



CERTIFICATION TEST REPORT

Report Number. : 12162294-E7V2

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

Model : A1984, A2107 AND A2108

FCC ID : BCG-E3220A

EUT Description : SMARTPHONE

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

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	8/21/2018	Initial Review	Mengistu Mekuria
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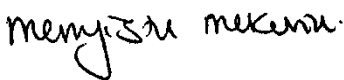
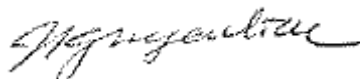
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1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE, INC. 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A.
Model	A1984, A2107 AND A2108
FCC ID	BCG-E3220A
EUT Description	SMARTPHONE
Serial Number	C7CWN03JK3MN
Date Tested	MARCH 08, 2018 to AUGUST 10, 2018
Applicable Standards	CFR47 PART 22H, 24E, 27, 90S, 90R
Test Results	COMPLIES
UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report. Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government (NIST Handbook 150, Annex A). This report is written to support regulatory compliance of the applicable standards stated above.	
Approved & Released By:	Prepared By:
	
Mengistu Mekuria Senior Test 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, CFR 47 Part 2, Part 22, Part 24, Part 27, Part 90S, 90R, KDB 971168 D01 v03r01/ D02 v02r01, and KDB 412172 D01 Determining ERP and EIRP v01r01.

3. FACILITIES AND ACCREDITATION

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

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

The above test sites and facilities are covered under FCC Test Firm Registration # 208313.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at [NVLAP Lab Search](#).

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. MEASUREMENT UNCERTAINTY

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

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

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The 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, Bluetooth, GPS and NFC. All models support at least one UICC based SIM. The second SIM is either UICC based, electronic SIM (e-SIM), or second SIM is not present. The device has a built-in inductive charging receiver which is not user accessible. The rechargeable battery is not user accessible.

5.2. DIFFERENCE IN MODEL NUMBER

Model A2107, A2108 is electrically identical to Model A1984. Three model numbers are allocated for marketing and logistic purposes only. A1984 was used to perform all final tests.

5.3. MAXIMUM OUTPUT POWER

ERP/EIRP LIMIT

\$2.1046, \$22.913, \$24.232, \$27.50, \$90.635, \$90.541.

EIRP/ERP TEST PROCEDURE

ANSI C63.26:2015

KDB 971168 D01 Section 5.6

KDB 412172 D01 Determining ERP and EIRP v01r01

$ERP/EIRP = P_{Meas} + GT - LC$

where: ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as P_{Meas} , typically dBW or dBm);

P_{Meas} = 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 / RSS 133								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		0.20						
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	1850.7	1909.3	25.5	25.70	0.372	1087	1M09G7W
	16QAM			24.7	24.90	0.309	1088.2	1M09D7W
	64QAM			22.8	23.00	0.200	1093.1	1M09D7W
3.0	QPSK	1851.5	1908.5	25.5	25.70	0.372	2687.8	2M69G7W
	16QAM			24.8	25.00	0.316	2689.3	2M69D7W
	64QAM			22.9	23.10	0.204	2708.3	2M71D7W
5.0	QPSK	1852.5	1907.5	25.5	25.70	0.372	4514.1	4M51G7W
	16QAM			24.8	25.00	0.316	4514.3	4M51D7W
	64QAM			23.0	23.20	0.209	4508.6	4M51D7W
10.0	QPSK	1855.0	1905.0	25.5	25.70	0.372	8972.3	8M97G7W
	16QAM			24.9	25.10	0.324	8972.6	8M97D7W
	64QAM			23.0	23.20	0.209	8993.3	8M99D7W
15.0	QPSK	1857.5	1902.5	25.5	25.70	0.372	13480.2	13M5G7W
	16QAM			24.9	25.10	0.324	13457.5	13M5D7W
	64QAM			23.0	23.20	0.209	13479	13M5D7W
20.0	QPSK	1860.0	1900.0	25.5	25.70	0.372	17936.3	17M9G7W
	16QAM			24.9	25.10	0.324	17925.3	17M9D7W
	64QAM			23.0	23.20	0.209	18013	18M0D7W

LTE BAND 5

Part 22H								
ERP Limit (W)		7.00						
Antenna Gain (dBi)		-3.30						
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	25.5	20.05	0.101	1091.4	1M09G7W
	16QAM			24.8	19.35	0.086	1088.2	1M09D7W
	64QAM			23.5	18.05	0.064	1094.7	1M09D7W
3.0	QPSK	825.5	847.5	25.5	20.05	0.101	2689.8	2M69G7W
	16QAM			25.0	19.55	0.090	2696.5	2M70D7W
	64QAM			22.5	17.05	0.051	2704.4	2M70D7W
5.0	QPSK	826.5	846.5	25.5	20.05	0.101	4504.6	4M50G7W
	16QAM			24.9	19.45	0.088	4499.8	4M50D7W
	64QAM			23.7	18.25	0.067	4501.8	4M50D7W
10.0	QPSK	829.0	844.0	25.5	20.05	0.101	8997.1	9M00G7W
	16QAM			24.9	19.45	0.088	8977.9	8M98D7W
	64QAM			23.7	18.25	0.067	8993.1	8M99D7W

LTE BAND 7

Part 27 / RSS 199								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		-0.90						
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	25.5	24.60	0.288	4493.9	4M49G7W
	16QAM			24.9	24.00	0.251	4501.7	4M50D7W
	64QAM			23.6	22.70	0.186	4503.9	4M50D7W
10.0	QPSK	2505.0	2565.0	25.5	24.60	0.288	9004.1	9M00G7W
	16QAM			24.7	23.80	0.240	8989	8M99D7W
	64QAM			23.5	22.60	0.182	8996.5	9M00D7W
15.0	QPSK	2507.5	2562.5	25.5	24.60	0.288	13441.1	13M4G7W
	16QAM			24.8	23.90	0.245	13457.6	13M5D7W
	64QAM			23.6	22.70	0.186	13477	13M5D7W
20.0	QPSK	2510.0	2560.0	25.5	24.60	0.288	17889.5	17M9G7W
	16QAM			24.8	23.90	0.245	17948.7	17M9D7W
	64QAM			23.8	22.90	0.195	17966	18M0D7W

LTE BAND 12

Part 27								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-3.60						
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	25.5	19.75	0.094	1085.9	1M09G7W
	16QAM			25.4	19.65	0.092	1093.2	1M09D7W
	64QAM			23.4	17.65	0.058	1093.3	1M09D7W
3.0	QPSK	700.5	714.5	25.5	19.75	0.094	2696	2M70G7W
	16QAM			25.3	19.55	0.090	2698	2M70D7W
	64QAM			23.2	17.45	0.056	2714.1	2M71D7W
5.0	QPSK	701.5	713.5	25.5	19.75	0.094	4508.1	4M51G7W
	16QAM			25.5	19.75	0.094	4502.4	4M50D7W
	64QAM			23.3	17.55	0.057	4497.2	4M50D7W
10.0	QPSK	704.0	711.0	25.5	19.75	0.094	8997.4	9M00G7W
	16QAM			25.4	19.65	0.092	8987.7	8M99D7W
	64QAM			23.2	17.45	0.056	8970.4	8M97D7W

LTE BAND 13

Part 27								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-2.60						
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	25.5	20.75	0.119	4503.9	4M50G7W
	16QAM			25.0	20.25	0.106	4498	4M50D7W
	64QAM			24.1	19.35	0.086	4507.8	4M51D7W
10.0	QPSK	782.0	782.0	25.5	20.75	0.119	8973.4	8M97G7W
	16QAM			24.7	19.95	0.099	8977.4	8M98D7W
	64QAM			24.0	19.25	0.084	8986.3	8M99D7W

LTE BAND 14

Part 90R								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-2.70						
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	25.5	20.65	0.116	4461.1	4M46G7W
	16QAM			24.9	20.05	0.101	4484.1	4M48D7W
	64QAM			23.0	18.15	0.065	4475.4	4M48D7W
10.0	QPSK	793.0	793.0	25.5	20.65	0.116	8912.7	8M91G7W
	16QAM			24.8	19.95	0.099	8939.8	8M94D7W
	64QAM			24.4	19.55	0.090	8943.1	8M94D7W

LTE BAND 17

Part 27								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-3.60						
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	25.5	19.75	0.094	4496.2	4M50G7W
	16QAM			25.2	19.45	0.088	4500.3	4M50D7W
	64QAM			23.0	17.25	0.053	4501.2	4M50D7W
10.0	QPSK	709.0	711.0	25.5	19.75	0.094	8980.2	8M98G7W
	16QAM			25.2	19.45	0.088	9012	9M01D7W
	64QAM			23.1	17.35	0.054	8992.5	8M99D7W

LTE BAND 25

Part 24 / RSS 133								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		0.20						
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	1850.7	1914.3	25.5	25.70	0.372	1091.4	1M09G7W
	16QAM			24.8	25.00	0.316	1091.1	1M09D7W
	64QAM			23.9	24.10	0.257	1096.4	1M10D7W
3.0	QPSK	1851.5	1913.5	25.5	25.70	0.372	2689.9	2M69G7W
	16QAM			24.7	24.90	0.309	2681.1	2M68D7W
	64QAM			23.2	23.40	0.219	2710.5	2M71D7W
5.0	QPSK	1852.5	1912.5	25.5	25.70	0.372	4510.3	4M51G7W
	16QAM			24.8	25.00	0.316	4501.8	4M50D7W
	64QAM			23.3	23.50	0.224	4502.4	4M50D7W
10.0	QPSK	1855.0	1910.0	25.5	25.70	0.372	9008.7	9M01G7W
	16QAM			24.8	25.00	0.316	8985.5	8M99D7W
	64QAM			24.0	24.20	0.263	8988.9	8M99D7W
15.0	QPSK	1857.5	1907.5	25.5	25.70	0.372	13439	13M4G7W
	16QAM			24.8	25.00	0.316	13461.6	13M5D7W
	64QAM			24.2	24.40	0.275	13477	13M5D7W
20.0	QPSK	1860.0	1905.0	25.5	25.70	0.372	17922.2	17M9G7W
	16QAM			24.9	25.10	0.324	17921.3	17M9D7W
	64QAM			23.3	23.50	0.224	17978	18M0D7W

LTE BAND 26 (Part 90S)

Part 90S								
ERP Limit (W)		100.00						
Antenna Gain (dBi)		-3.90						
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	25.5	19.45	0.088	1090.7	1M09G7W
	16QAM			24.8	18.75	0.075	1092.4	1M09D7W
	64QAM			23.8	17.75	0.060	1092.4	1M09D7W
3.0	QPSK	815.5	822.5	25.5	19.45	0.088	2704.7	2M70G7W
	16QAM			24.7	18.65	0.073	2706.7	2M71D7W
	64QAM			23.7	17.65	0.058	2700.4	2M70D7W
5.0	QPSK	816.5	821.5	25.5	19.45	0.088	4494.9	4M49G7W
	16QAM			24.9	18.85	0.077	4499.9	4M50D7W
	64QAM			23.7	17.65	0.058	4500.2	4M50D7W
10.0	QPSK	819.0	819.0	25.5	19.45	0.088	8970.7	8M97G7W
	16QAM			24.8	18.75	0.075	8993.1	8M99D7W
	64QAM			23.4	17.35	0.054	8986.3	8M99D7W

LTE BAND 30

Part 27 / RSS 195								
EIRP Limit (W)		0.25						
Antenna Gain (dBi)		-1.80						
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	23.5	21.70	0.148	4504.2	4M50G7W
	16QAM			22.9	21.10	0.129	4509.4	4M51D7W
	64QAM			21.2	19.40	0.087	4498	4M50D7W
10.0	QPSK	2310.0	2310.0	23.5	21.70	0.148	8981.8	8M98G7W
	16QAM			22.8	21.00	0.126	8981	8M98D7W
	64QAM			21.2	19.40	0.087	8993.9	8M99D7W

LTE BAND 41

Part 27								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		-0.90						
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	27.0	26.10	0.407	4486.4	4M49G7W
	16QAM			26.6	25.70	0.372	4491.8	4M49D7W
	64QAM			25.9	25.00	0.316	4500.2	4M50D7W
10.0	QPSK	2501.0	2685.0	27.0	26.10	0.407	8922.4	8M92G7W
	16QAM			26.4	25.50	0.355	8945.6	8M95D7W
	64QAM			25.8	24.90	0.309	8990.5	8M99D7W
15.0	QPSK	2503.5	2682.5	27.0	26.10	0.407	13350.8	13M4G7W
	16QAM			26.3	25.40	0.347	13466.7	13M5D7W
	64QAM			25.9	25.00	0.316	13467	13M5D7W
20.0	QPSK	2506.0	2680.0	27.0	26.10	0.407	17780.4	17M8G7W
	16QAM			26.8	25.90	0.389	17988	18M0D7W
	64QAM			25.1	24.20	0.263	17865	17M9D7W

LTE BAND 66

Part 27 / RSS 139								
EIRP Limit (W)		1.00						
Antenna Gain (dBi)		-0.80						
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	25.5	24.70	0.295	1090.3	1M09G7W
	16QAM			24.7	23.90	0.245	1091	1M09D7W
	64QAM			23.9	23.10	0.204	1089.7	1M09D7W
3.0	QPSK	1711.5	1778.5	25.5	24.70	0.295	2686.3	2M69G7W
	16QAM			24.9	24.10	0.257	2689.3	2M69D7W
	64QAM			23.8	23.00	0.200	2701.2	2M70D7W
5.0	QPSK	1712.5	1777.5	25.5	24.70	0.295	4493	4M49G7W
	16QAM			24.8	24.00	0.251	4505.2	4M51D7W
	64QAM			23.7	22.90	0.195	4502.3	4M50D7W
10.0	QPSK	1715.0	1775.0	25.5	24.70	0.295	8999.6	9M00G7W
	16QAM			24.7	23.90	0.245	8998.3	9M00D7W
	64QAM			23.7	22.90	0.195	8967.1	8M97D7W
15.0	QPSK	1717.5	1772.5	25.5	24.70	0.295	13451.6	13M5G7W
	16QAM			24.8	24.00	0.251	13454.3	13M5D7W
	64QAM			24.7	23.90	0.245	13476	13M5D7W
20.0	QPSK	1720.0	1770.0	25.5	24.70	0.295	17888.8	17M9G7W
	16QAM			24.7	23.90	0.245	17900.1	17M9D7W
	64QAM			23.7	22.90	0.195	17953	18M0D7W

LTE BAND 71

Part 27								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-4.70						
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	25.5	18.65	0.073	4492	4M49G7W
	16QAM			24.9	18.05	0.064	4497	4M50D7W
	64QAM			23.7	16.85	0.048	4499	4M50D7W
10.0	QPSK	668.0	693.0	25.5	18.65	0.073	8971	8M97G7W
	16QAM			24.9	18.05	0.064	8958	8M96D7W
	64QAM			23.9	17.05	0.051	8984	8M98D7W
15.0	QPSK	670.5	690.5	25.5	18.65	0.073	13420	13M4G7W
	16QAM			24.8	17.95	0.062	13447	13M4D7W
	64QAM			24.0	17.15	0.052	13490	13M5D7W
20.0	QPSK	673.0	688.0	25.5	18.65	0.073	17880	17M9G7W
	16QAM			24.9	18.05	0.064	17877	17M9D7W
	64QAM			23.9	17.05	0.051	17926	17M9D7W

5.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was version 00.28.02.

5.5. MAXIMUM ANTENNA GAIN

Please see table below:

Frequency (MHz)	Ant 1 Gain (dBi)	Ant 2 Gain (dBi)
660	-4.7	-7.5
670	-4.7	-7.2
680	-4.9	-7.0
690	-5.4	-6.9
700	-4.9	-7.0
710	-4.1	-6.8
720	-3.6	-6.8
770	-2.6	-5.5
780	-2.6	-5.6
790	-2.7	-5.8
810	-6.4	-5.5
820	-5.8	-5.2
830	-3.9	-5.5
840	-3.7	-6.0
850	-3.3	-6.1
860	-3.0	-6.3
1700	-2.7	-3.8
1720	-2.3	-3.5
1740	-2.2	-3.5
1760	-1.5	-3.3
1780	-0.8	-3.0
1840	0.1	-2.1
1860	0.2	-1.6
1880	0.2	-1.3
1900	0.2	-0.7
1920	-0.2	-0.6
2300	-1.9	-2.3
2320	-1.8	-2.8
2500	-0.9	-2.3
2520	-1.0	-1.9
2540	-1.5	-1.7
2560	-1.9	-1.7
2580	-2.1	-1.6
2600	-2.6	-1.8
2620	-3.1	-2.2
2640	-3.6	-2.6
2660	-4.3	-3.3
2680	-5.0	-4.0
2700	-5.1	-4.2

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 66 and Band 71.

LTE Band 4 (1710-1755MHz) 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.

Conducted tests were performed on at Ant. 1 as worst case since it has higher output powers.

The EUT was investigated in three orthogonal orientations X/Y/Z on Ant 1 and Ant 2. For Ant 1 antenna, it was determined that X (Flatbed) orientation was worst-case orientation for cell bands; Z (Portrait) orientation was worst-case orientation for pcs bands; X (Flatbed) orientation was worst orientation for Band 7, 30, 38 and 41 without AC/DC adapter. For Ant 2, it was determined that Y (Landscape) 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 within 20dB of the limit.

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

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List			
Description	Manufacturer	Model	Serial Number
Laptop AC/DC adapter	Apple	MD592LL/A	N/A
Laptop	Apple	A1466	C02PS2H6G08S

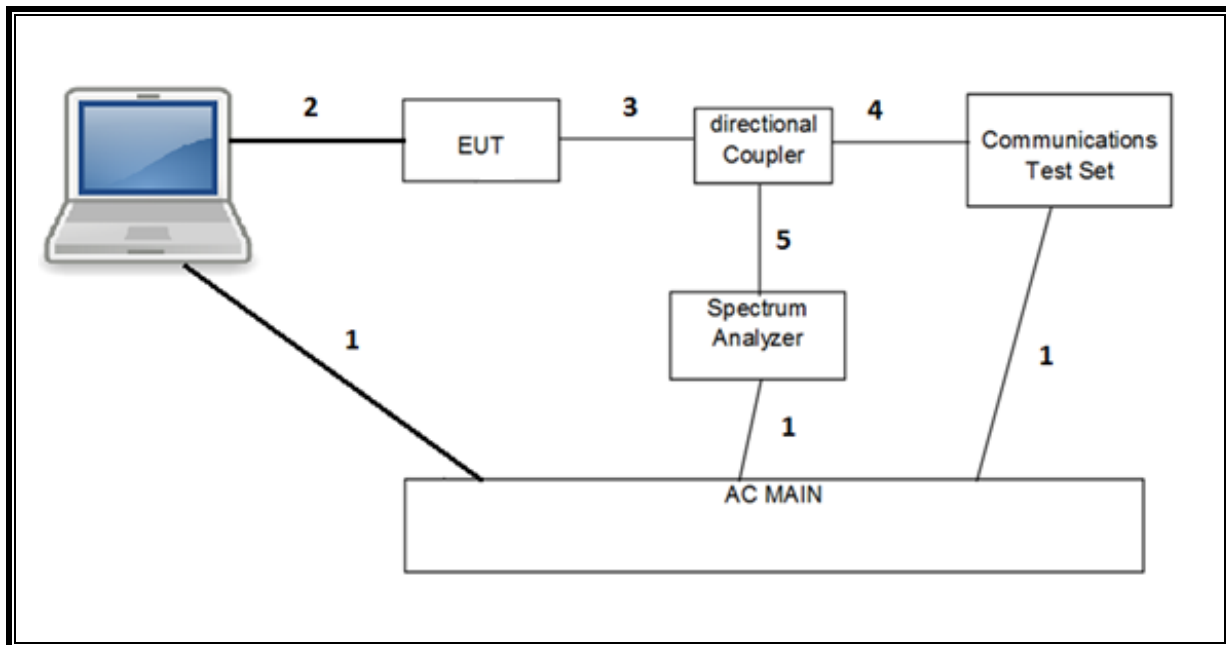
I/O CABLES (RF Conducted Test)

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

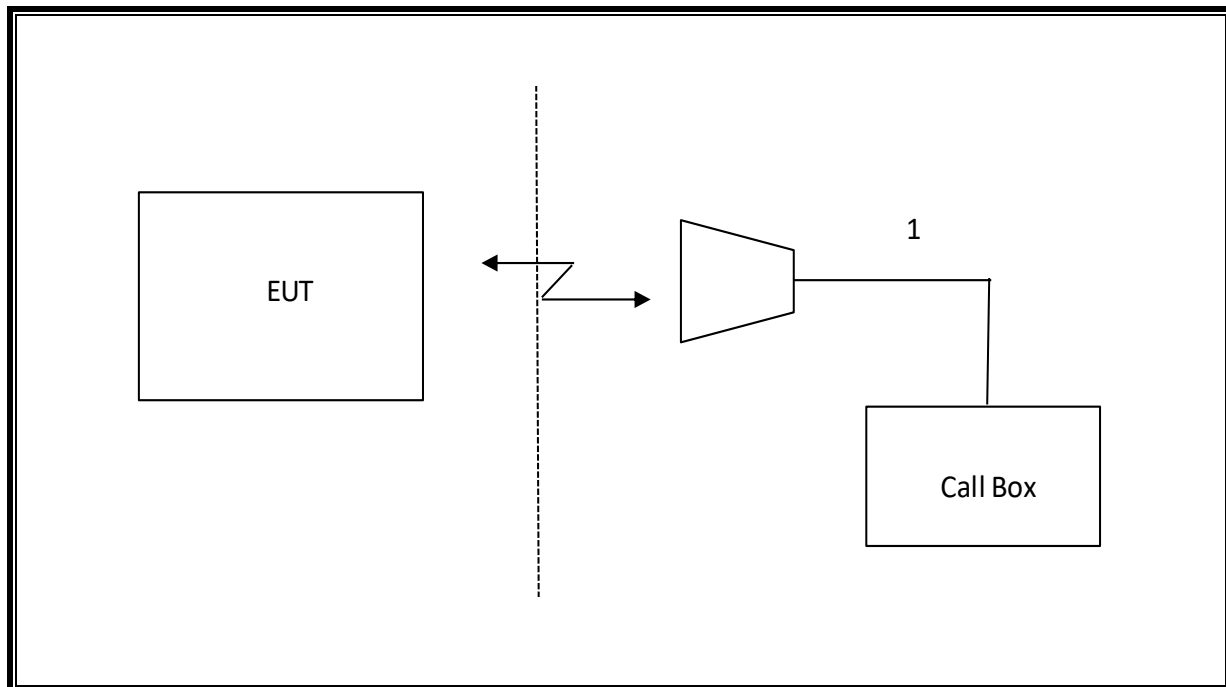
I/O CABLES (RF Radiated Test)

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
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T711	01/30/2019
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	T408	12/15/2018
Amplifier, 1 to 18GHz	Miteq	AFS42-00101800-25-S-42	T1131	12/30/2018
*Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	T285	06/24/2018
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T340	12/15/2018
Spectrum Analyzer, PXA, 3Hz to 50GHz w/Ext. Mixer	Keysight	N9030A	T342	02/22/2019
Spectrum Analyzer, PSA 3Hz to 44GHz	Keysight	E4446A	T123	10/28/2018
Directional Coupler	KRYTAR	152610	T1536	04/27/2019
Directional Coupler	KRYTAR	152610	T1537	04/27/2019
Power Meter, P-series single channel	Keysight	N1912A	T1265	12/15/2018
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T712	02/08/2019
Amplifier, 1 to 18GHz	Miteq	AFS42-00101800-25-S-42	T741	12/30/2018
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight	N1921A	T750	10/27/2018
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T119	04/03/2019
Amplifier, 1 to 18GHz	Miteq	AFS42-00101800-25-S-42	T491	05/10/2019
Filter, HPF 3.0GHz	MICROTRONICS	HPM17543	T487	12/04/2018
Filter, HPF 1.2GHz	Micro-Tronics	WHKX1.2/15G-6ST	T1182	05/19/2019
*Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight	N9030A	T1210	07/17/2018
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T959	02/17/2019
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T971	02/19/2019
Wideband Communication Test Set, Call Box	Rohde & Schwarz	CMW500	T1871	02/19/2019
Chamber, Environmental	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	T754	09/05/2018
Antenna, Horn 1-18GHz	Emco	3115	T59	11/18/2018
Amplifier, 26.5GHz to 40GHz	Miteq	NSP 4000 SP2	T754	09/05/2018
Amplifier, 1 to 26.5GHz, 23.5dB Gain minimum	Keysight	8449B	T1864	03/09/2019
Antenna, Horn 18 to 26.5GHz	ARA	MWH-1826/B	T447	06/16/2019
Antenna, Horn 26.5GHz to 40GHz	ARA	MWH-2640	T90	08/25/2018
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight	N9030A	T1454	01/08/2019
Antenna, Active Loop 9KHz to 30MHz	EMCO	6502	T1616	09/14/2018
UL AUTOMATION SOFTWARE				
CLT Software	UL	UL RF	Ver 1.7, November 2015	
Power Measurement Software	UL	UL RF	Ver 2.2, June 2017	

NOTES:

*Testing is completed before equipment expiration date.

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.

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 66
- LTE Band 71

RESULTS

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 output powers as follows:

7.1. LTE BAND 2

ID:	10646	Date:	5/31/18
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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	25.5	25.3	25.1	19.5	19.4	19.2
		1	2	25.4	25.3	25.0	19.4	19.4	19.1
		1	5	25.4	25.3	25.0	19.5	19.4	19.1
		3	0	25.3	25.3	25.0	19.4	19.4	19.1
		3	1	25.3	25.2	25.0	19.4	19.4	19.0
		3	2	25.4	25.1	25.0	19.4	19.4	19.1
	16QAM	6	0	24.3	24.2	23.9	18.3	18.3	18.0
		1	0	24.7	24.6	24.3	18.6	18.6	18.4
		1	2	24.7	24.6	24.2	18.6	18.6	18.3
		1	5	24.7	24.6	24.2	18.6	18.6	18.3
		3	0	24.5	24.4	24.1	18.5	18.5	18.2
		3	1	24.5	24.3	24.1	18.5	18.5	18.2
	64QAM	3	2	24.5	24.3	24.1	18.5	18.5	18.2
		6	0	23.4	23.2	23.0	17.4	17.4	17.1
		1	0	22.8	22.8	22.6	17.8	17.7	17.1
		1	2	22.8	22.8	22.5	17.8	17.7	17.4
		1	5	22.8	22.8	22.6	17.8	17.7	17.4
		3	0	22.7	22.5	22.4	17.5	17.5	17.3
		3	1	22.6	22.6	22.4	17.5	17.6	17.3
		3	2	22.6	22.5	22.4	17.5	17.5	17.2
		6	0	21.6	21.4	21.3	16.4	16.4	16.1

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	25.4	25.3	25.1	19.4	19.3	19.2
		1	7	25.5	25.3	25.2	19.5	19.4	19.2
		1	14	25.4	25.3	25.1	19.3	19.4	19.1
		8	0	24.4	24.3	24.2	18.3	18.4	18.1
		8	4	24.4	24.3	24.1	18.4	18.3	18.1
		8	7	24.4	24.3	24.1	18.4	18.3	18.1
	16QAM	15	0	24.4	24.2	24.1	18.4	18.3	18.1
		1	0	24.8	24.6	24.6	18.8	18.7	18.5
		1	7	24.8	24.6	24.5	18.8	18.7	18.5
		1	14	24.8	24.6	24.4	18.7	18.6	18.4
		8	0	23.4	23.4	23.2	17.4	17.4	17.1
		8	4	23.5	23.3	23.2	17.4	17.4	17.1
	64QAM	8	7	23.4	23.3	23.1	17.4	17.4	17.1
		15	0	23.4	23.2	23.1	17.4	17.3	17.1
		1	0	22.8	22.7	22.6	17.7	17.6	17.4
		1	7	22.9	22.6	22.6	17.7	17.6	17.3
		1	14	22.9	22.7	22.6	17.6	17.6	17.3
		8	0	21.6	21.5	21.4	16.4	16.4	16.2
		8	4	21.6	21.5	21.4	16.4	16.4	16.2
		8	7	21.6	21.5	21.4	16.4	16.4	16.2
		15	0	21.6	21.4	21.4	16.4	16.3	16.1

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	25.5	25.2	25.1	19.5	19.3	19.2
		1	12	25.4	25.2	25.1	19.4	19.4	19.1
		1	24	25.4	25.2	25.1	19.3	19.4	19.1
		12	0	24.4	24.2	24.2	18.4	18.3	18.1
		12	6	24.3	24.3	24.1	18.3	18.3	18.1
		12	11	24.3	24.2	24.1	18.3	18.3	18.1
		25	0	24.4	24.2	24.1	18.4	18.3	18.1
	16QAM	1	0	24.8	24.7	24.6	18.8	18.6	18.5
		1	12	24.8	24.5	24.5	18.7	18.7	18.4
		1	24	24.8	24.6	24.5	18.6	18.7	18.4
		12	0	23.5	23.3	23.2	17.5	17.5	17.2
		12	6	23.5	23.3	23.1	17.5	17.5	17.2
		12	11	23.5	23.3	23.2	17.4	17.5	17.2
		25	0	23.5	23.3	23.2	17.5	17.4	17.2
	64QAM	1	0	23.0	22.7	22.7	17.6	17.6	17.5
		1	12	23.0	22.7	22.7	17.6	17.6	17.3
		1	24	22.9	22.7	22.7	17.6	17.6	17.4
		12	0	21.7	21.6	21.5	16.5	16.4	16.2
		12	6	21.7	21.6	21.5	16.4	16.5	16.2
		12	11	21.7	21.6	21.5	16.3	16.5	16.2
		25	0	21.7	21.5	21.4	16.4	16.4	16.2

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	25.5	25.4	25.3	19.5	19.4	19.3
		1	24	25.4	25.4	25.2	19.4	19.5	19.2
		1	49	25.3	25.4	25.1	19.3	19.5	19.2
		25	0	24.3	24.2	24.1	18.2	18.2	18.1
		25	12	24.2	24.2	24.1	18.1	18.3	18.0
		25	24	24.1	24.2	24.0	18.1	18.3	18.1
		50	0	24.2	24.1	24.0	18.1	18.3	18.1
	16QAM	1	0	24.9	24.6	24.7	18.8	18.8	18.6
		1	24	24.7	24.6	24.6	18.7	18.8	18.6
		1	49	24.6	24.5	24.4	18.6	18.8	18.5
		25	0	23.4	23.3	23.2	17.3	17.3	17.2
		25	12	23.3	23.3	23.2	17.3	17.4	17.2
		25	24	23.2	23.2	23.1	17.2	17.4	17.2
		50	0	23.2	23.2	23.0	17.1	17.3	17.1
	64QAM	1	0	23.0	22.7	22.8	17.7	17.6	17.4
		1	24	22.9	22.7	22.7	17.6	17.7	17.4
		1	49	22.7	22.7	22.6	17.5	17.7	17.3
		25	0	21.7	21.5	21.5	16.4	16.4	16.3
		25	12	21.6	21.5	21.5	16.3	16.5	16.2
		25	24	21.5	21.5	21.4	16.2	16.5	16.2
		50	0	21.5	21.4	21.3	16.2	16.3	16.1

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	24.8	24.8	25.5	19.4	19.3	19.4
		1	37	24.6	25.1	25.4	19.3	19.5	19.2
		1	74	24.5	25.2	25.2	19.1	19.4	19.1
		36	0	23.5	23.8	24.3	18.2	18.2	18.1
		36	16	24.2	24.0	24.3	18.1	18.3	18.1
		36	35	24.1	24.0	24.1	18.1	18.3	18.1
		75	0	24.2	23.9	24.3	18.1	18.3	18.2
	16QAM	1	0	24.9	24.1	24.8	18.8	18.7	18.7
		1	37	24.7	24.3	24.8	18.6	18.8	18.6
		1	74	24.5	24.4	24.6	18.5	18.8	18.5
		36	0	23.4	22.9	23.3	17.3	17.3	17.2
		36	16	23.2	23.0	22.9	17.2	17.4	17.2
		36	35	23.1	23.0	22.7	17.1	17.4	17.2
		75	0	23.2	22.9	22.9	17.1	17.3	17.2
	64QAM	1	0	23.0	22.8	22.8	17.7	17.6	17.6
		1	37	22.7	22.9	22.9	17.4	17.6	17.5
		1	74	22.5	22.9	22.6	17.4	17.7	17.4
		36	0	21.6	21.5	21.6	16.3	16.4	16.3
		36	16	21.5	21.6	21.6	16.2	16.4	16.2
		36	35	21.4	21.6	21.5	16.2	16.4	16.2
		75	0	21.4	21.5	21.6	16.1	16.3	16.2

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	25.5	25.1	25.3	19.4	19.2	19.3
		1	49	25.1	25.3	25.2	19.1	19.4	19.2
		1	99	25.0	25.3	25.1	19.3	19.5	19.2
		50	0	24.1	24.1	24.1	18.0	18.2	18.1
		50	24	23.9	24.1	24.1	17.9	18.2	18.0
		50	49	23.7	24.1	24.0	17.9	18.2	18.0
		100	0	23.9	24.1	24.2	18.0	18.2	18.2
	16QAM	1	0	24.9	24.4	24.5	18.8	18.5	18.6
		1	49	24.5	24.5	24.5	18.6	18.7	18.5
		1	99	24.4	24.5	24.4	18.6	18.7	18.6
		50	0	23.2	23.2	23.1	17.1	17.2	17.1
		50	24	23.0	23.1	23.1	17.0	17.2	17.1
		50	49	22.8	23.1	23.0	16.9	17.2	17.1
		100	0	22.9	23.1	23.1	17.0	17.2	17.2
	64QAM	1	0	23.0	22.3	22.7	18.1	18.1	18.3
		1	49	22.5	22.5	22.8	17.9	18.3	18.2
		1	99	22.5	22.5	22.7	17.8	18.3	18.2
		50	0	21.3	21.3	21.4	16.8	16.7	16.9
		50	24	21.1	21.2	21.4	16.6	16.9	16.8
		50	49	21.0	21.4	21.3	16.6	16.8	16.8
		100	0	21.1	21.3	21.5	16.7	16.9	16.9

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	25.5	25.5	25.4	23.4	23.4	23.2
		1	2	25.5	25.5	25.3	23.4	23.3	23.1
		1	5	25.5	25.5	25.4	23.5	23.4	23.2
		3	0	25.5	25.5	25.3	23.4	23.3	23.2
		3	1	25.5	25.5	25.3	23.4	23.3	23.2
		3	2	25.5	25.5	25.3	23.4	23.3	23.2
	16QAM	6	0	24.4	24.5	24.3	22.3	22.3	22.1
		1	0	24.7	24.8	24.8	22.7	22.7	22.4
		1	2	24.7	24.7	24.7	22.7	22.7	22.4
		1	5	24.7	24.8	24.8	22.8	22.8	22.4
		3	0	24.6	24.7	24.5	22.5	22.5	22.3
		3	1	24.6	24.7	24.4	22.5	22.4	22.3
	64QAM	3	2	24.6	24.7	24.5	22.5	22.5	22.2
		6	0	23.6	23.6	23.4	21.5	21.4	21.3
		1	0	23.4	23.5	23.4	21.7	21.7	21.6
		1	2	23.3	23.4	23.3	21.7	21.7	21.5
		1	5	23.5	23.4	23.4	21.8	21.6	21.6
		3	0	23.3	23.3	23.1	21.5	21.4	21.4
		3	1	23.3	23.2	23.1	21.5	21.5	21.4
		3	2	23.3	23.3	23.1	21.5	21.5	21.4
		6	0	22.2	22.2	22.0	20.5	20.5	20.3

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	25.5	25.5	25.4	23.4	23.5	23.3
		1	7	25.5	25.5	25.4	23.4	23.4	23.2
		1	14	25.5	25.4	25.3	23.4	23.3	23.1
		8	0	24.5	24.5	24.4	22.4	22.4	22.2
		8	4	24.4	24.5	24.3	22.4	22.3	22.1
		8	7	24.5	24.5	24.3	22.4	22.3	22.1
	16QAM	15	0	24.4	24.5	24.3	22.4	22.3	22.2
		1	0	24.9	25.0	24.9	22.7	22.7	22.6
		1	7	24.8	24.9	24.8	22.9	22.7	22.6
		1	14	24.7	24.7	24.7	22.7	22.6	22.5
		8	0	23.5	23.6	23.5	21.5	21.4	21.3
		8	4	23.5	23.5	23.5	21.5	21.4	21.2
	64QAM	8	7	23.5	23.5	23.4	21.5	21.4	21.2
		15	0	23.5	23.5	23.4	21.5	21.4	21.2
		1	0	22.3	22.4	22.4	21.7	21.6	21.5
		1	7	22.5	22.4	22.4	21.7	21.6	21.5
		1	14	22.5	22.2	22.2	21.7	21.6	21.3
		8	0	21.2	21.2	21.2	20.5	20.4	20.4
		8	4	21.2	21.1	21.1	20.5	20.4	20.3
		8	7	21.2	21.2	21.0	20.5	20.4	20.3
		15	0	21.1	21.1	21.0	20.4	20.4	20.2

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	25.3	25.5	25.3	23.4	23.4	23.4
		1	12	25.4	25.3	25.3	23.4	23.3	23.2
		1	24	25.5	25.3	25.2	23.5	23.3	23.2
		12	0	24.3	24.4	24.3	22.4	22.4	22.3
		12	6	24.3	24.3	24.3	22.4	22.3	22.2
		12	11	24.4	24.2	24.2	22.4	22.2	22.2
		25	0	24.4	24.3	24.3	22.4	22.3	22.3
	16QAM	1	0	24.9	24.8	24.8	22.7	22.8	22.9
		1	12	24.9	24.7	24.8	22.7	22.7	22.7
		1	24	24.9	24.6	24.6	22.8	22.7	22.6
		12	0	23.5	23.5	23.5	21.6	21.6	21.5
		12	6	23.5	23.5	23.5	21.5	21.5	21.4
		12	11	23.6	23.4	23.4	21.5	21.4	21.2
		25	0	23.5	23.5	23.4	21.5	21.4	21.3
	64QAM	1	0	23.6	23.5	23.5	21.7	21.7	21.8
		1	12	23.7	23.5	23.5	21.7	21.6	21.6
		1	24	23.7	23.4	23.4	21.7	21.6	21.6
		12	0	22.3	22.3	22.3	20.5	20.6	20.5
		12	6	22.3	22.3	22.3	20.5	20.5	20.4
		12	11	22.4	22.3	22.2	20.5	20.4	20.3
		25	0	22.3	22.3	22.2	20.5	20.4	20.3

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	25.5	25.2	23.3	23.5	23.2
		1	24	25.4	25.3	25.3	23.4	23.3	23.3
		1	49	25.5	25.3	25.2	23.5	23.4	23.2
		25	0	24.3	24.3	24.2	22.3	22.3	22.2
		25	12	24.4	24.2	24.2	22.3	22.2	22.2
		25	24	24.4	24.1	24.2	22.4	22.2	22.1
		50	0	24.3	24.2	24.2	22.3	22.2	22.2
	16QAM	1	0	24.8	24.8	24.5	22.7	22.7	22.6
		1	24	24.9	24.7	24.6	22.8	22.6	22.7
		1	49	24.9	24.7	24.5	22.9	22.6	22.5
		25	0	23.4	23.4	23.3	21.4	21.4	21.3
		25	12	23.4	23.3	23.3	21.4	21.3	21.3
		25	24	23.5	23.2	23.3	21.5	21.3	21.3
		50	0	23.4	23.3	23.3	21.4	21.2	21.3
	64QAM	1	0	23.6	23.7	23.4	21.6	21.7	21.5
		1	24	23.7	23.4	23.4	21.7	21.6	21.6
		1	49	23.7	23.4	23.4	21.8	21.6	21.4
		25	0	22.4	22.4	22.2	20.4	20.4	20.3
		25	12	22.4	22.3	22.2	20.5	20.3	20.4
		25	24	22.4	22.2	22.3	20.5	20.3	20.2
		50	0	22.3	22.3	22.2	20.4	20.3	20.3

7.3. LTE BAND 7

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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	25.4	25.3	21.3	21.5	21.3
		1	12	25.3	25.4	25.3	21.3	21.4	21.2
		1	24	25.5	25.5	25.3	21.5	21.4	21.2
		12	0	24.3	24.3	24.2	20.2	20.3	20.2
		12	6	24.3	24.4	24.2	20.2	20.3	20.1
		12	11	24.3	24.4	24.2	20.3	20.3	20.0
		25	0	24.3	24.3	24.2	20.2	20.3	20.1
	16QAM	1	0	24.7	24.9	24.7	20.6	20.8	20.5
		1	12	24.7	24.8	24.7	20.6	20.7	20.5
		1	24	24.8	24.8	24.6	20.8	20.7	20.4
		12	0	23.3	23.4	23.2	19.2	19.3	19.1
		12	6	23.2	23.3	23.2	19.2	19.3	19.1
		12	11	23.3	23.3	23.1	19.2	19.3	19.0
		25	0	23.3	23.3	23.2	19.2	19.2	19.0
	64QAM	1	0	23.5	22.7	22.5	19.5	19.6	19.5
		1	12	23.5	22.7	22.5	19.5	19.7	19.4
		1	24	23.6	22.7	22.4	19.7	19.6	19.3
		12	0	22.2	21.2	21.2	18.0	18.3	18.0
		12	6	22.2	21.3	21.2	18.1	18.2	18.0
		12	11	22.2	21.2	21.1	18.2	18.2	18.0
		25	0	22.2	21.3	21.1	18.1	18.2	18.0

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	25.3	25.4	25.1	21.1	21.2	21.0
		1	24	25.4	25.3	25.2	21.3	21.2	21.1
		1	49	25.5	25.3	25.2	21.5	21.2	21.0
		25	0	24.2	24.3	24.1	20.2	20.2	20.0
		25	12	24.2	24.3	24.1	20.3	20.1	20.0
		25	24	24.3	24.3	24.1	20.4	20.1	20.0
		50	0	24.3	24.2	24.1	20.3	20.1	20.0
	16QAM	1	0	24.5	24.7	24.3	20.4	20.6	20.4
		1	24	24.6	24.5	24.5	20.6	20.6	20.5
		1	49	24.7	24.5	24.4	20.7	20.6	20.4
		25	0	23.2	23.3	23.1	19.2	19.2	19.0
		25	12	23.4	23.3	23.1	19.4	19.2	19.0
		25	24	23.4	23.3	23.2	19.4	19.2	19.0
		50	0	23.4	23.3	23.1	19.3	19.2	19.0
	64QAM	1	0	23.4	22.6	22.3	19.3	19.4	19.2
		1	24	23.4	22.5	22.4	19.5	19.5	19.3
		1	49	23.5	22.5	22.4	19.7	19.5	19.2
		25	0	22.2	21.3	21.2	18.1	18.2	18.0
		25	12	22.3	21.3	21.2	18.3	18.2	18.1
		25	24	22.4	21.3	21.2	18.4	18.2	18.0
		50	0	22.3	21.3	21.2	18.3	18.2	18.1

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	25.3	25.4	25.0	21.2	21.4	21.0
		1	37	25.5	25.4	25.3	21.5	21.3	21.1
		1	74	25.5	25.3	25.2	21.5	21.2	21.0
		36	0	24.4	24.4	24.1	20.3	20.3	20.1
		36	16	24.5	24.4	24.2	20.5	20.3	20.1
		36	35	24.5	24.3	24.2	20.5	20.3	20.1
		75	0	24.5	24.4	24.2	20.4	20.3	20.1
	16QAM	1	0	24.6	24.7	24.3	20.5	20.8	20.4
		1	37	24.8	24.7	24.5	20.8	20.7	20.4
		1	74	24.8	24.6	24.4	20.9	20.6	20.4
		36	0	23.3	23.4	23.0	19.4	19.3	19.1
		36	16	23.5	23.4	23.2	19.5	19.3	19.1
		36	35	23.5	23.4	23.3	19.5	19.3	19.1
		75	0	23.6	23.4	23.2	19.5	19.3	19.1
	64QAM	1	0	22.6	23.6	22.2	19.4	19.6	19.3
		1	37	22.8	23.6	22.4	19.6	19.5	19.3
		1	74	22.8	23.5	22.5	19.7	19.4	19.2
		36	0	21.4	22.4	21.1	18.3	18.3	18.1
		36	16	21.5	22.4	21.2	18.5	18.3	18.1
		36	35	21.5	22.4	21.3	18.5	18.3	18.2
		75	0	21.5	22.4	21.2	18.4	18.3	18.1

OUTPUT POWER FOR LTE BAND 7 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 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	25.2	25.3	24.9	21.2	21.4	21.1
		1	49	25.4	25.3	25.1	21.5	21.4	21.1
		1	99	25.5	25.1	25.2	21.5	21.2	21.1
		50	0	24.3	24.3	23.9	20.4	20.3	20.0
		50	24	24.4	24.2	24.0	20.5	20.3	20.0
		50	49	24.3	24.2	24.2	20.5	20.2	20.1
		100	0	24.4	24.3	24.1	20.5	20.3	20.1
	16QAM	1	0	24.5	24.6	24.2	20.6	20.9	20.5
		1	49	24.7	24.6	24.4	21.0	20.7	20.5
		1	99	24.8	24.5	24.5	20.9	20.6	20.5
		50	0	23.3	23.3	22.9	19.5	19.3	19.1
		50	24	23.4	23.2	23.1	19.5	19.3	19.1
		50	49	23.4	23.1	23.1	19.5	19.3	19.2
		100	0	23.5	23.3	23.1	19.6	19.4	19.2
	64QAM	1	0	23.5	23.6	23.2	19.5	19.7	19.4
		1	49	23.7	23.7	23.4	19.8	19.6	19.4
		1	99	23.8	23.5	23.5	19.8	19.5	19.4
		50	0	22.3	22.3	21.9	18.4	18.3	18.1
		50	24	22.3	22.2	22.0	18.5	18.2	18.1
		50	49	22.4	22.2	22.1	18.5	18.2	18.1
		100	0	22.5	22.3	22.1	18.6	18.3	18.2

7.4. LTE BAND 12

ID:	10641	Date:	7/6/18
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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	25.5	25.5	24.0	24.2	24.0
		1	2	25.5	25.5	25.5	24.0	24.2	24.1
		1	5	25.5	25.5	25.5	24.0	24.1	24.1
		3	0	25.5	25.5	25.5	23.9	24.1	24.1
		3	1	25.5	25.5	25.4	23.9	24.1	24.1
		3	2	25.5	25.5	25.4	23.9	24.1	24.1
		6	0	24.9	25.0	24.9	23.1	23.3	23.3
	16QAM	1	0	25.4	25.3	25.2	23.5	23.9	23.5
		1	2	25.4	25.2	25.3	23.5	23.8	23.6
		1	5	25.4	25.3	25.4	23.6	23.8	23.6
		3	0	25.1	25.1	25.2	23.4	23.6	23.4
		3	1	25.1	25.2	25.1	23.4	23.6	23.4
		3	2	25.1	25.2	25.1	23.3	23.6	23.4
		6	0	24.0	24.1	24.1	22.2	22.5	22.4
	64QAM	1	0	23.2	23.3	23.4	21.9	21.9	22.2
		1	2	23.2	23.3	23.3	21.8	21.9	22.0
		1	5	23.2	23.2	23.2	21.8	21.9	22.1
		3	0	23.0	23.1	23.0	21.8	21.7	21.9
		3	1	23.0	23.1	23.0	21.7	21.7	21.9
		3	2	23.0	23.0	23.0	21.7	21.8	22.0
		6	0	21.9	21.9	21.9	20.7	20.8	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	25.4	25.4	24.0	24.2	24.1
		1	7	25.4	25.5	25.4	24.0	24.2	24.1
		1	14	25.3	25.4	25.4	24.0	24.1	24.1
		8	0	24.8	24.9	24.8	23.2	23.4	23.2
		8	4	24.8	24.9	24.8	23.2	23.4	23.2
		8	7	24.8	24.9	24.8	23.2	23.4	23.2
		15	0	24.8	24.9	24.8	23.2	23.4	23.2
	16QAM	1	0	25.2	25.2	25.3	23.7	23.7	23.7
		1	7	25.3	25.3	25.3	23.6	23.8	23.7
		1	14	25.2	25.3	25.2	23.7	23.7	23.6
		8	0	23.9	24.0	23.9	22.2	22.4	22.3
		8	4	23.9	23.9	23.9	22.2	22.4	22.3
		8	7	23.9	24.0	23.8	22.2	22.4	22.2
		15	0	23.8	23.9	23.8	22.2	22.4	22.2
	64QAM	1	0	22.8	23.0	23.2	21.8	21.8	21.8
		1	7	23.1	23.1	23.1	21.9	21.9	22.0
		1	14	22.9	22.9	23.0	21.7	21.9	21.9
		8	0	21.8	21.8	21.9	20.7	20.7	20.8
		8	4	21.8	21.8	21.9	20.7	20.7	20.9
		8	7	21.8	21.8	21.8	20.7	20.7	20.9
		15	0	21.7	21.8	21.8	20.6	20.7	20.8

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	25.5	25.5	25.5	24.2	24.1	24.2
		1	12	25.5	25.5	25.4	24.1	24.2	24.2
		1	24	25.5	25.5	25.5	24.1	24.2	24.2
		12	0	24.9	25.0	25.0	23.2	23.4	23.4
		12	6	24.8	24.9	24.9	23.2	23.4	23.3
		12	11	24.9	25.0	24.9	23.2	23.4	23.3
		25	0	24.9	25.0	24.9	23.3	23.5	23.4
	16QAM	1	0	25.4	25.4	25.5	23.7	23.8	24.0
		1	12	25.3	25.4	25.4	23.6	23.9	23.8
		1	24	25.3	25.4	25.4	23.7	23.9	23.8
		12	0	23.9	24.0	24.0	22.3	22.5	22.4
		12	6	23.9	24.0	23.9	22.3	22.5	22.4
		12	11	23.9	24.0	23.9	22.3	22.4	22.4
		25	0	23.9	24.0	23.9	22.3	22.5	22.4
	64QAM	1	0	23.2	23.2	23.3	22.1	21.8	22.3
		1	12	23.1	23.2	23.3	21.8	22.0	22.3
		1	24	23.1	23.2	23.2	21.8	22.2	22.2
		12	0	21.9	22.0	22.0	20.8	20.9	21.0
		12	6	22.0	22.0	22.1	20.8	21.0	21.1
		12	11	21.8	22.1	22.1	20.7	21.0	21.1
		25	0	21.9	22.0	22.1	20.7	21.0	21.0

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	25.5	24.0	24.0	24.2
		1	24	25.4	25.4	25.4	24.0	24.2	24.1
		1	49	25.5	25.4	25.5	24.1	24.1	24.2
		25	0	24.8	24.9	24.9	23.2	23.3	23.3
		25	12	24.8	24.9	24.8	23.2	23.3	23.2
		25	24	24.9	24.9	24.8	23.4	23.3	23.2
		50	0	24.8	24.9	24.9	23.3	23.3	23.3
	16QAM	1	0	25.4	25.3	25.3	23.7	23.6	23.8
		1	24	25.2	25.3	25.2	23.6	23.7	23.7
		1	49	25.3	25.3	25.3	23.7	23.6	23.8
		25	0	23.8	23.9	23.9	22.2	22.3	22.3
		25	12	23.8	23.9	23.9	22.2	22.3	22.2
		25	24	23.9	23.9	23.8	22.4	22.3	22.2
		50	0	23.8	23.9	23.9	22.3	22.4	22.2
	64QAM	1	0	23.1	23.1	23.2	22.0	21.7	22.1
		1	24	23.1	23.2	23.2	21.8	21.9	22.1
		1	49	23.2	23.2	23.2	22.2	22.1	22.2
		25	0	21.9	22.0	22.0	20.7	20.7	20.9
		25	12	21.9	22.0	22.0	20.7	20.9	20.9
		25	24	22.0	22.0	22.1	20.9	21.0	21.0
		50	0	21.8	21.9	22.0	20.6	20.9	20.9

7.5. LTE BAND 13

ID:	50820	Date:	6/3/18
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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	25.4	25.5	25.4	23.7	22.6	23.4
		1	12	25.5	25.3	25.3	23.4	22.6	23.4
		1	24	25.4	25.2	25.5	23.4	22.5	23.5
		12	0	24.5	24.4	24.1	22.6	21.6	22.4
		12	6	24.4	24.3	24.2	22.4	21.5	22.4
		12	11	24.4	24.1	24.3	22.3	21.4	22.4
		25	0	24.4	24.3	24.3	22.3	21.6	22.4
	16QAM	1	0	24.8	25.0	24.7	23.1	21.9	22.8
		1	12	24.9	24.7	24.6	22.7	21.9	22.8
		1	24	24.7	24.6	24.7	22.7	21.8	22.8
		12	0	23.4	23.5	23.2	21.5	20.6	21.4
		12	6	23.4	23.4	23.3	21.4	20.5	21.5
		12	11	23.4	23.3	23.4	21.3	20.5	21.5
		25	0	23.5	23.4	23.4	21.4	20.6	21.5
	64QAM	1	0	23.8	24.1	23.8	22.9	21.0	21.8
		1	12	24.0	23.9	23.8	22.6	20.9	21.8
		1	24	23.9	23.8	24.0	22.7	20.9	21.8
		12	0	22.6	22.6	22.4	21.5	19.6	20.5
		12	6	22.7	22.6	22.5	21.4	19.5	20.5
		12	11	22.7	22.5	22.6	21.3	19.4	20.6
		25	0	22.6	22.6	22.6	21.4	19.6	20.4

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		25.3			23.7	
		1	24		25.3			23.6	
		1	49		25.5			23.7	
		25	0		24.4			22.7	
		25	12		24.3			22.6	
		25	24		24.1			22.6	
		50	0		24.2			22.7	
	16QAM	1	0		24.6			23.1	
		1	24		24.5			22.9	
		1	49		24.7			23.1	
		25	0		23.5			21.7	
		25	12		23.3			21.7	
		25	24		23.2			21.7	
		50	0		23.3			21.7	
	64QAM	1	0		23.7			22.9	
		1	24		23.7			22.9	
		1	49		24.0			22.8	
		25	0		22.7			21.6	
		25	12		22.6			21.5	
		25	24		22.5			21.5	
		50	0		22.5			21.6	

7.6. LTE BAND 14

ID:	39004	Date:	6/11/18
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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	25.4	25.4	25.5	23.9	24.2	24.2
		1	12	25.3	25.5	25.5	24.1	24.2	24.2
		1	24	25.5	25.5	25.5	24.2	24.2	24.2
		12	0	24.4	24.4	24.4	22.9	23.2	23.2
		12	6	24.3	24.4	24.4	23.0	23.1	23.2
		12	11	24.4	24.4	24.5	23.2	23.2	23.3
	16QAM	25	0	24.4	24.5	24.5	23.0	23.2	23.2
		1	0	24.9	24.7	24.9	23.3	23.7	23.6
		1	12	24.8	24.8	24.9	23.5	23.7	23.4
		1	24	24.9	24.8	24.9	23.6	23.6	23.5
		12	0	23.5	23.5	23.5	22.0	22.2	22.2
		12	6	23.4	23.5	23.5	22.0	22.2	22.3
	64QAM	12	11	23.5	23.5	23.7	22.2	22.2	22.3
		25	0	23.4	23.5	23.5	22.1	22.2	22.2
		1	0	22.6	22.9	23.0	22.2	22.7	22.6
		1	12	22.9	22.9	22.9	22.4	22.6	22.5
		1	24	23.0	23.0	22.9	22.5	22.5	22.5
		12	0	21.3	21.6	21.5	21.0	21.2	21.2
		12	6	21.4	21.6	21.7	21.1	21.1	21.2
		12	11	21.6	21.6	21.6	21.3	21.2	21.2
		25	0	21.5	21.6	21.7	21.0	21.2	21.2

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		25.4			24.1	
		1	24		25.5			24.2	
		1	49		25.5			24.2	
		25	0		24.4			23.2	
		25	12		24.4			23.2	
		25	24		24.4			23.3	
	16QAM	50	0		24.5			23.3	
		1	0		24.8			23.3	
		1	24		24.8			23.6	
		1	49		24.8			23.5	
		25	0		23.4			22.3	
		25	12		23.5			22.3	
	64QAM	25	24		23.4			22.4	
		50	0		23.5			22.4	
		1	0		24.2			22.3	
		1	24		24.2			22.6	
		1	49		24.4			22.6	
		25	0		23.1			21.3	
		25	12		23.1			21.4	
		25	24		23.2			21.5	
		50	0		23.1			21.4	

7.7. LTE BAND 17

ID:	10641	Date:	7/6/18
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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	25.5	25.5	24.1	24.2	24.1
		1	12	25.5	25.4	25.4	24.2	24.2	24.1
		1	24	25.5	25.5	25.4	24.1	24.2	24.1
		12	0	24.7	24.7	24.7	23.3	23.3	23.3
		12	6	24.7	24.6	24.6	23.3	23.3	23.3
		12	11	24.7	24.6	24.6	23.4	23.3	23.3
	16QAM	25	0	24.7	24.7	24.6	23.4	23.3	23.3
		1	0	25.0	25.1	25.2	23.8	23.8	23.8
		1	12	25.1	25.1	25.2	23.9	23.7	23.7
		1	24	25.1	25.2	25.2	23.8	23.7	23.7
		12	0	23.7	23.7	23.8	22.3	22.4	22.3
		12	6	23.7	23.7	23.7	22.4	22.3	22.3
	64QAM	12	11	23.7	23.7	23.6	22.4	22.3	22.3
		25	0	23.7	23.7	23.6	22.4	22.3	22.3
		1	0	22.9	22.8	23.0	21.7	22.0	22.1
		1	12	22.8	22.9	23.0	22.0	22.2	22.1
		1	24	22.9	22.8	23.0	22.0	22.2	22.1
		12	0	21.7	21.8	21.7	20.7	20.9	20.9
		12	6	21.7	21.7	21.8	20.8	20.9	21.0
		12	11	21.7	21.7	21.8	20.9	20.9	21.0
		25	0	21.7	21.7	21.8	20.8	20.9	21.0

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	25.5	25.5	24.1	24.2	24.2
		1	24	25.5	25.5	25.5	24.1	24.1	24.2
		1	49	25.5	25.5	25.5	24.1	24.1	24.2
		25	0	24.7	24.7	24.7	23.4	23.3	23.3
		25	12	24.7	24.6	24.6	23.3	23.2	23.2
		25	24	24.6	24.7	24.6	23.2	23.2	23.2
	16QAM	50	0	24.7	24.7	24.7	23.3	23.3	23.3
		1	0	25.0	25.1	25.2	23.7	23.7	23.9
		1	24	25.1	25.0	25.1	23.7	23.6	23.7
		1	49	25.1	25.0	25.2	23.7	23.6	23.7
		25	0	23.7	23.7	23.7	22.4	22.4	22.3
		25	12	23.7	23.7	23.6	22.3	22.3	22.3
	64QAM	25	24	23.7	23.7	23.6	22.3	22.2	22.3
		50	0	23.7	23.7	23.7	22.3	22.3	22.3
		1	0	23.0	23.0	23.0	21.8	21.9	22.1
		1	24	22.9	23.0	22.9	22.2	22.1	22.1
		1	49	23.1	23.1	23.0	22.2	22.1	22.2
		25	0	21.8	21.8	21.9	20.9	20.9	21.0
		25	12	21.8	21.8	21.8	21.0	21.0	20.9
		25	24	21.9	21.8	21.9	21.0	21.0	21.0
		50	0	21.8	21.8	21.8	20.9	20.9	20.9

7.8. LTE BAND 25

ID:	50820	Date:	6/3/18
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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	25.5	25.4	25.2	19.5	19.5	19.3
		1	2	25.5	25.4	25.2	19.5	19.5	19.3
		1	5	25.5	25.5	25.2	19.5	19.5	19.4
		3	0	25.4	25.4	25.2	19.4	19.4	19.3
		3	1	25.4	25.4	25.2	19.3	19.4	19.3
		3	2	25.4	25.4	25.2	19.3	19.4	19.3
		6	0	24.4	24.4	24.2	18.4	18.4	18.2
	16QAM	1	0	24.7	24.7	24.4	18.8	18.8	18.5
		1	2	24.6	24.7	24.4	18.8	18.8	18.5
		1	5	24.7	24.8	24.4	18.8	18.9	18.6
		3	0	24.6	24.6	24.3	18.6	18.5	18.3
		3	1	24.5	24.5	24.3	18.6	18.5	18.4
		3	2	24.5	24.5	24.3	18.6	18.5	18.3
		6	0	23.5	23.4	23.3	17.5	17.4	17.2
	64QAM	1	0	23.3	23.8	23.9	17.6	17.7	17.6
		1	2	23.3	23.8	23.9	17.6	17.6	17.5
		1	5	23.3	23.9	23.9	17.7	17.6	17.6
		3	0	23.0	23.7	23.7	17.5	17.4	17.3
		3	1	23.0	23.7	23.8	17.5	17.5	17.3
		3	2	23.0	23.7	23.7	17.5	17.4	17.3
		6	0	21.9	22.7	22.7	16.5	16.4	16.2

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	25.4	25.5	25.2	19.4	19.4	19.1
		1	7	25.4	25.5	25.2	19.5	19.4	19.2
		1	14	25.3	25.4	25.2	19.4	19.4	19.3
		8	0	24.4	24.4	24.3	18.4	18.4	18.0
		8	4	24.4	24.4	24.2	18.4	18.4	18.1
		8	7	24.4	24.4	24.2	18.4	18.4	18.1
		15	0	24.4	24.4	24.2	18.4	18.3	18.1
	16QAM	1	0	24.7	24.7	24.6	18.8	18.7	18.3
		1	7	24.7	24.7	24.6	18.9	18.7	18.5
		1	14	24.6	24.5	24.5	18.8	18.6	18.6
		8	0	23.5	23.5	23.4	17.4	17.4	17.0
		8	4	23.5	23.5	23.3	17.4	17.4	17.2
		8	7	23.5	23.5	23.2	17.4	17.4	17.2
		15	0	23.4	23.4	23.2	17.4	17.4	17.1
	64QAM	1	0	23.2	22.8	22.9	17.5	17.6	17.2
		1	7	23.2	22.9	23.1	17.7	17.6	17.4
		1	14	23.2	23.0	23.0	17.5	17.5	17.4
		8	0	21.9	21.8	21.6	16.4	16.4	16.1
		8	4	21.9	21.8	21.7	16.4	16.4	16.1
		8	7	21.9	21.8	21.7	16.5	16.4	16.1
		15	0	21.8	21.7	21.7	16.4	16.3	16.0

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	25.5	25.4	25.4	19.5	19.4	19.1
		1	12	25.4	25.4	25.3	19.4	19.4	19.1
		1	24	25.4	25.4	25.3	19.3	19.4	19.2
		12	0	24.4	24.5	24.3	18.4	18.4	18.1
		12	6	24.4	24.4	24.3	18.3	18.4	18.1
		12	11	24.4	24.4	24.2	18.2	18.4	18.2
		25	0	24.4	24.4	24.3	18.3	18.4	18.1
	16QAM	1	0	24.7	24.8	24.8	18.8	18.7	18.6
		1	12	24.7	24.8	24.7	18.7	18.7	18.6
		1	24	24.7	24.8	24.7	18.7	18.7	18.7
		12	0	23.5	23.5	23.3	17.5	17.5	17.2
		12	6	23.4	23.4	23.3	17.4	17.5	17.2
		12	11	23.4	23.4	23.3	17.4	17.6	17.2
		25	0	23.4	23.4	23.3	17.4	17.5	17.2
	64QAM	1	0	23.2	23.0	23.0	17.7	17.6	17.4
		1	12	23.3	23.0	23.0	17.6	17.6	17.4
		1	24	23.2	23.1	23.1	17.6	17.7	17.5
		12	0	22.0	21.9	21.8	16.5	16.5	16.2
		12	6	22.0	21.9	21.8	16.4	16.5	16.2
		12	11	22.0	21.9	21.8	16.3	16.5	16.2
		25	0	22.0	21.9	21.8	16.4	16.4	16.1

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	25.5	25.5	25.4	19.5	19.4	19.3
		1	24	25.3	25.4	25.3	19.4	19.5	19.1
		1	49	25.4	25.5	25.3	19.2	19.5	19.3
		25	0	24.3	24.4	24.3	18.3	18.3	18.1
		25	12	24.3	24.4	24.3	18.2	18.3	18.0
		25	24	24.3	24.4	24.2	18.1	18.3	18.0
		50	0	24.3	24.4	24.3	18.1	18.3	18.0
	16QAM	1	0	24.8	24.6	24.8	18.9	18.7	18.6
		1	24	24.6	24.6	24.6	18.8	18.8	18.4
		1	49	24.6	24.7	24.6	18.6	18.8	18.5
		25	0	23.3	23.4	23.3	17.4	17.4	17.2
		25	12	23.3	23.4	23.2	17.3	17.4	17.1
		25	24	23.2	23.4	23.3	17.2	17.4	17.1
		50	0	23.2	23.4	23.3	17.2	17.4	17.1
	64QAM	1	0	23.3	23.9	23.1	17.8	17.6	17.4
		1	24	23.1	24.0	22.9	17.6	17.6	17.3
		1	49	23.0	24.0	23.1	17.4	17.7	17.5
		25	0	21.9	22.8	21.8	16.4	16.4	16.1
		25	12	21.8	22.8	21.7	16.3	16.4	16.1
		25	24	21.8	22.8	21.8	16.3	16.4	16.1
		50	0	21.7	22.7	21.7	16.2	16.4	16.0

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	25.5	25.3	25.3	19.5	19.4	19.3
		1	37	25.3	25.4	25.4	19.2	19.5	19.1
		1	74	25.2	25.3	25.2	19.2	19.5	19.2
		36	0	24.3	24.4	24.3	18.2	18.3	18.1
		36	16	24.2	24.4	24.4	18.1	18.3	18.1
		36	35	24.3	24.3	24.3	18.1	18.2	18.0
		75	0	24.3	24.4	24.4	18.1	18.3	18.1
	16QAM	1	0	24.8	24.7	24.5	18.8	18.7	18.5
		1	37	24.6	24.7	24.7	18.6	18.8	18.4
		1	74	24.5	24.7	24.5	18.5	18.8	18.5
		36	0	23.4	23.4	23.4	17.3	17.3	17.2
		36	16	23.2	23.4	23.4	17.2	17.3	17.2
		36	35	23.2	23.3	23.3	17.2	17.3	17.1
		75	0	23.2	23.4	23.4	17.1	17.3	17.1
	64QAM	1	0	23.3	24.2	23.2	17.7	17.7	17.5
		1	37	22.9	23.9	23.0	17.5	17.7	17.4
		1	74	22.8	24.0	23.1	17.4	17.8	17.3
		36	0	21.8	21.7	21.8	16.3	16.4	16.2
		36	16	21.7	21.8	21.8	16.2	16.4	16.2
		36	35	21.6	21.7	21.7	16.2	16.3	16.1
		75	0	21.6	21.7	21.7	16.1	16.3	16.1

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	25.5	25.3	25.4	19.5	19.4	19.5
		1	49	25.3	25.5	25.4	19.2	19.5	19.2
		1	99	25.2	25.4	25.3	19.4	19.4	19.3
		50	0	24.4	24.4	24.3	18.1	18.3	18.2
		50	24	24.3	24.4	24.4	18.1	18.3	18.1
		50	49	24.2	24.4	24.3	18.0	18.3	18.0
		100	0	24.3	24.5	24.5	18.1	18.3	18.2
	16QAM	1	0	24.9	24.6	24.7	18.9	18.7	18.7
		1	49	24.8	24.7	24.7	18.7	18.8	18.6
		1	99	24.6	24.7	24.6	18.7	18.7	18.6
		50	0	23.3	23.4	23.3	17.2	17.3	17.2
		50	24	23.3	23.4	23.3	17.1	17.4	17.1
		50	49	23.2	23.4	23.3	17.0	17.4	17.0
		100	0	23.3	23.4	23.5	17.1	17.4	17.2
	64QAM	1	0	23.1	23.3	23.2	17.8	17.4	17.8
		1	49	22.6	23.1	22.9	17.6	17.5	17.5
		1	99	22.8	23.2	22.9	17.6	17.4	17.6
		50	0	21.7	21.7	21.8	16.2	16.3	16.2
		50	24	21.6	21.8	21.7	16.1	16.3	16.2
		50	49	21.5	21.8	21.7	16.0	16.4	16.1
		100	0	21.6	21.8	21.8	16.1	16.3	16.3

7.9. LTE BAND 26 (Part 90S)

ID:	39004	Date:	6/13/18
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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	25.5	25.3	25.5	23.4	23.3	23.3
		1	2	25.5	25.3	25.4	23.5	23.2	23.3
		1	5	25.5	25.3	25.5	23.4	23.3	23.3
		3	0	25.5	25.3	25.5	23.4	23.3	23.3
		3	1	25.5	25.3	25.5	23.4	23.2	23.3
		3	2	25.5	25.3	25.5	23.4	23.2	23.2
	16QAM	6	0	24.5	24.3	24.5	22.4	22.2	22.2
		1	0	24.8	24.6	24.8	22.7	22.5	22.5
		1	2	24.7	24.6	24.7	22.7	22.5	22.6
		1	5	24.8	24.6	24.7	22.7	22.5	22.5
		3	0	24.6	24.4	24.6	22.5	22.4	22.4
		3	1	24.6	24.4	24.6	22.5	22.4	22.4
	64QAM	3	2	24.6	24.4	24.6	22.5	22.4	22.4
		6	0	23.6	23.4	23.6	21.5	21.3	21.4
		1	0	23.8	22.6	22.9	21.7	21.7	21.5
		1	2	23.7	22.7	22.9	21.7	21.7	21.5
		1	5	23.8	22.6	22.9	21.7	21.7	21.6
		3	0	23.6	22.5	22.7	21.6	21.5	21.5
		3	1	23.6	22.5	22.7	21.6	21.5	21.5
		3	2	23.6	22.5	22.7	21.6	21.5	21.4
		6	0	22.5	21.4	21.6	20.5	20.4	20.4

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	25.5	25.2	25.3	23.5	23.3	23.3
		1	7	25.4	25.2	25.4	23.5	23.4	23.4
		1	14	25.3	25.2	25.4	23.4	23.4	23.4
		8	0	24.4	24.2	24.3	22.4	22.3	22.3
		8	4	24.4	24.1	24.3	22.4	22.3	22.4
		8	7	24.4	24.1	24.4	22.4	22.3	22.3
	16QAM	15	0	24.3	24.1	24.4	22.4	22.3	22.3
		1	0	24.6	24.5	24.5	22.6	22.7	22.5
		1	7	24.6	24.5	24.7	22.8	22.7	22.7
		1	14	24.6	24.5	24.7	22.6	22.5	22.5
		8	0	23.4	23.3	23.4	21.5	21.4	21.4
		8	4	23.4	23.2	23.4	21.5	21.4	21.4
	64QAM	8	7	23.4	23.2	23.4	21.5	21.4	21.5
		15	0	23.3	23.2	23.4	21.4	21.4	21.4
		1	0	23.6	23.5	23.6	21.7	21.5	21.7
		1	7	23.6	23.5	23.7	21.8	21.7	21.7
		1	14	23.5	23.4	23.7	21.7	21.7	21.7
		8	0	22.5	22.3	22.4	20.6	20.4	20.5
		8	4	22.4	22.3	22.4	20.6	20.4	20.5
		8	7	22.4	22.3	22.5	20.6	20.4	20.5
		15	0	22.3	22.2	22.4	20.5	20.4	20.4

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	25.5	25.3	25.2	23.5	23.4	23.4
		1	12	25.3	25.2	25.3	23.4	23.4	23.3
		1	24	25.2	25.3	25.4	23.5	23.4	23.4
		12	0	24.4	24.3	24.3	22.5	22.4	22.4
		12	6	24.3	24.3	24.4	22.4	22.4	22.4
		12	11	24.3	24.3	24.5	22.4	22.4	22.4
		25	0	24.3	24.3	24.4	22.4	22.4	22.4
	16QAM	1	0	24.9	24.7	24.6	22.9	22.7	22.8
		1	12	24.6	24.6	24.8	22.7	22.7	22.7
		1	24	24.7	24.8	24.9	22.8	22.7	22.8
		12	0	23.6	23.5	23.4	21.6	21.5	21.5
		12	6	23.5	23.4	23.5	21.6	21.5	21.5
		12	11	23.5	23.5	23.6	21.6	21.5	21.6
		25	0	23.4	23.4	23.5	21.5	21.5	21.4
	64QAM	1	0	22.9	23.6	22.6	22.9	21.7	21.7
		1	12	22.6	23.5	22.7	22.8	21.7	21.7
		1	24	22.6	23.7	22.7	22.8	21.7	21.8
		12	0	21.5	22.4	21.4	21.7	20.6	20.5
		12	6	21.4	22.4	21.5	21.6	20.5	20.5
		12	11	21.4	22.4	21.6	21.6	20.5	20.6
		25	0	21.4	22.4	21.5	21.5	20.5	20.5

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		25.4			23.5	
		1	24		25.2			23.4	
		1	49		25.5			23.4	
		25	0		24.2			22.3	
		25	12		24.1			22.3	
		25	24		24.2			22.3	
		50	0		24.1			22.2	
	16QAM	1	0		24.7			22.8	
		1	24		24.6			22.6	
		1	49		24.8			22.7	
		25	0		23.3			21.4	
		25	12		23.3			21.4	
		25	24		23.4			21.4	
		50	0		23.2			21.3	
	64QAM	1	0		23.3			21.8	
		1	24		23.1			21.7	
		1	49		23.4			21.8	
		25	0		22.0			20.5	
		25	12		21.9			20.5	
		25	24		22.0			20.5	
		50	0		21.9			20.4	

7.10. LTE BAND 30

ID:	10646	Date:	5/31/18
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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	23.5	23.4	23.1	20.5	20.3	19.6
		1	12	23.4	22.9	23.3	20.3	20.3	19.6
		1	24	23.2	23.4	23.3	20.4	20.4	19.7
		12	0	22.5	22.2	22.1	20.4	20.3	18.4
		12	6	22.4	22.0	22.2	20.3	20.3	18.5
		12	11	22.2	22.0	22.2	20.3	20.2	20.4
		25	0	22.3	21.9	22.2	20.3	20.2	20.3
	16QAM	1	0	22.9	22.8	22.4	19.9	19.8	19.6
		1	12	22.7	22.4	22.6	19.7	19.7	19.6
		1	24	22.6	22.7	22.5	19.8	19.8	19.8
		12	0	21.4	21.2	21.0	19.4	19.3	19.2
		12	6	21.3	20.9	21.2	19.3	19.3	19.3
		12	11	21.2	21.0	21.2	19.3	19.2	19.3
		25	0	21.3	20.9	21.2	19.3	19.2	19.3
	64QAM	1	0	21.2	21.1	20.8	18.7	18.7	18.6
		1	12	21.0	20.8	21.0	18.6	18.5	18.6
		1	24	20.8	21.1	21.0	18.6	18.6	18.7
		12	0	19.8	19.6	19.5	18.3	18.2	18.1
		12	6	19.8	19.4	19.6	18.3	18.1	18.2
		12	11	19.6	19.4	19.6	18.2	18.1	18.2
		25	0	19.6	19.3	19.6	18.2	18.1	18.2

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		23.5			20.5	
		1	24		23.1			20.3	
		1	49		23.2			20.5	
		25	0		22.3			20.3	
		25	12		22.0			20.3	
		25	24		22.2			20.3	
		50	0		22.0			20.3	
	16QAM	1	0		22.8			19.8	
		1	24		22.3			19.7	
		1	49		22.5			19.8	
		25	0		21.4			19.4	
		25	12		21.0			19.4	
		25	24		21.3			19.4	
		50	0		21.0			19.3	
	64QAM	1	0		21.2			18.6	
		1	24		20.7			18.5	
		1	49		20.8			18.6	
		25	0		19.8			18.3	
		25	12		19.5			18.3	
		25	24		19.7			18.3	
		50	0		19.4			18.2	

7.11. LTE BAND 41

ID:	39004	Date:	6/3/18
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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	24.5	27.0	26.6	20.2	22.0	21.5
		1	12	26.0	27.0	26.6	22.7	22.0	21.5
		1	24	26.2	27.0	26.7	22.7	22.0	21.6
		12	0	23.6	25.9	25.6	19.1	20.9	20.4
		12	6	23.6	25.9	25.6	19.1	20.9	20.4
		12	11	26.1	25.9	25.6	22.1	20.9	20.4
		25	0	23.6	25.9	25.6	19.1	20.9	20.4
	16QAM	1	0	24.0	26.3	26.0	19.5	21.3	20.8
		1	12	26.4	26.3	26.0	22.5	21.3	20.7
		1	24	26.6	26.3	26.1	22.5	21.4	20.8
		12	0	22.6	24.9	24.6	18.1	20.0	19.4
		12	6	22.6	25.0	24.6	18.1	19.9	19.4
		12	11	25.6	24.9	24.6	21.1	19.9	19.4
		25	0	22.6	24.9	24.6	18.1	19.9	19.5
	64QAM	1	0	22.8	25.2	25.0	19.1	20.2	19.7
		1	12	25.8	25.2	24.9	22.3	20.2	19.7
		1	24	25.9	25.3	25.0	22.3	20.2	19.7
		12	0	21.6	23.9	23.6	17.8	19.0	18.5
		12	6	21.6	23.9	23.6	18.6	19.0	18.5
		12	11	24.6	23.9	23.6	20.7	19.0	18.5
		25	0	21.6	23.9	23.6	17.9	19.0	18.5

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	22.5	26.9	26.7	18.2	22.0	21.6
		1	24	26.0	27.0	26.7	22.7	22.0	21.5
		1	49	26.1	27.0	26.8	22.7	22.1	21.6
		25	0	23.6	25.9	25.7	19.1	21.0	20.5
		25	12	26.1	25.9	25.7	22.2	21.0	20.5
		25	24	25.6	25.9	25.7	21.1	21.1	20.5
		50	0	23.6	25.9	25.7	19.2	21.0	20.5
	16QAM	1	0	21.9	26.2	26.2	17.5	21.3	20.8
		1	24	26.3	26.3	26.1	22.4	21.3	20.8
		1	49	26.4	26.3	26.1	22.4	21.4	20.8
		25	0	22.6	25.0	24.9	18.1	20.1	19.6
		25	12	25.7	25.0	24.8	21.1	20.1	19.6
		25	24	24.7	25.0	24.9	20.1	20.1	19.6
		50	0	22.6	25.0	24.8	18.1	20.0	19.6
	64QAM	1	0	20.7	25.2	25.0	17.1	20.4	19.7
		1	24	25.7	25.2	25.0	22.0	20.4	19.7
		1	49	25.8	25.2	25.0	21.9	20.5	19.7
		25	0	21.6	24.0	23.9	17.6	19.3	18.7
		25	12	24.6	24.0	23.8	20.2	19.3	18.6
		25	24	23.7	24.1	23.9	19.4	19.3	18.6
		50	0	21.6	24.0	23.8	17.5	19.2	18.6

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	22.5	26.9	26.8	18.3	22.1	21.6
		1	37	26.0	27.0	26.8	22.7	22.2	21.6
		1	74	26.2	27.0	26.8	22.7	22.2	21.7
		36	0	22.5	25.9	25.7	18.2	21.1	20.5
		36	16	26.1	25.9	25.7	22.2	21.2	20.6
		36	35	23.6	25.9	25.7	19.2	21.2	20.6
		75	0	22.5	25.9	25.7	18.2	21.1	20.6
	16QAM	1	0	21.7	26.1	26.0	17.5	21.4	20.8
		1	37	26.2	26.2	25.9	22.4	21.4	20.9
		1	74	26.3	26.2	26.0	22.3	21.4	20.9
		36	0	21.6	25.0	24.8	17.2	20.2	19.6
		36	16	25.7	25.0	24.8	21.2	20.2	19.7
		36	35	22.7	25.0	24.9	18.2	20.2	19.7
		75	0	21.6	24.9	24.8	17.2	20.1	19.6
	64QAM	1	0	20.8	25.1	25.1	17.2	20.2	19.8
		1	37	25.8	25.2	25.0	22.0	20.3	19.9
		1	74	25.9	25.3	25.1	21.9	20.3	19.8
		36	0	20.6	23.9	23.8	17.0	19.2	18.7
		36	16	24.6	24.0	23.9	21.1	19.2	18.7
		36	35	21.7	24.0	23.9	17.9	19.2	18.7
		75	0	20.6	23.9	23.8	16.8	19.1	18.6

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	22.7	26.9	26.8	18.2	22.1	21.6
		1	49	26.3	27.0	26.8	22.7	22.1	21.5
		1	99	26.5	27.0	27.0	22.6	22.1	21.6
		50	0	22.7	25.8	25.6	18.1	21.0	20.5
		50	24	26.2	25.8	25.6	22.1	21.0	20.5
		50	49	23.8	25.9	25.7	19.1	21.0	20.5
		100	0	22.7	25.8	25.7	18.2	21.0	20.5
	16QAM	1	0	22.1	26.2	26.2	17.6	21.3	20.9
		1	49	26.6	26.3	26.1	22.5	21.3	20.8
		1	99	26.8	26.3	26.3	22.4	21.3	20.9
		50	0	21.8	24.9	24.7	17.1	20.0	19.5
		50	24	25.8	24.9	24.7	21.0	20.0	19.6
		50	49	22.8	25.0	24.8	18.1	20.0	19.5
		100	0	21.8	24.9	24.8	17.1	20.0	19.5
	64QAM	1	0	20.0	24.2	24.2	17.1	20.3	19.8
		1	49	24.9	24.3	24.1	22.1	20.3	19.7
		1	99	25.1	24.4	24.4	21.8	20.3	19.8
		50	0	19.7	22.9	22.8	16.7	19.0	18.6
		50	24	23.8	23.0	22.8	20.6	19.1	18.6
		50	49	20.9	23.0	22.8	17.6	19.1	18.6
		100	0	19.8	22.9	22.8	16.8	19.0	18.6

7.12. LTE BAND 66

ID:	39004	Date:	6/2/18
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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	25.4	25.5	21.5	21.5	21.4
		1	2	25.4	25.4	25.5	21.5	21.5	21.3
		1	5	25.5	25.4	25.5	21.5	21.5	21.3
		3	0	25.4	25.4	25.5	21.5	21.5	21.4
		3	1	25.4	25.4	25.4	21.4	21.5	21.3
		3	2	25.4	25.4	25.5	21.5	21.5	21.4
		6	0	24.4	24.4	24.5	20.4	20.5	20.3
	16QAM	1	0	24.7	24.6	24.7	20.7	20.7	20.6
		1	2	24.7	24.6	24.7	20.7	20.6	20.6
		1	5	24.7	24.7	24.7	20.7	20.7	20.6
		3	0	24.6	24.6	24.6	20.6	20.6	20.5
		3	1	24.6	24.5	24.6	20.6	20.6	20.5
		3	2	24.5	24.5	24.6	20.6	20.6	20.5
		6	0	23.5	23.5	23.6	19.5	19.6	19.4
	64QAM	1	0	23.9	23.8	23.9	19.8	19.9	19.7
		1	2	23.8	23.7	23.8	19.8	19.9	19.7
		1	5	23.8	23.8	23.8	19.9	19.9	19.7
		3	0	23.6	23.6	23.7	19.6	19.8	19.5
		3	1	23.6	23.6	23.7	19.7	19.7	19.6
		3	2	23.6	23.6	23.6	19.7	19.8	19.6
		6	0	22.5	22.5	22.6	18.6	18.6	18.5

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	25.3	25.4	21.5	21.4	21.3
		1	7	25.4	25.4	25.5	21.5	21.5	21.4
		1	14	25.5	25.3	25.5	21.5	21.5	21.3
		8	0	24.4	24.4	24.5	20.4	20.4	20.3
		8	4	24.3	24.4	24.5	20.4	20.4	20.3
		8	7	24.4	24.4	24.5	20.4	20.4	20.3
		15	0	24.3	24.4	24.5	20.4	20.4	20.3
	16QAM	1	0	24.7	24.7	24.9	20.8	20.9	20.7
		1	7	24.8	24.7	24.8	20.9	20.9	20.7
		1	14	24.7	24.7	24.8	20.8	20.9	20.6
		8	0	23.5	23.5	23.6	19.5	19.6	19.4
		8	4	23.5	23.5	23.5	19.5	19.5	19.4
		8	7	23.5	23.5	23.5	19.5	19.5	19.4
		15	0	23.4	23.4	23.5	19.4	19.5	19.3
	64QAM	1	0	23.7	23.5	23.6	19.8	19.6	19.6
		1	7	23.8	23.7	23.7	19.8	19.7	19.6
		1	14	23.7	23.7	23.8	19.8	19.8	19.5
		8	0	22.5	22.5	22.6	18.5	18.6	18.5
		8	4	22.5	22.5	22.6	18.5	18.6	18.4
		8	7	22.5	22.5	22.6	18.5	18.6	18.4
		15	0	22.4	22.4	22.4	18.4	18.5	18.4

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	25.3	25.4	21.4	21.4	21.2
		1	12	25.4	25.3	25.4	21.4	21.4	21.2
		1	24	25.5	25.4	25.4	21.5	21.3	21.2
		12	0	24.4	24.4	24.4	20.3	20.3	20.2
		12	6	24.5	24.4	24.4	20.4	20.3	20.2
		12	11	24.5	24.4	24.4	20.4	20.3	20.2
		25	0	24.5	24.4	24.5	20.4	20.3	20.2
	16QAM	1	0	24.8	24.8	24.8	20.7	20.7	20.5
		1	12	24.8	24.7	24.8	20.7	20.6	20.6
		1	24	24.8	24.8	24.8	20.7	20.7	20.5
		12	0	23.5	23.5	23.6	19.5	19.5	19.3
		12	6	23.6	23.5	23.6	19.6	19.5	19.3
		12	11	23.6	23.5	23.5	19.6	19.5	19.3
		25	0	23.5	23.4	23.5	19.5	19.4	19.3
	64QAM	1	0	23.7	23.6	23.7	19.7	19.6	19.5
		1	12	23.7	23.6	23.7	19.7	19.6	19.5
		1	24	23.7	23.7	23.7	19.8	19.6	19.4
		12	0	22.5	22.4	22.5	18.4	18.4	18.3
		12	6	22.5	22.5	22.5	18.5	18.4	18.3
		12	11	22.5	22.5	22.5	18.5	18.4	18.3
		25	0	22.5	22.4	22.5	18.5	18.4	18.3

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	25.3	25.2	25.5	21.4	21.3	21.2
		1	24	25.3	25.2	25.3	21.4	21.4	21.3
		1	49	25.3	25.3	25.3	21.4	21.5	21.2
		25	0	24.2	24.1	24.2	20.3	20.3	20.1
		25	12	24.2	24.1	24.2	20.3	20.3	20.1
		25	24	24.2	24.1	24.2	20.3	20.3	20.1
		50	0	24.2	24.1	24.2	20.2	20.2	20.1
	16QAM	1	0	24.5	24.4	24.7	20.7	20.7	20.6
		1	24	24.5	24.5	24.6	20.8	20.7	20.6
		1	49	24.6	24.6	24.6	20.8	20.8	20.5
		25	0	23.3	23.2	23.3	19.4	19.3	19.2
		25	12	23.3	23.2	23.3	19.4	19.3	19.2
		25	24	23.4	23.2	23.3	19.4	19.4	19.3
		50	0	23.3	23.1	23.3	19.3	19.3	19.1
	64QAM	1	0	23.5	23.4	23.7	19.7	19.6	19.5
		1	24	23.5	23.5	23.6	19.7	19.7	19.6
		1	49	23.5	23.6	23.5	19.6	19.7	19.4
		25	0	22.3	22.2	22.3	18.4	18.3	18.3
		25	12	22.3	22.2	22.3	18.4	18.4	18.3
		25	24	22.3	22.2	22.3	18.4	18.4	18.3
		50	0	22.2	22.1	22.2	18.3	18.3	18.2

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	25.0	25.5	21.4	21.3	21.3
		1	37	25.4	25.3	25.4	21.5	21.5	21.3
		1	74	25.1	25.3	25.3	21.3	21.4	21.2
		36	0	24.2	24.0	24.2	20.3	20.2	20.1
		36	16	24.2	24.0	24.2	20.3	20.3	20.2
		36	35	24.1	24.1	24.1	20.3	20.3	20.1
		75	0	24.2	24.1	24.2	20.4	20.3	20.2
	16QAM	1	0	24.5	24.2	24.8	20.9	20.8	20.8
		1	37	24.6	24.5	24.6	20.9	20.8	20.7
		1	74	24.3	24.4	24.5	20.6	20.7	20.6
		36	0	23.3	23.1	23.3	19.4	19.3	19.2
		36	16	23.3	23.1	23.3	19.5	19.4	19.2
		36	35	23.2	23.2	23.3	19.4	19.4	19.2
		75	0	23.3	23.1	23.3	19.4	19.4	19.2
	64QAM	1	0	24.4	24.2	24.7	19.8	19.7	19.7
		1	37	24.4	24.3	24.5	19.8	19.7	19.6
		1	74	24.3	24.4	24.4	19.5	19.7	19.5
		36	0	23.2	23.0	23.4	18.5	18.4	18.2
		36	16	23.3	23.1	23.3	18.5	18.4	18.3
		36	35	23.2	23.1	23.3	18.4	18.4	18.3
		75	0	23.3	23.1	23.3	18.4	18.4	18.3

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	25.0	25.5	21.4	21.3	21.5
		1	49	25.3	25.3	25.4	21.3	21.4	21.1
		1	99	25.3	25.4	25.3	21.3	21.4	21.2
		50	0	24.2	24.0	24.3	20.2	20.1	20.1
		50	24	24.1	24.0	24.2	20.2	20.2	20.0
		50	49	24.0	24.1	24.1	20.1	20.3	20.1
		100	0	24.1	24.1	24.3	20.2	20.2	20.1
	16QAM	1	0	24.6	24.3	24.7	20.9	20.8	21.0
		1	49	24.5	24.5	24.7	20.7	20.8	20.6
		1	99	24.6	24.7	24.6	20.7	20.7	20.6
		50	0	23.2	23.1	23.3	19.3	19.2	19.1
		50	24	23.2	23.1	23.2	19.3	19.3	19.1
		50	49	23.1	23.2	23.2	19.2	19.4	19.1
		100	0	23.2	23.2	23.3	19.3	19.3	19.1
	64QAM	1	0	23.5	22.4	23.7	19.8	19.7	19.8
		1	49	23.4	22.5	23.6	19.7	19.7	19.5
		1	99	23.5	22.6	23.4	19.7	19.7	19.6
		50	0	22.3	21.0	22.3	18.3	18.2	18.2
		50	24	22.2	21.1	22.3	18.3	18.3	18.1
		50	49	22.0	21.2	22.3	18.2	18.4	18.2
		100	0	22.2	21.2	22.3	18.3	18.3	18.1

7.13. LTE BAND 71

ID:	38602	Date:	6/25/18
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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	25.3	25.0	24.8	24.2	24.2	24.0
		1	12	25.2	25.0	24.8	24.1	24.2	24.0
		1	24	25.5	25.0	24.8	24.1	24.2	24.0
		12	0	24.2	23.8	23.7	23.1	23.1	22.9
		12	6	24.2	23.8	23.7	23.0	23.1	22.9
		12	11	24.2	23.8	23.6	23.0	23.1	22.9
		25	0	24.2	23.9	23.7	23.0	23.2	22.9
	16QAM	1	0	24.7	24.5	24.2	23.6	23.6	23.4
		1	12	24.7	24.4	24.1	23.5	23.7	23.4
		1	24	24.9	24.5	24.2	23.5	23.7	23.3
		12	0	23.1	22.8	22.7	22.0	22.1	21.9
		12	6	23.1	22.8	22.7	22.0	22.1	21.9
		12	11	23.2	22.9	22.7	21.9	22.2	21.9
		25	0	23.2	22.8	22.7	22.0	22.1	21.9
	64QAM	1	0	23.3	23.7	23.4	23.5	23.5	24.0
		1	12	23.3	23.6	23.3	23.5	23.5	23.9
		1	24	23.6	23.7	23.4	23.5	23.5	23.9
		12	0	22.0	22.2	21.9	22.0	22.0	22.6
		12	6	22.0	22.2	21.9	22.0	22.0	22.6
		12	11	22.1	22.2	21.9	22.0	22.0	22.6
		25	0	22.0	22.2	21.9	22.0	22.0	22.6

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	25.3	25.1	25.2	24.1	24.1	24.2
		1	24	25.4	25.0	24.9	24.1	24.2	24.1
		1	49	25.5	24.9	24.8	24.2	24.1	24.0
		25	0	24.3	23.9	24.0	23.0	23.1	23.1
		25	12	24.4	23.9	23.9	23.0	23.2	23.0
		25	24	24.5	24.0	23.8	23.1	23.2	23.0
		50	0	24.5	23.9	23.8	23.1	23.2	23.0
	16QAM	1	0	24.6	24.4	24.5	23.5	23.6	23.6
		1	24	24.8	24.3	24.2	23.4	23.6	23.3
		1	49	24.9	24.3	24.1	23.6	23.5	23.3
		25	0	23.3	23.0	23.1	22.0	22.2	22.2
		25	12	23.4	23.0	23.0	22.1	22.2	22.1
		25	24	23.5	23.1	22.8	22.2	22.3	22.1
		50	0	23.4	22.9	22.9	22.1	22.2	22.0
	64QAM	1	0	23.4	23.8	23.9	23.8	23.7	24.2
		1	24	23.6	23.5	23.5	23.7	23.5	24.1
		1	49	23.7	23.6	23.4	23.5	23.5	24.1
		25	0	22.3	22.5	22.5	22.6	22.5	22.8
		25	12	22.4	22.4	22.3	22.4	22.4	22.9
		25	24	22.4	22.4	22.2	22.3	22.4	22.9
		50	0	22.4	22.4	22.3	22.4	22.4	22.9

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 670.5 MHz	133297 680.5 MHz	133397 690.5 MHz	133197 670.5 MHz	133297 680.5 MHz	133397 690.5 MHz
15.0	QPSK	1	0	25.3	24.8	24.9	24.2	24.0	24.1
		1	37	25.5	25.0	25.1	24.2	24.2	24.2
		1	74	25.5	25.1	24.8	24.2	24.2	24.1
		36	0	24.3	24.0	24.0	23.0	23.1	23.2
		36	16	24.4	23.9	24.1	23.1	23.2	23.2
		36	35	24.4	23.9	23.9	23.3	23.1	23.0
		75	0	24.5	24.0	24.1	23.2	23.3	23.3
	16QAM	1	0	24.6	24.2	24.2	23.6	23.4	23.4
		1	37	24.8	24.3	24.5	23.6	23.6	23.6
		1	74	24.8	24.5	24.0	23.5	23.6	23.3
		36	0	23.3	23.1	23.1	22.1	22.1	22.2
		36	16	23.5	23.0	23.1	22.2	22.3	22.3
		36	35	23.4	22.9	22.9	22.3	22.2	22.1
		75	0	23.5	23.0	23.1	22.2	22.3	22.3
	64QAM	1	0	23.5	23.6	23.7	23.8	23.7	24.2
		1	37	23.7	23.6	23.9	24.1	23.7	24.1
		1	74	23.6	24.0	23.6	23.7	23.8	24.2
		36	0	22.4	22.6	22.6	22.6	22.5	22.8
		36	16	22.5	22.5	22.6	22.7	22.4	22.9
		36	35	22.4	22.5	22.4	22.5	22.4	22.9
		75	0	22.5	22.5	22.6	22.7	22.5	22.9

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 673.0 MHz	133297 680.5 MHz	133372 688.0 MHz	133222 673.0 MHz	133297 680.5 MHz	133372 688.0 MHz
20.0	QPSK	1	0	25.1	25.4	24.8	24.2	24.2	24.2
		1	49	25.3	25.4	25.1	24.2	24.2	24.2
		1	99	25.5	25.4	24.7	24.2	24.1	24.1
		50	0	24.3	24.4	23.8	23.1	23.3	23.2
		50	24	24.4	24.5	24.1	23.3	23.2	23.3
		50	49	24.4	24.3	23.9	23.3	23.2	23.1
		100	0	24.4	24.5	24.1	23.3	23.3	23.4
	16QAM	1	0	24.5	24.8	24.2	23.5	23.7	23.7
		1	49	24.6	24.8	24.5	23.6	23.6	23.6
		1	99	24.9	24.8	24.1	23.7	23.5	23.5
		50	0	23.3	23.4	22.9	22.1	22.3	22.2
		50	24	23.4	23.5	23.1	22.3	22.2	22.4
		50	49	23.4	23.3	22.9	22.3	22.1	22.2
		100	0	23.4	23.5	23.2	22.3	22.3	22.4
	64QAM	1	0	23.5	23.9	23.5	23.6	24.5	24.4
		1	49	23.6	23.9	23.6	23.7	24.6	24.3
		1	99	23.9	23.8	23.3	23.6	24.3	24.6
		50	0	22.3	22.4	22.4	22.4	23.0	22.9
		50	24	22.3	22.5	22.6	22.7	23.2	22.9
		50	49	22.4	22.3	22.4	22.5	23.0	23.0
		100	0	22.4	22.5	22.6	22.8	23.3	23.0

8. CONDUCTED TEST RESULTS

8.1. OCCUPIED BANDWIDTH

RULE PART(S)

§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 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	1.0870	1.240
	1.4MHz,16QAM			1.0882	1.247
	1.4MHz 64QAM			1.0931	1.246
	3MHz, QPSK	15/0		2.6878	2.987
	3MHz, 16QAM			2.6893	2.989
	3MHz 64QAM			2.7083	2.987
	5MHz, QPSK	25/0		4.5141	4.946
	5MHz, 16QAM			4.5143	4.925
	5MHz 64QAM			4.5086	4.942
	10MHz, QPSK	50/0		8.9723	10.011
	10MHz, 16QAM			8.9726	9.823
	10MHz 64QAM			8.9933	10.00
	15MHz, QPSK	75/0		13.4802	15.415
	15MHz, 16QAM			13.4575	15.355
	15MHz 64QAM			13.4790	15.550
	20MHz, QPSK	100/0		17.9363	19.811
	20MHz, 16QAM			17.9253	19.810
	20MHz 64QAM			18.0130	20.100

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	1.0914	1.244
	1.4MHz,16QAM			1.0882	1.240
	1.4MHz 64QAM			1.0947	1.244
	3MHz, QPSK	15/0		2.6898	2.981
	3MHz, 16QAM			2.6965	2.967
	3MHz 64QAM			2.7044	2.989
	5MHz, QPSK	25/0		4.5046	4.945
	5MHz, 16QAM			4.4998	4.973
	5MHz 64QAM			4.5018	4.940
	10MHz, QPSK	50/0		8.9971	10.104
	10MHz, 16QAM			8.9779	10.261
	10MHz 64QAM			8.9931	10.050

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	4.4939	4.923
	5MHz, 16QAM			4.5017	4.950
	5MHz 64QAM			4.5039	4.942
	10MHz, QPSK	50/0		9.0041	10.386
	10MHz, 16QAM			8.9890	10.306
	10MHz 64QAM			8.9965	9.964
	15MHz, QPSK	75/0		13.4411	15.047
	15MHz, 16QAM			13.4576	15.070
	15MHz 64QAM			13.4770	15.520
	20MHz, QPSK	100/0		17.8895	19.524
	20MHz, 16QAM			17.9487	19.746
	20MHz 64QAM			17.9660	19.780

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	1.0859	1.245
	1.4 MHz,16QAM			1.0932	1.247
	1.4 MHz 64QAM			1.0933	1.247
	3 MHz, QPSK	15/0		2.6960	2.978
	3 MHz, 16QAM			2.6980	2.992
	3 MHz 64QAM			2.7141	2.992
	5 MHz, QPSK	25/0		4.5081	4.972
	5 MHz, 16QAM			4.5024	4.948
	5 MHz 64QAM			4.4972	4.927
	10 MHz, QPSK	50/0		8.9974	10.483
	10 MHz, 16QAM			8.9877	10.371
	10 MHz 64QAM			8.9704	9.862

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	4.5039	4.917
	5 MHz, 16QAM			4.4980	4.954
	5 MHz 64QAM			4.5078	4.916
	10 MHz, QPSK	50/0		8.9734	10.174
	10 MHz, 16QAM			8.9774	10.217
	10 MHz 64QAM			8.9863	10.060

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	4.4611	4.758
	5 MHz, 16QAM			4.4841	4.739
	5M Hz 64QAM			4.4754	4.820
	10 MHz, QPSK	50/0		8.9127	9.314
	10 MHz, 16QAM			8.9398	9.479
	10 MHz 64QAM			8.9431	9.332

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	4.4962	4.925
	5 MHz, 16QAM			4.5003	4.918
	5 MHz 64QAM			4.5012	4.927
	10 MHz, QPSK	50/0		8.9802	10.286
	10 MHz, 16QAM			9.0120	10.411
	10 MHz 64QAM			8.9925	10.000

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	1.0914	1.235
	1.4MHz,16QAM			1.0911	1.238
	1.4MHz 64QAM			1.0964	1.248
	3MHz, QPSK	15/0		2.6899	2.986
	3MHz, 16QAM			2.6811	2.975
	3MHz 64QAM			2.7105	2.992
	5MHz, QPSK	25/0		4.5103	4.961
	5MHz, 16QAM			4.5018	4.951
	5MHz 64QAM			4.5024	4.936
	10MHz, QPSK	50/0		9.0087	10.394
	10MHz, 16QAM			8.9855	10.298
	10MHz 64QAM			8.9889	10.100
	15MHz, QPSK	75/0		13.4390	15.347
	15MHz, 16QAM			13.4616	15.449
	15MHz 64QAM			13.4770	15.500
	20MHz, QPSK	100/0		17.9222	19.739
	20MHz, 16QAM			17.9213	19.960
	20MHz 64QAM			17.9780	19.770

LTE BAND 26 (PART 90S)

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	0.2348	0.3369
	1.4 MHz,16QAM			0.2358	0.3479
	1.4 MHz,64QAM			0.2794	0.3925
	1.4 MHz, QPSK	6/0		1.0907	1.242
	1.4 MHz,16QAM			1.0924	1.244
	1.4 MHz 64QAM			1.0924	1.247
	3 MHz, QPSK	1/0		0.2504	0.4007
	3 MHz, 16QAM			0.2628	0.4030
	3 MHz, 64QAM			0.2973	0.4085
	3 MHz, QPSK	15/0		2.7047	2.983
	3 MHz, 16QAM			2.7067	2.987
	3 MHz 64QAM			2.7004	2.977
	5 MHz, QPSK	1/0		0.2347	0.3739
	5 MHz, 16QAM			0.2316	0.4043
	5 MHz, 64QAM			0.2265	0.3884
	5 MHz, QPSK	25/0		4.4949	4.928
	5 MHz, 16QAM			4.4999	4.929
	5 MHz 64QAM			4.5002	4.936
	10 MHz, QPSK	1/0		0.2551	0.4049
	10 MHz, 16QAM			0.2617	0.4236
	10 MHz, 64QAM			0.2633	0.4677
	10 MHz, QPSK	50/0		8.9707	10.030
	10 MHz, 16QAM			8.9931	10.050
	10 MHz 64QAM			8.9863	10.050

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	4.5042	4.938
	5MHz, 16QAM			4.5094	4.988
	5MHz 64QAM			4.4980	4.950
	10MHz, QPSK	50/0		8.9818	10.375
	10MHz, 16QAM			8.9810	10.344
	10MHz 64QAM			8.9939	9.972

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	4.4864	4.860
	5MHz, 16QAM			4.4918	4.895
	5MHz 64QAM			4.5002	5.037
	10MHz, QPSK	50/0		8.9224	10.047
	10MHz, 16QAM			8.9456	10.961
	10MHz 64QAM			8.9905	11.250
	15MHz, QPSK	75/0		13.3508	14.694
	15MHz, 16QAM			13.4667	18.175
	15MHz 64QAM			13.4670	16.290
	20MHz, QPSK	100/0		17.7804	20.815
	20MHz, 16QAM			17.9880	19.550
	20MHz 64QAM			17.8650	19.210

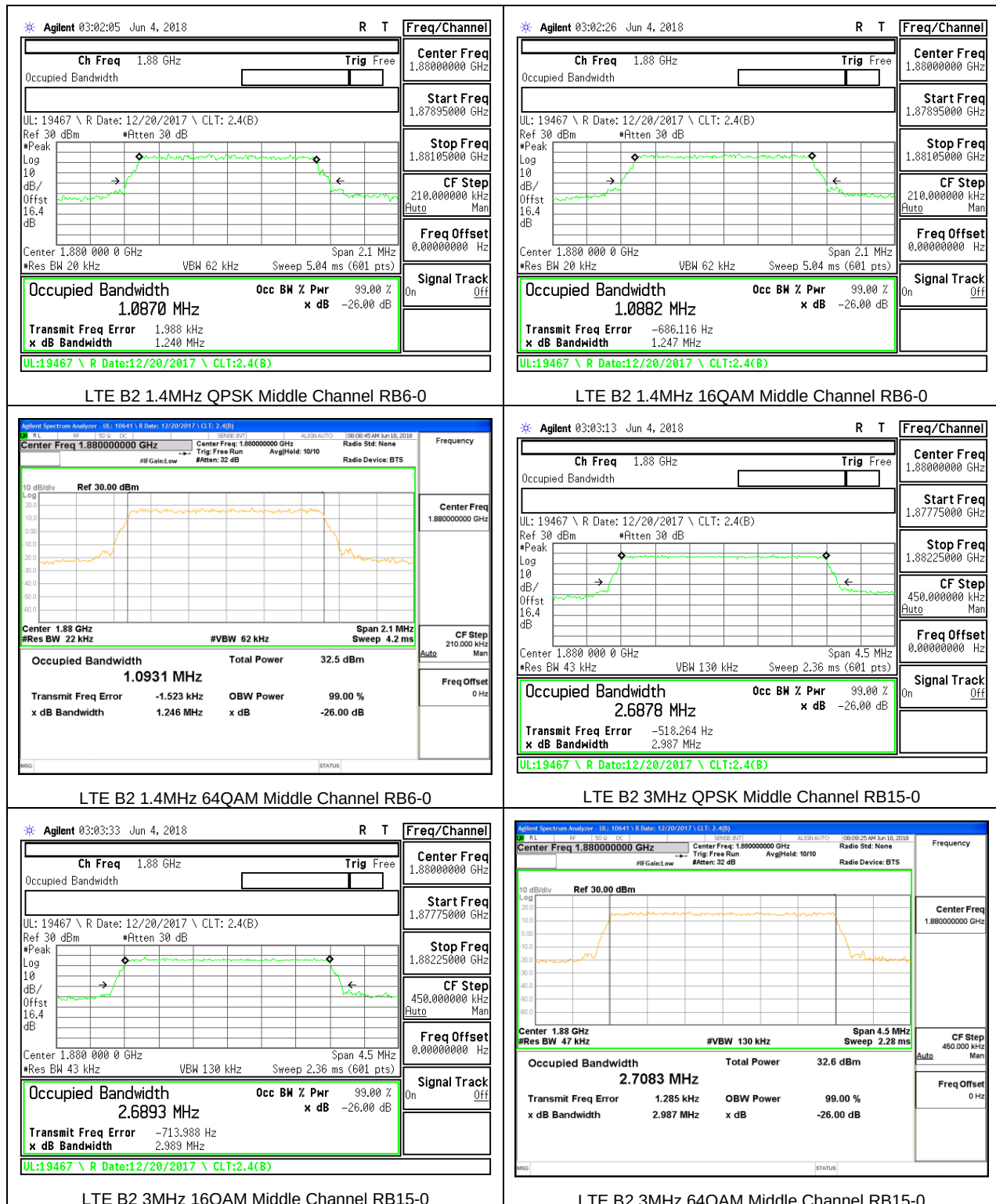
LTE BAND 66

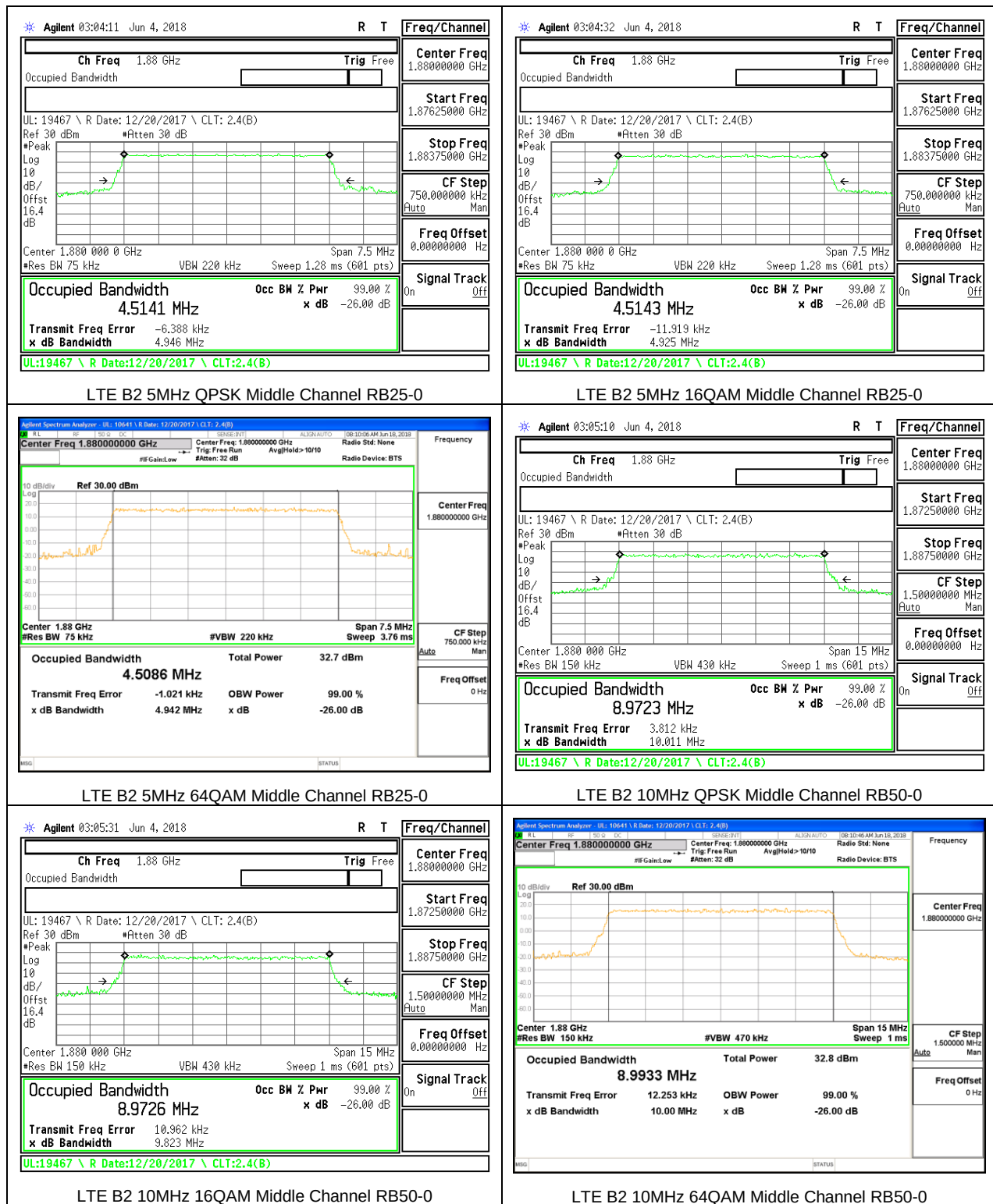
Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 66	1.4MHz, QPSK	6/0	1745.0	1.0903	1.240
	1.4MHz,16QAM			1.0910	1.234
	1.4MHz 64QAM			1.0897	1.244
	3MHz, QPSK	15/0		2.6863	2.960
	3MHz, 16QAM			2.6893	2.986
	3MHz 64QAM			2.7012	2.984
	5MHz, QPSK	25/0		4.4930	4.908
	5MHz, 16QAM			4.5052	4.890
	5MHz 64QAM			4.5023	4.954
	10MHz, QPSK	50/0		8.9996	10.302
	10MHz, 16QAM			8.9983	10.269
	10MHz 64QAM			8.9671	10.040
	15MHz, QPSK	75/0		13.4516	15.108
	15MHz, 16QAM			13.4543	15.219
	15MHz 64QAM			13.4760	15.390
	20MHz, QPSK	100/0		17.8888	19.501
	20MHz, 16QAM			17.9001	19.386
	20MHz 64QAM			17.9530	20.070

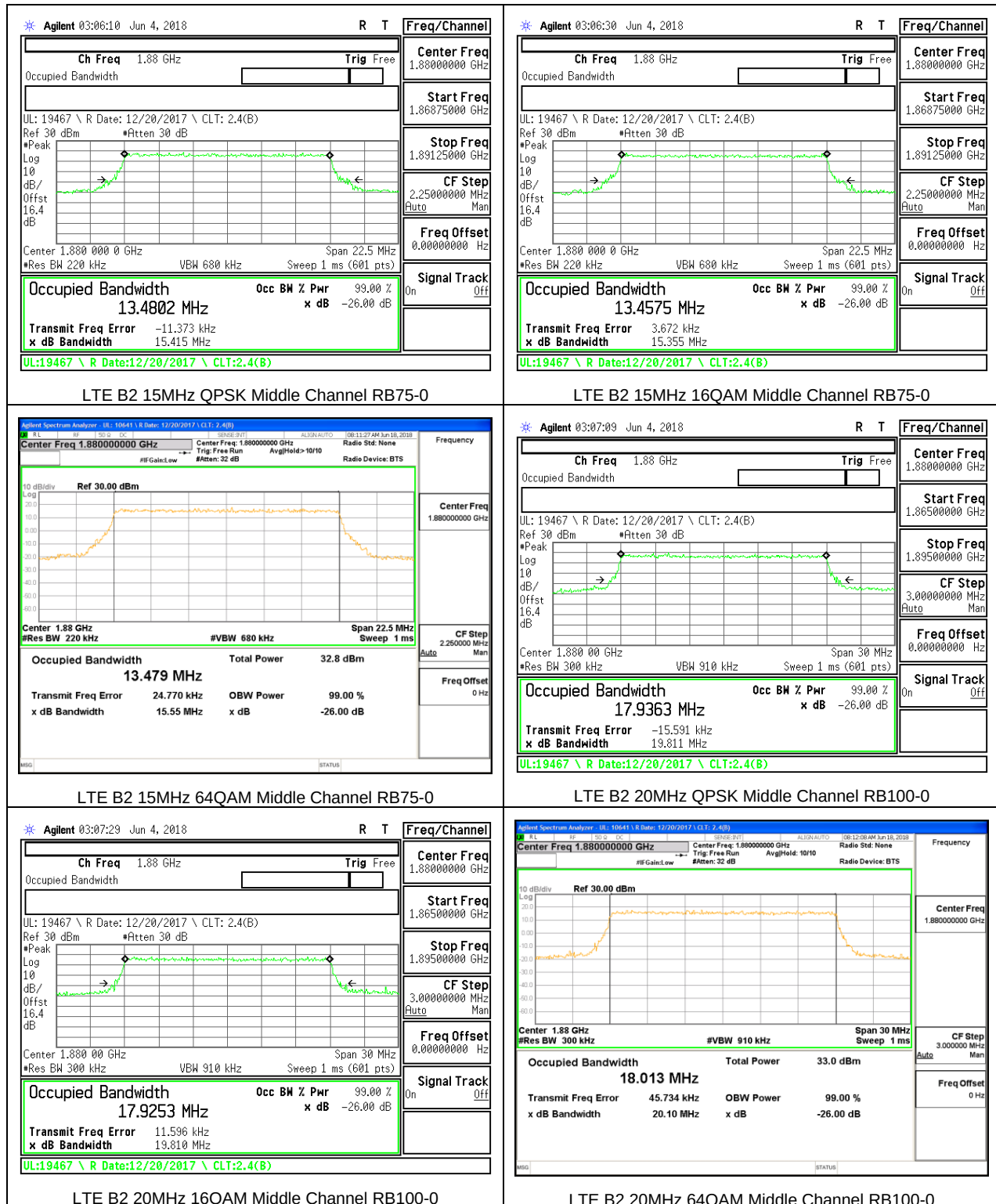
LTE BAND 71

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
	5MHz, QPSK	25/0	680.5	4.4929	4.948
	5MHz, 16QAM			4.4972	4.889
	5MHz 64QAM			4.4995	4.941
	10MHz, QPSK	50/0		8.9719	9.818
	10MHz, 16QAM			8.9581	9.823
	10MHz 64QAM			8.9848	10.080
	15MHz, QPSK	75/0		13.4203	14.960
	15MHz, 16QAM			13.4477	14.986
	15MHz 64QAM			13.4900	15.740
	20MHz, QPSK	100/0		17.8804	19.743
	20MHz, 16QAM			17.8771	19.925
	20MHz 64QAM			17.9260	19.760

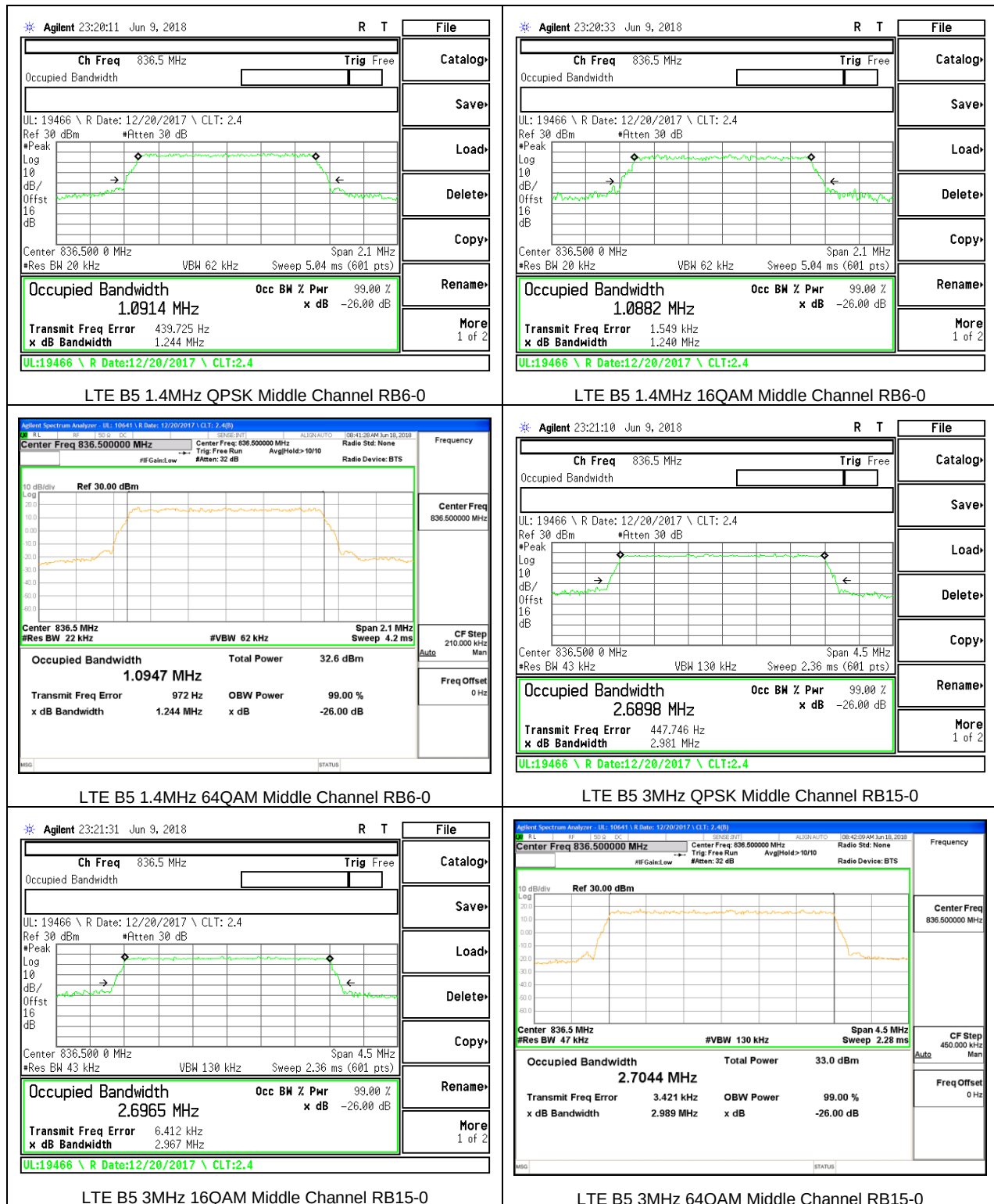
8.1.1. LTE BAND 2

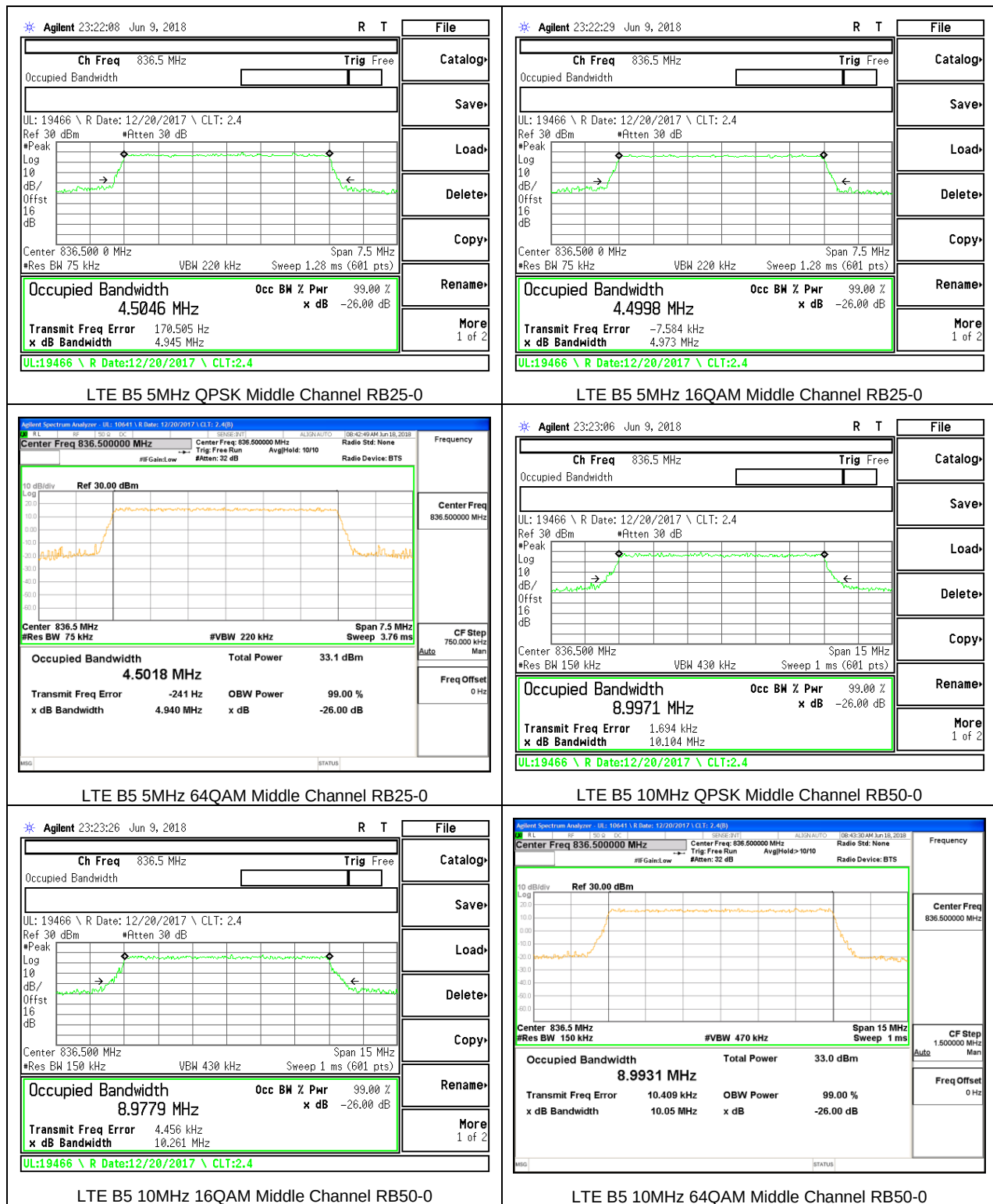




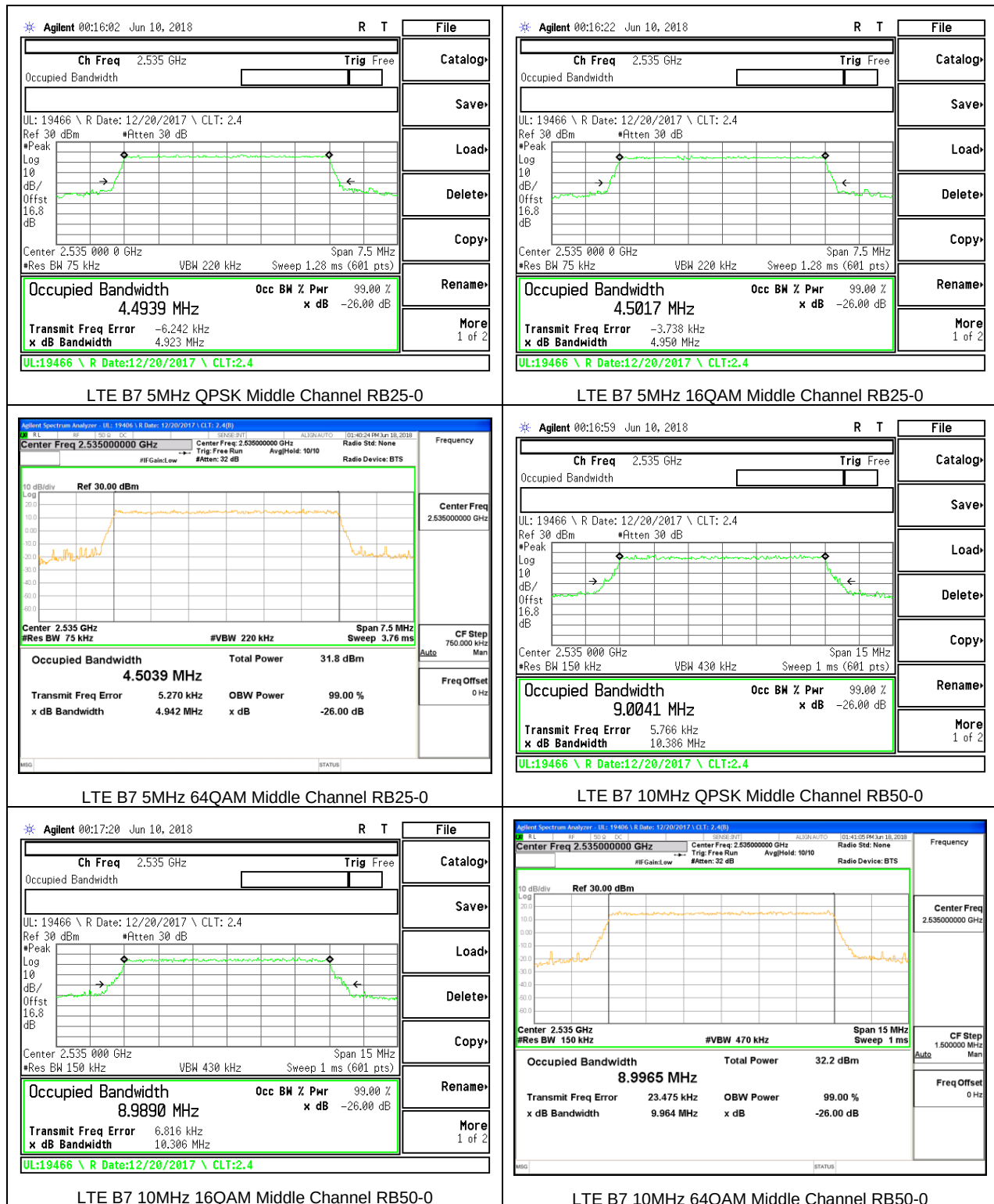


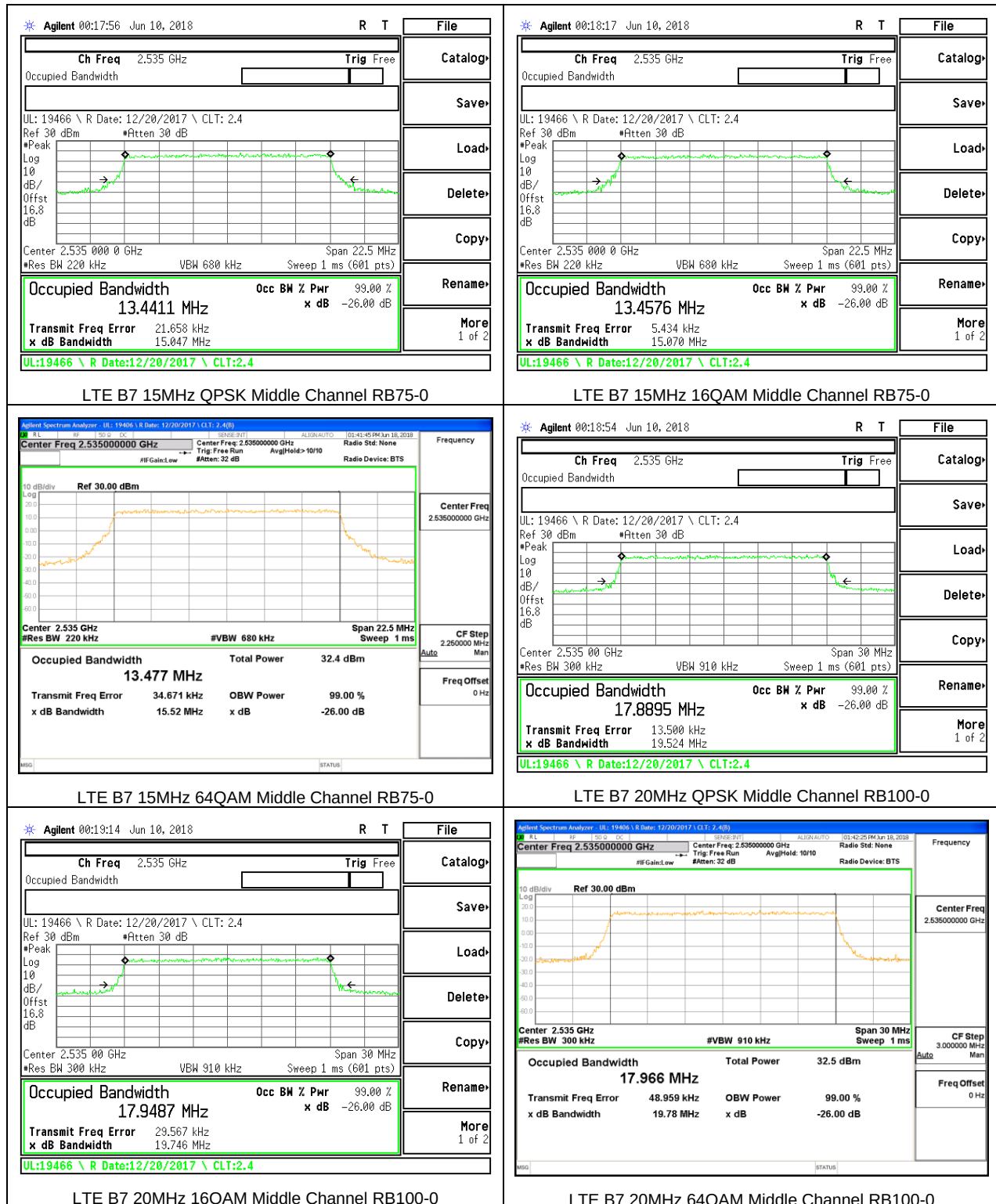
8.1.2. LTE BAND 5



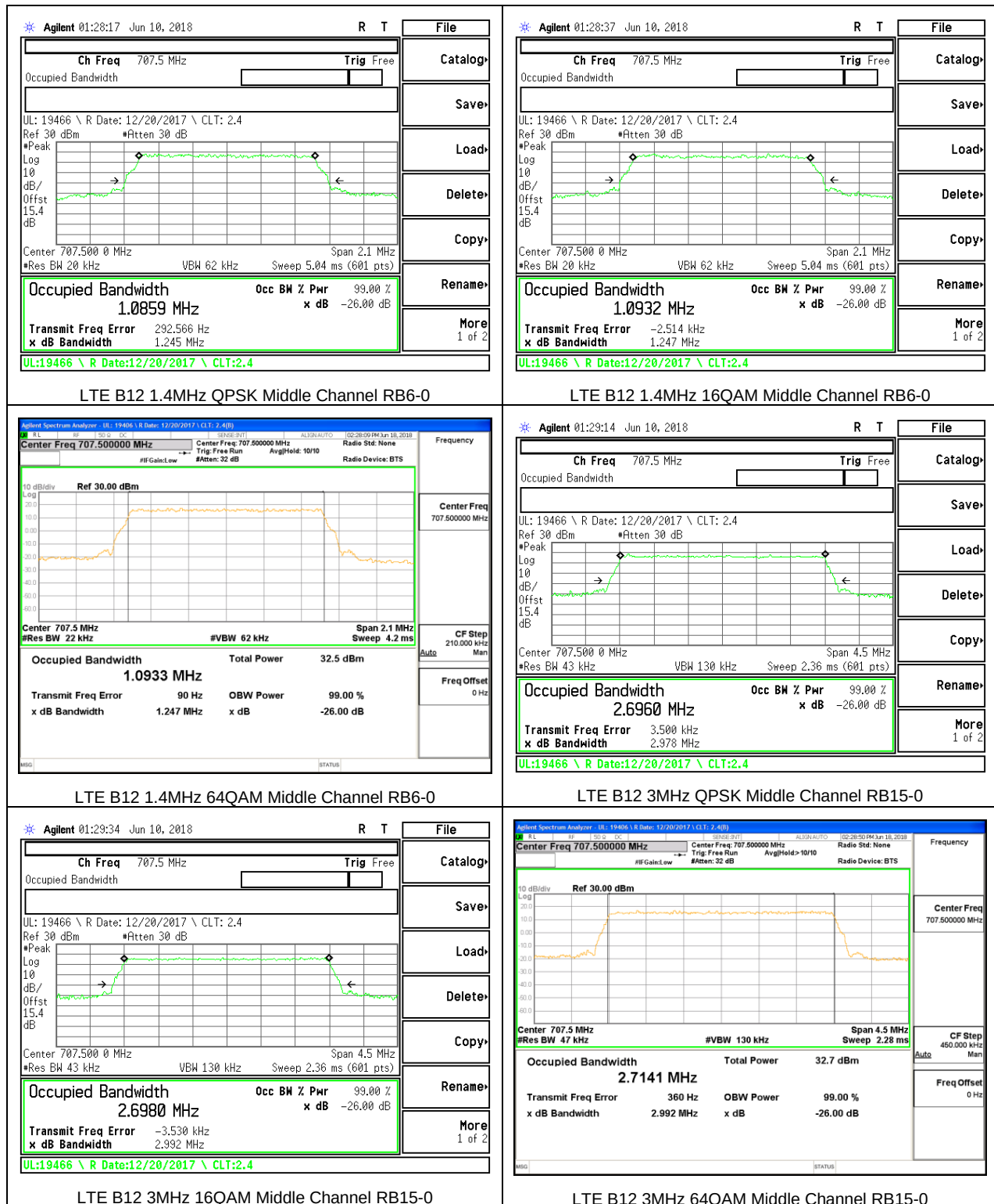


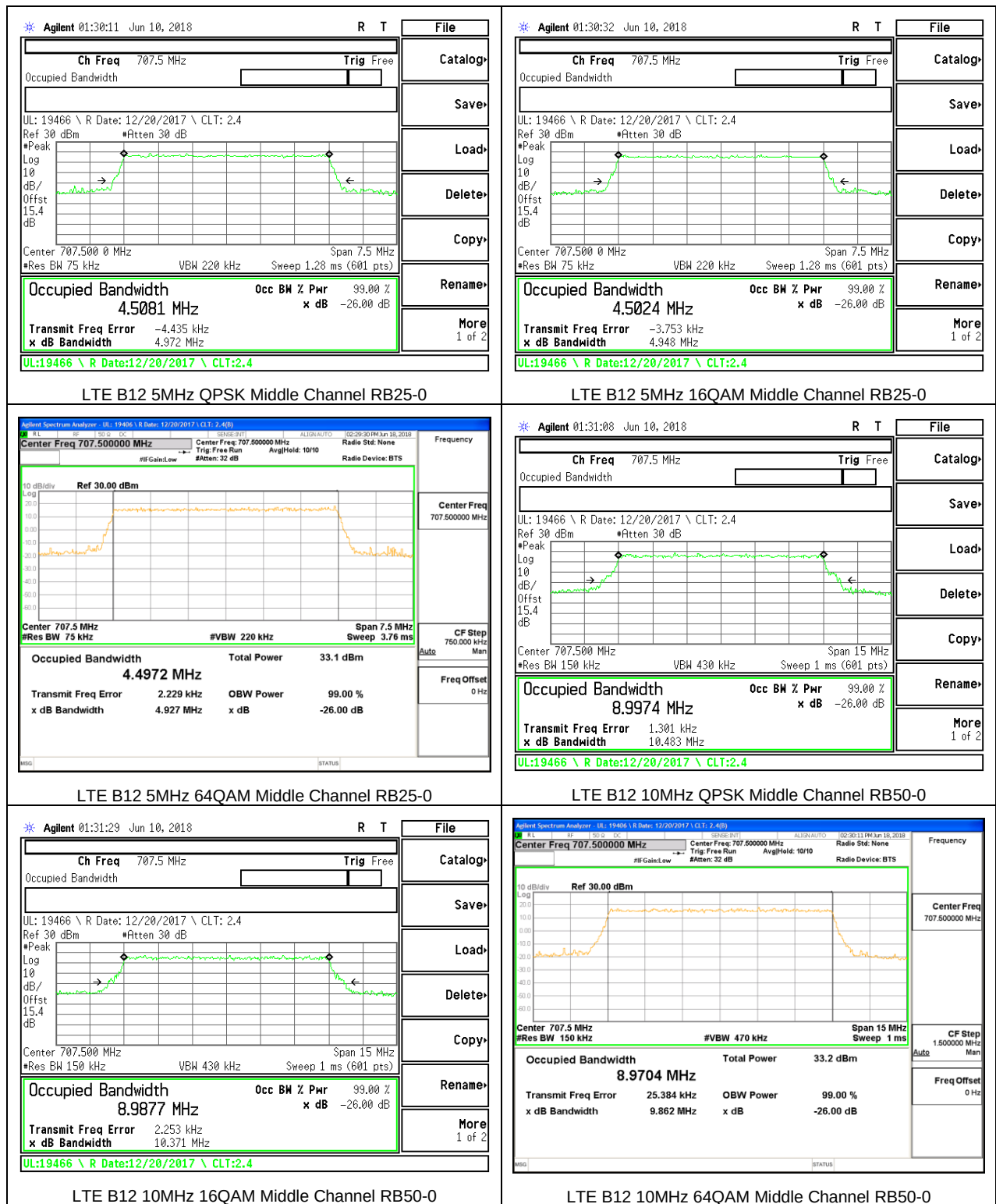
8.1.3. LTE BAND 7



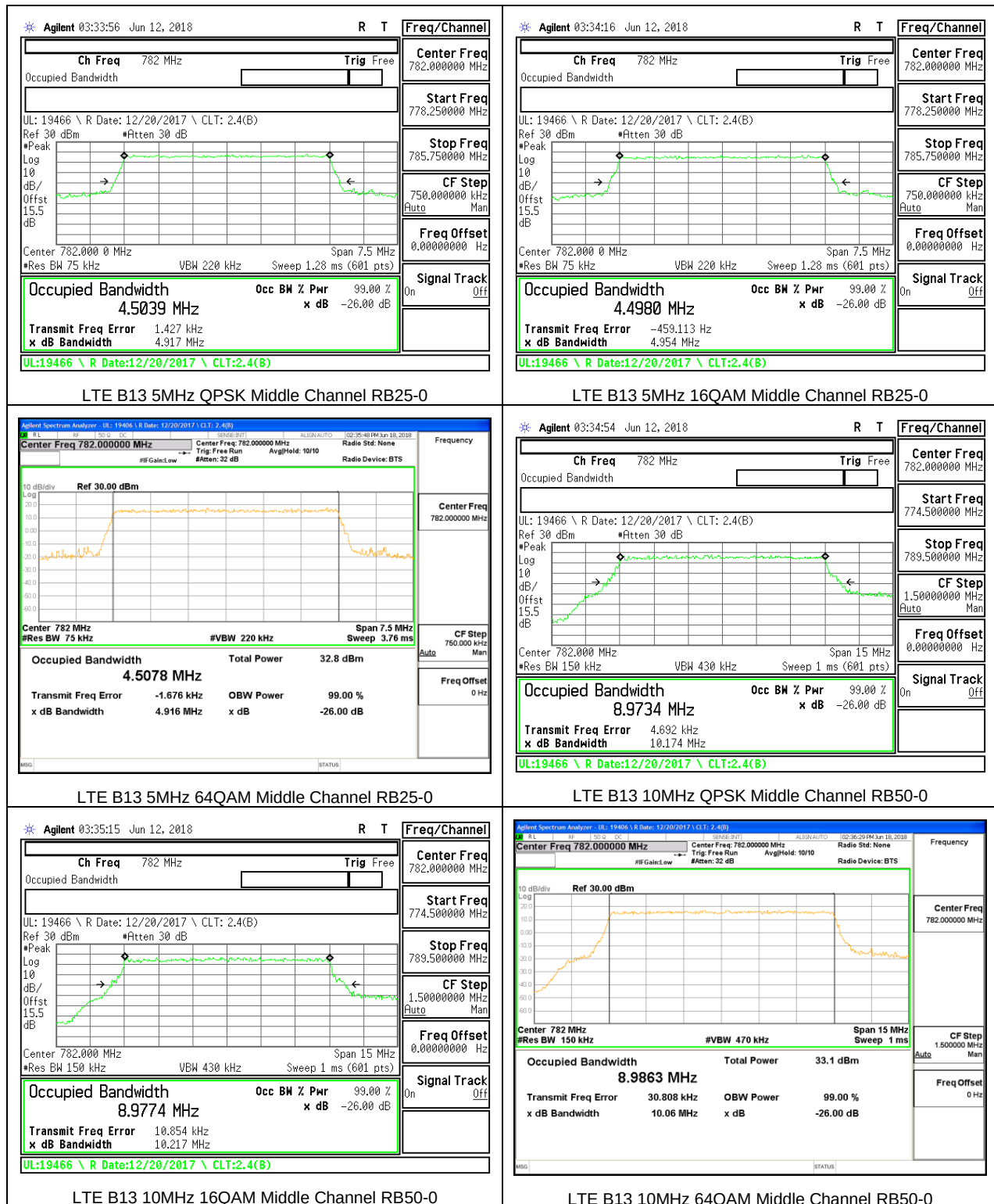


8.1.4. LTE BAND 12

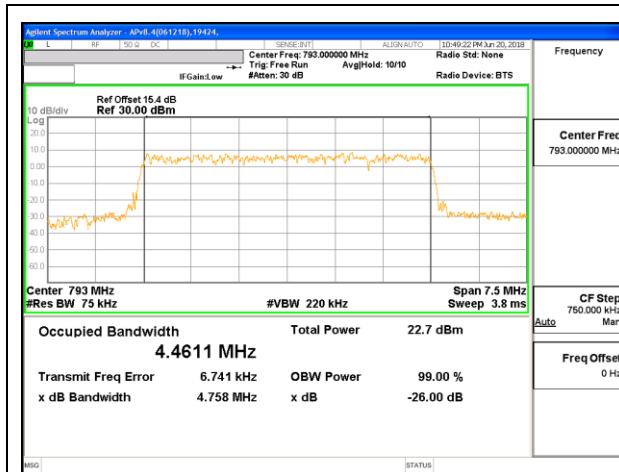




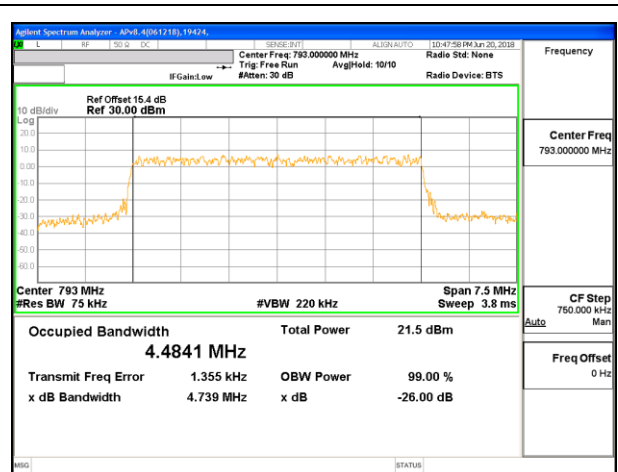
8.1.5. LTE BAND 13



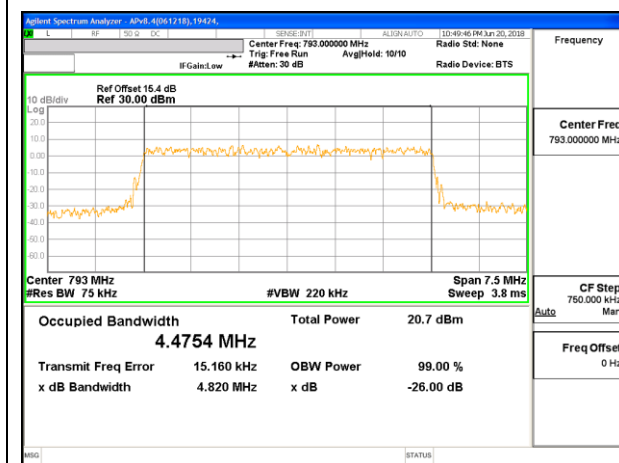
8.1.6. LTE BAND 14



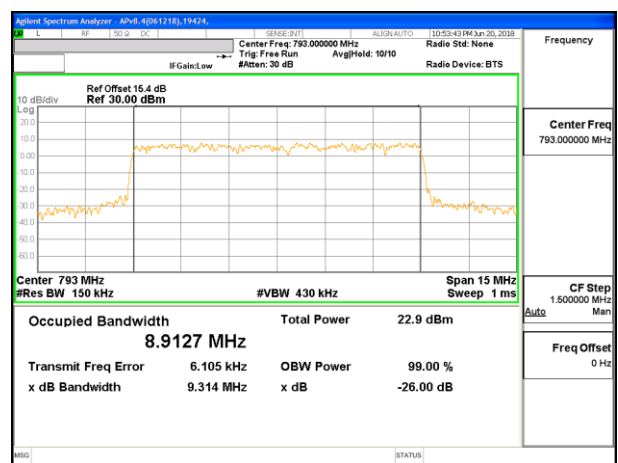
LTE B14 5MHz QPSK Middle Channel RB25-0



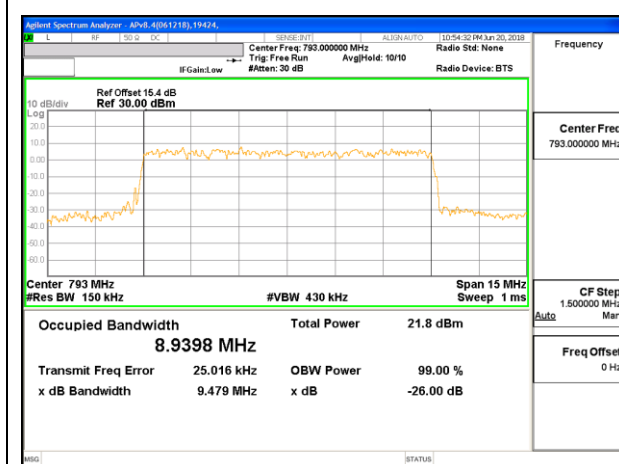
LTE B14 5MHz 16QAM Middle Channel RB25-0



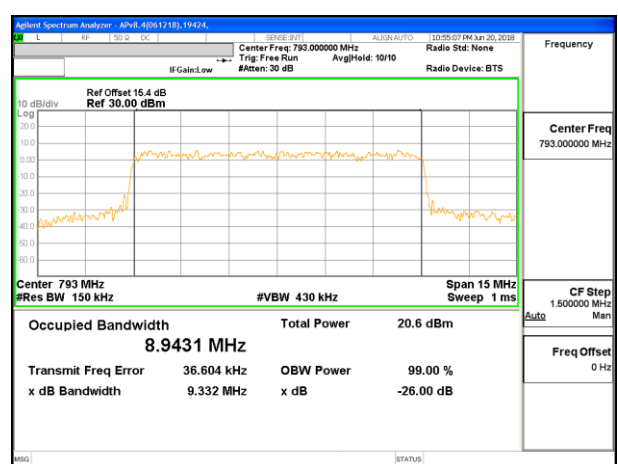
LTE B14 5MHz 64QAM Middle Channel RB25-0



LTE B14 10MHz QPSK Middle Channel RB50-0

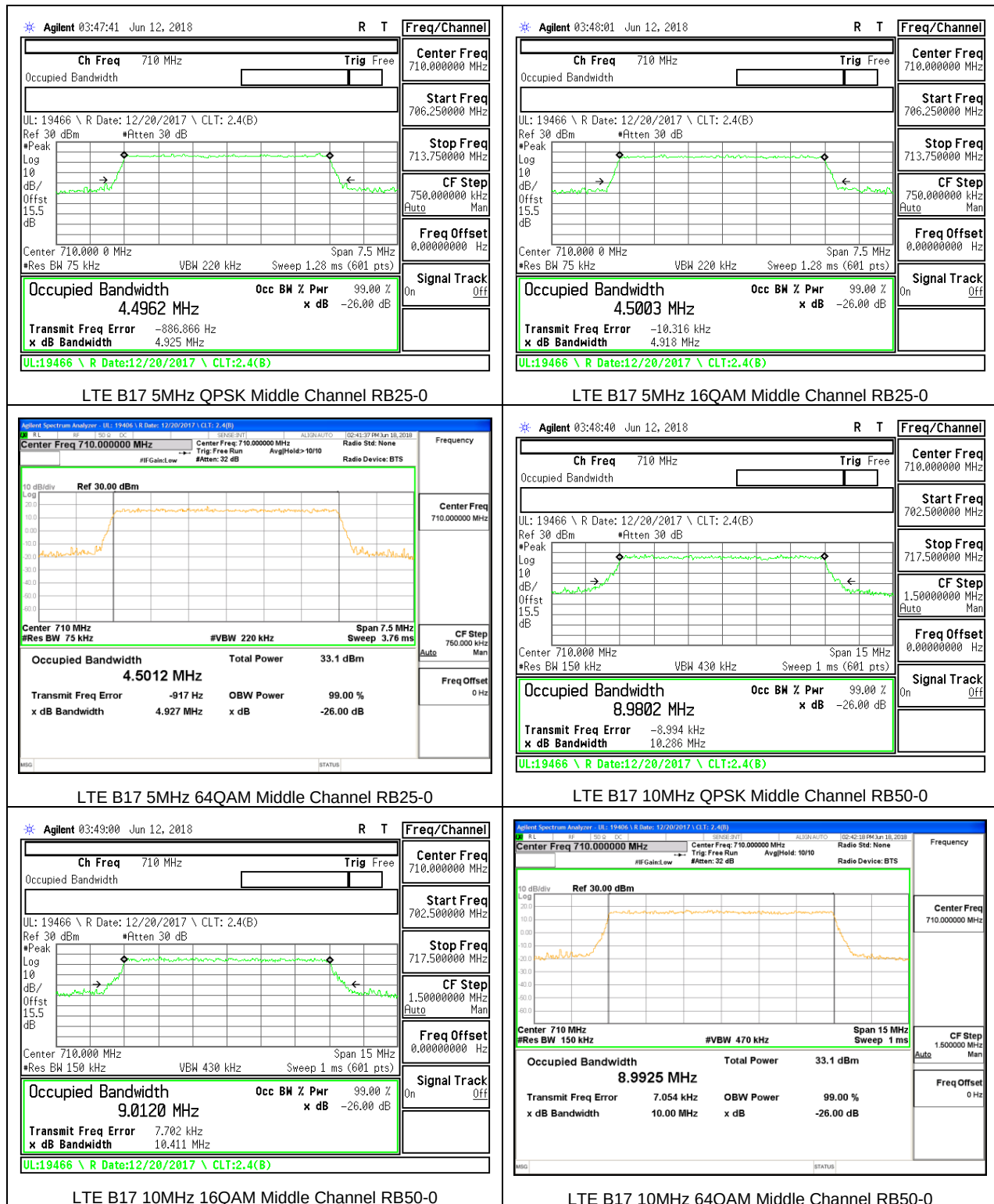


LTE B14 10MHz 16QAM Middle Channel RB50-0

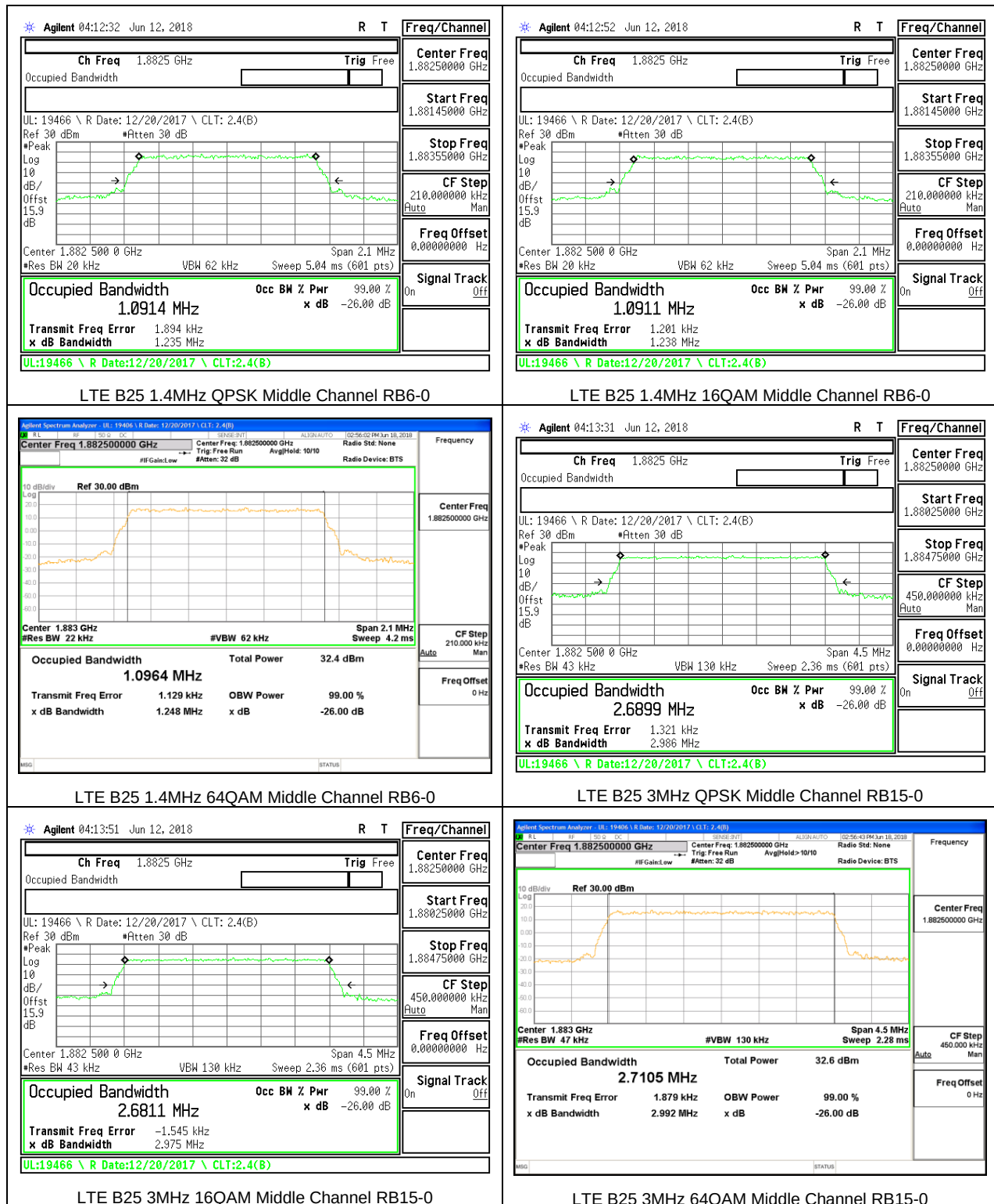


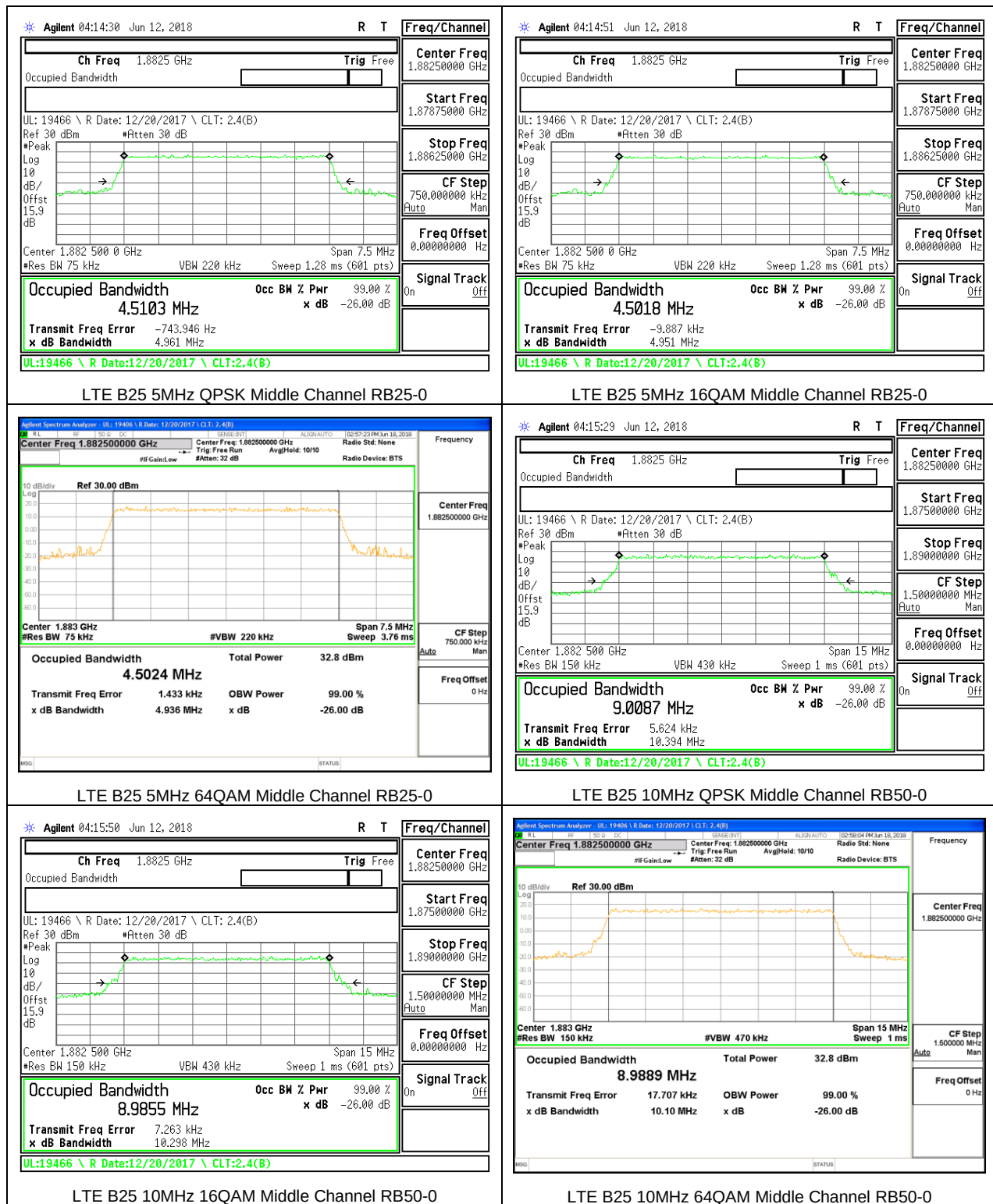
LTE B14 10MHz 64QAM Middle Channel RB50-0

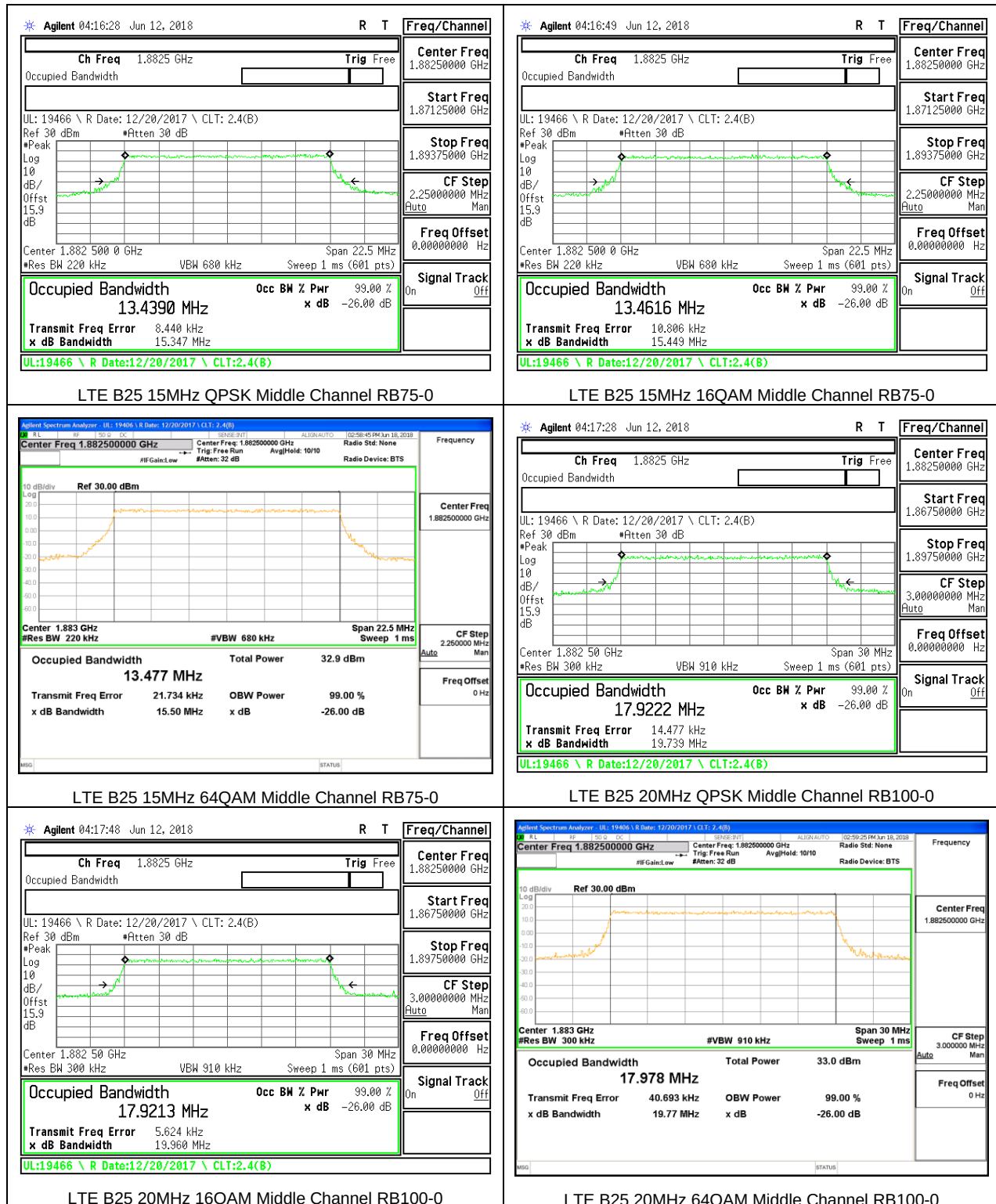
8.1.7. LTE BAND 17



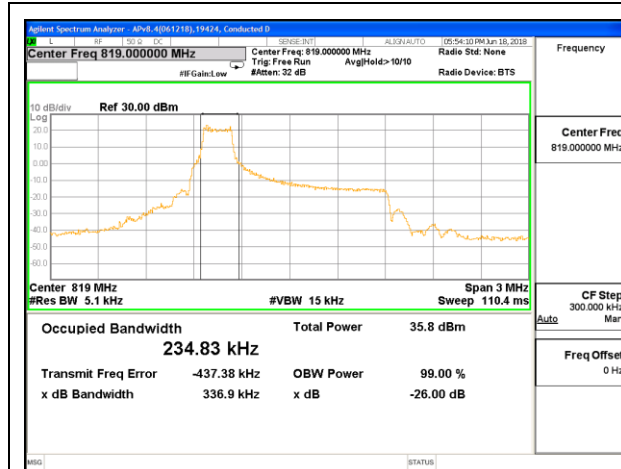
8.1.8. LTE BAND 25



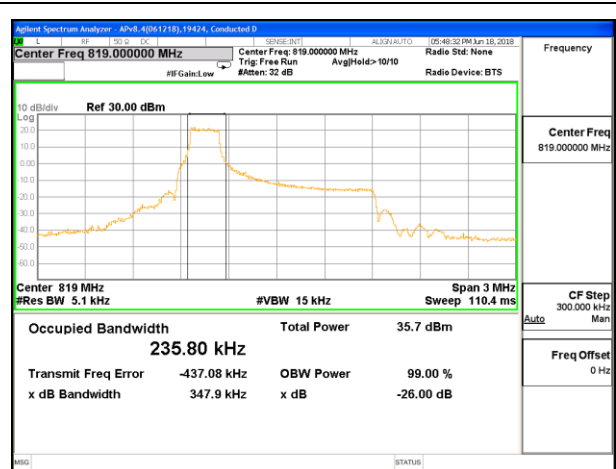




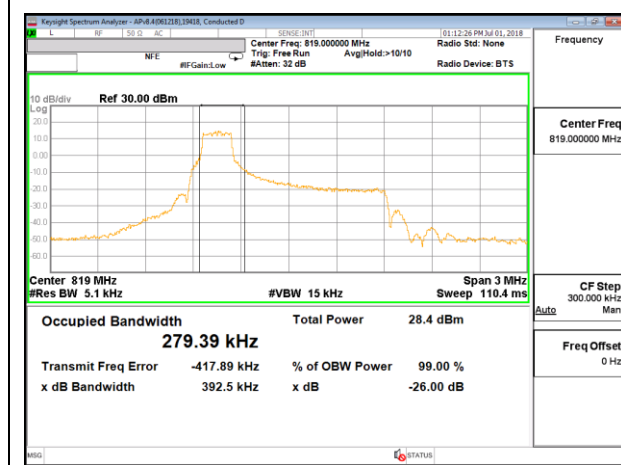
8.1.9. LTE BAND 26 (PART 90S)



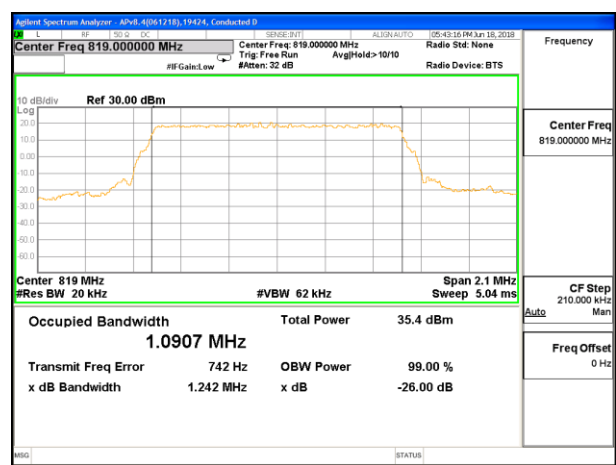
LTE B26 1.4MHz QPSK Middle Channel RB1-0



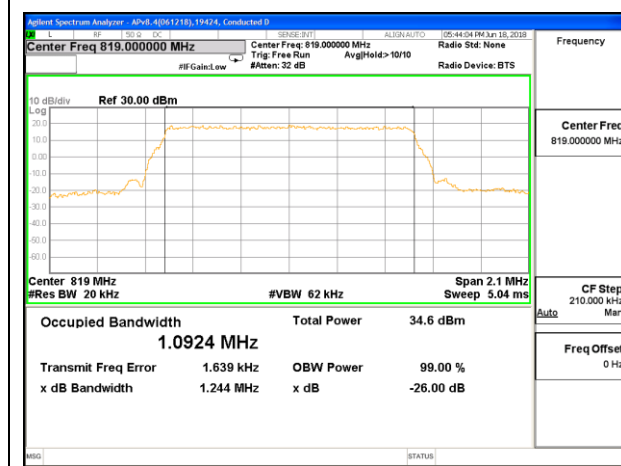
LTE B26 1.4MHz 16QAM Middle Channel RB1-0



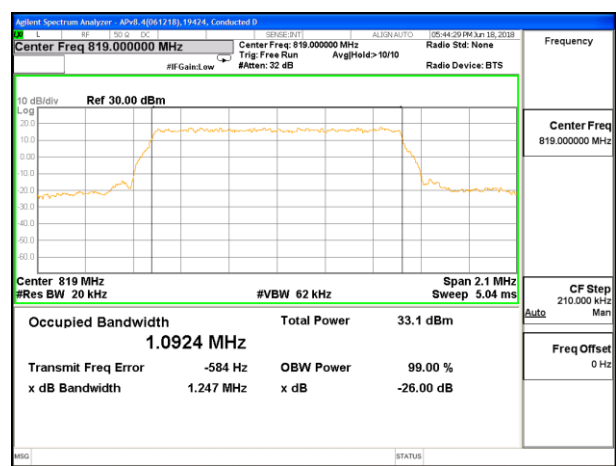
LTE B26 1.4MHz 64QAM Middle Channel RB1-0



LTE B26 1.4MHz QPSK Middle Channel RB6-0

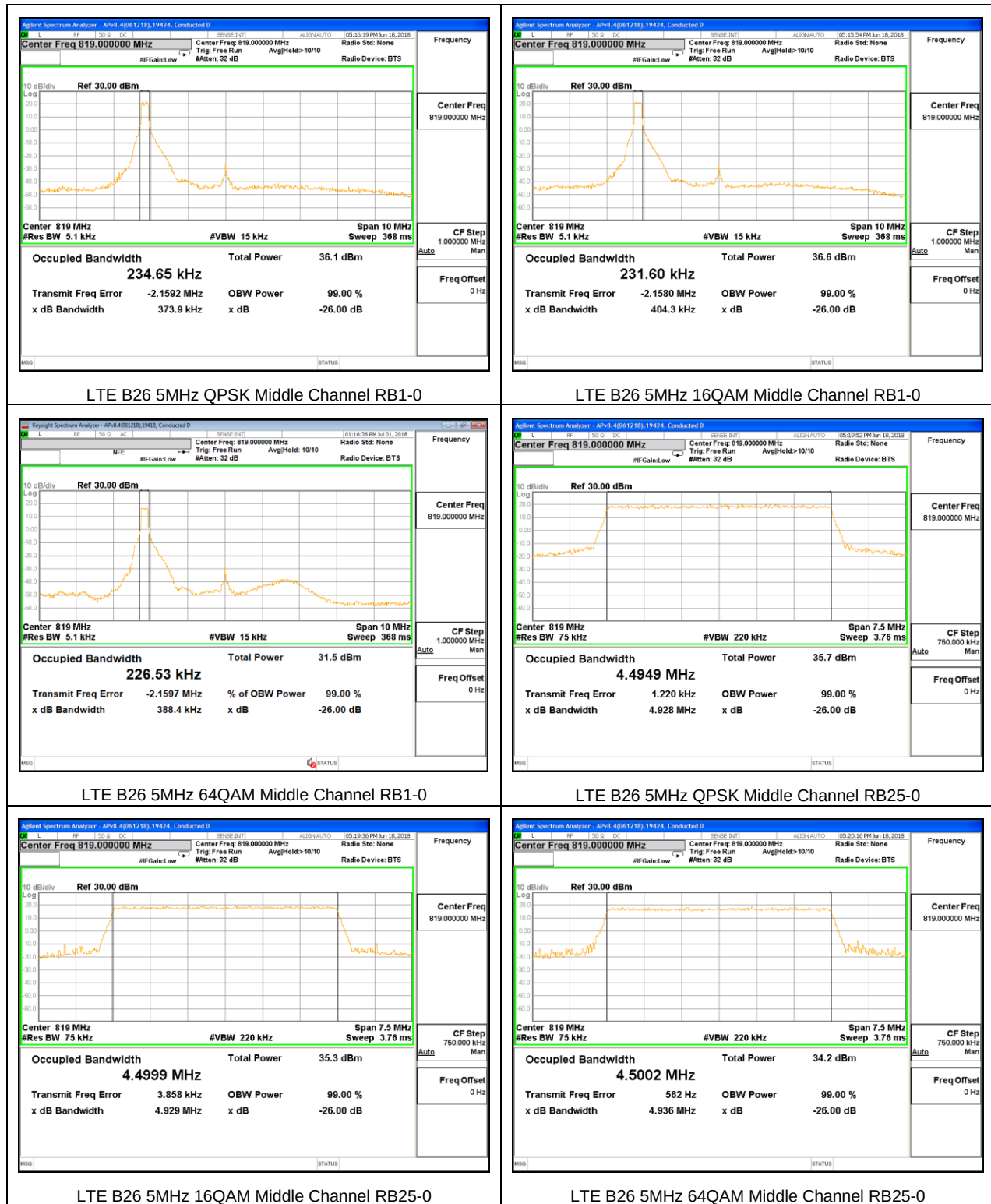


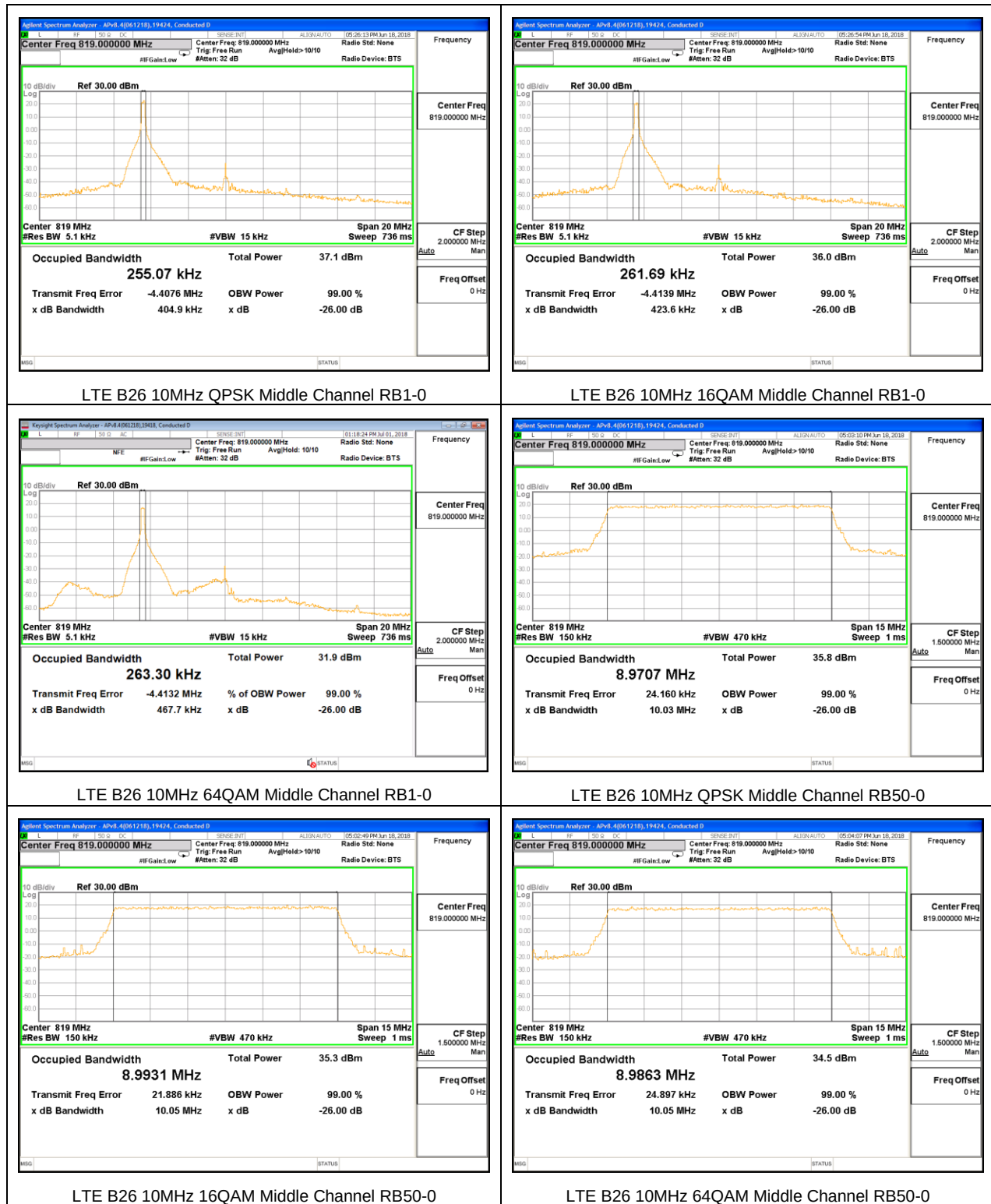
LTE B26 1.4MHz 16QAM Middle Channel RB6-0



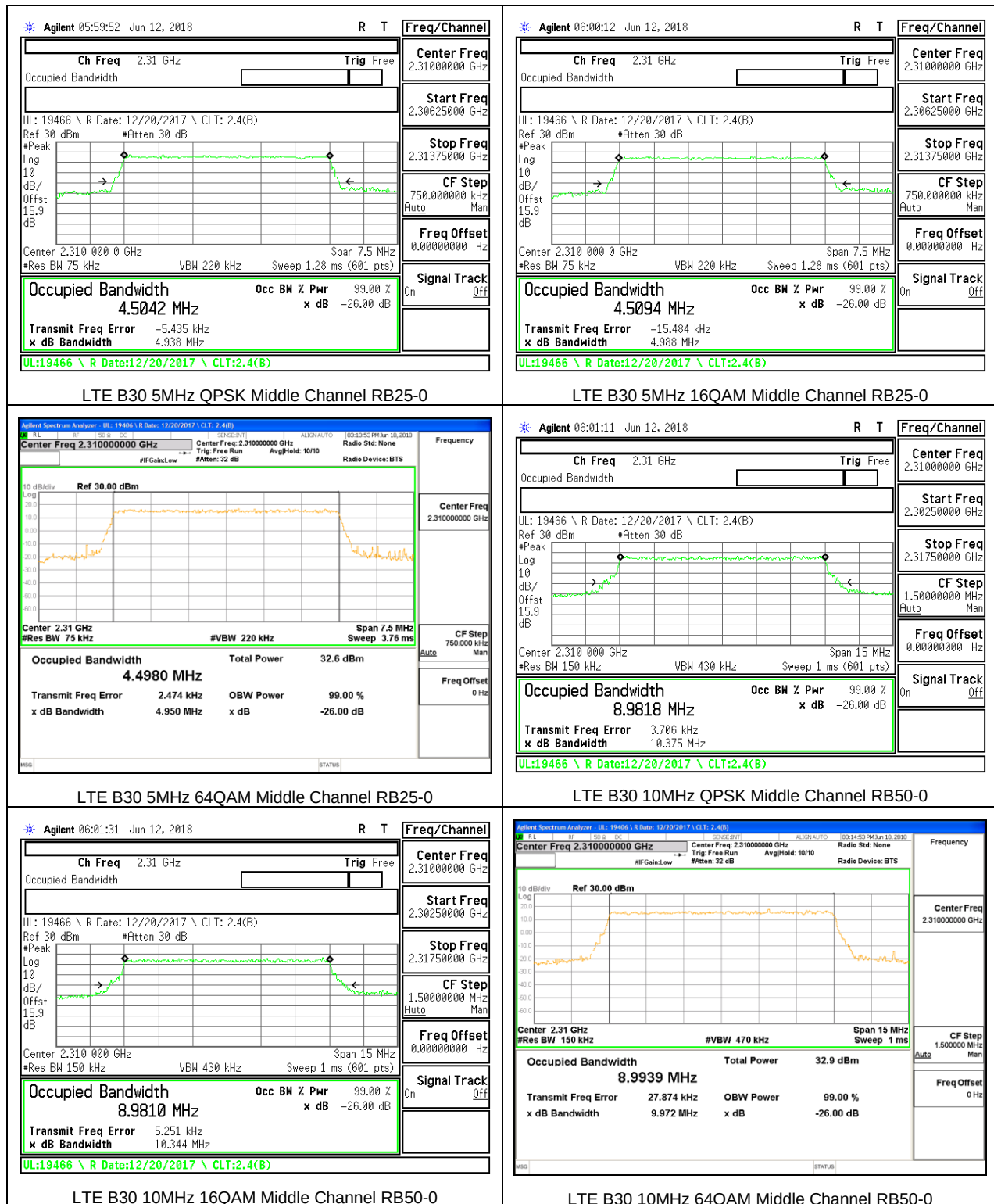
LTE B26 1.4MHz 64QAM Middle Channel RB6-0







8.1.10. LTE BAND 30



8.1.11. LTE BAND 41

