

TEST REPORT

Report Number: 15175342-E12V4

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

Model : A3212

Brand : APPLE

FCC ID : BCG-E8725A

EUT Description : SMARTPHONE

Test Standard(s) : FCC 47 CFR Part 2, Part 22, and Part 27

Date Of Issue:
2025-01-02

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



Revision History

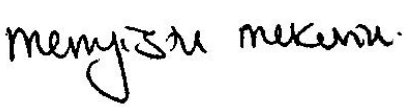
Rev.	Issue Date	Revisions	Revised By
V1	2024-11-19	Initial Review	--
V2	2024-11-26	Addressed TCB questions and updated Section 1, 4, 6.4, 6.2, 8.1.3 & 10	Binod Sitaula
V3	2024-12-04	Addressed TCB questions and updated Section 6.2, 8, & 9.	Binod Sitaula
V4	2025-01-02	Updated sections 5.3 & 6.2	Mengistu 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	12
6.4. MAXIMUM ANTENNA GAIN	12
6.5. WORST-CASE CONFIGURATION AND MODE	13
6.6. DESCRIPTION OF TEST SETUP	14
7. TEST AND MEASUREMENT EQUIPMENT	16
8. RF OUTPUT POWER MEASUREMENTS	17
8.1. RF OUTPUT POWER	18
8.1.1. LTE BAND 5	18
8.1.2. LTE BAND 7	19
8.1.3. LTE BAND 41	20
9. CONDUCTED TEST RESULTS	22
9.1. OCCUPIED BANDWIDTH	22
9.1.1. LTE BAND 5	25
9.1.2. LTE BAND 7	26
9.1.3. LTE BAND 41	27
9.2. BAND EDGE AND EMISSION MASK	29
9.2.1. LTE BAND 5	30
9.2.2. LTE BAND 7	33
9.2.3. LTE BAND 41	36

9.3. OUT OF BAND EMISSIONS	39
9.3.1. LTE BAND 5.....	40
9.3.2. LTE BAND 7.....	41
9.3.3. LTE BAND 41.....	42
9.4. FREQUENCY STABILITY	43
9.4.1. LTE BAND 5.....	44
9.4.2. LTE BAND 7.....	45
9.4.3. LTE BAND 41.....	46
9.5. PEAK-TO-AVERAGE POWER RATIO	47
9.5.1. LTE BAND 5.....	48
9.5.2. LTE BAND 7.....	48
9.5.3. LTE BAND 41.....	49
10. RADIATED TEST RESULTS	50
10.1. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 1	50
10.1.1. LTE BAND 5	54
10.1.2. LTE BAND 7	56
10.1.3. LTE BAND 41	57
10.2. FIELD STRENGTH OF SPURIOUS RADIATION, ANT2	60
10.2.1. LTE BAND 5	61
10.2.2. LTE BAND 7	63
10.2.3. LTE BAND 41	65
10.3. FIELD STRENGTH OF SPURIOUS RADIATION, ANT3	67
10.3.1. LTE BAND 7	68
10.3.2. LTE BAND 41	69
10.4. FIELD STRENGTH OF SPURIOUS RADIATION, ANT4	72
10.4.1. LTE BAND 7	73
10.4.2. LTE BAND 41	74
11. SETUP PHOTOS	77

1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE, INC 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A.	
Model	A3212	
Brand	APPLE	
FCC ID	BCG-E8725A	
EUT Description	SMARTPHONE	
Serial Number	RADIATED: LD23Q31PQ4, L52G6VJWHY CONDUCTED: C07H9K000JE0000J57, C07H9K000HZ0000J57, C07H9K000JQ0000J57	
Sample Receipt Date	2024-05-06	
Date Tested	2024-05-06 to 2024-10-17	
Applicable Standards	FCC CFR 47 Part 2, Part 22, and Part 27	
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:
		
Choose an item. Staff Engineer UL Verification Services Inc.	Tewodros Woldemichael Laboratory Engineer UL Verification Services Inc.	Matthew Wu 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 (see section 6.4.)

Requirement Description	Requirement Clause Number (FCC)	Result	Remarks
RF Conducted Output Power	2.1046	Complies	
Effective Radiated Power	22.913 (a)(5)	Complies	
Equivalent Isotropic Radiated power	27.50 (h) (2)	Complies	
Occupied Bandwidth	2.1049	Complies	
Band Edge and Emission Mask	2.1051, 22.917 (a), 27.53 (m)(4) &(m)(6)	Complies	
Out of Band Emissions	2.1051, 22.917 (a), 27.53 (m)(4) &(m)(6)	Complies	
Frequency Stability	2.1055, 22.355, 27.54	Complies	
Peak-to-Average Ratio	27.50 (d) (5), 22.913(a)	Complies	
Field Strength of Spurious Radiation	2.1053, 22.917 (a), 27.53 (m)(4) &(m)(6)	Complies	

3. TEST METHODOLOGY

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

- ANSI C63.26:2015
- FCC 47 CFR Part 2, Part 22, and Part 27
- [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

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 ms
RF Power Measurement Direct Method Using Power Meter	0.450 dB (Peak); 1.300 dB (Ave).
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, 5G NR1, 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

ERP/EIRP 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.

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.

OUTPUT POWER FOR LTE BAND 5

Part 22H								
EIRP Limit (W)		7.00						
Antenna Gain (dBi) (Ant1)		-4.50						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
5+10	QPSK	826.5	844.0	25.70	19.05	0.080	13863	13M9G7W
	16QAM			24.70	18.05	0.064	13883	13M9D7W
10+5	QPSK	829.0	846.5	25.70	19.05	0.080	13844	13M8G7W
	16QAM			24.70	18.05	0.064	13833	13M8D7W
10+10	QPSK	829.0	844.0	25.70	19.05	0.080	18725	18M7G7W
	16QAM			24.70	18.05	0.064	18707	18M7D7W

OUTPUT POWER FOR LTE BAND 7

Part 27								
EIRP Limit (W)		2.00						
Antenna Gain (dBi) (Ant3)		-1.30						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
10+20	QPSK	2505.5	2560.0	25.20	23.90	0.245	28227	28M2G7W
	16QAM			24.20	22.90	0.195	28161	28M2D7W
20+10	QPSK	2510.0	2564.5	25.20	23.90	0.245	28197	28M2G7W
	16QAM			24.20	22.90	0.195	28130	28M1D7W
15+15	QPSK	2507.5	2562.5	25.20	23.90	0.245	28750	28M8G7W
	16QAM			24.20	22.90	0.195	28707	28M7D7W
15+20	QPSK	2507.8	2560.0	25.20	23.90	0.245	33044	33M0G7W
	16QAM			24.20	22.90	0.195	32987	33M0D7W
20+15	QPSK	2510.0	2562.2	25.20	23.90	0.245	33028	33M0G7W
	16QAM			24.20	22.90	0.195	32978	33M0D7W
20+20	QPSK	2510.0	2560.0	25.20	23.90	0.245	37891	37M9G7W
	16QAM			24.20	22.90	0.195	37818	37M8D7W

OUTPUT POWER FOR LTE BAND 41

Part 27								
EIRP Limit (W)		2.00						
Antenna Gain (dBi) Ant(3)		-0.90						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
5+20	QPSK	2499.3	2680.0	27.90	27.00	0.501	23427	23M4G7W
	16QAM			26.39	25.49	0.354	23383	23M4D7W
20+5	QPSK	2506.0	2686.7	27.82	26.92	0.492	23389	23M4G7W
	16QAM			26.29	25.39	0.346	23314	23M3D7W
10+20	QPSK	2501.5	2680.0	27.79	26.89	0.489	28210	28M2G7W
	16QAM			26.36	25.46	0.352	28121	28M1D7W
20+10	QPSK	2506.0	2684.5	27.78	26.88	0.488	28150	28M2G7W
	16QAM			26.38	25.48	0.353	28072	28M1D7W
15+15	QPSK	2503.5	2682.5	28.00	27.10	0.513	28724	28M7G7W
	16QAM			26.50	25.60	0.363	28656	28M7D7W
15+20	QPSK	2503.8	2680.0	28.00	27.10	0.513	33077	33M1G7W
	16QAM			26.50	25.60	0.363	32921	32M9D7W
20+15	QPSK	2506.0	2682.2	28.00	27.10	0.513	32959	33M0G7W
	16QAM			26.50	25.60	0.363	32904	32M9D7W
20+20	QPSK	2506.0	2680.0	28.00	27.10	0.513	37899	37M9G7W
	16QAM			26.50	25.60	0.363	37793	37M8D7W

6.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was version: 1.0.23

6.4. MAXIMUM ANTENNA GAIN

The antenna(s) gain(s) and type, as provided by the manufacturer' are as follows:

LTE and 5G NR Bands	Frequency Range (MHz)	ANT 1 Antenna Gain (dBi)	ANT 2 Antenna Gain (dBi)	ANT 3 Antenna Gain (dBi)	ANT 4 Antenna Gain (dBi)	ANT 7 Antenna Gain (dBi)	ANT 8 Antenna Gain (dBi)	ANT 9 Antenna Gain (dBi)
LTE Band 5	824 – 849	-4.5	-4.9					
LTE Band 7	2500 – 2570	-2.6	-2.8	-1.3	-1.7			
LTE Band 41	2496 – 2690	-2.5	-3.5	-0.9	-2.6			

6.5. WORST-CASE CONFIGURATION AND MODE

The EUT supports LTE dual carrier Bands of: Band 5, Band 7, Band 38 and Band 41.

LTE Band 38 (2570-2620MHz) is covered by LTE Band 41 because it is a subset of LTE band 41. Also, they have the same or less output power and supported bandwidths.

The worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were measured on QPSK, 16QAM and 64QAM modulations. It was found that QPSK and 16QAM results were worst case. All testing was performed using QPSK and 16QAM modulations to represent the worst case. For testing purposes emissions on sections 8 and 9 were measured while QPSK was set at or above target power for all bands. Conducted tests were performed on the worst-case antenna port because it has the highest conducted power. The worst-case antenna port is shown in the table below.

LTE Bands	Worst case Antenna Port for Conducted Power
LTE BAND 5, 7, and 41	Ant 1

For Band Edge and Emission Mask: The highest BW combo and sample lower BW combinations were tested. Combination pairs of the same BW are considered generally equivalent. The RB combinations were selected such that the signal is active closest to the band limit, as this is the worst case.

For Out of Band Emissions: The highest combination and a sample lower combination was tested. The highest power RB combination was selected as worst case.

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

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

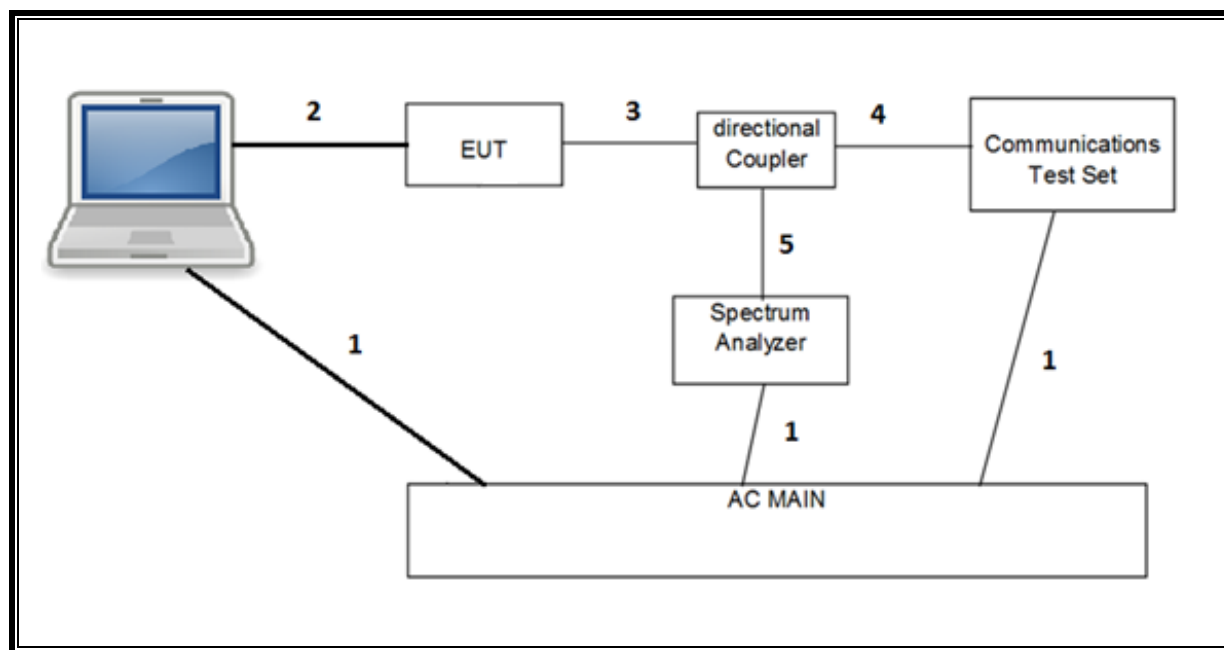
Radiated spurious emissions were investigated from 9kHz to 30MHz, 30MHz-1GHz and above 1GHz. There were no emissions found with less than 20dB of margin from 9kHz to 1GHz.

For interband transmission of multiple channels in Ant 1 and Ant 2 in 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.

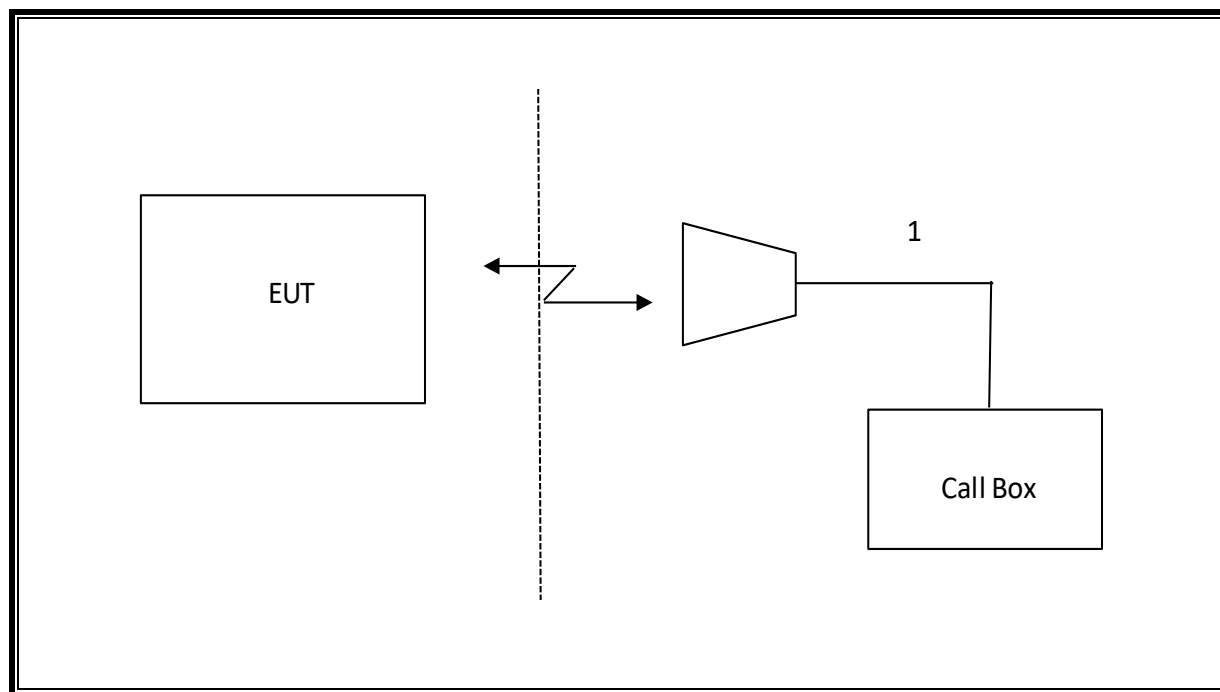
6.6. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description		Manufacturer	Model	Serial Number		FCC ID/ DoC
Laptop		Apple	MacBook Pro	HRP082673		BCGA1708
AC/DC adapter		Apple	A1718	C4H64450HH3GN8RA6		--
I/O CABLES (RF CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	3	US 115V	Un-shielded	2.0	N/A
2	USB	1	DC	Un-shielded	1.0	N/A
3	RF In/Out	1	EUT	Un-shielded	0.6	N/A
4	RF In/Out	1	Communication Test Set	Un-shielded	1.2	N/A
5	RF In/Out	1	Barrel	N/A	N/A	N/A
I/O CABLES (RF RADIATED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	RF In/Out	1	Antenna	Un-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
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	80430	2026-09-30
Antenna, Horn 1-18GHz	ETS Lindgren	3117	79834	2026-07-31
Antenna, Broadband Hybrid, 30MHz to 3000MHz	SUNAR	JB3	222009	2026-06-30
*RF Filter Box, 1-18GHz	UL-FR1	NA	217255	2024-10-31
RF Filter Box, 1-18GHz	UL-FR1	RATS 2	226781	2025-03-30
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	430250	2025-10-31
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169936	2025-02-28
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169935	2025-02-28
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	85943	2025-02-28
Directional Coupler	KRYTAR	152610	198816	2024-10-31
Directional Coupler	KRYTAR	152610	231664	2025-01-22
Power Meter, P-series single channel	Keysight	N1912A	90719	2025-01-31
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight	N1921A	81319	2025-01-31
Filter, HPF 1.2GHz	Wainwright Instruments GmbH	WHKX6-948-1.2/15G-40ST	99	2024-10-31
Spectrum Analyzer, PXA, 2Hz to 44GHz	Keysight	N9030B	231739	2025-01-31
Spectrum Analyzer, PXA, 2Hz to 44GHz	Keysight	N9030B	245120	2025-02-28
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight	N9030A	85212	2025-02-28
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	222793	2025-02-28
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	222797	2025-02-28
Chamber, Environmental	Thermotron Corp.	SM-16C Mini-Max	179936	2024-06-30
Transmitting Antenna, Horn Antenna	TEKBOX Digital Solutions	TBMA4	226709	C.N.R.
Antenna, Horn 18 to 26.5GHz	A.R.A.	MWH-1826/B	199659	2024-12-31
Amplifier 18-26.5GHz, +5Vdc, -54dBm P1dB	AMPLICAL	AMP18G26.5-60	234683	2025-05-31
DC Power Supply	GWINSTEK	GPS18500	N/A	C.N.R.
*Antenna, Passive Loop 30Hz - 1MHz	ELECTRO-METRICS	EM-6871	170014	2024-08-31
*Antenna, Passive Loop 100KHz - 30MHz	ELECTRO-METRICS	EM-6872	170016	2024-08-31
UL AUTOMATION SOFTWARE				
CLT Software	UL	UL RF	V2023.11.21.0	
Power Measurement Software	UL	UL RF	V2023.08.14.0	
Radiated test software	UL	UL RF	Ver 9.5 2023-05-01	

NOTES:

- * Testing is completed before equipment expiration date.
- ** Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

8. RF OUTPUT POWER MEASUREMENTS

RULE PART(S)

FCC: §2.1046, §22.913, §27.50

RESULT

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

8.1. RF OUTPUT POWER

8.1.1. LTE BAND 5

Test Engineer ID:	25780	Test Date:	8/9/2024
-------------------	-------	------------	----------

OUTPUT POWER FOR LTE BAND 5 (5.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC	PCC	SCC1	SCC1	Conducted Average (dBm)											
			RB	RB	RB	RB	ANT 1				ANT 2							
			Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM				
5MHz / 10MHz	826.5	833.7	1	24	1	0	25.65	24.70	23.70	20.64	24.53	23.63	22.54	19.42				
			25	0	50	0	23.67	22.70	22.69	20.70	22.54	21.58	21.61	19.64				
	831.6	838.8	1	24	1	0	25.70	24.62	23.52	20.67	24.70	23.70	22.70	19.66				
			25	0	50	0	23.70	22.68	22.70	20.69	22.70	21.70	21.70	19.70				
	836.8	844.0	1	24	1	0	25.68	24.59	23.57	20.56	24.53	23.66	22.46	19.52				
			25	0	50	0	23.65	22.65	22.61	20.58	22.66	21.64	21.66	19.67				

OUTPUT POWER FOR LTE BAND 5 (10.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average (dBm)							
			Size	Offset	Size	Offset	ANT 1				ANT 2			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz/ 5MHz	829.0	836.2	1	49	1	0	25.54	24.70	23.70	20.59	24.70	23.41	22.70	19.61
			50	0	25	0	23.70	22.70	22.70	20.70	22.69	21.70	21.69	19.67
	834.3	841.5	1	49	1	0	25.70	24.54	23.53	20.42	24.60	23.60	22.56	19.46
			50	0	25	0	23.68	22.64	22.66	20.68	22.70	21.67	21.70	19.70
	839.3	846.5	1	49	1	0	25.61	24.50	23.31	20.42	24.58	23.70	22.50	19.58
			50	0	25	0	23.59	22.57	22.51	20.60	22.68	21.64	21.61	19.63

OUTPUT POWER FOR LTE BAND 5 (10.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)											
							ANT 1				ANT 2							
			QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM								
10MHz/ 10MHz	829.0	838.9	1	49	1	0	25.49	24.70	23.70	20.66	24.70	23.70	22.70	19.70				
			1	0	1	49	15.19	14.90	15.03	15.20	14.20	14.20	14.04	14.13				
			50	0	50	0	23.70	22.70	22.70	20.70	22.66	21.56	21.68	19.65				
			1	49	1	0	25.65	24.41	23.67	20.30	24.66	23.65	22.54	19.70				
			1	0	1	49	15.14	15.18	15.20	14.96	14.20	14.18	14.20	14.17				
			50	0	50	0	23.68	22.69	22.70	20.33	22.63	21.70	21.68	19.69				
	831.5	841.4	1	49	1	0	25.70	24.50	23.55	20.70	24.57	23.57	22.57	19.53				
			1	0	1	49	15.20	15.20	15.16	15.06	14.16	14.16	14.04	14.20				
			50	0	50	0	23.64	22.65	22.70	20.70	22.70	21.61	21.66	19.70				
			1	49	1	0	25.70	24.50	23.55	20.70	24.57	23.57	22.57	19.53				
			1	0	1	49	15.20	15.20	15.16	15.06	14.16	14.16	14.04	14.20				
			50	0	50	0	23.64	22.65	22.70	20.70	22.70	21.61	21.66	19.70				

8.1.2. LTE BAND 7

Test Engineer ID:	25780	Test Date:	9/3/2024
-------------------	-------	------------	----------

OUTPUT POWER FOR LTE BAND 7 (10.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB		SCC1 RB		Conducted Average (dBm)															
			Size	Offset	Size	Offset	ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz / 20MHz	2505.5	2519.9	1	49	1	0	25.69	24.64	23.70	20.39	23.12	22.10	21.19	17.98	25.06	24.00	23.06	19.85	23.20	22.10	21.13	18.11
			50	0	100	0	23.70	22.69	22.67	20.69	21.13	20.15	20.16	18.20	23.02	21.95	21.96	20.00	21.20	20.20	20.20	18.16
	2525.6	2540.0	1	49	1	0	25.57	24.58	23.52	20.38	23.14	22.12	21.19	18.12	25.20	24.09	23.20	19.96	23.07	22.20	21.02	18.13
			50	0	100	0	23.69	22.62	22.64	20.70	21.16	20.19	20.20	18.20	23.20	22.20	22.20	20.20	21.13	20.07	20.06	18.10
	2545.6	2560.0	1	49	1	0	25.70	24.70	23.65	20.37	23.20	22.19	21.20	18.03	25.07	24.20	23.02	19.85	23.17	22.02	21.20	18.20
			50	0	100	0	23.69	22.70	22.70	20.70	21.20	20.20	20.18	18.18	23.07	22.04	22.03	20.05	21.20	20.16	20.16	18.14

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB		SCC1 RB		Conducted Average (dBm)															
			Size	Offset	Size	Offset	ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	24.19	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 10MHz	2510.0	2524.4	1	99	1	0	25.67	24.70	23.70	20.40	23.03	22.20	20.97	17.96	25.20	24.14	23.10	19.80	23.14	22.18	21.20	17.91
			100	0	50	0	23.70	22.70	22.63	20.70	21.13	20.12	20.13	18.17	23.01	21.97	21.94	19.99	21.20	20.20	20.20	18.20
	2530.1	2544.5	1	99	1	0	25.70	24.62	23.58	20.44	23.04	22.09	21.09	17.93	25.11	24.20	23.20	19.81	23.14	22.03	20.92	17.73
			100	0	50	0	23.69	22.68	22.67	20.68	21.20	20.20	20.18	18.18	23.20	22.20	22.20	20.21	21.09	20.00	20.03	18.04
	2550.1	2564.5	1	99	1	0	25.68	24.70	23.52	20.46	23.20	22.06	21.20	17.99	24.97	23.90	23.06	19.74	23.20	22.20	21.11	17.93
			100	0	50	0	23.70	22.70	22.70	20.61	21.11	20.18	20.20	18.20	23.09	22.09	22.03	20.09	21.14	20.10	20.12	18.11

OUTPUT POWER FOR LTE BAND 7 (15.0MHz + 15.0MHz)

Bandwidth	PCC	SCC1	PCC	PCC	SCC1	SCC1	Conducted Average (dBm)															
	Frequency	Frequency	RB	RB	RB	RB	ANT 1				ANT 2				ANT 3				ANT 4			
	(MHz)	(MHz)	Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
15MHz / 15MHz	2507.5	2522.5	1	74	1	0	25.24	24.57	23.40	20.48	23.17	22.09	21.11	17.93	25.02	23.84	22.93	19.96	23.20	22.06	21.17	18.15
			75	0	75	0	23.39	22.55	22.58	20.61	21.15	20.10	20.10	18.12	22.96	22.03	21.99	19.95	21.19	20.20	20.20	18.20
	2527.5	2542.5	1	74	1	0	25.63	24.58	23.60	20.59	23.20	22.20	21.20	18.19	25.20	24.20	23.20	20.03	23.04	21.99	21.19	18.03
			75	0	75	0	23.58	22.58	22.65	20.68	21.20	20.20	20.20	18.20	23.20	22.20	22.20	20.20	21.08	20.04	20.06	18.11
	2547.5	2562.5	1	74	1	0	25.70	24.70	23.70	20.55	23.17	22.09	21.19	18.15	25.09	24.06	23.09	19.98	23.16	22.20	21.20	18.09
			75	0	75	0	23.70	22.70	22.70	20.70	21.10	20.18	20.15	18.12	23.08	22.04	22.08	20.05	21.20	20.14	20.15	18.16

OUTPUT POWER FOR LTE BAND 7 (15.0MHz + 20.0MHz)

Bandwidth	PCC	SCC1	PCC	PCC	SCC1	SCC1	Conducted Average (dBm)															
	Frequency	Frequency	RB	RB	RB	RB	ANT 1				ANT 2				ANT 3				ANT 4			
	(MHz)	(MHz)	Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
15MHz / 20MHz	2507.8	2524.9	1	74	1	0	25.56	24.59	23.58	20.37	23.09	22.07	21.08	17.99	25.01	23.95	22.91	19.96	23.20	22.20	21.20	18.04
			75	0	100	0	23.59	22.58	22.58	20.48	21.17	20.12	20.10	18.15	22.99	21.94	21.95	19.93	21.20	20.20	20.17	18.20
	2525.3	2542.4	1	74	1	0	25.39	24.42	23.26	20.52	23.20	22.10	21.20	18.08	25.20	24.15	23.01	19.99	23.09	22.13	21.15	18.00
			75	0	100	0	23.48	22.44	22.45	20.51	21.20	20.20	20.17	18.20	23.20	22.20	22.20	20.20	21.05	20.08	20.11	18.07
	2542.9	2560.0	1	74	1	0	25.70	24.70	23.70	20.43	23.11	22.20	21.19	18.13	25.09	24.20	23.20	19.90	23.12	22.10	21.17	17.98
			75	0	100	0	23.70	22.70	22.70	20.70	21.15	20.20	20.20	18.18	23.06	22.01	22.08	20.04	21.19	20.19	20.20	18.20

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 15.0MHz)

Bandwidth	PCC	SCC1	PCC		SCC1		Conducted Average (dBm)															
	Frequency	Frequency	RB	RB	RB	RB	ANT 1				ANT 2				ANT 3				ANT 4			
	(MHz)	(MHz)	Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 15MHz	2510.0	2527.1	1	99	1	0	25.70	24.70	23.70	20.36	23.07	22.20	21.20	17.71	25.12	24.20	23.05	19.99	23.20	22.16	21.20	18.01
			100	0	75	0	23.70	22.70	22.64	20.63	21.11	20.04	20.05	18.05	22.87	21.91	21.94	19.92	21.17	20.20	20.20	18.20
	2527.6	2544.7	1	99	1	0	25.49	24.41	23.58	20.23	23.05	22.04	20.98	17.98	25.20	24.20	23.20	20.06	23.07	22.01	21.10	17.88
			100	0	75	0	23.53	22.62	22.59	20.52	21.10	20.11	20.10	18.15	23.20	22.20	22.20	20.20	21.07	20.08	20.01	18.06
	2545.1	2562.2	1	99	1	0	25.61	24.34	23.65	20.68	23.20	22.11	21.17	18.04	25.13	24.13	23.02	19.83	23.17	22.20	21.13	18.03
			100	0	75	0	23.52	22.67	22.70	20.70	21.20	20.20	20.20	18.20	23.04	22.03	22.06	20.10	21.20	20.14	20.09	18.19

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB		SCC1 RB		Conducted Average (dBm)																
			Size	Offset	Size	Offset	ANT 1				ANT 2				ANT 3				ANT 4				
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	
20MHz/ 20MHz	2510.0	2529.8	1	99	1	0	25.70	24.70	23.70	20.70	23.14	22.06	20.98	18.20	24.96	24.16	23.20	19.91	23.20	22.06	21.05	18.20	
			1	0	1	99	17.20	17.20	17.20	17.20	14.60	14.59	14.56	14.70	16.19	16.22	16.24	16.31	14.70	14.70	14.57	14.51	
			100	0	100	0	24.70	23.70	22.70	20.70	22.13	21.11	20.09	18.01	24.12	23.18	22.18	20.17	22.10	21.20	20.20	18.20	
			1	99	0	100	0	25.56	24.60	23.64	20.66	23.14	22.20	20.98	18.12	25.20	24.19	23.10	20.20	22.82	22.20	21.16	17.93
			1	0	1	99	17.20	17.01	17.06	16.97	14.64	14.66	14.70	14.65	16.49	16.59	16.63	16.29	14.64	14.55	14.70	14.51	
			100	0	100	0	24.56	23.55	22.52	20.59	22.20	21.18	20.14	18.05	24.20	23.20	22.20	20.20	22.08	21.12	20.03	18.05	
	2540.2	2560.0	1	99	1	0	25.65	24.55	23.44	20.69	23.20	22.11	21.20	18.17	25.11	24.20	23.08	19.99	22.93	22.00	21.20	17.83	
			1	0	1	99	17.09	16.96	17.01	17.07	14.70	14.70	14.58	14.65	16.70	16.70	16.70	16.70	14.59	14.64	14.56	14.70	
			100	0	100	0	24.63	23.54	22.57	20.67	22.20	21.20	20.20	18.20	24.11	23.14	22.10	20.15	22.13	21.13	20.06	18.05	

8.1.3. LTE BAND 41

Test Engineer ID:	25780	Test Date:	9/3/2024
-------------------	-------	------------	----------

OUTPUT POWER FOR LTE BAND 41 (5.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB		SCC1 RB		Conducted Average (dBm)															
			Size	Offset	Size	Offset	ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz / 20MHz	2499.3	2511.0	1	24	1	0	22.24	22.34	22.39	21.20	22.99	22.60	22.68	21.50	21.92	21.93	22.02	20.70	21.90	22.04	22.15	20.80
			25	0	100	0	22.61	22.63	22.70	21.20	22.94	22.97	23.00	21.50	22.11	22.10	22.13	20.70	22.20	22.24	22.30	20.78
	2583.8	2595.5	1	24	1	0	28.70	27.20	26.70	22.70	28.70	27.20	26.70	22.70	27.90	26.39	26.00	22.00	28.00	26.50	26.00	22.00
			25	0	100	0	26.70	25.70	25.70	22.70	26.70	25.70	25.70	22.70	26.00	25.00	25.00	22.00	26.00	25.00	25.00	22.00
	2668.3	2680.0	1	24	1	0	27.70	26.20	25.70	21.70	28.00	26.50	26.00	22.00	27.20	25.70	25.20	21.20	27.30	25.80	25.30	21.30
			25	0	100	0	25.70	24.70	24.70	21.70	26.00	25.00	25.00	22.00	25.20	24.20	24.20	21.20	25.30	24.30	24.30	21.30

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)															
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 5MHz	2506.0	2517.7	1	99	1	0	26.70	26.20	25.70	21.70	27.00	26.50	26.00	22.00	25.96	25.38	24.98	21.20	26.30	25.80	25.30	21.30
			100	0	25	0	22.70	22.70	22.70	21.20	23.00	23.00	23.00	21.31	22.20	22.17	22.20	20.70	22.30	22.30	22.30	20.75
	2590.5	2602.2	1	99	1	0	28.70	27.20	26.70	22.43	28.70	27.20	26.70	22.70	27.82	26.29	25.96	21.83	28.00	26.50	26.00	22.00
			100	0	25	0	26.70	25.70	25.70	22.70	26.70	25.70	25.70	22.44	26.00	25.00	25.00	22.00	26.00	25.00	25.00	21.79
	2675.0	2686.7	1	99	1	0	27.70	26.20	25.70	21.41	28.00	26.50	26.00	21.79	27.20	25.70	25.20	21.20	27.30	25.80	25.20	21.30
			100	0	25	0	25.70	24.70	24.70	21.70	26.00	25.00	25.00	22.00	25.20	24.20	24.20	21.18	25.30	24.30	24.30	20.98

OUTPUT POWER FOR LTE BAND 41 (10.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB		SCC1 RB		Conducted Average (dBm)															
			Size	Offset	Size	Offset	ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz / 20MHz	2501.5	2515.9	1	49	1	0	22.50	22.57	22.56	20.73	22.70	22.76	22.81	21.22	21.94	21.95	22.08	20.20	22.21	22.20	22.30	20.71
			50	0	100	0	22.70	22.70	22.70	21.20	23.00	23.00	23.00	21.50	22.18	22.14	22.16	20.70	22.30	22.29	22.30	20.80
	2583.6	2598.0	1	49	1	0	28.70	27.20	26.7	22.54	28.70	27.20	26.70	22.60	27.79	26.36	26.00	21.89	28.00	26.50	26.00	21.90
			50	0	100	0	26.70	25.70	25.7	22.70	26.70	25.70	25.70	22.70	26.00	25.00	25.00	22.00	26.00	25.00	25.00	22.00
	2665.6	2680.0	1	49	1	0	27.70	26.20	25.70	21.53	28.00	26.50	26.00	21.87	27.11	25.70	25.20	21.01	27.30	25.80	25.30	21.08
			50	0	100	0	25.70	24.70	24.70	21.70	26.00	25.00	25.00	22.00	25.20	24.20	24.20	21.2	25.30	24.30	24.30	21.30

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 10.0MHz)

Bandwidth	PCC	SCC1	PCC	PCC	SCC1	SCC1	Conducted Average (dBm)															
	Frequency	Frequency	RB	RB	RB	RB	ANT 1				ANT 2				ANT 3				ANT 4			
	(MHz)	(MHz)	Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 10MHz	2506.0	2520.4	1	99	1	0	26.70	26.20	25.70	21.70	26.98	26.44	26.00	21.98	25.94	25.38	24.87	21.20	26.30	25.80	25.30	21.30
			100	0	50	0	22.67	22.70	22.69	21.20	22.89	22.97	23.00	21.50	22.19	22.12	22.13	20.78	22.25	22.27	22.30	21.01
	2588.1	2602.5	1	99	1	0	28.70	27.20	26.70	22.58	28.70	27.20	26.70	22.70	27.78	26.38	25.95	21.92	28.00	26.50	26.00	22.00
			100	0	50	0	26.70	25.70	25.70	22.70	26.70	25.70	25.70	22.29	26.00	25.00	25.00	22.00	26.00	25.00	25.00	21.81
	2670.1	2684.5	1	99	1	0	27.70	26.20	25.70	21.61	28.00	26.50	26.00	21.91	27.20	25.70	25.20	21.14	27.30	25.80	25.30	21.22
			100	0	50	0	25.70	24.70	24.70	21.70	26.00	25.00	25.00	22.00	25.20	24.20	24.20	21.20	25.30	24.30	24.30	21.30

OUTPUT POWER FOR LTE BAND 41 (15.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC		SCC1		Conducted Average (dBm)															
			RB	Offset	RB	Offset	ANT 1				ANT 2				ANT 3				ANT 4			
			Size		Size		QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
15MHz / 15MHz	2503.5	2518.5	1	74	1	0	27.68	26.20	25.70	21.45	28.00	26.50	26.00	21.96	27.10	25.62	25.20	21.13	26.95	25.58	25.03	21.23
			75	0	75	0	22.70	22.66	22.67	21.20	22.94	23.00	22.99	21.50	22.18	22.20	22.20	20.70	22.05	22.08	22.30	20.76
	2585.5	2600.5	1	74	1	0	28.70	27.20	26.70	22.45	28.70	27.20	26.70	22.68	28.00	26.50	26.00	21.90	28.00	26.50	26.00	21.98
			75	0	75	0	26.70	25.70	25.70	22.45	26.70	25.70	25.70	22.70	26.00	25.00	25.00	21.86	26.00	25.00	25.00	22.00
	2667.5	2682.5	1	74	1	0	27.70	26.20	25.70	21.43	28.00	26.50	26.00	21.98	27.20	25.70	25.20	21.20	27.30	25.80	25.30	21.30
			75	0	75	0	25.70	24.70	24.70	21.45	26.00	25.00	25.00	22.00	25.20	24.20	24.20	21.18	25.30	24.30	24.30	21.30

OUTPUT POWER FOR LTE BAND 41 (15.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)
-----------	---------------------	----------------------

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)															
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 15MHz	2506.0	2523.1	1	99	1	0	27.70	26.20	25.70	21.70	28.00	26.50	26.00	22.00	27.00	25.70	25.20	21.20	27.30	25.74	25.30	21.30
			100	0	75	0	22.70	22.68	22.67	21.20	22.94	23.00	22.98	21.50	22.19	22.14	22.20	20.70	22.11	22.18	22.30	20.80
	2585.6	2602.7	1	99	1	0	28.70	27.20	26.70	22.70	28.70	27.20	26.70	22.70	28.00	26.50	26.00	22.00	28.00	26.48	26.00	21.91
			100	0	75	0	26.70	25.70	25.70	22.70	26.70	25.70	25.70	22.70	26.00	25.00	25.00	22.00	26.00	25.00	25.00	22.00
	2665.1	2682.2	1	99	1	0	27.70	26.20	25.70	21.70	28.00	26.50	26.00	22.00	27.20	25.70	25.20	21.20	27.30	25.80	25.30	21.30
			100	0	75	0	25.70	24.70	24.70	21.70	26.00	25.00	25.00	22.00	25.20	24.20	24.20	21.20	25.3	24.30	24.30	21.17

OUTPUT POWER FOR LTE BAND 41 (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 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz/ 20MHz	2506.0	2525.8	1	99	1	0	27.48	25.99	25.39	21.70	27.59	26.28	25.61	22.00	26.84	25.29	24.84	21.20	27.02	25.48	25.02	21.18
			1	0	1	99	14.57	14.57	14.54	14.70	14.99	14.88	14.94	15.00	14.15	14.16	14.20	13.90	14.15	14.16	14.25	14.27
			100	0	100	0	22.69	22.70	22.66	21.54	23.00	22.97	23.00	21.69	22.18	22.20	22.19	20.83	22.16	22.18	22.28	20.77
			1	99	1	0	28.70	27.20	26.70	22.67	28.70	27.20	26.70	22.70	28.00	26.50	26.00	22.00	27.75	26.27	25.88	22.00
	2583.1	2602.9	1	0	1	99	20.20	20.13	20.09	20.18	20.12	20.08	20.18	20.20	19.43	19.27	19.42	19.50	19.44	19.48	19.43	19.50
			100	0	100	0	27.70	26.70	25.70	22.70	27.70	26.70	25.70	22.31	27.00	26.00	25.00	21.97	27.00	26.00	25.00	21.58
			1	99	1	0	27.70	26.20	25.70	21.70	28.00	26.50	26.00	22.00	27.20	25.70	25.20	21.20	27.01	25.61	25.05	21.17
			1	0	1	99	19.18	19.12	19.20	19.18	19.42	19.38	19.47	19.50	18.70	18.68	18.61	18.24	18.73	18.69	18.74	18.80
	2660.2	2680.0	100	0	100	0	26.70	25.70	24.70	21.70	27.00	26.00	25.00	22.00	26.20	25.20	24.20	21.20	26.27	25.24	24.22	21.24

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. Only QPSK plots are reported to show setting parameter complies with testing method/procedure.

LTE BAND 5

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)	
LTE BAND 5	5MHz + 10MHz BAND QPSK	25/0 + 50/0	836.5	13.863	14.56	
	5MHz + 10MHz BAND 16QAM			13.883	14.61	
	10MHz + 5MHz BAND QPSK	50/0 + 25/0		13.844	14.46	
	10MHz + 5MHz BAND 16QAM			13.833	14.43	
	10MHz + 10MHz BAND QPSK	50/0 + 50/0		18.725	19.39	
	10MHz + 10MHz BAND 16QAM			18.707	19.48	

LTE Band 7

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 7	10MHz + 20MHz BAND QPSK	50/0 + 100/0	2535	28.227	30.38
	10MHz + 20MHz BAND 16QAM			28.161	30.29
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		28.197	30.43
	20MHz + 10MHz BAND 16QAM			28.130	30.16
	15MHz + 15MHz BAND QPSK	75/0 + 75/0		28.750	31.06
	15MHz + 15MHz BAND 16QAM			28.707	30.90
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		33.044	35.46
	15MHz + 20MHz BAND 16QAM			32.987	35.25
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		33.028	35.27
	20MHz + 15MHz BAND 16QAM			32.978	35.30
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.891	40.44
	20MHz + 20MHz BAND 16QAM			37.818	40.45

LTE BAND 41

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 41 (FCC)	5MHz + 20MHz BAND QPSK	25/0 + 100/0	2593	23.427	29.93
	5MHz + 20MHz BAND 16QAM			23.383	30.40
	20MHz + 5MHz BAND QPSK	100/0 + 25/0		23.389	27.08
	20MHz + 5MHz BAND 16QAM			23.314	26.68
	10MHz + 20MHz BAND QPSK	50/0 + 100/0		28.210	37.21
	10MHz + 20MHz BAND 16QAM			28.121	35.12
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		28.150	34.95
	20MHz + 10MHz BAND 16QAM			28.072	34.19
	15MHz + 15MHz BAND QPSK	75/0 + 75/0		28.724	38.13
	15MHz + 15MHz BAND 16QAM			28.656	36.11
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		33.077	45.97
	15MHz + 20MHz BAND 16QAM			32.921	45.97
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		32.959	44.41
	20MHz + 15MHz BAND 16QAM			32.904	41.59
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.899	47.36
	20MHz + 20MHz BAND 16QAM			37.793	50.35

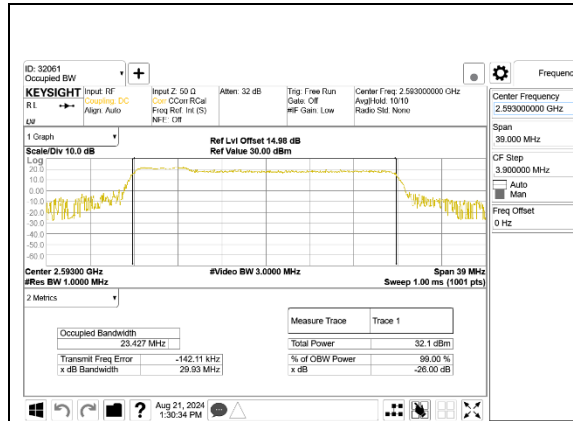
9.1.1. LTE BAND 5



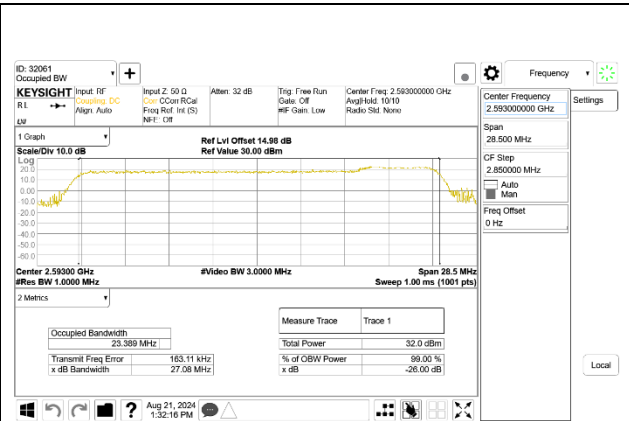
9.1.2. LTE BAND 7



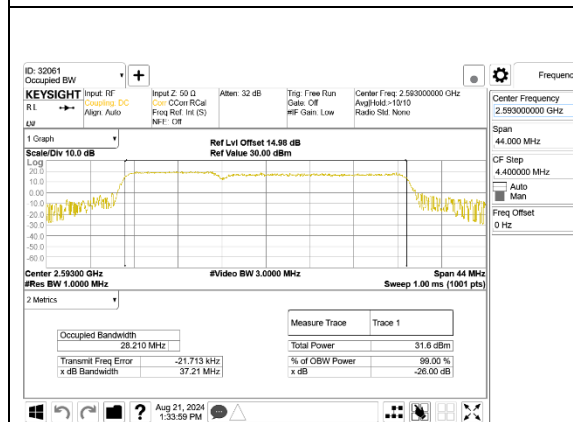
9.1.3. LTE BAND 41



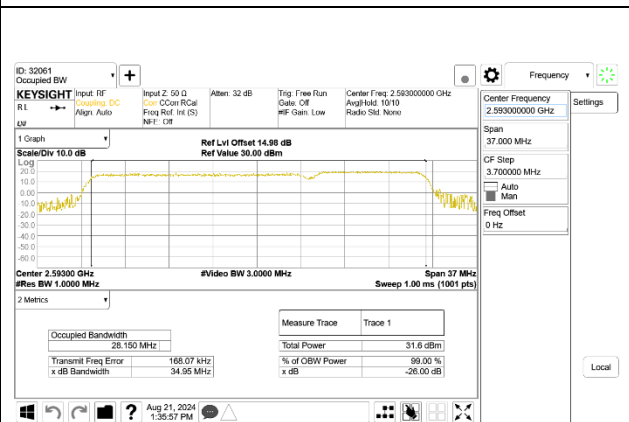
LTE B41 5MHz + 20MHz QPSK RB25-0 + RB100-0



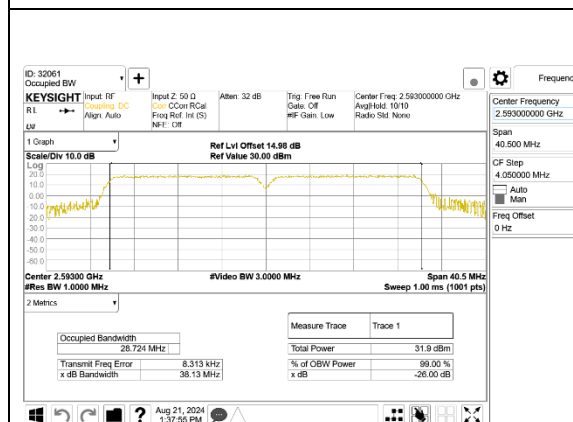
LTE B41 20MHz + 5MHz QPSK RB100-0 + RB25-0



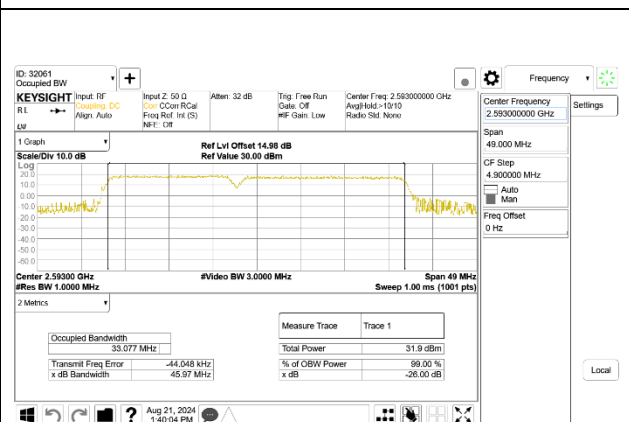
LTE B41 10MHz + 20MHz QPSK RB50-0 + RB100-0



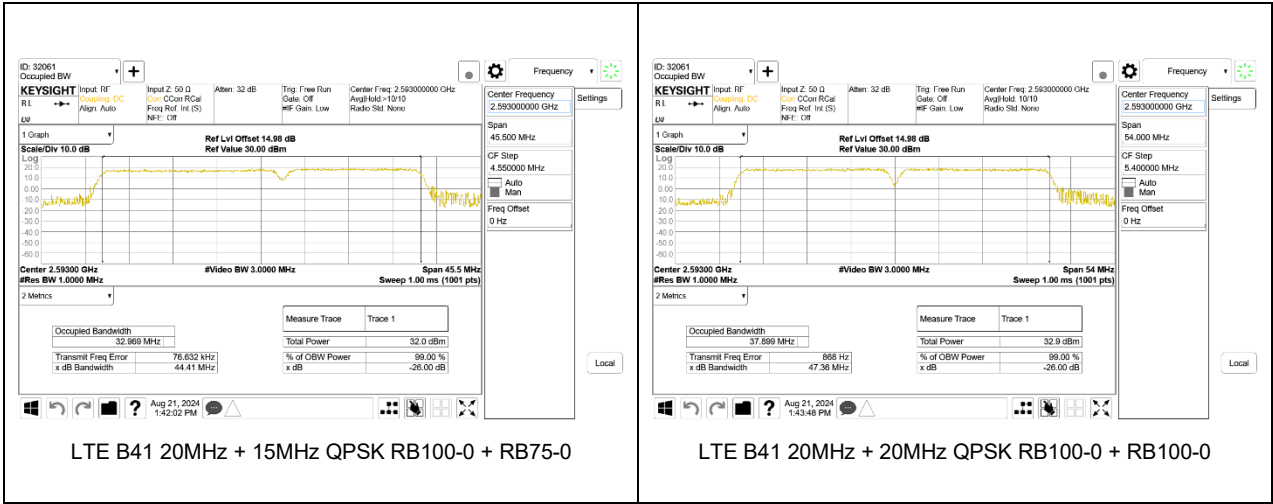
LTE B41 20MHz + 10MHz QPSK RB100-0 + RB50-0



LTE B41 15MHz + 15MHz QPSK RB75-0 + RB75-0



LTE B41 15MHz + 20MHz QPSK RB75-0 + RB100-0



9.2. BAND EDGE AND EMISSION MASK

TEST PROCEDURE

The transmitter output was connected to a R&S CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

For each band edge measurement:

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

TEST PROCEDURE FOR FCC PART 27

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

RESULTS

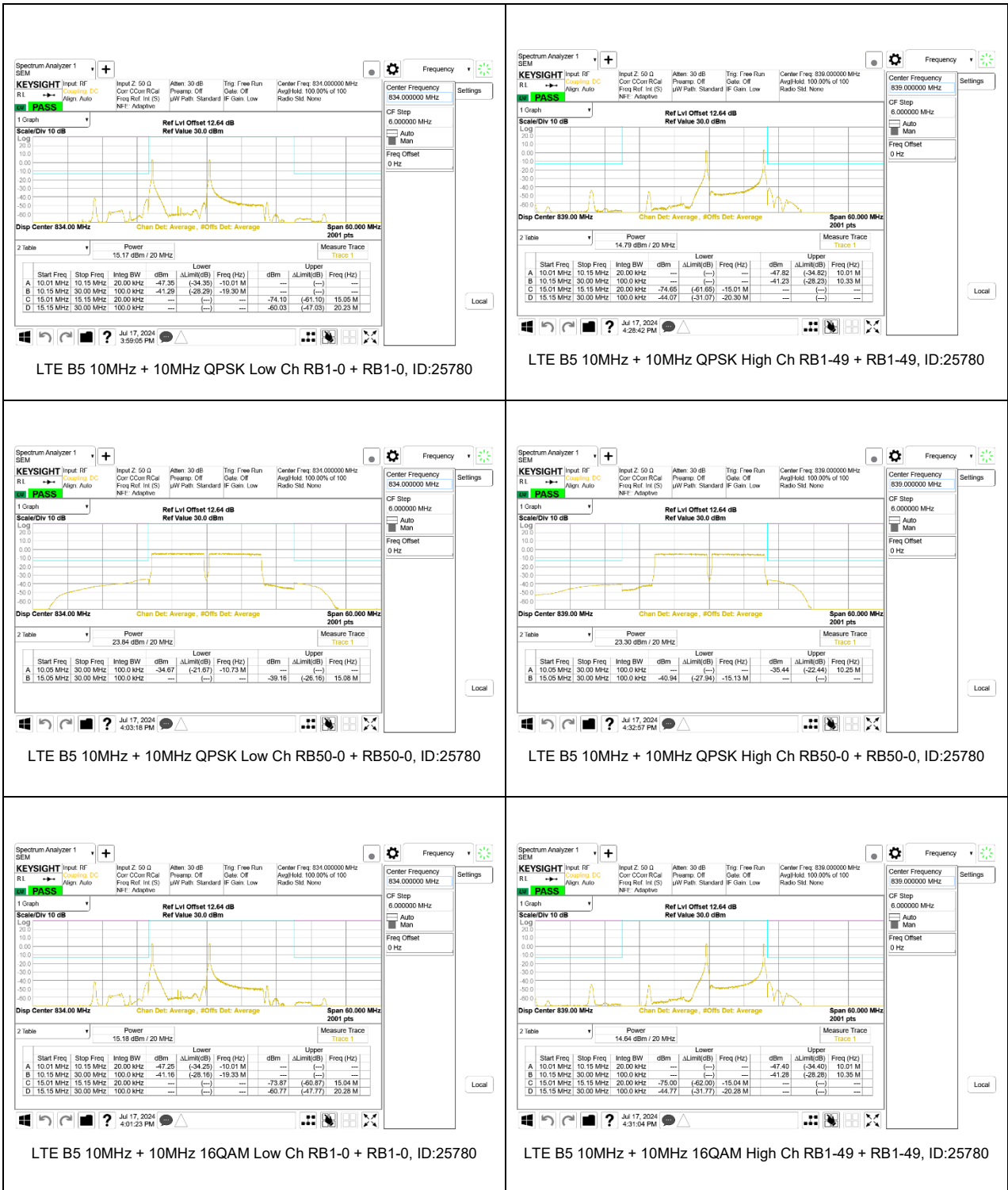
Both maximum + maximum bandwidth combinations of QPSK and 16QAM modes are tested, QPSK results are reported as worst case.

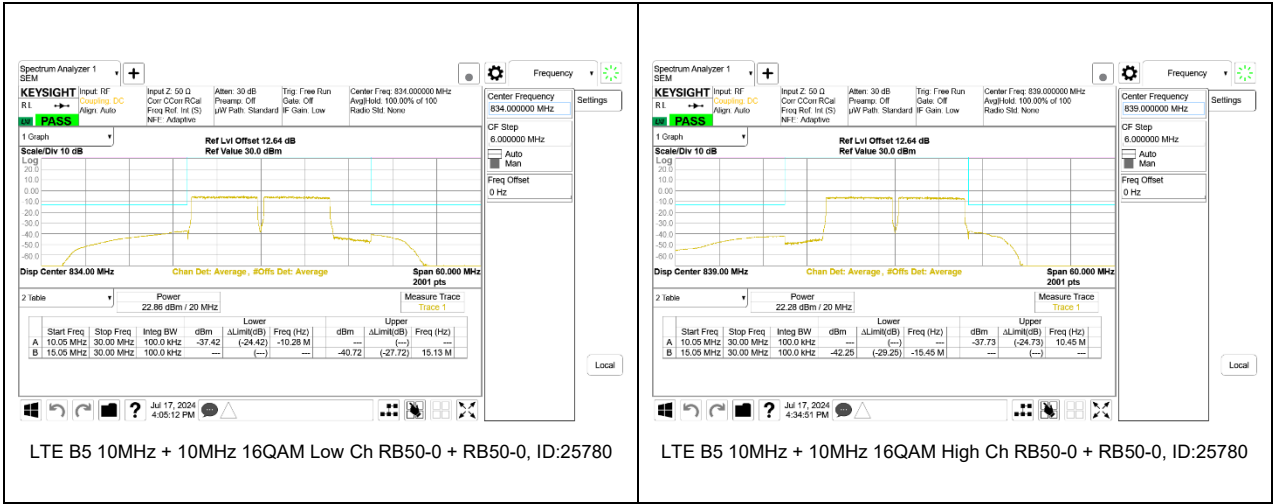
9.2.1. LTE BAND 5

LIMITS

FCC: §22.917

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

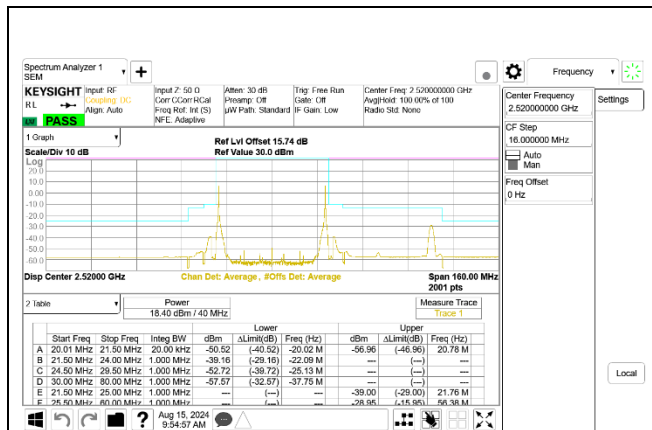




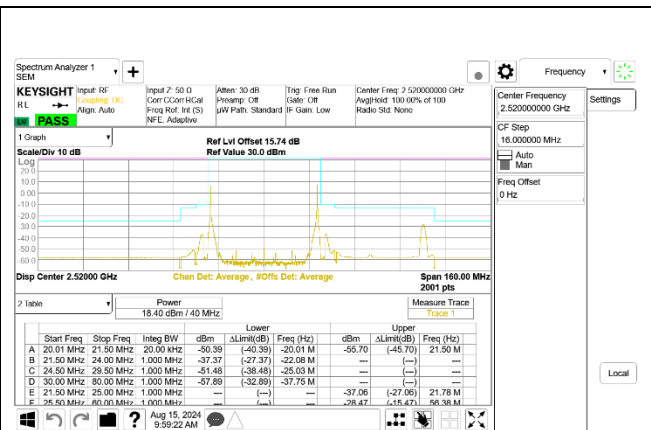
9.2.2. LTE BAND 7

LIMITS

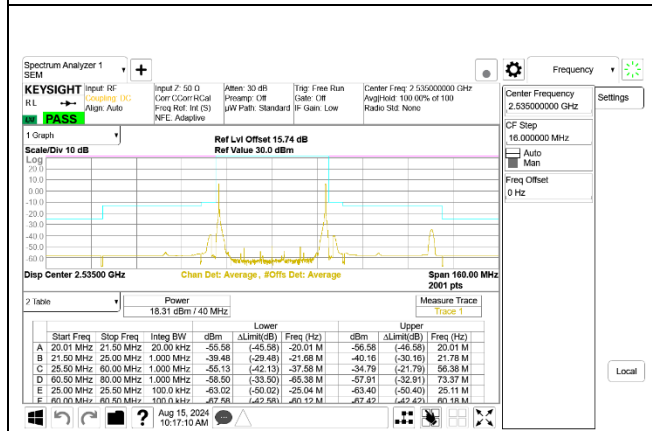
FCC: §27.53(m)(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and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



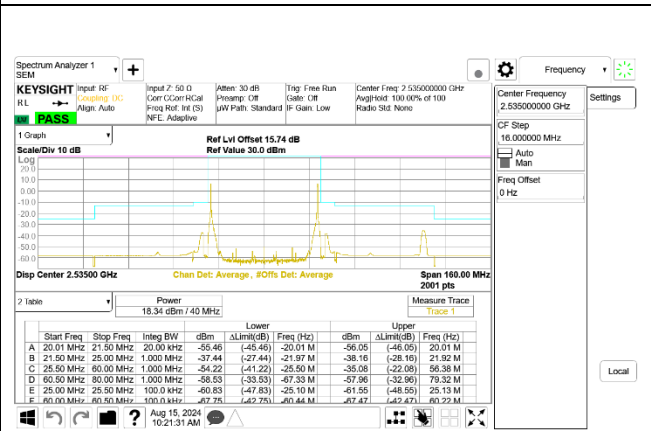
LTE B7 20MHz + 20MHz QPSK Low Ch RB1-0 + RB1-99, ID:25780



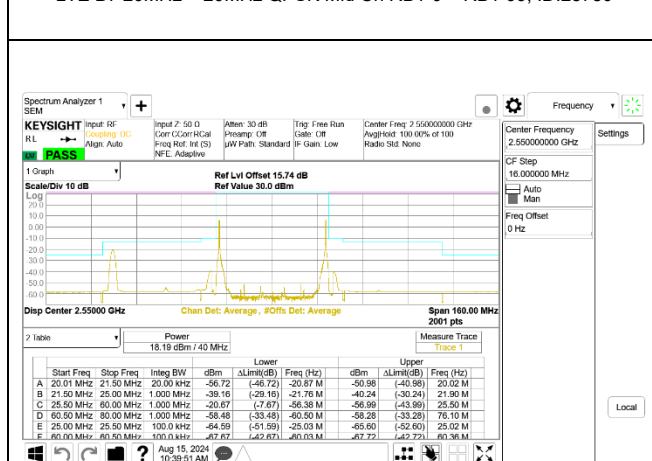
LTE B7 20MHz + 20MHz 16QAM Low Ch RB1-0 + RB1-99, ID:25780



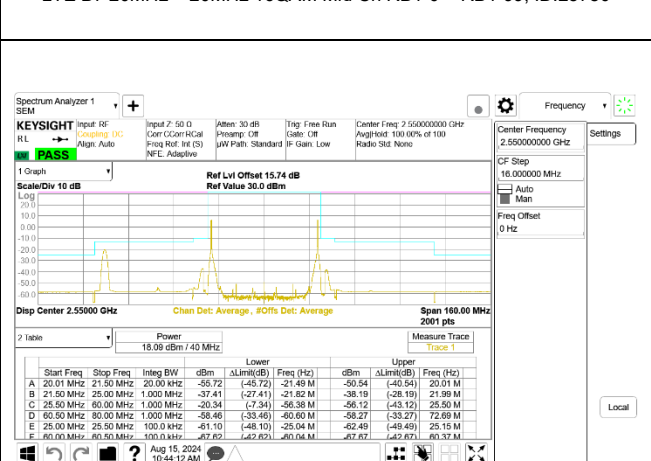
LTE B7 20MHz + 20MHz QPSK Mid Ch RB1-0 + RB1-99, ID:25780



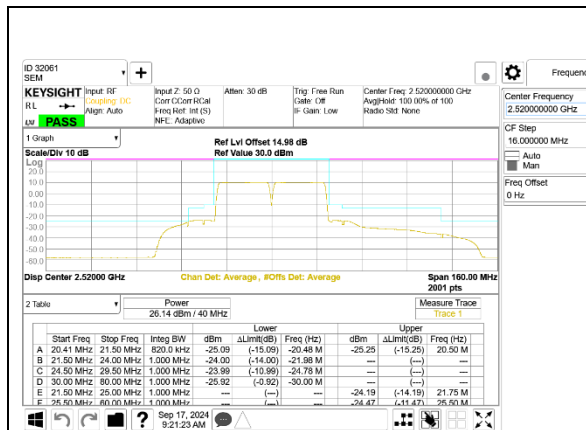
LTE B7 20MHz + 20MHz 16QAM Mid Ch RB1-0 + RB1-99, ID:25780



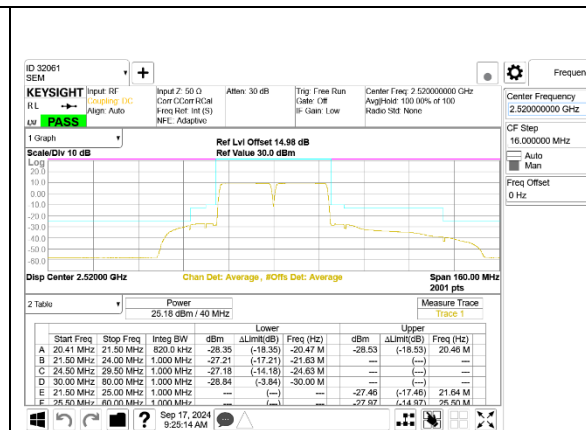
LTE B7 20MHz + 20MHz QPSK High Ch RB1-0 + RB1-99, ID:25780



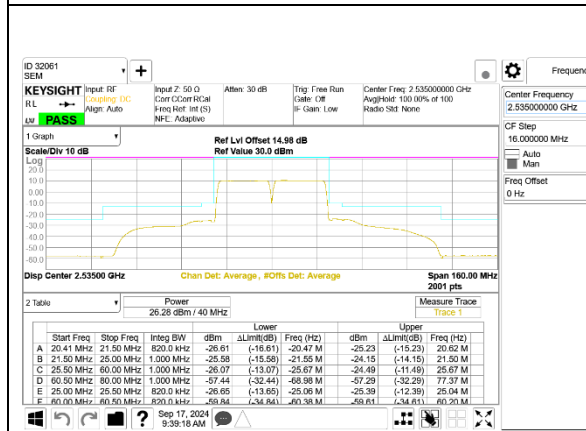
LTE B7 20MHz + 20MHz 16QAM High Ch RB1-0 + RB1-99, ID:25780



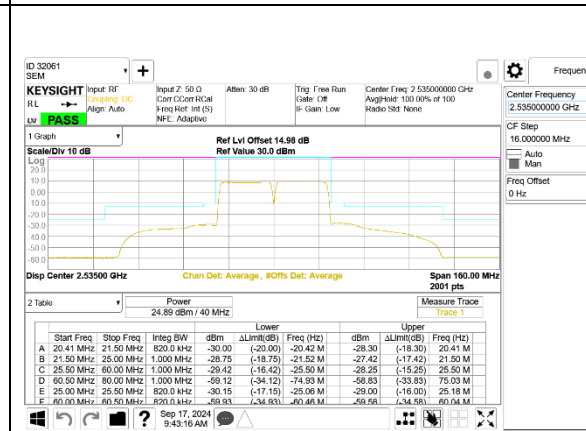
LTE B7 20MHz + 20MHz QPSK Low Ch RB100-0 + RB100-0



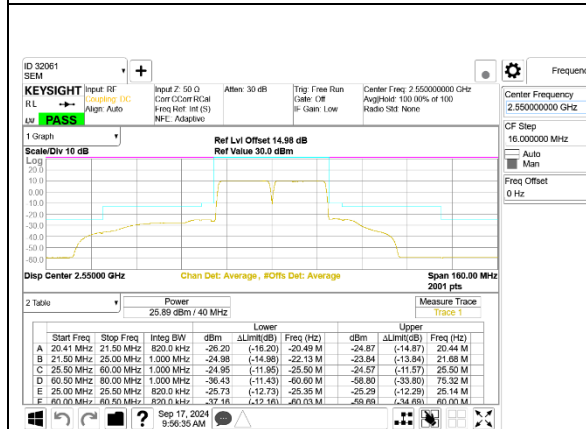
LTE B7 20MHz + 20MHz 16QAM Low Ch RB100-0 + RB100-0



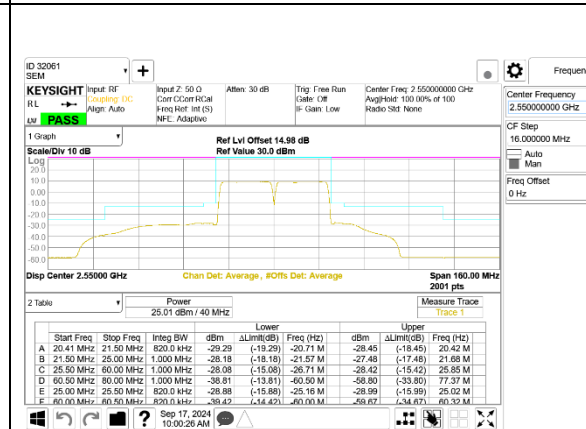
LTE B7 20MHz + 20MHz QPSK Mid Ch RB100-0 + RB100-0



LTE B7 20MHz + 20MHz 16QAM Mid Ch RB100-0 + RB100-0, ID:25780



LTE B7 20MHz + 20MHz QPSK High Ch RB100-0 + RB100-0

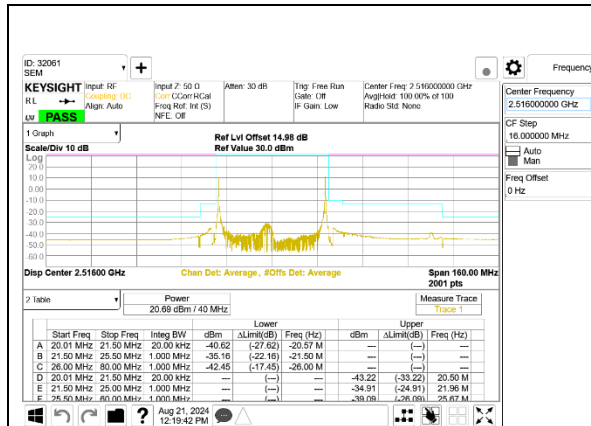


LTE B7 20MHz + 20MHz 16QAM High Ch RB100-0 + RB100-0

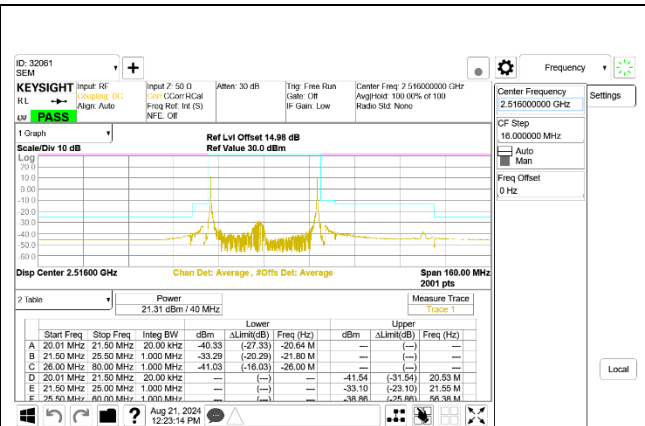
9.2.3. LTE BAND 41

LIMITS

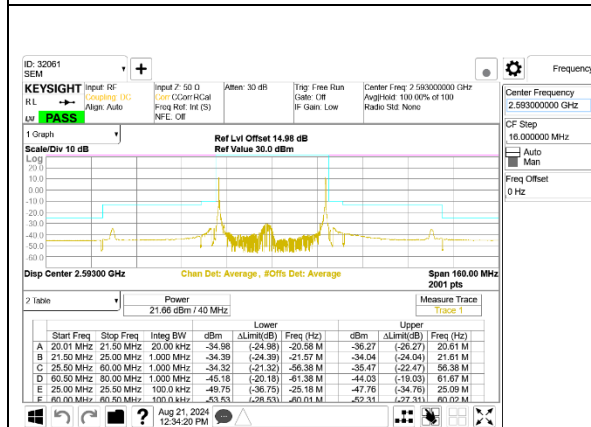
FCC: §27.53(m)(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and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



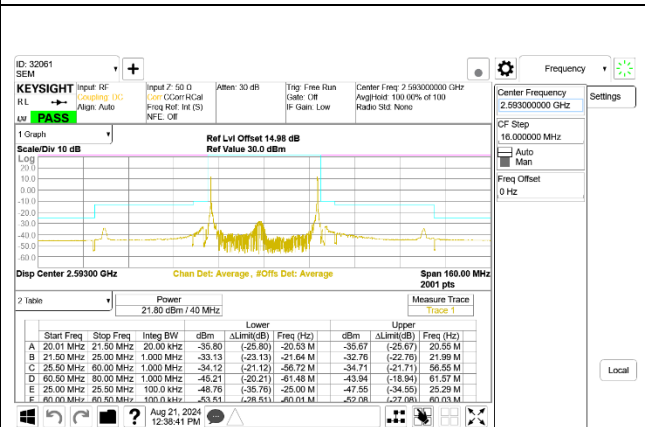
LTE B41 20MHz + 20MHz QPSK Low Ch RB1-0 + RB1-99



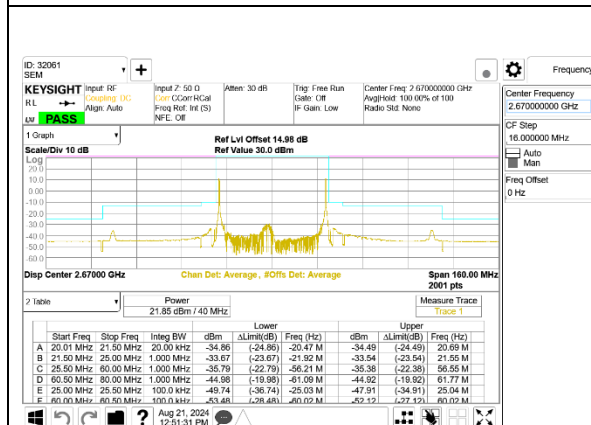
LTE B41 20MHz + 20MHz 16QAM Low Ch RB1-0 + RB1-99



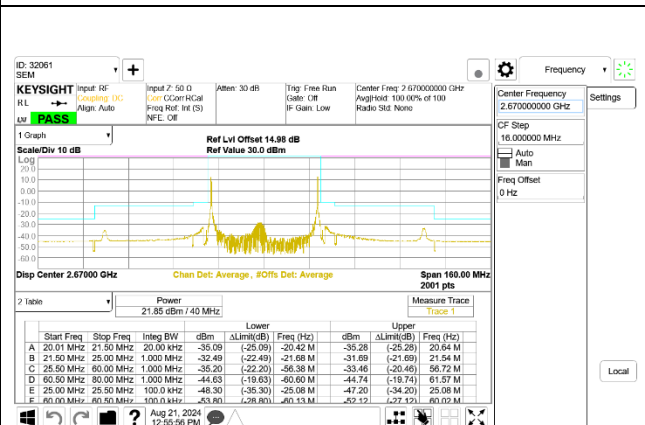
LTE B41 20MHz + 20MHz QPSK Mid Ch RB1-0 + RB1-99



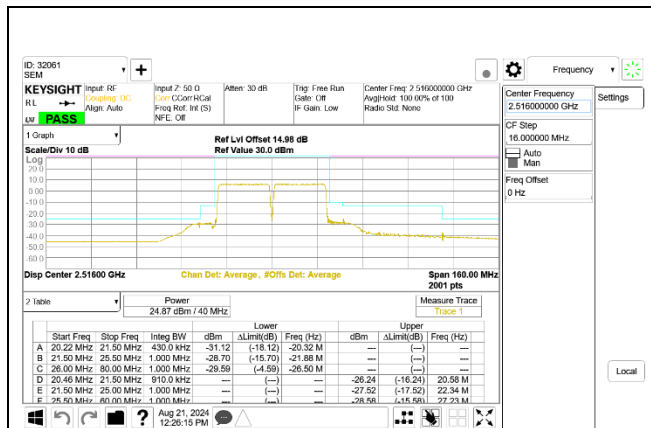
LTE B41 20MHz + 20MHz 16QAM Mid Ch RB1-0 + RB1-99



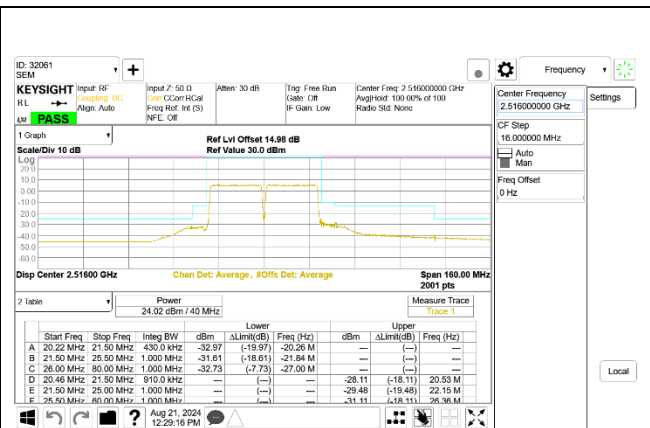
LTE B41 20MHz + 20MHz QPSK High Ch RB1-0 + RB1-99



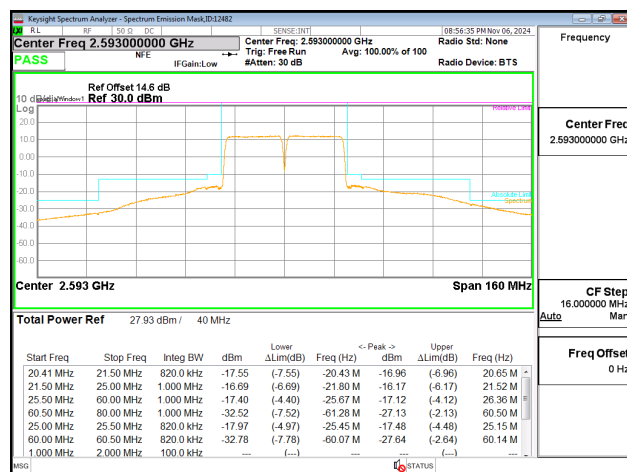
LTE B41 20MHz + 20MHz 16QAM High Ch RB1-0 + RB1-99



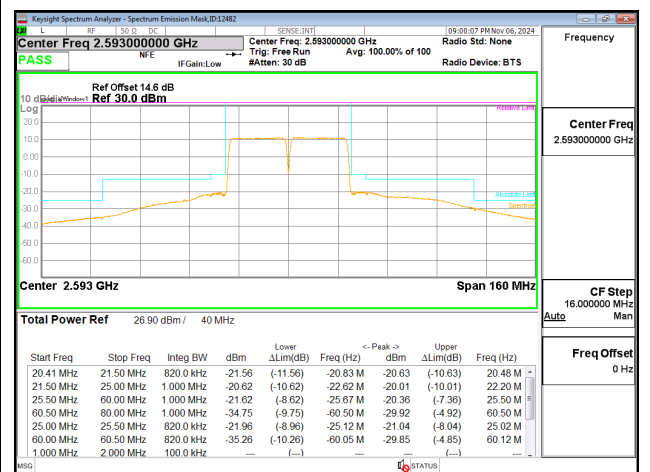
LTE B41 20MHz + 20MHz QPSK Low Ch RB100-0 + RB100-0



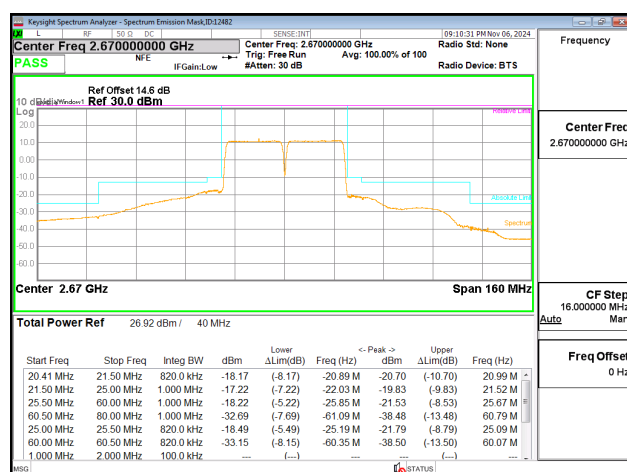
LTE B41 20MHz + 20MHz 16QAM Low Ch RB100-0 + RB100-0



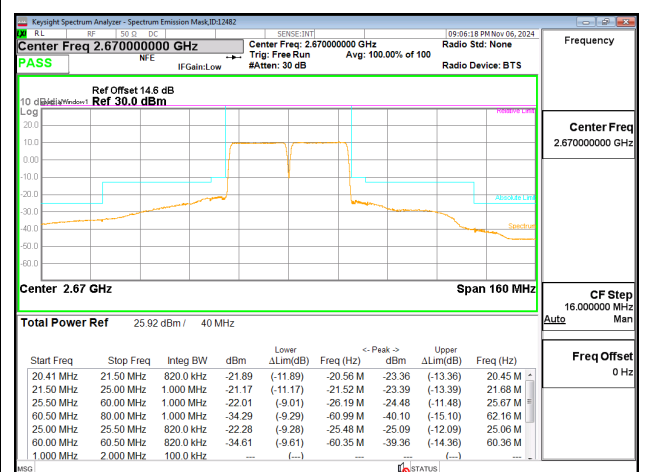
LTE B41 20MHz + 20MHz QPSK Mid Ch RB100-0 + RB100-0



LTE B41 20MHz + 20MHz 16QAM Mid Ch RB100-0 + RB100-0



LTE B41 20MHz + 20MHz QPSK High Ch RB100-0 + RB100-0



LTE B41 20MHz + 20MHz 16QAM High Ch RB100-0 + RB100-0

9.3. OUT OF BAND EMISSIONS

TEST PROCEDURE

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

For each out of band emissions measurement:

- Set display line at -13 dBm to band 5 and -25 dBm to band 7 and 41
- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.
(NOTE: Worst case set RBW/VBW to 1MHz/3MHz)

RESULTS

Both maximum + maximum bandwidth combinations of QPSK and 16QAM modes are tested, QPSK results are reported as worst case.

9.3.1. LTE BAND 5

LIMITS

FCC: §22.917
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.



9.3.2. LTE BAND 7

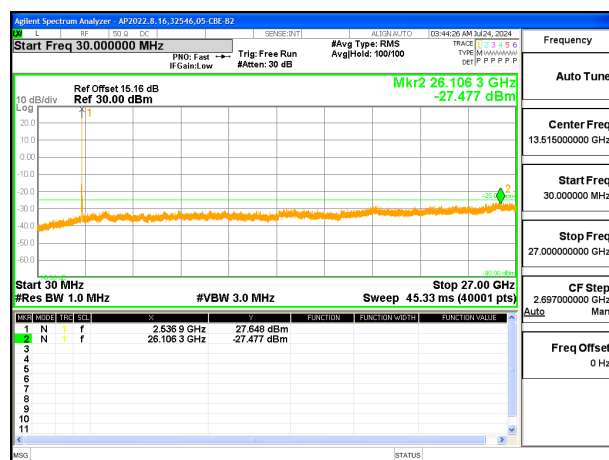
LIMITS

FCC: §27.53 (m)

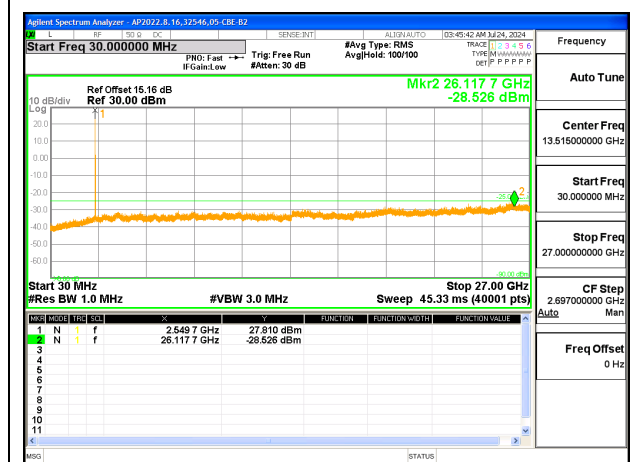
The minimum permissible attenuation level of any spurious emissions is $55 + 10 \log (P)$ dB where transmitting power (P) in Watts.



LTE B7 20MHz + 20MHz QPSK Low Ch RB1-99 + RB1-0



LTE B7 20MHz + 20MHz QPSK Middle Ch RB1-99 + RB1-0



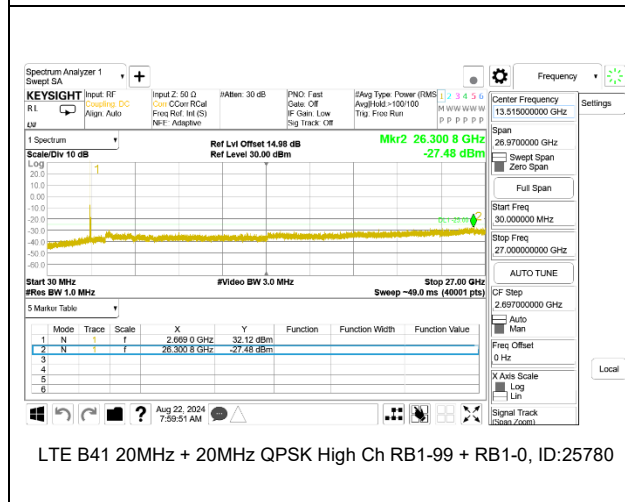
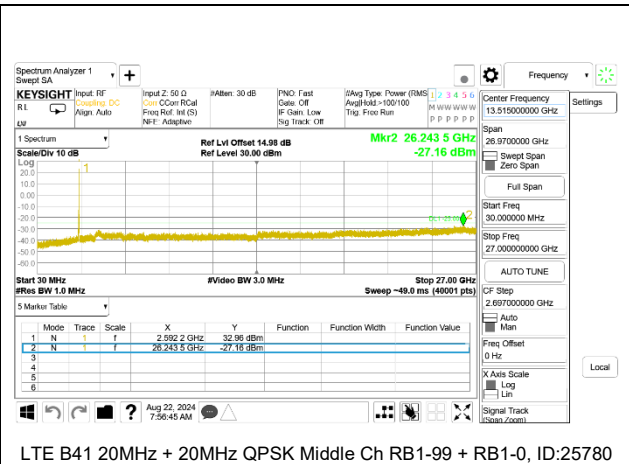
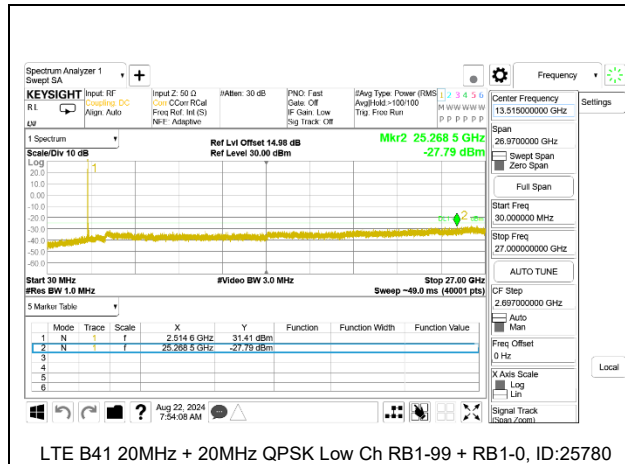
LTE B7 20MHz + 20MHz QPSK High Ch RB1-99 + RB1-0

9.3.3. LTE BAND 41

LIMITS

FCC: §27.53 (m)

The minimum permissible attenuation level of any spurious emissions is $55 + 10 \log (P)$ dB where transmitting power (P) in Watts.



9.4. FREQUENCY STABILITY

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- Temp. = -30°C to +50°C

- Voltage = (85% - 115%)

Low voltage, 3.23VDC, Normal, 3.8VDC and High voltage, 4.37VDC.

End Voltage, 3.2VDC.

Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to 20°C and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until +50°C is reached.

Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

RESULTS

See the following pages.

9.4.1. LTE BAND 5

LIMITS

FCC §22.355

The carrier frequency shall not depart from the reference frequency in excess of ± 2.5 ppm for mobile stations.

Test Engineer ID:	12482	Test Date:	8/26/2024
-------------------	-------	------------	-----------

QPSK (10MHz + 10MHz BANDWIDTH)

Band	5	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		824	849		2.5	
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	824.5728	848.4163			
Extreme (50°C)		824.5728	848.4163	4.5	0.005	Yes
Extreme (40°C)		824.5728	848.4163	7.5	0.009	Yes
Extreme (30°C)		824.5728	848.4163	-3.6	-0.004	Yes
Extreme (10°C)		824.5728	848.4163	-3.3	-0.004	Yes
Extreme (0°C)		824.5728	848.4163	2.5	0.003	Yes
Extreme (-10°C)		824.5728	848.4163	-3.4	-0.004	Yes
Extreme (-20°C)		824.5728	848.4163	-6.8	-0.008	Yes
Extreme (-30°C)		824.5728	848.4163	-3.8	-0.005	Yes
20°C	15%	824.5728	848.4163	-2.8	-0.003	Yes
	-15%	824.5728	848.4163	-3.0	-0.004	Yes
	End Point Voltage	824.5728	848.4163	-1.4	-0.002	Yes

9.4.2. LTE BAND 7

LIMITS

FCC: §27.54

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Engineer ID:	12482	Test Date:	8/27/2024
-------------------	-------	------------	-----------

QPSK (20MHz + 20MHz BANDWIDTH)

Band	7	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2500	2570			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)			
Temperature	Voltage				Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	2501.1414	2568.8628			
Extreme (50°C)		2501.1414	2568.8628	-6.1	-0.002	Yes
Extreme (40°C)		2501.1414	2568.8628	6.7	0.003	Yes
Extreme (30°C)		2501.1414	2568.8628	5.6	0.002	Yes
Extreme (10°C)		2501.1414	2568.8628	6.5	0.003	Yes
Extreme (0°C)		2501.1414	2568.8628	6.1	0.002	Yes
Extreme (-10°C)		2501.1414	2568.8628	6.8	0.003	Yes
Extreme (-20°C)		2501.1414	2568.8628	3.4	0.001	Yes
Extreme (-30°C)		2501.1414	2568.8628	2.2	0.001	Yes
20°C	15%	2501.1414	2568.8628	7.3	0.003	Yes
	-15%	2501.1414	2568.8628	-3.8	-0.001	Yes
	End Point Voltage	2501.1414	2568.8628	-1.9	-0.001	Yes

9.4.3. LTE BAND 41

LIMITS

FCC: §27.54

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Engineer ID:	12482	Test Date:	8/28/2024
-------------------	-------	------------	-----------

QPSK (20MHz + 20MHz BANDWIDTH)

Band	41	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2496	2690		0	Within Authorized Frequency Block (Hz)
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	
Temperature	Voltage					
Normal (20°C)	Normal	2497.0016	2688.9764			
Extreme (50°C)		2497.0017	2688.9765	7.1	0.003	Yes
Extreme (40°C)		2497.0017	2688.9765	6.8	0.003	Yes
Extreme (30°C)		2497.0017	2688.9765	6.5	0.002	Yes
Extreme (10°C)		2497.0017	2688.9765	5.9	0.002	Yes
Extreme (0°C)		2497.0016	2688.9764	-5.9	-0.002	Yes
Extreme (-10°C)		2497.0017	2688.9765	7.0	0.003	Yes
Extreme (-20°C)		2497.0017	2688.9765	6.8	0.003	Yes
Extreme (-30°C)		2497.0017	2688.9765	5.9	0.002	Yes
20°C	15%	2497.0017	2688.9765	7.5	0.003	Yes
	-15%	2497.0016	2688.9764	-8.1	-0.003	Yes
	End Point Voltage	2497.0016	2688.9764	0.2	0.000	Yes

9.5. PEAK-TO-AVERAGE POWER RATIO

LIMIT

In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

RESULT

Test was performed on Antenna 1; full resource block (FRB) for each bandwidth was used to measure as the worst case. The results from all CCDF measurements are passed with 13dB peak-to-average ratio criteria.

9.5.1. LTE BAND 5

Test Engineer ID:	25780	Test Date:	8/22/2024
--------------------------	-------	-------------------	-----------

Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 5	5MHz / 10MHz	831.6	838.8	QPSK	29.91	23.07	6.84
				16QAM	29.89	22.06	7.83
	10MHz / 5MHz	834.3	841.5	QPSK	30.10	22.50	7.60
				16QAM	30.13	21.49	8.64
	10MHz / 10MHz	831.5	841.4	QPSK	30.02	23.05	6.97
				16QAM	29.99	22.11	7.88
Duty Cycle Correction Factor (dB) =			0.00				

9.5.2. LTE BAND 7

Test Engineer ID:	25780	Test Date:	8/22/2024
--------------------------	-------	-------------------	-----------

Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 7	10MHz / 20MHz	2525.6	2540.0	QPSK	30.01	23.32	6.69
				16QAM	29.94	22.34	7.60
	20MHz / 10MHz	2530.1	2544.5	QPSK	30.65	23.66	6.99
				16QAM	30.54	22.65	7.89
	15 MHz / 15MHz	2527.5	2542.5	QPSK	30.56	23.75	6.81
				16QAM	30.33	22.49	7.84
	15MHz / 20MHz	2525.3	2542.4	QPSK	30.19	23.45	6.74
				16QAM	29.89	22.45	7.44
	20MHz / 15MHz	2527.6	2544.7	QPSK	30.54	23.75	6.79
				16QAM	30.41	22.75	7.66
	20MHz / 20MHz	2525.1	2544.9	QPSK	30.48	23.71	6.77
				16QAM	30.41	22.71	7.70
Duty Cycle Correction Factor (dB) =			0.00				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

9.5.3. LTE BAND 41

Test Engineer ID:	25780	Test Date:	8/22/2024
-------------------	-------	------------	-----------

Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 41 (FCC)	5MHz / 20MHz	2583.8	2595.5	QPSK	38.10	23.39	7.72
				16QAM	39.10	21.01	11.10
	20MHz / 5MHz	2590.5	2602.2	QPSK	33.79	20.81	5.99
				16QAM	36.51	19.64	9.88
	10MHz / 20MHz	2583.6	2598.0	QPSK	37.28	20.56	9.73
				16QAM	32.30	18.78	6.53
	20MHz / 10MHz	2588.1	2602.5	QPSK	38.17	21.78	9.40
				16QAM	35.03	19.22	8.82
	15MHz / 15MHz	2585.5	2600.5	QPSK	34.94	20.35	7.60
				16QAM	34.76	19.60	8.17
	15MHz / 20MHz	2583.3	2600.4	QPSK	35.03	20.37	7.67
				16QAM	34.67	19.45	8.23
	20MHz / 15MHz	2585.6	2602.7	QPSK	33.63	20.36	6.28
				16QAM	33.52	19.61	6.92
	20MHz / 20MHz	2583.1	2602.9	QPSK	33.08	20.6	5.49
				16QAM	33.05	19.57	6.49
Duty Cycle Correction Factor (dB) =			6.99				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

10. RADIATED TEST RESULTS

10.1. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 1

Radiated measurement using the Field Strength Method

Using the test configuration shown in Figure 6 below, We measure the radiated emissions directly from the EUT and convert the measured field strength or received power to ERP or EIRP, as required, for comparison to the applicable limits. As stated in 5.5.1 of ANSI C63.26-2015, the field strength measurement method using a test site validated to the requirements of ANSI C63.4 is an alternative to the substitution measurement method.

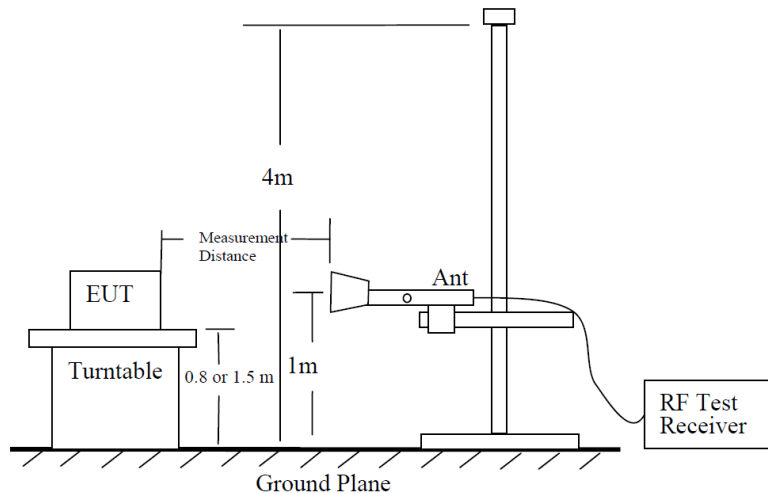


Figure 6—Test site-up for radiated ERP and/or EIRP measurements

Radiated Power Measurement Calculation According to ANSI C63.26-2015

- a) $E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dB}\mu\text{V)} + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}.$
- b) $E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dBm)} + 107 + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}.$
- c) $E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20\log(D) + 104.8;$ where D is the measurement distance (in the far field region) in m.
- d) $\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8;$ where D is the measurement distance (in the far field region) in m.

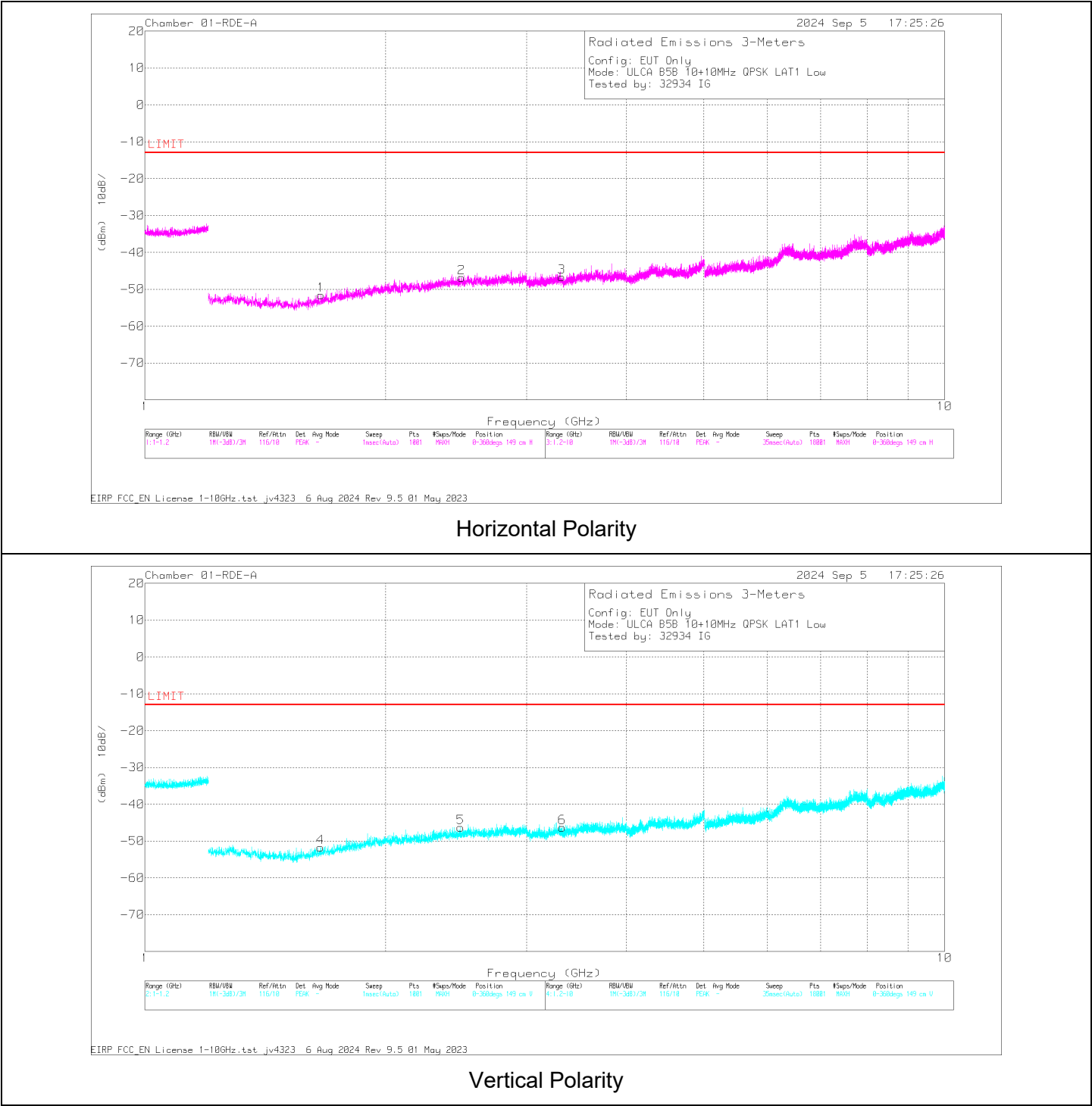
So, from d)

The measuring distance is usually at 3m, then $20 \cdot \log(3) = 9.5424$

Then, $\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 9.5424 - 104.8 = E \text{ (dB}\mu\text{V/m)} - 95.2576$

Note: Confidence check of each chamber is performed daily to see if any degradation from expected/normal reading reference data. Ambient check of each chamber is performed monthly.

Example Plot



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
4	1.658089	41.45	Pk	29.0	.8	-95.2	-27.79	-51.74	-13	-38.74	V
1	1.659556	41.44	Pk	29.0	.8	-95.2	-27.64	-51.60	-13	-38.60	H
5	2.481378	41.96	Pk	32.5	.5	-95.2	-26.10	-46.34	-13	-33.34	V
2	2.488711	41.44	Pk	32.5	.5	-95.2	-26.10	-46.86	-13	-33.86	H
3	3.321289	39.98	Pk	32.9	.6	-95.2	-25.00	-46.72	-13	-33.72	H
6	3.325689	40.45	Pk	32.9	.6	-95.2	-25.03	-46.28	-13	-33.28	V

TEST PROCEDURE

KDB 971168 D01 v03r01 /D02 v02r02

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

RESULTS

10.1.1. LTE BAND 5

LIMIT

FCC: §22.917(a)

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

QPSK LTE BAND 5 (10.0MHZ + 10.0MHZ BANDWIDTH)

Project #:	15175342
Date:	2024-05-09
Test Engineer:	32934
Configuration:	EUT only
Mode	LTE Band 5 QPSK 10MHz + 10MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBm)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz + 838.9MHz										
1.658089	41.45	Pk	29.0	.8	-95.2	-27.79	-51.74	-13	-38.74	V
1.659556	41.44	Pk	29.0	.8	-95.2	-27.64	-51.60	-13	-38.60	H
2.481378	41.96	Pk	32.5	.5	-95.2	-26.10	-46.34	-13	-33.34	V
2.488711	41.44	Pk	32.5	.5	-95.2	-26.10	-46.86	-13	-33.86	H
3.321289	39.98	Pk	32.9	.6	-95.2	-25.00	-46.72	-13	-33.72	H
3.325689	40.45	Pk	32.9	.6	-95.2	-25.03	-46.28	-13	-33.28	V
Mid Channel, 831.6MHz + 841.5MHz										
1.646356	41.02	Pk	28.8	.7	-95.2	-27.64	-52.32	-13	-39.32	V
1.654178	42.55	Pk	28.9	.8	-95.2	-27.72	-50.67	-13	-37.67	H
2.491645	41.25	Pk	32.5	.6	-95.2	-26.10	-46.95	-13	-33.95	V
2.501423	41.87	Pk	32.5	.6	-95.2	-26.20	-46.43	-13	-33.43	H
3.281689	41.85	Pk	33.0	.8	-95.2	-24.80	-44.35	-13	-31.35	H
3.290489	41.03	Pk	33.0	.8	-95.2	-24.85	-45.22	-13	-32.22	V
High Channel, 834.1MHz + 844MHz										
1.660533	40.69	Pk	29	.8	-95.2	-27.60	-52.31	-13	-39.31	V
1.662489	41.33	Pk	29	.8	-95.2	-27.80	-51.87	-13	-38.87	H
2.503867	41.16	Pk	32.5	.7	-95.2	-26.20	-47.04	-13	-34.04	V
2.504845	41.57	Pk	32.5	.7	-95.2	-26.20	-46.63	-13	-33.63	H
3.333023	40.24	Pk	32.8	.5	-95.2	-25.00	-46.66	-13	-33.66	H
3.334978	39.94	Pk	32.8	.5	-95.2	-25.00	-46.96	-13	-33.96	V

10.1.2. LTE BAND 7

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	15175342
Date:	2024-09-04
Test Engineer:	32934
Configuration:	EUT only
Mode	LTE Band 7 QPSK 20MHz + 20MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBm)	Det	81886 ACF 3m (dB/m)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz										
4.998281	40.87	Pk	34.2	.8	-95.2	-22.40	-41.73	-25	-16.73	V
5.022188	37.93	Pk	34.1	.7	-95.2	-22.12	-44.59	-25	-19.59	H
7.538906	39.07	Pk	35.7	.3	-95.2	-18.29	-38.42	-25	-13.42	H
7.549219	39.45	Pk	35.7	.3	-95.2	-18.20	-37.95	-25	-12.95	V
10.044375	38.77	Pk	37.5	.7	-95.2	-15.80	-34.03	-25	-9.03	H
10.066875	39.22	Pk	37.5	.7	-95.2	-15.90	-33.68	-25	-8.68	V
Mid Channel, 2525.1MHz + 2544.9MHz										
5.032969	37.92	Pk	34.1	.7	-95.2	-22.00	-44.48	-25	-19.48	V
5.063906	38.27	Pk	34.2	.6	-95.2	-22.01	-44.14	-25	-19.14	H
7.545469	38.92	Pk	35.7	.3	-95.2	-18.20	-38.48	-25	-13.48	V
7.578750	39.52	Pk	35.7	.5	-95.2	-18.13	-37.61	-25	-12.61	H
10.099688	38.00	Pk	37.6	.7	-95.2	-15.90	-34.80	-25	-9.80	V
10.119844	39.15	Pk	37.6	.7	-95.2	-15.70	-33.45	-25	-8.45	H
High Channel, 2540.2MHz + 2560MHz										
5.005781	41.50	Pk	34.2	.8	-95.2	-22.4	-41.10	-25	-16.10	V
5.078438	39.37	Pk	34.2	.7	-95.2	-21.8	-42.73	-25	-17.73	H
7.635469	39.5	Pk	35.8	.4	-95.2	-17.8	-37.3	-25	-12.3	H
7.665938	39.48	Pk	35.8	.3	-95.2	-17.7	-37.32	-25	-12.32	V
10.172813	38.85	Pk	37.6	.6	-95.2	-15.5	-33.65	-25	-8.65	H
10.20375	40.15	Pk	37.6	.8	-95.2	-15.7	-32.35	-25	-7.35	V

10.1.3. LTE BAND 41

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	15175342
Date:	2024-09-03
Test Engineer:	32934
Configuration:	EUT only
Mode	Band 41 QPSK 20MHz + 20MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz										
4.990781	40.40	Pk	34.2	.7	-95.2	-22.50	-42.40	-25	-17.40	V
4.999688	41.13	Pk	34.2	.8	-95.2	-22.47	-41.54	-25	-16.54	H
7.511719	38.78	Pk	35.7	.3	-95.2	-18.20	-38.62	-25	-13.62	V
7.520156	38.66	Pk	35.7	.3	-95.2	-18.28	-38.82	-25	-13.82	H
10.019063	39.14	Pk	37.5	.6	-95.2	-15.60	-33.56	-25	-8.56	H
10.030313	38.70	Pk	37.5	.7	-95.2	-15.83	-34.13	-25	-9.13	V
Mid Channel, 2583.1MHz + 2602.9MHz										
5.155313	38.24	Pk	34.1	.8	-95.2	-21.70	-43.76	-25	-18.76	V
5.171250	37.77	Pk	34.1	.7	-95.2	-21.80	-44.43	-25	-19.43	H
7.705781	39.91	Pk	35.8	.5	-95.2	-17.76	-36.75	-25	-11.75	V
7.747031	39.47	Pk	35.8	.3	-95.2	-17.90	-37.53	-25	-12.53	H
10.335469	39.01	Pk	37.7	.6	-95.2	-15.20	-33.09	-25	-8.09	H
10.365469	38.38	Pk	37.7	.8	-95.2	-15.10	-33.42	-25	-8.42	V
High Channel, 2660.2MHz + 2680MHz										
5.305313	39.00	Pk	34.3	.6	-95.2	-22.10	-43.40	-25	-18.40	V
5.322188	38.8	Pk	34.3	.8	-95.2	-22.10	-43.40	-25	-18.40	H
7.941563	39.19	Pk	35.9	.2	-95.2	-17.80	-37.71	-25	-12.71	V
7.967813	39.47	Pk	35.9	.3	-95.2	-17.92	-37.45	-25	-12.45	H
10.599844	38.13	Pk	37.9	.8	-95.2	-14.70	-33.07	-25	-8.07	V
10.652344	38.51	Pk	37.9	.5	-95.2	-14.90	-33.19	-25	-8.19	H

10.2. FIELD STRENGTH OF SPURIOUS RADIATION, ANT2

TEST PROCEDURE

KDB 971168 D01 v03r01 /D02 v02r02

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

RESULTS

10.2.1. LTE BAND 5

LIMIT

FCC: §22.917(a)

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

QPSK LTE BAND 5 (10.0MHZ + 10.0MHZ BANDWIDTH)

Project #:	15175342
Date:	2024-04-08
Test Engineer:	32145
Configuration:	EUT only
Mode	LTE Band 5 QPSK 10MHz + 10MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBm)	Det	81886 ACF 3m (dB/m)	HPF 1.2GHz T1737 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz + 838.9MHz										
1.653689	41.32	Pk	28.9	.8	-95.2	-27.67	-51.85	-13	-38.85	V
1.656622	41.23	Pk	29.0	.8	-95.2	-27.90	-52.07	-13	-39.07	H
2.474045	44.30	Pk	32.5	.5	-95.2	-26.10	-44.00	-13	-31.00	H
2.484311	41.70	Pk	32.5	.5	-95.2	-26.03	-46.53	-13	-33.53	V
3.311023	39.85	Pk	32.9	.7	-95.2	-25.10	-46.85	-13	-33.85	V
3.319334	40.59	Pk	32.9	.6	-95.2	-25.00	-46.11	-13	-33.11	H
Mid Channel, 831.6MHz + 841.5MHz										
1.658578	43.02	Pk	29	.8	-95.2	-27.74	-50.12	-13	-37.12	H
1.662000	40.89	Pk	29	.8	-95.2	-27.80	-52.31	-13	-39.31	V
2.477467	41.79	Pk	32.5	.5	-95.2	-26.10	-46.51	-13	-33.51	V
2.485778	41.67	Pk	32.5	.5	-95.2	-26.10	-46.63	-13	-33.63	H
3.324223	40.93	Pk	32.9	.6	-95.2	-25.10	-45.87	-13	-32.87	V
3.328623	41.16	Pk	32.8	.6	-95.2	-25.06	-45.70	-13	-32.70	H
High Channel, 834.1MHz + 844MHz										
1.668356	41.25	Pk	29.1	.7	-95.2	-27.60	-51.75	-13	-38.75	V
1.671778	41.73	Pk	29.1	.7	-95.2	-27.72	-51.39	-13	-38.39	H
2.489689	41.92	Pk	32.5	.6	-95.2	-26.10	-46.28	-13	-33.28	V
2.496045	41.78	Pk	32.5	.6	-95.2	-26.10	-46.42	-13	-33.42	H
3.352578	41.85	Pk	32.8	.6	-95.2	-25.10	-45.05	-13	-32.05	H
3.367245	40.76	Pk	32.8	.6	-95.2	-25.08	-46.12	-13	-33.12	V

10.2.2. LTE BAND 7

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	15175342
Date:	2024-09-04
Test Engineer:	32934
Configuration:	EUT only
Mode	LTE Band 7 QPSK 20MHz + 20MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBm)	Det	81886 ACF 3m (dB/m)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz										
5.007188	40.27	Pk	34.2	.8	-95.2	-22.40	-42.33	-25	-17.33	V
5.018906	38.16	Pk	34.2	.8	-95.2	-22.20	-44.24	-25	-19.24	H
7.503281	39.49	Pk	35.7	.3	-95.2	-18.20	-37.91	-25	-12.91	V
7.530469	39.12	Pk	35.7	.3	-95.2	-18.30	-38.38	-25	-13.38	H
10.031719	38.94	Pk	37.5	.7	-95.2	-15.83	-33.89	-25	-8.89	V
10.047656	38.74	Pk	37.5	.7	-95.2	-15.80	-34.06	-25	-9.06	H
Mid Channel, 2525.1MHz + 2544.9MHz										
5.081719	37.92	Pk	34.2	.8	-95.2	-21.77	-44.05	-25	-19.05	V
5.098594	38.79	Pk	34.2	.8	-95.2	-21.90	-43.31	-25	-18.31	H
7.548281	41.06	Pk	35.7	.3	-95.2	-18.20	-36.34	-25	-11.34	H
7.553906	39.53	Pk	35.7	.3	-95.2	-18.20	-37.87	-25	-12.87	V
10.171875	39.43	Pk	37.6	.6	-95.2	-15.51	-33.08	-25	-8.08	H
10.189219	39.74	Pk	37.6	.7	-95.2	-15.68	-32.84	-25	-7.84	V
High Channel, 2540.2MHz + 2560MHz										
5.064375	37.99	Pk	34.2	.6	-95.2	-22.00	-44.41	-25	-19.41	V
5.070000	38.81	Pk	34.2	.7	-95.2	-21.90	-43.39	-25	-18.39	H
7.573594	39.55	Pk	35.7	.4	-95.2	-18.24	-37.79	-25	-12.79	V
7.594688	40.89	Pk	35.7	.5	-95.2	-18.10	-36.21	-25	-11.21	H
10.119844	39.91	Pk	37.6	.7	-95.2	-15.70	-32.69	-25	-7.69	V
10.165781	39.16	Pk	37.6	.5	-95.2	-15.58	-33.52	-25	-8.52	H

10.2.3. LTE BAND 41

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	15175342
Date:	2024-09-04
Test Engineer:	32934
Configuration:	EUT only
Mode	Band 41 QPSK 20MHz + 20MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz										
5.003438	39.58	Pk	34.2	.8	-95.2	-22.40	-43.02	-25	-18.02	H
5.006250	40.73	Pk	34.2	.8	-95.2	-22.40	-41.87	-25	-16.87	V
7.510313	39.47	Pk	35.7	.3	-95.2	-18.20	-37.93	-25	-12.93	V
7.515938	39.17	Pk	35.7	.3	-95.2	-18.19	-38.22	-25	-13.22	H
10.011563	38.94	Pk	37.5	.6	-95.2	-15.51	-33.67	-25	-8.67	V
10.017188	38.44	Pk	37.5	.6	-95.2	-15.500	-34.16	-25	-9.16	H
Mid Channel, 2583.1MHz + 2602.9MHz										
5.151563	38.79	Pk	34.1	.8	-95.2	-21.76	-43.27	-25	-18.27	V
5.159531	38.29	Pk	34.1	.8	-95.2	-21.65	-43.66	-25	-18.66	H
7.711875	40.72	Pk	35.8	.4	-95.2	-17.79	-36.07	-25	-11.07	V
7.748906	40.32	Pk	35.8	.3	-95.2	-17.90	-36.68	-25	-11.68	H
10.25625	41.19	Pk	37.7	.7	-95.2	-15.40	-31.01	-25	-6.01	V
10.337344	39.09	Pk	37.7	.6	-95.2	-15.17	-32.98	-25	-7.98	H
High Channel, 2660.2MHz + 2680MHz										
5.316094	39.15	Pk	34.3	.8	-95.2	-22.11	-43.06	-25	-18.06	H
5.321719	39.86	Pk	34.3	.8	-95.2	-22.13	-42.37	-25	-17.37	V
7.982344	40.40	Pk	35.9	.3	-95.2	-17.60	-36.20	-25	-11.20	V
7.982813	39.45	Pk	35.9	.3	-95.2	-17.60	-37.15	-25	-12.15	H
10.603594	38.70	Pk	37.9	.8	-95.2	-14.60	-32.40	-25	-7.40	V
10.642500	39.99	Pk	37.9	.5	-95.2	-15.00	-31.81	-25	-6.81	H

10.3. FIELD STRENGTH OF SPURIOUS RADIATION, ANT3

TEST PROCEDURE

KDB 971168 D01 v03r01 /D02 v02r02

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

RESULTS

10.3.1. LTE BAND 7

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	15175342
Date:	2024-09-13
Test Engineer:	28567
Configuration:	EUT only
Mode	LTE Band 7 QPSK 20MHz + 20MHz
Chamber #:	01-RDE-B

Frequency (GHz)	Meter Reading (dBm)	Det	AF 226671 (dB/m)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz										
5.036719	41.29	Pk	34.1	.6	-95.2	-30.97	-50.18	-25	-25.18	H
5.066250	40.44	Pk	34.1	.6	-95.2	-30.83	-50.89	-25	-25.89	V
7.498125	40.60	Pk	35.6	.4	-95.2	-26.91	-45.51	-25	-20.51	H
7.560469	41.92	Pk	35.7	.3	-95.2	-27.05	-44.33	-25	-19.33	V
10.074844	39.27	Pk	37.2	.7	-95.2	-25.12	-43.15	-25	-18.15	H
10.166719	40.52	Pk	37.3	.5	-95.2	-24.90	-41.78	-25	-16.78	V
Mid Channel, 2525.1MHz + 2544.9MHz										
5.068594	41.89	Pk	34.1	.7	-95.2	-30.86	-49.37	-25	-24.37	H
5.100938	41.90	Pk	34.1	.8	-95.2	-30.70	-49.10	-25	-24.10	V
7.564219	40.77	Pk	35.7	.4	-95.2	-27.18	-45.51	-25	-20.51	H
7.613438	41.00	Pk	35.7	.4	-95.2	-27.20	-45.30	-25	-20.30	V
10.142344	39.97	Pk	37.3	.6	-95.2	-24.70	-42.03	-25	-17.03	H
10.176563	40.48	Pk	37.3	.6	-95.2	-24.94	-41.76	-25	-16.76	V
High Channel, 2540.2MHz + 2560MHz										
5.093906	41.82	Pk	34.1	.8	-95.2	-30.81	-49.29	-25	-24.29	H
5.121094	41.52	Pk	34.1	.8	-95.2	-30.69	-49.47	-25	-24.47	V
7.620000	41.80	Pk	35.7	.4	-95.2	-27.10	-44.40	-25	-19.40	H
7.651875	42.06	Pk	35.7	.3	-95.2	-27.01	-44.15	-25	-19.15	V
10.195781	40.30	Pk	37.4	.8	-95.2	-24.98	-41.68	-25	-16.68	H
10.247344	40.34	Pk	37.4	.7	-95.2	-25.17	-41.93	-25	-16.93	V

10.3.2. LTE BAND 41

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	15175342
Date:	2024-09-06
Test Engineer:	32934
Configuration:	EUT only
Mode	Band 41 QPSK 20MHz + 20MHz
Chamber #:	01-RDE-A

Frequency (GHz)	Meter Reading (dBm)	Det	81886 ACF 3m (dB/m)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz										
4.986094	40.79	Pk	34.2	.7	-95.2	-22.49	-42.00	-25	-17.00	V
5.008594	40.41	Pk	34.2	.8	-95.2	-22.34	-42.13	-25	-17.13	H
7.530000	38.47	Pk	35.7	.3	-95.2	-18.30	-39.03	-25	-14.03	H
7.545938	38.05	Pk	35.7	.3	-95.2	-18.20	-39.35	-25	-14.35	V
9.993281	38.54	Pk	37.4	.5	-95.2	-15.47	-34.23	-25	-9.23	V
10.042031	38.82	Pk	37.5	.7	-95.2	-15.80	-33.98	-25	-8.98	H
Mid Channel, 2525.1MHz + 2544.9MHz										
5.155781	37.61	Pk	34.1	.8	-95.2	-21.70	-44.39	-25	-19.39	V
5.172188	38.22	Pk	34.1	.7	-95.2	-21.80	-43.98	-25	-18.98	H
7.713281	38.59	Pk	35.8	.4	-95.2	-17.80	-38.21	-25	-13.21	V
7.749375	40.48	Pk	35.8	.3	-95.2	-17.90	-36.52	-25	-11.52	H
10.283438	38.70	Pk	37.7	.7	-95.2	-15.24	-33.34	-25	-8.34	V
10.343906	37.96	Pk	37.7	.7	-95.2	-15.10	-33.94	-25	-8.94	H
High Channel, 2540.2MHz + 2560MHz										
5.308594	39.01	Pk	34.3	.7	-95.2	-22.10	-43.29	-25	-18.29	V
5.335781	38.13	Pk	34.4	.7	-95.2	-22.00	-43.97	-25	-18.97	H
7.928438	38.89	Pk	35.9	.1	-95.2	-17.84	-38.15	-25	-13.15	V
7.975313	39.30	Pk	35.9	.3	-95.2	-17.80	-37.5	-25	-12.50	H
10.627969	37.58	Pk	37.9	.6	-95.2	-15.00	-34.12	-25	-9.12	V
10.653281	38.60	Pk	37.9	.5	-95.2	-14.90	-33.10	-25	-8.10	H

10.4. FIELD STRENGTH OF SPURIOUS RADIATION, ANT4

TEST PROCEDURE

KDB 971168 D01 v03r01 /D02 v02r02

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

RESULTS

10.4.1. LTE BAND 7

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	15175342
Date:	2024-09-13
Test Engineer:	28567
Configuration:	EUT only
Mode	LTE Band 7 QPSK 20MHz + 20MHz
Chamber #:	01-RDE-B

Frequency (GHz)	Meter Reading (dBm)	Det	AF 226671 (dB/m)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz										
4.998750	39.93	Pk	34.2	.8	-95.2	-22.40	-42.67	-25	-17.67	V
5.009531	40.72	Pk	34.2	.8	-95.2	-22.35	-41.83	-25	-16.83	H
7.486406	39.43	Pk	35.6	.3	-95.2	-18.30	-38.17	-25	-13.17	V
7.523906	37.57	Pk	35.7	.3	-95.2	-18.29	-39.92	-25	-14.92	H
9.982031	37.85	Pk	37.4	.5	-95.2	-15.40	-34.85	-25	-9.85	V
10.047656	38.57	Pk	37.5	.7	-95.2	-15.80	-34.23	-25	-9.23	H
Mid Channel, 2525.1MHz + 2544.9MHz										
5.005313	42.23	Pk	34.1	.8	-95.2	-31.00	-49.07	-25	-24.07	V
5.062031	41.30	Pk	34.1	.6	-95.2	-30.90	-50.10	-25	-25.10	H
7.580625	41.63	Pk	35.7	.5	-95.2	-27.20	-44.57	-25	-19.57	H
7.597500	41.81	Pk	35.7	.4	-95.2	-27.20	-44.49	-25	-19.49	V
10.119844	40.21	Pk	37.3	.7	-95.2	-25.10	-42.09	-25	-17.09	H
10.153125	40.69	Pk	37.3	.6	-95.2	-24.71	-41.32	-25	-16.32	V
High Channel, 2540.2MHz + 2560MHz										
5.099531	42.47	Pk	34.1	.8	-95.2	-30.75	-48.58	-25	-23.58	H
5.154375	40.84	Pk	34.2	.8	-95.2	-30.68	-50.04	-25	-25.04	V
7.612969	42.06	Pk	35.7	.4	-95.2	-27.20	-44.24	-25	-19.24	H
7.671563	41.93	Pk	35.8	.4	-95.2	-26.80	-43.87	-25	-18.87	V
10.192500	41.66	Pk	37.4	.7	-95.2	-24.95	-40.39	-25	-15.39	H
10.265625	41.29	Pk	37.4	.7	-95.2	-25.16	-40.97	-25	-15.97	V

10.4.2. LTE BAND 41

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	15175342
Date:	2024-09-13
Test Engineer:	32145
Configuration:	EUT only
Mode	Band 41 QPSK 20MHz + 20MHz
Chamber #:	01-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	81886 ACF 3m (dB/m)	BRF 2495-2690MHz T1790 1-18GHz	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz										
4.711406	41.19	Pk	34.1	.8	-95.2	-30.20	-49.31	-25	-24.31	V
4.740938	41.58	Pk	34.1	.5	-95.2	-30.50	-49.52	-25	-24.52	H
7.220625	41.14	Pk	35.6	.3	-95.2	-26.88	-45.04	-25	-20.04	V
7.243125	41.85	Pk	35.6	.4	-95.2	-26.90	-44.25	-25	-19.25	H
10.297969	40.16	Pk	37.4	.6	-95.2	-25.00	-42.04	-25	-17.04	V
10.312500	40.88	Pk	37.4	.6	-95.2	-25.15	-41.47	-25	-16.47	H
Mid Channel, 2583.1MHz + 2602.9MHz										
5.116875	42.37	Pk	34.1	.8	-95.2	-30.60	-48.53	-25	-23.53	V
5.144063	41.30	Pk	34.2	.8	-95.2	-30.51	-49.41	-25	-24.41	H
7.278281	41.97	Pk	35.5	.4	-95.2	-26.73	-44.06	-25	-19.06	V
7.282031	42.05	Pk	35.5	.4	-95.2	-26.70	-43.95	-25	-18.95	H
10.185469	40.54	Pk	37.4	.6	-95.2	-24.90	-41.56	-25	-16.56	V
10.187813	40.77	Pk	37.4	.7	-95.2	-24.90	-41.23	-25	-16.23	H
High Channel, 2660.2MHz + 2680MHz										
4.716563	40.2	Pk	34.1	.7	-95.2	-30.24	-50.44	-25	-25.44	V
4.750781	41.77	Pk	34.1	.4	-95.2	-30.40	-49.33	-25	-24.33	H
7.354219	42.33	Pk	35.5	.5	-95.2	-26.98	-43.85	-25	-18.85	H
7.359844	41.64	Pk	35.5	.5	-95.2	-26.80	-44.36	-25	-19.36	V
10.482656	40.56	Pk	37.5	.7	-95.2	-24.80	-41.24	-25	-16.24	V
10.519688	41.03	Pk	37.6	.5	-95.2	-24.63	-40.7	-25	-15.70	H

11. SETUP PHOTOS

Please refer to 15175342-EP1V1 for setup photos.

END OF REPORT