CERTIFICATION TEST REPORT

Report Number. : 13018918-E8V2

Applicant	:	APPLE, INC. 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A.
Model	:	A2296
FCC ID	:	BCG-E3501A
EUT Description	:	SMARTPHONE
Test Standard(s)	:	FCC CFR47 PART 22H, 24E, 27, 90S, AND 96

Date Of Issue:
MARCH 25, 2020

Prepared by:
UL Verification Services Inc.
47173 Benicia Street
Fremont, CA 94538, U.S.A.
TEL: (510) 319-4000
FAX: (510) 661-0888

NVLAP TESTING

NVLAP Lab code: 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2/11/2020	Initial Review	Lieu Nguyen
V2	3/25/2020	Addressed TCB feedback	John Thompson

TABLE OF CONTENTS

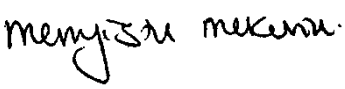
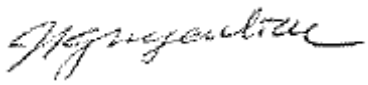
1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE INC. 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A
Model	A2296
FCC ID	BCG-A2296
EUT Description	SMARTPHONE
Serial Number	FFMZW06XPM62,FFMZW038PM62
Date Tested	AUGUST 12, 2019 to NOVEMBER 27, 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 Test Engineer UL Verification Services Inc.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with the following:

- ANSI C63.26:2015
- FCC CFR 47 Part 2, Part 22, Part 24, Part 27, Part 90, and Part 96
- FCC KDB 971168 D01 v03r01: Power Meas License Digital Systems
- FCC KDB 971168 D02 v02r01: Misc Rev Approv License Devices
- FCC KDB 412172 D01 v01r01:. Determining ERP and EIRP

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 Road
☐ Chamber A	☐ Chamber D	☐ Chamber I
☒ Chamber B	☐ Chamber E	☐ Chamber J
☐ Chamber C	☐ Chamber F	☐ Chamber K
	☐ Chamber G	☐ Chamber L
	☐ Chamber H	☐ Chamber M

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: 2324A.

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

4. DECISION RULES AND MEASUREMENT UNCERTAINTY

4.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

4.2. DECSION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement

uncertainty is not taken into account when stating conformity with a specified requirement.)

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	U_{LAB}
Conducted Disturbance, 9KHz to 0.15 MHz	3.39 dB
Conducted Disturbance, 0.15 to 30 MHz	3.07 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, 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. MAXIMUM OUTPUT POWER

ERP/EIRP LIMIT

FCC: §2.1046, §22.913, §24.232, §27.50, §90.635, §90.541, and §96.41

EIRP/ERP TEST PROCEDURE

ANSI C63.26:2015
KDB 971168 D01 Section 5.6

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

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	24.2	22.22	0.167	1090.4	1M09G7W
	16QAM			23.4	21.44	0.139	1087.1	1M09D7W
	64QAM			22.4	20.43	0.110	1093.1	1M09D7W
3.0	QPSK	1851.5	1908.5	24.2	22.22	0.167	2688.4	2M69G7W
	16QAM			23.4	21.40	0.138	2694.7	2M69D7W
	64QAM			22.3	20.29	0.107	2693.8	2M69D7W
5.0	QPSK	1852.5	1907.5	24.2	22.25	0.168	4504.3	4M50G7W
	16QAM			23.2	21.21	0.132	4492.7	4M49D7W
	64QAM			22.5	20.45	0.111	4513.1	4M51D7W
10.0	QPSK	1855.0	1905.0	24.2	22.23	0.167	8973.8	8M97G7W
	16QAM			23.2	21.24	0.133	8985.2	8M99D7W
	64QAM			22.3	20.32	0.108	8999.1	9M00D7W
15.0	QPSK	1857.5	1902.5	24.2	22.21	0.166	13469	13M5G7W
	16QAM			23.2	21.24	0.133	13483	13M5D7W
	64QAM			22.3	20.25	0.106	13468	13M5D7W
20.0	QPSK	1860.0	1900.0	24.2	22.25	0.168	17942	17M9G7W
	16QAM			23.3	21.27	0.134	17952	18M0D7W
	64QAM			22.7	20.68	0.117	17953	18M0D7W

LTE BAND 5

Part 22H	
ERP Limit (W)	7.00
Antenna Gain (dBi)	-1.70

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	25.2	21.35	0.136	1090.6	1M09G7W
	16QAM			24.0	20.13	0.103	1090.2	1M09D7W
	64QAM			23.1	19.20	0.083	1092.7	1M09D7W
3.0	QPSK	825.5	847.5	25.2	21.35	0.136	2687.1	2M69G7W
	16QAM			24.5	20.68	0.117	2690.5	2M69D7W
	64QAM			23.8	19.96	0.099	2697.7	2M70D7W
5.0	QPSK	826.5	846.5	25.2	21.32	0.135	4491.4	4M49G7W
	16QAM			24.2	20.30	0.107	4967	4M97D7W
	64QAM			22.9	19.10	0.081	4504.7	4M50D7W
10.0	QPSK	829.0	844.0	25.2	21.32	0.136	8987.3	8M99G7W
	16QAM			23.9	20.05	0.101	8975.3	8M98D7W
	64QAM			23.1	19.28	0.085	8992.4	8M99D7W

LTE BAND 7

Part 27	
EIRP Limit (W)	2.00
Antenna Gain (dBi)	-2.60

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	25.2	22.58	0.181	4502	4M50G7W
	16QAM			24.1	21.46	0.140	4501.3	4M50D7W
	64QAM			23.3	20.71	0.118	4506.7	4M51D7W
10.0	QPSK	2505.0	2565.0	25.2	22.60	0.182	8993.7	8M99G7W
	16QAM			24.2	21.55	0.143	8982.2	8M98D7W
	64QAM			23.2	20.60	0.115	9001.6	9M00D7W
15.0	QPSK	2507.5	2562.5	25.2	22.57	0.181	13493	13M5G7W
	16QAM			24.2	21.59	0.144	13478	13M5D7W
	64QAM			23.3	20.67	0.117	13468	13M5D7W
20.0	QPSK	2510.0	2560.0	25.2	22.57	0.181	17969	18M0G7W
	16QAM			24.1	21.52	0.142	17982	18M0D7W
	64QAM			23.3	20.68	0.117	17933	17M9D7W

LTE BAND 12

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
1.4	QPSK	699.7	715.3	25.2	18.35	0.068	1089	1M09G7W
	16QAM			24.0	17.10	0.051	1089.2	1M09D7W
	64QAM			23.0	16.15	0.041	1091	1M09D7W
3.0	QPSK	700.5	714.5	25.2	18.35	0.068	2689.8	2M69G7W
	16QAM			24.2	17.40	0.055	2695	2M70D7W
	64QAM			23.4	16.59	0.046	2687.8	2M69D7W
5.0	QPSK	701.5	713.5	25.2	18.35	0.068	4497.3	4M50G7W
	16QAM			24.3	17.42	0.055	4496.2	4M50D7W
	64QAM			23.5	16.62	0.046	4513.6	4M51D7W
10.0	QPSK	704.0	711.0	25.2	18.35	0.068	9006.5	9M01G7W
	16QAM			24.1	17.23	0.053	8997.7	9M00D7W
	64QAM			23.2	16.31	0.043	8990.1	8M99D7W

LTE BAND 13

Part 27	
ERP Limit (W)	3.00
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
5.0	QPSK	779.5	784.5	25.2	19.75	0.094	4500.5	4M50G7W
	16QAM			24.0	18.59	0.072	4508.5	4M51D7W
	64QAM			23.1	17.69	0.059	4500.2	4M50D7W
10.0	QPSK	782.0	782.0	25.2	19.70	0.093	8975.2	8M98G7W
	16QAM			24.5	19.04	0.080	8982.6	8M98D7W
	64QAM			23.6	18.17	0.066	8977.1	8M98D7W

LTE BAND 17

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	706.5	713.5	25.2	18.35	0.068	4488.9	4M49G7W
	16QAM			24.4	17.52	0.056	4502.1	4M50D7W
	64QAM			23.2	16.36	0.043	4488.1	4M49D7W
10.0	QPSK	709.0	711.0	25.2	18.35	0.068	8968.2	8M97G7W
	16QAM			24.2	17.30	0.054	8967.3	8M97D7W
	64QAM			23.1	16.26	0.042	8991.4	8M99D7W

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	24.2	22.24	0.168	1088.3	1M09G7W
	16QAM			23.0	21.00	0.126	1086	1M09D7W
	64QAM			22.0	20.00	0.100	1086.6	1M09D7W
3.0	QPSK	1851.5	1913.5	24.2	22.22	0.167	2696.8	2M70G7W
	16QAM			23.0	21.03	0.127	2694.7	2M69D7W
	64QAM			22.0	19.99	0.100	2689.5	2M69D7W
5.0	QPSK	1852.5	1912.5	24.2	22.22	0.167	4494.3	4M49G7W
	16QAM			23.4	21.42	0.139	4502.8	4M50D7W
	64QAM			22.5	20.47	0.112	4498	4M50D7W
10.0	QPSK	1855.0	1910.0	24.2	22.25	0.168	8995.4	9M00G7W
	16QAM			23.3	21.25	0.133	8974.7	8M97D7W
	64QAM			22.4	20.41	0.110	8985.1	8M99D7W
15.0	QPSK	1857.5	1907.5	24.2	22.25	0.168	13480	13M5G7W
	16QAM			23.0	20.99	0.126	13465	13M5D7W
	64QAM			22.1	20.08	0.102	13462	13M5D7W
20.0	QPSK	1860.0	1905.0	24.2	22.24	0.167	17949	17M9G7W
	16QAM			23.1	21.13	0.130	17945	17M9D7W
	64QAM			22.1	20.14	0.103	17957	18M0D7W

LTE BAND 26 (Part 90S)

Part 90S	
ERP Limit (W)	100.00
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
1.4	QPSK	814.7	823.3	25.2	20.32	0.108	1090.9	1M09G7W
	16QAM			24.3	19.42	0.087	1090.2	1M09D7W
	64QAM			23.3	18.50	0.071	1089	1M09D7W
3.0	QPSK	815.5	822.5	25.2	20.35	0.108	2686	2M69G7W
	16QAM			24.1	19.25	0.084	2687.2	2M69D7W
	64QAM			23.2	18.36	0.069	2695.6	2M70D7W
5.0	QPSK	816.5	821.5	25.2	20.35	0.108	4497.9	4M50G7W
	16QAM			24.4	19.57	0.091	4493.4	4M49D7W
	64QAM			23.4	18.53	0.071	4514.5	4M51D7W
10.0	QPSK	819.0	819.0	25.2	20.35	0.108	8975.9	8M98G7W
	16QAM			24.1	19.22	0.084	8975.8	8M98D7W
	64QAM			23.0	18.11	0.065	9011.5	9M01D7W

LTE BAND 30

Part 27	
EIRP Limit (W)	0.25
Antenna Gain (dBi)	-0.40

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	23.10	0.204	4491.2	4M49G7W
	16QAM			22.5	22.14	0.164	4493.2	4M49D7W
	64QAM			21.4	21.04	0.127	4502.1	4M50D7W
10.0	QPSK	2310.0	2310.0	23.5	23.10	0.204	8985.5	8M99G7W
	16QAM			22.6	22.16	0.165	8998.8	9M00D7W
	64QAM			21.4	21.03	0.127	8985	8M99D7W

LTE BAND 41

Part 27	
EIRP Limit (W)	2.00
Antenna Gain (dBi)	-2.60

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	28.0	25.40	0.347	4489.9	4M49G7W
	16QAM			26.9	24.30	0.269	4472.4	4M47D7W
	64QAM			25.9	23.26	0.212	4509.5	4M51D7W
10.0	QPSK	2501.0	2685.0	28.0	25.36	0.344	8982.4	8M98G7W
	16QAM			26.7	24.15	0.260	8989.1	8M99D7W
	64QAM			25.9	23.28	0.213	8965.7	8M97D7W
15.0	QPSK	2503.5	2682.5	28.0	25.40	0.347	13470	13M5G7W
	16QAM			27.3	24.74	0.298	13449	13M4D7W
	64QAM			26.5	23.93	0.247	13470	13M5D7W
20.0	QPSK	2506.0	2680.0	28.0	25.38	0.345	17940	17M9G7W
	16QAM			27.3	24.74	0.298	17929	17M9D7W
	64QAM			26.5	23.94	0.248	17923	17M9D7W

LTE BAND 48

Part 96	
EIRP Limit (W)	0.20
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	3552.5	3697.5	25.0	22.16	0.165	4514.3	4M51G7W
	16QAM			24.0	21.17	0.131	4483	4M48D7W
	64QAM			22.6	19.77	0.095	4462.7	4M46D7W
10.0	QPSK	3555.0	3695.0	25.0	22.19	0.166	8906.4	8M91G7W
	16QAM			24.3	21.49	0.141	8880	8M88D7W
	64QAM			23.1	20.26	0.106	8947.4	8M95D7W
15.0	QPSK	3557.5	3692.5	25.0	22.18	0.165	13403.5	13M4G7W
	16QAM			24.3	21.46	0.140	13393	13M4D7W
	64QAM			23.0	20.23	0.105	13366.4	13M4D7W
20.0	QPSK	3560.0	3690.0	25.0	22.17	0.165	17847.5	17M8G7W
	16QAM			24.3	21.47	0.140	17807.5	17M8D7W
	64QAM			23.3	20.45	0.111	17852.3	17M9D7W

LTE BAND 66

Part 27	
EIRP Limit (W)	1.00
Antenna Gain (dBi)	-3.40

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	24.5	21.10	0.129	1086.7	1M09G7W
	16QAM			23.5	20.05	0.101	1088.4	1M09D7W
	64QAM			22.5	19.13	0.082	1086.7	1M09D7W
3.0	QPSK	1711.5	1778.5	24.5	21.10	0.129	2682.7	2M68G7W
	16QAM			23.5	20.05	0.101	2696.6	2M70D7W
	64QAM			22.5	19.11	0.081	2692.8	2M69D7W
5.0	QPSK	1712.5	1777.5	24.5	21.10	0.129	4500.3	4M50G7W
	16QAM			23.5	20.05	0.101	4495.2	4M50D7W
	64QAM			22.5	19.12	0.082	4507.9	4M51D7W
10.0	QPSK	1715.0	1775.0	24.5	21.08	0.128	8991.1	8M99G7W
	16QAM			23.4	20.04	0.101	8969.3	8M97D7W
	64QAM			22.5	19.06	0.081	8971.9	8M97D7W
15.0	QPSK	1717.5	1772.5	24.5	21.10	0.129	13462	13M5G7W
	16QAM			23.4	19.97	0.099	13488	13M5D7W
	64QAM			22.5	19.07	0.081	13458	13M5D7W
20.0	QPSK	1720.0	1770.0	24.5	21.09	0.128	17949	17M9G7W
	16QAM			23.5	20.11	0.103	17970	18M0D7W
	64QAM			22.6	19.22	0.083	17951	18M0D7W

5.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was version: Baseband FW:19-1.05.18

5.4. MAXIMUM ANTENNA GAIN

Please see table below:

LTE Bands	LAT 1 Gain (dBi)	UAT 1 Gain (dBi)
LTE Band 2, 1850 – 1910 MHz	-2.00	1.40
LTE Band 4, 1710 – 1755 MHz	-4.10	1.90
LTE Band 5, 824 – 849 MHz	-1.70	-2.40
LTE Band 7, 2500 – 2570 MHz	-2.60	2.20
LTE Band 12, 699 – 716 MHz	-4.70	-5.40
LTE Band 13, 777 – 787 MHz	-3.30	-4.5
LTE Band 17, 704 – 716 MHz	-4.70	-5.40
LTE Band 25, 1850 – 1915 MHz	-2.00	1.40
LTE Band 26(90s), 814 – 824 MHz (FCC)	-2.70	-3.20
LTE Band 30, 2305 – 2315 MHz	-0.40	0.90
LTE Band 41, 2500 – 2690 MHz (IC)	-2.60	2.20
LTE Band 48, 3550 – 3700 MHz (FCC)	-2.80	-4.30
LTE Band 66, 1710 – 1780 MHz	-3.40	1.90

5.5. WORST-CASE CONFIGURATION AND MODE

The EUT supports LTE Bands of:
Band 2, Band 4, Band 5, Band 7, Band 12, Band 13, Band 17, Band 25, Band 26, Band 30, Band 41, Band 48, and Band 66.

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 LAT 1 antenna as worst case since it has higher output powers.

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

Radiated spurious emissions were investigated from 9kHz to 30MHz, 30MHz-1GHz and above 1GHz. There were no emissions found with less than 20dB of margin from 9kHz to 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.

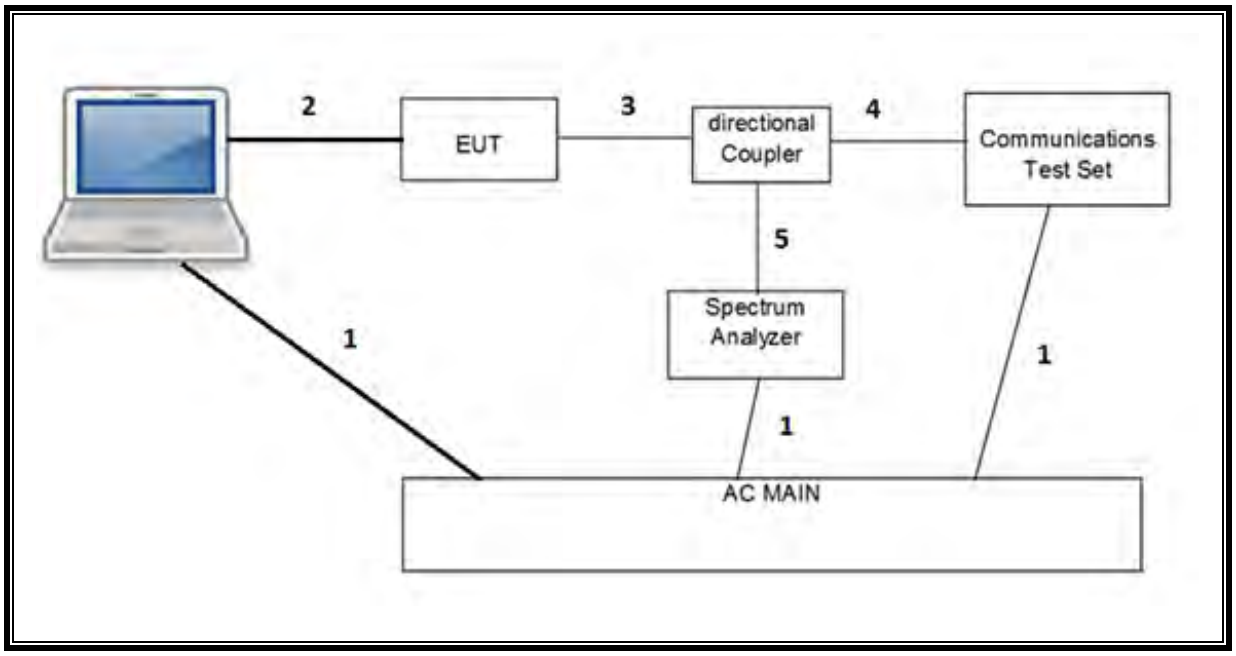
5.6. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT					
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID/ DoC**	
Laptop AC/DC adapter	Apple	85W MagSafe 2	C0651730MMMG6P4AL		
Laptop	Apple	Macbook Pro	C02PM012G3QD		
Laptop	Apple	Macbook Pro	C02P52HGG085		

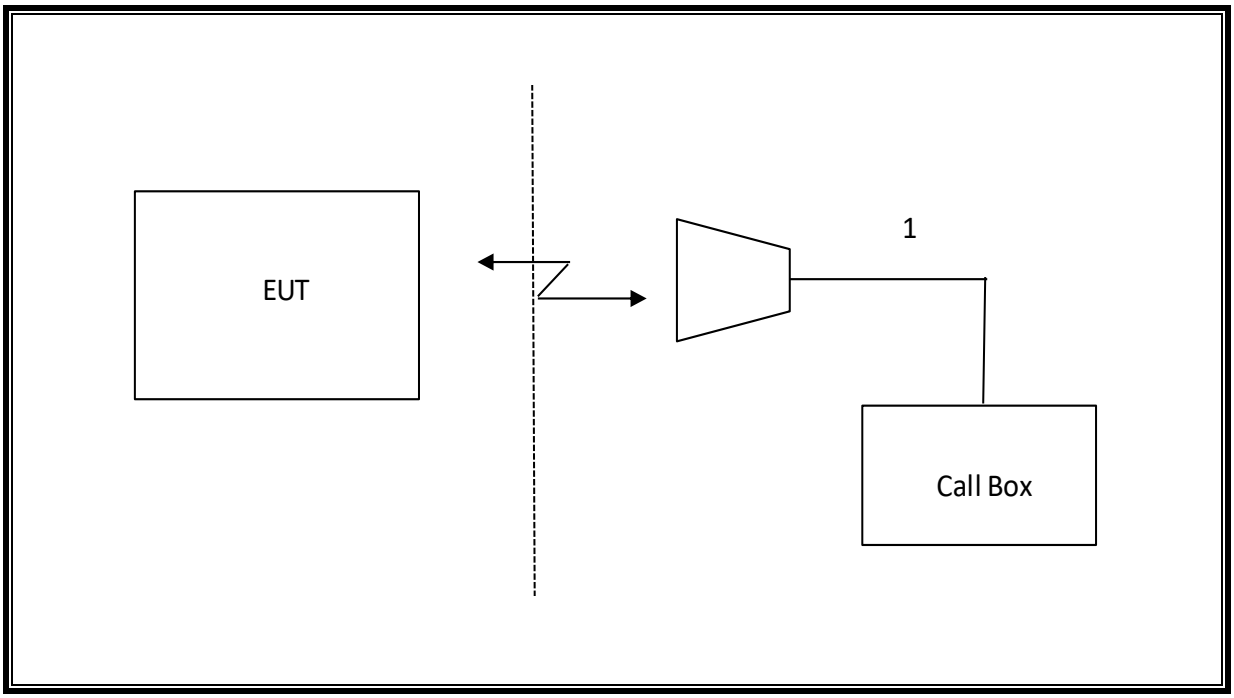
I/O CABLES (RF CONDUCTED TEST)						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	AC	3	US 115V	Un-shielded	2.0	N/A
2	USB	1	DC	Un-shielded	1.0	N/A
3	RF In/Out	1	EUT	Shielded	0.6	N/A
4	RF In/Out	1	Communication Test Set	Shielded	1.2	N/A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

I/O CABLES (RF RADIATED TEST)						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	RF In/Out	1	Antenna	Shielded	5.0	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, 18-26GHz	Agilent	8449B	T404	03/23/2020
Amplifier, 26-40GHz	Miteq	TTA2640	T1804	03/23/2020
*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	T123	01/28/2020
*Spectrum Analyzer, PSA, 3Hz to 44GHz	Keysight	E4440A	T99	01/28/2020
Directional Coupler	KRYTAR	152610	T1536	07/09/2020
Directional Coupler	KRYTAR	152610	T1537	07/08/2020
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	05/30/2020
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight	N9030A	T459	1/24/2020
*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	07/28/2020
*Power Meter, P-series single channel	Keysight	N1911A	T1268	01/31/2020
Power Sensor	Keysight	N1921A	T1228	03/01/2020
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	08/13/2020
Antenna, Horn 26-40GHz	ARA	MWH-2640/B	T446	08/13/2020
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	PRE0077974	05/13/2020
Antenna, Active Loop 9KHz to 30MHz	EMCO	6502	T35	06/06/2020
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	

*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 17
- LTE Band 25
- LTE Band 26
- LTE Band 30
- LTE Band 41
- LTE Band 48
- LTE Band 66

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

Test Engineer ID:	19647	Test Date:	9/27/2019

OUTPUT POWER FOR LTE BAND 2 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.0	**24.2**	24.0	19.0	**19.0**	18.8
		1	2	24.0	24.1	24.0	18.9	19.0	18.9
		1	5	24.1	24.0	24.1	18.9	18.9	18.6
		3	0	23.0	23.0	23.0	18.3	18.3	17.6
		3	1	23.0	23.0	23.0	18.3	18.3	17.6
		3	2	23.1	23.0	23.0	18.2	18.3	17.3
		6	0	23.1	22.9	22.0	17.2	17.2	17.1
	16QAM	1	0	23.3	23.4	**23.4**	18.1	18.3	17.9
		1	2	23.4	23.4	23.4	18.1	**18.3**	17.9
		1	5	23.3	23.4	23.4	18.1	18.2	17.9
		3	0	22.1	22.2	22.2	17.4	17.4	17.2
		3	1	22.2	22.2	22.1	17.3	17.4	17.3
		3	2	22.3	22.1	22.2	17.3	17.4	17.3
		6	0	22.2	21.9	22.1	16.3	16.4	16.3
	64QAM	1	0	22.2	22.2	22.2	**17.6**	17.3	16.7
		1	2	22.3	22.1	22.2	17.5	17.3	16.3
		1	5	**22.4**	22.0	22.3	17.5	17.1	16.1
		3	0	21.6	21.5	21.6	16.8	16.2	15.9
		3	1	21.7	21.5	21.6	16.7	15.8	15.7
		3	2	21.7	21.4	21.6	16.7	15.3	15.7
		6	0	21.6	21.4	21.6	15.6	14.8	15.7

OUTPUT POWER FOR LTE BAND 2 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.0	24.0	24.1	18.9	**19.0**	18.7
		1	7	24.1	24.0	**24.2**	18.9	18.9	18.8
		1	14	24.1	24.0	24.2	18.8	18.8	18.8
		8	0	23.1	23.0	23.1	17.8	17.9	17.7
		8	4	23.1	23.0	23.2	17.8	17.9	17.8
		8	7	23.1	23.0	23.1	17.8	17.9	17.8
		15	0	23.1	22.9	23.1	17.9	17.9	17.8
	16QAM	1	0	22.9	23.2	23.3	18.1	**18.2**	18.0
		1	7	23.1	23.2	**23.4**	18.2	18.1	18.1
		1	14	23.3	23.1	23.4	18.2	18.1	18.1
		8	0	22.2	22.2	22.2	16.9	17.0	16.7
		8	4	22.2	22.2	22.2	17.0	17.0	16.8
		8	7	22.2	22.2	22.1	17.0	16.9	16.9
		15	0	22.1	22.1	22.0	17.0	16.9	16.8
	64QAM	1	0	22.1	22.1	22.2	17.0	16.8	16.6
		1	7	22.2	22.2	**22.3**	**17.0**	16.8	16.8
		1	14	22.1	22.1	22.3	16.7	16.7	16.8
		8	0	21.1	21.0	21.1	15.9	16.0	15.8
		8	4	21.1	21.0	21.1	15.9	16.0	15.9
		8	7	21.1	21.0	21.1	15.9	15.9	15.9
		15	0	21.0	21.0	21.1	15.8	15.9	15.8

OUTPUT POWER FOR LTE BAND 2 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.1	24.2	24.1	19.0	**19.0**	18.8
		1	12	24.0	24.1	24.2	18.9	18.8	18.7
		1	24	24.2	24.1	**24.2**	18.9	18.9	18.8
		12	0	23.1	23.2	23.1	17.9	17.9	17.7
		12	6	23.1	23.1	23.1	17.9	17.9	17.7
		12	11	23.1	23.1	23.2	17.9	17.8	17.8
		25	0	23.1	23.1	23.2	17.9	17.9	17.7
	16QAM	1	0	23.1	23.1	23.1	18.3	18.3	18.1
		1	12	23.1	23.0	23.1	18.3	18.2	18.0
		1	24	23.2	23.1	**23.2**	**18.4**	18.2	18.0
		12	0	22.2	22.2	22.2	17.0	17.0	16.8
		12	6	22.2	22.2	22.2	17.0	17.0	16.8
		12	11	22.2	22.1	22.2	17.0	16.9	16.8
		25	0	22.2	22.1	22.2	17.0	17.0	16.8
	64QAM	1	0	22.4	22.4	22.2	17.0	16.9	16.7
		1	12	22.4	22.3	22.2	16.9	16.8	16.7
		1	24	**22.5**	22.3	22.4	**17.0**	16.9	16.8
		12	0	21.1	21.1	21.0	16.3	16.4	16.1
		12	6	21.0	21.1	21.0	16.4	16.4	16.1
		12	11	21.1	21.1	21.1	16.4	16.3	16.2
		25	0	21.1	21.1	21.0	16.4	16.3	16.2

OUTPUT POWER FOR LTE BAND 2 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.2	24.1	24.1	**19.0**	18.9	18.8
		1	24	24.2	24.1	24.1	18.9	18.9	18.7
		1	49	24.1	24.1	**24.2**	18.9	18.9	18.7
		25	0	23.1	23.2	23.0	17.9	17.9	17.7
		25	12	23.1	23.2	23.0	17.9	17.9	17.7
		25	24	23.0	23.1	23.1	17.8	17.9	17.7
		50	0	23.1	23.1	23.1	17.9	17.9	17.7
	16QAM	1	0	23.1	23.1	23.1	**18.2**	18.2	18.2
		1	24	23.1	23.1	23.0	18.2	18.2	18.1
		1	49	23.0	23.1	**23.2**	18.2	18.2	18.2
		25	0	22.1	22.2	22.1	16.9	17.0	16.8
		25	12	22.1	22.2	22.1	16.9	17.0	16.7
		25	24	22.1	22.2	22.2	16.9	17.0	16.7
		50	0	22.1	22.1	22.1	16.9	17.0	16.7
	64QAM	1	0	22.2	22.3	22.2	16.8	16.8	16.7
		1	24	22.2	**22.3**	22.1	16.8	16.8	16.6
		1	49	22.2	22.3	22.3	**16.8**	16.8	16.7
		25	0	21.1	21.1	20.9	16.2	16.2	15.9
		25	12	21.1	21.1	20.9	16.1	16.2	15.8
		25	24	21.1	21.1	21.0	16.1	16.1	15.8
		50	0	21.2	21.1	21.0	16.2	16.1	15.9

OUTPUT POWER FOR LTE BAND 2 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.2	24.1	24.0	18.9	18.9	18.8
		1	37	24.1	24.1	24.0	18.8	18.9	18.5
		1	74	**24.2**	24.1	24.2	**19.0**	18.6	18.1
		36	0	23.2	23.2	23.0	17.9	17.9	17.6
		36	16	23.1	23.2	23.1	17.9	18.0	17.6
		36	35	23.1	23.1	23.0	17.9	17.9	17.6
		75	0	23.1	23.1	23.0	17.9	17.9	17.6
	16QAM	1	0	23.2	23.1	23.1	18.2	**18.3**	18.0
		1	37	23.1	23.2	23.1	18.1	18.3	17.9
		1	74	23.2	23.1	**23.2**	18.3	18.2	18.0
		36	0	22.2	22.2	22.0	16.9	17.1	16.7
		36	16	22.1	22.2	22.1	16.9	17.0	16.8
		36	35	22.1	22.1	22.1	16.9	16.9	16.7
		75	0	22.1	22.2	22.1	16.9	16.9	16.8
	64QAM	1	0	22.2	22.2	22.1	16.8	16.9	16.7
		1	37	22.2	**22.3**	22.1	16.9	16.8	16.7
		1	74	22.2	22.2	22.2	**17.0**	16.7	16.6
		36	0	21.1	21.1	20.9	16.1	16.3	16.0
		36	16	21.0	21.1	20.9	16.1	16.2	16.0
		36	35	21.0	21.0	21.0	16.1	16.1	15.9
		75	0	21.0	21.0	20.9	16.1	16.1	15.9

OUTPUT POWER FOR LTE BAND 2 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.2	24.1	24.1	19.0	**19.0**	18.9
		1	49	24.1	24.2	24.0	18.9	18.9	18.6
		1	99	24.1	24.1	**24.2**	18.9	18.8	18.1
		50	0	23.2	23.1	23.0	17.8	18.0	17.7
		50	24	23.1	23.1	23.1	17.9	17.9	17.7
		50	49	23.2	23.1	23.1	18.0	18.0	17.5
		100	0	23.1	23.1	23.1	17.9	17.9	17.7
	16QAM	1	0	**23.3**	23.1	23.1	18.2	**18.5**	18.1
		1	49	23.1	23.2	23.1	18.2	18.4	18.1
		1	99	23.2	23.2	23.3	18.4	18.4	18.0
		50	0	22.1	22.1	22.0	17.0	17.0	16.9
		50	24	22.1	22.1	22.0	16.9	16.9	16.9
		50	49	22.1	22.1	22.0	17.1	17.0	16.8
		100	0	22.1	22.1	22.0	16.9	17.0	16.9
	64QAM	1	0	22.3	22.2	22.0	16.7	**17.0**	16.9
		1	49	22.2	22.3	22.0	16.7	16.9	16.9
		1	99	22.2	22.2	22.1	16.8	16.8	16.8
		50	0	22.3	22.6	22.5	16.1	16.1	16.0
		50	24	22.6	22.7	22.5	16.1	16.1	16.0
		50	49	22.7	**22.7**	22.6	16.2	16.1	15.9
		100	0	22.6	22.6	22.5	16.1	16.1	16.0

7.2. LTE BAND 5

Test Engineer ID:	19467	Test Date:	9/26/2019

OUTPUT POWER FOR LTE BAND 5 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1 Conducted Average (dBm)			UAT 1 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**	25.1	25.2	23.5	23.5	23.3
		1	2	25.1	25.1	25.1	23.4	23.5	23.3
		1	5	25.1	25.0	25.2	**23.5**	23.5	23.4
		3	0	24.1	24.1	24.1	22.8	22.9	22.6
		3	1	24.1	24.1	24.1	22.8	22.8	22.6
		3	2	24.1	24.1	24.1	22.8	22.8	22.6
		6	0	24.1	24.1	24.1	22.8	22.9	22.6
	16QAM	1	0	23.9	23.9	**24.0**	22.7	**22.9**	22.5
		1	2	23.8	23.9	23.9	22.5	22.8	22.5
		1	5	23.8	23.8	23.9	22.6	22.7	22.5
		3	0	22.9	22.8	22.8	21.5	21.6	21.3
		3	1	22.9	22.8	22.8	21.4	21.6	21.3
		3	2	22.8	22.7	22.8	21.4	21.6	21.3
		6	0	22.8	22.7	22.8	21.4	21.5	21.4
	64QAM	1	0	**23.1**	22.7	22.7	**21.4**	21.2	20.9
		1	2	23.0	22.6	22.7	21.3	21.1	20.9
		1	5	23.0	22.6	22.7	21.4	21.1	21.0
		3	0	21.9	21.6	21.6	20.1	20.1	19.9
		3	1	21.9	21.6	21.5	20.1	20.1	19.9
		3	2	21.8	21.6	21.5	20.1	20.1	19.9
		6	0	21.7	21.6	21.6	20.0	20.1	19.8

OUTPUT POWER FOR LTE BAND 5 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1 Conducted Average (dBm)			UAT 1 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	25.1	25.1	25.0	23.4	**23.5**	23.3
		1	7	**25.2**	25.1	25.1	23.5	23.5	23.3
		1	14	25.2	24.9	25.0	23.4	23.4	23.3
		8	0	24.1	24.0	24.1	22.4	22.5	22.2
		8	4	24.2	24.0	24.1	22.5	22.5	22.2
		8	7	24.2	24.0	24.1	22.5	22.5	22.2
		15	0	24.2	24.1	24.1	22.5	22.5	22.2
	16QAM	1	0	24.5	24.3	24.4	22.7	**22.8**	22.5
		1	7	24.5	24.3	24.4	22.8	22.7	22.6
		1	14	**24.5**	24.2	24.3	22.8	22.7	22.4
		8	0	23.5	23.4	23.4	21.4	21.5	21.2
		8	4	23.5	23.4	23.4	21.5	21.5	21.3
		8	7	23.5	23.4	23.4	21.4	21.5	21.2
		15	0	23.5	23.4	23.4	21.4	21.5	21.2
	64QAM	1	0	23.8	23.7	23.7	21.0	**21.3**	20.9
		1	7	23.8	23.6	23.7	21.1	21.2	20.9
		1	14	**23.8**	23.5	23.8	21.2	21.1	20.9
		8	0	22.7	22.6	22.6	20.0	20.1	19.8
		8	4	22.8	22.6	22.6	20.0	20.0	19.8
		8	7	22.7	22.6	22.6	20.0	20.0	19.8
		15	0	22.7	22.6	22.6	20.0	20.0	19.8

OUTPUT POWER FOR LTE BAND 5 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1 Conducted Average (dBm)			UAT 1 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	25.0	**25.2**	25.0	23.4	23.4	23.4
		1	12	25.0	25.1	25.0	23.4	23.3	23.3
		1	24	25.1	25.1	25.0	**23.5**	23.4	23.3
		12	0	24.1	24.1	23.9	22.4	22.5	22.3
		12	6	24.1	24.1	24.0	22.4	22.4	22.2
		12	11	24.1	24.0	24.0	22.4	22.4	22.2
		25	0	24.1	24.1	24.0	22.4	22.5	22.2
	16QAM	1	0	24.0	**24.2**	23.8	22.8	22.8	22.7
		1	12	24.0	24.0	23.9	22.7	22.7	22.6
		1	24	24.1	24.0	23.9	**22.9**	22.9	22.6
		12	0	23.1	23.2	23.0	21.4	21.5	21.4
		12	6	23.1	23.1	23.1	21.4	21.4	21.3
		12	11	23.1	23.1	23.0	21.4	21.4	21.3
		25	0	23.1	23.1	23.0	21.4	21.4	21.2
	64QAM	1	0	22.8	**22.9**	22.7	21.1	21.2	21.1
		1	12	22.8	22.8	22.7	21.2	21.1	21.0
		1	24	22.9	22.8	22.7	**21.3**	21.1	21.1
		12	0	22.1	22.0	21.9	19.9	20.0	19.8
		12	6	22.0	21.9	22.0	19.9	20.0	19.8
		12	11	22.0	21.9	22.0	19.9	19.9	19.8
		25	0	22.1	22.0	21.9	19.9	20.0	19.8

OUTPUT POWER FOR LTE BAND 5 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1 Conducted Average (dBm)			UAT 1 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	25.0	**25.2**	25.0	23.3	23.5	23.4
		1	24	25.0	25.0	24.9	23.4	23.4	23.3
		1	49	25.1	25.0	25.0	23.5	**23.5**	23.3
		25	0	24.0	24.1	23.9	22.3	22.4	22.3
		25	12	24.0	24.0	23.8	22.4	22.4	22.2
		25	24	24.0	24.0	24.0	22.4	22.4	22.2
		50	0	24.0	24.0	23.9	22.4	22.4	22.2
	16QAM	1	0	23.8	**23.9**	23.8	22.6	22.7	22.7
		1	24	23.8	23.8	23.7	22.7	22.7	22.6
		1	49	23.9	23.7	23.7	**22.8**	22.7	22.5
		25	0	23.0	23.1	22.9	21.3	21.4	21.3
		25	12	23.0	23.0	22.8	21.4	21.3	21.2
		25	24	23.0	23.0	22.9	21.4	21.4	21.2
		50	0	23.0	23.0	22.9	21.4	21.4	21.2
	64QAM	1	0	23.1	23.1	23.0	20.9	21.1	**21.2**
		1	24	23.1	22.9	22.9	21.0	21.0	21.1
		1	49	**23.1**	22.9	22.8	21.1	21.1	21.0
		25	0	22.1	22.1	22.0	19.8	19.9	19.8
		25	12	22.1	22.0	21.9	19.9	19.9	19.8
		25	24	22.1	22.0	21.9	19.9	19.9	19.7
		50	0	22.1	22.0	21.9	19.9	19.9	19.8

7.3. LTE BAND 7

Test Engineer ID:	19467	Test Date:	9/26/2019

OUTPUT POWER FOR LTE BAND 7 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.9	**25.2**	25.0	**18.7**	18.5	18.1
		1	12	24.9	25.1	25.0	18.6	18.3	17.9
		1	24	24.9	25.1	24.9	18.7	18.3	17.9
		12	0	23.9	24.1	23.9	17.8	17.4	17.0
		12	6	23.8	24.1	23.9	17.6	17.4	16.9
		12	11	23.8	24.1	23.9	17.6	17.4	17.0
		25	0	23.9	24.1	24.0	17.7	17.4	17.0
	16QAM	1	0	23.8	**24.1**	23.8	**18.1**	17.8	17.4
		1	12	23.7	24.0	23.8	17.9	17.7	17.3
		1	24	23.8	24.0	23.8	17.9	17.6	17.3
		12	0	23.0	23.2	23.0	16.8	16.6	16.1
		12	6	22.9	23.2	23.0	16.7	16.5	16.0
		12	11	23.0	23.2	23.0	16.7	16.5	16.1
		25	0	22.9	23.2	23.0	16.7	16.5	16.0
	64QAM	1	0	23.2	**23.3**	23.0	**17.2**	17.0	16.4
		1	12	23.1	23.3	23.0	17.0	16.8	16.2
		1	24	23.2	23.3	23.0	17.1	16.8	16.2
		12	0	22.0	22.0	21.8	15.9	15.6	15.2
		12	6	21.8	22.0	21.9	15.9	15.6	15.1
		12	11	21.7	22.0	21.8	15.8	15.5	15.1
		25	0	21.8	22.0	21.8	15.8	15.6	15.0

OUTPUT POWER FOR LTE BAND 7 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.9	**25.2**	24.9	18.6	18.4	18.1
		1	24	24.9	25.2	25.0	18.6	18.4	18.1
		1	49	25.0	25.1	25.0	**18.7**	18.2	18.0
		25	0	23.9	24.1	23.9	17.7	17.5	17.0
		25	12	23.9	24.1	23.9	17.6	17.4	17.0
		25	24	24.0	24.1	24.0	17.6	17.3	16.9
		50	0	24.0	24.1	23.9	17.6	17.4	17.0
	16QAM	1	0	24.0	**24.2**	23.8	**18.1**	17.8	17.3
		1	24	23.9	24.1	23.8	17.9	17.7	17.3
		1	49	24.0	24.1	23.8	17.9	17.6	17.3
		25	0	23.0	23.2	22.9	16.7	16.6	16.1
		25	12	23.0	23.2	23.0	16.7	16.5	16.1
		25	24	23.1	23.1	23.0	16.7	16.4	16.1
		50	0	23.0	23.2	23.0	16.7	16.4	16.1
	64QAM	1	0	23.0	**23.2**	22.9	**16.9**	16.8	16.2
		1	24	23.0	23.2	23.0	16.8	16.7	16.2
		1	49	23.1	23.1	23.1	16.8	16.6	16.0
		25	0	21.8	22.0	21.8	15.8	15.7	15.1
		25	12	21.9	22.0	21.8	15.8	15.6	15.1
		25	24	21.9	21.9	21.8	15.8	15.5	15.0
		50	0	21.9	22.0	21.8	15.8	15.6	15.1

OUTPUT POWER FOR LTE BAND 7 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.9	**25.2**	24.9	**18.7**	18.5	18.1
		1	37	24.9	25.1	24.9	18.5	18.3	18.1
		1	74	25.1	25.0	25.0	18.5	18.2	17.9
		36	0	23.9	24.1	23.9	17.6	17.5	16.9
		36	16	23.9	24.1	23.9	17.6	17.4	17.0
		36	35	24.0	24.0	24.0	17.6	17.3	17.0
		75	0	23.9	24.1	23.9	17.5	17.3	17.0
	16QAM	1	0	24.0	**24.2**	24.0	**18.0**	17.8	17.3
		1	37	23.9	24.2	24.1	17.7	17.6	17.3
		1	74	24.1	24.1	24.1	17.8	17.6	17.2
		36	0	22.9	23.2	22.9	16.7	16.6	16.1
		36	16	23.0	23.2	23.0	16.7	16.5	16.1
		36	35	23.0	23.1	23.0	16.6	16.4	16.1
		75	0	23.0	23.2	23.0	16.6	16.5	16.1
	64QAM	1	0	23.1	23.3	22.9	**16.8**	16.7	16.2
		1	37	23.2	23.1	22.9	16.7	16.7	16.2
		1	74	**23.3**	23.0	23.0	16.7	16.5	15.8
		36	0	22.3	22.6	22.2	15.7	15.6	15.3
		36	16	22.4	22.5	22.3	15.7	15.6	15.3
		36	35	22.4	22.4	22.3	15.7	15.4	15.2
		75	0	22.4	22.5	22.3	15.6	15.4	15.2

OUTPUT POWER FOR LTE BAND 7 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.9	**25.2**	25.0	**18.7**	18.6	18.1
		1	49	25.0	25.1	24.9	18.6	18.4	17.9
		1	99	25.1	25.0	25.0	18.6	18.2	17.9
		50	0	23.9	24.1	23.9	17.6	17.5	17.0
		50	24	24.0	24.1	24.0	17.5	17.4	17.0
		50	49	24.1	24.1	23.9	17.6	17.3	17.0
		100	0	24.0	24.1	23.9	17.6	17.4	17.0
	16QAM	1	0	23.8	**24.1**	23.9	17.9	**18.0**	17.4
		1	49	23.8	24.0	23.8	17.8	17.8	17.1
		1	99	24.0	23.9	23.9	17.8	17.6	17.2
		50	0	23.0	23.2	23.0	16.6	16.6	16.1
		50	24	23.1	23.2	22.9	16.7	16.4	16.1
		50	49	23.2	23.1	23.0	16.6	16.3	16.1
		100	0	23.1	23.2	22.9	16.6	16.5	16.1
	64QAM	1	0	23.2	23.1	23.1	16.9	**17.0**	16.3
		1	49	23.2	23.0	23.0	16.7	16.8	16.1
		1	99	**23.3**	22.8	23.1	16.7	16.5	15.8
		50	0	22.3	22.5	22.1	15.8	15.6	15.3
		50	24	22.4	22.4	22.1	15.7	15.5	15.2
		50	49	22.5	22.3	22.1	15.7	15.4	15.2
		100	0	22.3	22.4	22.1	15.7	15.5	15.1

7.4. LTE BAND 12

Test Engineer ID:	19467	Test Date:	9/26/2019

OUTPUT POWER FOR LTE BAND 12 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1 Conducted Average (dBm)			UAT 1 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	**25.2**	24.6	24.6	**23.5**	23.2	23.2
		1	2	25.1	24.6	24.5	23.4	23.1	23.2
		1	5	25.0	24.6	24.6	23.4	23.2	23.2
		3	0	24.0	23.6	23.5	22.4	22.2	22.2
		3	1	24.0	23.6	23.5	22.3	22.1	22.2
		3	2	24.0	23.6	23.5	22.3	22.2	22.2
		6	0	23.6	23.6	23.5	22.4	22.2	22.2
	16QAM	1	0	23.9	23.9	**24.0**	**22.7**	22.4	22.6
		1	2	23.8	23.9	23.9	22.6	22.3	22.5
		1	5	23.9	23.9	23.9	22.6	22.4	22.6
		3	0	22.8	22.8	22.7	21.6	21.3	21.3
		3	1	22.7	22.8	22.7	21.5	21.2	21.3
		3	2	22.7	22.8	22.6	21.5	21.3	21.4
		6	0	22.7	22.8	22.6	21.5	21.2	21.3
	64QAM	1	0	**23.0**	22.9	22.7	**21.5**	21.2	21.3
		1	2	23.0	22.8	22.7	21.4	21.1	21.4
		1	5	23.0	23.0	22.7	21.4	21.2	21.3
		3	0	21.7	21.7	21.6	20.4	20.1	20.2
		3	1	21.7	21.7	21.6	20.3	20.1	20.2
		3	2	21.7	21.7	21.5	20.3	20.1	20.2
		6	0	21.6	21.7	21.5	20.3	20.2	20.0

OUTPUT POWER FOR LTE BAND 12 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1 Conducted Average (dBm)			UAT 1 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	25.0	25.0	25.2	**23.5**	23.2	23.1
		1	7	25.0	25.2	25.0	23.2	23.2	23.1
		1	14	24.9	**25.2**	24.9	23.1	23.2	23.2
		8	0	24.0	24.1	24.1	22.3	22.2	22.1
		8	4	24.0	24.2	24.0	22.3	22.2	22.1
		8	7	24.0	24.2	24.0	22.3	22.2	22.2
		15	0	24.0	24.1	24.0	22.3	22.2	22.2
	16QAM	1	0	23.9	23.9	24.2	**22.6**	22.5	22.5
		1	7	23.9	24.1	24.0	22.6	22.5	22.4
		1	14	23.8	**24.2**	23.9	22.5	22.5	22.5
		8	0	23.1	23.2	23.2	21.4	21.3	21.2
		8	4	23.1	23.2	23.1	21.3	21.2	21.2
		8	7	23.1	23.2	23.0	21.3	21.2	21.2
		15	0	23.1	23.2	23.1	21.3	21.2	21.2
	64QAM	1	0	23.2	23.2	**23.4**	**21.3**	21.2	21.0
		1	7	23.2	23.3	23.3	21.2	21.2	21.1
		1	14	23.1	23.4	23.2	21.2	21.1	21.2
		8	0	22.1	22.2	22.2	20.3	20.1	20.0
		8	4	22.1	22.2	22.1	20.1	20.0	20.0
		8	7	22.1	22.2	22.1	20.1	20.0	20.0
		15	0	22.0	22.2	22.1	20.1	20.0	19.9

OUTPUT POWER FOR LTE BAND 12 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	25.0	25.0	25.1	**23.5**	23.2	23.1
		1	12	25.0	25.0	25.1	23.1	23.1	23.1
		1	24	25.0	**25.2**	25.0	23.3	23.2	23.2
		12	0	24.0	24.0	24.1	22.2	22.2	22.1
		12	6	24.0	24.0	24.1	22.2	22.2	22.0
		12	11	24.0	24.0	24.0	22.2	22.2	22.0
		25	0	24.1	24.1	24.1	22.2	22.2	22.1
	16QAM	1	0	24.2	24.0	24.2	**22.8**	22.6	22.4
		1	12	24.1	24.0	**24.3**	22.6	22.5	22.4
		1	24	24.1	24.2	24.1	22.6	22.7	22.5
		12	0	23.1	23.0	23.2	21.3	21.3	21.2
		12	6	23.1	23.1	23.1	21.2	21.3	21.1
		12	11	23.1	23.1	23.0	21.3	21.3	21.1
		25	0	23.1	23.1	23.2	21.3	21.3	21.2
	64QAM	1	0	**23.5**	23.2	23.3	**21.4**	21.3	21.4
		1	12	23.4	23.2	23.4	21.2	21.2	21.2
		1	24	23.4	23.4	23.2	21.4	21.2	21.2
		12	0	22.3	22.3	22.3	20.1	20.0	20.0
		12	6	22.3	22.3	22.3	20.1	20.0	19.9
		12	11	22.3	22.3	22.2	20.1	20.0	19.9
		25	0	22.3	22.3	22.3	20.1	20.0	20.0

OUTPUT POWER FOR LTE BAND 12 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	25.1	24.9	24.9	**23.5**	23.2	23.2
		1	24	24.8	25.0	25.0	23.2	23.1	23.0
		1	49	25.0	**25.2**	24.9	23.2	23.1	23.1
		25	0	23.9	23.9	23.9	22.1	22.2	22.2
		25	12	23.9	23.9	24.0	22.2	22.1	22.0
		25	24	23.9	24.0	24.0	22.2	22.2	22.0
		50	0	23.8	23.9	24.0	22.2	22.1	22.0
	16QAM	1	0	24.1	23.7	23.8	**22.6**	22.5	22.6
		1	24	23.8	23.8	**24.1**	22.5	22.4	22.4
		1	49	24.0	23.9	23.9	22.6	22.4	22.5
		25	0	23.0	22.9	23.0	21.2	21.2	21.2
		25	12	22.9	23.0	23.1	21.2	21.2	21.1
		25	24	22.9	23.0	23.0	21.2	21.3	21.1
		50	0	22.9	23.0	23.0	21.2	21.2	21.1
	64QAM	1	0	23.1	22.9	22.9	21.2	21.1	21.1
		1	24	22.8	23.0	**23.2**	21.2	21.1	21.1
		1	49	23.1	23.1	23.0	**21.3**	21.0	21.1
		25	0	22.0	21.9	22.1	19.9	20.0	20.0
		25	12	21.9	22.0	22.2	20.1	19.9	19.9
		25	24	22.0	22.1	22.2	20.0	19.9	19.9
		50	0	21.9	22.1	22.1	20.0	19.9	19.9

7.5. LTE BAND 13

Test Engineer ID:	38602	Test Date:	9/26/2019

OUTPUT POWER FOR LTE BAND 13 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1 Conducted Average (dBm)			UAT 1 Conducted Average (dBm)		
				23205	23230	23255	23205	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	25.0	**25.2**	25.1	23.5	**23.5**	23.4
		1	12	25.0	25.1	25.1	23.5	23.4	23.5
		1	24	25.1	25.2	25.2	23.4	23.5	23.4
		12	0	24.0	24.1	24.1	22.5	22.4	22.4
		12	6	24.0	24.1	24.1	22.5	22.5	22.4
		12	11	24.0	24.0	24.2	22.5	22.5	22.3
		25	0	24.0	24.1	24.1	22.5	22.5	22.5
	16QAM	1	0	23.8	23.9	24.0	22.8	22.8	22.7
		1	12	23.8	23.9	24.0	22.8	22.7	**22.9**
		1	24	23.8	23.9	**24.0**	22.7	22.8	22.8
		12	0	23.0	23.2	23.2	21.5	21.5	21.6
		12	6	23.0	23.1	23.2	21.6	21.5	21.5
		12	11	23.0	23.1	23.2	21.6	21.5	21.5
		25	0	23.0	23.1	23.2	21.6	21.5	21.5
	64QAM	1	0	23.0	**23.1**	23.0	21.8	**22.0**	21.7
		1	12	23.1	23.1	23.0	21.8	21.8	21.7
		1	24	23.1	23.1	23.1	21.7	21.8	21.7
		12	0	22.1	22.2	22.3	20.5	20.5	20.5
		12	6	22.2	22.2	22.3	20.5	20.6	20.6
		12	11	22.2	22.1	22.4	20.5	20.6	20.7
		25	0	22.2	22.2	22.2	20.6	20.6	20.6

OUTPUT POWER FOR LTE BAND 13 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1 Conducted Average (dBm)			UAT 1 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		**25.2**			**23.5**	
		1	24		25.1			23.3	
		1	49		25.1			23.4	
		25	0		24.1			22.5	
		25	12		24.0			22.4	
		25	24		24.1			22.5	
		50	0		24.1			22.5	
	16QAM	1	0		24.4			**22.7**	
		1	24		24.4			22.6	
		1	49		**24.5**			22.6	
		25	0		23.5			21.4	
		25	12		23.5			21.5	
		25	24		23.6			21.5	
		50	0		23.5			21.5	
	64QAM	1	0		23.6			**21.7**	
		1	24		23.6			21.6	
		1	49		**23.6**			21.6	
		25	0		22.6			20.5	
		25	12		22.6			20.5	
		25	24		22.7			20.5	
		50	0		22.6			20.6	

7.6. LTE BAND 17

Test Engineer ID:	38602	Test Date:	9/26/2019

OUTPUT POWER FOR LTE BAND 17 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1 Conducted Average (dBm)			UAT 1 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	24.9	25.1	25.1	**23.5**	23.4	23.3
		1	12	24.9	25.2	25.1	23.5	23.3	23.2
		1	24	25.1	**25.2**	25.0	23.5	23.4	23.4
		12	0	24.1	24.2	24.3	22.6	22.4	22.3
		12	6	24.1	24.1	24.2	22.5	22.4	22.3
		12	11	24.1	24.2	24.1	22.5	22.3	22.3
		25	0	24.1	24.2	24.3	22.5	22.3	22.3
	16QAM	1	0	24.1	24.2	24.3	**22.9**	22.7	22.7
		1	12	24.1	24.3	**24.4**	22.8	22.6	22.7
		1	24	24.3	24.3	24.3	22.8	22.7	22.7
		12	0	23.0	23.2	23.2	21.7	21.5	21.5
		12	6	23.0	23.1	23.2	21.6	21.5	21.4
		12	11	23.1	23.2	23.1	21.5	21.4	21.3
		25	0	23.0	23.2	23.2	21.6	21.4	21.4
	64QAM	1	0	22.8	23.1	23.0	**22.0**	21.9	21.7
		1	12	22.9	**23.2**	23.0	21.9	21.8	21.5
		1	24	23.0	23.2	23.0	21.9	21.8	21.7
		12	0	22.0	22.1	22.2	20.8	20.6	20.5
		12	6	22.0	22.1	22.1	20.7	20.5	20.5
		12	11	22.0	22.1	22.0	20.6	20.5	20.5
		25	0	22.0	22.2	22.1	20.7	20.5	20.5

OUTPUT POWER FOR LTE BAND 17 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1 Conducted Average (dBm)			UAT 1 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	24.9	24.9	25.0	23.5	**23.5**	23.4
		1	24	25.0	25.0	25.1	23.4	23.3	23.2
		1	49	**25.2**	25.0	25.0	23.3	23.2	23.3
		25	0	24.0	24.0	24.1	22.4	22.4	22.3
		25	12	24.1	24.0	24.2	22.4	22.4	22.2
		25	24	24.1	24.2	24.2	22.2	22.3	22.2
		50	0	24.1	24.2	24.1	22.4	22.3	22.2
	16QAM	1	0	23.8	23.9	23.9	**22.8**	22.7	22.7
		1	24	23.9	24.0	**24.2**	22.7	22.6	22.6
		1	49	24.0	23.9	23.9	22.6	22.5	22.6
		25	0	23.0	23.0	23.1	21.4	21.4	21.4
		25	12	23.0	23.0	23.2	21.4	21.4	21.4
		25	24	23.1	23.1	23.2	21.3	21.3	21.3
		50	0	23.1	23.1	23.1	21.4	21.4	21.4
	64QAM	1	0	22.9	22.8	22.9	21.7	**21.7**	21.7
		1	24	23.1	23.0	23.1	21.7	21.6	21.6
		1	49	**23.1**	22.9	22.9	21.5	21.5	21.6
		25	0	21.7	21.7	21.7	20.6	20.5	20.6
		25	12	21.8	21.7	21.7	20.6	20.5	20.5
		25	24	21.8	21.8	21.7	20.5	20.4	20.4
		50	0	21.8	21.8	21.6	20.6	20.4	20.4

7.7. LTE BAND 25

Test Engineer ID:	38602	Test Date:	9/26/2019

OUTPUT POWER FOR LTE BAND 25 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.1	24.1	24.1	18.7	18.8	**19.0**
		1	2	24.1	24.1	24.1	18.7	18.8	18.0
		1	5	**24.2**	24.1	24.1	18.7	18.8	18.5
		3	0	23.1	23.1	23.0	18.7	18.8	18.0
		3	1	23.1	23.0	23.0	18.7	18.8	17.9
		3	2	23.1	23.0	23.0	18.7	18.8	17.8
		6	0	23.1	23.0	23.0	18.7	18.7	18.7
	16QAM	1	0	22.8	22.9	22.9	17.9	18.1	18.0
		1	2	22.8	22.9	22.9	17.8	18.2	18.0
		1	5	22.8	**23.0**	22.8	17.8	**18.2**	17.6
		3	0	22.2	22.2	22.2	16.8	17.0	16.8
		3	1	22.3	22.2	22.2	16.8	17.0	16.8
		3	2	22.2	22.2	22.2	16.8	16.9	16.8
		6	0	22.2	22.1	22.1	16.8	16.9	17.0
	64QAM	1	0	22.0	21.8	21.9	17.2	16.8	17.1
		1	2	**22.0**	21.7	21.9	16.7	16.8	17.0
		1	5	22.0	21.8	21.8	**17.4**	16.8	17.1
		3	0	21.0	20.9	20.9	15.3	14.7	14.8
		3	1	21.1	20.9	20.9	14.9	14.6	14.8
		3	2	21.1	20.9	20.9	15.0	14.7	14.8
		6	0	20.9	20.8	20.9	14.7	14.7	14.7

OUTPUT POWER FOR LTE BAND 25 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.1	24.1	24.1	18.7	18.8	**19.0**
		1	7	**24.2**	24.1	24.1	18.7	18.8	18.8
		1	14	24.1	24.0	24.0	18.7	18.7	17.8
		8	0	23.1	23.0	23.1	17.7	17.8	17.3
		8	4	23.1	23.0	23.1	17.7	17.8	17.2
		8	7	23.1	23.0	23.1	17.7	17.8	17.2
		15	0	23.2	23.0	23.1	17.7	17.8	17.3
	16QAM	1	0	22.9	22.9	23.0	18.0	18.1	17.6
		1	7	**23.0**	22.8	23.0	18.0	**18.1**	17.6
		1	14	22.9	22.8	22.8	18.0	18.0	17.2
		8	0	22.2	22.1	22.1	16.8	16.9	16.5
		8	4	22.2	22.1	22.1	16.8	16.9	16.8
		8	7	22.2	22.1	22.1	16.8	16.9	16.7
		15	0	22.2	22.1	22.1	16.8	16.8	16.8
	64QAM	1	0	21.9	21.9	22.0	16.8	16.9	17.0
		1	7	**22.0**	22.0	21.9	16.8	17.0	**17.0**
		1	14	21.9	21.9	21.9	16.8	16.8	16.9
		8	0	20.9	20.9	20.9	15.8	15.9	15.9
		8	4	21.0	20.9	20.8	15.8	15.9	15.9
		8	7	20.9	20.9	20.8	15.8	15.9	15.9
		15	0	20.9	20.9	20.8	15.8	15.9	15.9

OUTPUT POWER FOR LTE BAND 25 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.1	24.2	24.2	18.8	**19.0**	18.8
		1	12	24.1	24.1	24.1	18.7	18.8	18.5
		1	24	**24.2**	24.2	24.1	18.8	18.8	17.6
		12	0	23.2	23.1	23.2	17.8	17.8	17.2
		12	6	23.1	23.1	23.1	17.7	17.7	17.2
		12	11	23.2	23.1	23.1	17.7	17.8	17.3
		25	0	23.1	23.1	23.1	17.8	17.8	17.3
	16QAM	1	0	23.2	23.2	**23.4**	18.1	18.1	17.6
		1	12	23.2	23.2	23.3	18.1	18.1	17.7
		1	24	23.3	23.2	23.2	**18.2**	18.1	17.4
		12	0	22.2	22.2	22.2	16.8	16.9	16.5
		12	6	22.2	22.2	22.1	16.8	16.9	16.8
		12	11	22.2	22.2	22.1	16.8	16.9	16.8
		25	0	22.2	22.2	22.1	16.9	16.9	16.9
	64QAM	1	0	22.2	22.3	**22.5**	16.8	16.9	16.9
		1	12	22.3	22.3	22.3	16.9	16.8	17.0
		1	24	22.3	22.3	22.4	16.9	16.9	**17.0**
		12	0	21.4	21.3	21.3	15.6	15.6	15.7
		12	6	21.4	21.3	21.2	15.6	15.6	15.7
		12	11	21.4	21.3	21.2	15.6	15.6	15.7
		25	0	21.3	21.3	21.2	15.6	15.6	15.7

OUTPUT POWER FOR LTE BAND 25 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.2	**24.2**	24.2	18.8	**19.0**	18.7
		1	24	24.2	24.1	24.2	18.8	18.8	18.8
		1	49	24.1	24.1	24.2	18.8	18.8	18.0
		25	0	23.1	23.1	23.2	17.7	17.8	17.3
		25	12	23.1	23.1	23.2	17.7	17.8	17.5
		25	24	23.0	23.1	23.1	17.7	17.8	17.2
		50	0	23.2	23.1	23.1	17.7	17.8	17.3
	16QAM	1	0	23.2	23.1	23.2	18.0	**18.2**	17.9
		1	24	23.1	23.0	**23.3**	18.0	18.1	17.8
		1	49	23.1	23.0	23.1	18.1	18.1	17.5
		25	0	22.2	22.2	22.2	16.8	16.9	16.4
		25	12	22.2	22.1	22.2	16.8	16.9	16.7
		25	24	22.1	22.1	22.1	16.8	16.9	16.9
		50	0	22.2	22.1	22.2	16.8	16.9	16.8
	64QAM	1	0	22.3	**22.4**	22.4	16.7	**16.9**	16.5
		1	24	22.4	22.4	22.4	16.8	16.8	16.6
		1	49	22.3	22.3	22.3	16.7	16.8	16.9
		25	0	21.4	21.4	21.3	15.6	15.6	15.4
		25	12	21.4	21.4	21.4	15.6	15.6	15.5
		25	24	21.4	21.4	21.3	15.6	15.6	15.7
		50	0	21.4	21.4	21.3	15.6	15.6	15.5

OUTPUT POWER FOR LTE BAND 25 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.2	24.2	24.1	18.8	18.8	18.7
		1	37	24.0	24.1	24.1	18.7	18.8	18.3
		1	74	24.1	24.1	**24.2**	**19.0**	18.5	17.5
		36	0	23.2	23.2	23.1	17.8	17.9	16.9
		36	16	23.1	23.1	23.1	17.7	17.9	17.2
		36	35	23.1	23.1	23.1	17.7	17.8	17.1
		75	0	23.1	23.1	23.2	17.7	17.8	17.0
	16QAM	1	0	22.8	22.9	22.9	18.0	**18.2**	18.0
		1	37	22.7	22.9	22.9	18.0	18.2	17.8
		1	74	22.8	22.9	**23.0**	18.2	18.1	17.4
		36	0	22.2	22.2	22.1	16.8	17.0	16.4
		36	16	22.1	22.2	22.2	16.8	16.9	16.7
		36	35	22.1	22.1	22.2	16.8	16.8	16.8
		75	0	22.1	22.2	22.2	16.8	16.8	16.6
	64QAM	1	0	**22.1**	22.1	22.0	16.9	16.8	16.7
		1	37	21.9	22.0	22.0	16.9	16.8	16.5
		1	74	22.0	22.0	22.0	**17.0**	16.6	16.8
		36	0	21.1	21.1	21.0	15.6	15.7	15.3
		36	16	21.0	21.0	21.0	15.6	15.6	15.4
		36	35	21.0	21.0	21.0	15.6	15.6	15.5
		75	0	21.0	21.0	21.0	15.6	15.6	15.3

OUTPUT POWER FOR LTE BAND 25 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.2	24.2	24.1	18.8	18.9	18.8
		1	49	24.1	24.1	24.1	18.7	18.8	18.3
		1	99	24.1	24.1	**24.2**	**19.0**	18.6	17.5
		50	0	23.2	23.2	23.1	17.8	17.8	17.0
		50	24	23.1	23.1	23.1	17.7	17.8	17.4
		50	49	23.1	23.1	23.2	17.9	17.8	17.1
		100	0	23.0	23.1	23.2	17.7	17.9	17.0
	16QAM	1	0	23.0	23.1	23.0	18.1	18.2	18.1
		1	49	22.9	23.1	22.9	18.1	18.1	17.9
		1	99	23.0	**23.1**	23.1	**18.3**	18.1	17.4
		50	0	22.2	22.3	22.2	16.8	17.0	16.5
		50	24	22.1	22.1	22.2	16.8	16.9	16.5
		50	49	22.2	22.1	22.3	17.0	16.8	16.6
		100	0	22.1	22.2	22.2	16.8	16.9	16.5
	64QAM	1	0	21.9	**22.1**	22.1	17.0	16.7	16.7
		1	49	21.9	22.1	22.0	16.9	16.6	16.7
		1	99	21.8	22.1	22.1	**17.0**	16.5	17.0
		50	0	21.1	21.1	20.9	15.6	15.7	15.5
		50	24	21.0	21.0	21.0	15.6	15.6	15.4
		50	49	21.1	20.9	21.1	15.7	15.5	15.5
		100	0	21.0	21.0	21.0	15.5	15.6	15.3

7.8. LTE BAND 26 (Part 90S)

Test Engineer ID:	38602	Test Date:	9/26/2019

OUTPUT POWER FOR LTE BAND 26 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	25.0	25.2	**25.2**	23.4	23.3	23.4
		1	2	25.0	25.1	25.2	23.4	23.3	23.4
		1	5	25.1	25.1	25.2	23.4	23.3	**23.5**
		3	0	24.0	24.1	24.1	22.3	22.3	22.3
		3	1	24.0	24.1	24.1	22.3	22.3	22.3
		3	2	24.0	24.1	24.1	22.3	22.3	22.3
		6	0	24.0	24.1	24.1	22.3	22.3	22.3
	16QAM	1	0	23.9	**24.3**	24.2	22.3	22.4	22.3
		1	2	24.0	24.2	24.2	22.2	22.3	22.3
		1	5	24.0	24.2	24.2	22.3	22.3	**22.4**
		3	0	23.1	23.2	23.2	21.4	21.4	21.4
		3	1	23.1	23.2	23.2	21.4	21.4	21.4
		3	2	23.1	23.2	23.2	21.4	21.4	21.5
		6	0	23.0	23.1	23.2	21.4	21.3	21.4
	64QAM	1	0	23.2	23.3	22.9	**21.5**	21.0	21.2
		1	2	23.3	23.3	22.9	21.4	21.1	21.1
		1	5	23.3	**23.3**	23.0	21.4	21.1	21.2
		3	0	22.1	22.2	21.8	20.6	20.4	20.5
		3	1	22.1	22.2	21.8	20.5	20.4	20.5
		3	2	22.1	22.2	21.8	20.5	20.4	20.4
		6	0	22.0	22.0	21.8	19.4	19.4	19.5

OUTPUT POWER FOR LTE BAND 26 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.9	25.2	25.1	23.4	23.3	23.3
		1	7	25.1	25.2	**25.2**	**23.5**	23.3	23.4
		1	14	25.1	25.1	25.1	23.4	23.3	23.4
		8	0	24.0	24.2	24.1	22.4	22.3	22.3
		8	4	24.1	24.2	24.2	22.4	22.3	22.3
		8	7	24.1	24.2	24.2	22.4	22.3	22.3
		15	0	24.1	24.2	24.2	22.4	22.3	22.3
	16QAM	1	0	23.8	24.0	24.0	22.7	22.6	22.6
		1	7	23.9	24.0	**24.1**	**22.7**	22.6	22.6
		1	14	24.0	24.1	24.0	22.7	22.5	22.7
		8	0	23.0	23.2	23.2	21.4	21.4	21.3
		8	4	23.1	23.2	23.2	21.5	21.3	21.3
		8	7	23.1	23.2	23.2	21.5	21.3	21.4
		15	0	23.1	23.2	23.2	21.4	21.3	21.3
	64QAM	1	0	23.2	23.1	22.9	21.5	21.5	21.4
		1	7	23.1	23.1	23.1	**21.6**	21.4	21.5
		1	14	23.1	23.2	**23.2**	21.5	21.5	21.6
		8	0	22.0	22.0	21.9	20.4	20.4	20.4
		8	4	22.1	22.0	22.0	20.5	20.4	20.4
		8	7	22.1	22.0	22.0	20.5	20.4	20.4
		15	0	22.1	22.0	21.9	20.4	20.3	20.4

OUTPUT POWER FOR LTE BAND 26 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1 Conducted Average (dBm)			UAT 1 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	25.0	**25.2**	25.0	23.5	**23.5**	23.3
		1	12	25.0	25.0	25.0	23.4	23.3	23.3
		1	24	25.0	25.1	25.0	23.3	23.4	23.4
		12	0	24.0	24.1	24.0	22.4	22.4	22.3
		12	6	24.0	24.0	24.0	22.4	22.3	22.3
		12	11	24.1	24.0	24.1	22.3	22.3	22.3
		25	0	24.0	24.1	24.0	22.4	22.4	22.3
	16QAM	1	0	24.4	**24.4**	24.3	**22.8**	22.8	22.7
		1	12	24.4	24.3	24.3	22.8	22.6	22.7
		1	24	24.4	24.3	24.4	22.7	22.6	22.8
		12	0	23.0	23.2	23.1	21.4	21.4	21.4
		12	6	23.0	23.1	23.0	21.4	21.4	21.3
		12	11	23.1	23.1	23.1	21.4	21.3	21.3
		25	0	23.0	23.1	23.0	21.5	21.4	21.3
	64QAM	1	0	23.3	23.3	23.2	21.6	21.6	21.6
		1	12	23.3	23.1	**23.4**	21.7	21.5	21.6
		1	24	23.3	23.2	23.3	21.6	21.5	**21.7**
		12	0	22.0	22.1	22.0	20.5	20.3	20.4
		12	6	22.0	22.1	22.1	20.5	20.3	20.4
		12	11	22.0	22.1	22.1	20.4	20.4	20.4
		25	0	22.0	22.1	22.1	20.5	20.4	20.4

OUTPUT POWER FOR LTE BAND 26 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1 Conducted Average (dBm)			UAT 1 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		25.0			**23.5**	
		1	24		25.0			23.3	
		1	49		**25.2**			23.3	
		25	0		23.9			22.3	
		25	12		24.0			22.3	
		25	24		24.0			22.3	
		50	0		24.0			22.3	
	16QAM	1	0		**24.1**			**22.7**	
		1	24		24.1			22.5	
		1	49		24.1			22.6	
		25	0		23.0			21.4	
		25	12		23.0			21.3	
		25	24		23.0			21.2	
		50	0		23.0			21.3	
	64QAM	1	0		22.8			**21.5**	
		1	24		22.9			21.3	
		1	49		**23.0**			21.4	
		25	0		21.8			20.3	
		25	12		21.8			20.2	
		25	24		21.8			20.2	
		50	0		21.8			20.3	

7.9. LTE BAND 30

Test Engineer ID:	38602	Test Date:	9/27/2019

OUTPUT POWER FOR LTE BAND 30 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	23.2	23.4	23.4	**17.7**	17.5	17.5
		1	12	23.3	23.3	23.3	17.6	17.6	17.5
		1	24	23.3	23.4	**23.5**	17.6	17.6	17.5
		12	0	22.2	22.3	22.3	16.7	16.5	16.6
		12	6	22.3	22.3	22.4	16.6	16.5	16.5
		12	11	22.3	22.3	22.4	16.6	16.6	16.6
		25	0	22.3	22.3	22.4	16.7	16.6	16.6
	16QAM	1	0	22.2	22.3	22.5	**17.2**	16.8	17.1
		1	12	22.3	22.2	22.4	17.0	16.9	17.0
		1	24	22.3	22.3	**22.5**	17.0	17.0	17.1
		12	0	21.3	21.3	21.4	15.8	15.6	15.6
		12	6	21.4	21.4	21.4	15.7	15.6	15.6
		12	11	21.4	21.4	21.4	15.7	15.8	15.6
		25	0	21.4	21.4	21.4	15.7	15.7	15.6
	64QAM	1	0	21.3	21.2	21.2	16.1	16.1	**16.2**
		1	12	21.2	21.3	21.2	16.1	16.2	16.1
		1	24	**21.4**	21.4	21.3	16.0	16.2	16.0
		12	0	20.1	20.0	20.1	14.8	14.8	15.0
		12	6	20.2	20.1	20.1	14.8	14.8	14.9
		12	11	20.1	20.1	20.1	14.8	14.9	14.8
		25	0	20.2	20.0	20.1	14.8	14.8	14.8

OUTPUT POWER FOR LTE BAND 30 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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		23.2			17.6	
		1	24		23.3			17.5	
		1	49		**23.5**			**17.7**	
		25	0		22.3			16.5	
		25	12		22.3			16.5	
		25	24		22.3			16.5	
		50	0		22.3			16.6	
	16QAM	1	0		22.3			17.0	
		1	24		22.3			16.9	
		1	49		**22.6**			**17.0**	
		25	0		21.3			15.5	
		25	12		21.4			15.6	
		25	24		21.4			15.6	
		50	0		21.3			15.6	
	64QAM	1	0		21.1			16.0	
		1	24		21.2			16.0	
		1	49		**21.4**			**16.1**	
		25	0		20.0			14.7	
		25	12		20.1			14.7	
		25	24		20.1			14.8	
		50	0		20.1			14.8	

7.10. LTE BAND 41

Test Engineer ID:	38602	Test Date:	9/27/2019

OUTPUT POWER FOR LTE BAND 41 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.9	**28.0**	27.9	18.8	19.7	**19.7**
		1	12	26.9	27.9	27.9	18.6	19.6	19.7
		1	24	26.9	27.9	27.9	18.6	19.7	19.7
		12	0	23.9	26.9	26.9	17.6	18.6	18.7
		12	6	23.9	26.9	26.9	17.6	18.6	18.6
		12	11	25.9	26.9	26.9	17.6	18.6	18.6
		25	0	23.9	26.9	26.9	17.6	18.6	18.7
	16QAM	1	0	23.9	**26.9**	26.7	18.1	19.1	19.1
		1	12	25.9	26.9	26.7	17.9	19.0	19.1
		1	24	25.9	26.8	26.7	17.9	19.0	**19.5**
		12	0	22.8	26.0	25.9	16.7	17.7	17.7
		12	6	22.8	26.0	25.9	16.6	17.7	17.7
		12	11	24.9	26.0	25.9	16.6	17.7	17.7
		25	0	22.9	26.0	25.9	16.6	17.7	17.7
	64QAM	1	0	22.2	25.9	25.8	17.3	18.9	**19.2**
		1	12	24.3	**25.9**	25.7	17.2	18.8	19.0
		1	24	24.3	25.8	25.8	17.3	18.8	19.0
		12	0	21.0	24.9	24.8	16.0	17.5	18.1
		12	6	21.0	24.9	24.8	15.9	17.5	18.1
		12	11	23.0	24.8	24.8	16.0	17.5	18.1
		25	0	21.0	24.9	24.8	16.0	17.5	18.0

OUTPUT POWER FOR LTE BAND 41 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.1	**28.0**	27.9	18.7	19.7	19.7
		1	24	27.0	27.9	27.8	18.6	19.7	19.6
		1	49	27.0	27.9	27.8	18.5	**19.7**	19.6
		25	0	24.0	26.8	26.8	17.6	18.7	18.6
		25	12	25.9	26.7	26.7	17.5	18.7	18.6
		25	24	25.0	26.7	26.7	17.4	18.8	18.6
		50	0	24.0	26.8	26.7	17.5	18.8	18.6
	16QAM	1	0	23.0	**26.7**	26.6	18.0	19.1	19.1
		1	24	25.9	26.6	26.5	17.8	19.1	19.0
		1	49	25.9	26.6	26.5	17.8	**19.1**	19.0
		25	0	22.9	25.8	25.8	16.6	17.8	17.7
		25	12	24.8	25.8	25.7	16.5	17.8	17.6
		25	24	23.9	25.8	25.7	16.4	17.8	17.6
		50	0	22.8	25.8	25.7	16.5	17.8	17.6
	64QAM	1	0	22.0	**25.9**	25.9	17.7	18.7	**18.8**
		1	24	24.9	25.9	25.7	17.5	18.7	18.7
		1	49	24.9	25.8	25.7	17.4	18.7	18.7
		25	0	22.2	24.9	24.9	16.5	17.6	17.5
		25	12	24.1	24.9	24.8	16.4	17.6	17.4
		25	24	23.1	24.9	24.8	16.3	17.6	17.4
		50	0	22.1	24.9	24.8	16.4	17.6	17.4

OUTPUT POWER FOR LTE BAND 41 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	26.1	27.9	28.0	18.7	19.7	19.7
		1	37	27.0	27.9	**28.0**	18.4	19.7	19.7
		1	74	27.0	27.8	27.9	18.5	**19.7**	19.6
		36	0	23.0	26.9	27.0	17.6	18.7	18.7
		36	16	26.0	26.9	27.0	17.5	18.7	18.7
		36	35	24.9	26.8	26.9	17.5	18.7	18.6
		75	0	23.0	26.9	27.0	17.4	18.7	18.7
	16QAM	1	0	23.2	27.3	**27.3**	17.9	19.0	**19.1**
		1	37	26.2	27.2	27.3	17.6	19.0	19.0
		1	74	26.2	27.1	27.2	17.7	19.0	19.0
		36	0	22.1	26.0	26.0	16.6	17.8	17.7
		36	16	25.0	25.9	26.0	16.5	17.8	17.7
		36	35	24.0	25.9	26.0	16.4	17.8	17.7
		75	0	22.0	25.9	26.0	16.3	17.8	17.7
	64QAM	1	0	22.5	26.3	26.5	17.8	18.6	18.7
		1	37	25.5	26.4	**26.5**	17.4	18.6	**18.7**
		1	74	25.5	26.2	26.4	17.5	18.7	18.6
		36	0	21.2	25.2	25.2	16.4	17.5	17.5
		36	16	24.2	25.2	25.2	16.2	17.5	17.5
		36	35	23.1	25.1	25.1	16.2	17.5	17.4
		75	0	21.1	25.1	25.2	16.2	17.5	17.5

OUTPUT POWER FOR LTE BAND 41 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	24.0	27.9	**28.0**	18.7	19.7	19.6
		1	49	26.8	27.8	27.9	18.4	19.7	19.6
		1	99	26.9	27.7	27.9	18.6	**19.7**	19.6
		50	0	22.8	26.8	26.9	17.4	18.6	18.5
		50	24	25.7	26.7	26.9	17.4	18.6	18.5
		50	49	24.8	26.7	26.9	17.4	18.6	18.5
		100	0	22.8	26.7	26.9	17.4	18.6	18.5
	16QAM	1	0	23.0	**27.3**	27.3	18.0	19.1	18.9
		1	49	26.0	27.1	27.3	17.7	19.1	18.9
		1	99	26.1	27.1	27.3	17.9	**19.2**	18.9
		50	0	22.0	25.8	26.0	16.4	17.7	17.5
		50	24	25.0	25.8	26.0	16.3	17.7	17.5
		50	49	24.0	25.8	26.0	16.4	17.7	17.5
		100	0	22.0	25.8	26.0	16.3	17.7	17.5
	64QAM	1	0	22.2	**26.5**	26.5	17.7	**18.9**	18.5
		1	49	25.1	26.4	26.5	17.4	18.7	18.5
		1	99	25.2	26.3	26.5	17.5	18.7	18.4
		50	0	21.1	25.7	25.8	16.2	17.4	17.3
		50	24	24.0	25.7	25.8	16.2	17.4	17.3
		50	49	23.1	25.6	25.8	16.3	17.4	17.2
		100	0	21.0	25.6	25.9	16.2	17.4	17.3

7.11. LTE BAND 48

Test Engineer ID:	38602	Test Date:	9/27/2019

OUTPUT POWER FOR LTE BAND 48 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1 Conducted Average (dBm)			UAT 2 Conducted Average (dBm)		
				55265	55990	56715	55260	55990	56715
				3552.5 MHz	3625.0 MHz	3697.5 MHz	3552.5 MHz	3625.0 MHz	3697.5 MHz
5.0	QPSK	1	0	21.0	**25.0**	21.0	18.4	20.4	18.5
		1	12	20.8	24.9	20.7	18.3	20.1	17.9
		1	24	20.9	25.0	21.0	18.4	**20.5**	18.1
		12	0	20.0	24.0	20.3	17.8	19.9	17.5
		12	6	20.0	23.9	20.2	17.7	19.8	17.5
		12	11	20.0	24.0	20.2	17.9	19.9	17.1
		25	0	20.2	24.2	20.3	17.9	19.9	17.2
	16QAM	1	0	19.9	**24.0**	20.3	17.6	19.6	17.1
		1	12	19.6	23.8	20.0	17.4	**19.7**	16.8
		1	24	19.9	23.9	20.5	17.8	19.6	16.9
		12	0	19.0	22.9	19.6	16.7	18.7	16.1
		12	6	18.9	22.9	19.4	16.7	18.7	16.0
		12	11	19.0	23.0	19.5	16.8	18.7	16.0
		25	0	19.0	23.0	19.7	16.8	18.8	16.1
	64QAM	1	0	19.1	22.6	19.1	16.3	**19.0**	15.1
		1	12	18.8	22.4	18.8	16.2	18.5	14.8
		1	24	19.1	**22.6**	19.1	16.3	18.8	14.8
		12	0	18.8	21.9	18.3	15.3	17.6	13.5
		12	6	18.6	21.6	18.2	15.4	17.5	13.5
		12	11	18.6	21.7	18.3	15.6	17.5	13.4
		25	0	19.0	22.0	18.6	15.8	17.8	13.8

OUTPUT POWER FOR LTE BAND 48 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1 Conducted Average (dBm)			UAT 2 Conducted Average (dBm)		
				55290	55990	56690	55290	55990	56690
				3555 MHz	3625.0 MHz	3695 MHz	3555 MHz	3625.0 MHz	3695 MHz
10.0	QPSK	1	0	21.0	25.0	20.9	18.2	20.4	18.5
		1	24	20.8	24.6	20.7	18.0	20.1	18.2
		1	49	21.0	**25.0**	20.8	18.4	**20.5**	18.3
		25	0	20.0	23.9	20.2	17.2	19.4	17.5
		25	12	20.0	23.9	20.1	17.2	19.3	17.4
		25	24	20.0	24.0	20.1	17.3	19.4	17.4
		50	0	20.1	24.0	20.2	17.3	19.4	17.5
	16QAM	1	0	20.3	24.2	20.1	17.3	19.6	17.6
		1	24	19.9	23.9	19.8	17.2	19.4	17.3
		1	49	20.3	**24.3**	20.1	17.6	**19.7**	17.5
		25	0	18.9	22.8	19.2	16.1	18.3	16.4
		25	12	18.9	22.8	19.2	16.1	18.3	16.3
		25	24	18.9	22.9	19.2	16.2	18.3	16.3
		50	0	19.0	23.0	19.3	16.3	18.4	16.5
	64QAM	1	0	18.9	22.9	19.2	16.3	**18.3**	16.5
		1	24	18.7	22.6	18.8	16.1	18.0	16.4
		1	49	19.0	**23.1**	19.1	16.5	18.3	16.6
		25	0	17.9	21.7	18.1	15.0	17.3	15.4
		25	12	17.8	21.7	18.1	15.1	17.2	15.3
		25	24	17.9	21.8	18.1	15.1	17.3	15.3
		50	0	18.0	21.9	18.2	15.2	17.4	15.5

OUTPUT POWER FOR LTE BAND 48 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 2		
				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	21.0	24.8	20.9	18.4	20.3	18.3
		1	37	20.9	24.6	20.9	18.4	20.2	18.4
		1	74	20.9	**25.0**	21.0	18.5	**20.5**	18.3
		36	0	20.0	23.8	19.8	17.5	19.4	17.4
		36	16	20.0	23.7	19.8	17.5	19.4	17.5
		36	35	20.0	23.8	19.8	17.6	19.4	17.5
		75	0	20.0	23.8	19.8	17.5	19.4	17.6
	16QAM	1	0	20.3	24.1	20.0	17.5	19.5	17.4
		1	37	20.2	24.0	20.0	17.6	19.4	17.5
		1	74	20.2	**24.3**	20.0	17.6	**19.5**	17.5
		36	0	19.2	22.7	18.9	16.4	18.3	16.3
		36	16	19.1	22.6	18.9	16.4	18.3	16.4
		36	35	19.1	22.8	18.9	16.5	18.3	16.4
		75	0	19.2	22.8	18.9	16.5	18.3	16.5
	64QAM	1	0	19.0	22.9	19.2	16.8	**18.6**	16.4
		1	37	18.9	22.8	19.2	16.7	18.6	16.4
		1	74	18.9	**23.0**	19.3	16.9	18.5	16.4
		36	0	17.9	21.7	18.2	15.4	17.3	15.3
		36	16	17.9	21.6	18.2	15.5	17.3	15.5
		36	35	17.9	21.7	18.2	15.6	17.3	15.4
		75	0	18.0	21.7	18.3	15.6	17.3	15.5

OUTPUT POWER FOR LTE BAND 48 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 2		
				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	24.8	20.8	18.5	**20.5**	18.2
		1	49	20.7	24.5	20.6	18.3	20.3	18.2
		1	99	20.8	**25.0**	20.9	18.4	20.5	18.4
		50	0	20.2	23.6	20.2	17.5	19.4	17.3
		50	24	20.2	23.7	20.2	17.5	19.4	17.4
		50	49	20.1	23.8	20.3	17.4	19.4	17.4
		100	0	20.2	23.7	20.3	17.5	19.4	17.5
	16QAM	1	0	20.2	24.2	19.9	17.7	19.8	17.6
		1	49	19.9	23.8	19.7	17.6	19.6	17.5
		1	99	20.1	**24.3**	20.0	17.7	**19.8**	17.7
		50	0	19.2	22.6	18.9	16.4	18.3	16.3
		50	24	19.2	22.6	18.9	16.4	18.3	16.3
		50	49	19.1	22.7	19.0	16.4	18.4	16.4
		100	0	19.3	22.7	19.0	16.5	18.4	16.4
	64QAM	1	0	19.4	23.1	19.1	16.6	18.6	16.5
		1	49	19.1	22.7	18.9	16.6	18.4	16.4
		1	99	19.3	**23.3**	19.1	16.6	**18.8**	16.6
		50	0	18.0	21.6	17.7	15.4	17.4	15.2
		50	24	18.0	21.6	17.7	15.4	17.4	15.3
		50	49	17.9	21.7	17.8	15.4	17.4	15.3
		100	0	18.1	21.7	17.8	15.5	17.4	15.4

7.12. LTE BAND 66

Test Engineer ID:	38602	Test Date:	9/27/2019

OUTPUT POWER FOR LTE BAND 66 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	**24.5**	24.4	24.2	**18.5**	18.1	18.4
		1	2	24.4	24.4	24.2	18.4	18.1	18.4
		1	5	24.4	24.3	24.3	18.4	18.1	18.4
		3	0	23.4	23.4	23.2	17.4	17.1	17.3
		3	1	23.4	23.4	23.3	17.4	17.1	17.3
		3	2	23.4	23.4	23.3	17.4	17.1	17.3
		6	0	23.4	23.4	23.3	17.5	17.1	17.4
	16QAM	1	0	**23.5**	23.4	23.2	17.1	16.8	17.1
		1	2	23.3	23.4	23.2	17.1	16.8	17.0
		1	5	23.4	23.4	23.2	17.1	16.9	**17.2**
		3	0	22.5	22.5	22.3	16.6	16.2	16.5
		3	1	22.5	22.5	22.3	16.6	16.2	16.5
		3	2	22.5	22.5	22.3	16.6	16.3	16.6
		6	0	22.5	22.5	22.3	16.6	16.2	16.5
	64QAM	1	0	**22.5**	22.4	22.2	16.3	16.0	16.4
		1	2	22.4	22.4	22.1	16.3	16.0	16.4
		1	5	22.5	22.5	22.3	16.4	16.1	**16.5**
		3	0	21.5	21.5	21.3	15.7	15.5	15.7
		3	1	21.5	21.5	21.3	15.7	15.4	15.7
		3	2	21.4	21.5	21.3	15.7	15.4	15.7
		6	0	21.4	21.5	21.3	15.7	15.5	15.7

OUTPUT POWER FOR LTE BAND 66 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	**24.5**	24.4	24.2	18.4	18.0	18.4
		1	7	24.4	24.4	24.2	**18.5**	18.1	18.4
		1	14	24.4	24.3	24.3	18.4	18.0	18.4
		8	0	23.4	23.4	23.2	17.4	17.1	17.4
		8	4	23.4	23.4	23.3	17.4	17.1	17.4
		8	7	23.4	23.4	23.3	17.5	17.1	17.4
		15	0	23.4	23.4	23.3	17.5	17.1	17.4
	16QAM	1	0	**23.5**	23.4	23.2	17.7	17.4	17.7
		1	7	23.3	23.4	23.2	17.8	17.5	17.7
		1	14	23.4	23.4	23.2	17.6	17.3	**17.8**
		8	0	22.5	22.5	22.3	16.6	16.2	16.4
		8	4	22.5	22.5	22.3	16.5	16.2	16.5
		8	7	22.5	22.5	22.3	16.6	16.2	16.5
		15	0	22.5	22.5	22.3	16.6	16.2	16.4
	64QAM	1	0	22.3	22.4	22.1	16.7	16.5	16.7
		1	7	22.3	22.5	22.2	**16.8**	16.6	16.7
		1	14	22.2	**22.5**	22.2	16.7	16.5	16.8
		8	0	21.4	21.6	21.3	15.7	15.4	15.6
		8	4	21.3	21.6	21.3	15.7	15.4	15.6
		8	7	21.4	21.6	21.3	15.7	15.5	15.7
		15	0	21.3	21.5	21.3	15.7	15.5	15.6

OUTPUT POWER FOR LTE BAND 66 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	**24.5**	24.4	24.2	18.3	18.1	18.2
		1	12	24.4	24.4	24.2	18.3	18.0	18.2
		1	24	24.4	24.3	24.3	**18.5**	18.1	18.3
		12	0	23.4	23.4	23.2	17.3	17.0	17.3
		12	6	23.4	23.4	23.3	17.4	17.0	17.2
		12	11	23.4	23.4	23.3	17.4	17.0	17.2
		25	0	23.4	23.4	23.3	17.3	17.1	17.2
	16QAM	1	0	**23.5**	23.4	23.2	17.6	17.4	17.7
		1	12	23.3	23.4	23.2	17.6	17.3	17.6
		1	24	23.4	23.4	23.2	**17.8**	17.3	17.7
		12	0	22.5	22.5	22.3	16.4	16.1	16.3
		12	6	22.5	22.5	22.3	16.4	16.1	16.2
		12	11	22.5	22.5	22.3	16.4	16.2	16.3
		25	0	22.5	22.5	22.3	16.4	16.1	16.3
	64QAM	1	0	**22.5**	22.5	22.4	16.8	16.7	17.0
		1	12	22.4	22.5	22.5	16.8	16.6	16.8
		1	24	22.4	22.5	22.5	**17.0**	16.6	16.9
		12	0	21.5	21.5	21.3	15.7	15.4	15.6
		12	6	21.5	21.5	21.4	15.7	15.4	15.6
		12	11	21.4	21.5	21.4	15.8	15.4	15.6
		25	0	21.4	21.5	21.4	15.7	15.4	15.6

OUTPUT POWER FOR LTE BAND 66 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	**24.5**	24.4	24.4	18.3	18.1	18.2
		1	24	24.4	24.5	24.2	18.4	18.0	18.2
		1	49	24.3	24.4	24.3	**18.5**	18.1	18.3
		25	0	23.4	23.4	23.2	17.3	17.1	17.3
		25	12	23.4	23.4	23.2	17.4	17.0	17.2
		25	24	23.4	23.4	23.3	17.4	17.2	17.2
		50	0	23.4	23.5	23.2	17.4	17.1	17.3
	16QAM	1	0	23.4	23.4	23.3	17.6	17.5	17.6
		1	24	23.3	**23.4**	23.1	17.6	17.4	17.6
		1	49	23.1	23.4	23.2	**17.7**	17.5	17.6
		25	0	22.5	22.5	22.3	16.4	16.2	16.3
		25	12	22.4	22.5	22.3	16.4	16.1	16.3
		25	24	22.4	22.5	22.3	16.5	16.2	16.2
		50	0	22.4	22.5	22.2	16.5	16.2	16.3
	64QAM	1	0	**22.5**	22.4	22.2	16.7	16.7	16.7
		1	24	22.4	22.4	22.2	16.8	16.6	16.7
		1	49	22.3	22.4	22.2	**16.9**	16.6	16.8
		25	0	21.5	21.4	21.2	15.7	15.5	15.6
		25	12	21.4	21.4	21.2	15.7	15.4	15.6
		25	24	21.3	21.4	21.3	15.8	15.5	15.5
		50	0	21.3	21.4	21.2	15.7	15.5	15.6

OUTPUT POWER FOR LTE BAND 66 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	**24.5**	24.4	24.4	18.3	18.2	18.0
		1	37	24.2	24.4	24.2	**18.5**	18.0	18.2
		1	74	24.2	24.4	24.3	18.4	17.9	18.2
		36	0	23.3	23.4	23.2	17.4	17.1	17.1
		36	16	23.3	23.4	23.2	17.5	17.0	17.2
		36	35	23.2	23.4	23.2	17.4	17.1	17.2
		75	0	23.3	23.4	23.2	17.4	17.0	17.2
	16QAM	1	0	23.3	23.3	23.3	17.5	17.5	17.4
		1	37	23.1	**23.4**	23.2	**17.6**	17.3	17.6
		1	74	23.1	23.3	23.3	17.6	17.3	17.5
		36	0	22.4	22.5	22.3	16.4	16.2	16.2
		36	16	22.3	22.5	22.3	16.5	16.1	16.3
		36	35	22.2	22.4	22.2	16.4	16.2	16.3
		75	0	22.3	22.5	22.3	16.5	16.1	16.3
	64QAM	1	0	22.4	22.4	22.4	16.8	16.8	16.6
		1	37	22.3	**22.5**	22.2	**17.0**	16.5	16.7
		1	74	22.3	22.4	22.2	17.0	16.5	16.6
		36	0	21.3	21.4	21.3	15.8	15.5	15.4
		36	16	21.3	21.5	21.3	15.8	15.4	15.6
		36	35	21.3	21.4	21.3	15.8	15.5	15.6
		75	0	21.3	21.5	21.2	15.8	15.4	15.5

OUTPUT POWER FOR LTE BAND 66 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	LAT 1			UAT 1		
				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	**24.5**	24.3	24.5	18.4	18.3	18.0
		1	49	24.2	24.5	24.4	**18.5**	18.0	18.1
		1	99	24.2	24.4	24.3	18.4	18.0	18.2
		50	0	23.4	23.5	23.4	17.5	17.1	17.0
		50	24	23.3	23.5	23.3	17.4	17.1	17.1
		50	49	23.3	23.4	23.2	17.4	17.1	17.2
		100	0	23.3	23.5	23.3	17.5	17.1	17.1
	16QAM	1	0	23.5	23.4	23.4	17.6	**17.8**	17.3
		1	49	23.2	**23.5**	23.2	17.7	17.5	17.4
		1	99	23.2	23.4	23.3	17.7	17.4	17.5
		50	0	22.4	22.5	22.5	16.5	16.2	16.1
		50	24	22.3	22.5	22.4	16.5	16.2	16.2
		50	49	22.4	22.5	22.3	16.5	16.2	16.3
		100	0	22.3	22.5	22.4	16.5	16.2	16.2
	64QAM	1	0	22.3	22.4	**22.6**	16.7	**17.1**	16.7
		1	49	22.1	22.5	22.4	16.8	16.7	16.8
		1	99	22.1	22.4	22.4	16.7	16.6	16.8
		50	0	21.4	21.4	21.4	15.8	15.5	15.3
		50	24	21.3	21.5	21.3	15.8	15.5	15.5
		50	49	21.3	21.4	21.2	15.8	15.5	15.6
		100	0	21.3	21.4	21.3	15.8	15.5	15.5

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 17
- LTE Band 25
- LTE Band 26
- LTE Band 30
- LTE Band 41
- LTE Band 48
- LTE Band 66

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	1.0904	1.244
	1.4MHz,16QAM			1.0871	1.242
	1.4MHz 64QAM			1.0930	1.243
	3MHz, QPSK	15/0		2.6884	2.971
	3MHz, 16QAM			2.6947	3.002
	3MHz 64QAM			2.6938	2.976
	5MHz, QPSK	25/0		4.5043	4.885
	5MHz, 16QAM			4.4927	4.948
	5MHz 64QAM			4.5130	4.934
	10MHz, QPSK	50/0		8.9738	9.998
	10MHz, 16QAM			8.9852	9.970
	10MHz 64QAM			8.9991	10.03
	15MHz, QPSK	75/0		13.469	15.20
	15MHz, 16QAM			13.483	15.10
	15MHz 64QAM			13.468	15.31
	20MHz, QPSK	100/0		17.942	19.88
	20MHz, 16QAM			17.952	19.70
	20MHz 64QAM			17.953	20.17

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	1.0906	1.237
	1.4MHz,16QAM			1.0902	1.242
	1.4MHz 64QAM			1.0927	1.245
	3MHz, QPSK	15/0		2.6871	2.972
	3MHz, 16QAM			2.6905	2.997
	3MHz 64QAM			2.6977	2.988
	5MHz, QPSK	25/0		4.4914	4.947
	5MHz, 16QAM			4.4967	4.938
	5MHz 64QAM			4.5047	4.950
	10MHz, QPSK	50/0		8.9873	9.966
	10MHz, 16QAM			8.9753	10.080
	10MHz 64QAM			8.9924	9.967

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	4.5020	4.976
	5MHz, 16QAM			4.5013	4.923
	5MHz 64QAM			4.5067	4.962
	10MHz, QPSK	50/0		8.9937	10.01
	10MHz, 16QAM			8.9822	10.11
	10MHz 64QAM			9.0016	10.03
	15MHz, QPSK	75/0		13.493	15.05
	15MHz, 16QAM			13.478	15.06
	15MHz 64QAM			13.468	15.10
	20MHz, QPSK	100/0		17.969	19.80
	20MHz, 16QAM			17.982	19.90
	20MHz 64QAM			17.933	19.72

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	1.0890	1.237
	1.4 MHz,16QAM			1.0892	1.241
	1.4 MHz 64QAM			1.0910	1.243
	3 MHz, QPSK	15/0		2.6898	2.970
	3 MHz, 16QAM			2.6950	2.989
	3 MHz 64QAM			2.6878	2.983
	5 MHz, QPSK	25/0		4.4973	4.897
	5 MHz, 16QAM			4.4962	4.956
	5 MHz 64QAM			4.5136	4.928
	10 MHz, QPSK	50/0		9.0065	10.01
	10 MHz, 16QAM			8.9977	9.963
	10 MHz 64QAM			8.9901	10.03

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	4.5005	4.954
	5 MHz, 16QAM			4.5085	4.922
	5 MHz 64QAM			4.5002	4.938
	10 MHz, QPSK	50/0		8.9752	9.972
	10 MHz, 16QAM			8.9826	9.887
	10 MHz 64QAM			8.9771	10.03

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	4.4889	4.969
	5 MHz, 16QAM			4.5021	4.898
	5 MHz 64QAM			4.4881	4.956
	10 MHz, QPSK	50/0		8.9682	9.979
	10 MHz, 16QAM			8.9673	10.03
	10 MHz 64QAM			8.9914	10.03

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	1.0883	1.239
	1.4MHz,16QAM			1.0860	1.241
	1.4MHz 64QAM			1.0866	1.246
	3MHz, QPSK	15/0		2.6968	2.961
	3MHz, 16QAM			2.6947	2.979
	3MHz 64QAM			2.6895	2.985
	5MHz, QPSK	25/0		4.4943	4.940
	5MHz, 16QAM			4.5028	4.877
	5MHz 64QAM			4.4980	4.977
	10MHz, QPSK	50/0		8.9954	9.949
	10MHz, 16QAM			8.9747	9.978
	10MHz 64QAM			8.9851	9.999
	15MHz, QPSK	75/0		13.480	15.26
	15MHz, 16QAM			13.465	15.15
	15MHz 64QAM			13.462	14.96
	20MHz, QPSK	100/0		17.949	19.95
	20MHz, 16QAM			17.945	19.83
	20MHz 64QAM			17.957	20.19

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	0.251	0.355
	1.4 MHz,16QAM			0.270	0.352
	1.4 MHz, 64QAM			0.269	0.350
	1.4 MHz, QPSK	6/0		1.0909	1.246
	1.4 MHz,16QAM			1.0902	1.245
	1.4 MHz 64QAM			1.0890	1.248
	3 MHz, QPSK	1/0		0.267	0.396
	3 MHz, 16QAM			0.280	0.401
	3 MHz, 64QAM			0.273	0.386
	3 MHz, QPSK	15/0		2.6860	2.994
	3 MHz, 16QAM			2.6872	2.965
	3 MHz 64QAM			2.6956	2.987
	5 MHz, QPSK	1/0		0.234	0.409
	5 MHz, 16QAM			0.237	0.350
	5 MHz, 64QAM			0.246	0.392
	5 MHz, QPSK	25/0		4.4979	4.928
	5 MHz, 16QAM			4.4934	4.942
	5 MHz 64QAM			4.5145	4.935
	10 MHz, QPSK	1/0		0.251	0.422
	10 MHz, 16QAM			0.251	0.424
	10 MHz, 64QAM			0.254	0.422
	10 MHz, QPSK	50/0		8.9759	9.969
	10 MHz, 16QAM			8.9758	9.949
	10 MHz 64QAM			9.0115	10.06

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	4.4912	4.902
	5MHz, 16QAM			4.4932	4.893
	5MHz 64QAM			4.5021	4.952
	10MHz, QPSK	50/0		8.9855	9.967
	10MHz, 16QAM			8.9988	10.02
	10MHz 64QAM			8.9850	10.08

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	4.4899	4.830
	5MHz, 16QAM			4.4724	4.883
	5MHz 64QAM			4.5095	4.881
	10MHz, QPSK	50/0		8.9824	11.60
	10MHz, 16QAM			8.9891	12.28
	10MHz 64QAM			8.9657	10.32
	15MHz, QPSK	75/0		13.470	17.58
	15MHz, 16QAM			13.449	18.93
	15MHz 64QAM			13.470	18.61
	20MHz, QPSK	100/0		17.940	25.21
	20MHz, 16QAM			17.929	25.38
	20MHz 64QAM			17.923	24.06

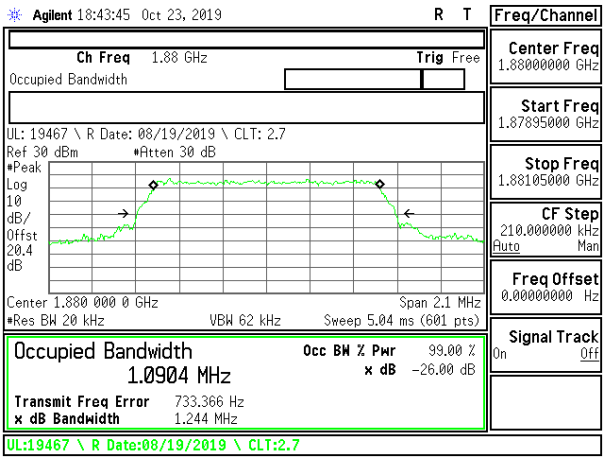
LTE BAND 48

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 48	5MHz, QPSK	25/0	3625.0	4.5143	4.807
	5MHz, 16QAM			4.4830	4.843
	5MHz 64QAM			4.4627	5.300
	10MHz, QPSK	50/0		8.9064	9.496
	10MHz, 16QAM			8.8800	9.756
	10MHz 64QAM			8.9474	9.525
	15MHz, QPSK	75/0		13.4035	14.430
	15MHz, 16QAM			13.3930	14.339
	15MHz 64QAM			13.3664	14.699
	20MHz, QPSK	100/0		17.8475	19.891
	20MHz, 16QAM			17.8075	19.414
	20MHz 64QAM			17.8523	18.928

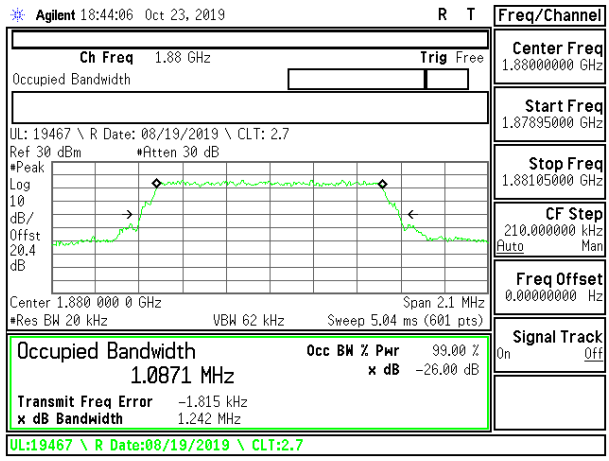
LTE BAND 66

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 66	1.4MHz, QPSK	6/0	1745.0	1.0867	1.243
	1.4MHz,16QAM			1.0884	1.248
	1.4MHz 64QAM			1.0867	1.238
	3MHz, QPSK	15/0		2.6827	2.981
	3MHz, 16QAM			2.6966	2.977
	3MHz 64QAM			2.6928	2.974
	5MHz, QPSK	25/0		4.5003	4.944
	5MHz, 16QAM			4.4952	4.926
	5MHz 64QAM			4.5079	4.947
	10MHz, QPSK	50/0		8.9911	10.08
	10MHz, 16QAM			8.9693	10.07
	10MHz 64QAM			8.9719	10.01
	15MHz, QPSK	75/0		13.462	15.06
	15MHz, 16QAM			13.488	15.01
	15MHz 64QAM			13.458	15.03
	20MHz, QPSK	100/0		17.949	20.06
	20MHz, 16QAM			17.970	19.95
	20MHz 64QAM			17.951	19.89

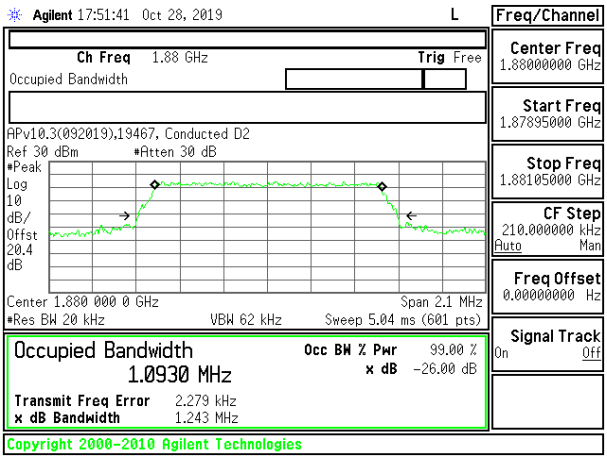
8.1.1. LTE BAND 2



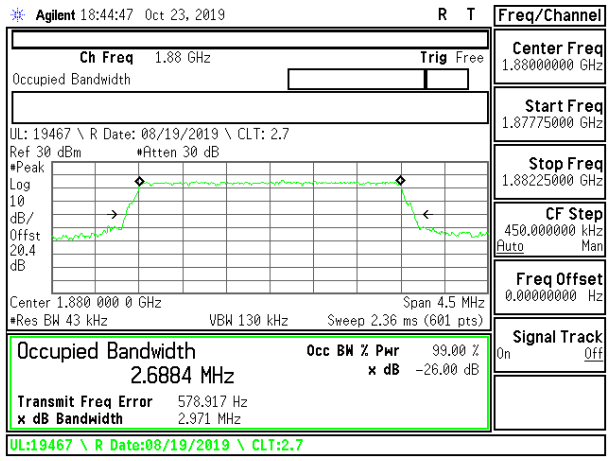
LTE B2 1.4MHz QPSK Middle Channel RB6-0



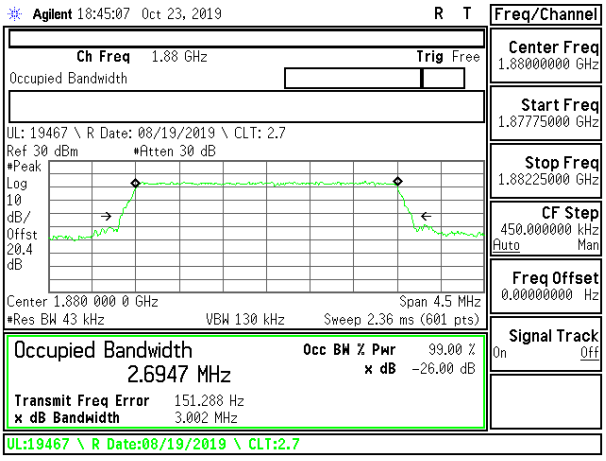
LTE B2 1.4MHz 16QAM Middle Channel RB6-0



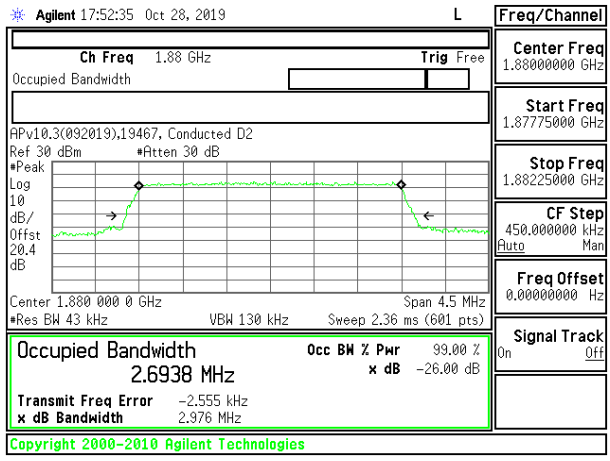
LTE B2 1.4MHz 64QAM Middle Channel RB6-0



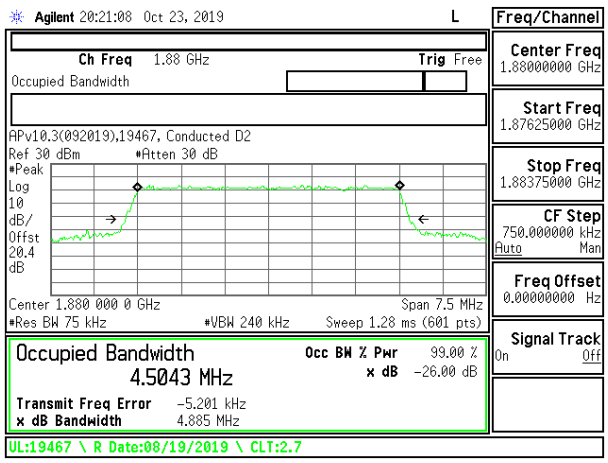
LTE B2 3MHz QPSK Middle Channel RB15-0



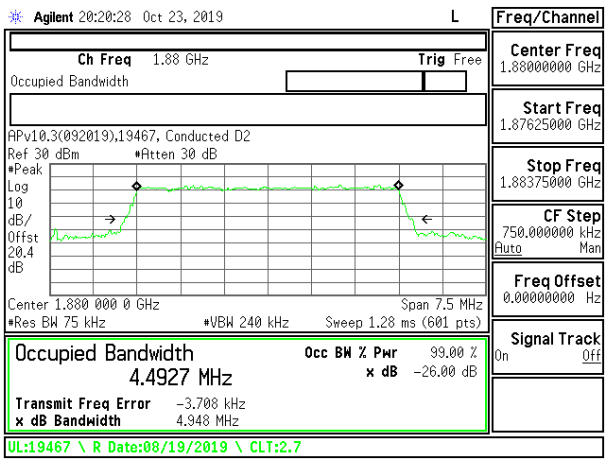
LTE B2 3MHz 16QAM Middle Channel RB15-0



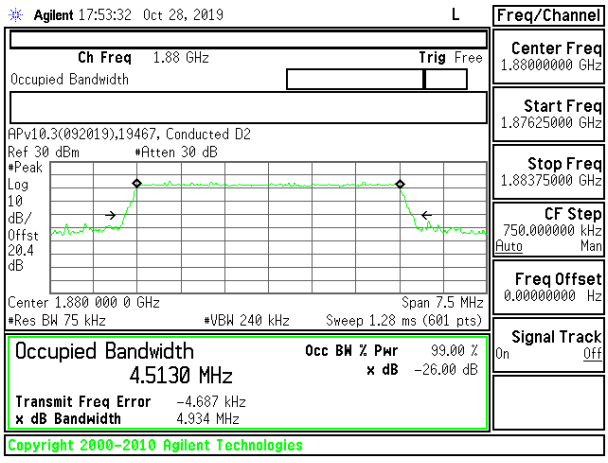
LTE B2 3MHz 64QAM Middle Channel RB15-0



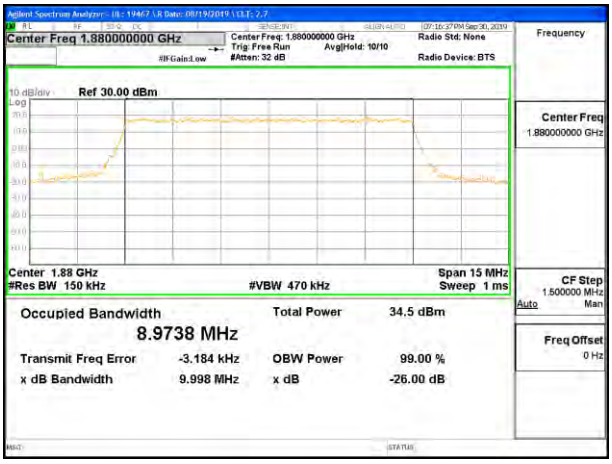
LTE B2 5MHz QPSK Middle Channel RB25-0



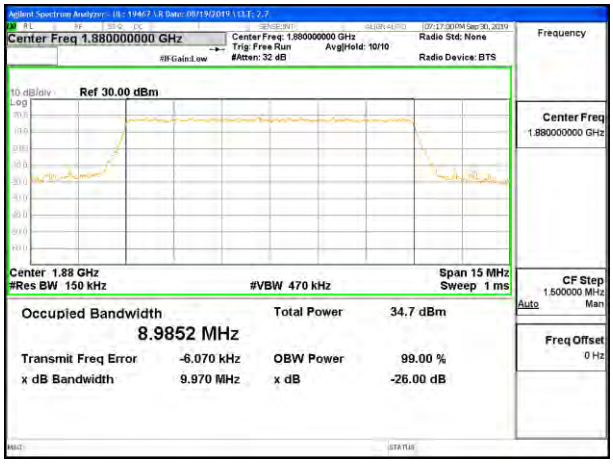
LTE B2 5MHz 16QAM Middle Channel RB25-0



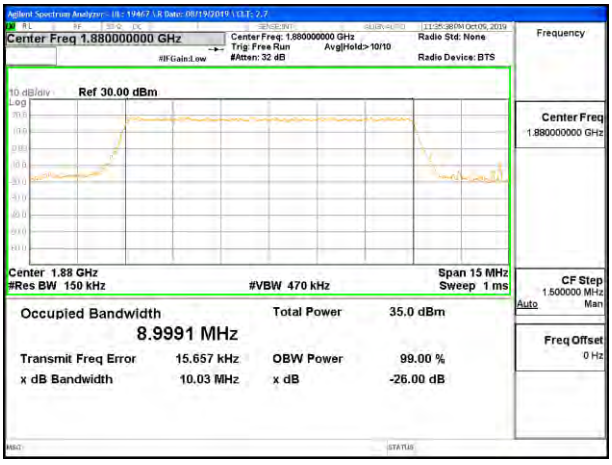
LTE B2 5MHz 64QAM Middle Channel RB25-0



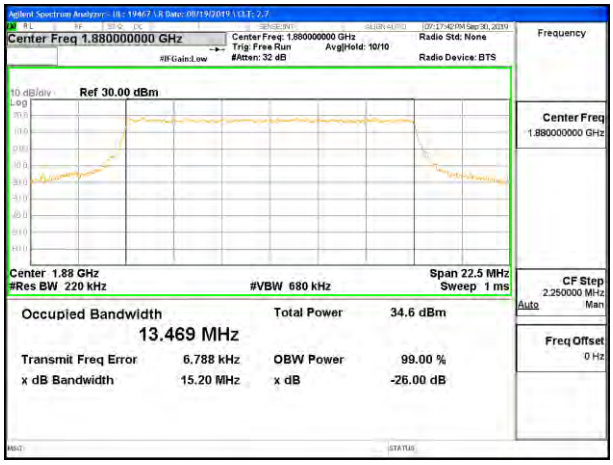
LTE B2 10MHz QPSK Middle Channel RB50-0



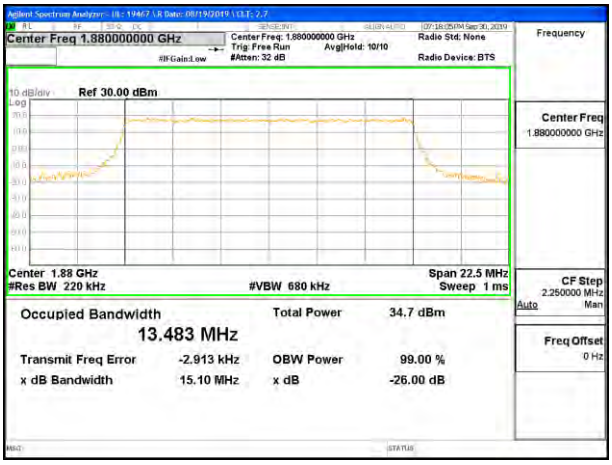
LTE B2 10MHz 16QAM Middle Channel RB50-0



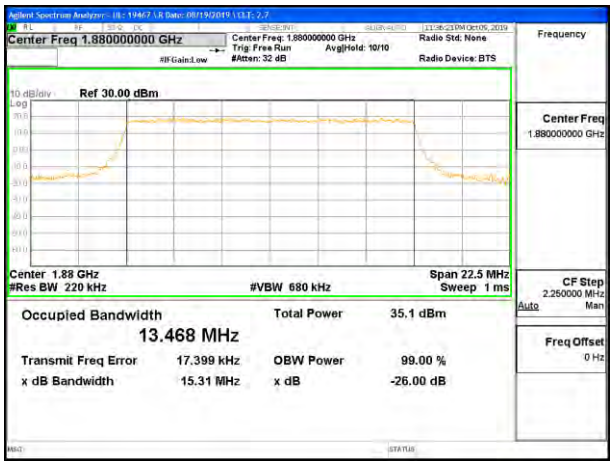
LTE B2 10MHz 64QAM Middle Channel RB50-0



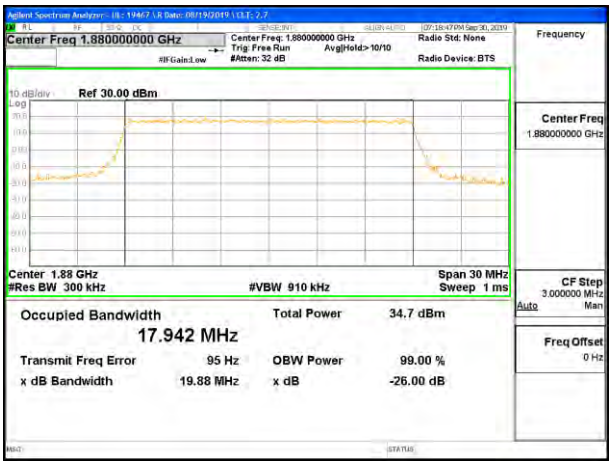
LTE B2 15MHz QPSK Middle Channel RB75-0



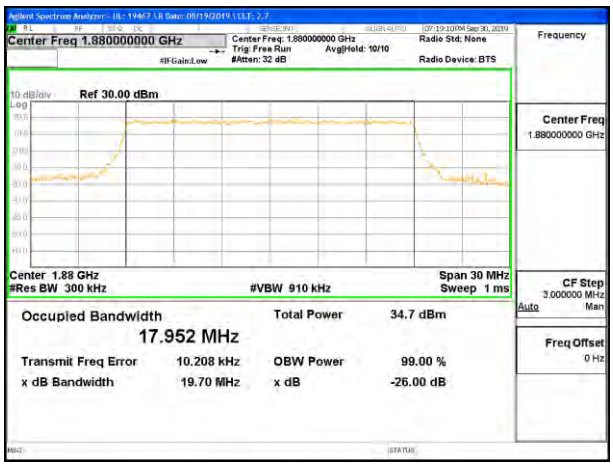
LTE B2 15MHz 16QAM Middle Channel RB75-0



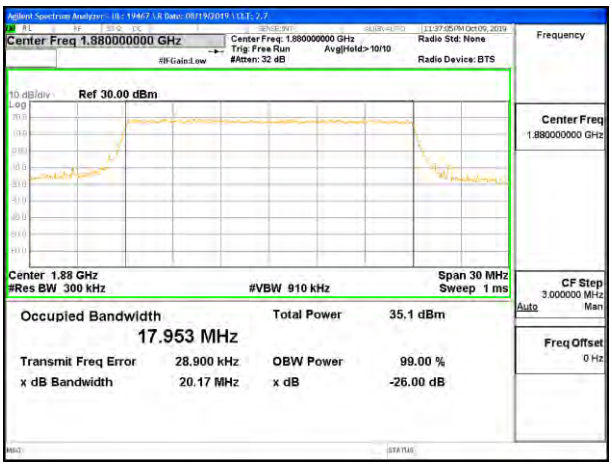
LTE B2 15MHz 64QAM Middle Channel RB75-0



LTE B2 20MHz QPSK Middle Channel RB100-0

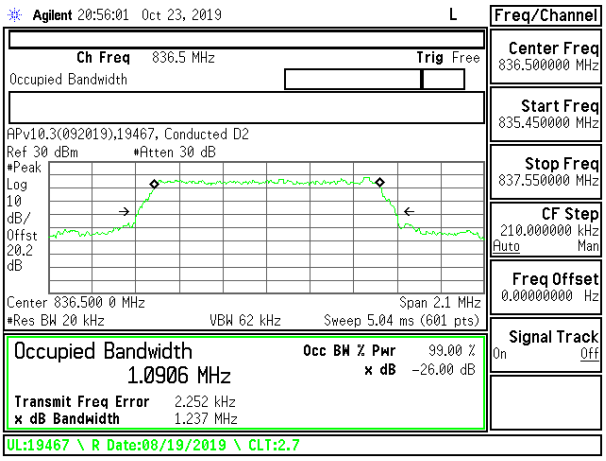


LTE B2 20MHz 16QAM Middle Channel RB100-0

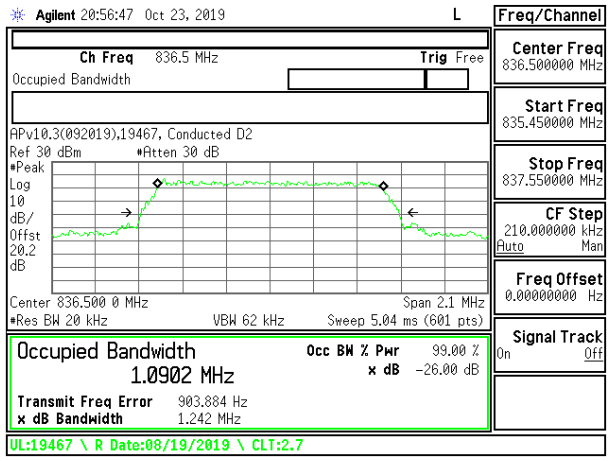


LTE B2 20MHz 64QAM Middle Channel RB100-0

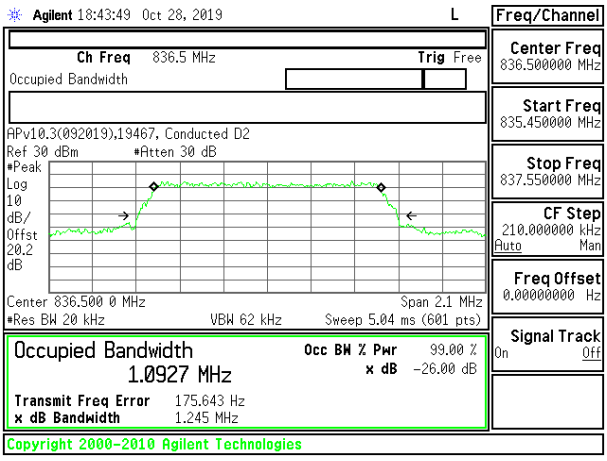
8.1.2. LTE BAND 5



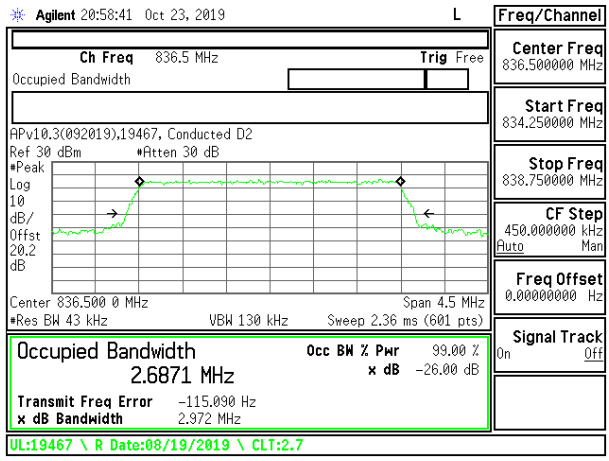
LTE B5 1.4MHz QPSK Middle Channel RB6-0



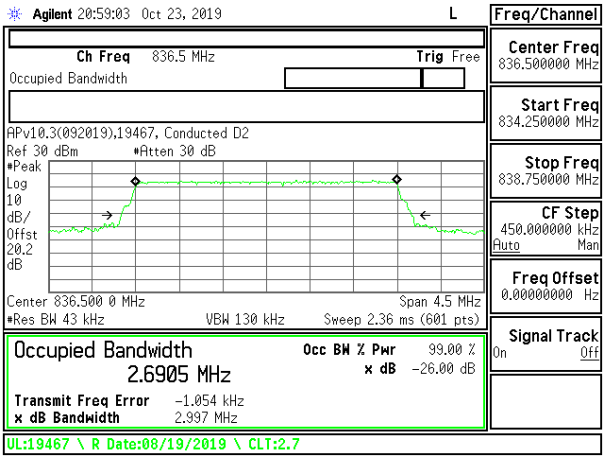
LTE B5 1.4MHz 16QAM Middle Channel RB6-0



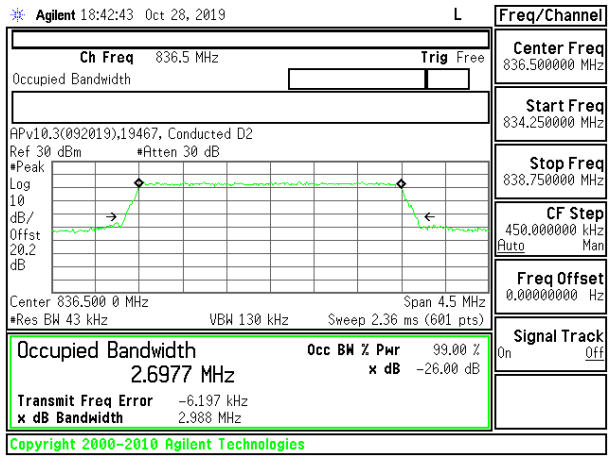
LTE B5 1.4MHz 64QAM Middle Channel RB6-0



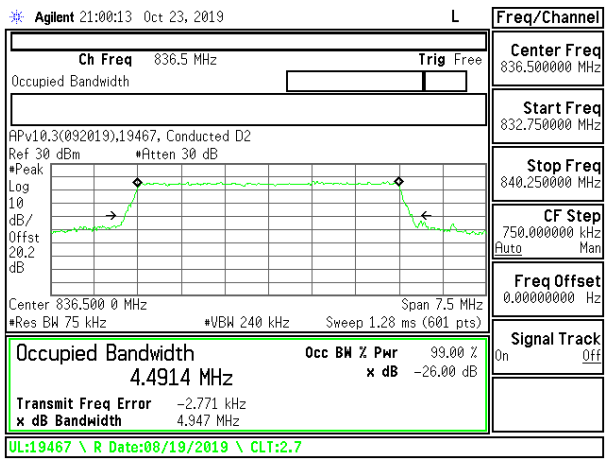
LTE B5 3MHz QPSK Middle Channel RB15-0



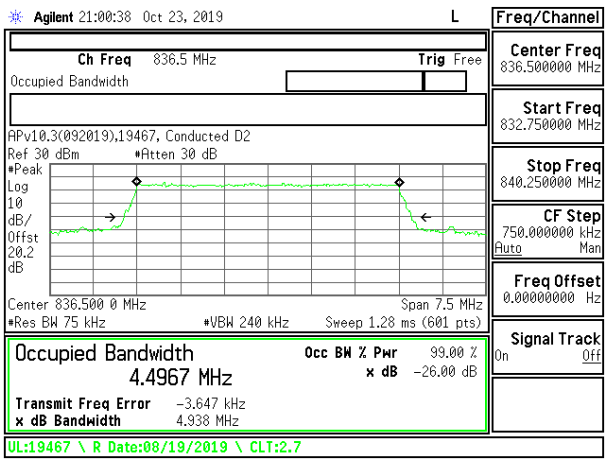
LTE B5 3MHz 16QAM Middle Channel RB15-0



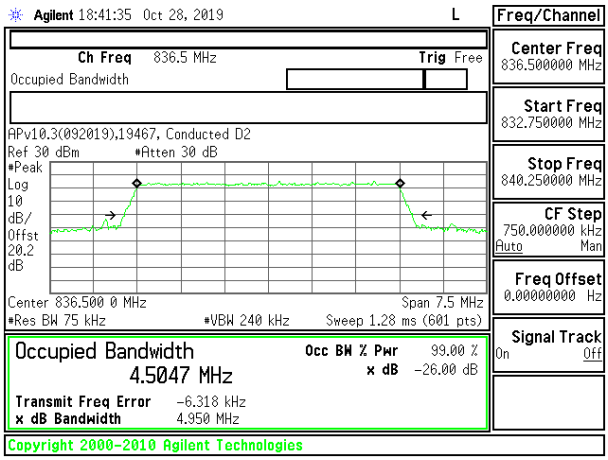
LTE B5 3MHz 64QAM Middle Channel RB15-0



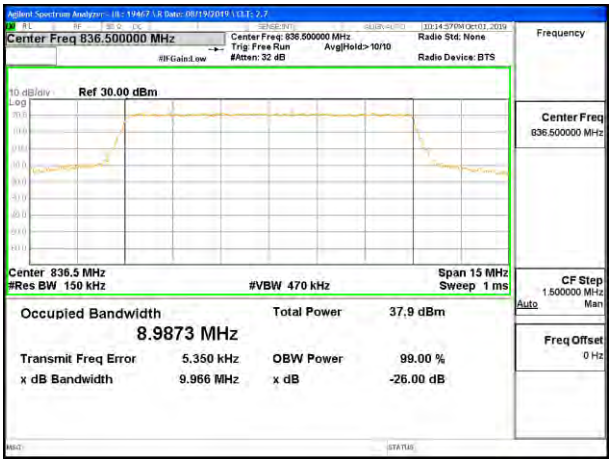
LTE B5 5MHz QPSK Middle Channel RB25-0



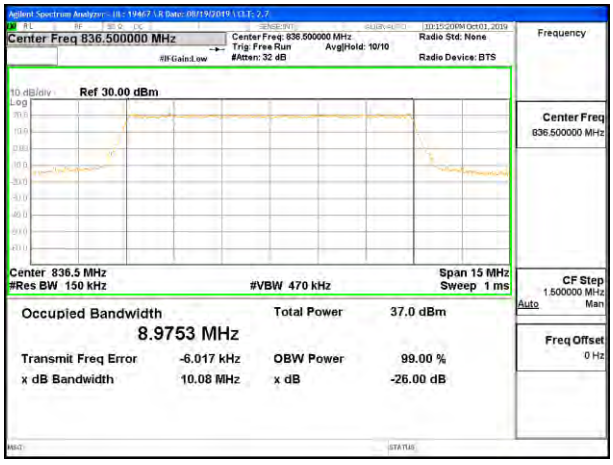
LTE B5 5MHz 16QAM Middle Channel RB25-0



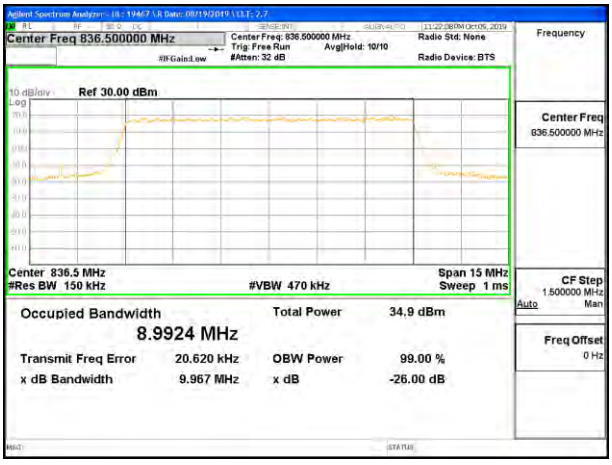
LTE B5 5MHz 64QAM Middle Channel RB25-0



LTE B5 10MHz QPSK Middle Channel RB50-0

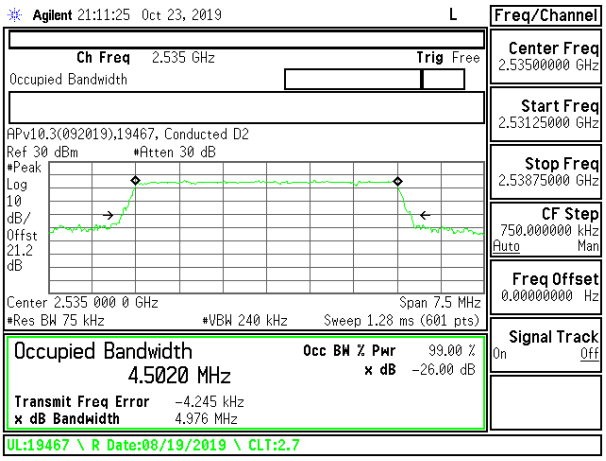


LTE B5 10MHz 16QAM Middle Channel RB50-0

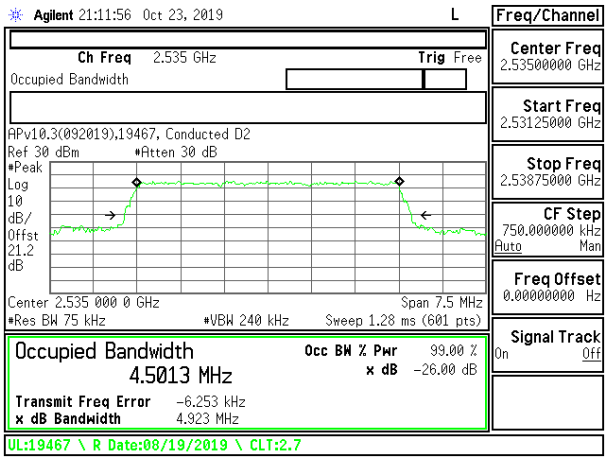


LTE B5 10MHz 64QAM Middle Channel RB50-0

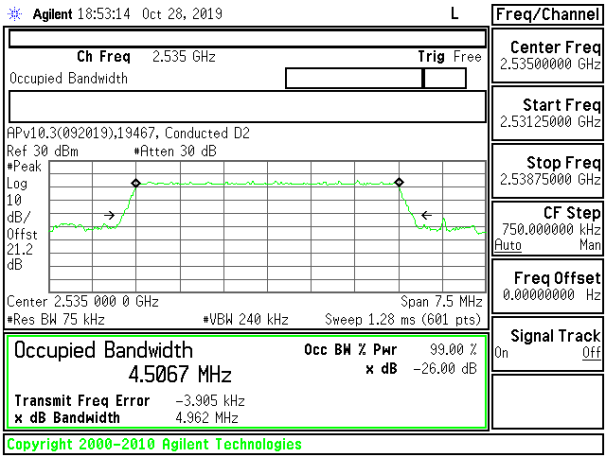
8.1.3. LTE BAND 7



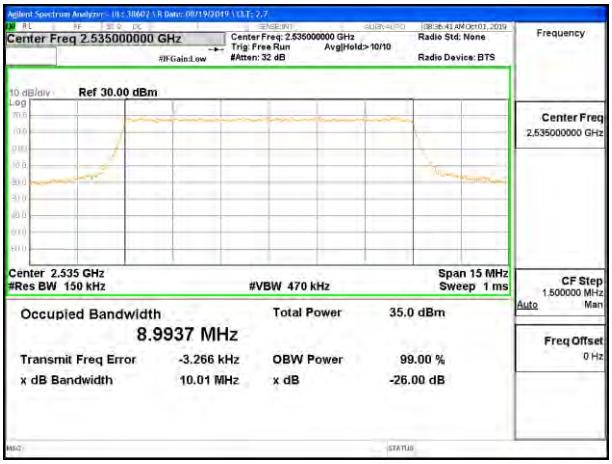
LTE B7 5MHz QPSK Middle Channel RB25-0



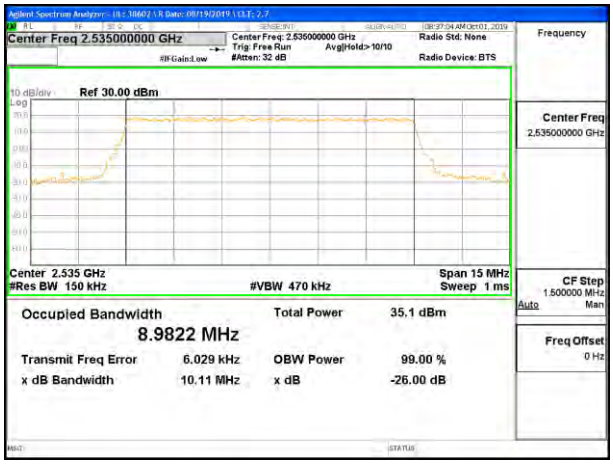
LTE B7 5MHz 16QAM Middle Channel RB25-0



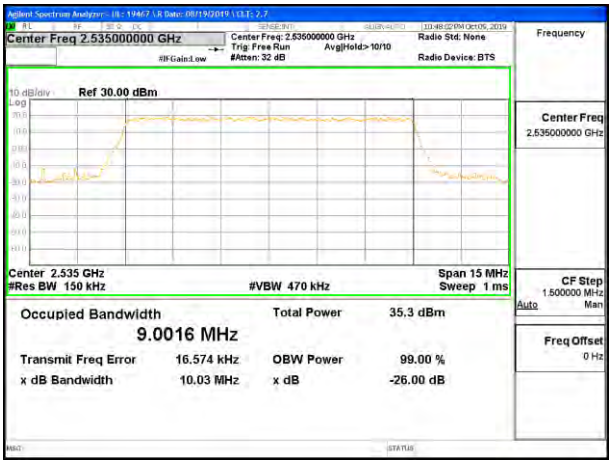
LTE B7 5MHz 64QAM Middle Channel RB25-0



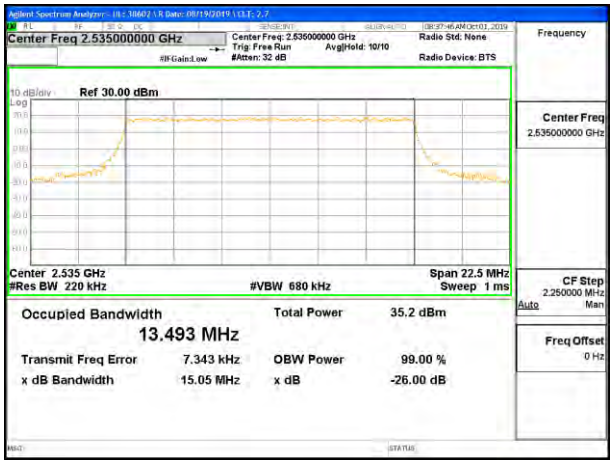
LTE B7 10MHz QPSK Middle Channel RB50-0



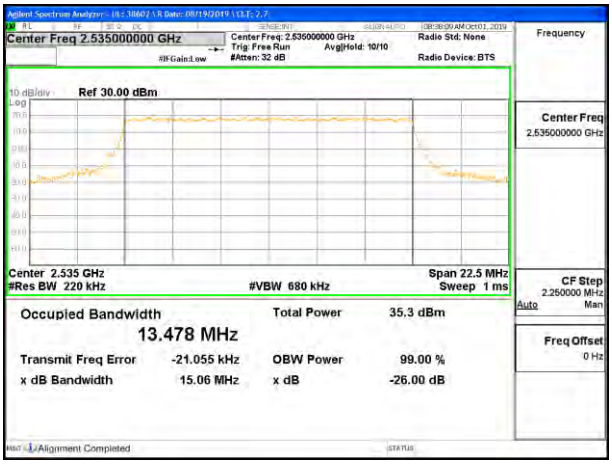
LTE B7 10MHz 16QAM Middle Channel RB50-0



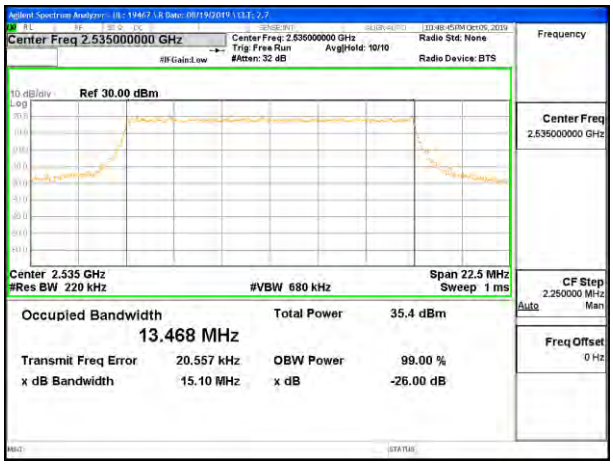
LTE B7 10MHz 64QAM Middle Channel RB50-0



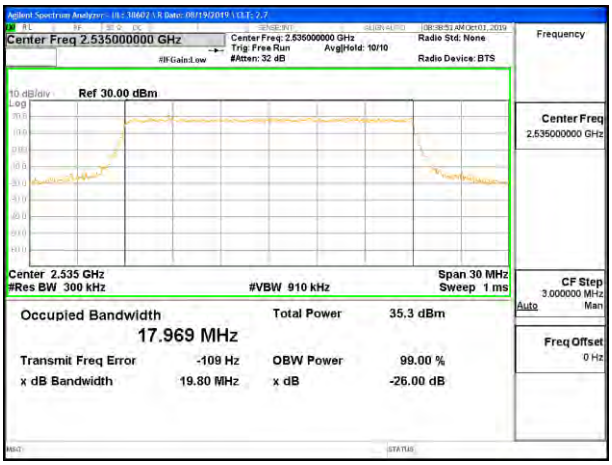
LTE B7 15MHz QPSK Middle Channel RB75-0



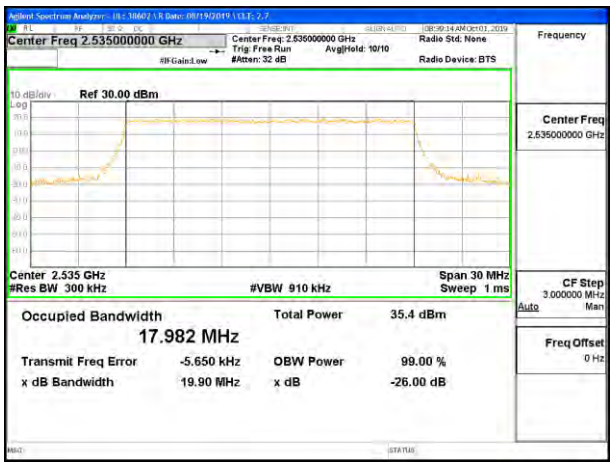
LTE B7 15MHz 16QAM Middle Channel RB75-0



LTE B7 15MHz 64QAM Middle Channel RB75-0



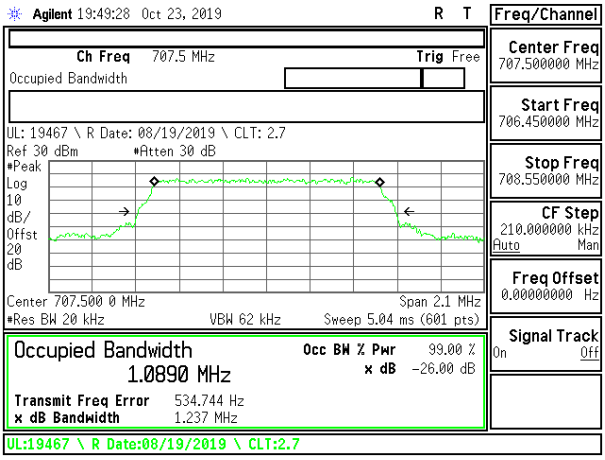
LTE B7 20MHz QPSK Middle Channel RB100-0



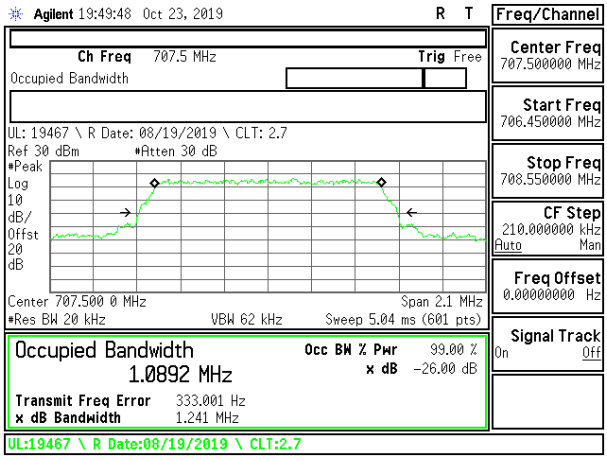
LTE B7 20MHz 16QAM Middle Channel RB100-0

LTE B7 20MHz 64QAM Middle Channel RB100-0

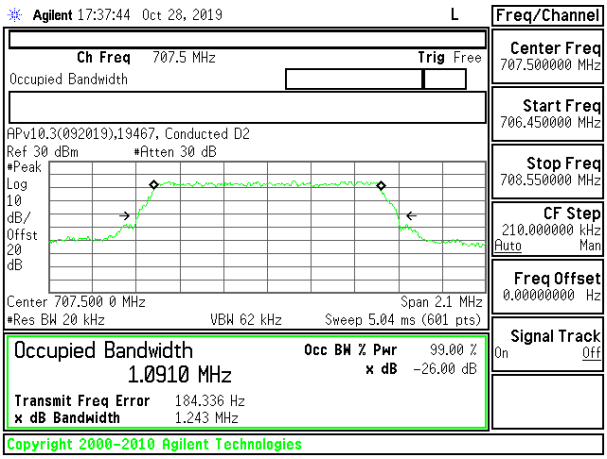
8.1.4. LTE BAND 12



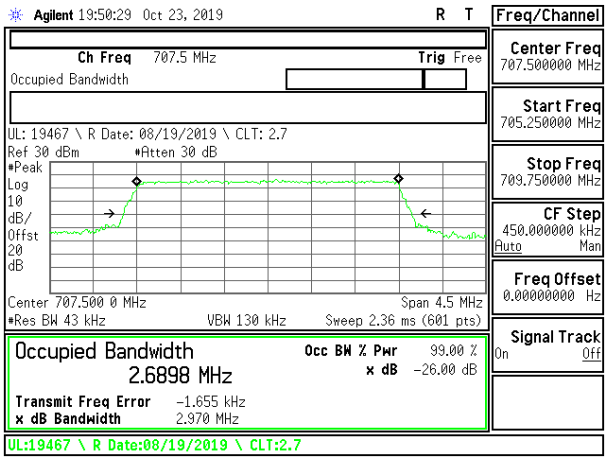
LTE B12 1.4MHz QPSK Middle Channel RB6-0



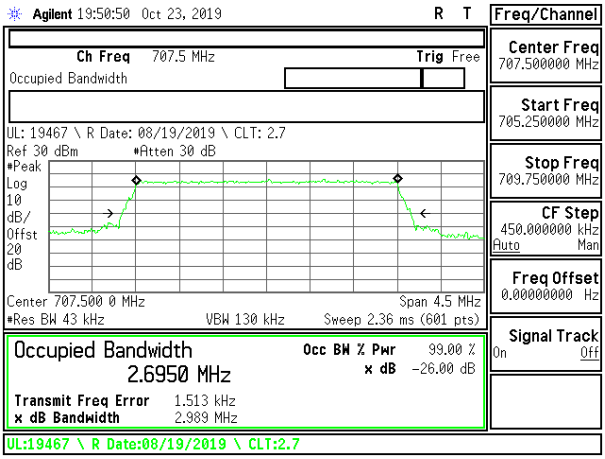
LTE B12 1.4MHz 16QAM Middle Channel RB6-0



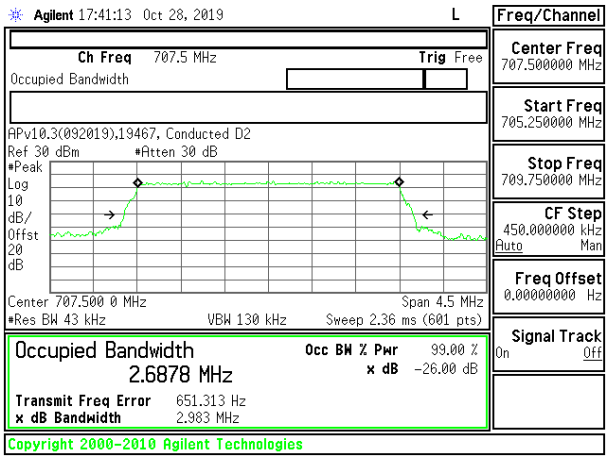
LTE B12 1.4MHz 64QAM Middle Channel RB6-0



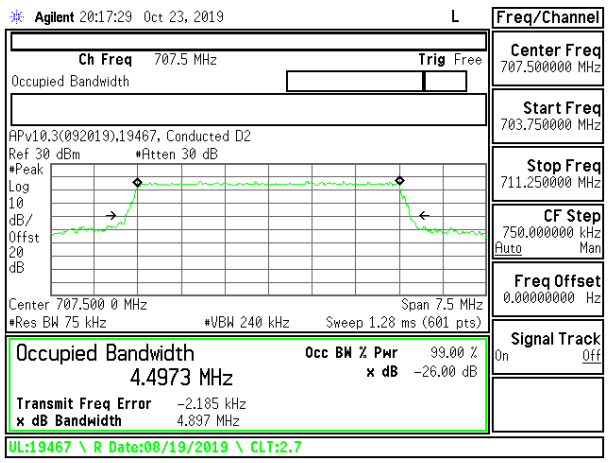
LTE B12 3MHz QPSK Middle Channel RB15-0



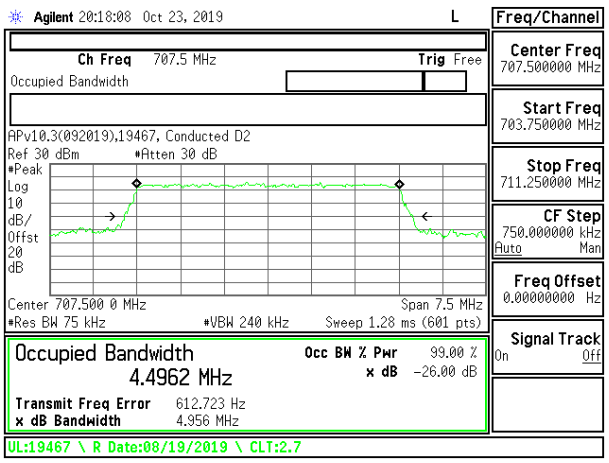
LTE B12 3MHz 16QAM Middle Channel RB15-0



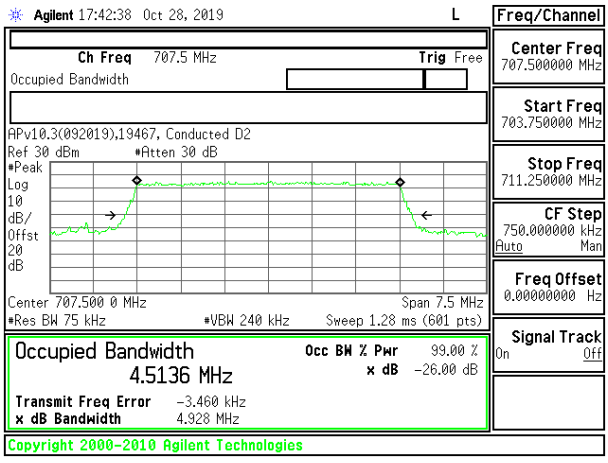
LTE B12 3MHz 64QAM Middle Channel RB15-0



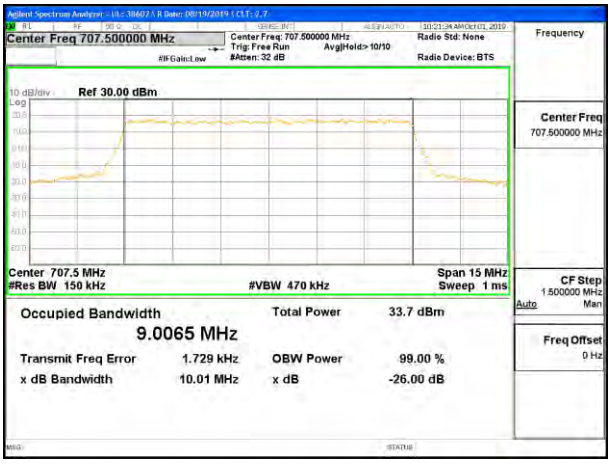
LTE B12 5MHz QPSK Middle Channel RB25-0



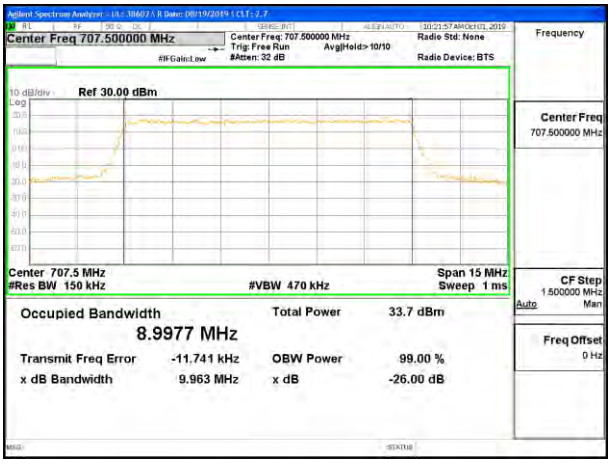
LTE B12 5MHz 16QAM Middle Channel RB25-0



LTE B12 5MHz 64QAM Middle Channel RB25-0



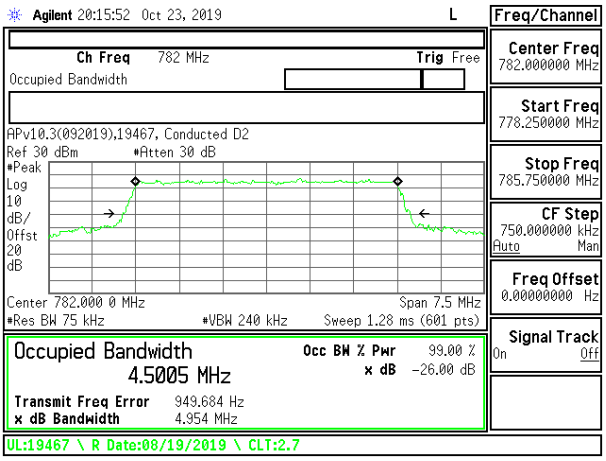
LTE B12 10MHz QPSK Middle Channel RB50-0



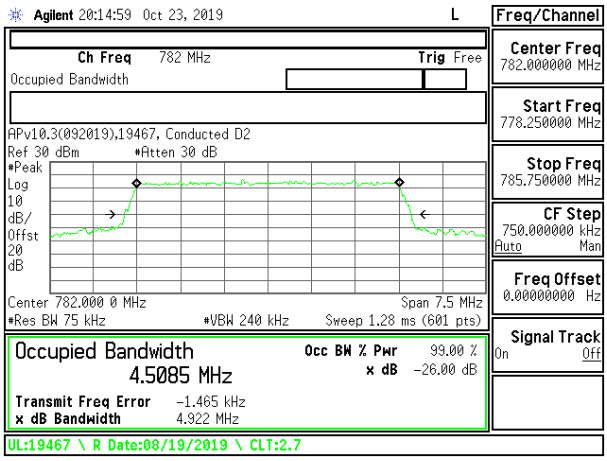
LTE B12 10MHz 16QAM Middle Channel RB50-0

LTE B12 10MHz 64QAM Middle Channel RB50-0

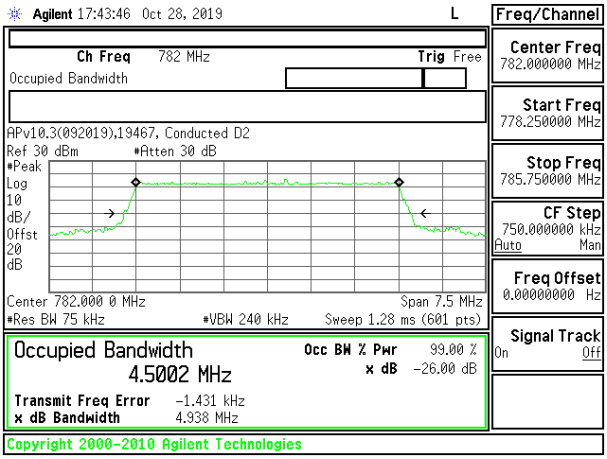
8.1.5. LTE BAND 13



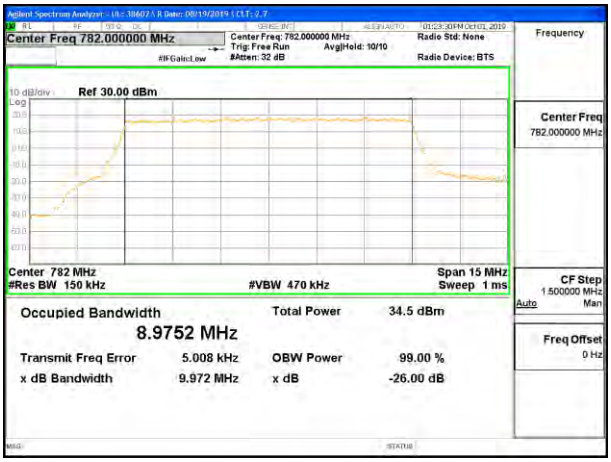
LTE B13 5MHz QPSK Middle Channel RB25-0



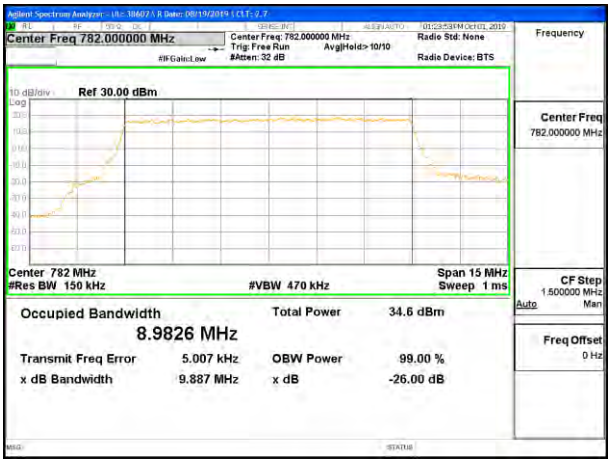
LTE B13 5MHz 16QAM Middle Channel RB25-0



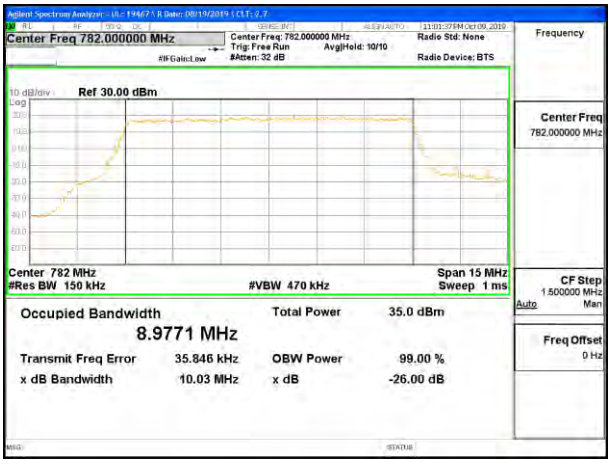
LTE B13 5MHz 64QAM Middle Channel RB25-0



LTE B13 10MHz QPSK Middle Channel RB50-0

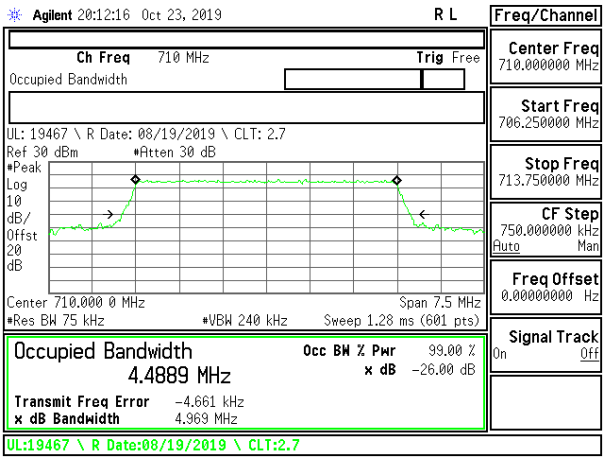


LTE B13 10MHz 16QAM Middle Channel RB50-0

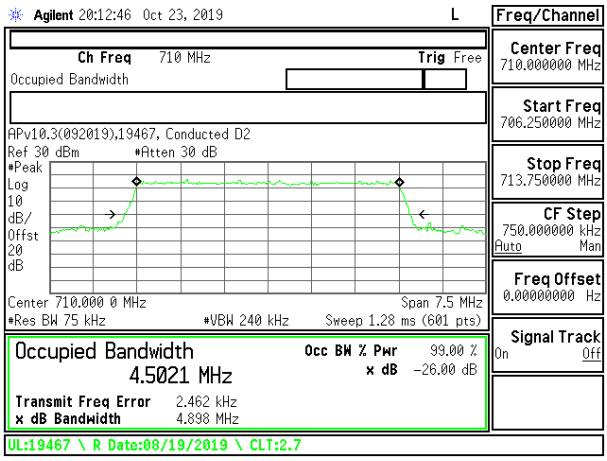


LTE B13 10MHz 64QAM Middle Channel RB50-0

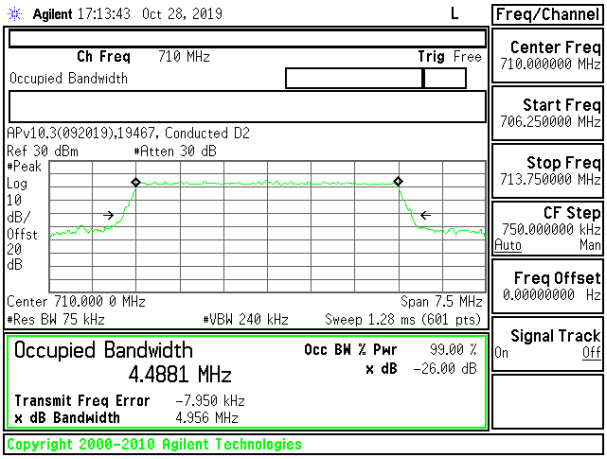
8.1.6. LTE BAND 17



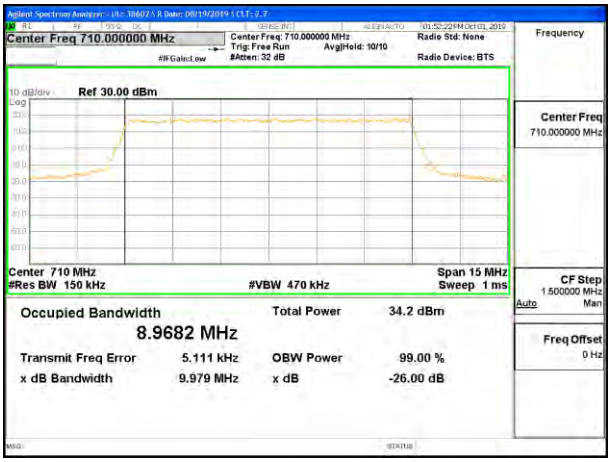
LTE B17 5MHz QPSK Middle Channel RB25-0



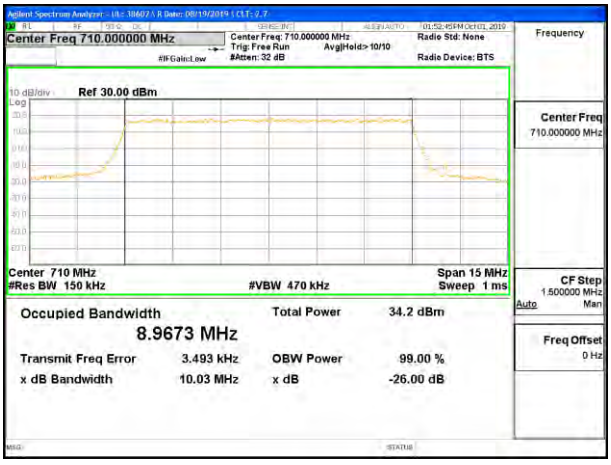
LTE B17 5MHz 16QAM Middle Channel RB25-0



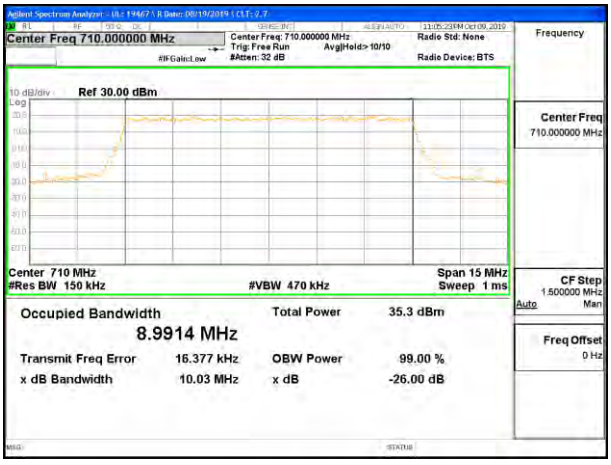
LTE B17 5MHz 64QAM Middle Channel RB25-0



LTE B17 10MHz QPSK Middle Channel RB50-0

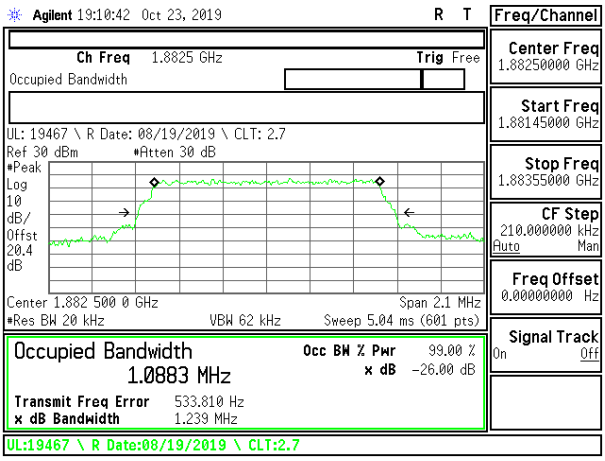


LTE B17 10MHz 16QAM Middle Channel RB50-0

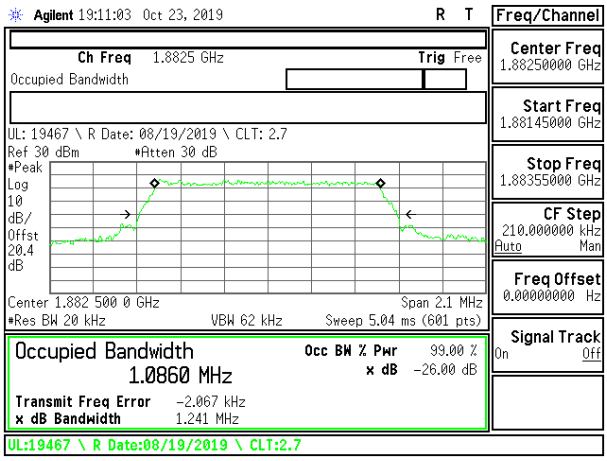


LTE B17 10MHz 64QAM Middle Channel RB50-0

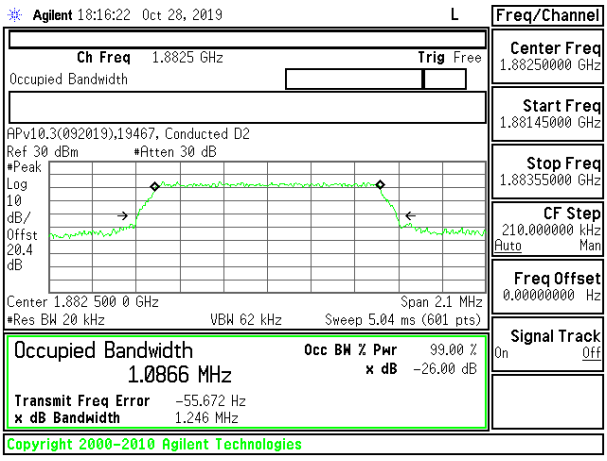
8.1.7. LTE BAND 25



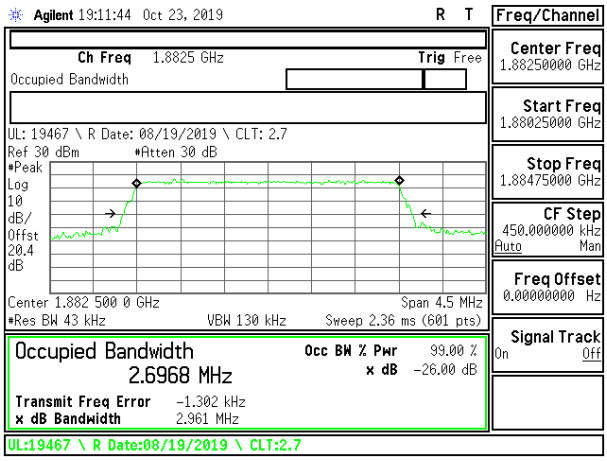
LTE B25 1.4M Hz QPSK Middle Channel RB6-0



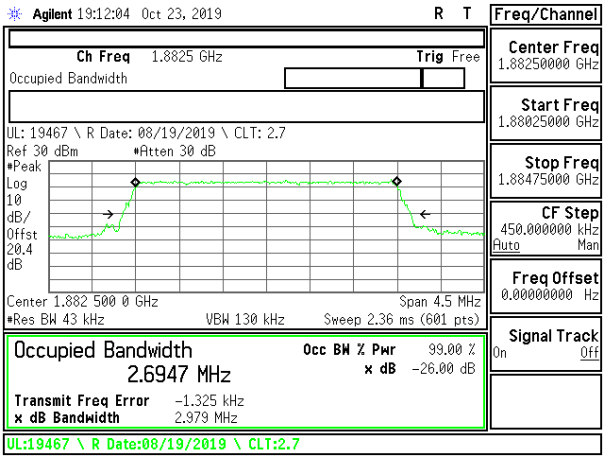
LTE B25 1.4MHz 16QAM Middle Channel RB6-0



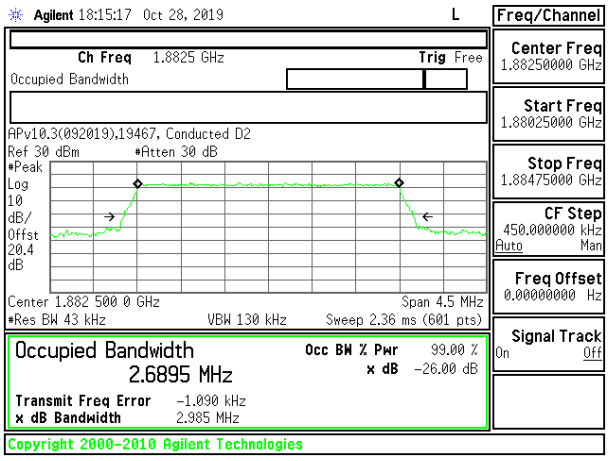
LTE B25 1.4MHz 64QAM Middle Channel RB6-0



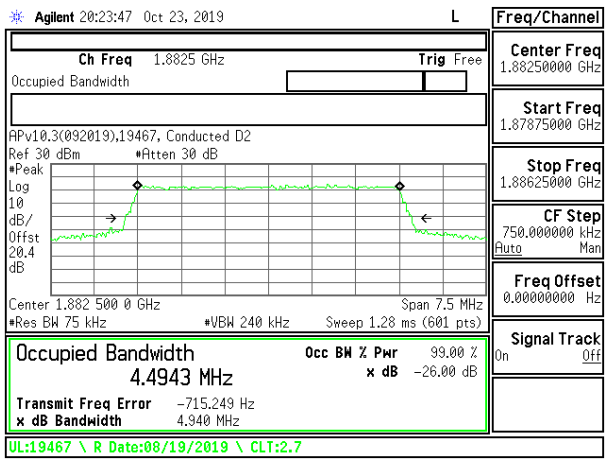
LTE B25 3MHz QPSK Middle Channel RB15-0



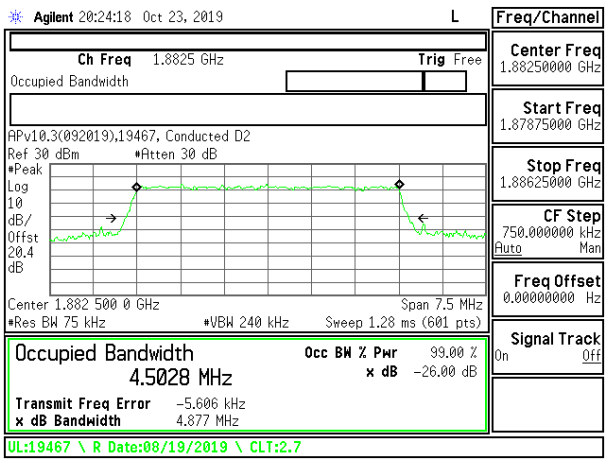
LTE B25 3MHz 16QAM Middle Channel RB15-0



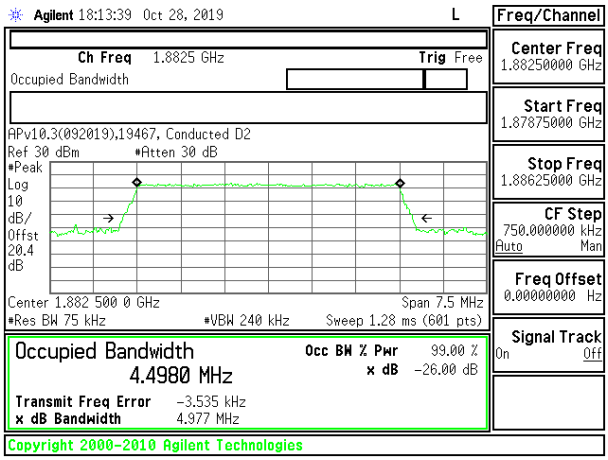
LTE B25 3MHz 64QAM Middle Channel RB15-0



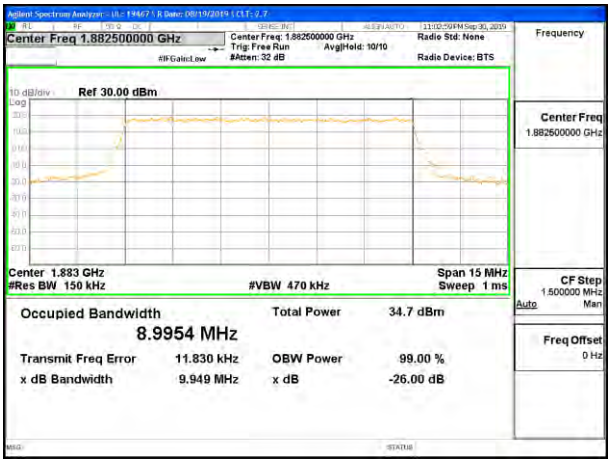
LTE B25 5MHz QPSK Middle Channel RB25-0



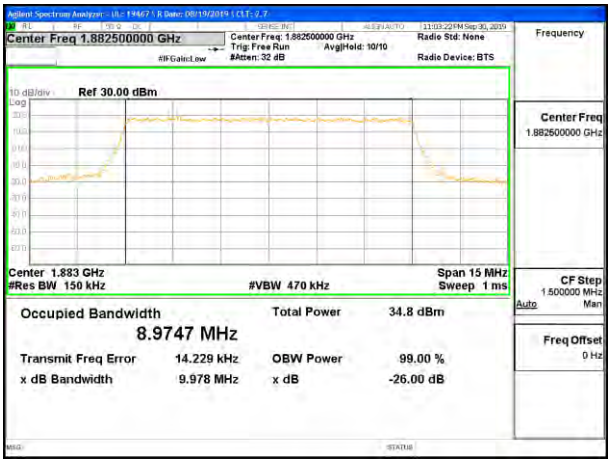
LTE B25 5MHz 16QAM Middle Channel RB25-0



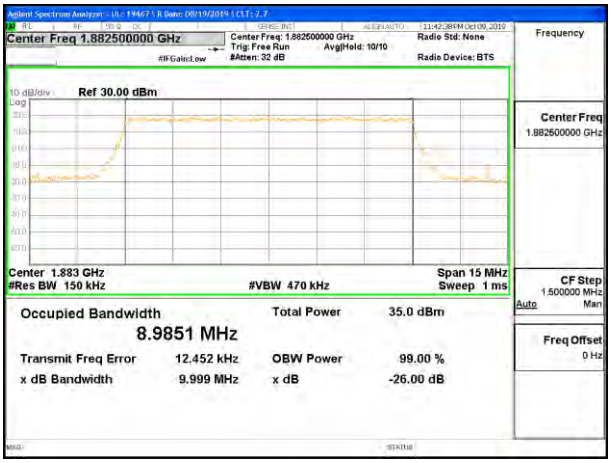
LTE B25 5MHz 64QAM Middle Channel RB25-0



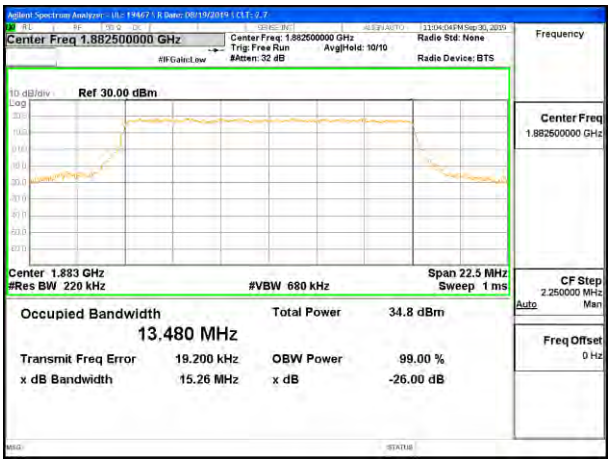
LTE B25 10MHz QPSK Middle Channel RB50-0



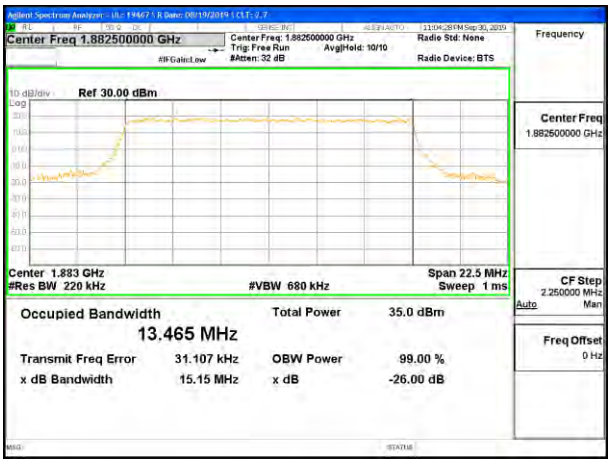
LTE B25 10MHz 16QAM Middle Channel RB50-0



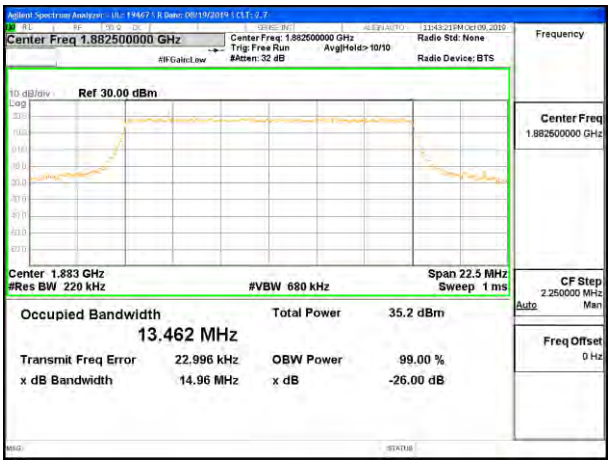
LTE B25 10MHz 64QAM Middle Channel RB50-0



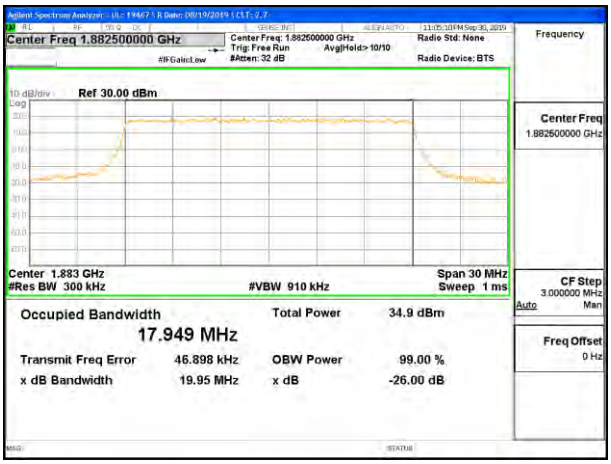
LTE B25 15MHz QPSK Middle Channel RB75-0



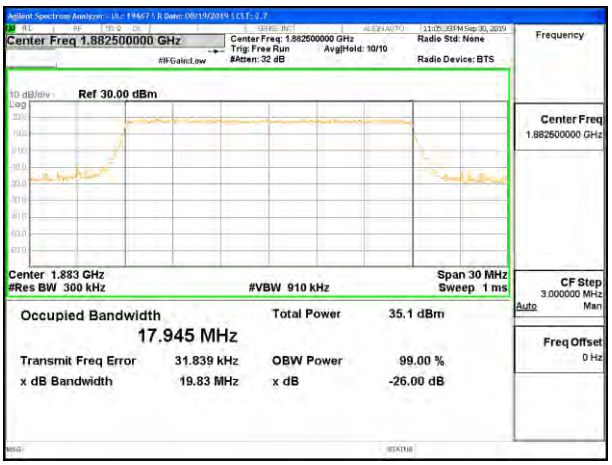
LTE B25 15MHz 16QAM Middle Channel RB75-0



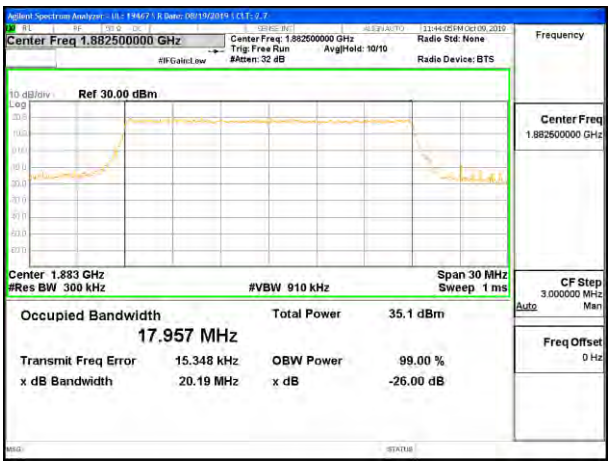
LTE B25 15MHz 64QAM Middle Channel RB75-0



LTE B25 20MHz QPSK Middle Channel RB100-0

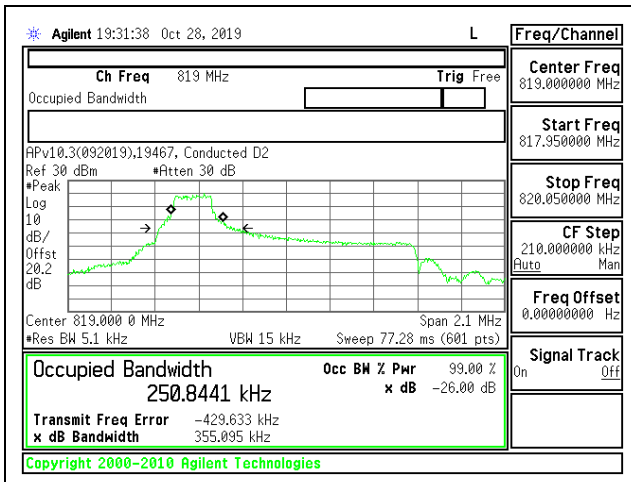


LTE B25 20MHz 16QAM Middle Channel RB100-0

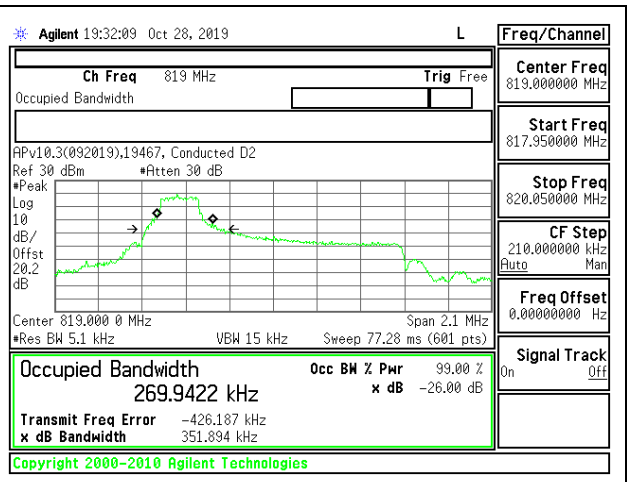


LTE B25 20MHz 64QAM Middle Channel RB100-0

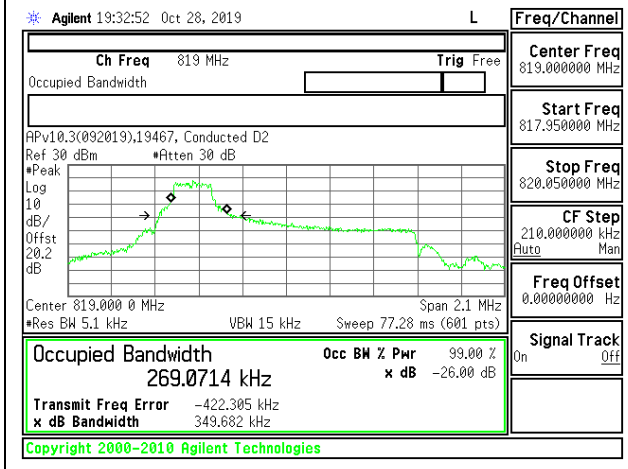
8.1.8. LTE BAND 26 (PART 90S)



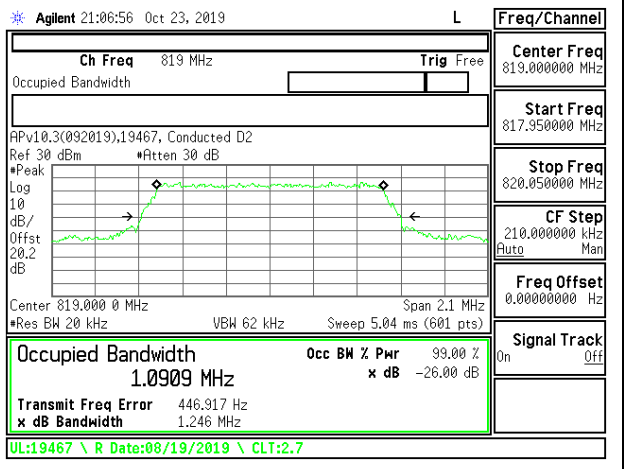
LTE B26 1.4MHz QPSK Middle Channel RB1-0



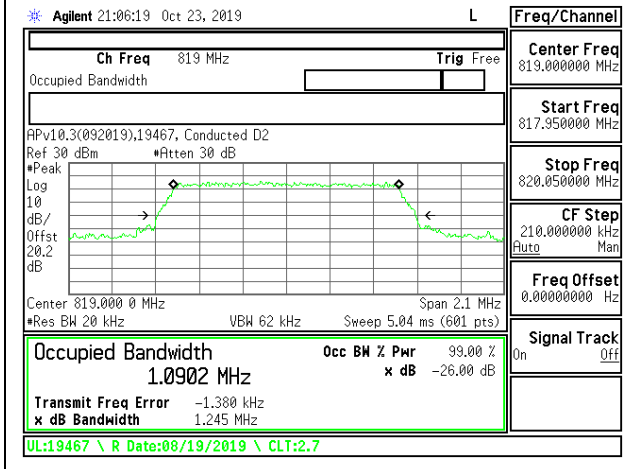
LTE B26 1.4MHz 16QAM Middle Channel RB1-0



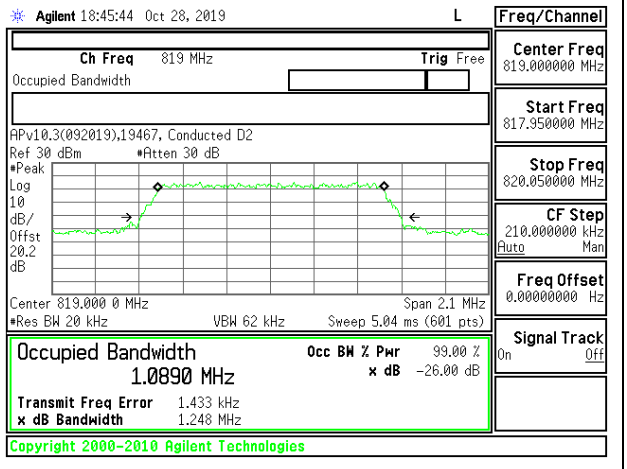
LTE B26 1.4MHz 64QAM Middle Channel RB1-0



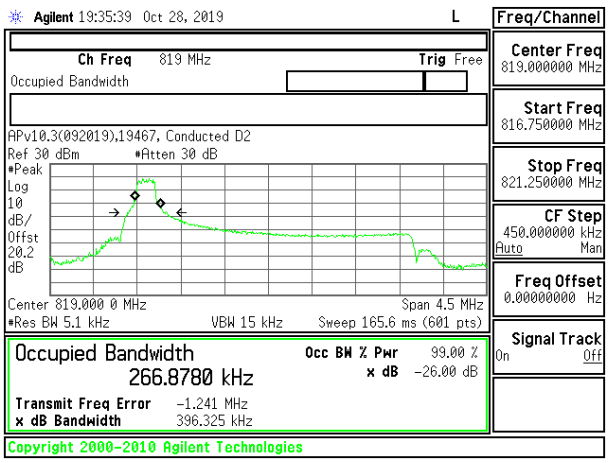
LTE B26 1.4MHz QPSK Middle Channel RB6-0



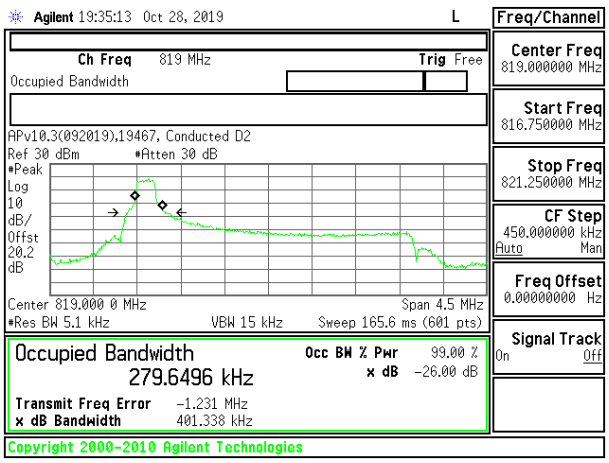
LTE B26 1.4MHz 16QAM Middle Channel RB6-0



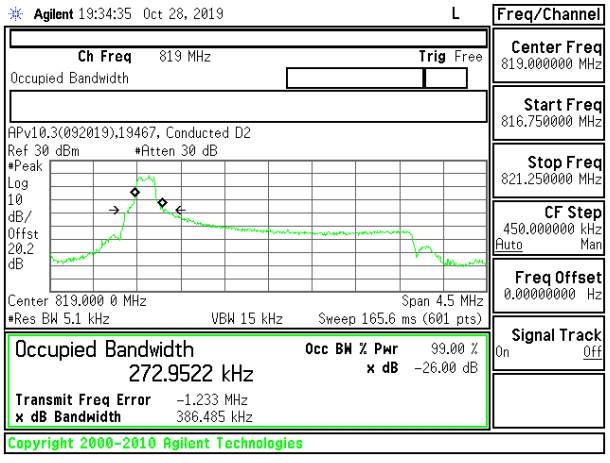
LTE B26 1.4MHz 64QAM Middle Channel RB6-0



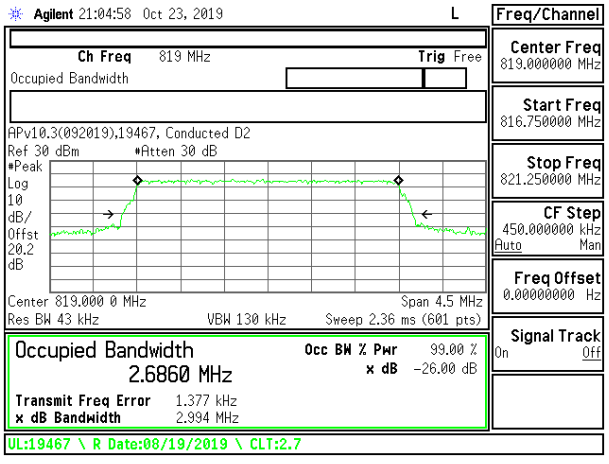
LTE B26 3MHz QPSK Middle Channel RB1-0



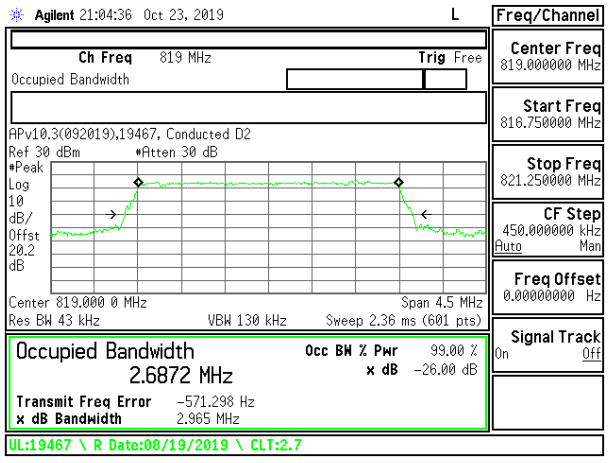
LTE B26 3MHz 16QAM Middle Channel RB1-0



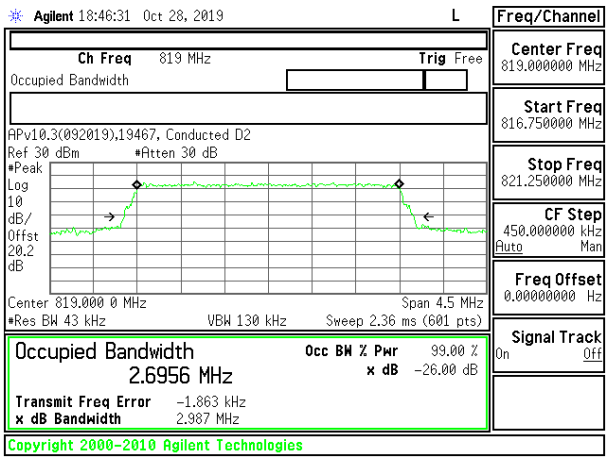
LTE B26 3MHz 64QAM Middle Channel RB1-0



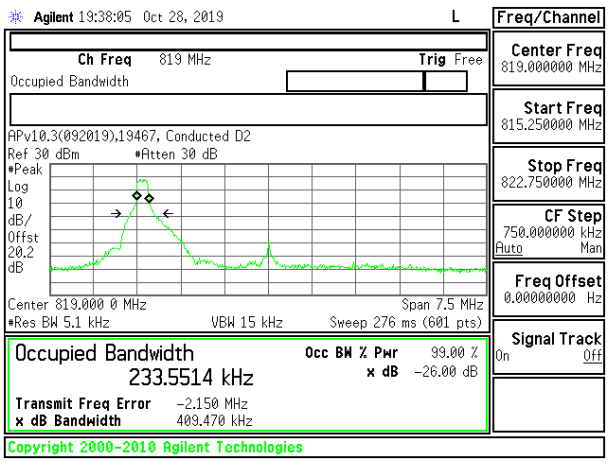
LTE B26 3MHz QPSK Middle Channel RB15-0



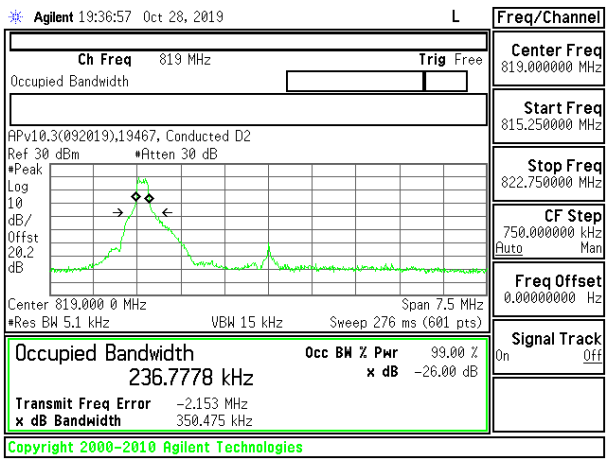
LTE B26 3MHz 16QAM Middle Channel RB15-0



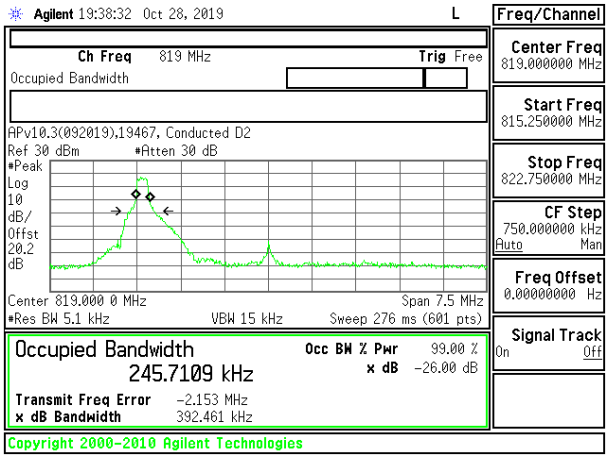
LTE B26 3MHz 64QAM Middle Channel RB15-0



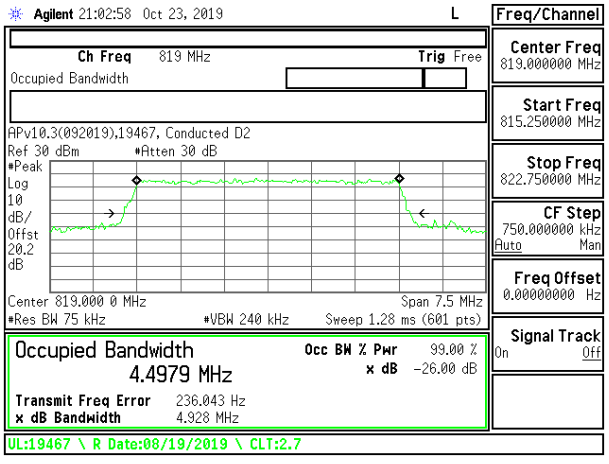
LTE B26 5MHz QPSK Middle Channel RB1-0



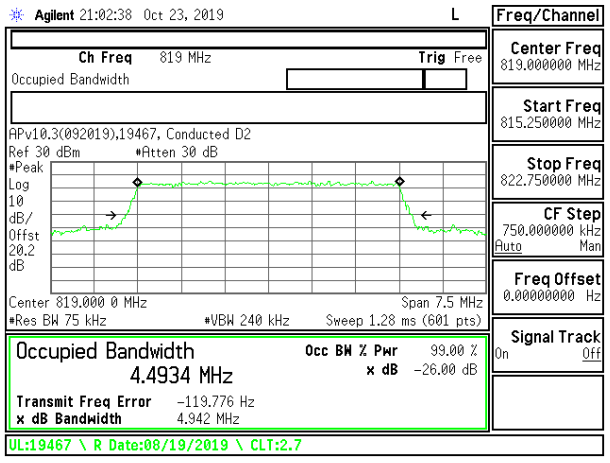
LTE B26 5MHz 16QAM Middle Channel RB1-0



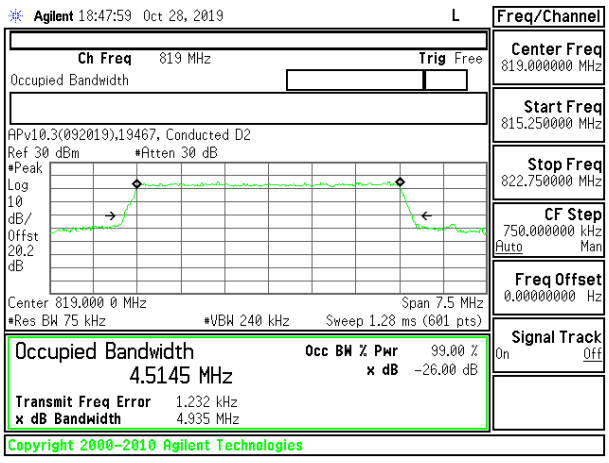
LTE B26 5MHz 64QAM Middle Channel RB1-0



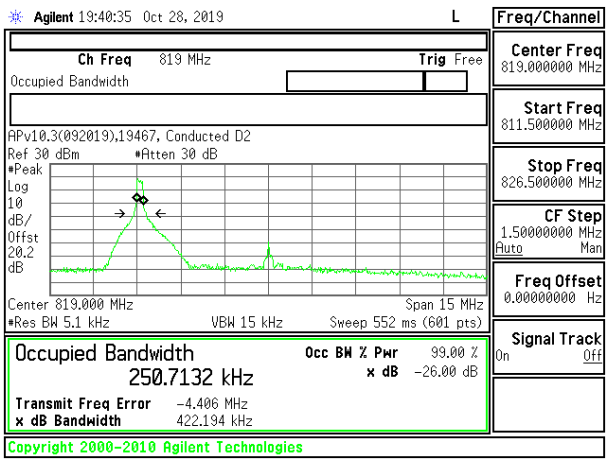
LTE B26 5MHz QPSK Middle Channel RB25-0



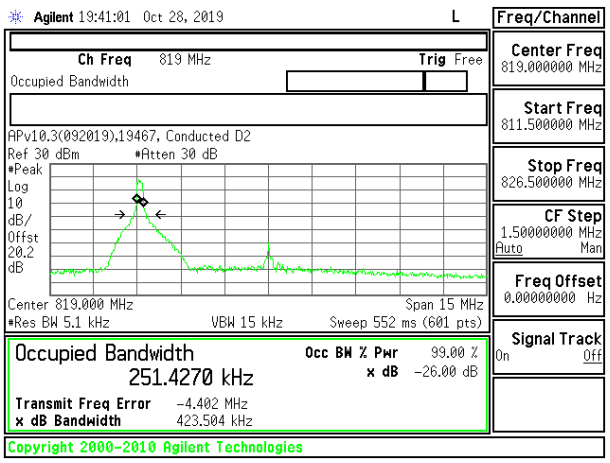
LTE B26 5MHz 16QAM Middle Channel RB25-0



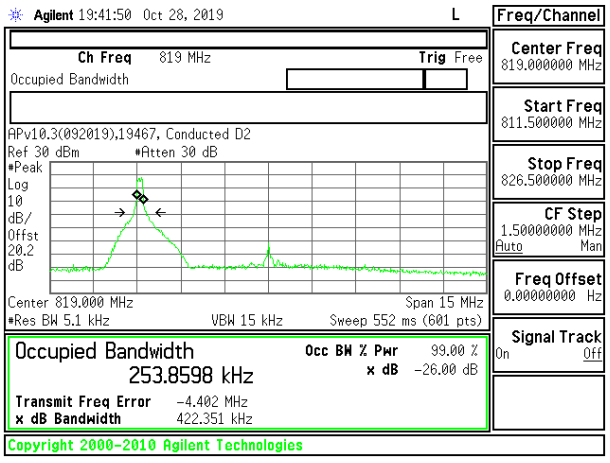
LTE B26 5MHz 64QAM Middle Channel RB25-0



LTE B26 10MHz QPSK Middle Channel RB1-0

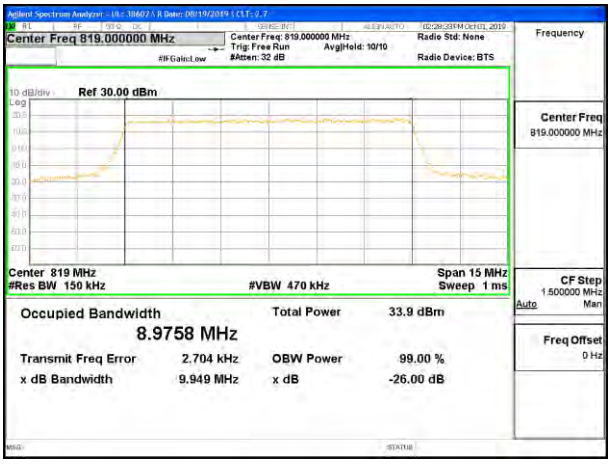


LTE B26 10MHz 16QAM Middle Channel RB1-0

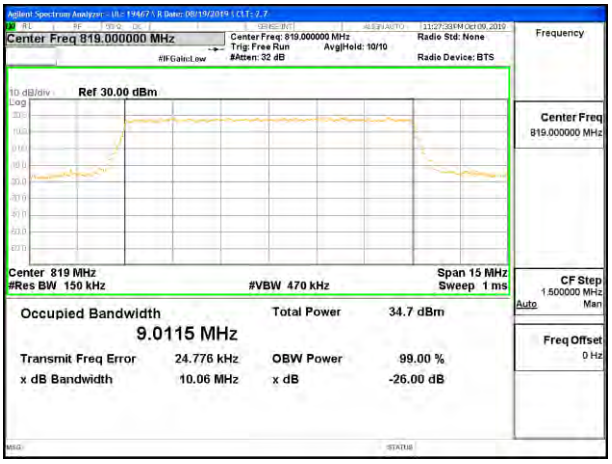


LTE B26 10MHz 64QAM Middle Channel RB1-0

LTE B26 10MHz QPSK Middle Channel RB50-0

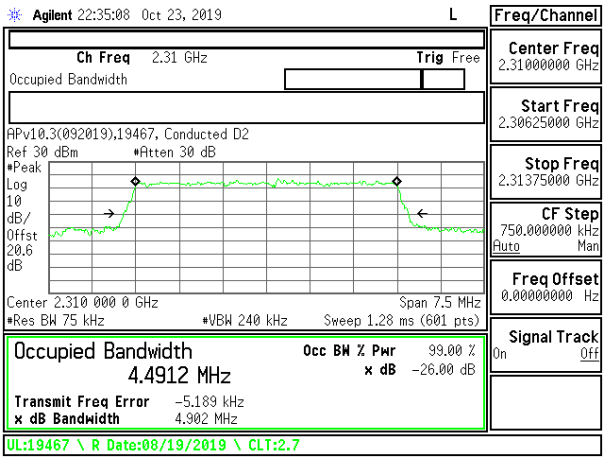


LTE B26 10MHz 16QAM Middle Channel RB50-0

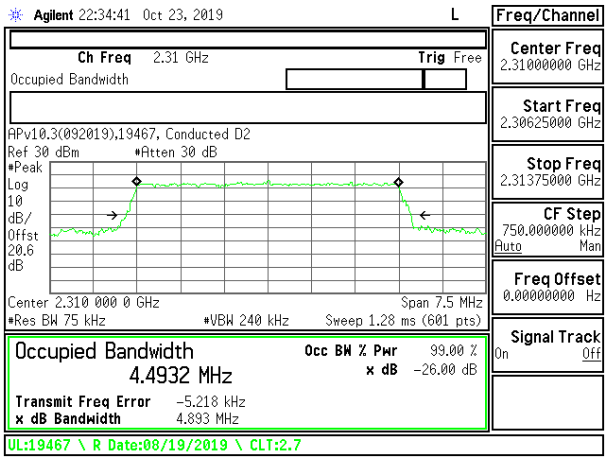


LTE B26 10MHz 64QAM Middle Channel RB50-0

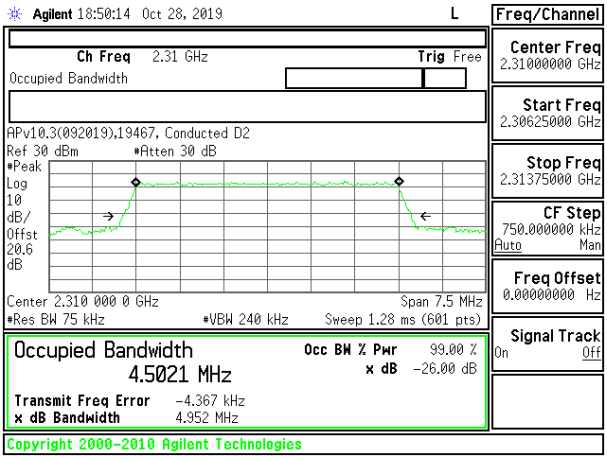
8.1.9. LTE BAND 30



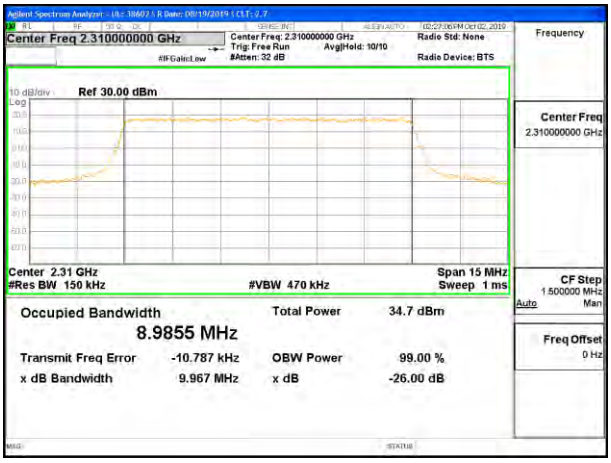
LTE B30 5MHz QPSK Middle Channel RB25-0



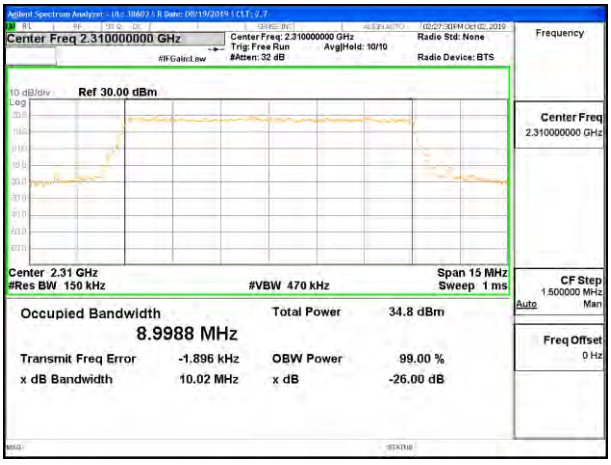
LTE B30 5MHz 16QAM Middle Channel RB25-0



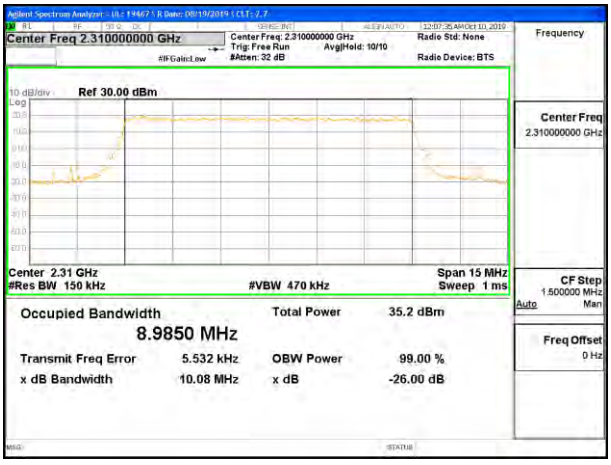
LTE B30 5MHz 64QAM Middle Channel RB25-0



LTE B30 10MHz QPSK Middle Channel RB50-0

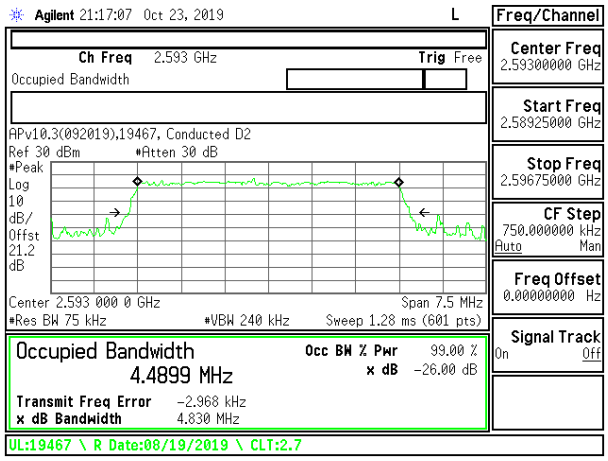


LTE B30 10MHz 16QAM Middle Channel RB50-0

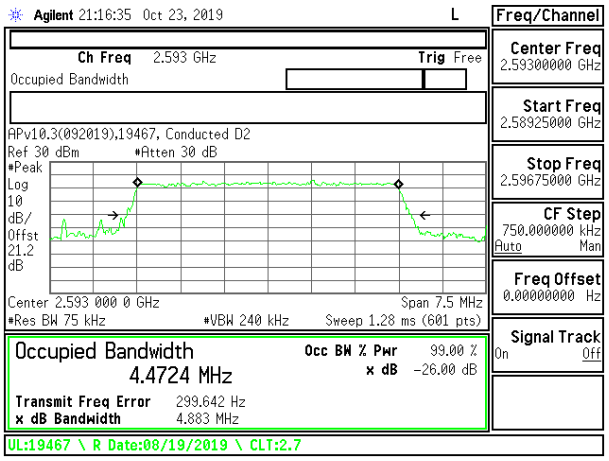


LTE B30 10MHz 64QAM Middle Channel RB50-0

8.1.10. LTE BAND 41

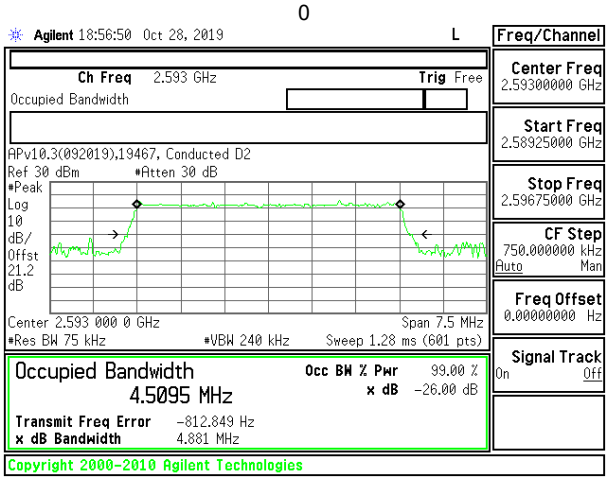


LTE B41 5MHz QPSK Middle Channel RB25-0



LTE B41 5MHz 16QAM Middle Channel RB25-0

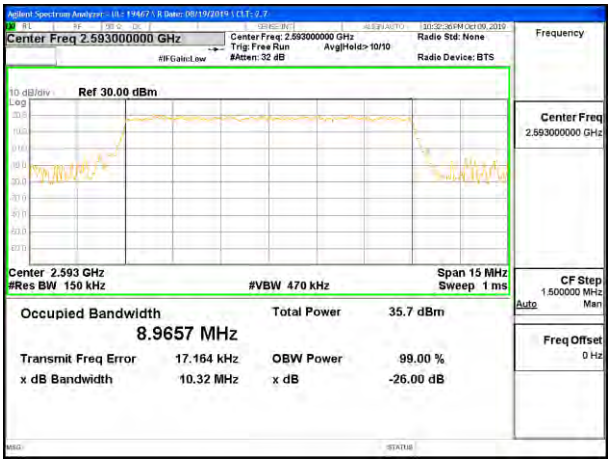
0



LTE B41 5MHz 64QAM Middle Channel RB25-0

LTE B41 10MHz QPSK Middle Channel RB50-0

LTE B41 10MHz 16QAM Middle Channel RB50-0



LTE B41 10MHz 64QAM Middle Channel RB50-0

LTE B41 15MHz QPSK Middle Channel RB75-0

LTE B41 15MHz 16QAM Middle Channel RB75-0

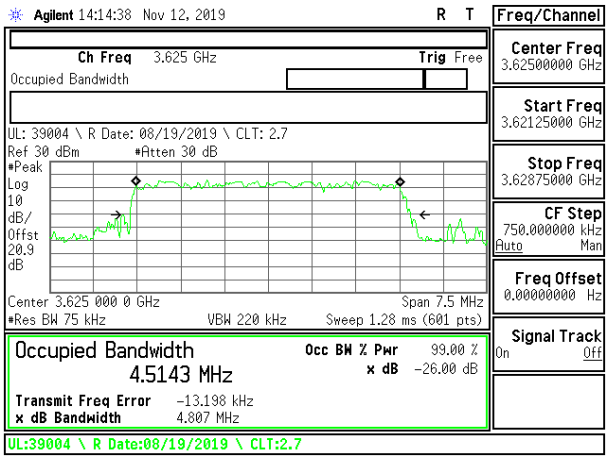
LTE B41 15MHz 64QAM Middle Channel RB75-0

LTE B41 20MHz QPSK Middle Channel RB100-0

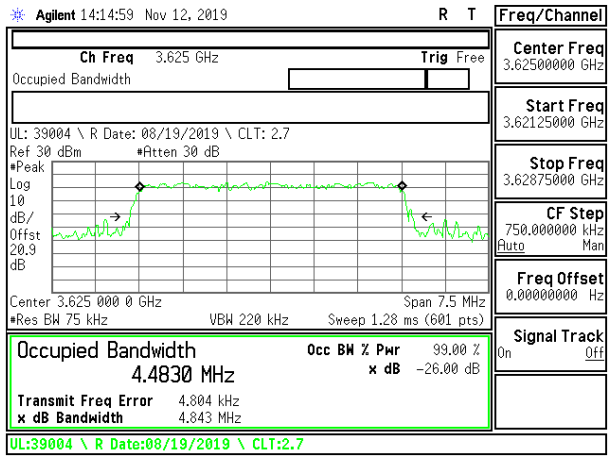
LTE B41 20MHz 16QAM Middle Channel RB100-0

LTE B41 20MHz 64QAM Middle Channel RB100-0

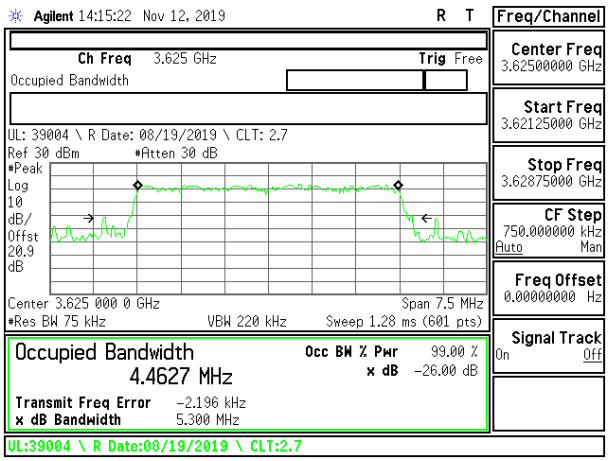
8.1.11. LTE BAND 48



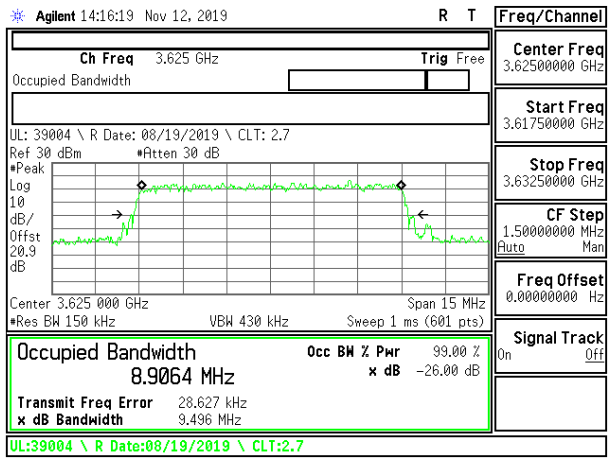
LTE B48 5MHz QPSK Middle Channel RB25-0



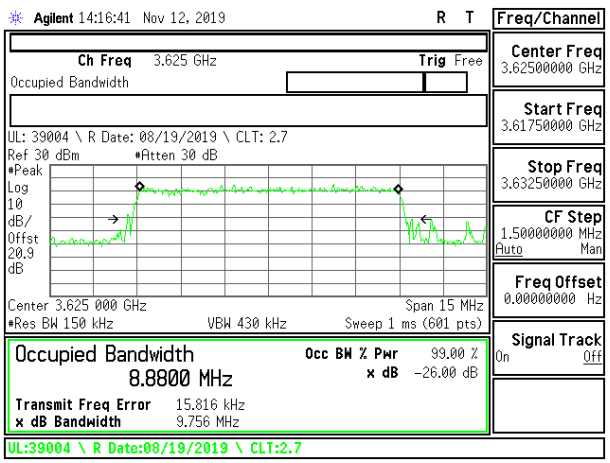
LTE B48 5MHz 16QAM Middle Channel RB25-0



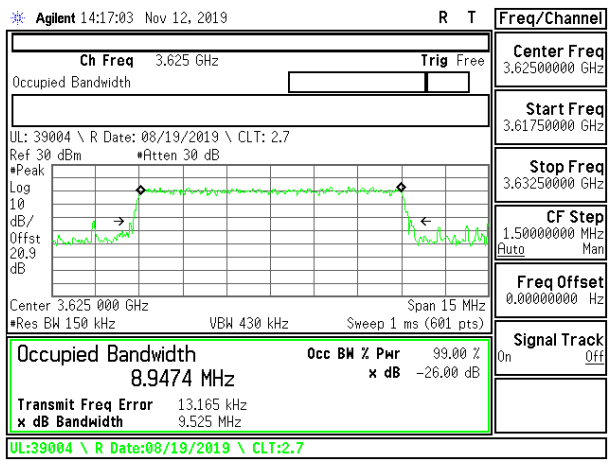
LTE B48 5MHz 64QAM Middle Channel RB25-0



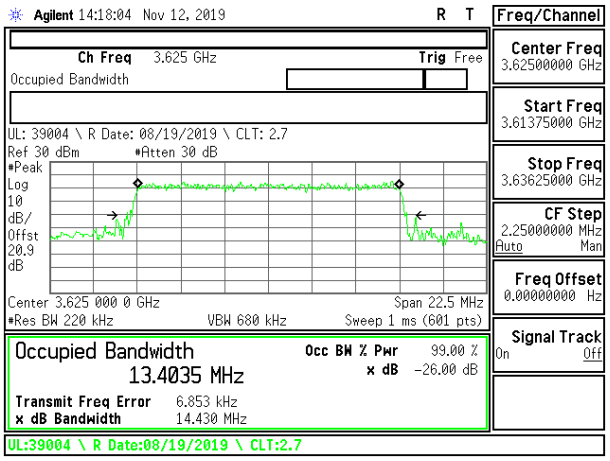
LTE B48 10MHz QPSK Middle Channel RB50-0



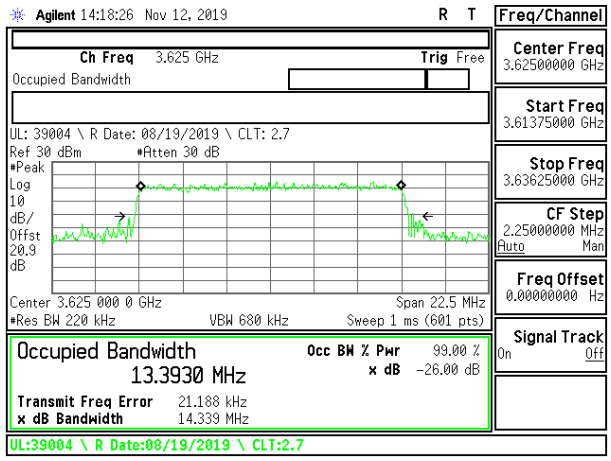
LTE B48 10MHz 16QAM Middle Channel RB50-0



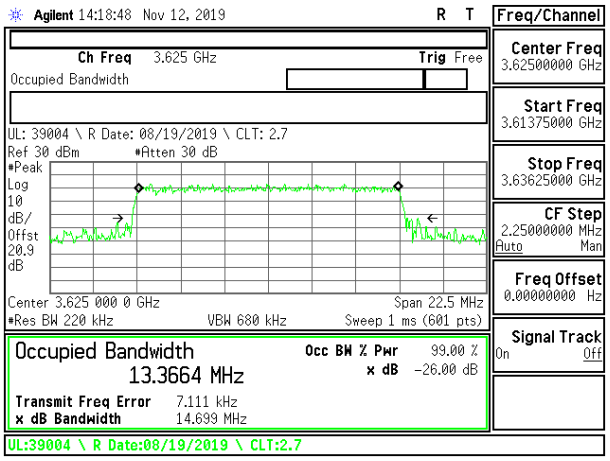
LTE B48 10MHz 64QAM Middle Channel RB50-0



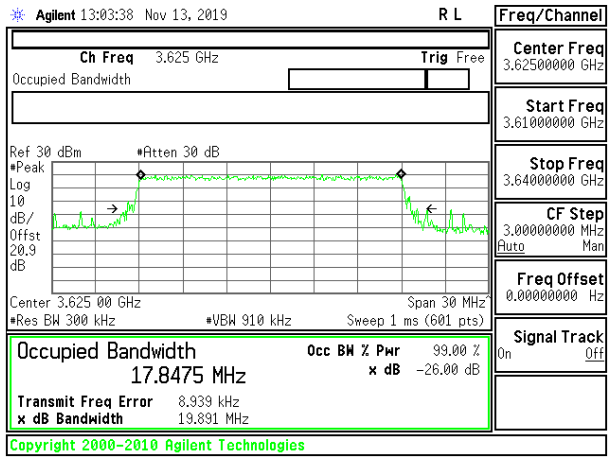
LTE B48 15MHz QPSK Middle Channel RB75-0



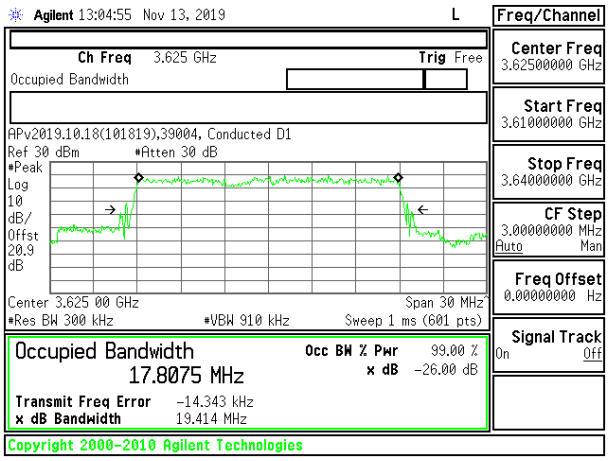
LTE B48 15MHz 16QAM Middle Channel RB75-0



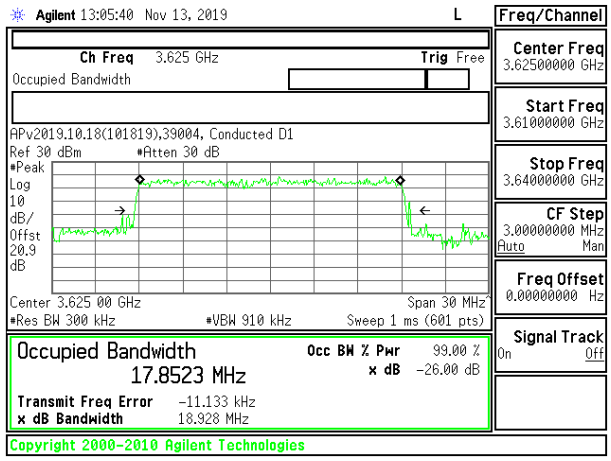
LTE B48 15MHz 64QAM Middle Channel RB75-0



LTE B48 20MHz QPSK Middle Channel RB100-0, ID:39004

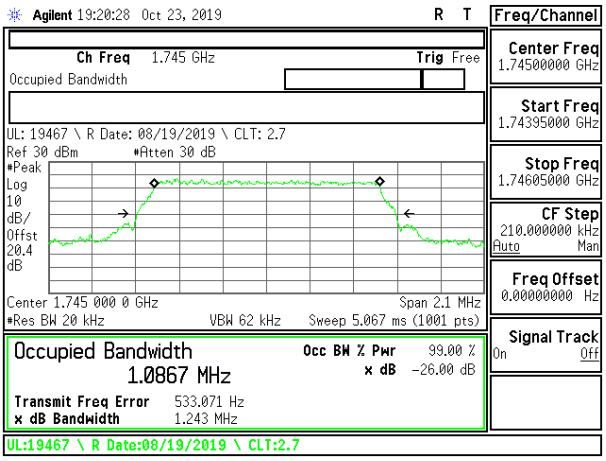


LTE B48 20MHz 16QAM Middle Channel RB100-0

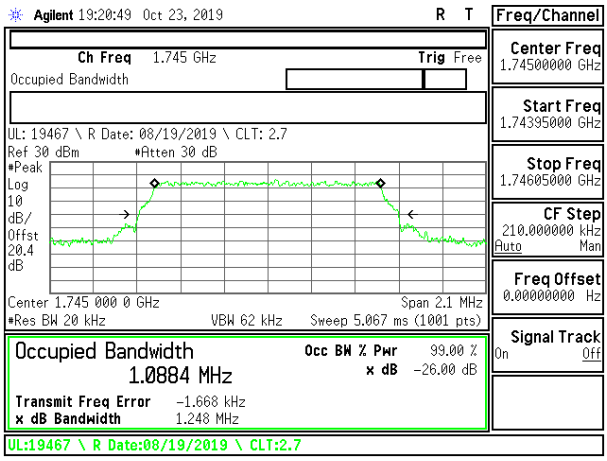


LTE B48 20MHz 64QAM Middle Channel RB100-0

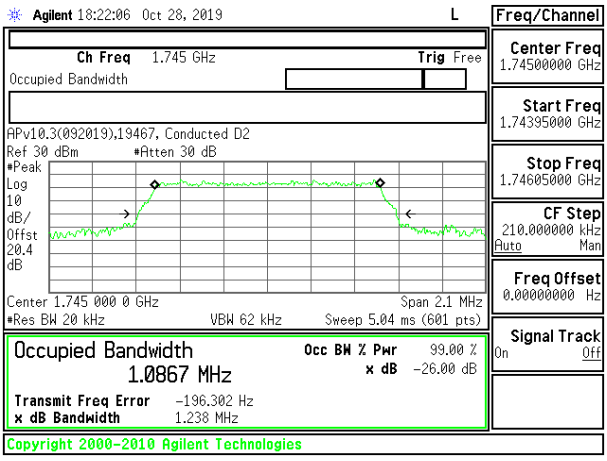
8.1.12. LTE BAND 66



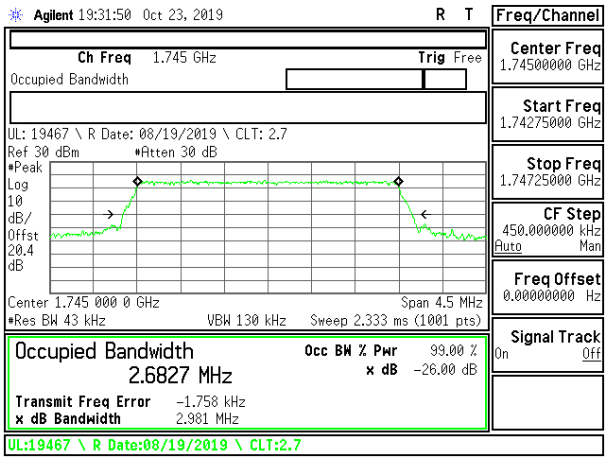
LTE B66 1.4MHz QPSK Middle Channel RB6-0



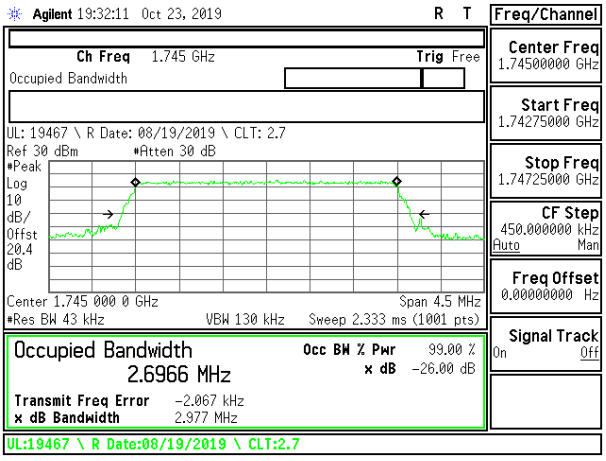
LTE B66 1.4MHz 16QAM Middle Channel RB6-0



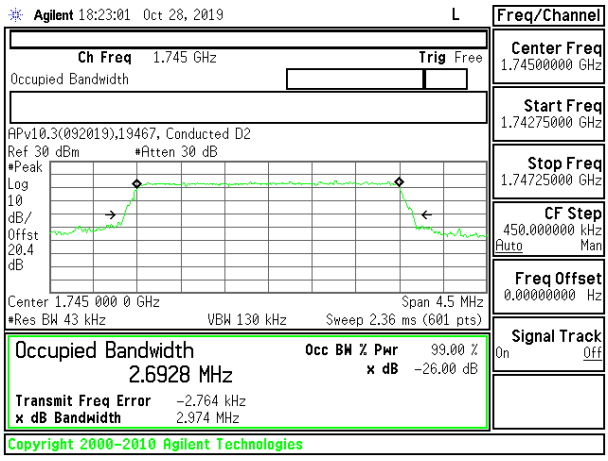
LTE B66 1.4MHz 64QAM Middle Channel RB6-0



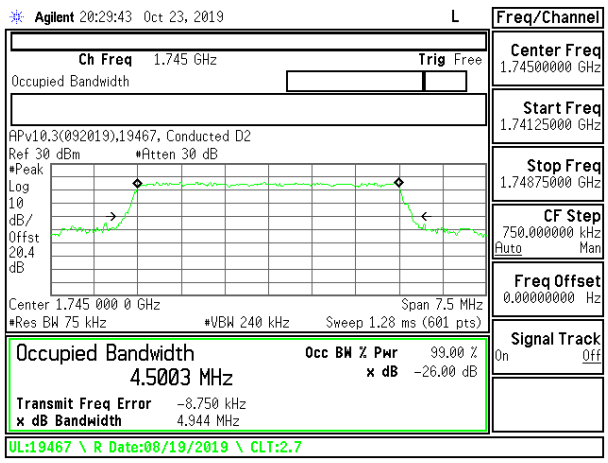
LTE B66 3MHz QPSK Middle Channel RB15-0



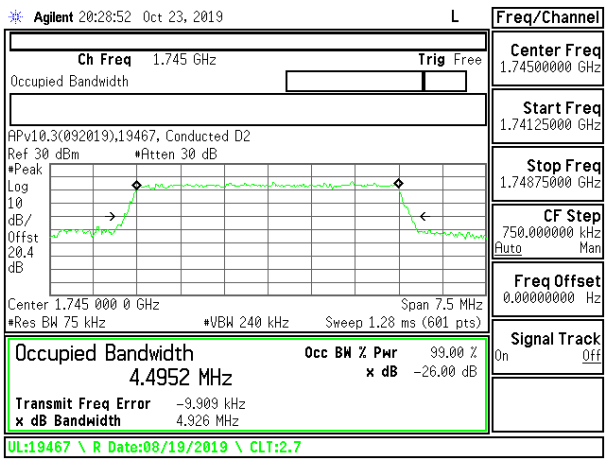
LTE B66 3MHz 16QAM Middle Channel RB15-0



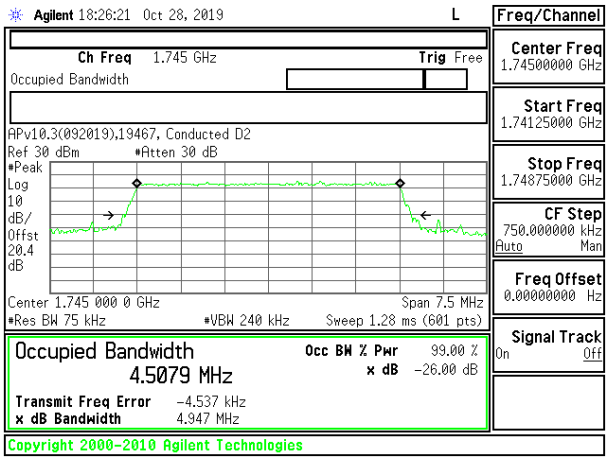
LTE B66 3MHz 64QAM Middle Channel RB15-0



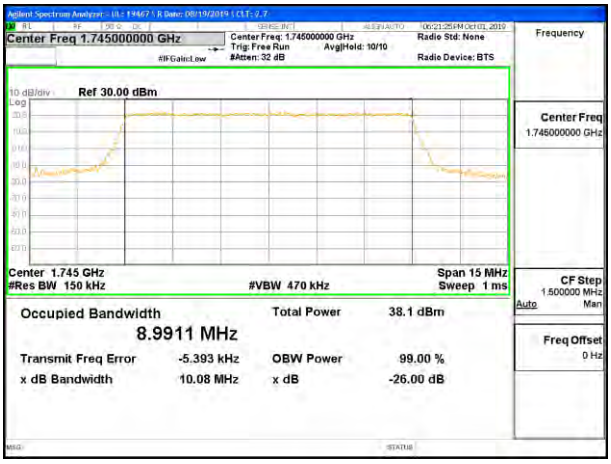
LTE B66 5MHz QPSK Middle Channel RB25-0



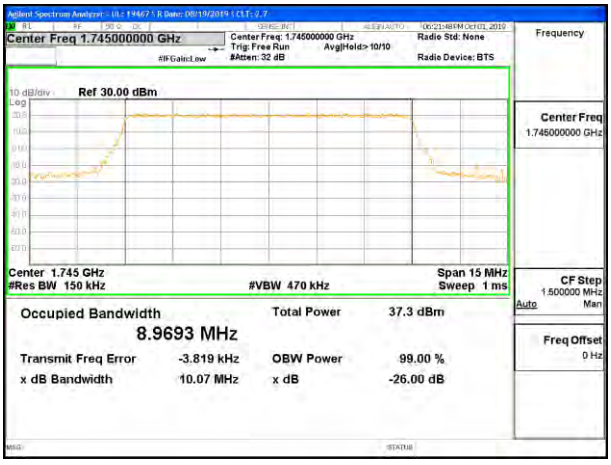
LTE B66 5MHz 16QAM Middle Channel RB25-0



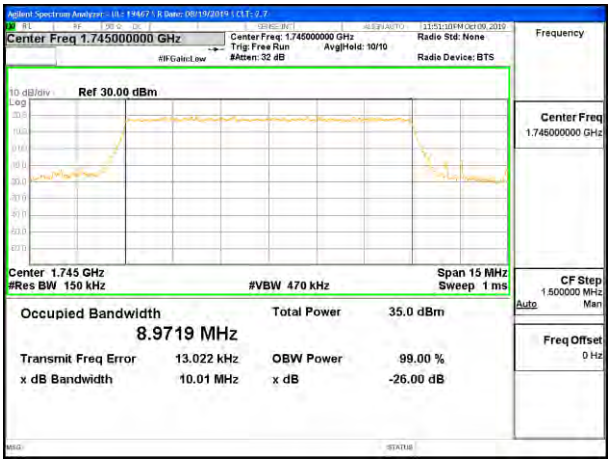
LTE B66 5MHz 64QAM Middle Channel RB25-0



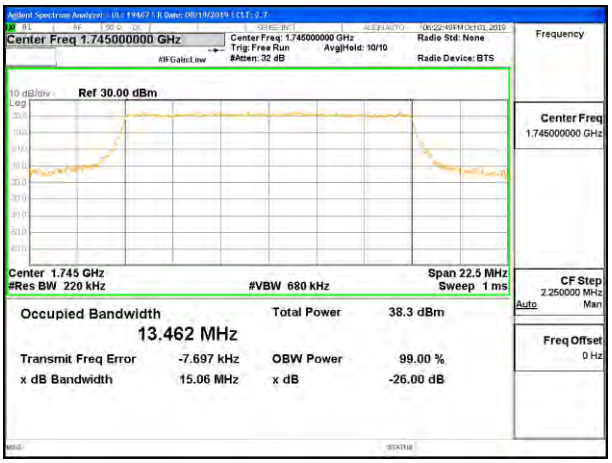
LTE B66 10MHz QPSK Middle Channel RB50-0



LTE B66 10MHz 16QAM Middle Channel RB50-0

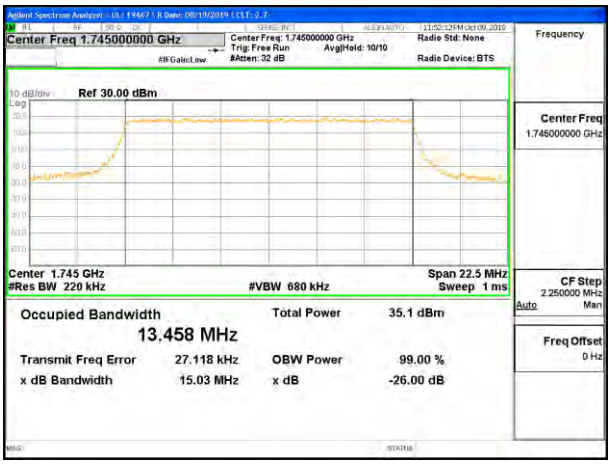


LTE B66 10MHz 64QAM Middle Channel RB50-0

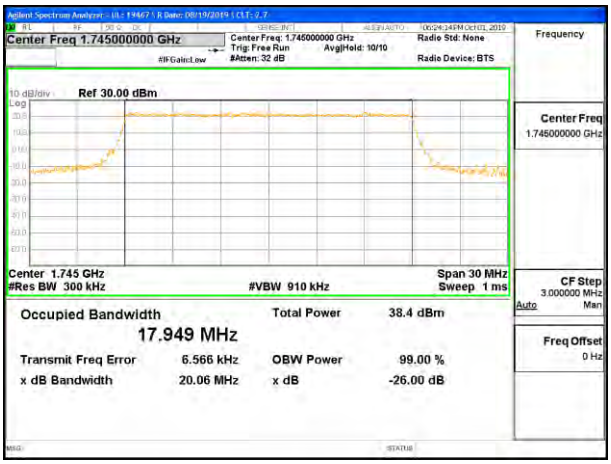


LTE B66 15MHz QPSK Middle Channel RB75-0

LTE B66 15MHz 16QAM Middle Channel RB75-0

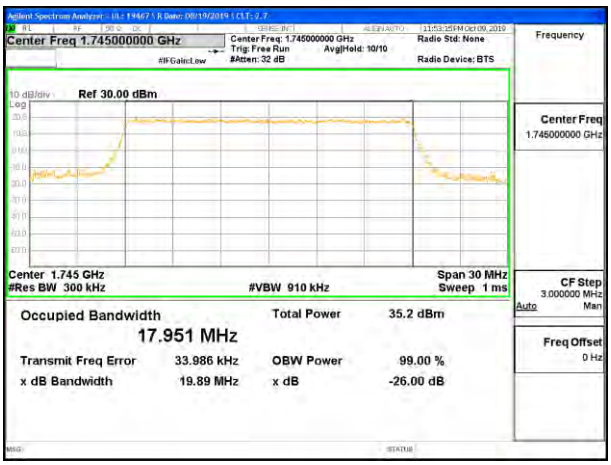


LTE B66 15MHz 64QAM Middle Channel RB75-0



LTE B66 20MHz QPSK Middle Channel RB100-0

LTE B66 20MHz 16QAM Middle Channel RB100-0



LTE B66 20MHz 64QAM Middle Channel RB100-0

8.2. BAND EDGE AND EMISSION MASK

RULE PART(S)

FCC: §2.1051, §22.917, §24.238, §27.53, §90.691 and §96.41

LIMITS

FCC: §22.917, §24.238, §27.53(h)
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

FCC: §90.691 Emission mask requirements for EA-based systems.
(a) Out-of-band emission requirement shall apply only to the “outer” channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50 + 10 Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz..

FCC: §27.53 (Band 30)
(a) For operations in the 2305-2320 MHz band and the 2345-2360 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power P (with averaging performed only during periods of transmission) within the licensed band(s) of operation, in watts, by the following amounts:

(4) For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:

(i) By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz;

(ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz;

(iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

FCC: §27.53 (Band 13)
(c)For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

(5) Compliance with the provisions of paragraphs (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;

(6) Compliance with the provisions of paragraphs (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

(f) Emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals. (-70 dBW/MHz = -40dBm/MHz).

FCC: §27.53 (Band 12, 17)
(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC: §27.53 (Band 7, 41)
(m)(4) For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

FCC: §96.41 (Band 48)
(e) 3.5 GHz Emissions and Interference Limits—
(1) General protection levels
(ii) Except as otherwise specified in paragraph (e)(2) of this section, for channel and frequency assignments made by a CBSD to End User Devices, the conducted power of any End User Device emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed −13 dBm/MHz within 0 to B megahertz (where B is the bandwidth in megahertz of the assigned channel or multiple contiguous channels of the End User Device) above the upper CBSD-assigned channel edge and within 0 to B megahertz below the lower CBSD-assigned channel edge. At all frequencies greater than B megahertz above the upper CBSD assigned channel edge and less than B megahertz below the lower CBSD-assigned channel edge, the conducted power of any End User Device emission shall not exceed −25 dBm/MHz. Notwithstanding the emission limits in this paragraph, the Adjacent Channel Leakage Ratio for End User Devices shall be at least 30 dB.

(2) Additional protection levels. Notwithstanding paragraph (e)(1) of this section, for CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed −25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

TEST PROCEDURE

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

For each band edge measurement:

1. Set the spectrum analyzer span to include the block edge frequency.
2. Set a marker to point the corresponding band edge frequency in each test case.
3. Set display line at -13 dBm
4. Set resolution bandwidth to at least 1% of emission bandwidth.

TEST PROCEDURE (FCC LTE BAND 7, 41)

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

TEST PROCEDURE (FCC LTE BAND 30)

(5) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the channel blocks at 2305, 2310, 2315, 2320, 2345, 2350, 2355, and 2360 MHz, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (*i.e.,* 1 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

TEST PROCEDURE (FCC LTE BAND 48)

(i) Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's authorized frequency channel, a resolution bandwidth of no less than one percent of the fundamental emission bandwidth may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full reference bandwidth (i.e., 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(ii) When measuring unwanted emissions to demonstrate compliance with the limits, the CBSD and End User Device nominal carrier frequency/channel shall be adjusted as close to the licensee's authorized frequency block edges, both upper and lower, as the design permits.

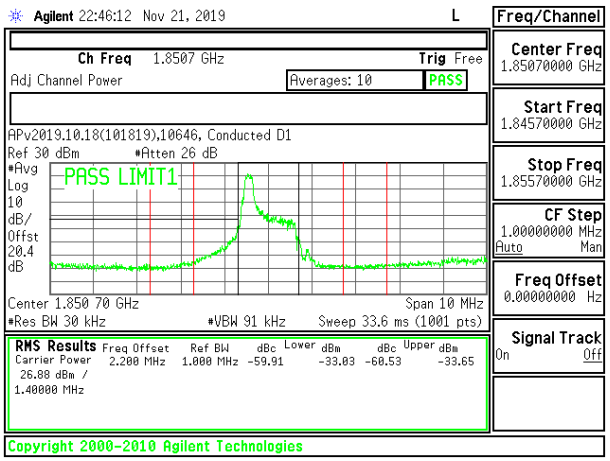
(iii) Compliance with emission limits shall be demonstrated using either average (RMS)-detected or peak-detected power measurement techniques.

MODES TESTED

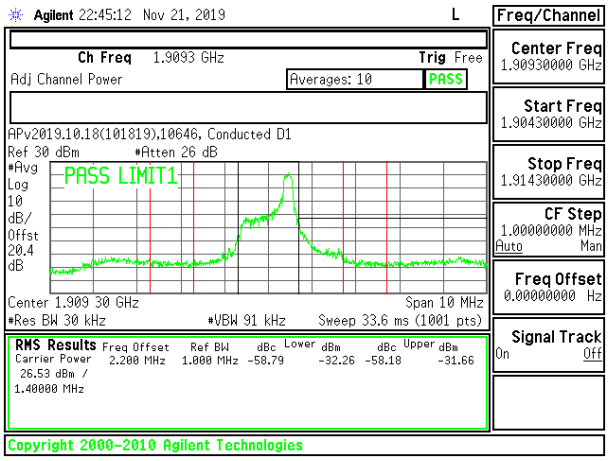
- LTE Band 2
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 30
- LTE Band 41
- LTE Band 48
- LTE Band 66

RESULTS

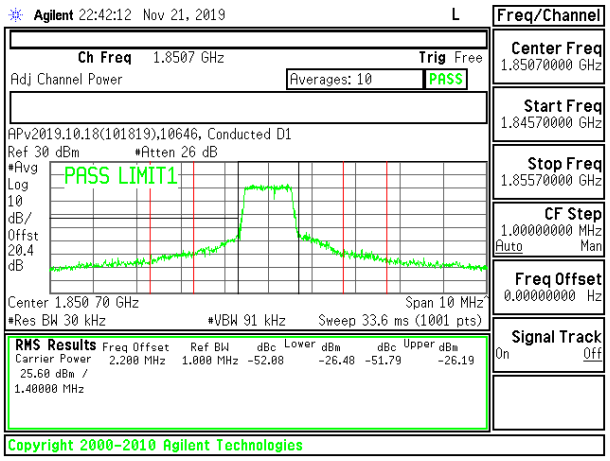
8.2.1. LTE BAND 2 ADJACENT CHANNEL POWER



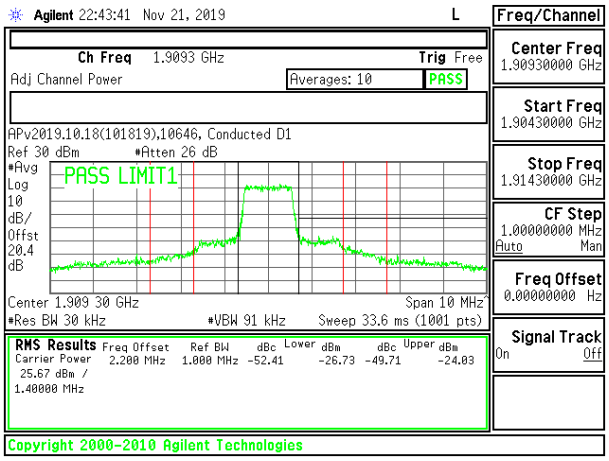
LTE B2 1.4MHz QPSK Low Channel RB1-0



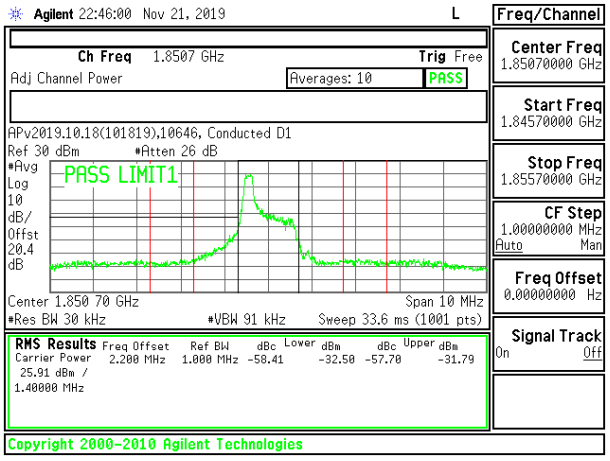
LTE B2 1.4MHz QPSK High Channel RB1-5



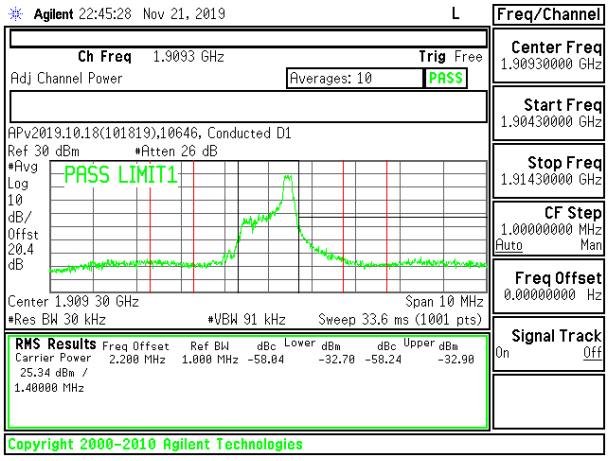
LTE B2 1.4MHz QPSK Low Channel RB6-0



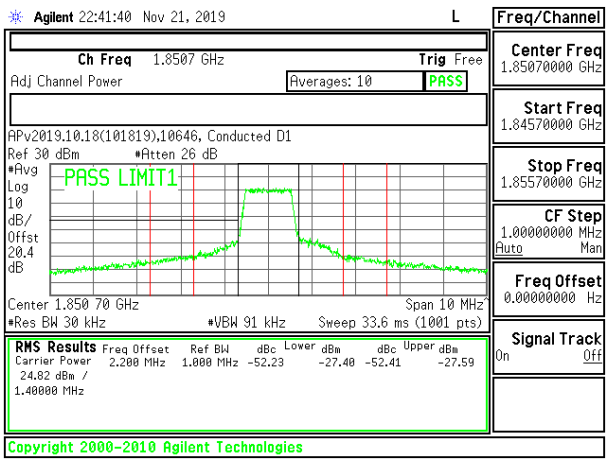
LTE B2 1.4MHz QPSK High Channel RB6-0



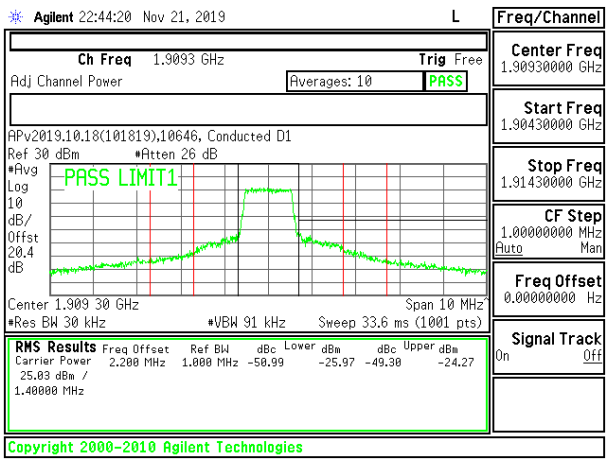
LTE B2 1.4MHz 16QAM Low Channel RB1-0



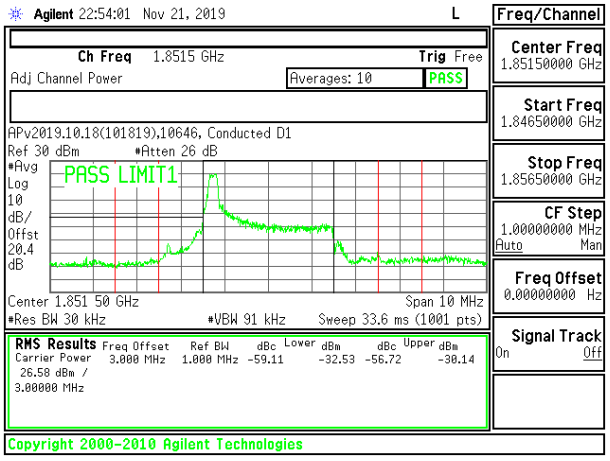
LTE B2 1.4MHz 16QAM High Channel RB1-5



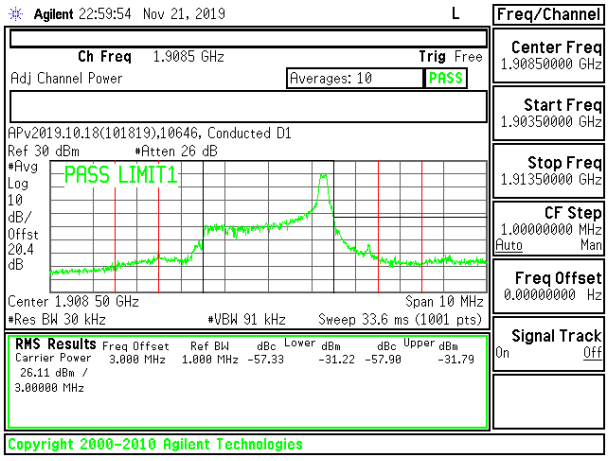
LTE B2 1.4MHz 16QAM Low Channel RB6-0



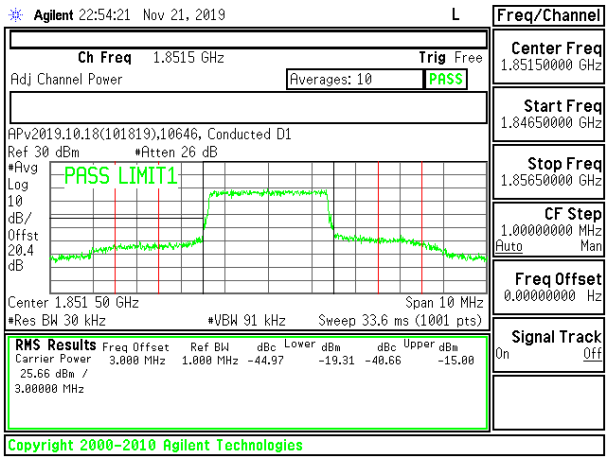
LTE B2 1.4MHz 16QAM High Channel RB6-0



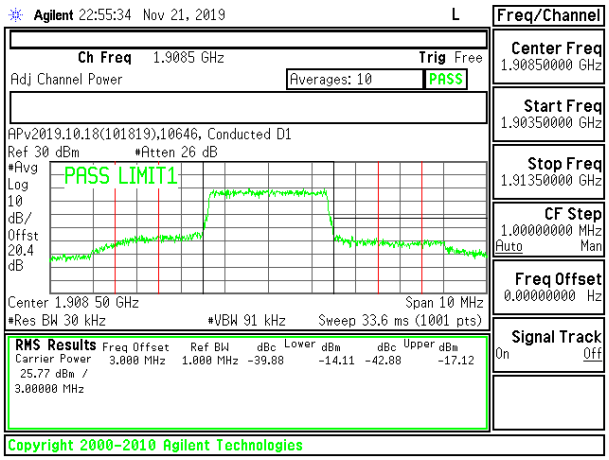
LTE B2 3MHz QPSK Low Channel RB1-0



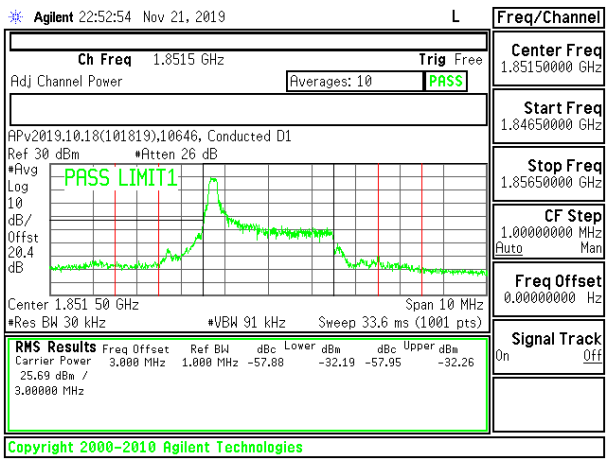
LTE B2 3MHz QPSK High Channel RB1-14



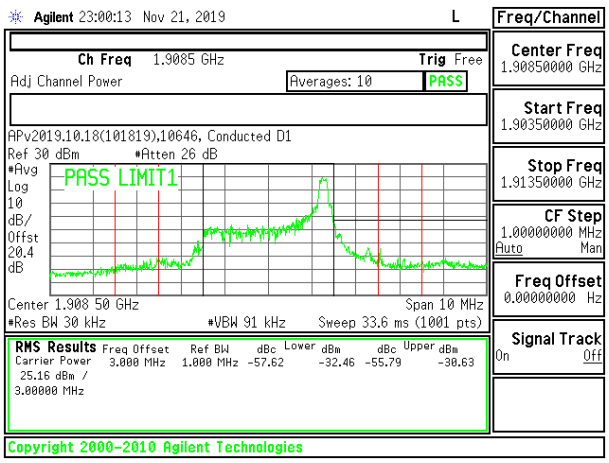
LTE B2 3MHz QPSK Low Channel RB15-0



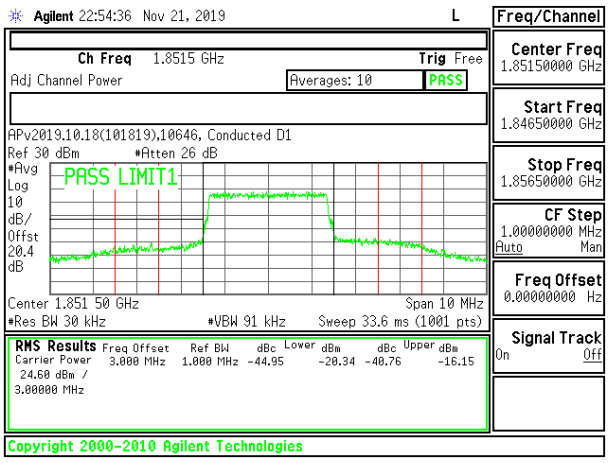
LTE B2 3MHz QPSK High Channel RB15-0



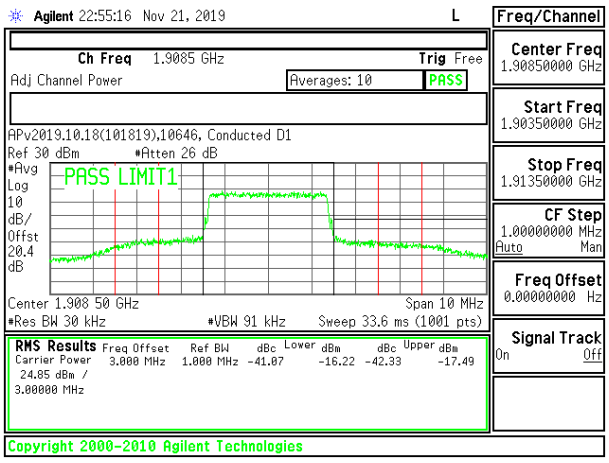
LTE B2 3MHz 16QAM Low Channel RB1-0



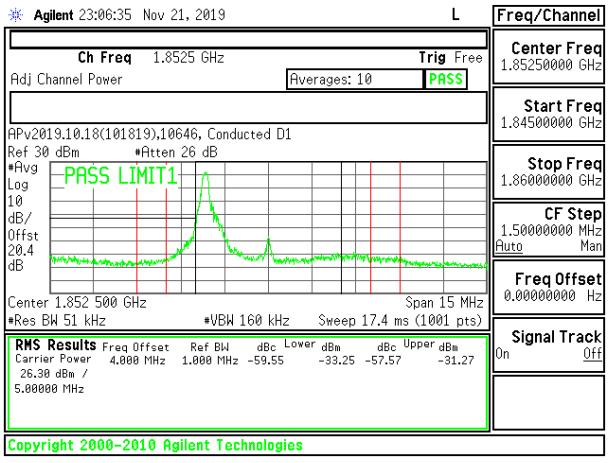
LTE B2 3MHz 16QAM High Channel RB1-14



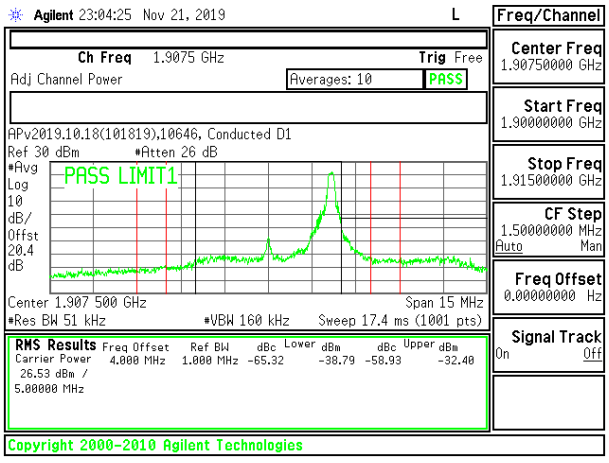
LTE B2 3MHz 16QAM Low Channel RB15-0



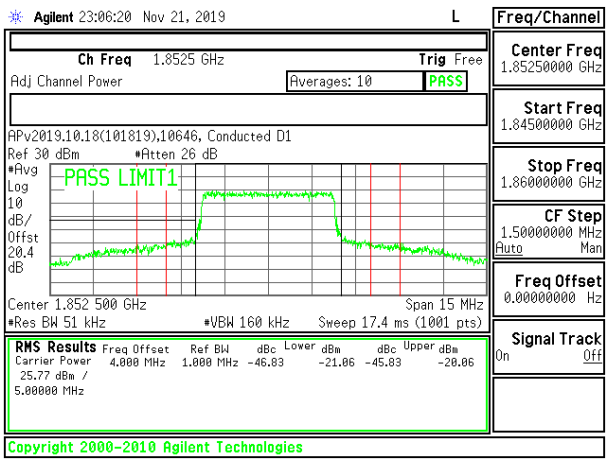
LTE B2 3MHz 16QAM High Channel RB15-0



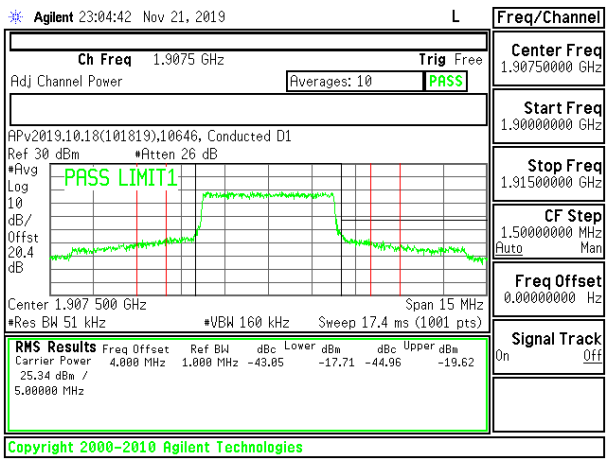
LTE B2 5MHz QPSK Low Channel RB1-0



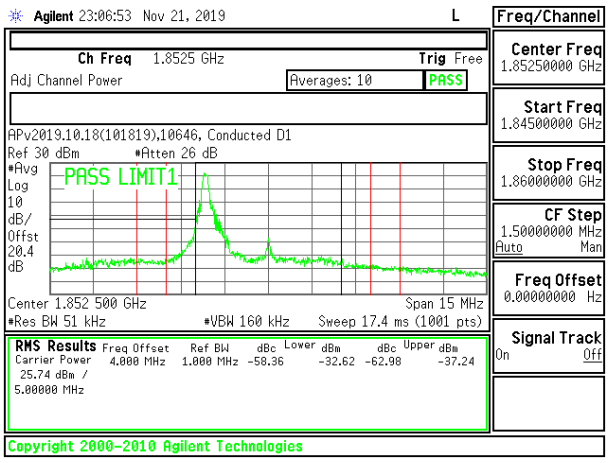
LTE B2 5MHz QPSK High Channel RB1-24



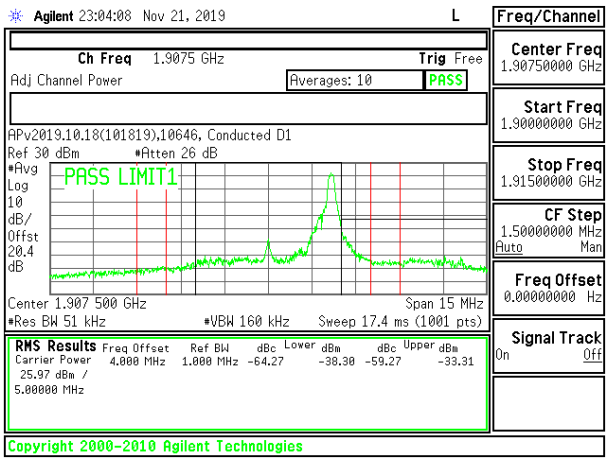
LTE B2 5MHz QPSK Low Channel RB25-0



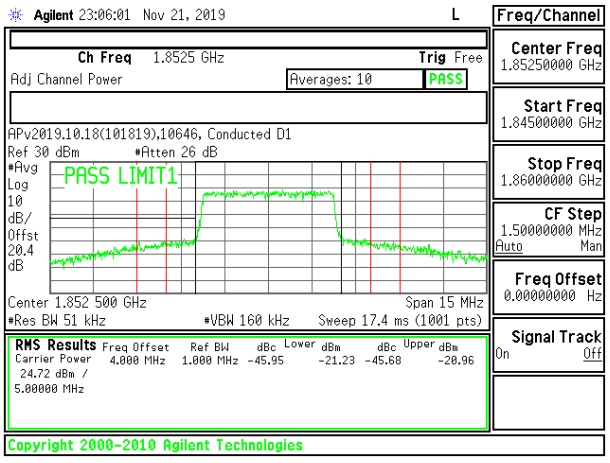
LTE B2 5MHz QPSK High Channel RB25-0



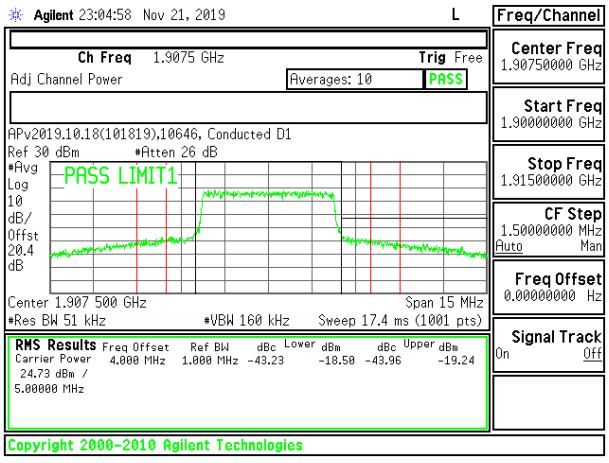
LTE B2 5MHz 16QAM Low Channel RB1-0



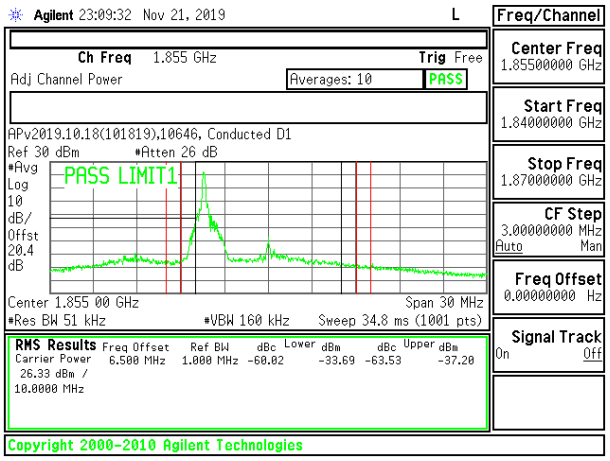
LTE B2 5MHz 16QAM High Channel RB1-24



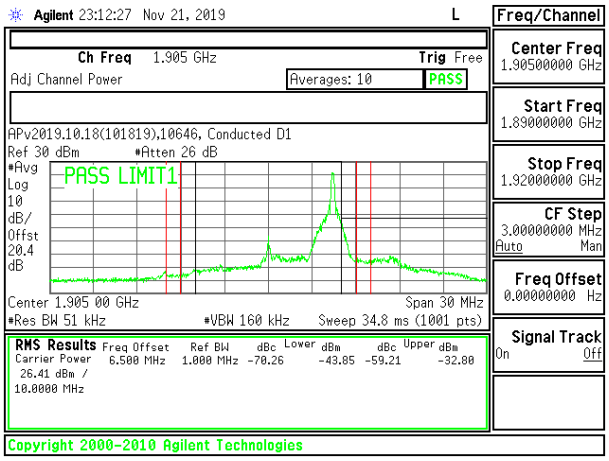
LTE B2 5MHz 16QAM Low Channel RB25-0



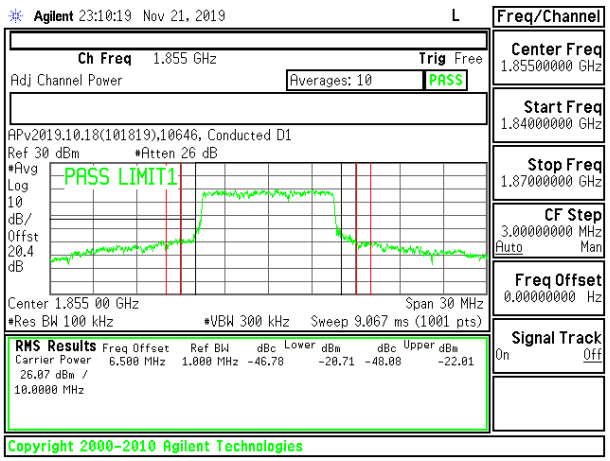
LTE B2 5MHz 16QAM High Channel RB25-0



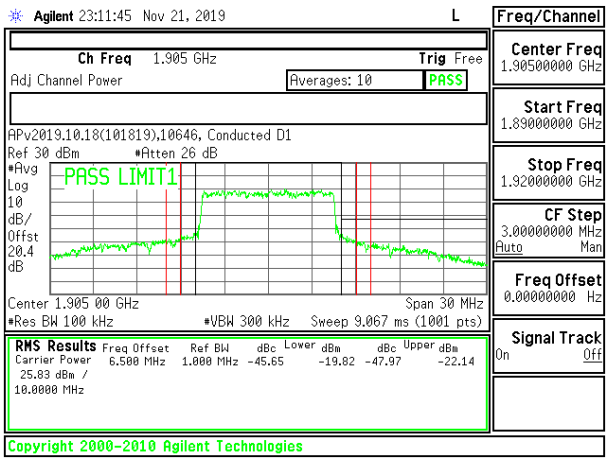
LTE B2 10MHz QPSK Low Channel RB1-0



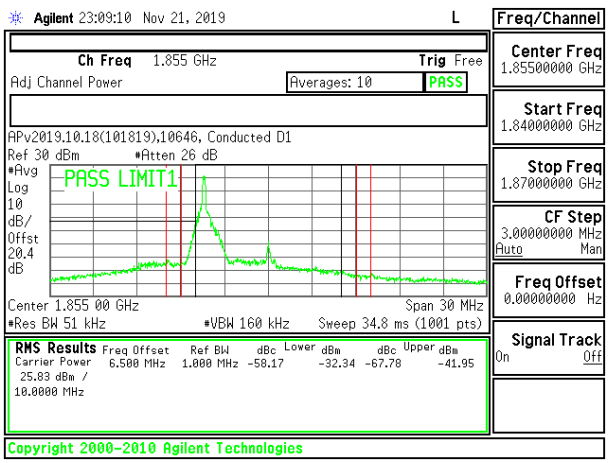
LTE B2 10MHz QPSK High Channel RB1-49



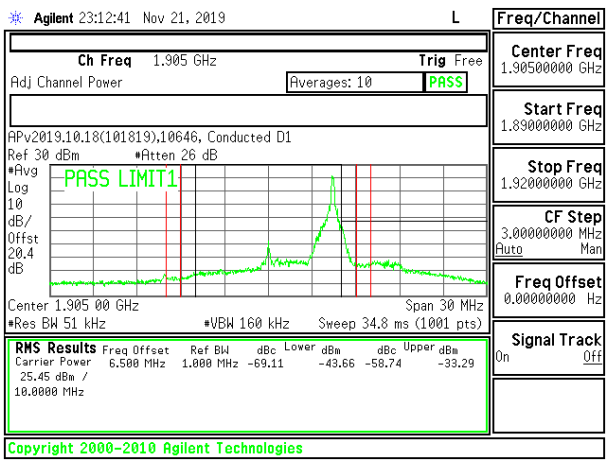
LTE B2 10MHz QPSK Low Channel RB50-0



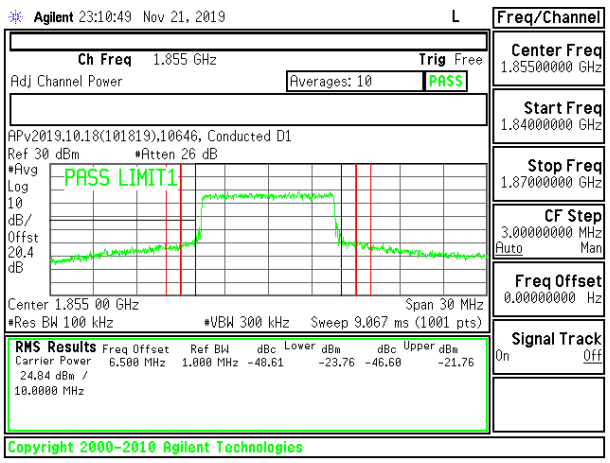
LTE B2 10MHz QPSK High Channel RB50-0



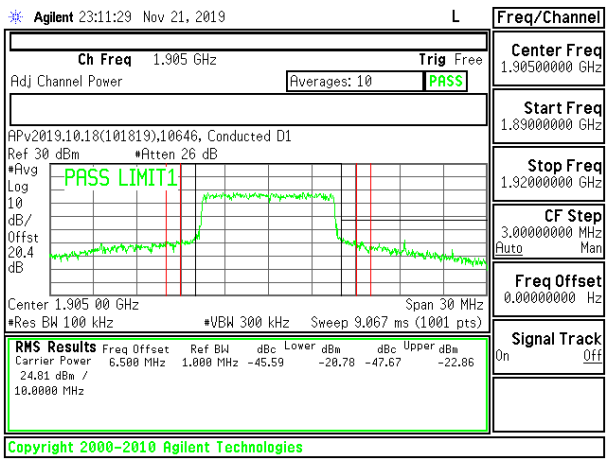
LTE B2 10MHz 16QAM Low Channel RB1-0



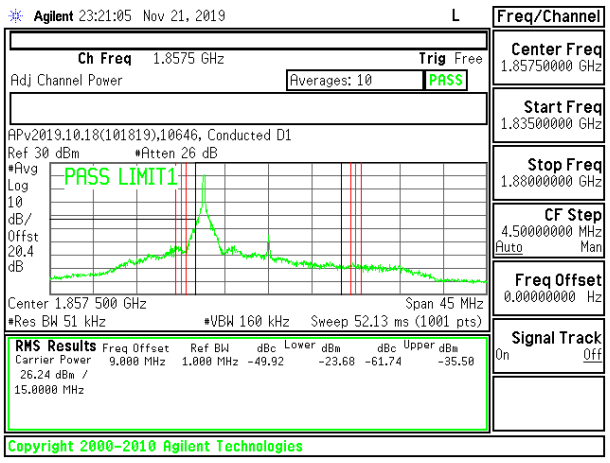
LTE B2 10MHz 16QAM High Channel RB1-49



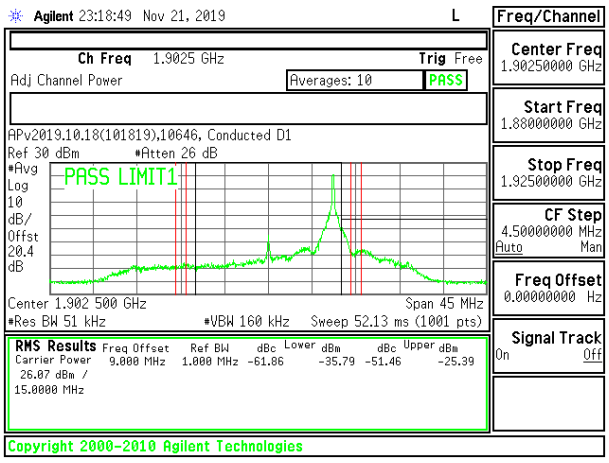
LTE B2 10MHz 16QAM Low Channel RB50-0



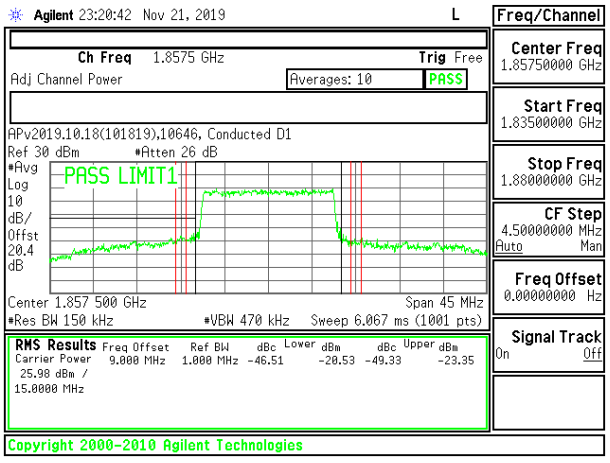
LTE B2 10MHz 16QAM High Channel RB50-0



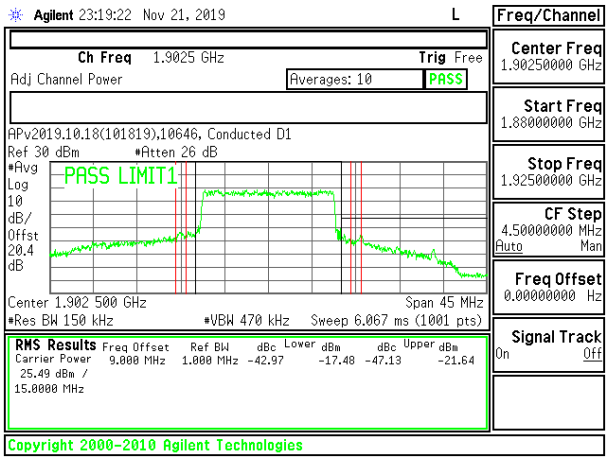
LTE B2 15MHz QPSK Low Channel RB1-0



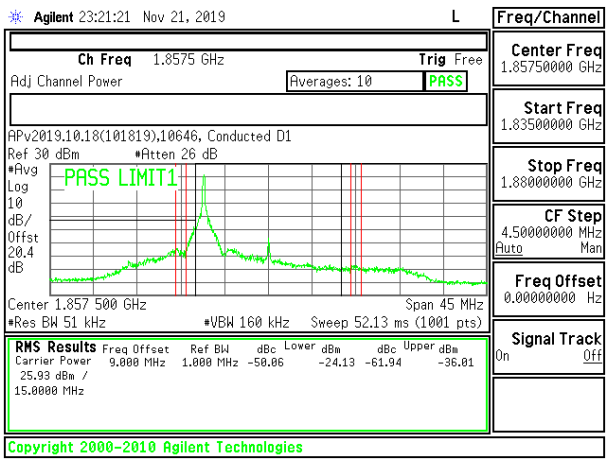
LTE B2 15MHz QPSK High Channel RB1-74



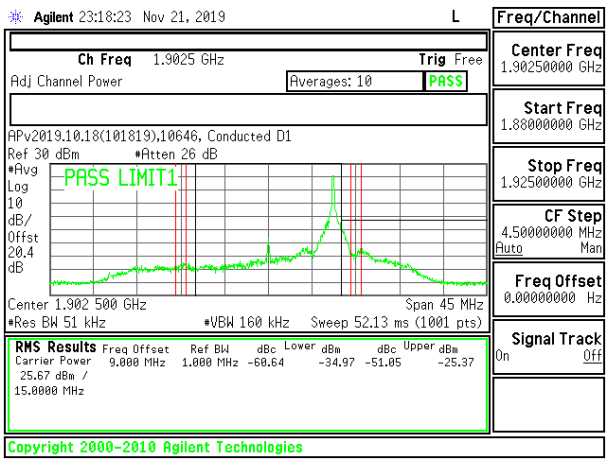
LTE B2 15MHz QPSK Low Channel RB75-0



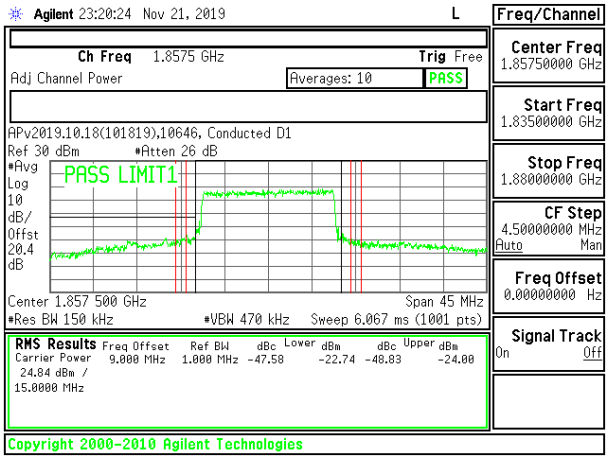
LTE B2 15MHz QPSK High Channel RB75-0



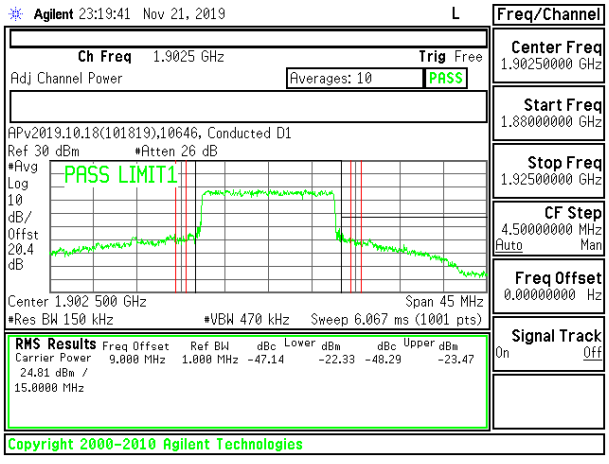
LTE B2 15MHz 16QAM Low Channel RB1-0



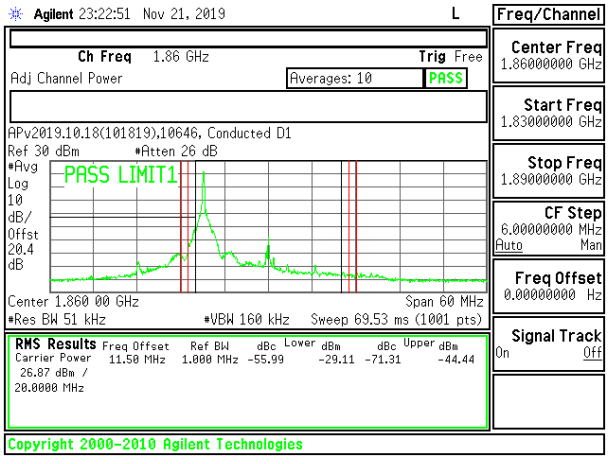
LTE B2 15MHz 16QAM High Channel RB1-74



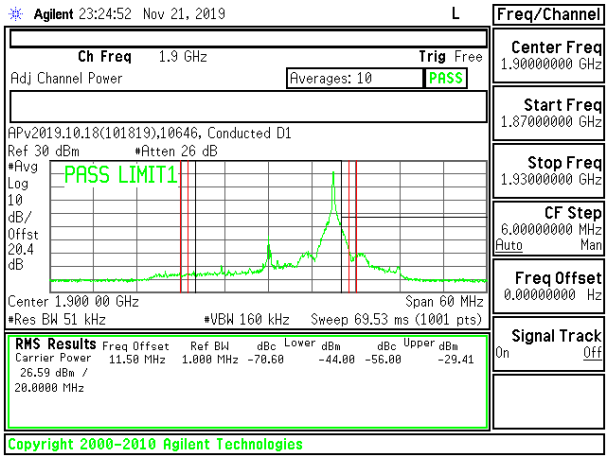
LTE B2 15MHz 16QAM Low Channel RB75-0



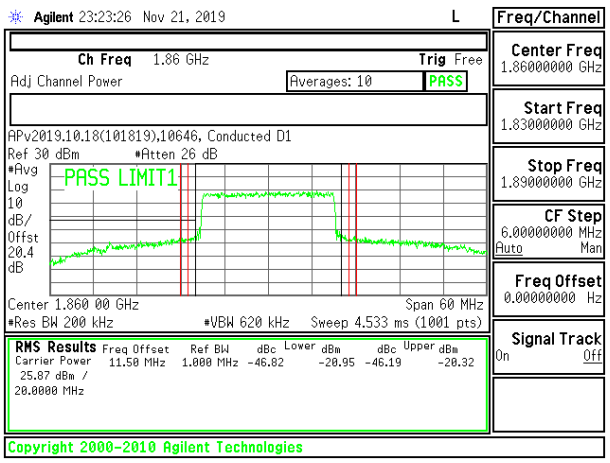
LTE B2 15MHz 16QAM High Channel RB75-0



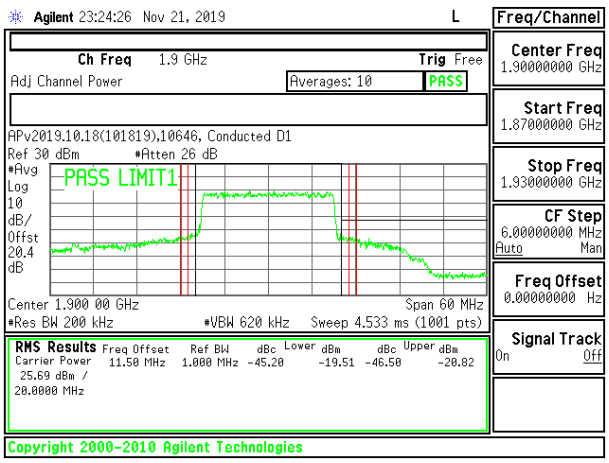
LTE B2 20MHz QPSK Low Channel RB1-0



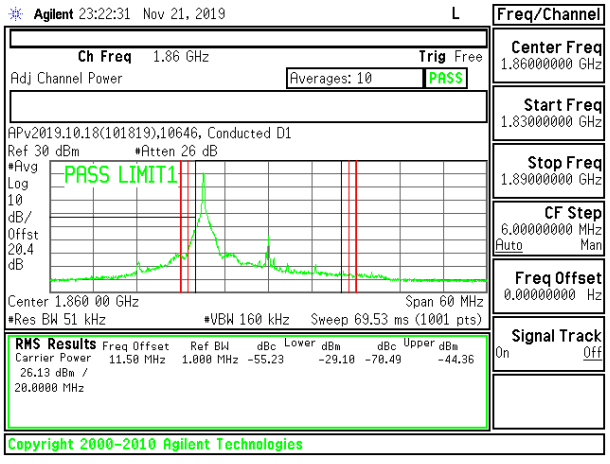
LTE B2 20MHz QPSK High Channel RB1-99



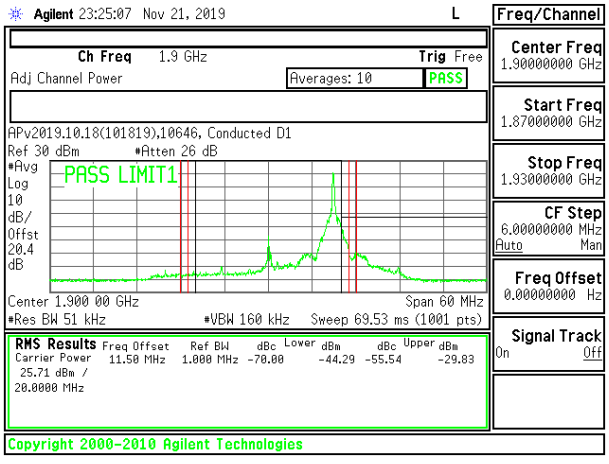
LTE B2 20MHz QPSK Low Channel RB100-0



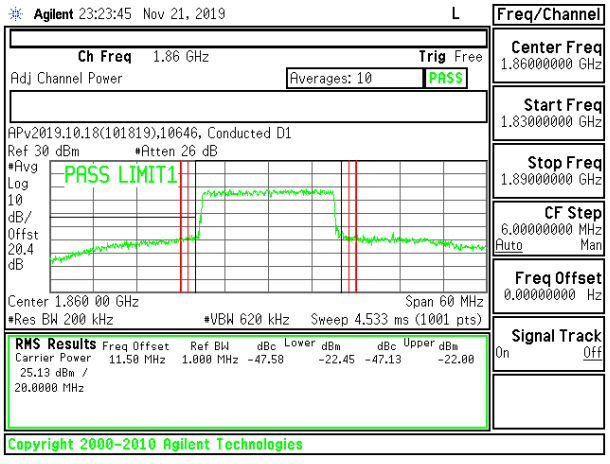
LTE B2 20MHz QPSK High Channel RB100-0



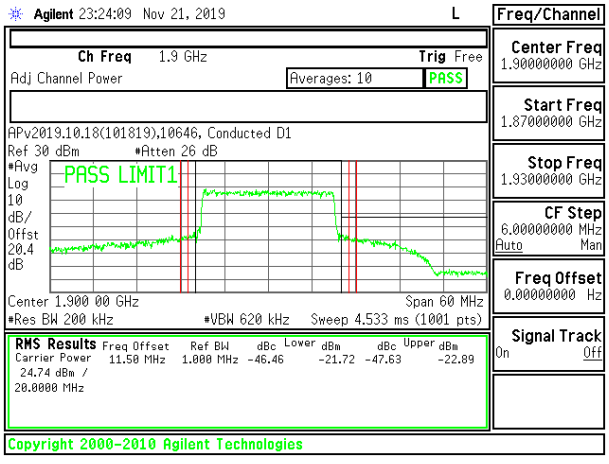
LTE B2 20MHz 16QAM Low Channel RB1-0



LTE B2 20MHz 16QAM High Channel RB1-99

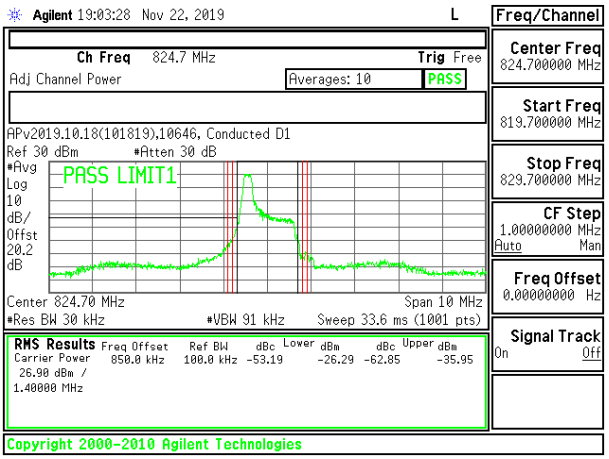


LTE B2 20MHz 16QAM Low Channel RB100-0

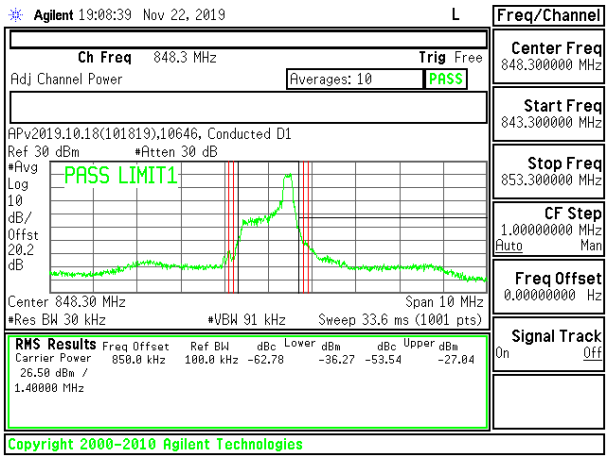


LTE B2 20MHz 16QAM High Channel RB100-0

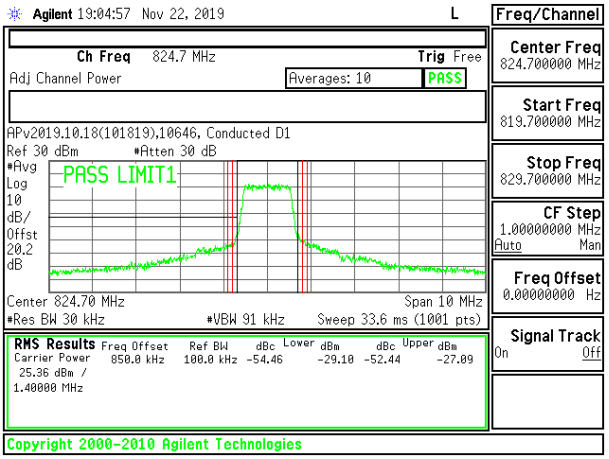
8.2.2. LTE BAND 5 ADJACENT CHANNEL POWER



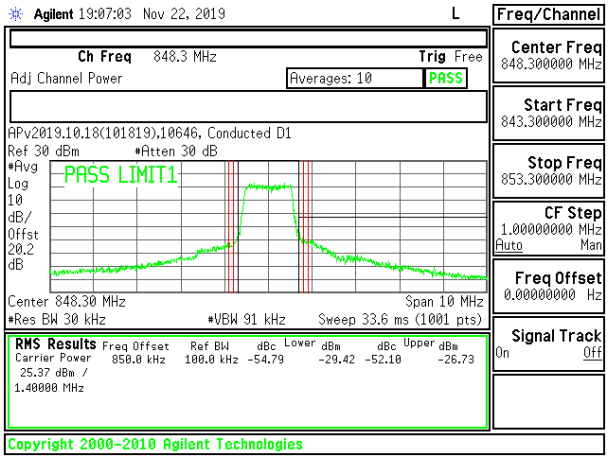
LTE B5 1.4MHz QPSK Low Channel RB1-0



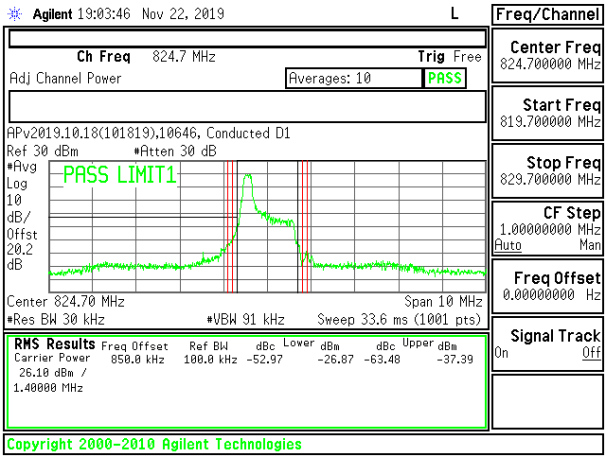
LTE B5 1.4MHz QPSK High Channel RB1-5



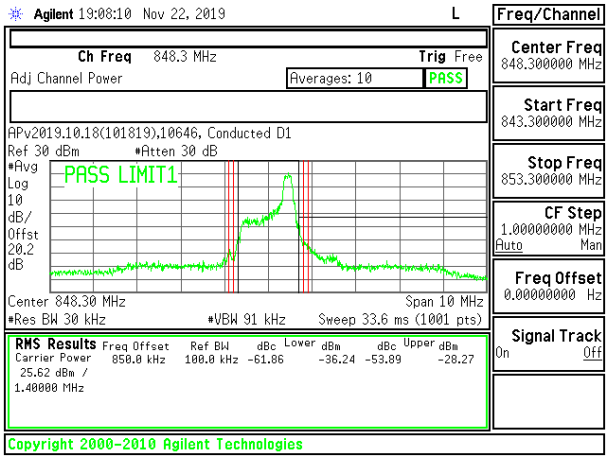
LTE B5 1.4MHz QPSK Low Channel RB6-0



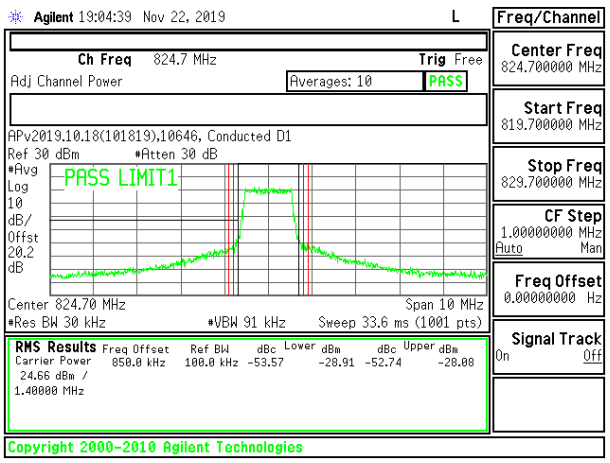
LTE B5 1.4MHz QPSK High Channel RB6-0



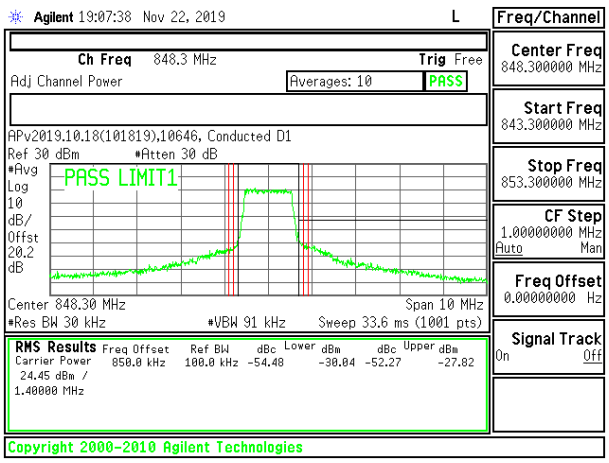
LTE B5 1.4MHz 16QAM Low Channel RB1-0



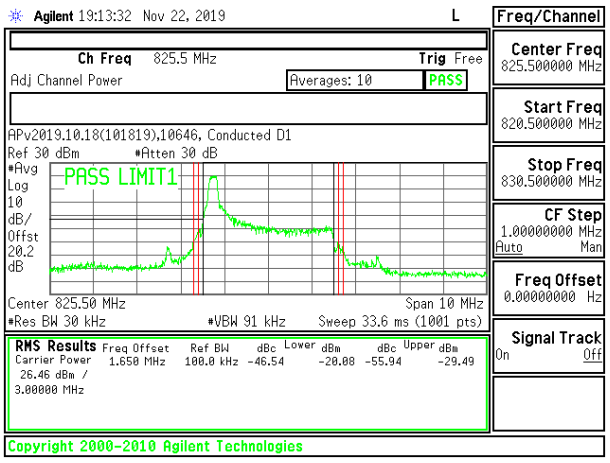
LTE B5 1.4MHz 16QAM High Channel RB1-5



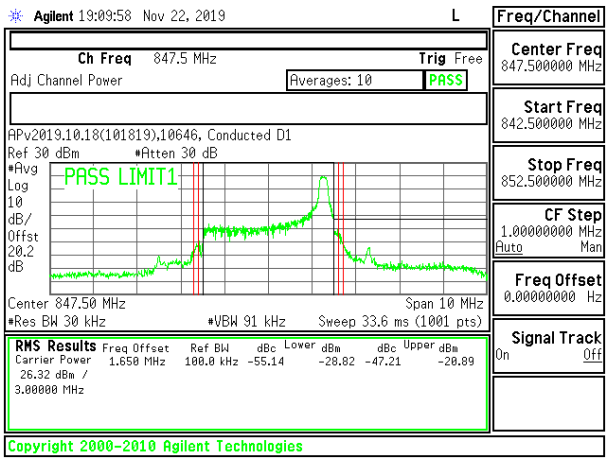
LTE B5 1.4MHz 16QAM Low Channel RB6-0



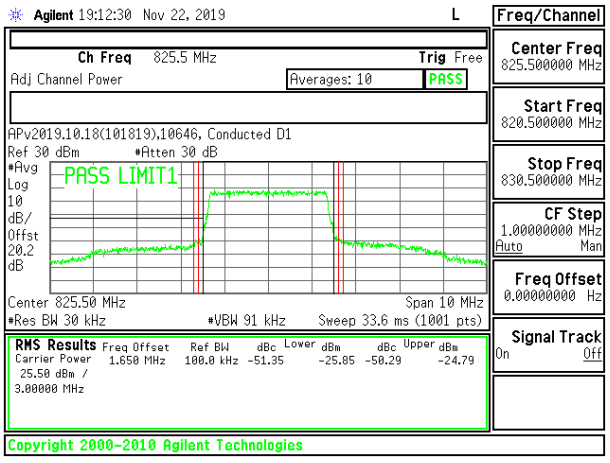
LTE B5 1.4MHz 16QAM High Channel RB6-0



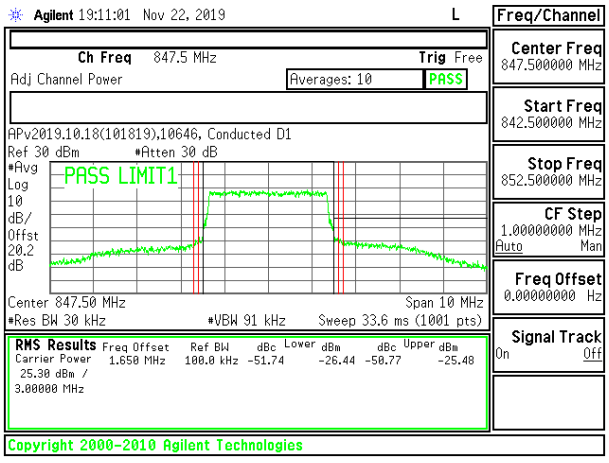
LTE B5 3MHz QPSK Low Channel RB1-0



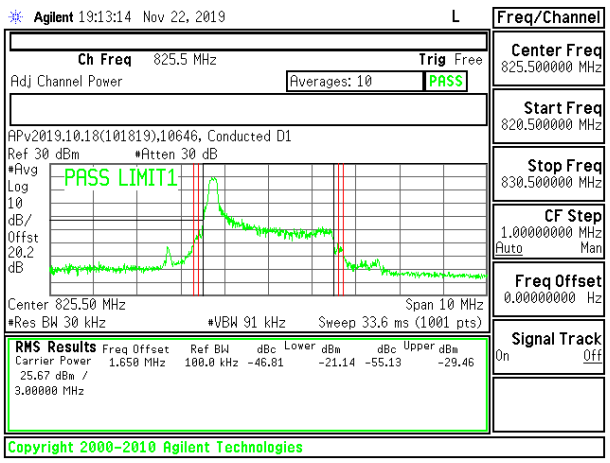
LTE B5 3MHz QPSK High Channel RB1-14



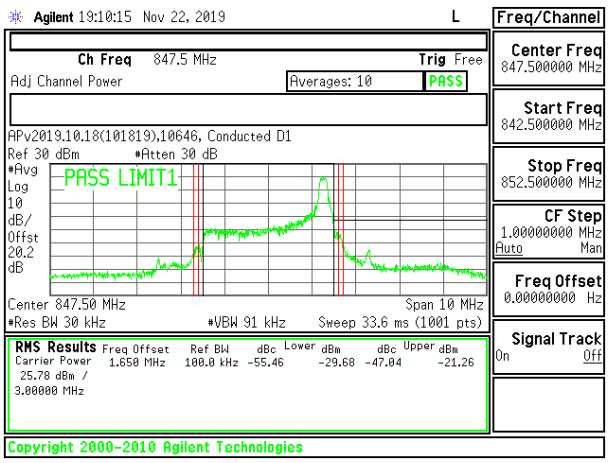
LTE B5 3MHz QPSK Low Channel RB15-0



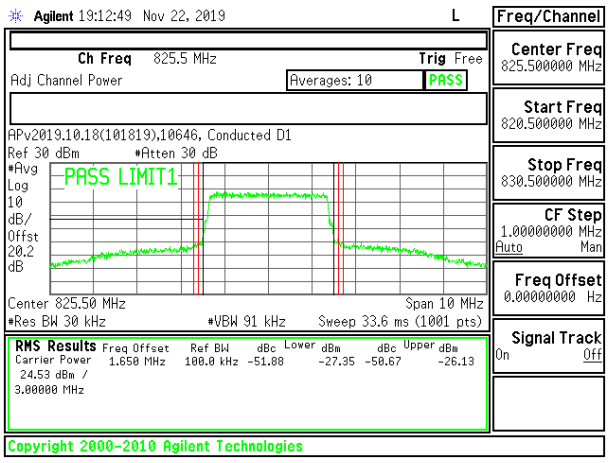
LTE B5 3MHz QPSK High Channel RB15-0



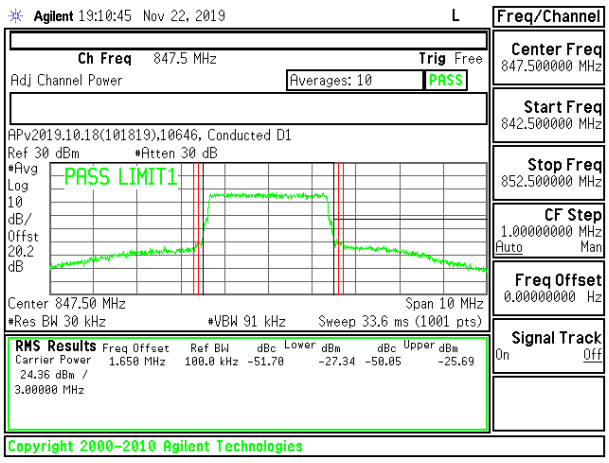
LTE B5 3MHz 16QAM Low Channel RB1-0



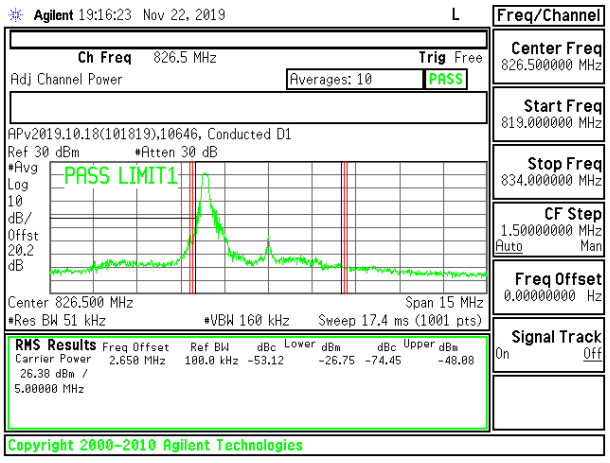
LTE B5 3MHz 16QAM High Channel RB1-14



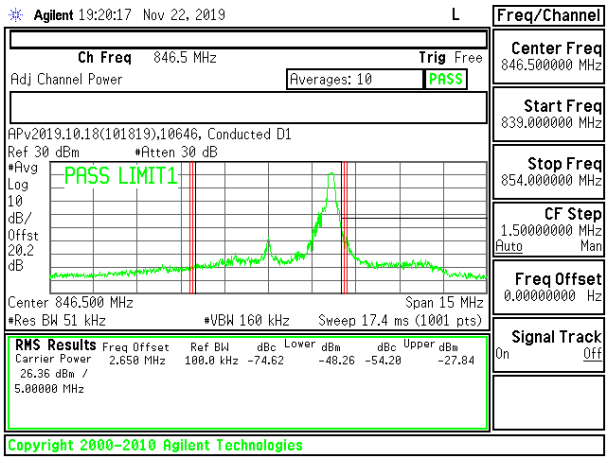
LTE B5 3MHz 16QAM Low Channel RB15-0



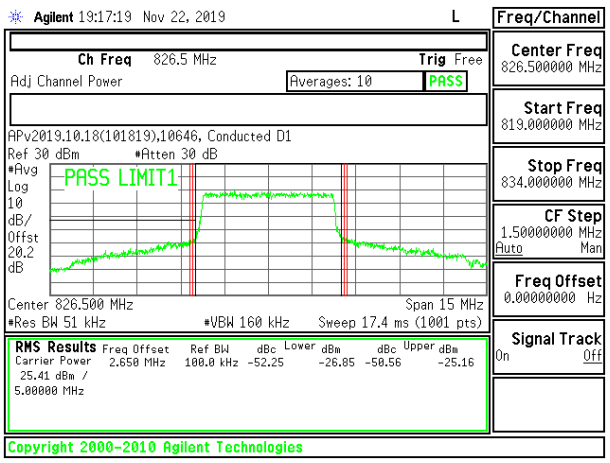
LTE B5 3MHz 16QAM High Channel RB15-0



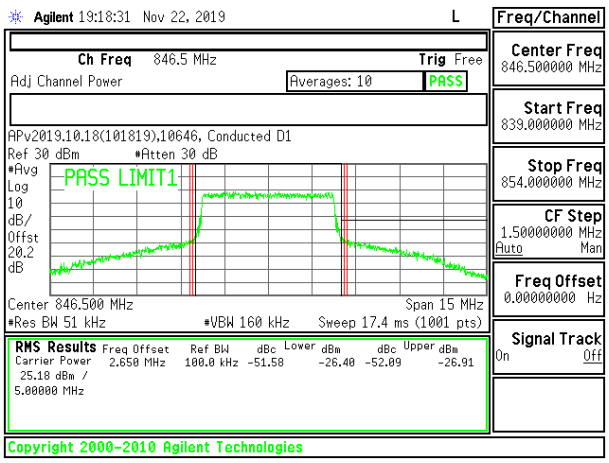
LTE B5 5MHz QPSK Low Channel RB1-0



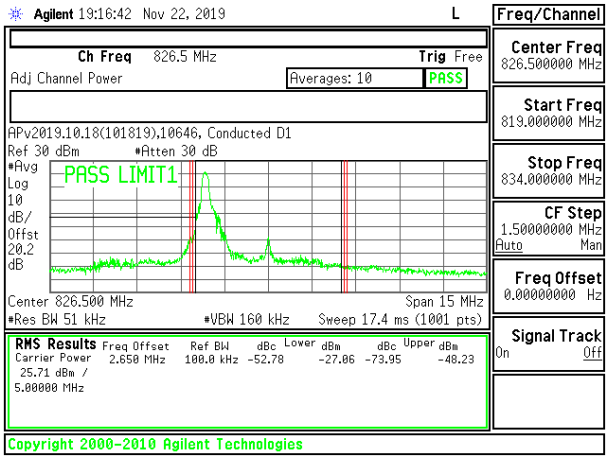
LTE B5 5MHz QPSK High Channel RB1-24



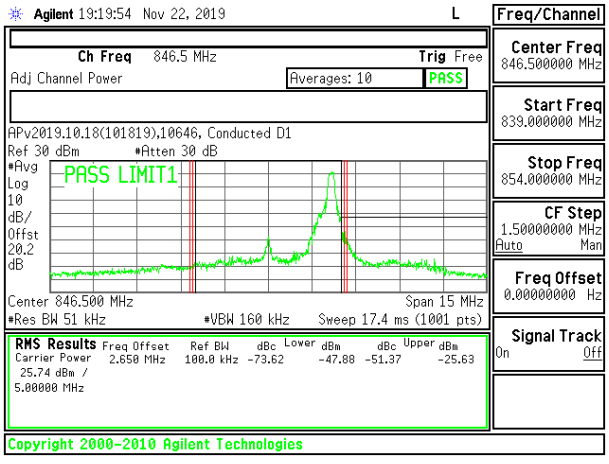
LTE B5 5MHz QPSK Low Channel RB25-0



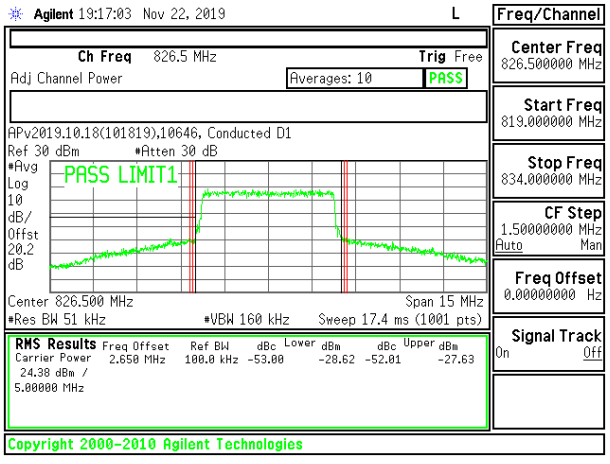
LTE B5 5MHz QPSK High Channel RB25-0



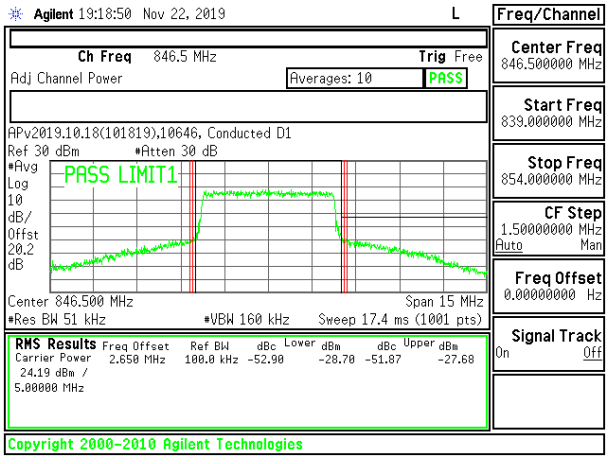
LTE B5 5MHz 16QAM Low Channel RB1-0



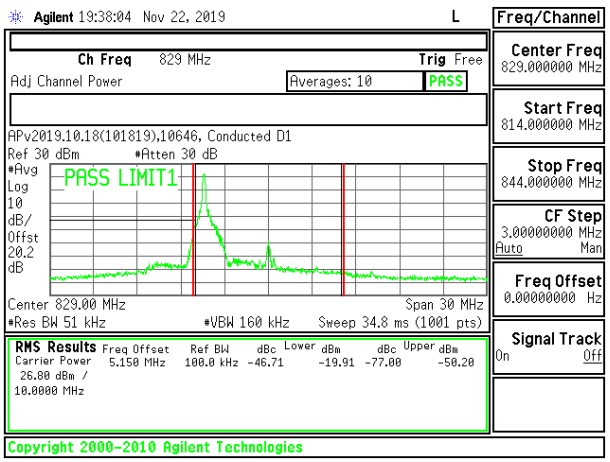
LTE B5 5MHz 16QAM High Channel RB1-24



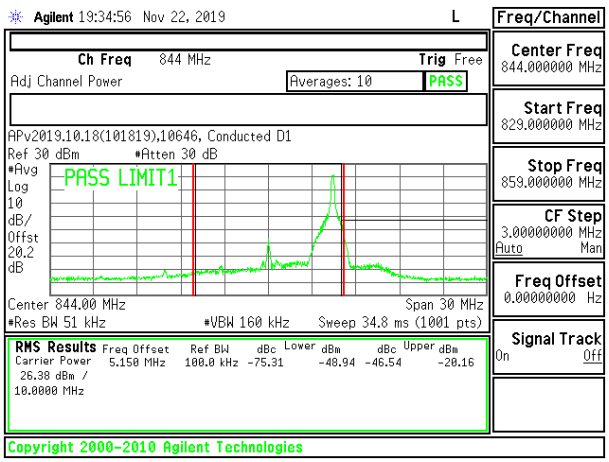
LTE B5 5MHz 16QAM Low Channel RB25-0



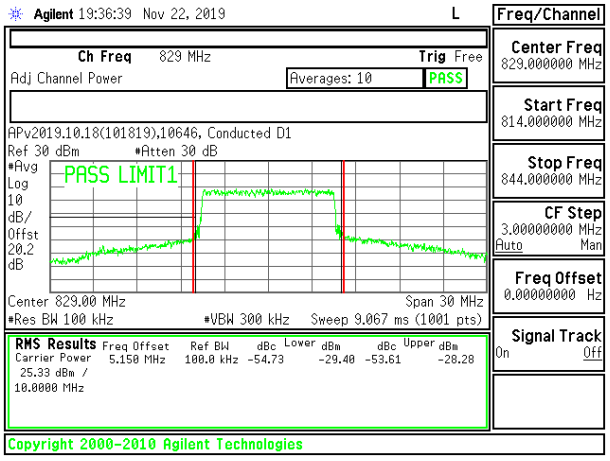
LTE B5 5MHz 16QAM High Channel RB25-0



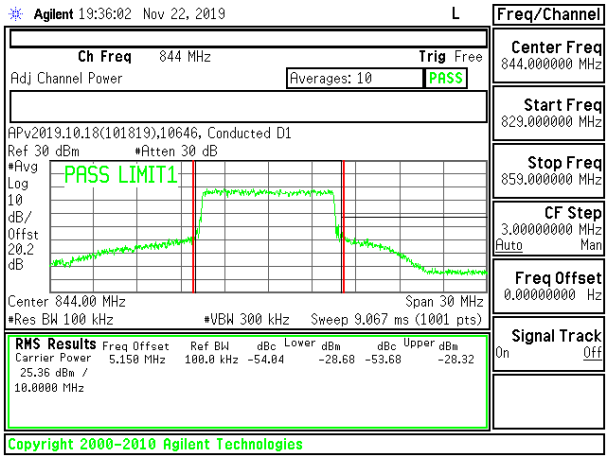
LTE B5 10MHz QPSK Low Channel RB1-0



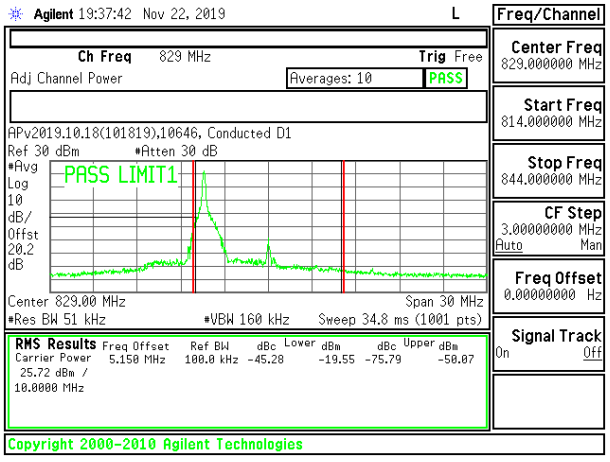
LTE B5 10MHz QPSK High Channel RB1-49



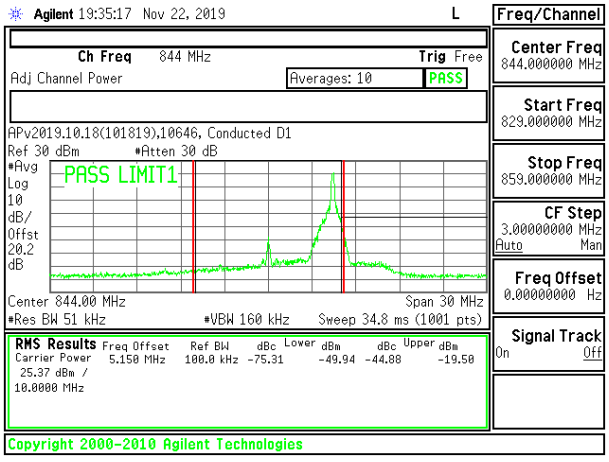
LTE B5 10MHz QPSK Low Channel RB50-0



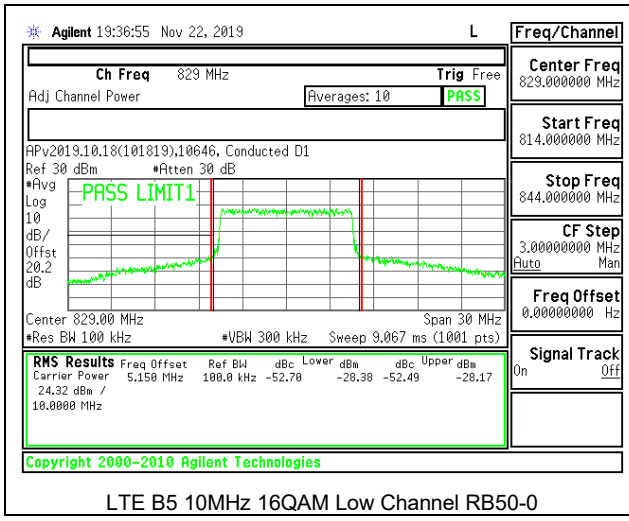
LTE B5 10MHz QPSK High Channel RB50-0



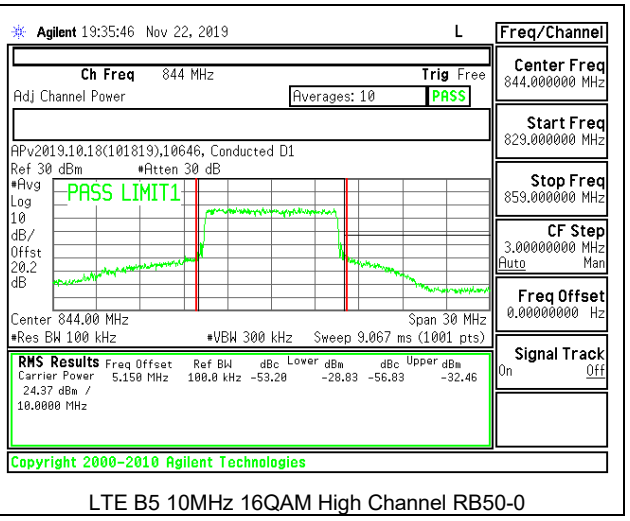
LTE B5 10MHz 16QAM Low Channel RB1-0



LTE B5 10MHz 16QAM High Channel RB1-49

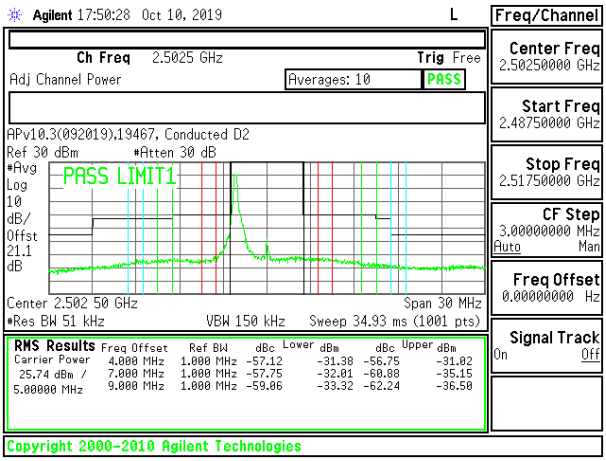


LTE B5 10MHz 16QAM Low Channel RB50-0

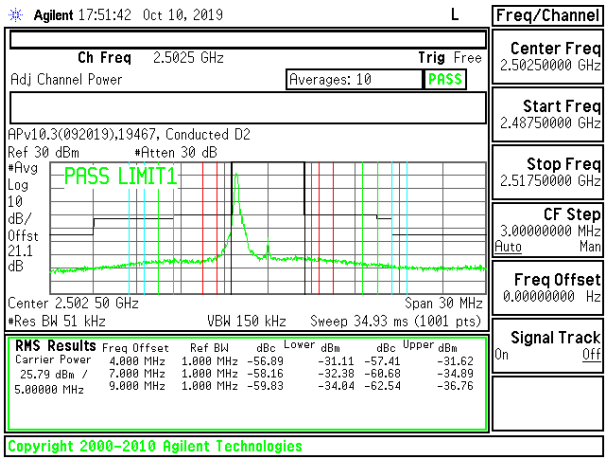


LTE B5 10MHz 16QAM High Channel RB50-0

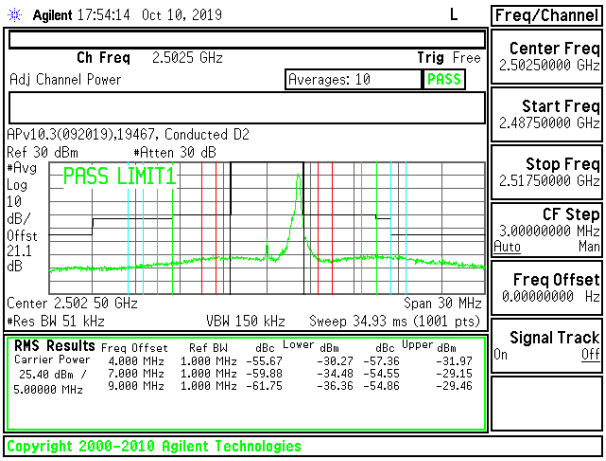
8.2.3. LTE BAND 7 ADJACENT CHANNEL POWER



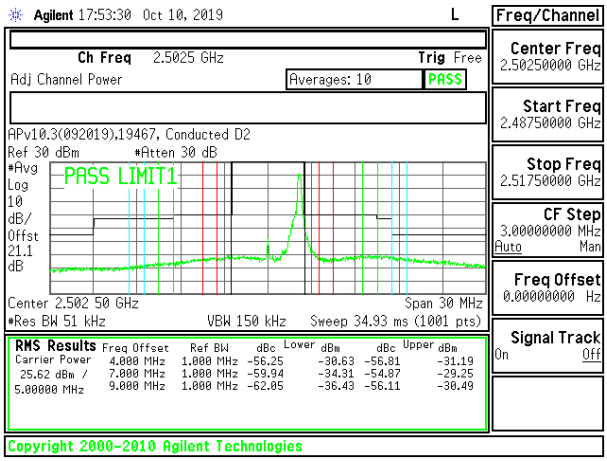
LTE B7 5MHz QPSK Low Channel RB1-0



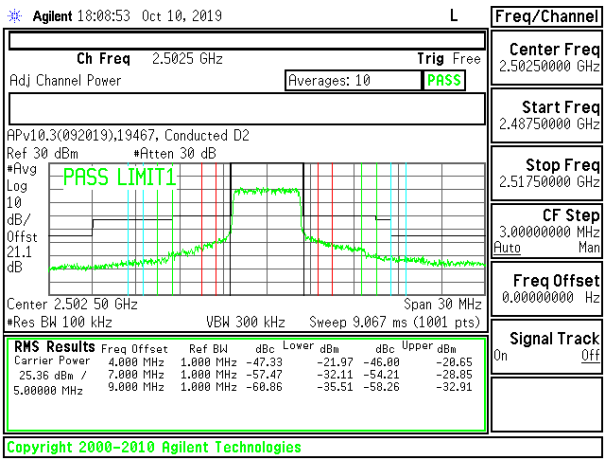
LTE B7 5MHz 16QAM Low Channel RB1-0



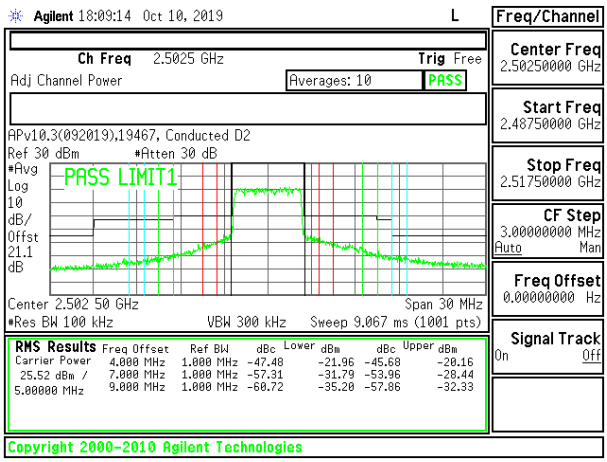
LTE B7 5MHz QPSK Low Channel RB1-24



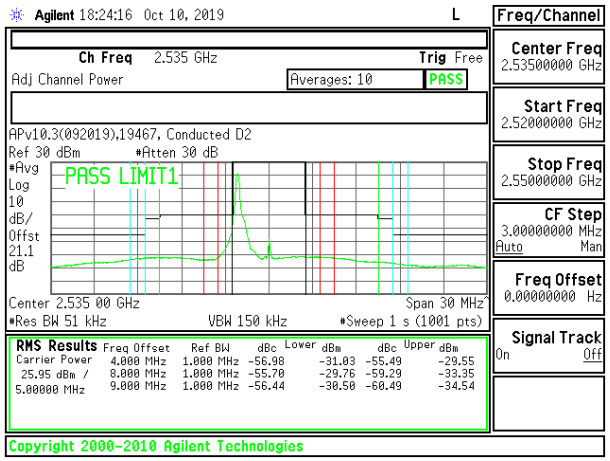
LTE B7 5MHz 16QAM Low Channel RB1-24



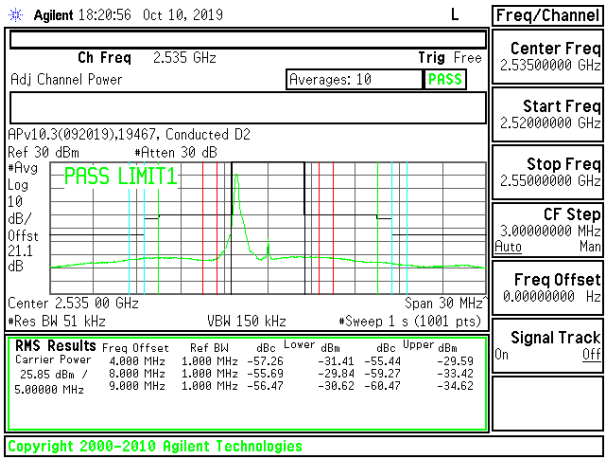
LTE B7 5MHz QPSK Low Channel RB25-0



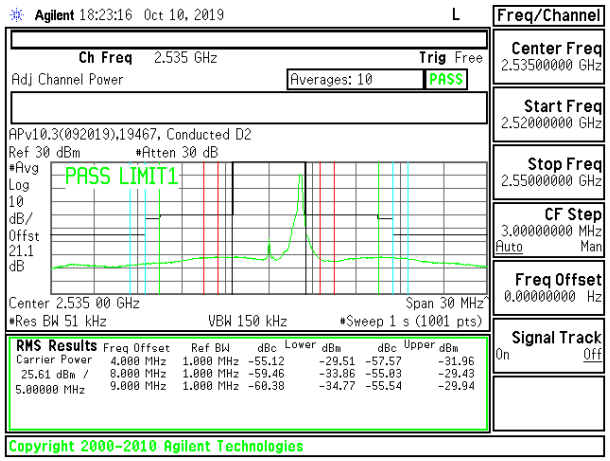
LTE B7 5MHz 16QAM Low Channel RB25-0



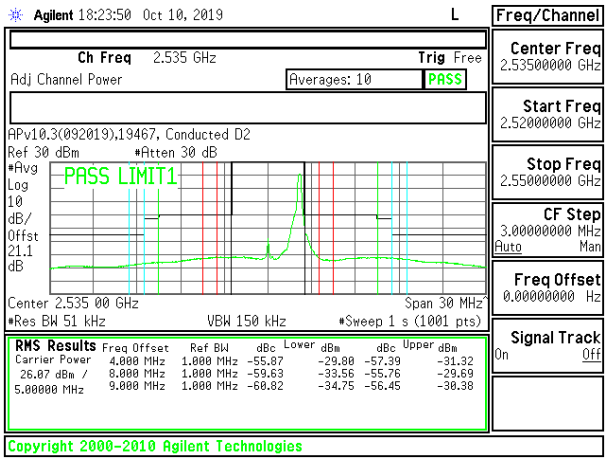
LTE B7 5MHz QPSK Middle Channel RB1-0



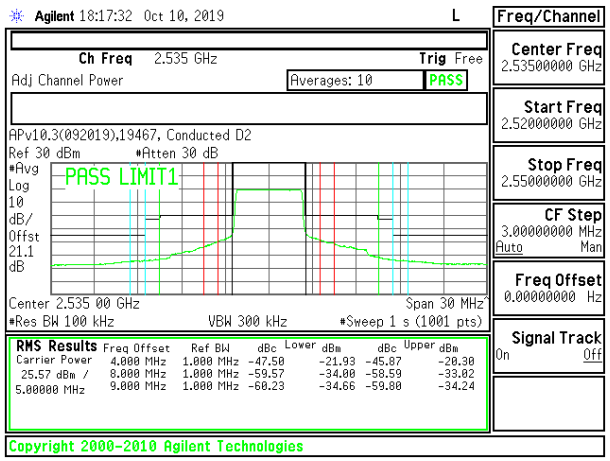
LTE B7 5MHz 16QAM Middle Channel RB1-0



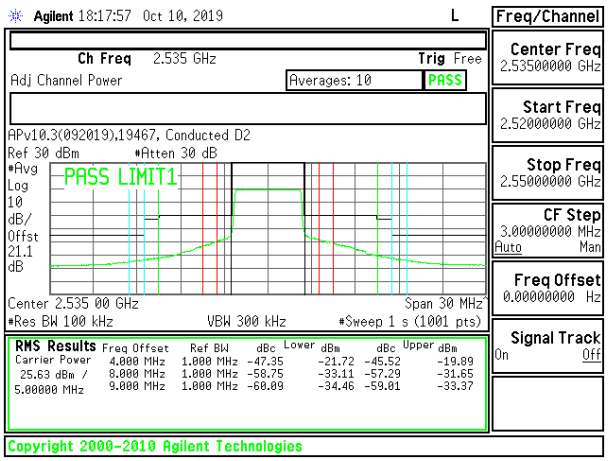
LTE B7 5MHz QPSK Middle Channel RB1-24



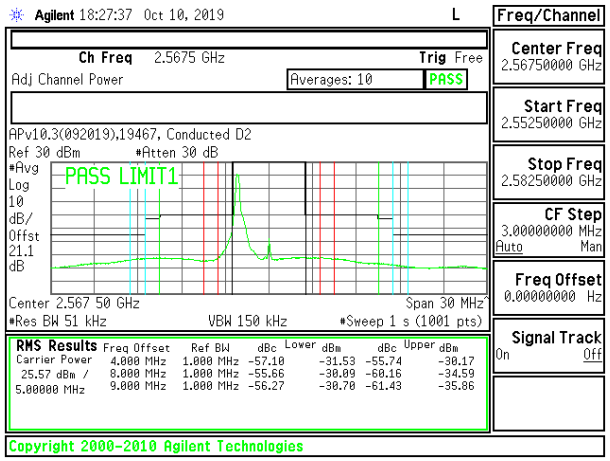
LTE B7 5MHz 16QAM Middle Channel RB1-24



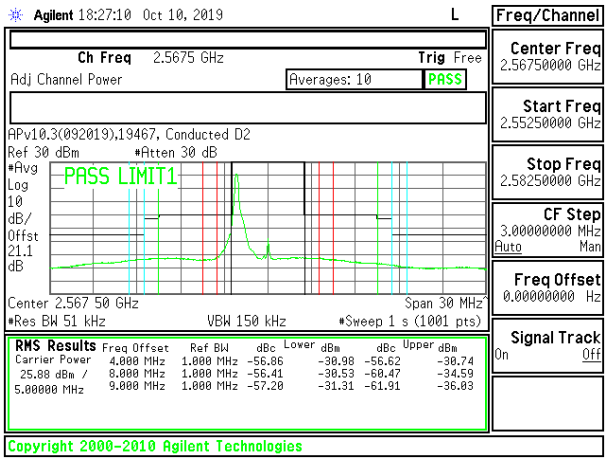
LTE B7 5MHz QPSK Middle Channel RB25-0



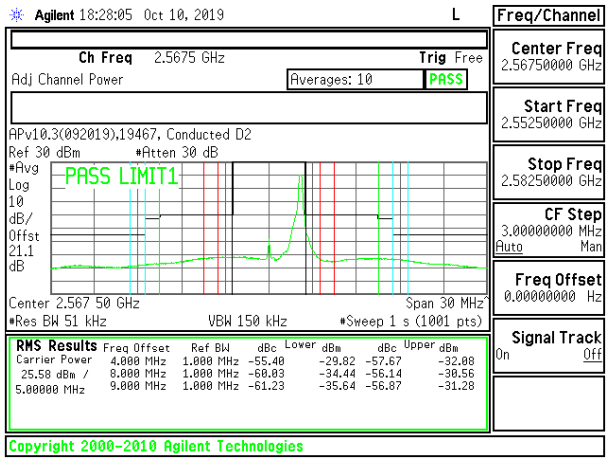
LTE B7 5MHz 16QAM Middle Channel RB25-0



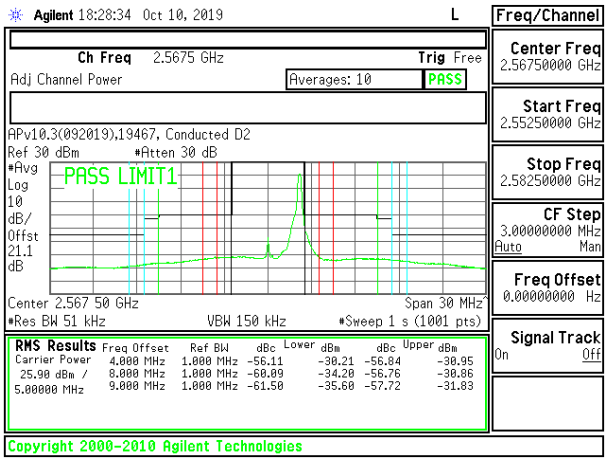
LTE B7 5MHz QPSK High Channel RB1-0



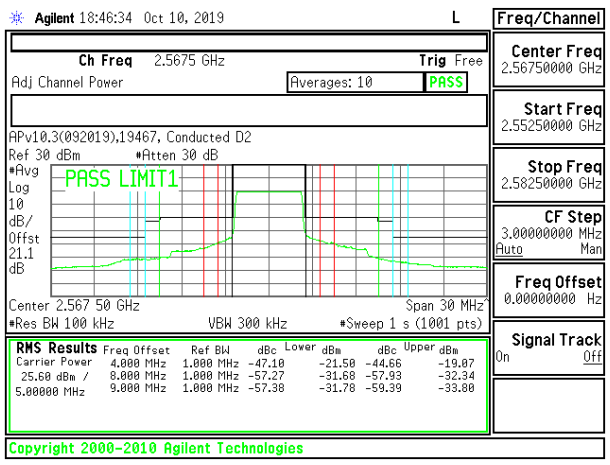
LTE B7 5MHz 16QAM High Channel RB1-0



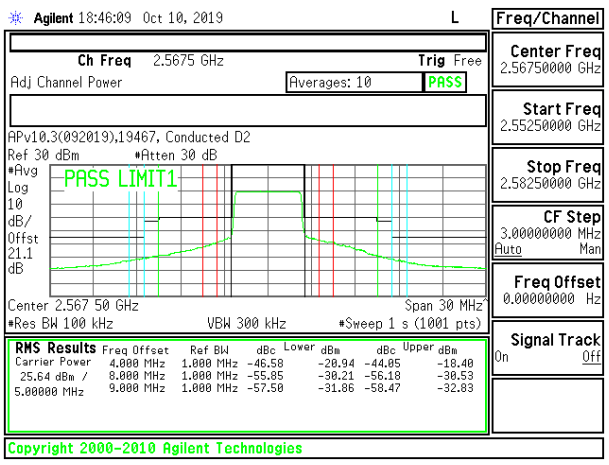
LTE B7 5MHz QPSK High Channel RB1-24



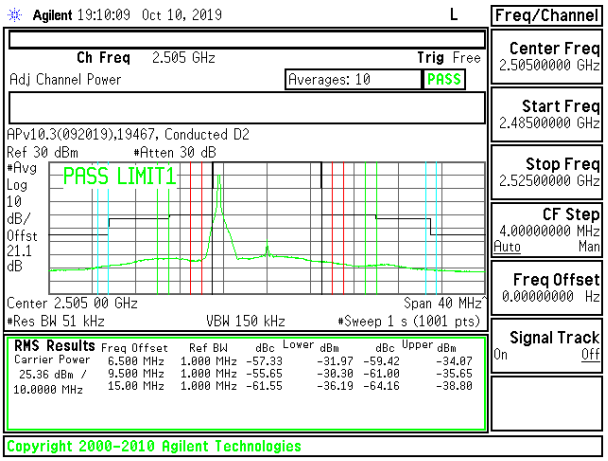
LTE B7 5MHz 16QAM High Channel RB1-24



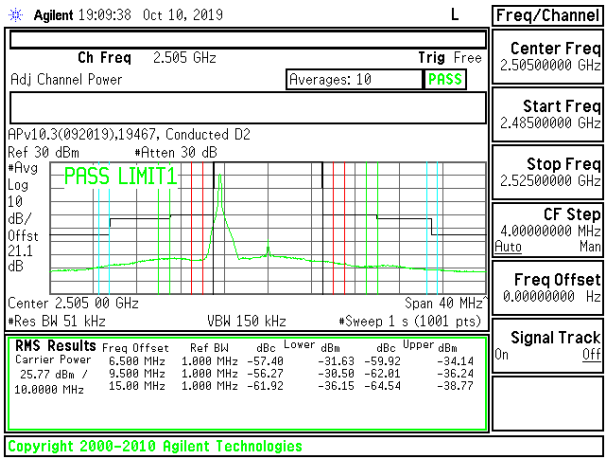
LTE B7 5MHz QPSK High Channel RB25-0



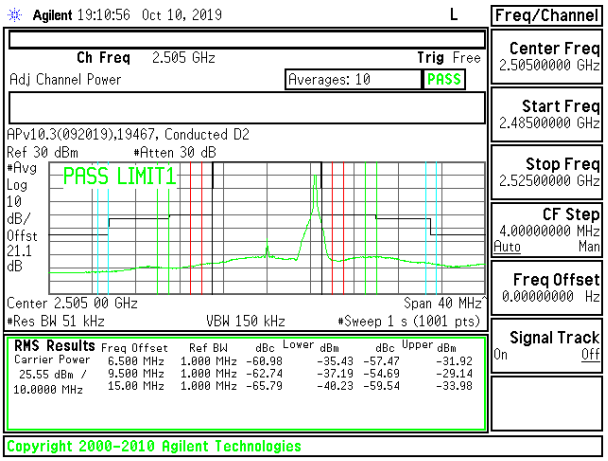
LTE B7 5MHz 16QAM High Channel RB25-0



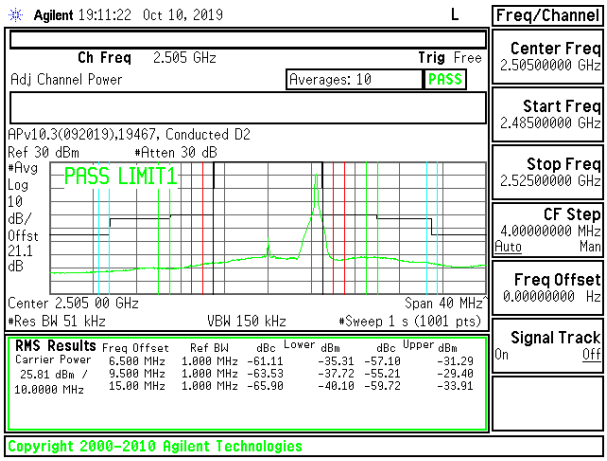
LTE B7 10MHz QPSK Low Channel RB1-0



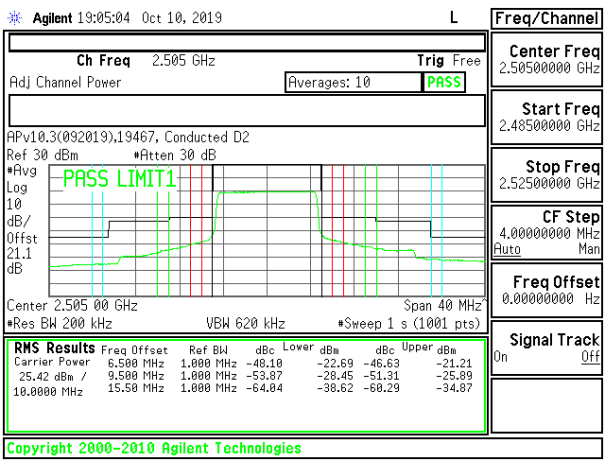
LTE B7 10MHz 16QAM Low Channel RB1-0



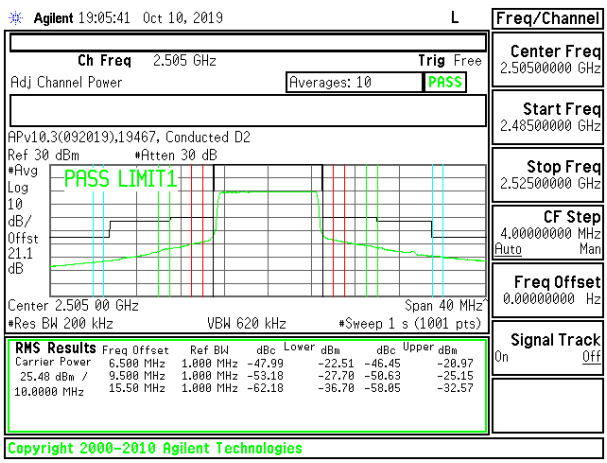
LTE B7 10MHz QPSK Low Channel RB1-49



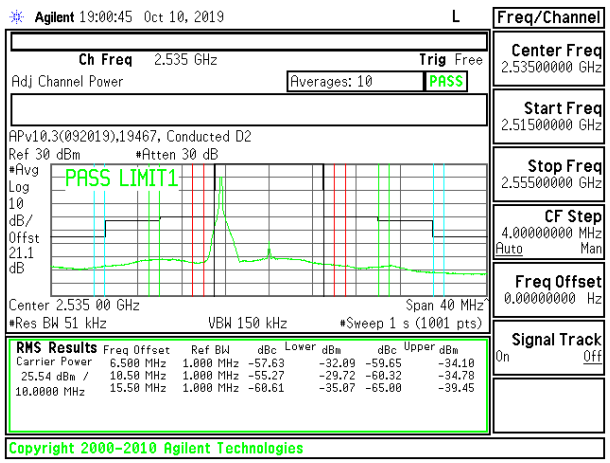
LTE B7 10MHz 16QAM Low Channel RB1-49



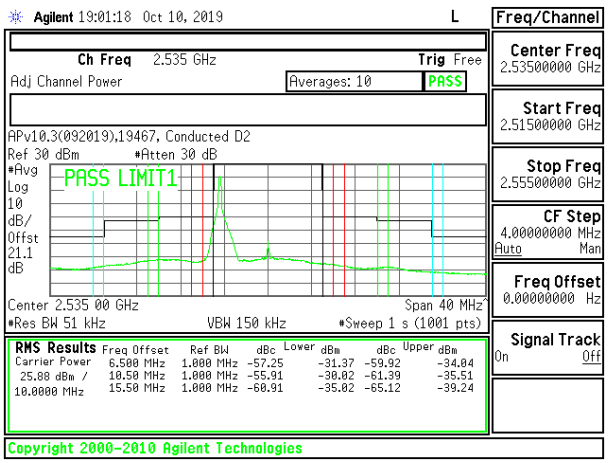
LTE B7 10MHz QPSK Low Channel RB50-0



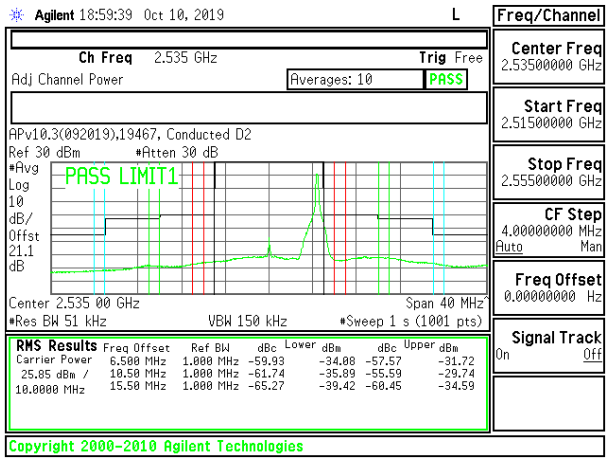
LTE B7 10MHz 16QAM Low Channel RB50-0



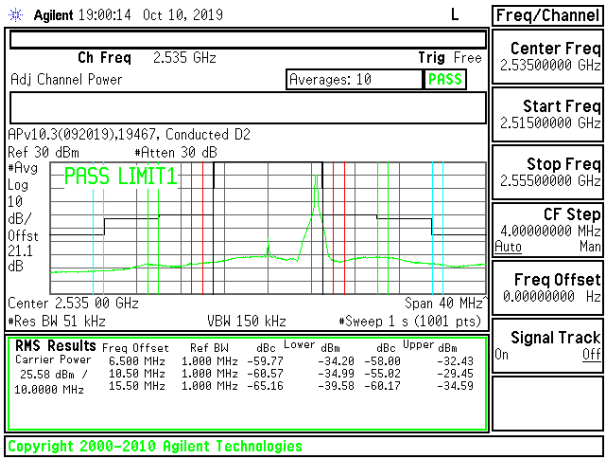
LTE B7 10MHz QPSK Middle Channel RB1-0



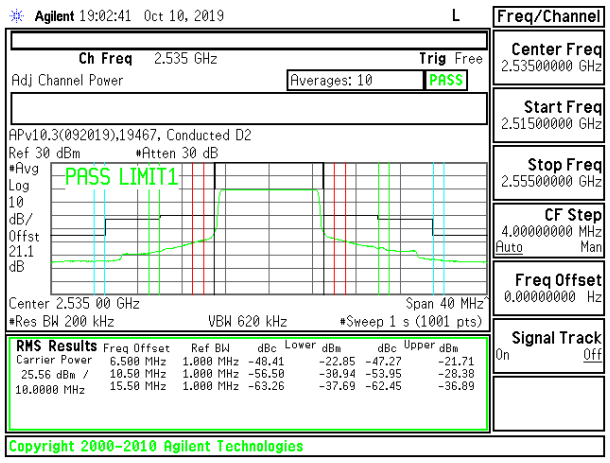
LTE B7 10MHz 16QAM Middle Channel RB1-0



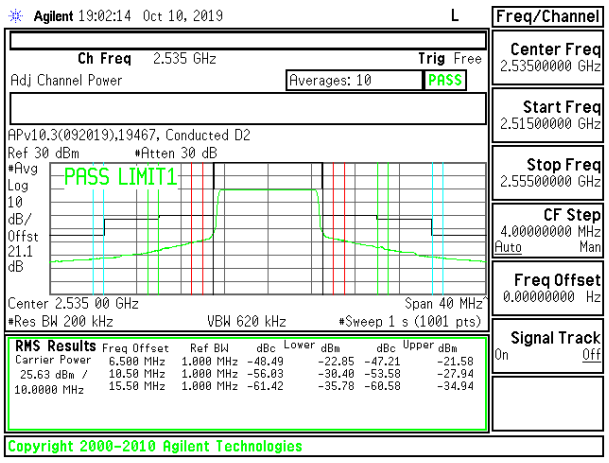
LTE B7 10MHz QPSK Middle Channel RB1-49



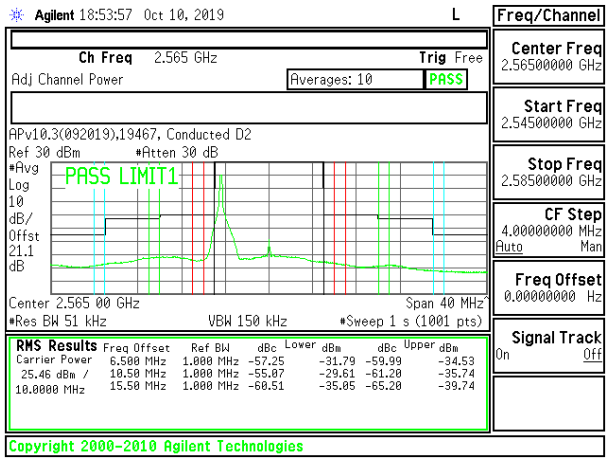
LTE B7 10MHz 16QAM Middle Channel RB1-49



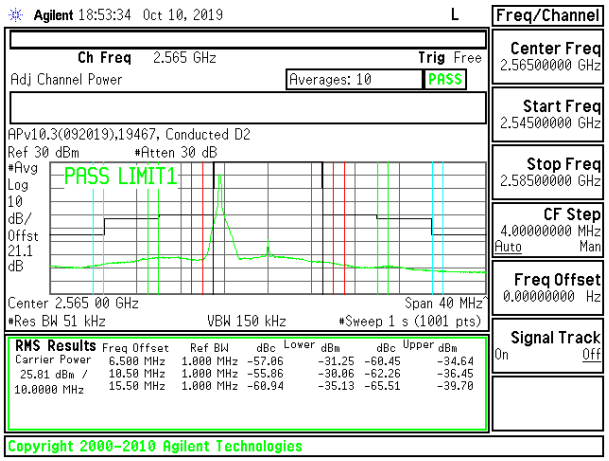
LTE B7 10MHz QPSK Middle Channel RB50-0



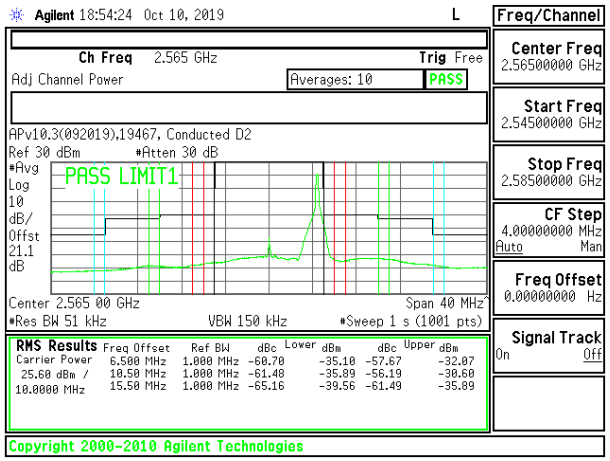
LTE B7 10MHz 16QAM Middle Channel RB50-0



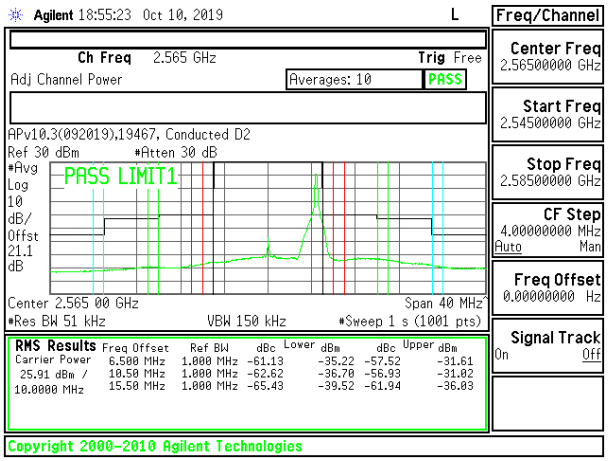
LTE B7 10MHz QPSK High Channel RB1-0



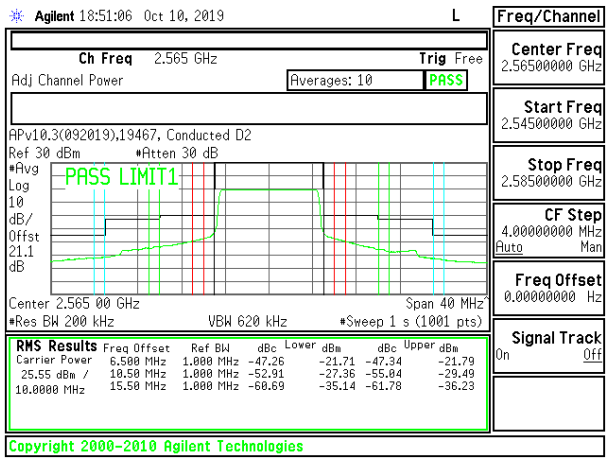
LTE B7 10MHz 16QAM High Channel RB1-0



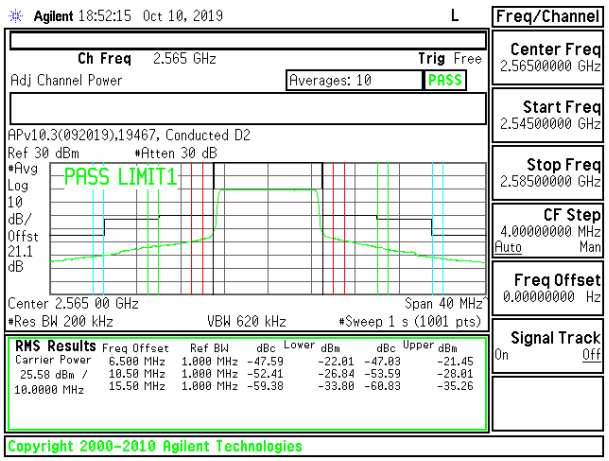
LTE B7 10MHz QPSK High Channel RB1-49



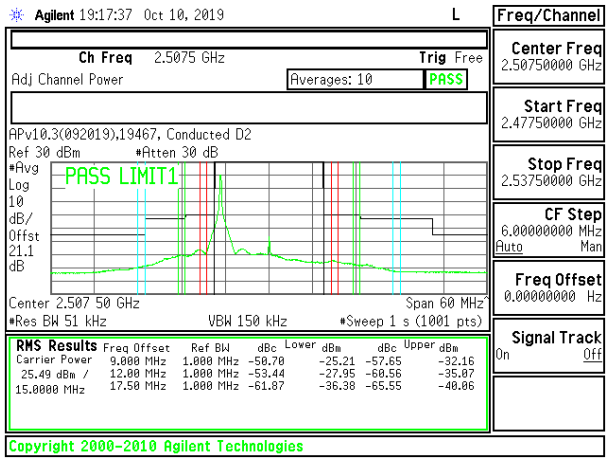
LTE B7 10MHz 16QAM High Channel RB1-49



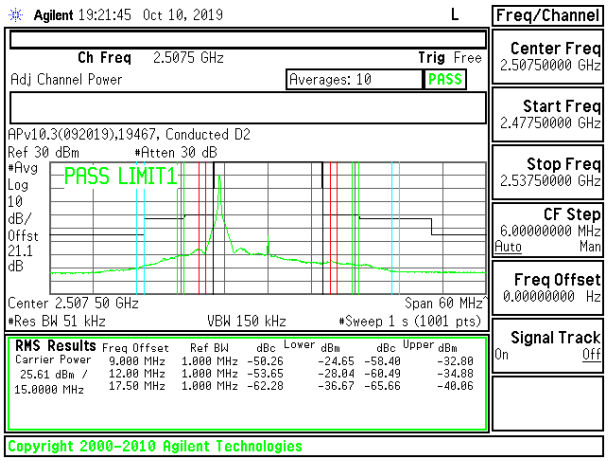
LTE B7 10MHz QPSK High Channel RB50-0



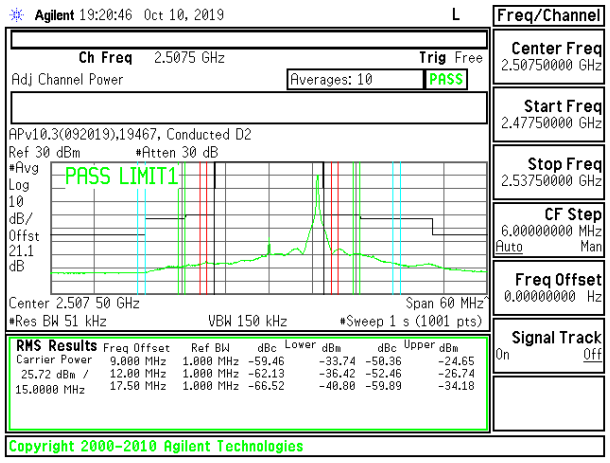
LTE B7 10MHz 16QAM High Channel RB50-0



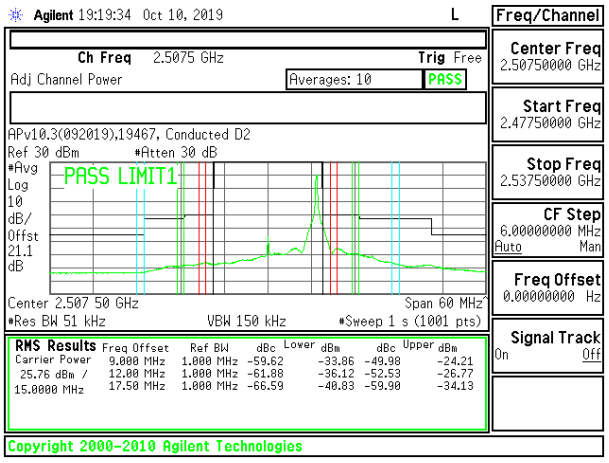
LTE B7 15MHz QPSK Low Channel RB1-0



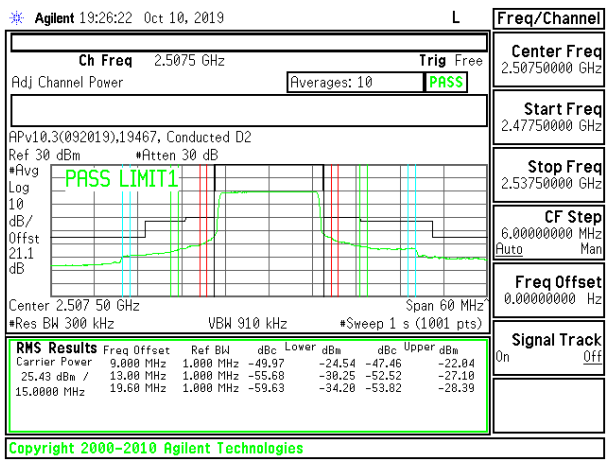
LTE B7 15MHz 16QAM Low Channel RB1-0



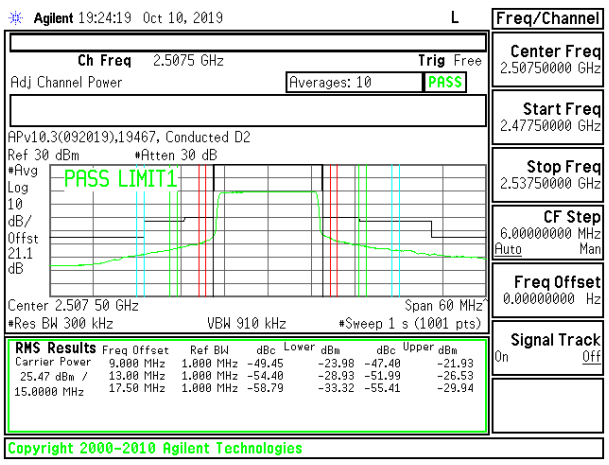
LTE B7 15MHz QPSK Low Channel RB1-74



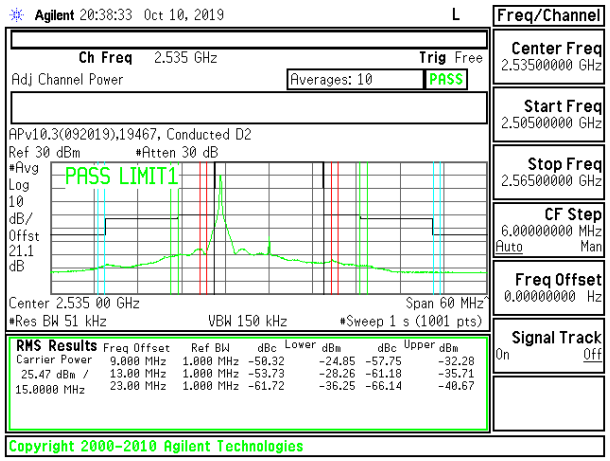
LTE B7 15MHz 16QAM Low Channel RB1-74



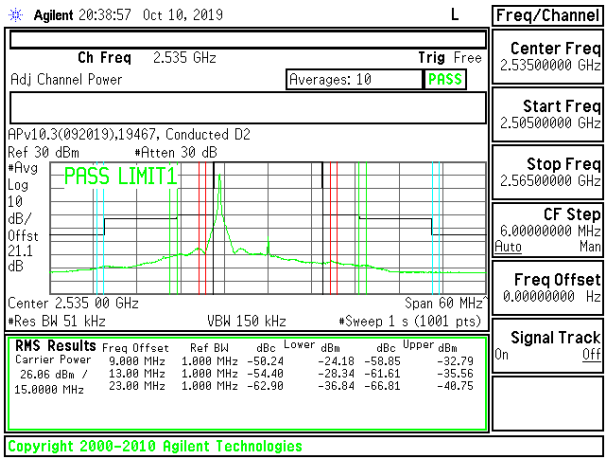
LTE B7 15MHz QPSK Low Channel RB75-0



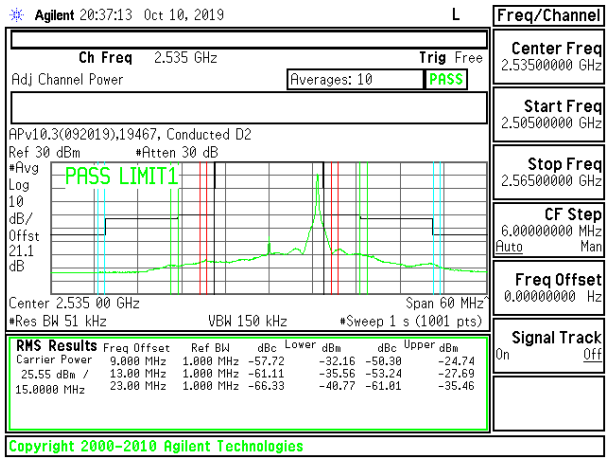
LTE B7 15MHz 16QAM Low Channel RB75-0



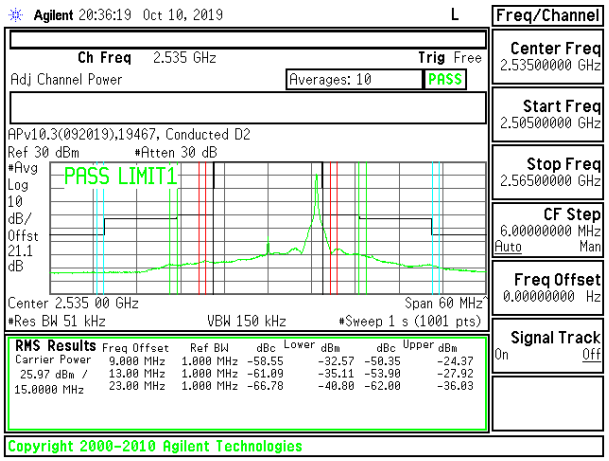
LTE B7 15MHz QPSK Middle Channel RB1-0



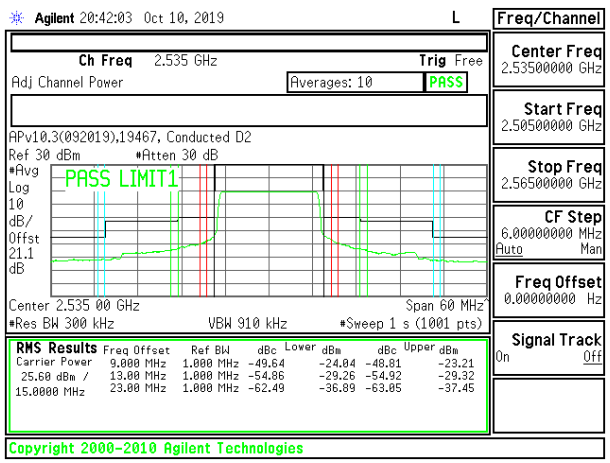
LTE B7 15MHz 16QAM Middle Channel RB1-0



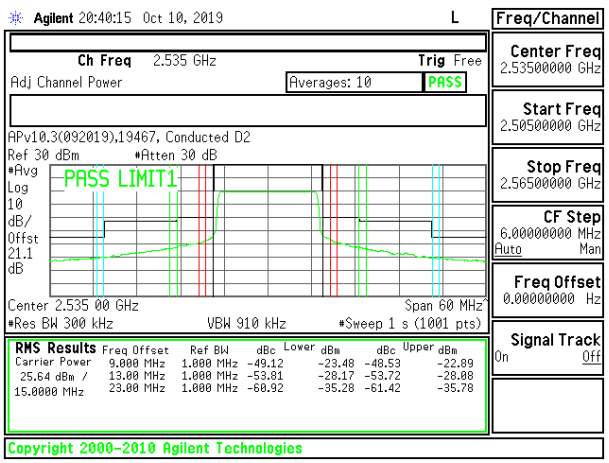
LTE B7 15MHz QPSK Middle Channel RB1-74



LTE B7 15MHz 16QAM Middle Channel RB1-74



LTE B7 15MHz QPSK Middle Channel RB75-0



LTE B7 15MHz 16QAM Middle Channel RB75-0