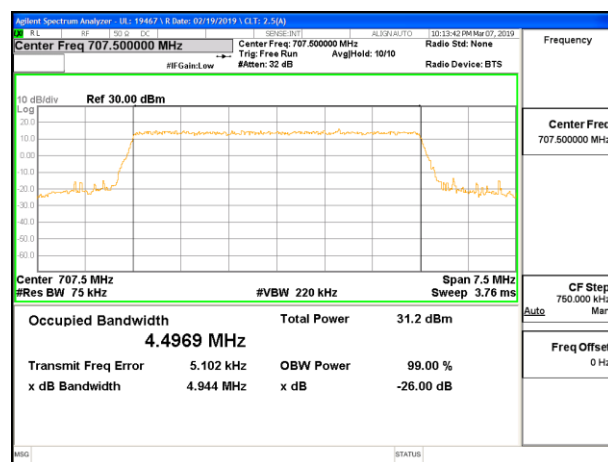
LTE B12 3MHz 64QAM Middle Channel RB15-0



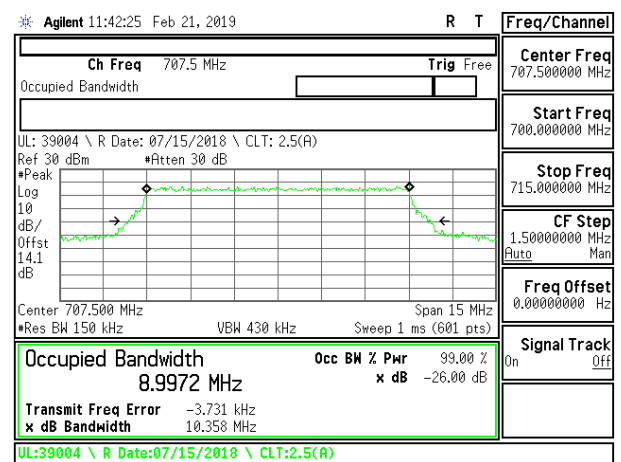
LTE B12 5MHz QPSK Middle Channel RB25-0



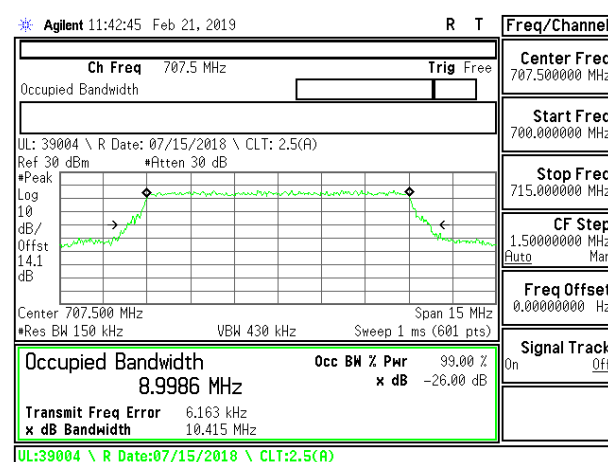
LTE B12 5MHz 16QAM Middle Channel RB25-0



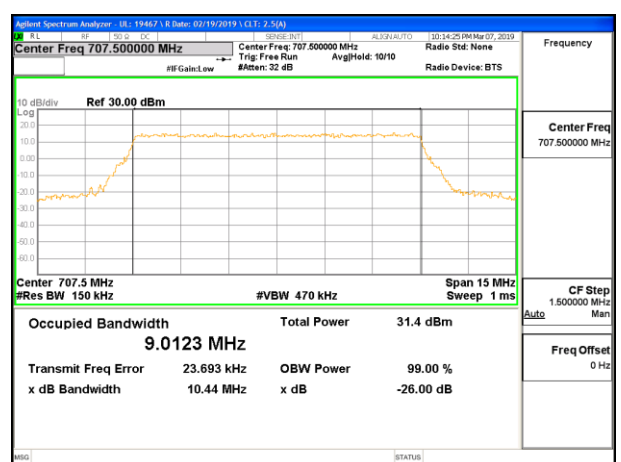
LTE B12 5MHz 64QAM Middle Channel RB25-0



LTE B12 10MHz QPSK Middle Channel RB50-0

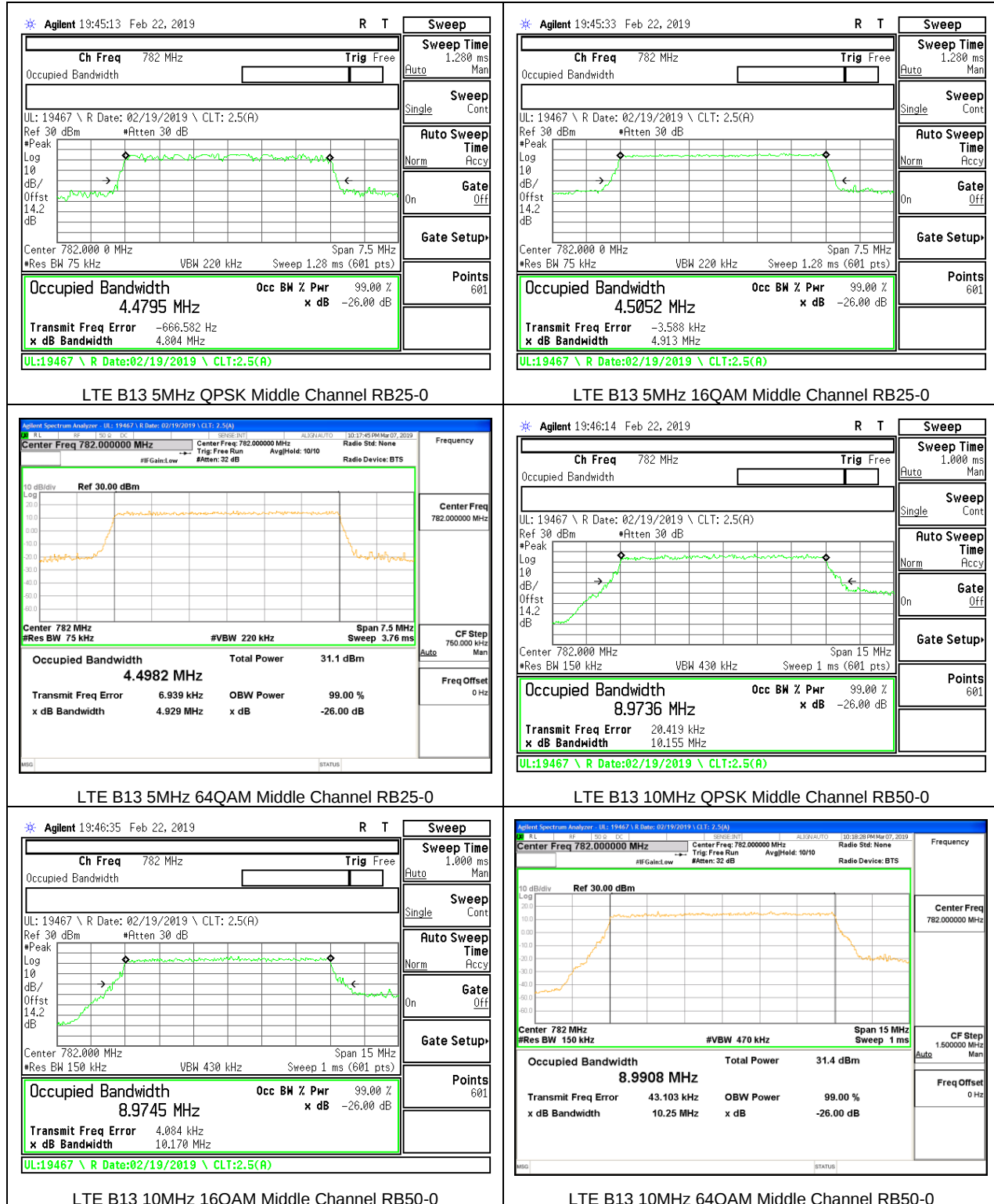


LTE B12 10MHz 16QAM Middle Channel RB50-0

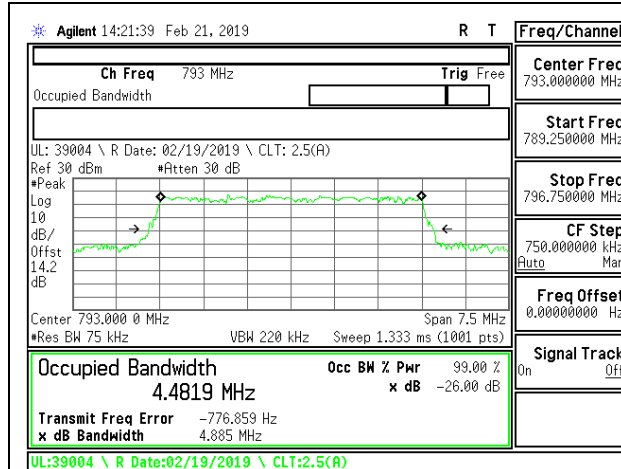


LTE B12 10MHz 64QAM Middle Channel RB50-0

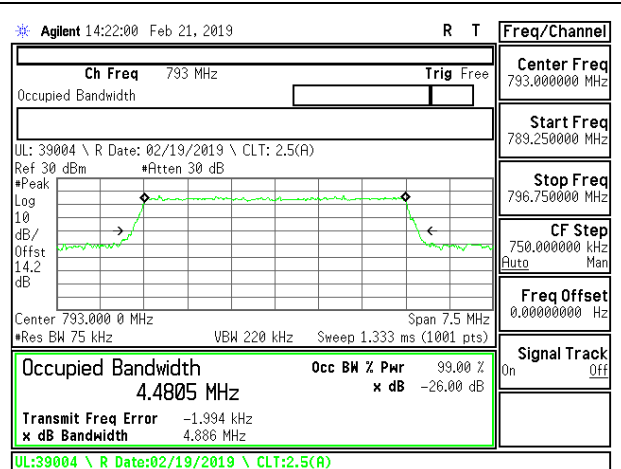
8.1.5. LTE BAND 13



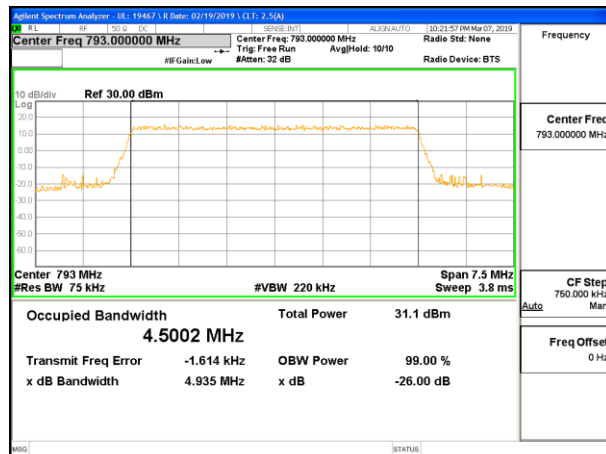
8.1.6. LTE BAND 14



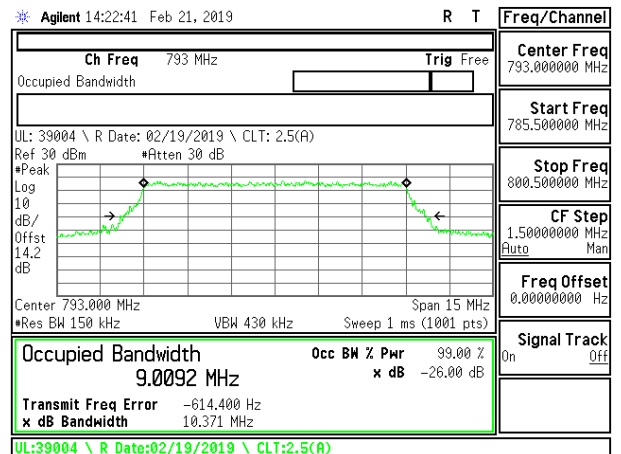
LTE B14 5MHz QPSK Middle Channel RB25-0



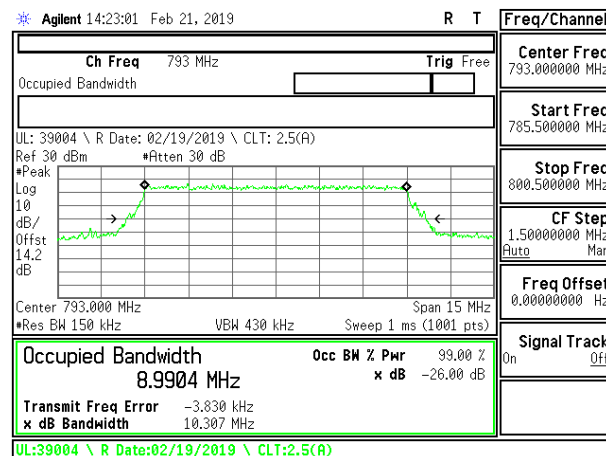
LTE B14 5MHz 16QAM Middle Channel RB25-0



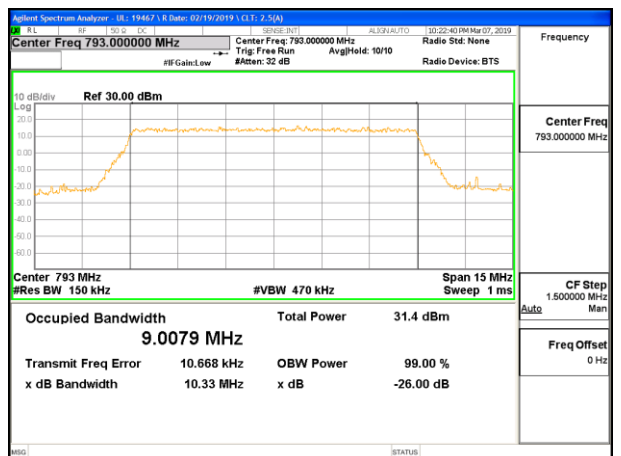
LTE B14 5MHz 64QAM Middle Channel RB25-0



LTE B14 10MHz QPSK Middle Channel RB50-0

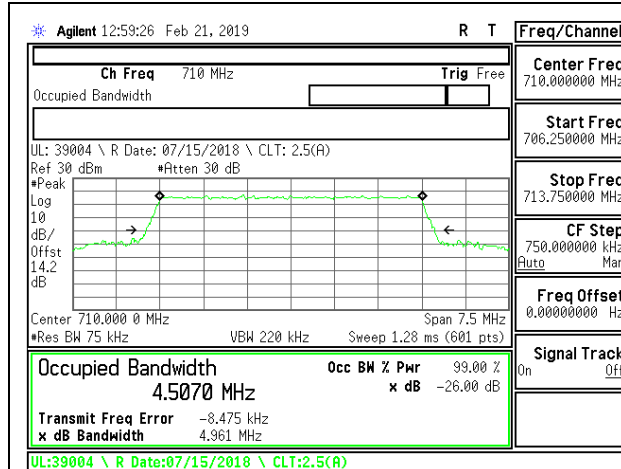


LTE B14 10MHz 16QAM Middle Channel RB50-0

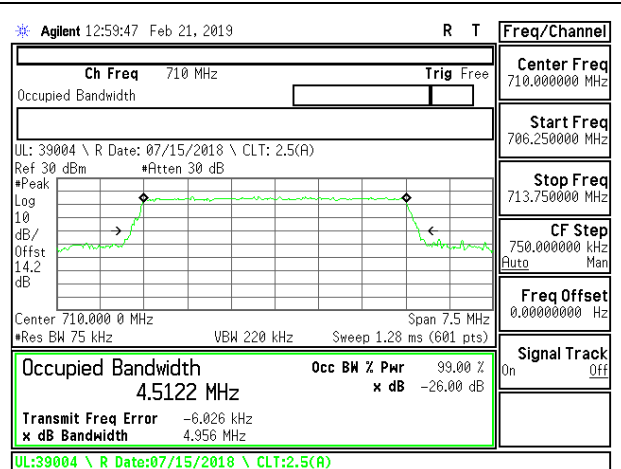


LTE B14 10MHz 64QAM Middle Channel RB50-0

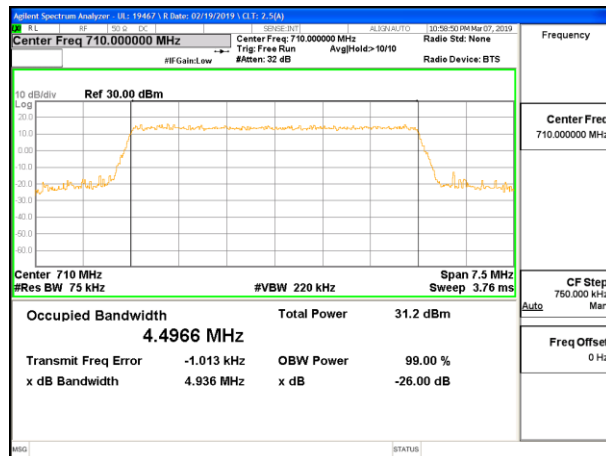
8.1.7. LTE BAND 17



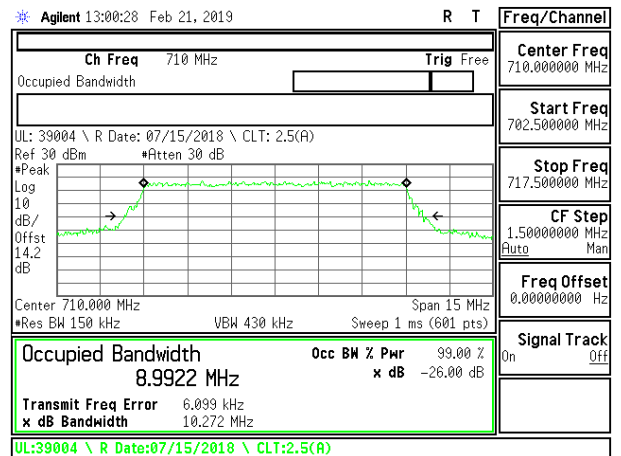
LTE B17 5MHz QPSK Middle Channel RB25-0



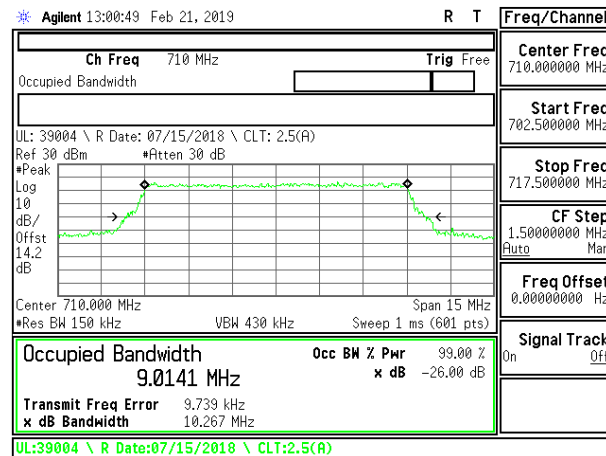
LTE B17 5MHz 16QAM Middle Channel RB25-0



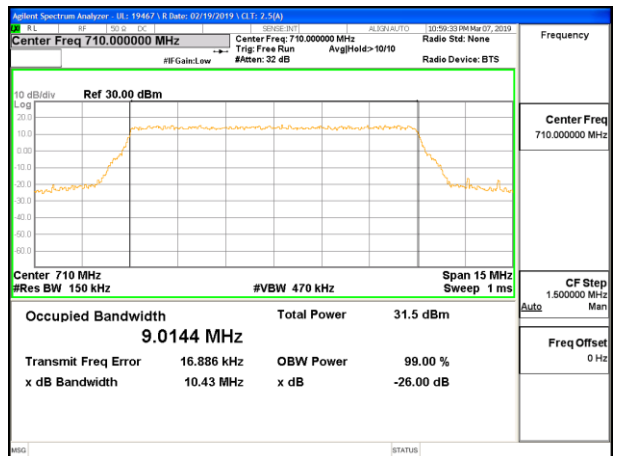
LTE B17 5MHz 64QAM Middle Channel RB25-0



LTE B17 10MHz QPSK Middle Channel RB50-0

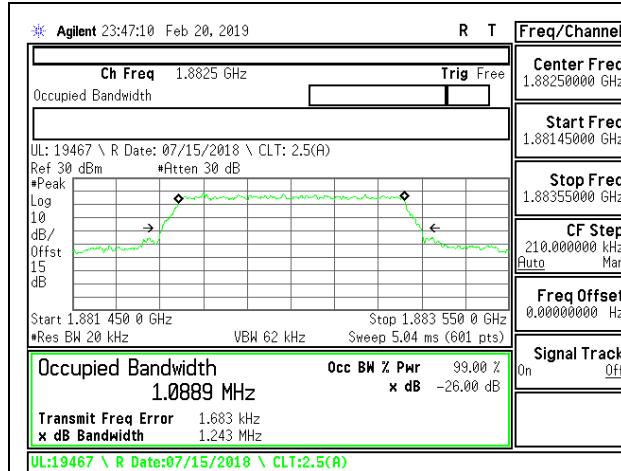


LTE B17 10MHz 16QAM Middle Channel RB50-0

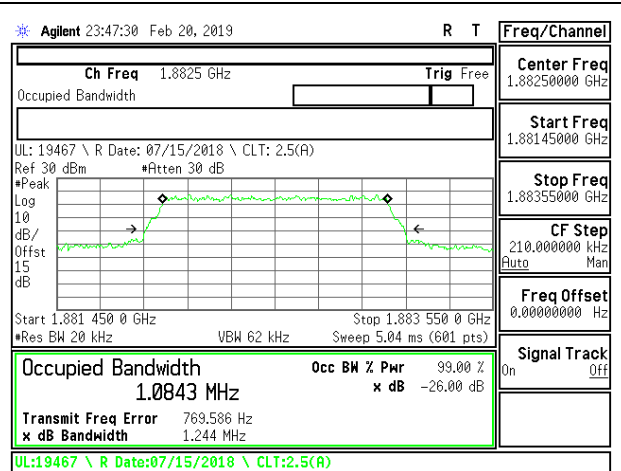


LTE B17 10MHz 64QAM Middle Channel RB50-0

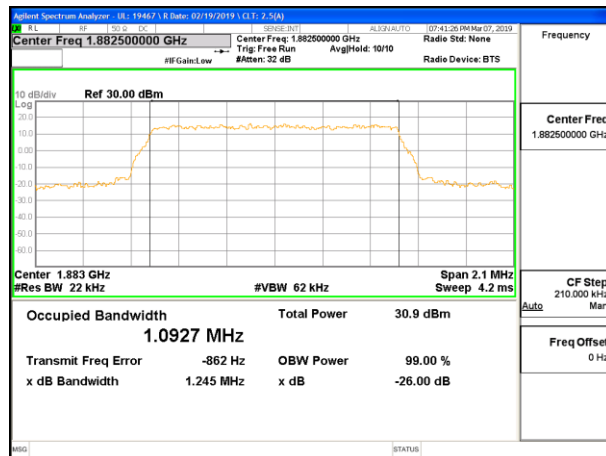
8.1.8. LTE BAND 25



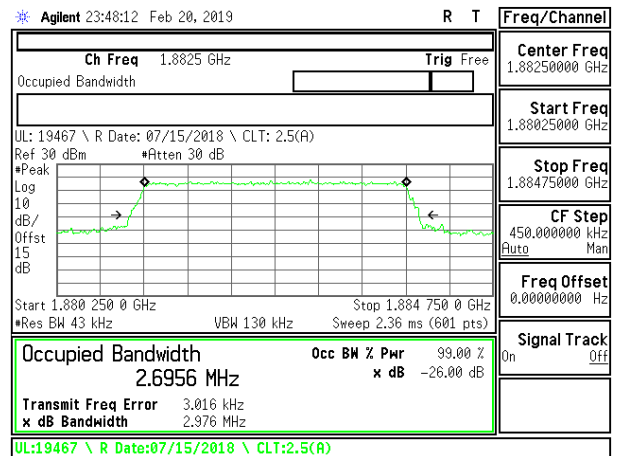
LTE B25 1.4MHz QPSK Middle Channel RB6-0



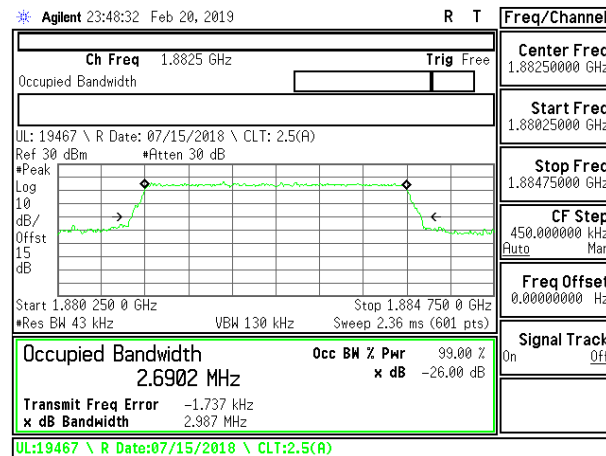
LTE B25 1.4MHz 16QAM Middle Channel RB6-0



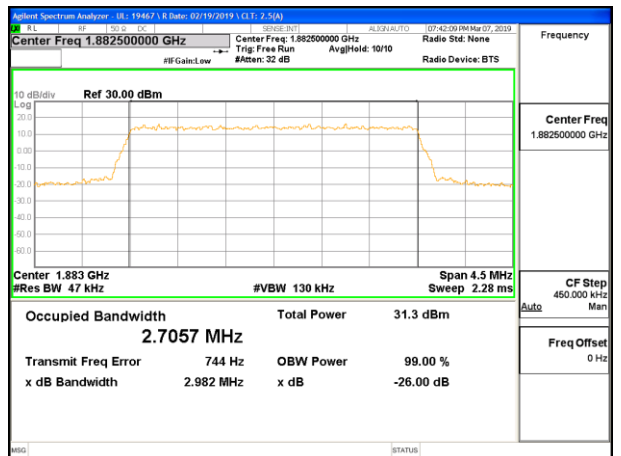
LTE B25 1.4MHz 64QAM Middle Channel RB6-0



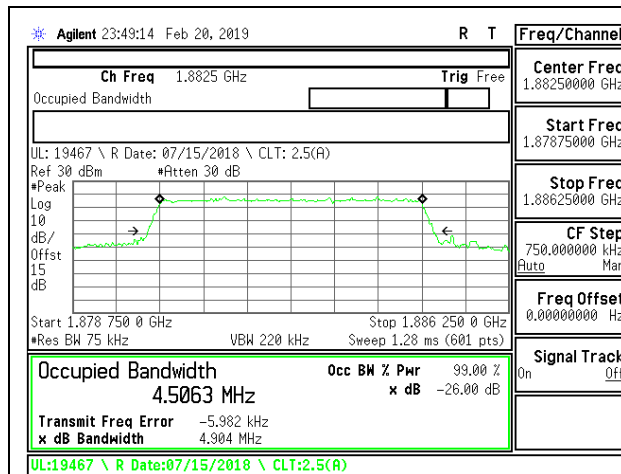
LTE B25 3MHz QPSK Middle Channel RB15-0



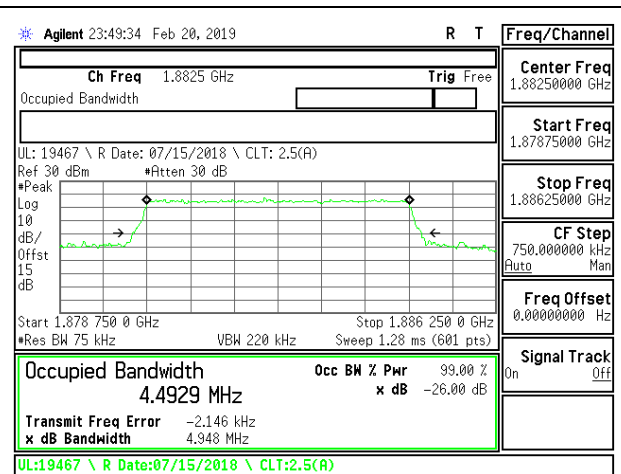
LTE B25 3MHz 16QAM Middle Channel RB15-0



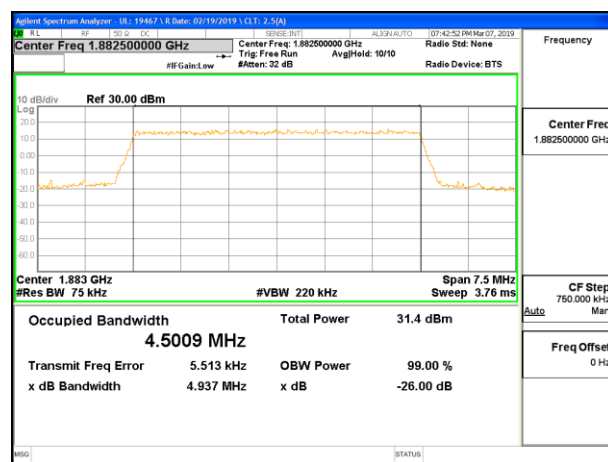
LTE B25 3MHz 64QAM Middle Channel RB15-0



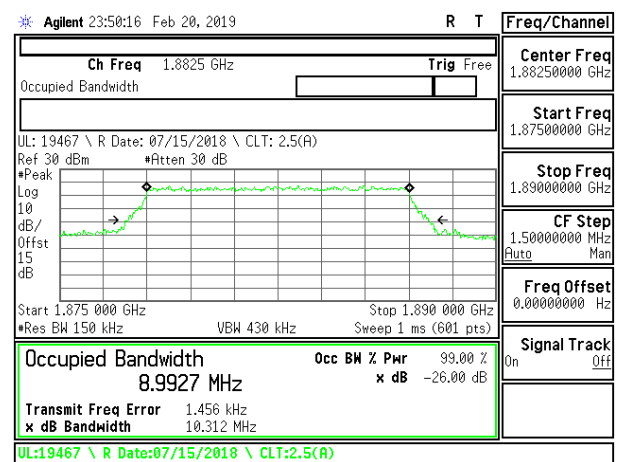
LTE B25 5MHz QPSK Middle Channel RB25-0



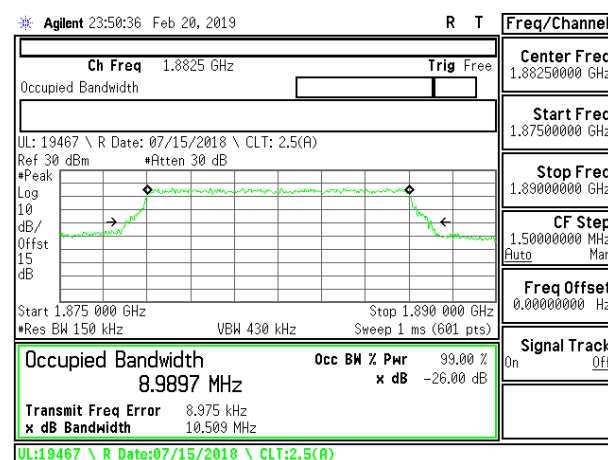
LTE B25 5MHz 16QAM Middle Channel RB25-0



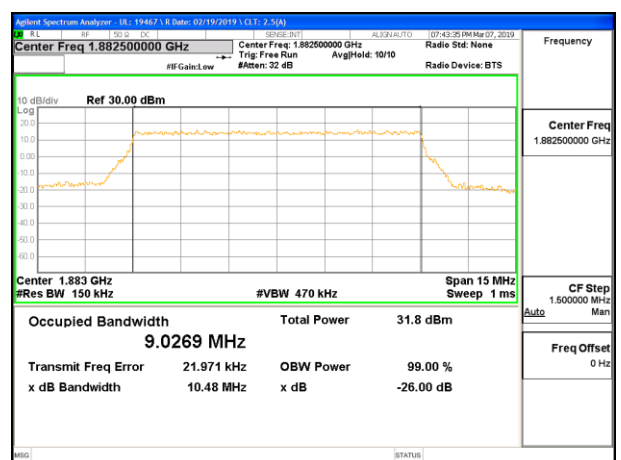
LTE B25 5MHz 64QAM Middle Channel RB25-0



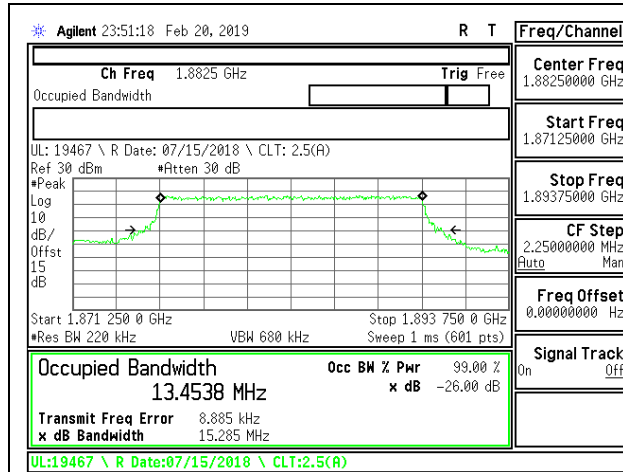
LTE B25 10MHz QPSK Middle Channel RB50-0



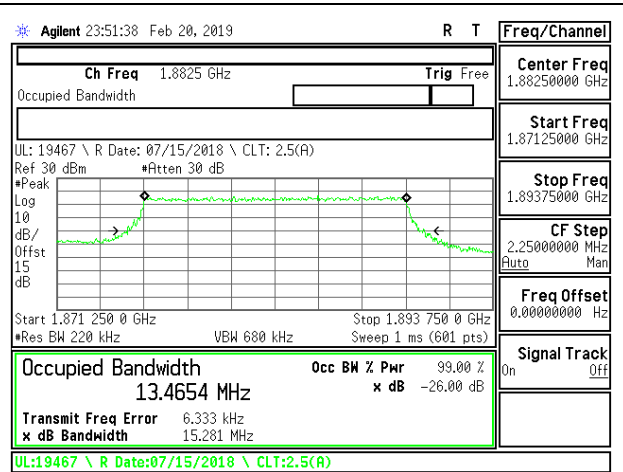
LTE B25 10MHz 16QAM Middle Channel RB50-0



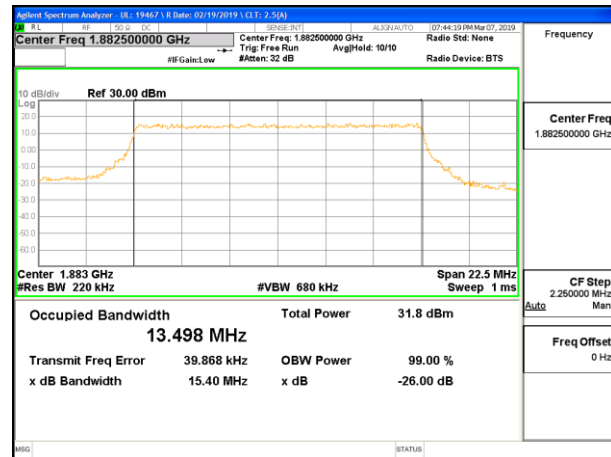
LTE B25 10MHz 64QAM Middle Channel RB50-0



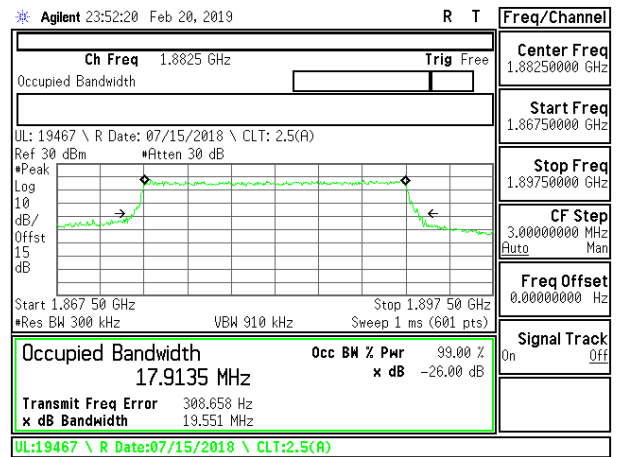
LTE B25 15MHz QPSK Middle Channel RB75-0



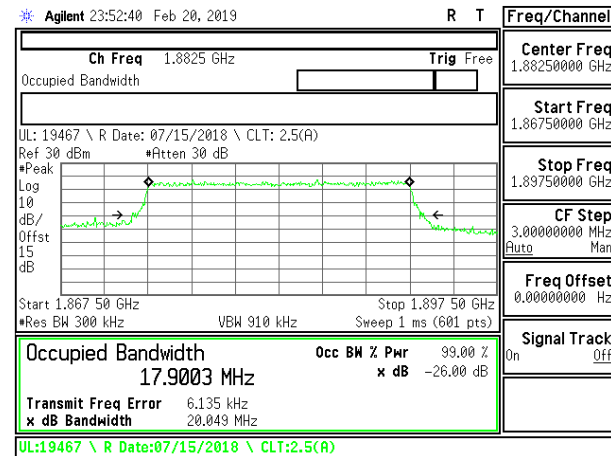
LTE B25 15MHz 16QAM Middle Channel RB75-0



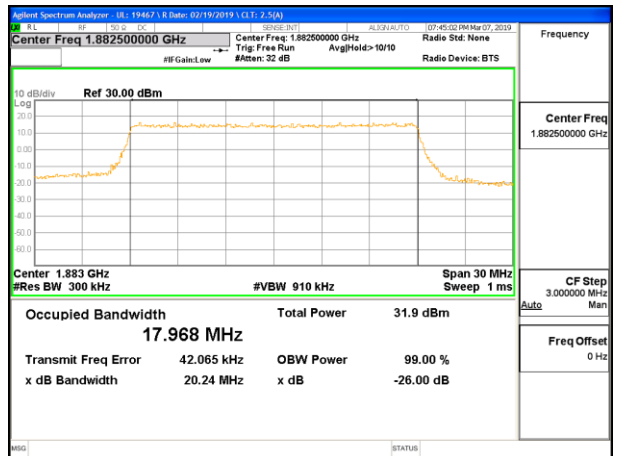
LTE B25 15MHz 64QAM Middle Channel RB75-0



LTE B25 20MHz QPSK Middle Channel RB100-0

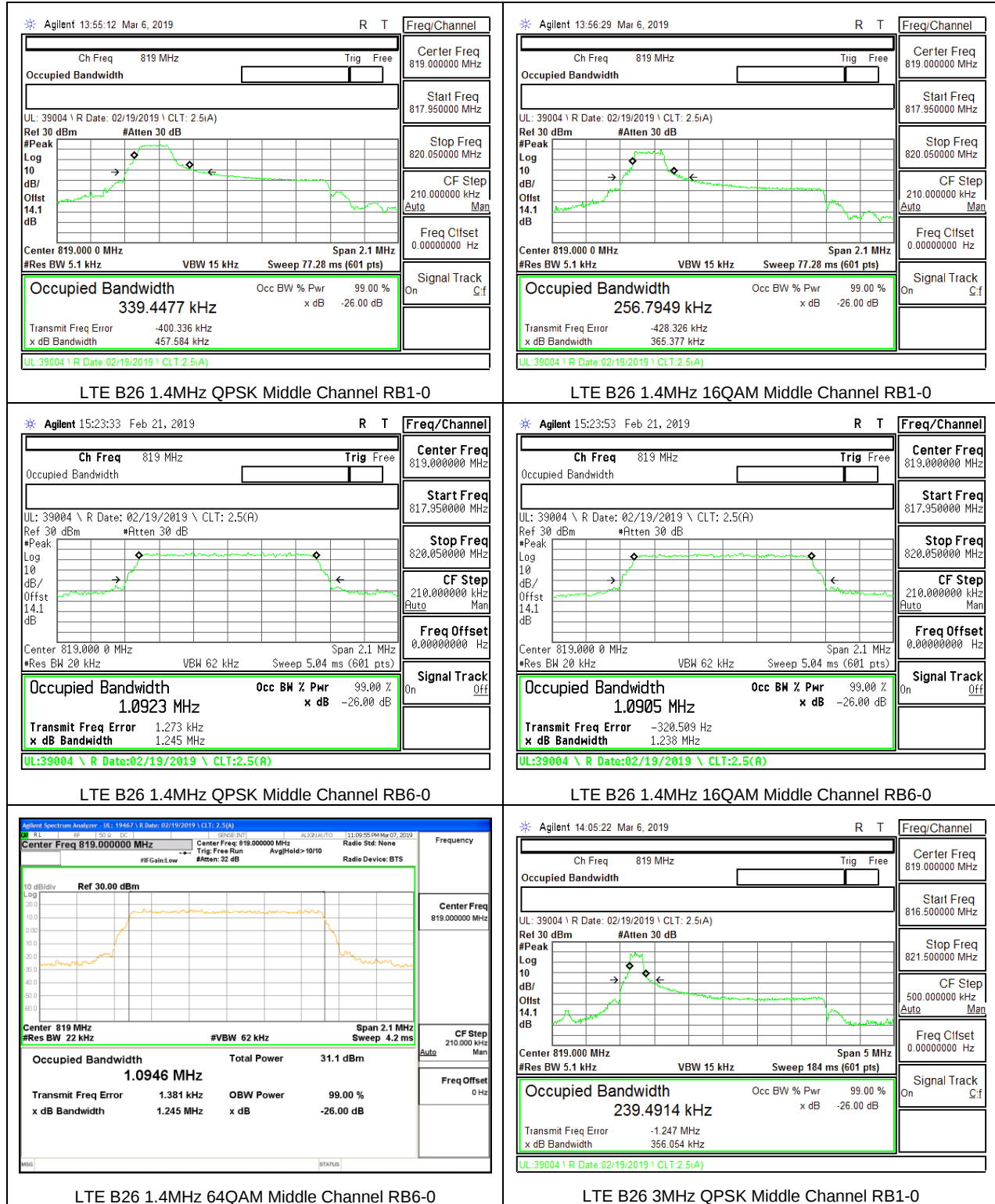


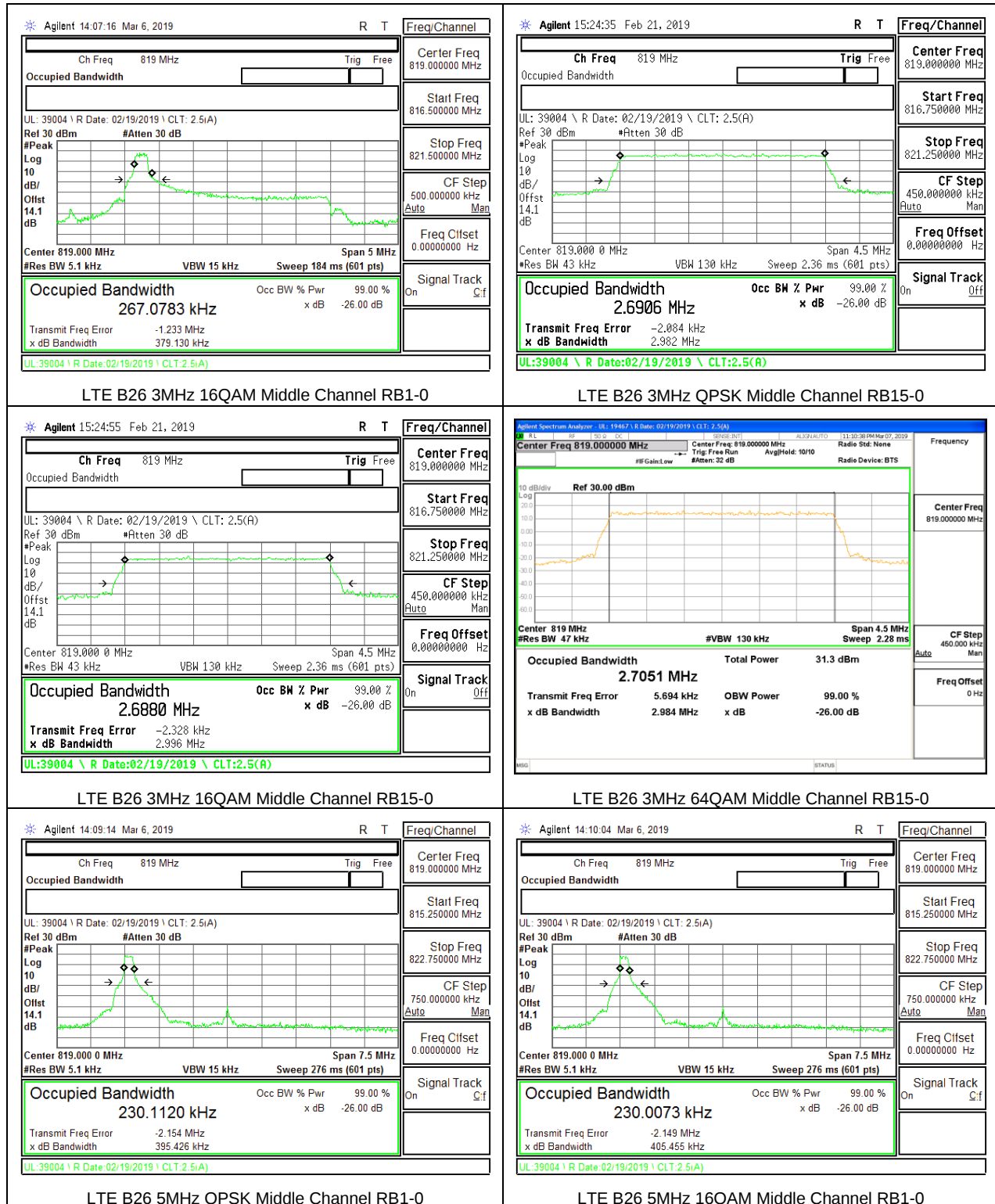
LTE B25 20MHz 16QAM Middle Channel RB100-0

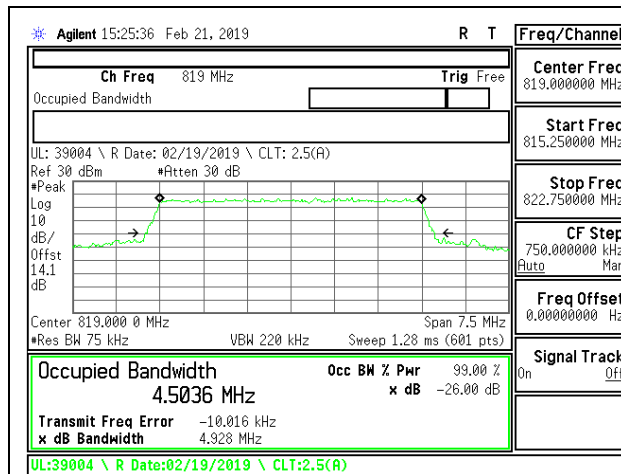


LTE B25 20MHz 64QAM Middle Channel RB100-0

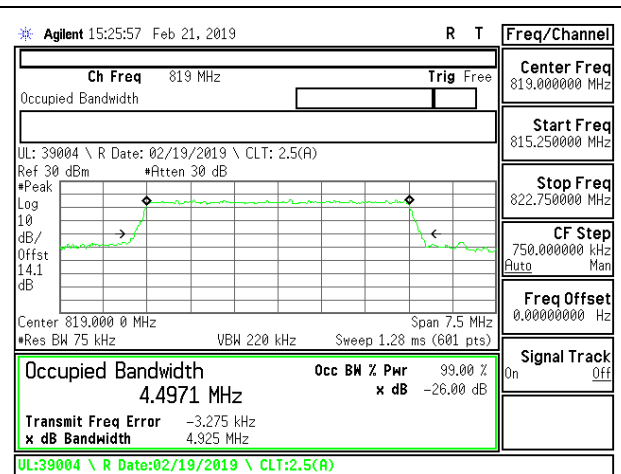
8.1.9. LTE BAND 26



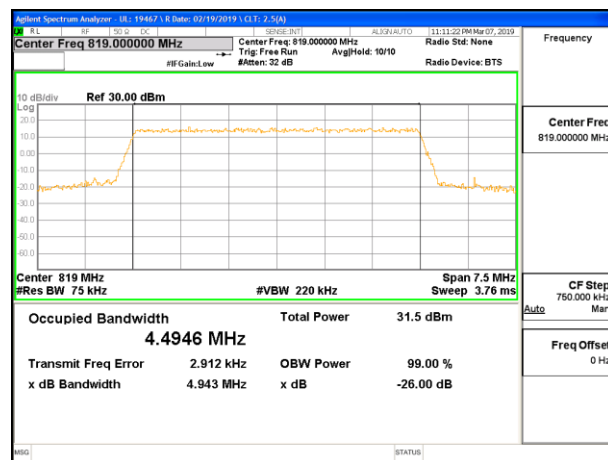




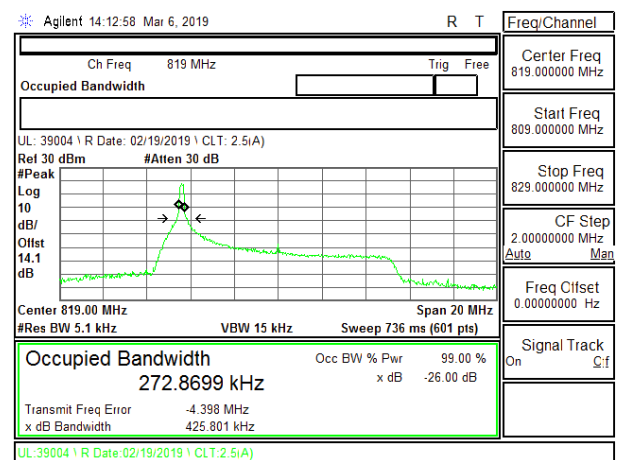
LTE B26 5MHz QPSK Middle Channel RB25-0



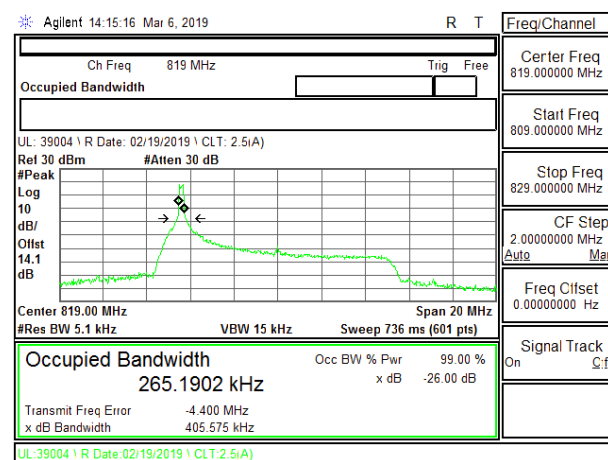
LTE B26 5MHz 16QAM Middle Channel RB25-0



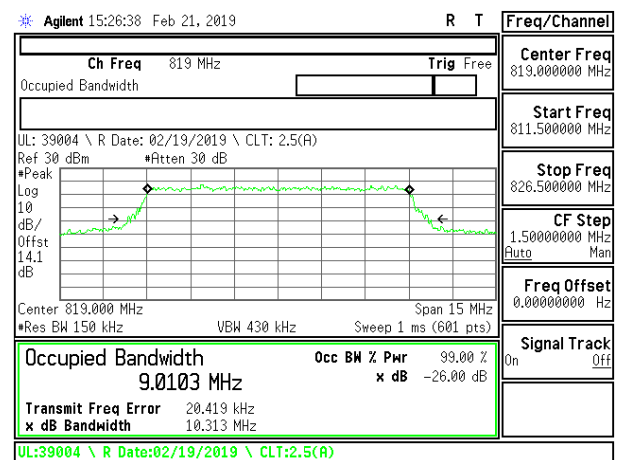
LTE B26 5MHz 64QAM Middle Channel RB25-0



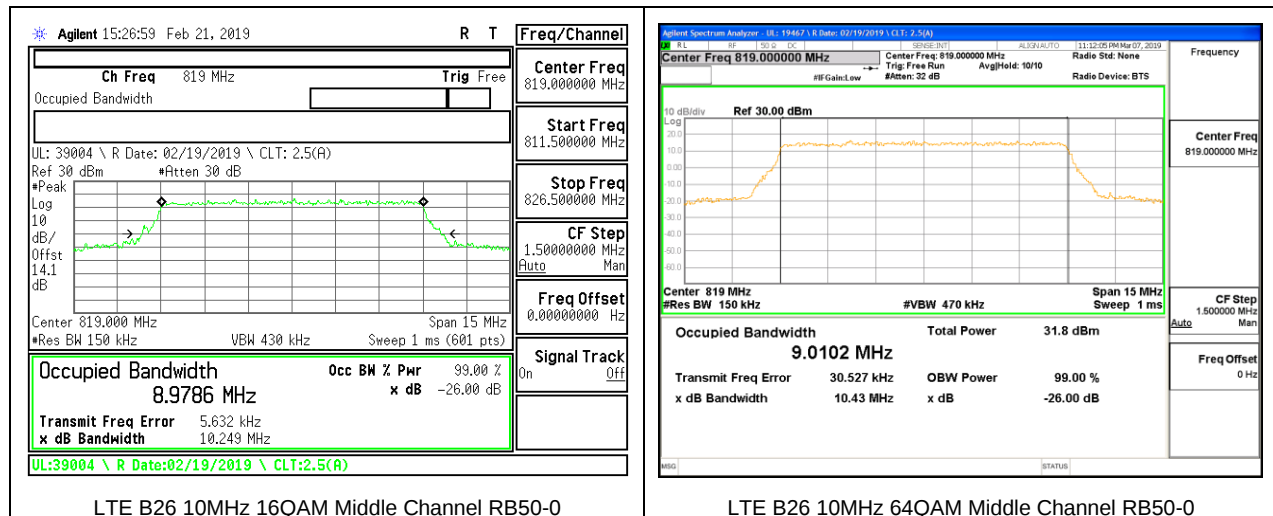
LTE B26 10MHz QPSK Middle Channel RB1-0



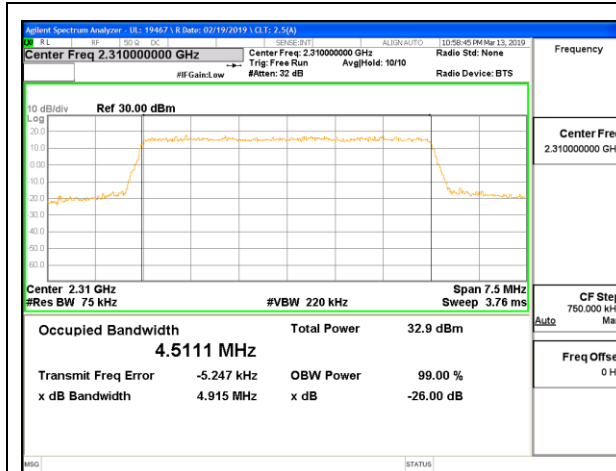
LTE B26 10MHz 16QAM Middle Channel RB1-0



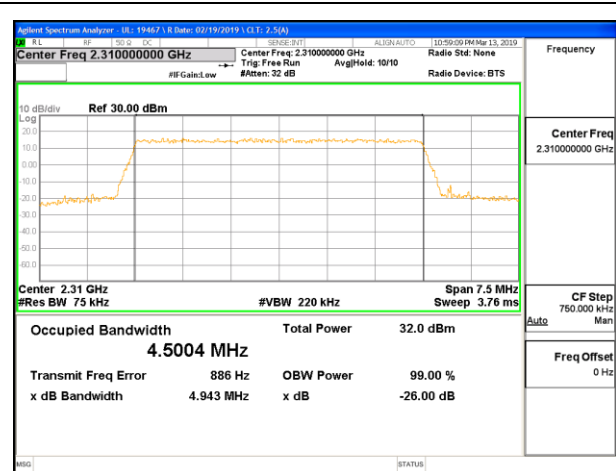
LTE B26 10MHz QPSK Middle Channel RB50-0



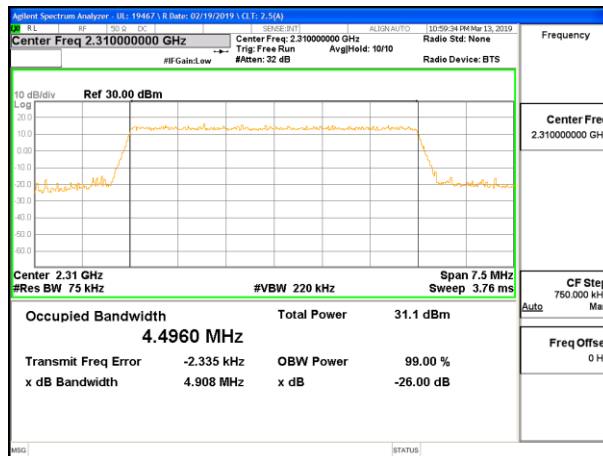
8.1.10. LTE BAND 30



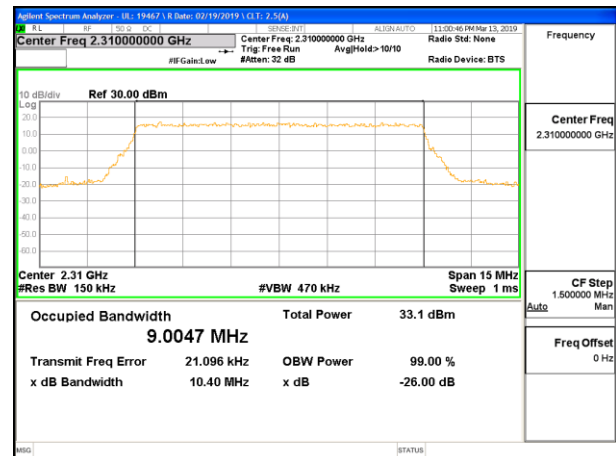
LTE B30 5MHz QPSK Middle Channel RB25-0



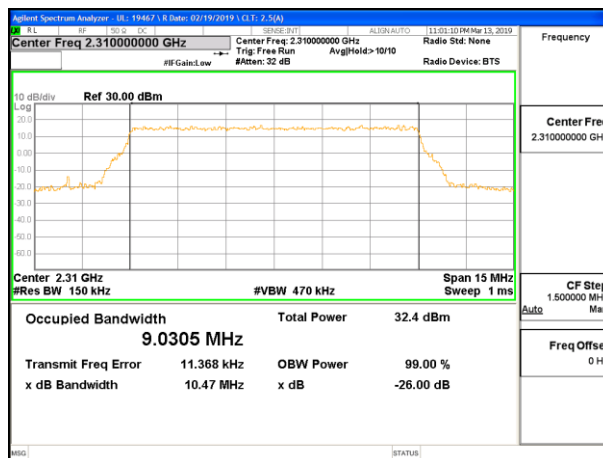
LTE B30 5MHz 16QAM Middle Channel RB25-0



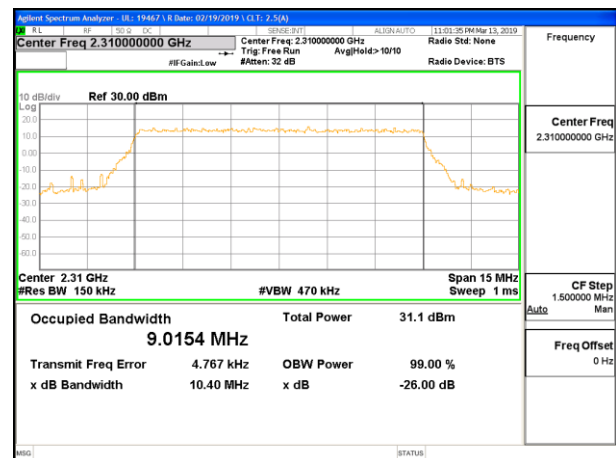
LTE B30 5MHz 64QAM Middle Channel RB25-0



LTE B30 10MHz QPSK Middle Channel RB50-0

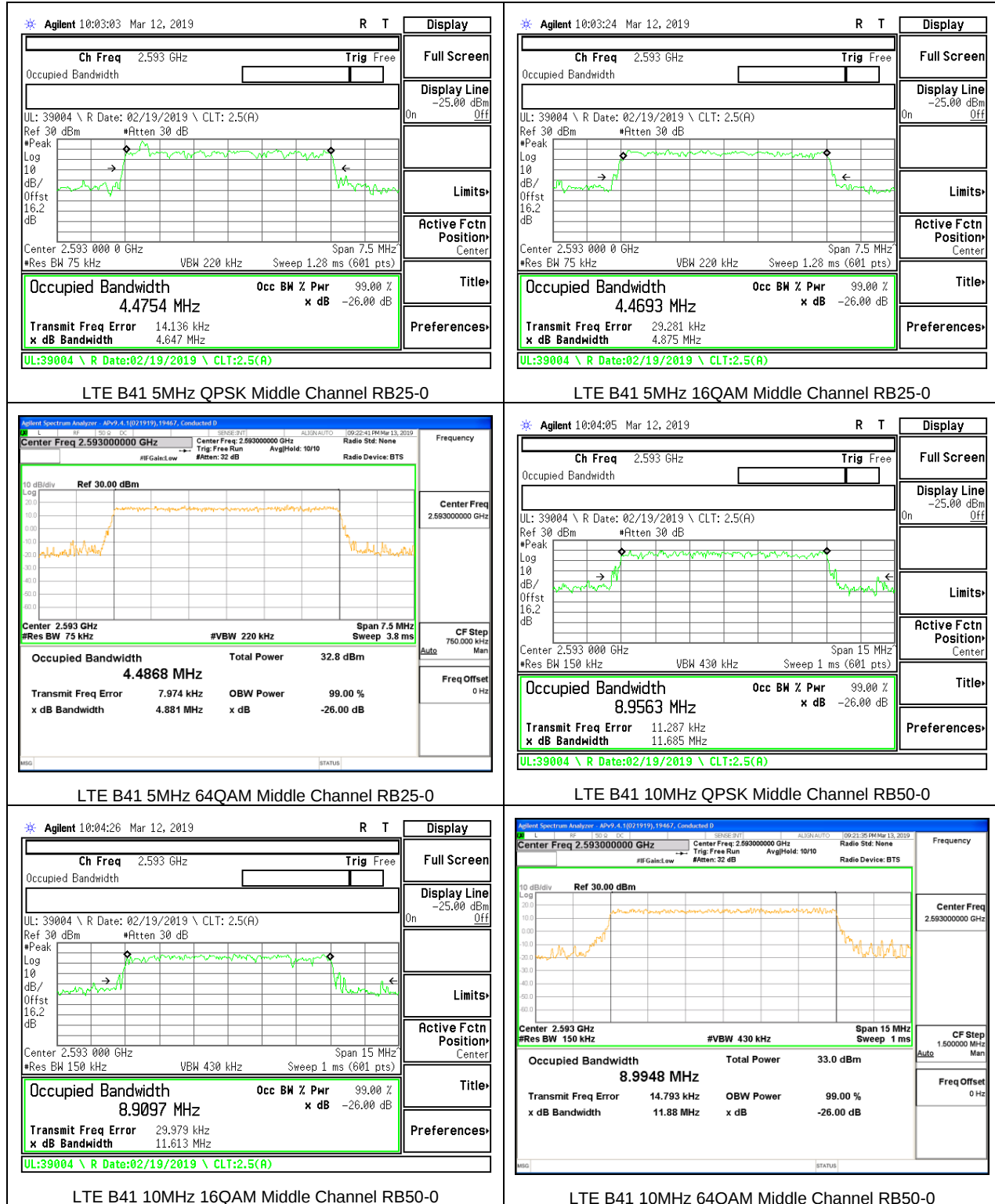


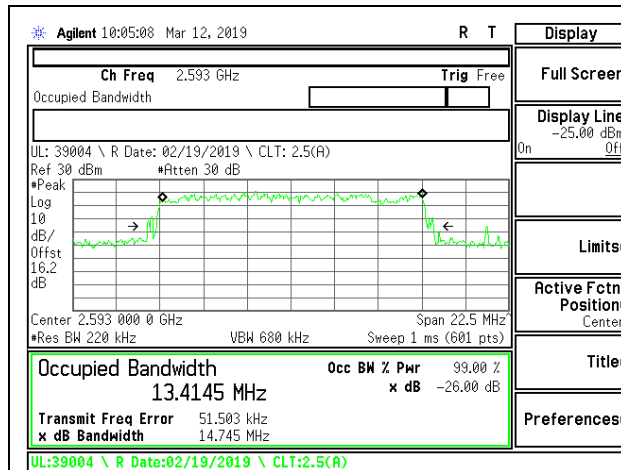
LTE B30 10MHz 16QAM Middle Channel RB50-0



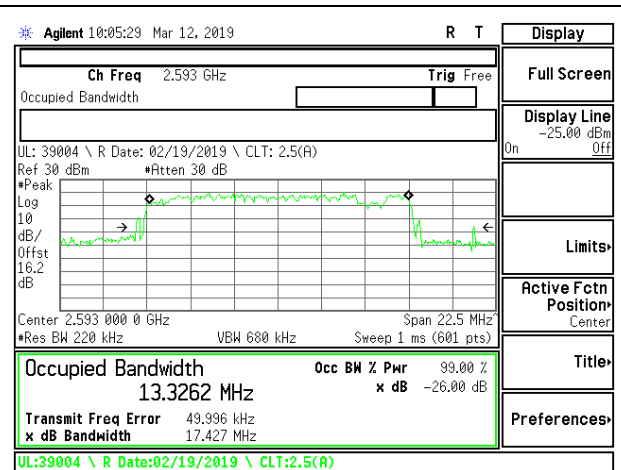
LTE B30 10MHz 64QAM Middle Channel RB50-0

8.1.11. LTE BAND 41

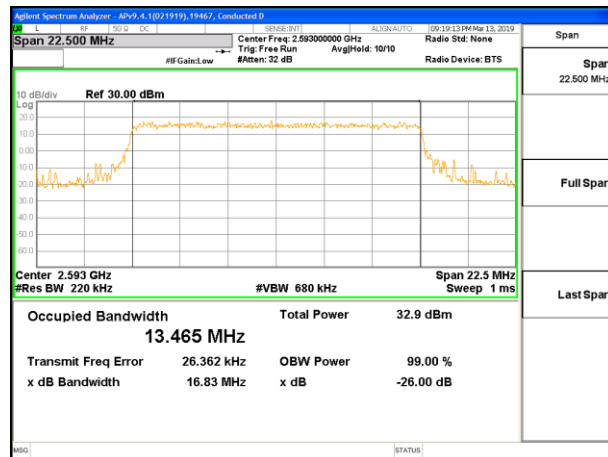




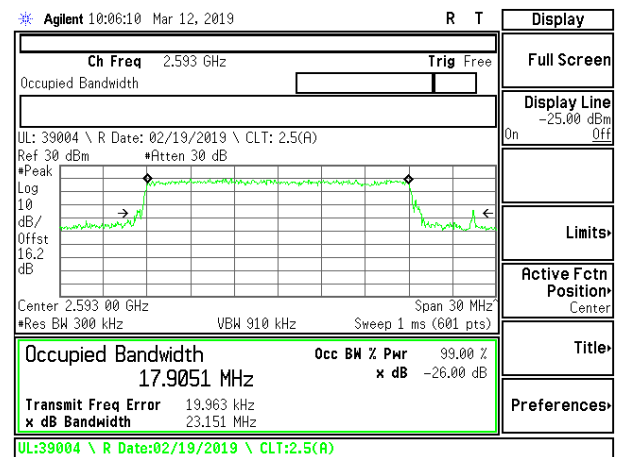
LTE B41 15MHz QPSK Middle Channel RB75-0



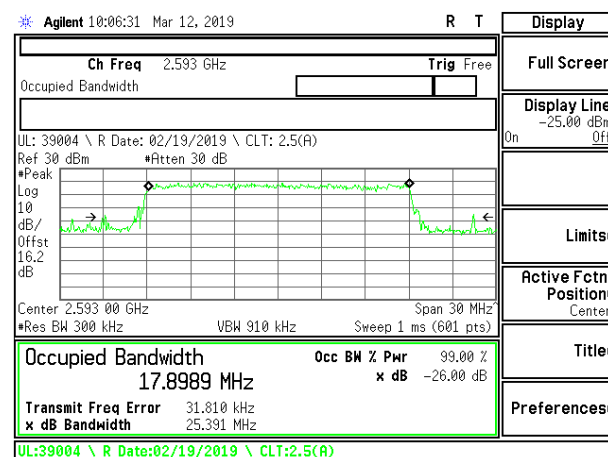
LTE B41 15MHz 16QAM Middle Channel RB75-0



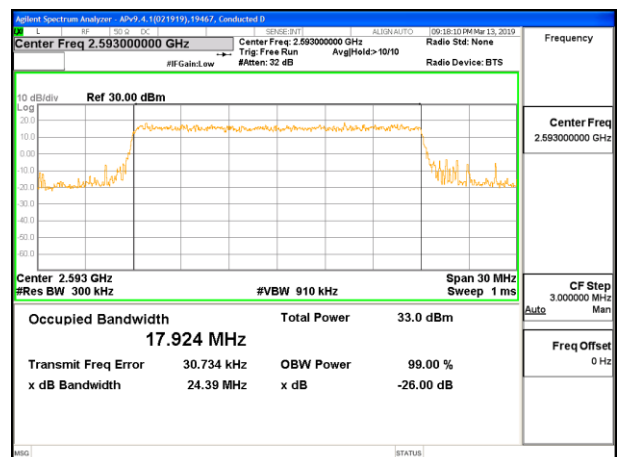
LTE B41 15MHz 64QAM Middle Channel RB75-0



LTE B41 20MHz QPSK Middle Channel RB100-0



LTE B41 20MHz 16QAM Middle Channel RB100-0



LTE B41 20MHz 64QAM Middle Channel RB100-0