



# **TEST REPORT**

**Report Number:** 13146732-E8V3

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

**Model :** A2399, A2400, AND A2401

**FCC ID :** BCG-E3541A

**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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NVLAP Lab code: 200065-0

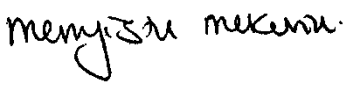
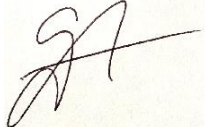
Revision History

| 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 Outpou Power Data at Section 5.4. | Mengisitu Mekuria |

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## 1. ATTESTATION OF TEST RESULTS

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                        |                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Applicant Name and Address                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | APPLE, INC<br>1 APPLE PARK WAY<br>CUPERTINO, CA 95014, U.S.A.                          |                                                                                       |
| Model                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | A2399, A2400, AND A2401                                                                |                                                                                       |
| FCC ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | BCG-E3541A                                                                             |                                                                                       |
| EUT Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | SMARTPHONE                                                                             |                                                                                       |
| Serial Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | MODEL (A2399, A2400, A2401): C7H031700EAPV2238 (CONDUCTED) AND C7CD600S08JP (RADIATED) |                                                                                       |
| Date Tested                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | APRIL 21, 2020 to SEPTEMBER 24, 2020                                                   |                                                                                       |
| Applicable Standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | FCC CFR47 22H, 24E, 27, 90S, 90R, AND 96                                               |                                                                                       |
| Test Results                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | COMPLIES                                                                               |                                                                                       |
| <p>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.</p> <p>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.</p> <p>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.</p> |                                                                                        |                                                                                       |
| Approved & Released By:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Reviewed By:                                                                           | Prepared By:                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |     |  |
| Mengistu Mekuria<br>Lead Test Engineer<br>UL Verification Services Inc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Glenn Escano<br>Project Engineer<br>UL Verification Services Inc.                      | Sintia Andrean<br>Laboratory Engineer<br>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.                                   |
|------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------|
| <input checked="" type="checkbox"/> Chamber A (IC:2324B-1) | <input type="checkbox"/> Chamber D (IC:22541-1) | <input type="checkbox"/> Chamber I (IC: 2324A-5) |
| <input checked="" type="checkbox"/> Chamber B (IC:2324B-2) | <input type="checkbox"/> Chamber E (IC:22541-2) | <input type="checkbox"/> Chamber J (IC: 2324A-6) |
| <input type="checkbox"/> Chamber C (IC:2324B-3)            | <input type="checkbox"/> Chamber F (IC:22541-3) | <input type="checkbox"/> Chamber K (IC: 2324A-1) |
|                                                            | <input type="checkbox"/> Chamber G (IC:22541-4) | <input type="checkbox"/> Chamber L (IC: 2324A-3) |
|                                                            | <input type="checkbox"/> Chamber H (IC:22541-5) | <input type="checkbox"/> 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 <sub>Lab</sub> |
|-----------------------------------------------------|------------------|
| 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 and FCC ID BCG-E3540A to cover variant model FCC ID BCG-E3541A. 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, A2398, A2399, A2400 and A2401.

A2176, A2398, A2399, A2400 and A2401 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.

A2399, A2400 and A2401 are allocated for marketing and logistic purposes only. Spot check verification has been done on model A2399 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 test reports for model A2176 and model A2398 ANT2 RSE test results may be applied as representative to models A2399, A2400 and A2401.

## 5.4. SPOT CHECK VERIFICATION RESULTS SUMMARY

| A2399, A2400, A2401 SPOT CHECK RESULTS |                   |              |         |               |                       |                                |            |                   |
|----------------------------------------|-------------------|--------------|---------|---------------|-----------------------|--------------------------------|------------|-------------------|
| Technology                             | Worst Mode        | Test Item    | Channel | Measured      | Original Model: A2176 | Sub Model: A2399, A2400, A2401 | Delta (dB) | Remarks           |
|                                        |                   |              |         | Frequency MHz | FCC ID: BCG-E3539A    | FCC ID: BCG-E3541A             |            |                   |
| 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            | -46.29 dBm                     | 2.12       | Noise Floor Level |
| LTE BAND 5                             | QPSK @ 10 MHz BW  | ERP          | Mid     | 836.5         | 19.95 dBm             | 19.95 dBm                      | 0          |                   |
| 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            | -53.47 dBm                     | -2.61      | 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            | -43.07 dBm                     | 2.17       | 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 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          |                   |
| 5G NR BAND N77                         | QPSK @ 100 MHz BW | EIRP         | Low     | 3750          | 25.0 dBm              | 25.0 dBm                       | 0          |                   |
| Technology                             | Worst Mode        | Test Item    | Channel | Measured      | Sub Model: A2398      | Sub Model: A2399, A2400, A2401 | Delta (dB) | Remarks           |
|                                        |                   |              |         | Frequency MHz | FCC ID: BCG-E3540A    | FCC ID: BCG-E3541A             |            |                   |
| 5G NR BAND N41                         | QPSK @ 100 MHz BW | EIRP         | High    | 2640          | 29.2 dBm              | 29.2 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. |
|                 | BCG-E3540A       | 13190901-E8           | FCC LTE Report Radiated spurious emission on ANT2 and 5G NR Band n41 EIRP results.                      |

## 5.6. SOFTWARE AND FIRMWARE

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

## 5.7. 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 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 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  |

## 5.8. 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 17, Band 25, Band 26, Band 30, Band 41, Band 48, Band 66, 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    |

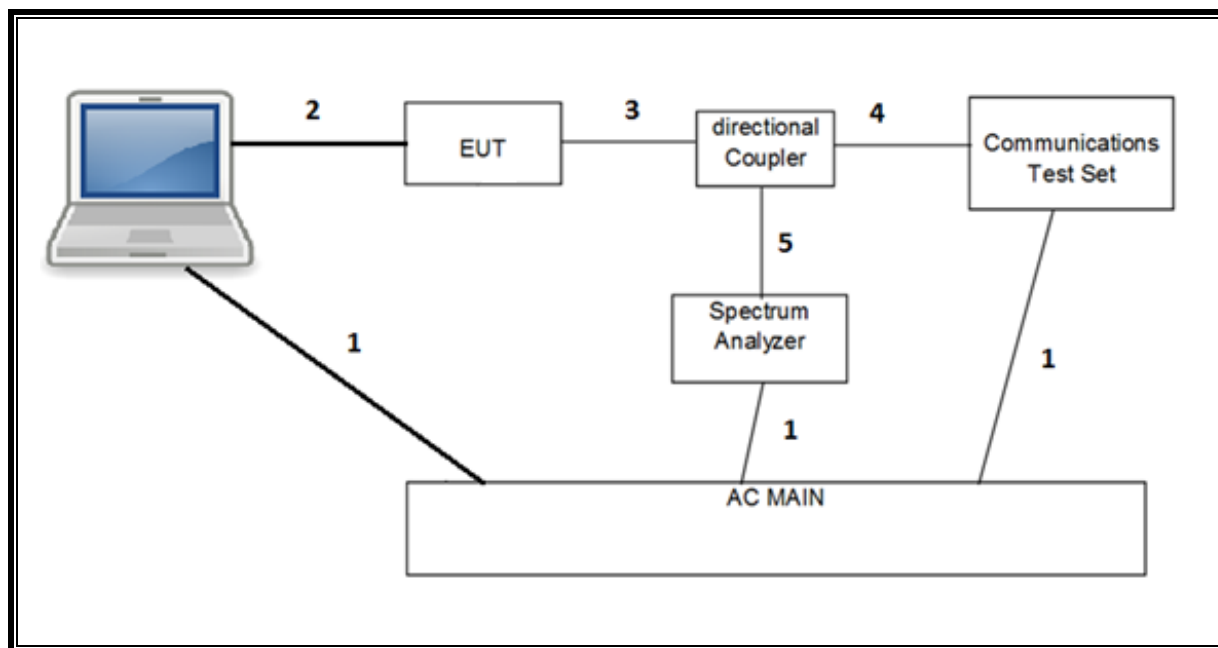
Radiated spurious emissions were investigated from 9kHz to 30MHz, 30MHz-1GHz and above 1GHz. There were no emissions found with less than 20dB of margin from 9kHz to 1GHz.

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.

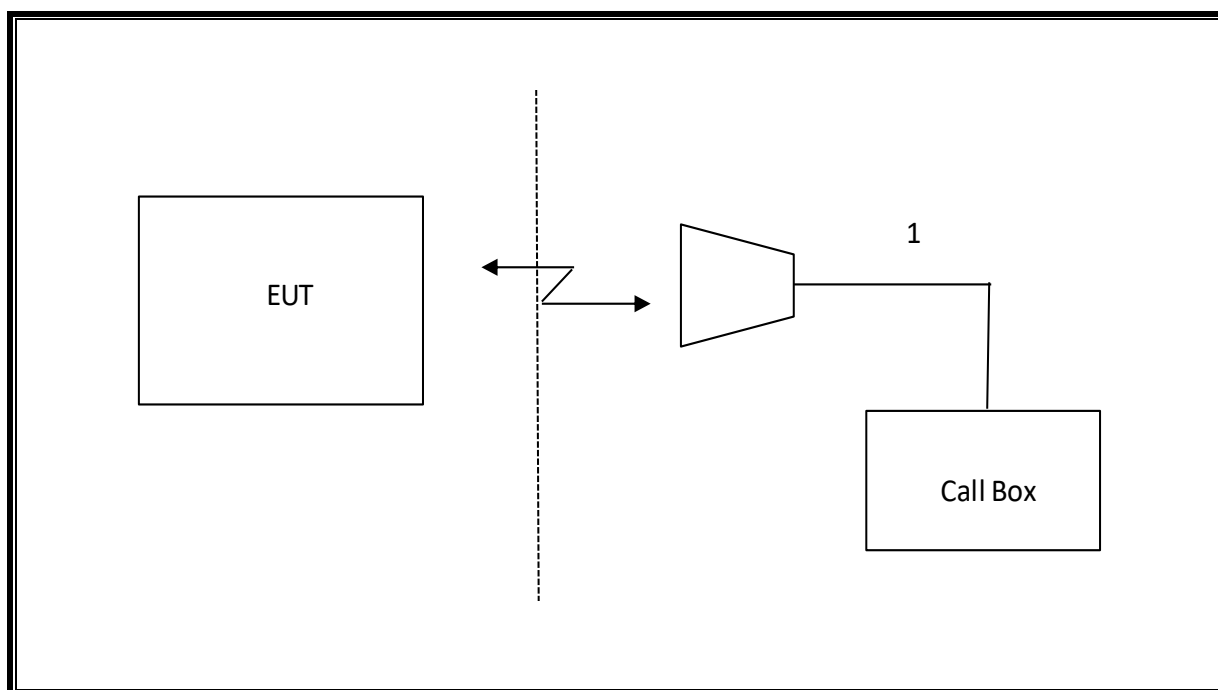
## 5.9. DESCRIPTION OF TEST SETUP

| 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. 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

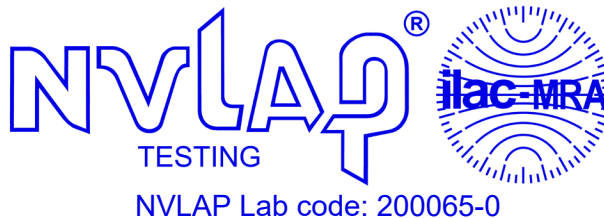
**FCC ID :** BCG-E3539A

**EUT Description :** SMARTPHONE

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

**Date Of Issue:**  
SEPTEMBER 28, 2020

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



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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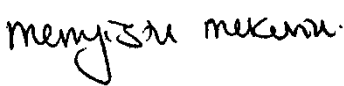
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# 1. ATTESTATION OF TEST RESULTS

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Applicant Name and Address                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | APPLE, INC<br>1 APPLE PARK WAY<br>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                                                                            |                                                                                       |
| <p>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.</p> <p>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.</p> <p>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.</p> |                                                                                     |                                                                                       |
| Approved & Released By:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Reviewed By:                                                                        | Prepared By:                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |
| Mengistu Mekuria<br>Lead Test Engineer<br>UL Verification Services Inc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Glenn Escano<br>Project Engineer<br>UL Verification Services Inc.                   | Sintia Andean<br>Laboratory Engineer<br>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                               |
|-----------------------------------------------|------------------------------------|-----------------------------------------------|
| <input checked="" type="checkbox"/> Chamber A | <input type="checkbox"/> Chamber D | <input checked="" type="checkbox"/> Chamber I |
| <input checked="" type="checkbox"/> Chamber B | <input type="checkbox"/> Chamber E | <input type="checkbox"/> Chamber J            |
| <input type="checkbox"/> Chamber C            | <input type="checkbox"/> Chamber F | <input type="checkbox"/> Chamber K            |
|                                               | <input type="checkbox"/> Chamber G | <input type="checkbox"/> Chamber L            |
|                                               | <input type="checkbox"/> Chamber H | <input type="checkbox"/> 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 <sub>Lab</sub> |
|------------------------------------------|------------------|
| 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.

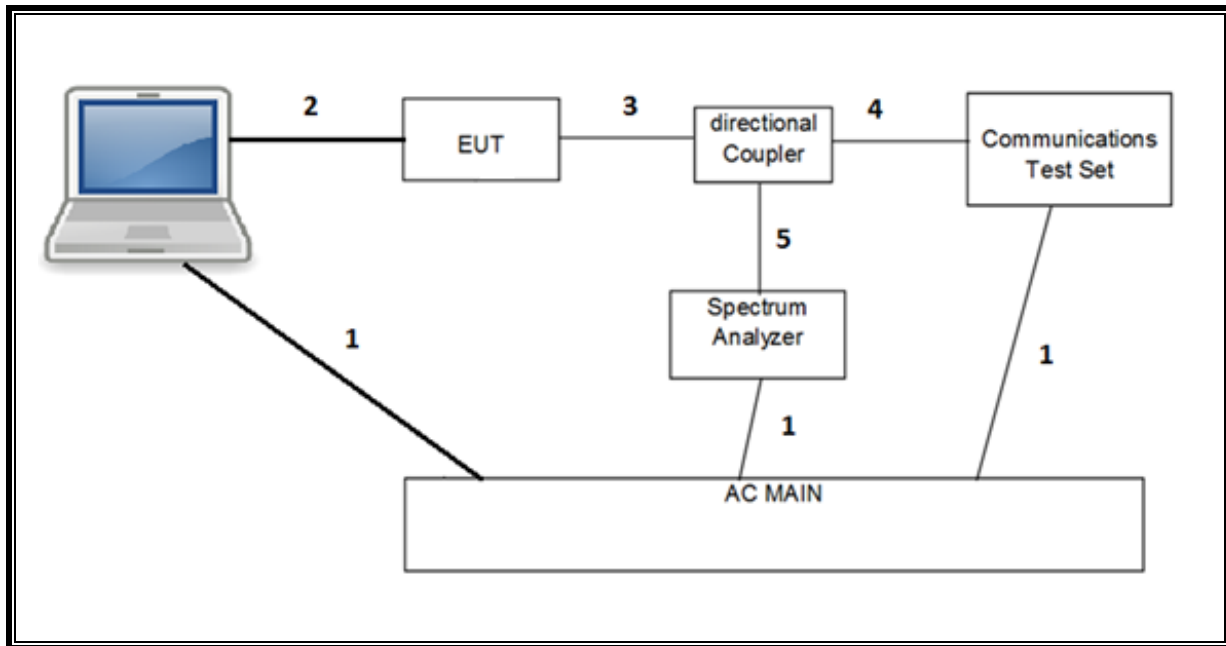
For simultaneous transmission of multiple channels in the 2.4GHz/5GH WLAN, UWB, and Cellular bands, tests were conducted for various configurations having the highest power, least separation in frequencies and widest operation bandwidths. No noticeable new emission was found.

## 5.6. DESCRIPTION OF TEST SETUP

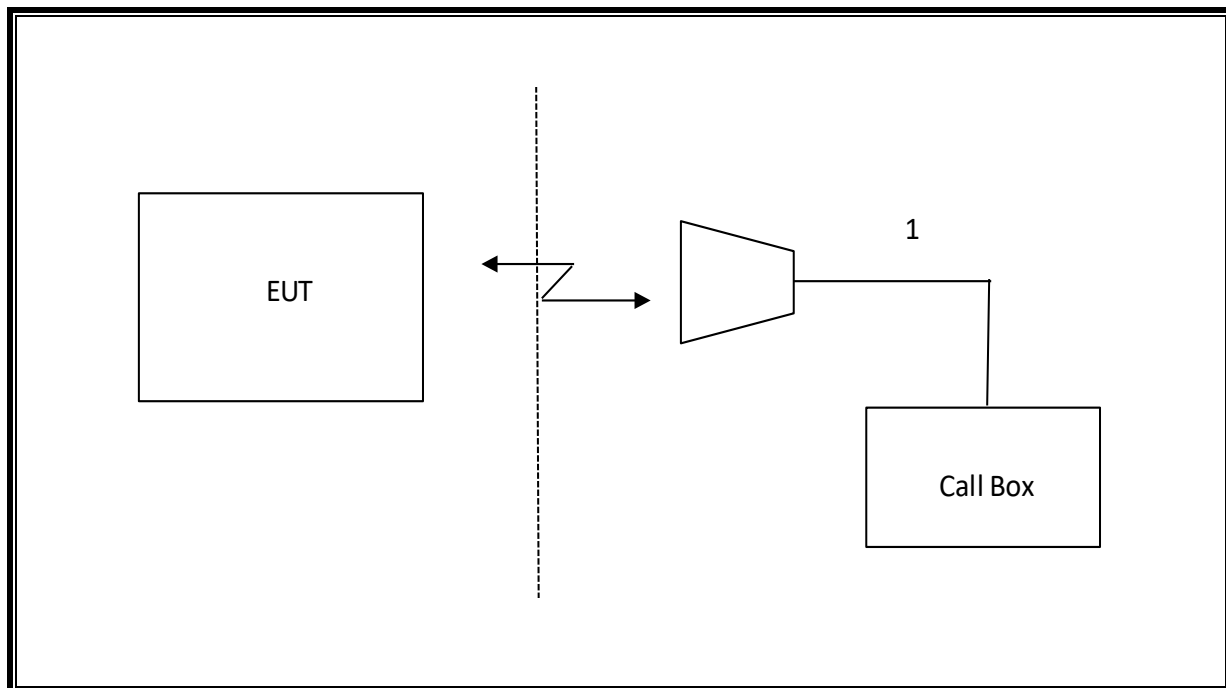
| SUPPORT TEST EQUIPMENT         |           |                      |                        |                   |                  |             |
|--------------------------------|-----------|----------------------|------------------------|-------------------|------------------|-------------|
| Description                    |           | Manufacturer         | Model                  | Serial Number     |                  | FCC ID/ DoC |
| Laptop AC/DC adapter           |           | Apple                | 85W MagSafe 2          | 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                | 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                                                                                                                                                                                                                                                                                                                                        | $\leq 1$            |                      | 0                    |
| DFT-s-OFDM 16 QAM                                                                                                                                                                                                                                                                                                                                      | $\leq 2$            |                      | $\leq 1$             |
| DFT-s-OFDM 64 QAM                                                                                                                                                                                                                                                                                                                                      |                     | $\leq 2.5$           |                      |
| DFT-s-OFDM 256 QAM                                                                                                                                                                                                                                                                                                                                     |                     | $\leq 4.5$           |                      |
| CP-OFDM QPSK                                                                                                                                                                                                                                                                                                                                           | $\leq 3$            |                      | $\leq 1.5$           |
| CP-OFDM 16 QAM                                                                                                                                                                                                                                                                                                                                         | $\leq 3$            |                      | $\leq 2$             |
| CP-OFDM 64 QAM                                                                                                                                                                                                                                                                                                                                         |                     | $\leq 3.5$           |                      |
| CP-OFDM 256 QAM                                                                                                                                                                                                                                                                                                                                        |                     | $\leq 6.5$           |                      |
| 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 | $\leq 3.5$          | $\leq 0.5$           | 0                    |
| DFT-s-OFDM QPSK      | $\leq 3.5$          | $\leq 1$             | 0                    |
| DFT-s-OFDM 16 QAM    | $\leq 3.5$          | $\leq 2$             | $\leq 1$             |
| DFT-s-OFDM 64 QAM    | $\leq 3.5$          | $\leq 2.5$           |                      |
| DFT-s-OFDM 256 QAM   |                     | $\leq 4.5$           |                      |
| CP-OFDM QPSK         | $\leq 3.5$          | $\leq 3$             | $\leq 1.5$           |
| CP-OFDM 16 QAM       | $\leq 3.5$          | $\leq 3$             | $\leq 2$             |
| CP-OFDM 64 QAM       |                     | $\leq 3.5$           |                      |
| CP-OFDM 256 QAM      |                     | $\leq 6.5$           |                      |

## 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 |
|-------------------|-------|------------|-----------|

### OUTPUT POWER FOR LTE BAND 2 (1.4 MHz)

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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                | 24           | 25.6                    | <b>25.7</b> | 25.5        | 23.0   | <b>23.1</b> | 23.1        | 24.9        | 25.0   | <b>25.0</b> | 22.8        | <b>23.0</b> | 22.7        |
|                    |            | 12               | 0            | 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               | 6            | 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               | 11           | 24.7                    | 24.6        | 24.6        | 22.1   | 22.1        | 22.1        | 24.0        | 24.0   | 24.0        | 21.8        | 22.0        | 21.8        |
|                    |            | 25               | 0            | 24.6                    | 24.6        | 24.5        | 22.0   | 22.0        | 22.1        | 24.0        | 23.9   | 24.0        | 21.8        | 21.9        | 21.7        |
|                    | 16QAM      | 1                | 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        |
|                    |            | 1                | 12           | 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                | 24           | 24.7                    | 24.8        | <b>25.1</b> | 22.6   | 22.2        | <b>22.7</b> | 24.5        | 24.1   | <b>24.6</b> | 21.9        | 22.1        | <b>22.3</b> |
|                    |            | 12               | 0            | 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               | 6            | 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               | 11           | 23.7                    | 23.8        | 23.7        | 21.3   | 21.2        | 21.2        | 23.1        | 23.1   | 23.2        | 20.9        | 21.1        | 20.9        |
|                    |            | 25               | 0            | 23.7                    | 23.7        | 23.7        | 21.2   | 21.2        | 21.3        | 23.1        | 23.0   | 23.2        | 20.9        | 21.0        | 20.9        |
|                    | 64QAM      | 1                | 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        |
|                    |            | 1                | 12           | 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                | 24           | <b>24.1</b>             | 23.7        | 24.0        | 21.5   | 21.2        | <b>21.6</b> | 23.3        | 22.9   | <b>23.4</b> | 21.0        | <b>21.2</b> | 20.5        |
|                    |            | 12               | 0            | 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               | 6            | 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               | 11           | 22.9                    | 22.8        | 22.7        | 20.4   | 20.4        | 20.2        | 22.0        | 22.1   | 22.0        | 19.7        | 20.0        | 19.8        |
|                    |            | 25               | 0            | 22.8                    | 22.8        | 22.6        | 20.3   | 20.3        | 20.2        | 21.9        | 22.0   | 22.0        | 19.6        | 19.9        | 19.7        |
|                    | 256QAM     | 1                | 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        |
|                    |            | 1                | 12           | 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                | 24           | 20.5                    | 20.0        | 20.3        | 17.8   | 17.5        | <b>17.9</b> | 20.0        | 19.6   | 19.9        | <b>17.9</b> | 17.8        | 17.7        |
|                    |            | 12               | 0            | <b>20.5</b>             | 20.1        | 20.3        | 17.7   | 17.4        | 17.7        | 19.9        | 19.5   | 19.8        | 17.8        | 17.7        | 17.6        |
|                    |            | 12               | 6            | 20.4                    | 20.3        | 20.2        | 17.7   | 17.8        | 17.7        | <b>20.0</b> | 19.9   | 19.8        | 17.7        | 17.4        | 17.4        |
|                    |            | 12               | 11           | 20.5                    | 20.3        | 20.2        | 17.8   | 17.8        | 17.7        | 20.0        | 19.9   | 19.8        | 17.7        | 17.5        | 17.5        |
|                    |            | 25               | 0            | 20.5                    | 20.3        | 20.2        | 17.7   | 17.7        | 17.7        | 19.9        | 19.8   | 19.8        | 17.7        | 17.4        | 17.4        |

**OUTPUT POWER FOR LTE BAND 2 (10.0 MHz)**

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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 |
|-------------------|-------|------------|-----------|

### OUTPUT POWER FOR LTE BAND 5 (1.4 MHz)

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>Offset | Conducted Average (dBm) |       |       |       |       |       |
|--------------------|------------|------------------|--------------|-------------------------|-------|-------|-------|-------|-------|
|                    |            |                  |              | ANT 1                   |       |       | ANT 2 |       |       |
|                    |            |                  |              | 20407                   | 20525 | 20643 | 20407 | 20525 | 20643 |
| 1.4                | QPSK       | 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  |
|                    |            | 6                | 0            | 24.7                    | 24.7  | 24.7  | 23.5  | 23.4  | 23.4  |
|                    | 16QAM      | 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  |
|                    |            | 6                | 0            | 22.5                    | 22.9  | 22.6  | 22.0  | 21.7  | 21.6  |
|                    | 256QAM     | 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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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        | <b>25.7</b> | 24.5        | 24.4        | 24.5        |
|                    |            | 1                | 14           | 25.7                    | 25.7        | 25.7        | <b>24.5</b> | 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        | <b>25.2</b> | 23.6        | 23.3        | 23.8        |
|                    |            | 1                | 7            | 24.8                    | 24.8        | 25.2        | 23.6        | 23.4        | <b>23.9</b> |
|                    |            | 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                    | <b>23.9</b> | 23.7        | 22.9        | <b>22.9</b> | 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        | <b>19.6</b> | 18.8        |
|                    |            | 8                | 0            | <b>20.8</b>             | 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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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 |
|-------------------|-------|------------|-----------|

#### 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 |
|-------------------|-------|------------|-----------|

### OUTPUT POWER FOR LTE BAND 7 (5.0 MHz)

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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  |
|                    | 16QAM      | 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  |
|                    |            | 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  |
|                    | 64QAM      | 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  |
|                    |            | 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  |
|                    | 256QAM     | 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  |
|                    |            | 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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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 |
|-------------------|-------|------------|-----------|

### OUTPUT POWER FOR LTE BAND 12 (1.4 MHz)

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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  | <b>24.5</b> |
|                    |            | 1                | 24           | 24.6                    | <b>25.7</b> | 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                    | <b>24.8</b> | 24.2  | 23.8        | 23.4  | 23.3        |
|                    |            | 1                | 49           | 24.7                    | 24.5        | 23.6  | <b>23.9</b> | 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                    | <b>24.2</b> | 23.4  | 22.7        | 22.7  | 22.8        |
|                    |            | 1                | 49           | 23.7                    | 23.8        | 23.0  | 22.8        | 22.8  | <b>22.9</b> |
|                    |            | 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  | <b>19.3</b> | 18.6  | 18.9        |
|                    |            | 1                | 49           | <b>20.9</b>             | 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 |
|-------------------|-------|------------|-----------|

### 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 |
|-------------------|-------|------------|-----------|

### OUTPUT POWER FOR LTE BAND 13 (5.0 MHz)

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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 |
|-------------------|-------|------------|-----------|

### OUTPUT POWER FOR LTE BAND 14 (5.0 MHz)

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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 |
|                    |            |                  |              |                         | <b>25.7</b> |     |       | <b>24.5</b> |     |
|                    |            | 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            |                         | <b>24.8</b> |     |       | <b>23.7</b> |     |
|                    |            | 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            |                         | <b>24.1</b> |     |       | <b>22.8</b> |     |
|                    |            | 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           |                         | <b>20.5</b> |     |       | 19.3        |     |
|                    |            | 25               | 0            |                         | 20.4        |     |       | 19.4        |     |
|                    |            | 25               | 12           |                         | 20.5        |     |       | <b>19.5</b> |     |
|                    |            | 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 |
|-------------------|-------|------------|-----------|

### OUTPUT POWER FOR LTE BAND 17 (5.0 MHz)

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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 |
|-------------------|-------|------------|-----------|

### OUTPUT POWER FOR LTE BAND 25 (1.4 MHz)

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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  | 22.9  | 25.0  | 25.0  | 24.9  | 22.9  | 23.0  | 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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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   |
|                    |            | 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   |
|                    | 16QAM      | 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   |
|                    |            | 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   |
|                    | 64QAM      | 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   |
|                    |            | 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   |
|                    | 256QAM     | 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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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   |
|                    |            | 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   |
|                    | 16QAM      | 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   |
|                    |            | 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   |
|                    | 64QAM      | 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   |
|                    |            | 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   |
|                    | 256QAM     | 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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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                    | 25.4   | 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                    | 24.6   | 24.4   | 22.1   | 22.1   | 22.0   | 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                    | 25.0   | 25.0   | 21.0   | 21.2   | 21.7   | 24.5   | 24.4   | 24.5   | 22.5   | 22.3   | 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                    | 22.9   | 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 |
|-------------------|-------|------------|-----------|

### OUTPUT POWER FOR LTE BAND 26 (1.4 MHz)

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>Offset | Conducted Average (dBm) |                |                |                |                |                |
|--------------------|------------|------------------|--------------|-------------------------|----------------|----------------|----------------|----------------|----------------|
|                    |            |                  |              | ANT 1                   |                |                | ANT 2          |                |                |
|                    |            |                  |              | 26697<br>814.7          | 26740<br>819.0 | 26783<br>823.3 | 26697<br>814.7 | 26740<br>819.0 | 26783<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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 |
|-------------------|-------|------------|----------|

### OUTPUT POWER FOR LTE BAND 30 (5.0 MHz)

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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   |
|                    |            | 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   |
|                    | 16QAM      | 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   |
|                    |            | 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   |
|                    | 64QAM      | 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   |
|                    |            | 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   |
|                    | 265QAM     | 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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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   |     |
|                    | 16QAM      | 50               | 0            |                         | 22.1   |     |       | 19.6   |     |       | 21.5   |     |       | 19.5   |     |
|                    |            | 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   |     |
|                    | 64QAM      | 25               | 24           |                         | 23.8   |     |       | 21.0   |     |       | 23.1   |     |       | 20.6   |     |
|                    |            | 50               | 0            |                         | 20.8   |     |       | 17.9   |     |       | 20.1   |     |       | 17.6   |     |
|                    |            | 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   |     |
|                    | 256QAM     | 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   |     |
|                    |            | 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 |
|-------------------|-------|------------|----------|

#### OUTPUT POWER FOR LTE BAND 41 (5.0 MHz)

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>Offset | Conducted Average (dBm) |       |       |       |       |       |       |       |       |       |       |       |
|--------------------|------------|------------------|--------------|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                    |            |                  |              | ANT 1                   |       |       | ANT 2 |       |       | ANT 3 |       |       | ANT 4 |       |       |
|                    |            |                  |              | 39675                   | 40620 | 41565 | 39675 | 40620 | 41565 | 39675 | 40620 | 41565 | 39675 | 40620 | 41565 |
| 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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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 |
|-------------------|-------|------------|-----------|

### OUTPUT POWER FOR 5G NR Band n41 (20.0 MHz)

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>Offset | Conducted Average (dBm) |        |        |        |        |        |        |        |        |        |        |        |
|--------------------|------------|------------------|--------------|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                    |            |                  |              | ANT 2                   |        |        | ANT 1  |        |        | ANT 4  |        |        | ANT 3  |        |        |
|                    |            |                  |              | 501200                  | 518600 | 536000 | 501200 | 518600 | 536000 | 501200 | 518600 | 536000 | 501200 | 518600 | 536000 |
|                    |            |                  |              | 2506.0                  | 2593.0 | 2680.0 | 2506.0 | 2593.0 | 2680.0 | 2506.0 | 2593.0 | 2680.0 | 2506.0 | 2593.0 | 2680.0 |
| 20.0               | BPSK       | 1                | 0            | 22.9                    | 24.7   | 24.8   |        |        |        | 21.2   | 23.6   | 23.8   |        |        |        |
|                    |            | 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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>Offset | Conducted Average (dBm) |        |        |        |        |        |        |        |        |        |        |        |
|--------------------|------------|------------------|--------------|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                    |            |                  |              | ANT 2                   |        |        | ANT 1  |        |        | ANT 4  |        |        | ANT 3  |        |        |
|                    |            |                  |              | 503200                  | 518600 | 534000 | 503200 | 518600 | 534000 | 503200 | 518600 | 534000 | 503200 | 518600 | 534000 |
|                    |            |                  |              | 2516.0                  | 2593.0 | 2670.0 | 2516.0 | 2593.0 | 2670.0 | 2516.0 | 2593.0 | 2670.0 | 2516.0 | 2593.0 | 2670.0 |
| 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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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 |
|-------------------|-------|------------|-----------|

### OUTPUT POWER FOR LTE BAND 48 (5.0 MHz)

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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 |
|-------------------|-------|------------|-----------|

### OUTPUT POWER FOR LTE BAND 66 (1.4 MHz)

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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 |
|-------------------|-------|------------|-----------|

### OUTPUT POWER FOR LTE BAND 71 (5.0 MHz)

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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            | <b>25.7</b>             | 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   | <b>24.5</b> | 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            | <b>25.2</b>             | 24.7        | 25.1   | 23.9        | 24.0        | 23.5        |
|                    |            | 1                | 37           | 25.2                    | 24.7        | 25.0   | 24.0        | <b>23.9</b> | 23.4        |
|                    |            | 1                | 74           | 25.2                    | 24.7        | 25.0   | 23.9        | <b>24.0</b> | 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                    | <b>24.3</b> | 23.9   | 22.6        | <b>23.1</b> | 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            | <b>20.7</b>             | 19.9        | 20.3   | 18.6        | 19.0        | 19.3        |
|                    |            | 1                | 37           | 20.6                    | 20.0        | 20.3   | 18.8        | 19.3        | <b>19.5</b> |
|                    |            | 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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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  |
|                    |            |                  |              | <b>25.7</b>             | 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   | <b>24.5</b> | 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            | <b>25.3</b>             | 25.1        | 25.2   | 23.8        | <b>24.1</b> | 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            | <b>24.3</b>             | 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   | <b>23.2</b> | 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           | <b>20.8</b>             | <b>20.8</b> | 20.4   | 19.3        | <b>19.5</b> | 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 |
|-------------------|-------|------------|-----------|

### OUTPUT POWER FOR 5G NR BAND n77 (20.0 MHz)

| Bandwidth<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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<br>(MHz) | Modulation | RB<br>Allocation | RB<br>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         |

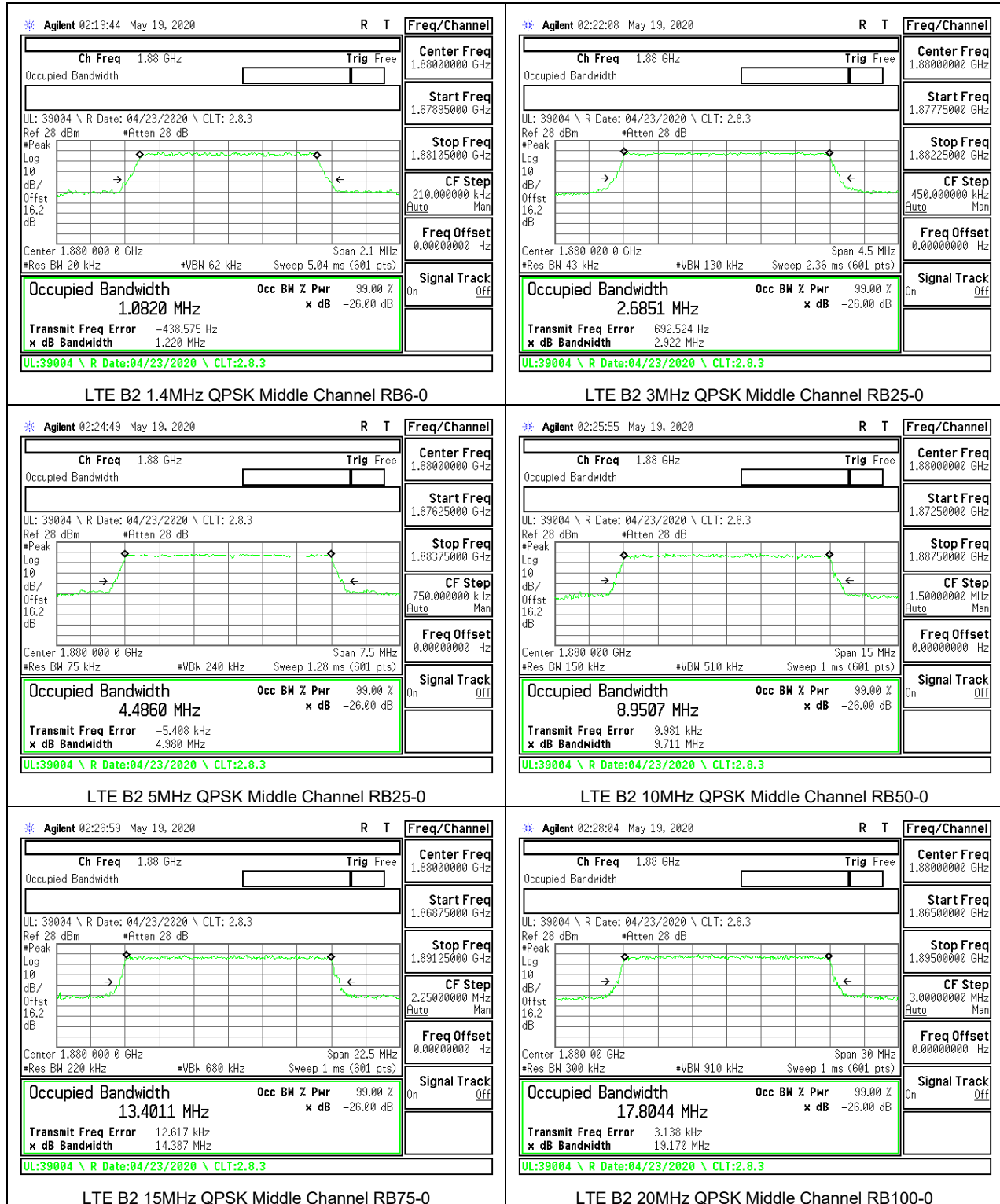
### LTE BAND 71

| Band        | Mode         | RB Allocation/RB Offset | f(MHz)                  | 99% BW (MHz) | -26dB BW (MHz) |
|-------------|--------------|-------------------------|-------------------------|--------------|----------------|
| LTE BAND 71 | 5MHz, QPSK   | 25/0                    | 680.5<br>(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<br>(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          |                |

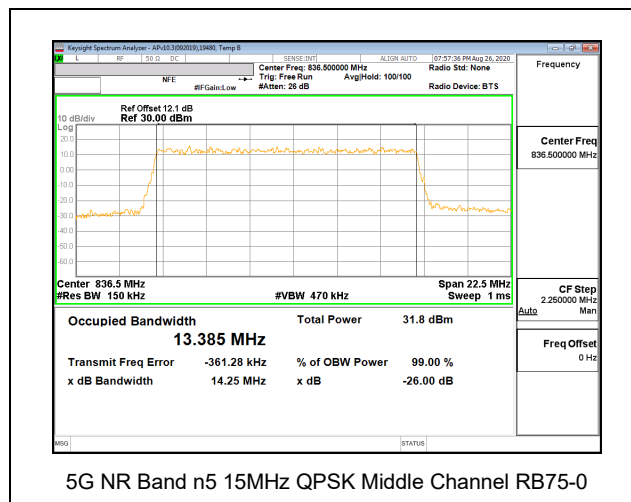
## 8.1.1. LTE BAND 2



## 8.1.2. LTE BAND 5



## 8.1.3. 5G NR BAND n5





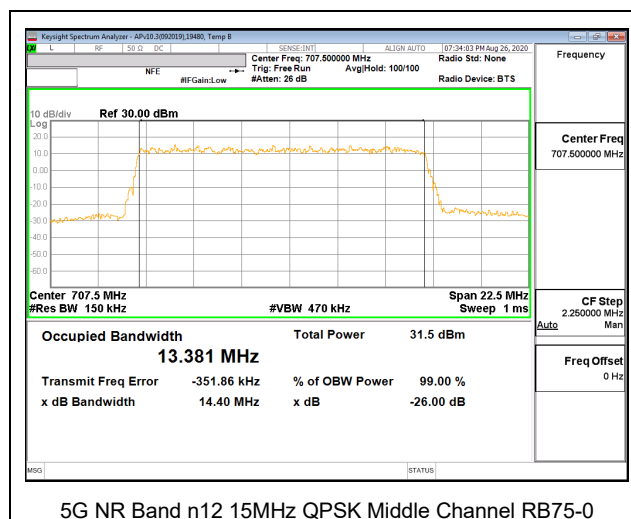
## 8.1.4. LTE BAND 7



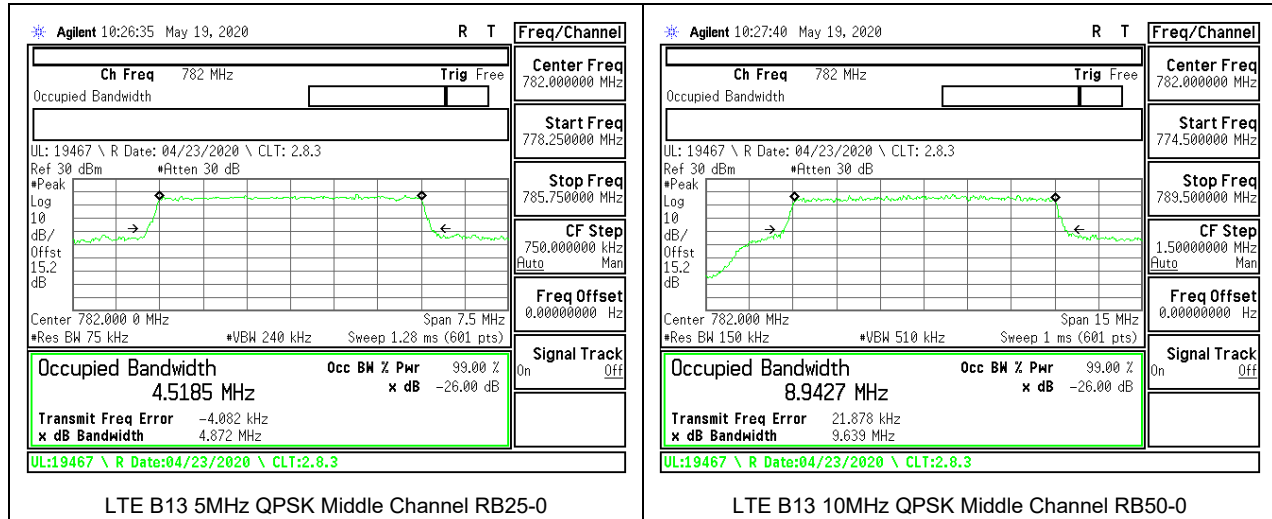
## 8.1.5. LTE BAND 12



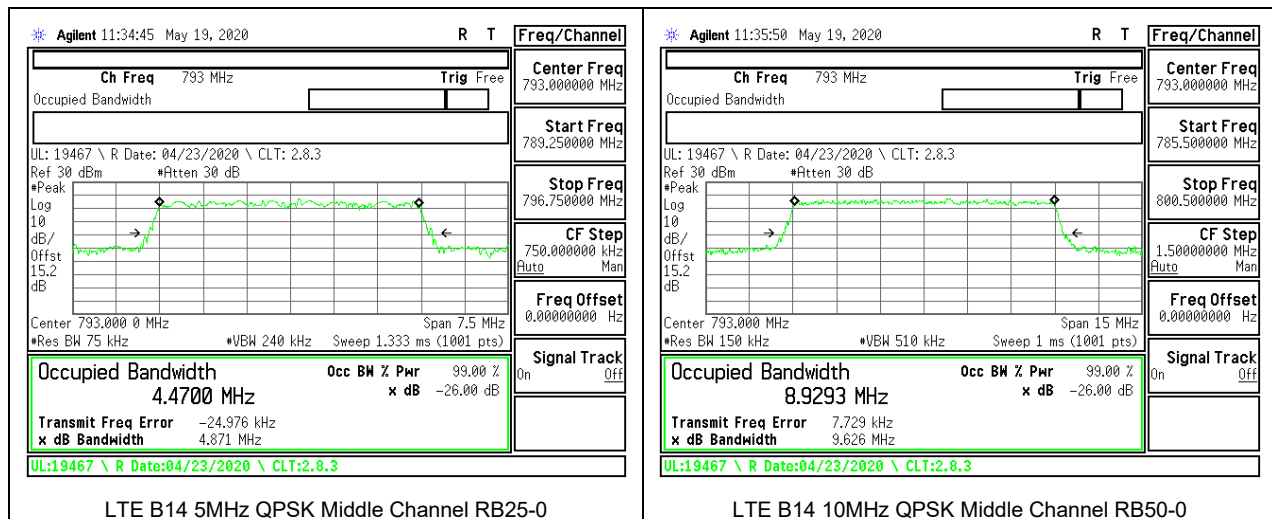
## 8.1.6. 5G NR BAND n12



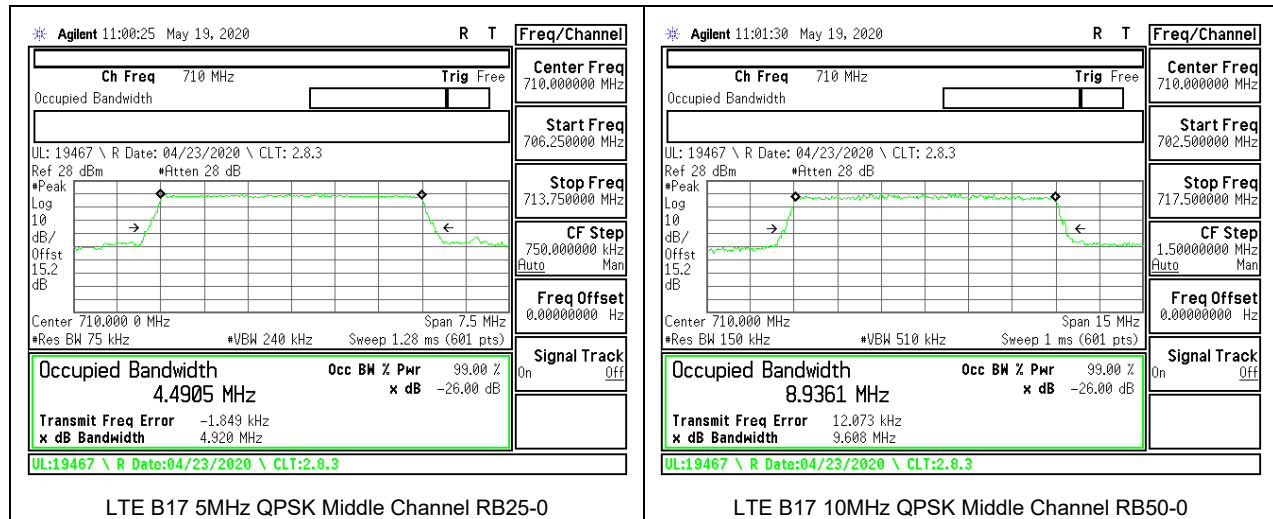
### 8.1.7. LTE BAND 13



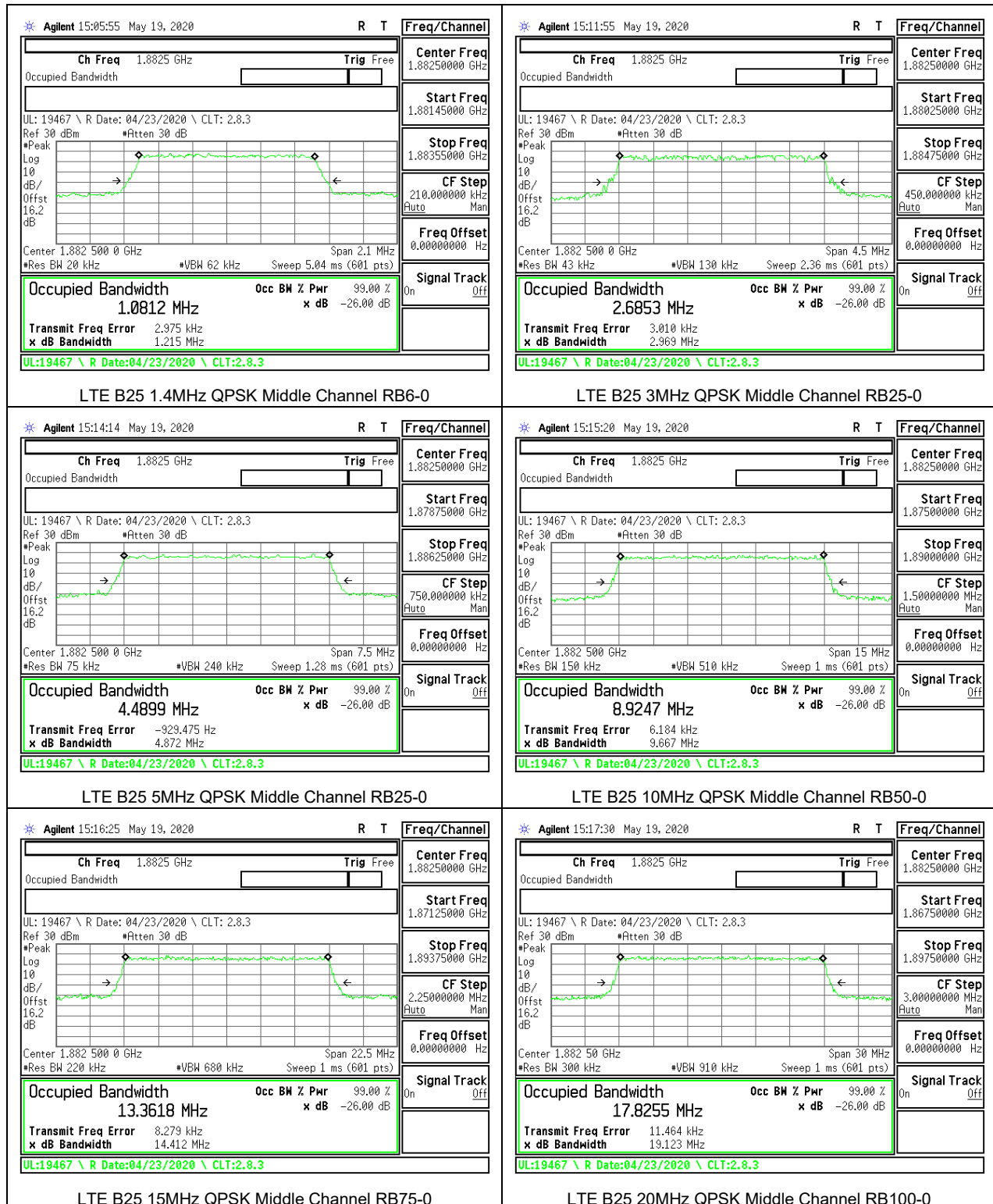
### 8.1.8. LTE BAND 14



## 8.1.9. LTE BAND 17



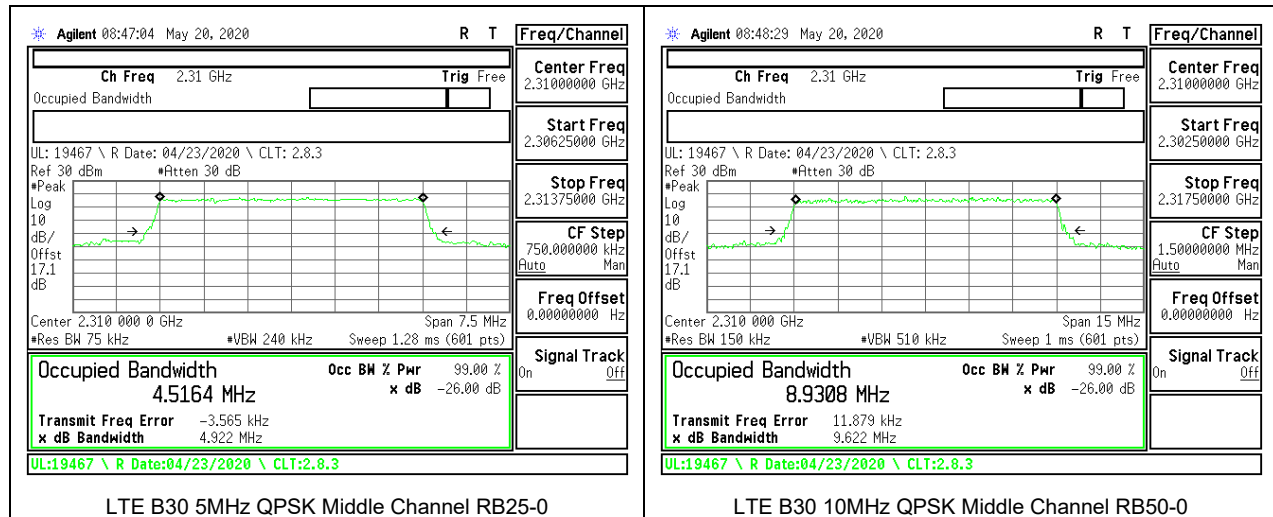
## 8.1.10. LTE BAND 25



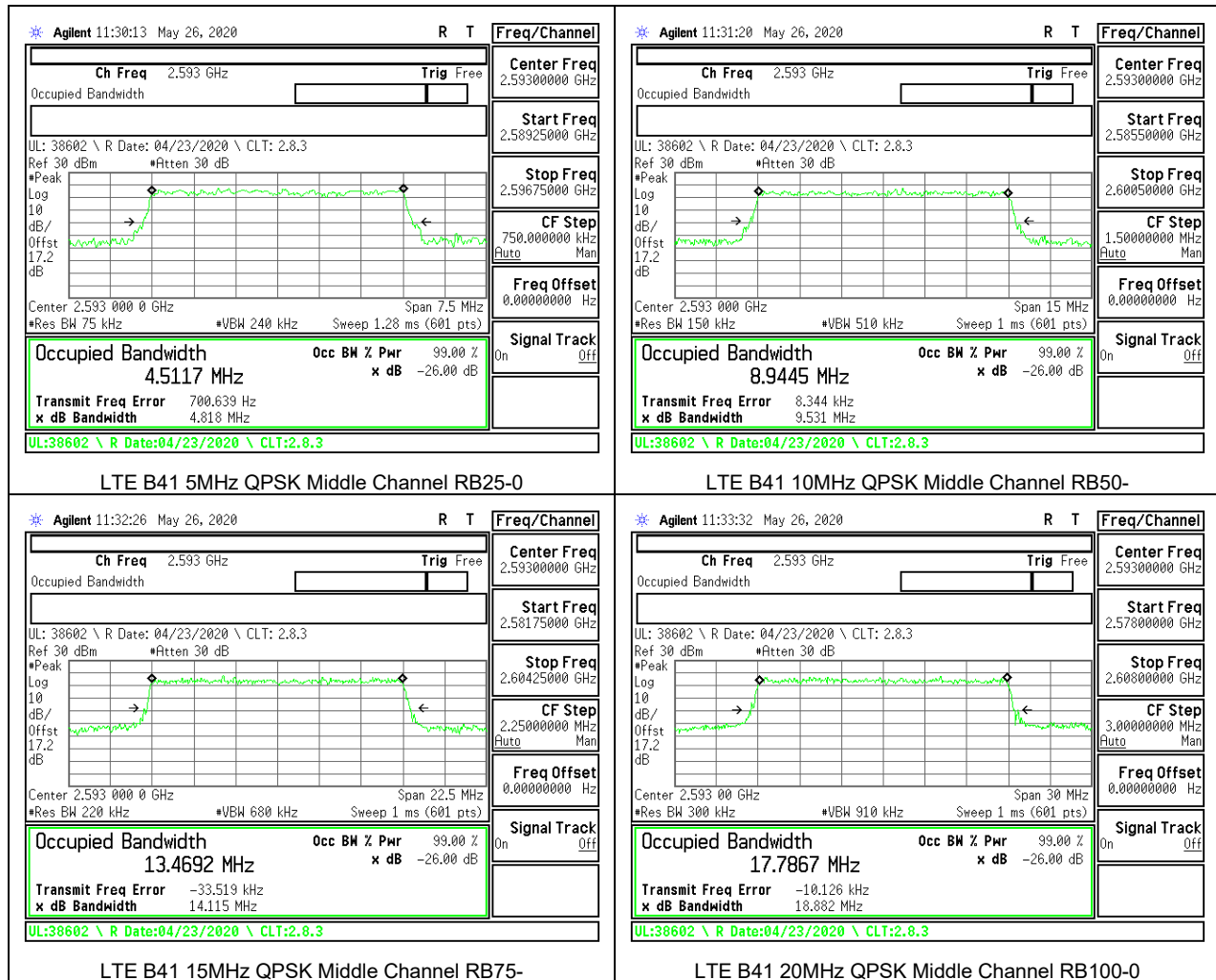
### 8.1.11. LTE BAND 26 (FCC PART 90S)



## 8.1.12. LTE BAND 30



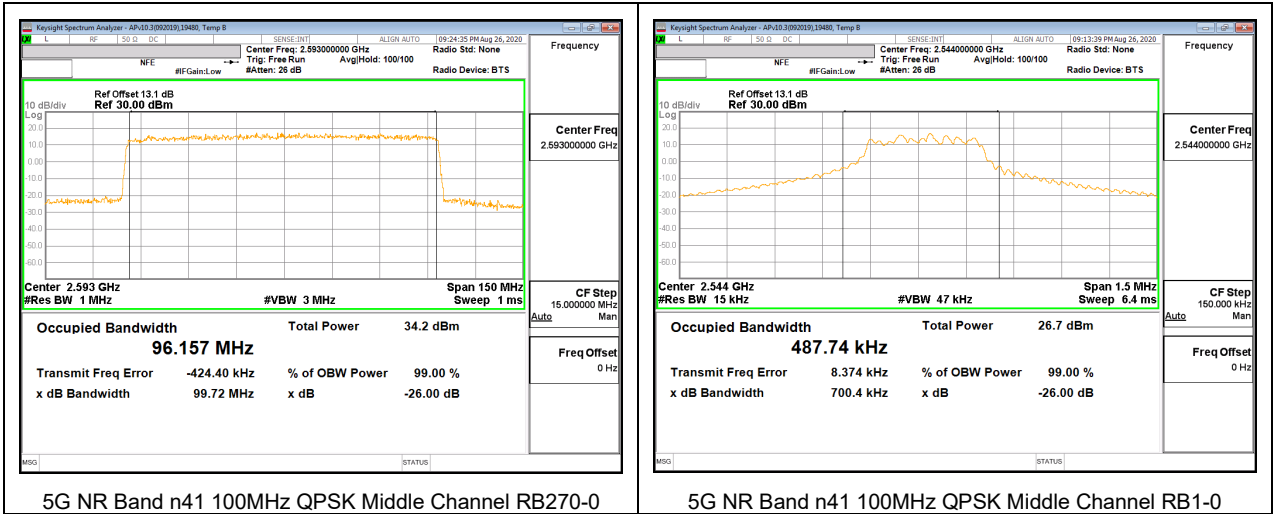
### 8.1.13. LTE BAND 41



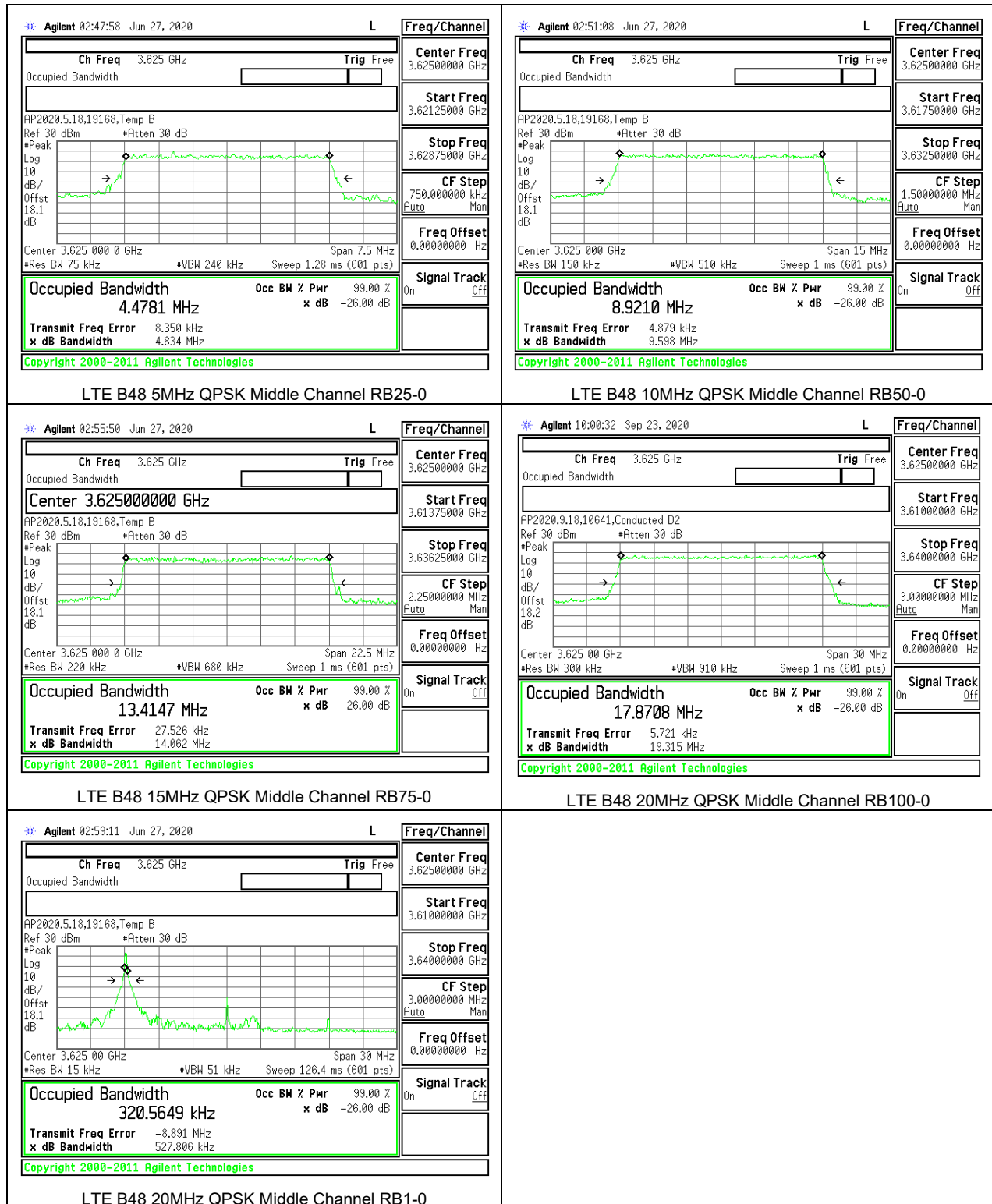


### 8.1.14. 5G NR BAND n41

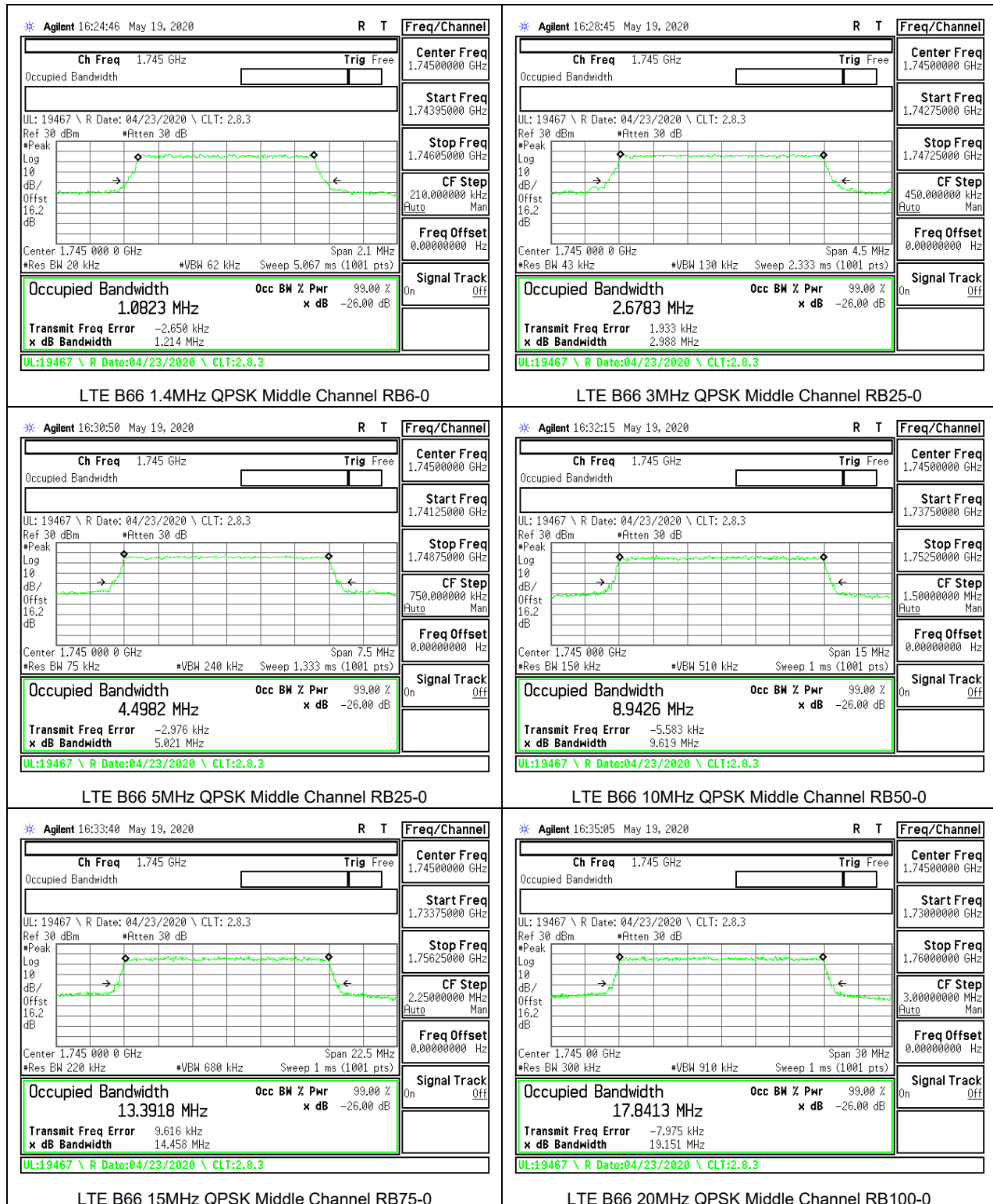




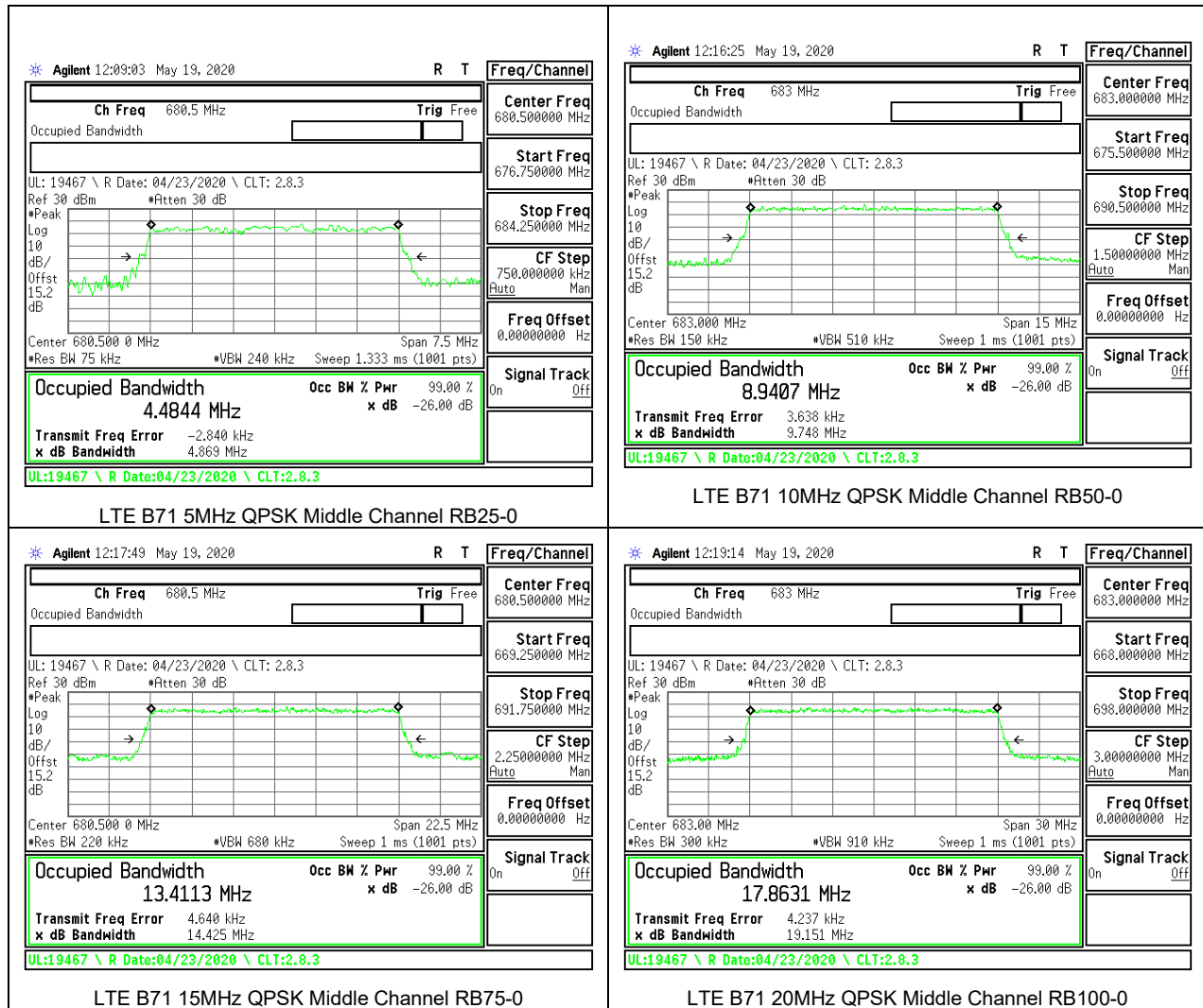
### 8.1.15. LTE BAND 48



## 8.1.16. LTE BAND 66

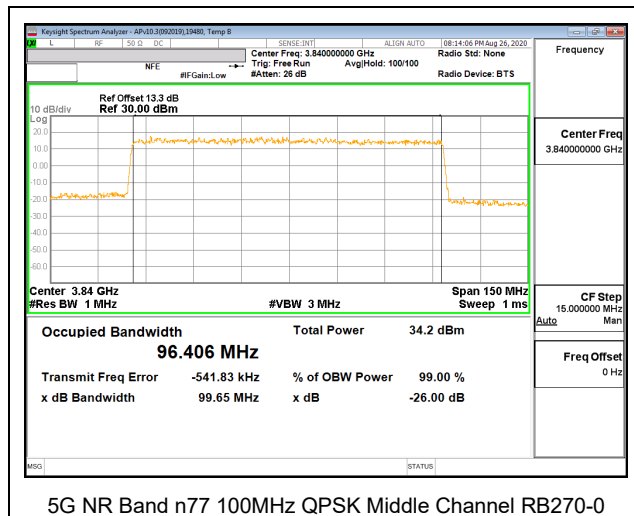


### 8.1.17. LTE BAND 71



### 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.

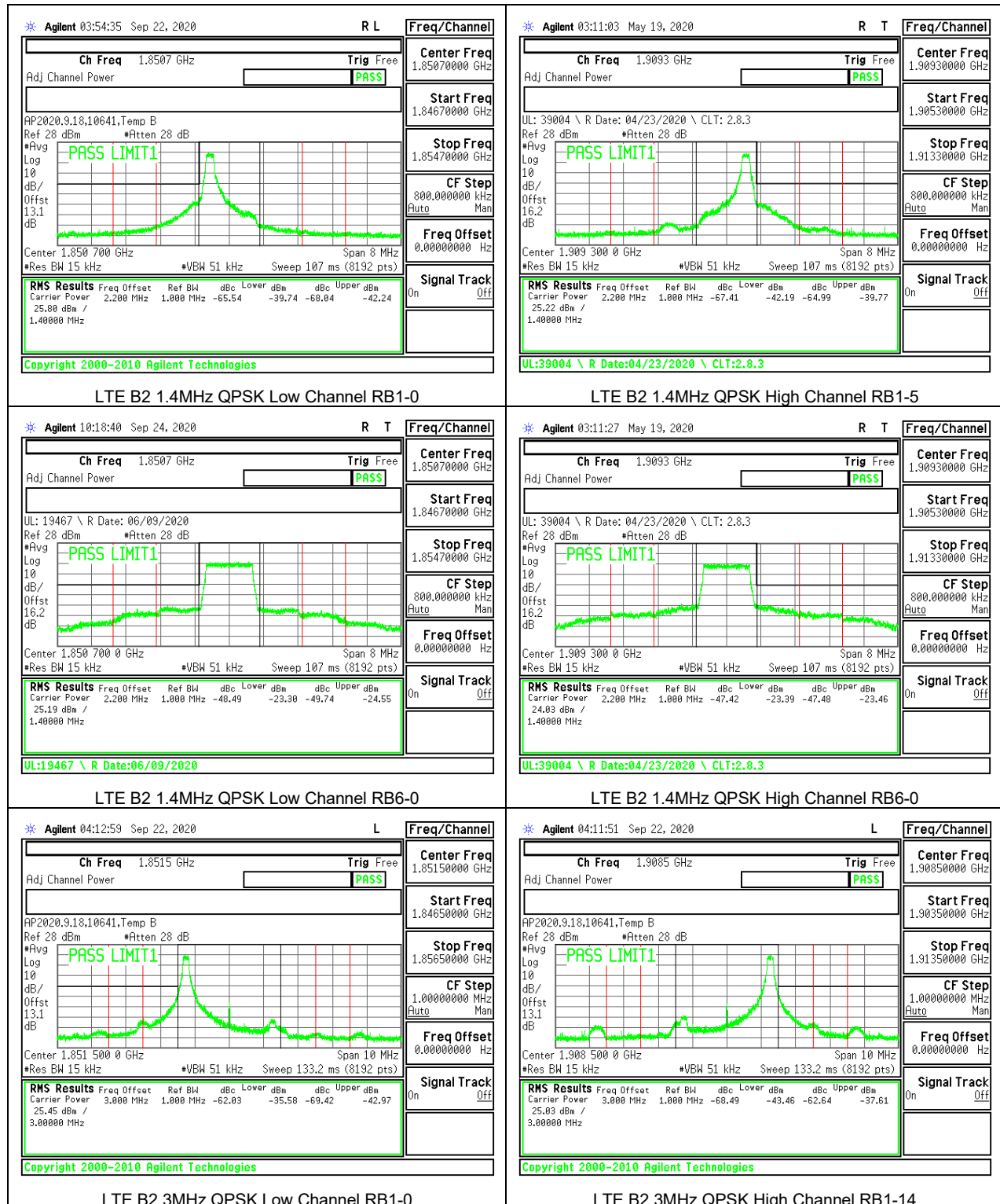
#### **RESULTS**

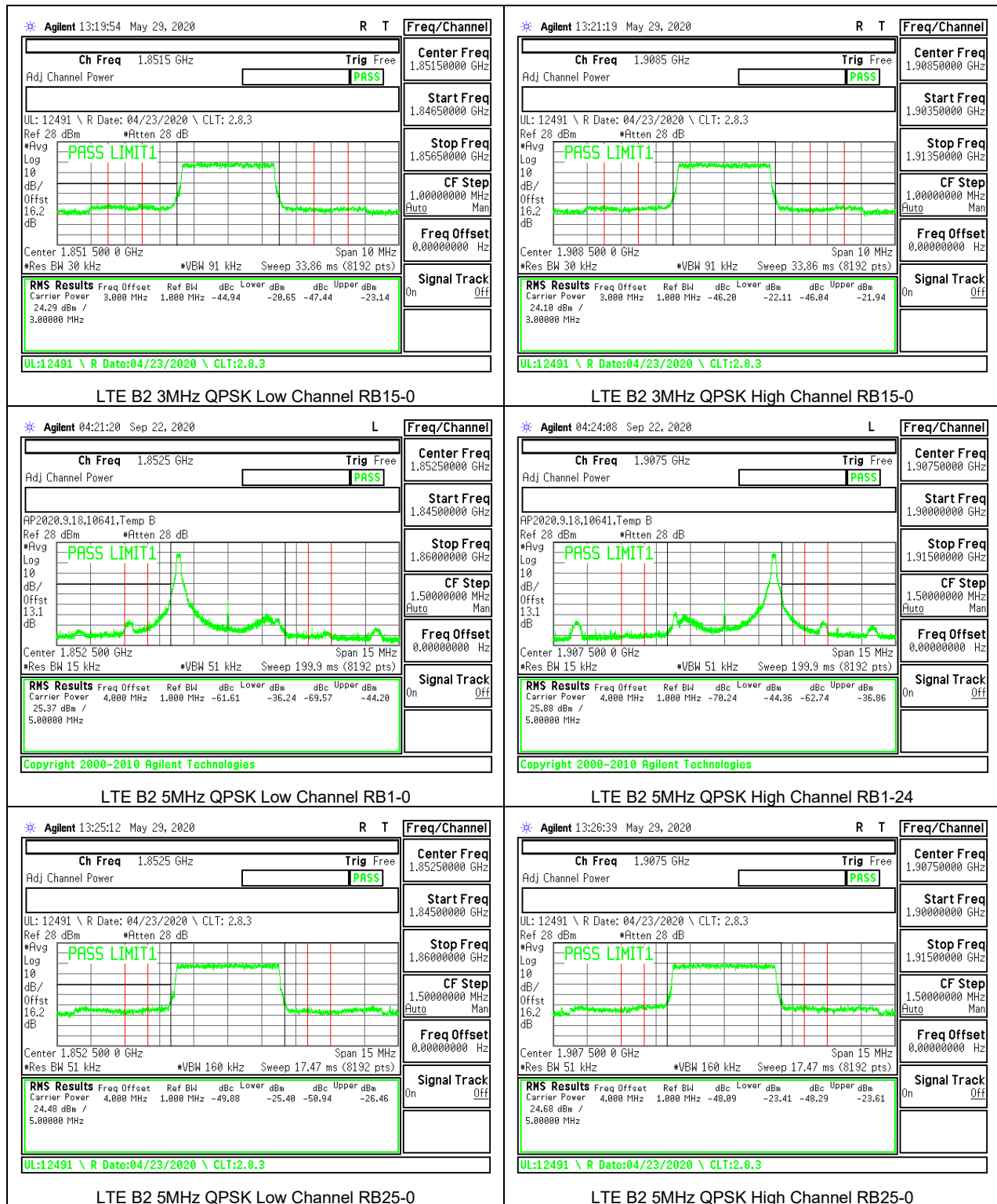
### 8.2.1. LTE BAND 2 BANDEDGE

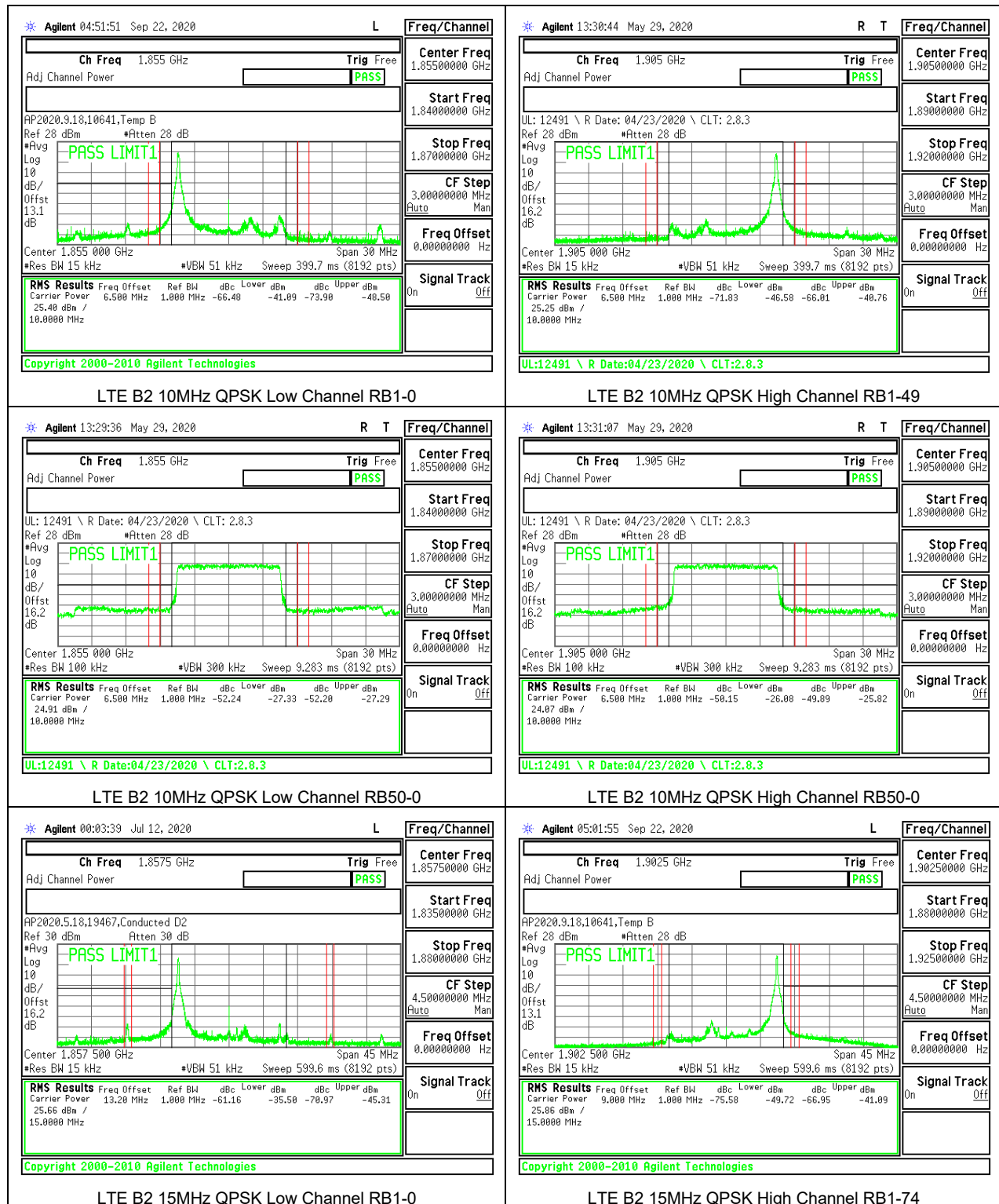
#### **LIMITS**

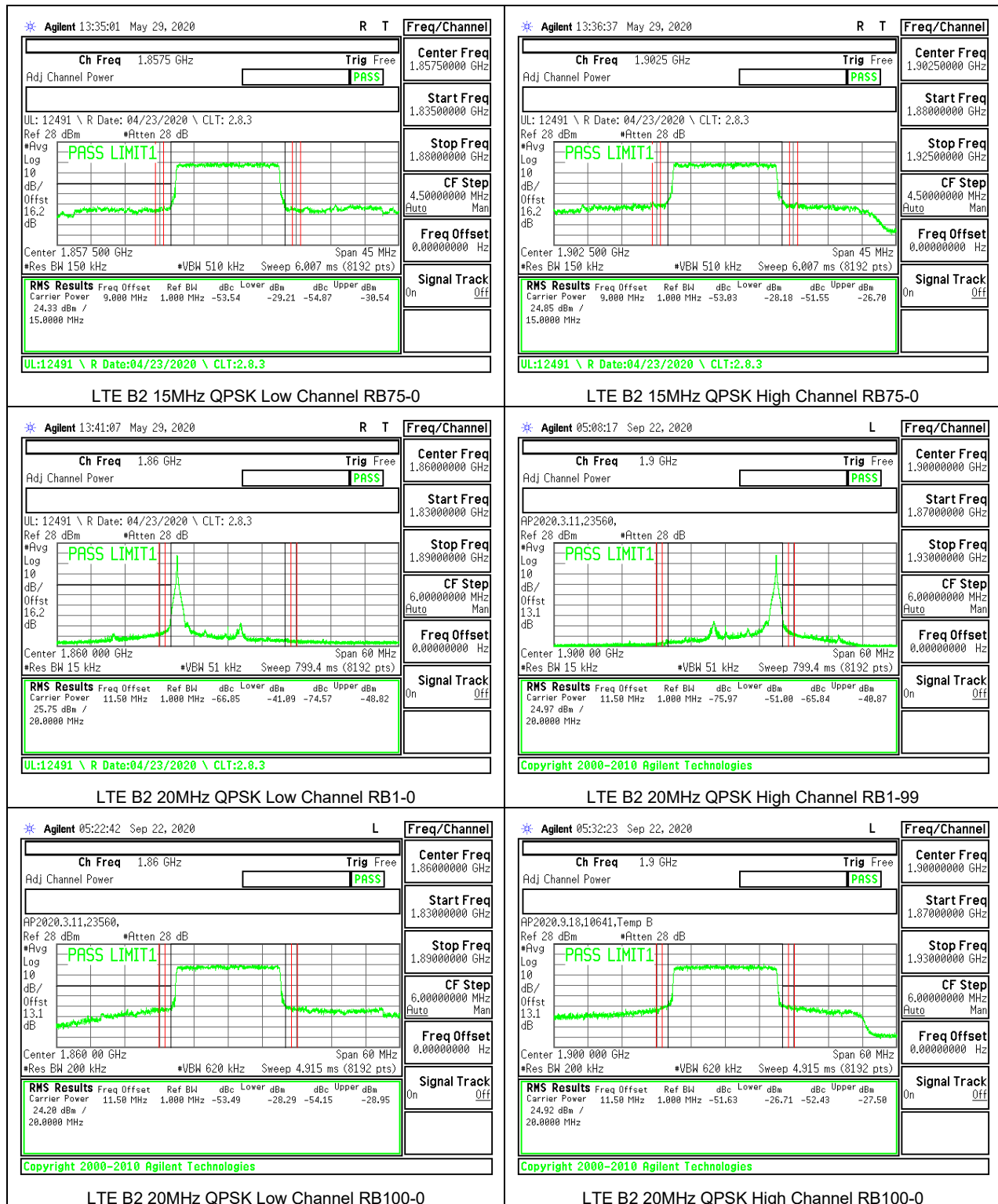
FCC: §24.238

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.









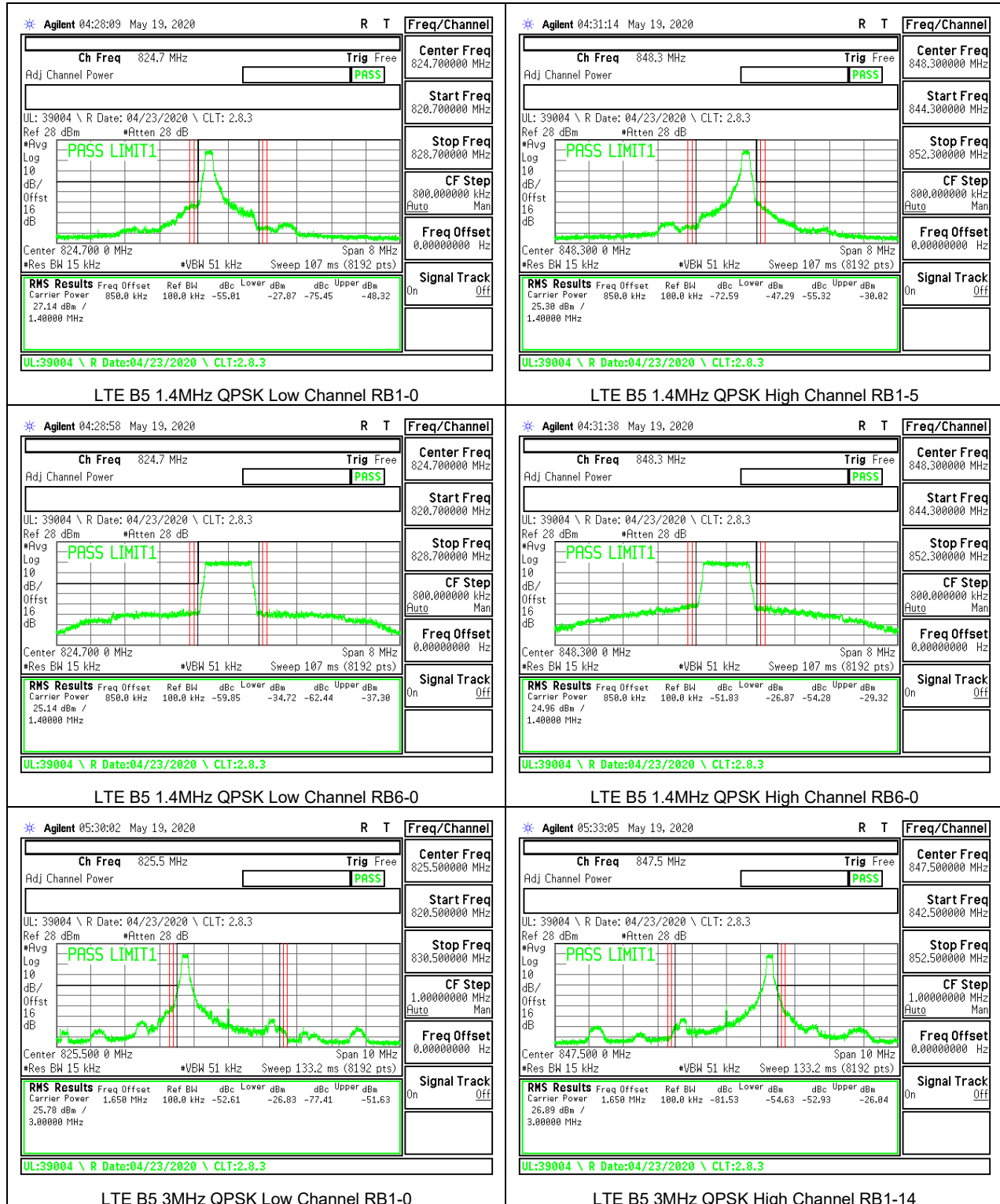
### 8.2.2. LTE BAND 5 AND 5G NR BAND n5 BANDEDGE

#### **LIMITS**

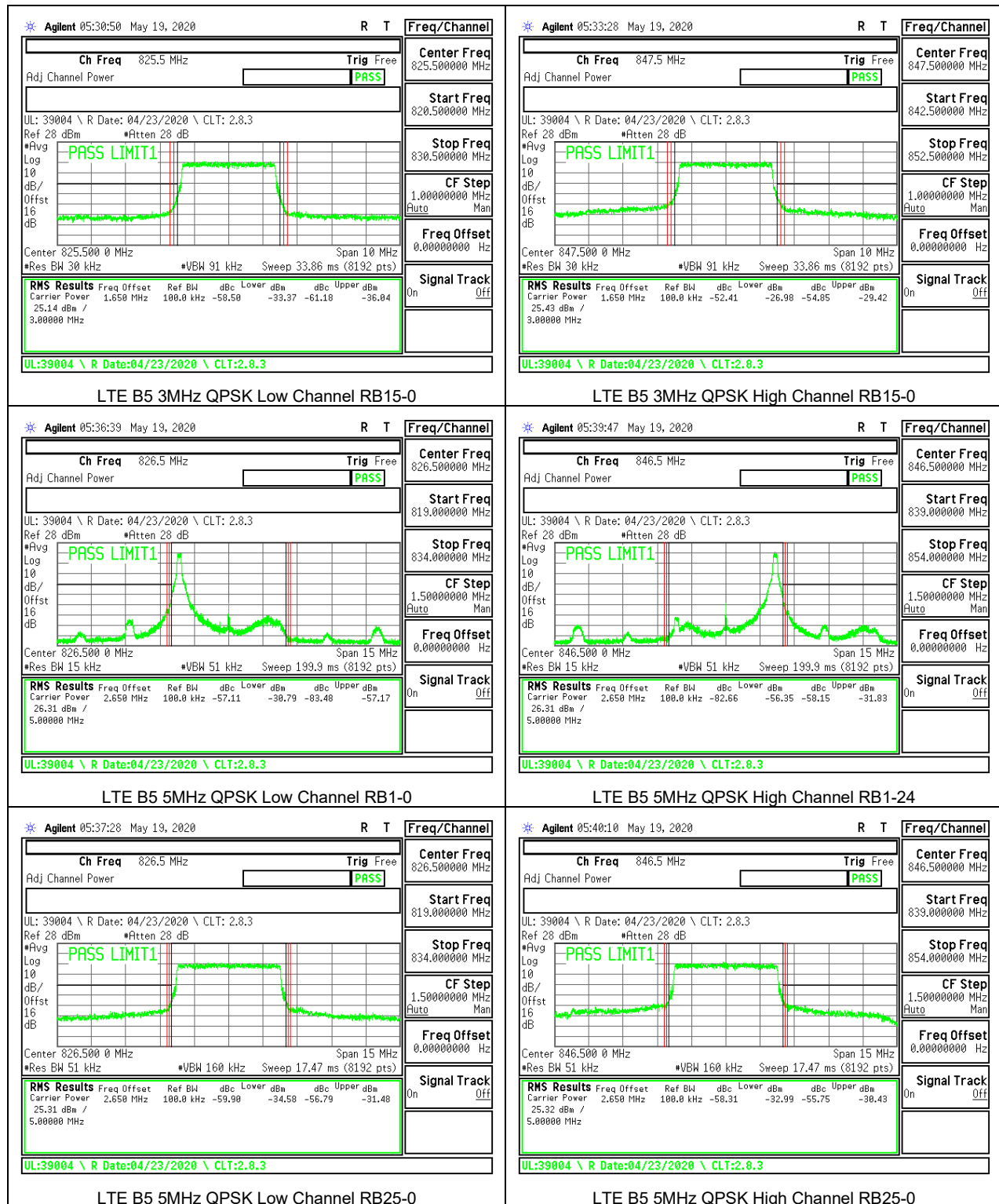
FCC: §22.917

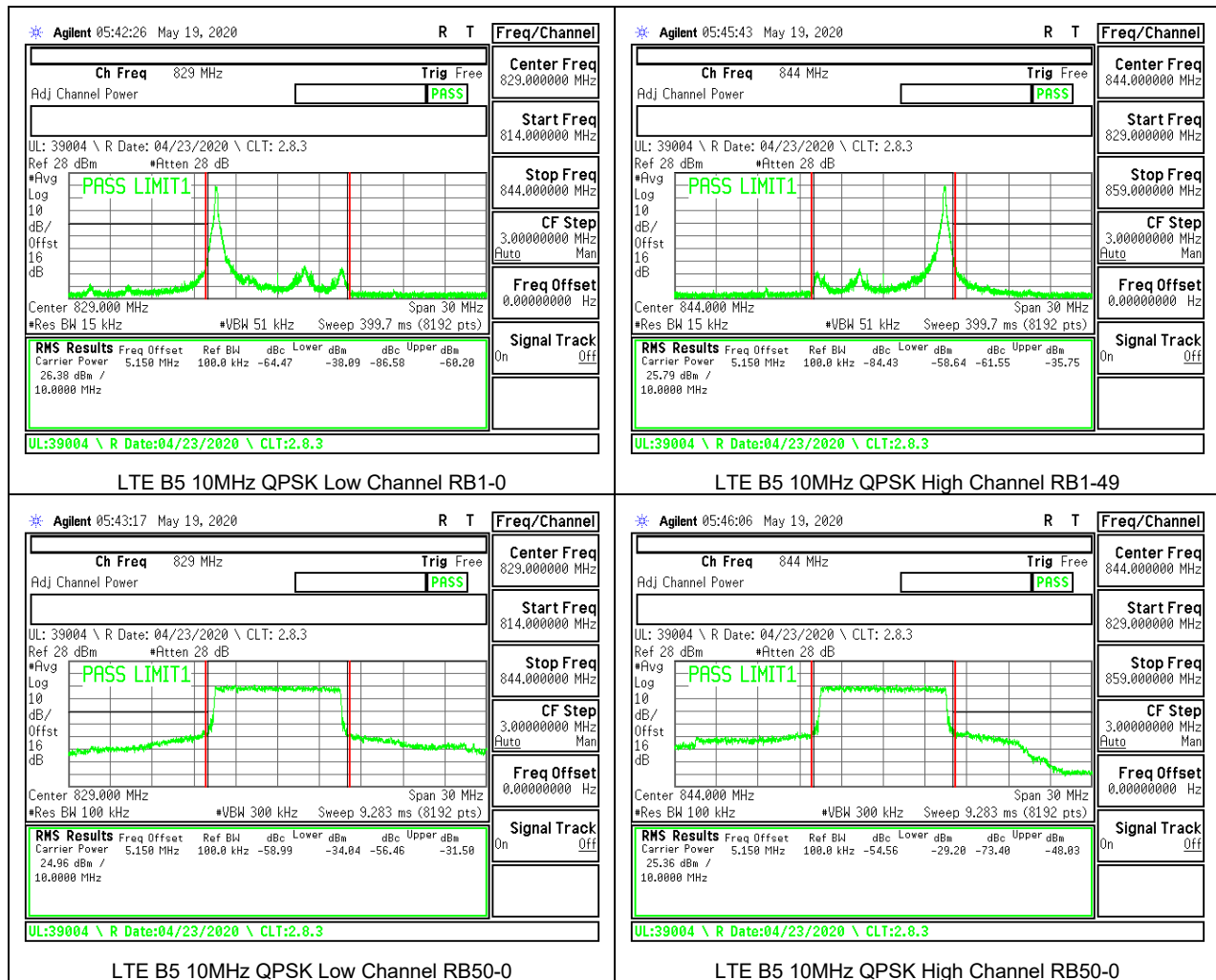
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

**LTE BAND 5 BANDEDGE**

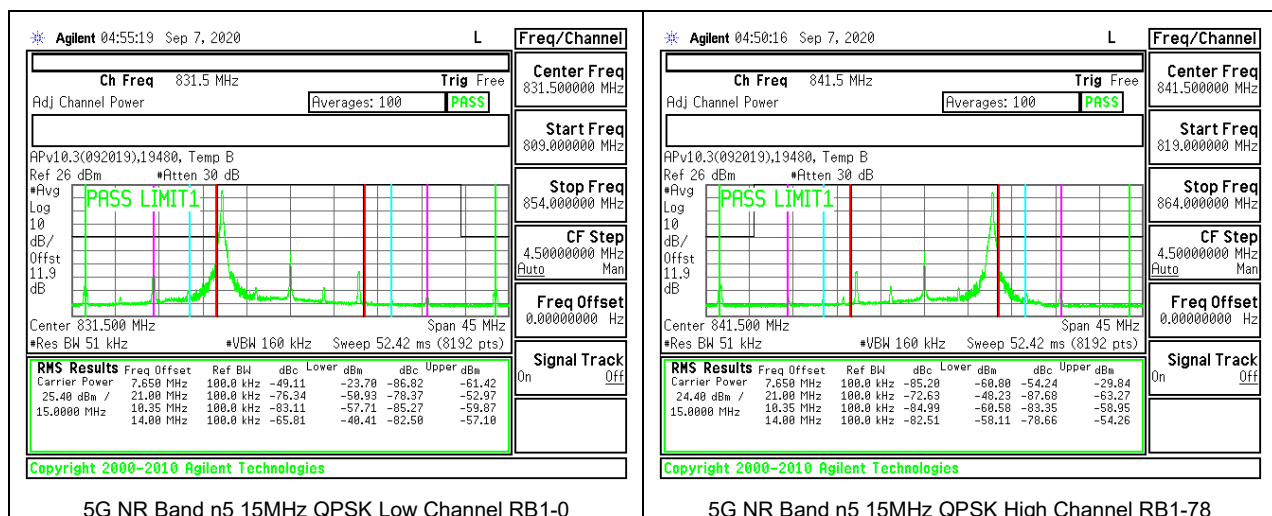


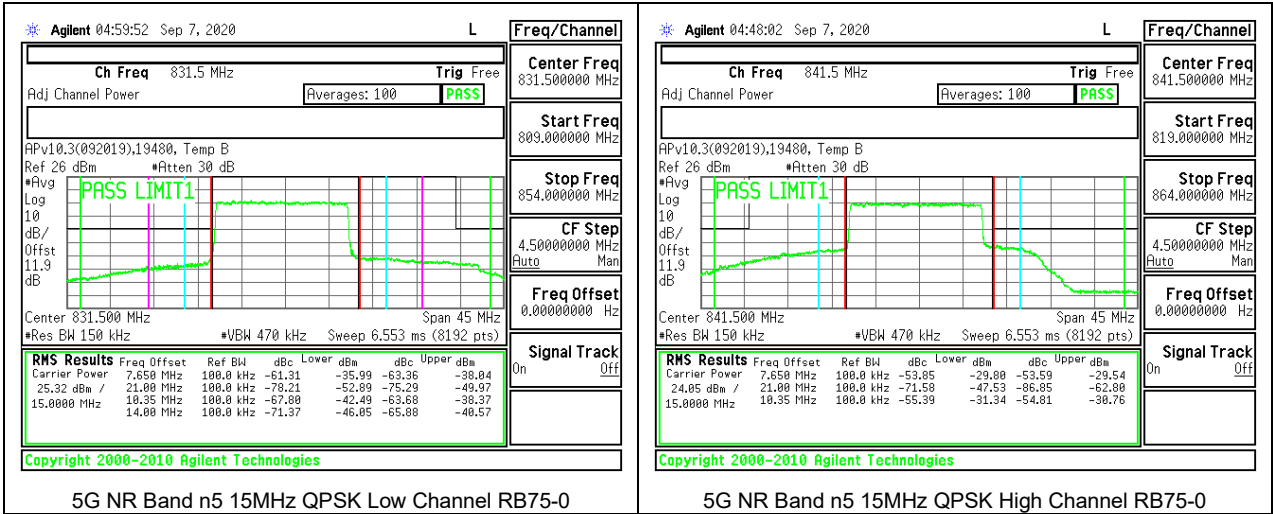


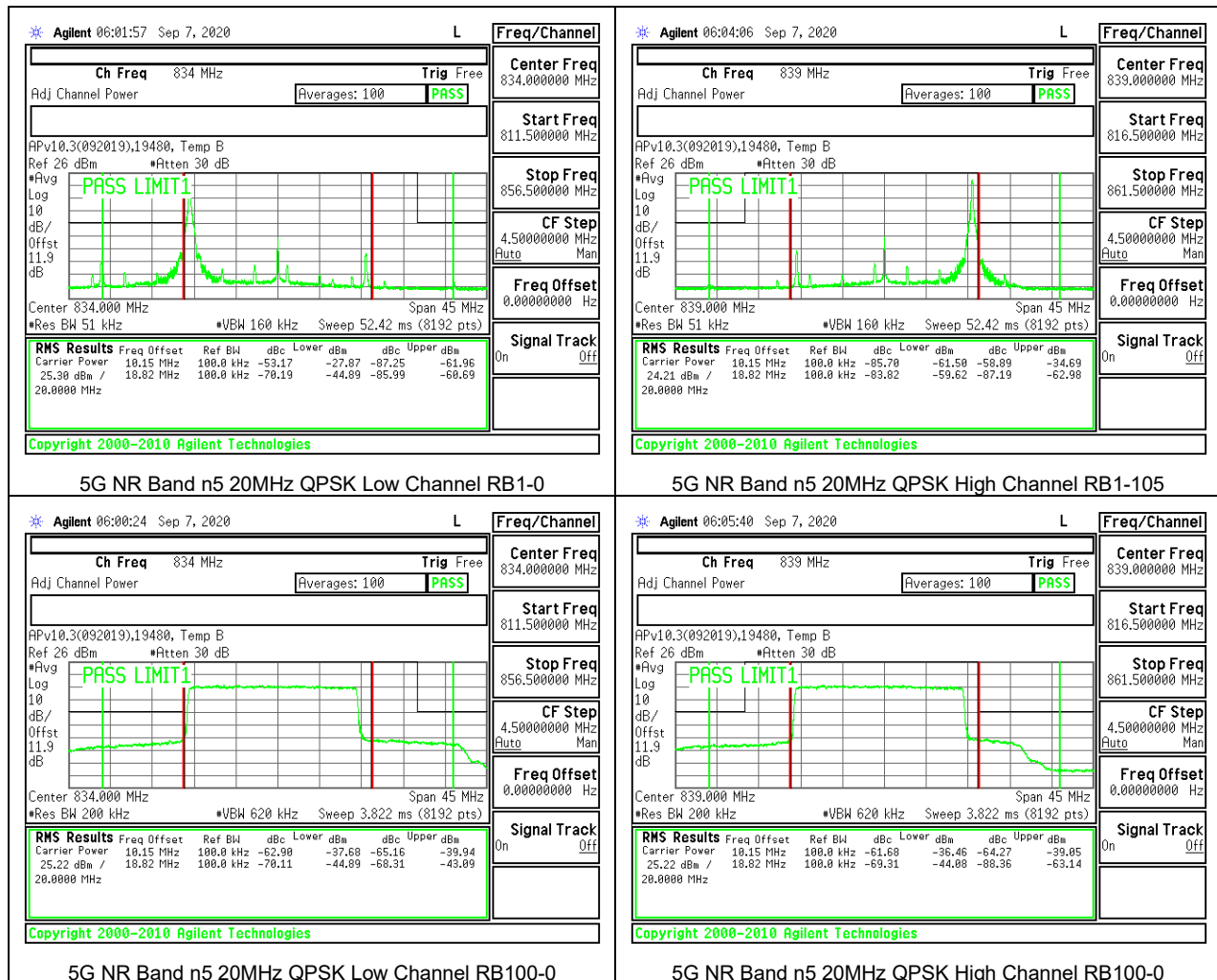




## 5G NR BAND n5 BANDEDGE





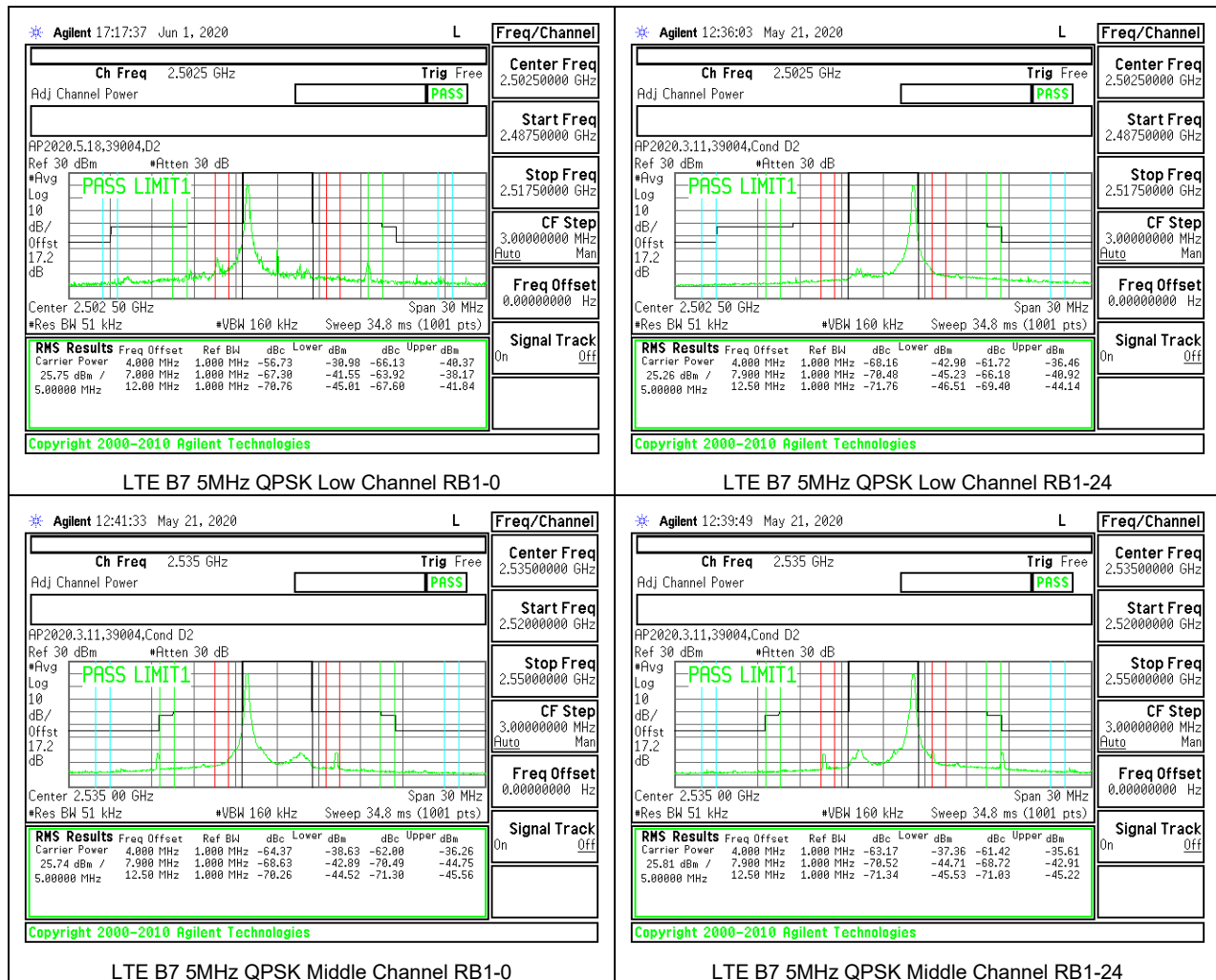


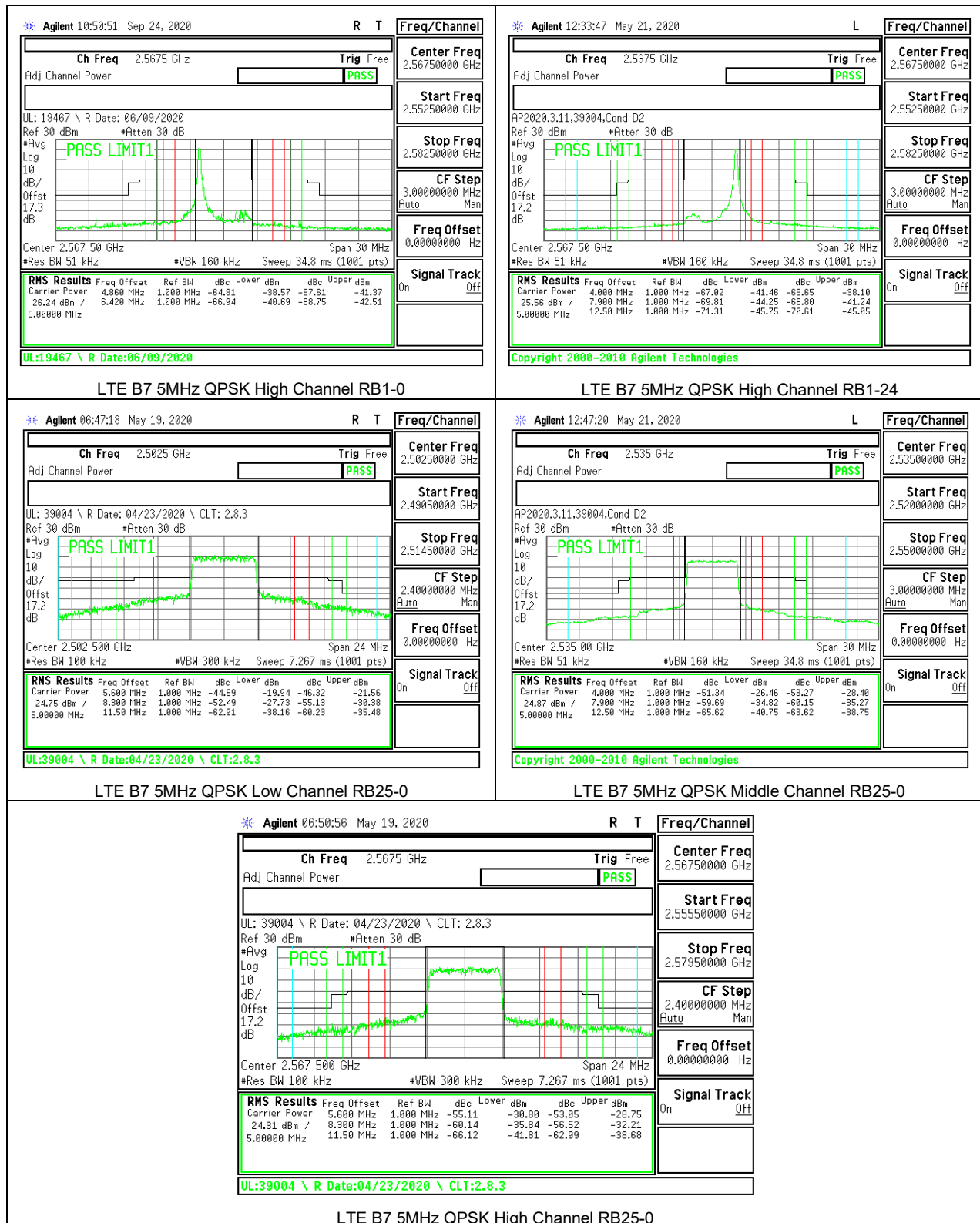
## 8.2.3. LTE BAND 7 ADJACENT CHANNEL POWER

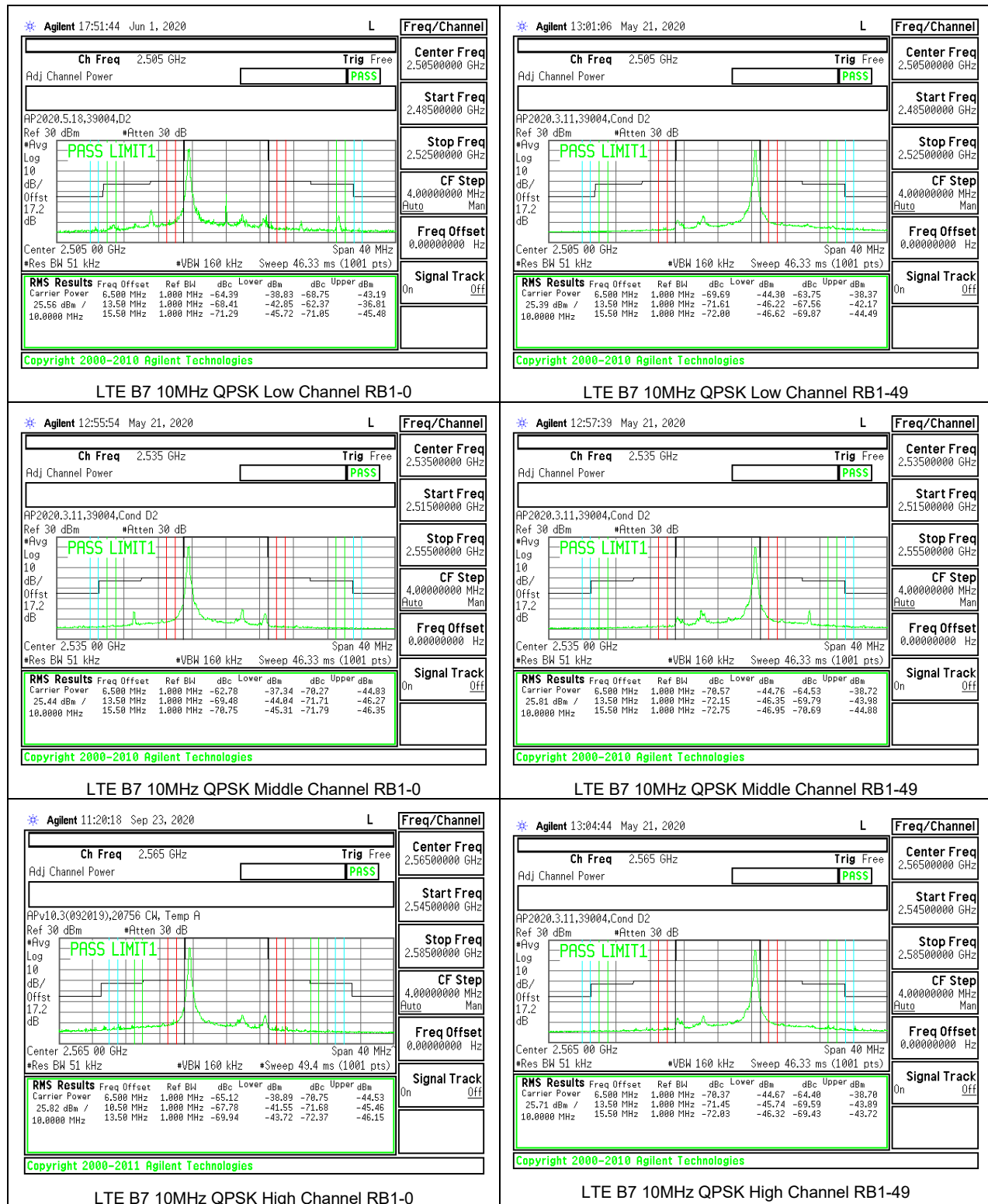
### LIMITS

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.

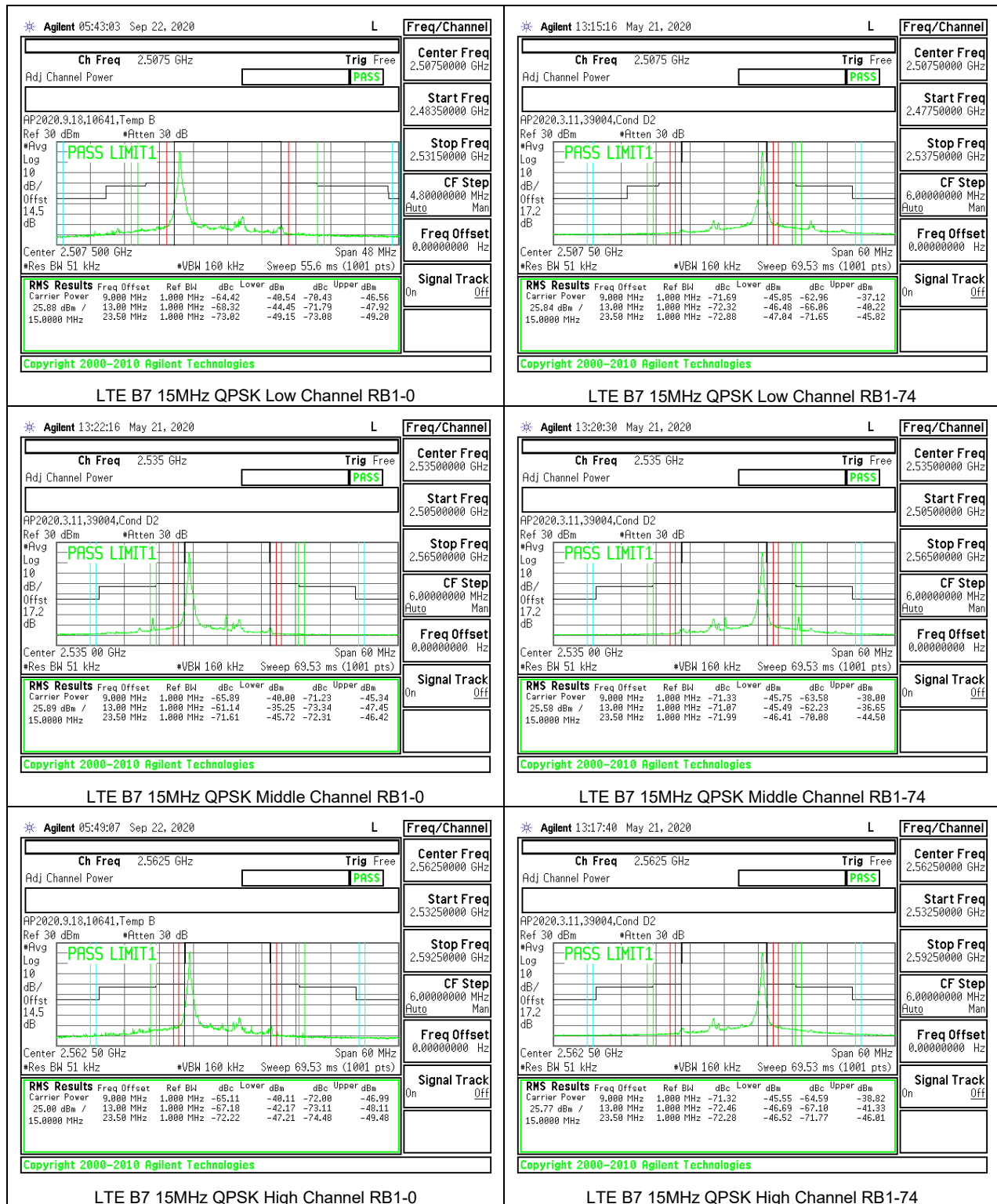


















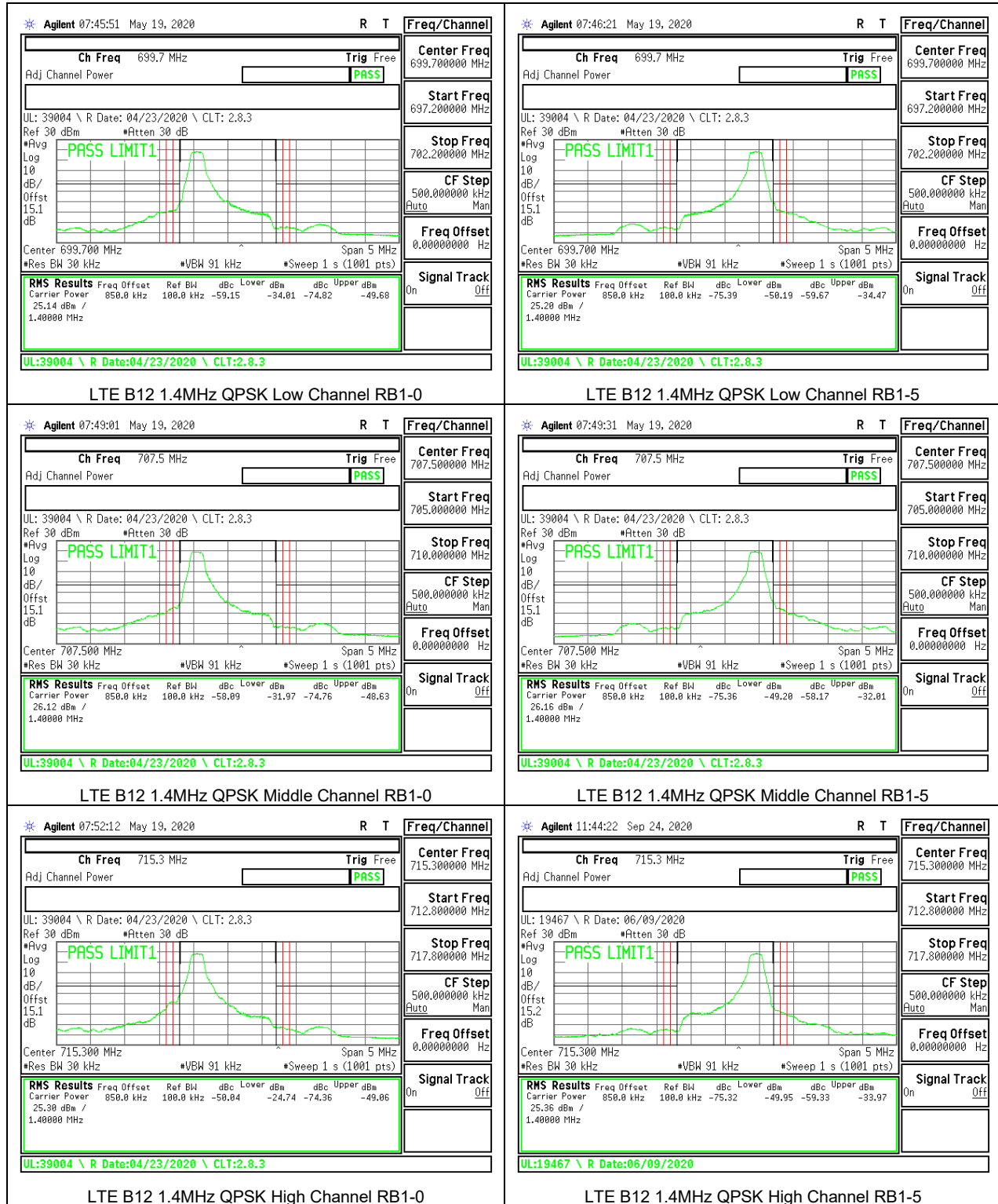
## 8.2.4. LTE BAND 12 AND 5G NR BAND n12 ADJACENT CHANNEL POWER

### LIMITS

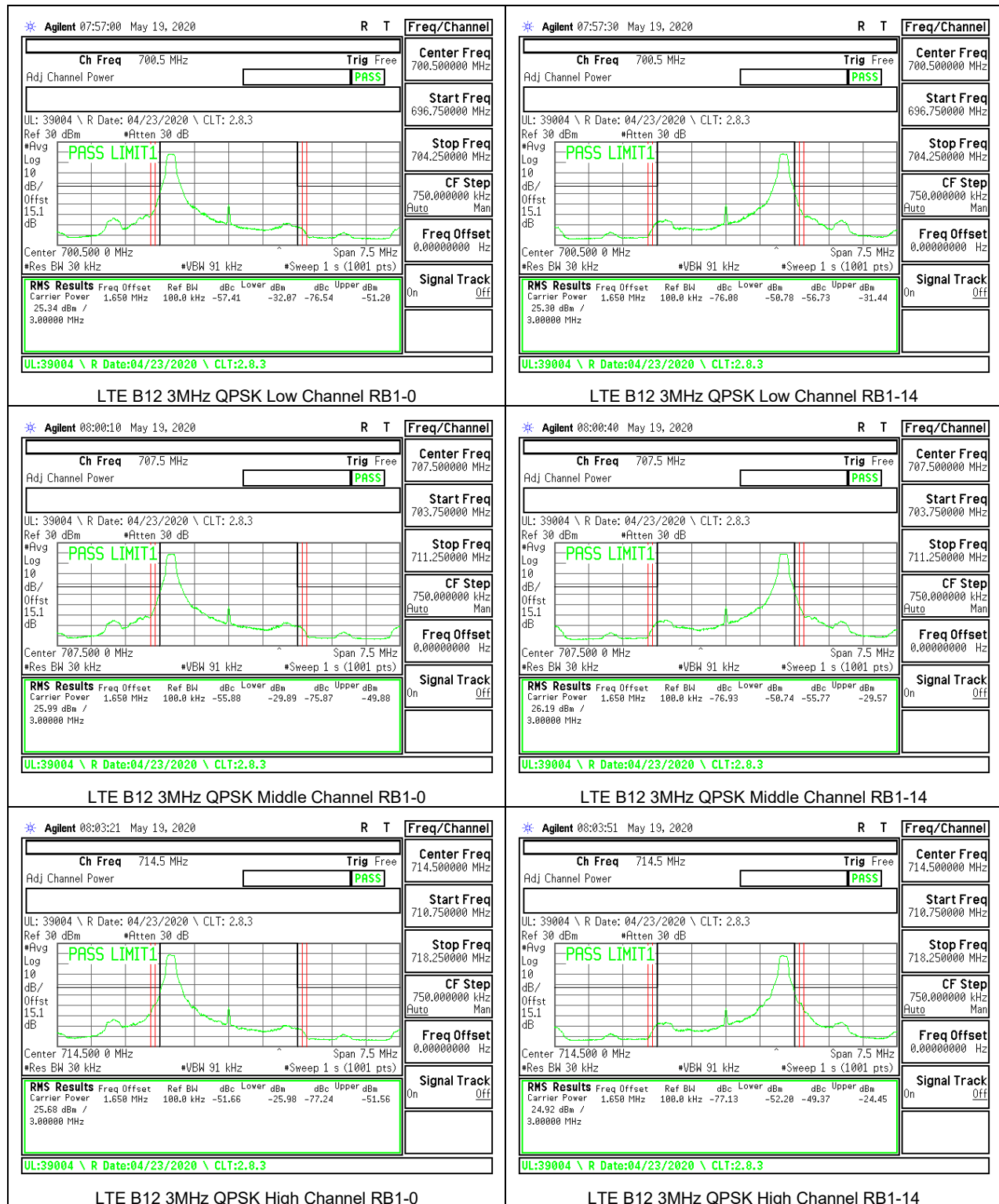
FCC: §27.53

(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.

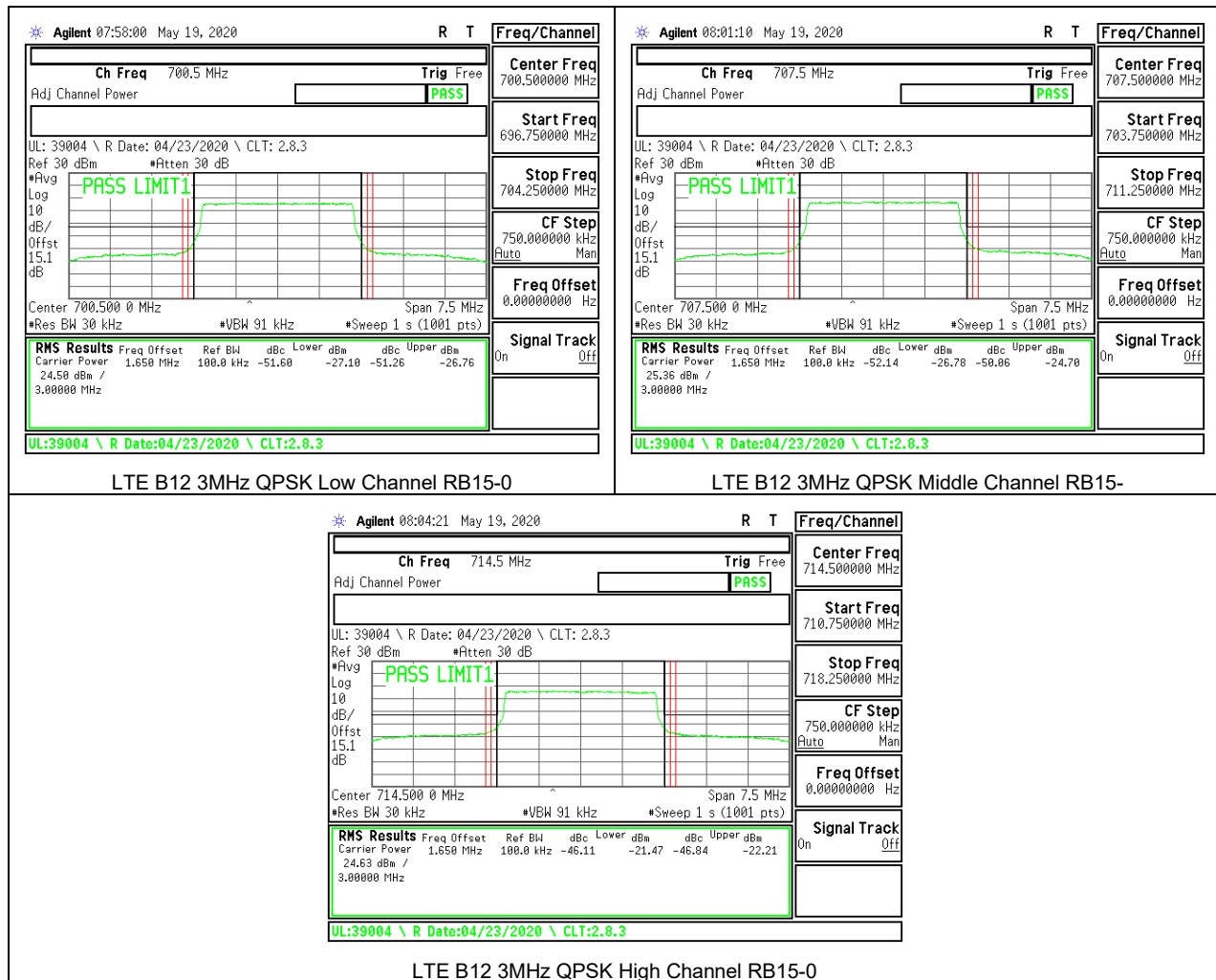
# LTE BAND 12 ADJACENT CHANNEL POWER

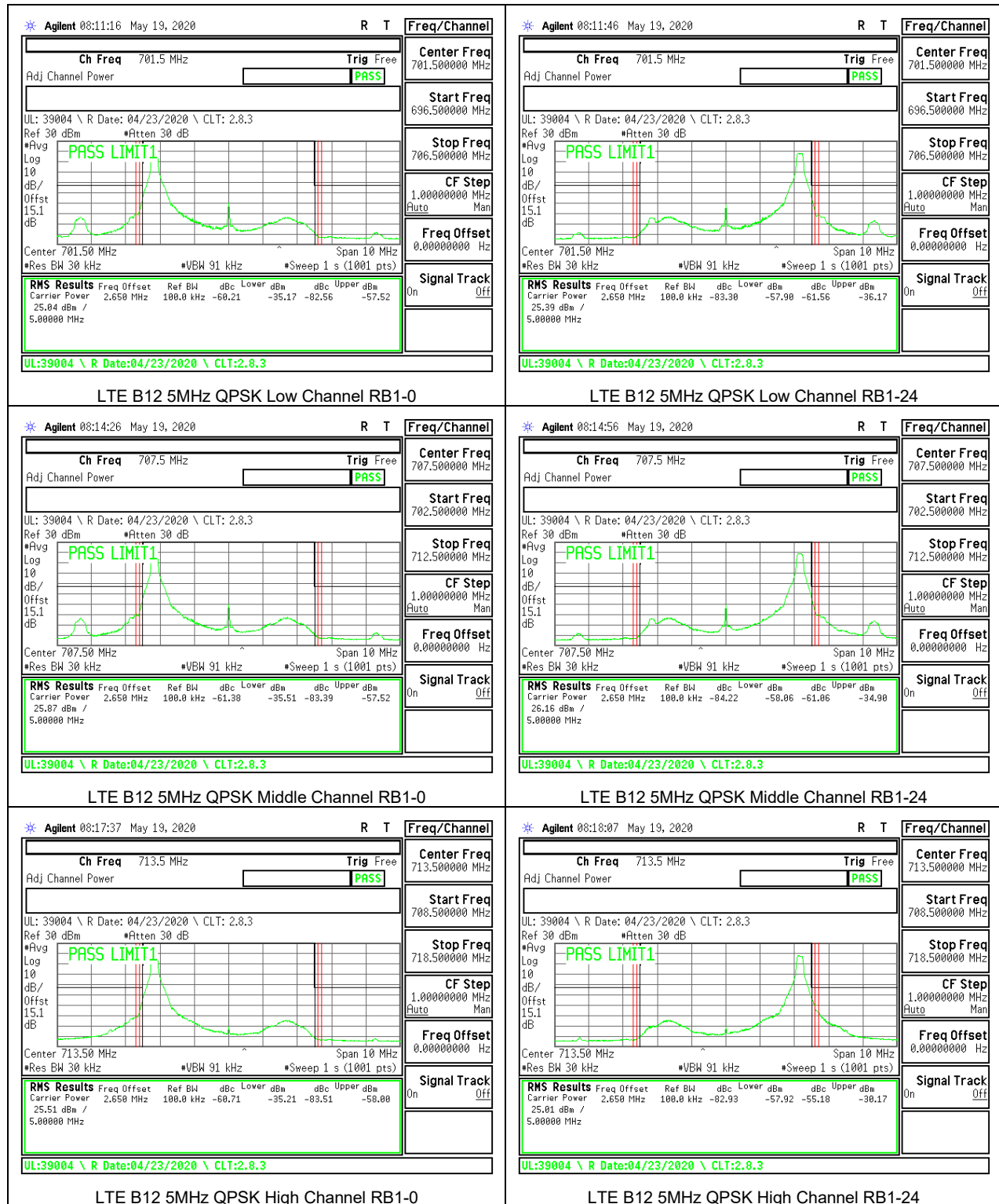


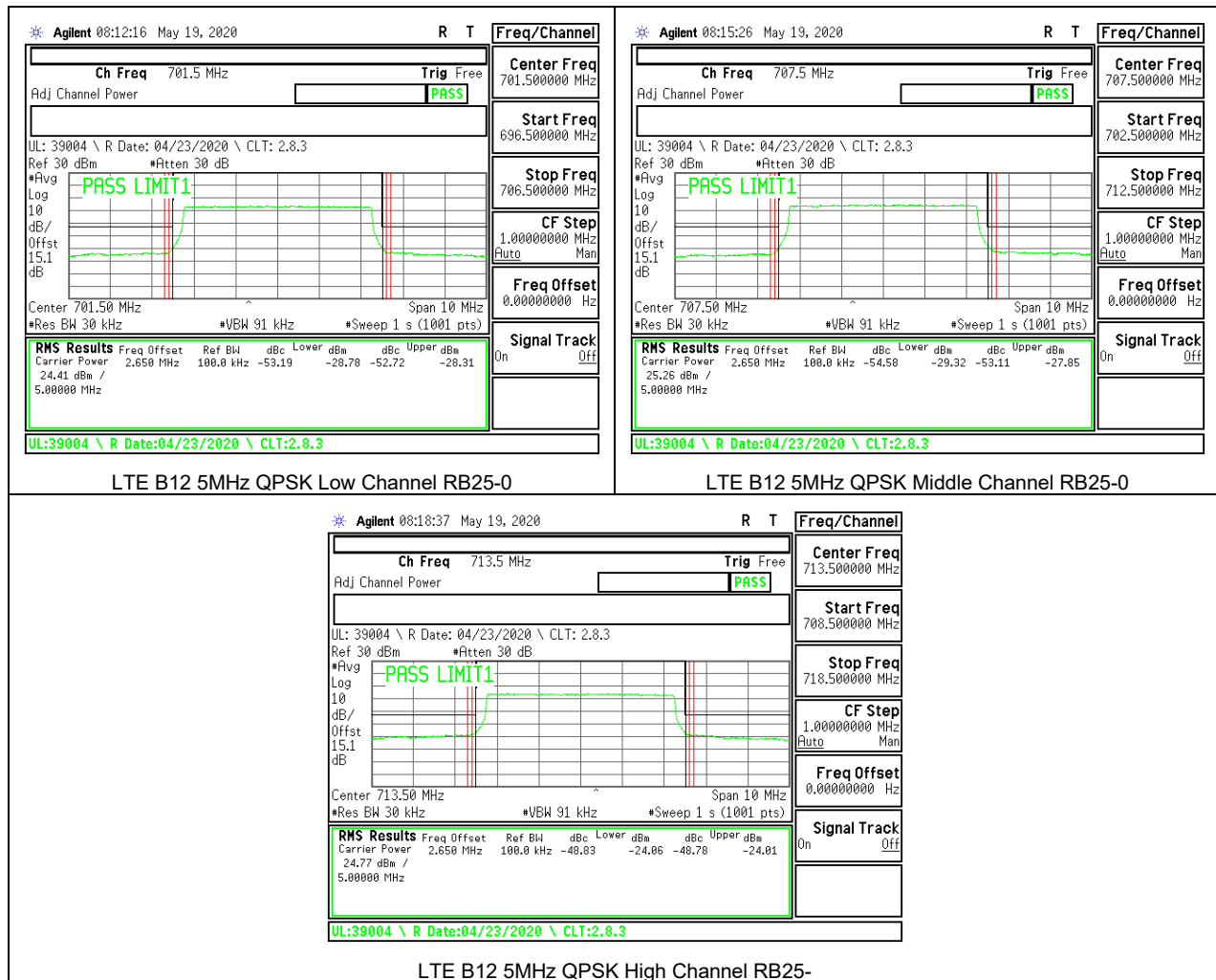


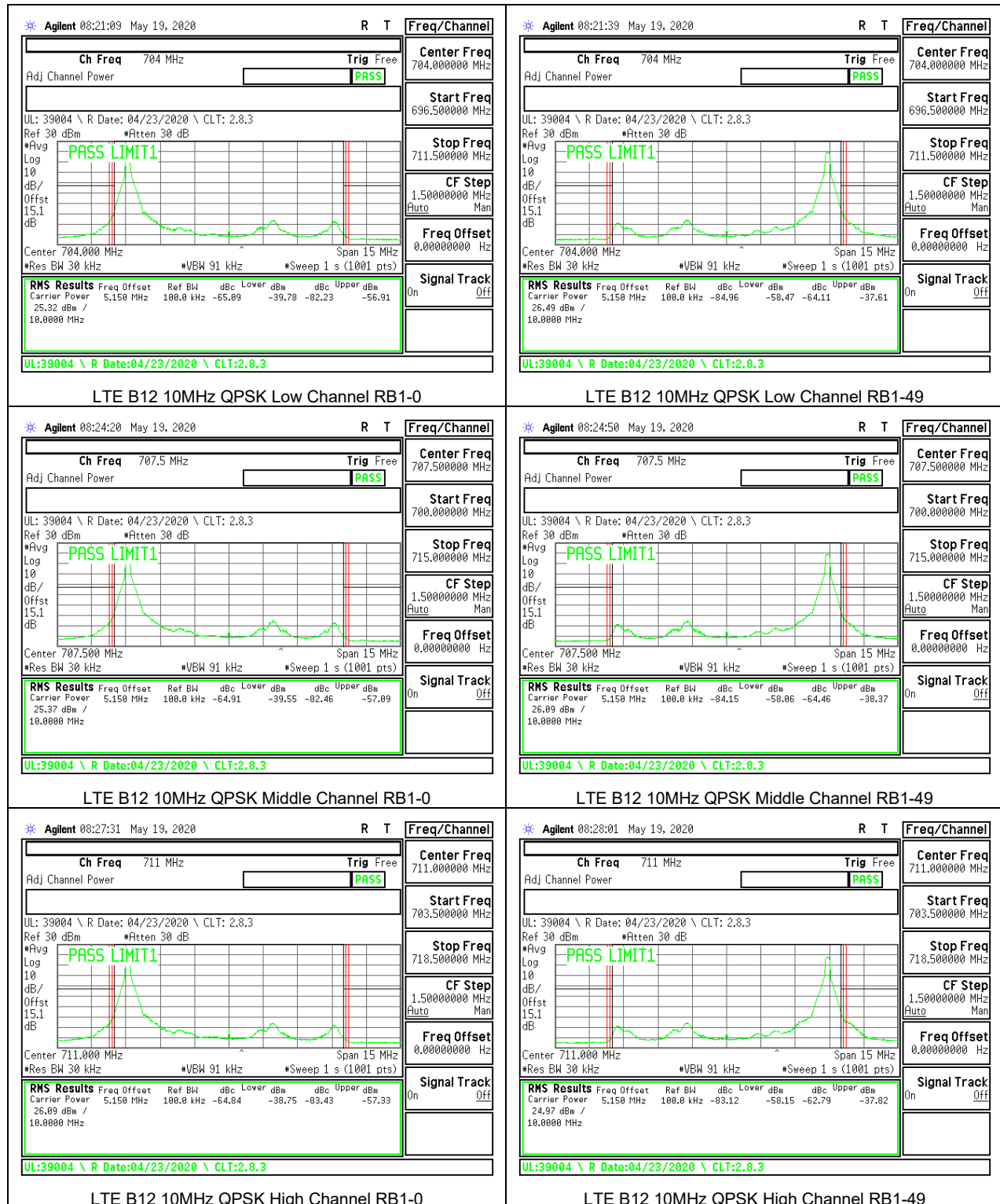






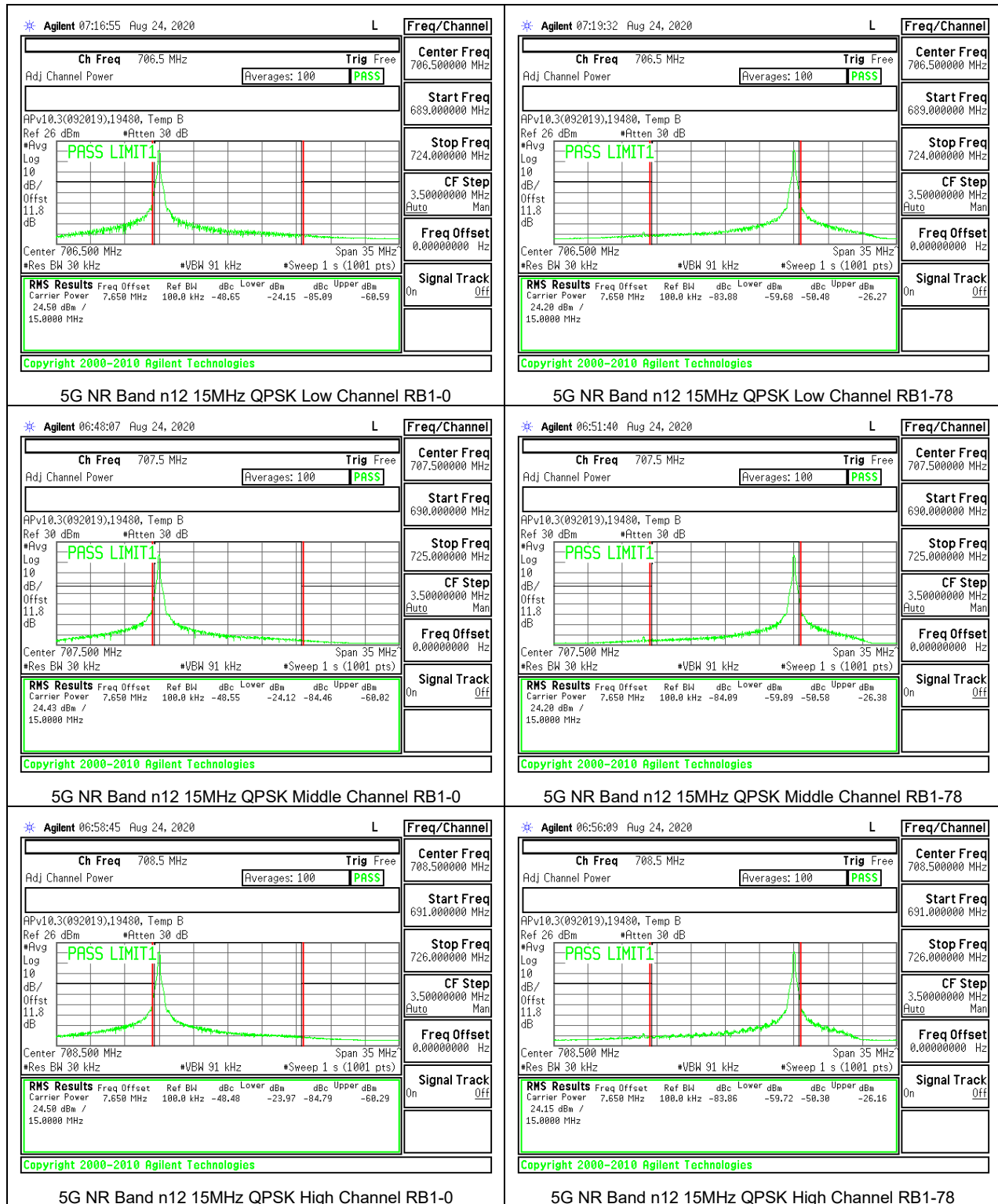








**5G NR BAND n12 ADJACENT CHANNEL POWER**





## 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;

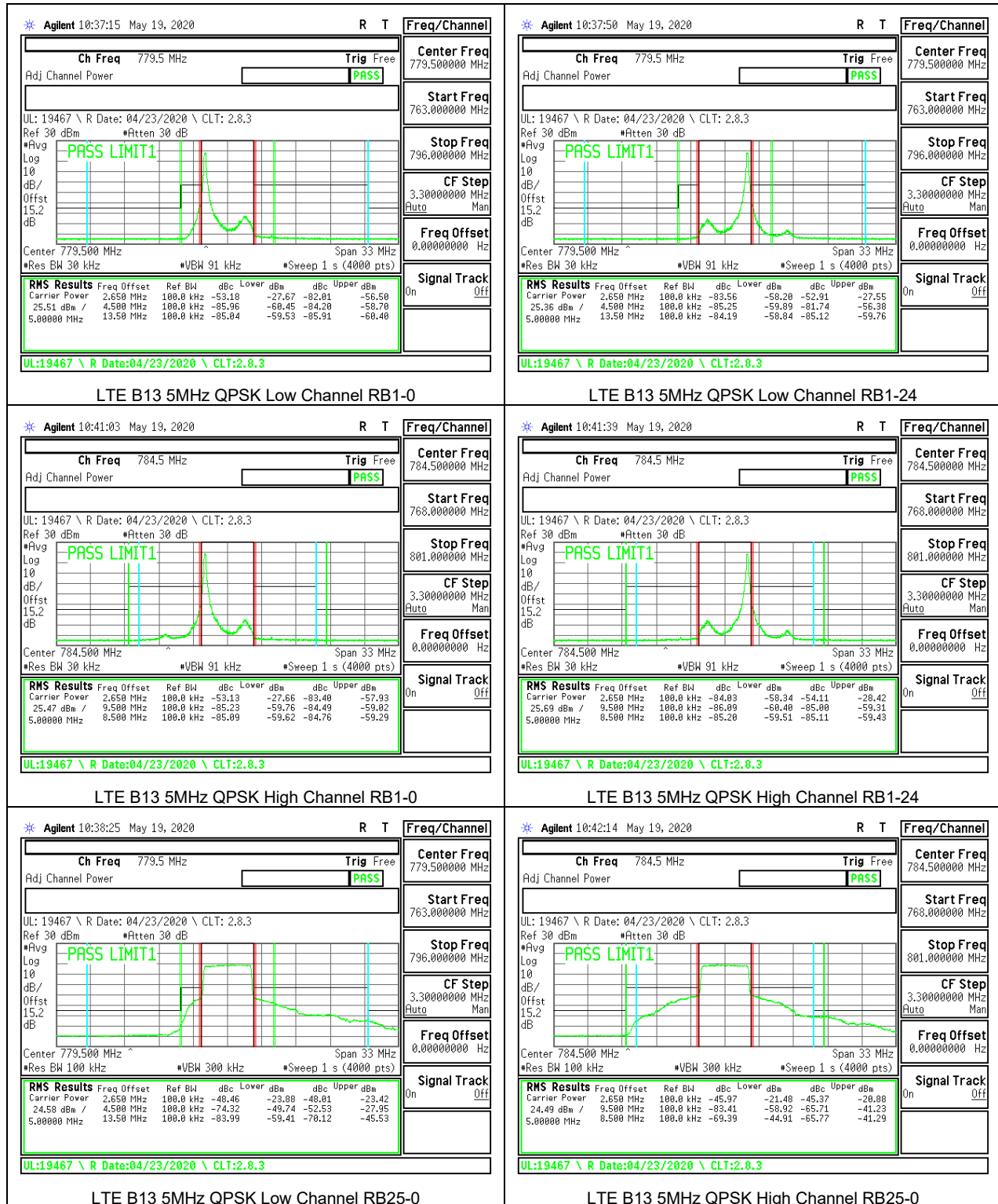
(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than  $65 + 10 \log (P)$  dB in a 6.25 kHz band segment, for mobile and portable stations;

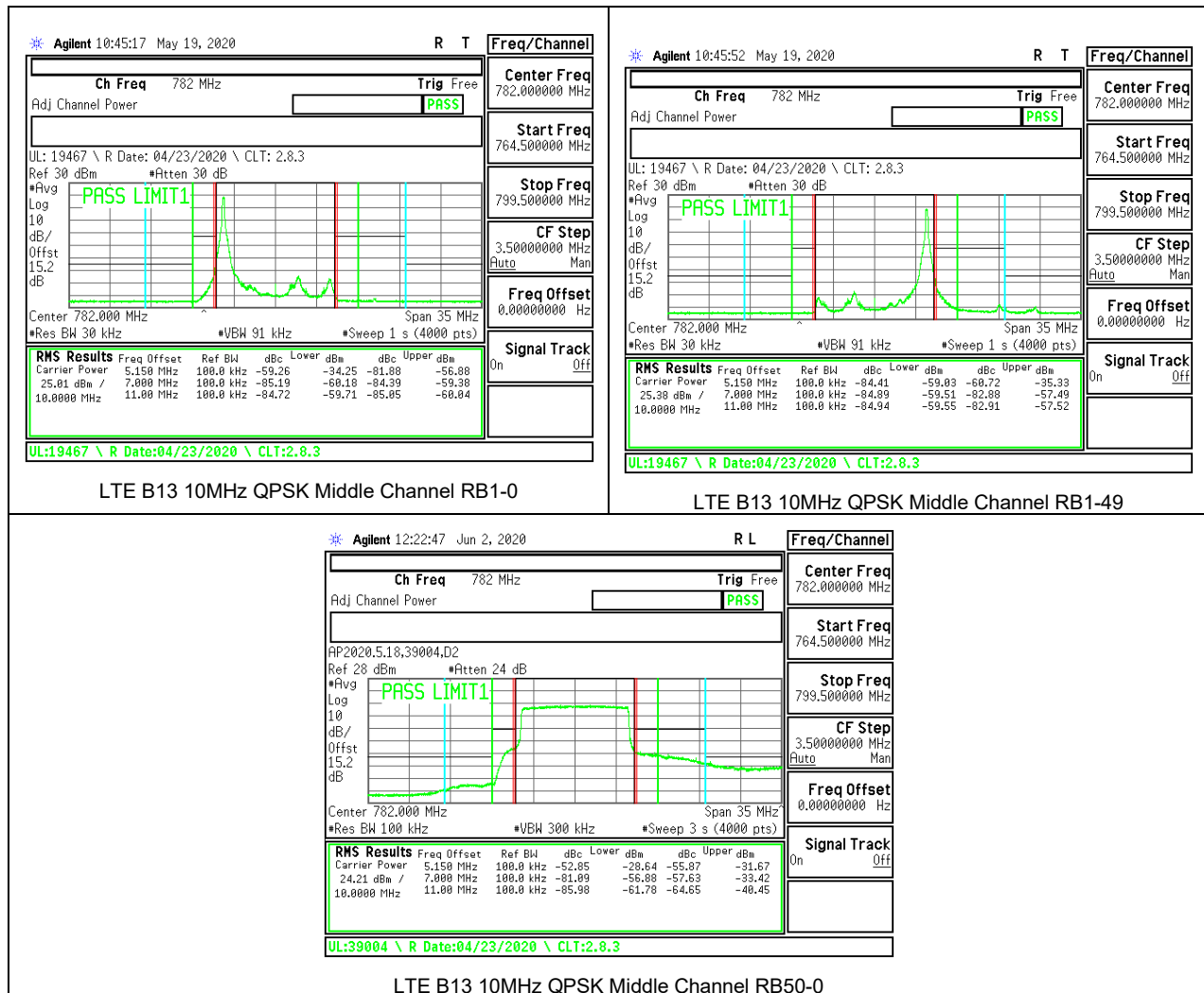
(5) Compliance with the provisions of paragraphs (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least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

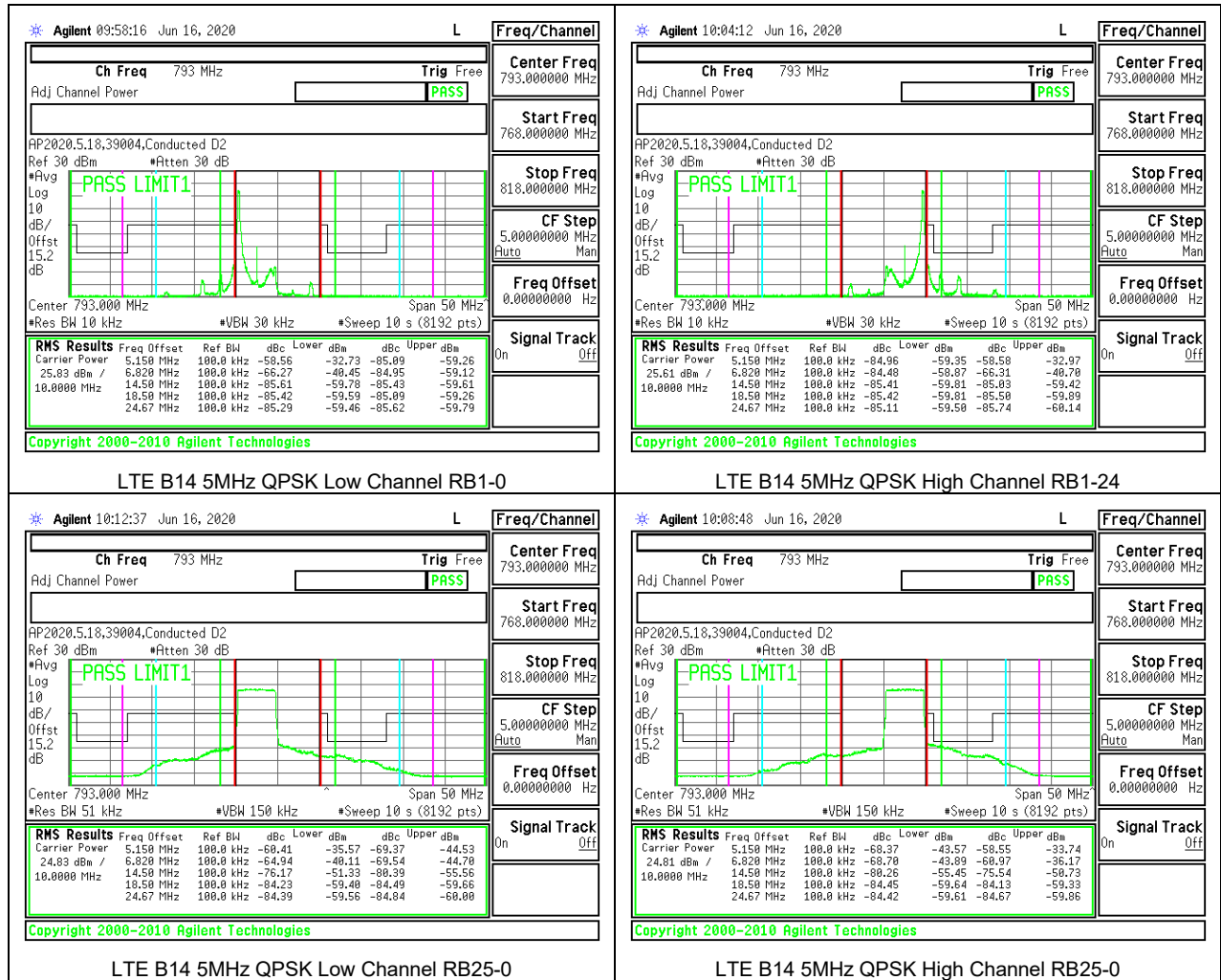
(2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than  $65 + 10 \log (P)$  dB in a 6.25 kHz band segment, for mobile and portable stations.

(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.



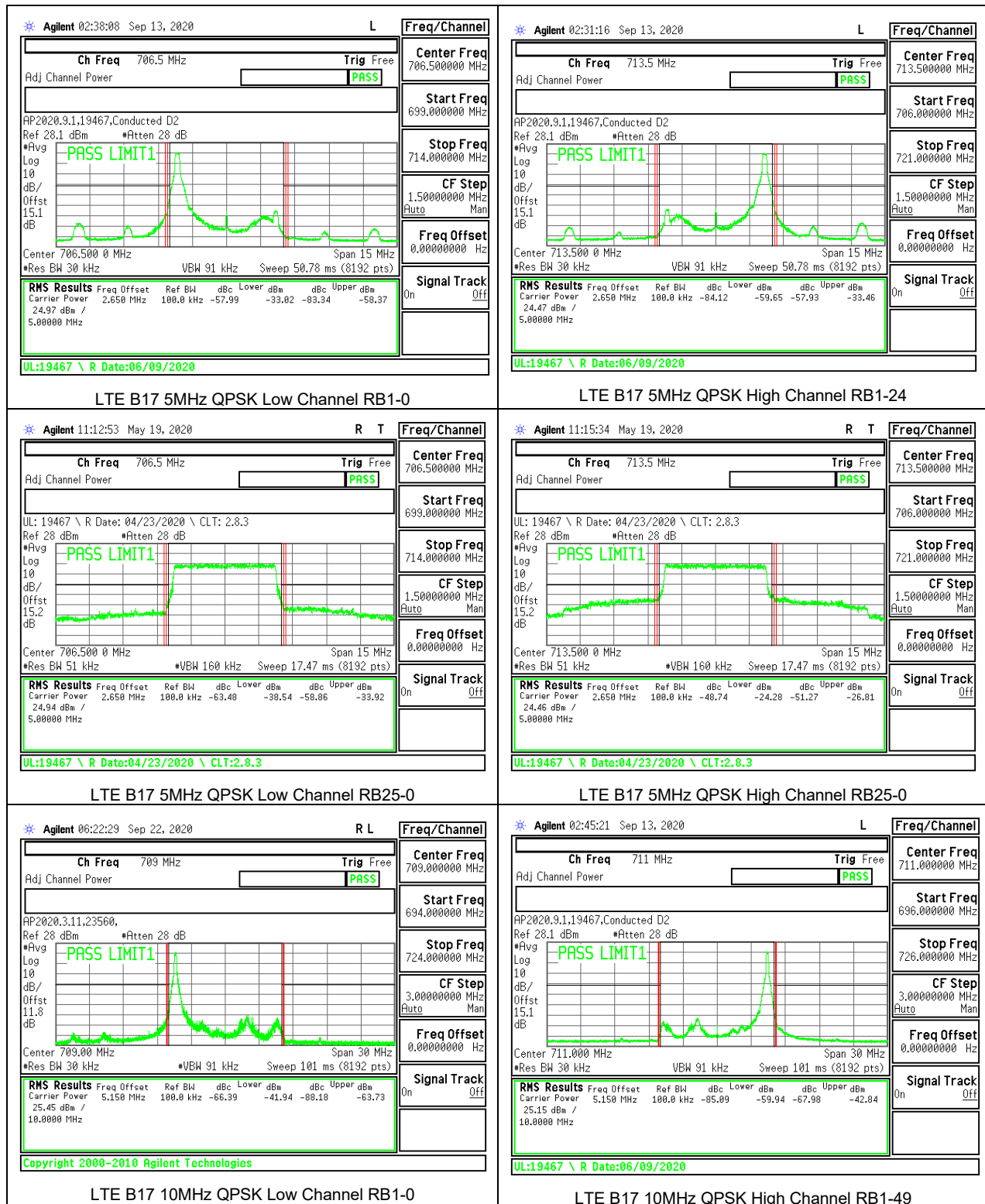


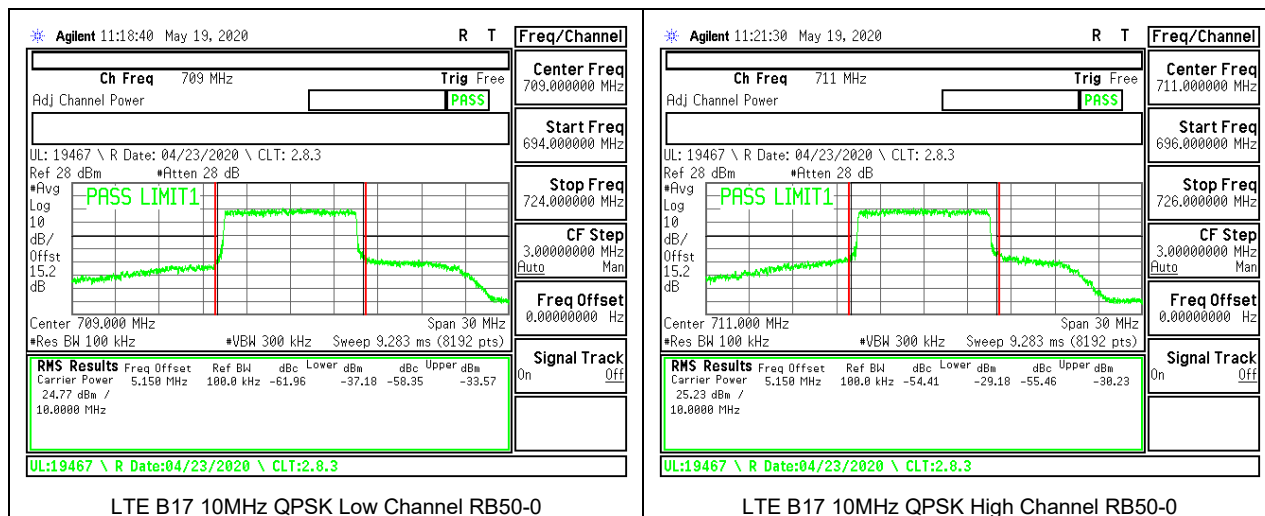
## 8.2.7. LTE BAND 17 ADJACENT CHANNEL POWER

### 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.





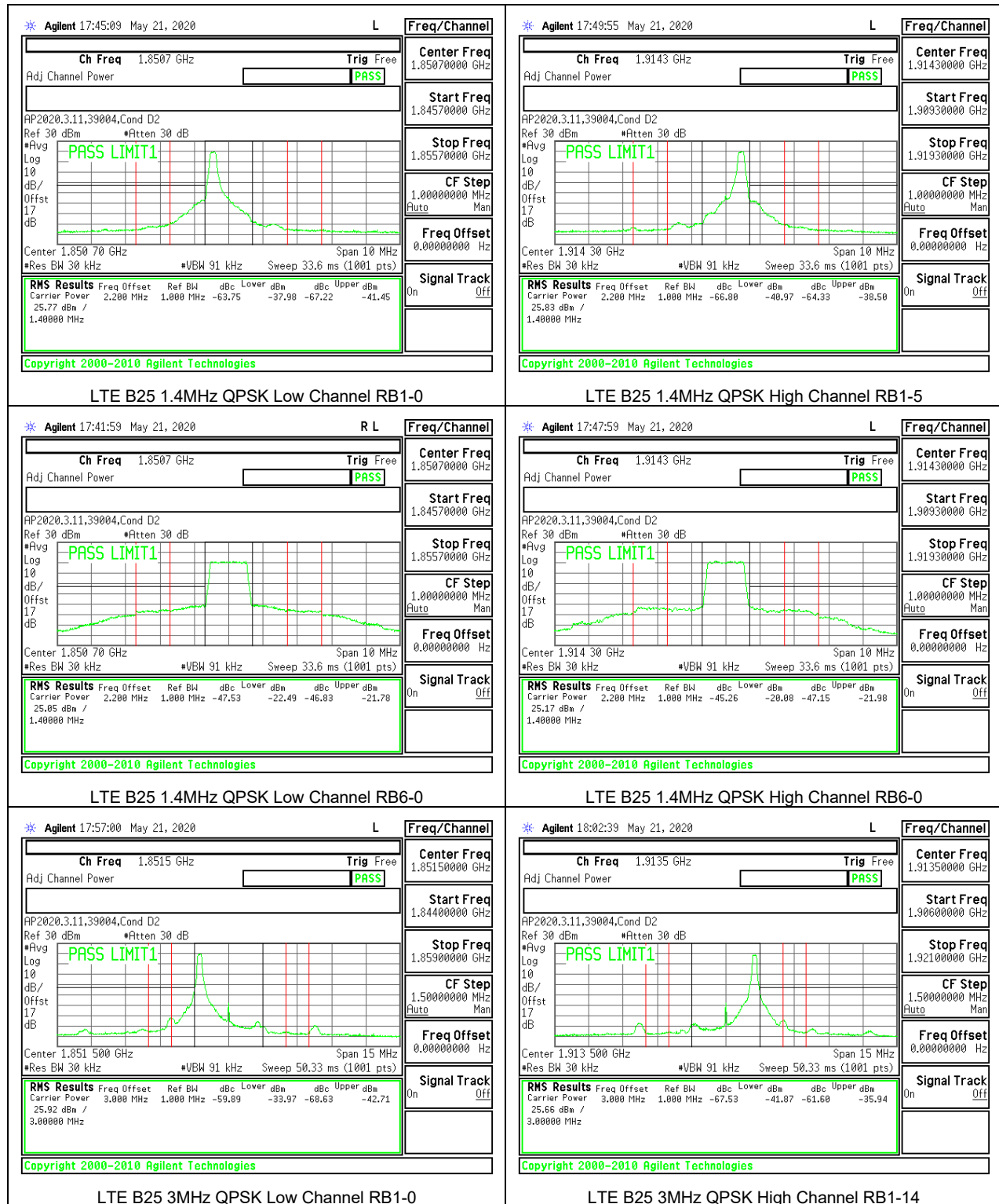


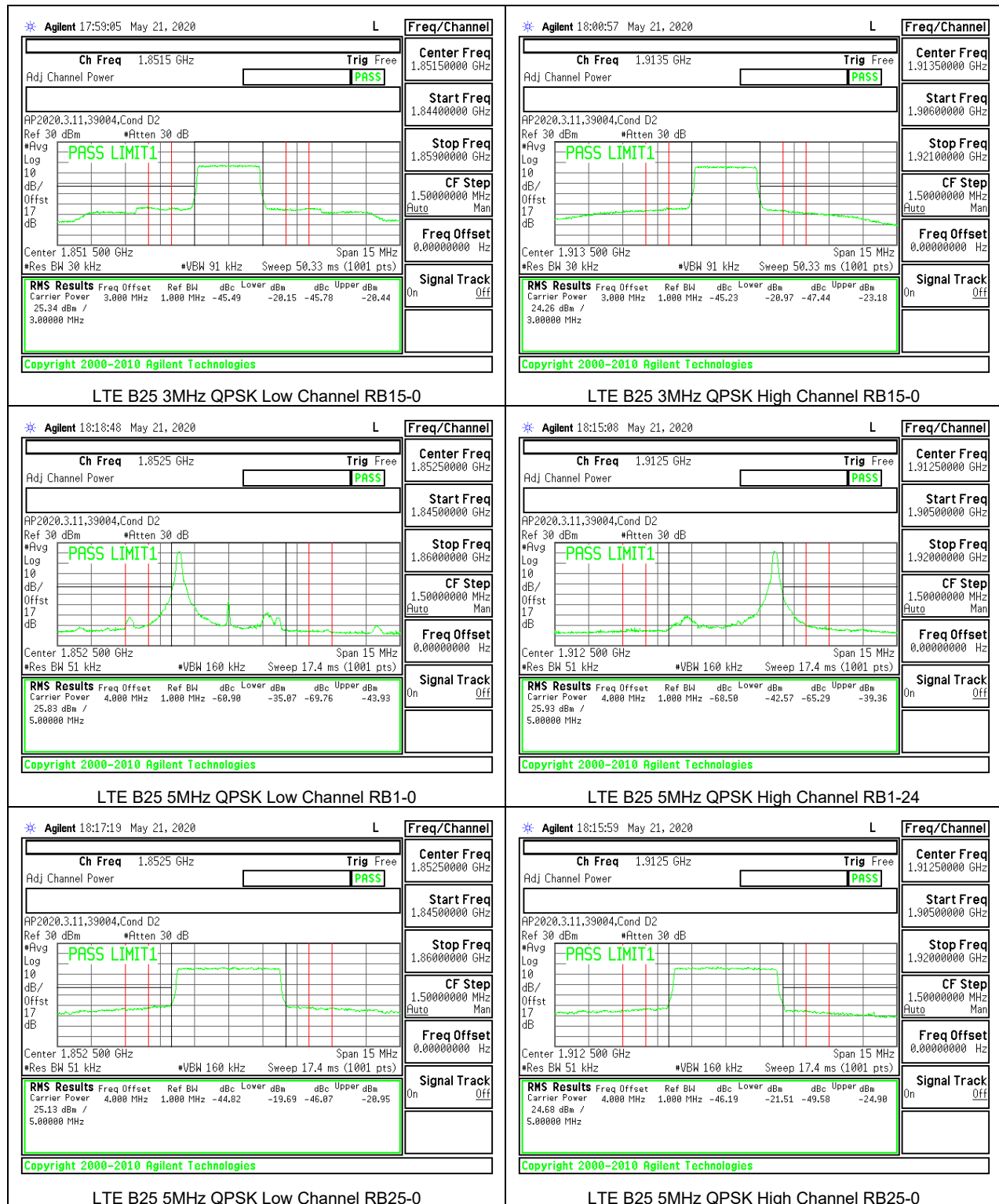
## 8.2.8. LTE BAND 25 BANDEDGE

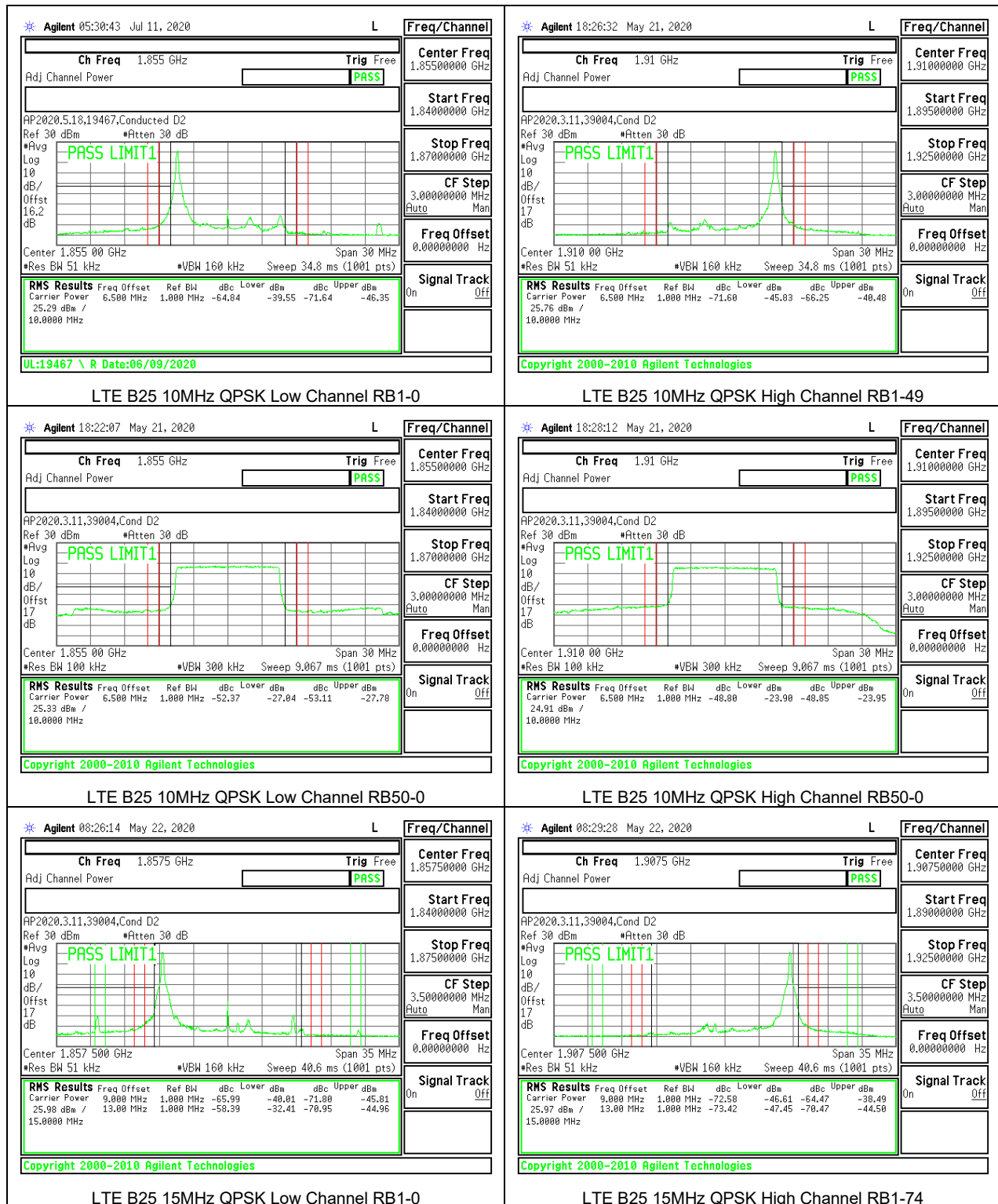
### LIMITS

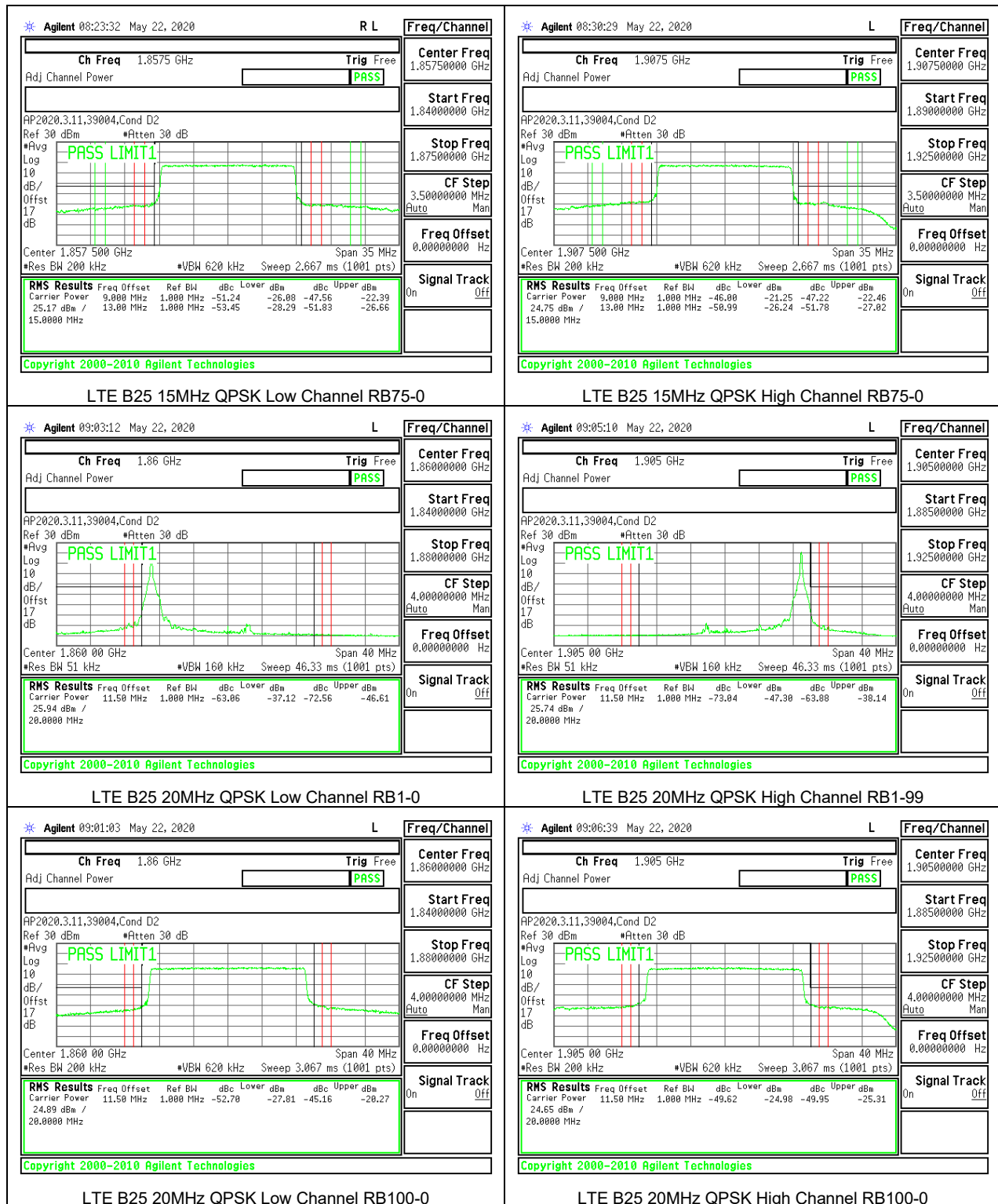
FCC: §24.238

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.

