

TEST REPORT

Report Number: 15941282-E23V2

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

Model : A3575

Brand : APPLE

FCC ID : BCG-E9145A

EUT Description : SMARTPHONE

Test Standard(s) : FCC 47 CFR PART 2, PART 96

Date Of Issue:
2025-12-19

Prepared by:
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Revision History

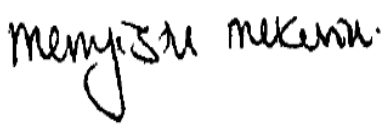
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V1	2025-12-17	Initial Review	--
V2	2025-12-19	Addressed TCB Question at Section 6.5	Mengistu Mekuria

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	5
2. SUMMARY OF TEST RESULTS	6
3. TEST METHODOLOGY	7
4. FACILITIES AND ACCREDITATION	7
5. DECISION RULES AND MEASUREMENT UNCERTAINTY	8
5.1. METROLOGICAL TRACEABILITY	8
5.2. DECISION RULES	8
5.3. MEASUREMENT UNCERTAINTY	8
5.4. SAMPLE CALCULATION.....	8
6. EQUIPMENT UNDER TEST	9
6.1. DESCRIPTION OF EUT.....	9
6.2. MAXIMUM OUTPUT POWER.....	9
6.3. SOFTWARE AND FIRMWARE	13
6.4. MAXIMUM ANTENNA GAIN AND MAXIMUM ALLOWED OUTPUT POWER	13
6.5. WORST-CASE CONFIGURATION AND MODE	14
6.6. DESCRIPTION OF TEST SETUP.....	15
7. TEST AND MEASUREMENT EQUIPMENT	17
8. RF OUTPUT POWER MEASUREMENTS	18
8.1. LTE BAND 48.....	19
8.2. 5G NR n48	21
8.3. LTE ULCA BAND 48C.....	24
9. CONDUCTED TEST RESULTS.....	26
9.1. OCCUPIED BANDWIDTH.....	26
9.1.1. LTE BAND 48.....	29
9.1.2. 5G NR n48	30
9.1.3. LTE ULCA BAND 48C	31
9.2. EMISSION MASK AND ADJACENT CHANNEL POWER	33
9.2.1. LTE BAND 48 EMISSION MASK.....	34
9.2.2. LTE BAND 48 ADJACENT CHANNEL POWER.....	41
9.2.3. 5G NR n48 EMISSION MASK	48

9.2.4.	5R NR n48 ADJACENT CHANNEL POWER.....	56
9.2.5.	LTE ULCA BAND 48C EMISSION MASK.....	64
9.2.6.	LTE ULCA BAND 48C ADJACENT CHANNEL POWER.....	66
9.3.	OUT OF BAND EMISSIONS.....	68
9.3.1.	LTE BAND 48.....	69
9.3.2.	5G NR n48	70
9.3.3.	LTE ULCA BAND 48C	71
9.4.	FREQUENCY STABILITY.....	72
9.4.1.	LTE BAND 48 QPSK (20MHz BANDWIDTH)	73
9.4.2.	5G NR n48 BPSK (40MHz BANDWIDTH)	73
9.4.3.	LTE ULCA BAND 48C QPSK (20MHz + 20MHz BANDWIDTH)	74
9.5.	PEAK-TO-AVERAGE POWER RATIO	75
9.5.1.	LTE BAND 48.....	77
9.5.2.	5G NR n48	77
9.5.3.	LTE ULCA BAND 48C	78
10.	RADIATED TEST RESULTS	79
10.1.	FIELD STRENGTH OF SPURIOUS RADIATION	82
10.1.1.	LTE BAND 48	83
10.1.2.	5G NR n48.....	87
10.1.3.	LTE ULCA BAND 48C	91
11.	SETUP PHOTOS.....	95

1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE, INC. 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A.	
Model	A3575	
Brand	APPLE	
FCC ID	BCG-E9145A	
EUT Description	SMARTPHONE	
Serial Number	RADIATED: D7R2GJDX6N, LC6LHVFKXR CONDUCTED: C07HJ00001H00016M2, C07HM3000MK00016LY, C07HM3000Q500016LY	
Sample Receipt Date	2025-07-29	
Date Tested	2025-07-31 to 2025-11-21	
Applicable Standards	FCC 47 CFR Part 2, Part 96	
Test Results	COMPLIES	
UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document.		
Approved & Released By:	Reviewed By:	Prepared By:
		
Mengistu Mekuria Staff Engineer UL Verification Services Inc.	Binod Sitaula Laboratory Engineer Associate UL Verification Services Inc.	Tewodros Woldemichael 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 the list of data provided by the customer:

1. Antenna gain and type (see section 6.4)

Requirement Description	Requirement Clause Number (FCC)	Result	Remarks
Equivalent Isotropic Radiated Power	2.1046, 96.41 (b)	Complies	
Occupied Bandwidth	2.1049	Complies	
Band Edge and Emission Mask	2.1051, 96.41(e)	Complies	
Out of Band Emissions	2.1051, 96.41(e)	Complies	
Frequency Stability	2.1055	Complies	
Peak-to-Average Ratio	96.41 (g)	Complies	
Field Strength of Spurious Radiation	2.1053, 96.41(e)	Complies	

3. TEST METHODOLOGY

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

- ANSI C63.26:2015
- ANSI/TIA-603-E (2016)
- FCC 47 CFR Part 2, Part 96
- [FCC KDB 971168 D01](#) : Power Meas License Digital Systems
- [FCC KDB 971168 D02](#): Misc Rev Approv License Devices
- [FCC KDB 412172 D01](#) : Determining ERP and EIRP
- [FCC KDB 662911 D01](#): Multiple Transmitter Output

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 GSM, GPRS, EGPRS, WCDMA, LTE, 5GNR1, IEEE 802.11a/b/g/n/ac/ax, Bluetooth (BT), Global Positioning System (GPS), Near-Field Communication (NFC) 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

LIMITS

FCC: §96.41

(b) Power Limits—

Unless otherwise specified in this section, the maximum effective isotropic radiated power (EIRP) and maximum Power Spectral Density (PSD) of any CBSD and End User Device must comply with the limits shown in the table in this paragraph (b):

Device	Maximum EIRP (dBm/10megahertz)	Maximum PSD (dBm/MHz)
End User Device	23 (0.2 W/10 MHz)	n/a
Category A CBSD	30	20
Category B CBSD1	47	37

EIRP/ERP TEST PROCEDURE

ANSI C63.26:2015

KDB 971168 D01 Section 5.6

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

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

P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;

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

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

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

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

LTE BAND 48 (LOW)

Part 96									
EIRP Limit (W)/ 10MHz		0.20							
Antenna Gain (dBi) Ant(4)		-3.60							
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
5.0	QPSK	3552.5	3697.5	25.00	21.40	0.138	4.485	4485	4M49G7W
	16QAM			23.95	20.35	0.108	4.481	4481	4M48D7W
10.0	QPSK	3555.0	3695.0	25.00	21.40	0.138	8.980	8980	8M98G7W
	16QAM			23.79	20.19	0.104	8.942	8942	8M94D7W
15.0	QPSK	3557.5	3692.5	25.00	21.40	0.138	13.529	13529	13M5G7W
	16QAM			23.75	20.15	0.104	13.391	13391	13M4D7W
20.0	QPSK	3560.0	3690.0	25.00	21.40	0.138	18.032	18032	18M0G7W
	16QAM			23.95	20.35	0.108	17.889	17889	17M9D7W

LTE BAND 48 (MID)

Part 96									
EIRP Limit (W)/ 10MHz		0.20							
Antenna Gain (dBi) Ant(9)		-1.00							
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
5.0	QPSK	3552.5	3697.5	23.10	22.10	0.162	4.485	4485	4M49G7W
	16QAM			23.10	22.10	0.162	4.481	4481	4M48D7W
10.0	QPSK	3555.0	3695.0	23.10	22.10	0.162	8.980	8980	8M98G7W
	16QAM			23.10	22.10	0.162	8.942	8942	8M94D7W
15.0	QPSK	3557.5	3692.5	23.10	22.10	0.162	13.529	13529	13M5G7W
	16QAM			23.10	22.10	0.162	13.391	13391	13M4D7W
20.0	QPSK	3560.0	3690.0	23.10	22.10	0.162	18.032	18032	18M0G7W
	16QAM			23.10	22.10	0.162	17.889	17889	17M9D7W

LTE BAND 48 (HIGH)

Part 96									
EIRP Limit (W)/ 10MHz		0.20							
Antenna Gain (dBi) Ant(8)		-2.50							
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
5.0	QPSK	3552.5	3697.5	25.00	22.50	0.178	4.485	4485	4M49G7W
	16QAM			24.67	22.17	0.165	4.481	4481	4M48D7W
10.0	QPSK	3555.0	3695.0	25.00	22.50	0.178	8.980	8980	8M98G7W
	16QAM			24.69	22.19	0.166	8.942	8942	8M94D7W
15.0	QPSK	3557.5	3692.5	25.00	22.50	0.178	13.529	13529	13M5G7W
	16QAM			24.54	22.04	0.160	13.391	13391	13M4D7W
20.0	QPSK	3560.0	3690.0	25.00	22.50	0.178	18.032	18032	18M0G7W
	16QAM			24.65	22.15	0.164	17.889	17889	17M9D7W

5G NR n48 (LOW)

Part 96									
EIRP Limit (W) /10MHz		0.20							
Antenna Gain (dBi) Ant(4)		-3.60							
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
10.0	BPSK	3555.0	3695.0	24.87	21.27	0.134	8.634	8634	8M63G7W
	QPSK			25.00	21.40	0.138	8.564	8564	8M56G7W
	16QAM			23.93	20.33	0.108	8.605	8605	8M61D7W
15.0	BPSK	3557.5	3692.5	24.87	21.27	0.134	12.939	12939	12M9G7W
	QPSK			25.00	21.40	0.138	12.932	12932	12M9G7W
	16QAM			24.00	20.40	0.110	12.937	12937	12M9D7W
20.0	BPSK	3560.0	3690.0	25.00	21.40	0.138	17.957	17957	18M0G7W
	QPSK			25.00	21.40	0.138	17.933	17933	17M9G7W
	16QAM			23.74	20.14	0.103	17.970	17970	18M0D7W
30.0	BPSK	3565.0	3685.0	24.91	21.31	0.135	26.921	26921	26M9G7W
	QPSK			25.00	21.40	0.138	26.914	26914	26M9G7W
	16QAM			23.89	20.29	0.107	26.948	26948	26M9D7W
40.0	BPSK	3570.0	3680.0	24.92	21.32	0.136	35.900	35900	35M9G7W
	QPSK			25.00	21.40	0.138	35.817	35817	35M8G7W
	16QAM			23.87	20.27	0.106	35.906	35906	35M9D7W

5G NR n48 (MID)

Part 96									
EIRP Limit (W) /10MHz		0.20							
Antenna Gain (dBi) Ant(9)		-1.00							
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
10.0	BPSK	3555.0	3695.0	23.10	22.10	0.162	8.634	8634	8M63G7W
	QPSK			23.10	22.10	0.162	8.564	8564	8M56G7W
	16QAM			23.10	22.10	0.162	8.605	8605	8M61D7W
15.0	BPSK	3557.5	3692.5	23.10	22.10	0.162	12.939	12939	12M9G7W
	QPSK			23.10	22.10	0.162	12.932	12932	12M9G7W
	16QAM			23.10	22.10	0.162	12.937	12937	12M9D7W
20.0	BPSK	3560.0	3690.0	23.10	22.10	0.162	17.957	17957	18M0G7W
	QPSK			23.10	22.10	0.162	17.933	17933	17M9G7W
	16QAM			23.10	22.10	0.162	17.970	17970	18M0D7W
30.0	BPSK	3565.0	3685.0	23.10	22.10	0.162	26.921	26921	26M9G7W
	QPSK			23.10	22.10	0.162	26.914	26914	26M9G7W
	16QAM			23.10	22.10	0.162	26.948	26948	26M9D7W
40.0	BPSK	3570.0	3680.0	23.10	22.10	0.162	35.900	35900	35M9G7W
	QPSK			23.10	22.10	0.162	35.817	35817	35M8G7W
	16QAM			23.10	22.10	0.162	35.906	35906	35M9D7W

5G NR n48 (HIGH)

Part 96									
EIRP Limit (W) /10MHz		0.20							
Antenna Gain (dBi) Ant(8)		-2.50							
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
10.0	BPSK	3555.0	3695.0	25.00	22.50	0.178	8.634	8634	8M63G7W
	QPSK			25.00	22.50	0.178	8.564	8564	8M56G7W
	16QAM			24.68	22.18	0.165	8.605	8605	8M61D7W
15.0	BPSK	3557.5	3692.5	25.00	22.50	0.178	12.939	12939	12M9G7W
	QPSK			25.00	22.50	0.178	12.932	12932	12M9G7W
	16QAM			24.58	22.08	0.161	12.937	12937	12M9D7W
20.0	BPSK	3560.0	3690.0	25.00	22.50	0.178	17.957	17957	18M0G7W
	QPSK			25.00	22.50	0.178	17.933	17933	17M9G7W
	16QAM			24.50	22.00	0.158	17.970	17970	18M0D7W
30.0	BPSK	3565.0	3685.0	25.00	22.50	0.178	26.921	26921	26M9G7W
	QPSK			25.00	22.50	0.178	26.914	26914	26M9G7W
	16QAM			24.43	21.93	0.156	26.948	26948	26M9D7W
40.0	BPSK	3570.0	3680.0	25.00	22.50	0.178	35.900	35900	35M9G7W
	QPSK			25.00	22.50	0.178	35.817	35817	35M8G7W
	16QAM			24.41	21.91	0.155	35.906	35906	35M9D7W

LTE ULCA BAND 48C

Part 96									
EIRP Limit (W)/ 10MHz		0.20							
Antenna Gain (dBi) Ant(9)		-0.70							
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
5+20	QPSK	3553.3	3690.0	23.03	22.33	0.171	23.317	23317	23M3G7W
	16QAM			23.10	22.40	0.174	23.114	23114	23M1D7W
20+5	QPSK	3560.0	3696.7	23.10	22.40	0.174	23.312	23312	23M3G7W
	16QAM			23.10	22.40	0.174	23.090	23090	23M1D7W
10+20	QPSK	3555.5	3690.0	23.10	22.40	0.174	28.023	28023	28M0G7W
	16QAM			23.10	22.40	0.174	27.998	27998	28M0D7W
20+10	QPSK	3560.0	3694.5	23.10	22.40	0.174	28.040	28040	28M0G7W
	16QAM			23.10	22.40	0.174	27.881	27881	27M9D7W
15+20	QPSK	3557.8	3690.0	23.10	22.40	0.174	32.835	32835	32M8G7W
	16QAM			23.10	22.40	0.174	32.705	32705	32M7D7W
20+15	QPSK	3560.0	3692.2	23.10	22.40	0.174	32.873	32873	32M9G7W
	16QAM			23.10	22.40	0.174	32.812	32812	32M8D7W
20+20	QPSK	3560.0	3690.0	23.10	22.40	0.174	37.540	37540	37M5G7W
	16QAM			23.10	22.40	0.174	37.570	37570	37M6D7W

6.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was version 2.00.60-7

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)			
		ANT4	ANT7	ANT8	ANT9	ANT4	ANT7	ANT8	ANT9	ANT4	ANT7	ANT8	ANT9
LTE Band 48 (Low)	3550 – 3700	-3.60	-5.60	-4.00	-2.00	25.00	25.70	25.00	23.10	21.40	20.10	21.00	21.10
LTE Band 48 (Mid)		-4.60	-4.70	-3.10	-1.00	25.00	25.70	25.00	23.10	20.40	21.00	21.90	22.10
LTE Band 48 (High)		-5.20	-6.30	-2.50	-0.70	25.00	25.70	25.00	23.10	19.80	19.40	22.50	22.40
5G NR n48 (Low)		-3.60	-5.60	-4.00	-2.00	25.00	25.70	25.00	23.10	21.40	20.10	21.00	21.10
5G NR n48 (Mid)		-4.60	-4.70	-3.10	-1.00	25.00	25.70	25.00	23.10	20.40	21.00	21.90	22.10
5G NR n48 (High)		-5.20	-6.30	-2.50	-0.70	25.00	25.70	25.00	23.10	19.80	19.40	22.50	22.40
LTE ULCA Band 48C (LOW)		-3.60	-5.60	-4.00	-2.00	24.00	24.70	24.70	23.10	20.40	19.10	20.70	21.10
LTE ULCA Band 48C (MID)		-4.60	-4.70	-3.10	-1.00	24.00	24.70	24.70	23.10	19.40	20.00	21.60	22.10
LTE ULCA Band 48C (HIGH)		-5.20	-6.30	-2.50	-0.70	24.00	24.70	24.70	23.10	18.80	18.40	22.20	22.40

6.5. WORST-CASE CONFIGURATION AND MODE

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.

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

For ULCA, Band Edge and Emission Mask: The highest BW combination of Primary Component Carrier (PCC) 1RB Low end and the Secondary Component Carrier (SCC) 1RB high and FRB combinations representing all the inner or lower band width combinations since they have the same power. That means the RB combinations were selected such that the signal is active closest to the band limit, as this is the worst case.

For ULCA, Out of Band Emissions: The highest power is a combination of Primary Component Carrier (PCC) 1RB high end and the Secondary Component Carrier (SCC) 1RB low end. Therefore, tests have done with this combination as a worst-cases.

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 Section 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.

	Worst case Antenna Port
LTE BAND 48, FR1 5G NR 48, LTE ULCA BAND 48	Ant 7

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 orientations. The full tests of the EUT have made upon the orientations shown in the table below.

Frequency Range	ANT9	ANT8	ANT7	ANT4
3550 – 3700 MHz	Y	X	Y	Y

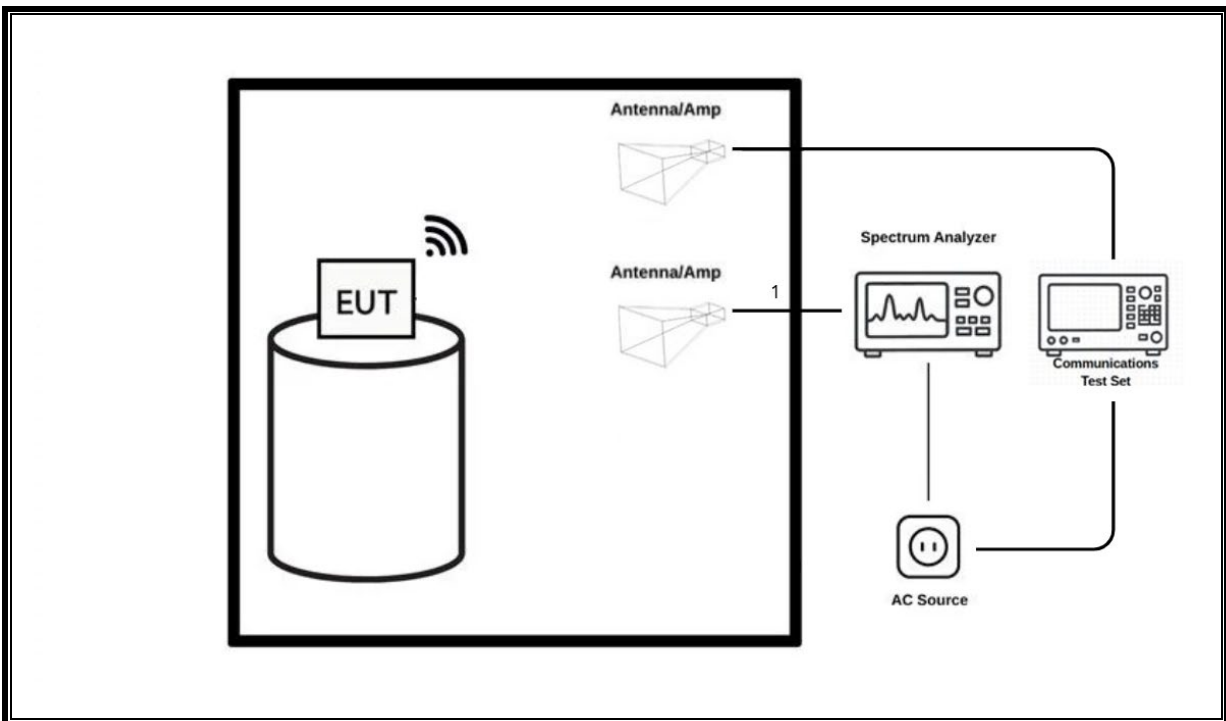
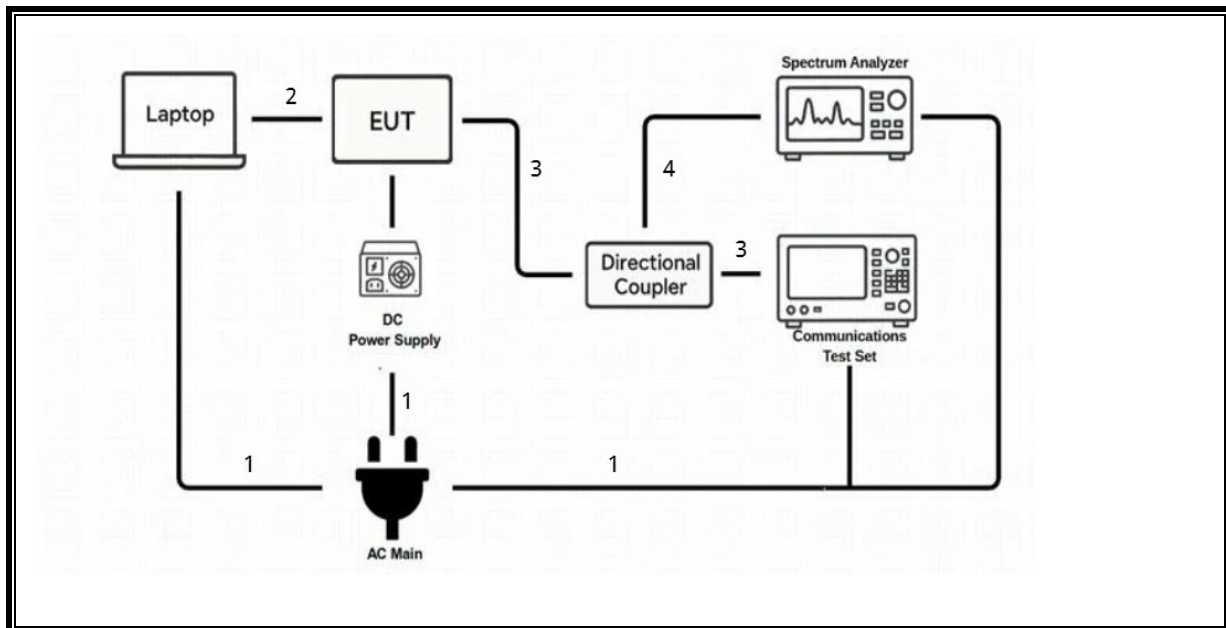
Radiated spurious emissions were investigated from 9kHz to 30MHz, 30MHz-1GHz and above 1GHz. There were no emissions found with less than 20dB of margin from 9kHz to 30MHz, 30MHz-1GHz and above 18GHz.

For simultaneous transmission of multiple channels in the 2.4GHz/5GHz WLAN, 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

SUPPORT TEST EQUIPMENT						
Description		Manufacturer	Model	Serial Number	FCC ID/ DoC	
Laptop		Apple	MacBook Pro	F5JJ42D7R9	BCGA1708	
Laptop		Apple	MacBook Pro	JWV2QWM0DT	BCGA2338	
Laptop		Apple	MacBook Pro	FG6Q9RW54Y	BCGA2338	
Laptop		Apple	MacBook Pro	XC2KF6F2D7	BCGA2338	
Laptop		Apple	MacBook Pro	YWCT4V933R	BCGA2338	
Laptop		Apple	MacBook Pro	HRP127004	BCGA2338	
AC/DC adapter		Apple	A1718	C4H64450HH3GN8RA6	--	
AC/DC adapter		Apple	A2130	F16H69002MD000000P	--	
AC/DC adapter		Apple	A1555 P	XQ76XLCJ2D	--	
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	Shielded	1.0	N/A
3	RF In/Out	2	SMA	Shielded	0.9	N/A
4	RF In/Out	1	Barrel	Shielded	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	SMA	Shielded	5.0	N/A

CONDUCTED SETUP



RADIATED 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	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	2026-09-30
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	2026-09-30
Antenna, Passive Loop 100KHz - 30MHz	ELECTRO-METRICS	EM-6872	170015	2026-09-30
Antenna, Horn 18 to 26.5GHz	A.R.A.	MWH-1826/B	172353	2026-07-31
Link File, RF Amplifier Assembly, 18-26.5GHz, 60dB Gain	AMPLICAL	AMP18G26.5-60	220194	2026-04-29
Antenna, Horn 26.5-40GHz	A.R.A.	MWH-2640/B	81105	2027-10-31
Link File, RF Amplifier Assembly, 26.5-40GHz, 65dB Gain	Amplical	AMP26G40-65	220193	2026-04-30
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	2026-11-24
Filter, BRF 2305-2315	Micro-Tronics	BRC20553	224186	2026-06-29
Directional Coupler	KRYTAR	152610	254457	2026-09-04
Directional Coupler	KRYTAR	101040010K	254458	2026-09-04
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	2026-05-31
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	
Conducted Software	UL	Station Tool	Ver. 6.0,7.1, 10.1	
Radiated Software	UL	UL EMC	Ver 9.5, May 1, 2023	

NOTES:

- * Testing is completed before equipment expiration date.

8. RF OUTPUT POWER MEASUREMENTS

RULE PART(S)

FCC: §2.1046

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.

In band power measurements for MIMO modes are made by summing the channel power for the individual chains to calculate the total power following the measure and sum method E)1) from KDB 662911 D01.

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 48

Test Engineer ID:	28774	Test Date:	2025-08-12
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OUTPUT POWER FOR LTE BAND 48 (5.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 9			ANT 4			ANT 7			ANT 8		
				55265	55990	56715	55260	55990	56715	55265	55990	56715	55260	55990	56715
5.0	QPSK	1	0	22.96	22.93	22.98	24.49	24.29	24.30	25.11	25.04	25.11	24.79	24.90	24.92
		1	12	23.03	23.02	22.84	24.44	24.45	24.37	25.14	25.16	25.16	24.90	24.74	24.72
		1	24	22.81	23.04	22.80	24.49	24.38	24.50	25.06	25.15	24.94	24.96	24.96	24.75
		2	0	22.86	22.93	22.80	25.00	25.00	24.77	25.70	25.70	25.57	25.00	25.00	24.94
		2	23	23.10	23.10	23.10	24.90	24.82	25.00	25.53	25.63	25.70	24.83	24.91	25.00
		12	0	23.06	23.04	23.05	24.00	23.95	23.81	24.63	24.66	24.57	24.46	24.46	24.45
		12	6	22.97	23.04	22.99	23.97	23.90	23.86	24.58	24.63	24.61	24.67	24.48	24.47
		12	11	22.99	23.02	23.00	23.96	23.89	23.92	24.55	24.62	24.64	24.55	24.62	24.40
		25	0	23.05	22.80	23.01	23.98	23.91	23.89	24.59	24.64	24.63	24.67	24.63	24.43
		1	0	22.80	23.07	22.81	23.48	23.39	23.45	24.17	24.04	24.19	24.20	24.01	24.05
		1	12	22.83	22.97	23.09	23.50	23.50	23.22	23.96	24.05	24.01	23.96	24.04	24.08
		1	24	22.94	22.95	22.88	23.21	23.50	23.29	24.10	24.08	23.97	23.91	23.95	23.96
	16QAM	2	0	23.10	23.10	23.06	23.95	23.93	23.85	24.50	24.47	24.68	24.54	24.59	24.67
		2	23	22.88	22.81	23.10	23.73	23.93	23.99	24.59	24.69	24.58	24.62	24.52	24.43
		12	0	23.00	22.98	22.93	22.98	22.94	22.81	23.65	23.64	23.59	23.41	23.70	23.52
		12	6	22.97	22.89	22.83	22.97	22.89	22.85	23.58	23.67	23.62	23.41	23.52	23.41
		12	11	23.03	22.93	23.02	22.92	22.87	22.92	23.54	23.67	23.64	23.53	23.54	23.51
		25	0	22.95	22.93	22.98	22.94	22.89	22.86	23.58	23.66	23.61	23.58	23.54	23.66
	64QAM	1	0	23.07	22.99	22.89	22.32	22.50	22.40	22.98	23.15	22.93	23.05	23.13	22.90
		1	12	22.93	23.07	22.95	22.44	22.33	22.33	23.04	22.98	23.07	22.91	22.94	22.95
		1	24	23.02	22.94	22.93	22.24	22.49	22.41	23.15	23.01	23.12	23.13	23.11	22.98
		2	0	22.89	22.95	22.97	22.84	22.78	22.89	23.67	23.57	23.50	23.59	23.67	23.53
		2	23	23.10	23.10	23.10	22.78	22.94	22.95	23.59	23.67	23.64	23.44	23.64	23.63
		12	0	22.46	22.69	22.63	21.96	21.97	21.81	22.64	22.46	22.58	22.54	22.66	22.41
		12	6	22.48	22.67	22.44	21.98	21.92	21.86	22.59	22.69	22.62	22.44	22.41	22.42
		12	11	22.51	22.68	22.45	21.96	21.90	21.92	22.54	22.69	22.65	22.47	22.52	22.46
		25	0	22.43	22.68	22.41	21.98	21.93	21.87	22.60	22.67	22.62	22.65	22.45	22.63
	256QAM	1	0	20.04	19.90	19.91	19.23	19.21	19.47	20.03	20.03	20.04	20.12	19.94	20.11
		1	12	20.00	20.11	20.01	19.43	19.29	19.31	20.03	20.12	20.08	20.03	20.17	20.19
		1	24	20.04	19.92	20.11	19.30	19.35	19.28	20.15	20.20	19.97	20.15	20.18	19.98
		2	0	20.64	20.54	20.45	19.88	19.93	19.87	20.54	20.63	20.52	20.67	20.66	20.70
		2	23	20.55	20.42	20.45	19.75	19.84	19.79	20.55	20.55	20.59	20.41	20.52	20.48
		12	0	20.70	20.69	20.42	19.74	20.00	19.82	20.66	20.40	20.59	20.53	20.64	20.42
		12	6	20.67	20.68	20.44	19.99	19.95	19.88	20.60	20.46	20.62	20.44	20.60	20.46
		12	11	20.41	20.68	20.67	19.96	19.91	19.93	20.56	20.70	20.64	20.48	20.67	20.45
		25	0	20.53	20.67	20.65	19.99	19.93	19.87	20.59	20.56	20.62	20.44	20.58	20.57

OUTPUT POWER FOR LTE BAND 48 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 9			ANT 4			ANT 7			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	22.95	22.84	22.99	24.24	24.27	24.09	25.13	25.15	24.85	24.95	24.94	24.79
		1	49	22.98	22.80	23.05	24.27	24.42	24.31	24.97	25.10	25.08	24.98	24.87	24.98
		2	0	22.92	22.86	22.99	24.18	24.15	24.49	24.68	25.00	25.15	24.72	24.83	24.97
		2	0	22.88	23.08	23.08	25.00	25.00	24.55	25.70	25.70	25.40	25.00	25.00	24.72
		2	48	23.10	23.10	23.10	24.63	24.62	25.00	25.25	25.53	25.70	24.83	24.81	25.00
		25	0	22.86	22.86	22.92	23.89	23.94	23.66	24.57	24.63	24.43	24.49	24.65	24.60
		25	12	23.05	22.84	22.89	23.96	23.83	23.76	24.46	24.58	24.51	24.43	24.66	24.68
		25	24	23.09	22.88	22.93	23.83	23.74	23.88	24.36	24.55	24.60	24.70	24.70	24.60
	50	0	23.04	23.03	22.92	23.95	23.87	23.82	24.51	24.64	24.57	24.58	24.70	24.67	
	16QAM	1	0	23.01	22.95	22.99	23.34	23.36	23.24	24.18	23.92	24.10	23.90	24.19	24.14
		1	24	23.01	23.06	22.84	23.28	23.50	23.46	24.13	24.16	24.02	24.10	23.92	23.92
		1	49	22.87	22.98	22.84	23.29	23.28	23.33	23.79	24.20	24.20	23.90	24.15	23.90
		2	0	22.90	23.02	23.10	23.71	23.82	23.70	24.70	24.57	24.58	24.66	24.44	24.63
		2	48	23.10	23.10	22.94	23.79	23.79	23.81	24.31	24.68	24.52	24.64	24.66	24.69
		25	0	23.01	22.89	22.84	22.70	22.91	22.63	23.55	23.62	23.44	23.60	23.70	23.58
		25	12	23.04	23.09	22.93	22.94	22.78	22.72	23.44	23.57	23.51	23.60	23.49	23.65
		25	24	22.87	22.82	22.99	22.80	22.71	22.86	23.32	23.55	23.59	23.69	23.66	23.40
		50	0	22.97	22.97	23.09	22.91	22.84	22.79	23.47	23.59	23.54	23.45	23.51	23.69
	64QAM	1	0	22.90	23.09	22.92	22.37	22.36	22.33	22.94	22.99	23.09	23.00	23.13	23.06
		1	24	22.97	22.90	23.06	22.39	22.25	22.46	23.09	23.06	23.04	23.02	22.95	23.13
		1	49	22.95	23.05	22.98	22.33	22.35	22.32	22.82	22.90	23.16	23.00	22.98	23.09
		2	0	23.10	23.10	23.03	22.94	22.76	22.73	23.64	23.53	23.55	23.52	23.51	23.62
		2	48	22.99	22.80	23.10	22.79	22.84	22.96	23.28	23.63	23.42	23.54	23.67	23.44
		25	0	22.66	22.64	22.43	21.73	21.96	21.69	22.58	22.66	22.41	22.51	22.51	22.59
		25	12	22.66	22.65	22.62	21.97	21.81	21.78	22.47	22.62	22.49	22.40	22.51	22.68
		25	24	22.68	22.66	22.65	21.82	21.73	21.91	22.35	22.58	22.56	22.52	22.66	22.45
		50	0	22.70	22.69	22.68	21.93	21.86	21.84	22.49	22.66	22.53	22.56	22.42	22.52
	256QAM	1	0	20.11	20.14	19.97	19.37	19.40	19.40	19.90	20.05	20.11	19.90	20.17	20.18
		1	24	19.98	20.17	19.98	19.25	19.23	19.30	20.11	20.09	19.92	20.05	20.17	20.19
		1	49	20.00	19.92	20.00	19.40	19.42	19.37	19.84	20.05	20.13	20.00	20.14	19.96
		2	0	20.53	20.53	20.59	19.97	19.87	19.79	20.49	20.67	20.55	20.44	20.61	20.67
		2	48	20.57	20.70	20.70	19.87	19.92	19.79	20.29	20.69	20.64	20.67	20.69	20.40
		25	0	20.66	20.65	20.54	19.85	19.84	19.68	20.58	20.67	20.43	20.70	20.62	20.60
		25	12	20.67	20.65	20.67	20.00	19.90	19.79	20.46	20.61	20.49	20.50	20.59	20.69
25		24	20.46	20.66	20.52	19.84	19.81	19.90	20.35	20.60	20.58	20.69	20.67	20.63	

OUTPUT POWER FOR LTE BAND 48 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 9			ANT 4			ANT 7			ANT 8		
				55315 3557.5	55940 3620.0	56665 3692.5	55315 3557.5	55940 3620.0	56665 3692.5	55315 3557.5	55940 3620.0	56665 3692.5	55315 3557.5	55940 3620.0	56665 3692.5
15.0	QPSK	1	0	22.89	22.82	22.88	24.42	24.39	23.87	25.16	25.17	24.68	24.92	24.73	24.81
		1	37	22.81	23.04	22.80	24.32	24.24	24.22	24.88	25.04	25.00	24.72	24.88	24.95
		1	74	23.01	23.09	22.80	23.82	23.92	24.29	24.49	24.88	25.18	24.91	24.80	24.98
		2	0	22.84	22.91	23.02	25.00	25.00	24.31	25.70	25.70	25.18	25.00	25.00	24.93
		2	73	23.10	23.10	23.10	24.30	24.37	25.00	25.05	25.37	25.70	24.99	24.83	25.00
		36	0	22.96	23.09	22.96	23.97	23.91	23.51	24.57	24.60	24.27	24.49	24.60	24.45
		36	16	23.06	23.09	23.00	23.77	23.76	23.68	24.43	24.53	24.42	24.65	24.52	24.59
		36	35	22.88	23.05	22.93	23.55	23.58	23.85	24.26	24.45	24.55	24.59	24.64	24.48
		75	0	22.95	23.06	23.00	23.00	23.74	23.00	23.70	24.54	23.70	23.70	24.70	23.70
		1	0	22.94	22.81	22.87	23.38	23.26	23.10	23.95	23.97	23.90	23.92	23.96	24.01
	16QAM	1	37	23.07	23.01	22.95	23.48	23.41	23.40	23.96	24.12	23.91	24.20	24.15	24.06
		1	74	23.01	22.86	22.93	22.92	23.08	23.29	23.61	24.16	24.02	24.19	24.05	23.92
		2	0	23.02	23.10	22.90	23.75	23.89	23.50	24.60	24.46	24.32	24.55	24.57	24.44
		2	73	23.10	22.85	23.10	23.37	23.54	23.98	24.06	24.47	24.40	24.55	24.59	24.54
		36	0	22.91	22.80	22.99	22.93	22.87	22.49	23.53	23.56	23.24	23.48	23.44	23.39
		36	16	22.95	22.96	22.97	22.76	22.73	22.66	23.38	23.48	23.42	23.51	23.65	23.57
		36	35	22.86	22.98	22.85	22.52	22.55	22.80	23.20	23.41	23.54	23.58	23.59	23.41
		75	0	22.91	22.84	22.94	23.00	22.71	23.00	23.70	23.51	23.70	23.70	23.69	23.70
		1	0	23.05	23.01	22.86	22.22	22.22	22.12	23.10	23.02	23.02	22.98	23.14	23.00
		1	37	23.05	22.92	23.07	22.43	22.39	22.39	22.95	23.19	23.19	22.98	23.12	23.13
		1	74	23.03	23.04	22.96	21.94	22.17	22.49	22.62	23.19	23.13	23.17	23.15	23.12
	64QAM	2	0	23.10	22.81	23.10	22.80	22.73	22.58	23.58	23.52	23.40	23.64	23.50	23.43
		2	73	23.06	23.10	22.96	22.39	22.55	22.99	23.10	23.54	23.59	23.62	23.55	23.45
		36	0	22.68	22.62	22.58	21.96	21.89	21.51	22.54	22.58	22.28	22.41	22.41	22.45
		36	16	22.69	22.63	22.66	21.79	21.75	21.68	22.39	22.50	22.44	22.58	22.70	22.61
		36	35	22.42	22.69	22.67	21.55	21.60	21.83	22.23	22.44	22.57	22.60	22.64	22.49
		75	0	21.64	22.59	21.41	20.76	21.75	20.77	21.40	22.55	21.49	21.42	22.49	21.68
		1	0	20.09	19.91	20.05	19.43	19.43	19.23	20.15	19.95	20.01	20.17	20.18	20.12
		1	37	19.93	20.14	19.98	19.37	19.37	19.42	20.00	20.18	20.14	20.12	20.09	20.17
		1	74	20.18	20.07	20.04	19.02	19.22	19.20	19.73	20.15	19.97	20.07	20.20	19.93
		2	0	20.66	20.48	20.41	19.73	19.75	19.58	20.40	20.64	20.37	20.47	20.43	20.49
	256QAM	2	73	20.60	20.60	20.68	19.42	19.57	19.90	20.19	20.58	20.60	20.64	20.62	20.66
		36	0	20.69	20.64	20.60	19.95	19.89	19.52	20.56	20.61	20.27	20.61	20.42	20.44
		36	16	20.69	20.64	20.70	19.80	19.74	19.69	20.42	20.54	20.44	20.67	20.58	20.63
		36	35	20.57	20.41	20.70	19.55	19.58	19.85	20.25	20.48	20.57	20.61	20.66	20.58
		75	0	20.49	20.49	20.61	19.77	19.77	19.76	20.43	20.58	20.51	20.49	20.67	20.69

OUTPUT POWER FOR LTE BAND 48 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 9			ANT 4			ANT 7			ANT 8		
				55340 3560	55940 3620.0	56640 3690	55340 3560	55940 3620.0	56640 3690	55340 3560	55940 3620.0	56640 3690	55340 3560	55940 3620.0	56640 3690
20.0	QPSK	1	0	22.98	23.05	23.07	24.45	24.39	23.75	25.16	25.07	24.56	24.94	24.91	24.76
		1	49	23.08	23.09	22.91	24.31	24.30	24.20	24.89	25.18	24.94	24.70	24.88	24.78
		1	99	22.92	23.05	23.07	23.53	23.74	24.21	24.38	24.83	25.16	24.75	24.92	24.71
		2	0	23.07	22.81	22.96	25.00	25.00	24.27	25.70	25.70	25.04	25.00	25.00	24.83
		2	98	23.10	23.10	23.10	24.05	24.22	25.00	24.94	25.32	25.70	24.98	24.97	25.00
		50	0	23.06	22.91	23.07	23.97	23.73	23.50	24.69	24.45	24.29	24.48	24.46	24.52
		50	24	22.91	22.80	22.88	23.76	23.79	23.67	24.46	24.65	24.42	24.59	24.68	24.62
		50	49	22.90	23.09	22.87	23.47	23.57	23.94	24.26	24.55	24.65	24.57	24.68	24.67
		100	0	22.83	23.03	22.97	23.00	23.85	23.00	23.70	24.54	23.70	23.70	24.50	23.70
		1	0	22.89	22.90	23.01	23.28	23.27	23.00	23.95	24.01	23.71	24.10	23.94	23.89
	16QAM	1	49	22.89	23.07	22.80	23.45	23.43	23.44	23.97	24.12	24.03	23.91	24.20	24.18
		1	99	22.85	23.09	22.97	22.66	22.88	23.38	23.50	24.08	24.08	23.95	23.98	24.20
		2	0	22.98	22.86	23.07	23.95	23.77	23.38	24.67	24.52	24.18	24.45	24.56	24.27
		2	98	23.10	23.10	23.10	23.09	23.29	23.84	24.00	24.47	24.69	24.33	24.44	24.65
		50	0	22.97	23.01	23.05	22.94	22.95	22.47	23.62	23.67	23.29	23.58	23.60	23.46
		50	24	22.96	22.84	23.09	22.72	22.74	22.64	23.39	23.60	23.43	23.49	23.58	23.56
		50	49	22.99	22.93	23.08	22.43	22.54	22.91	23.19	23.50	23.67	23.56	23.63	23.69
		100	0	22.42	22.83	22.55	21.71	22.80	21.81	22.51	23.67	22.58	22.40	23.40	22.45
		1	0	23.02	23.04	22.93	22.21	22.25	22.14	23.04	23.03	22.86	22.97	22.98	23.02
		1	49	22.90	23.07	23.04	22.47	22.48	22.44	23.04	23.10	22.98	22.95	23.00	23.05
	64QAM	1	99	23.06	22.95	23.09	21.72	22.01	22.25	22.57	23.16	23.08	23.05	23.06	23.02
		2	0	23.10	23.10	23.10	22.88	22.78	22.50	23.58	23.70	23.31	23.45	23.42	23.38
		2	98	22.82	22.87	22.92	22.17	22.40	22.86	23.08	23.51	23.60	23.46	23.50	23.54
		50	0	22.69	22.66	22.57	21.97	21.98	21.52	22.63	22.62	22.30	22.58	22.64	22.51
		50	24	22.63	22.54	22.41	21.76	21.75	21.67	22.40	22.62	22.43	22.50	22.48	22.61
		50	49	22.69	22.52	22.68	21.44	21.55	21.93	22.20	22.55	22.67	22.57	22.66	22.69
		100	0	21.57	22.67	21.68	20.75	21.81	20.85	21.50	22.70	21.58	21.61	22.51	21.48
		1	0	20.14	20.11	19.95	19.29	19.21	19.07	20.05	20.15	19.85	20.04	19.98	19.91
		1	49	19.90	20.01	20.13	19.42	19.46	19.47	19.99	20.18	19.90	20.03	19.94	20.05
		1	99	19.97	20.02	19.95	18.73	18.97	19.42	19.63	20.14	20.11	19.93	20.01	20.02
	256QAM	2	0	20.48	20.69	20.50	19.74	19.84	19.44	20.56	20.46	20.31	20.70	20.53	20.35
		2	98	20.44	20.60	20.60	19.17	19.40	19.72	20.12	20.55	20.65	20.44	20.51	20.53
50		0	20.49	20.49	20.57	19.98	19.98	19.54	20.65	20.60	20.30	20.44	20.48	20.52	
50		24	20.45	20.64	20.50	19.77	19.77	19.68	20.43	20.65	20.42	20.45	20.52	20.62	
50		49	20.60	20.46	20.46	19.45	19.56	19.94	20.25	20.57	20.68	20.58	20.67	20.57	
100		0	20.59	20.51	20.40	19.74	19.83	19.85	20.53	20.45	20.60	20.57	20.52	20.46	

8.2. 5G NR n48

Test Engineer ID:	27342	Test Date:	2025-08-19
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OUTPUT POWER FOR 5G NR n48 (10.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 9			ANT 4			ANT 7			ANT 8		
				637000	641666	646333	637000	641666	646333	637000	641666	646333	637000	641666	646333
10.0	BPSK	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	1	23.08	23.02	22.98	23.72	23.94	23.91	24.63	24.47	24.65	24.61	24.57	24.60
		1	1	23.08	23.06	22.97	24.31	24.42	24.42	25.20	25.12	25.09	24.97	24.90	24.88
		1	22	23.06	23.07	22.98	24.31	24.39	24.35	25.16	25.14	25.10	24.84	24.90	24.87
		1	23	22.94	22.91	23.07	23.87	23.97	23.89	24.67	24.62	24.65	24.58	24.56	24.53
		12	6	23.10	23.10	23.10	24.87	24.94	24.86	25.70	25.54	25.63	25.00	25.00	25.00
		24	0	23.06	22.91	23.00	24.29	24.46	24.31	25.00	25.19	25.15	24.96	24.80	24.95
		1	0	22.98	22.95	23.04	23.43	23.27	23.47	24.16	24.15	24.11	24.19	24.16	24.12
	QPSK	1	1	23.07	22.91	23.00	24.44	24.44	24.41	25.13	25.14	25.14	24.93	24.96	24.96
		1	22	23.02	23.04	22.95	24.45	24.22	24.41	25.11	25.15	25.17	24.89	24.95	24.95
		1	23	22.92	23.09	22.93	23.49	23.21	23.48	24.11	23.96	24.15	24.12	24.14	24.09
		12	6	23.10	23.10	23.10	25.00	25.00	25.00	25.68	25.70	25.70	25.00	25.00	25.00
		24	0	23.09	23.07	23.02	23.81	23.92	23.99	24.53	24.48	24.51	24.67	24.52	24.40
		1	0	22.97	23.07	23.01	22.25	22.38	22.32	22.99	23.04	22.98	23.05	22.98	22.99
		1	1	22.92	22.98	23.06	23.29	23.35	23.32	23.96	24.00	23.90	24.11	24.02	23.97
		1	22	23.05	22.93	23.02	23.31	23.32	23.26	23.92	24.03	23.95	24.04	23.95	23.97
	16QAM	1	23	22.93	23.09	22.93	22.32	22.45	22.33	22.94	23.08	23.03	23.01	22.99	22.91
		12	6	23.10	23.10	23.10	23.93	23.75	23.99	24.66	24.42	24.50	24.64	24.61	24.68
		24	0	22.97	22.94	22.92	22.75	22.77	22.73	23.62	23.52	23.44	23.68	23.61	23.49
		1	0	22.49	22.58	22.58	21.99	21.84	21.97	22.49	22.70	22.61	22.61	22.65	22.59
		1	1	22.57	22.67	22.68	21.82	21.86	21.99	22.62	22.61	22.68	22.70	22.61	22.67
		1	22	22.61	22.65	22.70	21.91	21.99	21.78	22.50	22.69	22.59	22.58	22.56	22.59
		1	23	22.61	22.48	22.64	21.92	21.93	21.93	22.70	22.65	22.52	22.67	22.52	22.44
		12	6	23.10	23.04	23.10	22.46	22.50	23.19	23.09	23.13	23.18	23.20	23.13	23.13
	64QAM	24	0	22.90	23.06	23.05	22.47	22.20	22.20	22.99	23.14	23.15	23.11	23.06	22.95
		1	0	20.58	20.63	20.61	19.97	20.00	19.81	20.58	20.58	20.49	20.51	20.66	20.49
		1	1	20.47	20.68	20.59	19.97	19.82	19.93	20.70	20.62	20.47	20.46	20.44	20.62
		1	22	20.61	20.48	20.44	19.80	19.82	19.88	20.68	20.41	20.65	20.56	20.49	20.60
		1	23	20.65	20.47	20.57	19.81	19.98	19.73	20.55	20.48	20.51	20.66	20.53	20.68
		12	6	20.98	21.00	21.13	20.49	20.25	20.28	21.20	20.95	20.97	20.91	20.98	21.17
		24	0	21.07	21.08	21.00	20.33	20.48	20.25	21.05	20.93	21.07	21.15	21.18	21.05
	256QAM	1	0	20.58	20.63	20.61	19.97	20.00	19.81	20.58	20.58	20.49	20.51	20.66	20.49
		1	1	20.47	20.68	20.59	19.97	19.82	19.93	20.70	20.62	20.47	20.46	20.44	20.62
		1	22	20.61	20.48	20.44	19.80	19.82	19.88	20.68	20.41	20.65	20.56	20.49	20.60
		1	23	20.65	20.47	20.57	19.81	19.98	19.73	20.55	20.48	20.51	20.66	20.53	20.68
		12	6	20.98	21.00	21.13	20.49	20.25	20.28	21.20	20.95	20.97	20.91	20.98	21.17
		24	0	21.07	21.08	21.00	20.33	20.48	20.25	21.05	20.93	21.07	21.15	21.18	21.05

OUTPUT POWER FOR 5G NR n48 (15.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 9			ANT 4			ANT 7			ANT 8		
				637166	641333	646166	637166	641333	646166	637166	641333	646166	637166	641333	646166
15.0	BPSK	1	0	3557.5	3620.0	3692.5	3557.5	3620.0	3692.5	3557.5	3620.0	3692.5	3557.5	3620.0	3692.5
		1	1	22.97	22.99	22.96	23.89	23.86	23.93	24.55	24.64	24.61	24.69	24.60	24.62
		1	1	23.07	23.07	23.06	24.42	24.36	24.36	25.12	24.99	25.16	24.83	24.80	24.98
		1	36	22.90	23.09	22.94	24.36	24.46	24.38	25.05	25.02	25.06	24.96	24.97	24.97
		1	37	23.09	23.00	22.92	23.88	23.91	23.91	24.59	24.60	24.69	24.60	24.47	24.51
		18	9	23.10	23.10	23.10	24.87	24.84	24.90	25.63	25.57	25.70	25.00	25.00	25.00
		36	0	22.95	23.06	23.08	24.35	24.47	24.50	25.05	24.96	24.98	24.92	24.81	24.85
		1	0	23.01	23.09	22.94	23.20	23.25	23.49	24.12	24.13	24.10	24.14	23.96	24.18
	QPSK	1	1	23.05	23.09	23.01	24.43	24.39	24.50	25.17	24.95	24.93	24.91	24.86	24.80
		1	36	22.94	23.01	22.97	24.45	24.48	24.42	25.06	25.11	25.09	24.91	24.91	24.87
		1	37	22.90	22.93	23.00	23.49	23.48	23.48	24.12	24.16	23.97	23.97	24.16	24.04
		18	9	23.10	23.10	23.10	25.00	25.00	25.00	25.70	25.70	25.70	25.00	25.00	25.00
		36	0	22.99	22.94	23.06	23.91	23.96	23.70	24.56	24.41	24.59	24.49	24.45	24.61
		1	0	22.91	23.07	23.06	22.29	22.39	22.27	23.01	23.09	23.02	23.02	23.16	22.93
		1	1	22.92	23.00	23.06	23.22	23.38	23.34	23.96	24.11	24.16	23.94	24.06	24.02
		1	36	22.99	22.94	22.90	23.21	23.25	23.21	24.06	23.97	24.04	24.04	23.90	23.82
	16QAM	1	37	23.03	22.78	22.98	22.37	22.39	22.45	22.99	23.00	23.12	23.00	22.87	22.92
		18	9	23.10	23.10	23.10	24.00	23.96	23.97	24.56	24.48	24.45	24.62	24.65	24.58
		36	0	22.98	22.97	23.00	22.71	22.92	22.91	23.62	23.59	23.40	23.51	23.45	23.58
		1	0	22.41	22.43	22.69	22.00	21.99	21.87	22.65	22.41	22.63	22.66	22.58	22.69
		1	1	22.58	22.64	22.63	21.77	21.71	21.88	22.51	22.64	22.61	22.56	22.63	22.53
		1	36	22.53	22.61	22.68	21.95	21.75	21.91	22.52	22.67	22.47	22.50	22.59	22.50
		1	37	22.68	22.50	22.60	21.99	21.82	21.93	22.50	22.65	22.65	22.64	22.58	22.52
		18	9	22.93	22.93	23.08	22.38	22.28	22.47	22.96	22.94	23.12	23.19	23.06	23.15
	64QAM	36	0	23.10	22.96	23.10	22.34	22.50	22.50	23.10	22.92	23.09	22.92	23.17	22.97
		1	0	20.48	20.62	20.56	19.77	19.74	19.83	20.60	20.51	20.59	20.55	20.63	20.54
		1	1	20.52	20.52	20.50	19.75	19.96	19.95	20.63	20.41	20.66	20.54	20.53	20.69
		1	36	20.42	20.64	20.62	19.83	19.70	19.84	20.70	20.54	20.56	20.49	20.60	20.66
		1	37	20.47	20.68	20.48	19.97	19.88	19.93	20.69	20.70	20.69	20.40	20.60	20.45
		18	9	21.19	20.97	21.02	20.24	20.26	20.43	21.17	21.20	21.18	21.03	20.97	21.19
		36	0	21.05	21.16	20.91	20.28	20.20	20.23	21.00	21.03	20.98	21.03	20.93	21.00

OUTPUT POWER FOR 5G NR n48 (20.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 9			ANT 4			ANT 7			ANT 8		
				637333	641333	646000	637333	641333	646000	637333	641333	646000	637333	641333	646000
20.0	BPSK	1	0	23.01	23.09	23.08	23.79	23.90	23.94	24.65	24.60	24.59	24.66	24.60	24.54
		1	1	22.92	22.91	23.04	24.34	24.29	24.46	25.16	24.99	25.11	24.97	24.95	24.85
		1	49	23.07	23.09	22.90	24.36	24.47	24.41	25.01	24.98	25.09	24.81	24.91	24.96
		1	50	22.95	23.02	22.94	23.88	23.82	23.90	24.56	24.41	24.61	24.68	24.35	24.66
		25	12	23.10	23.10	23.10	25.00	24.92	24.98	25.67	25.50	25.61	25.00	25.00	25.00
		50	0	23.00	22.93	23.00	24.28	24.25	24.21	25.16	25.12	24.91	24.95	24.85	24.96
	QPSK	1	0	23.06	22.92	23.03	23.31	23.22	23.47	24.15	23.95	23.98	23.94	24.02	24.10
		1	1	22.97	22.94	23.00	24.49	24.34	24.44	24.97	25.13	24.95	24.90	24.95	24.93
		1	49	22.98	23.05	22.92	24.25	24.44	24.41	25.17	25.05	25.11	24.98	24.92	24.89
		1	50	23.06	23.07	22.99	23.30	23.46	23.36	24.06	24.08	24.20	24.17	23.95	24.10
		25	12	23.10	23.10	23.10	25.00	25.00	25.00	25.70	25.70	25.70	25.00	25.00	25.00
		50	0	22.96	22.95	23.05	23.94	23.81	23.78	24.55	24.42	24.42	24.64	24.44	24.48
	16QAM	1	0	23.08	23.06	22.91	22.25	22.38	22.35	23.13	23.09	23.10	23.08	23.08	22.97
		1	1	22.93	23.05	23.05	23.28	23.29	23.33	24.10	24.10	24.18	24.06	24.11	24.02
		1	49	22.93	22.97	23.03	23.32	23.22	23.32	24.16	23.92	24.12	23.87	23.82	23.99
		1	50	22.94	22.94	22.80	22.36	22.21	22.28	23.03	22.95	22.91	23.18	22.81	22.87
		25	12	23.10	23.10	23.10	23.74	23.92	23.82	24.69	24.69	24.50	24.57	24.65	24.50
		50	0	23.03	22.91	22.98	22.91	22.81	22.75	23.53	23.43	23.56	23.64	23.62	23.44
	64QAM	1	0	22.48	22.62	22.57	21.76	21.78	21.76	22.49	22.44	22.56	22.58	22.57	22.67
		1	1	22.60	22.49	22.36	21.79	21.94	21.68	22.62	22.65	22.54	22.70	22.49	22.67
		1	49	22.43	22.53	22.42	21.84	21.95	21.55	22.43	22.46	22.54	22.66	22.29	22.50
		1	50	22.59	22.62	22.27	21.83	21.92	21.73	22.47	22.54	22.59	22.50	22.40	22.50
		25	12	22.97	23.01	22.98	22.42	22.40	22.28	23.18	22.97	23.05	23.08	23.19	23.18
		50	0	23.10	23.10	23.03	22.36	22.27	22.29	23.17	23.03	23.04	23.11	23.04	23.19
	256QAM	1	0	20.47	20.61	20.61	19.84	19.81	19.87	20.68	20.43	20.68	20.57	20.49	20.61
		1	1	20.63	20.50	20.60	19.97	19.98	19.75	20.44	20.57	20.62	20.62	20.68	20.56
		1	49	20.56	20.59	20.69	19.78	19.73	19.78	20.69	20.41	20.45	20.67	20.57	20.50
		1	50	20.47	20.42	20.49	19.88	19.75	19.95	20.66	20.46	20.66	20.59	20.70	20.25
		25	12	21.17	21.05	21.06	20.40	20.44	20.25	21.01	20.90	21.18	21.19	20.97	21.02
		50	0	21.03	21.20	21.05	20.41	20.28	20.31	21.01	20.92	20.92	21.19	21.06	21.04

OUTPUT POWER FOR 5G NR n48 (30.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 9			ANT 4			ANT 7			ANT 8		
				637666	641666	645666	637666	641666	645666	637666	641666	645666	637666	641666	645666
30.0	BPSK	1	0	22.90	23.08	22.98	23.88	23.87	23.78	24.46	24.69	24.70	24.62	24.65	24.47
		1	1	23.06	23.09	23.03	24.38	24.40	24.26	24.90	25.14	25.06	24.94	24.98	24.94
		1	76	22.91	23.00	23.05	24.41	24.14	24.22	25.03	24.90	25.18	24.90	24.91	24.88
		1	77	22.97	23.00	23.02	23.90	23.73	23.72	24.57	24.36	24.59	24.70	24.60	24.63
		36	18	23.10	23.10	23.10	24.91	24.84	24.96	25.64	25.60	25.70	25.00	25.00	25.00
		75	0	22.70	22.94	22.70	22.00	24.44	22.00	22.70	25.17	22.70	22.70	24.96	22.70
	QPSK	1	0	23.07	22.98	23.09	23.34	23.32	23.40	23.98	23.97	24.08	24.19	23.94	23.99
		1	1	23.08	23.08	22.94	24.50	24.29	24.33	25.07	24.95	24.97	24.91	24.96	24.95
		1	76	22.94	23.06	22.99	24.42	24.29	24.32	25.06	24.97	25.18	24.94	24.97	24.96
		1	77	23.08	23.03	23.06	23.50	23.40	23.37	24.12	24.00	24.20	23.99	24.04	24.05
		36	18	23.10	23.10	23.10	25.00	25.00	25.00	25.70	25.70	25.64	25.00	25.00	25.00
		75	0	22.70	22.92	22.70	22.00	23.78	22.00	22.70	24.67	22.70	22.70	24.68	22.70
	16QAM	1	0	23.04	22.92	22.96	22.28	22.50	22.23	23.13	23.11	23.10	23.00	23.06	22.81
		1	1	23.07	23.08	22.92	23.40	23.44	23.13	24.06	24.13	23.96	24.07	24.06	24.02
		1	76	22.95	22.94	23.04	23.31	23.28	23.44	23.92	23.83	23.91	24.11	23.86	23.98
		1	77	23.05	23.09	22.99	22.27	22.26	22.46	22.91	22.84	22.89	23.10	22.82	23.09
		36	18	23.10	23.10	23.10	23.89	23.98	23.94	24.68	24.70	24.62	24.68	24.67	24.43
		75	0	22.70	22.98	22.70	22.00	22.83	22.00	22.70	23.66	22.70	22.70	23.53	22.70
	64QAM	1	0	22.55	22.64	22.65	21.89	21.87	21.82	22.53	22.58	22.57	22.60	22.70	22.43
		1	1	22.52	22.56	22.69	21.88	21.92	21.77	22.62	22.42	22.57	22.66	22.44	22.59
		1	76	22.57	22.65	22.41	21.68	21.97	21.86	22.55	22.42	22.46	22.70	22.38	22.40
		1	77	22.62	22.67	22.55	21.99	21.76	21.96	22.51	22.36	22.42	22.53	22.59	22.52
		36	18	23.02	23.05	22.92	22.29	22.49	22.20	23.18	23.18	23.15	23.00	23.17	23.11
		75	0	22.70	23.10	22.70	22.00	22.21	22.00	22.70	23.18	22.70	22.70	23.12	22.70
	256QAM	1	0	20.64	20.66	20.63	19.83	19.91	19.97	20.61	20.45	20.41	20.48	20.58	20.65
		1	1	20.67	20.68	20.47	19.81	19.84	19.70	20.53	20.63	20.41	20.44	20.51	20.41
		1	76	20.60	20.55	20.64	19.92	19.83	19.73	20.51	20.67	20.42	20.46	20.53	20.45
		1	77	20.64	20.48	20.65	19.97	19.98	19.76	20.65	20.51	20.57	20.42	20.56	20.47
		36	18	20.99	21.10	21.19	20.34	20.38	20.30	21.16	20.97	21.19	21.11	21.18	20.98
		75	0	20.94	21.14	21.14	20.27	20.38	20.35	21.16	21.09	21.20	21.17	20.90	20.51

OUTPUT POWER FOR 5G NR n48 (40.0 MHz)

Bandwidth (MHz)	Modulation	RB Allocation	RB Offset	Conducted Average (dBm)											
				ANT 9			ANT 4			ANT 7			ANT 8		
				638000	641333	645333	638000	641333	645333	638000	641333	645333	638000	641333	645333
40.0	BPSK	1	0	3570.0	3620.0	3680.0	3570.0	3620.0	3680.0	3570.0	3620.0	3680.0	3570.0	3620.0	3680.0
		1	1	22.91	22.90	22.95	23.01	23.00	22.94	23.91	23.98	23.88	24.62	24.49	24.63
		1	104	22.92	23.02	23.05	24.39	24.26	24.40	25.18	25.11	25.11	24.97	24.94	24.91
		1	105	22.91	22.90	22.95	24.03	24.23	24.43	24.79	24.78	25.08	24.88	24.80	24.91
		1	105	22.99	22.99	22.94	23.59	23.76	23.82	24.26	24.32	24.63	24.41	24.29	24.53
		50	25	23.10	23.10	23.10	24.92	25.00	24.89	25.68	25.69	25.64	25.00	25.00	25.00
	QPSK	100	0	23.05	23.08	22.95	19.00	24.35	20.00	23.70	25.14	23.70	22.70	24.87	20.70
		1	0	22.98	23.05	23.06	23.41	23.30	23.21	24.07	24.10	24.06	24.19	24.15	24.19
		1	1	23.00	22.91	22.97	24.26	24.47	24.46	24.95	25.13	25.10	24.87	24.81	24.85
		1	104	23.04	23.08	22.90	24.10	24.39	24.25	24.81	24.87	25.09	24.94	24.93	24.90
		1	105	23.08	23.05	22.99	23.13	23.31	23.49	23.90	23.89	24.14	23.98	23.90	24.07
		50	25	23.10	23.10	23.10	25.00	24.98	25.00	25.70	25.70	25.70	25.00	25.00	25.00
	16QAM	100	0	23.09	22.94	23.01	19.00	23.77	20.00	23.70	24.43	23.70	22.70	24.63	20.70
		1	0	22.86	23.03	22.91	22.33	22.32	22.49	23.01	23.15	23.03	23.07	23.16	22.98
		1	1	22.93	22.98	23.09	23.29	23.45	23.29	24.12	23.96	24.17	23.95	23.98	23.89
		1	104	22.98	23.06	23.00	22.91	22.88	23.32	23.58	23.66	23.92	23.92	23.66	24.15
		1	105	22.92	22.61	22.89	21.88	22.28	22.30	22.62	22.85	22.90	22.70	22.64	22.96
		50	25	23.10	23.10	23.10	23.87	23.72	23.71	24.45	24.49	24.55	24.44	24.48	24.41
	64QAM	100	0	23.00	23.07	23.09	19.00	22.82	20.00	23.70	23.53	23.70	22.70	23.41	20.70
		1	0	22.65	22.56	22.69	21.99	21.94	21.92	22.63	22.46	22.56	22.61	22.59	22.42
		1	1	22.55	22.50	22.49	21.90	21.95	21.92	22.58	22.64	22.68	22.69	22.65	22.60
		1	104	22.41	22.19	22.47	21.32	21.87	21.98	22.24	22.16	22.64	22.52	22.45	22.52
		1	105	22.30	22.08	22.53	21.82	21.54	21.71	22.29	22.36	22.56	22.54	22.19	22.60
		50	25	23.03	22.94	23.10	22.46	22.48	22.43	23.15	23.19	23.19	23.14	22.91	23.18
	256QAM	100	0	23.10	23.10	23.00	19.00	22.45	20.00	23.01	23.09	23.08	22.70	23.15	20.53
		1	0	20.69	20.54	20.52	19.72	19.94	19.77	20.50	20.59	20.51	20.62	20.59	20.64
		1	1	20.49	20.49	20.68	19.75	19.93	19.74	20.64	20.67	20.68	20.61	20.51	20.61
		1	104	20.66	20.43	20.62	19.65	19.98	19.98	20.58	20.62	20.68	20.51	20.67	20.49
		1	105	20.64	20.28	20.67	19.79	19.81	19.84	20.51	20.20	20.49	20.44	20.65	20.66
		50	25	21.15	21.17	20.96	20.20	20.37	20.25	20.94	21.05	20.99	20.95	20.93	21.02
		100	0	21.19	21.08	21.17	19.00	20.40	19.72	21.18	21.01	21.19	20.96	20.92	20.65

8.3. LTE ULCA BAND 48C

Test Engineer ID:	50822	Test Date:	2025-08-21
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OUTPUT POWER FOR LTE ULCA BAND 48C (5.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB		SCC1 RB		Conducted Average (dBm)															
			Size	Offset	Size	Offset	ANT 9				ANT 4				ANT 7				ANT 8			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz / 20MHz	3553.3	3565.0	1	24	1	0	20.09	20.09	20.20	20.15	19.41	19.46	19.48	19.50	20.07	20.15	20.20	20.16	20.04	20.13	20.20	20.10
			25	0	100	0	13.70	13.66	13.70	13.70	12.97	12.97	12.99	13.00	13.68	13.65	13.70	13.70	13.69	13.69	13.70	13.70
	3615.8	3627.5	1	24	1	0	23.03	23.10	23.10	20.66	22.94	23.00	23.00	20.00	23.60	23.62	23.70	20.60	23.61	23.66	23.70	20.67
			25	0	100	0	21.68	21.70	21.69	20.63	20.99	21.00	20.99	19.98	21.69	21.70	21.69	20.65	21.69	21.70	21.69	20.63
	3678.3	3690.0	1	24	1	0	20.06	20.15	20.17	20.20	19.38	19.44	19.50	19.45	19.99	20.14	20.20	20.07	20.17	20.13	20.20	20.16
			25	0	100	0	13.69	13.68	13.70	13.70	12.97	12.98	13.00	13.00	13.65	13.66	13.68	13.70	13.67	13.67	13.70	13.70

OUTPUT POWER FOR LTE ULCA BAND 48C (20.0MHz + 5.0MHz)

Bandwidth	PCC	SCC1	PCC	PCC	SCC1	SCC1	Conducted Average (dBm)															
	Frequency	Frequency	RB	RB	RB	RB	ANT 9				ANT 4				ANT 7				ANT 8			
	(MHz)	(MHz)	Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 5MHz	3560.0	3571.7	1	99	1	0	20.58	20.60	20.70	20.57	19.92	19.96	20.00	19.88	20.61	20.61	20.70	20.68	20.63	20.69	20.68	20.70
			100	0	25	0	13.67	13.69	13.70	13.65	12.96	12.96	12.99	13.00	13.66	13.67	13.70	13.69	13.66	13.69	13.70	13.69
	3622.5	3634.2	1	99	1	0	23.10	23.10	23.10	20.58	22.98	22.99	23.00	20.00	23.67	23.68	23.70	20.70	23.69	23.68	23.70	20.70
			100	0	25	0	21.70	21.69	21.67	20.64	21.00	20.99	21.00	19.98	21.69	21.70	21.69	20.64	21.70	21.70	21.70	20.62
	3685.0	3696.7	1	99	1	0	20.59	20.66	20.70	20.60	19.98	20.00	20.00	19.93	20.62	20.65	20.69	20.70	20.60	20.66	20.62	20.70
			100	0	25	0	13.66	13.67	13.70	13.70	12.98	12.98	13.00	13.00	13.67	13.67	13.69	13.70	13.67	13.68	13.70	13.69

OUTPUT POWER FOR LTE ULCA BAND 48C (10.0MHz + 20.0MHz)

Bandwidth	PCC	SCC1	PCC		SCC1		Conducted Average (dBm)															
	Frequency	Frequency	RB	RB	RB	RB	ANT 9				ANT 4				ANT 7				ANT 8			
	(MHz)	(MHz)	Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz / 20MHz	3555.5	3569.9	1	49	1	0	19.61	19.65	19.64	19.70	18.88	18.97	18.96	19.00	19.56	19.55	19.70	19.67	19.59	19.66	19.70	19.66
			50	0	100	0	14.67	14.67	14.70	14.70	13.96	13.97	13.99	14.00	14.66	14.68	14.70	14.69	14.67	14.68	14.69	14.70
	3615.6	3630.0	1	49	1	0	23.10	23.10	23.00	20.65	23.44	23.50	22.95	20.00	24.18	24.20	23.68	20.68	24.15	24.20	23.67	20.69
			50	0	100	0	21.18	21.20	21.18	20.69	20.50	20.50	20.49	19.98	21.19	21.20	21.20	20.70	21.18	21.20	21.18	20.69
	3675.6	3690.0	1	49	1	0	19.61	19.61	19.63	19.70	18.97	18.98	19.00	19.00	19.63	19.63	19.70	19.69	19.60	19.60	19.70	19.68
			50	0	100	0	14.68	14.69	14.69	14.70	13.95	13.95	13.99	14.00	14.66	14.66	14.69	14.70	14.69	14.69	14.70	14.70

OUTPUT POWER FOR LTE ULCA BAND 48C (20.0MHz + 10.0MHz)

Bandwidth	PCC	SCC1	PCC	PCC	SCC1	SCC1	Conducted Average (dBm)															
	Frequency	Frequency	RB	RB	RB	RB	ANT 9				ANT 4				ANT 7				ANT 8			
	(MHz)	(MHz)	Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 10MHz	3560.0	3574.4	1	99	1	0	19.58	19.66	19.70	19.61	18.92	18.95	19.00	18.90	19.62	19.65	19.70	19.66	19.63	19.68	19.70	19.67
			100	0	50	0	14.66	14.67	14.69	14.70	13.99	14.00	13.99	14.00	14.66	14.68	14.70	14.70	14.67	14.67	14.69	14.70
	3620.1	3634.5	1	99	1	0	23.10	23.10	23.10	20.64	23.50	23.50	22.99	20.00	24.20	24.17	23.67	20.70	24.20	24.12	23.64	20.61
			100	0	50	0	21.18	21.20	21.20	20.70	20.49	20.49	20.50	19.97	21.19	21.20	21.20	20.70	21.20	21.20	21.20	20.70
	3680.1	3694.5	1	99	1	0	19.61	19.69	19.70	19.66	18.88	18.94	19.00	18.89	19.60	19.63	19.66	19.70	19.58	19.58	19.70	19.58
			100	0	50	0	14.65	14.66	14.68	14.70	13.97	13.97	14.00	13.99	14.66	14.68	14.69	14.70	14.69	14.69	14.70	14.70

OUTPUT POWER FOR LTE ULCA BAND 48C (15.0MHz + 20.0MHz)

Bandwidth	PCC	SCC1	PCC	PCC	SCC1	SCC1	Conducted Average (dBm)															
	Frequency	Frequency	RB	RB	RB	RB	ANT 9				ANT 4				ANT 7				ANT 8			
	(MHz)	(MHz)	Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
15MHz / 20MHz	3557.8	3574.9	1	74	1	0	19.59	19.63	19.70	19.70	18.93	18.90	19.00	18.95	19.63	19.67	19.62	19.70	19.58	19.70	19.70	19.70
			75	0	100	0	14.64	14.67	14.70	14.70	13.95	13.97	13.99	14.00	14.70	14.69	14.68	14.70	14.66	14.67	14.69	14.70
	3615.3	3632.4	1	74	1	0	23.10	23.10	23.00	20.70	23.95	24.00	22.98	20.00	24.58	24.70	23.70	20.70	24.67	24.70	23.70	20.69
			75	0	100	0	21.18	21.19	21.20	20.68	20.49	20.50	20.48	19.95	21.16	21.16	21.20	20.66	21.19	21.20	21.20	20.70
	3672.9	3690.0	1	74	1	0	19.58	19.64	19.66	19.70	18.89	18.91	19.00	18.98	19.52	19.62	19.70	19.64	19.62	19.70	19.67	19.69
			75	0	100	0	14.66	14.67	14.70	14.70	13.96	13.98	14.00	14.00	14.65	14.65	14.69	14.70	14.66	14.67	14.69	14.70

OUTPUT POWER FOR LTE ULCA BAND 48C (20.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB		SCC1 RB		Conducted Average (dBm)															
			Size	Offset	Size	Offset	ANT 9				ANT 4				ANT 7				ANT 8			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 15MHz	3560.0	3577.1	1	99	1	0	19.63	19.60	19.70	19.60	18.92	19.00	19.00	18.95	19.59	19.61	19.68	19.70	19.51	19.57	19.70	19.61
			100	0	75	0	14.66	14.66	14.70	14.70	13.96	13.97	14.00	13.94	14.66	14.67	14.70	14.70	14.65	14.66	14.69	14.70
	3617.6	3634.7	1	99	1	0	23.10	23.10	23.00	20.63	24.00	24.00	23.00	19.96	24.70	24.69	23.70	20.67	24.67	24.70	23.70	20.65
			100	0	75	0	21.19	21.20	21.19	20.70	20.50	20.46	20.46	20.00	20.00	21.18	21.14	21.20	20.70	21.19	21.20	21.20
	3675.1	3692.2	1	99	1	0	19.63	19.66	19.70	19.66	18.85	18.81	19.00	18.88	19.63	19.70	19.70	19.68	19.57	19.63	19.70	19.60
			100	0	75	0	14.67	14.69	14.70	14.70	13.97	13.93	14.00	13.94	14.67	14.61	14.70	14.63	14.67	14.69	14.69	14.70

OUTPUT POWER FOR LTE ULCA BAND 48C (20.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)															
							ANT 9				ANT 4				ANT 7				ANT 8			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz/ 20MHz	3560.0	3579.8	1	99	1	0	21.10	21.12	21.20	20.58	20.45	20.45	20.50	20.00	21.13	21.17	21.20	20.68	21.11	21.14	21.20	20.65
			1	0	1	99	7.54	7.58	7.70	7.67	6.85	6.86	7.00	6.95	7.55	7.51	7.70	7.68	7.53	7.56	7.70	7.66
			100	0	100	0	14.67	14.68	14.69	14.70	13.97	13.97	14.00	14.00	14.68	14.68	14.70	14.70	14.66	14.67	14.70	14.69
			1	99	1	0	23.10	23.10	23.10	20.65	24.00	24.00	22.97	19.99	24.69	24.70	23.70	20.70	24.70	24.67	23.70	20.69
	3615.1	3634.9	1	0	1	99	14.12	14.17	14.20	14.07	13.42	13.47	13.50	13.44	14.16	14.20	14.15	14.18	14.13	14.16	14.20	14.10
			100	0	100	0	21.20	21.20	21.20	20.70	20.49	20.49	20.50	20.00	21.20	21.20	21.18	20.70	21.19	21.20	21.20	20.70
			1	99	1	0	21.08	21.12	21.20	20.64	20.36	20.43	20.50	19.95	21.05	21.08	21.20	20.64	21.18	21.16	21.20	20.66
			1	0	1	99	7.56	7.58	7.70	7.64	6.81	6.86	7.00	6.96	7.54	7.54	7.69	7.70	7.58	7.57	7.70	7.67
	3670.2	3690.0	100	0	100	0	14.65	14.67	14.69	14.70	13.96	13.97	13.99	14.00	14.66	14.67	14.70	14.70	14.67	14.67	14.70	14.68

9. CONDUCTED TEST RESULTS

9.1. 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.

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	4.485	4.86
	5MHz, 16QAM			4.481	4.90
	10MHz, QPSK	50/0		8.980	9.40
	10MHz, 16QAM			8.942	9.43
	15MHz, QPSK	75/0	3620.0	13.529	14.17
	15MHz, 16QAM			13.391	14.17
	20MHz, QPSK	100/0		18.032	18.93
	20MHz, 16QAM			17.889	19.83
	20MHz, QPSK	1/0		0.326	0.48

5G NR n48

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
5G NR n48	10MHz, BPSK	24/0	3625.0	8.634	9.65
	10MHz, QPSK			8.564	9.60
	10MHz, 16QAM			8.605	9.57
	15MHz, BPSK	36/0	3620.0	12.939	14.15
	15MHz, QPSK			12.932	14.08
	15MHz, 16QAM			12.937	14.07
	20MHz, BPSK	50/0		17.957	19.15
	20MHz, QPSK			17.933	19.10
	20MHz, 16QAM			17.970	19.22
	30MHz, BPSK	75/0	3625.0	26.921	28.51
	30MHz, QPSK			26.914	28.68
	30MHz, 16QAM			26.948	28.67
	40MHz, BPSK	100/0	3620.0	35.900	37.92
	40MHz, QPSK			35.817	37.82
	40MHz, 16QAM			35.906	37.87
	40MHz, BPSK	1/0		0.483	0.84

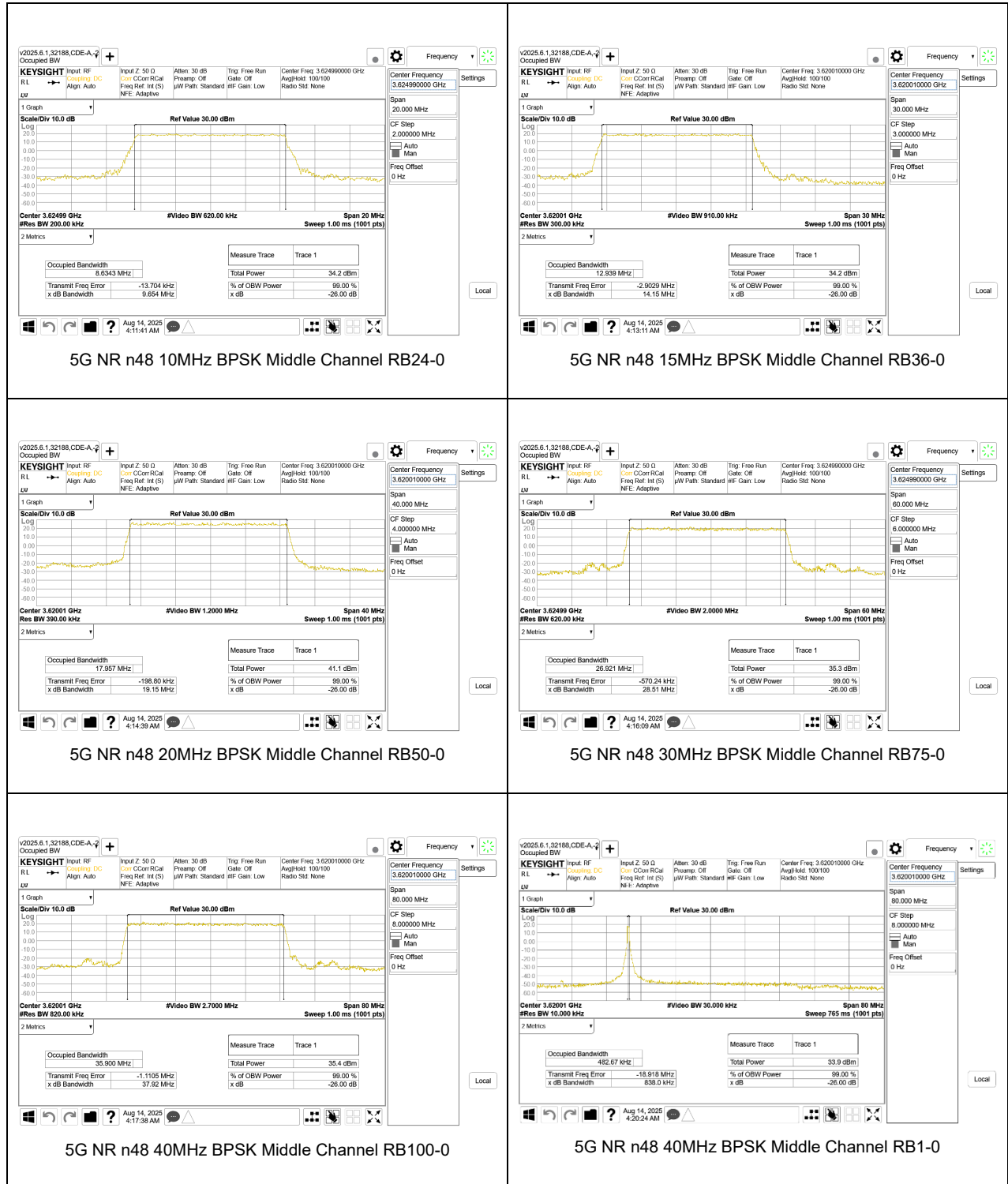
LTE ULCA BAND 48C

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE ULCA BAND 48C	5MHz + 20MHz BAND QPSK	25/0 + 100/0	3625	23.317	25.77
	5MHz + 20MHz BAND 16QAM			23.114	24.82
	20MHz + 5MHz BAND QPSK	100/0 + 25/0		23.312	24.94
	20MHz + 5MHz BAND 16QAM			23.090	24.89
	10MHz + 20MHz BAND QPSK	50/0 + 100/0		28.023	30.06
	10MHz + 20MHz BAND 16QAM			27.998	29.81
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		28.040	29.94
	20MHz + 10MHz BAND 16QAM			27.881	29.68
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		32.835	34.93
	15MHz + 20MHz BAND 16QAM			32.705	35.11
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		32.873	37.17
	20MHz + 15MHz BAND 16QAM			32.812	39.76
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.540	41.18
	20MHz + 20MHz BAND 16QAM			37.570	39.82

9.1.1. LTE BAND 48

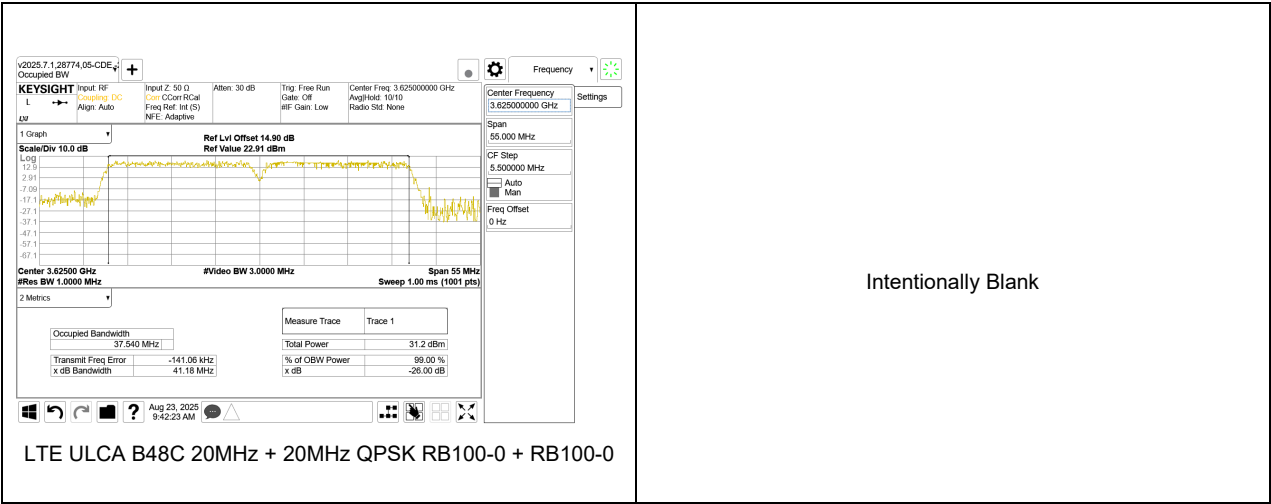


9.1.2. 5G NR n48



9.1.3. LTE ULCA BAND 48C





9.2. EMISSION MASK AND ADJACENT CHANNEL POWER

LIMITS

FCC: §96.41

(e) 3.5 GHz Emissions and Interference Limits—

(1) General protection levels

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

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

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.

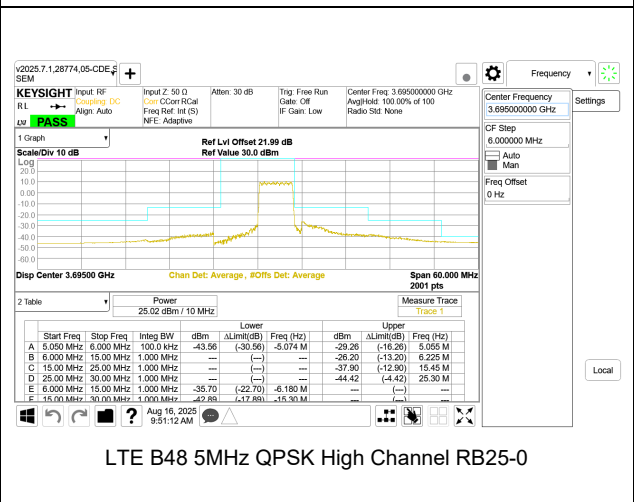
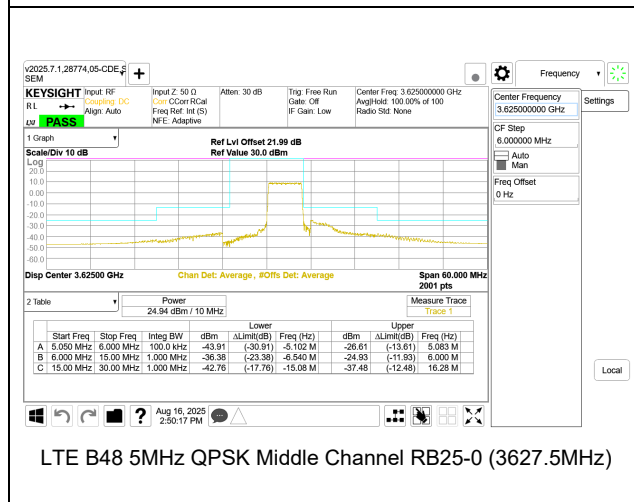
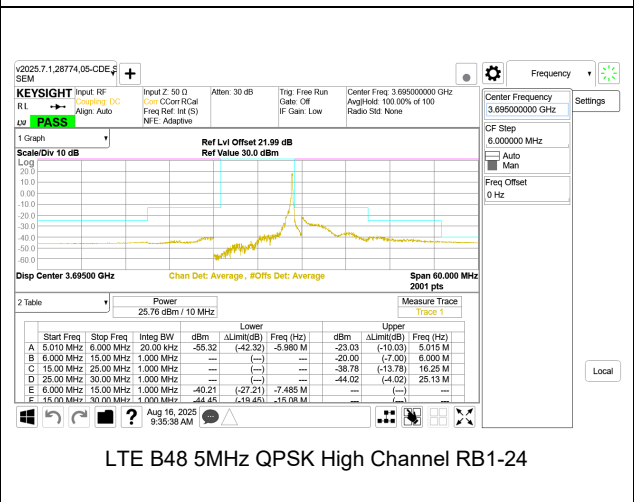
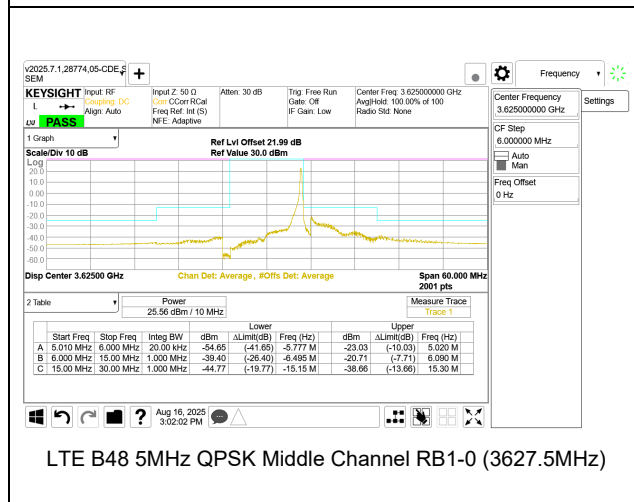
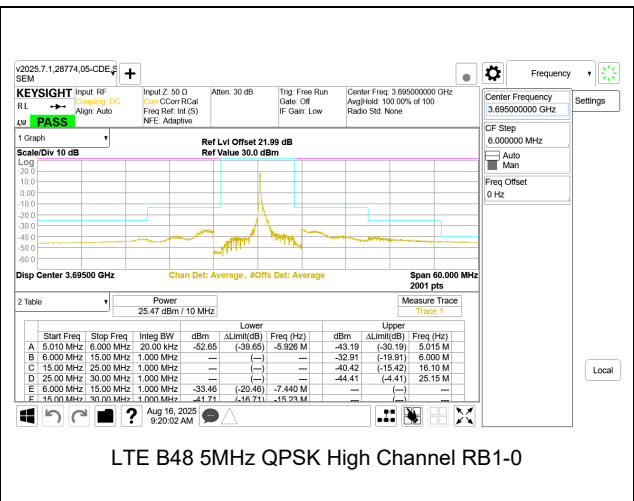
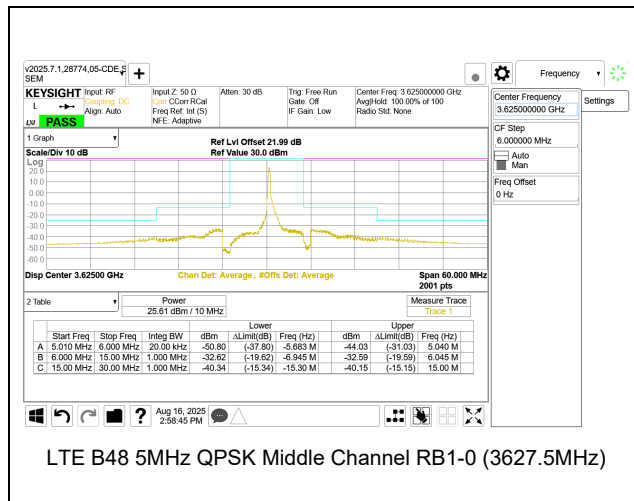
(iii) Compliance with emission limits shall be demonstrated using either average (RMS)-detected or peak-detected power measurement techniques.

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

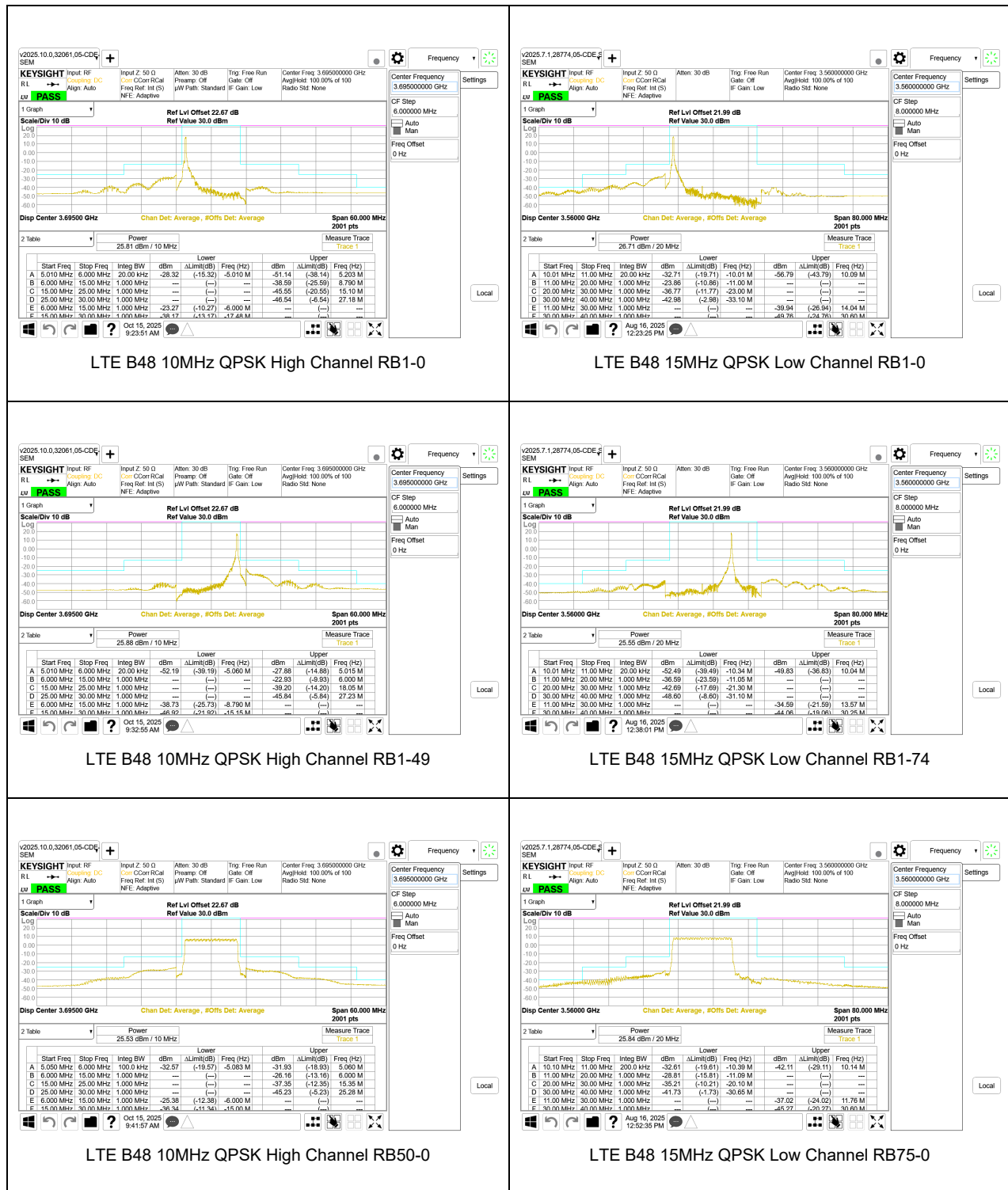
RESULTS

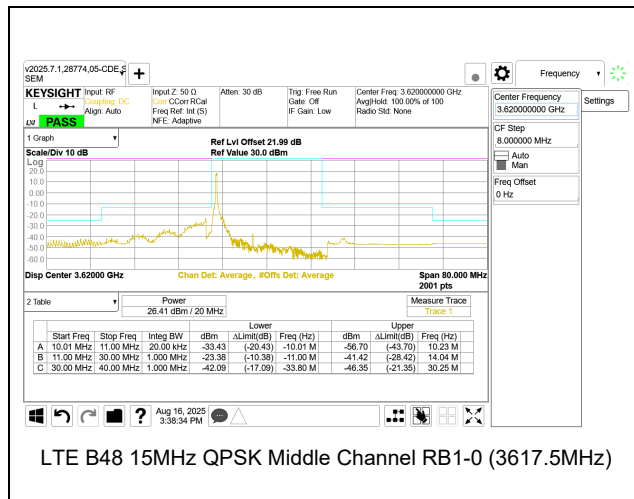
9.2.1. LTE BAND 48 EMISSION MASK



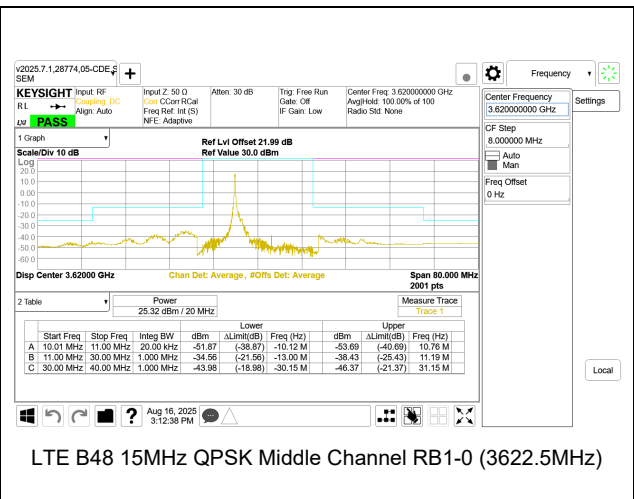




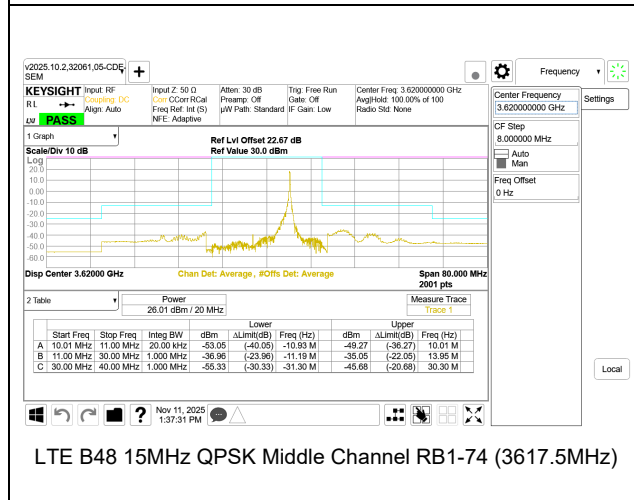




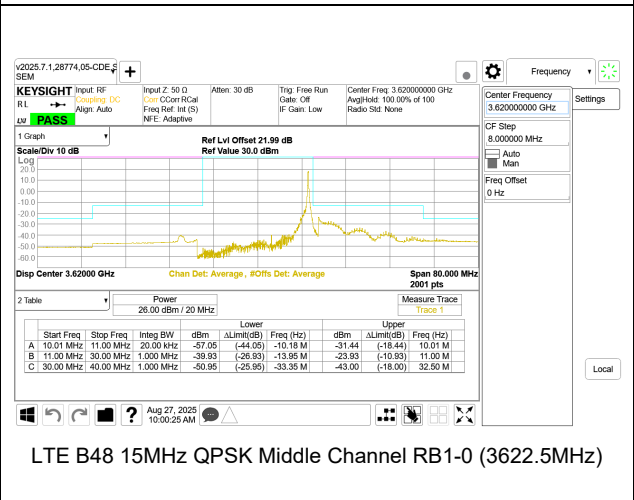
LTE B48 15MHz QPSK Middle Channel RB1-0 (3617.5MHz)



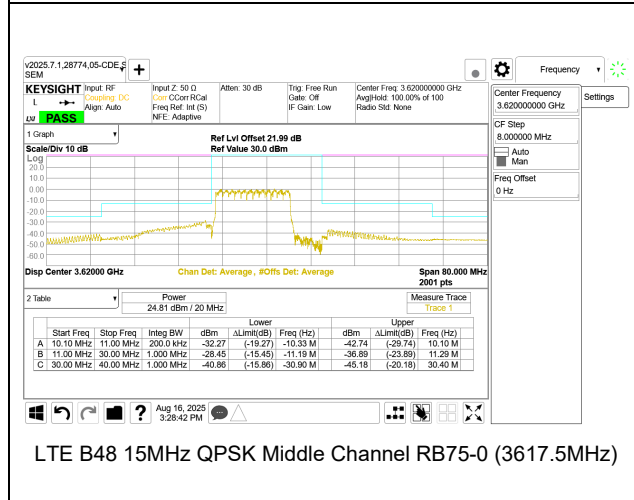
LTE B48 15MHz QPSK Middle Channel RB1-0 (3622.5MHz)



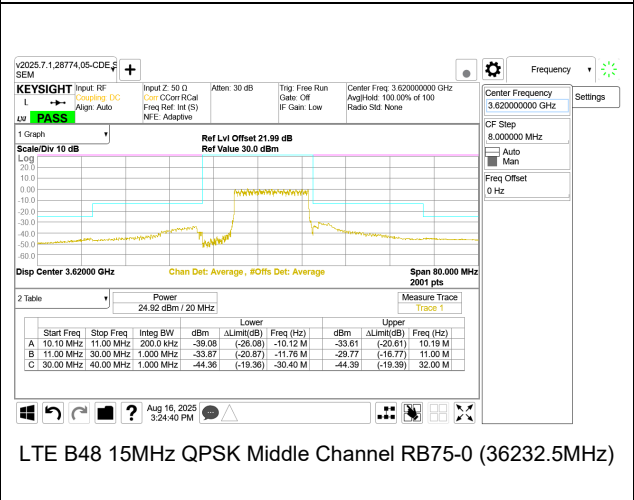
LTE B48 15MHz QPSK Middle Channel RB1-74 (3617.5MHz)



LTE B48 15MHz QPSK Middle Channel RB1-0 (3622.5MHz)



LTE B48 15MHz QPSK Middle Channel RB75-0 (3617.5MHz)



LTE B48 15MHz QPSK Middle Channel RB75-0 (36232.5MHz)