

TEST REPORT

Report Number: 15496224-E26V4

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

Model : A3256

Brand : APPLE

FCC ID : BCG-E8949A

IC : 579C-E8949A

EUT Description : SMARTPHONE

Test Standard(s) : FCC 47 CFR PART 2, PART 27, PART 25
ISED RSS-GEN ISSUE 5 + A1 + A2, RSS-130 ISSUE 2

Date Of Issue:
2025-08-15

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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2025-06-25	Initial Review	--
V2	2025-07-16	Updated Section 9	Eric Ting
V3	2025-07-25	Updated Section 2 for SCS Requirement	Mengistu Mekuria
V4	2025-08-15	Revise section 6.5	Mengistu Mekuria

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1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE INC 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A.	
Model	A3256	
Brand	APPLE	
FCC ID	BCG-E8949A	
IC	579C-E8949A	
EUT Description	SMARTPHONE	
Serial Number	RADIATED: N4QD07QXJ9, CP2H9NGP6C CONDUCTED: C07HG80000L0000WGT, C07HG80000T0000WGT	
Sample Receipt Date	2024-11-25	
Date Tested	2024-11-25 TO 2025-06-23	
Applicable Standards	FCC 47 CFR PART 2, PART 27, PART 25 ISED RSS-GEN ISSUE 5 + A1 + A2, RSS-130 ISSUE 2	
Test Results	COMPLIES	
UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document.		
Approved & Released By:	Reviewed By:	Prepared By:
		
Kiya Kedida Lead Project Engineer UL Verification Services Inc.	Eric Ting Senior Test Engineer UL Verification Services Inc.	Carlos D. Caudana Laboratory Engineer UL Verification Services Inc.

2. SUMMARY OF TEST RESULTS

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for correctly integrating customer-provided data with measurements performed by UL Verification Services Inc.

Below is a list of the data provided by the customer:

1. Antenna gain and type (see section 6.4.)

Requirement Description	Band	Requirement Clause Number (FCC)	Requirement Clause Number (ISED)	Result	Remarks
Effective Radiated Power	12	27.50 (c) (10)	RSS130\$4.6.3	Complies	
	13	27.50 (b) (10)	RSS130\$4.6.3	Complies	
	17	27.50 (c) (10)	RSS130\$4.6.3	Complies	
	71	27.50 (c) (10)	RSS130\$4.6.2	Complies	
Occupied Bandwidth	12, 13, 17, 71	2.1049	RSS-GEN\$6.7 RSS130\$4.5	Complies	
Band Edge and Emission Mask	12, 13, 17, 71	2.1051, 27.53 (g), 27.53 (c) (f)	RSS130\$4.7	Complies	
Out of Band Emissions	12, 13, 17, 71	2.1051, 27.53 (g), 27.53 (c) (f)	RSS130\$4.7	Complies	
Frequency Stability	12, 13, 17, 71	2.1055, 27.54	RSS130\$4.5	Complies	
Peak-to-Average Ratio	12, 13, 17, 71	-	RSS130\$4.6.1	Complies	
Field Strength of Spurious Radiation	12, 13, 17, 71	2.1053, 27.53 (g), 27.53 (c) (f)	RSS130\$4.7	Complies	

SUPPLEMENTAL COVERAGE FROM SPACE (SCS)

Under section § 25.109 (f) of the FCC rules Space and SCS earth stations providing SCS are subject to technical rules in parts 2, 22, 24, and 27 of this chapter based on the operating frequency band. Section § 25.204 (g) specifies that earth stations providing SCS pursuant to §§ 25.125 and 25.115 shall comply with the power requirements and out-of-band emission limits corresponding to devices operating in parts 22, 24, or 27 of this chapter (e.g., §§ 22.913, 24.232, 27.50), as required for their operating frequencies. We have clarified through KDB inquiry that the technical requirements from Part 90R should be applied for SCS operations in the 700 MHz Public Safety Band.

The table below identifies the SCS frequencies available for use and, for each band, the applicable FCC Part 22, 24, 27, and 90R technical requirements, the air interfaces supported by the device for SCS use.

The bands available for SCS and the bands supported by the devices in the scope of this report are:

Band	Frequency		Part 22/24/27/90 Rule parts	3GPP Band	Supported	Applicable to This Report
	DL (MHz)	UL (MHz)				
600 MHz:	614-652	663-698	27.5 (c) 27.50 (c) 27.53 (g)	71/n71	Yes	Yes
700 MHz:	729 – 746	699 – 716	27.5 (c) 27.50 (c) 27.53 (g)	12/n12 17	Yes	Yes
	746 – 756	777 – 787	27.5 (b) 27.50 (b) 27.53 (f)	13/n13	Yes	Yes
	758-769	788-799	90R ^{Note 1}	14 / n14	Yes	No
	805-806 MHz				No	
800 MHz:	869-894	824-849	22H	WCDMA 5 5/n5 26/N26	Yes	No
Broadband PCS:	1930-1995	1850-1915	24E 24E	WCDMA 2 2/n2 25/n25	Yes	No
Note 1: Clarified through KDB inquiry that the technical requirements from Part 90R should be applied for SCS operations in the 700 MHz Public Safety Band.						

3. TEST METHODOLOGY

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

FCC published lists of [measurement procedures](#) for compliance testing.

ISED published lists of [normative test standards and acceptable alternatives procedures](#).

- ANSI C63.26:2015
- ANSI/TIA-603-E (2016)
- FCC 47 CFR Part 2, Part 27, Part 25
- [FCC KDB 971168 D01](#): Power Meas License Digital Systems (ISED acceptable alternative procedure)
- [FCC KDB 971168 D02](#): Misc Rev Approv License Devices
- [FCC KDB 412172 D01](#): Determining ERP and EIRP
- [FCC KDB 273109 D02](#): Part 25 SCS and CMRS-Bands
- ISED RSS-Gen Issue 5 + A1 + A2, RSS-130 Issue 2

4. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, certification #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
☐	Building 1: 47173 Benicia Street, Fremont, CA 94538, USA	US0104	2324A	550739
☐	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA			
☒	Building 3: 843 Auburn Court, Fremont, CA 94538, USA			
☒	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA			
☒	Building 5: 47670 Kato Rd, Fremont, CA 94538, USA			

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. 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.

5.2. 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.)

5.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	U _{Lab}
Conducted Antenna Port Emission Measurement	1.940 dB
Power Spectral Density	2.466 dB
Time Domain Measurements Using SA	3.39 %
RF Power Measurement Direct Method Using Power Meter	0.450 dB Ave. 1.300 dB Peak
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.22%
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 dB

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

5.4. 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 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

6. EQUIPMENT UNDER TEST

6.1. DESCRIPTION OF EUT

The Apple iPhone is a smartphone with cellular GSM, GPRS, EGPRS, WCDMA, LTE, 5G NR1, 5G NR2, IEEE 802.11a/b/g/n/ac/ax/be, Bluetooth (BT), Ultra-Wideband (UWB), Global Positioning System (GPS), Near-Field Communication (NFC), Narrow-Band (NB) UNII, 802.15.4, 802.15.4ab-Narrow Band (NB), Wireless Power Transfer (WPT) and Mobile Satellite Service (MSS) technologies. The rechargeable battery is not user accessible. This device is not user-serviceable and requires special tools to disassemble.

6.2. 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 12

Part 27 / RSS 130									
ERP Limit (W)		3.00							
Antenna Gain (dBi) (ANT3)		-4.70							
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
1.4	QPSK	699.7	715.3	25.70	18.85	0.077	1.096	1096	1M10G7W
	16QAM			24.70	17.85	0.061	1.097	1097	1M10D7W
3.0	QPSK	700.5	714.5	25.70	18.85	0.077	2.703	2703	2M70G7W
	16QAM			25.00	18.15	0.065	2.710	2710	2M71D7W
5.0	QPSK	701.5	713.5	25.70	18.85	0.077	4.506	4506	4M51G7W
	16QAM			25.00	18.15	0.065	4.506	4506	4M51D7W
10.0	QPSK	704.0	711.0	25.70	18.85	0.077	8.983	8983	8M98G7W
	16QAM			24.97	18.12	0.065	8.984	8984	8M98D7W

5G NR n12

Part 27 / RSS 130									
ERP Limit (W)		3.00							
Antenna Gain (dBi) (ANT3)		-4.70							
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
5.0	BPSK	701.5	713.5	25.70	18.85	0.077	4.507	4507	4M51G7W
	QPSK			25.70	18.85	0.077	4.511	4511	4M51G7W
	16QAM			24.56	17.71	0.059	4.519	4519	4M52D7W
10.0	BPSK	704.0	711.0	25.70	18.85	0.077	8.992	8992	8M99G7W
	QPSK			25.68	18.83	0.076	8.995	8995	9M00G7W
	16QAM			24.59	17.74	0.059	8.980	8980	8M98D7W
15.0	BPSK	706.5	708.5	25.70	18.85	0.077	13.482	13482	13M5G7W
	QPSK			26.68	19.83	0.096	13.501	13501	13M5G7W
	16QAM			24.57	17.72	0.059	13.495	13495	13M5D7W

LTE BAND 13

Part 27 / RSS 130									
ERP Limit (W)		3.00							
Antenna Gain (dBi) (ANT3)		-4.40							
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
5.0	QPSK	779.5	784.5	25.70	19.15	0.082	4.498	4498	4M50G7W
	16QAM			24.97	18.42	0.070	4.498	4498	4M50D7W
10.0	QPSK	782.0	782.0	25.70	19.15	0.082	8.974	8974	8M97G7W
	16QAM			24.94	18.39	0.069	8.970	8970	8M97D7W

LTE BAND 17

Part 27 / RSS 130									
ERP Limit (W)		3.00							
Antenna Gain (dBi) (ANT3)		-4.70							
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
5.0	QPSK	706.5	713.5	25.70	18.85	0.077	4.501	4501	4M50G7W
	16QAM			24.98	18.13	0.065	4.502	4502	4M50D7W
10.0	QPSK	709.0	711.0	25.70	18.85	0.077	8.982	8982	8M98G7W
	16QAM			24.91	18.06	0.064	8.995	8995	9M00D7W

LTE BAND 71

Part 27 / RSS 130									
ERP Limit (W)		3.00							
Antenna Gain (dBi) (ANT3)		-4.30							
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
5.0	QPSK	665.5	695.5	25.70	19.25	0.084	4.496	4496	4M50G7W
	16QAM			25.00	18.55	0.072	4.489	4489	4M49D7W
10.0	QPSK	668.0	693.0	25.70	19.25	0.084	8.963	8963	8M96G7W
	16QAM			25.00	18.55	0.072	8.974	8974	8M97D7W
15.0	QPSK	670.5	690.5	25.70	19.25	0.084	13.460	13460	13M5G7W
	16QAM			25.00	18.55	0.072	13.467	13467	13M5D7W
20.0	QPSK	673.0	688.0	25.70	19.25	0.084	17.900	17900	17M9G7W
	16QAM			25.00	18.55	0.072	17.916	17916	17M9D7W

5G NR n71

Part 27/ RSS 130									
ERP Limit (W)		3.00							
Antenna Gain (dBi) (ANT3)		-4.30							
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
5.0	BPSK	665.5	695.5	25.70	19.25	0.084	4.513	4513	4M51G7W
	QPSK			25.70	19.25	0.084	4.500	4500	4M50G7W
	16QAM			24.59	18.14	0.065	4.509	4509	4M51D7W
10.0	BPSK	668.0	693.0	25.70	19.25	0.084	8.971	8971	8M97G7W
	QPSK			25.69	19.24	0.084	8.974	8974	8M97G7W
	16QAM			24.55	18.10	0.065	8.998	8998	9M00D7W
15.0	BPSK	670.5	690.5	25.70	19.25	0.084	13.490	13490	13M5G7W
	QPSK			25.70	19.25	0.084	13.477	13477	13M5G7W
	16QAM			24.52	18.07	0.064	13.477	13477	13M5D7W
20.0	BPSK	673.0	688.0	25.70	19.25	0.084	17.926	17926	17M9G7W
	QPSK			25.69	19.24	0.084	17.883	17883	17M9G7W
	16QAM			24.55	18.10	0.065	17.919	17919	17M9D7W
25.0	BPSK	675.5	685.5	25.70	19.25	0.084	23.006	23006	23M0G7W
	QPSK			25.70	19.25	0.084	22.960	22960	23M0G7W
	16QAM			24.32	17.87	0.061	22.946	22946	22M9D7W
30.0	BPSK	678.0	683.0	25.70	19.25	0.084	28.802	28802	28M8G7W
	QPSK			25.67	19.22	0.084	28.665	28665	28M7G7W
	16QAM			24.39	17.94	0.062	28.690	28690	28M7D7W

6.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was version 0.08.00

6.4. MAXIMUM ANTENNA GAIN AND MAXIMUM ALLOWED OUTPUT POWER

The IFA antenna(s) gain/ allowed output power, as provided by the manufacturer' are as follows:

Bands	Frequency Range (MHz)	Antenna	Gain (dBi)	Max Allowed Conducted Output Power (dBm)	ERP/EIRP (dBm)
LTE Band 12 / 5G NR n12 /	699 - 716	ANT1			
		ANT2	-5.40	25.20	17.65
		ANT3	-4.70	25.70	18.85
		ANT4			
LTE Band 13	777 - 787	ANT1			
		ANT2	-5.20	25.20	17.85
		ANT3	-4.40	25.70	19.15
		ANT4			
LTE Band 17	704 - 716	ANT1			
		ANT2	-5.40	25.20	17.65
		ANT3	-4.70	25.70	18.85
		ANT4			
LTE Band 71 / 5G NR n71	663 - 698	ANT1			
		ANT2	-7.30	25.20	15.75
		ANT3	-4.30	25.70	19.25
		ANT4			

6.5. WORST-CASE CONFIGURATION AND MODE

This report covers the following technologies:

- LTE Band 12, 5G NR n12
- LTE Band 13
- LTE Band 17
- LTE Band 71, 5G NR n71

For 5G NRs, 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 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 made on different modulations. Then, QPSK and BPSK were observed as the worst mode to LTE bands and 5G NR bands respectively and set for all conducted and radiated. Output power measurements were measured on BPSK, QPSK, 16QAM, 64QAM, and 256QAM modulations. For testing purposes emissions on sections 9 were measured while QPSK/BPSK was set at or above target power for all bands. Conducted tests were performed on the worst-case antenna port because it has the highest conducted power. The worst-case antenna port is shown in the table below.

LTE and 5G NR Bands	Worst case Antenna Port
LTE Band 12, 5G NR n12	Ant 3
LTE Band 13	Ant 3
LTE Band 17	Ant 3
LTE Band 71, 5G NR n71	Ant 3

The EUT was investigated in three orthogonal orientations X/Y/Z on all available antennas to determine the worst-case orientation. The following table exhibits the worst-case orientation. The full tests of the EUT have made upon the orientations that shown in the table below.

Frequency Range	ANT1	ANT2
663 – 849 MHz	Z	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/5GHz 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.

6.6. DESCRIPTION OF TEST SETUP

Refer to Appendix A for description of test setup.

7. 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
Wideband Communication Test Set, Call Box	R&S GmbH & Co.	CMW500	85723	2026-02-28
Wideband Communication Test Set, Call Box	R&S GmbH & Co.	CMW500	230297	2026-02-28
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169936	2026-02-28
Antenna, Horn 1-18GHz	ETS Lindgren	3117	200897	2026-04-30
RF Filter Box, 1-18GHz, 12 Port	UL-FR1	Frankenstein	217255	2026-01-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	223460	2026-02-28
RF Filter Box, 1-18GHz, 17 Port	UL-FR1	RATS 2	236726	2025-10-31
Antenna, Horn 1-18GHz	ETS Lindgren	3117	80403	2026-08-31
Antenna, Broadband Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	171863	2026-11-30
Amplifier 9 KHz - 1 GHz	SONOMA INSTRUMENT	310N	224490	2026-05-06
Antenna, Passive Loop 30Hz - 1MHz	ELECTRO-METRICS	EM-6871	170013	2025-07-31
Antenna, Passive Loop 100KHz - 30MHz	ELECTRO-METRICS	EM-6872	170015	2025-07-31
PXA Signal Analyzer	Keysight Technologies Inc	N9030B	262735	2026-03-30
PXA Signal Analyzer	Keysight Technologies Inc	N9030B	231912	2026-04-30
PXA Signal Analyzer	Keysight Technologies Inc	N9030B	259079	2026-02-28
PXA Signal Analyzer	Keysight Technologies Inc	N9030B	262734	2026-04-30
Wideband Communication Call Box	Rohde & Schwarz	CMW500	230298	2026-02-28
Wideband Communication Call Box	Rohde & Schwarz	CMW500	85943	2026-02-28
Wideband Communication Call Box	Rohde & Schwarz	CMW500	262742	2027-02-11
Wideband Communication Call Box	Rohde & Schwarz	CMW500	262741	2027-02-11
Conducted Switch Box	N/A	CSB	221008	2026-04-30
Conducted Switch Box	N/A	CSB	262354	2026-04-30
Filter, BRF 3400-3800MHz, 18GHz max	Micro-Tronics	BRM50711	217364	2025-09-30
Filter, BRF 2305-2315	Micro-Tronics	BRC20553	224186	2026-06-29
Directional Coupler	KRYTAR	152610	254457	10-31-2025
Directional Coupler	KRYTAR	101040010K	254458	10-30-2025
Power Meter, P-series single channel	Keysight Technologies Inc	N1911A	90718	2026-03-31
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight Technologies Inc	N1921A	257704	2026-03-31
Chamber, Environmental	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	89097	2025-10-31
UL AUTOMATION SOFTWARE				
Conducted Software	UL	CLT	Ver.2023 11.21.0 & .2024.3.20.0	
Conducted Software	UL	Power Measurement	Ver 2023.08.14	
Conducted Software	UL	Antenna Port	Ver.2022.8.16& 2021.5.13	
Conducted Software	UL	Station Tool	Ver. 5.0 & 5.3	
Radiated Software	UL	UL EMC	Ver 9.5, May 1, 2023	

8. RF OUTPUT POWER VERIFICATION

CONDUCTED OUTPUT POWER MEASUREMENT PROCEDURE

All bands conducted average power is obtained from the base station simulator.

The following tests were conducted according to the test requirements outlined in ANSI C63.26 Section 5.2.

RESULTS

The EUT has different power levels for head use configuration and body use configuration. All measurements are made with the device operating at the highest average conducted output powers.

8.1. LTE BAND 12

Test Engineer ID:	27957	Test Date:	2025-01-27
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OUTPUT POWER FOR LTE BAND 12 (1.4 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				23017	23095	23173	23017	23095	23173
				699.7 MHz	707.5 MHz	715.3 MHz	699.7 MHz	707.5 MHz	715.3 MHz
1.4	QPSK	1	0	25.64	25.68	25.70	25.16	25.20	25.20
		1	2	25.67	25.66	25.60	25.20	25.16	25.11
		1	5	25.60	25.59	25.62	25.18	25.15	25.04
		3	0	25.67	25.66	25.57	25.19	25.17	25.15
		3	1	25.68	25.55	25.57	25.20	25.14	25.05
		3	2	25.66	25.61	25.62	25.18	25.13	24.95
	16QAM	6	0	25.45	25.46	24.81	24.50	24.48	24.27
		1	0	24.61	24.65	23.22	24.20	24.11	23.90
		1	2	24.65	24.70	23.17	24.28	24.12	23.85
		1	5	24.60	24.62	23.08	24.27	24.10	23.66
		3	0	24.60	24.67	23.06	24.23	23.96	23.76
		3	1	24.59	24.54	23.07	24.13	24.05	23.73
	64QAM	3	2	24.70	24.50	23.17	24.19	24.02	23.63
		6	0	23.52	23.52	22.12	23.11	23.01	22.78
		1	0	23.94	23.79	22.54	23.33	23.11	23.17
		1	2	24.00	23.77	22.30	23.40	23.29	23.03
		1	5	23.85	23.70	22.27	23.30	23.18	22.93
		3	0	23.78	23.71	22.18	23.30	23.17	22.98
	256QAM	3	1	23.79	23.66	22.16	23.38	23.21	22.95
		3	2	23.77	23.68	22.20	23.31	23.18	22.87
		6	0	22.63	22.54	21.17	22.23	22.02	21.92
		1	0	20.68	20.76	19.59	20.18	20.09	20.02
		1	2	20.75	20.70	19.50	20.30	20.15	20.00
		1	5	20.78	20.56	19.20	20.30	20.12	19.98
		3	0	20.66	20.65	19.35	20.24	20.09	20.00
		3	1	20.72	20.65	19.28	20.27	20.08	20.04
		3	2	20.61	20.68	19.23	20.26	20.11	19.97
		6	0	20.56	20.44	19.18	20.16	19.99	19.87

OUTPUT POWER FOR LTE BAND 12 (3.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				23025	23095	23165	23025	23095	23165
				700.5 MHz	707.5 MHz	714.5 MHz	700.5 MHz	707.5 MHz	714.5 MHz
3.0	QPSK	1	0	25.69	25.70	25.70	25.09	25.06	25.05
		1	7	25.69	25.68	25.44	25.20	25.20	25.20
		1	14	25.49	25.43	25.14	25.09	25.06	24.79
		8	0	25.43	25.33	25.00	24.37	24.41	24.34
		8	4	25.48	25.45	24.65	24.41	24.44	24.33
		8	7	25.46	25.43	24.45	24.43	24.39	24.29
	16QAM	15	0	25.45	25.43	24.93	24.41	24.39	24.31
		1	0	24.95	24.74	24.84	24.33	24.32	24.29
		1	7	25.00	25.00	24.30	24.44	24.40	24.35
		1	14	24.79	24.67	24.08	24.29	24.29	23.83
		8	0	23.77	23.65	23.43	23.20	23.26	23.15
		8	4	23.83	23.78	23.07	23.28	23.24	23.20
	64QAM	8	7	23.80	23.73	22.87	23.27	23.26	23.15
		15	0	23.79	23.74	23.17	23.22	23.19	23.14
		1	0	24.07	23.97	23.88	23.52	23.42	23.38
		1	7	24.18	24.12	23.33	23.58	23.52	23.57
		1	14	23.93	23.78	22.80	23.39	23.37	23.11
		8	0	22.85	22.67	22.58	22.23	22.29	22.19
	256QAM	8	4	22.92	22.81	22.23	22.30	22.30	22.23
		8	7	22.81	22.78	22.00	22.30	22.28	22.29
		15	0	22.81	22.76	22.27	22.25	22.21	22.12
		1	0	20.86	20.91	20.93	20.23	20.23	20.22
		1	7	20.98	20.98	20.48	20.43	20.42	20.43
		1	14	20.81	20.68	19.87	20.32	20.25	20.30
		8	0	20.80	20.63	20.68	20.16	20.25	20.13
		8	4	20.88	20.80	20.25	20.24	20.25	20.15
		8	7	20.82	20.76	20.01	20.26	20.24	20.23
		15	0	20.81	20.75	20.28	20.22	20.21	20.15

OUTPUT POWER FOR LTE BAND 12 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				23035	23095	23155	23035	23095	23155
				701.5 MHz	707.5 MHz	713.5 MHz	701.5 MHz	707.5 MHz	713.5 MHz
5.0	QPSK	1	0	25.68	25.70	25.70	25.14	25.17	25.18
		1	12	25.55	25.50	25.53	25.20	25.20	25.20
		1	24	25.33	25.19	25.25	25.11	25.14	24.85
		12	0	25.40	24.86	25.33	24.41	24.37	24.41
		12	6	25.40	25.26	25.10	24.46	24.45	24.42
		12	11	25.11	25.13	24.45	24.45	24.43	24.46
		25	0	25.33	25.18	25.15	24.43	24.45	24.33
	16QAM	1	0	25.00	24.50	24.97	24.43	24.49	24.35
		1	12	24.88	24.73	24.54	24.44	24.49	24.44
		1	24	24.29	24.50	23.88	24.46	24.32	23.97
		12	0	23.72	23.07	23.67	23.18	23.20	23.21
		12	6	23.71	23.53	23.55	23.27	23.30	23.19
		12	11	23.51	23.40	22.86	23.23	23.26	23.28
		25	0	23.67	23.51	23.52	23.25	23.28	23.26
	64QAM	1	0	24.07	23.57	24.04	23.51	23.54	23.49
		1	12	24.04	23.83	23.78	23.49	23.58	23.57
		1	24	23.55	23.58	23.00	23.48	23.43	23.23
		12	0	22.80	22.10	22.75	22.24	22.26	22.27
		12	6	22.82	22.56	22.71	22.33	22.34	22.25
		12	11	22.67	22.43	22.02	22.30	22.28	22.31
		25	0	22.72	22.55	22.64	22.25	22.26	22.27
	256QAM	1	0	20.89	20.71	20.77	20.37	20.34	20.33
		1	12	20.97	20.78	20.91	20.51	20.51	20.47
		1	24	20.69	20.36	20.05	20.32	20.42	20.21
		12	0	20.76	20.11	20.67	20.18	20.23	20.20
		12	6	20.78	20.59	20.67	20.29	20.31	20.22
		12	11	20.67	20.46	20.07	20.25	20.22	20.26
		25	0	20.68	20.53	20.62	20.24	20.28	20.27

OUTPUT POWER FOR LTE BAND 12 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				23060	23095	23130	23060	23095	23130
				704.0 MHz	707.5 MHz	711.0 MHz	704.0 MHz	707.5 MHz	711.0 MHz
10.0	QPSK	1	0	25.70	25.70	25.70	25.20	25.18	25.16
		1	24	25.13	25.35	25.36	25.20	25.20	25.20
		1	49	24.96	24.85	24.92	25.18	25.13	24.96
		25	0	25.32	24.62	25.29	24.43	24.42	24.42
		25	12	24.33	25.18	25.19	24.49	24.51	24.45
		25	24	24.64	24.95	25.04	24.49	24.51	24.48
		50	0	25.13	25.13	25.19	24.49	24.51	24.22
	16QAM	1	0	24.97	24.68	24.75	24.17	24.25	24.15
		1	24	24.20	24.64	24.69	24.27	24.31	24.18
		1	49	24.22	24.17	23.82	24.17	24.25	23.73
		25	0	23.67	22.78	23.60	23.05	23.07	23.08
		25	12	22.80	23.50	23.52	23.14	23.14	23.05
		25	24	22.93	23.29	23.33	23.11	23.13	23.13
		50	0	23.34	23.45	23.52	23.10	23.10	23.04
	64QAM	1	0	24.00	23.91	23.97	23.36	23.36	23.36
		1	24	23.24	23.71	23.69	23.43	23.37	23.25
		1	49	23.27	23.28	23.02	23.32	23.29	23.00
		25	0	22.68	21.92	22.60	22.05	22.07	22.03
		25	12	22.03	22.51	22.52	22.15	22.16	22.06
		25	24	21.84	22.28	22.33	22.15	22.12	22.12
		50	0	22.42	22.49	22.48	22.16	22.11	22.04
	256QAM	1	0	20.86	20.91	20.88	20.10	20.18	20.05
		1	24	20.63	20.68	20.65	20.18	20.27	20.23
		1	49	20.13	20.13	20.08	20.18	20.16	19.96
		25	0	20.68	19.92	20.57	20.06	20.02	20.01
		25	12	20.17	20.52	20.49	20.14	20.12	20.05
		25	24	19.82	20.30	20.30	20.14	20.13	20.13
		50	0	20.56	20.53	20.47	20.11	20.10	20.05

8.2. 5G NR n12

Test Engineer ID:	27957	Test Date:	2024-12-04
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OUTPUT POWER FOR 5G NR n12 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				140300 701.5 MHz	141500 707.5 MHz	142700 713.5 MHz	140300 701.5 MHz	141500 707.5 MHz	142700 713.5 MHz
5.0	BPSK	1	0	25.10	25.15	25.13	24.33	24.61	24.64
		1	1	25.64	25.62	25.56	24.94	25.17	25.17
		1	23	25.65	25.64	25.61	25.15	25.20	24.59
		1	24	25.11	25.11	25.08	24.61	24.63	23.98
		12	6	25.68	25.70	25.62	25.17	25.02	25.16
	QPSK	25	0	25.04	25.08	25.08	24.49	24.49	24.56
		1	0	24.62	24.66	24.61	23.98	24.14	24.19
		1	1	25.62	25.68	25.59	24.93	25.14	25.20
		1	23	25.58	25.64	25.62	25.20	24.49	23.82
		1	24	24.54	24.61	24.58	24.13	23.62	22.86
	16QAM	12	6	25.70	25.69	25.70	25.17	24.26	25.17
		25	0	24.59	24.60	24.63	24.08	23.22	24.10
		1	0	23.48	23.49	23.50	22.85	23.05	23.07
		1	1	24.56	24.53	24.51	23.84	23.96	24.11
		1	23	24.55	24.55	24.48	24.04	23.55	23.00
	64QAM	1	24	23.56	23.52	23.46	22.99	22.57	21.98
		12	6	24.51	24.52	24.49	23.99	23.18	24.08
		25	0	23.49	23.50	23.50	22.99	22.21	23.07
		1	0	23.02	23.04	23.03	22.42	22.39	22.73
		1	1	22.94	23.05	23.07	22.39	22.53	22.69
	256QAM	1	23	22.97	23.09	22.99	22.57	22.07	21.77
		1	24	22.90	22.98	22.99	22.52	22.00	21.55
		12	6	22.97	23.01	23.01	22.48	21.88	22.58
		25	0	22.97	23.00	22.98	22.50	21.75	22.56
		1	0	20.98	21.05	21.04	20.34	20.38	20.59
10.0	BPSK	1	1	21.10	21.12	21.11	20.36	20.54	20.74
		1	23	21.03	20.94	20.97	20.56	20.46	20.35
		1	24	20.92	21.02	20.94	20.46	20.43	20.29
		12	6	20.98	21.02	20.96	20.44	20.41	20.58
		25	0	20.96	21.02	21.00	20.48	20.30	20.56

OUTPUT POWER FOR 5G NR n12 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				140800 704.0 MHz	141500 707.5 MHz	142200 711.0 MHz	140800 704.0 MHz	141500 707.5 MHz	142200 711.0 MHz
10.0	BPSK	1	0	25.04	25.11	25.07	24.35	24.47	24.60
		1	1	25.67	25.69	25.67	24.97	25.06	25.20
		1	50	25.70	25.62	25.70	25.20	25.20	24.58
		1	51	25.00	25.08	25.05	24.59	24.55	23.98
		25	12	25.60	25.70	25.59	25.17	24.82	25.16
	QPSK	50	0	25.04	25.02	25.03	24.56	24.53	24.61
		1	0	24.58	24.61	24.55	23.88	24.02	24.14
		1	1	25.55	25.68	25.64	24.98	25.11	24.98
		1	50	25.61	25.67	25.67	24.42	25.14	23.77
		1	51	24.51	24.58	24.59	23.45	24.01	22.75
	16QAM	25	12	25.61	25.63	25.60	25.16	24.39	25.10
		50	0	24.56	24.53	24.53	24.11	24.08	23.82
		1	0	23.49	23.49	23.51	22.93	22.91	23.07
		1	1	24.46	24.59	24.50	23.84	23.86	24.07
		1	50	24.46	24.50	24.48	23.57	24.03	22.97
	64QAM	1	51	23.38	23.52	23.52	22.60	23.03	21.86
		25	12	24.42	24.42	24.43	23.94	23.44	23.99
		50	0	23.43	23.50	23.49	23.02	22.94	23.08
		1	0	22.97	22.98	22.90	22.20	22.47	22.50
		1	1	22.95	23.02	23.03	22.17	22.60	22.52
	256QAM	1	50	22.93	23.07	22.84	21.96	22.35	21.71
		1	51	22.85	23.09	23.03	22.20	22.41	21.47
		25	12	22.95	22.95	22.92	22.46	22.10	22.53
		50	0	22.94	22.96	22.92	22.46	22.48	22.55
		1	0	20.94	20.91	20.89	20.21	20.48	20.51
10.0	BPSK	1	1	21.01	21.00	20.97	20.22	20.45	20.52
		1	50	20.81	20.98	20.98	20.49	20.42	20.26
		1	51	20.91	21.01	20.92	20.41	20.30	20.11
		25	12	20.90	20.92	20.91	20.38	20.50	20.47
		50	0	20.96	20.99	21.00	20.46	20.52	20.48

OUTPUT POWER FOR 5G NR n12 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				141300 706.5 MHz	141500 707.5 MHz	141700 708.5 MHz	141300 706.5 MHz	141500 707.5 MHz	141700 708.5 MHz
15.0	BPSK	1	0	25.11	24.99	25.03	24.41	24.37	24.53
		1	1	25.70	25.69	25.70	25.04	25.01	25.20
		1	77	25.61	25.66	25.58	25.20	25.20	24.74
		1	78	25.03	25.01	24.97	24.64	24.49	24.16
		36	18	25.61	25.58	25.64	25.11	24.61	22.27
		75	0	24.99	24.97	25.01	24.46	24.12	24.67
	QPSK	1	0	24.58	24.60	24.50	23.93	23.88	24.03
		1	1	25.66	25.48	25.65	25.05	25.09	25.20
		1	77	25.66	25.64	25.57	25.17	25.15	23.92
		1	78	24.55	24.47	24.44	24.09	24.08	22.90
		36	18	25.68	25.55	25.45	25.17	24.82	24.56
		75	0	24.54	24.64	24.53	23.85	24.10	24.21
	16QAM	1	0	23.44	23.57	23.36	22.85	22.72	22.76
		1	1	24.49	24.57	24.45	23.79	23.89	23.98
		1	77	24.48	24.43	24.45	24.23	24.08	23.12
		1	78	23.45	23.45	23.41	23.09	23.12	22.18
		36	18	24.41	24.48	24.36	24.03	23.90	23.65
		75	0	23.49	23.53	23.45	23.00	23.00	23.10
	64QAM	1	0	23.01	22.94	22.97	22.26	22.22	22.54
		1	1	23.01	23.06	22.95	22.30	22.29	22.44
		1	77	22.98	22.88	22.93	22.63	22.42	21.83
		1	78	23.04	22.94	22.86	22.55	22.49	21.73
		36	18	23.01	23.01	22.92	22.46	22.29	22.09
		75	0	23.04	22.99	22.95	22.45	22.46	22.56
256QAM	1	0	21.06	20.88	20.92	20.36	20.27	20.51	
	1	1	21.06	21.01	20.93	20.36	20.23	20.66	
	1	77	20.90	20.81	20.81	20.67	20.46	20.36	
	1	78	20.92	20.94	20.78	20.68	20.42	20.38	
	36	18	20.93	21.01	20.93	20.46	20.50	20.57	
	75	0	21.04	21.01	20.93	20.52	20.48	20.58	

8.3. LTE BAND 13

Test Engineer ID:	27957	Test Date:	2025-01-17
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OUTPUT POWER FOR LTE BAND 13 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				23205	23230	23255	23205	23230	23255
				779.5 MHz	782.0 MHz	784.5 MHz	779.5 MHz	782.0 MHz	784.5 MHz
5.0	QPSK	1	0	25.52	25.46	25.33	24.66	25.20	25.10
		1	12	25.61	25.50	25.53	25.20	25.00	25.20
		1	24	25.70	25.70	25.70	25.10	25.13	25.04
		12	0	25.24	25.19	25.05	24.59	24.51	24.38
		12	6	25.42	24.94	25.36	24.59	24.43	24.43
		12	11	25.40	24.93	25.37	24.53	24.41	24.29
		25	0	25.38	25.04	25.31	24.33	24.28	24.12
	16QAM	1	0	24.76	24.70	24.53	23.22	24.47	24.25
		1	12	24.91	24.28	24.80	23.94	24.45	24.45
		1	24	24.91	24.82	24.97	23.80	24.37	24.33
		12	0	23.54	23.42	23.38	22.91	23.53	23.51
		12	6	23.69	23.24	23.66	22.87	23.55	23.52
		12	11	23.66	23.29	23.69	22.92	23.38	23.51
		25	0	23.66	23.45	23.62	22.83	23.44	23.33
	64QAM	1	0	23.82	23.78	23.63	22.15	23.67	23.46
		1	12	23.95	23.68	23.91	23.02	23.61	23.60
		1	24	24.06	23.80	23.97	22.84	23.55	23.48
		12	0	22.59	22.50	22.44	21.99	22.55	22.49
		12	6	22.76	22.28	22.74	22.08	22.63	22.61
		12	11	22.76	22.33	22.73	22.02	22.60	22.55
		25	0	22.69	22.48	22.63	21.87	22.50	22.36
	256QAM	1	0	20.60	20.56	20.59	19.04	20.48	20.48
		1	12	20.88	20.68	20.86	20.10	20.59	20.58
		1	24	20.92	20.24	20.82	20.02	20.43	20.46
		12	0	20.55	20.49	20.42	19.92	20.54	20.51
		12	6	20.73	20.35	20.66	20.02	20.65	20.64
		12	11	20.70	20.32	20.68	19.96	20.57	20.57
		25	0	20.66	20.52	20.61	19.97	20.50	20.55

OUTPUT POWER FOR LTE BAND 13 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				N/A	23230	N/A	N/A	23230	N/A
				N/A	782.0 MHz	N/A	N/A	782.0 MHz	N/A
10.0	QPSK	1	0		25.15			24.92	
		1	24		25.36			25.20	
		1	49		25.70			25.08	
		25	0		25.02			24.67	
		25	12		25.03			24.49	
		25	24		25.30			24.39	
		50	0		25.24			24.24	
	16QAM	1	0		24.41			24.00	
		1	24		24.41			24.45	
		1	49		24.94			24.33	
		25	0		23.32			23.69	
		25	12		23.38			23.61	
		25	24		23.64			23.56	
		50	0		23.53			23.46	
	64QAM	1	0		23.48			23.42	
		1	24		23.71			23.88	
		1	49		24.05			23.72	
		25	0		22.32			22.73	
		25	12		22.39			22.70	
		25	24		22.61			22.69	
		50	0		22.50			22.59	
	256QAM	1	0		20.22			20.10	
		1	24		20.65			20.79	
		1	49		20.83			20.57	
		25	0		20.29			20.66	
		25	12		20.47			20.70	
		25	24		20.62			20.72	
		50	0		20.49			20.56	

8.4. LTE BAND 17

Test Engineer ID:	27957	Test Date:	2025-01-21
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OUTPUT POWER FOR LTE BAND 17 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				23755	23790	23825	23755	23790	23825
				706.5 MHz	710.0 MHz	713.5 MHz	706.5 MHz	710.0 MHz	713.5 MHz
5.0	QPSK	1	0	25.70	25.70	25.70	25.19	25.20	25.17
		1	12	25.51	25.55	25.48	25.20	25.15	25.20
		1	24	25.24	25.32	25.23	25.18	25.12	24.97
		12	0	24.61	25.37	25.33	24.40	24.36	24.36
		12	6	24.95	25.36	25.24	24.48	24.42	24.45
		12	11	25.18	25.22	24.69	24.46	24.42	24.43
		25	0	25.22	25.31	25.25	24.48	24.29	24.35
		1	0	24.50	24.98	24.90	23.92	23.81	23.74
	16QAM	1	12	24.73	24.84	24.57	23.94	23.72	23.87
		1	24	24.54	24.63	24.10	23.83	23.80	23.52
		12	0	22.98	23.71	23.65	22.71	22.73	22.69
		12	6	23.42	23.71	23.61	22.83	22.81	22.76
		12	11	23.60	23.57	23.04	22.79	22.77	22.75
		25	0	23.48	23.63	23.57	22.78	22.63	22.77
		1	0	23.37	24.14	24.11	23.08	22.88	22.92
		1	12	23.12	23.91	23.98	23.09	22.89	23.03
	64QAM	1	24	23.03	23.65	23.27	22.97	22.82	22.66
		12	0	21.93	22.66	22.62	21.71	21.71	21.77
		12	6	22.29	22.66	22.52	21.82	21.80	21.85
		12	11	22.53	22.54	22.11	21.78	21.76	21.81
		25	0	22.35	22.66	22.57	21.80	21.72	21.77
		1	0	20.50	20.95	20.75	19.75	19.77	19.82
		1	12	20.44	20.82	20.84	19.91	19.96	19.98
		1	24	20.42	20.48	20.05	19.79	19.74	19.74
	256QAM	12	0	19.95	20.71	20.65	19.72	19.68	19.70
		12	6	20.25	20.68	20.61	19.85	19.78	19.81
		12	11	20.55	20.56	20.19	19.80	19.73	19.76
		25	0	20.32	20.63	20.57	19.80	19.77	19.76

OUTPUT POWER FOR LTE BAND 17 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				23780	23790	23800	23780	23790	23800
				709.0 MHz	710.0 MHz	711.0 MHz	709.0 MHz	710.0 MHz	711.0 MHz
10.0	QPSK	1	0	25.70	25.70	25.70	25.20	25.19	25.16
		1	24	25.37	25.35	25.31	25.16	25.20	25.20
		1	49	24.89	24.85	24.95	25.14	25.12	24.96
		25	0	25.24	25.19	25.20	24.35	24.35	24.37
		25	12	25.15	25.10	25.05	24.49	24.51	24.42
		25	24	24.92	24.91	24.93	24.45	24.46	24.45
		50	0	25.11	25.07	25.02	24.42	24.27	24.20
		1	0	24.35	24.59	24.91	23.86	23.92	23.88
	16QAM	1	24	24.58	24.53	24.61	23.80	23.79	23.75
		1	49	24.05	23.74	23.94	23.77	23.82	23.55
		25	0	23.55	23.48	23.50	22.67	22.68	22.71
		25	12	23.46	23.43	23.38	22.81	22.84	22.74
		25	24	23.23	23.22	23.24	22.77	22.78	22.77
		50	0	23.42	23.38	23.32	22.66	22.71	22.69
		1	0	23.55	23.30	23.93	23.02	23.01	23.02
		1	24	23.77	23.63	23.78	22.98	22.85	22.85
	64QAM	1	49	23.20	22.72	23.08	23.00	22.89	22.61
		25	0	22.56	22.50	22.54	21.68	21.69	21.70
		25	12	22.53	22.44	22.41	21.81	21.84	21.76
		25	24	22.29	22.23	22.26	21.79	21.78	21.76
		50	0	22.47	22.39	22.37	21.78	21.69	21.70
		1	0	20.80	20.74	20.76	19.77	19.79	19.78
		1	24	20.65	20.59	20.58	19.91	19.95	19.78
		1	49	20.02	19.99	20.07	19.79	19.81	19.70
	256QAM	25	0	20.52	20.50	20.53	19.66	19.64	19.67
		25	12	20.51	20.39	20.40	19.82	19.80	19.77
		25	24	20.28	20.21	20.27	19.78	19.77	19.77
		50	0	20.45	20.37	20.38	19.77	19.68	19.67

8.5. LTE BAND 71

Test Engineer ID:	27957	Test Date:	2025-01-22
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OUTPUT POWER FOR LTE BAND 71 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				133147	133297	133447	133147	133297	133447
				665.5 MHz	680.5 MHz	695.5 MHz	665.5 MHz	680.5 MHz	695.5 MHz
5.0	QPSK	1	0	25.70	25.36	25.60	25.20	25.08	25.11
		1	12	25.67	25.56	25.70	25.18	25.20	25.20
		1	24	25.58	25.70	25.55	25.13	25.08	24.69
		12	0	25.36	25.17	25.28	24.41	24.50	24.44
		12	6	25.44	25.38	25.38	24.43	24.55	24.57
		12	11	25.38	25.39	25.32	24.47	24.52	24.40
		25	0	25.40	25.29	25.34	24.42	24.52	24.54
		1	0	25.00	24.66	24.80	23.71	24.09	24.07
	16QAM	1	12	24.96	24.94	24.81	23.96	24.13	24.03
		1	24	24.96	25.00	24.77	23.90	24.06	23.17
		12	0	23.70	23.50	23.54	22.79	22.96	22.87
		12	6	23.77	23.70	23.68	22.84	23.00	22.95
		12	11	23.71	23.72	23.63	22.81	22.93	22.68
		25	0	23.70	23.66	23.61	22.80	22.94	22.80
		1	0	24.09	23.75	23.87	22.80	23.14	22.94
		1	12	24.12	23.92	23.96	23.08	23.15	22.90
	64QAM	1	24	23.96	24.04	23.80	23.07	23.13	22.37
		12	0	22.73	22.52	22.70	21.69	21.88	21.64
		12	6	22.80	22.68	22.83	21.81	21.89	21.75
		12	11	22.76	22.69	22.79	21.78	21.82	21.71
		25	0	22.74	22.68	22.67	21.84	21.88	21.68
		1	0	20.80	20.59	20.72	19.74	20.01	19.67
		1	12	20.96	20.90	20.84	20.12	20.04	19.86
		1	24	20.82	20.99	20.73	19.91	19.92	19.36
	256QAM	12	0	20.69	20.51	20.60	19.65	19.83	19.65
		12	6	20.77	20.71	20.73	19.93	19.85	19.73
		12	11	20.69	20.72	20.67	19.86	19.74	19.68
		25	0	20.72	20.67	20.65	19.87	19.74	19.67

OUTPUT POWER FOR LTE BAND 71 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				133172	133322	133422	133172	133322	133422
				668.0 MHz	683.0 MHz	693.0 MHz	668.0 MHz	683.0 MHz	693.0 MHz
10.0	QPSK	1	0	25.68	24.98	25.49	25.20	25.20	25.18
		1	24	25.63	25.30	25.70	25.18	25.10	25.20
		1	49	25.68	25.70	25.60	25.17	25.05	25.12
		25	0	25.44	24.89	25.36	24.47	24.41	24.45
		25	12	25.48	25.15	25.52	24.54	24.46	24.52
		25	24	25.44	25.31	25.51	24.48	24.41	24.49
		50	0	25.51	25.14	25.50	24.52	24.43	24.49
		1	0	25.00	24.24	24.74	24.05	24.00	24.00
	16QAM	1	24	24.88	24.59	24.94	23.98	23.88	23.91
		1	49	24.92	24.93	24.91	23.90	23.77	23.83
		25	0	23.76	23.21	23.56	22.80	22.73	22.77
		25	12	23.80	23.47	23.84	22.84	22.79	22.84
		25	24	23.77	23.63	23.82	22.81	22.72	22.79
		50	0	23.80	23.45	23.80	22.84	22.73	22.79
		1	0	24.10	23.37	23.87	23.13	23.02	23.08
		1	24	23.98	23.72	24.11	23.10	23.08	23.03
	64QAM	1	49	24.12	24.04	24.05	22.93	22.87	22.96
		25	0	22.71	22.23	22.60	21.80	21.70	21.77
		25	12	22.79	22.46	22.87	21.86	21.79	21.83
		25	24	22.80	22.62	22.84	21.82	21.72	21.81
		50	0	22.79	22.47	22.80	21.87	21.75	21.82
		1	0	20.86	20.12	20.64	19.88	19.86	19.80
		1	24	20.84	20.59	20.97	19.96	19.85	19.96
		1	49	20.89	20.90	20.86	19.79	19.71	19.81
	256QAM	25	0	20.72	20.17	20.56	19.79	19.71	19.73
		25	12	20.80	20.45	20.85	19.84	19.76	19.80
		25	24	20.79	20.61	20.86	19.81	19.69	19.78
		50	0	20.82	20.43	20.79	19.81	19.74	19.81

OUTPUT POWER FOR LTE BAND 71 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				133197 670.5 MHz	133297 680.5 MHz	133397 690.5 MHz	133197 670.5 MHz	133297 680.5 MHz	133397 690.5 MHz
15.0	QPSK	1	0	25.51	24.73	25.12	25.20	25.20	25.20
		1	37	25.42	25.13	25.62	25.19	25.07	25.13
		1	74	25.70	25.65	25.70	25.05	25.00	25.01
		36	0	25.26	24.66	25.19	24.52	24.46	24.47
		36	16	25.34	24.97	25.49	24.56	24.49	24.50
		36	35	25.39	25.20	25.56	24.48	24.41	24.44
		75	0	25.34	24.98	25.37	24.50	24.42	24.47
	16QAM	1	0	24.85	24.03	24.49	24.07	24.02	24.01
		1	37	24.78	24.48	24.95	24.07	23.92	24.02
		1	74	24.99	25.00	24.95	23.86	23.80	23.85
		36	0	23.58	23.00	23.53	22.84	22.78	22.77
		36	16	23.63	23.31	23.84	22.88	22.82	22.83
		36	35	23.70	23.54	23.89	22.82	22.73	22.76
		75	0	23.71	23.32	23.72	22.86	22.75	22.80
	64QAM	1	0	23.96	23.07	23.57	23.07	23.13	23.09
		1	37	23.89	23.41	24.02	23.07	23.03	23.08
		1	74	24.08	23.96	24.00	22.98	22.92	22.99
		36	0	22.58	22.02	22.53	21.82	21.80	21.79
		36	16	22.65	22.33	22.84	21.86	21.78	21.83
		36	35	22.71	22.57	22.92	21.79	21.72	21.79
		75	0	22.70	22.34	22.76	21.86	21.77	21.82
	256QAM	1	0	20.72	19.80	20.33	19.83	19.81	19.87
		1	37	20.71	20.41	20.93	19.84	19.85	19.83
		1	74	20.96	20.94	20.94	19.70	19.67	19.73
		36	0	20.60	20.03	20.57	19.82	19.76	19.79
		36	16	20.65	20.30	20.83	19.85	19.79	19.82
		36	35	20.69	20.49	20.87	19.77	19.71	19.71
		75	0	20.72	20.32	20.75	19.82	19.74	19.78

OUTPUT POWER FOR LTE BAND 71 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				133222 673.0 MHz	133322 683.0 MHz	133372 688.0 MHz	133222 673.0 MHz	133322 683.0 MHz	133372 688.0 MHz
20.0	QPSK	1	0	25.03	24.38	24.63	25.20	25.20	25.20
		1	49	25.11	24.90	25.43	25.14	25.08	25.11
		1	99	25.70	25.70	25.70	24.98	24.96	25.05
		50	0	24.91	24.47	24.89	24.50	24.47	24.52
		50	24	25.07	24.85	25.21	24.52	24.48	24.44
		50	49	25.21	25.16	25.52	24.42	24.38	24.43
		100	0	25.09	24.83	25.15	24.49	24.42	24.42
	16QAM	1	0	24.35	23.63	23.85	23.98	23.91	24.01
		1	49	24.46	24.21	24.65	23.92	23.92	23.92
		1	99	24.93	24.91	25.00	23.75	23.79	23.85
		50	0	23.19	22.75	23.22	22.80	22.79	22.81
		50	24	23.35	23.14	23.54	22.82	22.81	22.75
		50	49	23.52	23.43	23.80	22.73	22.71	22.75
		100	0	23.40	23.11	23.45	22.80	22.79	22.73
	64QAM	1	0	23.38	22.75	23.07	23.07	23.02	23.07
		1	49	23.63	23.29	23.79	22.99	22.95	22.97
		1	99	23.97	24.00	24.14	22.80	22.90	22.96
		50	0	22.21	21.75	22.23	21.77	21.80	21.82
		50	24	22.35	22.15	22.58	21.80	21.80	21.75
		50	49	22.53	22.46	22.83	21.70	21.72	21.73
		100	0	22.41	22.13	22.44	21.80	21.79	21.74
	256QAM	1	0	20.31	19.59	19.87	19.88	19.87	20.02
		1	49	20.39	20.25	20.78	19.82	19.88	19.87
		1	99	20.91	20.90	20.91	19.62	19.68	19.79
		50	0	20.19	19.76	20.21	19.78	19.78	19.81
		50	24	20.36	20.12	20.55	19.82	19.78	19.78
		50	49	20.46	20.41	20.79	19.67	19.64	19.70
		100	0	20.40	20.14	20.46	19.82	19.74	19.72

8.6. 5G NR n71

Test Engineer ID:	27957	Test Date:	2025-01-06
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OUTPUT POWER FOR 5G NR n71 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				133100 665.5 MHz	136100 680.5 MHz	139100 695.5 MHz	133100 665.5 MHz	136100 680.5 MHz	139100 695.5 MHz
5.0	BPSK	1	0	24.89	25.05	25.00	23.99	24.55	24.38
		1	1	25.44	25.70	25.70	24.63	25.20	25.01
		1	23	25.70	25.60	25.69	24.93	25.05	25.20
		1	24	24.93	24.93	25.06	24.48	24.38	24.53
		12	6	25.59	25.67	25.64	25.20	25.17	25.06
		25	0	25.05	25.06	25.15	24.56	24.56	24.58
	QPSK	1	0	24.43	24.55	24.55	22.44	24.13	23.88
		1	1	25.47	25.45	25.65	23.53	25.18	25.05
		1	23	25.52	25.62	25.70	24.90	25.07	25.11
		1	24	24.46	24.46	24.55	23.88	23.92	24.03
		12	6	25.55	25.65	25.67	25.15	25.15	25.07
		25	0	24.64	24.60	24.68	24.10	24.17	24.05
	16QAM	1	0	23.35	23.45	23.36	21.31	23.13	22.81
		1	1	24.36	24.59	24.54	22.64	24.04	23.96
		1	23	24.44	24.43	24.57	23.83	24.01	24.09
		1	24	23.41	23.34	23.40	22.67	22.82	22.85
		12	6	24.49	24.51	24.46	23.93	24.08	23.83
		25	0	23.56	23.51	23.57	22.98	23.09	23.01
	64QAM	1	0	22.79	22.86	22.97	21.01	22.62	22.27
		1	1	22.84	23.17	22.98	21.05	22.51	22.45
		1	23	22.93	23.01	22.99	22.26	22.53	22.44
		1	24	22.91	22.84	22.91	22.30	22.42	22.43
		12	6	22.96	22.99	23.02	22.40	22.56	22.43
		25	0	22.99	23.02	23.08	22.47	22.58	22.48
	256QAM	1	0	20.73	20.90	20.86	19.55	20.50	20.22
		1	1	20.99	21.08	21.06	19.51	20.80	20.41
		1	23	21.01	21.00	21.04	20.48	20.47	20.45
		1	24	20.86	20.74	20.82	20.30	20.33	20.27
		12	6	20.94	20.95	20.99	20.37	20.51	20.33
		25	0	20.99	20.96	21.03	20.40	20.56	20.40

OUTPUT POWER FOR 5G NR n71 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				133600 668.0 MHz	136600 683.0 MHz	138600 693.0 MHz	133600 668.0 MHz	136600 683.0 MHz	138600 693.0 MHz
10.0	BPSK	1	0	24.97	25.04	25.04	24.19	24.54	24.46
		1	1	25.61	25.67	25.65	24.71	25.20	25.03
		1	50	25.62	25.70	25.70	24.52	24.94	25.20
		1	51	25.01	24.93	25.10	24.04	24.30	24.61
		25	12	25.70	25.65	25.69	25.20	24.97	25.06
		50	0	25.19	25.13	25.16	24.74	24.47	24.57
	QPSK	1	0	24.55	24.60	24.58	22.68	24.06	23.96
		1	1	25.58	25.66	25.69	23.73	25.10	25.10
		1	50	25.64	25.58	25.48	23.50	24.90	25.19
		1	51	24.45	24.49	24.61	22.66	23.79	24.10
		25	12	25.68	25.67	25.67	25.11	25.02	25.08
		50	0	24.68	24.66	24.67	24.02	24.03	24.06
	16QAM	1	0	23.31	23.49	23.34	21.66	22.78	22.75
		1	1	24.39	24.39	24.44	22.79	23.76	23.81
		1	50	24.34	24.42	24.55	22.68	23.65	24.07
		1	51	23.21	23.38	23.56	21.69	22.57	22.95
		25	12	24.54	24.50	24.52	24.10	23.84	23.90
		50	0	23.56	23.54	23.56	23.19	22.88	22.99
	64QAM	1	0	22.87	22.99	22.95	21.11	22.38	22.35
		1	1	22.78	22.96	23.04	21.27	22.63	22.22
		1	50	22.86	22.76	22.99	21.11	22.23	22.48
		1	51	22.70	22.84	22.99	21.20	22.06	22.39
		25	12	22.93	22.98	22.97	22.58	22.34	22.31
		50	0	23.01	23.04	23.05	22.59	22.42	22.44
	256QAM	1	0	20.74	20.83	20.82	19.66	20.28	20.23
		1	1	20.86	20.86	20.90	19.76	20.47	20.26
		1	50	20.88	21.06	20.90	19.55	20.19	20.34
		1	51	20.80	20.84	20.93	19.56	20.01	20.44
		25	12	20.91	20.94	20.93	20.67	20.35	20.29
		50	0	20.98	21.01	21.04	20.59	20.45	20.34

OUTPUT POWER FOR 5G NR n71 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				134100	136100	138100	134100	136100	138100
				670.5 MHz	680.5 MHz	690.5 MHz	670.5 MHz	680.5 MHz	690.5 MHz
15.0	BPSK	1	0	25.04	25.14	25.09	24.08	24.44	24.64
		1	1	25.58	25.70	25.70	24.59	24.95	25.15
		1	77	25.67	25.60	25.57	24.90	24.98	25.20
		1	78	25.09	25.04	25.03	24.31	24.43	24.68
		36	18	25.69	25.61	25.56	25.20	25.20	25.05
		75	0	25.11	25.10	25.05	24.61	24.59	24.55
	QPSK	1	0	24.52	24.54	24.59	22.50	23.00	24.09
		1	1	25.66	25.65	25.66	23.57	23.98	25.15
		1	77	25.60	25.68	25.53	24.71	24.96	25.19
		1	78	24.60	24.53	24.39	23.71	23.86	24.09
		36	18	25.55	25.70	25.67	24.45	25.20	25.10
		75	0	24.64	24.62	24.59	23.97	24.08	24.05
	16QAM	1	0	23.44	23.39	23.46	21.43	22.06	22.92
		1	1	24.37	24.46	24.43	22.69	23.03	23.85
		1	77	24.44	24.52	24.30	23.91	23.64	23.91
		1	78	23.53	23.41	23.39	22.69	22.78	22.99
		36	18	24.43	24.38	24.35	23.51	23.89	23.85
		75	0	23.53	23.52	23.46	22.98	22.93	23.03
	64QAM	1	0	22.84	22.91	22.89	20.94	21.53	22.35
		1	1	22.90	22.84	22.99	21.35	21.47	22.39
		1	77	22.89	22.99	22.74	22.10	22.23	22.55
		1	78	23.05	22.84	22.91	22.29	22.00	22.60
		36	18	22.92	22.93	22.81	22.15	22.35	22.39
		75	0	22.99	22.98	22.97	22.50	22.47	22.62
	256QAM	1	0	21.01	21.23	21.07	19.71	20.00	20.63
		1	1	21.08	21.14	21.04	19.90	20.13	20.59
		1	77	21.14	21.11	21.09	20.40	20.39	20.75
		1	78	21.08	21.17	20.99	20.23	20.34	20.53
		36	18	20.89	20.91	20.87	20.53	20.34	20.41
		75	0	20.97	20.97	20.95	20.63	20.36	20.55

OUTPUT POWER FOR 5G NR n71 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 1			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				134600	136600	137600	134600	136600	137600
				673.0 MHz	683.0 MHz	688.0 MHz	673.0 MHz	683.0 MHz	688.0 MHz
20.0	BPSK	1	0	25.07	25.08	24.94	24.25	24.32	24.50
		1	1	25.60	25.70	25.60	24.73	24.94	25.20
		1	104	25.62	25.62	25.45	24.79	24.99	24.98
		1	105	24.98	24.98	24.90	24.17	24.50	24.40
		50	25	25.70	25.68	25.70	25.20	25.20	24.96
		100	0	25.23	25.23	25.19	24.71	24.74	24.54
	QPSK	1	0	24.49	24.58	24.53	22.69	23.05	24.02
		1	1	25.69	25.66	25.66	23.74	24.03	25.13
		1	104	25.60	25.63	25.46	24.81	25.06	24.87
		1	105	24.50	24.50	24.36	23.62	23.93	23.92
		50	25	25.67	25.66	25.62	24.73	25.20	24.93
		100	0	24.72	24.74	24.70	24.24	24.28	24.06
	16QAM	1	0	23.40	23.58	23.39	21.67	22.09	22.82
		1	1	24.45	24.55	24.38	22.72	23.19	23.94
		1	104	24.37	24.39	24.40	23.54	23.84	23.76
		1	105	23.34	23.34	23.31	22.61	22.65	22.72
		50	25	24.46	24.49	24.40	23.57	24.09	23.70
		100	0	23.52	23.55	23.48	23.01	23.11	22.78
	64QAM	1	0	22.92	23.01	22.87	21.28	21.65	22.44
		1	1	22.93	23.00	22.91	21.23	21.67	22.58
		1	104	22.91	23.05	22.86	22.15	22.35	22.41
		1	105	22.97	22.91	22.83	22.16	22.41	22.04
		50	25	22.94	23.08	22.93	22.07	22.51	22.17
		100	0	23.02	23.15	23.01	22.48	22.45	22.25
	256QAM	1	0	20.76	20.78	20.78	19.73	20.21	20.09
		1	1	20.76	20.93	20.84	19.69	20.12	20.31
		1	104	20.82	20.73	20.78	19.99	20.24	20.08
		1	105	20.76	21.09	20.75	19.96	20.26	20.26
		50	25	21.03	21.39	20.90	20.30	20.48	20.19
		100	0	21.02	21.48	20.94	20.52	20.54	20.25

OUTPUT POWER FOR 5G NR n71 (25.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				135100	136100	137100	135100	136100	137100
25.0	BPSK	1	0	25.57	25.59	25.40	23.16	24.70	23.76
		1	1	25.70	25.70	25.55	23.65	25.20	24.31
		1	131	25.67	25.63	25.70	24.87	24.79	25.00
		1	132	25.57	25.51	25.61	24.77	24.62	24.89
		64	32	25.44	25.54	25.38	25.20	24.88	25.20
		128	0	25.38	25.39	25.30	24.84	24.74	25.18
	QPSK	1	0	25.01	24.95	25.05	21.66	23.06	22.32
		1	1	25.70	25.58	25.58	22.68	24.19	23.32
		1	131	25.68	25.61	25.65	24.59	24.72	24.44
		1	132	25.32	25.48	24.97	23.73	24.07	23.48
		64	32	25.45	25.50	25.37	24.99	24.85	25.20
		128	0	25.24	25.28	25.13	23.94	24.07	24.72
	16QAM	1	0	23.07	22.87	23.11	20.60	22.08	21.48
		1	1	23.92	23.99	24.10	21.90	23.36	22.46
		1	131	24.32	24.29	23.93	23.84	23.96	23.64
		1	132	23.17	23.27	22.93	22.70	23.11	22.62
		64	32	24.11	24.17	24.04	23.96	24.45	24.76
		128	0	23.10	23.15	23.04	22.98	23.07	23.69
	64QAM	1	0	23.59	23.62	23.61	20.29	21.48	20.98
		1	1	23.51	23.48	23.66	20.35	21.68	21.05
		1	131	23.65	23.76	23.65	22.22	22.72	22.14
		1	132	23.76	23.89	23.47	22.10	22.66	22.06
		64	32	23.68	23.90	23.61	22.47	22.78	23.37
		128	0	23.72	23.91	23.59	22.50	22.49	23.22
	256QAM	1	0	21.84	22.02	21.65	18.89	19.98	19.33
		1	1	22.08	22.14	21.63	18.76	20.13	19.59
		1	131	21.58	21.99	21.68	20.58	20.51	20.46
		1	132	21.64	21.99	21.62	20.60	20.58	20.56
		64	32	21.70	21.89	21.62	20.87	20.91	21.35
		128	0	21.72	21.92	21.58	20.90	20.84	21.25

OUTPUT POWER FOR 5G NR n71 (30.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Ant 3			Ant 2		
				Conducted Average (dBm)			Conducted Average (dBm)		
				135600	N/A	136600	135600	N/A	136600
30.0	BPSK	1	0	25.40		25.56	24.39		24.80
		1	1	25.70		25.70	24.93		25.20
		1	158	25.63		25.63	25.20		25.07
		1	159	25.37		25.48	24.83		24.73
		80	40	25.39		25.55	25.03		24.97
		160	0	25.30		24.85	24.69		24.71
	QPSK	1	0	24.81		25.06	23.14		23.47
		1	1	25.67		25.65	24.14		24.52
		1	158	25.66		25.66	24.72		24.44
		1	159	25.33		25.01	23.91		23.51
		80	40	25.57		25.56	25.00		24.96
		160	0	25.34		25.01	23.86		23.80
	16QAM	1	0	23.79		23.90	22.14		22.55
		1	1	23.98		23.98	23.12		23.51
		1	158	24.39		23.96	23.72		23.52
		1	159	23.17		23.01	22.81		22.33
		80	40	24.27		24.15	23.92		23.98
		160	0	23.27		23.18	22.84		22.73
	64QAM	1	0	23.52		23.62	21.61		22.02
		1	1	23.50		23.60	21.65		22.34
		1	158	23.81		23.35	22.40		22.14
		1	159	23.59		23.37	22.36		21.86
		80	40	23.72		23.72	22.53		22.51
		160	0	23.65		23.74	22.72		22.31
	256QAM	1	0	21.57		21.65	20.53		20.42
		1	1	21.58		21.58	20.66		20.37
		1	158	21.52		21.65	20.90		20.42
		1	159	21.62		21.48	20.92		20.33
		80	40	22.68		21.75	20.97		20.66
		160	0	21.69		21.67	21.05		20.56

9. CONDUCTED TEST RESULTS

9.1. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049
ISED: RSS130§4.5

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.

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	1.096	1.38
	1.4MHz, 16QAM			1.097	1.41
	3MHz, QPSK	15/0		2.703	3.04
	3MHz, 16QAM			2.710	3.08
	5MHz, QPSK	25/0		4.506	5.10
	5MHz, 16QAM			4.506	5.10
	10MHz, QPSK	50/0		8.983	10.02
	10MHz, 16QAM			8.984	10.10
	10MHz, QPSK	1/0		0.246	0.43

5G NR n12

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
5G NR n12	5MHz, BPSK	25/0	707.5	4.507	5.19
	5MHz, QPSK			4.511	5.27
	5MHz, 16QAM			4.519	5.21
	10MHz, BPSK	50/0		8.992	9.85
	10MHz, QPSK			8.995	9.96
	10MHz, 16QAM			8.980	9.86
	15MHz, BPSK	75/0		13.482	14.53
	15MHz, QPSK			13.501	14.55
	15MHz, 16QAM			13.495	14.54
	15MHz, BPSK	1/0		0.246	0.42

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	4.498	5.09
	5MHz, 16QAM			4.498	5.12
	10MHz, QPSK	50/0		8.974	9.88
	10MHz, 16QAM			8.970	9.88
	10MHz, QPSK	1/0		0.254	0.44

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	4.501	5.18
	5MHz, 16QAM			4.502	5.07
	10MHz, QPSK	50/0		8.982	9.93
	10MHz, 16QAM			8.995	9.99
	10MHz, QPSK	1/0		0.245	0.43

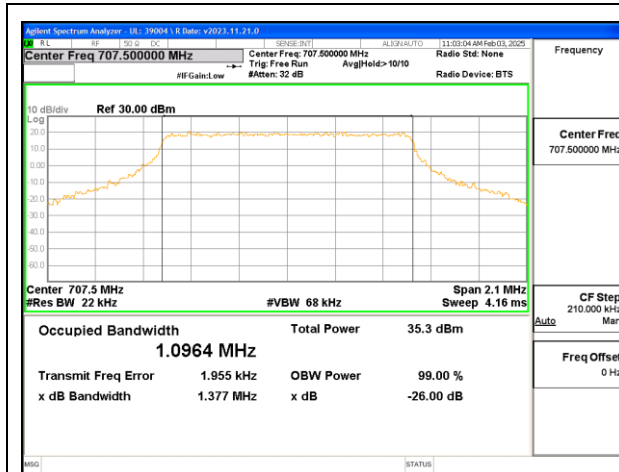
LTE BAND 71

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 71	5MHz, QPSK	25/0	680.5	4.496	5.10
	5MHz, 16QAM			4.489	5.13
	10MHz, QPSK	50/0	683.0	8.963	10.12
	10MHz, 16QAM			8.974	9.81
	15MHz, QPSK	75/0	680.5	13.460	14.80
	15MHz, 16QAM			13.467	14.73
	20MHz, QPSK	100/0	683.0	17.900	19.56
	20MHz, 16QAM			17.916	19.71
	20MHz, QPSK	1/0		0.274	0.47

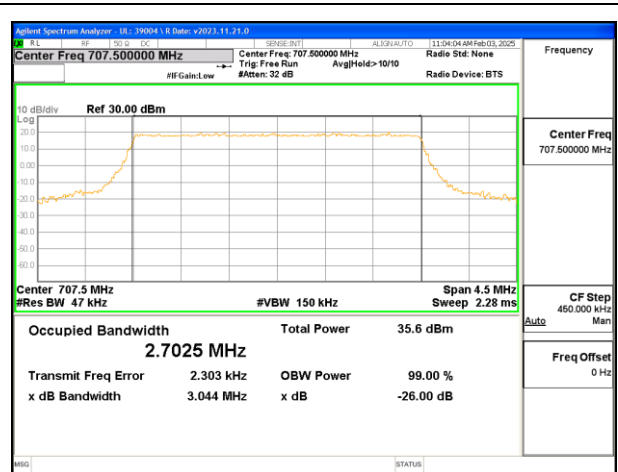
5G NR n71

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
5G NR n71	5MHz, BPSK	25/0	680.5	4.513	5.24
	5MHz, QPSK			4.500	5.17
	5MHz, 16QAM			4.509	5.19
	10MHz, BPSK	50/0	683	8.971	9.87
	10MHz, QPSK			8.974	9.72
	10MHz, 16QAM			8.998	9.83
	15MHz, BPSK	75/0	680.5	13.490	14.43
	15MHz, QPSK			13.477	14.32
	15MHz, 16QAM			13.477	14.42
	20MHz, BPSK	100/0	683	17.926	19.13
	20MHz, QPSK			17.883	19.06
	20MHz, 16QAM			17.919	19.17
	25MHz, BPSK	128/0	680.5	23.006	24.46
	25MHz, QPSK			22.960	24.47
	25MHz, 16QAM			22.946	24.45
	30MHz, BPSK	160/0	683	28.802	30.48
	30MHz, QPSK			28.665	30.28
	30MHz, 16QAM			28.690	30.28
	30MHz, BPSK	1/0		0.252	0.46

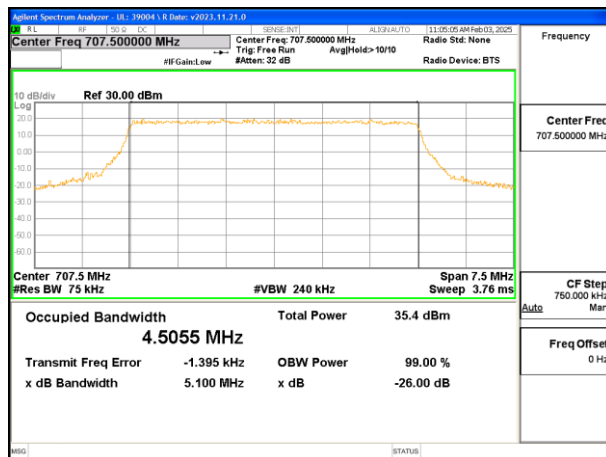
9.1.1. LTE BAND 12



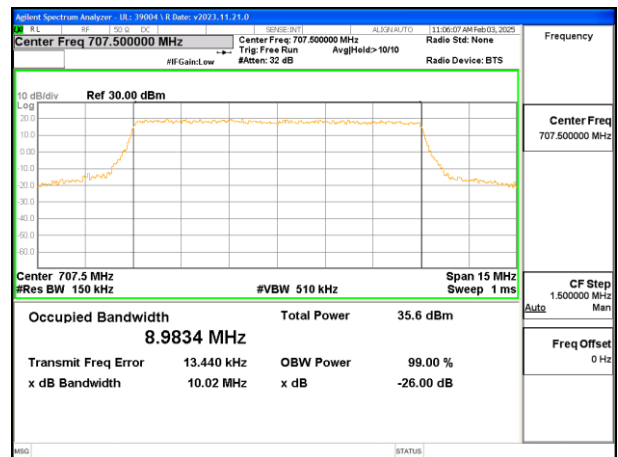
LTE B12 1.4MHz QPSK Middle Channel RB6-0



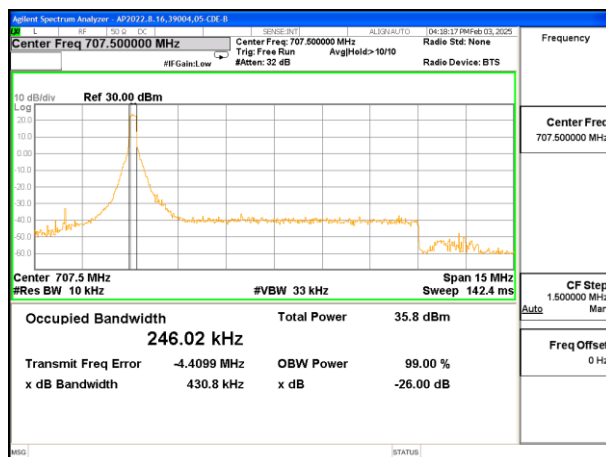
LTE B12 3MHz QPSK Middle Channel RB15-0



LTE B12 5MHz QPSK Middle Channel RB25-0



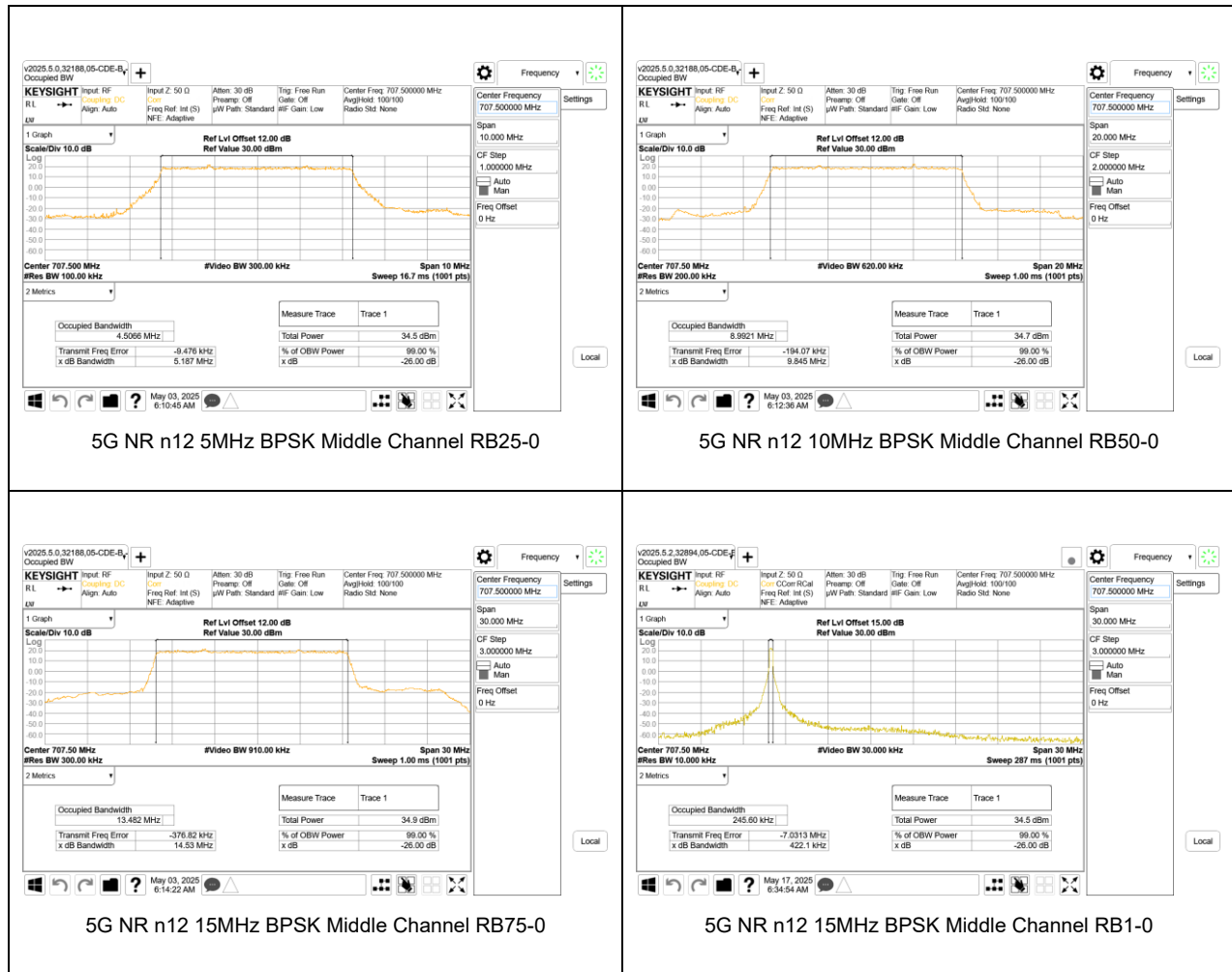
LTE B12 10MHz QPSK Middle Channel RB50-0



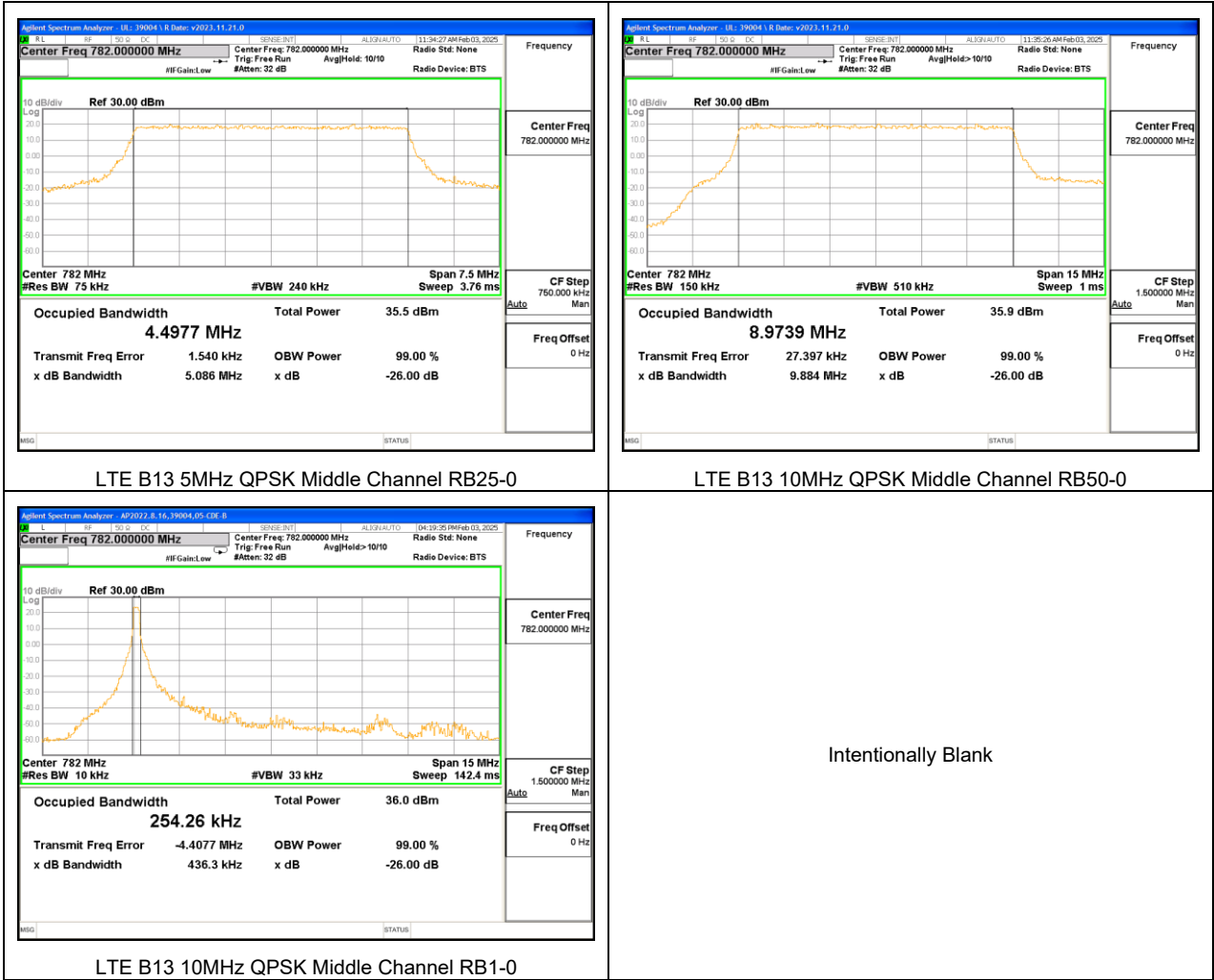
LTE B12 10MHz QPSK Middle Channel RB1-0

Intentionally Blank

9.1.2. 5G NR n12



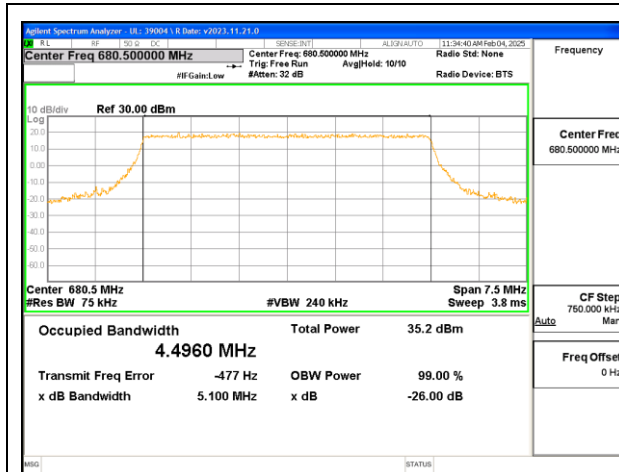
9.1.3. LTE BAND 13



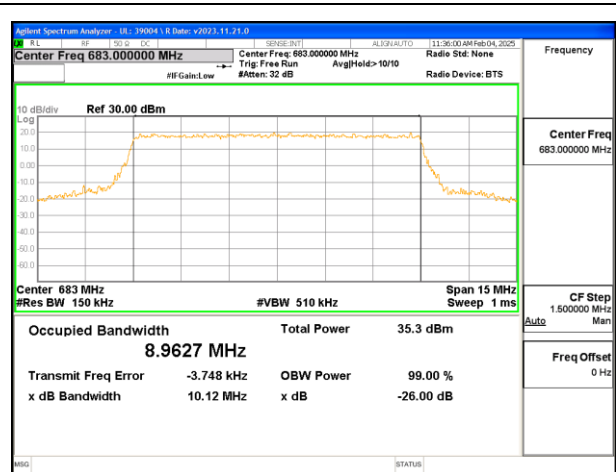
9.1.4. LTE BAND 17



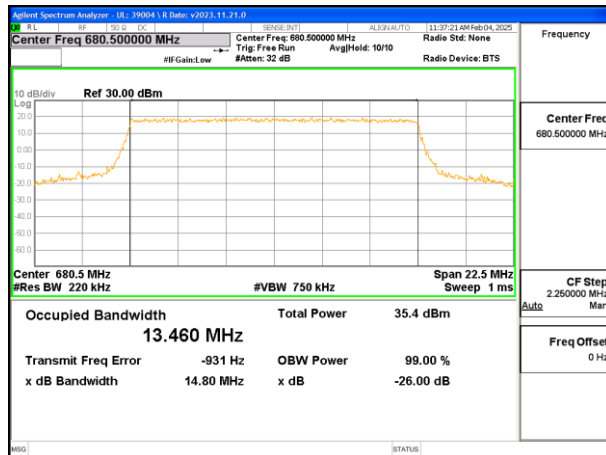
9.1.5. LTE BAND 71



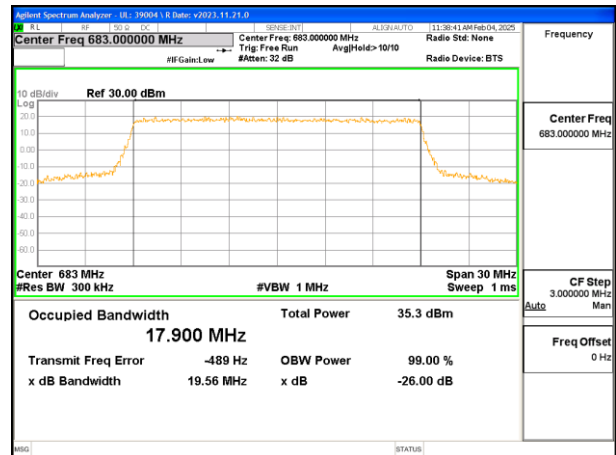
LTE B71 5MHz QPSK Middle Channel RB25-0



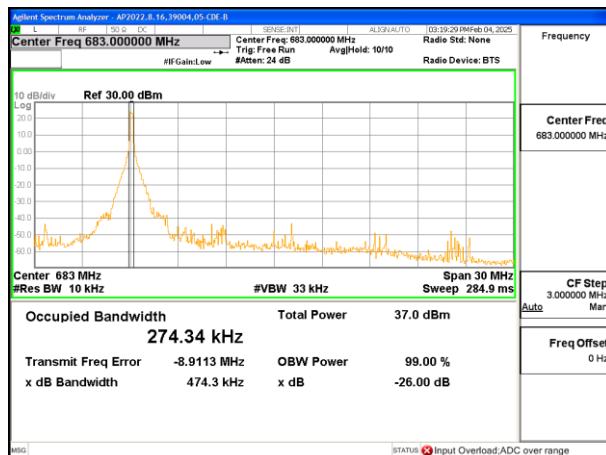
LTE B71 10MHz QPSK Middle Channel RB50-0



LTE B71 15MHz QPSK Middle Channel RB75-0



LTE B71 20MHz QPSK Middle Channel RB100-0

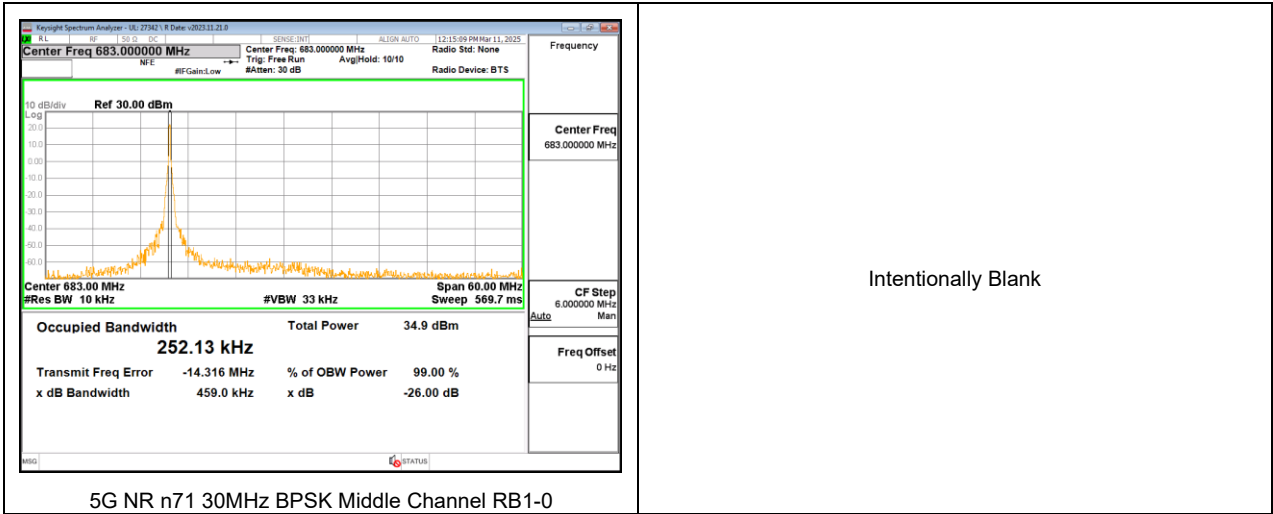


LTE B71 20MHz QPSK Middle Channel RB1-0

Intentionally Blank

9.1.6. 5G NR n71





9.2. EMISSION MASK AND ADJACENT CHANNEL POWER

LIMITS (BAND 12, 17, 71)

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.

ISED: RSS130§4.7

4.7.1 General unwanted emissions limits

The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least $43 + 10 \log_{10} p$ (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

LIMITS (BAND 13)

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 = -40dBm/MHz).

ISED: RSS130§4.7

4.7.1 General unwanted emissions limits

The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least $43 + 10 \log_{10} p$ (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

4.7.2 Additional unwanted emissions limits

In addition to the limit outlined in section 4.7.1 above, equipment operating in the frequency bands 746-756 MHz and 777-787 MHz shall also comply with the following restrictions:

- (a) the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least:
 - i. $76 + 10 \log_{10} p$ (watts), dB, for base and fixed equipment and
 - ii. $65 + 10 \log_{10} p$ (watts), dB, for mobile and portable equipment
- (b) the e.i.r.p. in the band 1559-1610 MHz shall not exceed -70 dBW/MHz for wideband signal and -80 dBW for discrete emission with bandwidth less than 700 Hz.

TEST PROCEDURE

For Spectrum Emission Mask plots, the spectrum analyzer is configured to sweep with a moving integration window, the width of which can be adjusted to different sizes across the sweep. The window width is configured to be greater than or equal to the required reference bandwidth. The center frequencies of the integration window for the different integration windows was set such that the upper and lower edges of the windows are aligned with the transition points in the reference bandwidths. This is achieved by setting the start / stop frequencies of the window with an offset equal to the reference bandwidth / 2 from the transition point.

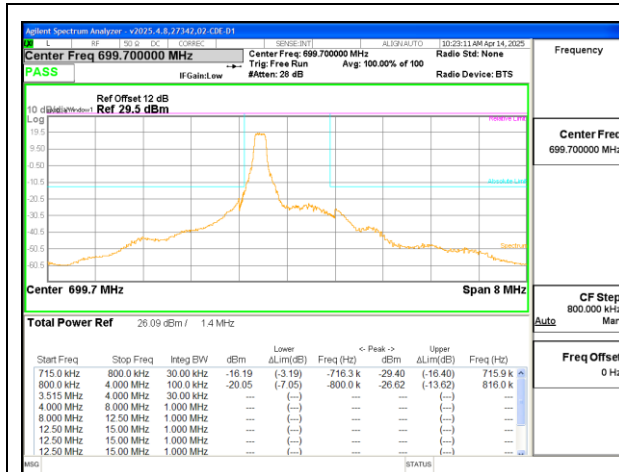
The transmitter output was connected to a base station simulator and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

For each band edge measurement:

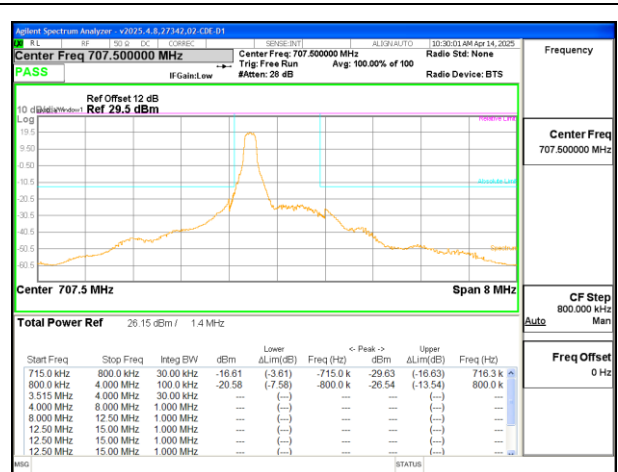
1. Set the spectrum analyzer span to include the block edge frequency.
2. Set a marker to point the corresponding band edge frequency in each test case.
3. Set display line at each different band's requirement limits
4. Set resolution bandwidth to at least 1% of emission bandwidth.

RESULTS

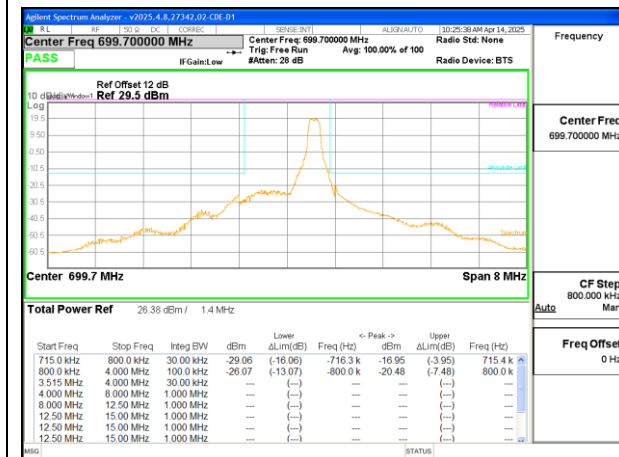
9.2.1. LTE BAND 12



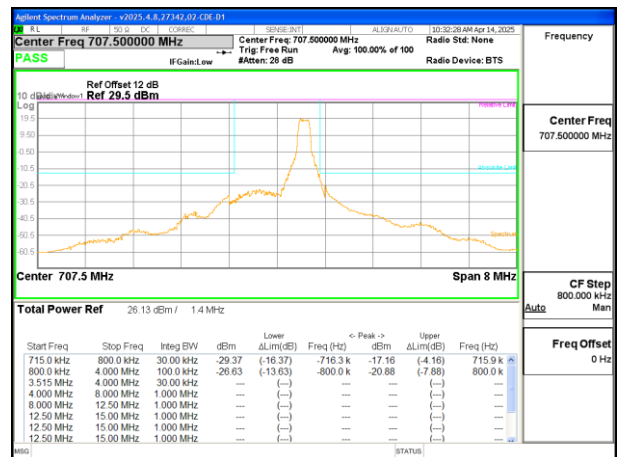
LTE B12 1.4MHz QPSK Low Channel RB1-0



LTE B12 1.4MHz QPSK Middle Channel RB1-0



LTE B12 1.4MHz QPSK Low Channel RB1-5



LTE B12 1.4MHz QPSK Middle Channel RB1-5

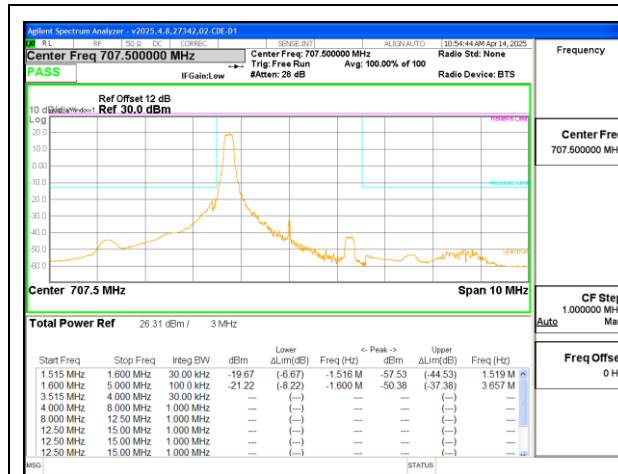


LTE B12 1.4MHz QPSK Low Channel RB6-0

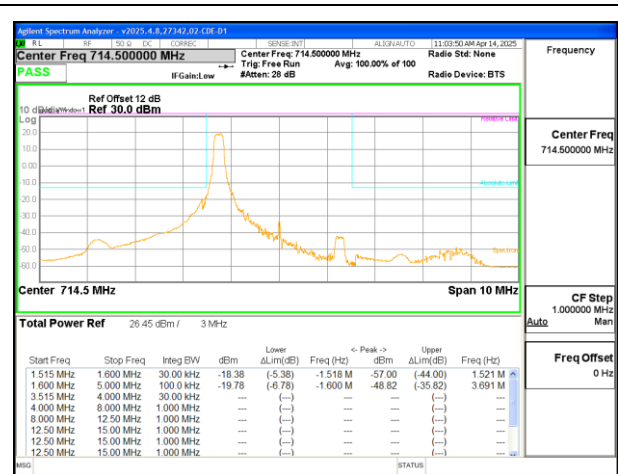


LTE B12 1.4MHz QPSK Middle Channel RB6-0

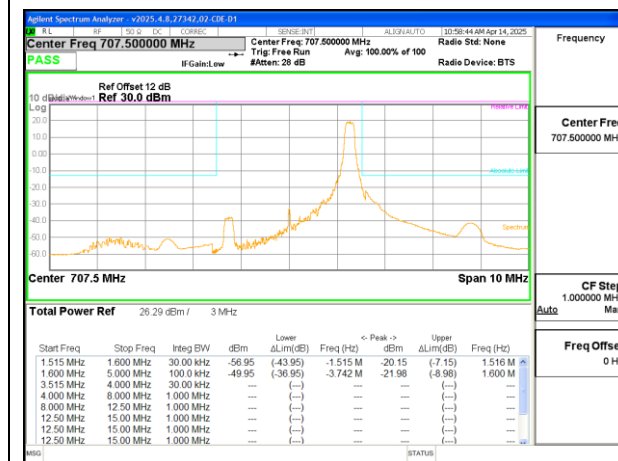




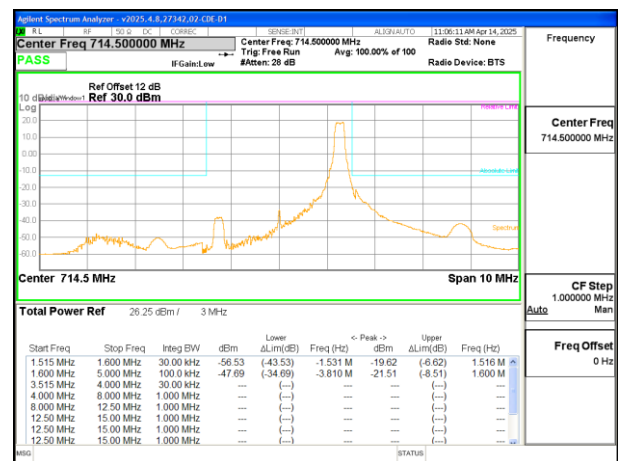
LTE B12 3MHz QPSK Middle Channel RB1-0



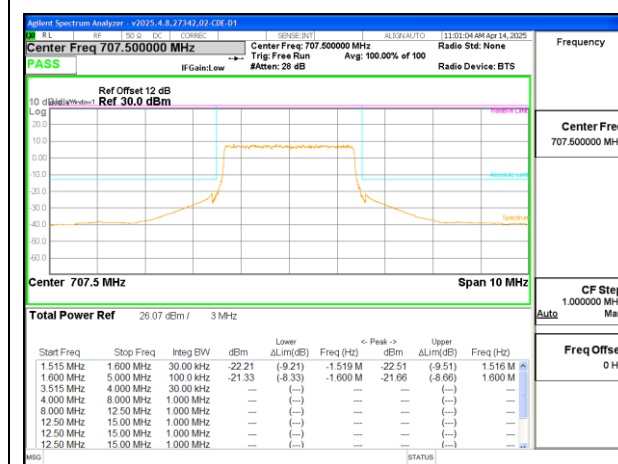
LTE B12 3MHz QPSK High Channel RB1-0



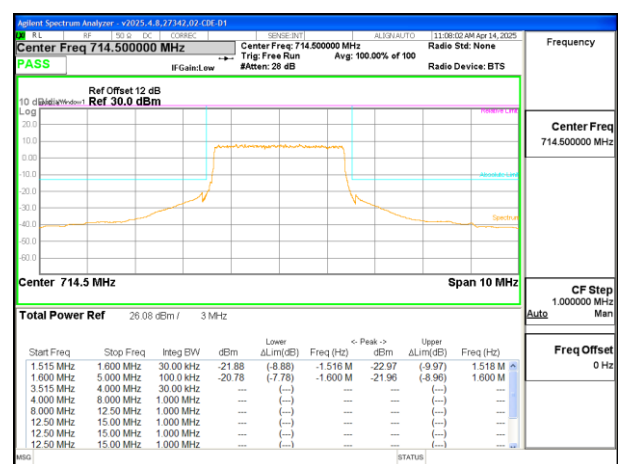
LTE B12 3MHz QPSK Middle Channel RB1-14



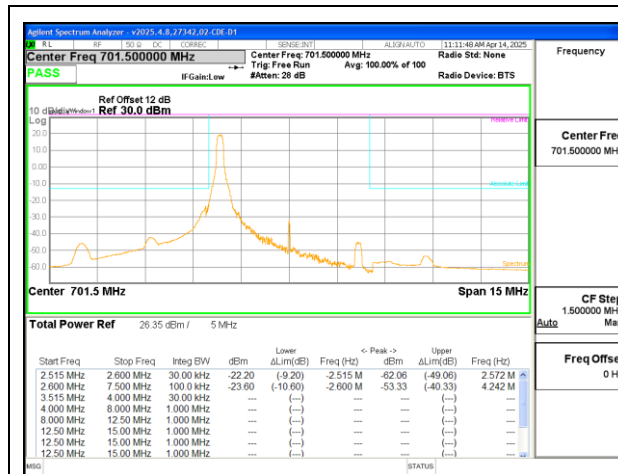
LTE B12 3MHz QPSK High Channel RB1-14



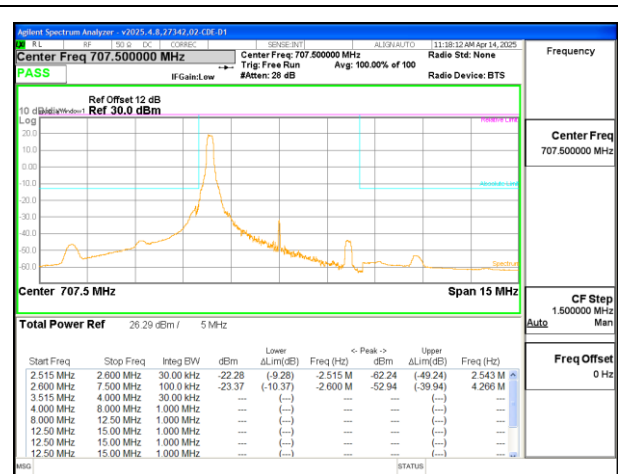
LTE B12 3MHz QPSK Middle Channel RB15-0



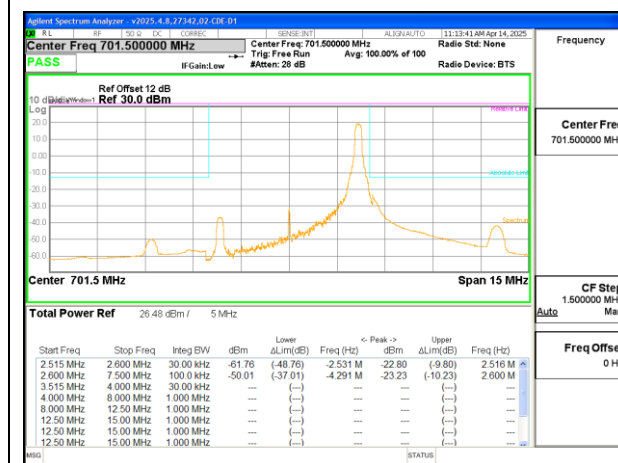
LTE B12 3MHz QPSK High Channel RB15-0



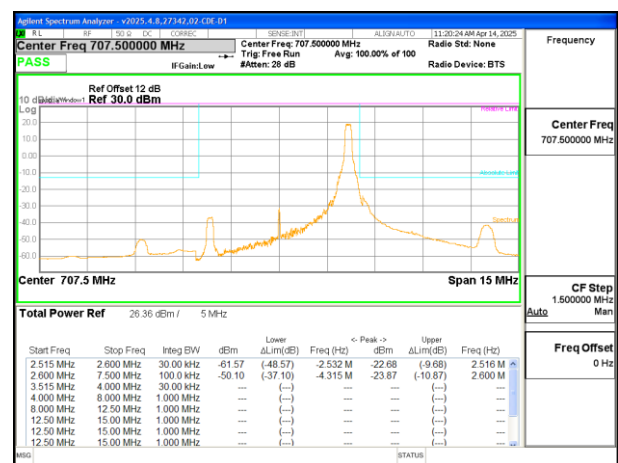
LTE B12 5MHz QPSK Low Channel RB1-0



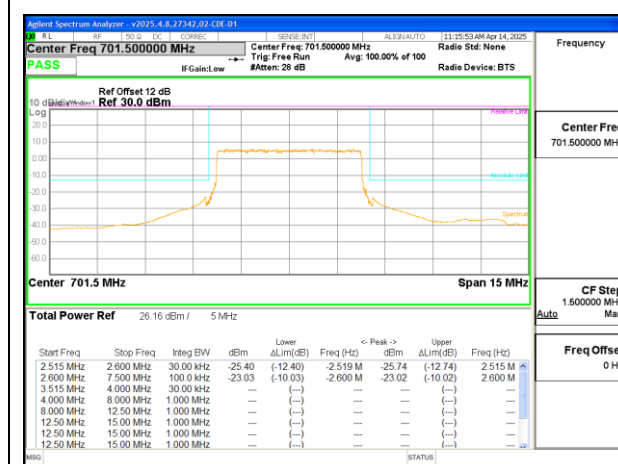
LTE B12 5MHz QPSK Middle Channel RB1-0



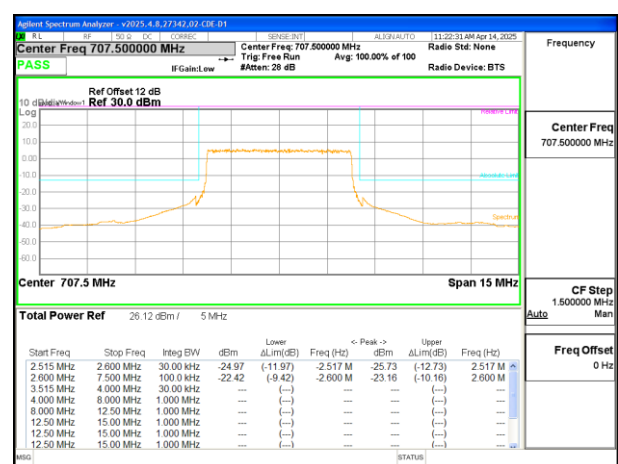
LTE B12 5MHz QPSK Low Channel RB1-24



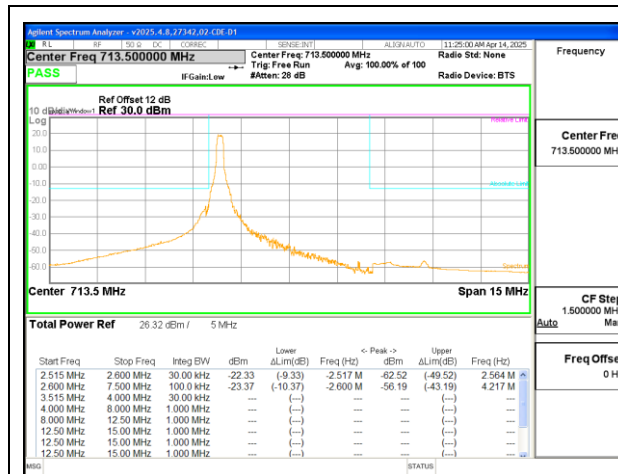
LTE B12 5MHz QPSK Middle Channel RB1-24



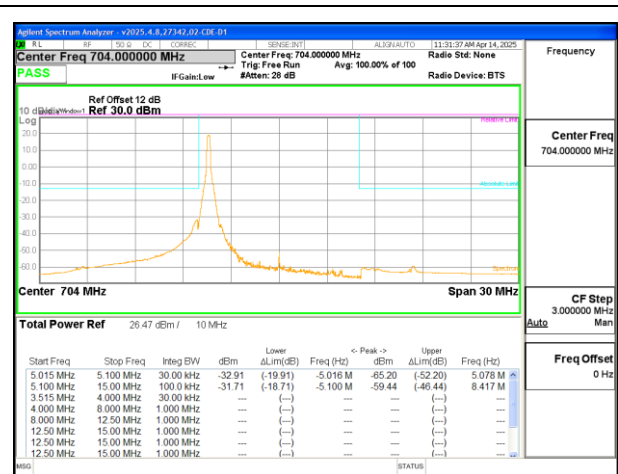
LTE B12 5MHz QPSK Low Channel RB25-0



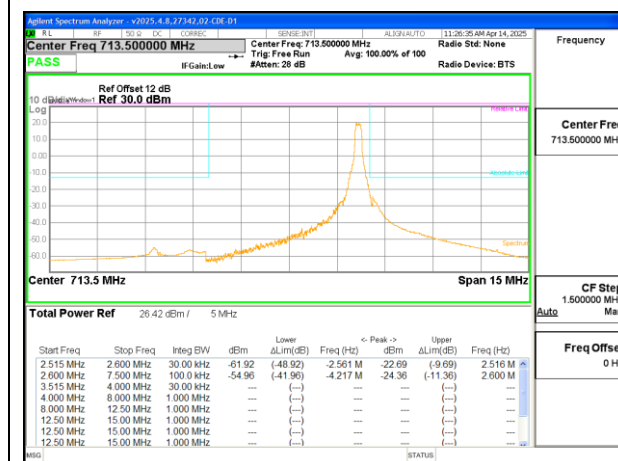
LTE B12 5MHz QPSK Middle Channel RB25-0



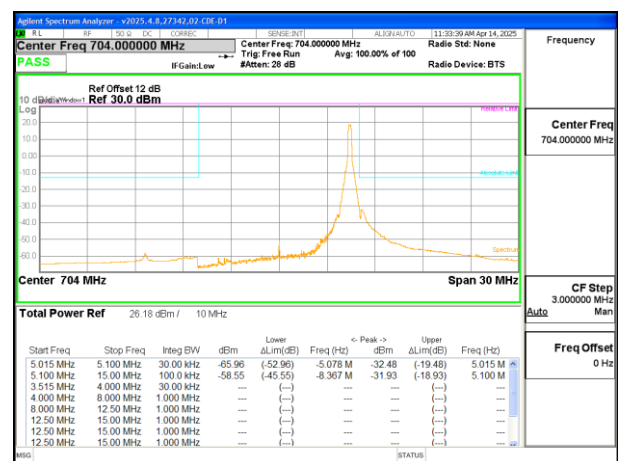
LTE B12 5MHz QPSK High Channel RB1-0



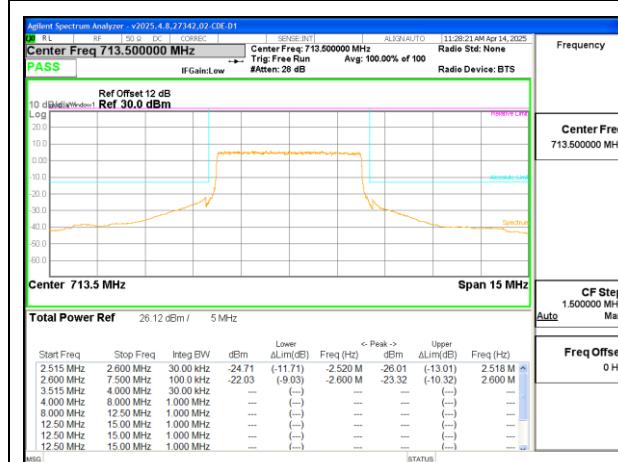
LTE B12 10MHz QPSK Low Channel RB1-0



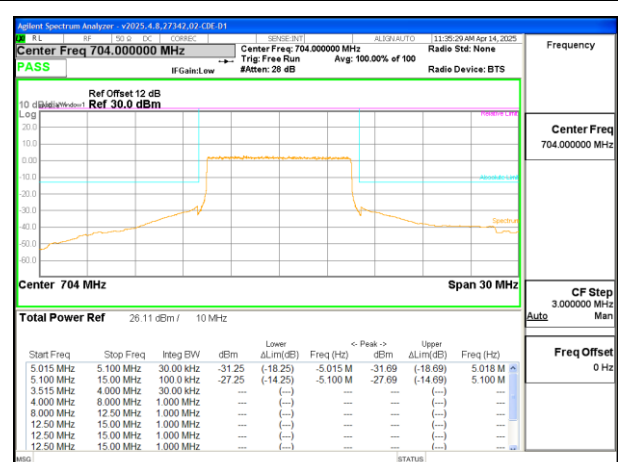
LTE B12 5MHz QPSK High Channel RB1-24



LTE B12 10MHz QPSK Low Channel RB1-49



LTE B12 5MHz QPSK High Channel RB25-0



LTE B12 10MHz QPSK Low Channel RB50-0

