



TEST REPORT

Report Number: 13190901-E8V3

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

Model : A2398

FCC ID : BCG-E3540A

EUT Description : SMARTPHONE

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

Date Of Issue:
OCTOBER 04, 2020

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Revision History

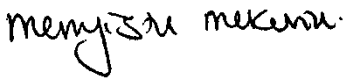
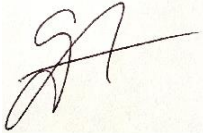
Rev.	Issue Date	Revisions	Revised By
V1	9/25/2020	Initial Review	Mengistu Mekuria
V2	10/2/2020	Address TCB Feedback	Sintia Andrean
V3	10/4/2020	Updated 5G NR Band n41 EIRP Data at at Section 5.6.	Mengisitu Mekuria

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1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE, INC 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A.	
Model	A2398	
FCC ID	BCG-E3540A	
EUT Description	SMARTPHONE	
Serial Number	MODEL (A2398): C74033300DAP54Y5R (CONDUCTED) AND C7CCT01HQ91K (RADIATED)	
Date Tested	APRIL 21, 2020 to SEPTEMBER 24, 2020	
Applicable Standards	FCC CFR47 22H, 24E, 27, 90S, 90R, 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:	Reviewed By:	Prepared By:
		
Mengistu Mekuria Lead Test Engineer UL Verification Services Inc.	Glenn Escano Project Engineer UL Verification Services Inc.	Sintia Andrian Laboratory 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 Rd.
☒ Chamber A (IC:2324B-1)	☐ Chamber D (IC:22541-1)	☐ Chamber I (IC: 2324A-5)
☒ Chamber B (IC:2324B-2)	☐ Chamber E (IC:22541-2)	☐ Chamber J (IC: 2324A-6)
☐ Chamber C (IC:2324B-3)	☐ Chamber F (IC:22541-3)	☐ Chamber K (IC: 2324A-1)
	☐ Chamber G (IC:22541-4)	☐ Chamber L (IC: 2324A-3)
	☐ Chamber H (IC:22541-5)	☐ Chamber M (IC: 2324A-2)

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. DECISION 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}
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.39 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.07 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.52 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	4.88 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.24 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.37 dB
Worst Case 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%.

4.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

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

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

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

5. INTRODUCTION OF TEST DATA REUSE

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, 5G, CDMA, IEEE 802.11a/b/g/n/ac/ax, Bluetooth, Ultra-Wideband, GPS, NFC and WPT. All models support at least one UICC based SIM. The second SIM is either an UICC based p-SIM (physical SIM) or e-SIM (electronic SIM). The device supports a built-in inductive charging transmitter and receiver. The rechargeable battery is not user accessible.

5.2. INTRODUCTION

This application for certification is leveraging the data reuse procedures from KDB 484596 D01 based on reference FCC ID BCG-E3539A to cover variant model FCC ID BCG-E3540A. The major difference between the parent/reference model and the variant model is the depopulation in the variant model of the mmWave transmitter. All other circuitry and features are identical. The data reuse test plan was approved via manufacturer KDB inquiry.

5.3. MODEL DIFFERENCES

The manufacturer hereby declares the following for models A2176 and A2398.

A2176 and A2398 are highly similar, with the only difference being the supported cellular bands.

They have the same PCB layout, design, common components, antennas, antenna locations and housing cases.

More specifically, their cellular modem, Wi-Fi, BT, NFC, WPT and UWB transmitters are identical, and removal of cellular bands is done by software and depopulation of band-specific components associated with the removed bands.

Spot check verification and additional full radiated spurious emission test on ANT2 have been done on model A2398 in accordance with the test plan approved via KDB inquiry. Comparison of the models, upper deviation is within 3dB range and all tests are under FCC Technical Limits. The results documented for model A2176 may be applied as representative to model A2398.

5.4. SPOT CHECK VERIFICATION RESULTS SUMMARY

A2398 SPOT CHECK RESULTS								
Technology	Worst Mode	Test Item	Channel	Measured	Original Model: A2176	Sub Model: A2398	Delta (dB)	Remarks
				Frequency (MHz)	FCC ID: BCG-E3539A	FCC ID: BCG-E3540A		
LTE BAND 2	QPSK @ 20 MHz BW	EIRP	High	1900	24.7 dBm	24.7 dBm	0	
	QPSK @ highest BW	RSE	Low	7438.45	-48.41 dBm	-46.01 dBm	2.4	Noise Floor Level
LTE BAND 5	QPSK @ 10 MHz BW	ERP	Mid	836.5	19.95 dBm	19.95 dBm	0	
	QPSK @ highest BW	RSE	Low	1738.31	-43.83 dBm	-55.13 dBm	-11.3	Noise Floor Level
5G NR BAND N5	QPSK @ 20 MHz BW	ERP	Mid	836.5	19.95 dBm	19.95 dBm	0	
	QPSK @ highest BW	RSE	Low	3336.62	-50.86 dBm	-51.76 dBm	-0.9	Noise Floor Level
LTE BAND 7	QPSK @ 20 MHz BW	EIRP	Low	2510	24 dBm	24 dBm	0	
	QPSK @ highest BW	RSE	High	10239.86	-45.24 dBm	-43.11 dBm	2.13	Noise Floor Level
LTE BAND 12	QPSK @ 10 MHz BW	ERP	Mid	707.5	17.35 dBm	17.35 dBm	0	
5G NR BAND N12	QPSK @ 15 MHz BW	ERP	Mid	707.5	17.35 dBm	17.35 dBm	0	
LTE BAND 13	QPSK @ 10 MHz BW	ERP	Mid	782	18.35 dBm	18.35 dBm	0	
LTE BAND 14	QPSK @ 10 MHz BW	ERP	Mid	793	18.35 dBm	18.35 dBm	0	
LTE BAND 17	QPSK @ 10 MHz BW	ERP	Mid	710	17.35 dBm	17.35 dBm	0	
LTE BAND 25	QPSK @ 20 MHz BW	EIRP	High	1905	24.7 dBm	24.7 dBm	0	
LTE BAND 26 (90S)	QPSK @ 10 MHz BW	ERP	Mid	819	19.95 dBm	19.95 dBm	0	
LTE BAND 30 (NS1)	QPSK @ 10 MHz BW	EIRP	Mid	2310	22 dBm	22 dBm	0	
LTE BAND 41	QPSK @ 20 MHz BW	EIRP	Low	2506	28.3 dBm	28.3 dBm	0	
5G NR BAND N41	QPSK @ 100 MHz BW	Output Power	High	2640	27.5 dBm	27.5 dBm	0	
LTE BAND 48	QPSK @ 20 MHz BW	EIRP	Mid	3625	22.8 dBm	22.8 dBm	0	
LTE BAND 66	QPSK @ 20 MHz BW	EIRP	Mid	1745	25.1 dBm	25.1 dBm	0	
LTE BAND 71	QPSK @ 20MHz BW	ERP	Low	673	16.55 dBm	16.55 dBm	0	
5G NR BAND N77	QPSK @ 100 MHz BW	EIRP	Low	3750	25.0 dBm	25.0 dBm	0	

5.5. REFERENCE DETAIL

Reference application that contains the reused reference data.

Equipment Class	Reference FCC ID	Reference Application	Report Title/Section
PCE, CBE	BCG-E3539A	13179110-E8	FCC LTE Report/ All Sections except Radiated spurious emission on ANT2 and 5G NR Band n41 EIRP results

5.6. MAXIMUM OUTPUT POWER

EIRP/ERP TEST PROCEDURE

ANSI C63.26:2015
KDB 971168 D01 Section 5.6

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

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

PMeas = measured transmitter output power or PSD, in dBm or dBW;

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

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

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

5G NR BAND n41

Part 27								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		1.70						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
20.0	QPSK	2506.0	2680.0	27.5	29.20	0.832	17916	17M9G7W
	16QAM			26.7	28.40	0.692	17895	17M9D7W
40.0	QPSK	2516.0	2670.0	27.5	29.20	0.832	35582	35M6G7W
	16QAM			26.4	28.10	0.646	35566	35M6D7W
50.0	BPSK	2521.0	2665	27.5	29.20	0.832	45577	45M6G7W
	16QAM			26.1	27.80	0.603	45687	45M7D7W
60.0	BPSK	2526.0	2660.0	27.5	29.20	0.832	57740	57M7G7W
	16QAM			26.7	28.40	0.692	57728	57M7D7W
80.0	QPSK	2536.0	2650.0	27.5	29.20	0.832	76822	76M8G7W
	16QAM			26.4	28.10	0.646	76997	77M0D7W
90.0	QPSK	2541.0	2645.0	27.5	29.20	0.832	85339	85M3G7W
	16QAM			26.6	28.30	0.676	85407	85M4D7W
100.0	QPSK	2546.0	2640.0	27.5	29.20	0.832	96157	96M2G7W
	16QAM			26.5	28.20	0.661	95894	95M9D7W

5.7. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was version 0.28.03-1

5.8. MAXIMUM ANTENNA GAIN

Please see table below:

Bands	Antenna Gain (dBi)						
	ANT 1	ANT 2	ANT 3	ANT 4	ANT 7	ANT 8	ANT 9
Band 71, 663 – 698 MHz	-7.0	-6.9	NA	NA	NA	NA	NA
Band 12, 699 – 716 MHz	-6.2	-7.7	NA	NA	NA	NA	NA
Band 17, 704 – 716 MHz	-6.2	-7.7	NA	NA	NA	NA	NA
Band 13, 777 – 787 MHz	-5.2	-5.1	NA	NA	NA	NA	NA
Band 14, 788 – 798 MHz	-5.2	-5.3	NA	NA	NA	NA	NA
Band 26, 814 – 824 MHz (Part 90S)	-3.6	-5.2	NA	NA	NA	NA	NA
Band 5, 824 – 849 MHz	-3.6	-4.2	NA	NA	NA	NA	NA
Band 66, 1710 – 1780 MHz	-1.0	-4.4	0.1	-2.2	NA	NA	NA
Band 2, 1850 – 1910 MHz	-1.2	-4.2	-0.3	-2.5	NA	NA	NA
Band 25, 1850 – 1915 MHz	-1.2	-4.2	-0.3	-2.5	NA	NA	NA
Band 30, 2305 – 2315 MHz	-5.4	-1.3	-3	-2.4	NA	NA	NA
Band 7, 2500 – 2570 MHz	-2.2	-0.7	-1	-3.3	NA	NA	NA
Band 41, 2496 – 2690 MHz	-0.1	1.7	1.3	-1.7	NA	NA	NA
Band n77, 3300 – 3980 MHz	NA	NA	NA	-2.1	-0.7	-3.5	-2.6
Band 48, 3550 – 3700 MHz	NA	NA	NA	-2.1	-0.7	0	-2.2

5.9. WORST-CASE CONFIGURATION AND MODE

The EUT supports the following LTE and 5G NR Bands:

Band 2, Band 4, Band 5, Band 7, Band 12, Band 13, Band 14, Band 17, Band 25, Band 26, Band 30, Band 41, Band 48, Band 66, Band 71, 5G NR Band n2, 5G NR Band n5, 5G NR Band n12, 5G NR Band n25, 5G NR n41, 5G NR Band n66, 5G NR Band n71 and 5G NR n77.

For 5G NR Band n2, 5G NR Band n5, 5G NR Band n12, 5G NR Band n25, 5G NR Band n41, 5G NR Band n66, and 5G NR Band n71 having the same operations bandwidth and Power are covered by LTE bands of Band 2, Band5, Band12, Band 25, Band 41, Band 66, and Band 71. Additional tests for 5G NR with Higher BW modes than LTE Bands as 5G NR Band n5, 5G NR Band n12, and 5G NR Band n41 were performed.

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.

For 5G NR bands, conducted spurious emission tests were conducted on wider bandwidth with inner 1RB since this is the worst bandwidth and the highest output power.

BPSK modulation applied only for 5G NR band frequencies and has the same tune up power as QPSK modulations.

The DFT-s-OFDM and CP-OFDM waveforms were investigated, and DFT-s-OFDM was found to be the worst case.

The worst-case scenario for all measurements is based on an engineering evaluation and QPSK was observed as the worst one and set for all conducted and radiated. Output power measurements were measured on QPSK, 16QAM, 64QAM, 256QAM, and BPSK, modulations. Conducted tests were performed on the worst case antenna because it has the highest conducted power. ANT1 is the worst case for all bands except Band 48, 5G NR Band n41, and 5G NR Band n77. For 5G NR Band n41 ANT2 is the worst case antenna. For band 48 ANT8 is the worst case antenna and 5G NR Band n77 ANT9 is the worst case antenna.

For 5G NR Band n41 20MHz BW, antenna 2 and antenna 4 powers are higher than LTE band 41. Therefore, additional power measurements and occupied bandwidth tests were performed on antenna 2 and antenna 4 for 20MHz BW. Since LTE antenna 1 the highest output power of all (LTE band 41 and 5G NR Band n41) antennas, all other conducted tests for 20MHz BW were performed only on LTE antenna 1.

The EUT was investigated in three orthogonal orientations X/Y/Z on all ANT 1, ANT2, ANT3, ANT4, ANT7, ANT8 and ANT 9 antennas to determine the worst case orientation. The following table exhibit the worst case orientation for different frequency bands. The full tests of the EUT have made upon the orientations that shown in the table below.

Freq Bands	ANT1	ANT2	ANT3	ANT4	ANT7	ANT8	ANT9
663 – 849 MHz	Y	X	N/A	N/A	N/A	N/A	N/A
1710 – 1915 MHz	X	X	X	X	N/A	N/A	N/A
2300 – 2700 MHz	Y	Y	Y	X	N/A	N/A	N/A
3300 – 3980 MHz	N/A	N/A	N/A	X	Y	X	Y

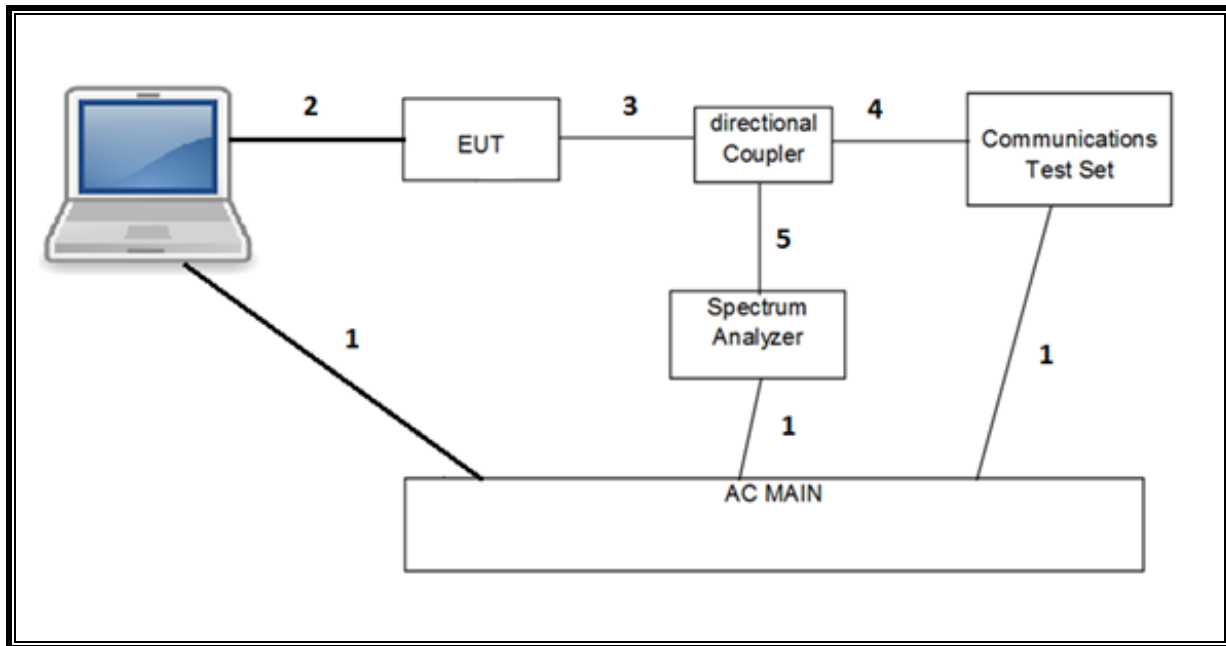
Radiated spurious emissions were investigated from 9kHz to 30MHz, 30MHz-1GHz and above 1GHz. There were no emissions found with less than 20dB of margin from 9kHz to 1GHz.

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.

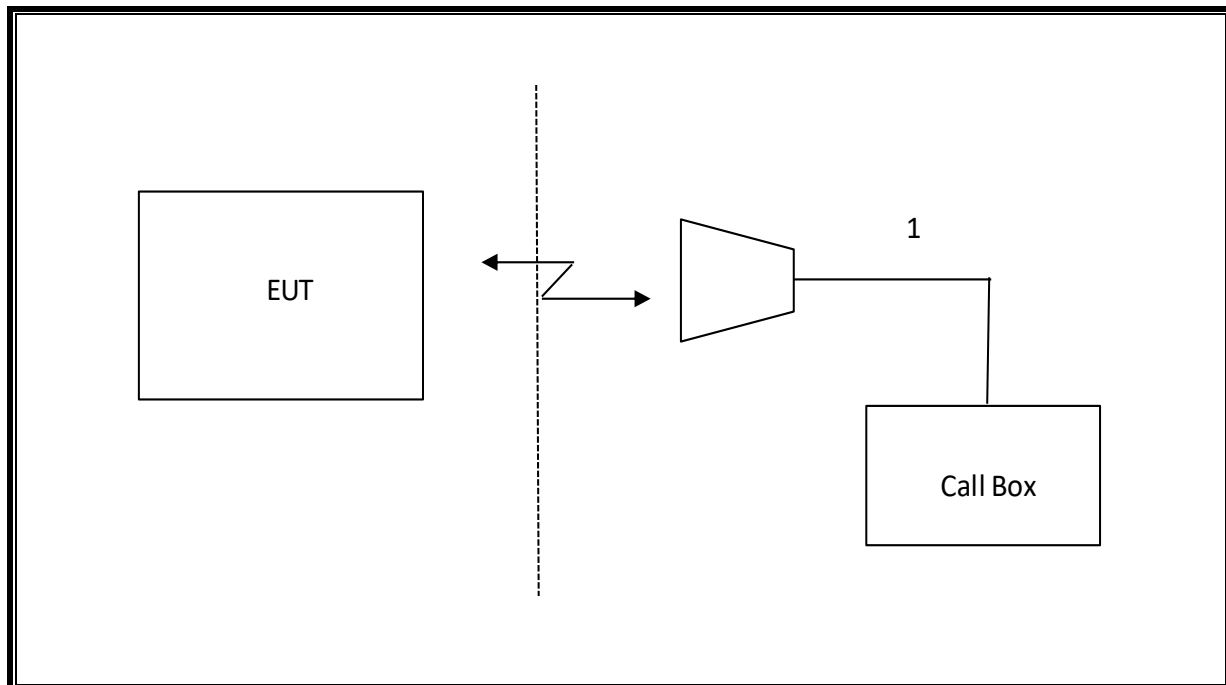
5.10. DESCRIPTION OF TEST SETUP

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
Antenna, Horn 1-18GHz	A.H. Systems, Inc.	SAS-571	T961	01/25/2021
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T136	07/07/2021
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences Corp.	JB3	T407	05/20/2021
Amplifier, 1 to 18GHz	MITEQ	AFS42-00101800-25-S-42	T931	05/11/2021
Amplifier, 1 to 18GHz	MITEQ	AFS42-00101800-25-S-42	T1165	08/10/2021
Amplifier, 9KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310	PRE0180176	07/14/2021
Filter, BRF 2495 to 2690MHz	MICRO-TRONICS	BRM50709-02	T1790	06/23/2021
Filter, BRF 1850 – 1910 MHz	Micro-Tronics	BRM50714-02	T1796	06/23/2021
Filter, BRF 824 – 848 MHz	Micro-Tronics	BRM20025	PRE0191180	06/23/2021
*Directional Coupler	KRYTAR	152610	T1161	08/14/2020
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T340	01/22/2021
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T907	01/22/2021
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T260	02/19/2021
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T959	02/19/2021
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T1871	02/25/2021
Power Meter, P-series single channel	Keysight	N1912A	T1245	01/22/2021
Power Sensor	Keysight	N1921A	T1225	02/23/2021
UL AUTOMATION SOFTWARE				
CLT Software	UL	UL RF	Ver 7.6, November 11, 2017	
Power Measurement Software	UL	UL RF	Ver 2.7, 2019	
Radiated test software	UL	UL RF	Ver 9.5 June 15, 2019	

NOTES:

* Testing is completed before equipment expiration date.

7. RADIATED TEST RESULTS

7.1. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz, ANT2

TEST PROCEDURE

KDB 971168 D01 v03r01/D02 v02/r01

All tests above 1GHz were done with a Resolution Bandwidth of 1MHz, and a Video Bandwidth of 3MHz.

RESULTS

7.1.1. LTE BAND 2

LIMITS

FCC: §24.238(a)

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.

QPSK LTE BAND 2 (20.0MHZ BANDWIDTH)

Project #:	13190901
Date:	8/15/2020
Test Engineer:	19497
Configuration:	EUT Only
Mode	LTE Band 2 QPSK 20MHz
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T348 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 1860MHz									
3.72031	38.12	Pk	33.4	-26.9	-95.2	-50.58	-13	-37.58	V
3.72189	38.06	Pk	33.4	-26.9	-95.2	-50.64	-13	-37.64	H
5.58003	36.68	Pk	35	-24.7	-95.2	-48.22	-13	-35.22	H
5.58117	35.94	Pk	35	-24.8	-95.2	-49.06	-13	-36.06	V
7.43875	36.19	Pk	36.2	-22.8	-95.2	-45.61	-13	-32.61	V
7.4422	34.15	Pk	36.2	-22.8	-95.2	-47.65	-13	-34.65	H
Mid Channel, 1880MHz									
3.75889	39.05	Pk	33.6	-27	-95.2	-49.55	-13	-36.55	H
3.77137	38.86	Pk	33.6	-26.9	-95.2	-49.64	-13	-36.64	V
5.63467	37.22	Pk	35.1	-24.3	-95.2	-47.18	-13	-34.18	H
5.63479	36.53	Pk	35.1	-24.3	-95.2	-47.87	-13	-34.87	V
7.51102	33.98	Pk	36	-22.3	-95.2	-47.52	-13	-34.52	H
7.51209	35.34	Pk	36.1	-22.3	-95.2	-46.06	-13	-33.06	V
Mid Channel, 1900MHz									
3.79997	37.86	Pk	33.7	-27.3	-95.2	-50.94	-13	-37.94	V
3.80038	38.11	Pk	33.7	-27.3	-95.2	-50.69	-13	-37.69	H
5.69899	36.02	Pk	35.3	-25.1	-95.2	-48.98	-13	-35.98	V
5.70177	37.33	Pk	35.3	-25.2	-95.2	-47.77	-13	-34.77	H
7.6016	34.65	Pk	35.9	-21.3	-95.2	-45.95	-13	-32.95	V
7.60163	34.21	Pk	35.9	-21.3	-95.2	-46.39	-13	-33.39	H

7.1.2. LTE BAND 5 AND 5G NR Band n5

LIMITS

FCC: §22.917(a)

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.

QPSK LTE BAND 5 (10.0MHZ BANDWIDTH)

Project #:	13190901
Date:	9/11/2020
Test Engineer:	20792
Configuration:	EUT Only
Mode:	LTE Band 5 QPSK 10MHz
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T348 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 829MHz									
1.65769	41.02	Pk	29	-30.7	-95.2	-55.08	-13	-42.08	H
1.65915	40.4	Pk	29	-30.7	-95.2	-55.7	-13	-42.7	V
2.48607	38.99	Pk	33.4	-29.8	-95.2	-52.11	-13	-39.11	V
2.48865	38.79	Pk	33.4	-29.8	-95.2	-52.31	-13	-39.31	H
3.31498	38.04	Pk	32.9	-28.7	-95.2	-52.36	-13	-39.36	V
3.31608	38.21	Pk	33	-28.7	-95.2	-52.09	-13	-39.09	H
Mid Channel, 836.5MHz									
1.67294	40.77	Pk	29	-30.6	-95.2	-55.33	-13	-42.33	V
1.6736	41.23	Pk	29	-30.6	-95.2	-54.87	-13	-41.87	H
2.50213	39.77	Pk	33.5	-29.8	-95.2	-51.13	-13	-38.13	V
2.50936	40.19	Pk	33.5	-29.7	-95.2	-50.51	-13	-37.51	H
3.34584	38.13	Pk	33	-28.5	-95.2	-52.07	-13	-39.07	H
3.352	39.53	Pk	33	-28.5	-95.2	-50.57	-13	-37.57	V
High Channel, 844MHz									
1.68778	40.13	Pk	29.1	-30.6	-95.2	-55.87	-13	-42.87	V
1.68801	49.31	Pk	29.1	-30.6	-95.2	-46.69	-13	-33.69	H
2.53171	38.9	Pk	33.4	-29.4	-95.2	-51.6	-13	-38.6	V
2.53305	38.86	Pk	33.3	-29.3	-95.2	-51.64	-13	-38.64	H
3.37492	38.1	Pk	33	-28.6	-95.2	-52.1	-13	-39.1	H
3.37605	38.36	Pk	33	-28.6	-95.2	-51.84	-13	-38.84	V

QPSK 5G NR Band n5 (20.0MHZ BANDWIDTH)

Project #:	13190901
Date:	9/1/220
Test Engineer:	50820
Configuration:	EUT Only
Mode	5G NR Band n5 QPSK 20MHz
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T348 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 834MHz									
1.69202	38.45	Pk	25	-30.4	-95.2	-61.45	-13	-48.45	V
1.70101	38.92	Pk	25.1	-30.4	-95.2	-60.88	-13	-47.88	H
2.54019	38.51	Pk	29.3	-29.3	-95.2	-55.99	-13	-42.99	H
2.54421	38.81	Pk	29.2	-29.2	-95.2	-55.69	-13	-42.69	V
3.51392	37.54	Pk	30.1	-27.8	-95.2	-54.66	-13	-41.66	H
3.52358	37.57	Pk	30.2	-27.8	-95.2	-54.63	-13	-41.63	V
Mid Channel, 836.5MHz									
1.771	39.45	Pk	25.8	-30.3	-95.2	-59.65	-13	-46.65	H
1.77687	38.72	Pk	25.9	-30.2	-95.2	-60.18	-13	-47.18	V
2.66203	38.41	Pk	29.2	-28.9	-95.2	-55.99	-13	-42.99	H
2.66362	38.03	Pk	29.2	-29	-95.2	-56.47	-13	-43.47	V
3.74725	37.42	Pk	30.6	-27.7	-95.2	-54.48	-13	-41.48	H
3.75281	38.28	Pk	30.6	-27.7	-95.2	-53.62	-13	-40.62	V
High Channel, 839MHz									
1.80628	38.41	Pk	25.9	-30.2	-95.2	-60.49	-13	-47.49	V
1.81131	38.79	Pk	25.9	-30.2	-95.2	-60.11	-13	-47.11	H
2.83197	37.78	Pk	28.8	-28.7	-95.2	-56.62	-13	-43.62	V
2.84206	37.45	Pk	28.8	-28.7	-95.2	-56.95	-13	-43.95	H
3.91498	37.11	Pk	31.5	-27.7	-95.2	-53.69	-13	-40.69	H
3.92438	37.72	Pk	31.4	-27.6	-95.2	-53.08	-13	-40.08	V

7.1.3. LTE BAND 7

LIMITS

FCC: §27.53 (m)

At least 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.

QPSK LTE BAND 7 (20.0MHZ BANDWIDTH)

Project #:	13190901
Date:	8/15/2020
Test Engineer:	19497
Configuration:	EUT Only
Mode	LTE Band 7 QPSK 20MHz
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T348 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 2510MHz									
5.02009	41.18	Pk	34.2	-26.5	-95.2	-45.52	-25	-20.52	H
5.02174	36.63	Pk	34.2	-26.5	-95.2	-50.17	-25	-25.17	V
7.52996	33.98	Pk	36	-22.8	-95.2	-47.72	-25	-22.72	H
7.53043	33.83	Pk	36	-22.8	-95.2	-47.87	-25	-22.87	V
10.03818	33.51	Pk	37.3	-20.6	-95.2	-44.29	-25	-19.29	H
10.03918	33.35	Pk	37.3	-20.6	-95.2	-44.45	-25	-19.45	V
Mid Channel, 2535MHz									
5.07864	37.93	Pk	34.4	-25.9	-95.2	-48.07	-25	-23.07	H
5.08421	38.18	Pk	34.4	-26	-95.2	-47.82	-25	-22.82	V
7.60939	34.51	Pk	35.9	-22.6	-95.2	-46.99	-25	-21.99	H
7.64548	34.73	Pk	35.9	-22.4	-95.2	-46.57	-25	-21.57	V
10.07848	34.57	Pk	37.4	-20.7	-95.2	-43.23	-25	-18.23	V
10.13089	34.41	Pk	37.5	-20.4	-95.2	-42.99	-25	-17.99	H
High Channel, 2560MHz									
5.11945	37.83	Pk	34.6	-26.4	-95.2	-48.37	-25	-23.37	V
5.1197	41.07	Pk	34.6	-26.4	-95.2	-45.13	-25	-20.13	H
7.68151	33.98	Pk	35.9	-22	-95.2	-46.82	-25	-21.82	H
7.68268	34.4	Pk	35.9	-22	-95.2	-46.4	-25	-21.4	V
10.241	34.82	Pk	37.6	-20.1	-95.2	-42.08	-25	-17.08	V
10.24136	32.84	Pk	37.6	-20.1	-95.2	-44.06	-25	-19.06	H

7.1.4. LTE BAND 12 AND 5G NR Band n12

LIMITS

FCC: §27.53 (g)

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.

QPSK LTE BAND 12 (10.0MHZ BANDWIDTH)

Project #:	13190901
Date:	9/1/2020
Test Engineer:	50820
Configuration:	EUT Only
Mode	LTE Band 12 QPSK 10MHz
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T348 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 704MHz									
1.40653	40.53	Pk	29.1	-31	-95.2	-55.67	-13	-42.67	H
1.40889	40.6	Pk	29.2	-31	-95.2	-55.5	-13	-42.5	V
2.11123	39.46	Pk	31.7	-30.1	-95.2	-53.64	-13	-40.64	V
2.11244	40.69	Pk	31.7	-30.1	-95.2	-52.41	-13	-39.41	H
2.81737	39.57	Pk	32.6	-29	-95.2	-51.43	-13	-38.43	V
2.81798	38.06	Pk	32.6	-28.9	-95.2	-52.84	-13	-39.84	H
Mid Channel, 707.5MHz									
1.41577	40.9	Pk	29.1	-31	-95.2	-55.3	-13	-42.3	H
1.41994	40.4	Pk	29.1	-30.9	-95.2	-55.7	-13	-42.7	V
2.1212	39.61	Pk	31.6	-30	-95.2	-53.49	-13	-40.49	H
2.12428	38.99	Pk	31.6	-30	-95.2	-54.11	-13	-41.11	V
2.83097	37.66	Pk	32.5	-28.9	-95.2	-53.24	-13	-40.24	H
2.83147	38.72	Pk	32.5	-28.9	-95.2	-52.18	-13	-39.18	V
High Channel, 711MHz									
1.42212	43.66	Pk	29	-30.9	-95.2	-52.54	-13	-39.54	H
1.42229	42.05	Pk	29	-30.9	-95.2	-54.15	-13	-41.15	V
2.1316	39.12	Pk	31.5	-29.9	-95.2	-53.98	-13	-40.98	V
2.13307	40.03	Pk	31.5	-29.9	-95.2	-53.07	-13	-40.07	H
2.84237	38.71	Pk	32.5	-29.1	-95.2	-52.39	-13	-39.39	V
2.84461	38.67	Pk	32.5	-29.1	-95.2	-52.43	-13	-39.43	H

QPSK 5G NR Band n12 (15.0MHZ BANDWIDTH)

Project #:	13190901
Date:	9/3/2020
Test Engineer:	50822
Configuration:	EUT Only
Mode	5G NR Band n12 15MHz QPSK
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T348 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 706.5MHz									
1.46252	41.54	Pk	25	-30.6	-95.2	-58.36	-13	-45.36	H
1.46253	41.87	Pk	25	-30.6	-95.2	-58.03	-13	-45.03	V
2.0819	40.53	Pk	27	-29.5	-95.2	-56.67	-13	-43.67	V
2.09926	43.3	Pk	26.9	-29.6	-95.2	-54.1	-13	-41.1	H
3.2484	39.51	Pk	31.4	-28.2	-95.2	-52.09	-13	-39.09	V
3.26305	39.54	Pk	31.4	-28.3	-95.2	-52.06	-13	-39.06	H
Mid Channel, 707.5MHz									
1.50485	42.03	Pk	24.8	-30.6	-95.2	-58.17	-13	-45.17	H
1.51726	41.57	Pk	24.8	-30.6	-95.2	-58.63	-13	-45.63	V
2.18966	40.08	Pk	27.2	-29.7	-95.2	-57.02	-13	-44.02	H
2.20857	40.09	Pk	27.2	-29.6	-95.2	-56.91	-13	-43.91	V
3.01874	39.45	Pk	30.1	-28.7	-95.2	-53.85	-13	-40.85	H
3.0201	39.67	Pk	30.1	-28.7	-95.2	-53.63	-13	-40.63	V
High Channel, 708.5MHz									
1.51212	41.24	Pk	24.8	-30.6	-95.2	-58.96	-13	-45.96	V
1.51422	41.07	Pk	24.8	-30.6	-95.2	-59.13	-13	-46.13	H
2.49751	40.82	Pk	29	-29.2	-95.2	-53.98	-13	-40.98	V
2.50312	41.29	Pk	29	-29.3	-95.2	-53.61	-13	-40.61	H
3.72669	39.28	Pk	30.5	-27.8	-95.2	-52.72	-13	-39.72	H
3.72851	38.85	Pk	30.5	-27.8	-95.2	-53.15	-13	-40.15	V

7.1.5. LTE BAND 13

LIMITS

FCC: §27.53

(c) 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.

(f) Emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

QPSK LTE BAND 13 (10.0MHZ BANDWIDTH)

Project #:	13190901
Date:	8/17/2020
Test Engineer:	30606
Configuration:	EUT Only
Mode	LTE Band 13 QPSK 10MHz
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T348 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Mid Channel, 782MHz									
1.5529	40.35	Pk	28.5	-30.8	-95.2	-56.35	-40	-16.35	H
1.58863	39.75	Pk	28.5	-30.9	-95.2	-57.05	-40	-17.05	V
2.34932	39.43	Pk	32.3	-29.6	-95.2	-52.57	-13	-39.57	V
2.35431	39.42	Pk	32.4	-29.6	-95.2	-52.48	-13	-39.48	H
3.05478	38.54	Pk	33	-28.4	-95.2	-51.56	-13	-38.56	H
3.1053	39.14	Pk	32.9	-28.7	-95.2	-51.16	-13	-38.16	V

* Emissions in the GPS band were wideband emissions therefore the -40dBm/MHz limit was used.

7.1.6. LTE BAND 14

LIMITS

FCC: §90.543 Emission Limitations. (Band 14)

(e) For operations in the 758-768 MHz and the 788-798 MHz bands, 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:

(3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB.

(f) For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation

QPSK LTE BAND 14 (10.0MHZ BANDWIDTH)

Project #:	13190901
Date:	8/18/2020
Test Engineer:	19212
Configuration:	EUT Only
Mode	LTE Band 14 QPSK 10MHz
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T348 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Mid Channel, 793MHz									
1.58581	40.78	Pk	28.5	-30.8	-95.2	-55.92	-40	-15.92	V
1.58713	40.98	Pk	28.5	-30.9	-95.2	-55.82	-40	-15.82	H
2.37829	39.69	Pk	32.5	-29.7	-95.2	-52.21	-13	-39.21	V
2.37963	39.26	Pk	32.6	-29.7	-95.2	-52.54	-13	-39.54	H
3.17245	39.44	Pk	32.6	-28.6	-95.2	-51.26	-13	-38.26	H
3.17273	39.15	Pk	32.6	-28.6	-95.2	-51.55	-13	-38.55	V

* Emissions in the GPS band were wideband emissions therefore the -40dBm/MHz limit was used.

7.1.7. LTE BAND 17

LIMITS

FCC: §27.53 (g)

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.

QPSK LTE BAND 17 (10.0MHZ BANDWIDTH)

Project #:	13190901
Date:	8/14/2020
Test Engineer:	19497
Configuration:	EUT Only
Mode	LTE Band 17 QPSK 10MHz
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T348 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Mid Channel, 710MHz									
1.40827	41.65	Pk	29.1	-31	-95.2	-54.55	-13	-41.55	V
1.418	40.98	Pk	29.1	-31	-95.2	-55.22	-13	-42.22	H
2.13382	39.7	Pk	31.5	-29.9	-95.2	-53.4	-13	-40.4	H
2.13557	40.54	Pk	31.6	-29.9	-95.2	-52.46	-13	-39.46	V
2.8384	40.12	Pk	32.5	-29	-95.2	-50.88	-13	-37.88	H
2.84432	39.2	Pk	32.5	-29.1	-95.2	-51.9	-13	-38.9	V

7.1.8. LTE BAND 25

LIMITS

FCC: §24.238(a)

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.

QPSK LTE BAND 25 (20.0MHZ BANDWIDTH)

Project #:	13190901
Date:	8/18/2020
Test Engineer:	30606
Configuration:	EUT Only
Mode	LTE Band 25 QPSK 20MHz
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T348 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 1860MHz									
3.71969	37.87	Pk	33.4	-26.9	-95.2	-50.83	-13	-37.83	H
3.72124	38.08	Pk	33.4	-26.9	-95.2	-50.62	-13	-37.62	V
5.57902	36.27	Pk	35	-24.7	-95.2	-48.63	-13	-35.63	H
5.58166	35.57	Pk	35.1	-24.7	-95.2	-49.23	-13	-36.23	V
7.43812	34.23	Pk	36.2	-22.8	-95.2	-47.57	-13	-34.57	H
7.43844	33.77	Pk	36.2	-22.8	-95.2	-48.03	-13	-35.03	V
Mid Channel, 1882.5MHz									
3.78791	38.66	Pk	33.6	-27	-95.2	-49.94	-13	-36.94	V
3.8082	39.21	Pk	33.6	-27.4	-95.2	-49.79	-13	-36.79	H
5.62393	36.8	Pk	35.1	-24.1	-95.2	-47.4	-13	-34.4	H
5.78398	36.51	Pk	35.3	-25.2	-95.2	-48.59	-13	-35.59	V
7.53038	34.78	Pk	36	-22.2	-95.2	-46.62	-13	-33.62	H
8.18385	35.39	Pk	36.1	-20.4	-95.2	-44.11	-13	-31.11	V
High Channel, 1905MHz									
3.8082	38.31	Pk	33.6	-27.4	-95.2	-50.69	-13	-37.69	V
3.81003	38.69	Pk	33.7	-27.4	-95.2	-50.21	-13	-37.21	H
5.71595	36.97	Pk	35.3	-25.5	-95.2	-48.43	-13	-35.43	V
5.71686	35.58	Pk	35.3	-25.5	-95.2	-49.82	-13	-36.82	H
7.61828	33.68	Pk	35.8	-21.1	-95.2	-46.82	-13	-33.82	H
7.61952	34.43	Pk	35.9	-21.1	-95.2	-45.97	-13	-32.97	V

7.1.9. LTE BAND 26 (PART 90S)

LIMITS

FCC: §90.691

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.

QPSK LTE BAND 26 (10.0MHZ BANDWIDTH)

Project #:	13190901
Date:	8/18/2020
Test Engineer:	30606
Configuration:	EUT Only
Mode	LTE Band 26 QPSK 10MHz
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T348 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Mid Channel, 819MHz									
1.61153	39.88	Pk	28.9	-30.8	-95.2	-56.52	-13	-43.52	H
1.65083	39.86	Pk	29	-30.7	-95.2	-56.24	-13	-43.24	V
2.45999	40.24	Pk	33.1	-29.8	-95.2	-51.16	-13	-38.16	V
2.48553	38.57	Pk	33.4	-29.8	-95.2	-52.53	-13	-39.53	H
3.21426	39.16	Pk	32.9	-28.5	-95.2	-51.14	-13	-38.14	V
3.29368	38.73	Pk	33	-28.3	-95.2	-50.97	-13	-37.97	H

7.1.10. LTE BAND 30

LIMITS

FCC: §27.53 (a)

For mobile and portable stations operating in the 2305-2315 MHz: 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.

QPSK LTE BAND 30 (10.0MHZ BANDWIDTH)

Project #:	13190901
Date:	9/21/2020
Test Engineer:	30606
Configuration:	EUT Only
Mode	LTE Band 30 QPSK 10MHz
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T348 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Mid Channel, 2310MHz									
3.0248	36.59	Pk	32.9	-28.7	-95.2	-54.41	-40	-14.41	V
3.53993	37.31	Pk	33.4	-28	-95.2	-52.49	-40	-12.49	H
4.84219	35.81	Pk	34.2	-27.1	-95.2	-52.29	-40	-12.29	V
5.18306	35.7	Pk	34.6	-26.1	-95.2	-51	-40	-11	H
7.32432	33.28	Pk	36.1	-22.5	-95.2	-48.32	-40	-8.32	V
8.16416	32.89	Pk	36.1	-22	-95.2	-48.21	-40	-8.21	H

7.1.11. LTE BAND 41 AND 5G NR BAND n41

LIMITS

FCC: §27.53 (m)

At least 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.

QPSK LTE BAND 41 (20.0MHZ BANDWIDTH)

Project #:	13190901
Date:	8/16/2020
Test Engineer:	19497
Configuration:	EUT Only
Mode	LTE Band 41 QPSK 20MHz
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	PK Margin (dB)	Polarity
Low Channel, 2506MHz									
5.01143	38.21	Pk	34.2	-26.7	-95.2	-48.69	-25	-23.69	H
5.02283	38.08	Pk	34.2	-26.4	-95.2	-48.62	-25	-23.62	V
7.50041	35.77	Pk	36	-22.6	-95.2	-45.63	-25	-20.63	H
7.52122	34.92	Pk	36	-22.7	-95.2	-46.68	-25	-21.68	V
10.01447	33.89	Pk	37.3	-20.1	-95.2	-43.51	-25	-18.51	H
10.03223	33.92	Pk	37.3	-20.5	-95.2	-43.78	-25	-18.78	V
Mid Channel, 2593MHz									
5.19918	38	Pk	34.6	-25.8	-95.2	-47.5	-25	-22.5	H
5.20796	36.86	Pk	34.6	-25.8	-95.2	-48.54	-25	-23.54	V
7.77289	35.49	Pk	35.9	-22.5	-95.2	-46.01	-25	-21.01	H
7.7911	35.28	Pk	36	-22.4	-95.2	-45.92	-25	-20.92	V
10.37959	34.67	Pk	37.7	-19.9	-95.2	-41.93	-25	-16.93	H
10.41994	34.33	Pk	37.7	-19.5	-95.2	-41.87	-25	-16.87	V
High Channel, 2680MHz									
5.33911	36.54	Pk	34.8	-26.5	-95.2	-49.76	-25	-24.76	V
5.37998	36.92	Pk	34.8	-26	-95.2	-48.88	-25	-23.88	H
8.02471	35.87	Pk	36.1	-22.2	-95.2	-45.13	-25	-20.13	H
8.04315	36.47	Pk	36.2	-22.2	-95.2	-44.33	-25	-19.33	V
10.71221	34.7	Pk	37.8	-19.7	-95.2	-41.9	-25	-16.9	H
10.7219	34.7	Pk	37.8	-19.8	-95.2	-41.9	-25	-16.9	V

QPSK 5G NR BAND n41 (100.0MHZ BANDWIDTH)

Project #:	13190901
Date:	8/20/2020
Test Engineer:	50820
Configuration:	EUT only
Mode	5G NR Band n41 QPSK 100MHz
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 2546MHz									
5.08642	37.55	Pk	34.4	-26	-95.2	-48.45	-25	-23.45	V
5.11102	36.5	Pk	34.4	-26.4	-95.2	-49.9	-25	-24.9	H
7.64087	34.23	Pk	35.9	-22.4	-95.2	-47.07	-25	-22.07	V
7.64242	34.15	Pk	35.9	-22.4	-95.2	-47.15	-25	-22.15	H
10.18116	33.6	Pk	37.5	-20.3	-95.2	-43.8	-25	-18.8	V
10.18503	33.9	Pk	37.5	-20.4	-95.2	-43.6	-25	-18.6	H
Mid Channel, 2593MHz									
5.18651	37.16	Pk	34.6	-26	-95.2	-48.64	-25	-23.64	H
5.19906	36.93	Pk	34.6	-25.8	-95.2	-48.57	-25	-23.57	V
7.77373	35.06	Pk	35.9	-22.5	-95.2	-46.44	-25	-21.44	V
7.79437	34.9	Pk	36	-22.3	-95.2	-46.2	-25	-21.2	H
10.37156	33.65	Pk	37.7	-19.9	-95.2	-42.95	-25	-17.95	H
10.37748	33.94	Pk	37.7	-19.9	-95.2	-42.66	-25	-17.66	V
High Channel, 2640MHz									
5.27573	36.34	Pk	34.7	-26.5	-95.2	-50.36	-25	-25.36	V
5.29187	36.37	Pk	34.7	-26.8	-95.2	-50.53	-25	-25.53	H
7.92304	35.81	Pk	36.2	-22.4	-95.2	-45.39	-25	-20.39	V
7.9255	33.98	Pk	36.2	-22.4	-95.2	-47.32	-25	-22.32	H
10.60413	33.18	Pk	37.8	-19.7	-95.2	-43.12	-25	-18.12	H
10.60758	32.74	Pk	37.8	-19.7	-95.2	-43.56	-25	-18.56	V

7.1.12. LTE BAND 66

LIMITS

FCC: §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.

QPSK LTE BAND 66 (20.0MHZ BANDWIDTH)

Project #:	13190901
Date:	9/19/2020
Test Engineer:	20792
Configuration:	EUT Only
Mode	LTE Band 66 QPSK 20MHz
Chamber #:	Chamber A

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 1720MHz									
3.43847	38.2	Pk	33.1	-28.1	-95.2	-52	-13	-39	H
3.44154	38.25	Pk	33.1	-28.1	-95.2	-51.95	-13	-38.95	V
5.1591	37.63	Pk	34.6	-26.1	-95.2	-49.07	-13	-36.07	H
5.15922	37.96	Pk	34.6	-26.1	-95.2	-48.74	-13	-35.74	V
6.87866	35.55	Pk	36.4	-23.4	-95.2	-46.65	-13	-33.65	V
6.87981	35.17	Pk	36.4	-23.4	-95.2	-47.03	-13	-34.03	H
Mid Channel, 1745MHz									
3.49173	38.6	Pk	33.1	-27.5	-95.2	-51	-13	-38	H
3.49225	39.15	Pk	33.1	-27.6	-95.2	-50.55	-13	-37.55	V
5.23363	36.87	Pk	34.6	-26.2	-95.2	-49.93	-13	-36.93	V
5.23458	38.16	Pk	34.6	-26.2	-95.2	-48.64	-13	-35.64	H
6.97871	35.55	Pk	36.1	-22.7	-95.2	-46.25	-13	-33.25	H
6.97973	34.86	Pk	36.1	-22.7	-95.2	-46.94	-13	-33.94	V
High Channel, 1770MHz									
3.53936	38.28	Pk	33.3	-27.1	-95.2	-50.72	-13	-37.72	H
3.54099	37.93	Pk	33.3	-27.1	-95.2	-51.07	-13	-38.07	V
5.30932	36.97	Pk	34.8	-25.5	-95.2	-48.93	-13	-35.93	V
5.31136	36.8	Pk	34.7	-25.4	-95.2	-49.1	-13	-36.1	H
7.0785	34.81	Pk	36	-22.4	-95.2	-46.79	-13	-33.79	V
7.08145	35.08	Pk	36	-22.6	-95.2	-46.72	-13	-33.72	H

7.1.13. LTE BAND 71

LIMITS

FCC: §27.53 (g)

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.

QPSK LTE BAND 71 (20.0MHZ BANDWIDTH)

Project #:	13190901
Date:	9/24/2020
Test Engineer:	50822
Configuration:	EUT Only
Mode	LTE Band 71 QPSK 20MHz
Chamber #:	Chamber B

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T962 (dB/m)	Amp/Cbl (dB)	EIRP CF	Corrected Reading (dBm)	Harmonics limit	Margin (dB)	Polarity
Low Channel, 673.0MHz									
1.35434	41.15	Pk	25.3	-30.8	-95.2	-59.55	-13	-46.55	H
1.36006	42.2	Pk	25.3	-30.8	-95.2	-58.5	-13	-45.5	V
2.01356	40.13	Pk	27.2	-29.7	-95.2	-57.57	-13	-44.57	V
2.01754	40.24	Pk	27.2	-29.8	-95.2	-57.56	-13	-44.56	H
2.70625	38.7	Pk	29.1	-28.9	-95.2	-56.3	-13	-43.3	H
2.72251	39.59	Pk	29	-28.9	-95.2	-55.51	-13	-42.51	V
Mid Channel, 680.5MHz									
1.3573	42.11	Pk	25.3	-30.8	-95.2	-58.59	-13	-45.59	V
1.36452	42.15	Pk	25.4	-30.8	-95.2	-58.45	-13	-45.45	H
2.04145	40.31	Pk	27	-29.7	-95.2	-57.59	-13	-44.59	H
2.05989	40.85	Pk	27	-29.7	-95.2	-57.05	-13	-44.05	V
2.77711	39.59	Pk	28.9	-28.8	-95.2	-55.51	-13	-42.51	H
2.79682	39.62	Pk	28.9	-28.7	-95.2	-55.38	-13	-42.38	V
High Channel, 688.0MHz									
1.39102	40.88	Pk	25.5	-30.8	-95.2	-59.62	-13	-46.62	H
1.39354	40.98	Pk	25.5	-30.8	-95.2	-59.52	-13	-46.52	V
2.06888	39.8	Pk	27	-29.6	-95.2	-58	-13	-45	H
2.07067	40.14	Pk	27	-29.6	-95.2	-57.66	-13	-44.66	V
2.73269	39.62	Pk	29	-28.9	-95.2	-55.48	-13	-42.48	V
2.74828	39.22	Pk	29	-28.9	-95.2	-55.88	-13	-42.88	H

8. SETUP PHOTOS

Please refer to 13179110-EP1V1 for setup photos

Appendix A – Reference Test Report

Attached is the test report (13179110-E8) containing the reference data from the parent model as detailed in section 5.5.



TEST REPORT

Report Number. : 13179110-E8V2

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

Model : A2176

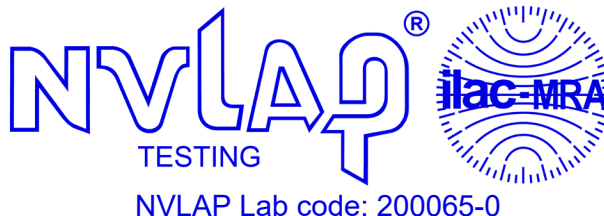
FCC ID : BCG-E3539A

EUT Description : SMARTPHONE

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

Date Of Issue:
SEPTEMBER 28, 2020

Prepared by:
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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	09/27/2020	Initial Review	Mengistu Mekuria
V2	09/28/2020	Adressed TCB Feedbacck	Sintia Andrean

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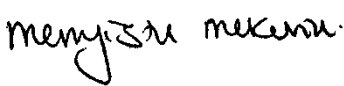
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1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE, INC 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A	
Model	A2176	
FCC ID	BCG-E3539A	
EUT Description	SMARTPHONE	
Serial Number	Model (2176): C7H024200G6P54Y4N (Conducted) and C7CD609T08HK (Radiated)	
Date Tested	JUNE 30, 2020 to SEPTEMBER 28, 2020	
Applicable Standards	FCC CFR47 22H, 24E, 27, 90S, 90R, 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:	Reviewed By:	Prepared By:
		
Mengistu Mekuria Lead Test Engineer UL Verification Services Inc.	Glenn Escano Project Engineer UL Verification Services Inc.	Sintia Andean Laboratory 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. DECISION 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%.

4.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

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

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

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

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, 5G, CDMA, IEEE 802.11a/b/g/n/ac/ax, Bluetooth, Ultra-Wideband, GPS, NFC and WPT. All models support at least one UICC based SIM. The second SIM is either an UICC based p-SIM (physical SIM) or e-SIM (electronic SIM). The device supports a built-in inductive charging transmitter and receiver. The rechargeable battery is not user accessible.

5.2. MAXIMUM OUTPUT POWER

EIRP/ERP TEST PROCEDURE

ANSI C63.26:2015
KDB 971168 D01 Section 5.6

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

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

PMeas = measured transmitter output power or PSD, in dBm or dBW;

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

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

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

LTE BAND 2

Part 24 / RSS 133								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		-0.30						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
1.4	QPSK	1850.7	1909.3	25.0	24.70	0.295	1082	1M08G7W
	16QAM			24.4	24.14	0.259	1086.2	1M09D7W
3.0	QPSK	1851.5	1908.5	25.0	24.70	0.295	2685.1	2M69G7W
	16QAM			24.5	24.20	0.263	2682.7	2M68D7W
5.0	QPSK	1852.5	1907.5	25.0	24.70	0.295	4486	4M49G7W
	16QAM			24.6	24.30	0.269	4494.8	4M49D7W
10.0	QPSK	1855.0	1905.0	25.0	24.70	0.295	8950.7	8M95G7W
	16QAM			24.2	23.90	0.245	8924.4	8M92D7W
15.0	QPSK	1857.5	1902.5	25.0	24.70	0.295	13401.1	13M4G7W
	16QAM			24.5	24.20	0.263	13406.8	13M4D7W
20.0	QPSK	1860.0	1900.0	25.0	24.70	0.295	17804.4	17M8G7W
	16QAM			24.5	24.20	0.263	17852.7	17M9D7W

LTE BAND 5

Part 22H								
ERP Limit (W)		7.00						
Antenna Gain (dBi)		-3.60						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
1.4	QPSK	824.7	848.3	25.7	19.95	0.099	1081.9	1M08G7W
	16QAM			25.2	19.45	0.088	1087.4	1M09D7W
3.0	QPSK	825.5	847.5	25.7	19.95	0.099	2688.3	2M69G7W
	16QAM			25.2	19.45	0.088	2688.7	2M69D7W
5.0	QPSK	826.5	846.5	25.7	19.95	0.099	4507.2	4M51G7W
	16QAM			25.3	19.55	0.090	4479.9	4M48D7W
10.0	QPSK	829.0	844.0	25.7	19.95	0.099	8974.9	8M97G7W
	16QAM			25.2	19.45	0.088	8943.1	8M94D7W

5G NR Band n5

Part 22H								
ERP Limit (W)		7.00						
Antenna Gain (dBi)		-3.60						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
15.0	QPSK	831.5	841.5	25.7	19.95	0.099	13385	13M4G7W
	16QAM			24.8	19.05	0.080	13398	13M4D7W
20.0	QPSK	834.0	839.0	25.7	19.95	0.099	17822	17M8G7W
	16QAM			25.1	19.35	0.086	17817	17M8D7W

LTE BAND 7

Part 27 / RSS 199								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		-1.00						
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	25.0	24.00	0.251	4499.3	4M50G7W
	16QAM			24.5	23.50	0.224	4488.4	4M49D7W
10.0	QPSK	2505.0	2565.0	25.0	24.00	0.251	8938.4	8M94G7W
	16QAM			24.3	23.30	0.214	8951.4	8M95D7W
15.0	QPSK	2507.5	2562.5	25.0	24.00	0.251	13399.7	13M4G7W
	16QAM			24.3	23.30	0.214	13461.2	13M5D7W
20.0	QPSK	2510.0	2560.0	25.0	24.00	0.251	17783.1	17M8G7W
	16QAM			24.5	23.50	0.224	17806.7	17M8D7W

LTE BAND 12

Part 27 / RSS 130								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-6.20						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
1.4	QPSK	699.7	715.3	25.7	17.35	0.054	1082.3	1M08G7W
	16QAM			25.1	16.75	0.047	1087.9	1M09D7W
3.0	QPSK	700.5	714.5	25.7	17.35	0.054	2684.9	2M68G7W
	16QAM			25.0	16.65	0.046	2683.2	2M68D7W
5.0	QPSK	701.5	713.5	25.7	17.35	0.054	4492.2	4M49G7W
	16QAM			25.2	16.85	0.048	4492	4M49D7W
10.0	QPSK	704.0	711.0	25.7	17.35	0.054	8937.3	8M94G7W
	16QAM			24.8	16.45	0.044	8937.9	8M94D7W

5G NR Band n12

Part 27 / RSS 130								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-6.20						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
15.0	QPSK	706.5	708.5	25.7	17.35	0.054	13381	13M4G7W
	16QAM			24.7	16.35	0.043	13385	13M4D7W

LTE BAND 13

Part 27 / RSS 130								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-5.20						
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	25.7	18.35	0.068	4518.5	4M52G7W
	16QAM			25.0	17.65	0.058	4491.9	4M49D7W
10.0	QPSK	782.0	782.0	25.7	18.35	0.068	8942.7	8M94G7W
	16QAM			24.8	17.45	0.056	8928	8M93D7W

LTE BAND 14

Part 90R / RSS 140								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-5.20						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
5.0	QPSK	790.5	795.5	25.7	18.35	0.068	4470	4M47G7W
	16QAM			25.0	17.65	0.058	4487.1	4M49D7W
10.0	QPSK	793.0	793.0	25.7	18.35	0.068	8929.3	8M93G7W
	16QAM			24.8	17.45	0.056	8935.8	8M94D7W

LTE BAND 17

Part 27 / RSS 130								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-6.20						
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	25.7	17.35	0.054	4490.5	4M49G7W
	16QAM			25.3	16.95	0.050	4497.7	4M50D7W
10.0	QPSK	709.0	711.0	25.7	17.35	0.054	8936.1	8M94G7W
	16QAM			25.1	16.75	0.047	8925	8M93D7W

LTE BAND 25

Part 24 / RSS 133								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		-0.30						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
1.4	QPSK	1850.7	1914.3	25.0	24.70	0.295	1081.2	1M08G7W
	16QAM			24.4	24.10	0.257	1082.8	1M08D7W
3.0	QPSK	1851.5	1913.5	25.0	24.70	0.295	2685.3	2M69G7W
	16QAM			24.4	24.10	0.257	2677.3	2M68D7W
5.0	QPSK	1852.5	1912.5	25.0	24.70	0.295	4489.9	4M49G7W
	16QAM			24.5	24.20	0.263	4487.6	4M49D7W
10.0	QPSK	1855.0	1910.0	25.0	24.70	0.295	8924.7	8M92G7W
	16QAM			24.5	24.20	0.263	8928.1	8M93D7W
15.0	QPSK	1857.5	1907.5	25.0	24.70	0.295	13361.8	13M4G7W
	16QAM			24.5	24.20	0.263	13433.6	13M4D7W
20.0	QPSK	1860.0	1905.0	25.0	24.70	0.295	17825.5	17M8G7W
	16QAM			24.6	24.30	0.269	17826.9	17M8D7W

LTE BAND 26 (Part 90S)

Part 90S							
Conducted Limit (W)		100.00					
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	Average (W)	99% BW (kHz)	Emission Designator
1.4	QPSK	814.7	823.3	25.7	0.372	1086.2	1M09G7W
	16QAM			25.0	0.316	1087.8	1M09D7W
3.0	QPSK	815.5	822.5	25.7	0.372	2684	2M68G7W
	16QAM			25.2	0.331	2675.4	2M68D7W
5.0	QPSK	816.5	821.5	25.7	0.372	4512.9	4M51G7W
	16QAM			25.2	0.331	4487	4M49D7W
10.0	QPSK	819.0	819.0	25.7	0.372	8923.3	8M92G7W
	16QAM			24.7	0.295	8936.9	8M94D7W

LTE BAND 30

Part 27 / RSS 195								
EIRP Limit (W)		0.25						
Antenna Gain (dBi)		-3.00						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
5.0	QPSK	2307.5	2312.5	25.0	22.00	0.158	4516.4	4M52G7W
	16QAM			24.4	21.40	0.138	4493.4	4M49D7W
10.0	QPSK	2310.0	2310.0	25.0	22.00	0.158	8930.8	8M93G7W
	16QAM			24.4	21.40	0.138	8942.7	8M94D7W

LTE BAND 41 (NS04)

Part 27								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		1.30						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
5.0	QPSK	2498.5	2687.5	27.0	28.30	0.676	4511.7	4M51G7W
	16QAM			26.2	27.50	0.562	4485.7	4M49D7W
10.0	QPSK	2501.0	2685.0	27.0	28.30	0.676	8944.5	8M94G7W
	16QAM			26.3	27.60	0.575	8951.7	8M95D7W
15.0	QPSK	2503.5	2682.5	27.0	28.30	0.676	13469.2	13M5G7W
	16QAM			26.3	27.60	0.575	13428	13M4D7W
20.0	QPSK	2506.0	2680.0	27.0	28.30	0.676	17786.7	17M8G7W
	16QAM			26.4	27.70	0.589	17860.3	17M9D7W

5G NR BAND n41

Part 27								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)		0.50						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
20.0	QPSK	2506.0	2680.0	27.5	28.00	0.631	17916	17M9G7W
	16QAM			26.7	27.20	0.525	17895	17M9D7W
40.0	QPSK	2516.0	2670.0	27.5	28.00	0.631	35582	35M6G7W
	16QAM			26.4	26.90	0.490	35566	35M6D7W
50.0	BPSK	2521.0	2665	27.5	28.00	0.631	45577	45M6G7W
	16QAM			26.1	26.60	0.457	45687	45M7D7W
60.0	BPSK	2526.0	2660.0	27.5	28.00	0.631	57740	57M7G7W
	16QAM			26.7	27.20	0.525	57728	57M7D7W
80.0	QPSK	2536.0	2650.0	27.5	28.00	0.631	76822	76M8G7W
	16QAM			26.4	26.90	0.490	76997	77M0D7W
90.0	QPSK	2541.0	2645.0	27.5	28.00	0.631	85339	85M3G7W
	16QAM			26.6	27.10	0.513	85407	85M4D7W
100.0	QPSK	2546.0	2640.0	27.5	28.00	0.631	96157	96M2G7W
	16QAM			26.5	27.00	0.501	95894	95M9D7W

LTE BAND 48

Part 96								
EIRP Limit (W)			0.20					
Antenna Gain (dBi)			0.00					
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	22.8	22.80	0.191	4478.1	4M48G7W
	16QAM			21.7	21.74	0.149	4481.6	4M48D7W
10.0	QPSK	3555.0	3695.0	22.8	22.80	0.191	8921	8M92G7W
	16QAM			21.9	21.88	0.154	8935.9	8M94D7W
15.0	QPSK	3557.5	3692.5	22.8	22.80	0.191	13414.7	13M4G7W
	16QAM			21.9	21.88	0.154	13388.6	13M4D7W
20.0	QPSK	3560.0	3690.0	22.8	22.80	0.191	17839	17M8G7W
	16QAM			* 24.0	21.80	0.151	17873.6	17M9D7W

*Values from ANT9 with Antenna Gain of -2.20 dBi, which have higher EIRP than ANT8.

LTE BAND 66

Part 27 / RSS 139								
EIRP Limit (W)			1.00					
Antenna Gain (dBi)			0.10					
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
1.4	QPSK	1710.7	1779.3	25.0	25.10	0.324	1082.3	1M08G7W
	16QAM			24.4	24.50	0.282	1086.7	1M09D7W
3.0	QPSK	1711.5	1778.5	25.0	25.10	0.324	2678.3	2M68G7W
	16QAM			24.4	24.50	0.282	2690.3	2M69D7W
5.0	QPSK	1712.5	1777.5	25.0	25.10	0.324	4498.2	4M50G7W
	16QAM			24.5	24.60	0.288	4508.3	4M51D7W
10.0	QPSK	1715.0	1775.0	25.0	25.10	0.324	8942.6	8M94G7W
	16QAM			24.4	24.50	0.282	8948.1	8M95D7W
15.0	QPSK	1717.5	1772.5	25.0	25.10	0.324	13391.8	13M4G7W
	16QAM			24.6	24.70	0.295	13400	13M4D7W
20.0	QPSK	1720.0	1770.0	25.0	25.10	0.324	17841.3	17M8G7W
	16QAM			24.5	24.60	0.288	17906.3	17M9D7W

LTE BAND 71

Part 27 / RSS 130								
ERP Limit (W)		3.00						
Antenna Gain (dBi)		-7.00						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
5.0	QPSK	665.5	695.5	25.7	16.55	0.045	4484.4	4M48G7W
	16QAM			25.1	15.95	0.039	4493.1	4M49D7W
10.0	QPSK	668.0	693.0	25.7	16.55	0.045	8940.7	8M94G7W
	16QAM			24.9	15.75	0.038	8941.6	8M94D7W
15.0	QPSK	670.5	690.5	25.7	16.55	0.045	13411.3	13M4G7W
	16QAM			25.2	16.05	0.040	13430.5	13M4D7W
20.0	QPSK	673.0	688.0	25.7	16.55	0.045	17863.1	17M9G7W
	16QAM			25.3	16.15	0.041	17825.4	17M8D7W

5G NR Band n77

EIRP Limit (W)		1.00						
Antenna Gain (dBi)		-0.70						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
20.0	QPSK	3710.0	3970.0	25.7	25.00	0.316	17842	17M8G7W
	16QAM			24.7	24.00	0.251	17865	17M9D7W
40.0	BPSK	3720.0	3960.0	25.7	25.00	0.316	35744	35M7G7W
	16QAM			24.8	24.10	0.257	35664	35M7D7W
50.0	QPSK	3725.0	3955.0	25.7	25.00	0.316	45586	45M6G7W
	16QAM			24.4	23.70	0.234	45676	45M7D7W
60.0	BPSK	3730.0	3950.0	25.7	25.00	0.316	57720	57M7G7W
	16QAM			24.7	24.00	0.251	57728	57M7D7W
80.0	BPSK	3740.0	3940.0	25.7	25.00	0.316	77031	77M0G7W
	16QAM			24.5	23.80	0.240	77046	77M0D7W
90.0	BPSK	3745.0	3935.0	25.7	25.00	0.316	85444	85M4G7W
	16QAM			25.3	24.60	0.288	85447	85M4D7W
100.0	BPSK	3750.0	3930.0	25.7	25.00	0.316	96477	96M5G7W
	16QAM			24.8	24.10	0.257	96378	96M4D7W

5.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was version 0.28.03-1.

5.4. MAXIMUM ANTENNA GAIN

Please see table below:

Bands	Antenna Gain (dBi)						
	ANT 1	ANT 2	ANT 3	ANT 4	ANT 7	ANT 8	ANT 9
Band 71, 663 – 698 MHz	-7.0	-6.9	NA	NA	NA	NA	NA
Band 12, 699 – 716 MHz	-6.2	-8.6	NA	NA	NA	NA	NA
Band 17, 704 – 716 MHz	-6.2	-8.6	NA	NA	NA	NA	NA
Band 13, 777 – 787 MHz	-5.2	-5.5	NA	NA	NA	NA	NA
Band 14, 788 – 798 MHz	-5.2	-5.5	NA	NA	NA	NA	NA
Band 26, 814 – 824 MHz (Part 90S)	-3.6	-6.7	NA	NA	NA	NA	NA
Band 5, 824 – 849 MHz	-3.6	-4.8	NA	NA	NA	NA	NA
Band 66, 1710 – 1780 MHz	-1.0	-3.3	0.1	-2.2	NA	NA	NA
Band 2, 1850 – 1910 MHz	-1.2	-4.6	-0.3	-2.5	NA	NA	NA
Band 25, 1850 – 1915 MHz	-1.2	-4.6	-0.3	-2.5	NA	NA	NA
Band 30, 2305 – 2315 MHz	-5.4	-1.3	-3	-2.4	NA	NA	NA
Band 7, 2500 – 2570 MHz	-2.2	-0.7	-1	-3.3	NA	NA	NA
Band 41, 2496 – 2690 MHz	-0.1	0.5	1.3	-1.7	NA	NA	NA
Band n77, 3700 – 3980 MHz	NA	NA	NA	-2.1	-0.7	-3.5	-2.6
Band 48, 3550 – 3700 MHz	NA	NA	NA	-2.1	-0.7	0	-2.2

5.5. WORST-CASE CONFIGURATION AND MODE

The EUT supports the following LTE and 5G NR Bands:

Band 2, Band 4, Band 5, Band 7, Band 12, Band 13, Band 14, Band 17, Band 25, Band 26, Band 30, Band 41, Band 48, Band 66, Band 71, 5G NR Band n2, 5G NR Band n5, 5G NR Band n12, 5G NR Band n25, 5G NR Band n41, 5G NR Band n66, 5G NR Band n71, and 5G NR Band n77.

For 5G NR Band n2, 5G NR Band n5, 5G NR Band n12, 5G NR Band n25, 5G NR Band n41, 5G NR Band n66, and 5G NR Band n71 having the same operations bandwidth and Power are covered by LTE bands of Band 2, Band5, Band12, Band 25, Band 41, Band 66, and Band 71. Additional tests for 5G NR with Higher BW modes than LTE Bands as 5G NR Band n5, 5G NR Band n12, and 5G NR Band n41 were performed.

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.

For 5G NR bands, conducted spurious emission tests were conducted on wider bandwidth with inner 1RB since this is the worst bandwidth and the highest output power.

BPSK modulation applied only for 5G NR band frequencies and has the same tune up power as QPSK modulations.

The DFT-s-OFDM and CP-OFDM waveforms were investigated, and DFT-s-OFDM was found to be the worst case.

The worst-case scenario for all measurements is based on an engineering evaluation and QPSK was observed as the worst one and set for all conducted and radiated. Output power measurements were measured on QPSK, 16QAM, 64QAM, 256QAM, and BPSK, modulations. For testing purposes emissions on sections 8 and 9 were measured while QPSK was set at or above target power for all bands. Conducted tests were performed on the worst case antenna because it has the highest conducted power. ANT1 is the worst case for all bands except Band 48, 5G NR Band n41, and 5G NR Band n77. For 5G NR Band n41 ANT2 is the worst case antenna. For bands 48 ANT8 is the worst case antenna and 5G NR Band n77 ANT9 is the worst case antenna.

For 5G NR Band n41 20MHz BW, antenna 2 and antenna 4 powers are higher than LTE band 41. Therefore, additional power measurements and occupied bandwidth tests were performed on antenna 2 and antenna 4 for 20MHz BW. Since LTE antenna 1 the highest output power of all (LTE band 41 and 5G NR Band n41) antennas, all other conducted tests for 20MHz BW were performed only on LTE antenna 1.

The EUT was investigated in three orthogonal orientations X/Y/Z on all ANT 1, ANT2, ANT3, ANT4, ANT7, ANT8 and ANT 9 antennas to determine the worst case orientation. The following table exhibit the worst case orientation for different frequency bands. The full tests of the EUT have made upon the orientations that shown in the table below.

Frequency Bands	ANT1	ANT2	ANT3	ANT4	ANT7	ANT8	ANT9
663 – 849 MHz	X	Y	N/A	N/A	N/A	N/A	N/A
1710 – 1915 MHz	X	X	X	X	N/A	N/A	N/A
2300 – 2700 MHz	X	X	X	X	N/A	N/A	N/A
3300 – 3980 MHz	N/A	N/A	N/A	X	X	Y	Y

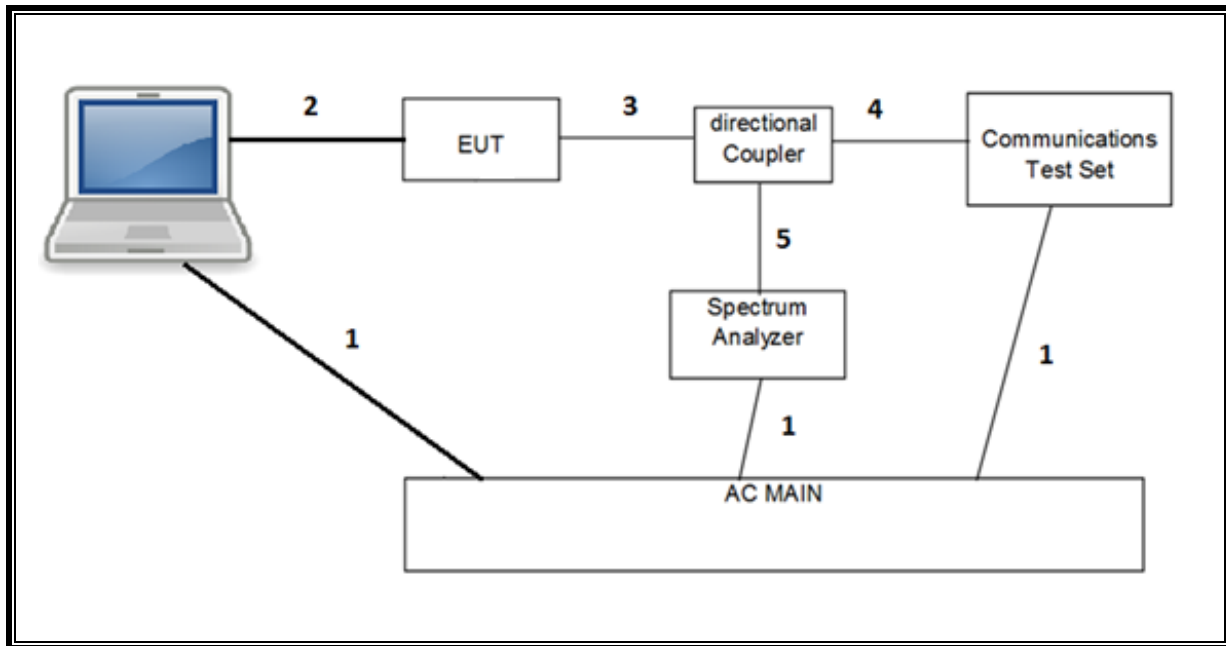
Radiated spurious emissions were investigated from 9kHz to 30MHz, 30MHz-1GHz and above 1GHz. There were no emissions found with less than 20dB of margin from 9kHz to 1GHz.

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.

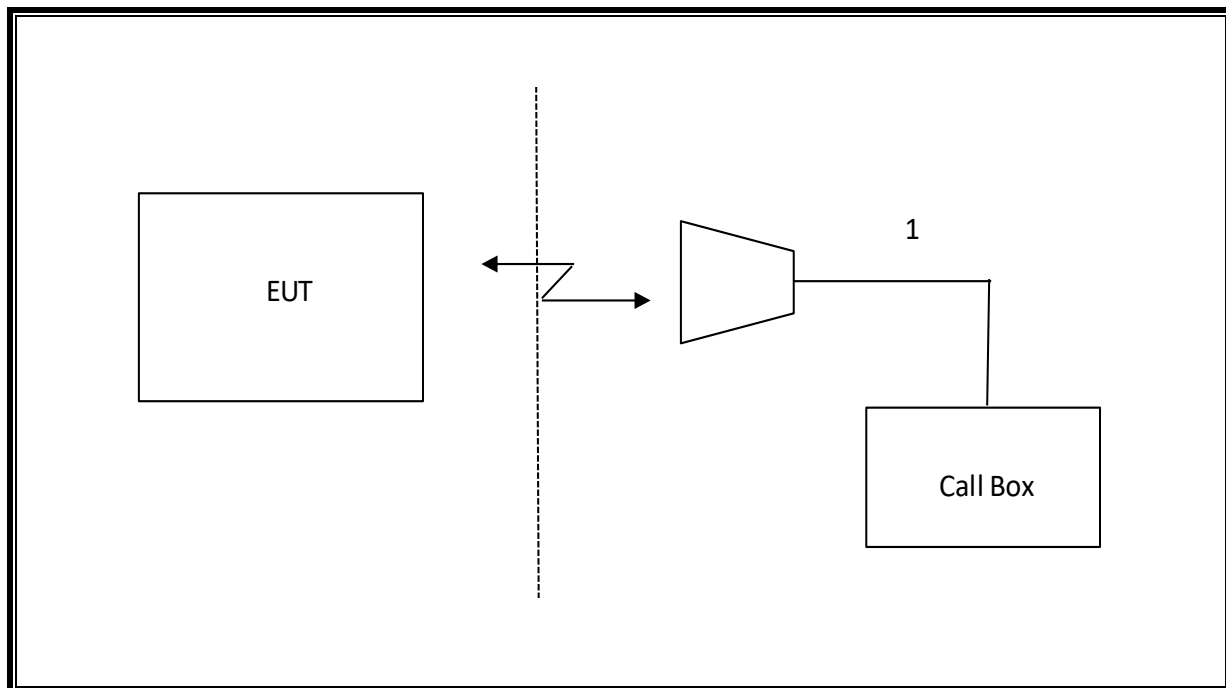
5.6. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description		Manufacturer	Model	Serial Number		FCC ID/ DoC
Laptop AC/DC adapter		Apple	85W MagSafe 2	C0651730MMM6P4AL		
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
Antenna, Horn 1-18GHz	A.H. Systems, Inc.	SAS-571	T962	01/25/2021
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T346	07/20/2021
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T136	07/07/2021
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	T407	05/20/2021
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	PRE0184052	11/12/2020
*Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	PRE0181575	09/05/2020
Antenna, Active Loop 9KHz to 30MHz	ETS-Lindgren	6502	T757	10/01/2020
Antenna Horn, 18 to 26GHz	ARA	SWH-28	T125	04/17/2021
Antenna, Horn 26-40GHz	ARA	MWH-2640/B	PRE0182203	04/17/2021
Amplifier, 1 to 18GHz	MITEQ	AFS42-00101800-25-S-42	T1165	08/10/2021
Amplifier, 1 to 18GHz	MITEQ	AFS42-00101800-25-S-42	PRE0181078	05/06/2021
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	PRE0180176	07/14/2021
Amplifier, 100KHz to 1GHz, 32dB	Keysight	8447D	T15	10/26/2020
Pre-Amp 18-26GHz	Agilent Technology	8449B	T404	04/8/2021
Amplifier, 26-40GHz	Miteq	TTA2640	T1864	04/08/2021
Filter, BRF 1850 – 1910 MHz	Micro-Tronics	BRM50714-02	T1796	06/23/2021
Filter, BRF 824 – 848 MHz	Micro-Tronics	BRM20025	PRE0191180	06/23/2021
Filter, HPF 1.2 GHz	MICRO-TRONICS	MICRO-TRONICS	T1737	06/23/2021
Directional Coupler	KRYTAR	152610	198816	05/15/2021
*Directional Coupler	KRYTAR	152610	T1161	08/14/2020
Directional Coupler	KRYTAR	152613	198817	05/15/2021
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T340	01/22/2021
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T1454	07/15/2021
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T907	01/22/2021
Spectrum Analyzer, PSA, 3Hz to 44GHz	Keysight	N9030A	T908	05/05/2021
Spectrum Analyzer, PSA, 3Hz to 26.5GHz	Keysight	E4440A	T198	01/28/2021
Spectrum Analyzer, PSA, 3Hz to 44GHz	Keysight	E4440A	T200	01/24/2021
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	PRE0179522	02/18/2021
Wireless Communications Test Set, 8960 Series 10	Agilent	E5515C	T211	02/18/2021
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T948	08/10/2021
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T1871	02/25/2021
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T972	02/24/2021
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T260	02/19/2021
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	T959	02/19/2021
Chamber, Environmental	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	T754	12/22/2020
Environmental Chamber	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	T1154	12/22/2020
Power Meter, P-series single channel	Keysight	N1912A	T1245	01/22/2021
Power Sensor	Keysight	N1921A	T1225	02/23/2021
UL AUTOMATION SOFTWARE				
CLT Software	UL	UL RF	Ver 7.6, November 11, 2017	
Power Measurement Software	UL	UL RF	Ver 2.7, 2019	
Radiated test software	UL	UL RF	Ver 9.5 June 15, 2019	

NOTES:

* Testing is completed before equipment expiration date.

7. RF OUTPUT POWER VERIFICATION

CONDUCTED OUTPUT POWER MEASUREMENT PROCEDURE

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

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS136.101 specification.

UE Power Class: 3 (23 +/- 2dBm). Band 41 UE Power Class: 2 (26 +/-2 dBm).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 TS136.101.

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
256 QAM	≥ 1						≤ 5

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS136.101 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".

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

Network Signalling value	Requirements (subclause)	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	N/A
NS_03	6.6.2.2.1	2, 4, 10, 23, 25, 35, 36, 66, 70	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2, 6.6.3.3.19	41	5, 10, 15, 20	Table 6.2.4-4, Table 6.2.4-4a	

Table 6.2.2.3-1: Maximum Power Reduction (MPR) for Power 3

Modulation	MPR (dB)		
	Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM PI/2 BPSK	$\leq 3.5^1$	$\leq 1.2^1$	$\leq 0.2^1$
	$\leq 0.5^2$		0^2
DFT-s-OFDM QPSK	≤ 1		0
DFT-s-OFDM 16 QAM	≤ 2		≤ 1
DFT-s-OFDM 64 QAM		≤ 2.5	
DFT-s-OFDM 256 QAM		≤ 4.5	
CP-OFDM QPSK	≤ 3		≤ 1.5
CP-OFDM 16 QAM	≤ 3		≤ 2
CP-OFDM 64 QAM		≤ 3.5	
CP-OFDM 256 QAM		≤ 6.5	
NOTE 1: Applicable for UE operating in TDD mode with PI/2 BPSK modulation and UE indicates support for UE capability <i>powerBoosting-pi2BPSK</i> and if the IE <i>powerBoostPi2BPSK</i> is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79. The reference power of 0dB MPR is 26dBm.			
NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 and if the IE <i>powerBoostPi2BPSK</i> is set to 0 and if more than 40% of slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79.			

Table 6.2.2.3-2: Maximum Power Reduction (MPR) for Power Class 2

Modulation	MPR (dB)		
	Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM PI/2 BPSK	≤ 3.5	≤ 0.5	0
DFT-s-OFDM QPSK	≤ 3.5	≤ 1	0
DFT-s-OFDM 16 QAM	≤ 3.5	≤ 2	≤ 1
DFT-s-OFDM 64 QAM	≤ 3.5	≤ 2.5	
DFT-s-OFDM 256 QAM		≤ 4.5	
CP-OFDM QPSK	≤ 3.5	≤ 3	≤ 1.5
CP-OFDM 16 QAM	≤ 3.5	≤ 3	≤ 2
CP-OFDM 64 QAM		≤ 3.5	
CP-OFDM 256 QAM		≤ 6.5	

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:	19177	Test Date:	5/14/2020
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OUTPUT POWER FOR LTE BAND 2 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				18607	18900	19193	18607	18900	19193	18607	18900	19193	18607	18900	19193
				1850.7	1880.0	1909.3	1850.7	1880.0	1909.3	1850.7	1880.0	1909.3	1850.7	1880.0	1909.3
1.4	QPSK	1	0	25.6	25.7	25.5	23.1	22.9	23.0	24.9	24.9	24.9	22.8	22.9	22.7
		1	2	25.7	25.7	25.6	23.1	23.0	23.0	25.0	24.9	25.0	22.8	23.0	22.8
		1	5	25.6	25.6	25.5	23.0	22.9	22.9	24.9	24.8	24.9	22.7	22.9	22.7
		3	0	25.6	25.6	25.5	23.1	22.9	22.9	24.9	24.8	25.0	22.7	22.9	22.7
		3	1	25.6	25.7	25.5	23.1	22.9	22.9	25.0	24.8	25.0	22.8	23.0	22.7
		3	2	25.6	25.7	25.6	23.1	22.9	22.9	25.0	24.8	25.0	22.8	22.9	22.7
	16QAM	6	0	24.7	24.6	24.6	22.0	22.0	22.0	24.0	23.9	24.0	21.8	22.0	21.8
		1	0	24.8	25.1	24.6	22.5	22.0	22.1	24.0	24.1	24.4	22.0	22.4	21.8
		1	2	24.8	25.1	24.6	22.5	22.1	22.2	24.1	24.1	24.4	22.0	22.4	21.8
		1	5	24.7	25.0	24.6	22.4	22.0	22.1	24.0	24.0	24.3	21.9	22.3	21.8
		3	0	24.7	24.9	24.8	22.3	22.2	22.1	24.2	24.0	24.2	22.0	22.2	22.0
		3	1	24.7	24.9	24.8	22.4	22.2	22.1	24.2	24.1	24.3	21.9	22.2	22.0
	64QAM	3	2	24.7	24.9	24.8	22.4	22.2	22.1	24.2	24.1	24.2	21.9	22.2	22.0
		6	0	23.8	23.6	23.8	21.0	21.2	21.1	23.1	23.1	23.0	21.0	20.9	21.0
		1	0	24.2	23.8	23.8	21.4	21.6	21.6	23.1	23.1	23.1	21.1	21.3	21.3
		1	2	24.3	23.9	23.9	21.5	21.7	21.5	23.1	23.1	23.1	21.1	21.3	21.3
		1	5	24.1	23.8	23.8	21.4	21.6	21.4	23.1	23.1	23.0	21.0	21.2	21.2
		3	0	24.1	23.9	23.6	21.2	21.6	20.3	23.1	22.9	23.1	21.1	21.0	21.2
	256QAM	3	1	24.2	23.9	23.7	21.3	21.6	20.3	23.2	22.9	23.2	21.2	21.1	21.2
		3	2	24.1	23.9	23.7	21.2	21.6	20.3	23.2	22.9	23.2	21.2	21.1	21.2
		6	0	22.8	23.0	22.7	20.3	20.2	20.3	22.3	22.0	22.3	20.2	20.1	19.8
		1	0	20.5	20.0	20.1	17.9	17.5	17.6	19.8	20.1	19.9	17.8	17.5	17.1
		1	2	20.6	20.1	20.2	18.0	17.6	17.7	19.7	20.2	19.9	18.0	17.6	17.4
		1	5	20.5	20.0	20.1	17.9	17.5	17.6	19.6	20.1	19.8	17.8	17.5	17.3
		3	0	20.3	20.1	20.2	17.7	17.6	17.8	20.1	20.1	20.2	17.6	17.4	17.4
		3	1	20.4	20.1	20.2	17.8	17.6	17.8	20.2	20.1	20.2	17.6	17.5	17.4
		3	2	20.4	20.2	20.2	17.7	17.6	17.8	20.2	20.1	20.2	17.6	17.5	17.4
		6	0	20.3	20.3	20.1	17.7	17.8	17.7	20.2	20.1	20.0	17.8	17.4	17.4

OUTPUT POWER FOR LTE BAND 2 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				18615	18900	19185	18615	18900	19185	18615	18900	19185	18615	18900	19185
				1851.5	1880.0	1908.5	1851.5	1880.0	1908.5	1851.5	1880.0	1908.5	1851.5	1880.0	1908.5
3.0	QPSK	1	0	25.7	25.7	25.6	23.1	22.9	23.1	24.9	24.8	25.0	22.9	23.0	22.9
		1	7	25.6	25.7	25.6	23.0	22.9	23.0	24.9	24.8	25.0	22.9	22.9	22.8
		1	14	25.6	25.7	25.6	22.9	22.9	22.9	24.9	24.8	24.9	22.8	22.9	22.8
		8	0	24.7	24.8	24.7	22.1	22.1	22.1	23.9	24.0	24.1	22.0	22.1	21.9
		8	4	24.7	24.8	24.7	22.1	22.0	22.1	24.0	24.0	24.0	21.9	22.1	21.9
		8	7	24.7	24.8	24.7	22.1	22.0	22.0	24.0	24.0	24.1	22.0	22.1	21.9
	16QAM	15	0	24.7	24.8	24.7	22.1	22.0	22.0	24.0	24.0	24.1	22.0	22.1	21.9
		1	0	24.8	24.7	25.1	22.2	21.9	22.5	24.4	23.9	24.5	22.3	22.1	21.9
		1	7	24.7	24.6	25.0	22.1	21.9	22.4	24.3	23.9	24.4	22.3	22.1	21.8
		1	14	24.6	24.6	25.0	22.1	21.9	22.3	24.3	23.8	24.4	22.3	22.0	21.8
		8	0	23.8	23.9	23.8	21.2	21.2	21.2	23.1	23.1	23.2	21.1	21.2	21.0
		8	4	23.8	23.9	23.8	21.2	21.2	21.2	23.1	23.1	23.2	21.1	21.2	21.1
	64QAM	8	7	23.8	23.9	23.8	21.2	21.2	21.2	23.1	23.1	23.2	21.1	21.2	21.1
		15	0	23.7	23.8	23.7	21.1	21.1	21.1	23.0	23.1	23.1	21.0	21.1	21.0
		1	0	24.1	24.1	23.9	21.6	21.6	21.4	23.0	23.2	23.2	20.9	21.1	21.0
		1	7	24.0	24.1	23.8	21.5	21.6	21.3	23.0	23.2	23.2	20.8	21.0	21.0
		1	14	24.0	24.0	23.8	21.4	21.5	21.3	23.0	23.2	23.1	20.8	21.0	21.0
		8	0	22.8	22.9	22.8	20.3	20.4	20.3	22.0	22.0	22.2	19.9	19.9	19.8
	256QAM	8	4	22.9	22.9	22.8	20.3	20.4	20.3	22.1	22.1	22.2	19.9	19.9	19.8
		8	7	22.9	22.9	22.8	20.3	20.4	20.3	22.1	22.1	22.2	19.9	19.9	19.8
		15	0	22.9	22.8	22.8	20.3	20.3	20.3	22.1	22.0	22.2	19.8	20.0	19.7
		1	0	20.4	20.7	20.0	17.8	18.1	17.5	19.7	19.9	20.1	18.0	17.8	17.5
		1	7	20.4	20.7	19.9	17.7	18.2	17.5	19.7	19.9	20.0	18.0	17.7	17.3
		1	14	20.4	20.7	19.9	17.7	18.1	17.5	19.7	19.8	20.0	17.8	17.8	17.3
		8	0	20.6	20.3	20.1	17.9	17.8	17.6	20.1	20.0	19.9	17.8	17.6	17.7
		8	4	20.6	20.4	20.1	17.9	17.9	17.6	20.0	19.9	19.9	17.8	17.6	17.7
		8	7	20.6	20.4	20.2	17.9	17.8	17.6	20.0	19.9	19.9	17.8	17.6	17.7
		15	0	20.5	20.3	20.3	17.8	17.8	17.8	20.0	19.8	20.1	17.8	17.6	17.5

OUTPUT POWER FOR LTE BAND 2 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				18625	18900	19175	18625	18900	19175	18625	18900	19175	18625	18900	19175
5.0	QPSK	1	0	1852.5	1880.0	1907.5	1852.5	1880.0	1907.5	1852.5	1880.0	1907.5	1852.5	1880.0	1907.5
		1	12	25.6	25.6	25.5	22.9	23.0	22.9	24.9	24.9	24.9	22.8	22.9	22.6
		1	12	25.6	25.7	25.5	23.0	23.1	23.1	24.9	25.0	25.0	22.8	23.0	22.7
		1	24	25.5	25.6	25.4	23.0	23.0	22.9	24.8	24.9	24.9	22.7	22.9	22.6
		12	0	24.6	24.7	24.6	22.0	22.1	22.1	24.0	24.0	24.0	21.8	22.0	21.8
		12	6	24.7	24.6	24.6	22.1	22.1	22.1	24.0	24.0	24.0	21.8	22.0	21.8
		12	11	24.6	24.6	24.5	22.0	22.0	22.1	24.0	23.9	24.0	21.8	21.9	21.7
		25	0	24.6	24.7	24.6	22.1	22.1	22.1	24.0	24.0	24.0	21.8	22.0	21.8
	16QAM	1	0	24.7	24.7	25.1	22.6	22.2	22.6	24.5	24.1	24.5	22.0	22.1	22.3
		1	12	24.7	24.8	25.1	22.6	22.2	22.7	24.5	24.1	24.6	21.9	22.1	22.3
		1	24	24.6	24.7	25.0	22.5	22.2	22.5	24.4	24.1	24.5	21.9	22.0	22.2
		12	0	23.7	23.7	23.8	21.3	21.2	21.2	23.1	23.1	23.2	20.9	21.1	20.9
		12	6	23.7	23.8	23.7	21.3	21.2	21.2	23.1	23.1	23.2	20.9	21.1	20.9
		12	11	23.7	23.7	23.7	21.2	21.2	21.3	23.1	23.0	23.2	20.9	21.0	20.9
		25	0	23.6	23.7	23.6	21.2	21.1	21.1	23.0	23.0	23.1	20.8	21.0	20.9
	64QAM	1	0	24.0	23.6	24.0	21.5	21.2	21.5	23.3	23.0	23.3	20.8	21.1	20.5
		1	12	24.1	23.7	24.0	21.5	21.2	21.6	23.3	22.9	23.4	21.0	21.2	20.5
		1	24	24.0	23.6	23.8	21.4	21.2	21.5	23.2	22.8	23.3	20.9	21.1	20.5
		12	0	22.9	22.8	22.6	20.4	20.4	20.2	22.0	22.0	22.0	19.7	20.0	19.7
		12	6	22.9	22.8	22.7	20.4	20.4	20.2	22.0	22.1	22.0	19.7	20.0	19.8
		12	11	22.8	22.8	22.6	20.3	20.3	20.2	21.9	22.0	22.0	19.6	19.9	19.7
		25	0	22.8	22.7	22.6	20.3	20.3	20.2	22.0	22.0	22.0	19.7	19.9	19.7
	256QAM	1	0	20.5	20.0	20.3	17.7	17.4	17.7	19.9	19.5	19.8	17.9	17.7	17.6
		1	12	20.5	20.0	20.3	17.8	17.5	17.9	20.0	19.6	19.9	17.9	17.8	17.7
		1	24	20.5	20.1	20.3	17.7	17.4	17.7	19.9	19.5	19.8	17.8	17.7	17.6
		12	0	20.4	20.3	20.2	17.7	17.8	17.7	20.0	19.9	19.8	17.7	17.4	17.4
		12	6	20.5	20.3	20.2	17.8	17.8	17.7	20.0	19.9	19.8	17.7	17.5	17.5
		12	11	20.5	20.3	20.2	17.7	17.7	17.7	19.9	19.8	19.8	17.7	17.4	17.4
		25	0	20.4	20.4	20.2	17.8	17.8	17.6	19.9	19.9	19.8	17.6	17.4	17.4

OUTPUT POWER FOR LTE BAND 2 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				18650	18900	19150	18650	18900	19150	18650	18900	19150	18650	18900	19150
10.0	QPSK	1	0	1855.0	1880.0	1905.0	1855.0	1880.0	1905.0	1855.0	1880.0	1905.0	1855.0	1880.0	1905.0
		1	24	25.1	25.3	25.4	22.6	22.8	22.9	24.6	24.6	25.0	22.5	22.7	22.8
		1	49	25.4	25.7	25.5	22.9	23.1	22.9	24.9	24.8	25.0	22.8	23.0	22.8
		25	0	25.2	25.5	25.5	22.6	23.0	22.9	24.6	24.6	25.0	22.5	22.8	22.9
		25	12	24.4	24.7	24.3	21.9	22.1	21.8	23.9	23.9	23.9	21.8	22.0	21.7
		25	24	24.6	24.8	24.4	22.0	22.3	21.9	24.0	24.0	24.1	21.9	22.2	21.8
		50	0	24.4	24.7	24.4	21.9	22.2	21.9	23.9	23.9	24.0	21.8	22.0	21.8
	16QAM	1	0	24.5	24.7	24.3	21.9	22.2	21.8	24.0	23.9	23.9	21.9	22.0	21.7
		1	24	24.2	24.4	24.9	21.7	21.8	22.4	23.7	23.7	24.2	21.7	21.8	22.2
		1	49	24.5	24.8	24.9	22.0	22.1	22.3	24.0	24.0	24.1	21.9	22.0	22.3
		25	0	24.3	24.5	24.8	21.7	21.9	22.3	23.8	23.8	24.1	21.7	21.8	22.3
		25	12	23.6	23.7	23.4	21.0	21.1	20.9	23.0	23.0	23.1	20.9	21.0	20.8
		25	24	23.7	23.8	23.5	21.2	21.3	21.0	23.2	23.2	23.3	21.1	21.1	20.9
		50	0	23.6	23.7	23.5	21.0	21.2	20.9	23.1	23.0	23.1	21.0	21.0	20.9
	64QAM	1	0	23.5	23.7	23.3	21.0	21.2	20.9	23.0	23.0	23.0	20.9	21.0	20.8
		1	24	23.4	23.7	23.7	20.9	21.3	21.2	22.8	22.8	23.4	20.6	20.9	20.9
		1	49	23.8	24.1	23.6	21.3	21.8	21.2	23.2	23.2	23.3	21.0	21.3	20.9
		25	0	23.5	23.9	23.6	21.0	21.5	21.2	23.0	23.0	23.3	20.7	21.0	20.9
		25	12	22.7	22.8	22.5	20.0	20.3	20.0	22.0	22.0	22.1	19.8	19.9	19.7
		25	24	22.7	22.9	22.6	20.2	20.5	20.1	22.2	22.1	22.2	19.9	20.1	19.8
		50	0	22.6	22.8	22.6	20.1	20.4	20.1	22.1	22.0	22.1	19.9	20.0	19.8
	256QAM	1	0	22.6	22.8	22.4	20.0	20.3	19.9	22.0	22.0	22.0	19.8	19.9	19.7
		1	24	20.3	20.2	20.6	17.9	17.2	17.5	19.4	19.5	19.6	17.6	17.3	17.2
		1	49	20.2	20.3	20.6	18.3	17.7	17.8	19.8	19.8	20.0	17.9	17.7	17.5
		25	0	20.2	20.3	20.7	18.1	17.4	17.6	19.5	19.5	19.8	17.6	17.6	17.2
		25	12	20.5	20.4	20.2	17.7	17.7	17.7	19.8	19.6	19.7	17.7	17.4	17.5
		25	24	20.5	20.4	20.3	17.9	17.9	17.8	20.0	19.8	19.9	17.8	17.6	17.6
		50	0	20.5	20.4	20.3	17.8	17.8	17.8	19.9	19.8	19.8	17.7	17.5	17.6
		50	0	20.4	20.3	20.2	17.8	17.8	17.7	19.8	19.7	19.7	17.7	17.6	17.4

OUTPUT POWER FOR LTE BAND 2 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				18675	18900	19125	18675	18900	19125	18675	18900	19125	18675	18900	19125
15.0	QPSK	1	0	1857.5	1880.0	1902.5	1857.5	1880.0	1902.5	1857.5	1880.0	1902.5	1857.5	1880.0	1902.5
		1	37	25.6	25.7	25.7	23.0	22.9	23.1	24.7	25.0	25.0	22.8	23.0	22.8
		1	74	25.7	25.7	25.7	23.0	23.0	23.1	24.8	24.9	25.0	22.9	23.0	22.9
		36	0	24.6	24.7	24.7	22.1	22.0	22.0	23.8	23.8	23.9	21.8	22.0	21.8
		36	16	24.8	24.8	24.8	22.2	22.1	22.1	23.9	24.0	24.0	22.0	22.1	21.9
		36	35	24.8	24.8	24.8	22.2	22.1	22.1	24.0	24.0	24.1	22.0	22.1	21.9
		75	0	24.7	24.8	24.7	22.1	22.1	22.0	23.9	23.9	24.0	21.9	22.1	21.8
	16QAM	1	0	25.1	24.7	25.1	22.5	21.9	22.5	24.2	24.2	24.5	22.3	22.0	22.2
		1	37	25.2	24.8	25.1	22.5	22.0	22.5	24.3	24.3	24.3	22.4	22.1	22.2
		1	74	25.0	24.7	25.1	22.4	22.1	22.5	24.4	24.4	24.5	22.2	22.1	22.3
		36	0	23.6	23.7	23.7	21.1	21.0	21.1	22.8	22.8	22.9	20.8	21.0	20.8
		36	16	23.8	23.9	23.8	21.2	21.1	21.2	23.0	23.0	23.0	21.0	21.2	21.0
		36	35	23.8	23.9	23.8	21.1	21.2	21.2	23.0	23.0	23.1	21.0	21.1	21.0
		75	0	23.8	23.8	23.8	21.1	21.1	21.1	22.9	22.9	23.0	20.9	21.1	21.0
	64QAM	1	0	24.3	24.1	24.0	21.6	21.5	21.3	23.3	23.5	23.6	21.2	21.3	20.9
		1	37	24.4	24.1	23.9	21.8	21.5	21.3	23.5	23.5	23.6	21.4	21.3	20.9
		1	74	24.3	24.2	23.9	21.6	21.5	21.3	23.5	23.5	23.6	21.4	21.2	20.9
		36	0	22.8	22.8	22.9	20.1	20.2	20.1	21.9	21.9	22.0	19.8	20.0	19.8
		36	16	22.9	23.0	22.9	20.3	20.3	20.2	22.0	22.0	22.0	19.9	20.1	19.9
		36	35	22.9	23.0	22.9	20.2	20.3	20.3	22.0	22.0	22.1	19.9	20.1	19.9
		75	0	22.9	22.9	22.9	20.2	20.2	20.1	22.0	22.0	22.1	19.9	20.0	19.8
	256QAM	1	0	20.7	20.7	20.0	18.2	17.6	18.0	19.7	19.5	19.7	17.9	17.4	17.4
		1	37	20.7	20.7	20.1	18.4	17.8	18.2	19.9	19.7	19.9	17.9	17.7	17.6
		1	74	20.6	20.8	20.1	18.4	17.7	18.1	19.9	19.7	19.9	17.9	17.7	17.4
		36	0	20.5	20.4	20.2	17.9	17.9	17.8	19.7	19.7	19.8	17.6	17.4	17.6
		36	16	20.5	20.4	20.2	18.0	18.0	17.9	19.9	19.8	19.8	17.7	17.6	17.7
		36	35	20.5	20.4	20.3	18.0	18.0	17.9	19.9	19.8	19.9	17.7	17.6	17.7
		75	0	20.4	20.4	20.2	18.0	18.0	17.9	19.9	19.8	19.8	17.7	17.5	17.5

OUTPUT POWER FOR LTE BAND 2 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				18700	18900	19100	18700	18900	19100	18700	18900	19100	18700	18900	19100
20.0	QPSK	1	0	25.7	25.7	25.7	23.1	23.0	23.1	24.9	25.0	25.0	22.8	22.9	22.8
		1	49	25.7	25.7	25.6	23.0	23.0	23.1	24.9	24.9	25.0	22.8	23.0	22.7
		1	99	25.7	25.7	25.7	23.0	23.1	23.1	24.9	25.0	25.0	22.9	22.9	22.8
		50	0	24.6	24.6	24.6	22.0	22.0	22.0	23.9	23.9	23.9	21.7	21.9	21.7
		50	24	24.8	24.9	24.8	22.2	22.1	22.2	24.1	24.0	24.1	21.9	22.1	21.8
		50	49	24.8	24.8	24.8	22.1	22.2	22.2	24.0	24.0	24.1	21.9	22.0	21.8
		100	0	24.8	24.8	24.7	22.1	22.1	22.1	24.0	24.0	24.1	21.9	21.9	21.7
	16QAM	1	0	25.1	25.4	25.3	22.6	22.6	22.6	24.4	24.4	24.5	22.3	22.5	22.4
		1	49	25.1	25.4	25.3	22.5	22.6	22.6	24.4	24.4	24.4	22.2	22.6	22.3
		1	99	25.1	25.3	25.2	22.5	22.7	22.7	24.4	24.4	24.4	22.3	22.5	22.3
		50	0	23.6	23.7	23.7	21.0	21.0	21.1	22.9	22.9	22.9	20.7	20.9	20.7
		50	24	23.8	23.9	23.8	21.2	21.2	21.2	23.1	23.1	23.1	20.9	21.1	20.8
		50	49	23.8	23.8	23.8	21.1	21.2	21.2	23.0	23.0	23.1	20.9	21.1	20.9
		100	0	23.8	23.8	23.8	21.1	21.1	21.1	23.0	23.0	23.1	20.9	20.9	20.7
	64QAM	1	0	24.5	24.0	24.1	21.3	21.5	21.7	23.1	23.2	23.2	20.9	21.2	21.4
		1	49	24.5	24.1	24.1	21.3	21.5	21.7	23.2	23.2	23.3	20.9	21.2	21.3
		1	99	24.5	24.1	24.1	21.4	21.5	21.8	23.2	23.2	23.3	21.0	21.1	21.4
		50	0	22.8	22.7	22.8	20.1	20.2	20.1	21.9	21.9	22.0	19.7	19.9	19.6
		50	24	22.8	22.8	22.8	20.3	20.3	20.2	22.1	22.1	22.2	19.8	20.1	19.7
		50	49	22.7	22.7	22.7	20.2	20.3	20.2	22.1	22.1	22.1	19.9	20.0	19.8
		100	0	22.6	22.7	22.7	20.2	20.2	20.1	22.0	22.0	22.1	19.8	19.9	19.6
	256QAM	1	0	20.3	20.4	20.4	17.5	17.8	17.8	20.0	19.5	19.4	17.8	17.2	17.4
		1	49	20.3	20.5	20.4	17.8	18.1	18.1	20.3	19.9	19.8	18.0	17.6	17.8
		1	99	20.3	20.5	20.4	17.8	18.0	18.0	20.2	19.6	19.7	17.8	17.6	17.5
		50	0	20.5	20.4	20.2	17.9	17.9	17.9	19.7	19.6	19.7	17.5	17.3	17.5
		50	24	20.5	20.4	20.4	18.1	18.0	17.9	20.0	19.8	19.9	17.6	17.5	17.7
		50	49	20.5	20.4	20.3	18.0	18.0	18.0	19.9	19.7	19.8	17.6	17.6	17.6
		100	0	20.5	20.4	20.3	18.0	17.9	17.8	19.9	19.8	19.8	17.5	17.5	17.5

7.2. LTE BAND 5

Test Engineer ID:	19467	Test Date:	5/14/2020
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OUTPUT POWER FOR LTE BAND 5 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				20407	20525	20643	20407	20525	20643
1.4	QPSK	1	0	824.7	836.5	848.3	824.7	836.5	848.3
		1	0	25.6	25.6	25.6	24.4	24.4	24.4
		1	2	25.7	25.7	25.7	24.5	24.5	24.4
		1	5	25.7	25.7	25.6	24.4	24.4	24.3
		3	0	25.6	25.7	25.6	24.4	24.3	24.4
		3	1	25.6	25.7	25.6	24.5	24.4	24.4
		3	2	25.7	25.7	25.7	24.5	24.4	24.4
	16QAM	6	0	24.7	24.7	24.7	23.5	23.4	23.4
		1	0	24.7	25.1	24.7	23.5	23.5	23.8
		1	2	24.9	25.2	24.8	23.6	23.7	23.9
		1	5	24.8	25.1	24.8	23.6	23.6	23.8
		3	0	24.7	25.0	24.9	23.7	23.5	23.6
		3	1	24.8	25.0	24.9	23.8	23.5	23.7
		3	2	24.8	25.0	25.0	23.8	23.6	23.7
	64QAM	6	0	23.9	23.7	23.9	22.7	22.6	22.4
		1	0	22.5	23.6	23.7	22.7	22.7	23.0
		1	2	24.0	23.8	23.8	22.8	22.8	23.0
		1	5	23.9	23.7	23.7	22.7	22.8	22.9
		3	0	23.9	23.7	23.5	22.8	22.6	22.9
		3	1	23.9	23.8	23.5	22.9	22.6	22.9
		3	2	23.9	23.8	23.6	22.9	22.6	22.9
	256QAM	6	0	22.5	22.9	22.6	22.0	21.7	21.6
		1	0	20.6	20.5	20.2	18.9	19.0	18.9
		1	2	20.3	20.7	20.3	19.0	19.2	18.9
		1	5	20.2	20.6	20.2	18.9	19.1	18.9
		3	0	20.7	20.6	20.5	19.0	19.0	19.0
		3	1	20.8	20.6	20.5	19.0	19.0	19.0
		3	2	20.7	20.6	20.5	19.1	19.0	19.1
		6	0	20.8	20.6	20.4	19.0	19.0	19.3

OUTPUT POWER FOR LTE BAND 5 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				20415	20525	20635	20415	20525	20635
				825.5	836.5	847.5	825.5	836.5	847.5
3.0	QPSK	1	0	25.6	25.7	25.7	24.4	24.4	24.4
		1	7	25.6	25.7	25.7	24.5	24.4	24.5
		1	14	25.7	25.7	25.7	24.5	24.4	24.4
		8	0	24.8	24.7	24.7	23.6	23.5	23.5
		8	4	24.8	24.8	24.8	23.6	23.5	23.5
		8	7	24.8	24.8	24.8	23.6	23.6	23.5
		15	0	24.8	24.8	24.8	23.6	23.5	23.5
	16QAM	1	0	24.8	24.7	25.2	23.6	23.3	23.8
		1	7	24.8	24.8	25.2	23.6	23.4	23.9
		1	14	24.8	24.8	25.1	23.6	23.5	23.8
		8	0	23.8	23.9	23.8	22.7	22.6	22.6
		8	4	23.9	24.0	23.9	22.7	22.6	22.6
		8	7	23.9	24.0	23.9	22.7	22.7	22.6
		15	0	23.8	23.9	23.8	22.6	22.6	22.5
	64QAM	1	0	23.8	23.9	23.6	22.9	22.9	22.7
		1	7	23.8	23.9	23.7	22.9	22.9	22.7
		1	14	23.8	23.9	23.7	22.9	22.9	22.7
		8	0	22.6	22.7	22.6	21.7	21.7	21.6
		8	4	22.6	22.7	22.7	21.7	21.8	21.7
		8	7	22.7	22.7	22.7	21.8	21.7	21.7
		15	0	22.7	22.7	22.7	21.8	21.7	21.7
	256QAM	1	0	20.5	20.6	20.7	19.2	19.4	18.7
		1	7	20.5	20.6	20.5	19.3	19.5	18.8
		1	14	20.4	20.5	20.5	19.3	19.6	18.8
		8	0	20.8	20.5	20.5	19.4	19.1	18.9
		8	4	20.8	20.6	20.5	19.4	19.1	19.2
		8	7	20.8	20.6	20.5	19.6	19.1	19.2
		15	0	20.7	20.5	20.6	19.4	19.0	19.2

OUTPUT POWER FOR LTE BAND 5 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				20425	20525	20625	20425	20525	20625
				826.5	836.5	846.5	826.5	836.5	846.5
5.0	QPSK	1	0	25.7	25.7	25.5	24.4	24.4	24.3
		1	12	25.7	25.7	25.6	24.5	24.5	24.4
		1	24	25.7	25.7	25.6	24.5	24.5	24.4
		12	0	24.7	24.7	24.7	23.5	23.4	23.4
		12	6	24.9	24.7	24.7	23.5	23.5	23.4
		12	11	24.8	24.7	24.7	23.5	23.4	23.4
		25	0	24.8	24.7	24.6	23.5	23.4	23.4
	16QAM	1	0	24.9	24.8	25.2	23.6	23.5	23.9
		1	12	25.0	24.9	25.3	23.7	23.6	24.1
		1	24	25.0	24.9	25.2	23.6	23.6	23.9
		12	0	23.8	23.7	23.8	22.5	22.5	22.5
		12	6	23.9	23.8	23.8	22.6	22.6	22.5
		12	11	23.9	23.8	23.9	22.6	22.5	22.6
		25	0	23.7	23.8	23.7	22.5	22.4	22.5
	64QAM	1	0	23.8	23.5	23.8	22.8	22.4	22.8
		1	12	24.0	23.5	23.9	23.0	22.5	22.9
		1	24	23.9	23.5	23.8	22.9	22.4	22.8
		12	0	22.6	22.6	22.4	21.7	21.6	21.4
		12	6	22.7	22.7	22.5	21.7	21.6	21.5
		12	11	22.7	22.6	22.5	21.7	21.6	21.5
		25	0	22.6	22.5	22.4	21.6	21.5	21.5
	256QAM	1	0	20.9	20.3	20.6	19.3	19.0	19.4
		1	12	20.7	20.3	20.6	19.4	19.1	19.4
		1	24	20.7	20.3	20.5	19.4	19.0	19.4
		12	0	20.8	20.5	20.5	19.3	19.2	19.3
		12	6	20.8	20.6	20.5	19.4	19.3	19.3
		12	11	20.7	20.5	20.4	19.4	19.3	19.4
		25	0	20.7	20.6	20.5	19.3	19.4	19.3

OUTPUT POWER FOR LTE BAND 5 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	ANT 1			ANT 2		
				20450	20525	20600	20450	20525	20600
				829.0	836.5	844.0	829.0	836.5	844.0
10.0	QPSK	1	0	25.7	25.6	25.7	24.5	24.4	24.4
		1	24	25.6	25.6	25.6	24.4	24.4	24.3
		1	49	25.7	25.7	25.6	24.4	24.4	24.3
		25	0	24.7	24.7	24.6	23.5	23.4	23.4
		25	12	24.8	24.8	24.6	23.6	23.4	23.5
		25	24	24.8	24.7	24.7	23.5	23.4	23.4
		50	0	24.7	24.7	24.7	23.5	23.4	23.4
	16QAM	1	0	24.8	24.7	25.2	23.5	23.8	23.5
		1	24	24.7	24.6	25.1	23.4	23.8	23.4
		1	49	24.8	24.7	25.1	23.4	23.8	23.4
		25	0	23.8	23.7	23.7	22.5	22.5	22.5
		25	12	23.9	23.8	23.6	22.5	22.5	22.6
		25	24	23.9	23.7	23.7	22.5	22.5	22.5
	64QAM	50	0	23.8	23.7	23.7	22.4	22.4	22.4
		1	0	23.7	23.8	23.9	22.8	22.9	22.7
		1	24	23.6	23.8	23.8	22.8	22.9	22.7
		1	49	23.8	23.7	23.9	22.8	22.8	22.7
		25	0	22.7	22.6	22.6	21.7	21.6	21.6
		25	12	22.8	22.7	22.5	21.7	21.6	21.7
		25	24	22.7	22.7	22.6	21.7	21.6	21.6
	256QAM	50	0	22.6	22.5	22.5	21.6	21.5	21.5
		1	0	20.5	20.5	20.6	19.0	19.5	18.7
		1	24	20.5	20.5	20.6	19.4	19.7	18.9
		1	49	20.4	20.5	20.7	19.1	19.5	18.6
		25	0	20.7	20.5	20.5	19.3	19.2	19.1
		25	12	20.7	20.6	20.5	19.4	19.4	19.2
		25	24	20.6	20.5	20.5	19.3	19.3	19.2
		50	0	20.7	20.6	20.5	19.3	19.3	19.1

7.3. 5G NR BAND n5

Test Engineer ID:	19171	Test Date:	8/23/2020
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OUTPUT POWER FOR 5G NR BAND n5 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				166300	167300	168300	166300	167300	168300
				831.5 MHz	836.5 MHz	841.5 MHz	831.5 MHz	836.5 MHz	841.5 MHz
15.0	BPSK	1	0	24.0	23.4	23.5	22.8	22.7	22.7
		1	1	25.1	24.4	24.1	23.4	23.5	23.4
		36	18	25.7	25.4	25.4	24.0	24.3	24.3
		75	0	23.3	24.1	24.0	23.1	22.9	23.1
	QPSK	1	0	24.2	23.7	23.8	23.0	22.8	22.8
		1	1	24.6	24.7	24.4	23.8	23.7	23.7
		36	18	25.4	25.4	25.7	24.3	24.5	24.5
		75	0	24.5	24.2	24.4	23.5	23.3	23.3
	16QAM	1	0	22.9	22.6	22.7	21.9	21.3	21.8
		1	1	23.8	23.9	23.8	22.9	22.5	22.9
		36	18	24.6	24.4	24.8	23.4	23.4	23.5
		75	0	23.4	23.2	23.3	22.4	22.3	22.6
	64QAM	1	0	21.9	21.4	21.9	20.9	20.9	20.7
		1	1	22.8	23.0	22.4	21.8	21.2	21.8
		36	18	23.6	23.5	23.6	22.4	22.4	22.4
		75	0	22.5	22.3	22.3	21.4	21.3	21.5
	256QAM	1	0	18.3	18.6	18.4	18.9	18.4	18.7
		1	1	19.6	19.5	19.9	19.8	19.7	19.8
		36	18	20.7	20.5	20.9	20.3	20.5	20.5
		75	0	19.5	19.3	19.4	19.5	19.4	19.4

OUTPUT POWER FOR 5G NR BAND n5 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				166800	167300	167800	166800	167300	167800
				834.0 MHz	836.5 MHz	839.0 MHz	834.0 MHz	836.5 MHz	839.0 MHz
20.0	BPSK	1	0	23.8	23.4	23.6	22.6	22.6	23.0
		1	1	25.3	24.5	24.7	23.5	23.5	23.5
		50	25	25.7	25.6	25.6	24.5	24.0	24.4
		100	1	24.0	24.1	24.8	23.4	23.2	23.2
	QPSK	1	0	24.5	24.0	24.1	22.9	23.1	22.8
		1	1	25.3	25.1	25.0	23.9	23.9	23.9
		50	25	25.6	25.7	25.7	24.5	24.2	24.4
		100	1	24.5	24.4	25.0	23.7	23.4	23.5
	16QAM	1	0	22.9	22.8	22.4	22.0	22.0	21.9
		1	1	23.9	23.8	23.3	22.9	23.1	22.8
		50	25	25.1	24.2	24.3	23.5	23.4	23.4
		100	1	22.9	22.8	23.3	22.6	22.2	22.3
	64QAM	1	0	22.6	22.6	21.8	21.0	20.9	20.8
		1	1	22.8	23.1	22.9	21.9	22.1	21.8
		50	25	23.6	23.9	24.4	22.4	22.4	22.7
		100	1	22.5	22.5	23.0	21.6	21.3	21.7
	256QAM	1	0	19.4	18.9	19.2	18.8	19.1	18.8
		1	1	20.6	20.5	19.7	19.1	20.1	19.8
		50	25	21.5	20.7	20.9	20.4	20.4	20.5
		100	1	19.5	19.4	19.9	19.7	19.3	19.5

7.4. LTE BAND 7

Test Engineer ID:	19467	Test Date:	5/14/2020
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OUTPUT POWER FOR LTE BAND 7 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				20775	21100	21425	20775	21100	21425	20775	21100	21425	20775	21100	21425
				2502.5	2535.0	2567.5	2502.5	2535.0	2567.5	2502.5	2535.0	2567.5	2502.5	2535.0	2567.5
5.0	QPSK	1	0	25.7	25.5	25.6	22.8	22.5	22.7	24.8	24.8	24.7	21.2	22.3	22.4
		1	12	25.7	25.4	25.5	22.8	22.5	22.7	24.9	24.8	24.6	22.2	22.3	22.4
		1	24	25.7	25.5	25.6	22.8	22.6	22.8	25.0	24.8	24.7	22.3	22.3	22.5
		12	0	24.6	24.5	24.5	21.7	21.6	21.7	23.8	23.8	23.6	21.2	21.3	21.3
		12	6	24.6	24.6	24.6	21.7	21.7	21.8	23.9	23.9	23.7	21.3	21.3	21.4
		12	11	24.6	24.5	24.6	21.7	21.6	21.8	23.9	23.9	23.6	21.3	21.3	21.4
		25	0	24.6	24.5	24.5	21.7	21.6	21.7	23.9	23.8	23.6	21.3	21.3	21.4
	16QAM	1	0	24.4	25.1	24.7	21.9	22.2	21.9	23.8	24.5	23.9	21.7	21.6	21.6
		1	12	24.6	25.1	24.7	21.9	22.2	21.9	24.1	24.4	23.8	21.9	21.5	21.6
		1	24	24.8	25.1	24.8	22.0	22.2	22.0	24.2	24.4	23.8	22.0	21.5	21.7
		12	0	23.7	23.6	23.6	20.8	20.7	20.8	22.8	23.0	22.8	20.4	20.4	20.5
		12	6	23.7	23.7	23.6	20.9	20.8	20.8	23.1	23.0	22.8	20.5	20.4	20.5
		12	11	23.7	23.6	23.6	20.8	20.8	20.8	23.1	23.0	22.7	20.5	20.3	20.5
		25	0	23.6	23.6	23.5	20.7	20.7	20.7	22.9	22.9	22.7	20.4	20.3	20.4
	64QAM	1	0	23.0	24.0	23.9	20.5	20.8	20.8	22.4	22.7	23.0	19.6	21.0	20.9
		1	12	23.1	23.9	23.8	20.5	20.8	20.9	23.1	22.7	23.0	20.3	20.9	21.0
		1	24	23.5	24.0	23.9	20.5	20.8	20.9	23.3	22.7	23.0	20.6	20.9	21.0
		12	0	22.2	22.5	22.6	19.6	19.4	19.7	21.3	21.8	21.6	18.7	19.5	19.7
		12	6	22.5	22.6	22.6	19.7	19.4	19.7	21.7	21.8	21.6	19.6	19.6	19.7
		12	11	22.6	22.6	22.6	19.6	19.4	19.7	21.9	21.8	21.6	19.7	19.5	19.7
		25	0	22.3	22.6	22.6	19.6	19.4	19.6	21.5	21.7	21.6	19.2	19.6	19.6
	256QAM	1	0	20.3	20.6	20.6	17.0	17.9	17.8	19.3	20.1	20.3	16.6	17.6	17.2
		1	12	20.2	20.5	20.5	17.0	18.0	17.8	19.4	20.1	20.4	16.8	17.5	17.3
		1	24	20.3	20.7	20.6	17.0	17.8	17.8	19.4	20.0	20.2	16.8	17.5	17.3
		12	0	20.5	20.5	20.6	16.6	17.7	17.6	19.3	20.3	20.2	16.5	17.2	17.1
		12	6	20.5	20.5	20.6	16.7	17.7	17.7	19.4	20.4	20.3	16.6	17.2	17.2
		12	11	20.6	20.5	20.5	16.6	17.6	17.6	19.4	20.3	20.2	16.6	17.2	17.1
		25	0	20.6	20.5	20.6	16.6	17.7	17.6	19.3	20.4	20.3	16.5	17.3	17.1

OUTPUT POWER FOR LTE BAND 7 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				20800	21100	21400	20800	21100	21400	20800	21100	21400	20800	21100	21400
10.0	QPSK	1	0	25.7	25.4	25.4	22.7	22.6	22.7	24.5	24.7	24.6	22.0	22.1	22.1
		1	24	25.7	25.4	25.5	22.7	22.6	22.7	24.9	24.6	24.6	22.3	22.1	22.2
		1	49	25.7	25.4	25.6	22.7	22.6	22.7	25.0	24.7	24.6	22.5	22.1	22.2
		25	0	24.7	24.5	24.5	21.8	21.7	21.7	23.7	23.7	23.7	21.2	21.2	21.2
		25	12	24.8	24.6	24.5	21.8	21.7	21.7	24.0	23.7	23.7	21.4	21.2	21.3
		25	24	24.7	24.5	24.6	21.8	21.7	21.8	24.1	23.6	23.6	21.4	21.2	21.3
		50	0	24.7	24.5	24.4	21.8	21.7	21.6	23.7	23.6	23.6	21.2	21.1	21.2
	16QAM	1	0	25.1	24.6	24.5	22.2	21.8	21.7	23.1	23.7	24.1	21.5	21.3	21.2
		1	24	25.1	24.5	24.4	22.2	21.7	21.7	23.6	23.6	24.0	21.7	21.1	21.2
		1	49	25.1	24.5	24.5	22.2	21.7	21.8	24.3	23.7	24.1	21.9	21.2	21.3
		25	0	23.8	23.6	23.5	20.9	20.8	20.7	22.6	22.8	22.8	20.3	20.3	20.3
		25	12	23.8	23.6	23.5	20.9	20.8	20.8	23.0	22.8	22.7	20.4	20.3	20.4
		25	24	23.7	23.6	23.6	20.9	20.8	20.9	23.3	22.7	22.7	20.5	20.3	20.4
		50	0	23.7	23.5	23.4	20.8	20.7	20.6	22.8	22.7	22.7	20.3	20.2	20.3
	64QAM	1	0	23.3	23.9	23.9	20.8	20.8	20.6	21.8	23.0	22.6	19.4	20.6	20.7
		1	24	23.9	23.8	23.9	20.9	20.8	20.7	22.6	22.9	22.6	20.6	20.5	20.8
		1	49	23.9	23.8	23.9	20.9	20.8	20.8	23.2	22.9	22.6	20.8	20.6	20.8
		25	0	22.6	22.7	22.6	19.7	19.6	19.6	21.2	21.7	21.6	19.5	19.5	19.4
		25	12	22.9	22.7	22.6	19.8	19.6	19.7	21.6	21.7	21.6	19.7	19.5	19.5
		25	24	22.8	22.7	22.6	19.8	19.6	19.7	22.0	21.6	21.5	19.7	19.4	19.5
		50	0	22.8	22.6	22.5	19.7	19.5	19.5	21.4	21.6	21.5	19.5	19.3	19.4
	256QAM	1	0	20.9	20.2	20.6	16.3	17.6	17.6	19.1	20.1	20.1	16.1	17.2	17.1
		1	24	20.9	20.2	20.5	16.5	17.8	17.8	19.5	20.2	20.3	16.5	17.4	17.2
		1	49	21.0	20.4	20.6	16.3	17.6	17.6	19.4	19.9	20.0	16.3	17.2	17.0
		25	0	20.5	20.6	20.6	16.7	17.6	17.5	19.3	20.3	20.2	16.5	17.3	17.0
		25	12	20.6	20.6	20.6	16.8	17.7	17.6	19.4	20.4	20.3	16.7	17.3	17.1
		25	24	20.5	20.5	20.6	16.6	17.6	17.6	19.4	20.3	20.2	16.6	17.3	17.0
		50	0	20.6	20.5	20.6	16.6	17.6	17.6	19.3	20.3	20.2	16.5	17.2	17.1

OUTPUT POWER FOR LTE BAND 7 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				20825	21100	21375	20825	21100	21375	20825	21100	21375	20825	21100	21375
15.0	QPSK	1	0	25.5	25.6	25.4	22.7	22.6	22.6	23.9	24.8	24.7	22.0	22.2	22.1
		1	37	25.7	25.5	25.5	22.7	22.6	22.7	24.5	24.7	24.6	22.4	22.1	22.1
		1	74	25.7	25.5	25.6	22.7	22.6	22.7	25.0	24.8	24.1	22.5	22.1	22.2
		36	0	24.8	24.6	24.5	21.8	21.7	21.7	23.1	23.9	23.8	21.3	21.2	21.2
		36	16	24.7	24.6	24.5	21.9	21.7	21.7	23.5	23.9	23.8	21.5	21.2	21.2
		36	35	24.7	24.6	24.6	21.9	21.7	21.9	23.9	23.9	23.5	21.5	21.2	21.3
		75	0	23.9	24.5	24.5	21.8	21.7	21.7	23.4	23.9	23.7	21.3	21.1	21.2
	16QAM	1	0	22.5	25.0	24.4	22.2	22.2	21.7	23.0	23.8	24.1	20.8	21.7	21.1
		1	37	23.5	25.0	24.5	22.2	22.1	21.7	23.8	23.7	24.1	21.8	21.6	21.2
		1	74	24.4	25.0	24.6	22.2	22.1	21.8	24.3	23.9	23.7	21.9	21.6	21.2
		36	0	23.8	23.6	23.5	21.0	20.7	20.7	22.1	22.9	22.8	20.4	20.2	20.2
		36	16	23.8	23.6	23.5	21.0	20.7	20.8	22.6	22.9	22.8	20.5	20.2	20.2
		36	35	23.7	23.5	23.6	20.9	20.7	20.8	23.0	22.8	22.7	20.5	20.1	20.3
		75	0	23.7	23.5	23.5	20.9	20.7	20.7	22.6	22.8	22.7	20.4	20.1	20.2
	64QAM	1	0	23.7	23.9	23.7	20.7	21.0	20.7	22.2	22.8	23.0	19.0	21.0	20.6
		1	37	24.3	23.9	23.7	20.7	21.1	20.8	23.3	22.6	22.9	20.6	20.8	20.6
		1	74	24.3	23.9	23.7	20.8	21.0	20.9	23.4	22.7	22.9	20.7	20.8	20.7
		36	0	22.6	22.7	22.7	19.8	19.5	19.5	21.1	21.5	21.4	19.5	19.3	19.3
		36	16	22.8	22.7	22.7	19.8	19.5	19.6	21.5	21.5	21.5	19.6	19.3	19.4
		36	35	22.8	22.7	22.7	19.8	19.5	19.7	21.8	21.5	21.4	19.7	19.3	19.5
		75	0	22.8	22.6	22.5	19.7	19.5	19.5	21.4	21.5	21.4	19.5	19.3	19.3
	256QAM	1	0	20.3	20.6	20.9	16.5	17.9	17.8	19.5	20.6	20.4	16.4	17.6	17.3
		1	37	20.3	20.7	21.0	16.7	18.1	18.0	19.8	20.6	20.5	16.7	17.6	17.4
		1	74	20.4	20.8	21.0	16.7	18.0	17.8	19.8	20.5	20.3	16.6	17.6	17.3
		36	0	20.6	20.4	20.6	16.9	17.8	17.9	19.6	20.6	20.5	16.8	17.4	17.3
		36	16	20.6	20.6	20.6	16.9	17.8	17.9	19.8	20.6	20.6	16.9	17.4	17.3
		36	35	20.6	20.6	20.6	16.9	17.8	17.8	19.8	20.5	20.4	16.9	17.4	17.3
		75	0	20.6	20.5	20.6	16.9	17.8	17.9	19.7	20.6	20.5	16.8	17.4	17.2

OUTPUT POWER FOR LTE BAND 7 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				20850	21100	21350	20850	21100	21350	20850	21100	21350	20850	21100	21350
20.0	QPSK	1	0	25.7	25.6	25.5	22.7	22.6	22.6	23.9	24.8	24.4	22.0	22.2	22.1
		1	49	25.7	25.5	25.6	22.7	22.6	22.7	24.7	24.6	24.4	22.5	22.1	22.2
		1	99	25.7	25.5	25.6	22.7	22.6	22.7	25.0	24.8	23.8	22.5	22.1	22.3
		50	0	24.8	24.6	24.5	21.8	21.7	21.7	23.2	23.8	23.5	21.4	21.3	21.1
		50	24	24.8	24.6	24.6	21.9	21.8	21.8	23.7	23.8	23.5	21.5	21.2	21.3
		50	49	24.7	24.6	24.7	21.9	21.7	21.8	23.9	23.8	23.4	21.5	21.2	21.3
		100	0	24.7	24.6	24.6	21.8	21.7	21.7	23.5	23.7	23.4	21.4	21.2	21.2
	16QAM	1	0	25.2	25.1	25.0	22.2	22.1	22.2	22.9	24.4	24.2	21.7	21.7	21.7
		1	49	25.3	25.0	25.0	22.3	22.1	22.2	24.0	24.3	24.0	21.9	21.5	21.8
		1	99	25.3	25.0	25.1	22.3	22.1	22.4	24.4	24.5	23.4	22.1	21.6	21.8
		50	0	23.8	23.7	23.5	20.8	20.7	20.7	22.3	22.9	22.5	20.4	20.2	20.2
		50	24	23.8	23.7	23.6	20.9	20.7	20.8	22.8	22.9	22.5	20.5	20.2	20.3
		50	49	23.7	23.6	23.6	20.9	20.7	20.8	23.0	22.8	22.4	20.6	20.2	20.3
		100	0	23.8	23.6	23.6	20.8	20.7	20.7	22.7	22.4	22.4	20.4	20.2	20.3
	64QAM	1	0	23.5	24.0	24.3	21.2	20.7	20.8	22.2	22.7	22.8	19.4	20.6	20.5
		1	49	24.0	24.0	24.3	21.3	20.7	20.9	23.3	22.6	22.7	21.2	20.4	20.6
		1	99	23.9	24.0	24.3	21.3	20.7	21.0	23.4	22.7	22.6	21.2	20.5	20.7
		50	0	22.9	22.8	22.6	19.6	19.6	19.6	21.2	21.6	21.5	19.5	19.4	19.3
		50	24	22.9	22.8	22.8	19.8	19.6	19.7	21.7	21.6	21.5	19.6	19.4	19.5
		50	49	22.8	22.8	22.7	19.7	19.6	19.7	21.8	21.5	21.4	19.6	19.3	19.5
		100	0	22.8	22.7	22.6	19.7	19.5	19.6	21.4	21.5	21.4	19.5	19.3	19.3
	256QAM	1	0	20.6	20.5	20.4	16.6	18.0	17.8	19.1	20.8	20.3	16.5	17.8	17.4
		1	49	20.7	20.7	20.5	17.1	18.2	18.0	19.7	20.9	20.5	17.1	17.8	17.5
		1	99	20.7	20.8	20.5	16.9	18.2	17.7	19.5	20.7	20.1	16.6	17.8	17.1
		50	0	20.5	20.5	20.6	16.8	17.8	17.7	19.5	20.5	20.4	16.8	17.4	17.3
		50	24	20.6	20.6	20.7	16.9	17.9	17.9	19.7	20.6	20.5	16.8	17.4	17.3
		50	49	20.6	20.6	20.7	16.8	17.9	17.7	19.7	20.4	20.3	16.8	17.4	17.2
		100	0	20.6	20.6	20.6	16.9	17.8	17.7	19.6	20.5	20.4	16.7	17.4	17.2

7.5. LTE BAND 12

Test Engineer ID:	19177	Test Date:	5/14/2020
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OUTPUT POWER FOR LTE BAND 12 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				23017	23095	23173	23017	23095	23173
				699.7	707.5	715.3	699.7	707.5	715.3
1.4	QPSK	1	0	25.6	25.6	25.5	24.4	24.3	24.5
		1	2	25.6	25.7	25.3	24.5	24.5	24.5
		1	5	25.6	25.6	25.0	24.5	24.4	24.5
		3	0	25.5	25.6	25.3	24.5	24.4	24.4
		3	1	25.6	25.7	25.3	24.5	24.4	24.5
		3	2	25.6	25.7	25.2	24.5	24.4	24.5
	16QAM	6	0	24.7	24.7	24.4	23.5	23.5	23.5
		1	0	24.7	25.0	24.6	23.8	23.5	23.6
		1	2	24.7	25.1	24.4	23.9	23.6	23.7
		1	5	24.7	25.0	24.2	23.9	23.6	23.6
		3	0	24.6	24.8	24.7	23.7	23.7	23.5
		3	1	24.7	24.9	24.6	23.8	23.7	23.6
	64QAM	3	2	24.7	24.9	24.5	23.8	23.7	23.7
		6	0	23.8	23.7	23.7	22.5	22.7	22.7
		1	0	23.8	23.8	24.0	23.1	22.7	22.7
		1	2	23.8	23.9	23.7	23.2	22.8	22.8
		1	5	23.8	23.8	23.5	23.1	22.8	22.8
		3	0	23.7	23.8	23.6	23.0	22.8	22.6
	256QAM	3	1	23.8	23.9	23.6	23.0	22.8	22.7
		3	2	23.8	23.9	23.4	23.0	22.9	22.7
		6	0	22.5	23.1	22.7	21.7	21.9	21.7
		1	0	20.5	20.0	20.0	18.9	18.4	18.6
		1	2	20.6	20.6	20.1	19.0	19.2	19.1
		1	5	20.4	20.4	20.0	19.0	19.1	19.0
		3	0	20.3	20.3	20.1	18.9	18.8	18.8
		3	1	20.4	20.3	20.1	18.9	18.9	18.9
		3	2	20.4	20.3	20.1	18.9	18.8	18.9
		6	0	20.3	20.2	20.3	18.8	18.8	18.8

OUTPUT POWER FOR LTE BAND 12 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				23025	23095	23165	23025	23095	23165
				700.5	707.5	714.5	700.5	707.5	714.5
3.0	QPSK	1	0	25.6	25.5	25.6	24.3	24.4	24.5
		1	7	25.5	25.7	25.4	24.3	24.4	24.5
		1	14	25.6	25.7	24.8	24.4	24.4	24.5
		8	0	24.7	24.8	24.7	23.5	23.5	23.4
		8	4	24.7	24.9	24.6	23.5	23.5	23.5
		8	7	24.8	24.9	24.4	23.5	23.6	23.5
		15	0	24.7	24.9	24.5	23.5	23.5	23.5
	16QAM	1	0	24.6	24.4	25.0	23.5	23.4	23.9
		1	7	24.6	24.7	24.8	23.4	23.4	23.9
		1	14	24.6	24.6	24.3	23.5	23.5	23.9
		8	0	23.7	23.9	23.8	22.5	22.6	22.5
		8	4	23.7	24.0	23.8	22.5	22.6	22.6
		8	7	23.8	24.1	23.6	22.6	22.7	22.6
		15	0	23.7	23.9	23.6	22.5	22.5	22.5
	64QAM	1	0	23.7	24.0	23.9	22.8	22.9	22.7
		1	7	23.6	24.2	23.7	22.6	22.9	22.7
		1	14	23.7	24.0	23.2	22.8	22.9	22.8
		8	0	22.5	22.9	22.9	21.6	21.7	21.7
		8	4	22.5	23.1	22.9	21.6	21.8	21.7
		8	7	22.6	23.1	22.7	21.6	21.8	21.7
		15	0	22.7	22.9	22.7	21.7	21.7	21.7
	256QAM	1	0	20.9	20.1	20.4	19.5	18.8	18.7
		1	7	20.8	20.1	20.3	19.4	18.7	18.7
		1	14	20.8	20.2	20.3	19.4	18.6	18.7
		8	0	20.6	20.2	20.4	19.0	19.0	18.8
		8	4	20.5	20.3	20.4	19.1	19.1	18.9
		8	7	20.5	20.3	20.5	19.1	19.0	18.9
		15	0	20.5	20.4	20.4	19.1	19.1	19.0

OUTPUT POWER FOR LTE BAND 12 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				23035	23095	23155	23035	23095	23155
				701.5	707.5	713.5	701.5	707.5	713.5
5.0	QPSK	1	0	25.3	25.2	25.4	24.4	24.4	24.2
		1	12	25.4	25.7	25.6	24.4	24.4	24.4
		1	24	25.5	25.4	24.9	24.5	24.4	24.4
		12	0	24.4	24.5	24.8	23.5	23.4	23.4
		12	6	24.5	24.7	24.8	23.5	23.4	23.4
		12	11	24.5	24.6	24.6	23.5	23.4	23.4
		25	0	24.4	24.5	24.7	23.5	23.5	23.4
	16QAM	1	0	24.4	24.3	25.0	23.6	23.5	23.9
		1	12	24.4	24.8	25.2	23.6	23.6	24.0
		1	24	24.6	24.6	24.5	23.7	23.6	24.0
		12	0	23.4	23.6	24.0	22.5	22.5	22.6
		12	6	23.5	23.8	24.0	22.6	22.6	22.6
		12	11	23.6	23.7	23.8	22.5	22.5	22.6
		25	0	23.4	23.6	23.8	22.5	22.5	22.5
	64QAM	1	0	23.4	23.2	23.8	23.0	22.7	22.4
		1	12	23.5	23.7	24.1	23.0	22.8	22.5
		1	24	23.7	23.4	23.4	22.9	22.8	22.5
		12	0	22.3	22.7	22.9	21.5	21.6	21.6
		12	6	22.4	22.8	22.9	21.6	21.6	21.5
		12	11	22.5	22.8	22.7	21.5	21.6	21.6
		25	0	22.3	22.6	22.8	21.6	21.6	21.5
	256QAM	1	0	20.7	20.4	20.2	18.7	19.1	18.8
		1	12	20.5	20.4	20.1	18.8	19.2	18.8
		1	24	20.5	20.4	20.0	18.8	19.1	18.9
		12	0	20.5	20.3	20.4	19.0	19.0	18.8
		12	6	20.5	20.4	20.4	19.1	19.1	18.9
		12	11	20.4	20.3	20.3	19.1	19.0	18.8
		25	0	20.4	20.4	20.4	19.1	19.1	18.9

OUTPUT POWER FOR LTE BAND 12 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				23060	23095	23130	23060	23095	23130
				704.0	707.5	711.0	704.0	707.5	711.0
10.0	QPSK	1	0	24.3	24.9	25.6	24.4	24.3	24.5
		1	24	24.6	25.7	25.2	24.4	24.3	24.3
		1	49	25.4	25.4	24.6	24.4	24.2	24.3
		25	0	23.4	24.4	24.8	23.3	23.3	23.4
		25	12	23.8	24.7	24.7	23.5	23.5	23.4
		25	24	24.1	24.7	24.3	23.4	23.4	23.4
		50	0	23.8	24.4	24.6	23.4	23.4	23.3
	16QAM	1	0	23.6	24.0	24.6	23.8	23.5	23.4
		1	24	24.0	24.8	24.2	23.8	23.4	23.3
		1	49	24.7	24.5	23.6	23.9	23.5	23.3
		25	0	22.5	23.5	23.8	22.3	22.4	22.4
		25	12	22.9	23.9	23.8	22.5	22.6	22.5
		25	24	23.1	23.8	23.4	22.5	22.5	22.5
		50	0	22.8	23.5	23.6	22.5	22.5	22.3
	64QAM	1	0	22.4	23.3	23.9	22.6	22.7	22.8
		1	24	22.8	24.2	23.4	22.7	22.7	22.8
		1	49	23.7	23.8	23.0	22.8	22.8	22.9
		25	0	21.5	22.6	22.9	21.5	21.5	21.5
		25	12	22.0	22.9	22.8	21.7	21.6	21.6
		25	24	22.3	22.7	22.6	21.6	21.6	21.6
		50	0	21.8	22.5	22.7	21.6	21.5	21.5
	256QAM	1	0	20.9	20.1	20.4	18.9	18.3	18.6
		1	24	20.8	20.2	20.4	19.3	18.6	18.9
		1	49	20.9	20.2	20.4	19.1	18.4	18.6
		25	0	20.5	20.4	20.4	18.7	18.8	18.8
		25	12	20.5	20.5	20.4	18.9	18.9	18.9
		25	24	20.4	20.4	20.4	18.8	18.9	18.9
		50	0	20.5	20.4	20.4	18.8	18.8	18.8

7.6. 5G NR BAND n12

Test Engineer ID:	19232	Test Date:	8/18/2020
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OUTPUT POWER FOR 5G NR BAND n12 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				141300	141500	141700	141300	141500	141700
				706.5 MHz	707.5 MHz	708.5 MHz	706.5 MHz	707.5 MHz	708.5 MHz
15.0	BPSK	1	0	24.9	24.5	24.7	23.8	23.8	23.8
		1	1	24.8	25.5	25.4	24.4	23.9	24.4
		36	18	25.2	25.3	25.2	24.0	24.1	24.2
		75	0	24.6	24.6	24.8	23.6	23.6	23.5
	QPSK	1	0	24.4	23.8	23.9	23.0	23.0	23.0
		1	1	25.5	25.7	25.1	24.5	24.2	24.1
		36	18	25.1	25.4	25.4	24.2	24.0	24.1
		75	0	24.2	24.3	24.3	23.1	23.1	23.0
	16QAM	1	0	23.4	23.3	23.3	22.8	22.4	22.3
		1	1	24.4	24.2	24.7	23.4	23.0	23.2
		36	18	24.2	24.3	24.4	23.1	23.0	23.0
		75	0	23.2	23.2	23.3	22.1	22.2	22.1
	64QAM	1	0	23.2	22.9	22.8	21.4	22.2	21.4
		1	1	23.0	23.0	22.7	22.1	22.0	22.0
		36	18	22.5	22.7	22.8	21.7	21.6	21.6
		75	0	22.7	22.8	22.7	21.7	21.7	21.7
	256QAM	1	0	20.2	20.6	20.4	19.6	18.9	19.4
		1	1	20.5	20.8	20.5	19.6	19.4	19.5
		36	18	20.1	20.3	20.4	19.3	18.9	19.3
		75	0	20.4	20.3	20.3	19.2	19.1	19.2

7.7. LTE BAND 13

Test Engineer ID:	19171	Test Date:	5/14/2020
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OUTPUT POWER FOR LTE BAND 13 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				23205	23230	23255	23205	23230	23255
				779.5	782.0	784.5	779.5	782.0	784.5
5.0	QPSK	1	0	25.4	25.6	25.4	24.3	24.3	24.4
		1	12	25.4	25.7	25.4	24.3	24.3	24.4
		1	24	25.5	25.7	25.5	24.3	24.4	24.5
		12	0	24.5	24.6	24.5	23.2	23.3	23.4
		12	6	24.6	24.7	24.6	23.3	23.4	23.5
		12	11	24.5	24.7	24.6	23.3	23.4	23.5
		25	0	24.6	24.7	24.5	23.4	23.3	23.4
	16QAM	1	0	24.6	24.8	24.9	23.4	23.8	23.5
		1	12	24.4	24.8	24.8	23.5	23.8	23.5
		1	24	24.6	24.9	25.0	23.5	23.8	23.6
		12	0	23.6	23.7	23.6	22.4	22.5	22.5
		12	6	23.7	23.8	23.7	22.4	22.6	22.5
		12	11	23.6	23.8	23.7	22.4	22.6	22.6
		25	0	23.5	23.7	23.6	22.4	22.4	22.4
	64QAM	1	0	23.8	23.6	23.7	22.4	22.7	22.8
		1	12	23.7	23.6	23.7	22.4	22.7	22.7
		1	24	23.8	23.7	23.7	22.5	22.7	22.9
		12	0	22.5	22.7	22.4	21.4	21.4	21.6
		12	6	22.6	22.8	22.5	21.5	21.5	21.6
		12	11	22.6	22.7	22.5	21.5	21.5	21.7
		25	0	22.6	22.7	22.5	21.5	21.4	21.7
	256QAM	1	0	20.2	20.6	20.5	18.7	18.7	19.1
		1	12	20.1	20.5	20.5	19.0	18.8	19.1
		1	24	20.2	20.6	20.5	19.0	18.8	19.2
		12	0	20.4	20.4	20.4	18.7	19.0	19.1
		12	6	20.5	20.5	20.4	18.9	19.1	19.1
		12	11	20.4	20.5	20.4	19.0	19.1	19.1
		25	0	20.5	20.5	20.5	19.0	19.1	19.0

OUTPUT POWER FOR LTE BAND 13 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				N/A	23230	N/A	N/A	23230	N/A
10.0	QPSK	1	0	N/A	25.6	N/A	N/A	24.4	N/A
		1	24		25.7			24.4	
		1	49		25.6			24.5	
		25	0		24.8			23.4	
		25	12		24.8			23.5	
		25	24		24.8			23.4	
		50	0		24.8			23.4	
	16QAM	1	0		24.8			23.7	
		1	24		24.8			23.7	
		1	49		24.8			23.9	
		25	0		23.9			22.5	
		25	12		24.0			22.5	
		25	24		23.9			22.5	
		50	0		23.9			22.5	
	64QAM	1	0		24.0			22.5	
		1	24		24.0			22.6	
		1	49		24.0			22.8	
		25	0		22.9			21.6	
		25	12		22.9			21.7	
		25	24		22.9			21.7	
		50	0		22.9			21.6	
	256QAM	1	0		20.4			19.0	
		1	24		20.5			19.3	
		1	49		20.6			19.2	
		25	0		20.5			19.4	
		25	12		20.6			19.5	
		25	24		20.5			19.5	
		50	0		20.5			19.4	

7.8. LTE BAND 14

Test Engineer ID:	19467	Test Date:	5/14/2020
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OUTPUT POWER FOR LTE BAND 14 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				23305	23330	23355	23305	23330	23355
				790.5	793.0	795.5	790.5	793.0	795.5
5.0	QPSK	1	0	25.6	25.7	25.3	24.4	24.5	24.2
		1	12	25.7	25.7	25.4	24.5	24.5	24.3
		1	24	25.6	25.6	25.3	24.4	24.5	24.3
		12	0	24.7	24.7	24.4	23.5	23.5	23.4
		12	6	24.7	24.7	24.4	23.6	23.5	23.4
		12	11	24.7	24.6	24.4	23.5	23.5	23.4
		25	0	24.7	24.7	24.4	23.5	23.5	23.3
	16QAM	1	0	24.8	24.7	24.9	23.7	23.6	23.8
		1	12	24.9	24.9	25.0	23.7	23.7	23.9
		1	24	24.8	24.8	25.0	23.6	23.7	24.0
		12	0	23.7	23.7	23.6	22.6	22.6	22.5
		12	6	23.8	23.8	23.6	22.6	22.6	22.5
		12	11	23.7	23.8	23.5	22.5	22.6	22.5
		25	0	23.6	23.7	23.5	22.5	22.5	22.4
	64QAM	1	0	22.7	23.9	23.3	22.7	22.7	22.3
		1	12	24.0	24.0	23.4	22.8	22.8	22.4
		1	24	23.9	23.9	23.3	22.8	22.7	22.3
		12	0	22.6	22.8	22.5	21.5	21.6	21.5
		12	6	22.7	22.8	22.5	21.5	21.6	21.4
		12	11	22.6	22.7	22.5	21.4	21.6	21.4
		25	0	22.7	22.7	22.4	21.5	21.6	21.3
	256QAM	1	0	20.1	20.4	20.4	19.0	19.4	19.3
		1	12	20.1	20.5	20.5	19.1	19.5	19.4
		1	24	20.1	20.5	20.4	19.1	19.5	19.4
		12	0	20.3	20.3	20.3	19.4	19.4	19.4
		12	6	20.4	20.4	20.4	19.4	19.5	19.4
		12	11	20.3	20.4	20.3	19.3	19.4	19.4
		25	0	20.5	20.4	20.4	19.4	19.3	19.4

OUTPUT POWER FOR LTE BAND 14 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				N/A	23330	N/A	N/A	23330	N/A
10.0	QPSK	1	0	N/A	793.0	N/A	N/A	793.0	N/A
					25.7			24.5	
		1	24		25.6			24.5	
		1	49		25.6			24.5	
		25	0		24.7			23.5	
		25	12		24.8			23.7	
		25	24		24.7			23.5	
	16QAM	50	0		24.7			23.6	
		1	0		24.8			23.7	
		1	24		24.7			23.6	
		1	49		24.7			23.6	
		25	0		23.8			22.6	
		25	12		23.9			22.8	
		25	24		23.8			22.6	
	64QAM	50	0		23.8			22.6	
		1	0		24.1			22.8	
		1	24		24.0			22.8	
		1	49		24.0			22.8	
		25	0		22.8			21.6	
		25	12		22.9			21.8	
		25	24		22.8			21.7	
	256QAM	50	0		22.8			21.6	
		1	0		20.3			19.1	
		1	24		20.5			19.4	
		1	49		20.5			19.3	
		25	0		20.4			19.4	
		25	12		20.5			19.5	
		25	24		20.5			19.3	
		50	0		20.4			19.4	

7.9. LTE BAND 17

Test Engineer ID:	19467	Test Date:	5/14/2020
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OUTPUT POWER FOR LTE BAND 17 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				23755	23790	23825	23755	23790	23825
				706.5	710.0	713.5	706.5	710.0	713.5
5.0	QPSK	1	0	25.2	25.4	25.5	24.4	24.4	24.2
		1	12	25.4	25.7	25.6	24.5	24.3	24.3
		1	24	25.7	24.9	24.8	24.5	24.4	24.3
		12	0	24.3	24.8	24.7	23.5	23.3	23.3
		12	6	24.5	24.9	24.7	23.6	23.4	23.4
		12	11	24.5	24.6	24.5	23.6	23.4	23.4
		25	0	24.5	24.6	24.6	23.6	23.4	23.4
	16QAM	1	0	24.2	25.0	24.7	23.6	23.5	23.9
		1	12	24.4	25.3	24.7	23.7	23.5	23.9
		1	24	24.8	24.5	24.1	23.8	23.5	23.9
		12	0	23.3	23.9	23.8	22.5	22.4	22.5
		12	6	23.6	24.0	23.8	22.6	22.5	22.6
		12	11	23.6	23.8	23.7	22.6	22.4	22.6
		25	0	23.5	23.7	23.6	22.5	22.4	22.5
	64QAM	1	0	23.3	24.1	24.0	22.7	22.3	22.8
		1	12	23.6	24.3	24.1	22.9	22.4	22.8
		1	24	23.9	23.5	23.5	22.9	22.5	22.8
		12	0	22.6	23.0	23.1	21.6	21.5	21.4
		12	6	22.9	23.1	23.1	21.7	21.6	21.5
		12	11	22.9	22.8	23.0	21.7	21.5	21.5
		25	0	22.7	22.8	23.0	21.6	21.5	21.4
	256QAM	1	0	20.3	20.7	20.6	19.0	19.4	19.3
		1	12	20.3	20.7	20.6	19.1	19.5	19.2
		1	24	20.4	20.7	20.6	19.1	19.4	19.3
		12	0	20.6	20.5	20.6	19.2	19.3	19.2
		12	6	20.6	20.6	20.6	19.3	19.4	19.3
		12	11	20.6	20.6	20.5	19.3	19.3	19.3
		25	0	20.7	20.6	20.6	19.4	19.3	19.3

OUTPUT POWER FOR LTE BAND 17 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				23780	23790	23800	23780	23790	23800
10.0	QPSK	1	0	709.0	710.0	711.0	709.0	710.0	711.0
				25.1	25.1	25.5	24.4	24.3	24.4
		1	24	25.7	25.7	25.7	24.4	24.4	24.3
		1	49	25.3	25.1	25.0	24.5	24.3	24.4
		25	0	24.5	24.5	25.0	23.4	23.5	23.5
		25	12	24.9	24.7	24.9	23.5	23.5	23.4
		25	24	24.6	24.4	24.6	23.5	23.5	23.5
	16QAM	50	0	24.5	24.4	24.8	23.5	23.5	23.5
		1	0	24.2	24.1	24.9	23.8	23.4	23.5
		1	24	24.8	24.8	25.1	23.8	23.5	23.4
		1	49	24.4	24.2	24.4	23.8	23.5	23.4
		25	0	23.5	23.5	24.1	22.6	22.6	22.5
		25	12	23.9	23.7	24.0	22.6	22.7	22.5
		25	24	23.7	23.5	23.7	22.5	22.6	22.5
	64QAM	50	0	23.5	23.5	23.9	22.6	22.6	22.4
		1	0	23.5	23.7	24.1	22.6	22.7	22.8
		1	24	24.1	24.2	24.2	22.6	22.9	22.8
		1	49	23.8	23.7	23.7	22.6	22.9	22.9
		25	0	22.7	22.8	23.3	21.6	21.6	21.6
		25	12	23.2	23.0	23.3	21.7	21.7	21.6
		25	24	22.9	22.8	22.9	21.7	21.7	21.7
	256QAM	50	0	22.7	22.7	23.1	21.6	21.6	21.6
		1	0	20.5	19.8	20.0	18.6	18.8	19.2
		1	24	20.6	19.8	20.1	18.8	19.0	19.3
		1	49	20.7	19.9	20.1	18.6	18.8	19.3
		25	0	20.0	20.1	20.1	18.9	18.9	18.8
		25	12	20.2	20.2	20.1	19.0	18.9	18.9
		25	24	20.2	20.1	20.2	18.9	19.0	19.0
		50	0	20.1	20.0	20.0	18.8	18.9	18.9

7.10. LTE BAND 25

Test Engineer ID:	19467	Test Date:	5/14/2020
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OUTPUT POWER FOR LTE BAND 25 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				26047	26365	26683	26047	26365	26683	26047	26365	26683	26047	26365	26683
1.4	QPSK	1	0	25.6	25.6	25.5	22.9	22.9	22.8	24.9	24.8	24.8	22.8	22.9	22.8
		1	2	25.6	25.7	25.6	23.0	22.9	25.0	25.0	24.9	22.9	23.0	22.9	22.9
		1	5	25.6	25.7	25.6	23.0	22.9	22.9	24.9	24.9	24.9	22.9	22.9	22.8
		3	0	25.5	25.5	25.5	22.9	22.9	22.8	24.9	24.9	24.8	22.8	22.9	22.7
		3	1	25.6	25.6	25.5	22.9	23.0	22.8	24.9	24.9	24.8	22.9	22.9	22.8
		3	2	25.6	25.6	25.6	22.9	23.0	22.9	25.0	24.9	24.9	22.8	22.9	22.8
	16QAM	6	0	24.7	24.7	24.5	22.0	21.9	21.8	24.0	23.9	23.9	21.9	22.0	21.8
		1	0	24.6	24.7	24.9	22.1	22.3	21.8	24.3	24.0	24.0	22.2	22.0	22.0
		1	2	24.7	24.9	25.0	22.2	22.4	22.0	24.4	24.0	24.1	22.3	22.0	22.0
		1	5	24.7	24.8	24.9	22.1	22.3	22.0	24.4	24.0	24.0	22.3	22.0	22.0
		3	0	24.9	24.7	24.8	22.0	22.1	22.0	24.2	24.2	24.0	22.1	22.1	21.9
		3	1	24.9	24.7	24.8	22.1	22.2	22.1	24.2	24.2	24.0	22.1	22.2	22.0
	64QAM	3	2	24.9	24.7	24.8	22.1	22.2	22.2	24.2	24.2	24.1	22.1	22.2	22.0
		6	0	23.8	23.8	23.5	21.1	20.8	21.0	22.9	23.1	23.0	20.8	21.2	21.0
		1	0	24.1	23.7	23.7	20.8	20.7	20.9	23.0	22.7	22.7	21.1	21.0	21.0
		1	2	24.2	23.8	23.8	20.9	20.8	21.1	23.1	22.8	22.9	21.4	21.2	21.0
		1	5	24.1	23.7	23.7	20.8	20.8	21.0	23.1	22.7	22.9	21.3	21.0	21.1
		3	0	24.0	23.8	23.5	20.8	20.5	20.9	23.0	22.8	22.6	21.2	21.1	20.8
	256QAM	3	1	24.1	23.8	23.6	20.9	20.6	20.9	23.0	22.8	22.7	21.3	21.2	20.8
		3	2	24.1	23.9	23.6	20.8	20.6	21.0	23.1	22.8	22.7	21.3	21.2	20.9
		6	0	22.7	22.9	22.6	20.0	19.7	19.5	21.7	21.9	21.7	19.9	20.3	19.9
		1	0	20.7	20.6	20.3	17.8	17.4	17.5	19.6	19.0	19.2	17.8	17.6	17.3
		1	2	20.8	20.7	20.3	17.9	17.4	17.7	19.7	19.1	19.3	18.0	17.7	17.5
		1	5	20.8	20.7	20.4	17.8	17.4	17.6	19.7	19.2	19.2	17.9	17.7	17.4
		3	0	20.8	20.5	20.3	17.6	17.4	17.6	19.5	19.1	19.3	17.6	17.4	17.4
		3	1	20.8	20.5	20.4	17.7	17.5	17.6	19.6	19.1	19.3	17.7	17.6	17.5
		3	2	20.8	20.6	20.4	17.7	17.5	17.7	19.6	19.2	19.4	17.7	17.6	17.5
		6	0	20.8	20.5	20.6	17.6	17.6	17.5	19.5	19.3	19.3	17.8	17.5	17.5

OUTPUT POWER FOR LTE BAND 25 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				26055	26365	26675	26055	26365	26675	26055	26365	26675	26055	26365	26675
				1851.5	1882.5	1913.5	1851.5	1882.5	1913.5	1851.5	1882.5	1913.5	1851.5	1882.5	1913.5
3.0	QPSK	1	0	25.5	25.6	25.4	23.0	23.0	23.0	24.8	24.9	24.9	22.9	22.9	22.8
		1	7	25.6	25.5	25.4	23.0	23.0	23.0	24.9	24.8	25.0	22.9	22.9	22.8
		1	14	25.7	25.6	25.5	23.0	23.0	23.1	25.0	24.9	25.0	22.9	23.0	23.0
		8	0	24.7	24.5	24.5	22.1	22.0	22.0	24.0	24.0	23.9	22.0	22.0	21.9
		8	4	24.7	24.6	24.5	22.1	22.1	22.0	24.0	24.0	24.0	22.0	22.1	21.9
		8	7	24.8	24.6	24.6	22.1	22.1	22.1	24.1	24.0	24.0	22.0	22.1	21.9
	16QAM	15	0	24.7	24.6	24.6	22.2	22.1	22.1	24.0	24.0	24.0	22.0	22.0	21.9
		1	0	24.6	25.0	24.6	22.1	22.0	22.4	24.0	23.9	24.3	22.3	22.1	21.9
		1	7	24.6	24.9	24.5	22.1	22.0	22.4	24.0	23.8	24.3	22.3	22.0	21.8
		1	14	24.7	25.0	24.6	22.2	22.1	22.5	24.1	23.9	24.4	22.4	22.1	21.9
		8	0	23.8	23.7	23.6	21.2	21.2	21.1	23.1	23.0	23.0	21.1	21.0	21.0
		8	4	23.8	23.7	23.6	21.2	21.2	21.1	23.1	23.1	23.1	21.1	21.1	21.0
	64QAM	8	7	23.9	23.7	23.6	21.2	21.3	21.2	23.1	23.1	23.1	21.1	21.2	21.1
		15	0	23.8	23.6	23.5	21.1	21.1	21.1	23.0	23.0	23.1	21.0	21.0	21.0
		1	0	23.9	23.9	23.6	20.8	21.0	20.9	23.1	23.2	23.0	21.0	21.3	21.2
		1	7	23.9	23.9	23.6	20.9	21.0	21.0	23.1	23.2	23.0	21.1	21.2	21.2
		1	14	24.0	23.9	23.7	20.9	21.0	21.1	23.2	23.3	23.1	21.2	21.3	21.3
		8	0	22.7	22.7	22.6	19.9	19.6	19.7	21.9	22.0	21.9	20.1	20.0	20.0
	256QAM	8	4	22.8	22.7	22.6	19.9	19.7	19.7	21.9	22.0	22.0	20.1	20.1	20.0
		8	7	22.8	22.7	22.6	19.9	19.8	19.8	22.0	22.0	22.1	20.1	20.1	20.0
		15	0	22.8	22.6	22.6	19.9	19.7	19.7	22.0	21.9	22.0	20.1	20.1	20.0
		1	0	20.6	19.7	19.9	17.4	17.6	18.0	19.5	18.6	18.8	17.9	17.2	17.5
		1	7	20.6	19.8	19.9	17.3	17.7	18.1	19.6	18.6	18.8	18.0	17.2	17.5
		1	14	20.7	19.9	20.0	17.5	17.7	18.2	19.7	18.7	18.9	17.9	17.3	17.5
		8	0	20.2	19.9	20.0	17.7	17.7	17.7	19.2	18.7	18.9	17.7	17.4	17.2
		8	4	20.3	19.9	20.1	17.7	17.8	17.8	19.3	18.7	19.0	17.7	17.5	17.3
		8	7	20.3	20.0	20.2	17.7	17.8	17.8	19.2	18.8	19.0	17.7	17.6	17.4
		15	0	20.2	20.0	20.0	17.8	17.8	17.7	19.2	18.9	18.9	17.7	17.3	17.4

OUTPUT POWER FOR LTE BAND 25 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				26065	26365	26665	26065	26365	26665	26065	26365	26665	26065	26365	26665
				1852.5	1882.5	1912.5	1852.5	1882.5	1912.5	1852.5	1882.5	1912.5	1852.5	1882.5	1912.5
5.0	QPSK	1	0	25.6	25.7	25.5	23.0	23.0	22.9	24.9	24.9	24.8	21.9	22.9	22.9
		1	12	25.6	25.6	25.5	23.0	23.0	22.9	24.9	24.9	24.9	22.8	23.0	22.9
		1	24	25.6	25.7	25.5	23.0	23.1	23.0	25.0	25.0	24.9	22.8	23.0	22.9
		12	0	24.6	24.6	24.5	22.0	21.9	21.9	24.0	23.9	23.9	21.8	21.9	21.8
		12	6	24.7	24.6	24.6	22.1	22.0	22.0	24.0	23.9	23.9	22.0	22.0	21.9
		12	11	24.7	24.6	24.6	22.0	22.1	22.0	24.0	23.9	24.0	22.0	22.0	21.9
	16QAM	25	0	24.6	24.7	24.5	22.1	22.0	22.0	24.0	23.9	23.9	21.9	22.0	21.8
		1	0	24.7	24.8	25.0	22.1	22.1	22.5	24.1	24.0	24.5	22.4	22.1	22.1
		1	12	24.7	24.7	25.1	22.2	22.2	22.4	24.1	24.1	24.5	22.4	22.1	22.0
		1	24	24.8	24.8	25.1	22.2	22.3	22.6	24.2	24.2	24.5	22.4	22.2	22.1
		12	0	23.7	23.7	23.6	21.1	21.0	21.0	23.0	22.9	23.1	21.0	21.0	20.9
		12	6	23.7	23.8	23.8	21.2	21.1	21.2	23.1	23.1	23.1	21.1	21.0	21.0
	64QAM	12	11	23.7	23.8	23.7	21.2	21.1	21.2	23.1	23.1	23.1	21.0	21.1	21.0
		25	0	23.6	23.7	23.6	21.0	21.0	21.1	23.0	23.0	23.0	21.0	20.9	20.9
		1	0	23.9	23.5	23.8	20.9	20.7	20.5	23.1	22.8	23.2	21.2	21.3	20.8
		1	12	24.0	23.5	23.8	20.9	20.8	20.5	23.2	22.8	23.2	21.2	21.4	20.8
		1	24	24.0	23.6	23.9	20.9	20.9	20.6	23.2	22.9	23.2	21.3	21.3	20.9
		12	0	22.8	22.7	22.5	19.6	19.6	19.5	22.0	21.9	21.8	19.8	20.1	20.0
	256QAM	12	6	22.8	22.7	22.6	19.6	19.7	19.7	22.1	22.0	21.9	19.9	20.1	20.0
		12	11	22.8	22.7	22.5	19.6	19.7	19.6	22.0	22.0	21.9	19.9	20.1	20.1
		25	0	22.7	22.6	22.5	19.7	19.6	19.6	22.0	21.9	21.9	19.9	20.0	19.9
		1	0	20.6	20.8	20.7	17.9	17.8	17.3	19.3	19.4	19.4	17.9	17.7	17.8
		1	12	20.6	20.9	20.8	18.0	17.9	17.5	19.3	19.5	19.4	18.0	17.8	17.8
		1	24	20.7	20.9	20.8	18.0	17.9	17.6	19.3	19.5	19.4	18.0	17.8	17.9
		12	0	20.8	20.7	20.6	17.8	17.8	17.7	19.5	19.3	19.4	17.8	17.5	17.4
		12	6	20.9	20.8	20.8	17.9	17.8	17.8	19.6	19.3	19.4	17.8	17.5	17.5
		12	11	20.9	20.8	20.8	17.9	17.9	17.8	19.6	19.4	19.4	17.8	17.6	17.5
		25	0	20.9	20.7	20.7	17.8	17.8	17.8	19.7	19.3	19.4	17.8	17.5	17.5

OUTPUT POWER FOR LTE BAND 25 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				26090	26365	26640	26090	26365	26640	26090	26365	26640	26090	26365	26640
10.0	QPSK	1	0	1855.0	1882.5	1910.0	1855.0	1882.5	1910.0	1855.0	1882.5	1910.0	1855.0	1882.5	1910.0
		1	24	25.4	25.5	25.5	23.0	22.8	23.0	24.8	24.7	25.0	22.8	22.8	22.8
		1	49	25.5	25.7	25.5	23.1	23.1	23.1	25.0	24.9	24.9	22.9	23.0	22.8
		25	0	25.4	25.5	25.5	22.9	22.8	23.1	24.9	24.7	25.0	22.7	22.7	22.9
		25	12	24.6	24.7	24.5	22.1	22.1	22.0	24.1	24.0	24.0	21.9	22.0	21.8
		25	24	24.7	24.8	24.6	22.2	22.2	22.2	24.2	24.1	24.1	22.0	22.1	22.0
	16QAM	25	24	24.7	24.8	24.6	22.2	22.2	22.1	24.1	24.1	24.1	22.0	22.0	21.9
		50	0	24.6	24.8	24.6	22.2	22.1	22.1	24.1	24.0	24.1	22.0	22.0	21.9
		1	0	24.4	24.9	24.6	22.4	22.0	22.1	24.2	23.9	24.1	22.1	21.9	21.8
		1	24	24.5	25.1	24.6	22.5	22.2	22.1	24.5	24.0	24.0	22.3	22.1	21.9
		1	49	24.4	24.9	24.6	22.3	22.0	22.1	24.3	23.8	24.0	22.1	21.8	21.9
		25	0	23.6	23.8	23.6	21.2	21.2	21.1	23.1	23.1	23.0	21.0	21.1	20.8
	64QAM	25	12	23.7	23.9	23.8	21.3	21.3	21.2	23.3	23.2	23.2	21.1	21.2	21.0
		25	24	23.7	23.8	23.7	21.2	21.3	21.2	23.2	23.2	23.1	21.0	21.2	21.0
		50	0	23.6	23.8	23.6	21.2	21.2	21.2	23.1	23.1	23.1	21.0	21.0	20.9
		1	0	23.5	23.7	23.9	20.6	20.6	21.0	22.9	23.0	23.4	20.8	21.1	21.2
		1	24	23.8	24.0	23.9	20.8	21.0	21.0	23.2	23.3	23.4	21.1	21.3	21.3
		1	49	23.6	23.7	23.9	20.7	20.8	21.1	23.0	23.0	23.4	20.9	21.0	21.4
	256QAM	25	0	22.7	22.8	22.6	19.8	19.7	19.7	22.1	22.0	22.0	20.0	20.1	19.9
		25	12	22.8	22.9	22.7	19.9	19.8	19.8	22.2	22.2	22.2	20.2	20.2	20.1
		25	24	22.8	22.9	22.6	19.8	19.9	19.8	22.2	22.2	22.1	20.1	20.2	20.1
		50	0	22.7	22.8	22.6	19.8	19.7	19.7	22.1	22.1	22.1	20.0	20.0	20.0
		1	0	20.7	19.8	20.0	17.2	17.5	17.8	19.7	19.7	19.2	17.5	17.6	17.7
		1	24	20.7	19.9	20.1	17.5	17.8	18.1	19.7	19.7	19.2	17.8	17.9	17.9
		1	49	20.7	19.9	20.1	17.3	17.6	17.9	19.7	19.7	19.1	17.5	17.7	17.7
		25	0	20.3	20.1	20.1	17.7	17.7	17.6	19.7	19.3	19.4	17.9	17.6	17.6
		25	12	20.3	20.1	20.0	17.8	17.8	17.7	19.8	19.4	19.4	18.0	17.7	17.7
		25	24	20.3	20.2	20.2	17.8	17.8	17.7	19.7	19.4	19.5	17.9	17.8	17.7
		50	0	20.3	20.0	20.0	17.7	17.7	17.6	19.7	19.4	19.3	17.8	17.6	17.7

OUTPUT POWER FOR LTE BAND 25 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				26115	26365	26615	26115	26365	26615	26115	26365	26615	26115	26365	26615
15.0	QPSK	1	0	1857.5	1882.5	1907.5	1857.5	1882.5	1907.5	1857.5	1882.5	1907.5	1857.5	1882.5	1907.5
		1	0	25.4	25.7	25.6	22.9	23.1	22.9	24.6	25.0	24.8	22.6	23.0	22.7
		1	37	25.7	25.7	25.6	23.0	23.1	23.0	24.8	25.0	24.7	22.8	23.0	22.7
		1	74	25.6	25.6	25.6	22.9	23.1	23.0	24.7	25.0	24.8	22.7	22.9	22.7
		36	0	24.6	24.7	24.5	22.0	22.0	21.9	23.7	23.9	23.7	21.7	21.9	21.6
		36	16	24.8	24.8	24.7	22.1	22.1	22.0	23.9	24.1	23.8	21.9	21.9	21.7
	16QAM	36	35	24.7	24.8	24.7	22.1	22.1	22.1	23.9	24.0	23.9	21.9	22.0	21.8
		75	0	24.7	24.7	24.6	22.0	22.0	22.0	23.8	24.0	23.7	21.8	21.8	21.7
		1	0	25.0	24.7	25.0	22.3	22.4	21.9	24.0	24.4	23.8	22.0	22.3	21.6
		1	37	25.1	24.7	25.0	22.5	22.5	21.9	24.2	24.4	23.7	22.2	22.3	21.7
		1	74	24.9	24.6	25.0	22.3	22.5	22.0	24.1	24.5	23.8	22.1	22.3	21.7
		36	0	23.6	23.7	23.6	21.0	21.0	20.9	22.8	22.9	22.7	20.8	20.9	20.6
	64QAM	36	16	23.7	23.8	23.8	21.2	21.1	21.0	22.9	23.0	22.8	20.9	20.8	20.8
		36	35	23.7	23.8	23.7	21.1	21.1	21.1	22.9	23.0	22.9	20.9	20.9	20.9
		75	0	23.7	23.7	23.7	21.1	21.0	21.0	22.9	23.0	22.8	20.8	20.8	20.7
		1	0	23.6	24.3	24.0	20.5	21.2	20.8	22.7	23.6	23.2	20.7	21.5	21.1
		1	37	23.8	24.3	23.9	20.8	21.2	20.9	22.9	23.6	23.1	21.0	21.6	21.1
		1	74	23.7	24.3	23.9	20.7	21.2	20.9	22.9	23.6	23.1	20.9	21.5	21.2
	256QAM	36	0	22.7	22.7	22.6	19.6	19.6	19.5	21.8	21.9	21.8	19.8	19.9	19.7
		36	16	22.9	22.8	22.8	19.8	19.7	19.7	22.0	22.0	21.9	20.0	19.9	19.8
		36	35	22.8	22.8	22.7	19.7	19.7	19.7	22.0	22.0	21.9	20.0	20.0	19.9
		75	0	22.7	22.8	22.7	19.7	19.6	19.6	21.9	22.0	21.7	19.9	19.9	19.8
		1	0	20.3	20.5	20.7	17.2	17.7	17.8	19.3	19.6	19.9	17.4	17.6	17.7
		1	37	20.2	20.6	20.7	17.5	17.9	18.1	19.4	19.6	19.9	17.7	17.9	17.9
		1	74	20.2	20.6	20.7	17.4	17.8	18.0	19.3	19.7	19.8	17.4	18.0	17.7
		36	0	20.5	20.3	20.4	17.6	17.6	17.5	19.7	19.4	19.5	17.7	17.5	17.6
		36	16	20.5	20.3	20.4	17.7	17.6	17.6	19.7	19.4	19.5	17.9	17.6	17.7
		36	35	20.5	20.3	20.4	17.7	17.7	17.7	19.6	19.4	19.5	17.8	17.7	17.7
		75	0	20.5	20.3	20.4	17.7	17.5	17.6	19.6	19.4	19.4	17.7	17.6	17.6

OUTPUT POWER FOR LTE BAND 25 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				26140	26365	26590	26140	26365	26590	26140	26365	26590	26140	26365	26590
20.0	QPSK	1	0	1860.0	1882.5	1905.0	1860.0	1882.5	1905.0	1860.0	1882.5	1905.0	1860.0	1882.5	1905.0
		1	49	25.7	25.6	25.6	23.1	23.1	23.1	25.0	25.0	25.0	22.9	23.0	22.9
		1	99	25.6	25.7	25.5	23.0	23.0	23.1	25.0	24.9	25.0	22.9	23.0	22.9
		50	0	25.6	25.7	25.4	23.0	23.0	23.0	24.9	24.9	24.9	22.9	22.9	22.9
		50	24	24.7	24.7	24.5	22.1	22.1	22.0	24.0	23.9	24.0	21.9	22.0	21.8
		50	49	24.7	24.7	24.6	22.1	22.1	22.1	24.1	24.0	24.1	21.9	22.0	21.8
		100	0	24.7	24.7	24.6	22.1	22.1	22.1	24.1	24.0	24.0	21.9	22.0	21.9
	16QAM	1	0	24.6	24.6	24.4	22.0	22.1	22.0	24.0	23.9	24.0	21.9	21.9	21.8
		1	49	25.1	25.2	25.1	21.3	21.2	21.9	24.5	24.4	24.6	22.4	22.5	22.4
		1	99	25.1	25.2	25.2	21.3	21.3	21.8	24.4	24.4	24.6	22.4	22.5	22.5
		50	0	25.1	25.2	25.0	21.0	21.2	21.7	24.5	24.4	24.5	22.4	22.5	22.5
		50	24	23.7	23.7	23.6	20.3	20.4	20.4	23.0	22.9	23.0	20.9	21.0	20.9
		50	49	23.7	23.7	23.6	20.5	20.5	20.5	23.1	23.0	23.1	21.0	21.0	20.9
		100	0	23.7	23.7	23.6	20.4	20.5	20.4	23.1	23.0	23.0	21.0	21.0	20.9
	64QAM	1	0	23.7	23.7	23.5	20.3	20.4	20.4	23.0	22.9	23.0	20.9	20.9	20.8
		1	49	24.5	24.0	24.1	21.4	20.9	21.0	23.6	23.2	23.3	21.6	21.2	21.1
		1	99	24.5	24.1	24.1	21.3	20.9	21.0	23.7	23.2	23.3	21.6	21.3	21.2
		50	0	24.5	24.1	24.1	21.3	20.9	21.0	23.7	23.2	23.3	21.6	21.3	21.2
		50	24	22.9	23.0	22.9	19.7	19.7	19.7	22.0	22.0	22.1	20.0	20.1	19.9
		50	49	22.9	23.0	22.9	19.8	19.7	19.7	22.1	22.1	22.1	20.0	20.1	20.0
		100	0	22.9	23.0	22.9	19.8	19.7	19.8	22.1	22.0	22.1	20.0	20.1	20.1
	256QAM	1	0	22.8	22.9	22.8	19.6	19.7	19.6	21.9	22.0	22.0	19.9	19.9	19.9
		1	49	20.6	20.3	20.4	17.7	17.5	17.7	19.7	19.3	19.6	17.5	17.6	17.5
		1	99	20.6	20.3	20.4	18.2	17.9	18.1	19.7	19.2	19.6	17.8	18.0	17.9
		50	0	20.6	20.3	20.4	17.9	17.7	17.9	19.6	19.3	19.5	17.5	17.9	17.5
		50	24	20.6	20.4	20.3	17.8	17.9	17.8	19.6	19.4	19.5	17.6	17.4	17.6
		50	49	20.6	20.4	20.3	18.0	18.0	18.0	19.6	19.4	19.6	17.7	17.6	17.6
		100	0	20.5	20.3	20.3	18.0	18.0	17.9	19.5	19.5	19.5	17.6	17.6	17.6
		100	0	20.5	20.2	20.2	17.9	17.9	17.9	19.6	19.4	19.4	17.6	17.6	17.5

7.11. LTE BAND 26 (FCC Part 90S)

Test Engineer ID:	19467	Test Date:	5/14/2020
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OUTPUT POWER FOR LTE BAND 26 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				26697 814.7	26740 819.0	26783 823.3	26697 814.7	26740 819.0	26783 823.3
1.4	QPSK	1	0	25.6	25.6	25.6	24.3	24.4	24.3
		1	2	25.7	25.6	25.7	24.4	24.5	24.4
		1	5	25.6	25.6	25.7	24.4	24.4	24.3
		3	0	25.5	25.6	25.6	24.3	24.4	24.4
		3	1	25.6	25.6	25.7	24.4	24.4	24.4
		3	2	25.6	25.7	25.7	24.4	24.4	24.4
	16QAM	6	0	24.6	24.6	24.7	23.4	23.4	23.4
		1	0	24.7	25.0	24.7	23.4	23.5	23.7
		1	2	24.9	25.0	24.8	23.5	23.7	23.9
		1	5	24.8	25.0	24.8	23.5	23.5	23.8
		3	0	24.7	24.9	24.9	23.6	23.5	23.6
		3	1	24.8	24.9	25.0	23.7	23.6	23.7
	64QAM	3	2	24.8	24.9	25.0	23.7	23.6	23.7
		6	0	23.8	23.6	23.9	22.6	22.6	22.3
		1	0	23.7	24.1	23.9	22.6	22.3	22.4
		1	2	23.9	24.2	24.0	22.8	22.5	22.5
		1	5	23.8	24.1	24.0	22.7	22.4	22.5
		3	0	23.8	24.0	23.8	22.6	22.4	22.3
	256QAM	3	1	23.9	24.1	23.8	22.7	22.5	22.3
		3	2	23.9	24.1	23.8	22.7	22.5	22.3
		6	0	23.0	22.7	22.9	21.3	21.6	21.4
		1	0	20.7	20.3	20.3	19.2	19.3	19.1
		1	2	20.7	20.7	20.3	19.4	19.5	19.5
		1	5	20.6	20.6	20.3	19.2	19.3	19.3
		3	0	20.5	20.5	20.4	19.3	19.3	19.3
		3	1	20.6	20.5	20.4	19.4	19.3	19.3
		3	2	20.6	20.5	20.4	19.4	19.3	19.3
		6	0	20.5	20.5	20.5	19.3	19.2	19.2

OUTPUT POWER FOR LTE BAND 26 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				26705	26740	26775	26705	26740	26775
3.0	QPSK	1	0	815.5	819.0	822.5	815.5	819.0	822.5
				25.5	25.7	25.5	24.4	24.5	24.5
		1	7	25.5	25.7	25.5	24.5	24.5	24.5
		1	14	25.6	25.7	25.6	24.5	24.5	24.5
		8	0	24.6	24.7	24.6	23.6	23.5	23.5
		8	4	24.6	24.8	24.7	23.6	23.6	23.6
		8	7	24.7	24.8	24.6	23.6	23.7	23.6
	16QAM	15	0	24.7	24.7	24.6	23.6	23.6	23.6
		1	0	24.5	25.1	24.6	23.5	24.0	23.7
		1	7	24.6	25.2	24.6	23.6	24.0	23.6
		1	14	24.6	25.2	24.7	23.6	24.0	23.6
		8	0	23.7	23.8	23.6	22.7	22.6	22.6
		8	4	23.7	23.9	23.7	22.7	22.7	22.7
		8	7	23.8	23.9	23.7	22.7	22.7	22.6
	64QAM	15	0	23.6	23.8	23.6	22.7	22.7	22.6
		1	0	23.7	24.0	23.8	22.5	22.7	22.8
		1	7	23.8	24.0	23.8	22.6	22.6	22.7
		1	14	23.8	24.1	23.9	22.6	22.7	22.8
		8	0	22.7	22.8	22.6	21.6	21.4	21.5
		8	4	22.8	22.9	22.7	21.6	21.5	21.5
		8	7	22.8	22.9	22.7	21.6	21.5	21.6
	256QAM	15	0	22.7	22.8	22.7	21.6	21.5	21.5
		1	0	20.3	20.7	19.9	18.9	19.5	18.9
		1	7	20.2	20.6	19.9	19.0	19.5	18.9
		1	14	20.1	20.5	19.9	19.0	19.5	18.8
		8	0	20.4	20.3	20.1	19.2	19.2	19.0
		8	4	20.4	20.3	20.1	19.2	19.2	19.1
		8	7	20.3	20.3	20.1	19.2	19.2	19.1
		15	0	20.3	20.2	20.2	19.1	19.1	19.2

OUTPUT POWER FOR LTE BAND 26 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				26715	26740	26765	26715	26740	26765
5.0	QPSK	1	0	816.5	819.0	821.5	816.5	819.0	821.5
		1	0	25.6	25.6	25.6	24.3	24.4	24.3
		1	12	25.7	25.5	25.6	24.4	24.4	24.3
		1	24	25.7	25.6	25.7	24.4	24.5	24.3
		12	0	24.5	24.6	24.6	23.4	23.4	23.3
		12	6	24.6	24.7	24.7	23.4	23.5	23.4
		12	11	24.6	24.6	24.7	23.4	23.4	23.4
	16QAM	25	0	24.6	24.6	24.6	23.4	23.4	23.4
		1	0	24.7	25.2	24.7	23.5	23.6	23.9
		1	12	24.8	25.2	24.8	23.7	23.6	23.9
		1	24	24.9	25.2	24.8	23.6	23.6	24.0
		12	0	23.7	23.7	23.6	22.4	22.4	22.5
		12	6	23.8	23.9	23.7	22.5	22.5	22.6
		12	11	23.7	23.8	23.7	22.5	22.5	22.6
	64QAM	25	0	23.7	23.7	23.6	22.4	22.4	22.5
		1	0	23.8	23.6	23.9	22.5	22.6	22.2
		1	12	24.0	23.6	23.9	22.6	22.6	22.2
		1	24	24.0	23.6	23.9	22.6	22.6	22.2
		12	0	22.6	22.7	22.7	21.2	21.3	21.3
		12	6	22.7	22.8	22.8	21.3	21.4	21.4
		12	11	22.6	22.7	22.7	21.3	21.4	21.4
	64QAM	25	0	22.7	22.7	22.7	21.3	21.3	21.3
		1	0	20.7	20.4	20.7	19.3	19.0	19.4
		1	12	20.7	20.3	20.7	19.4	19.1	19.5
		1	24	20.6	20.3	20.6	19.4	19.1	19.5
		12	0	20.7	20.6	20.6	19.3	19.3	19.4
		12	6	20.7	20.6	20.6	19.4	19.4	19.5
		12	11	20.6	20.6	20.6	19.4	19.4	19.4
		25	0	20.6	20.6	20.6	19.4	19.4	19.4

OUTPUT POWER FOR LTE BAND 26 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				N/A	26740	N/A	N/A	26740	N/A
				N/A	819.0	N/A	N/A	819.0	N/A
10.0	QPSK	1	0		25.7			24.5	
		1	24		25.6			24.5	
		1	49		25.6			24.5	
		25	0		24.6			23.4	
		25	12		24.7			23.6	
		25	24		24.7			23.5	
		50	0		24.7			23.5	
	16QAM	1	0		24.7			23.5	
		1	24		24.6			23.5	
		1	49		24.6			23.5	
		25	0		23.6			22.5	
		25	12		23.8			22.6	
		25	24		23.7			22.6	
		50	0		23.6			22.5	
	64QAM	1	0		23.9			22.8	
		1	24		23.9			22.8	
		1	49		23.9			22.8	
		25	0		22.7			21.4	
		25	12		22.9			21.6	
		25	24		22.8			21.5	
		50	0		22.8			21.5	
	256QAM	1	0		20.6			19.0	
		1	24		20.6			19.4	
		1	49		20.6			19.2	
		25	0		20.7			19.3	
		25	12		20.7			19.5	
		25	24		20.6			19.4	
		50	0		20.6			19.3	

7.12. LTE BAND 30(NS21)

Test Engineer ID:	19467	Test Date:	7/9/2020
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OUTPUT POWER FOR LTE BAND 30 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				27685	27710	27735	27685	27710	27735	27685	27710	27735	27685	27710	27735
				2307.5	2310.0	2312.5	2307.5	2310.0	2312.5	2307.5	2310.0	2312.5	2307.5	2310.0	2312.5
5.0	QPSK	1	0	25.1	25.7	25.7	22.8	22.8	22.8	25.0	25.0	25.0	22.5	22.5	22.5
		1	12	25.7	25.7	25.7	22.8	22.8	22.8	25.0	25.0	25.0	22.5	22.5	22.5
		1	24	25.7	25.7	25.7	22.8	22.8	22.8	25.0	25.0	25.0	22.5	22.5	22.5
		12	0	24.7	24.7	24.7	21.8	21.8	21.8	24.1	24.0	23.9	21.4	21.6	21.5
		12	6	24.8	24.7	24.8	21.9	21.9	21.8	24.1	24.1	24.0	21.5	21.6	21.6
		12	11	24.7	24.7	24.8	21.8	21.9	21.8	24.1	24.0	23.9	21.5	21.6	21.5
	16QAM	25	0	24.7	24.7	24.8	21.8	21.9	21.8	24.0	24.0	24.0	21.5	21.5	21.5
		1	0	24.5	24.5	24.9	21.7	22.1	21.7	24.2	23.7	23.7	21.3	21.7	21.3
		1	12	24.5	24.5	25.0	21.7	22.1	21.8	24.3	23.9	23.8	21.3	21.8	21.5
		1	24	24.5	24.5	24.9	21.7	22.1	21.7	24.4	23.9	23.8	21.4	21.8	21.4
		12	0	23.5	23.5	23.5	20.6	20.7	20.5	23.0	22.7	22.7	20.3	20.4	20.3
		12	6	23.6	23.6	23.6	20.7	20.7	20.6	23.0	22.8	22.8	20.4	20.5	20.4
	64QAM	12	11	23.5	23.5	23.6	20.7	20.7	20.6	23.0	22.8	22.7	20.3	20.4	20.3
		25	0	23.4	23.4	23.5	20.6	20.7	20.5	22.9	22.7	22.6	20.3	20.4	20.2
		1	0	23.7	23.4	23.8	20.6	21.0	20.9	23.4	23.6	23.3	20.1	20.6	20.5
		1	12	23.7	23.4	23.9	20.7	21.1	21.1	23.5	23.7	23.5	20.2	20.7	20.7
		1	24	23.7	23.4	23.9	20.6	21.1	21.0	23.4	23.7	23.2	20.2	20.7	20.6
		12	0	22.6	22.5	22.5	19.7	19.8	19.7	22.6	22.3	22.2	19.3	19.4	19.4
	265QAM	12	6	22.6	22.6	22.5	19.8	19.8	19.8	22.6	22.4	22.3	19.4	19.4	19.5
		12	11	22.5	22.5	22.5	19.8	19.8	19.8	22.6	22.4	22.2	19.4	19.4	19.4
		25	0	22.5	22.5	22.5	19.7	19.8	19.7	22.5	22.4	22.1	19.3	19.4	19.4
		1	0	20.3	20.6	20.5	17.1	17.5	17.5	19.3	19.7	19.6	17.4	17.2	17.4
		1	12	20.4	20.7	20.6	17.3	17.7	17.5	19.4	19.7	19.6	17.5	17.3	17.6
		1	24	20.4	20.8	20.7	17.2	17.6	17.5	19.3	19.8	19.6	17.5	17.3	17.6
		12	0	20.6	20.5	20.5	17.5	17.5	17.5	19.6	19.6	19.5	17.5	17.5	17.4
		12	6	20.7	20.6	20.6	17.5	17.6	17.5	19.6	19.6	19.6	17.6	17.6	17.6
		12	11	20.6	20.7	20.6	17.5	17.6	17.5	19.6	19.6	19.5	17.5	17.5	17.6
		25	0	20.7	20.6	20.6	17.6	17.5	17.5	19.6	19.6	19.6	17.6	17.6	17.5

OUTPUT POWER FOR LTE BAND 30 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				N/A	27710	N/A	N/A	27710	N/A	N/A	27710	N/A	N/A	27710	N/A
				N/A	2310.0	N/A	N/A	2310.0	N/A	N/A	2310.0	N/A	N/A	2310.0	N/A
10.0	QPSK	1	0		21.7			18.8			21.0			18.5	
		1	24		25.7			22.8			25.0			22.5	
		1	49		21.7			18.8			21.1			18.6	
		25	0		24.8			21.9			24.0			21.4	
		25	12		24.8			21.9			24.1			21.6	
		25	24		24.8			21.9			24.0			21.5	
		50	0		22.1			19.6			21.5			19.5	
	16QAM	1	0		21.1			17.9			20.4			18.0	
		1	24		25.1			21.9			24.4			21.9	
		1	49		21.2			17.9			20.5			17.9	
		25	0		23.8			21.0			23.0			20.5	
		25	12		23.9			21.0			23.2			20.7	
		25	24		23.8			21.0			23.1			20.6	
		50	0		20.8			17.9			20.1			17.6	
	64QAM	1	0		23.9			17.0			19.7			16.6	
		1	24		23.8			21.0			23.8			20.6	
		1	49		23.9			17.0			19.7			16.6	
		25	0		22.7			19.8			22.6			19.4	
		25	12		22.7			19.9			22.6			19.5	
		25	24		22.7			19.9			22.6			19.5	
		50	0		22.6			16.8			19.5			16.5	
	256QAM	1	0		21.0			17.0			19.6			13.4	
		1	24		20.9			17.3			19.6			17.7	
		1	49		21.1			17.0			19.6			13.4	
		25	0		20.5			17.4			19.6			17.5	
		25	12		20.6			17.6			19.7			17.5	
		25	24		20.6			17.5			19.7			17.5	
		50	0		20.6			17.4			19.6			14.5	

7.13. 27.LTE BAND 41 (NS04)

Test Engineer ID:	19178	Test Date:	7/4/2020
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OUTPUT POWER FOR LTE BAND 41 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				39675	40620	41565	39675	40620	41565	39675	40620	41565	39675	40620	41565
				2498.5	2593.0	2687.5	2498.5	2593.0	2687.5	2498.5	2593.0	2687.5	2498.5	2593.0	2687.5
5.0	QPSK	1	0	24.7	27.5	27.3	21.8	24.6	24.4	23.6	26.9	26.8	21.2	24.2	24.1
		1	12	27.7	27.5	27.4	24.7	24.5	24.4	26.9	26.9	26.9	24.4	24.0	24.1
		1	24	27.6	27.6	27.3	24.8	24.6	24.4	27.0	26.9	26.8	24.5	24.1	24.2
		12	0	23.7	26.7	26.4	20.8	23.7	23.5	22.8	26.0	25.9	20.3	23.2	23.1
		12	6	23.7	26.7	26.4	20.8	23.7	23.5	22.9	26.0	25.9	20.5	23.2	23.1
		12	11	26.7	26.7	26.4	23.7	23.6	23.5	25.9	26.0	25.9	23.5	23.2	23.2
		25	0	23.7	26.6	26.4	20.8	23.6	23.5	22.8	26.0	25.8	20.4	23.1	23.2
	16QAM	1	0	24.1	26.8	26.7	21.1	23.8	23.9	23.0	26.2	26.2	20.5	23.5	23.5
		1	12	27.0	26.9	26.7	24.1	23.8	23.8	26.2	26.2	26.2	23.7	23.4	23.5
		1	24	27.1	26.9	26.7	24.1	23.8	23.8	26.2	26.2	26.2	23.8	23.4	23.5
		12	0	22.8	25.6	25.4	19.8	22.7	22.6	21.8	25.0	25.0	19.3	22.2	22.3
		12	6	22.8	25.7	25.4	19.8	22.7	22.6	21.9	25.0	25.0	19.4	22.2	22.3
		12	11	25.8	25.6	25.4	22.7	22.6	22.6	24.8	25.0	24.9	22.4	22.2	22.2
		25	0	22.7	25.7	25.4	19.7	22.8	22.5	21.8	25.0	24.9	19.4	22.2	22.2
	64QAM	1	0	22.9	26.2	25.8	20.3	23.3	22.7	21.8	25.7	25.4	19.5	22.7	22.2
		1	12	25.2	26.2	25.8	23.3	23.3	22.6	24.2	25.7	25.3	21.9	22.6	22.2
		1	24	25.6	26.2	25.7	23.3	23.3	22.6	24.3	25.7	25.4	21.8	22.6	22.2
		12	0	21.8	24.8	24.3	18.9	21.9	21.7	20.9	24.2	24.0	18.0	21.2	21.2
		12	6	21.8	24.8	24.3	18.8	21.9	21.6	21.0	24.2	23.9	18.2	21.3	21.2
		12	11	24.3	24.8	24.4	21.9	21.9	21.6	23.1	24.2	23.9	20.5	21.2	21.1
		25	0	21.8	24.7	24.3	18.8	21.7	21.7	20.9	24.0	23.9	18.1	21.0	21.2
	256QAM	1	0	19.6	22.5	22.2	16.7	19.7	19.7	18.1	22.4	22.4	16.6	19.8	19.6
		1	12	22.6	22.7	22.3	19.5	19.8	19.7	21.3	22.4	22.6	19.8	19.8	19.7
		1	24	22.7	22.5	22.2	18.7	19.4	19.7	21.4	22.4	22.4	20.0	19.7	19.6
		12	0	19.4	22.3	22.0	16.5	19.5	19.6	18.0	22.2	22.1	16.4	19.5	19.4
		12	6	19.4	22.3	22.0	16.5	19.6	19.7	18.1	22.2	22.1	16.6	19.5	19.4
		12	11	22.4	22.2	22.0	19.5	19.6	19.6	21.0	22.1	22.1	19.6	19.5	19.4
		25	0	19.4	22.3	21.9	16.4	19.6	19.7	18.0	22.1	22.1	16.5	19.5	19.4

OUTPUT POWER FOR LTE BAND 41 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				39700	40620	41540	39700	40620	41540	39700	40620	41540	39700	40620	41540
10.0	QPSK	1	0	22.7	27.4	27.0	19.7	24.5	24.3	21.5	26.5	26.4	19.1	23.8	23.6
		1	24	27.7	27.6	27.3	24.7	24.8	24.6	26.8	26.8	26.8	24.3	24.0	23.9
		1	49	27.7	27.3	27.0	24.8	24.5	24.3	27.0	26.6	26.5	24.5	23.8	23.7
		25	0	23.8	26.7	26.4	20.9	23.8	23.6	22.8	25.8	25.7	20.3	23.1	22.9
		25	12	26.8	26.7	26.5	23.9	23.9	23.7	25.9	25.9	25.7	23.4	23.1	23.0
		25	24	25.7	26.7	26.4	22.9	23.8	23.7	25.0	25.8	25.7	22.5	23.0	23.0
		50	0	23.7	26.7	26.4	20.8	23.8	23.7	22.8	25.8	25.7	20.3	23.0	22.9
	16QAM	1	0	21.9	26.3	26.3	19.3	23.9	23.7	21.0	26.0	26.1	18.5	23.4	23.1
		1	24	26.9	26.6	26.4	24.3	24.1	24.0	26.1	26.2	26.3	23.7	23.4	23.4
		1	49	27.0	26.3	26.2	24.3	23.8	23.7	26.3	26.0	26.1	23.9	23.2	23.2
		25	0	22.4	25.3	25.0	19.9	22.9	22.6	21.7	24.9	24.7	19.3	22.1	21.9
		25	12	25.4	25.4	25.1	22.9	22.9	22.7	24.9	24.9	24.8	22.4	22.2	22.0
		25	24	24.4	25.3	25.0	21.9	22.9	22.6	24.0	24.8	24.8	21.4	22.1	22.0
		50	0	22.3	25.3	25.0	19.9	22.9	22.6	21.8	24.9	24.7	19.4	22.1	22.0
	64QAM	1	0	21.1	25.4	25.8	18.0	23.0	23.2	19.8	24.7	25.2	16.7	22.0	22.4
		1	24	25.9	25.6	26.1	23.0	23.2	23.4	24.3	24.9	25.5	21.2	22.3	22.6
		1	49	26.3	25.3	25.9	23.0	23.0	23.1	24.5	24.6	25.3	21.4	22.1	22.4
		25	0	21.8	24.7	24.4	19.1	21.9	21.8	20.8	24.0	23.7	18.1	20.9	20.9
		25	12	24.5	24.8	24.5	22.1	22.0	21.8	23.0	24.0	23.9	20.4	21.0	21.0
		25	24	23.8	24.7	24.5	21.1	21.9	21.8	23.0	24.0	23.8	20.3	20.9	21.0
		50	0	21.8	24.7	24.4	19.0	21.9	21.7	20.8	24.0	23.8	18.2	21.0	20.8
	256QAM	1	0	17.4	22.5	21.9	14.5	16.1	18.1	15.1	21.7	21.7	13.7	19.0	18.4
		1	24	22.7	22.7	22.0	19.7	17.3	18.5	20.6	22.0	21.9	19.3	19.1	18.7
		1	49	22.4	22.5	21.8	11.5	19.5	19.4	20.6	21.7	21.8	19.3	18.8	18.5
		25	0	19.6	22.4	22.3	16.5	19.6	19.7	17.7	21.7	21.6	16.0	18.9	18.8
		25	12	22.6	22.6	22.3	19.6	19.7	19.8	20.8	21.8	21.7	19.3	18.9	18.9
		25	24	21.5	22.5	22.3	18.5	19.6	19.8	19.9	21.7	21.7	18.3	18.9	18.9
		50	0	19.6	22.5	22.2	16.5	19.6	19.7	17.7	21.7	21.7	16.1	18.9	18.8

OUTPUT POWER FOR LTE BAND 41 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				39725	40620	41515	39725	40620	41515	39725	40620	41515	39725	40620	41515
15.0	QPSK	1	0	22.7	27.4	27.1	19.8	24.4	24.3	21.4	26.5	26.4	19.0	23.7	23.5
		1	37	27.7	27.6	27.3	24.8	24.7	24.5	26.6	26.7	26.6	24.1	23.8	23.8
		1	74	27.7	27.5	27.3	24.8	24.5	24.5	27.0	26.6	26.7	24.5	23.8	23.9
		36	0	22.8	26.7	26.4	19.9	23.7	23.5	21.7	25.8	25.6	19.3	22.9	22.7
		36	16	26.8	26.8	26.6	23.9	23.8	23.7	25.7	25.9	25.7	23.3	23.0	22.9
		36	35	23.8	26.8	26.5	20.9	23.8	23.6	23.1	25.8	25.7	20.4	23.0	23.0
		75	0	22.7	26.7	26.5	19.8	23.8	23.6	21.9	25.8	25.6	19.3	22.9	22.9
	16QAM	1	0	21.8	26.5	26.4	19.3	23.8	23.7	20.8	26.1	25.9	18.6	23.2	23.1
		1	37	27.0	26.9	26.7	24.2	24.1	24.1	25.8	26.2	26.2	23.4	23.4	23.4
		1	74	26.9	26.6	26.6	24.1	23.9	24.0	26.3	26.1	26.2	23.8	23.1	23.4
		36	0	21.5	25.4	25.1	18.9	22.7	22.5	20.7	24.7	24.6	18.3	21.9	21.8
		36	16	25.5	25.5	25.3	22.9	22.9	22.7	24.6	24.9	24.7	22.3	22.0	21.9
		36	35	22.5	25.5	25.2	19.9	22.8	22.6	22.0	24.8	24.8	19.5	22.0	22.0
		75	0	21.4	25.4	25.2	18.8	22.7	22.6	20.9	24.8	24.6	18.3	21.9	21.8
	64QAM	1	0	21.0	25.5	26.0	17.6	22.8	23.1	20.3	25.1	24.4	16.6	22.0	22.1
		1	37	25.9	25.7	26.2	22.9	23.0	23.3	24.4	25.1	24.8	21.0	22.0	22.5
		1	74	26.1	25.5	26.1	22.9	22.9	23.2	24.8	25.0	24.7	21.6	21.9	22.5
		36	0	20.9	24.9	24.5	18.1	21.9	21.7	19.9	23.9	23.8	17.2	20.8	20.7
		36	16	24.8	24.9	24.7	22.1	21.9	21.9	22.9	24.0	23.9	20.3	20.9	20.9
		36	35	21.9	24.9	24.7	19.1	21.9	21.8	21.3	23.9	24.0	18.5	20.9	21.0
		75	0	20.9	24.8	24.5	18.0	21.9	21.8	20.1	23.9	23.7	17.2	20.9	20.8
	256QAM	1	0	17.2	22.3	21.6	13.0	17.2	17.9	15.5	21.8	21.2	13.8	18.9	18.3
		1	37	22.7	22.5	21.9	17.4	14.8	18.0	21.1	21.9	21.6	19.5	19.0	18.6
		1	74	22.6	22.3	21.8	19.3	3.6	19.8	21.2	21.8	21.5	19.5	18.8	18.6
		36	0	18.4	22.4	22.0	15.4	19.5	19.6	16.7	21.7	21.6	15.0	18.8	18.7
		36	16	22.5	22.4	22.1	19.5	19.6	19.7	20.8	21.8	21.7	19.3	18.9	18.8
		36	35	19.5	22.4	22.2	16.5	19.6	19.7	18.0	21.8	21.8	16.3	18.9	18.8
		75	0	18.4	22.4	22.1	15.5	19.6	19.6	16.9	21.8	21.6	15.3	18.8	18.7

OUTPUT POWER FOR LTE BAND 41 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				39750	40620	41490	39750	40620	41490	39750	40620	41490	39750	40620	41490
20.0	QPSK	1	0	22.6	27.2	26.9	19.8	24.4	24.2	21.2	26.2	25.9	18.9	23.5	23.3
		1	49	27.7	27.5	27.2	24.8	24.7	24.6	26.3	26.4	26.3	24.2	23.7	23.8
		1	99	27.6	27.2	27.2	24.8	24.4	24.5	27.0	26.1	26.3	24.5	23.5	23.8
		50	0	22.6	26.4	26.2	19.8	23.7	23.5	21.5	25.4	25.2	19.2	22.8	22.5
		50	24	26.6	26.6	26.3	23.8	23.8	23.7	25.3	25.5	25.4	23.3	22.9	22.8
		50	49	23.6	26.6	26.3	20.9	23.8	23.7	22.9	25.4	25.4	20.5	22.8	22.9
		100	0	22.5	26.5	26.3	19.8	23.7	23.6	21.7	25.4	25.3	19.2	22.8	22.7
	16QAM	1	0	22.0	26.4	25.9	18.8	23.8	23.5	20.6	25.5	24.9	18.0	22.8	22.8
		1	49	27.1	26.8	26.3	24.0	24.2	23.8	25.6	25.7	25.4	23.3	23.1	23.2
		1	99	27.0	26.6	26.3	24.1	24.0	23.8	26.4	25.5	25.3	23.7	22.9	23.2
		50	0	21.6	25.4	25.2	18.9	22.7	22.5	20.5	24.4	24.2	18.2	21.8	21.6
		50	24	25.7	25.6	25.3	22.9	22.9	22.7	24.4	24.5	24.4	22.4	21.9	21.8
		50	49	22.6	25.5	25.3	19.9	22.8	22.6	22.0	24.5	24.4	19.5	21.8	21.9
		100	0	21.6	25.5	25.2	18.8	22.8	22.6	20.7	24.4	24.3	18.3	21.8	21.7
	64QAM	1	0	20.8	25.6	25.5	18.3	23.0	22.7	19.4	24.7	24.6	16.9	22.0	21.3
		1	49	25.8	26.0	25.9	23.2	23.5	23.1	23.8	24.9	25.0	21.2	22.3	22.0
		1	99	26.0	25.6	25.8	23.2	23.1	23.0	24.5	24.6	24.9	22.2	22.1	22.0
		50	0	20.7	24.5	24.3	18.1	21.9	21.7	19.6	23.6	23.3	17.0	20.7	20.5
		50	24	24.8	24.7	24.4	22.1	22.0	21.8	22.7	23.6	23.5	20.2	20.8	20.8
		50	49	21.8	24.7	24.4	19.1	21.9	21.9	21.0	23.6	23.5	18.3	20.8	20.8
		100	0	20.7	24.6	24.3	18.0	21.9	21.8	19.8	23.6	23.4	17.1	20.7	20.8
	256QAM	1	0	17.2	22.0	21.9	10.0	17.2	18.9	14.9	21.7	21.1	13.7	18.6	18.7
		1	49	22.7	22.4	22.1	19.3	19.7	15.2	20.9	21.9	21.6	19.6	18.9	18.9
		1	99	22.5	22.1	22.0	19.2	19.3	19.8	20.8	21.7	21.6	19.5	18.6	18.8
		50	0	18.1	22.0	21.8	15.4	19.5	19.5	16.4	21.4	21.2	14.9	18.6	18.5
		50	24	22.3	22.2	21.9	19.4	19.6	19.6	20.7	21.5	21.4	19.2	18.7	18.7
		50	49	19.3	22.2	22.0	16.5	19.5	19.6	17.9	21.4	21.5	16.2	18.7	18.6
		100	0	18.3	22.2	21.9	15.4	19.5	19.5	16.6	21.4	21.4	15.1	18.6	18.6

7.14. 5G NR Band n41 (NS04)

Test Engineer ID:	23547	Test Date:	8/20/2020
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OUTPUT POWER FOR 5G NR Band n41 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 2			ANT 1			ANT 4			ANT 3		
				501200	518600	536000	501200	518600	536000	501200	518600	536000	501200	518600	536000
20.0	BPSK	1	0	22.9	24.7	24.8	2506.0	2593.0	2680.0	2506.0	2593.0	2680.0	2506.0	2593.0	2680.0
		1	1	22.8	27.5	27.5				21.4	26.3	25.9			
		25	12	24.8	27.2	27.3				23.6	26.5	26.5			
		50	0	24.8	27.2	23.1				23.6	26.5	25.9			
	QPSK	1	0	22.3	24.6	24.8				20.7	23.8	23.8			
		1	1	22.2	27.5	27.3				20.6	26.2	25.1			
		25	12	23.7	27.2	27.2				22.6	26.5	25.6			
		50	0	23.7	27.1	22.5				22.6	25.6	24.8			
	16QAM	1	0	21.8	24.0	24.2				20.3	23.3	23.2			
		1	1	21.7	26.3	26.2				20.5	25.0	24.0			
		25	12	22.8	26.6	26.7				22.0	25.8	25.0			
		50	0	22.8	25.6	21.0				22.1	24.8	24.0			
	64QAM	1	0	22.0	24.5	24.7				20.1	23.6	23.2			
		1	1	21.7	26.0	25.8				20.3	24.0	23.0			
		25	12	23.3	25.6	25.7				22.0	24.5	23.8			
		50	0	23.2	25.5	21.1				22.1	24.4	23.5			
	256QAM	1	0	19.2	22.5	22.4				18.4	21.7	21.4			
		1	1	19.1	22.6	22.9				18.1	21.7	21.2			
		25	12	20.8	22.6	22.8				20.1	22.0	21.9			
		50	0	20.7	22.5	18.0				20.0	22.0	21.7			

Ant1 and Ant3 are covered by LTE Band 41

OUTPUT POWER FOR 5G NR BAND n41 (40.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 2			ANT 1			ANT 4			ANT 3		
				503200	518600	534000	503200	518600	534000	503200	518600	534000	503200	518600	534000
40.0	BPSK	1	0	21.2	24.2	23.1	18.5	21.2	21.9	21.2	23.8	23.5	18.1	21.1	20.7
		1	1	20.9	26.8	27.0	19.1	25.2	25.5	21.1	26.5	26.2	18.0	24.5	24.3
		50	25	22.9	27.1	27.3	20.6	25.0	25.3	23.6	26.2	25.9	20.9	24.1	24.2
		100	0	22.9	26.4	25.9	21.6	24.0	24.7	23.5	26.3	25.3	20.9	23.8	23.6
	QPSK	1	0	21.8	23.9	24.1	18.4	20.9	21.9	20.7	23.6	23.8	17.4	21.1	20.7
		1	1	21.6	27.5	27.4	19.0	24.9	25.3	20.7	26.1	25.5	18.0	24.5	24.3
		50	25	23.2	27.3	27.1	20.5	25.2	25.2	22.6	26.0	24.7	19.9	24.1	24.2
		100	0	22.9	26.4	26.2	20.8	24.2	24.1	22.5	25.4	24.5	19.8	23.2	23.1
	16QAM	1	0	21.6	23.3	23.5	18.4	20.7	21.4	20.8	23.4	23.7	17.5	20.9	20.6
		1	1	21.8	26.4	26.2	18.4	24.3	24.0	20.3	25.1	25.0	17.8	23.6	23.3
		50	25	23.4	26.2	26.0	20.3	24.5	23.8	22.2	25.2	24.9	19.4	23.1	23.1
		100	0	22.9	25.4	25.1	20.1	23.7	22.7	22.1	24.5	23.8	19.3	22.3	22.2
	64QAM	1	0	21.4	22.4	23.7	16.9	18.9	20.4	20.7	21.1	24.2	17.3	21.0	21.2
		1	1	21.0	24.9	24.9	16.9	23.2	21.6	20.8	24.5	24.3	17.1	22.0	21.9
		50	25	23.3	24.7	24.6	19.2	23.5	21.2	22.2	24.1	23.5	19.4	21.7	21.8
		100	0	22.7	24.9	24.5	18.9	22.7	21.2	22.0	24.0	23.5	19.3	21.6	21.7
	256QAM	1	0	19.7	20.8	21.9	15.1	16.5	18.3	17.5	21.3	21.4	14.9	19.4	19.0
		1	1	19.1	22.0	21.6	14.7	19.9	18.3	17.6	21.4	21.6	15.3	19.4	19.0
		50	25	21.7	21.7	21.5	16.6	19.9	17.8	19.7	21.4	21.5	17.6	19.2	19.2
		100	0	20.9	21.8	21.5	16.2	20.3	17.8	19.6	21.4	21.3	17.5	19.3	19.2

OUTPUT POWER FOR 5G NR BAND n41 (50.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 2			ANT 1			ANT 4			ANT 3		
				504200	518600	533000	504200	518600	533000	504200	518600	533000	504200	518600	533000
50.0	BPSK	1	0	20.6	23.9	23.6	19.0	21.6	21.9	21.4	23.6	23.5	17.9	20.8	20.5
		1	1	21.6	27.5	27.4	19.2	25.4	25.5	21.1	26.5	26.2	17.6	24.5	24.0
		64	32	22.8	26.8	27.2	20.9	25.0	25.3	23.5	26.3	26.5	20.8	24.2	23.9
		128	0	22.9	26.2	26.1	22.4	24.1	24.7	23.5	26.3	26.3	20.7	23.6	23.4
	QPSK	1	0	21.3	23.8	23.5	18.9	21.3	21.8	20.7	23.7	23.5	17.4	21.1	20.3
		1	1	21.3	27.4	27.1	18.7	25.1	25.4	20.7	26.4	26.4	17.6	24.2	24.1
		64	32	23.1	27.0	27.0	20.8	24.8	25.2	22.6	26.2	25.7	19.7	24.1	23.9
		128	0	23.2	26.1	26.0	21.8	24.0	24.2	22.5	25.4	25.0	19.7	23.0	22.9
	16QAM	1	0	21.7	23.4	23.5	18.8	20.4	21.6	20.4	23.6	22.7	16.8	20.7	20.6
		1	1	21.2	26.1	26.1	18.5	24.5	24.1	20.8	25.1	25.7	17.3	23.0	23.1
		64	32	22.9	26.1	25.9	20.2	24.7	23.8	22.0	25.4	24.8	19.2	23.1	22.9
		128	0	23.1	25.2	25.1	20.7	23.6	22.8	22.0	24.5	24.4	19.1	22.1	21.9
	64QAM	1	0	19.7	22.5	22.5	17.7	20.2	20.7	20.1	23.7	23.5	16.7	20.8	20.7
		1	1	20.2	23.5	25.0	17.4	23.3	21.7	20.6	24.5	24.3	16.6	22.1	21.4
		64	32	22.1	23.5	23.4	19.5	22.9	21.5	22.1	24.2	23.8	19.1	21.7	21.5
		128	0	22.1	23.6	23.4	19.9	22.9	21.5	22.0	24.2	24.1	19.1	21.5	21.4
	256QAM	1	0	19.8	22.0	21.9	15.1	17.5	18.4	17.5	21.1	21.3	14.8	19.1	18.9
		1	1	20.6	22.4	21.9	15.8	20.4	18.8	17.9	21.5	21.5	14.6	19.2	18.9
		64	32	22.1	22.0	21.9	17.2	19.6	18.1	19.5	21.2	21.5	17.2	19.0	18.9
		128	0	22.1	22.1	21.9	16.3	20.4	18.0	19.5	21.3	21.4	17.2	19.1	18.9

OUTPUT POWER FOR 5G NR BAND n41 (60.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 2			ANT 1			ANT 4			ANT 3		
				505200	518600	532000	505200	518600	532000	505200	518600	532000	505200	518600	532000
60.0	BPSK	1	0	22.0	24.6	22.9	18.6	21.4	21.8	22.7	23.3	23.2	17.7	21.0	21.0
		1	1	21.3	27.0	27.5	19.4	25.4	25.5	26.0	26.5	26.3	17.8	24.5	24.3
		81	40	23.0	27.2	27.3	20.8	24.8	25.3	26.5	26.1	26.4	21.0	24.2	24.1
		162	0	23.0	26.7	26.7	21.8	24.1	24.8	26.3	26.2	26.1	20.9	23.8	23.6
	QPSK	1	0	21.5	24.2	23.6	18.8	21.0	21.9	23.0	23.5	23.2	17.4	20.6	20.8
		1	1	21.5	27.3	27.3	18.8	25.1	25.2	26.1	26.2	26.3	17.2	24.4	24.0
		81	40	23.3	27.3	27.2	20.6	24.8	25.4	25.9	26.1	25.8	19.9	24.2	24.1
		162	0	23.3	26.4	26.3	21.0	24.1	24.3	25.0	25.6	25.2	19.9	23.3	23.1
	16QAM	1	0	21.5	23.3	23.6	17.7	20.4	21.3	22.9	23.5	23.6	17.1	20.9	20.1
		1	1	21.7	26.7	26.1	18.7	24.3	23.8	25.7	25.9	26.1	16.9	23.8	22.7
		81	40	23.3	26.3	26.1	20.3	24.1	24.7	25.2	25.3	24.7	19.4	23.2	23.1
		162	0	23.3	25.2	25.1	20.5	23.7	24.1	24.3	24.7	24.3	19.4	22.3	22.1
	64QAM	1	0	21.4	23.6	23.9	16.7	19.5	20.6	22.9	23.9	23.4	16.7	21.0	20.7
		1	1	21.2	25.0	24.8	17.7	23.0	23.5	24.3	24.7	24.0	16.6	21.9	21.7
		81	40	23.3	24.7	24.7	19.6	23.6	23.7	24.0	24.2	24.1	19.5	21.8	21.5
		162	0	23.3	24.8	24.8	19.4	22.9	23.4	24.0	24.2	24.1	19.4	21.8	21.6
	256QAM	1	0	20.0	22.2	21.0	13.3	15.5	17.2	21.1	21.5	21.2	14.8	18.9	19.3
		1	1	19.7	22.6	21.6	13.4	18.0	20.3	21.2	21.2	20.9	14.8	19.2	19.5
		81	40	21.7	21.7	21.6	15.9	17.8	20.4	21.5	21.2	21.4	17.6	19.3	19.1
		162	0	21.7	21.8	21.5	14.7	18.4	19.8	21.4	21.3	21.3	17.5	19.3	19.2

OUTPUT POWER FOR 5G NR BAND n41 (80.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 2			ANT 1			ANT 4			ANT 3		
				507200	518600	530000	507200	518600	530000	507200	518600	530000	507200	518600	530000
80.0	BPSK	1	0	22.2	21.2	24.3	18.6	18.9	21.9	21.0	23.3	23.0	18.0	19.1	20.9
		1	1	21.6	21.2	27.5	19.0	19.7	25.5	20.8	26.5	26.0	18.4	19.5	24.5
		108	54	23.1	27.3	27.4	21.1	24.9	25.4	26.4	26.1	26.3	21.1	24.4	24.3
		216	0	22.9	26.7	26.6	22.5	24.0	24.9	26.1	26.2	26.3	21.0	24.0	23.8
	QPSK	1	0	21.5	22.0	24.1	19.3	18.5	21.8	20.4	23.6	23.1	17.3	18.9	20.9
		1	1	21.8	22.0	27.5	19.1	19.4	25.4	20.3	26.2	25.6	17.3	19.0	24.5
		108	54	23.3	27.5	27.3	20.8	25.1	25.3	26.0	26.0	26.1	20.1	24.4	24.3
		216	0	23.4	26.4	26.3	22.0	24.0	24.5	25.2	25.4	25.5	20.0	23.5	23.3
	16QAM	1	0	21.3	21.5	23.9	18.8	18.7	21.3	20.0	23.8	23.5	17.9	18.7	20.7
		1	1	21.9	21.6	26.1	18.2	18.5	24.8	20.6	25.8	25.0	17.0	18.7	23.3
		108	54	23.3	26.4	26.4	20.5	24.8	24.7	25.2	25.2	25.5	19.7	23.4	23.3
		216	0	23.3	25.5	25.3	20.5	22.9	24.0	24.6	24.4	24.8	19.5	22.5	22.4
	64QAM	1	0	21.4	21.1	24.3	16.9	17.4	20.2	19.9	23.5	23.4	17.0	18.2	20.5
		1	1	21.2	21.6	25.2	17.0	17.3	23.4	20.0	24.4	23.9	17.2	18.6	22.0
		108	54	23.3	25.0	24.8	19.3	23.2	23.2	24.2	24.1	24.4	19.7	21.9	21.8
		216	0	23.3	25.0	24.8	19.6	21.3	22.9	24.2	24.2	24.3	19.5	21.9	21.8
	256QAM	1	0	20.6	19.8	22.5	13.5	13.6	17.2	17.6	21.5	20.8	14.8	15.9	19.1
		1	1	20.5	20.3	22.3	13.2	13.6	20.5	20.5	21.2	20.4	15.0	15.7	18.9
		108	54	22.4	22.4	22.4	15.4	18.7	20.6	21.5	21.2	21.4	17.2	18.8	18.8
		216	0	22.4	22.4	22.3	15.4	16.6	20.3	21.3	21.1	21.3	17.0	18.8	18.9

OUTPUT POWER FOR 5G NR BAND n41 (90.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 2			ANT 1			ANT 4			ANT 3		
				508200	518600	529000	508200	518600	529000	508200	518600	529000	508200	518600	529000
90.0	BPSK	1	0	20.8	21.4	23.5	18.7	18.9	21.8	20.9	21.4	23.1	18.0	19.6	20.8
		1	1	21.8	21.0	27.3	18.8	18.6	25.5	21.2	21.5	26.3	18.0	19.5	24.2
		120	60	23.2	27.1	27.3	20.6	23.7	25.2	23.7	26.4	26.5	21.3	24.5	24.5
		240	0	23.2	25.6	25.9	22.6	23.7	24.8	23.5	26.4	26.5	21.1	24.0	23.9
	QPSK	1	0	21.4	22.1	23.9	18.4	18.2	21.6	20.5	21.0	23.2	17.3	18.9	20.9
		1	1	22.1	22.0	27.5	18.8	19.2	25.3	20.5	21.1	25.3	17.7	18.9	24.5
		120	60	23.3	27.5	26.3	20.5	24.6	25.1	22.6	26.3	26.5	20.3	24.5	24.4
		240	0	23.4	26.5	26.3	21.9	23.7	24.7	22.5	25.9	25.6	20.2	23.5	23.5
	16QAM	1	0	21.4	22.0	23.5	18.1	19.5	21.2	21.1	21.4	23.3	17.4	19.0	20.5
		1	1	21.9	22.3	26.6	18.2	18.9	24.7	21.1	21.1	25.0	17.9	18.9	23.5
		120	60	23.3	26.4	25.3	20.1	24.2	24.5	22.2	25.4	26.0	19.8	23.5	23.5
		240	0	23.4	25.5	25.3	20.0	22.6	24.2	22.1	24.9	24.5	19.7	22.6	22.5
	64QAM	1	0	21.1	21.8	24.2	16.7	17.2	20.1	20.1	20.6	23.5	17.5	18.6	20.9
		1	1	21.8	22.2	25.0	16.6	17.6	23.2	20.6	20.5	23.7	17.4	18.7	22.0
		120	60	23.5	25.0	24.8	19.1	23.0	23.2	22.1	24.3	24.5	19.7	21.9	22.0
		240	0	23.4	25.0	24.7	18.9	21.0	22.9	22.0	24.4	24.3	19.7	22.1	21.9
	256QAM	1	0	19.9	20.2	22.1	13.1	12.9	17.1	17.4	17.8	20.7	14.9	16.0	19.2
		1	1	20.0	19.6	22.0	13.0	13.6	20.5	17.5	18.1	20.7	15.1	15.9	19.0
		120	60	22.1	21.9	21.9	15.2	18.0	20.7	19.6	21.3	21.6	17.3	19.0	19.0
		240	0	21.9	22.0	21.8	14.8	16.2	20.2	19.6	21.4	21.5	17.2	18.9	19.0

OUTPUT POWER FOR 5G NR BAND n41 (100.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 2			ANT 1			ANT 4			ANT 3		
				509200	528600	528000	509200	528600	528000	509200	528600	528000	509200	528600	528000
100.0	BPSK	1	0	21.9	21.2	22.9	18.8	19.2	22.0	20.7	21.3	23.0	18.1	19.2	21.3
		1	1	20.7	21.2	27.5	18.5	19.2	25.3	21.1	21.5	26.1	18.0	19.7	24.5
		135	67	23.0	27.0	27.4	20.8	25.0	25.5	23.5	26.5	26.5	21.3	24.5	24.5
		270	0	22.9	26.5	26.1	22.5	24.1	25.2	23.6	26.4	26.5	21.2	24.1	24.0
	QPSK	1	0	21.8	22.1	23.7	18.7	19.1	21.8	20.2	20.8	23.1	17.7	18.9	20.8
		1	1	21.3	22.2	27.5	18.7	19.1	25.1	20.6	21.1	25.6	17.8	18.9	24.3
		135	67	23.3	27.4	27.1	20.8	24.9	25.2	22.6	26.4	26.5	20.3	24.5	24.5
		270	0	23.3	26.3	26.3	21.6	24.1	25.1	22.6	25.8	25.7	20.2	23.6	23.5
	16QAM	1	0	21.3	22.0	23.7	18.4	18.5	21.2	19.9	20.3	22.9	17.0	19.0	20.9
		1	1	21.9	21.9	26.1	18.2	18.6	24.7	20.0	20.7	24.4	17.3	18.4	23.6
		135	67	23.3	26.5	26.2	20.4	24.5	24.7	21.7	25.3	25.5	19.6	23.3	23.3
		270	0	23.2	25.2	25.2	20.6	23.6	24.5	21.7	24.4	24.2	19.5	22.3	22.3
	64QAM	1	0	18.6	19.6	25.2	16.4	16.2	19.4	20.4	20.3	23.2	17.1	18.5	21.0
		1	1	18.1	19.1	22.5	16.1	15.7	22.7	20.6	20.9	23.8	17.4	18.6	22.0
		135	67	20.8	22.2	22.2	18.4	22.7	22.7	22.3	24.4	24.5	19.8	21.9	21.9
		270	0	20.8	22.2	22.2	18.6	21.4	22.7	22.1	24.4	24.5	19.7	22.1	22.0
	256QAM	1	0	20.3	20.3	22.2	12.6	13.2	16.8	16.6	17.9	20.7	15.4	16.5	19.7
		1	1	19.8	20.5	22.2	12.8	12.4	20.2	17.3	18.0	20.3	15.6	16.4	19.6
		135	67	22.4	22.3	22.3	14.7	18.2	20.3	19.6	21.4	21.4	17.9	19.5	19.5
		270	0	22.2	22.4	22.2	14.5	16.9	19.7	19.6	21.5	21.6	17.7	19.4	19.6

7.15. LTE BAND 48 (NS127)

Test Engineer ID:	39004	Test Date:	9/28/2020
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OUTPUT POWER FOR LTE BAND 48 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 7			ANT 4			ANT 9			ANT 8		
				55265	55990	56715	55265	55990	56715	55265	55990	56715	55265	55990	56715
				3552.5	3625.0	3697.5	3552.5	3625.0	3697.5	3552.5	3625.0	3697.5	3552.5	3625.0	3697.5
5.0	QPSK	1	0	22.0	22.0	22.0	22.5	22.5	22.5	24.5	24.6	24.6	22.8	22.8	22.8
		1	12	22.0	22.0	21.9	22.4	22.4	22.4	24.5	24.6	24.5	22.6	22.8	22.7
		1	24	21.9	22.0	21.8	22.5	22.5	22.5	24.6	24.6	24.6	22.8	22.8	22.8
		12	0	21.9	21.7	21.9	21.5	21.6	21.6	23.6	23.7	23.6	21.8	21.9	21.8
		12	6	22.0	21.7	22.0	21.5	21.6	21.6	23.7	23.7	23.6	21.8	21.9	21.8
		12	11	22.0	21.7	22.0	21.5	21.6	21.6	23.7	23.7	23.6	21.8	21.9	21.8
		25	0	22.0	22.0	22.0	21.5	21.5	21.5	24.6	24.6	24.6	21.8	21.8	21.8
	16QAM	1	0	21.2	21.4	21.0	21.9	21.9	21.9	23.5	23.4	23.5	21.7	21.7	21.7
		1	12	21.3	21.6	21.1	21.8	21.8	21.8	23.5	23.4	23.4	21.6	21.7	21.6
		1	24	21.3	21.6	21.1	21.9	21.9	21.9	23.5	23.6	23.5	21.7	21.7	21.7
		12	0	21.0	21.6	20.8	20.6	20.6	20.6	22.2	22.2	22.3	20.4	20.4	20.4
		12	6	21.1	21.6	20.8	20.6	20.7	20.5	22.2	22.2	22.2	20.4	20.4	20.5
		12	11	21.1	21.6	20.8	20.6	20.7	20.5	22.2	22.2	22.2	20.4	20.4	20.4
		25	0	21.0	21.6	20.7	20.6	20.6	20.6	22.2	22.2	22.1	20.4	20.5	20.3
	64QAM	1	0	20.7	18.6	19.8	20.1	20.3	20.1	20.5	22.3	20.2	17.7	20.8	17.6
		1	12	20.8	18.7	19.9	20.3	20.4	20.2	20.5	22.4	20.3	17.8	20.9	17.8
		1	24	20.8	18.7	19.9	20.3	20.4	20.1	20.5	22.4	20.3	17.8	20.9	17.7
		12	0	20.8	18.6	19.8	19.2	19.3	19.1	19.5	21.4	19.2	16.7	19.9	16.7
		12	6	20.9	18.7	19.9	19.3	19.4	19.1	19.6	21.4	19.3	16.8	20.0	16.7
		12	11	20.9	18.7	19.9	19.3	19.4	19.1	19.6	21.5	19.3	16.8	20.0	16.7
		25	0	20.8	18.6	19.9	19.2	19.3	19.1	19.5	21.3	19.3	16.7	19.9	16.7
	256QAM	1	0	17.3	14.0	16.4	17.5	17.6	17.3	19.7	19.5	19.3	15.0	17.9	14.8
		1	12	17.4	14.1	16.5	17.6	17.8	17.5	19.8	19.6	19.5	15.1	18.1	15.0
		1	24	17.4	14.1	16.4	17.6	17.7	17.4	19.8	19.6	19.4	15.1	18.0	14.9
		12	0	17.1	13.6	16.0	17.2	17.4	17.1	19.4	19.2	19.1	14.7	17.6	14.7
		12	6	17.2	13.8	16.0	17.3	17.4	17.2	19.5	19.2	19.2	14.8	17.6	14.7
		12	11	17.2	13.7	16.1	17.3	17.4	17.0	19.5	19.2	19.2	14.8	17.6	14.7
		25	0	17.1	13.7	16.0	17.3	17.4	17.0	19.4	19.2	19.1	14.8	17.6	14.6

OUTPUT POWER FOR LTE BAND 48 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 7			ANT 4			ANT 9			ANT 8		
				55290	55990	56690	55290	55990	56690	55290	55990	56690	55290	55990	56690
10.0	QPSK	1	0	3555.0	3625.0	3695.0	3555.0	3625.0	3695.0	3555.0	3625.0	3695.0	3555.0	3625.0	3695.0
		1	24	22.0	22.0	22.0	22.5	22.5	22.4	24.6	24.6	24.6	22.8	22.8	22.8
		1	49	22.0	22.0	21.9	22.4	22.5	22.5	24.5	24.5	24.5	22.7	22.7	22.6
		1	49	21.8	21.7	21.7	22.5	22.5	21.5	24.6	24.6	24.6	22.7	22.8	22.8
		25	0	21.9	21.9	21.9	21.7	21.6	21.5	23.7	23.8	23.7	21.9	21.9	21.9
		25	12	22.0	22.0	22.0	21.7	21.6	21.6	23.7	23.8	23.8	21.9	21.9	21.9
		25	24	22.0	22.0	22.0	21.7	21.6	21.5	23.7	23.7	23.8	21.9	21.9	21.9
	16QAM	50	0	22.0	22.0	22.0	21.5	21.5	21.5	24.6	24.6	24.6	21.8	21.8	21.8
		1	0	21.1	20.5	20.3	21.6	21.6	21.4	23.7	23.6	23.7	21.9	21.7	21.8
		1	24	21.4	20.7	20.5	21.4	21.5	21.4	23.6	23.5	23.6	21.7	21.7	21.7
		1	49	21.3	20.6	20.4	21.5	21.6	20.0	23.7	23.5	23.6	21.8	21.7	21.9
		25	0	20.8	20.1	19.9	20.2	20.1	20.0	22.2	22.2	22.2	20.4	20.4	20.4
		25	12	21.0	20.2	20.0	20.2	20.1	20.1	22.3	22.3	22.2	20.4	20.4	20.4
		25	24	20.9	20.2	20.0	20.2	20.1	20.0	22.2	22.2	22.3	20.4	20.4	20.4
	64QAM	50	0	20.9	20.2	20.0	20.2	20.2	18.4	22.3	22.2	22.3	20.4	20.4	20.5
		1	0	19.5	18.9	19.2	19.8	19.7	19.6	21.0	22.2	20.7	17.1	20.2	17.1
		1	24	19.8	19.3	19.5	20.2	20.1	19.9	21.4	22.5	21.1	17.5	20.6	17.5
		1	49	19.6	19.1	19.3	20.0	19.9	19.7	21.2	22.4	21.0	17.3	20.5	17.3
		25	0	19.9	19.3	19.5	19.2	19.2	18.9	20.4	21.6	20.1	16.5	19.6	16.5
		25	12	19.0	19.4	19.6	19.3	19.2	19.0	20.6	21.7	20.2	16.6	19.7	16.6
		25	24	19.0	19.4	19.6	19.3	19.2	19.1	20.5	21.7	20.2	16.6	19.7	16.6
	256QAM	50	0	19.8	19.3	19.5	19.2	19.1	18.9	20.5	21.6	20.1	16.6	19.6	16.5
		1	0	17.1	14.6	17.4	16.7	17.0	16.4	19.2	18.7	19.0	14.7	17.7	14.8
		1	24	17.5	15.0	17.6	17.1	17.4	16.7	19.6	19.1	19.4	15.1	18.0	15.2
		1	49	17.4	14.8	17.5	16.9	17.2	16.6	19.4	19.0	19.1	14.9	17.9	14.9
		25	0	17.6	14.7	17.3	17.1	17.1	16.4	20.3	19.1	19.0	15.1	18.1	14.8
		25	12	17.7	14.9	17.5	17.3	17.2	16.6	19.5	19.3	19.2	15.0	18.2	15.0
		25	24	17.7	14.8	17.4	17.2	17.2	16.5	19.4	19.2	19.1	14.9	18.2	14.9
		50	0	17.6	14.8	17.4	17.2	17.2	16.5	19.4	19.1	19.0	14.9	18.1	14.8

OUTPUT POWER FOR LTE BAND 48 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 7			ANT 4			ANT 9			ANT 8		
				55315	55990	56665	55315	55990	56665	55315	55990	56665	55315	55990	56665
15.0	QPSK	1	0	22.0	22.0	22.0	22.5	22.5	22.4	24.6	24.6	24.6	22.8	22.8	22.7
		1	37	21.9	22.0	20.5	22.4	22.4	22.3	24.5	24.5	24.5	22.7	22.7	22.6
		1	74	21.8	21.9	20.4	22.5	22.5	22.5	24.6	24.6	24.6	22.8	22.8	22.8
		36	0	22.0	22.0	20.6	21.7	21.6	21.6	23.8	23.7	23.7	22.0	21.9	21.8
		36	16	22.0	22.0	20.6	21.6	21.7	21.6	23.7	23.8	23.8	21.9	21.9	21.9
		36	35	21.9	21.9	20.5	21.5	21.6	21.6	23.7	23.7	23.7	21.9	21.9	21.9
		75	0	21.7	22.0	21.7	21.5	21.5	21.5	22.0	24.6	22.0	21.8	21.8	21.8
	16QAM	1	0	21.2	21.2	21.9	21.5	21.4	21.5	23.6	23.5	23.7	21.8	21.7	21.8
		1	37	21.4	21.4	22.0	21.4	21.4	21.5	23.5	23.5	23.6	21.6	21.7	21.8
		1	74	21.2	21.4	21.9	21.4	21.5	21.6	23.6	23.6	23.7	21.7	21.7	21.9
		36	0	20.9	21.0	21.6	20.2	20.1	20.0	22.3	22.2	22.2	20.5	20.3	20.3
		36	16	21.0	21.0	21.6	20.1	20.2	20.1	22.2	22.2	22.2	20.4	20.4	20.4
		36	35	20.9	21.0	21.5	20.1	20.1	20.1	22.2	22.2	22.2	20.4	20.4	20.4
		75	0	20.9	20.9	21.5	20.1	20.2	20.1	22.2	22.3	22.3	20.4	20.5	20.4
	64QAM	1	0	19.6	20.2	19.3	20.0	20.0	19.9	20.3	22.1	20.9	17.4	20.5	18.2
		1	37	19.8	20.4	19.4	20.3	20.3	20.1	20.5	22.3	21.1	17.7	20.7	18.4
		1	74	19.7	20.3	19.3	20.2	20.2	20.0	20.4	22.3	20.9	17.6	20.7	18.2
		36	0	20.0	20.6	19.6	19.5	19.4	19.3	19.7	21.5	19.4	16.8	20.0	16.7
		36	16	20.1	20.7	19.7	19.5	19.5	19.4	19.8	21.6	19.5	16.9	20.0	16.8
		36	35	20.0	20.6	19.6	19.5	19.5	19.3	19.7	21.5	19.5	16.9	20.0	16.8
		75	0	20.0	20.6	19.5	19.4	19.4	19.2	19.6	21.4	19.3	16.8	19.8	16.7
	256QAM	1	0	17.1	14.7	16.0	17.0	17.6	17.3	19.7	19.4	19.1	14.8	18.0	14.4
		1	37	17.3	14.9	16.0	17.3	17.8	17.4	20.0	19.6	19.2	15.2	18.2	14.5
		1	74	17.2	14.8	15.9	17.1	17.7	17.4	19.9	19.6	19.0	15.0	18.2	14.3
		36	0	17.6	14.5	15.9	17.4	17.4	17.3	19.5	19.4	19.3	14.7	18.1	14.6
		36	16	17.6	14.6	16.0	17.5	17.5	17.4	19.7	19.5	19.3	14.8	18.1	14.7
		36	35	17.5	14.6	15.9	17.4	17.4	17.4	19.6	19.5	19.3	14.7	18.1	14.7
		75	0	17.5	14.5	15.9	17.4	17.4	17.3	19.6	19.4	19.3	14.7	18.0	14.6

OUTPUT POWER FOR LTE BAND 48 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 7			ANT 4			ANT 9			ANT 8		
				55340	55990	56640	55340	55990	56640	55340	55990	56640	55340	55990	56640
20.0	QPSK	1	0	22.0	22.0	22.0	22.5	22.5	22.5	24.6	24.6	24.6	22.8	22.8	22.8
		1	49	22.0	22.0	22.0	22.3	22.4	22.4	24.4	24.5	24.4	22.6	22.6	22.7
		1	99	21.7	21.8	21.7	22.3	22.5	22.5	24.5	24.5	24.4	22.7	22.7	22.7
		50	0	21.8	21.9	21.8	21.4	21.6	21.6	23.5	23.6	23.5	21.7	21.8	21.7
		50	24	21.9	21.9	21.9	21.4	21.6	21.6	23.5	23.6	23.6	21.8	21.8	21.8
		50	49	21.8	21.8	21.7	21.4	21.6	21.6	23.5	23.6	23.5	21.7	21.8	21.8
	16QAM	100	0	21.7	22.0	21.7	21.5	21.5	21.5	22.0	24.6	22.0	21.8	21.8	21.8
		1	0	21.1	20.6	21.1	21.4	21.3	21.3	24.0	23.9	23.6	21.7	21.6	21.3
		1	49	21.3	20.8	21.3	21.2	21.2	21.2	23.8	23.8	23.4	21.5	21.4	21.2
		1	99	21.1	20.6	21.0	21.2	21.3	21.3	23.9	23.8	23.5	21.6	21.5	21.3
		50	0	20.8	20.4	20.9	19.9	20.0	20.0	22.6	22.6	22.5	20.3	20.3	20.3
		50	24	21.0	20.4	20.9	20.0	20.1	20.1	22.6	22.7	22.6	20.3	20.3	20.3
	64QAM	50	49	20.9	20.3	20.8	19.9	20.1	20.1	22.6	22.6	22.5	20.2	20.3	20.3
		100	0	20.8	20.3	20.7	19.9	20.1	20.1	22.5	22.6	22.6	20.2	20.3	20.4
		1	0	20.1	18.8	19.3	20.4	20.6	20.6	20.9	22.0	20.4	17.5	20.6	17.2
		1	49	20.4	19.1	19.5	20.7	20.8	20.8	21.2	22.3	20.8	17.8	20.9	17.5
		1	99	20.2	18.9	19.2	20.4	20.6	20.5	20.9	22.1	20.4	17.5	20.7	17.2
		50	0	19.8	18.5	19.1	19.1	19.2	19.3	19.7	20.7	19.3	16.2	19.3	16.1
	256QAM	50	24	20.0	18.7	19.2	19.2	19.4	19.4	19.7	20.9	19.4	16.3	19.4	16.2
		50	49	19.8	18.5	19.1	19.1	19.3	19.3	19.7	20.8	19.4	16.2	19.4	16.1
		100	0	19.9	18.5	19.1	19.1	19.3	19.3	19.6	20.8	19.3	16.2	19.3	16.1
		1	0	17.4	14.7	16.6	17.1	17.6	17.3	19.8	19.3	19.4	15.1	18.0	14.9
		1	49	17.7	15.0	16.8	17.5	17.9	17.6	20.2	19.6	19.7	15.4	18.3	15.2
		1	99	17.4	14.8	16.5	17.2	17.7	17.3	19.8	19.5	19.4	15.1	18.1	14.8
		50	0	17.3	14.4	16.5	17.1	17.3	17.3	19.6	19.4	19.3	14.9	18.0	14.8
		50	24	17.5	14.5	16.6	17.2	17.4	17.4	19.7	19.5	19.4	14.9	18.1	14.9
		50	49	17.4	14.5	16.5	17.2	17.3	17.3	19.6	19.4	19.3	14.8	18.1	14.8
		100	0	17.4	14.5	16.5	17.2	17.4	17.3	19.6	19.4	19.3	14.8	18.1	14.8

7.16. LTE BAND 66

Test Engineer ID:	19467	Test Date:	5/14/2020
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OUTPUT POWER FOR LTE BAND 66 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				131979	132322	132665	131979	132322	132665	131979	132322	132665	131979	132322	132665
1.4	QPSK	1	0	25.7	25.6	25.3	23.0	22.9	22.9	24.9	25.0	24.9	23.0	22.8	22.7
		1	2	25.7	25.6	25.4	23.1	23.0	22.9	24.9	25.0	25.0	23.0	22.9	22.7
		1	5	25.6	25.6	25.3	23.0	22.9	22.8	24.9	24.9	24.9	22.9	22.8	22.6
		3	0	25.6	25.6	25.4	23.1	23.0	22.8	24.9	24.9	25.0	23.0	22.8	22.6
		3	1	25.7	25.6	25.4	23.1	23.0	22.8	24.9	24.9	25.0	23.0	22.9	22.6
		3	2	25.6	25.6	25.4	23.1	23.0	22.8	25.0	24.9	25.0	23.0	22.8	22.6
		6	0	24.7	24.6	24.5	22.1	22.0	21.9	24.0	24.0	24.0	22.0	21.9	21.7
	16QAM	1	0	24.8	25.0	24.5	22.5	22.0	22.0	24.0	24.1	24.4	22.3	21.9	21.8
		1	2	24.9	25.0	24.5	22.4	22.1	22.1	24.0	24.2	24.4	22.4	22.0	21.9
		1	5	24.8	24.9	24.4	22.4	22.0	22.0	24.0	24.1	24.3	22.3	21.9	21.8
		3	0	24.8	24.9	24.6	22.4	22.2	21.9	24.2	24.1	24.2	22.3	22.1	21.8
		3	1	24.8	24.9	24.7	22.4	22.3	22.0	24.2	24.1	24.3	22.3	22.1	21.8
		3	2	24.8	24.9	24.6	22.3	22.3	22.0	24.2	24.1	24.2	22.2	22.1	21.8
		6	0	23.8	23.5	23.6	21.0	21.2	21.0	23.2	23.1	22.9	20.9	21.1	20.8
	64QAM	1	0	23.7	23.7	23.8	21.2	21.2	21.3	23.4	23.1	23.2	20.1	21.1	21.0
		1	2	23.8	23.8	23.8	21.2	21.2	21.3	23.5	23.1	23.2	21.5	21.1	20.9
		1	5	23.7	23.7	23.7	21.1	21.2	21.2	23.4	23.0	23.2	21.4	21.0	20.9
		3	0	23.8	23.5	23.7	21.2	21.0	21.3	23.3	23.2	23.0	21.4	21.1	20.7
		3	1	23.8	23.6	23.7	21.3	21.0	21.3	23.4	23.2	23.1	21.4	21.2	20.8
		3	2	23.8	23.6	23.7	21.3	21.0	21.2	23.4	23.2	23.0	21.4	21.2	20.8
		6	0	22.9	22.6	22.3	20.4	20.1	19.8	22.0	22.3	22.1	20.1	20.3	19.8
	256QAM	1	0	20.6	20.3	20.4	17.7	17.8	17.4	19.9	19.9	19.6	18.1	17.9	17.7
		1	2	20.8	20.4	20.5	17.8	17.9	17.6	20.0	20.0	19.6	18.1	17.9	17.7
		1	5	20.6	20.4	20.4	17.7	17.7	17.5	19.9	19.8	19.6	18.0	17.8	17.5
		3	0	20.6	20.4	20.4	17.8	17.7	17.5	20.0	19.7	19.7	17.8	17.7	17.8
		3	1	20.6	20.5	20.5	17.9	17.7	17.6	20.0	19.8	19.7	17.9	17.8	17.8
		3	2	20.6	20.5	20.5	17.8	17.7	17.6	20.0	19.8	19.7	17.9	17.8	17.8
		6	0	20.5	20.6	20.4	17.8	17.6	17.7	20.0	19.7	19.8	18.0	17.7	17.8

OUTPUT POWER FOR LTE BAND 66 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				131987	132322	132657	131987	132322	132657	131987	132322	132657	131987	132322	132657
3.0	QPSK	1	0	25.6	25.5	25.7	23.1	23.0	23.0	24.9	25.0	25.0	23.0	22.9	22.7
		1	7	25.5	25.4	25.6	23.1	23.0	23.0	24.8	25.0	24.9	23.0	22.8	22.5
		1	14	25.5	25.5	25.6	23.1	23.0	22.9	24.9	24.9	24.9	23.0	22.8	22.6
		8	0	24.7	24.6	24.7	22.2	22.2	22.0	24.1	24.1	24.1	22.1	22.0	21.8
		8	4	24.7	24.6	24.7	22.2	22.2	22.0	24.0	24.0	24.0	22.1	22.0	21.8
		8	7	24.7	24.6	24.7	22.2	22.2	22.0	24.0	24.0	24.0	22.0	22.0	21.7
		15	0	24.7	24.6	24.7	22.2	22.2	22.0	24.0	24.0	24.0	22.1	22.0	21.8
	16QAM	1	0	24.7	24.5	25.1	22.2	22.1	22.4	24.0	24.4	24.2	22.4	22.0	21.8
		1	7	24.6	24.4	25.1	22.1	22.0	22.4	23.9	24.4	24.0	22.4	21.9	21.6
		1	14	24.6	24.4	25.0	22.2	22.0	22.3	23.9	24.3	24.0	22.4	22.0	21.6
		8	0	23.7	23.7	23.8	21.3	21.3	21.1	23.2	23.1	23.1	21.2	21.0	20.9
		8	4	23.8	23.7	23.8	21.3	21.3	21.1	23.1	23.1	23.1	21.2	21.0	20.9
		8	7	23.7	23.7	23.8	21.3	21.3	21.1	23.1	23.1	23.1	21.2	21.0	20.9
		15	0	23.6	23.6	23.7	21.2	21.2	21.0	23.0	23.1	23.0	21.1	21.0	20.8
	64QAM	1	0	23.8	23.8	23.8	21.0	21.1	21.1	23.2	23.3	23.2	21.4	21.1	21.1
		1	7	23.7	23.8	23.7	21.0	21.0	20.9	23.2	23.3	23.1	21.4	21.1	20.9
		1	14	23.8	23.8	23.7	21.0	21.0	21.0	23.1	23.3	23.1	21.4	21.1	21.0
		8	0	22.6	22.6	22.7	20.0	19.9	19.8	22.0	22.1	22.1	20.2	20.1	19.8
		8	4	22.6	22.6	22.7	20.0	19.9	19.8	22.0	22.1	22.2	20.3	20.2	19.8
		8	7	22.6	22.6	22.7	20.0	19.9	19.8	22.0	22.1	22.1	20.2	20.1	19.9
		15	0	22.7	22.6	22.7	20.0	20.0	19.8	22.1	22.0	22.1	20.2	20.1	19.9
	256QAM	1	0	20.7	19.5	20.2	18.3	17.7	17.8	20.4	19.5	19.9	18.3	17.7	18.1
		1	7	20.6	20.1	20.2	18.2	17.6	17.7	20.3	19.7	19.9	18.2	17.7	18.0
		1	14	20.7	20.1	20.2	18.3	17.6	17.7	20.3	19.7	19.8	18.2	17.7	17.9
		8	0	20.4	20.2	20.3	18.0	17.8	17.9	20.1	19.9	20.0	18.1	17.9	17.9
		8	4	20.5	20.3	20.3	18.0	17.8	17.9	20.2	19.9	20.1	18.1	17.9	17.9
		8	7	20.5	20.3	20.4	18.0	17.8	17.9	20.1	19.9	20.0	18.1	17.9	17.9
		15	0	20.4	20.4	20.2	17.9	17.9	17.8	20.1	20.0	20.0	18.1	17.8	17.9

OUTPUT POWER FOR LTE BAND 66 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				131997	132322	132647	131997	132322	132647	131997	132322	132647	131997	132322	132647
5.0	QPSK	1	0	25.6	25.6	25.7	23.0	23.1	22.9	24.9	24.9	25.0	22.8	22.9	22.7
		1	12	25.6	25.6	25.6	23.1	23.1	22.9	25.0	24.9	25.0	23.0	23.0	22.7
		1	24	25.6	25.6	25.6	23.0	23.1	22.8	24.9	24.9	24.9	22.9	23.0	22.7
		12	0	24.7	24.7	24.8	22.1	22.1	22.0	24.0	24.0	24.1	22.1	22.0	21.8
		12	6	24.7	24.6	24.7	22.1	22.2	22.0	24.0	24.0	24.1	22.1	22.0	21.9
		12	11	24.6	24.6	24.7	22.1	22.1	22.0	23.9	24.0	24.0	22.0	21.9	21.8
		25	0	24.7	24.6	24.7	22.1	22.1	22.0	24.0	24.0	24.0	22.1	22.0	21.8
	16QAM	1	0	24.8	24.7	25.2	22.2	22.3	22.5	24.1	24.5	24.2	22.2	22.1	22.2
		1	12	24.9	24.8	25.1	22.2	22.3	22.4	24.1	24.5	24.3	22.3	22.1	22.2
		1	24	24.9	24.8	25.1	22.2	22.3	22.4	24.1	24.4	24.1	22.2	22.1	22.2
		12	0	23.8	23.7	23.9	21.2	21.3	21.2	23.1	23.2	23.1	21.2	21.1	21.0
		12	6	23.8	23.8	23.9	21.2	21.3	21.2	23.1	23.2	23.2	21.2	21.1	21.0
		12	11	23.7	23.7	23.8	21.2	21.2	21.1	23.1	23.1	23.1	21.1	21.1	20.9
		25	0	23.7	23.6	23.8	21.1	21.2	21.0	23.0	23.1	23.0	21.1	21.1	20.8
	64QAM	1	0	23.9	23.5	23.9	21.1	21.2	20.8	22.8	23.2	23.3	20.1	21.3	20.8
		1	12	24.0	23.5	23.9	21.1	21.3	20.7	22.8	23.2	23.3	21.4	21.3	20.8
		1	24	23.9	23.5	23.9	21.1	21.2	20.7	22.8	23.2	23.2	21.4	21.3	20.7
		12	0	22.7	22.7	22.7	19.9	20.1	19.9	22.0	22.0	22.1	20.2	20.2	19.9
		12	6	22.8	22.7	22.7	19.9	20.1	19.9	22.0	22.0	22.1	20.2	20.2	19.9
		12	11	22.7	22.6	22.6	19.9	20.0	19.8	22.0	21.9	22.0	20.1	20.1	19.9
		25	0	22.7	22.6	22.7	19.9	20.0	19.8	22.0	22.0	22.0	20.2	20.1	19.9
	256QAM	1	0	20.8	20.5	20.2	17.6	18.0	18.1	19.6	19.8	19.9	18.2	18.0	18.3
		1	12	20.7	20.6	20.3	17.6	18.0	18.1	19.6	19.9	19.9	18.2	18.0	18.3
		1	24	20.7	20.6	20.2	17.5	18.0	18.0	19.6	19.9	19.9	18.1	18.0	18.2
		12	0	20.7	20.6	20.5	17.8	17.9	17.8	19.9	19.8	19.9	18.0	17.9	18.0
		12	6	20.7	20.6	20.5	17.9	17.9	17.8	19.9	19.9	19.9	18.0	17.9	17.9
		12	11	20.7	20.6	20.5	17.8	17.8	17.7	19.9	19.9	19.8	18.0	17.8	17.9
		25	0	20.7	20.7	20.6	17.8	17.8	17.8	19.9	19.9	19.9	18.0	17.8	17.9

OUTPUT POWER FOR LTE BAND 66 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				132022	132322	132622	132022	132322	132622	132022	132322	132622	132022	132322	132622
10.0	QPSK	1	0	1715.0	1745.0	1775.0	1715.0	1745.0	1775.0	1715.0	1745.0	1775.0	1715.0	1745.0	1775.0
		1	24	25.4	25.2	25.6	22.9	22.7	22.7	24.7	24.8	24.7	22.8	22.6	22.5
		1	49	25.5	25.3	25.5	22.9	22.8	22.7	24.8	24.8	24.8	22.8	22.7	22.5
		25	0	24.6	24.5	24.7	22.1	22.1	21.9	24.1	24.1	24.0	22.0	21.9	21.7
		25	12	24.8	24.7	24.7	22.2	22.2	21.9	24.1	24.1	24.1	22.2	22.1	21.8
		25	24	24.7	24.6	24.7	22.1	22.1	21.9	24.0	24.0	24.1	22.0	22.0	21.7
		50	0	24.7	24.6	24.7	22.1	22.1	21.9	24.1	24.1	24.0	22.1	22.0	21.7
	16QAM	1	0	24.8	24.4	24.6	22.3	21.9	21.7	23.8	24.2	23.9	22.2	21.8	21.5
		1	24	25.0	24.6	24.7	22.5	22.1	21.9	24.0	24.4	24.1	22.4	22.0	21.7
		1	49	24.8	24.4	24.5	22.3	21.9	21.8	23.8	24.3	23.9	22.2	21.9	21.5
		25	0	23.7	23.6	23.7	21.2	21.2	20.9	23.1	23.1	23.1	21.1	21.0	20.7
		25	12	23.8	23.8	23.8	21.3	21.3	20.9	23.1	23.2	23.2	21.2	21.2	20.8
		25	24	23.7	23.7	23.8	21.2	21.2	20.9	23.1	23.1	23.2	21.1	21.1	20.8
		50	0	23.7	23.6	23.7	21.2	21.2	20.8	23.0	23.1	23.0	21.1	21.1	20.7
	64QAM	1	0	23.4	23.5	23.8	20.8	20.9	20.8	23.0	23.0	22.8	21.0	20.9	20.9
		1	24	23.8	23.8	24.1	21.2	21.3	21.2	23.3	23.4	23.2	21.3	21.3	21.2
		1	49	23.5	23.6	23.9	20.9	21.0	20.9	23.0	23.2	23.0	21.0	21.1	21.0
		25	0	22.7	22.6	22.8	20.0	20.0	19.8	22.2	22.1	22.0	20.2	20.1	19.8
		25	12	22.8	22.7	22.8	20.2	20.1	19.8	22.2	22.2	22.1	20.3	20.2	19.9
		25	24	22.7	22.7	22.8	20.1	20.0	19.8	22.1	22.1	22.1	20.2	20.1	19.9
		50	0	22.7	22.6	22.7	20.1	20.0	19.7	22.1	22.1	22.0	20.2	20.1	19.7
	256QAM	1	0	20.2	20.3	20.7	17.6	17.7	17.2	20.4	19.6	19.9	17.6	17.7	17.8
		1	24	20.2	20.3	20.6	18.0	18.0	17.6	20.3	19.7	19.9	17.9	17.9	18.2
		1	49	20.1	20.4	20.6	17.7	17.8	17.3	20.4	19.7	19.9	17.7	17.8	17.8
		25	0	20.5	20.3	20.2	17.8	17.7	17.7	20.0	20.0	19.9	18.0	17.8	17.8
		25	12	20.5	20.5	20.2	17.9	17.8	17.8	20.1	20.0	19.9	18.1	17.9	17.9
		25	24	20.4	20.4	20.3	17.8	17.8	17.8	20.0	20.0	19.9	18.0	17.8	17.8
		50	0	20.4	20.4	20.2	17.8	17.8	17.6	20.1	19.9	19.8	17.9	17.8	17.8

OUTPUT POWER FOR LTE BAND 66 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				132047	132322	132597	132047	132322	132597	132047	132322	132597	132047	132322	132597
15.0	QPSK	1	0	25.6	25.6	25.7	23.1	22.9	23.1	24.7	24.8	25.0	22.9	22.8	22.8
		1	37	25.7	25.7	25.6	23.1	23.1	23.0	24.8	24.9	25.0	23.0	23.0	22.7
		1	74	25.6	25.6	25.6	22.9	22.9	23.0	24.7	24.8	25.0	22.9	22.9	22.7
		36	0	24.7	24.8	24.7	22.1	22.1	22.1	23.9	24.0	24.0	22.1	21.9	21.8
		36	16	24.9	24.9	24.7	22.2	22.2	22.2	24.0	24.1	24.0	22.2	22.1	21.8
		36	35	24.8	24.8	24.7	22.2	22.1	22.2	24.0	24.0	24.1	22.1	22.0	21.8
		75	0	24.8	24.8	24.7	22.1	22.1	22.1	24.0	24.0	23.9	22.1	22.0	21.7
	16QAM	1	0	25.0	25.1	24.7	22.4	22.4	22.2	23.8	24.3	24.5	22.4	22.3	21.8
		1	37	25.1	25.2	24.7	22.5	22.5	22.1	23.9	24.4	24.5	22.5	22.4	21.8
		1	74	25.0	25.1	24.6	22.3	22.3	22.0	23.8	24.2	24.6	22.3	22.3	21.7
		36	0	23.8	23.8	23.7	21.2	21.1	21.2	23.0	23.0	23.0	21.2	21.0	20.8
		36	16	23.9	23.9	23.7	21.3	21.2	21.2	23.1	23.1	23.0	21.2	21.1	20.8
		36	35	23.8	23.8	23.7	21.2	21.1	21.2	23.0	23.1	23.0	21.1	21.0	20.8
		75	0	23.8	23.8	23.7	21.2	21.1	21.1	23.0	23.1	23.0	21.1	21.1	20.8
	64QAM	1	0	23.7	24.2	24.0	21.0	21.4	21.4	23.1	23.0	23.5	21.1	21.4	21.2
		1	37	23.9	24.3	24.0	21.1	21.5	21.3	23.2	23.1	23.6	21.2	21.6	21.1
		1	74	23.7	24.2	23.9	21.0	21.4	21.3	23.1	23.0	23.6	21.0	21.5	21.1
		36	0	22.8	22.7	22.7	20.1	20.0	20.1	22.0	22.1	22.0	20.2	20.0	19.9
		36	16	22.9	22.9	22.7	20.2	20.1	20.1	22.1	22.1	22.0	20.3	20.2	19.9
		36	35	22.8	22.8	22.7	20.1	20.0	20.1	22.1	22.1	22.1	20.2	20.1	19.9
		75	0	22.8	22.8	22.7	20.1	20.0	20.0	22.0	22.1	22.0	20.2	20.1	19.8
	256QAM	1	0	20.4	20.8	20.9	18.0	17.3	17.7	20.3	19.5	20.0	17.9	18.2	18.2
		1	37	20.4	20.9	20.9	18.1	17.5	17.8	20.3	19.6	20.0	18.1	18.3	18.3
		1	74	20.4	20.9	20.9	18.0	17.3	17.7	20.3	19.6	20.0	17.9	18.2	18.1
		36	0	20.6	20.6	20.6	17.7	17.7	17.5	20.0	19.8	19.7	18.2	18.0	18.2
		36	16	20.7	20.7	20.6	17.8	17.7	17.6	20.0	19.9	19.8	18.3	18.1	18.2
		36	35	20.7	20.7	20.6	17.7	17.7	17.6	19.9	19.9	19.8	18.2	18.0	18.2
		75	0	20.7	20.7	20.5	17.8	17.7	17.5	19.9	19.8	19.7	18.2	18.1	18.1

OUTPUT POWER FOR LTE BAND 66 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 1			ANT 2			ANT 3			ANT 4		
				132072	132322	132572	132072	132322	132572	132072	132322	132572	132072	132322	132572
20.0	QPSK	1	0	25.4	25.4	25.7	22.8	22.7	23.0	24.6	24.7	25.0	22.8	22.6	22.9
		1	49	25.7	25.7	25.6	23.1	23.0	22.9	24.9	25.0	24.9	23.0	22.9	22.7
		1	99	25.5	25.5	25.6	22.8	22.8	22.9	24.7	24.8	25.0	22.7	22.7	22.7
		50	0	24.7	24.7	24.7	22.1	22.0	21.9	23.9	24.0	23.9	22.0	21.9	21.8
		50	24	24.9	24.9	24.7	22.2	22.2	22.0	24.0	24.1	24.1	22.1	22.1	21.8
		50	49	24.8	24.8	24.7	22.1	22.1	21.9	24.0	24.0	24.0	22.0	22.0	21.7
	16QAM	100	0	24.8	24.8	24.6	22.1	22.1	21.9	24.0	24.0	24.0	22.0	22.0	21.7
		1	0	24.9	24.9	25.3	22.3	22.1	22.6	24.2	24.2	24.4	22.2	22.1	22.4
		1	49	25.1	25.2	25.3	22.5	22.4	22.4	24.5	24.5	24.5	22.4	22.4	22.3
		1	99	24.9	25.0	25.2	22.3	22.3	22.5	24.3	24.2	24.5	22.2	22.2	22.3
		50	0	23.8	23.8	23.8	21.2	21.1	21.0	23.0	23.0	23.0	21.1	20.9	20.8
		50	24	23.9	23.9	23.8	21.2	21.2	21.0	23.1	23.2	23.1	21.2	21.1	20.8
	64QAM	50	49	23.8	23.8	23.7	21.1	21.1	21.0	23.0	23.1	23.0	21.0	21.0	20.8
		100	0	23.8	23.8	23.7	21.1	21.1	20.9	23.1	23.1	23.0	21.1	21.0	20.8
		1	0	24.1	23.6	24.0	21.4	20.8	21.2	22.9	23.3	23.1	21.5	20.9	21.2
		1	49	24.3	23.9	24.0	21.6	21.2	21.1	23.3	23.6	23.1	21.7	21.3	21.1
		1	99	24.1	23.7	23.9	21.4	20.9	21.1	23.1	23.4	23.2	21.4	21.0	21.1
		50	0	22.8	22.8	22.7	20.0	20.0	19.9	22.0	22.0	21.9	20.2	20.0	19.9
	256QAM	50	24	22.9	22.9	22.8	20.1	20.1	19.9	22.1	22.1	22.1	20.2	20.2	19.9
		50	49	22.7	22.8	22.7	20.0	20.0	19.9	22.0	22.0	22.0	20.1	20.1	19.9
		100	0	22.7	22.8	22.7	20.0	20.0	19.8	22.0	22.0	22.0	20.1	20.1	19.8
		1	0	20.9	20.5	20.7	17.9	17.7	17.9	20.1	20.0	19.7	18.0	18.2	18.1
		1	49	20.8	20.5	20.7	18.2	17.9	18.2	20.0	20.0	19.6	18.3	18.5	18.3
		1	99	20.8	20.6	20.7	18.0	17.8	17.9	20.1	20.1	19.7	18.1	18.4	18.1
		50	0	20.6	20.6	20.6	18.0	18.0	17.9	19.9	19.9	19.8	18.1	18.0	18.2
		50	24	20.7	20.7	20.6	18.1	18.1	18.0	20.0	19.9	19.8	18.3	18.2	18.2
		50	49	20.7	20.7	20.5	18.1	18.0	17.9	19.9	19.9	19.8	18.1	18.1	18.1
		100	0	20.7	20.7	20.5	18.0	18.0	17.8	19.9	19.9	19.8	18.2	18.1	18.1

7.17. LTE BAND 71

Test Engineer ID:	19467	Test Date:	5/14/2020
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OUTPUT POWER FOR LTE BAND 71 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				133147	133297	133447	133147	133297	133447
				665.5	680.5	695.5	665.5	680.5	695.5
5.0	QPSK	1	0	25.6	25.3	25.4	24.5	24.4	24.2
		1	12	25.6	25.4	25.4	24.5	24.5	24.3
		1	24	25.7	25.5	25.4	24.5	24.5	24.2
		12	0	24.5	24.5	24.5	23.4	23.4	23.3
		12	6	24.6	24.6	24.5	23.5	23.5	23.3
		12	11	24.6	24.5	24.5	23.6	23.5	23.3
		25	0	24.6	24.5	24.4	23.5	23.5	23.3
	16QAM	1	0	24.7	24.9	24.7	23.7	23.5	23.9
		1	12	24.8	25.0	24.7	23.5	23.6	23.8
		1	24	24.8	25.1	24.6	23.7	23.6	23.9
		12	0	23.6	23.6	23.5	22.5	22.4	22.4
		12	6	23.7	23.7	23.6	22.6	22.6	22.5
		12	11	23.7	23.7	23.5	22.6	22.6	22.5
		25	0	23.7	23.6	23.4	22.5	22.5	22.4
	64QAM	1	0	23.7	23.6	23.3	22.4	22.6	22.5
		1	12	23.9	23.8	23.3	22.5	22.8	22.6
		1	24	23.9	23.8	23.4	22.5	22.8	22.6
		12	0	22.5	22.5	22.5	21.5	21.3	21.4
		12	6	22.6	22.6	22.5	21.6	21.4	21.4
		12	11	22.6	22.6	22.5	21.6	21.5	21.4
		25	0	22.6	22.6	22.4	21.5	21.4	21.4
	256QAM	1	0	20.7	20.2	20.5	18.9	19.2	19.1
		1	12	20.6	20.1	20.4	19.0	19.4	19.2
		1	24	20.5	20.1	20.3	19.0	19.5	19.2
		12	0	20.6	20.4	20.4	19.2	19.2	19.2
		12	6	20.5	20.4	20.3	19.3	19.3	19.2
		12	11	20.5	20.3	20.2	19.3	19.3	19.2
		25	0	20.5	20.4	20.3	19.3	19.3	19.2

OUTPUT POWER FOR LTE BAND 71 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				133172	133297	133422	133172	133297	133422
10.0	QPSK	1	0	668.0	680.5	693.0	668.0	680.5	693.0
		1	0	25.7	25.5	25.5	24.4	24.3	24.5
		1	24	25.7	25.4	25.4	24.4	24.3	24.3
		1	49	25.7	25.4	25.4	24.5	24.3	24.2
		25	0	24.8	24.5	24.5	23.4	23.4	23.3
		25	12	24.9	24.5	24.4	23.5	23.4	23.3
		25	24	24.8	24.5	24.5	23.5	23.4	23.3
	16QAM	50	0	24.8	24.4	24.4	23.4	23.3	23.2
		1	0	24.9	24.5	24.9	23.8	23.5	23.4
		1	24	24.8	24.4	24.9	23.8	23.4	23.3
		1	49	24.8	24.4	24.8	23.9	23.4	23.3
		25	0	23.9	23.5	23.5	22.5	22.4	22.4
		25	12	23.9	23.5	23.5	22.5	22.5	22.3
		25	24	23.9	23.6	23.5	22.5	22.5	22.4
	64QAM	50	0	23.8	23.4	23.4	22.5	22.3	22.2
		1	0	24.0	23.8	23.6	22.5	22.6	22.7
		1	24	24.0	23.8	23.6	22.6	22.6	22.7
		1	49	24.0	23.8	23.6	22.7	22.6	22.6
		25	0	22.9	22.5	22.5	21.5	21.5	21.4
		25	12	22.9	22.5	22.6	21.6	21.5	21.4
		25	24	22.9	22.6	22.6	21.5	21.5	21.4
	256QAM	50	0	22.8	22.4	22.4	21.5	21.3	21.2
		1	0	20.2	20.3	20.7	18.8	18.8	19.3
		1	24	20.1	20.3	20.7	19.0	19.2	19.5
		1	49	20.0	20.2	20.5	18.9	19.0	19.3
		25	0	20.4	20.3	20.2	19.1	19.1	19.0
		25	12	20.4	20.3	20.2	19.2	19.2	19.1
		25	24	20.3	20.3	20.2	19.2	19.2	19.1
		50	0	20.3	20.2	20.2	19.1	19.0	19.0

OUTPUT POWER FOR LTE BAND 71 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				133197	133297	133397	133197	133297	133397
				670.5	680.5	690.5	670.5	680.5	690.5
15.0	QPSK	1	0	25.7	25.7	25.7	24.5	24.5	24.4
		1	37	25.6	25.6	25.6	24.5	24.5	24.4
		1	74	25.7	25.6	25.6	24.5	24.5	24.2
		36	0	24.7	24.7	24.7	23.5	23.5	23.4
		36	16	24.7	24.8	24.7	23.6	23.6	23.4
		36	35	24.7	24.7	24.7	23.5	23.5	23.5
		75	0	24.7	24.7	24.6	23.5	23.5	23.4
	16QAM	1	0	25.2	24.7	25.1	23.9	24.0	23.5
		1	37	25.2	24.7	25.0	24.0	23.9	23.4
		1	74	25.2	24.7	25.0	23.9	24.0	23.2
		36	0	23.7	23.7	23.7	22.6	22.5	22.4
		36	16	23.7	23.8	23.7	22.6	22.6	22.4
		36	35	23.7	23.7	23.7	22.6	22.5	22.5
		75	0	23.7	23.7	23.7	22.6	22.5	22.4
	64QAM	1	0	23.7	24.2	23.9	22.6	23.0	22.7
		1	37	23.7	24.2	23.9	22.6	23.1	22.7
		1	74	23.7	24.3	23.9	22.6	23.1	22.6
		36	0	22.7	22.8	22.8	21.6	21.5	21.5
		36	16	22.8	22.8	22.7	21.7	21.6	21.5
		36	35	22.8	22.7	22.7	21.6	21.5	21.5
		75	0	22.7	22.8	22.7	21.6	21.6	21.4
	256QAM	1	0	20.7	19.9	20.3	18.6	19.0	19.3
		1	37	20.6	20.0	20.3	18.8	19.3	19.5
		1	74	20.7	19.9	20.3	18.8	19.1	19.1
		36	0	20.3	20.2	20.1	18.9	18.9	19.0
		36	16	20.3	20.2	20.1	19.1	19.1	19.0
		36	35	20.2	20.1	20.1	19.1	19.1	19.1
		75	0	20.3	20.2	20.1	19.1	19.0	19.0

OUTPUT POWER FOR LTE BAND 71 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)					
				ANT 1			ANT 2		
				133222	133297	133372	133222	133297	133372
20.0	QPSK	1	0	673.0	680.5	688.0	673.0	680.5	688.0
				25.7	25.7	25.6	24.4	24.4	24.4
		1	49	25.7	25.6	25.6	24.4	24.4	24.4
		1	99	25.7	25.6	25.5	24.5	24.4	24.3
		50	0	24.8	24.7	24.7	23.5	23.5	23.5
		50	24	24.8	24.7	24.7	23.6	23.5	23.5
		50	49	24.8	24.7	24.7	23.5	23.5	23.4
	16QAM	100	0	24.8	24.6	24.6	23.5	23.4	23.4
		1	0	25.3	25.1	25.2	23.8	24.1	24.0
		1	49	25.2	25.1	25.2	23.9	24.0	23.9
		1	99	25.2	25.1	25.1	23.9	24.1	23.8
		50	0	23.8	23.7	23.7	22.5	22.6	22.5
		50	24	23.9	23.7	23.7	22.6	22.5	22.5
		50	49	23.8	23.7	23.7	22.6	22.5	22.5
	64QAM	100	0	23.8	23.6	23.6	22.5	22.4	22.4
		1	0	24.3	23.9	24.0	23.1	22.7	22.8
		1	49	24.3	24.0	23.9	23.2	22.7	22.7
		1	99	24.3	23.9	23.9	23.2	22.7	22.7
		50	0	22.8	22.8	22.8	21.6	21.5	21.6
		50	24	22.9	22.7	22.8	21.6	21.5	21.5
		50	49	22.8	22.8	22.8	21.6	21.5	21.5
	256QAM	100	0	22.8	22.6	22.6	21.5	21.4	21.4
		1	0	20.8	20.8	20.4	18.9	19.2	19.1
		1	49	20.8	20.8	20.4	19.3	19.5	19.5
		1	99	20.8	20.8	20.5	19.1	19.3	19.3
		50	0	20.6	20.6	20.7	19.3	19.2	19.2
		50	24	20.6	20.6	20.6	19.5	19.3	19.4
		50	49	20.6	20.6	20.6	19.5	19.3	19.3
		100	0	20.6	20.6	20.6	19.4	19.2	19.2

7.18. 5G NR Band n77

Test Engineer ID:	19171	Test Date:	8/27/2020
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OUTPUT POWER FOR 5G NR BAND n77 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 7			ANT 4			ANT 9			ANT 8		
				647333	656000	664666	647333	656000	664666	647333	656000	664666	647333	656000	664666
				3710.0	3840.0	3970.0	3710.0	3840.0	3970.0	3710.0	3840.0	3970.0	3710.0	3840.0	3970.0
20.0	BPSK	1	0	22.4	21.9	22.0	18.8	19.1	18.6	23.4	23.0	22.9	19.5	19.5	19.2
		1	1	25.7	24.9	25.1	22.5	22.3	22.0	25.8	25.4	25.1	22.8	22.5	22.7
		25	12	25.4	24.9	25.3	22.2	22.2	22.1	25.6	25.2	25.4	22.6	22.8	22.6
		50	0	25.1	24.7	24.9	21.8	21.6	21.4	25.6	25.1	25.4	22.3	22.4	22.2
	QPSK	1	0	22.4	21.9	22.0	19.1	18.9	19.0	23.4	23.0	23.1	19.6	19.4	18.9
		1	1	25.7	25.2	25.2	22.4	22.3	22.1	26.0	25.3	25.4	22.5	22.7	22.7
		25	12	24.9	24.8	25.2	22.1	22.3	22.2	25.5	25.2	25.4	22.6	22.7	22.6
		50	0	24.6	24.2	24.4	21.2	21.1	20.9	25.6	25.2	25.4	21.8	21.8	21.7
	16QAM	1	0	21.9	21.7	21.8	18.9	19.0	18.5	22.7	22.2	22.0	19.1	18.3	18.6
		1	1	24.7	24.0	24.0	21.4	21.3	20.9	24.8	24.2	24.4	21.3	21.3	21.3
		25	12	24.2	24.1	23.8	21.2	21.4	21.1	24.7	24.4	24.5	21.3	21.5	21.3
		50	0	23.1	22.7	23.0	20.2	20.2	19.9	23.9	23.5	23.6	20.4	20.4	20.1
	64QAM	1	0	22.3	21.6	22.1	19.4	19.6	19.3	22.9	22.3	22.1	19.8	19.1	20.0
		1	1	23.2	22.6	22.6	20.6	20.5	20.7	23.7	23.6	23.3	20.6	20.3	20.1
		25	12	23.1	22.7	23.0	20.5	20.7	20.4	23.8	23.5	23.6	20.4	20.4	20.1
		50	0	23.1	22.7	23.0	20.8	20.8	20.4	23.8	23.4	23.6	20.4	20.4	20.4
	256QAM	1	0	20.9	20.3	20.2	17.6	17.1	17.2	21.5	20.9	21.0	17.9	17.9	17.9
		1	1	20.7	20.3	20.5	17.6	17.4	17.3	21.8	21.0	21.0	17.9	18.1	17.9
		25	12	20.5	20.5	20.4	17.0	17.2	17.3	21.3	20.9	21.1	17.9	17.9	17.7
		50	0	20.5	20.4	20.4	17.1	17.2	17.0	21.3	20.9	21.0	17.8	17.9	17.8

OUTPUT POWER FOR 5G NR BAND n77 (40.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 7			ANT 4			ANT 9			ANT 8		
				648000	656000	664000	648000	656000	664000	648000	656000	664000	648000	656000	664000
				3720.0	3840.0	3960.0	3720.0	3840.0	3960.0	3720.0	3840.0	3960.0	3720.0	3840.0	3960.0
40.0	BPSK	1	0	22.7	22.5	22.1	19.6	18.6	18.3	23.1	22.6	22.8	18.8	18.7	18.5
		1	1	25.7	25.5	24.9	21.4	22.3	22.0	25.9	25.3	25.3	22.0	22.8	22.7
		50	25	25.3	25.5	25.6	21.5	21.5	22.2	26.0	25.4	25.5	22.3	22.2	22.2
		100	0	25.0	24.4	24.5	20.8	20.8	21.3	24.9	24.9	24.9	21.4	21.8	21.7
	QPSK	1	0	22.7	22.1	22.1	19.4	18.2	18.4	22.8	22.5	22.4	18.7	19.0	19.3
		1	1	25.6	25.2	24.8	21.3	22.1	21.9	25.7	25.2	25.2	22.1	22.0	22.8
		50	25	25.4	25.4	25.2	22.0	21.7	21.4	25.8	25.4	25.4	21.9	22.2	22.1
		100	0	25.1	24.9	24.6	20.3	20.4	20.3	24.9	24.4	24.3	21.0	21.3	21.4
	16QAM	1	0	21.3	22.0	21.5	19.3	18.6	18.0	22.1	21.8	21.8	18.9	18.9	19.6
		1	1	24.8	24.0	23.7	20.7	20.5	20.5	24.8	24.3	24.2	21.4	21.2	21.2
		50	25	24.1	24.7	24.5	20.7	20.7	20.8	24.8	24.3	24.3	20.8	21.1	21.1
		100	0	23.0	23.2	23.1	19.8	19.9	19.8	23.9	23.3	23.4	20.3	20.3	20.3
	64QAM	1	0	22.1	22.0	22.9	19.4	18.1	18.1	22.6	22.2	22.0	18.7	18.7	18.8
		1	1	23.1	23.5	23.0	19.6	18.9	19.1	23.6	23.1	23.1	20.0	20.3	20.8
		50	25	22.8	22.6	22.9	19.0	19.0	19.7	23.4	22.9	22.9	19.4	19.6	19.6
		100	0	22.6	22.3	23.0	19.3	18.8	19.0	23.4	22.9	22.9	19.4	19.7	19.7
	256QAM	1	0	20.7	20.7	20.5	18.0	17.2	17.9	21.7	21.4	21.3	17.5	18.0	18.2
		1	1	20.4	20.3	20.5	17.3	17.7	17.6	21.7	21.5	21.4	18.2	17.3	18.7
		50	25	20.6	20.6	20.5	18.0	17.8	16.8	21.6	21.1	21.1	17.6	18.0	17.9
		100	0	20.7	20.4	20.9	17.8	17.8	16.8	21.6	21.2	21.2	17.7	18.1	18.1

OUTPUT POWER FOR 5G NR BAND n77 (50.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 7			ANT 4			ANT 9			ANT 8		
				648333	656000	663666	648333	656000	663666	648333	656000	663666	648333	656000	663666
				3725.0	3840.0	3955.0	3725.0	3840.0	3955.0	3725.0	3840.0	3955.0	3725.0	3840.0	3955.0
50.0	BPSK	1	0	22.2	22.3	21.8	18.8	18.3	18.2	23.1	22.6	22.7	19.4	18.5	20.2
		1	1	25.2	25.3	24.3	22.1	22.2	21.7	25.8	25.5	25.4	22.7	22.1	22.8
		64	32	24.8	25.6	25.4	22.1	22.3	22.3	26.0	25.8	25.7	22.4	22.5	22.6
		128	0	24.6	24.5	25.0	22.0	21.8	21.9	25.5	24.7	24.6	21.8	22.2	22.2
	QPSK	1	0	22.8	22.6	22.2	18.9	18.4	18.5	23.0	22.6	22.7	18.5	18.8	19.0
		1	1	25.6	25.2	25.5	22.5	22.2	21.7	25.8	25.3	25.4	22.4	22.3	22.7
		64	32	25.3	25.7	24.8	22.1	22.3	21.7	26.0	25.7	25.6	22.4	22.4	22.5
		128	0	25.2	25.3	24.6	22.2	21.2	20.6	24.9	24.6	24.5	21.3	21.7	21.5
	16QAM	1	0	21.2	21.8	21.4	18.9	18.9	18.3	22.3	21.7	22.0	19.2	20.0	20.0
		1	1	24.4	24.0	24.3	21.2	21.3	20.7	24.8	24.3	24.4	21.7	22.1	21.9
		64	32	24.2	24.4	24.2	21.0	21.2	20.5	24.9	24.6	24.6	21.9	22.1	22.1
		128	0	23.3	23.2	23.1	21.2	20.2	19.6	23.9	23.6	23.6	21.2	21.1	21.2
	64QAM	1	0	22.6	22.8	21.9	19.0	19.5	19.6	22.5	22.0	22.3	19.3	19.7	19.5
		1	1	23.2	22.5	23.2	20.3	19.2	19.5	23.7	23.1	23.3	19.9	20.1	21.2
		64	32	22.8	23.0	23.1	20.5	20.8	19.7	23.4	23.1	23.0	19.7	20.0	20.0
		128	0	22.7	22.8	23.0	20.6	20.8	19.9	23.4	23.1	23.1	19.7	20.2	20.1
	256QAM	1	0	20.7	20.4	20.4	17.9	17.9	17.6	21.1	20.7	20.8	18.6	17.3	18.4
		1	1	20.8	20.2	20.2	17.9	17.2	17.9	21.1	20.6	20.8	17.8	17.6	18.7
		64	32	20.8	20.7	20.2	17.9	17.3	17.2	20.9	20.6	21.0	17.4	17.6	17.6
		128	0	20.6	20.8	20.2	17.9	17.7	17.2	20.8	20.5	20.6	17.5	17.6	17.7

OUTPUT POWER FOR 5G NR BAND n77 (60.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 7			ANT 4			ANT 9			ANT 8		
				648666	656000	663333	648666	656000	663333	648666	656000	663333	648666	656000	663333
				3730.0	3840.0	3950.0	3730.0	3840.0	3950.0	3730.0	3840.0	3950.0	3730.0	3840.0	3950.0
60.0	BPSK	1	0	22.5	22.9	22.3	19.3	18.8	19.1	23.2	22.8	22.9	18.8	18.5	19.9
		1	1	25.4	24.9	24.5	22.5	22.4	22.4	25.9	25.3	25.5	21.9	22.8	22.7
		81	40	25.4	25.7	25.5	22.1	22.3	21.8	26.0	25.6	25.6	22.2	22.5	22.6
		162	0	25.0	25.1	24.8	21.8	21.6	21.5	24.8	24.5	25.0	21.7	22.1	22.2
	QPSK	1	0	22.6	23.1	22.3	18.5	18.4	18.5	23.0	22.6	22.6	19.3	19.1	19.8
		1	1	25.5	25.5	25.1	22.0	22.5	22.3	25.7	25.2	25.3	22.6	22.8	22.7
		81	40	25.5	25.7	24.7	22.1	22.2	21.9	26.0	25.6	25.6	22.2	22.6	22.6
		162	0	25.1	25.2	24.4	21.5	21.1	20.9	24.8	24.5	24.5	21.2	21.7	21.6
	16QAM	1	0	21.6	21.3	21.7	19.2	18.6	18.6	22.4	21.9	21.9	18.5	19.0	19.7
		1	1	24.2	24.1	24.1	21.3	21.0	21.0	24.7	24.4	24.4	21.7	21.3	21.5
		81	40	23.7	24.7	24.0	21.1	21.3	21.1	24.8	24.5	24.4	21.2	21.6	21.6
		162	0	23.5	23.5	23.0	20.1	20.2	19.9	23.8	23.6	23.5	20.2	20.6	20.7
	64QAM	1	0	21.9	22.3	22.5	18.6	19.3	18.3	22.5	22.3	22.2	19.3	19.8	19.9
		1	1	22.8	23.5	23.0	19.8	20.4	19.9	23.6	23.4	23.3	20.9	19.9	20.7
		81	40	22.7	22.8	23.1	20.1	20.1	19.8	23.4	23.0	23.0	20.2	20.6	20.6
		162	0	22.6	22.7	23.0	20.1	20.1	19.9	23.3	23.1	23.0	20.1	20.5	20.7
	256QAM	1	0	21.2	21.4	20.7	17.5	17.7	17.4	21.3	20.6	20.7	17.4	17.9	18.5
		1	1	20.8	21.4	21.1	17.7	17.7	17.6	21.1	20.8	20.7	18.6	18.0	18.7
		81	40	21.4	21.4	20.8	17.6	17.6	17.5	20.9	20.5	21.0	17.8	18.0	18.1
		162	0	21.4	21.4	20.7	17.6	17.7	17.4	20.9	20.6	20.5	17.7	18.2	18.2

OUTPUT POWER FOR 5G NR BAND n77 (80.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 7			ANT 4			ANT 9			ANT 8		
				649333	656000	662666	649333	656000	662666	649333	656000	662666	649333	656000	662666
				3740.0	3840.0	3940.0	3740.0	3840.0	3940.0	3740.0	3840.0	3940.0	3740.0	3840.0	3940.0
80.0	BPSK	1	0	22.9	22.6	22.6	19.1	19.4	18.6	23.3	23.0	22.8	18.4	19.2	19.1
		1	1	25.6	25.1	24.6	22.1	22.5	22.2	25.9	25.6	25.3	22.5	22.6	22.8
		108	54	25.7	25.3	25.2	22.5	21.8	21.7	25.9	25.7	25.7	21.9	22.3	22.3
		216	0	25.4	24.8	24.7	22.0	21.8	21.3	24.8	24.5	24.5	21.4	21.9	22.1
	QPSK	1	0	22.8	22.9	22.5	19.8	19.4	18.1	23.2	22.8	22.7	19.1	18.9	19.0
		1	1	25.6	25.4	25.3	22.3	22.3	21.9	25.9	25.5	25.3	21.8	22.6	22.5
		108	54	25.7	25.2	24.9	22.0	22.0	22.0	26.0	25.7	25.6	21.8	22.3	22.3
		216	0	25.5	25.1	24.9	21.5	21.4	20.8	24.7	24.6	24.5	20.9	21.4	21.6
	16QAM	1	0	21.5	22.3	22.1	19.9	19.7	19.0	21.8	21.8	21.9	18.6	18.6	19.5
		1	1	24.4	23.8	24.1	21.5	21.8	21.7	24.9	24.4	24.1	21.5	21.1	22.0
		108	54	24.5	24.1	23.9	21.6	20.8	21.4	24.3	24.1	24.1	20.9	21.5	21.8
		216	0	23.4	23.1	22.8	21.0	20.8	20.2	23.3	23.1	23.0	20.0	20.5	20.7
	64QAM	1	0	22.2	22.8	22.0	20.0	20.0	19.7	22.8	22.4	22.1	18.8	18.5	18.3
		1	1	23.4	23.2	23.1	20.4	20.1	19.5	23.7	23.5	23.2	19.9	19.9	20.0
		108	54	23.4	23.1	22.9	20.8	20.8	20.4	23.3	23.0	23.0	19.7	20.2	20.5
		216	0	23.4	23.0	22.8	21.0	20.8	20.1	23.2	23.0	23.0	19.7	20.2	20.3
	256QAM	1	0	21.4	21.1	20.7	17.3	18.1	17.3	21.4	21.1	20.7	18.0	18.4	18.6
		1	1	21.0	21.2	20.7	18.1	17.6	17.5	21.3	21.1	21.0	18.6	18.6	18.7
		108	54	21.4	21.0	20.8	17.5	17.2	17.3	20.8	20.5	20.5	17.5	18.1	18.4
		216	0	21.4	21.0	20.8	17.5	17.3	17.3	20.8	20.6	20.6	17.6	18.1	18.3

OUTPUT POWER FOR 5G NR BAND n77 (90.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 7			ANT 4			ANT 9			ANT 8		
				649666	656000	662333	649666	656000	662333	649666	656000	662333	649666	656000	662333
				3745.0	3840.0	3935.0	3745.0	3840.0	3935.0	3745.0	3840.0	3935.0	3745.0	3840.0	3935.0
90.0	BPSK	1	0	23.2	23.1	23.0	19.1	19.8	19.1	23.2	22.8	22.7	19.8	19.7	18.9
		1	1	25.7	25.4	24.6	22.5	22.4	22.0	25.9	25.5	25.4	22.4	22.2	22.8
		120	60	25.6	25.4	25.5	22.3	21.9	22.0	26.0	25.9	25.8	22.6	22.2	22.7
		240	0	25.6	25.6	25.3	22.2	21.9	21.4	24.9	25.7	24.7	21.6	22.2	22.4
	QPSK	1	0	23.0	23.0	22.7	20.0	19.6	18.5	23.1	22.7	22.7	19.2	19.2	19.1
		1	1	25.6	25.4	25.4	22.1	22.3	21.6	25.8	25.5	25.3	22.4	21.9	22.7
		120	60	25.4	25.4	25.6	21.8	21.9	21.9	26.0	25.7	25.7	22.6	22.1	22.6
		240	0	25.4	25.6	25.4	21.7	21.0	21.2	24.8	25.1	24.6	21.1	21.7	21.9
	16QAM	1	0	22.5	22.9	22.9	18.8	19.6	18.8	22.0	21.7	21.6	18.8	19.1	19.1
		1	1	24.7	25.3	25.1	21.2	21.8	21.3	24.6	24.2	24.2	21.1	21.6	22.0
		120	60	25.2	25.2	24.8	21.7	21.5	21.1	24.4	24.1	24.1	21.7	21.1	21.5
		240	0	24.2	24.3	23.9	20.7	20.0	20.3	23.3	23.1	23.1	20.8	20.2	20.4
	64QAM	1	0	22.4	22.7	22.3	19.4	19.6	19.6	22.3	22.0	22.0	18.8	18.9	19.3
		1	1	23.7	23.7	24.0	21.0	20.2	20.2	23.8	23.6	22.9	20.1	19.7	20.8
		120	60	23.6	23.7	23.3	20.7	20.3	20.0	23.3	23.2	23.2	19.5	20.2	20.6
		240	0	23.6	23.7	23.3	20.6	20.5	20.2	23.3	23.1	23.1	19.5	20.2	20.4
	256QAM	1	0	21.8	22.2	21.7	18.1	18.1	17.3	21.3	20.9	20.9	18.6	18.0	18.7
		1	1	21.6	22.0	21.1	18.1	17.9	17.7	21.4	20.9	20.7	17.7	18.4	18.7
		120	60	21.9	21.8	21.4	17.7	17.4	17.0	20.8	20.6	20.7	17.5	18.2	18.6
		240	0	21.6	21.8	21.4	17.7	17.5	17.2	20.8	20.6	20.7	17.7	18.2	18.5

OUTPUT POWER FOR 5G NR BAND n77 (100.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 7			ANT 4			ANT 9			ANT 8		
				650000	656000	662000	650000	656000	662000	650000	656000	662000	650000	656000	662000
				3750.0	3840.0	3930.0	3750.0	3840.0	3930.0	3750.0	3840.0	3930.0	3750.0	3840.0	3930.0
100.0	BPSK	1	0	22.7	22.9	23.0	18.6	18.8	18.6	23.2	23.0	22.7	19.5	19.2	19.3
		1	1	25.7	25.6	24.8	21.9	22.3	22.4	26.0	25.5	25.4	22.2	22.7	22.7
		135	67	25.3	25.6	25.0	21.6	22.5	21.9	25.9	25.9	25.9	22.1	22.4	22.7
		270	0	24.8	25.5	25.0	22.2	21.7	21.9	24.9	24.7	23.9	21.9	22.5	22.6
	QPSK	1	0	22.7	22.6	22.3	18.1	19.3	18.5	23.1	22.8	22.6	18.5	19.3	19.3
		1	1	25.4	25.4	25.3	22.5	22.4	21.8	25.9	25.5	25.3	22.1	22.6	22.7
		135	67	25.3	25.2	25.0	22.4	22.4	21.7	25.9	25.8	25.8	22.5	22.4	22.8
		270	0	25.0	25.2	25.0	22.5	21.1	20.7	24.8	24.7	23.8	21.2	21.8	22.2
	16QAM	1	0	21.8	22.4	21.4	19.1	18.1	18.3	21.9	21.7	22.6	18.8	19.4	19.6
		1	1	24.1	24.8	24.5	21.6	21.5	21.3	24.9	24.3	24.2	21.4	21.5	21.7
		135	67	24.5	24.7	24.4	21.4	21.5	21.5	24.4	24.2	24.3	21.5	21.5	21.9
		270	0	23.4	23.6	23.5	20.9	20.9	20.2	23.4	23.2	22.7	20.7	20.4	20.6
	64QAM	1	0	21.7	22.8	22.1	19.5	19.7	19.5	22.6	22.4	21.9	18.8	18.9	18.8
		1	1	23.5	23.6	23.0	20.7	20.2	20.5	23.6	23.3	23.2	19.4	20.5	19.8
		135	67	23.0	23.2	22.9	20.4	20.4	20.3	23.3	23.2	23.3	19.6	20.4	20.8
		270	0	22.9	23.4	23.1	20.9	20.4	20.3	23.8	23.2	23.7	19.7	20.4	20.7
	256QAM	1	0	20.8	21.4	21.2	17.8	18.2	17.7	21.3	21.1	20.9	17.8	17.7	18.1
		1	1	21.1	21.3	20.8	18.1	18.3	17.7	21.3	21.0	20.9	17.4	17.9	18.4
		135	67	21.1	21.4	20.9	18.0	17.9	17.3	20.8	20.7	20.8	17.4	18.0	18.4
		270	0	21.0	21.3	20.9	18.0	17.9	17.2	21.0	20.8	20.9	17.5	18.1	18.3

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.

RESULTS

There is no limit required and power is the same for low, middle and high channel; therefore, only middle channel was tested. Worst-case plots (highest bandwidth) are reported only.

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	1.0820	1.220
	1.4MHz, 16QAM	6/0		1.0862	1.227
	3MHz, QPSK	15/0		2.6851	2.922
	3MHz, 16QAM	15/0		2.6827	3.018
	5MHz, QPSK	25/0		4.4860	4.980
	5MHz, 16QAM	25/0		4.4948	4.928
	10MHz, QPSK	50/0		8.9507	9.711
	10MHz, 16QAM	50/0		8.9244	9.577
	15MHz, QPSK	75/0		13.4011	14.387
	15MHz, 16QAM	75/0		13.4068	14.326
	20MHz, QPSK	100/0		17.8044	19.170
	20MHz, 16QAM	100/0		17.8527	19.240

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	1.0819	1.220
	1.4MHz, 16QAM	6/0		1.0874	1.229
	3MHz, QPSK	15/0		2.6883	2.971
	3MHz, 16QAM	15/0		2.6887	2.940
	5MHz, QPSK	25/0		4.5072	4.911
	5MHz, 16QAM	25/0		4.4799	4.900
	10MHz, QPSK	50/0		8.9749	9.709
	10MHz, 16QAM	50/0		8.9431	9.608

5G NR BAND n5

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
5G NR Band n5	15MHz, BPSK	75/0	836.5	13.380	14.06
	15MHz, QPSK			13.385	14.25
	15MHz, 16QAM			13.398	13.95
	20MHz, BPSK	100/0		17.858	18.72
	20MHz, QPSK			17.822	18.63
	20MHz, 16QAM			17.817	18.49

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	4.4993	4.932
	5MHz, 16QAM	25/0		4.4884	4.886
	10MHz, QPSK	50/0		8.9384	9.727
	10MHz, 16QAM	50/0		8.9514	9.616
	15MHz, QPSK	75/0		13.3997	14.439
	15MHz, 16QAM	75/0		13.4612	14.521
	20MHz, QPSK	100/0		17.7831	18.753
	20MHz, 16QAM	100/0		17.8067	19.077

LTE BAND 12

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 12	1.4MHz, QPSK	6/0	707.5	1.0823	1.215
	1.4MHz, 16QAM	6/0		1.0879	1.229
	3MHz, QPSK	15/0		2.6849	2.952
	3MHz, 16QAM	15/0		2.6832	2.968
	5MHz, QPSK	25/0		4.4922	4.946
	5MHz, 16QAM	25/0		4.4920	4.958
	10MHz, QPSK	50/0		8.9373	9.727
	10MHz, 16QAM	50/0		8.9379	9.760

5G NR BAND n12

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
5G NR Band n12	15MHz, BPSK	75/0	707.5	13.392	14.02
	15MHz, QPSK			13.381	14.40
	15MHz, 16QAM			13.385	14.15
	15MHz, QPSK	1/0		0.320	0.474

LTE BAND 13

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 13	5MHz, QPSK	25/0	782.0	4.5185	4.872
	5MHz, 16QAM	25/0		4.4919	4.895
	10MHz, QPSK	50/0		8.9427	9.639
	10MHz, 16QAM	50/0		8.9280	9.635

LTE BAND 14

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 14	5MHz, QPSK	25/0	793.0	4.4700	4.871
	5MHz, 16QAM	25/0		4.4871	4.902
	10MHz, QPSK	50/0		8.9293	9.626
	10MHz, 16QAM	50/0		8.9358	9.745

LTE BAND 17

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 17	5MHz, QPSK	25/0	710.0	4.491	4.920
	5MHz, 16QAM	25/0		4.498	4.898
	10MHz, QPSK	50/0		8.936	9.608
	10MHz, 16QAM	50/0		8.925	9.656

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	1.081	1.215
	1.4MHz, 16QAM	6/0		1.083	1.225
	3MHz, QPSK	15/0		2.685	2.969
	3MHz, 16QAM	15/0		2.677	2.997
	5MHz, QPSK	25/0		4.490	4.872
	5MHz, 16QAM	25/0		4.488	4.869
	10MHz, QPSK	50/0		8.925	9.667
	10MHz, 16QAM	50/0		8.928	9.764
	15MHz, QPSK	75/0		13.362	14.412
	15MHz, 16QAM	75/0		13.434	14.454
	20MHz, QPSK	100/0		17.826	19.123
	20MHz, 16QAM	100/0		17.827	19.295

LTE BAND 26(FCC PART 90S)

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 26	1.4MHz, QPSK	6/0	819.0	1.0862	1.209
	1.4MHz, 16QAM	6/0		1.0878	1.226
	3MHz, QPSK	15/0		2.6840	2.974
	3MHz, 16QAM	15/0		2.6754	2.957
	5MHz, QPSK	25/0		4.5129	4.916
	5MHz, 16QAM	25/0		4.4870	4.900
	10MHz, QPSK	50/0		8.9233	9.664
	10MHz, 16QAM	50/0		8.9369	9.639

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	4.516	4.922
	5MHz, 16QAM	25/0		4.4934	4.916
	10MHz, QPSK	50/0		8.931	9.622
	10MHz, 16QAM	50/0		8.9427	9.509

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	4.5117	4.818
	5MHz, 16QAM	25/0		4.4857	4.926
	10MHz, QPSK	50/0		8.9445	9.531
	10MHz, 16QAM	50/0		8.9517	9.709
	15MHz, QPSK	75/0		13.4692	14.115
	15MHz, 16QAM	75/0		13.4280	14.439
	20MHz, QPSK	100/0		17.7867	18.882
	20MHz, 16QAM	100/0		17.8603	19.060

5G NR BAND n41

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
5G NR Band n41	20MHz, BPSK	50/0	2593.0	17.923	19.15
	20MHz, QPSK			17.916	19.32
	20MHz, 16QAM			17.895	19.33
	40MHz, BPSK	100/0		35.606	37.24
	40MHz, QPSK			35.582	37.64
	40MHz, 16QAM			35.566	37.33
	50MHz, BPSK	128/0		45.577	47.45
	50MHz, QPSK			45.527	47.55
	50MHz, 16QAM			45.687	47.68
	60MHz, BPSK	162/0		57.740	60.02
	60MHz, QPSK			57.595	60.07
	60MHz, 16QAM			57.728	60.17
	80MHz, BPSK	216/0		76.762	79.59
	80MHz, QPSK			76.822	79.75
	80MHz, 16QAM			76.997	79.75
	90MHz, BPSK	240/0		85.249	88.51
	90MHz, QPSK			85.339	88.46
	90MHz, 16QAM			85.407	88.93
	100MHz, BPSK	270/0		96.223	99.47
	100MHz, QPSK			96.157	99.72
	100MHz, 16QAM			95.894	99.65
		100MHz, QPSK		1/0	0.487

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	4.4781	4.834
	5MHz, 16QAM			4.4816	4.890
	10MHz, QPSK	50/0		8.9210	9.598
	10MHz, 16QAM			8.9359	9.709
	15MHz, QPSK	75/0		13.4147	14.062
	15MHz, 16QAM			13.3886	14.422
	20MHz, QPSK	100/0		17.871	18.260
	20MHz, 16QAM			17.8736	19.139
	20MHz, QPSK	1/0		0.3206	0.5278

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	1.0823	1.214
	1.4MHz, 16QAM	6/0		1.0867	1.231
	3MHz, QPSK	15/0		2.6783	2.988
	3MHz, 16QAM	15/0		2.6903	2.982
	5MHz, QPSK	25/0		4.4982	5.021
	5MHz, 16QAM	25/0		4.5083	4.938
	10MHz, QPSK	50/0		8.9426	9.619
	10MHz, 16QAM	50/0		8.9481	9.550
	15MHz, QPSK	75/0		13.3918	14.458
	15MHz, 16QAM	75/0		13.4000	14.315
	20MHz, QPSK	100/0		17.8413	19.151
	20MHz, 16QAM	100/0		17.9063	19.216

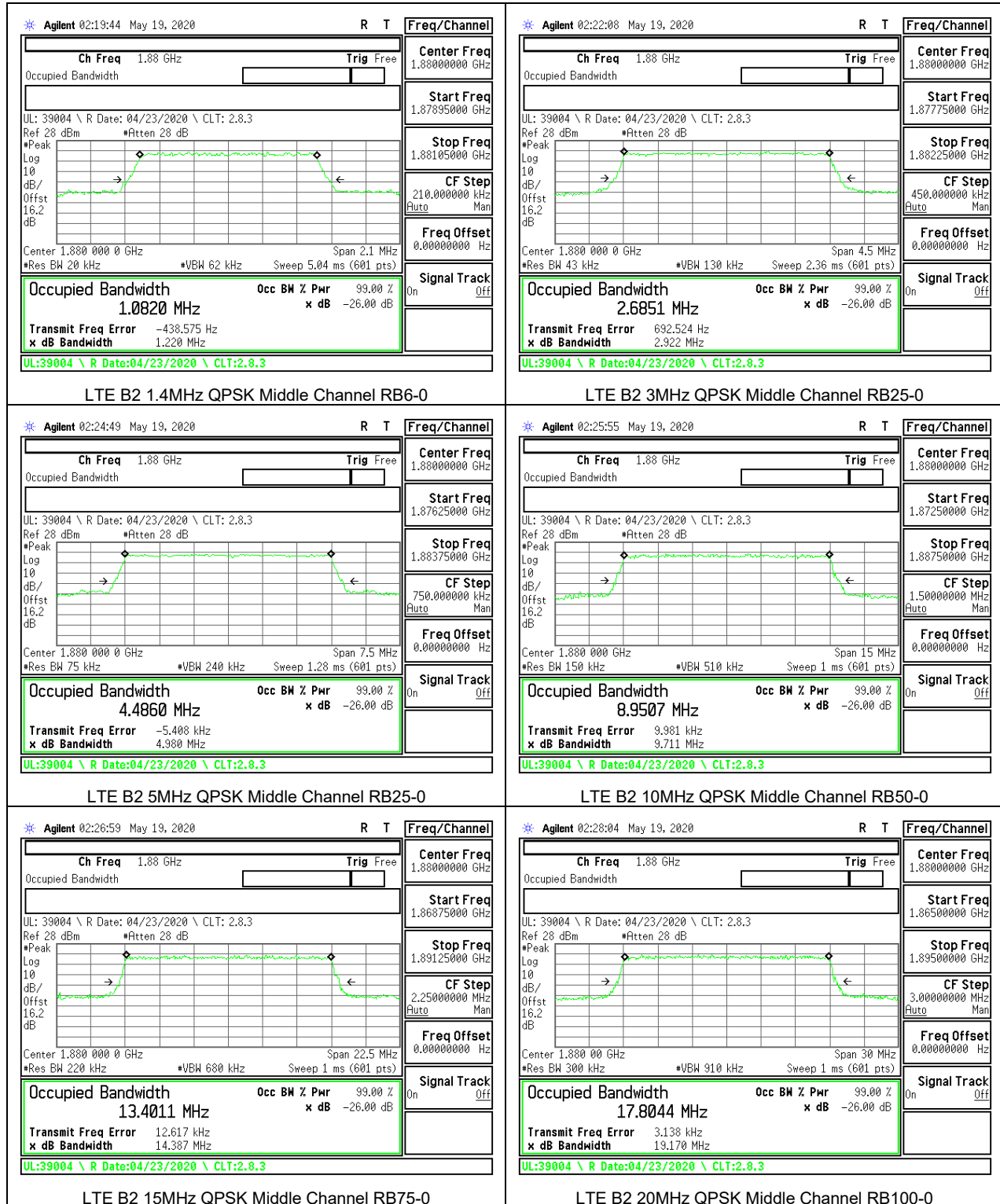
LTE BAND 71

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 71	5MHz, QPSK	25/0	680.5 (5MHz & 15MHz)	4.484	4.869
	5MHz, 16QAM	25/0		4.493	4.885
	10MHz, QPSK	50/0		8.941	9.748
	10MHz, 16QAM	50/0		8.942	9.708
	15MHz, QPSK	75/0	683 (10MHz & 20MHz)	13.411	14.425
	15MHz, 16QAM	75/0		13.431	14.572
	20MHz, QPSK	100/0		17.863	19.151
	20MHz, 16QAM	100/0		17.825	19.109

5G NR BAND n77

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
5G NR Band n77	20MHz, BPSK	50/0	3840.0	17.848	19.25
	20MHz, QPSK			17.842	19.06
	20MHz, 16QAM			17.865	19.22
	40MHz, BPSK	100/0		35.744	37.59
	40MHz, QPSK			35.636	37.52
	40MHz, 16QAM			35.664	37.51
	50MHz, BPSK	128/0		45.768	47.70
	50MHz, QPSK			45.586	47.64
	50MHz, 16QAM			45.676	47.82
	60MHz, BPSK	162/0		57.720	60.17
	60MHz, QPSK			57.833	59.90
	60MHz, 16QAM			57.728	60.11
	80MHz, BPSK	216/0		77.031	80.00
	80MHz, QPSK			76.927	80.04
	80MHz, 16QAM			77.046	79.72
	90MHz, BPSK	240/0		85.444	88.72
	90MHz, QPSK			85.574	88.72
	90MHz, 16QAM			85.447	88.91
	100MHz, BPSK	270/0		96.477	99.61
	100MHz, QPSK			96.406	99.65
	100MHz, 16QAM			96.378	99.58
		100MHz, QPSK		1/0	

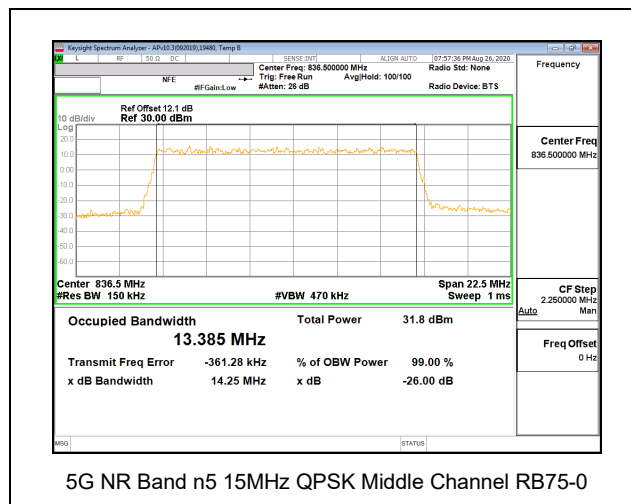
8.1.1. LTE BAND 2



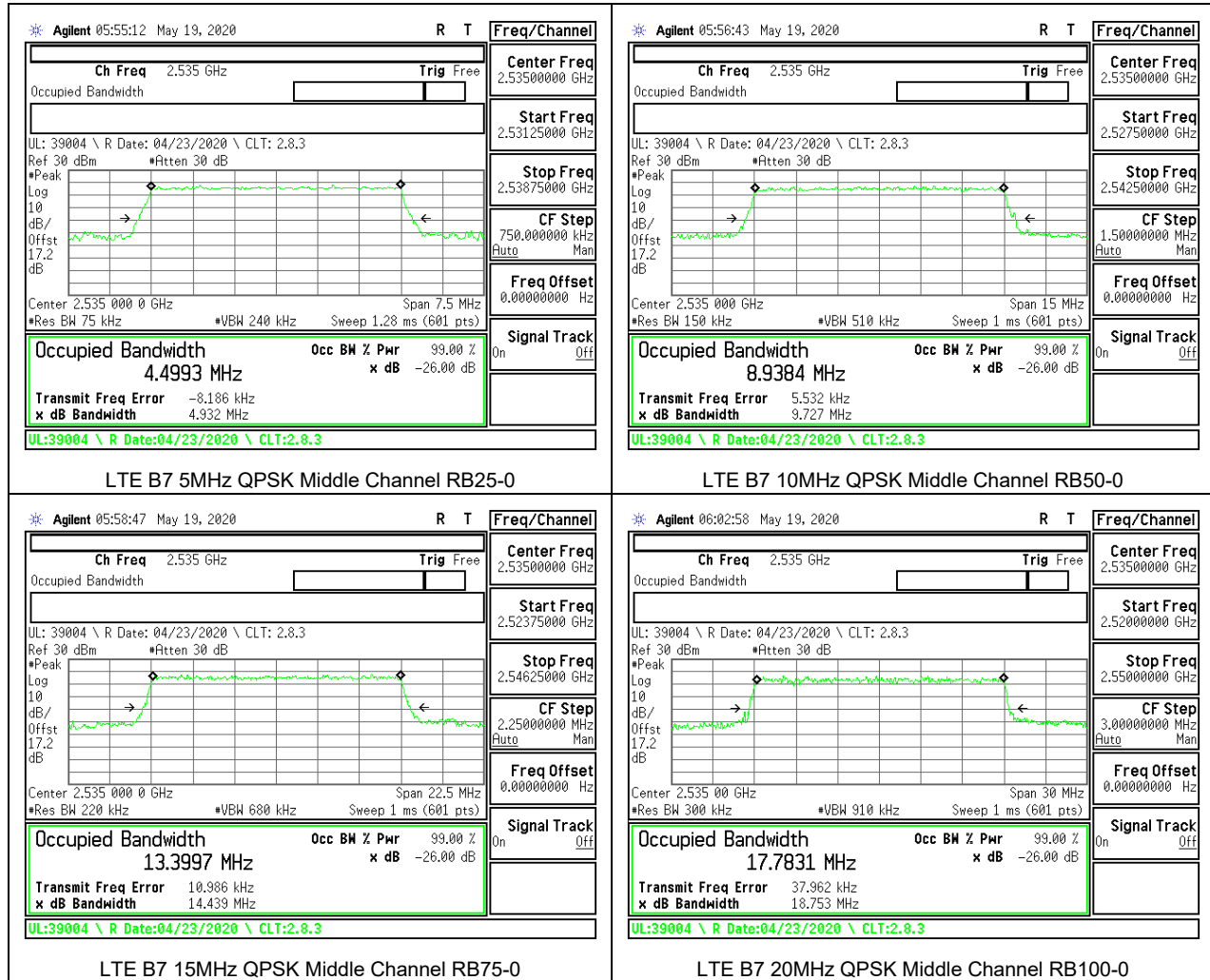
8.1.2. LTE BAND 5



8.1.3. 5G NR BAND n5



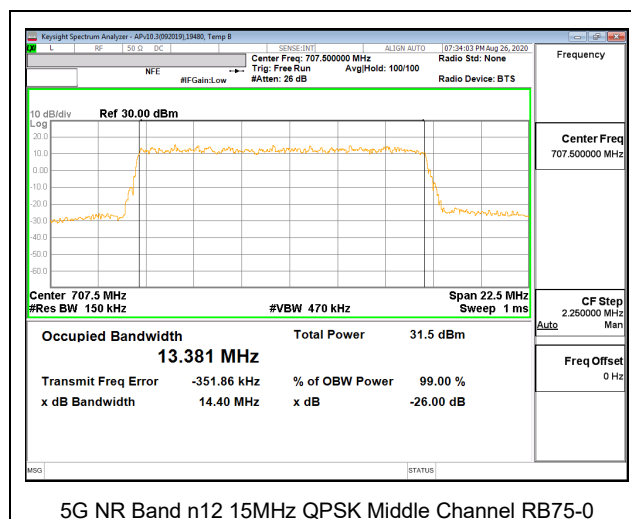
8.1.4. LTE BAND 7



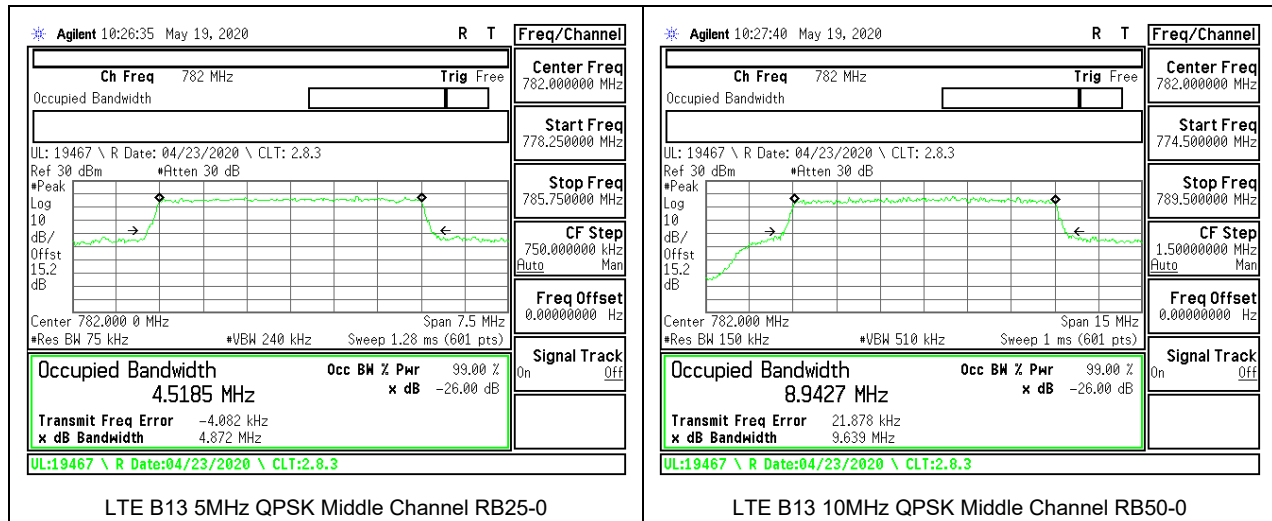
8.1.5. LTE BAND 12



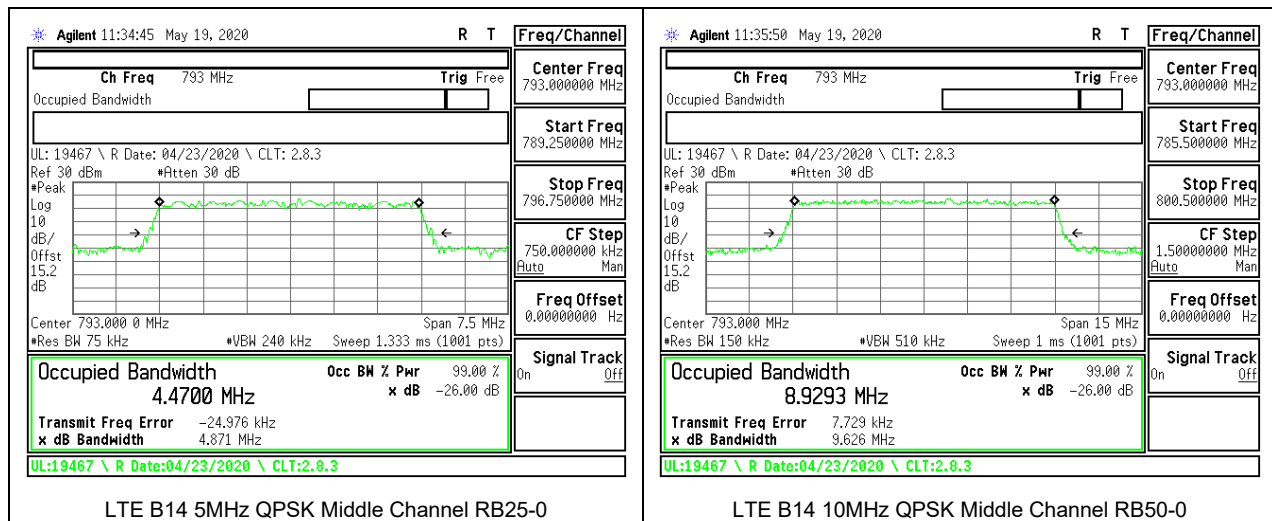
8.1.6. 5G NR BAND n12



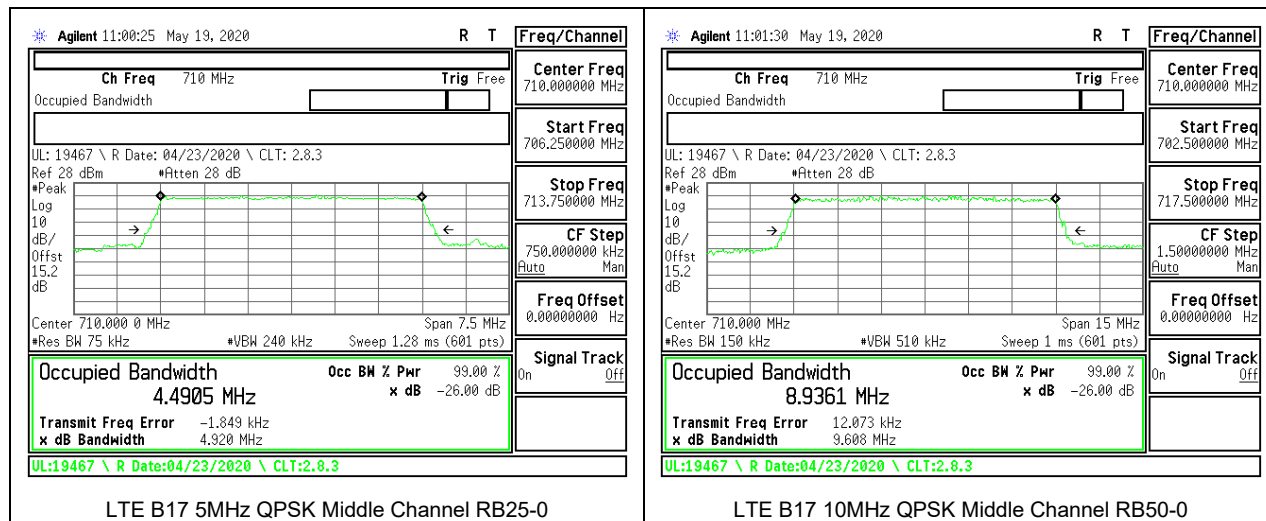
8.1.7. LTE BAND 13



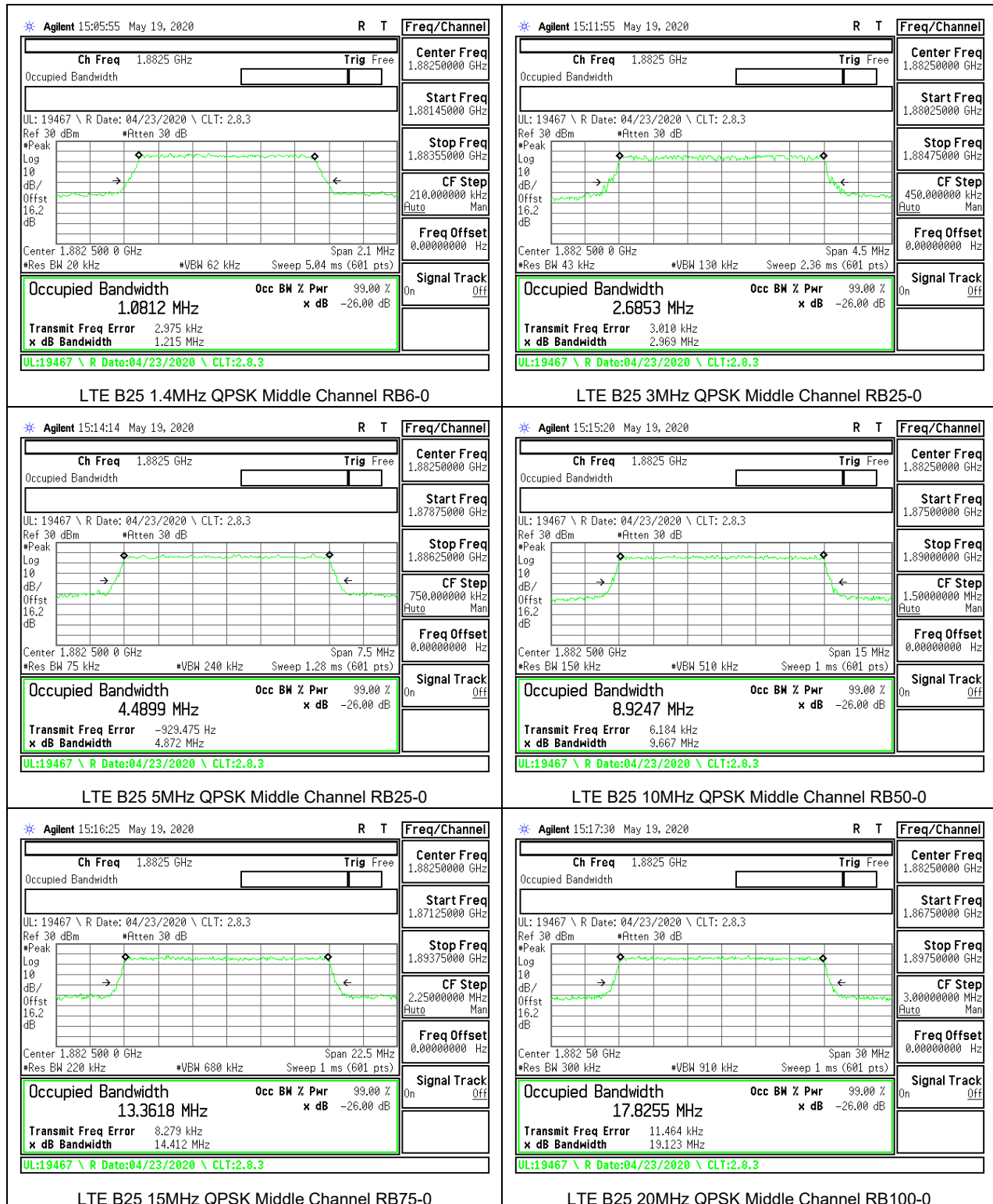
8.1.8. LTE BAND 14



8.1.9. LTE BAND 17



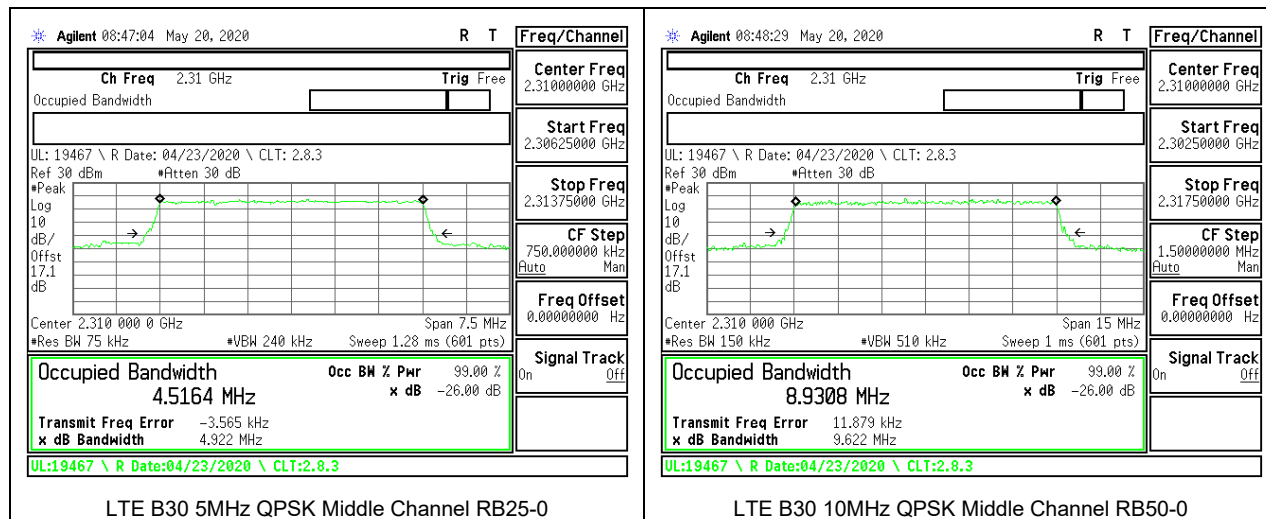
8.1.10. LTE BAND 25



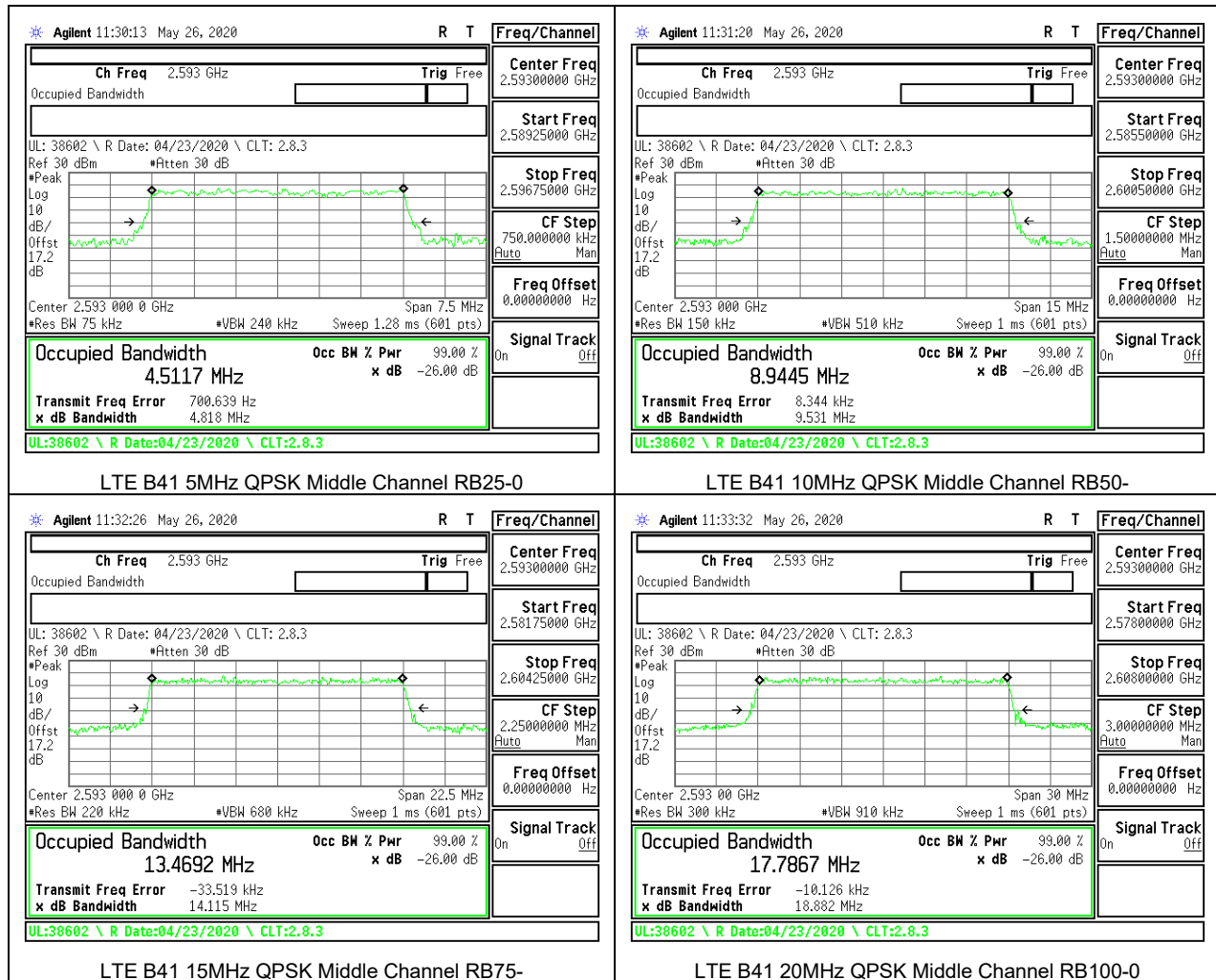
8.1.11. LTE BAND 26 (FCC PART 90S)



8.1.12. LTE BAND 30

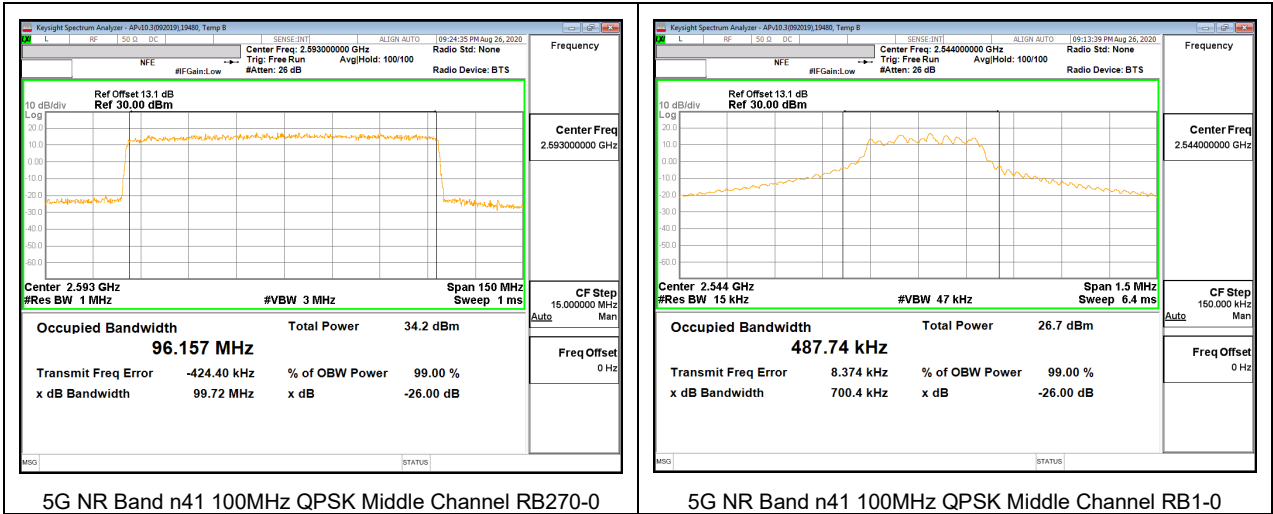


8.1.13. LTE BAND 41

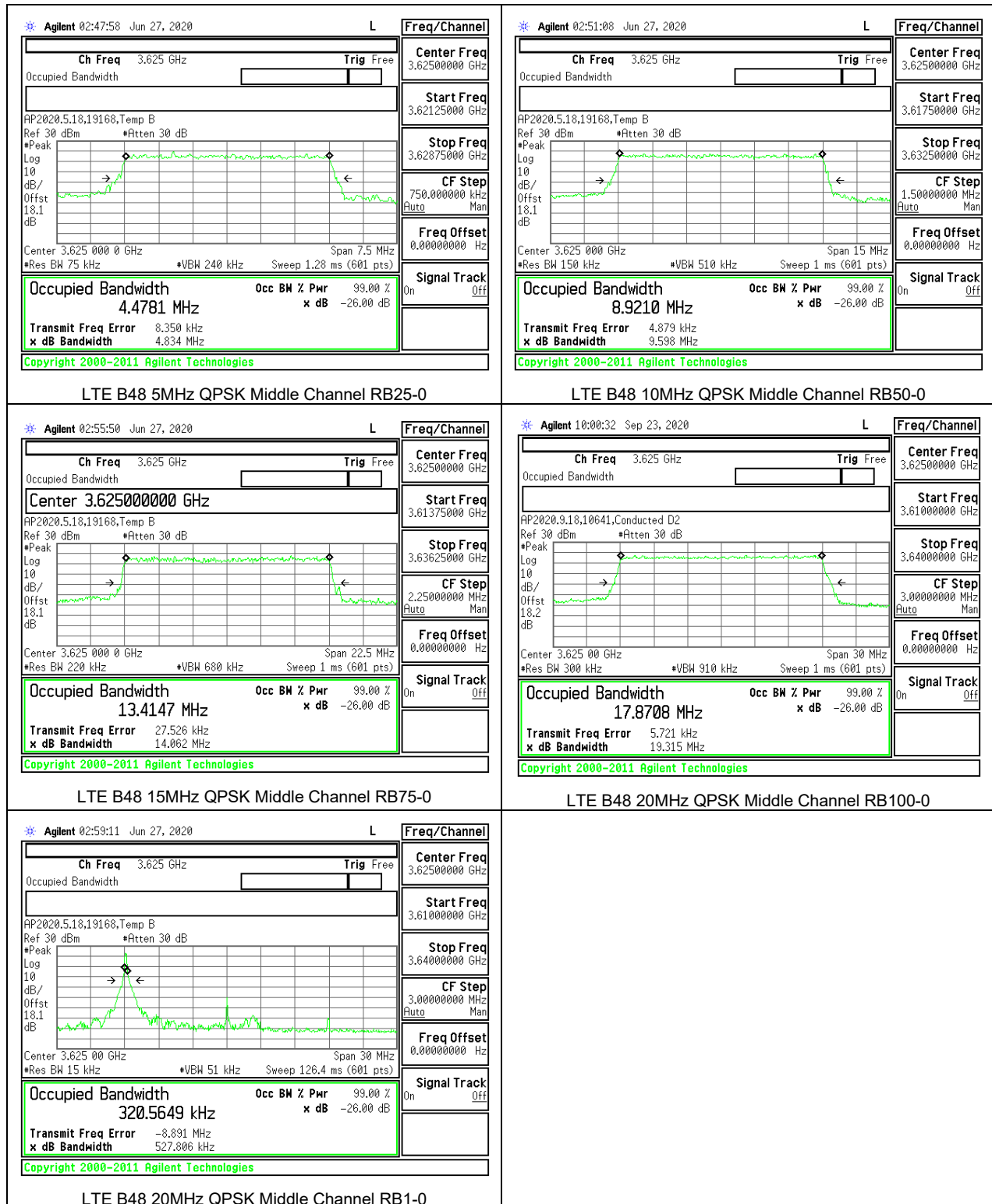


8.1.14. 5G NR BAND n41

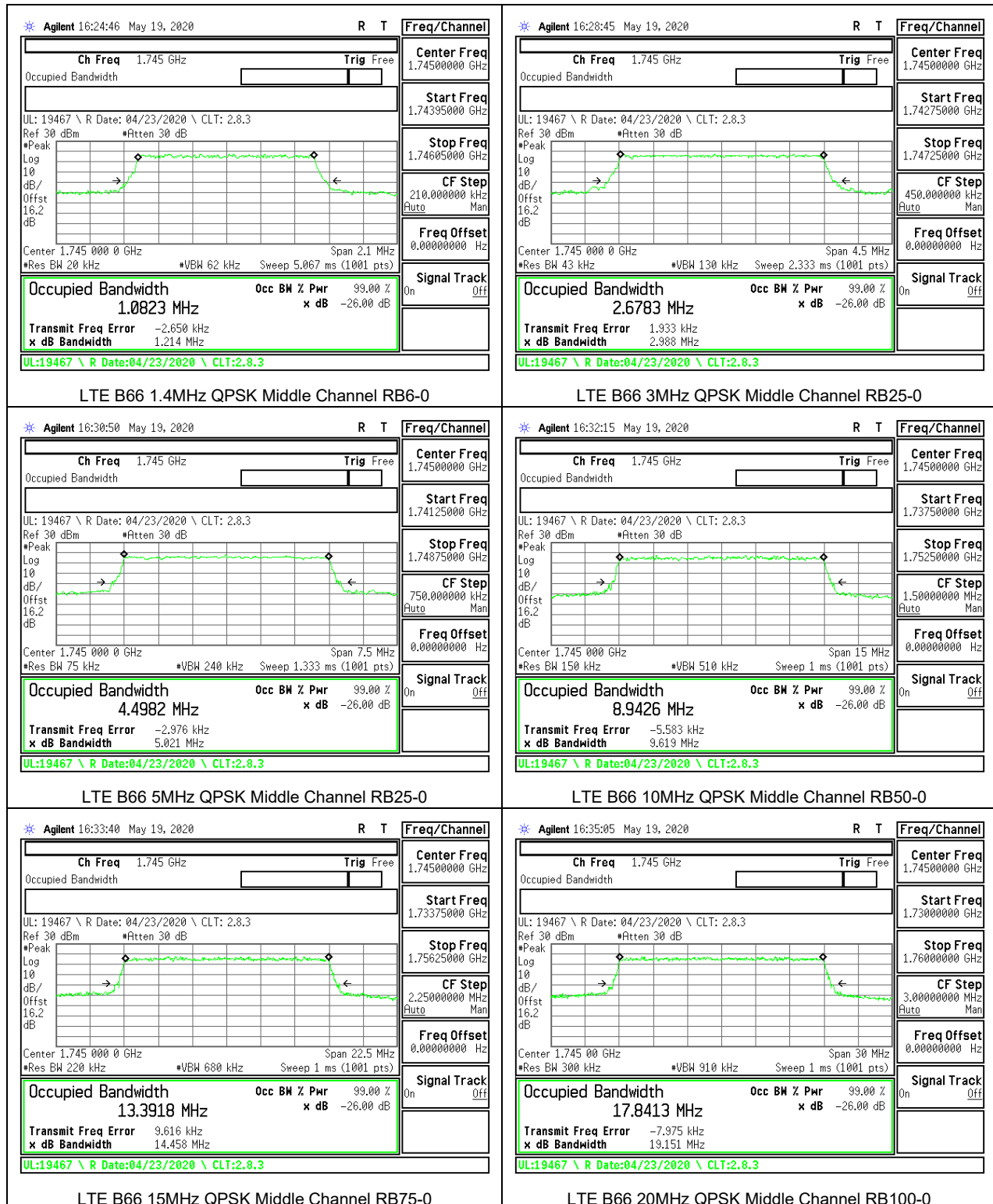




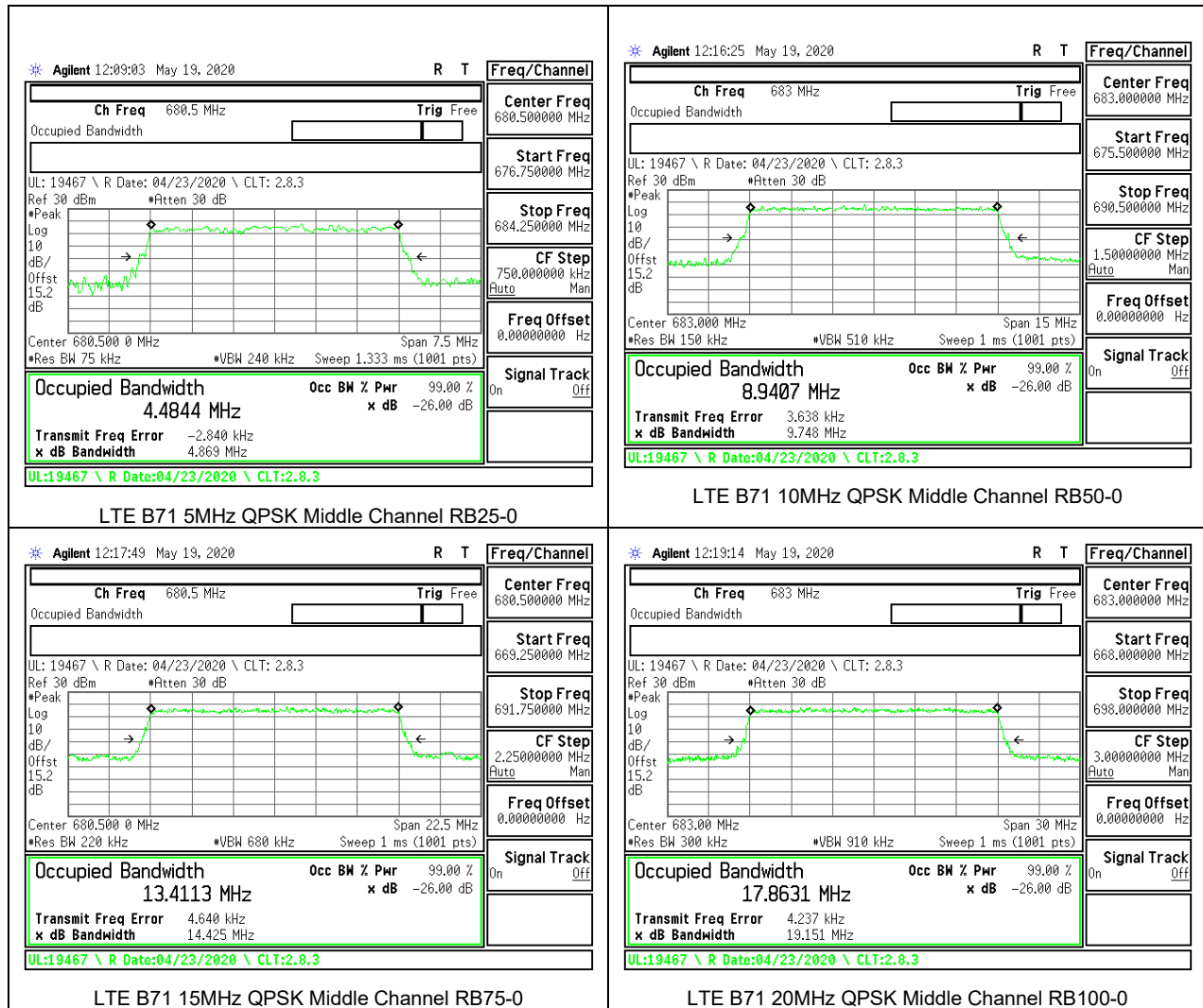
8.1.15. LTE BAND 48



8.1.16. LTE BAND 66

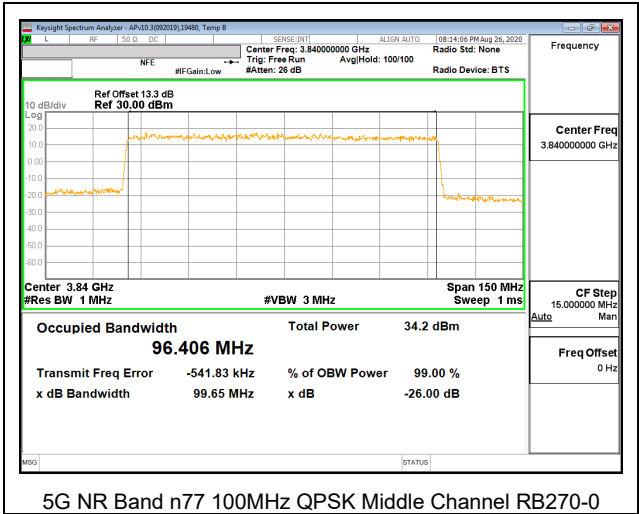


8.1.17. LTE BAND 71



8.1.18. 5G NR BAND n77





8.2. BAND EDGE AND EMISSION MASK

TEST PROCEDURE

The transmitter output was connected to a CMW500 Test 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 14)

(b) ACP measurement procedure. The following are the procedures for making the transmitter ACP measurements. For all measurements modulate the transmitter as it would be modulated in normal operating conditions. For time division multiple access (TDMA) systems, the measurements are to be made under TDMA operation only during time slots when the transmitter is active. All measurements are made at the transmitter's output port. If a transmitter has an integral antenna, a suitable power coupling device shall be used to couple the RF signal to the measurement instrument. The coupling device shall substantially maintain the proper transmitter load impedance. The ACP measurements may be made with a spectrum analyzer capable of making direct ACP measurements. "Measurement bandwidth", as used for non-swept measurements, implies an instrument that measures the power in many narrow bandwidths equal to the nominal resolution bandwidth and integrates these powers to determine the total power in the specified measurement bandwidth.

(1) Setting reference level. Set transmitter to maximum output power. Using a spectrum analyzer capable of ACP measurements, set the measurement bandwidth to the channel size. For example, for a 6.25 kHz transmitter set the measurement bandwidth to 6.25 kHz. Set the frequency offset of the measurement bandwidth to zero and adjust the center frequency of the instrument to the assigned center frequency to measure the average power level of the transmitter. Record this power level in dBm as the "reference power level."

(2) Non-swept power measurement. Using a spectrum analyzer capable of ACP measurements, set the measurement bandwidth and frequency offset from the assigned center frequency as shown in the tables in §90.543 (a) above. Any value of resolution bandwidth may be used as long as it does not exceed 2 percent of the specified measurement bandwidth. Measure the power level in dBm. These measurements should be made at maximum power. Calculate ACP by subtracting the reference power level measured in (b)(1) from the measurements made in this step. The absolute value of the calculated ACP must be greater than or equal to the absolute value of the ACP given in the table for each condition above.

(3) Swept power measurement. Set a spectrum analyzer to 30 kHz resolution bandwidth, 1 MHz video bandwidth and average, sample, or RMS detection. Set the reference level of the spectrum analyzer to the RMS value of the transmitter power. Sweep above and below the carrier frequency to the limits defined in the tables. Calculate ACP by subtracting the reference power level measured in (b)(1) from the measurements made in this step. The absolute value of the calculated ACP must be greater than or equal to the absolute value of the ACP given in the table for each condition above.

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, BAND 40)

(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.

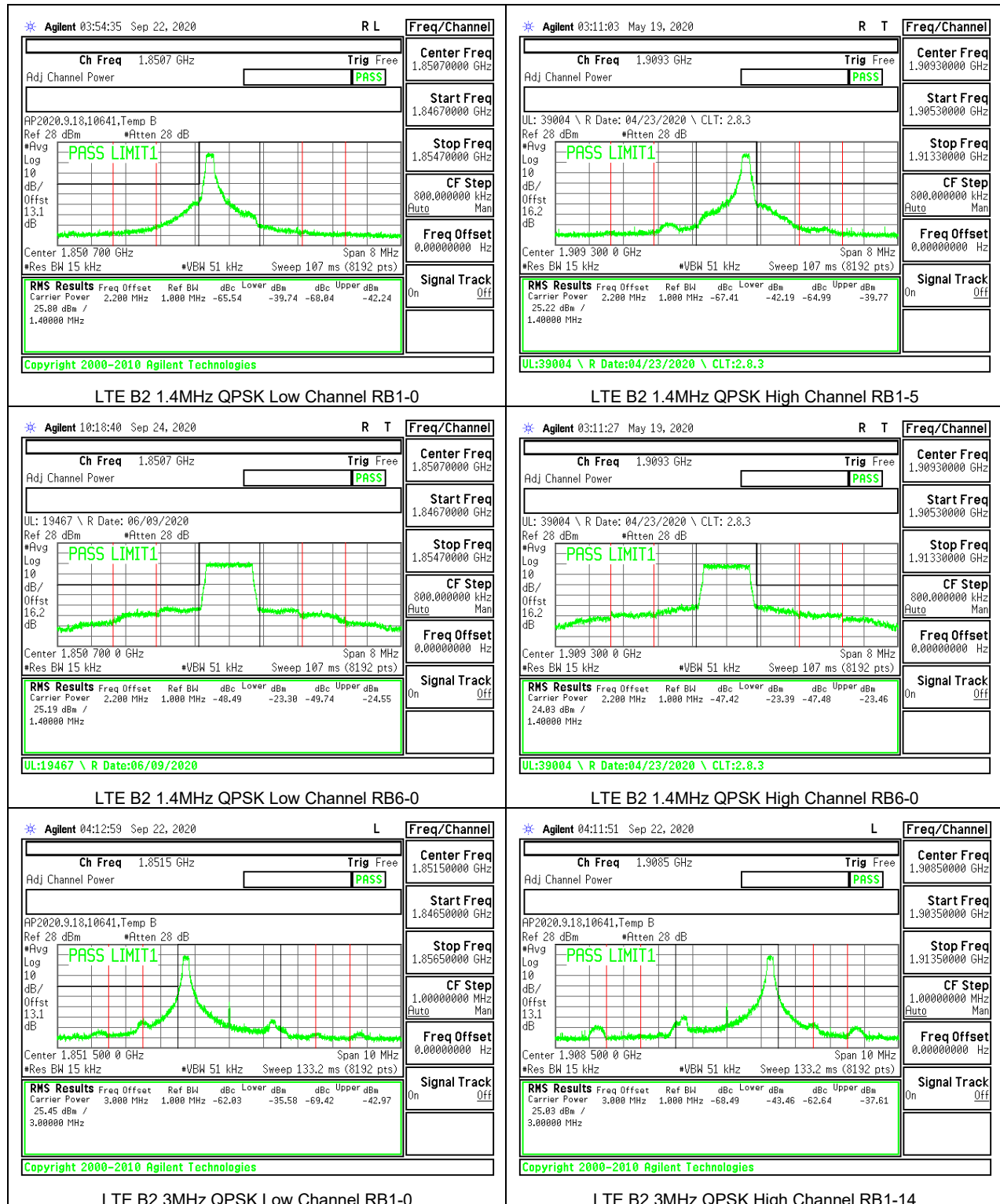
RESULTS

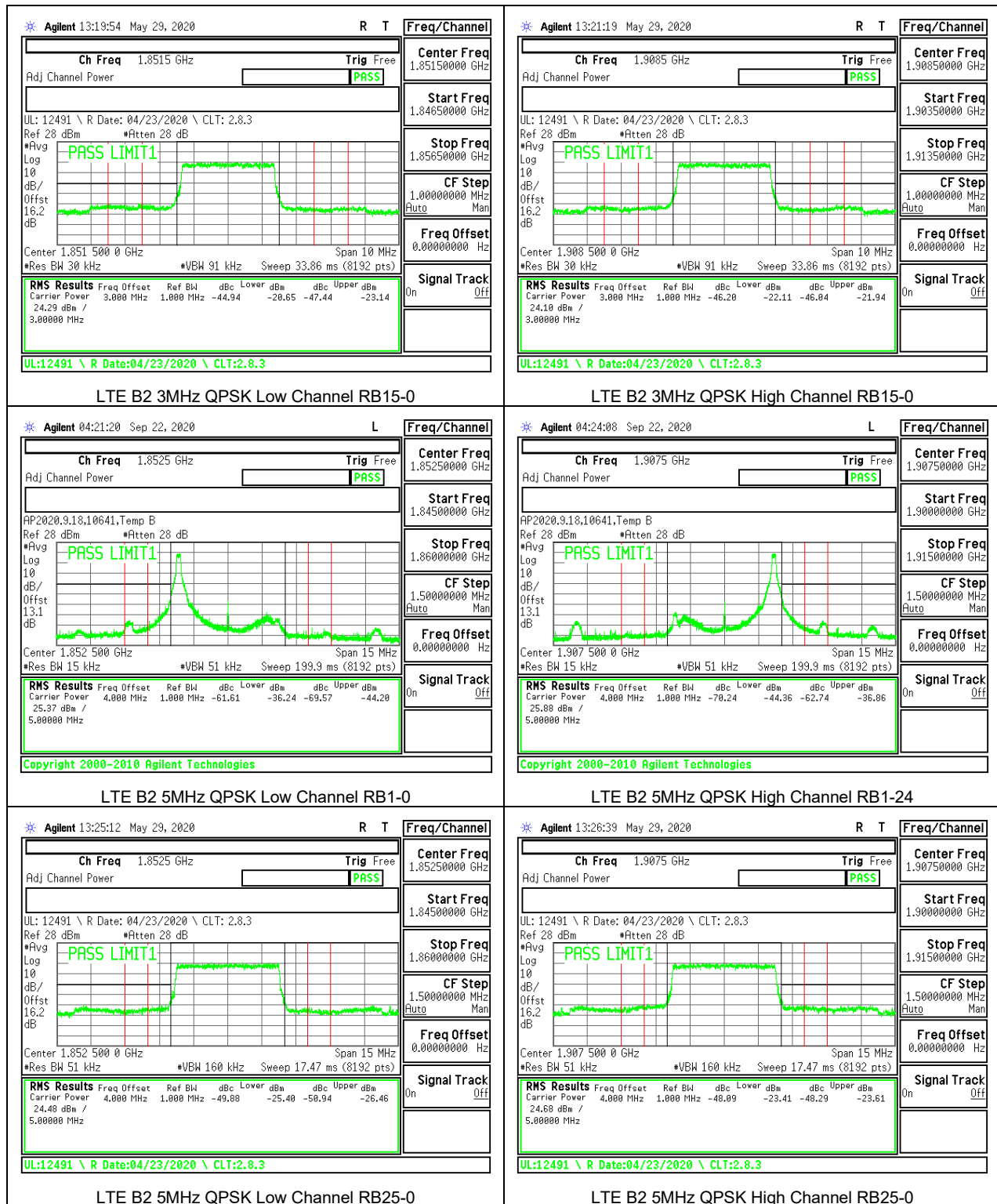
8.2.1. LTE BAND 2 BANDEDGE

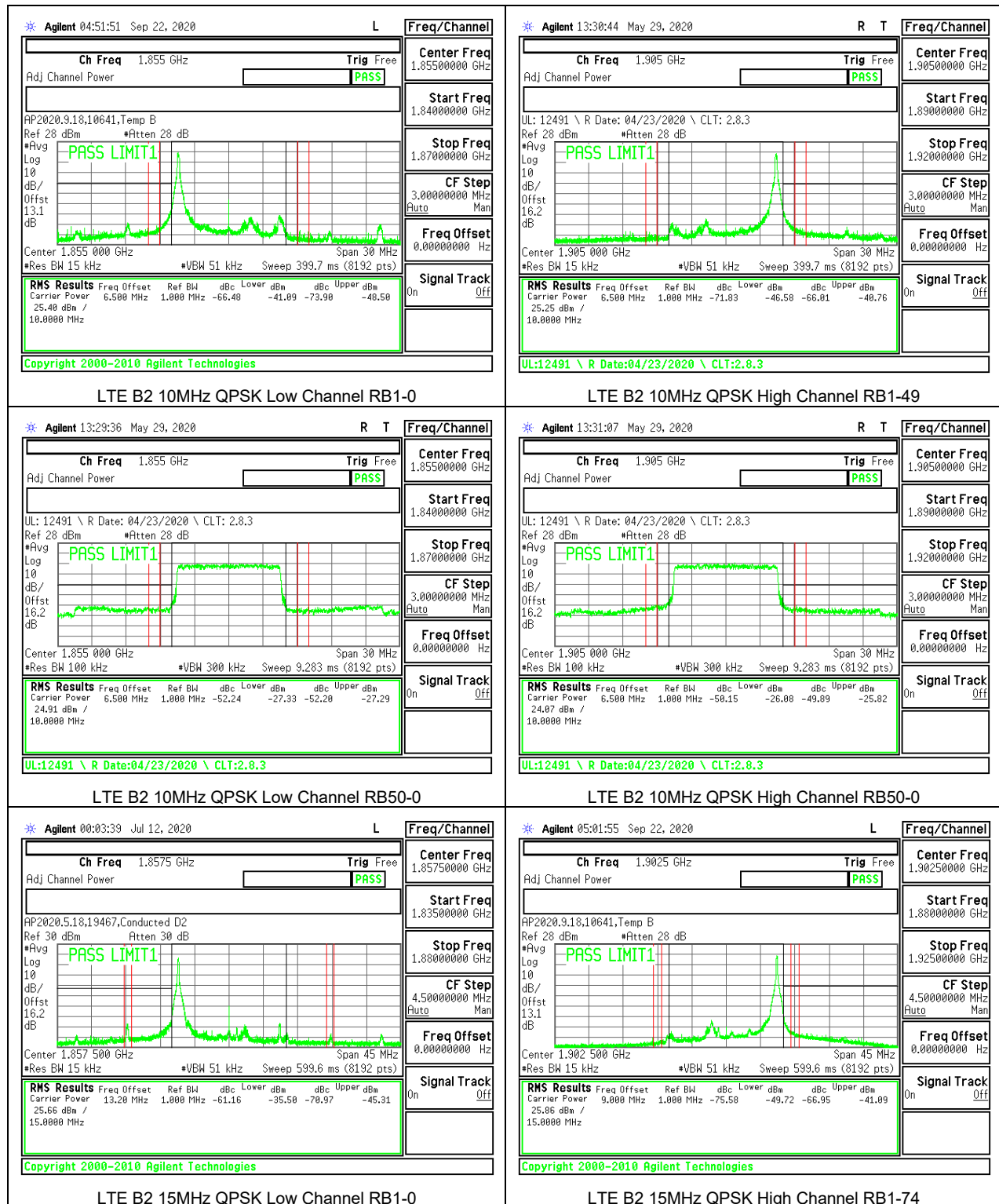
LIMITS

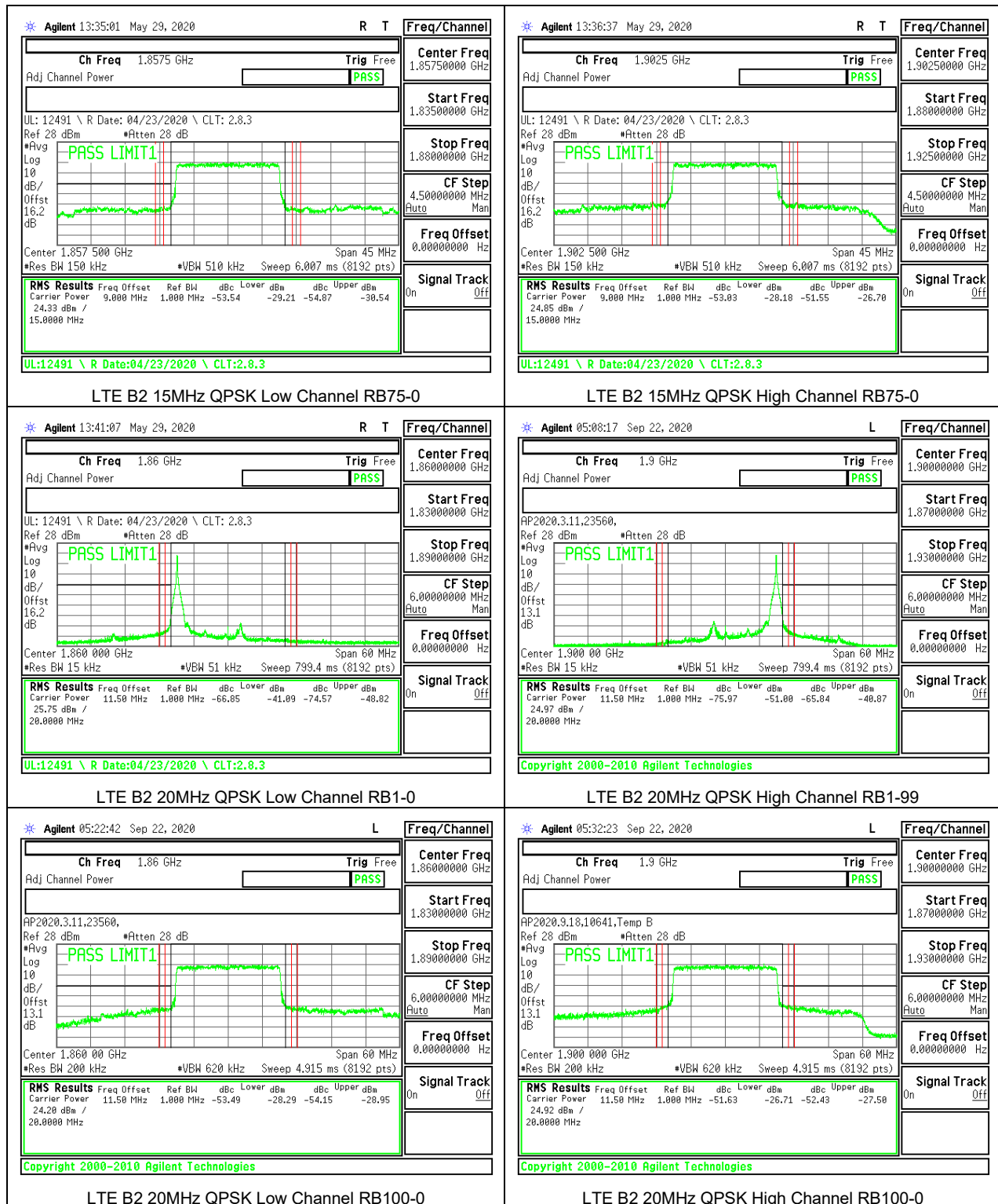
FCC: §24.238

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.









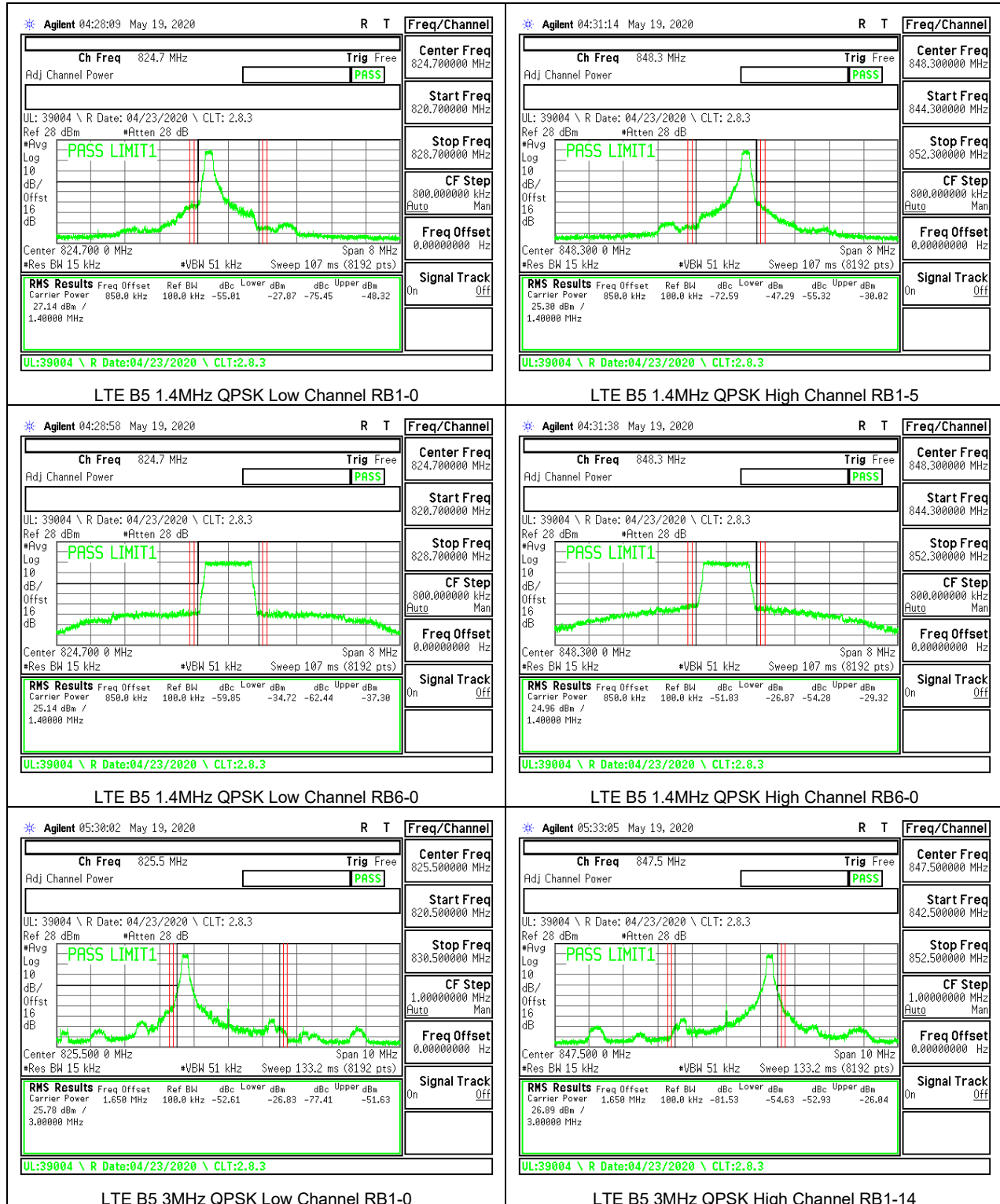
8.2.2. LTE BAND 5 AND 5G NR BAND n5 BANDEDGE

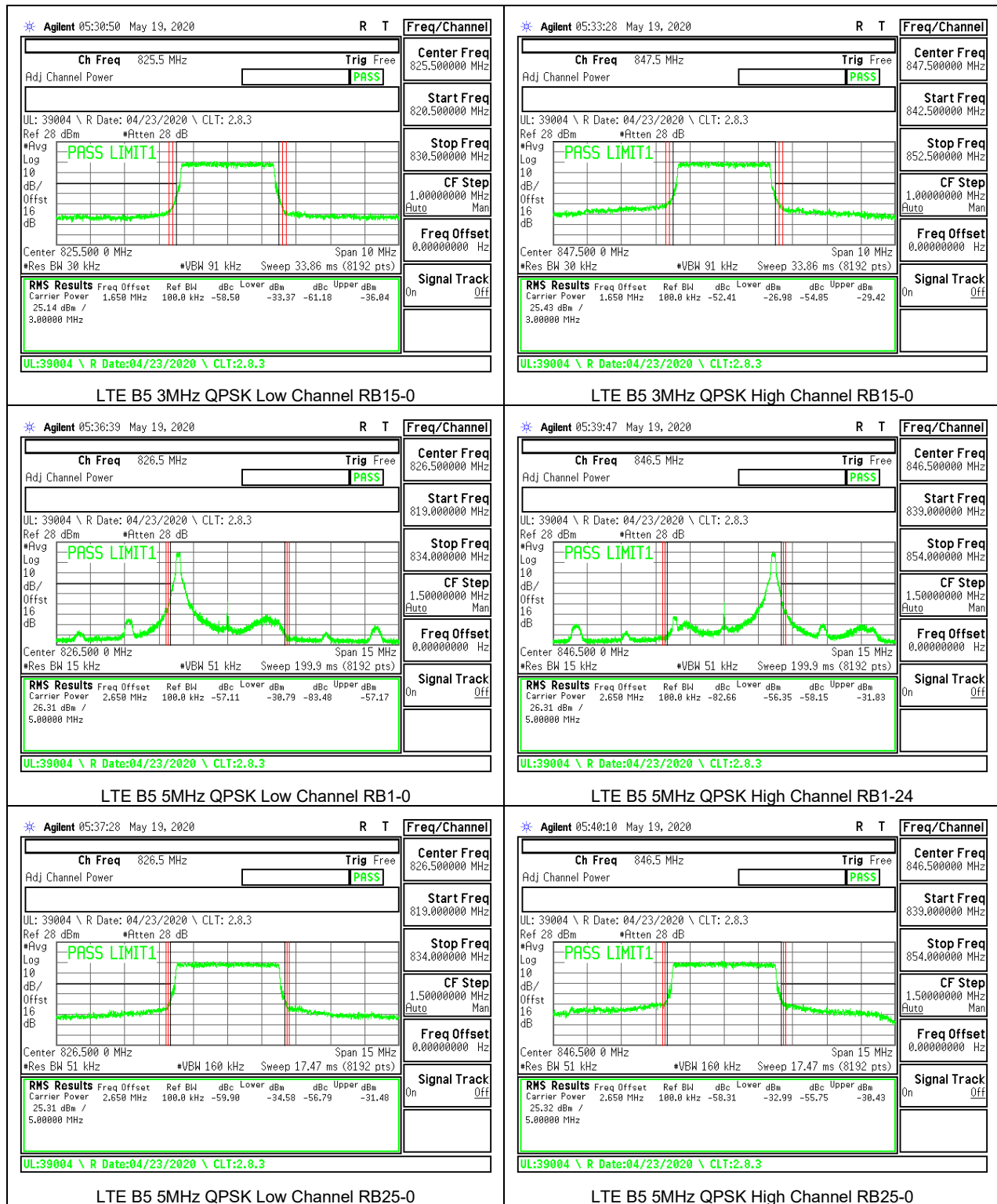
LIMITS

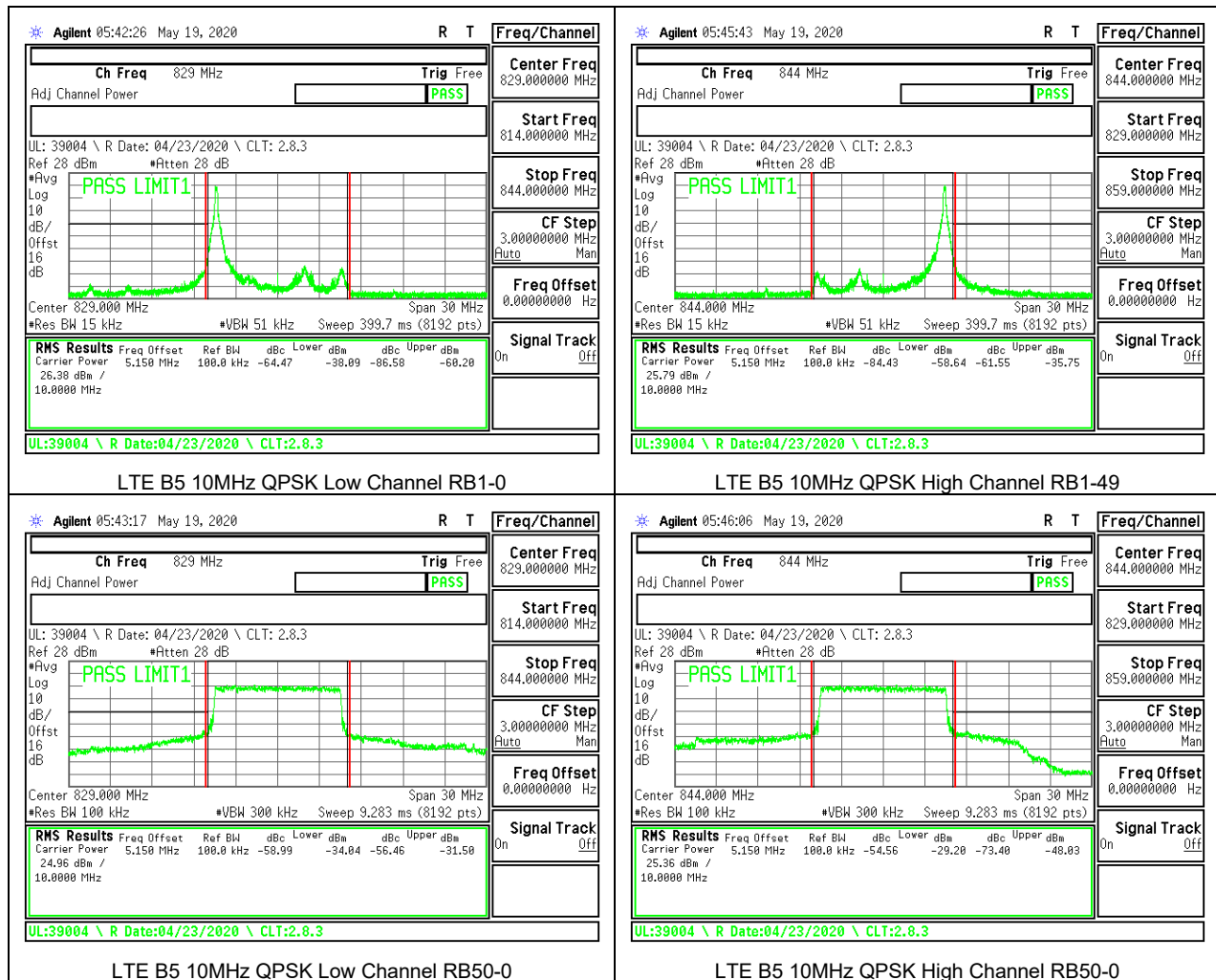
FCC: §22.917

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.

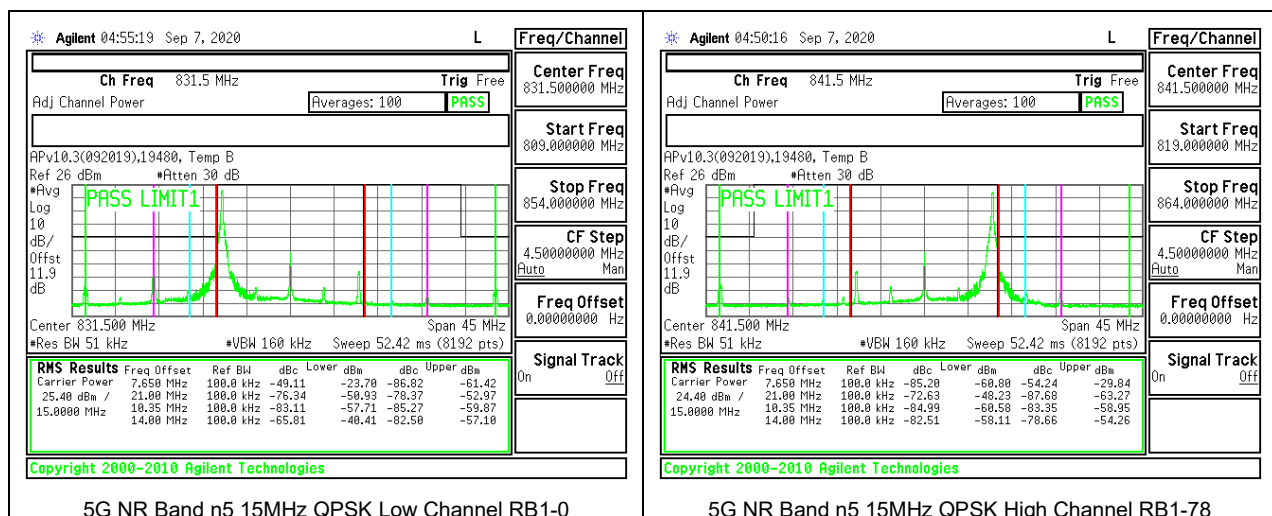
LTE BAND 5 BANDEDGE

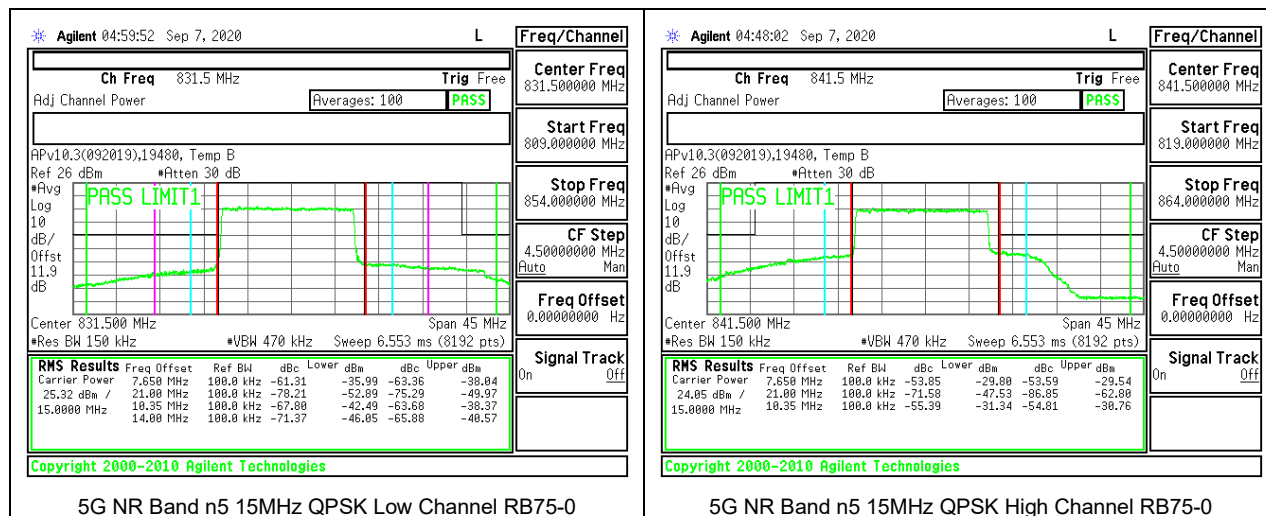


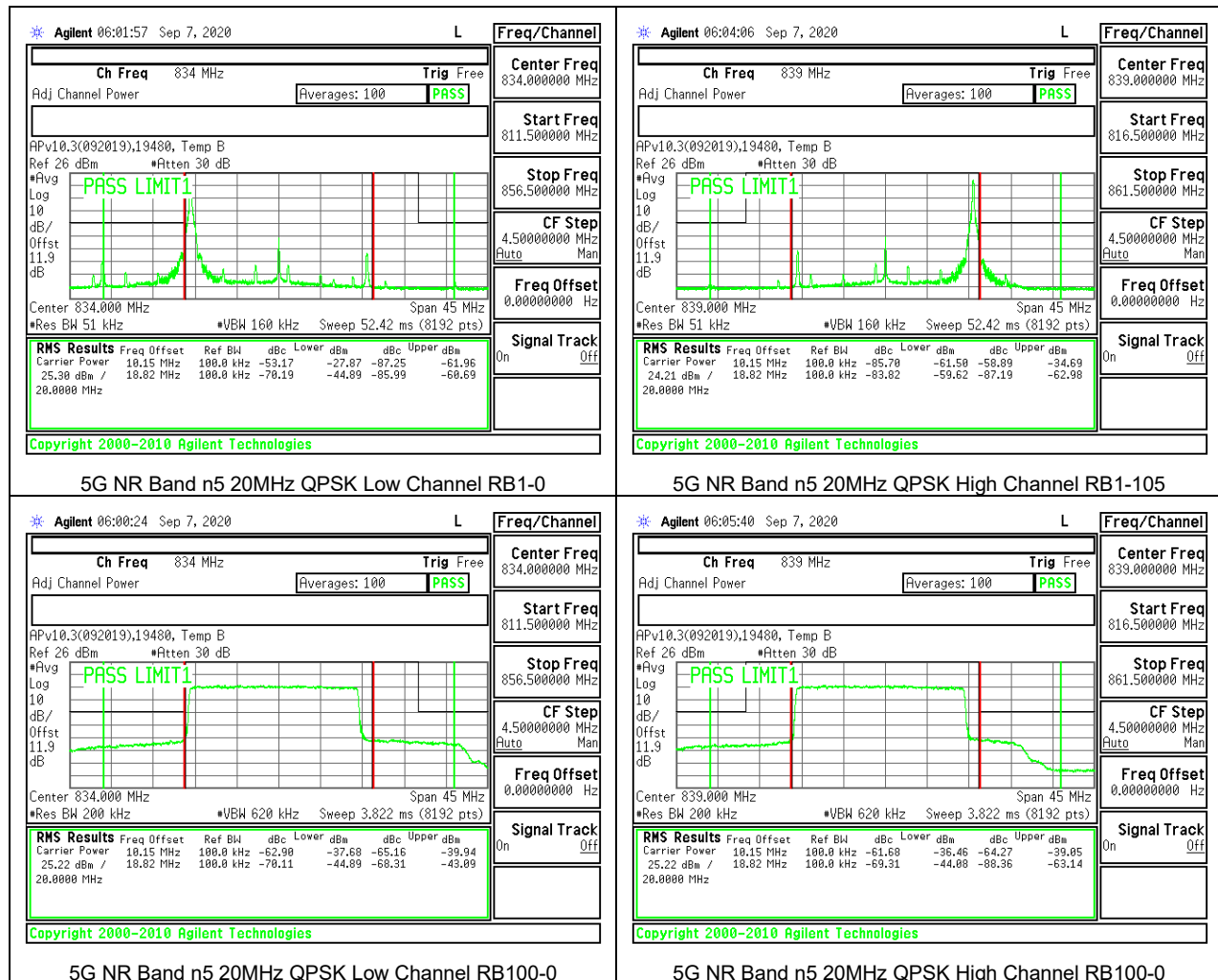




5G NR BAND n5 BANDEDGE





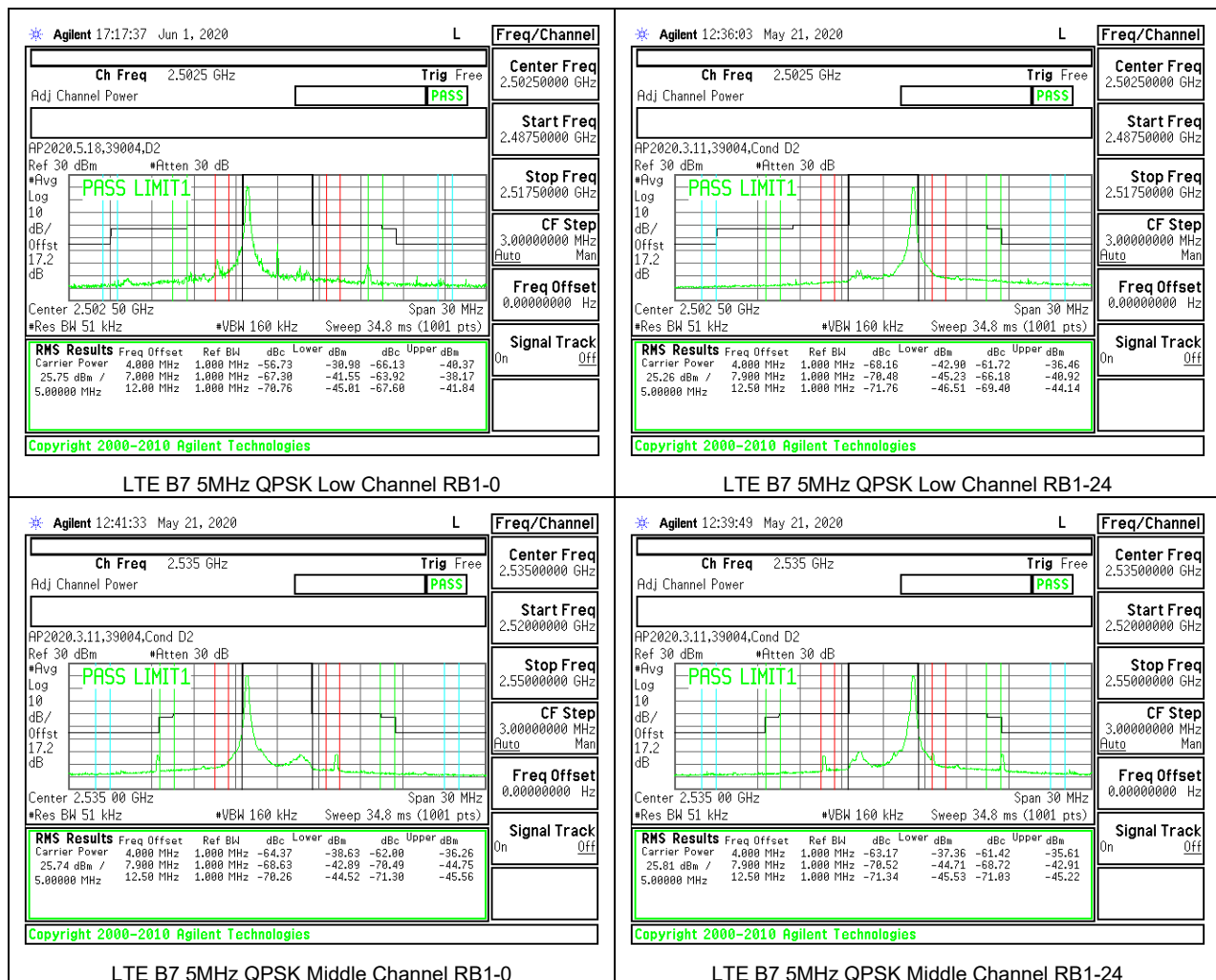


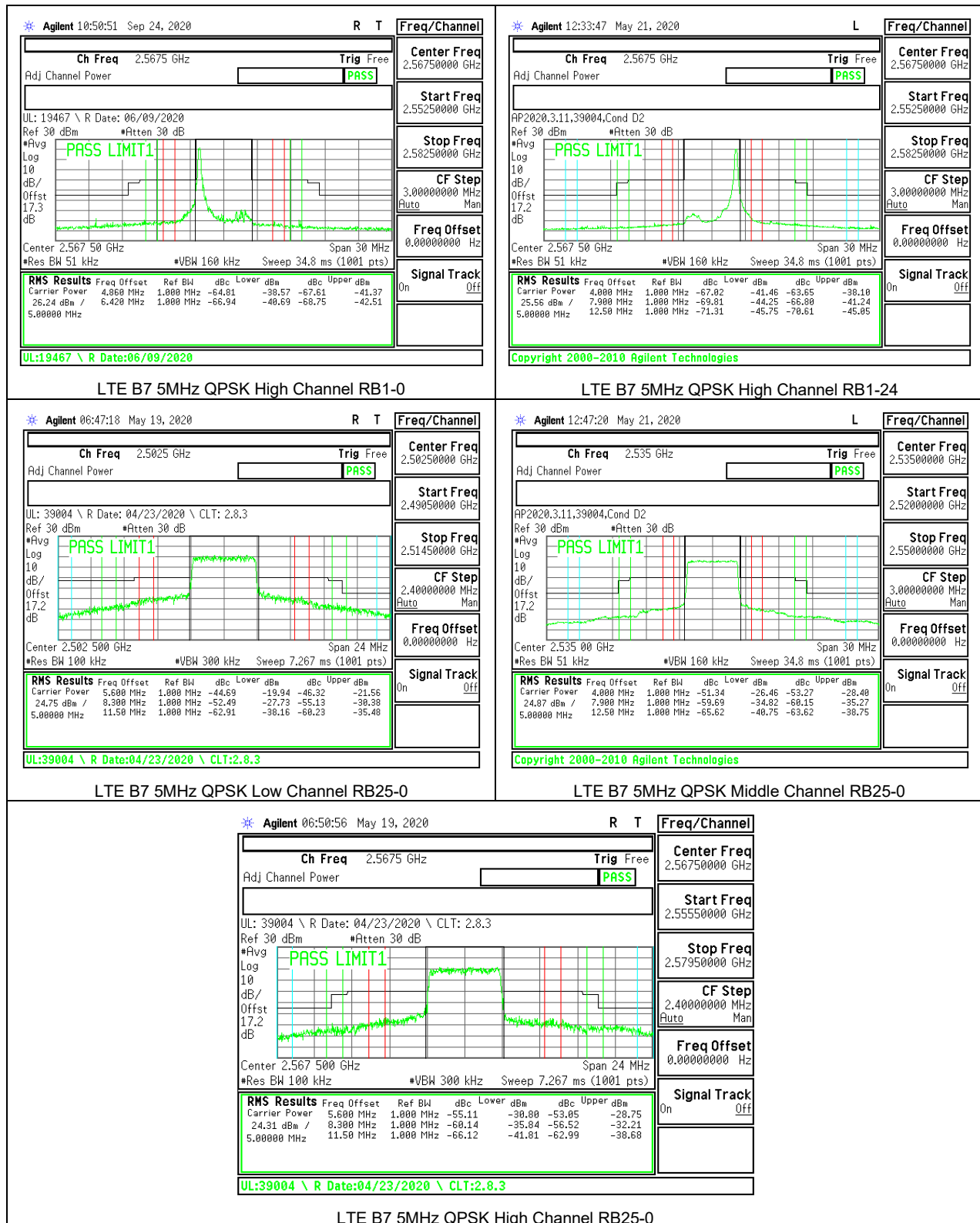
8.2.3. LTE BAND 7 ADJACENT CHANNEL POWER

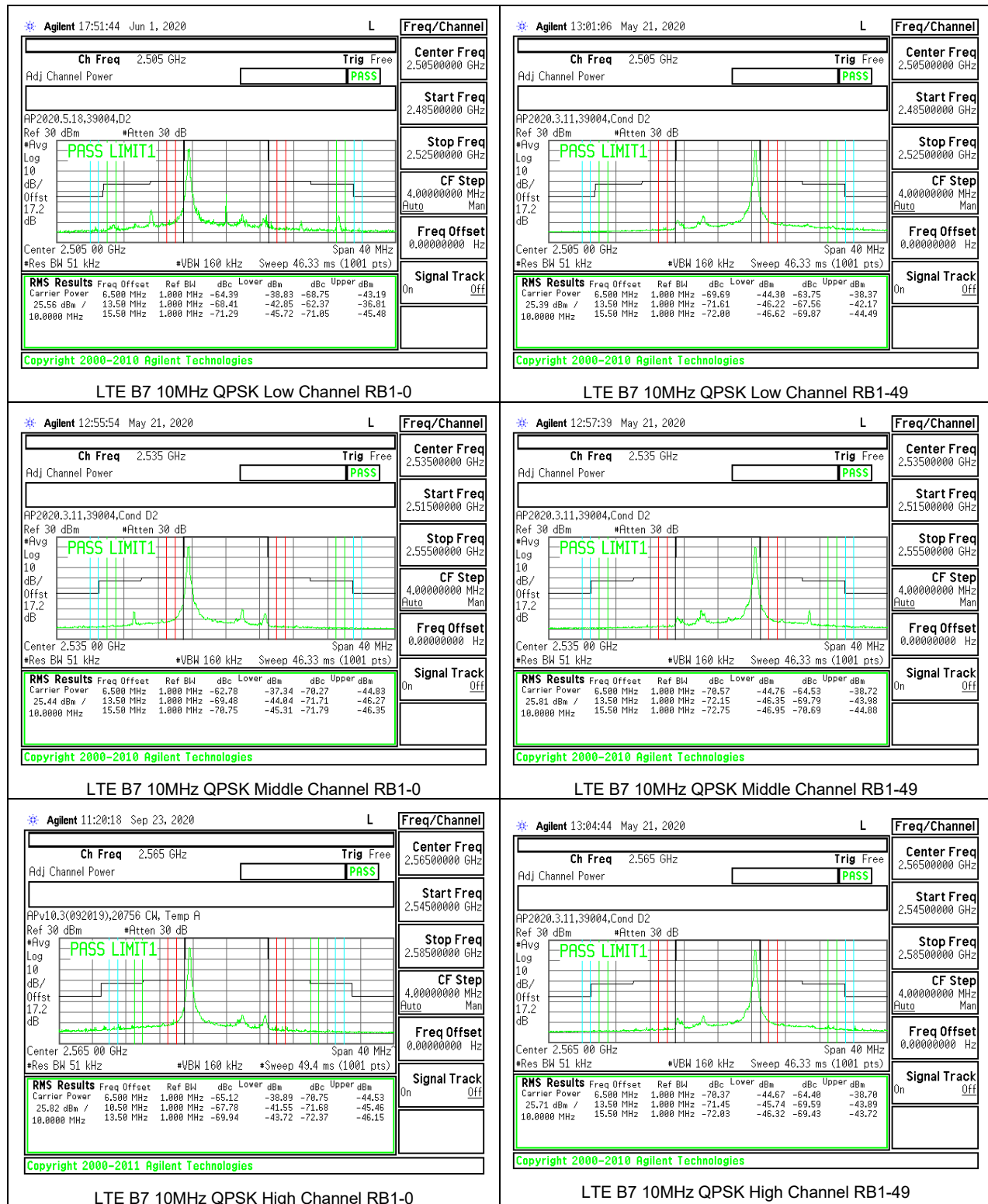
LIMITS

FCC: §27.53

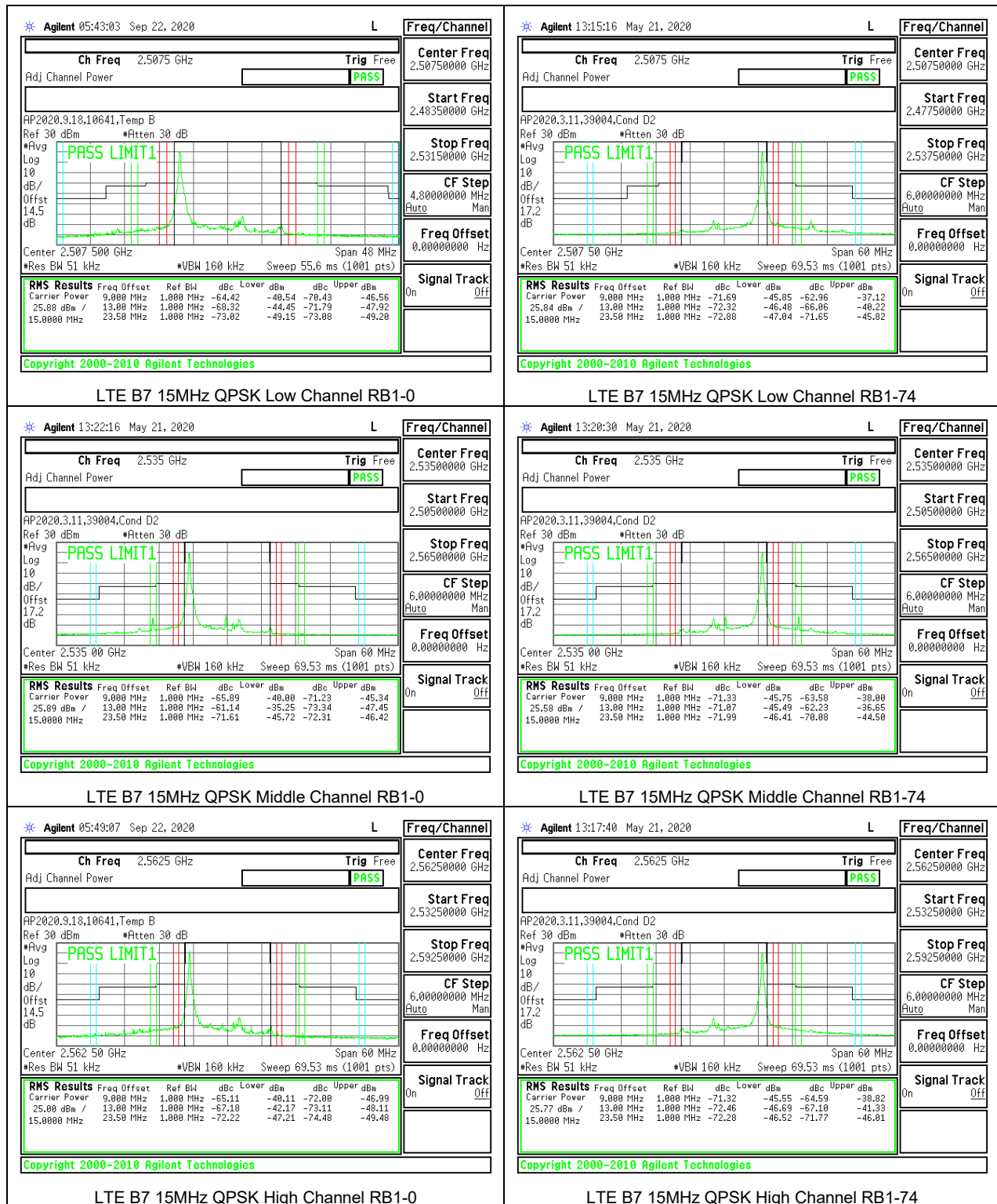
(m)(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ 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 than $43 + 10 \log (P)$ 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.

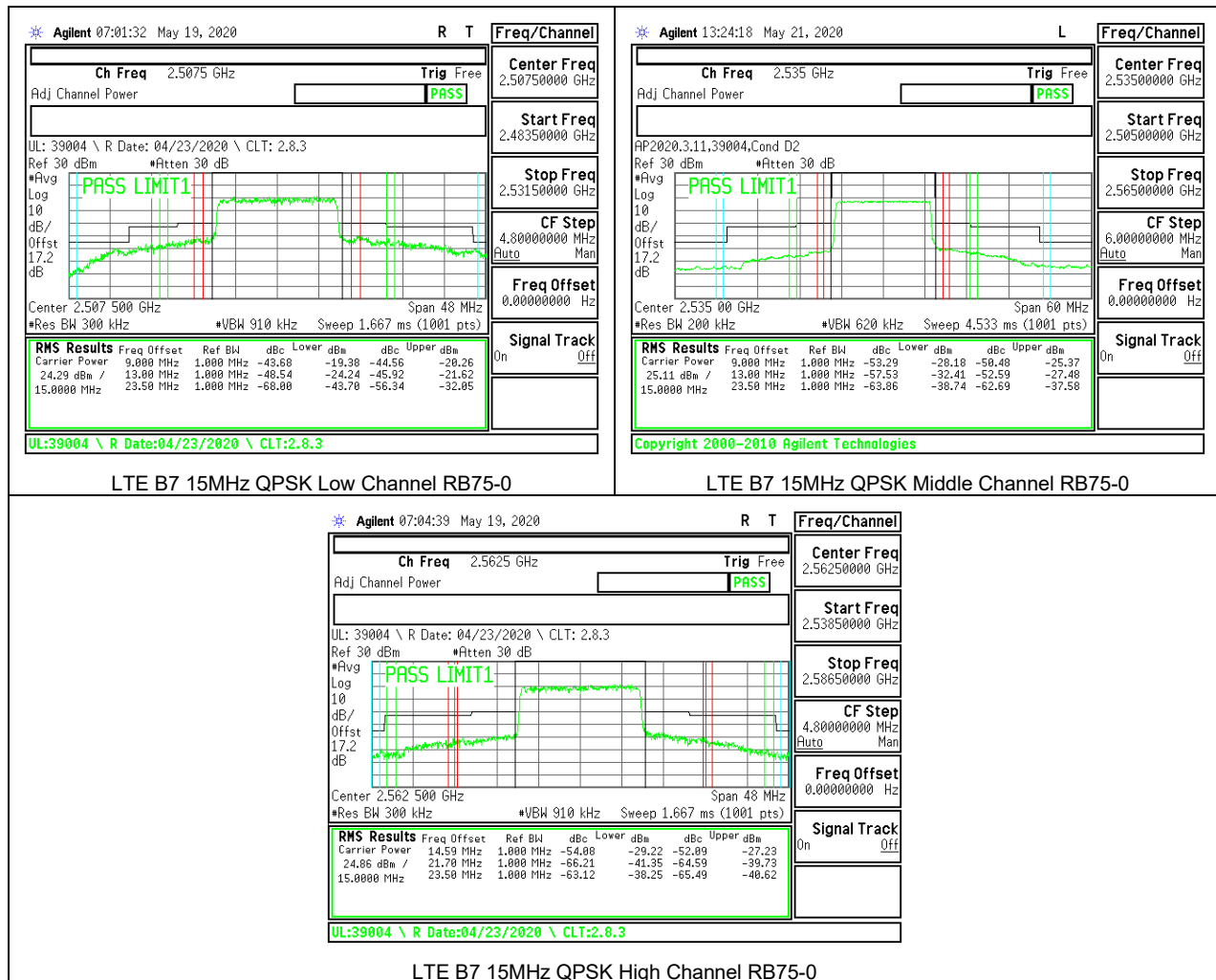
















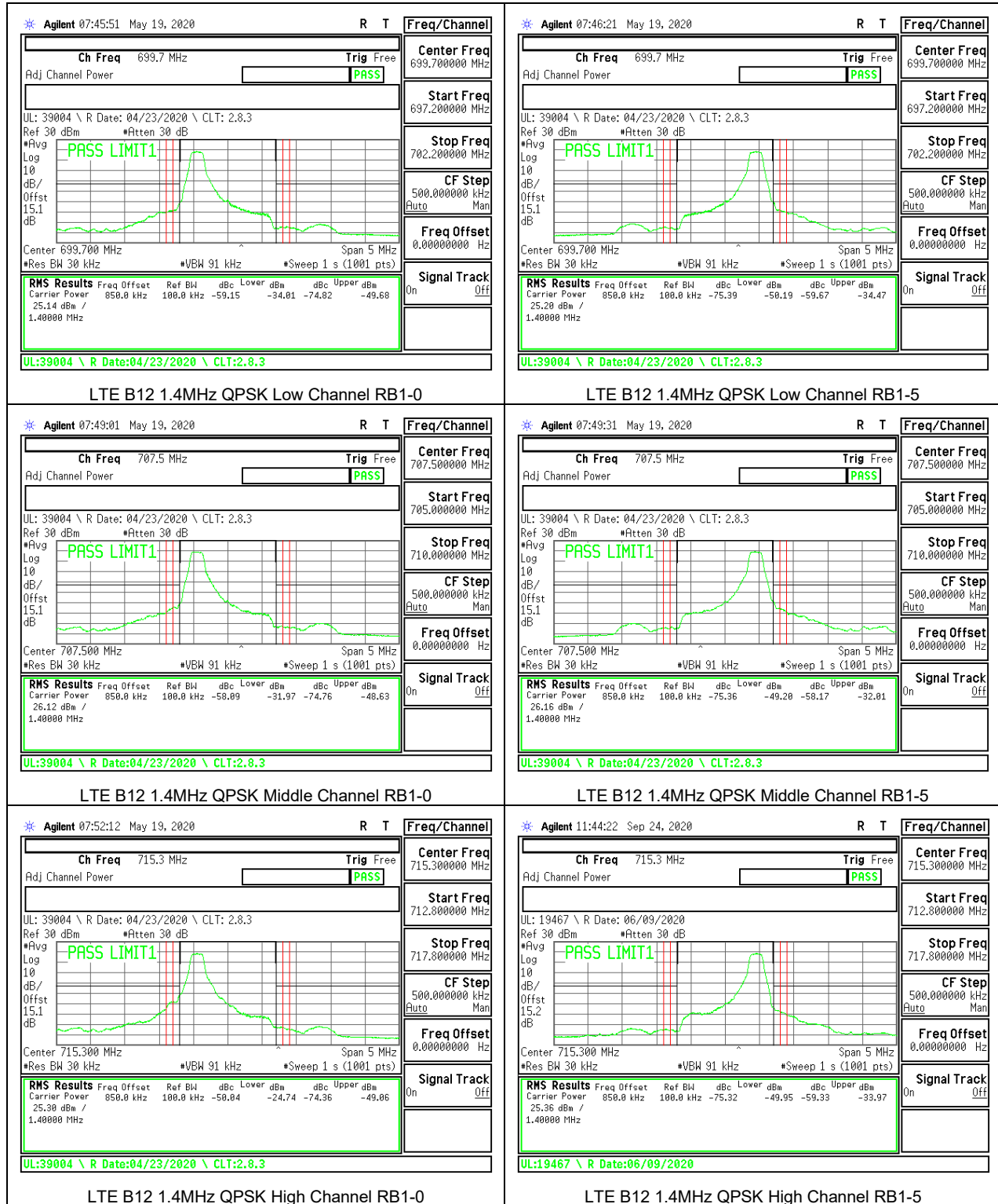
8.2.4. LTE BAND 12 AND 5G NR BAND n12 ADJACENT CHANNEL POWER

LIMITS

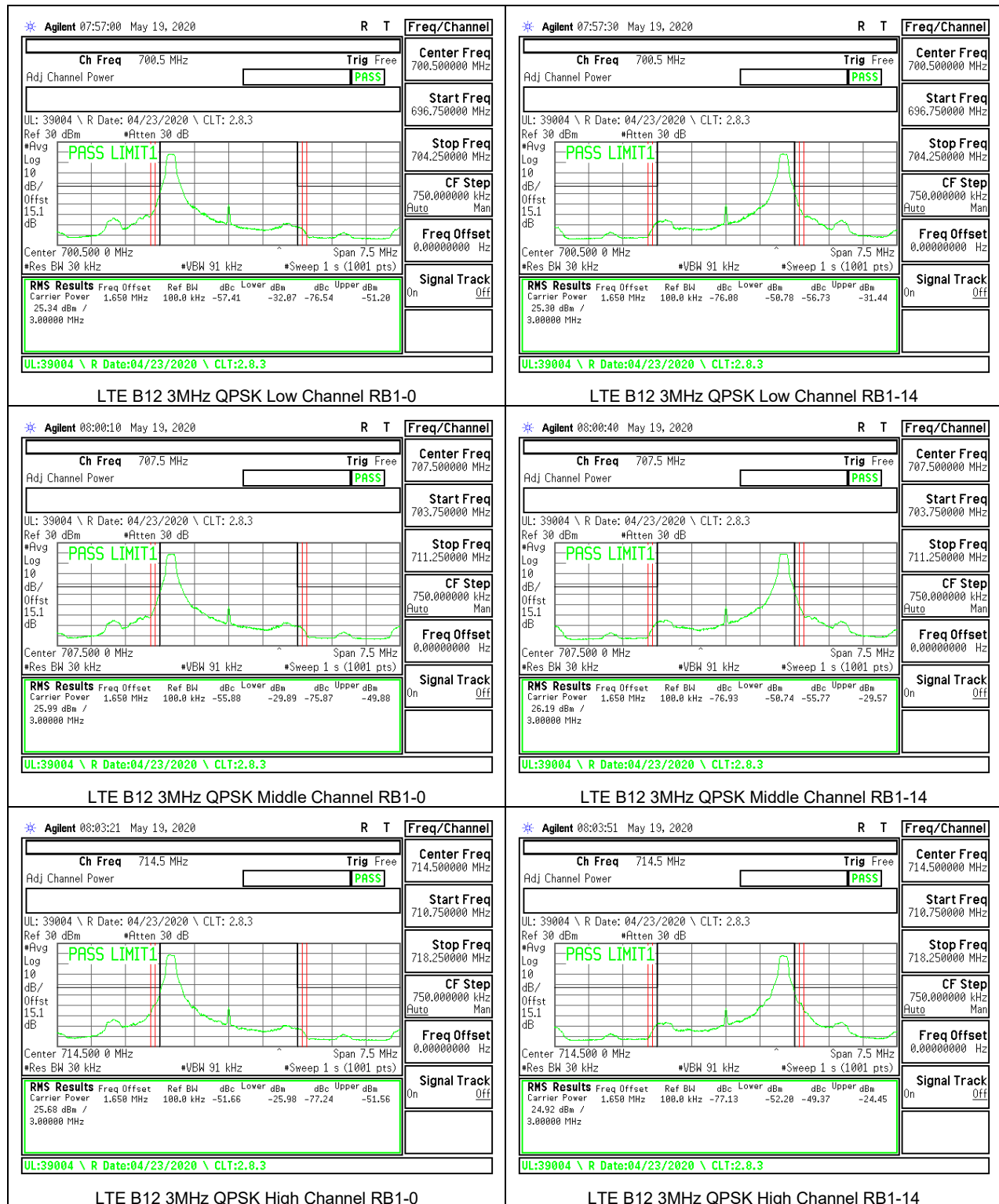
FCC: §27.53

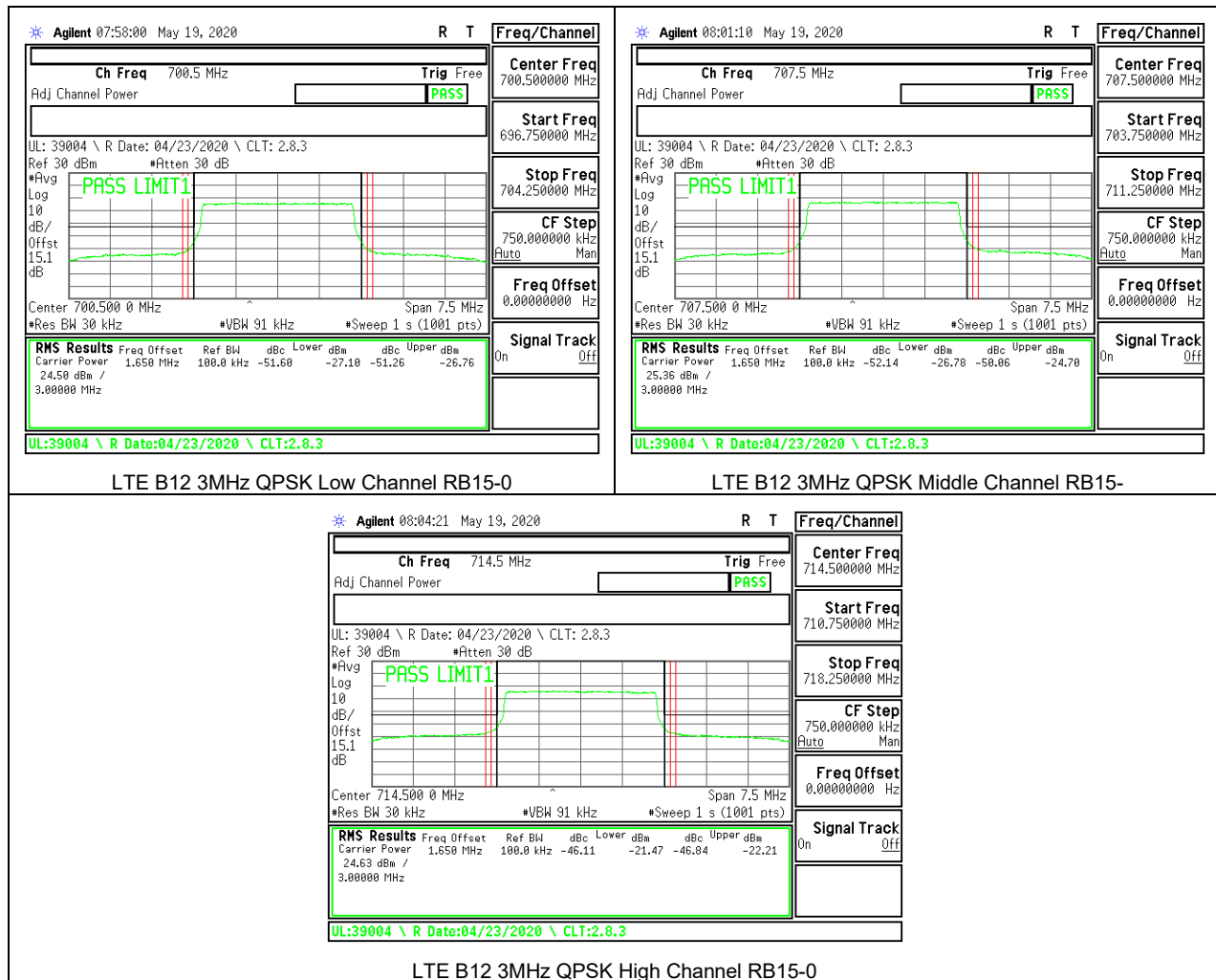
(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance 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.

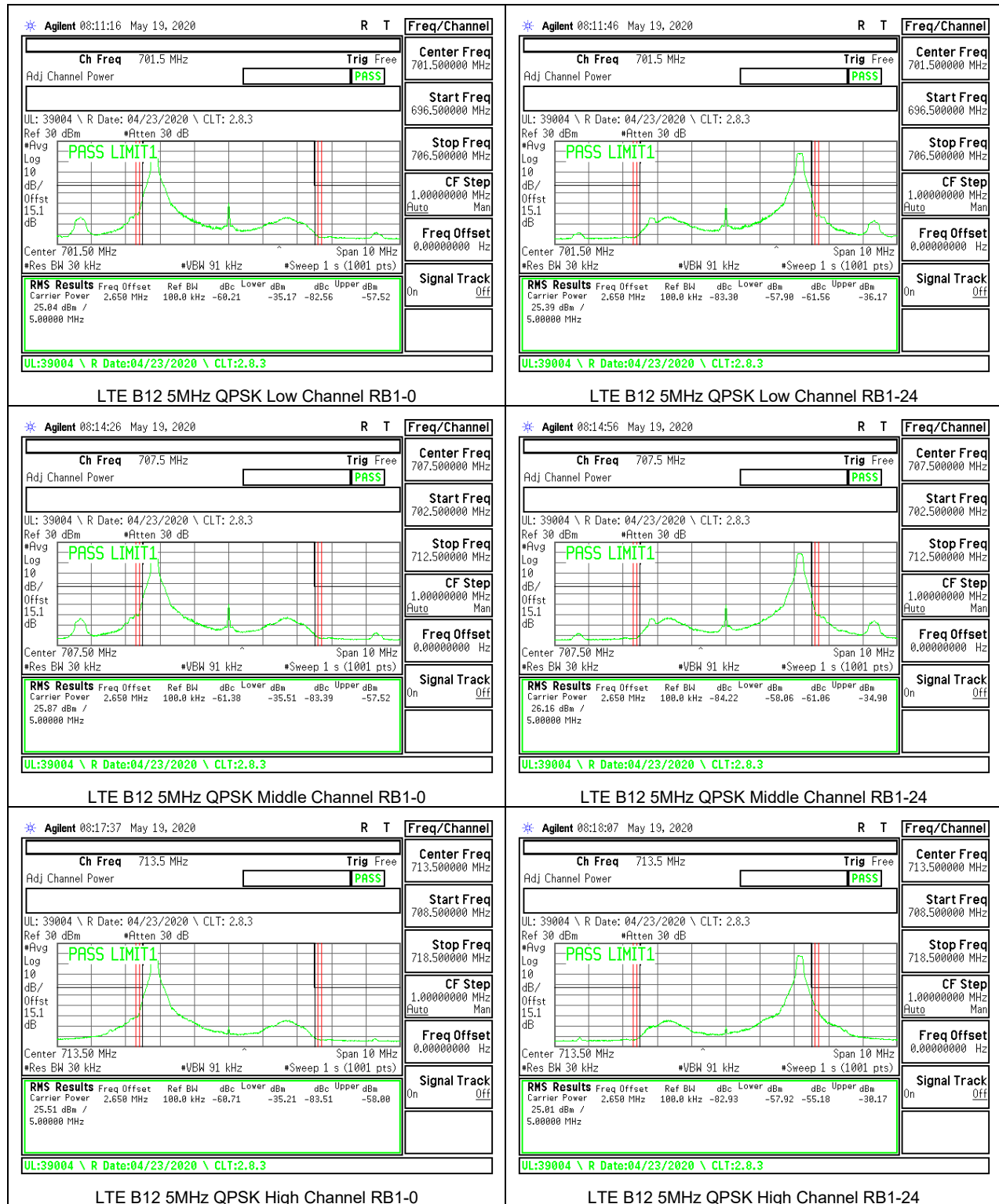
LTE BAND 12 ADJACENT CHANNEL POWER

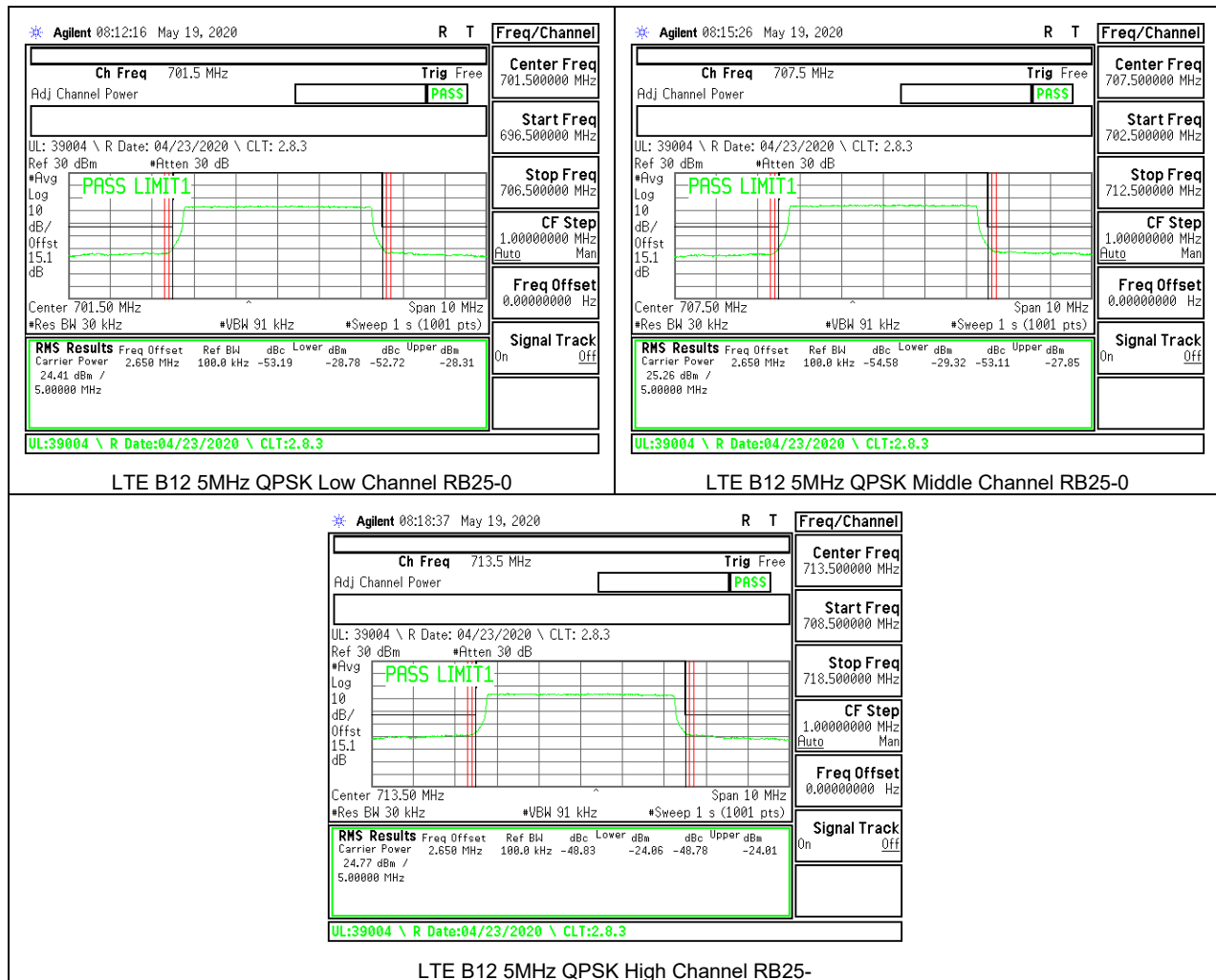


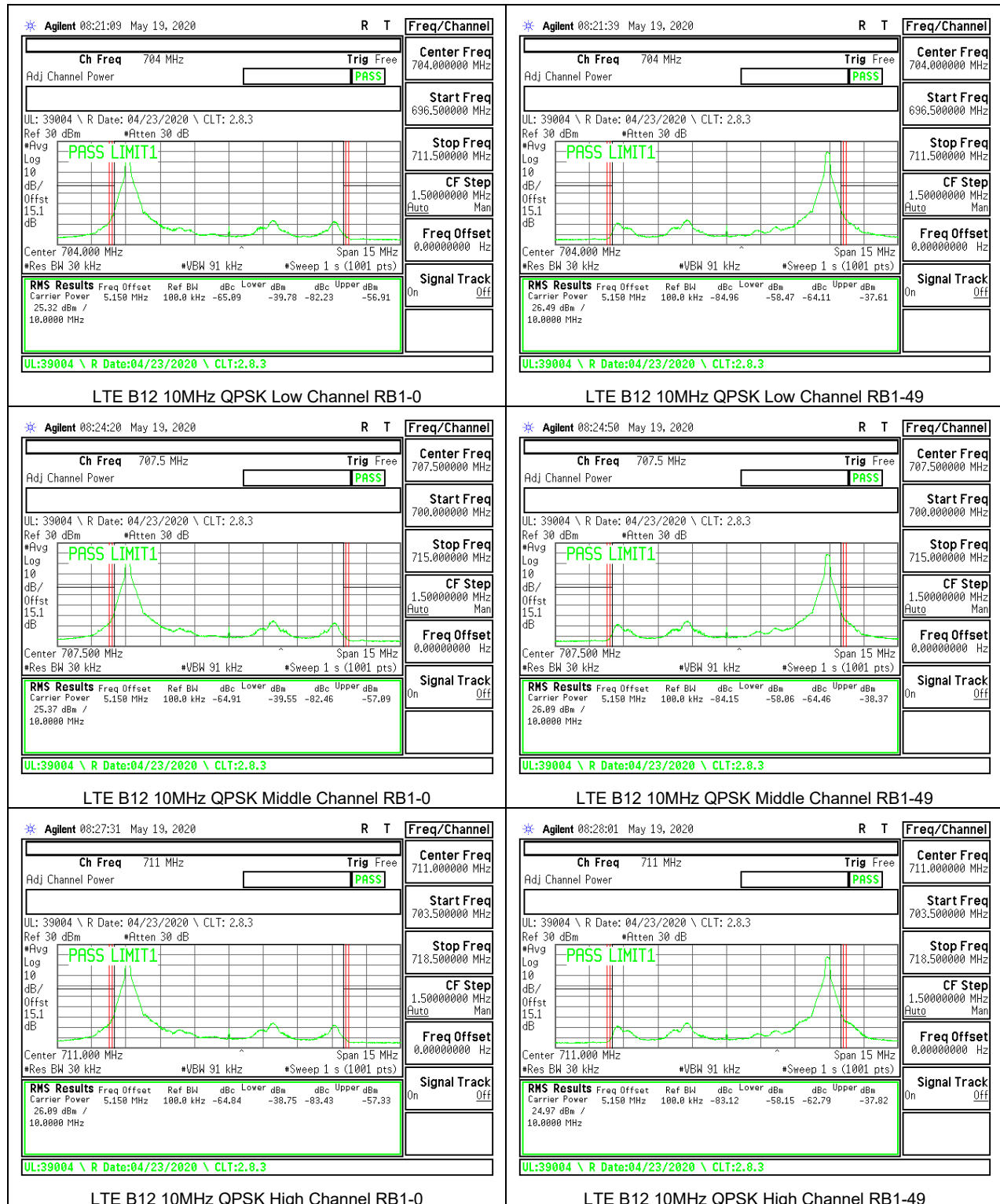






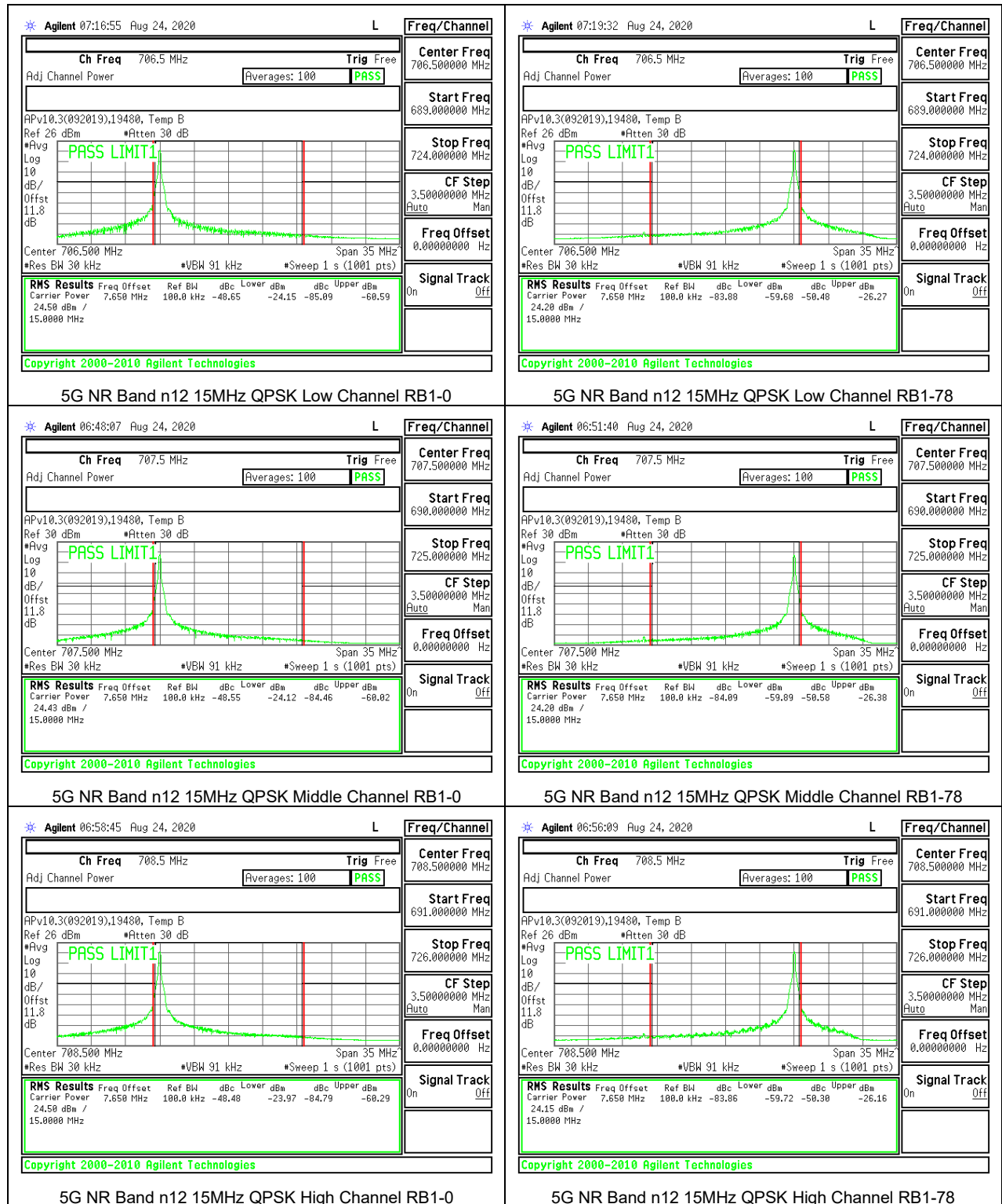








5G NR BAND n12 ADJACENT CHANNEL POWER





8.2.5. LTE BAND 13 ADJACENT CHANNEL POWER

LIMITS

FCC: §27.53

(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:

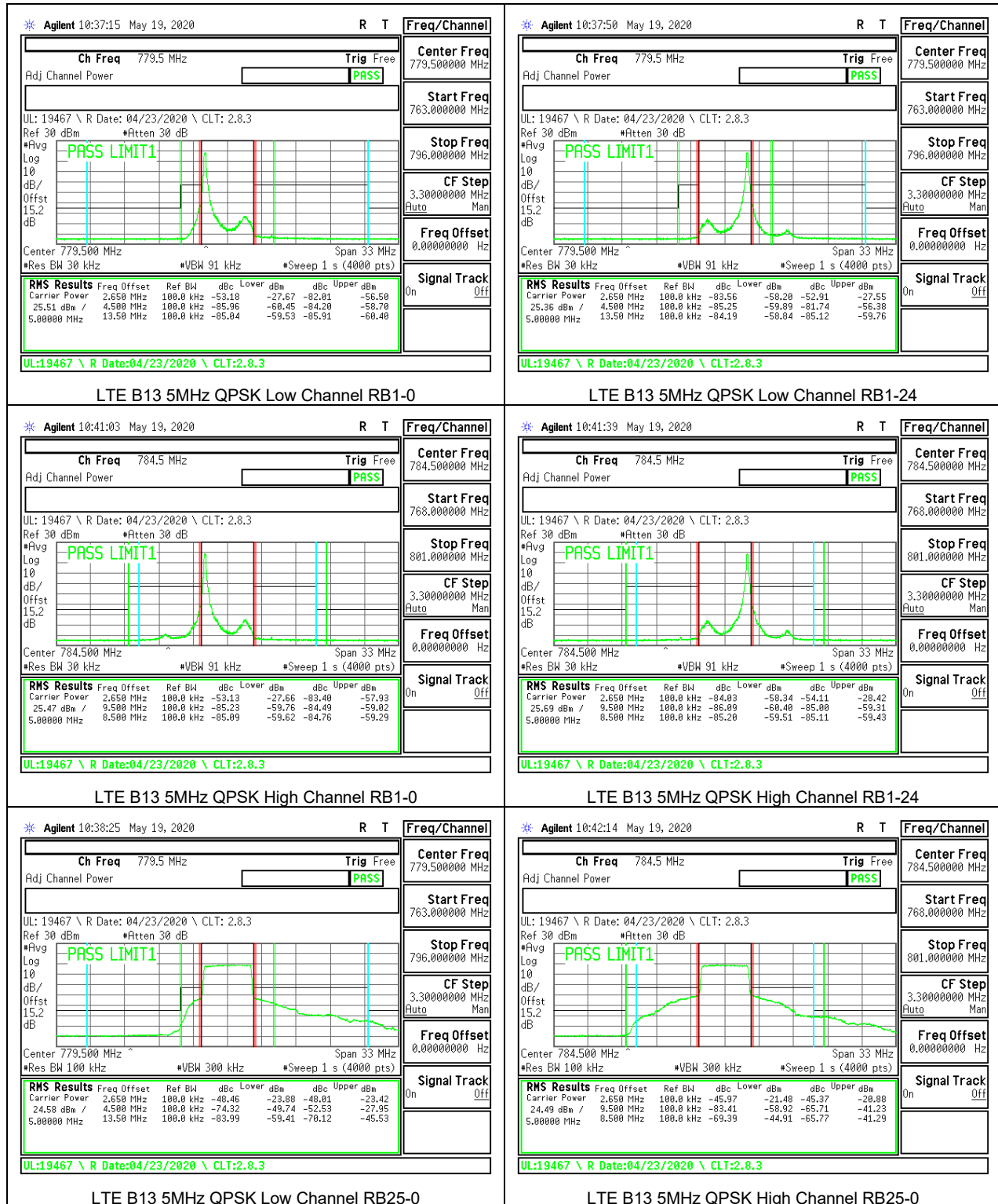
(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;

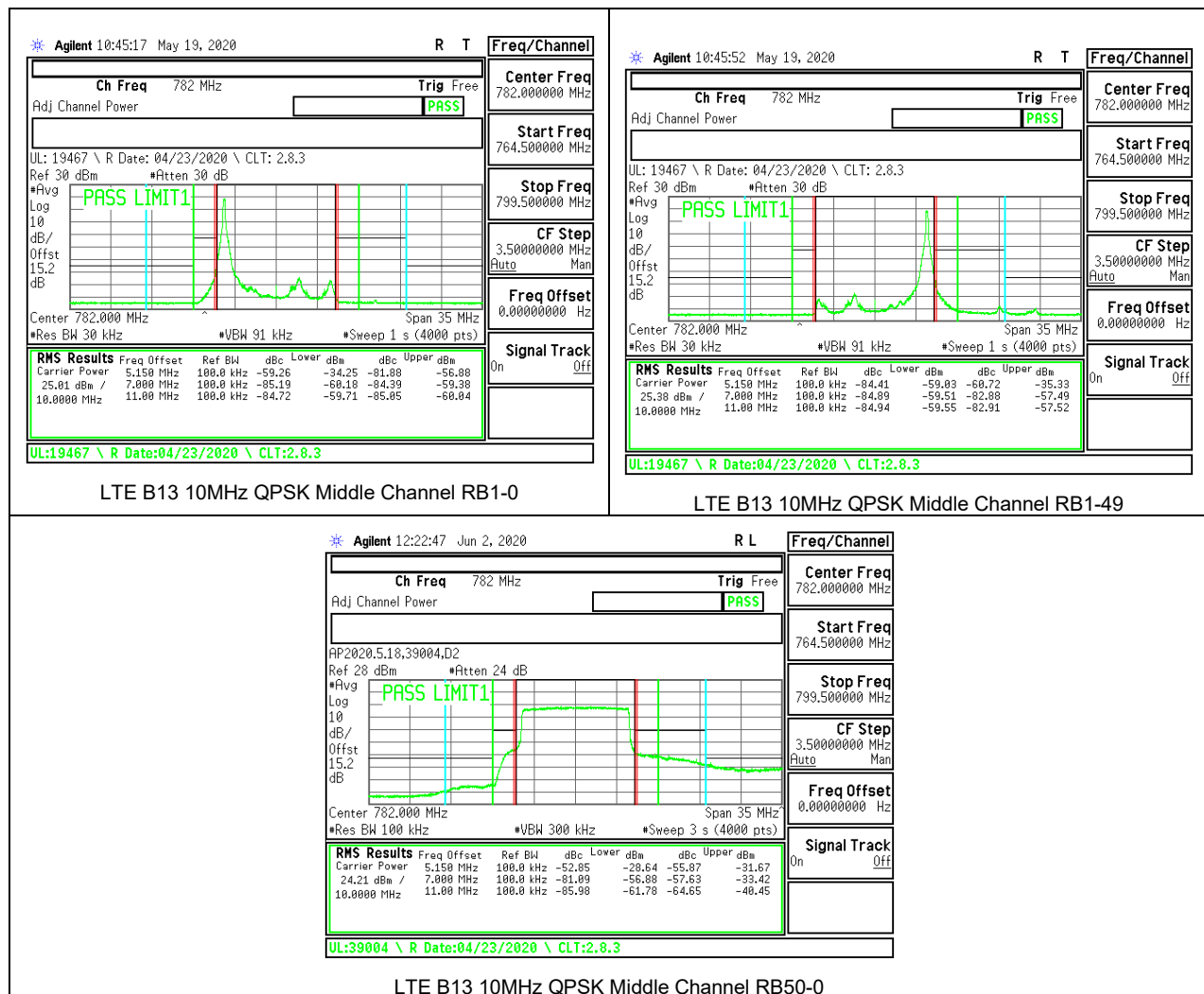
(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations;

(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 = -40 dBm/MHz).





8.2.6. LTE BAND 14 ADJACENT CHANNEL POWER

LIMITS

FCC: §90.543 Emission Limitations.

(e) For operations in the 758-768 MHz and the 788-798 MHz bands, 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:

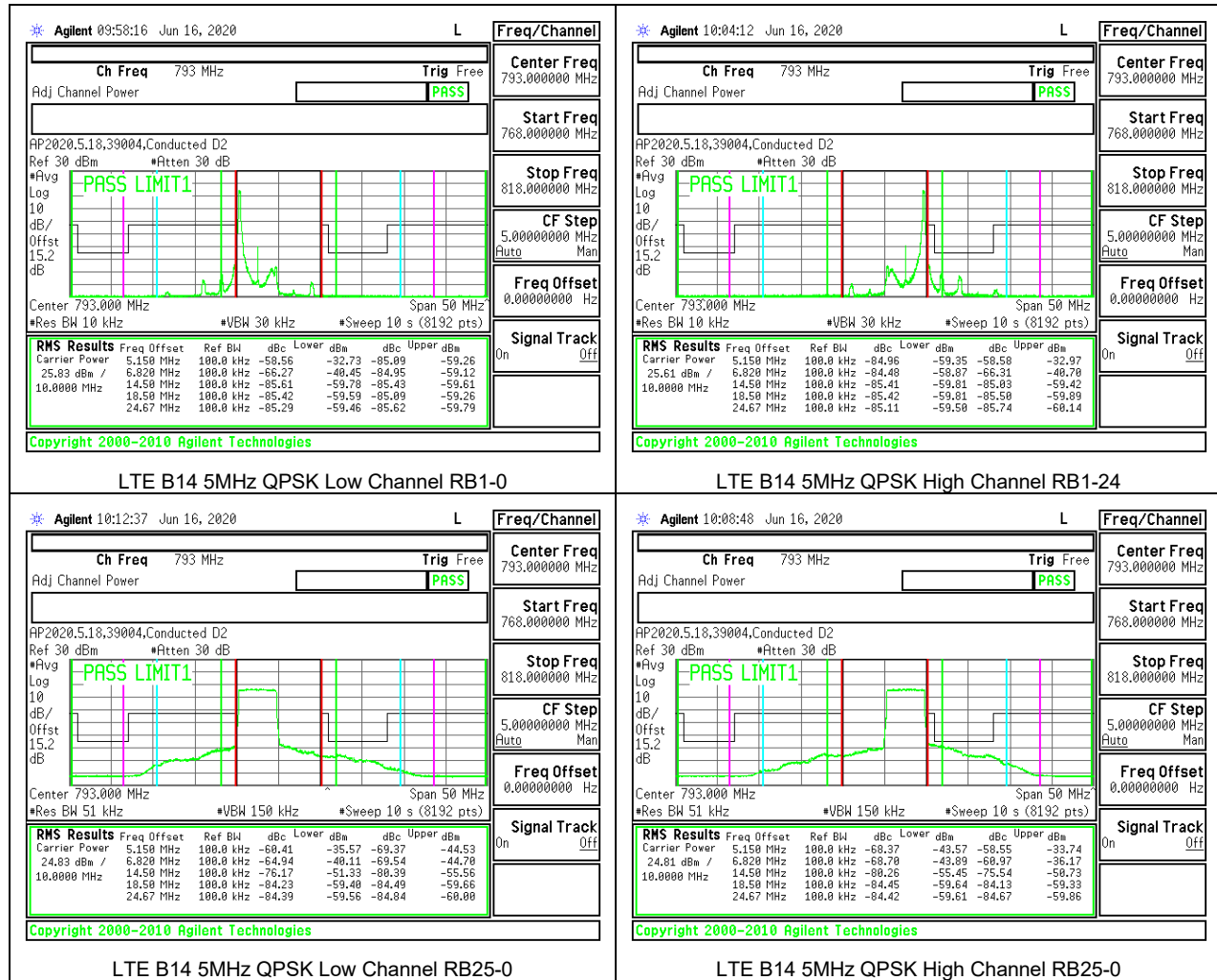
(2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.

(3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB.

(4) Compliance with the provisions of paragraphs (e)(1) and (2) 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.

(5) Compliance with the provisions of paragraph (e)(3) 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 30 kHz may be employed.

(f) For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.



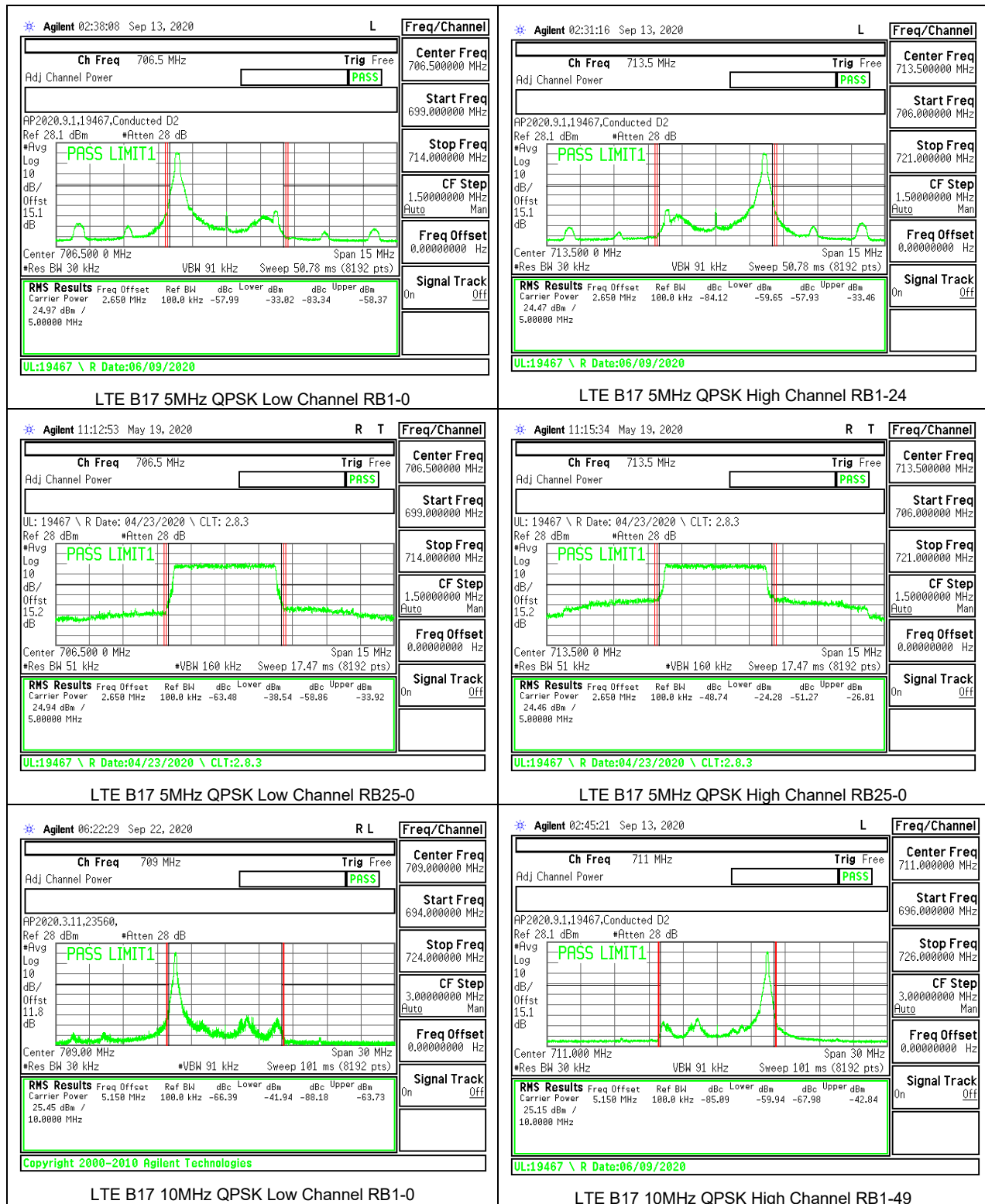


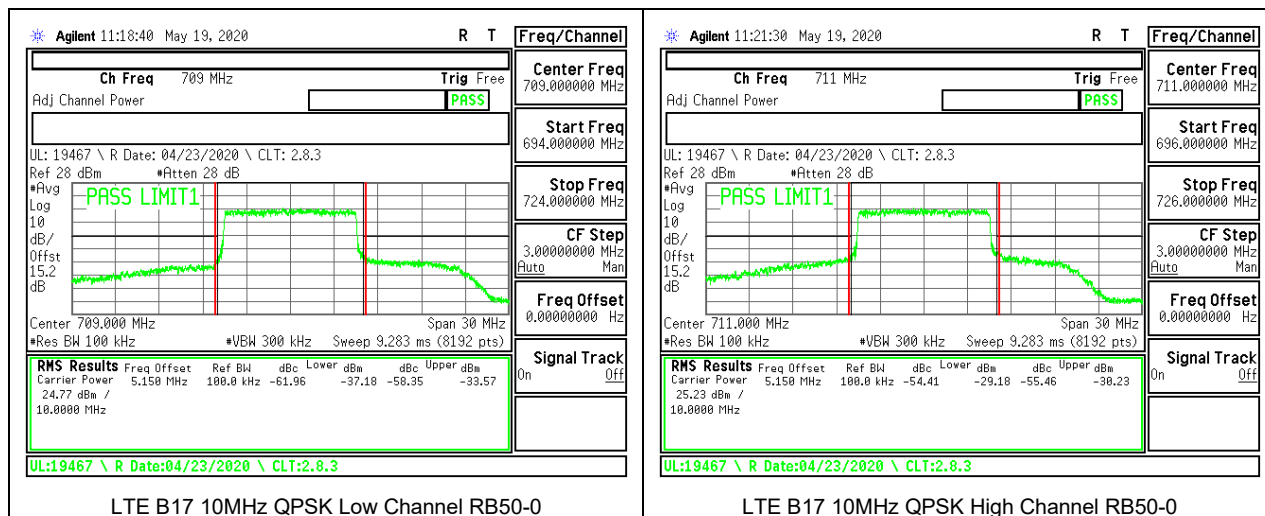
8.2.7. LTE BAND 17 ADJACENT CHANNEL POWER

LIMITS

FCC: §27.53

(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.



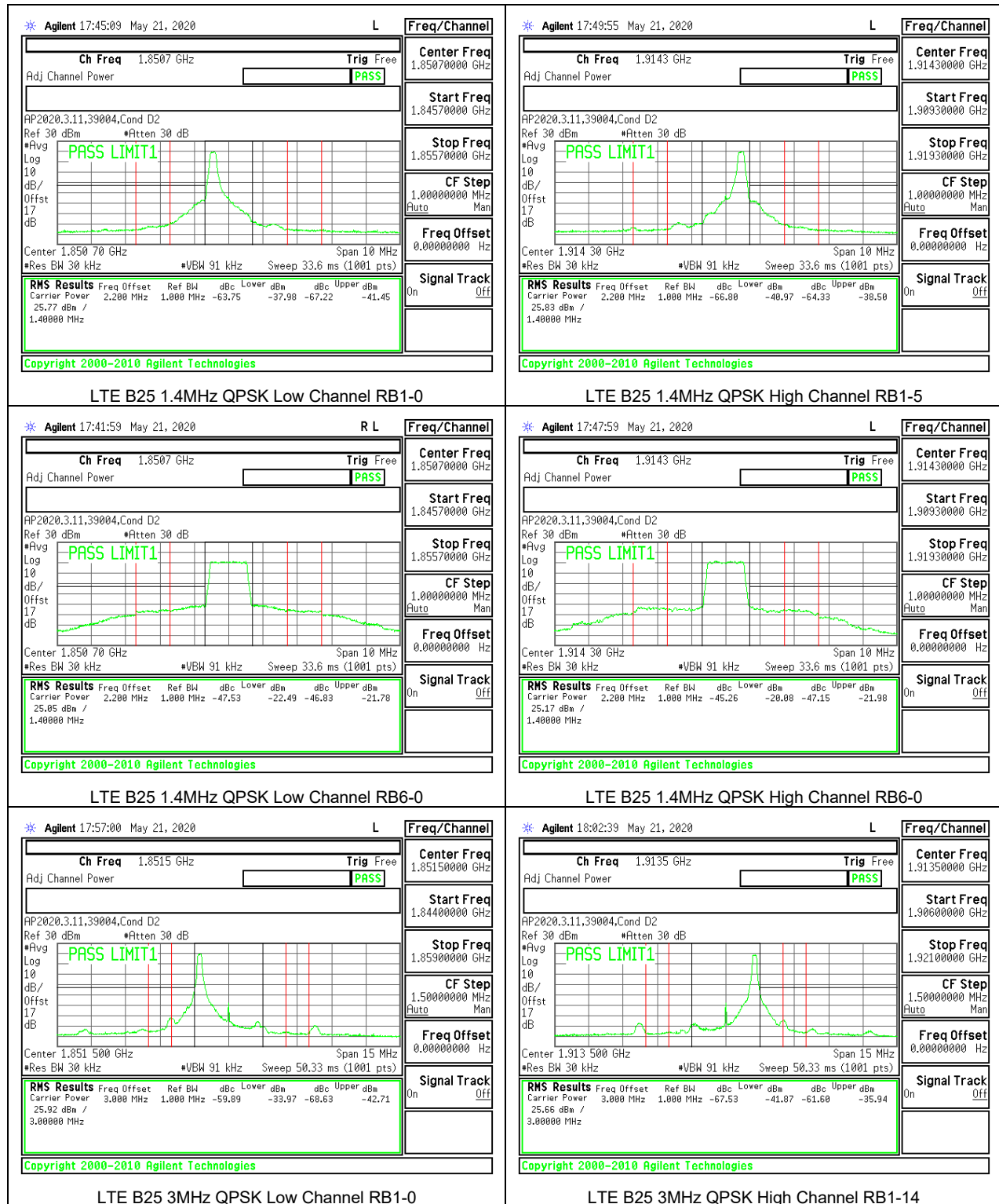


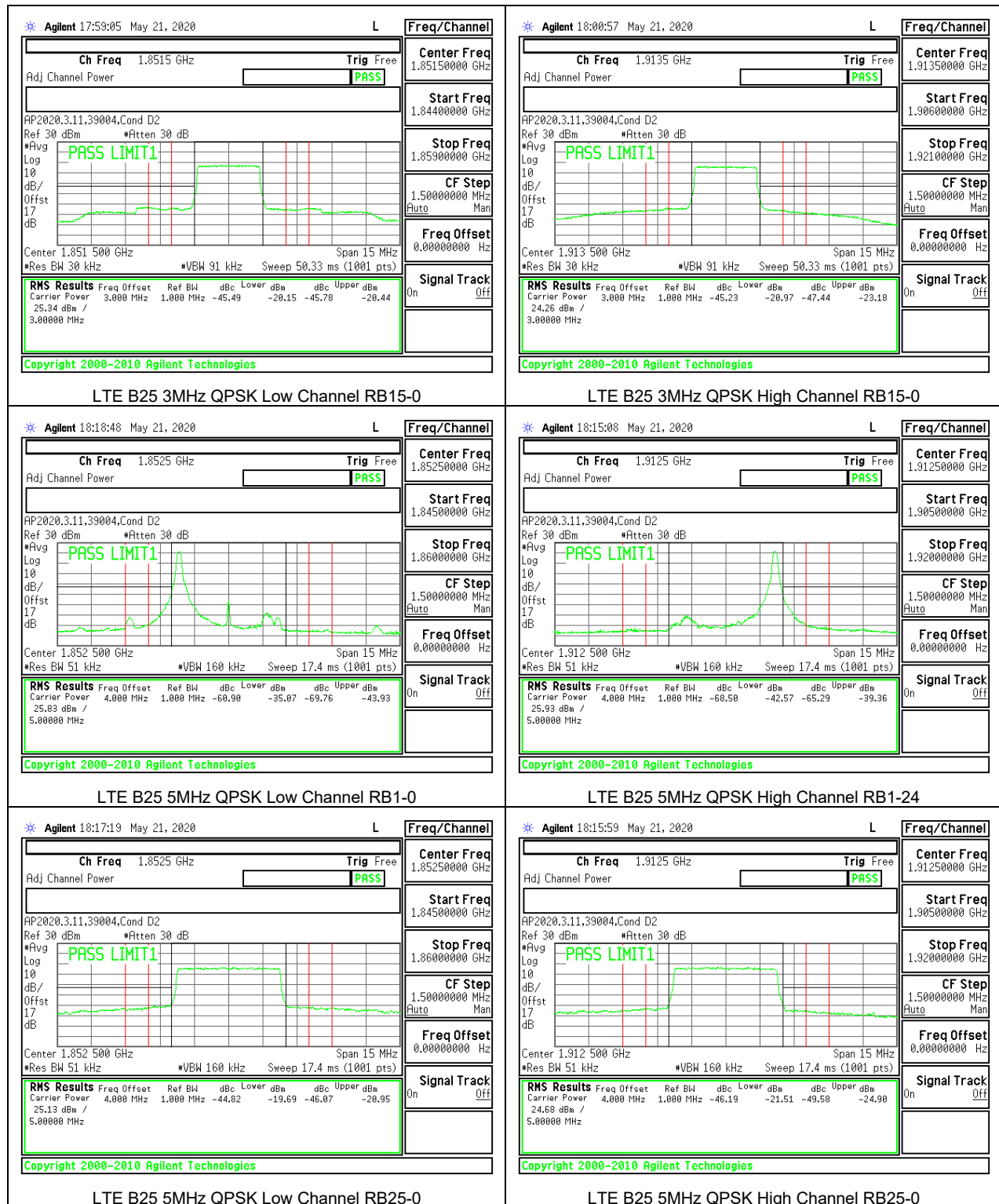
8.2.8. LTE BAND 25 BANDEDGE

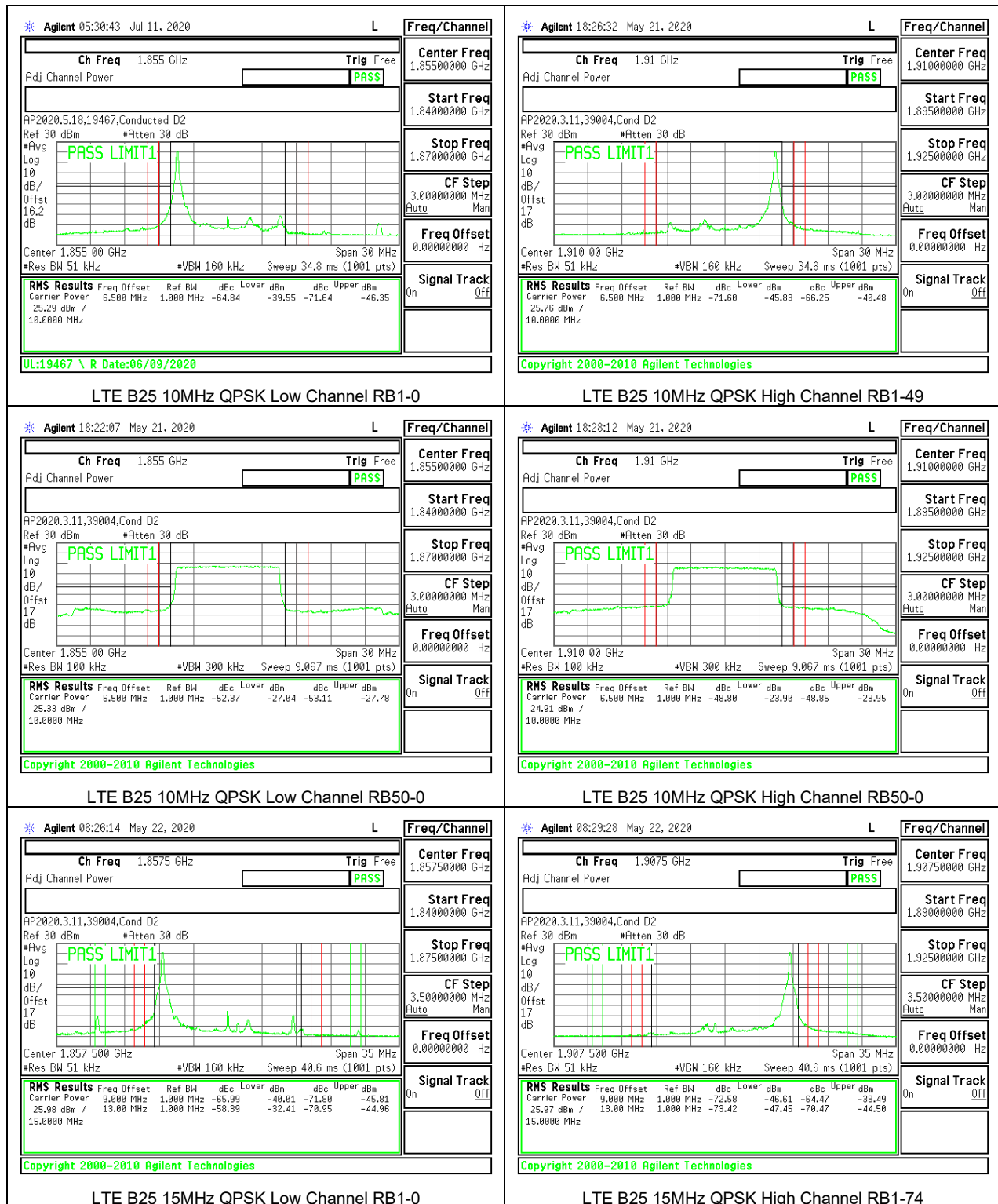
LIMITS

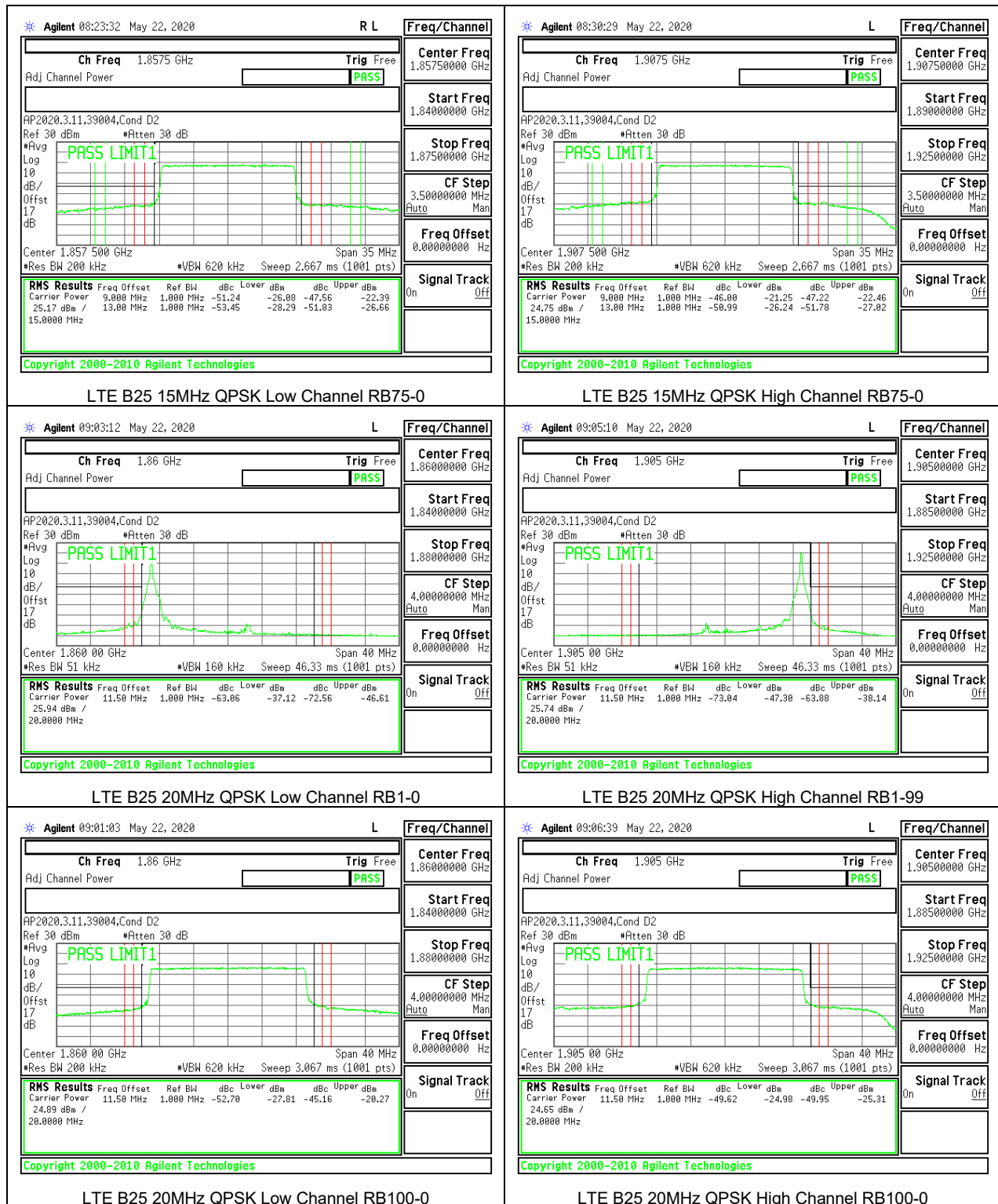
FCC: §24.238

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.









8.2.9. LTE BAND 26 EMISSION MASK (FCC PART 90S)

LIMITS

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 $116 \log_{10}(f/6.1)$ decibels or $50 + 10 \log_{10}(P)$ 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 $43 + 10 \log_{10}(P)$ 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.

