TEST REPORT

Report Number : 14982436 - E20V3

Applicant	:	APPLE, INC 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A
Model	:	A3083
Brand	:	APPLE
FCC ID	:	BCG-E8666A
EUT Description	:	SMARTPHONE
Test Standard(s)	:	FCC 47 CFR Part 2, Part 22, and Part 27

Date Of Issue:
2024-08-01

Prepared by:
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ACCREDITED
CERT #0751.05

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2024-07-02	Initial Review	Eric Ting
V2	2024-07-19	Address TCB Feedback Section 1,2,5,6,9	Eric Ting
V3	2024-08-01	Address TCB Feedback Section 10	Eric Ting

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1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE, INC 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A
Model	A3083
Brand	APPLE
FCC ID	BCG-E8666A
EUT Description	SMARTPHONE
Serial Number	Radiated: QM2WVQQ45T, L73Q9RQC46 Conducted: C07H5N000AB0000FDQ, C07H5R000J20000FDR
Sample Receipt Date	2023-11-14
Date Tested	2023-11-14 to 2024-06-06
Applicable Standards	FCC 47 CFR 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:	Prepared By:
	
Dan Coronia Operations Leader UL Verification Services Inc	Eric Ting Senior 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 v03r01: Power Meas License Digital Systems
- FCC KDB 971168 D02 v02r02: Misc Rev Approv License Devices
- FCC KDB 412172 D01 v01r01. 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 %
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 cellular GSM, GPRS, EGPRS, WCDMA, LTE, 5GNR1, 5GNR2, IEEE 802.11a/b/g/n/ac/ax/be, Bluetooth (BT), Ultra-Wideband (UWB), Global Positioning System (GPS), Near-Field Communication (NFC), Narrow-Band (NB) UNII, 802.15.4, 802.15.4ab-Narrow Band (NB), WPT and Mobile Satellite Service (MSS) technologies. The rechargeable battery is not user accessible. This device is not user-serviceable and requires special tools to disassemble.

6.2. MAXIMUM OUTPUT POWER

ERP/EIRP TEST PROCEDURE

ANSI C63.26:2015
KDB 971168 D01 Section 5.6

ERP/EIRP = PMeas + GT − 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 transmitter has a maximum average conducted and ERP / EIRP output powers as follows:

OUTPUT POWER FOR LTE BAND 5

Part 22H	
ERP Limit (W)	7.00
Antenna Gain (dBi)	-5.90

Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
3+5	QPSK	825.5	846.5	25.61	17.56	0.057	7460	7M46G7W
	16QAM			25.66	17.61	0.058	7458	7M46D7W
5+3	QPSK	826.5	847.5	25.69	17.64	0.058	7461	7M46G7W
	16QAM			25.59	17.54	0.057	7466	7M47D7W
5+10	QPSK	826.5	844.0	25.69	17.64	0.058	14630	14M6G7W
	16QAM			24.51	16.46	0.044	14530	14M5D7W
10+5	QPSK	829.0	846.5	25.50	17.45	0.056	14620	14M6G7W
	16QAM			24.59	16.54	0.045	14540	14M5D7W
10+10	QPSK	829.0	844.0	25.51	17.46	0.056	19350	19M4G7W
	16QAM			24.32	16.27	0.042	19290	19M3D7W

OUTPUT POWER FOR LTE BAND 7

Part 27	
EIRP Limit (W)	2.00
Antenna Gain (dBi) Ant 2	0.40

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	23.62	24.02	0.252	28220	28M2G7W
	16QAM			22.62	23.02	0.200	28190	28M2D7W
20+10	QPSK	2510.0	2564.5	23.41	23.81	0.240	28210	28M2G7W
	16QAM			22.69	23.09	0.204	28140	28M1D7W
15+15	QPSK	2507.5	2562.5	23.63	24.03	0.253	28800	28M8G7W
	16QAM			22.51	22.91	0.195	28730	28M7D7W
15+20	QPSK	2507.8	2560.0	23.49	23.89	0.245	33110	33M1G7W
	16QAM			22.58	22.98	0.199	33030	33M0D7W
20+15	QPSK	2510.0	2562.2	23.68	24.08	0.256	33090	33M1G7W
	16QAM			22.60	23.00	0.200	33040	33M0D7W
20+20	QPSK	2510.0	2560.0	23.34	23.74	0.237	37910	37M9G7W
	16QAM			22.60	23.00	0.200	37900	37M9D7W

OUTPUT POWER FOR LTE BAND 41

Part 27	
EIRP Limit (W)	2.00
Antenna Gain (dBi)	0.10

Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
5+20	QPSK	2499.3	2680.0	28.22	28.32	0.679	23340	23M3G7W
	16QAM			27.02	27.12	0.515	23280	23M3D7W
20+5	QPSK	2506.0	2686.7	28.67	28.77	0.753	23410	23M4G7W
	16QAM			26.87	26.97	0.498	23390	23M4D7W
10+20	QPSK	2501.5	2680.0	28.70	28.80	0.759	28020	28M0G7W
	16QAM			27.06	27.16	0.520	28050	28M1D7W
20+10	QPSK	2506.0	2684.5	28.52	28.62	0.728	28120	28M1G7W
	16QAM			27.05	27.15	0.519	28130	28M1D7W
15+15	QPSK	2503.5	2682.5	28.26	28.36	0.685	28640	28M6G7W
	16QAM			27.15	27.25	0.531	28660	28M7D7W
15+20	QPSK	2503.8	2680.0	28.36	28.46	0.701	32910	32M9G7W
	16QAM			26.72	26.82	0.481	32900	32M9D7W
20+15	QPSK	2506.0	2682.2	28.30	28.40	0.692	32890	32M9G7W
	16QAM			26.95	27.05	0.507	32920	32M9D7W
20+20	QPSK	2506.0	2680.0	28.25	28.35	0.684	37760	37M8G7W
	16QAM			26.93	27.03	0.505	37750	37M8D7W

6.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was version 0.02.01.

6.4. MAXIMUM ANTENNA GAIN

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

LTE AND Bands	Frequency Range (MHz)	ANT 1 Gain (dBi)	ANT 2 Gain (dBi)	ANT 3 Gain (dBi)	ANT 4 Gain (dBi)	ANT 7 Gain (dBi)	ANT 8 Gain (dBi)	ANT 9 Gain (dBi)
LTE Band 5	824 – 849	-5.9	-7.0					
LTE Band 7	2500 – 2570	-3.2	0.4	-1.9	-0.2			
LTE Band 41	2496 – 2690	-2.4	0.1	-1.1	-0.4			

6.5. WORST-CASE CONFIGURATION AND MODE

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

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 exabit 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	Z	Z	N/A	N/A	N/A	N/A	N/A
2300 – 2700 MHz	X	X	Y	Y	N/A	N/A	N/A

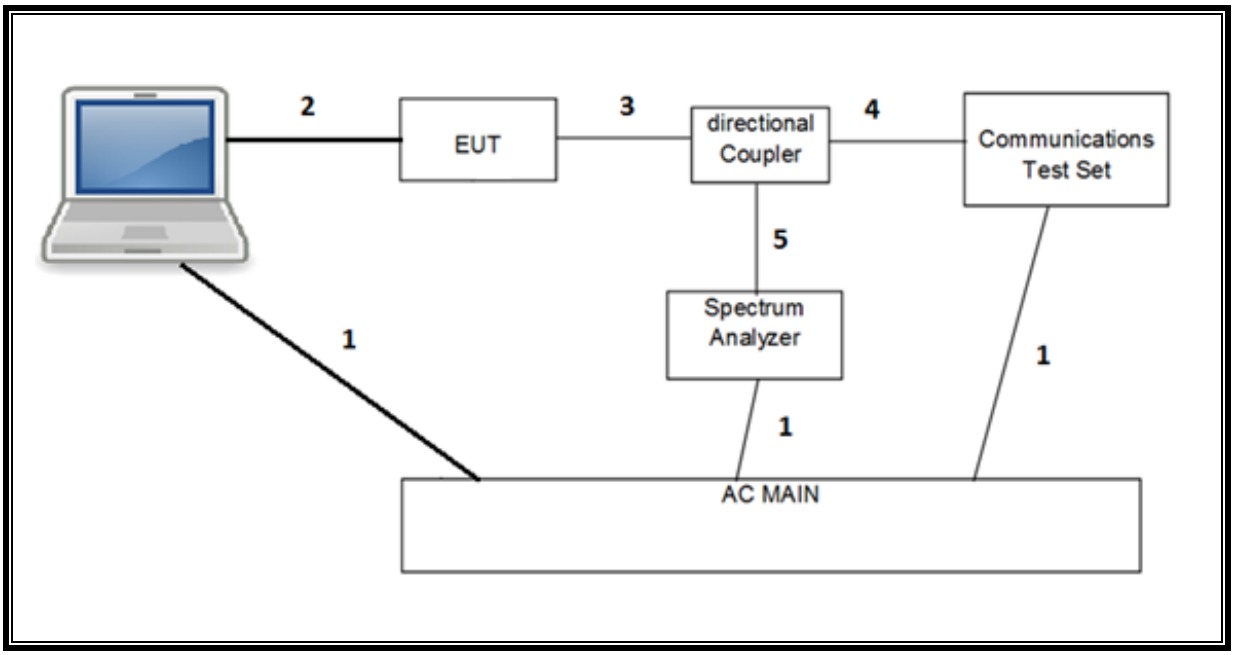
Radiated spurious emissions were investigated from 9kHz to 30MHz, 30MHz-1GHz and above 1GHz. There were no emissions found with less than 20dB of margin from 9kHz to 1GHz.

For inter-band 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.

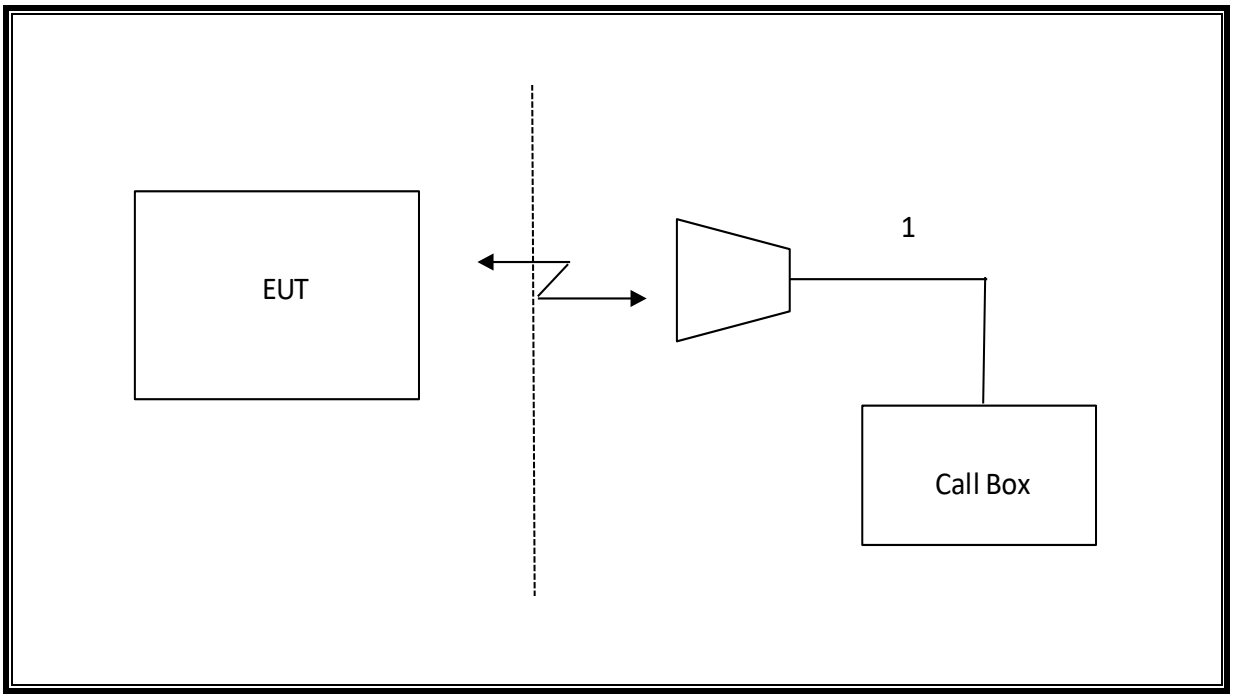
6.6. DESCRIPTION OF TEST SETUP

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	2024-08-31
Antenna, Horn 1-18GHz	ETS Lindgren	3117	79834	2024-06-30
Antenna, Broadband Hybrid, 30MHz to 3000MHz	SUNAR	JB3	222009	2024-10-31
RF Filter Box, 1-18GHz	UL-FR1	NA	217255	2024-10-31
RF Filter Box, 1-18GHz	UL-FR1	RATS 2	226781	2024-09-30
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	430250	2024-09-30
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	2024-03-29
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:

1. * Testing is completed before equipment expiration date.
2. ** 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:	39004	Test Date:	2024-01-29

OUTPUT POWER FOR LTE BAND 5 (3.0MHz + 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 QPSK	ANT 1 16QAM	ANT 1 64QAM	ANT 1 256QAM	ANT 2 QPSK	ANT 2 16QAM	ANT 2 64QAM	ANT 2 256QAM
3MHz / 5MHz	825.5	829.4	1	14	1	0	25.53	25.23	24.37	23.47	24.80	**25.00**	**23.95**	**23.18**
			15	0	25	0	25.39	25.57	24.31	23.20	**25.19**	24.85	23.86	23.13
	834.0	837.9	1	14	1	0	25.27	25.65	24.49	23.49	24.78	24.96	23.79	23.07
			15	0	25	0	25.29	25.62	**24.59**	**23.67**	25.15	24.84	23.81	22.70
	842.5	846.5	1	14	1	0	25.38	**25.66**	24.23	23.61	24.92	24.85	23.82	23.10
			15	0	25	0	**25.61**	25.20	24.51	23.60	24.99	24.94	23.77	22.87

OUTPUT POWER FOR LTE BAND 5 (5.0MHz + 3.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm) ANT 1 QPSK	ANT 1 16QAM	ANT 1 64QAM	ANT 1 256QAM	ANT 2 QPSK	ANT 2 16QAM	ANT 2 64QAM	ANT 2 256QAM
5MHz / 3MHz	826.5	830.4	1	24	1	0	25.26	25.47	**24.65**	23.34	24.81	24.75	24.01	23.01
			25	0	15	0	**25.69**	25.22	24.40	23.55	24.89	24.94	23.81	23.05
	835.0	838.9	1	24	1	0	25.67	25.45	24.61	23.60	24.74	24.91	**24.18**	23.01
			25	0	15	0	25.46	25.40	24.59	**23.68**	**25.18**	**25.13**	24.03	**23.09**
	843.6	847.5	1	24	1	0	25.34	**25.59**	24.27	23.29	25.03	24.95	23.95	22.91
			25	0	15	0	**25.69**	25.22	24.49	23.36	25.13	24.88	23.87	22.87

OUTPUT POWER FOR LTE BAND 5 (5.0MHz + 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 QPSK	ANT 1 16QAM	ANT 1 64QAM	ANT 1 256QAM	ANT 2 QPSK	ANT 2 16QAM	ANT 2 64QAM	ANT 2 256QAM
5MHz / 10MHz	826.5	833.7	1	24	1	0	25.48	24.21	**23.57**	20.38	25.11	23.81	**23.13**	**20.19**
			25	0	50	0	23.26	22.66	22.53	20.23	23.16	22.00	21.89	20.02
	831.6	838.8	1	24	1	0	**25.69**	**24.51**	23.27	20.25	25.14	23.99	22.76	20.05
			25	0	50	0	23.56	22.36	22.63	20.50	23.09	22.05	21.87	19.74
	836.8	844.0	1	24	1	0	25.34	24.33	23.55	20.59	**25.19**	**24.17**	22.76	19.92
			25	0	50	0	23.43	22.66	22.41	**20.70**	22.78	21.83	21.71	19.79

OUTPUT POWER FOR LTE BAND 5 (10.0MHz + 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 QPSK	ANT 1 16QAM	ANT 1 64QAM	ANT 1 256QAM	ANT 2 QPSK	ANT 2 16QAM	ANT 2 64QAM	ANT 2 256QAM
10MHz/ 5MHz	829.0	836.2	1	49	1	0	25.40	24.48	**23.62**	20.31	**25.18**	**24.19**	22.78	19.79
			50	0	25	0	23.24	22.44	22.58	20.35	22.84	21.74	22.13	19.86
	834.3	841.5	1	49	1	0	**25.50**	24.57	23.39	20.30	24.74	23.76	22.83	**20.19**
			50	0	25	0	23.22	22.62	22.69	20.44	22.82	22.02	21.85	19.93
	839.3	846.5	1	49	1	0	25.35	**24.59**	23.25	**20.64**	24.98	23.76	**22.92**	20.06
			50	0	25	0	23.23	22.23	22.65	20.43	23.17	21.97	21.95	20.09

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 QPSK	ANT 1 16QAM	ANT 1 64QAM	ANT 1 256QAM	ANT 2 QPSK	ANT 2 16QAM	ANT 2 64QAM	ANT 2 256QAM
10MHz/ 10MHz	829.0	838.9	1	49	1	0	25.35	24.26	23.20	20.28	**25.18**	23.83	23.13	20.07
			1	0	1	49	15.07	14.80	14.79	15.11	14.30	14.21	14.52	14.63
			50	0	50	0	23.56	22.25	22.70	**20.53**	22.92	22.02	21.84	20.02
	831.5	841.4	1	49	1	0	25.37	24.31	23.25	20.22	24.92	23.72	22.80	19.79
			1	0	1	49	15.07	15.08	14.95	15.20	14.69	14.48	14.22	14.54
			50	0	50	0	23.67	22.31	22.21	20.32	23.07	22.00	22.17	**20.15**
	834.1	844.0	1	49	1	0	**25.51**	**24.32**	**23.26**	20.47	24.93	**23.92**	**23.19**	19.75
			1	0	1	49	14.73	14.76	14.74	14.70	14.43	14.69	14.62	14.68
			50	0	50	0	23.23	22.49	22.23	20.43	22.90	22.11	21.80	19.77

8.1.2. LTE BAND 7

Test Engineer ID:	39004	Test Date:	2024-01-31

OUTPUT POWER FOR LTE BAND 7 (10.0MHz + 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
10MHz / 20MHz	2505.5	2519.9	1	49	1	0	25.27	24.42	23.23	20.32	23.57	22.39	21.64	18.45	24.65	23.88	22.68	19.67	22.40	21.43	20.62	17.42
			50	0	100	0	23.39	22.24	22.35	20.54	21.46	20.64	20.50	**18.59**	22.78	21.71	21.65	19.52	20.59	19.21	19.26	17.33
	2525.6	2540.0	1	49	1	0	25.33	24.29	23.37	20.58	**23.62**	**22.62**	**21.67**	18.57	**24.97**	**23.94**	**22.70**	19.68	22.30	**21.45**	20.39	17.60
			50	0	100	0	23.20	22.67	22.63	**20.68**	21.55	20.29	20.68	18.49	22.71	21.78	21.58	19.71	20.20	19.21	19.20	17.64
	2545.6	2560.0	1	49	1	0	**25.52**	**24.47**	**23.64**	**20.68**	23.45	22.29	21.54	18.54	24.65	23.93	22.52	**19.97**	**22.53**	21.36	**20.68**	**17.69**
			50	0	100	0	23.31	22.51	22.53	20.34	21.66	20.67	20.50	18.32	22.55	21.82	21.64	19.56	20.46	19.66	19.52	17.46

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 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				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 10MHz	2510.0	2524.4	1	99	1	0	25.30	24.60	23.31	20.48	**23.41**	**22.69**	**21.62**	18.57	24.52	**23.99**	22.79	19.73	22.28	21.27	**20.61**	17.45
			100	0	50	0	23.42	22.56	22.60	20.29	21.57	20.28	20.59	**18.65**	23.00	21.85	21.86	19.59	20.58	19.59	19.22	17.43
	2530.1	2544.5	1	99	1	0	**25.67**	**24.69**	23.23	20.50	23.36	22.62	21.42	18.65	24.63	23.91	**22.87**	19.86	22.56	21.47	20.33	17.44
			100	0	50	0	23.26	22.54	22.42	**20.65**	21.52	20.70	20.69	18.22	22.81	21.90	21.81	19.78	20.68	19.31	19.24	**17.63**
	2550.1	2564.5	1	99	1	0	25.43	24.30	**23.70**	20.33	23.25	22.59	21.45	18.53	**24.68**	23.95	22.80	19.89	**22.65**	**21.69**	20.49	17.43
			100	0	50	0	23.57	22.45	22.42	20.62	21.66	20.68	20.50	18.54	22.59	21.79	21.56	**19.97**	20.64	19.22	19.41	17.62

OUTPUT POWER FOR LTE BAND 7 (15.0MHz + 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
15MHz / 15MHz	2507.5	2522.5	1	74	1	0	25.35	24.26	23.35	20.45	23.26	**22.51**	21.48	18.20	24.85	23.81	**22.91**	19.77	22.55	21.26	20.43	17.34
			75	0	75	0	23.25	22.33	22.64	20.41	21.20	20.44	20.23	18.53	22.89	21.61	21.60	**19.83**	20.61	19.49	19.20	17.58
	2527.5	2542.5	1	74	1	0	**25.50**	24.41	23.67	20.43	**23.63**	22.32	**21.59**	18.51	**24.90**	**23.98**	22.59	19.81	22.39	**21.63**	**20.68**	17.28
			75	0	75	0	23.61	22.44	22.52	20.45	21.51	20.58	20.26	18.48	22.84	21.58	21.69	19.69	20.43	19.56	19.56	**17.66**
	2547.5	2562.5	1	74	1	0	25.38	**24.45**	**23.70**	**20.64**	23.20	22.21	21.51	18.43	24.79	23.71	22.52	19.62	**22.62**	21.55	20.62	17.63
			75	0	75	0	23.21	22.43	22.66	20.54	21.62	20.42	20.34	**18.56**	22.78	21.89	21.94	19.82	20.32	19.64	19.68	17.38

OUTPUT POWER FOR LTE BAND 7 (15.0MHz + 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
15MHz / 20MHz	2507.8	2524.9	1	74	1	0	**25.63**	24.45	23.44	20.34	23.24	22.52	**21.64**	18.32	24.89	**23.81**	**22.95**	**19.99**	22.42	21.49	**20.67**	17.48
			75	0	100	0	23.45	22.59	22.36	20.30	21.22	20.59	20.34	18.32	22.87	21.93	21.97	19.56	20.53	19.47	19.57	17.38
	2525.3	2542.4	1	74	1	0	25.46	24.22	**23.62**	20.28	23.25	**22.58**	21.56	18.29	**24.93**	23.61	22.84	19.72	**22.65**	21.47	20.21	17.33
			75	0	100	0	23.47	22.36	22.56	**20.68**	21.34	20.40	20.23	18.56	22.78	21.63	21.69	19.74	20.47	19.23	19.23	**17.67**
	2542.9	2560.0	1	74	1	0	25.43	**24.52**	23.30	20.49	**23.49**	22.50	21.50	**18.69**	24.54	23.72	22.80	19.99	22.30	**21.69**	20.37	17.53
			75	0	100	0	23.29	22.56	22.29	20.42	21.20	20.69	20.65	18.56	22.98	21.51	21.68	19.80	20.44	19.99	19.44	17.58

OUTPUT POWER FOR LTE BAND 7 (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	2510.0	2527.1	1	99	1	0	25.27	24.32	23.42	20.21	23.64	22.37	21.60	18.21	24.70	23.79	22.81	19.53	**22.66**	21.25	20.63	17.27
			100	0	75	0	23.40	22.48	22.59	20.20	21.66	20.24	20.32	**18.67**	22.97	21.56	21.70	19.53	20.37	19.47	19.58	**17.66**
	2527.6	2544.7	1	99	1	0	**25.56**	**24.50**	23.31	20.37	**23.68**	**22.60**	**21.65**	18.52	**24.84**	23.65	22.94	19.52	22.59	**21.57**	**20.65**	17.21
			100	0	75	0	23.53	22.23	22.47	20.61	21.64	20.44	20.54	18.59	22.96	21.70	21.89	**19.99**	20.43	19.66	19.25	17.38
	2545.1	2562.2	1	99	1	0	25.55	24.41	**23.46**	**20.65**	23.41	22.38	21.64	18.46	24.55	**23.80**	**22.96**	19.90	22.36	21.29	20.53	17.25
			100	0	75	0	23.64	22.56	22.64	20.29	21.30	20.68	20.43	18.25	22.89	21.94	21.63	19.60	20.48	19.79	19.58	17.21

OUTPUT POWER FOR LTE BAND 7 (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	2510.0	2529.8	1	99	1	0	25.64	**24.52**	23.31	20.69	23.24	22.48	21.33	18.50	24.71	23.91	22.64	19.53	22.36	**21.63**	20.39	17.51
			1	0	1	99	17.17	16.87	16.82	16.87	15.00	15.00	15.08	14.93	16.32	16.26	16.49	16.10	13.95	13.72	13.87	13.84
			100	0	100	0	23.63	22.23	22.68	20.38	21.42	20.56	20.60	18.64	22.82	21.93	21.85	19.76	20.64	19.67	19.33	**17.63**
	2525.1	2544.9	1	99	1	0	**25.68**	24.44	23.32	20.69	**23.34**	22.29	**21.36**	**18.67**	24.62	23.51	22.56	19.76	**22.61**	21.39	20.31	17.48
			1	0	1	99	17.04	16.82	16.75	16.96	15.00	14.74	14.84	14.93	16.36	16.20	16.05	16.33	14.09	14.02	13.95	13.86
			100	0	100	0	23.26	22.50	22.30	20.44	21.62	20.57	20.24	18.47	22.68	21.93	21.92	19.58	20.29	19.39	19.67	17.38
	2540.2	2560.0	1	99	1	0	25.43	24.39	**23.68**	**20.70**	23.28	**22.60**	21.29	18.27	**24.86**	**24.00**	**22.75**	19.90	22.53	21.30	**20.42**	17.40
			1	0	1	99	17.03	17.18	17.04	16.93	14.90	14.89	14.91	14.75	16.50	16.46	16.48	16.45	13.73	13.81	14.01	14.01
			100	0	100	0	23.25	22.21	22.68	20.47	21.69	20.60	20.59	18.57	22.85	21.85	22.00	**19.99**	20.51	19.80	19.38	17.60

8.1.3. LTE BAND 41

Test Engineer ID:	39004	Test Date:	2024-01-24

OUTPUT POWER FOR LTE BAND 41 (5.0MHz + 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
5MHz / 20MHz	2499.3	2511.0	1	24	1	0	22.63	22.39	22.26	22.49	22.50	22.83	22.74	22.57	21.17	21.15	20.97	21.11	20.96	20.87	21.06	20.90
			25	0	100	0	22.63	22.41	22.64	22.68	22.86	22.53	22.91	22.68	21.06	21.11	21.08	21.11	20.91	21.19	20.90	20.94
	2583.8	2595.5	1	24	1	0	**28.22**	**27.02**	**26.44**	**23.62**	**28.34**	**26.91**	**26.50**	**23.32**	**27.88**	**26.17**	**25.97**	**22.97**	**27.31**	**26.12**	**25.51**	22.26
			25	0	100	0	26.53	25.46	25.27	23.31	26.49	25.45	25.30	**23.32**	25.77	24.68	24.60	22.92	25.40	24.33	24.34	**22.46**
	2668.3	2680.0	1	24	1	0	27.49	25.94	25.32	22.54	28.00	26.16	25.64	22.62	26.86	25.03	24.71	21.67	25.95	24.62	24.14	21.22
			25	0	100	0	25.33	24.68	24.52	22.36	25.79	24.60	24.55	22.68	24.71	23.92	23.82	21.97	23.88	23.27	23.07	21.29

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	26.29	25.83	26.14	22.51	26.81	26.17	26.50	22.65	25.10	24.23	24.66	21.12	25.20	24.41	24.46	20.82
			100	0	25	0	22.65	22.54	22.46	22.24	22.75	22.64	22.91	22.81	20.77	21.03	20.79	20.99	20.97	21.01	20.95	21.03
	2590.5	2602.2	1	99	1	0	**28.67**	**26.87**	**26.28**	**23.65**	**28.45**	**26.71**	**26.64**	23.42	**27.88**	**26.16**	**25.74**	**22.95**	**27.21**	**25.85**	**25.49**	**22.37**
			100	0	25	0	26.56	25.58	25.44	23.29	26.52	25.62	25.41	**23.61**	25.54	24.62	24.78	22.71	25.42	24.61	24.43	22.22
	2675.0	2686.7	1	99	1	0	27.39	26.01	25.53	22.31	27.95	26.30	25.64	22.68	26.78	25.26	24.90	21.97	26.27	24.49	23.81	21.11
			100	0	25	0	25.66	24.60	24.34	22.59	25.74	24.51	25.00	22.80	24.86	23.52	23.75	21.57	23.89	23.17	23.10	20.93

OUTPUT POWER FOR LTE BAND 41 (10.0MHz + 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
10MHz / 20MHz	2501.5	2515.9	1	49	1	0	22.59	22.62	22.31	22.32	22.96	22.86	22.72	22.90	20.78	20.89	21.15	20.78	21.15	21.26	21.18	20.82
			50	0	100	0	22.37	22.61	22.45	22.62	22.84	22.95	22.97	22.80	21.03	20.87	21.18	21.00	21.15	21.03	20.93	21.24
	2583.6	2598.0	1	49	1	0	**28.70**	**27.06**	**26.62**	**23.39**	**28.24**	**26.91**	**26.58**	23.25	**27.78**	**26.44**	**25.62**	22.60	**27.25**	**26.04**	**25.47**	**22.50**
			50	0	100	0	26.43	25.58	25.66	23.26	26.61	25.67	25.43	**23.63**	25.84	24.77	24.57	**22.86**	25.22	24.49	24.56	22.26
	2665.6	2680.0	1	49	1	0	27.49	25.81	25.29	22.50	27.67	26.34	25.82	22.89	26.87	25.18	24.63	21.79	25.95	24.70	24.06	20.85
			50	0	100	0	25.51	24.54	24.53	22.35	25.99	24.74	24.91	22.58	24.71	23.82	23.60	21.92	24.25	22.80	23.18	21.08

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 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				ANT 3				ANT 4			
							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	26.40	25.85	25.83	22.66	26.66	26.01	**26.29**	22.85	25.08	24.59	24.58	20.88	25.12	24.78	24.55	20.99
			100	0	50	0	22.47	22.48	22.54	22.52	22.94	22.88	22.92	22.86	20.75	21.17	20.83	20.73	21.26	21.18	21.29	21.02
	2588.1	2602.5	1	99	1	0	**28.52**	**27.05**	**26.61**	**23.68**	**28.42**	**26.91**	26.23	**23.61**	**27.61**	**26.34**	**25.88**	**22.92**	**27.25**	**26.19**	**25.55**	22.60
			100	0	50	0	26.52	25.57	25.62	23.38	26.43	25.29	25.21	23.45	25.89	24.57	25.00	22.87	25.35	24.42	24.35	**22.70**
	2670.1	2684.5	1	99	1	0	27.54	26.11	25.40	22.52	28.00	26.33	25.55	22.94	26.74	25.38	24.79	21.79	26.03	24.42	24.19	21.07
			100	0	50	0	25.20	24.62	24.65	22.30	25.59	24.62	24.53	22.71	24.88	23.67	23.83	21.70	23.96	23.08	23.06	20.91

OUTPUT POWER FOR LTE BAND 41 (15.0MHz + 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
15MHz / 15MHz	2503.5	2518.5	1	74	1	0	27.69	26.03	25.21	22.64	27.98	26.06	25.61	22.99	26.07	24.33	23.91	21.17	26.10	24.67	23.83	20.87
			75	0	75	0	22.59	22.39	22.23	22.24	22.84	22.55	22.87	22.53	20.93	20.87	21.17	20.99	20.95	20.94	21.00	21.10
	2585.5	2600.5	1	74	1	0	**28.26**	**27.15**	**26.36**	**23.56**	**28.49**	**26.89**	**26.21**	**23.57**	**27.81**	**26.19**	**25.75**	22.56	**27.50**	**26.07**	**25.69**	**22.50**
			75	0	75	0	26.48	25.45	25.47	23.53	26.28	25.28	25.60	23.33	25.76	24.50	24.79	**22.99**	25.47	24.48	24.26	22.37
	2667.5	2682.5	1	74	1	0	27.60	25.87	25.63	22.58	28.00	26.15	25.95	22.69	27.00	25.12	25.00	21.82	25.97	24.61	23.81	21.04
			75	0	75	0	25.31	24.20	24.62	22.25	25.96	24.52	24.70	22.91	24.54	23.60	23.89	21.70	24.27	23.19	23.15	20.96

OUTPUT POWER FOR LTE BAND 41 (15.0MHz + 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
15MHz / 20MHz	2503.8	2520.9	1	74	1	0	27.51	25.90	25.24	22.46	27.67	26.28	25.90	22.56	25.71	24.50	23.81	20.89	26.27	24.59	24.24	21.26
			75	0	100	0	22.31	22.64	22.31	22.61	22.63	22.97	22.60	22.62	20.83	21.05	20.78	20.71	21.28	21.16	21.13	20.96
	2583.3	2600.4	1	74	1	0	**28.36**	**26.72**	**26.48**	**23.48**	**28.41**	**26.81**	**26.67**	23.34	**27.97**	**26.28**	**25.94**	**22.95**	**27.58**	**26.05**	**25.66**	**22.66**
			75	0	100	0	26.61	25.57	25.42	23.30	26.50	25.46	25.38	**23.66**	25.77	24.99	24.90	22.91	25.23	24.28	24.62	22.34
	2662.9	2680.0	1	74	1	0	27.34	25.83	25.26	22.28	28.00	26.14	25.84	22.68	26.84	25.45	24.60	21.71	26.06	24.32	23.80	20.99
			75	0	100	0	25.47	24.51	24.46	22.34	25.83	24.52	24.70	22.79	24.97	23.86	23.53	21.72	23.81	22.86	23.21	21.29

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	27.58	25.82	25.69	22.34	27.86	26.34	25.91	22.88	26.01	24.48	23.76	21.16	26.07	24.51	24.00	20.89
			100	0	75	0	22.53	22.25	22.68	22.53	22.93	22.67	22.62	22.54	20.71	20.78	20.93	21.19	21.30	21.24	21.22	21.07
	2585.6	2602.7	1	99	1	0	**28.30**	**26.95**	**26.35**	**23.28**	**28.67**	**27.06**	**26.54**	**23.63**	**27.84**	**26.28**	**25.75**	**22.85**	**27.28**	**26.01**	**25.60**	22.61
			100	0	75	0	26.55	25.46	25.60	23.26	26.41	25.60	25.60	23.23	25.82	24.94	24.70	22.71	25.24	24.35	24.56	**22.69**
	2665.1	2682.2	1	99	1	0	27.50	25.83	25.63	22.65	27.97	26.25	25.75	22.84	26.92	25.25	24.85	21.86	25.99	24.38	24.02	21.11
			100	0	75	0	25.20	24.64	24.31	22.67	25.57	24.94	24.66	22.54	24.65	23.94	23.57	21.78	23.89	22.97	23.06	21.15

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	25.71	25.68	22.61	27.67	26.26	25.90	22.85	26.01	24.58	23.97	20.76	25.91	24.63	23.83	21.22
			1	0	1	99	14.44	14.33	14.55	14.39	14.53	14.87	14.62	14.61	12.85	12.76	12.84	12.98	12.95	12.83	12.87	12.91
			100	0	100	0	22.34	22.22	22.31	22.43	22.94	22.76	22.86	22.61	21.14	20.95	21.01	21.01	21.16	20.99	20.90	20.89
	2583.1	2602.9	1	99	1	0	**28.25**	**26.93**	**26.61**	23.39	**28.65**	**27.04**	**26.38**	**23.62**	**27.67**	**26.28**	**25.53**	**22.87**	**27.45**	**25.78**	**25.45**	**22.84**
			1	0	1	99	20.06	19.92	19.83	20.03	19.76	19.73	20.02	19.77	19.49	19.09	19.14	19.47	19.06	18.93	18.76	19.10
			100	0	100	0	26.55	25.54	25.46	**23.67**	26.67	25.24	25.32	23.39	25.70	24.53	24.65	22.67	25.60	24.24	24.62	22.26
	2660.2	2680.0	1	99	1	0	27.64	26.04	25.25	22.36	28.00	26.05	25.65	22.96	26.95	25.27	24.67	21.76	25.82	24.78	24.14	21.24
			1	0	1	99	19.09	18.77	19.16	18.94	19.47	19.01	19.17	19.22	18.17	18.01	18.18	18.13	17.46	17.52	17.57	17.31
			100	0	100	0	25.47	24.60	24.26	22.34	25.85	24.98	24.82	22.65	24.71	23.84	23.68	21.78	24.27	22.95	22.92	21.02

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	3MHz + 5MHz BAND QPSK	15/0 + 25/0	836.5	7.460	7.985
	3MHz + 5MHz BAND 16QAM			7.458	7.998
	5MHz + 3MHz BAND QPSK	25/0 + 15/0		7.461	8.001
	5MHz + 3MHz BAND 16QAM			7.466	7.934
	5MHz + 10MHz BAND QPSK	25/0 + 50/0		14.63	16.27
	5MHz + 10MHz BAND 16QAM			14.53	16.21
	10MHz + 5MHz BAND QPSK	50/0 + 25/0		14.62	16.36
	10MHz + 5MHz BAND 16QAM			14.54	16.27
	10MHz + 10MHz BAND QPSK	50/0 + 50/0		19.35	21.33
	10MHz + 10MHz BAND 16QAM			19.29	21.16

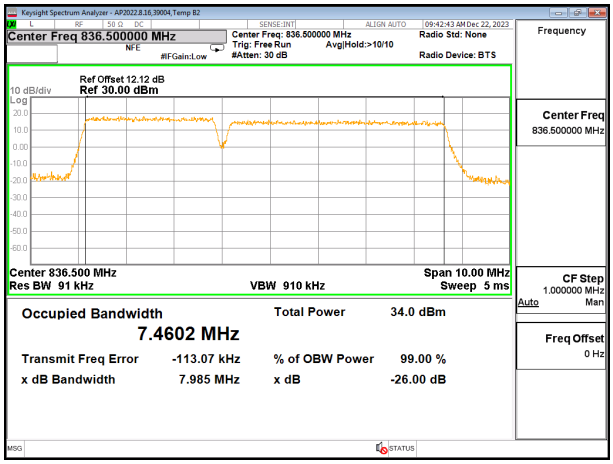
LTE BAND 7

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	28.22	33.29
	10MHz + 20MHz BAND 16QAM			28.19	30.41
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		28.21	31.58
	20MHz + 10MHz BAND 16QAM			28.14	30.47
	15MHz + 15MHz BAND QPSK	75/0 + 75/0		28.80	33.69
	15MHz + 15MHz BAND 16QAM			28.73	31.31
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		33.11	35.29
	15MHz + 20MHz BAND 16QAM			33.03	35.46
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		33.09	35.69
	20MHz + 15MHz BAND 16QAM			33.04	35.58
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.91	40.72
	20MHz + 20MHz BAND 16QAM			37.90	40.53

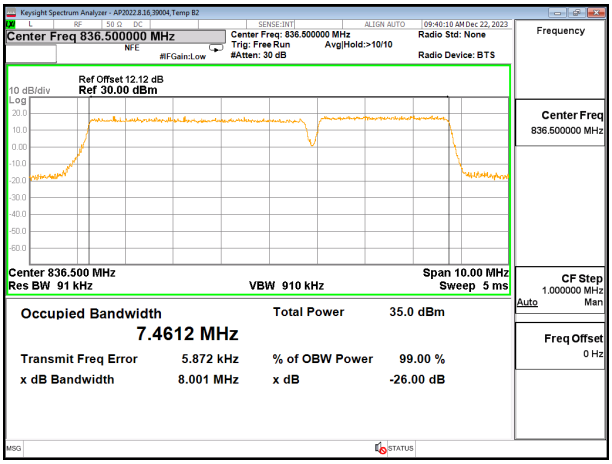
LTE BAND 41

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	23.34	25.23
	5MHz + 20MHz BAND 16QAM			23.28	25.17
	20MHz + 5MHz BAND QPSK	100/0 + 25/0		23.41	25.21
	20MHz + 5MHz BAND 16QAM			23.39	25.37
	10MHz + 20MHz BAND QPSK	50/0 + 100/0		28.02	30.20
	10MHz + 20MHz BAND 16QAM			28.05	30.10
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		28.12	31.88
	20MHz + 10MHz BAND 16QAM			28.13	30.42
	15MHz + 15MHz BAND QPSK	75/0 + 75/0		28.64	30.99
	15MHz + 15MHz BAND 16QAM			28.66	30.98
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		32.91	35.36
	15MHz + 20MHz BAND 16QAM			32.90	35.48
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		32.89	35.35
	20MHz + 15MHz BAND 16QAM			32.92	35.31
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.76	40.28
	20MHz + 20MHz BAND 16QAM			37.75	40.18

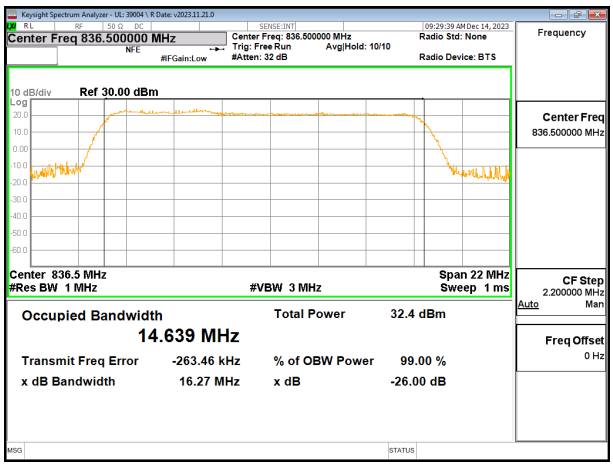
9.1.1. LTE BAND 5



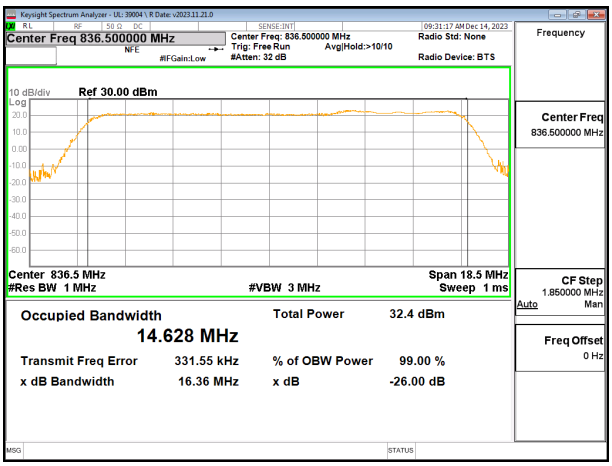
LTE B5 3MHz + 5MHz QPSK RB15-0 + RB25-0



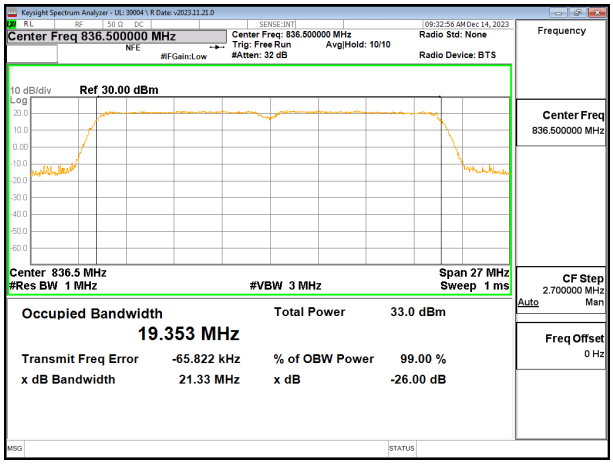
LTE B5 5MHz + 3MHz QPSK RB25-0 + RB15-0



LTE B5 5MHz + 10MHz QPSK RB25-0 + RB50-0



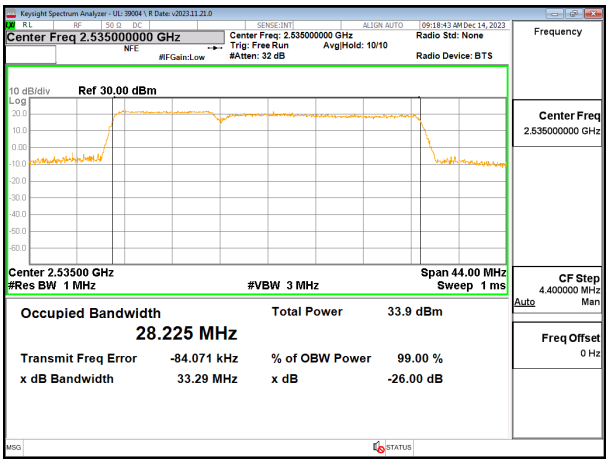
LTE B5 10MHz + 5MHz QPSK RB50-0 + RB25-0



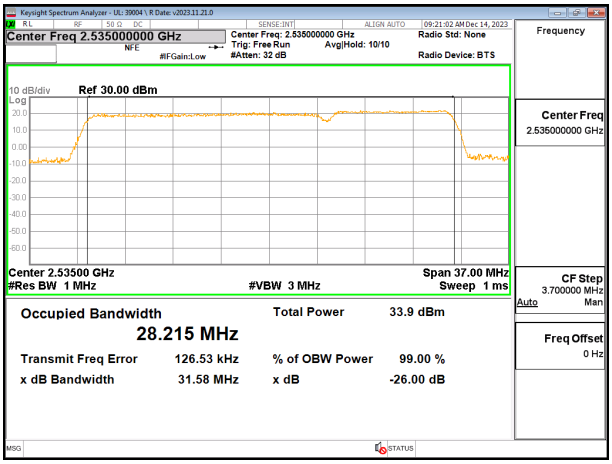
LTE B5 10MHz + 10MHz QPSK RB50-0 + RB50-0

Intentionally Blank

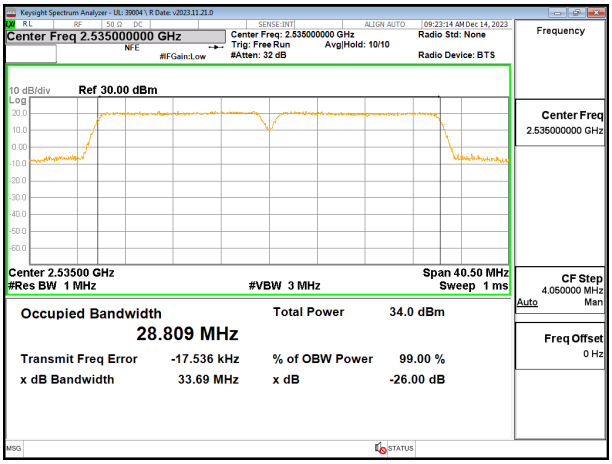
9.1.2. LTE BAND 7



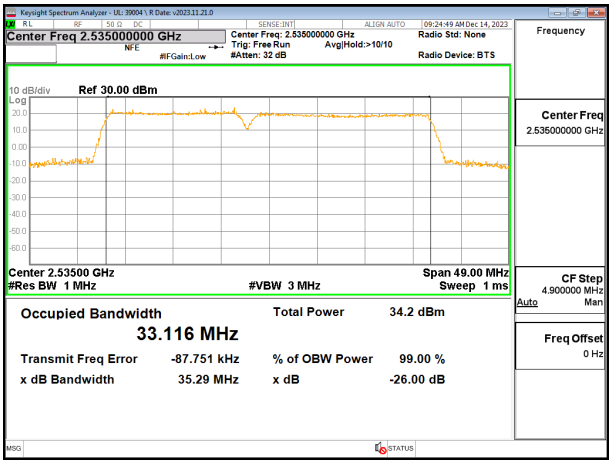
LTE B7 10MHz + 20MHz QPSK RB50-0 + RB100-0



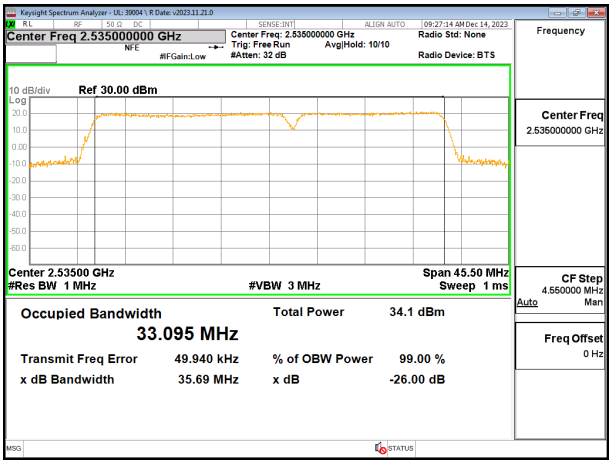
LTE B7 20MHz + 10MHz QPSK RB100-0 + RB50-0



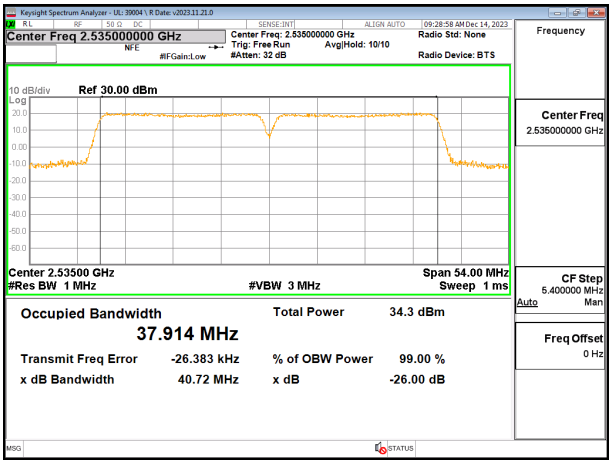
LTE B7 15MHz + 15MHz QPSK RB75-0 + RB75-0



LTE B7 15MHz + 20MHz QPSK RB75-0 + RB100-0

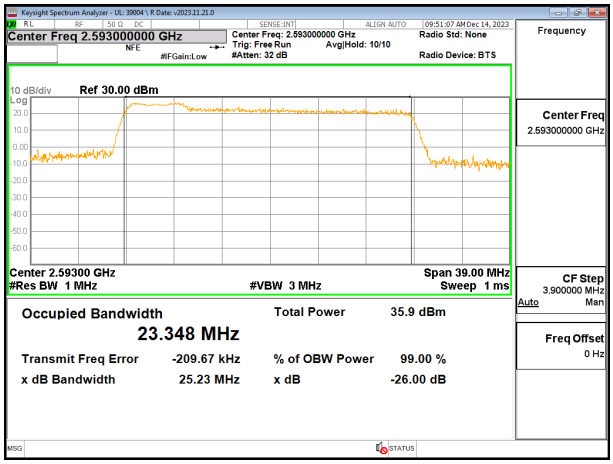


LTE B7 20MHz + 15MHz QPSK RB100-0 + RB75-0

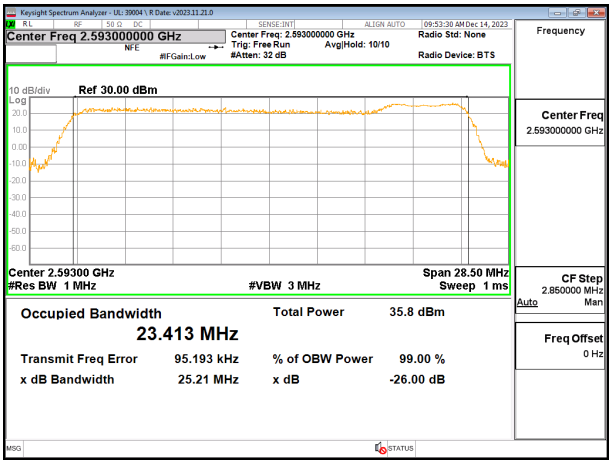


LTE B7 20MHz + 20MHz QPSK RB100-0 + RB100-0

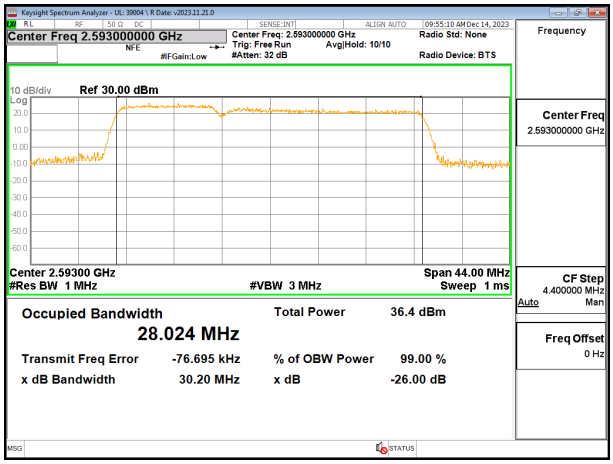
9.1.3. LTE BAND 41



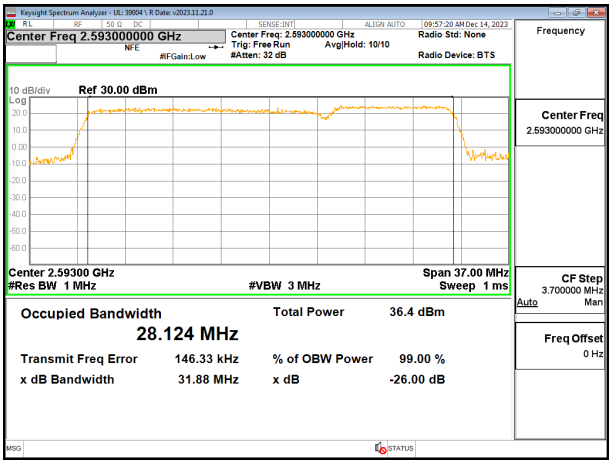
LTE B41 5MHz + 20MHz QPSK RB25-0 + RB100-0



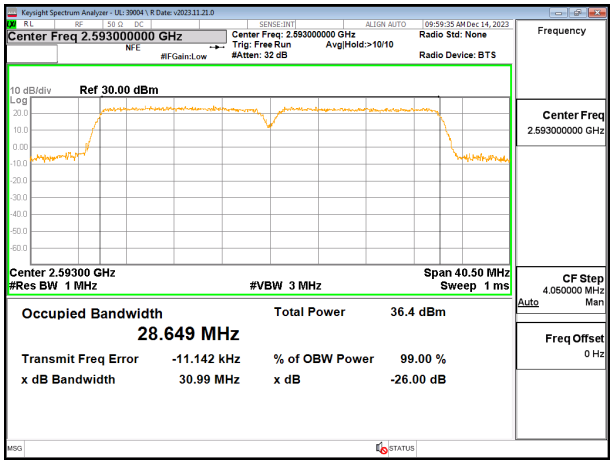
LTE B41 20MHz + 5MHz QPSK RB100-0 + RB25-0



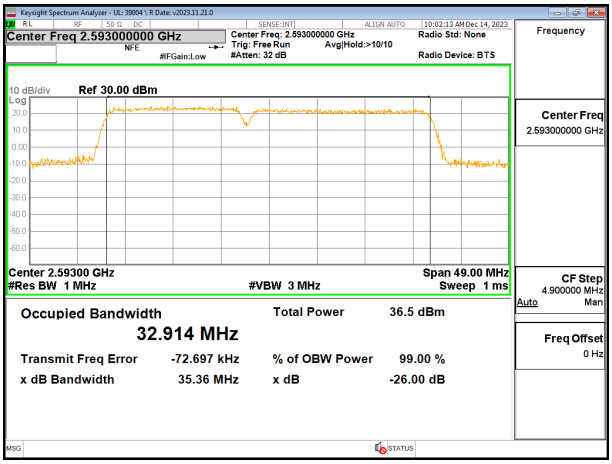
LTE B41 10MHz + 20MHz QPSK RB50-0 + RB100-0



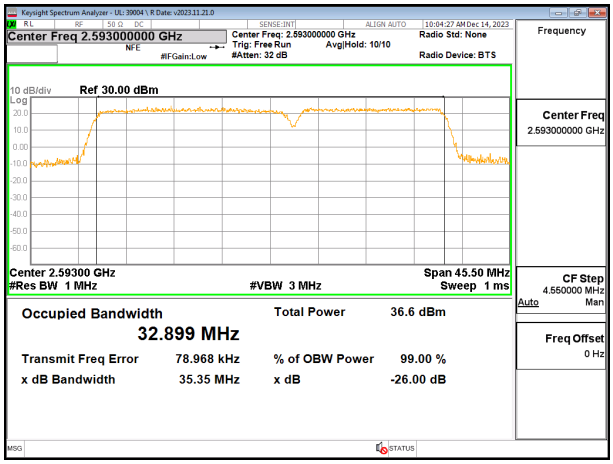
LTE B41 20MHz + 10MHz QPSK RB100-0 + RB50-0



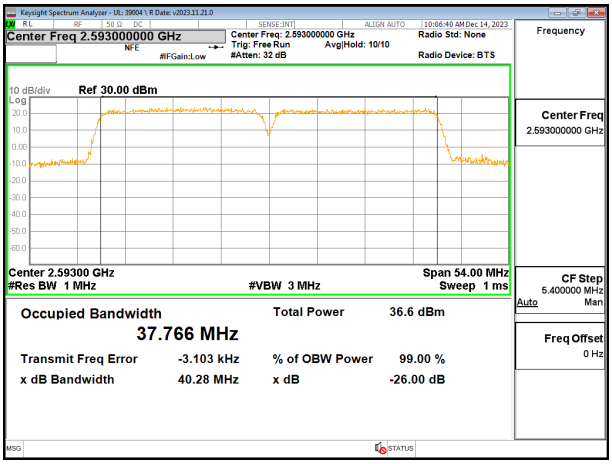
LTE B41 15MHz + 15MHz QPSK RB75-0 + RB75-0



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



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



LTE B41 20MHz + 20MHz QPSK RB100-0 + 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.

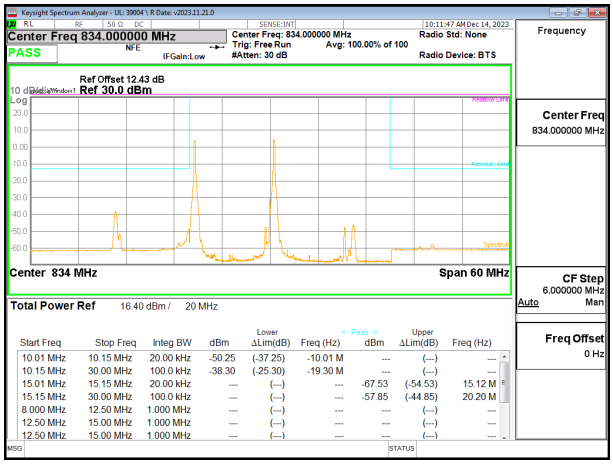
RESULTS

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

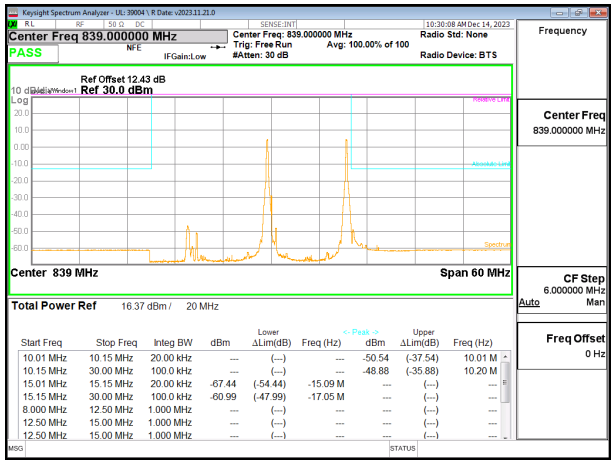
9.2.1. LTE BAND 5

LIMITS

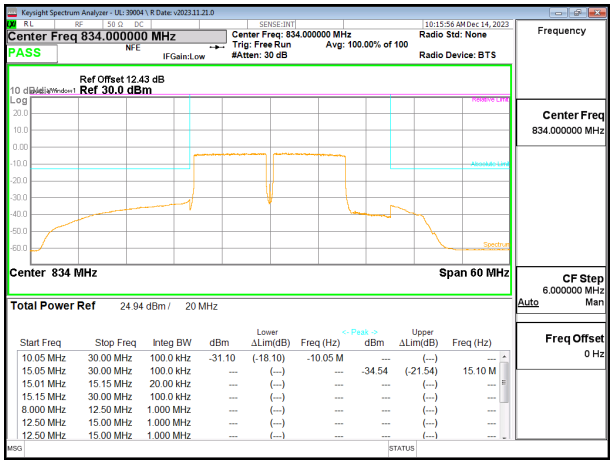
FCC: §22.917
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.



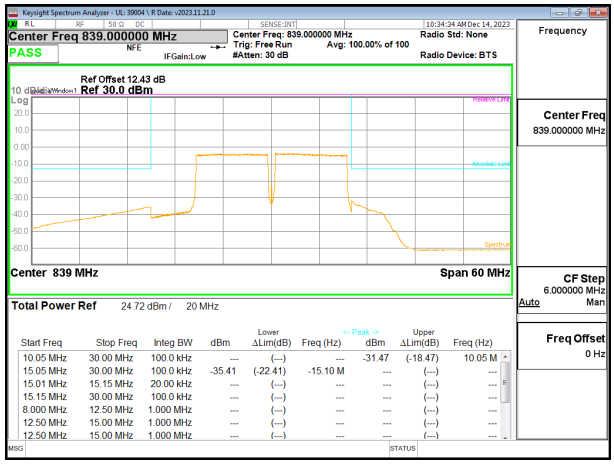
LTE B5 10MHz + 10MHz QPSK Low Ch RB1-0 + RB1-0



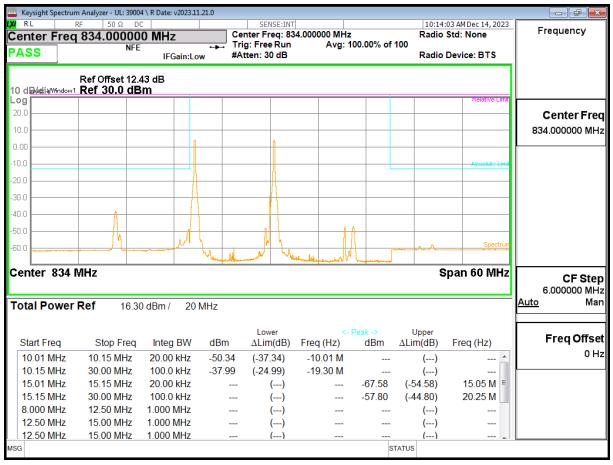
LTE B5 10MHz + 10MHz QPSK High Ch RB1-49 + RB1-49



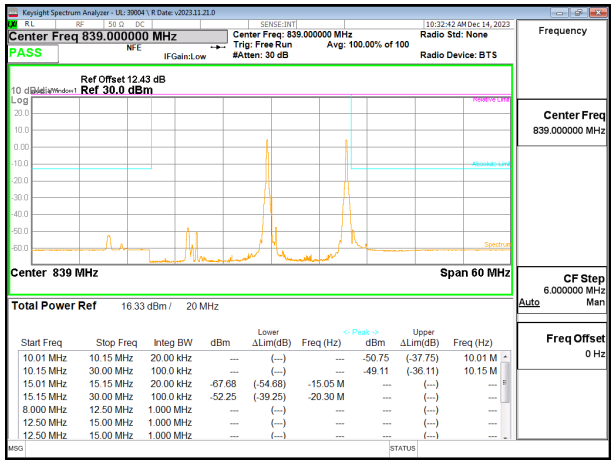
LTE B5 10MHz + 10MHz QPSK Low Ch RB50-0 + RB50-0



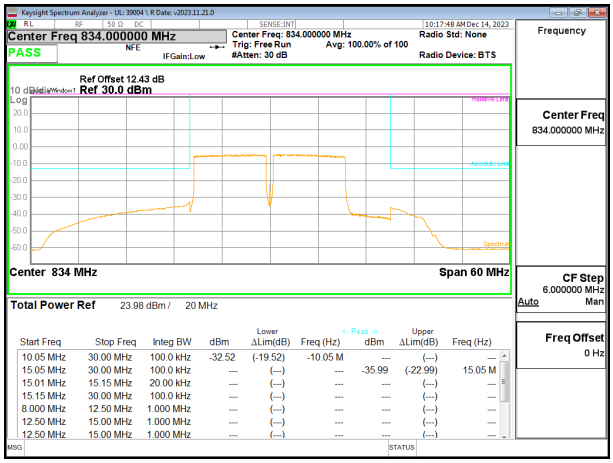
LTE B5 10MHz + 10MHz QPSK High Ch RB50-0 + RB50-0



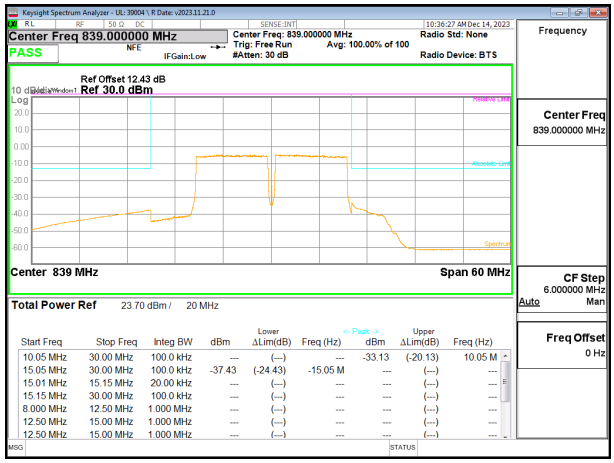
LTE B5 10MHz + 10MHz 16QAM Low Ch RB1-0 + RB1-0



LTE B5 10MHz + 10MHz 16QAM High Ch RB1-49 + RB1-49



LTE B5 10MHz + 10MHz 16QAM Low Ch RB50-0 + RB50-0

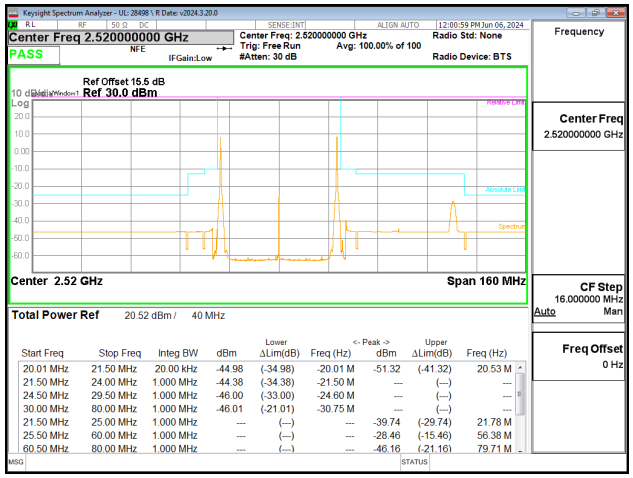


LTE B5 10MHz + 10MHz 16QAM High Ch RB50-0 + RB50-0

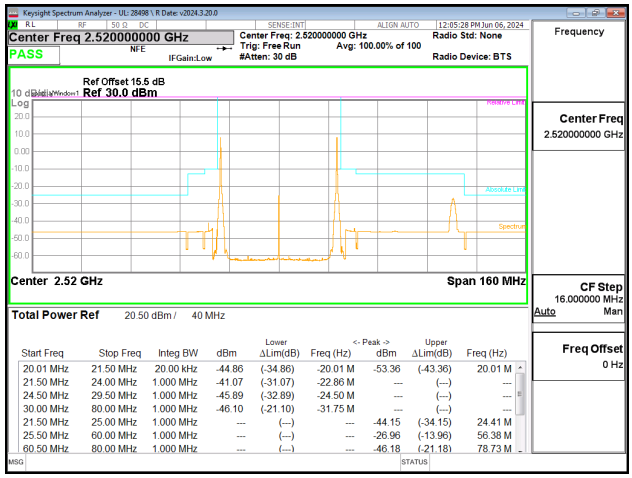
9.2.2. LTE BAND 7

LIMITS

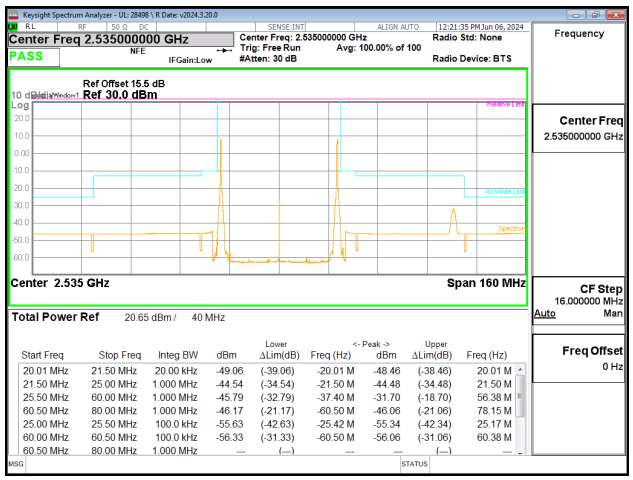
FCC: §27.53(m)(4) For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 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 that 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.



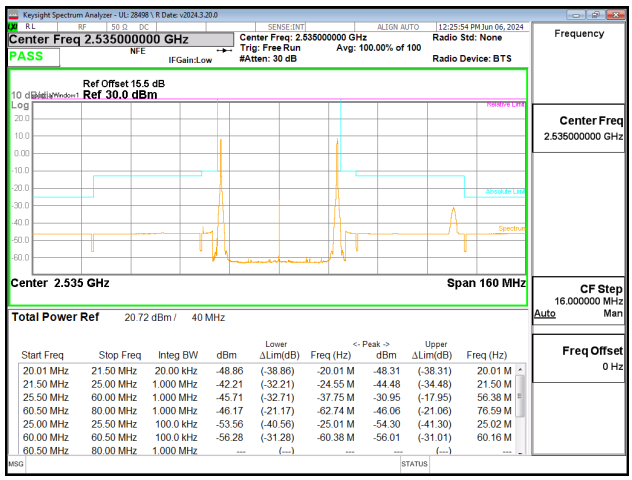
LTE B7 20MHz + 20MHz QPSK Low Ch RB1-0 + RB1-99



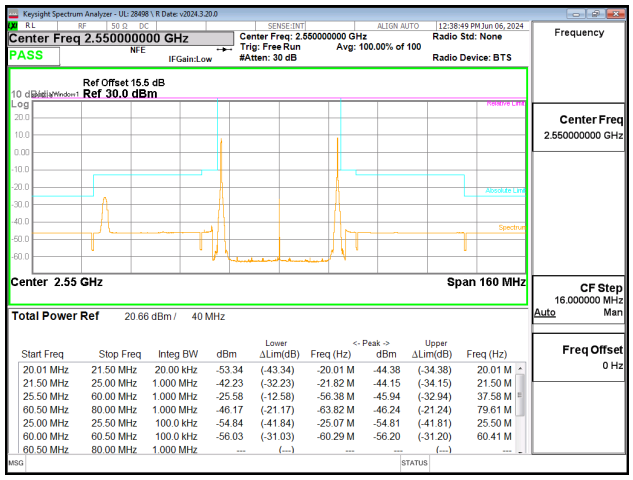
LTE B7 20MHz + 20MHz 16QAM Low Ch RB1-0 + RB1-99



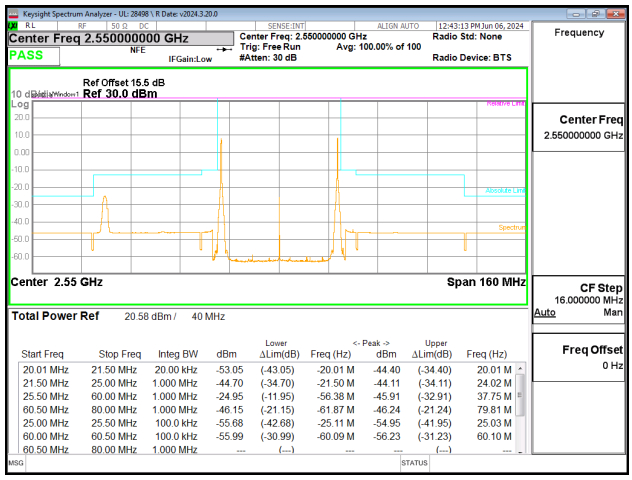
LTE B7 20MHz + 20MHz QPSK Mid Ch RB1-0 + RB1-99



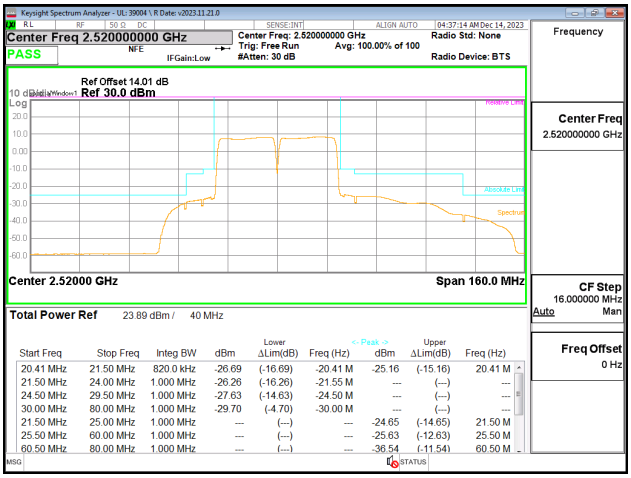
LTE B7 20MHz + 20MHz 16QAM Mid Ch RB1-0 + RB1-99



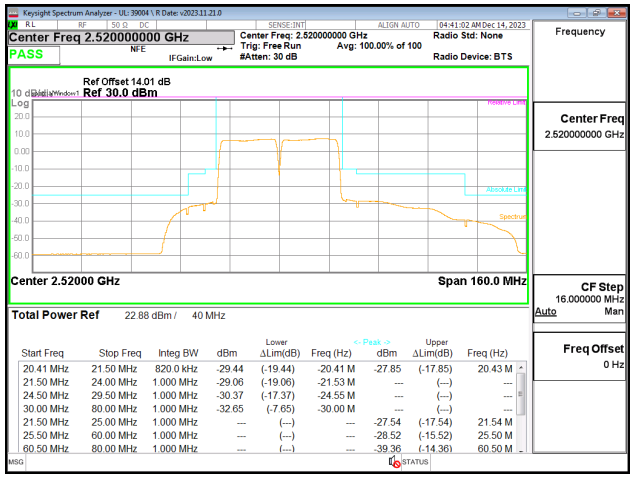
LTE B7 20MHz + 20MHz QPSK High Ch RB1-0 + RB1-99



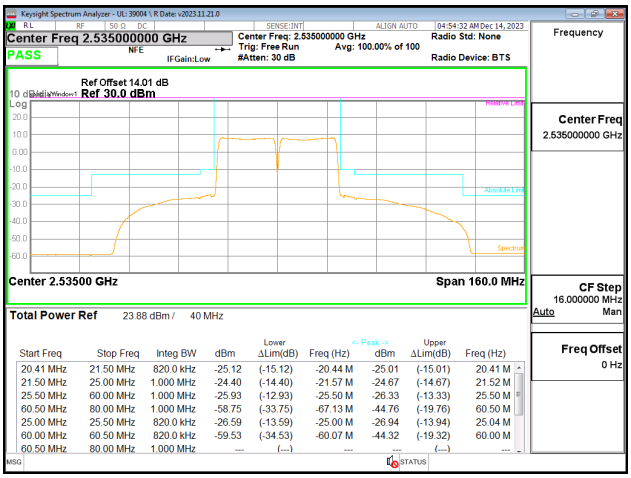
LTE B7 20MHz + 20MHz 16QAM High Ch RB1-0 + RB1-99



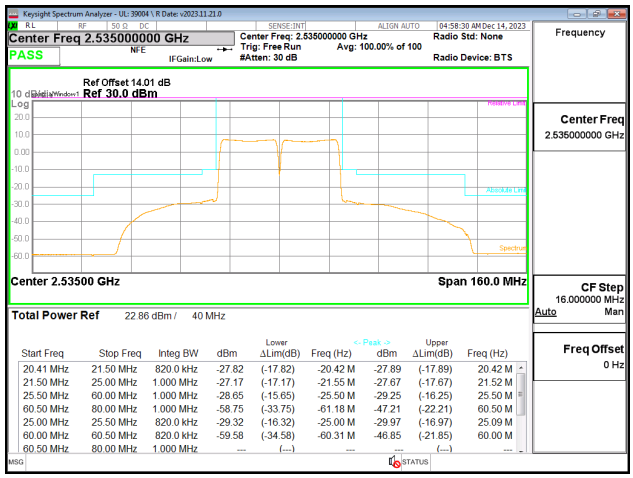
LTE B7 20MHz + 20MHz QPSK Low Ch RB100-0 + RB100-0



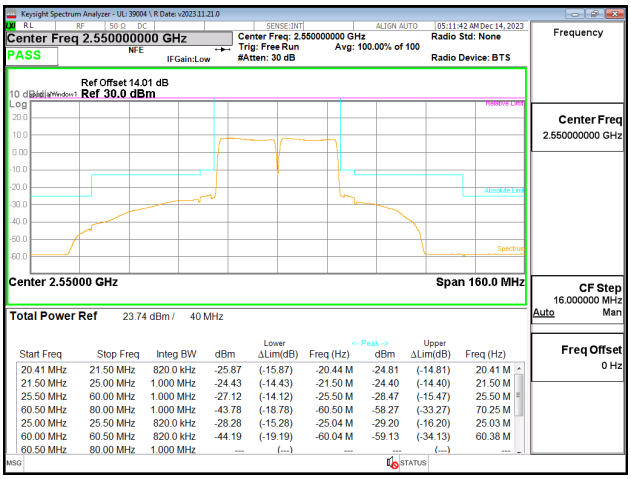
LTE B7 20MHz + 20MHz 16QAM Low Ch RB100-0 + RB100-0



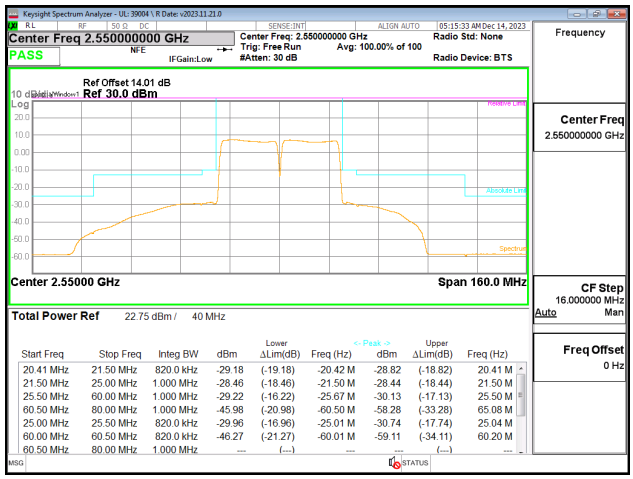
LTE B7 20MHz + 20MHz QPSK Mid Ch RB100-0 + RB100-0



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



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

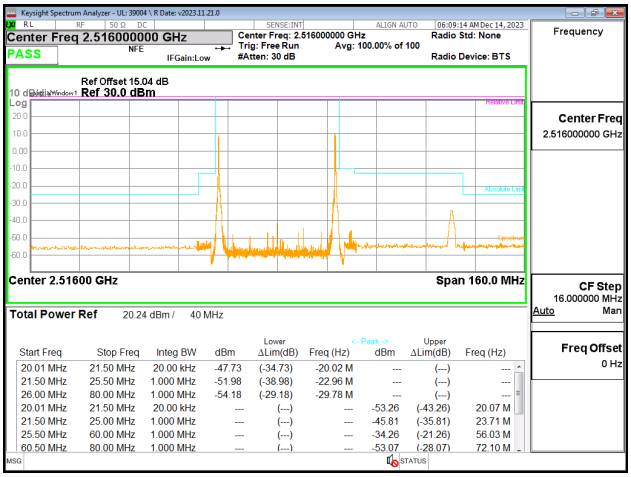


LTE B7 20MHz + 20MHz 16QAM High Ch RB100-0 + RB100-0

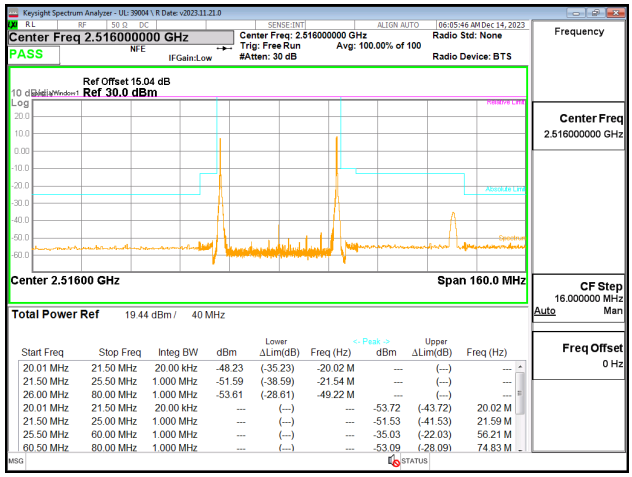
9.2.3. LTE BAND 41

LIMITS

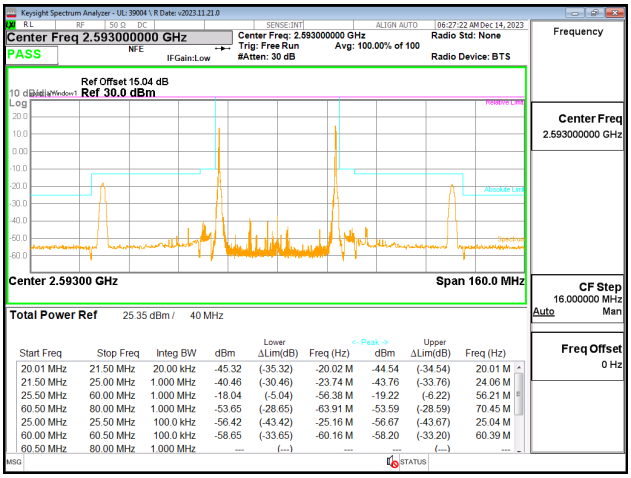
FCC: §27.53(m)(4) For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 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 that 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.



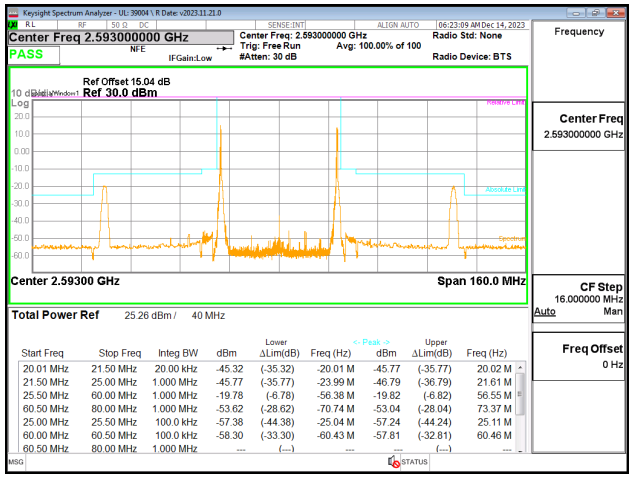
LTE B41 20MHz + 20MHz QPSK Low Ch RB1-0 + RB1-99



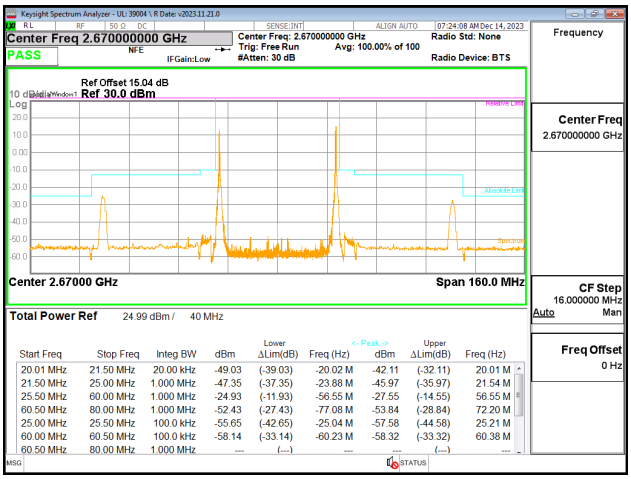
LTE B41 20MHz + 20MHz 16QAM Low Ch RB1-0 + RB1-99



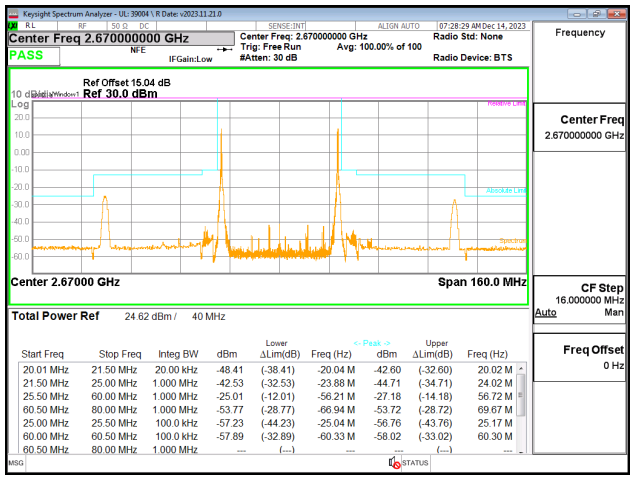
LTE B41 20MHz + 20MHz QPSK Mid Ch RB1-0 + RB1-99



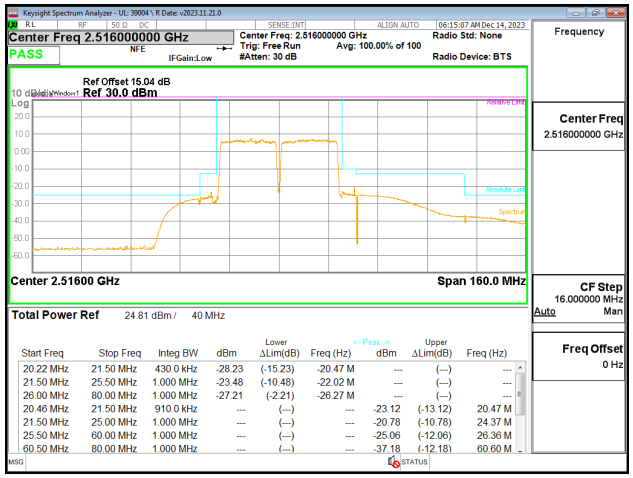
LTE B41 20MHz + 20MHz 16QAM Mid Ch RB1-0 + RB1-99



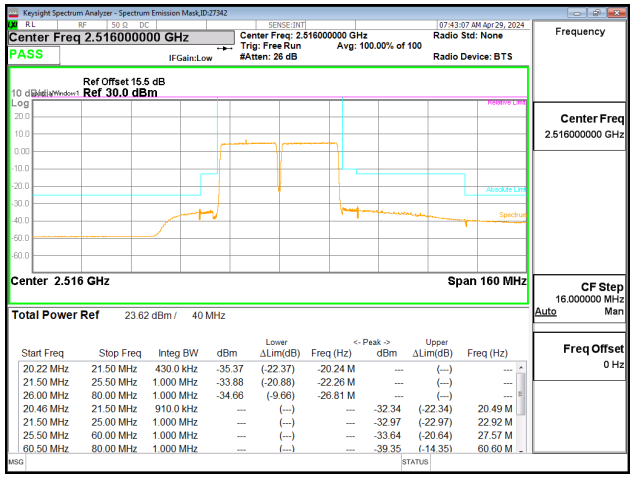
LTE B41 20MHz + 20MHz QPSK High Ch RB1-0 + RB1-99



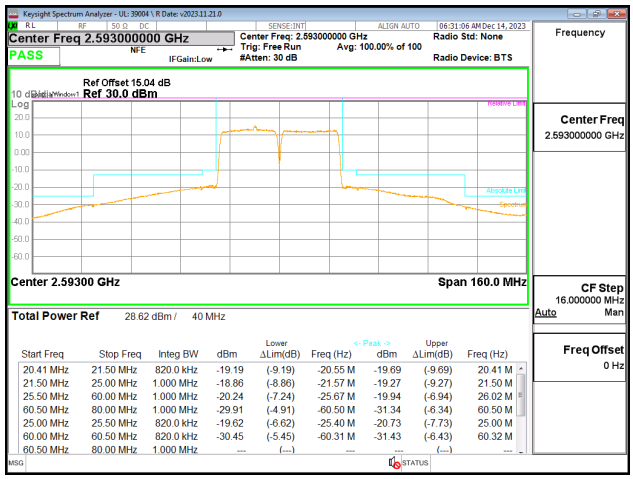
LTE B41 20MHz + 20MHz 16QAM High Ch RB1-0 + RB1-99



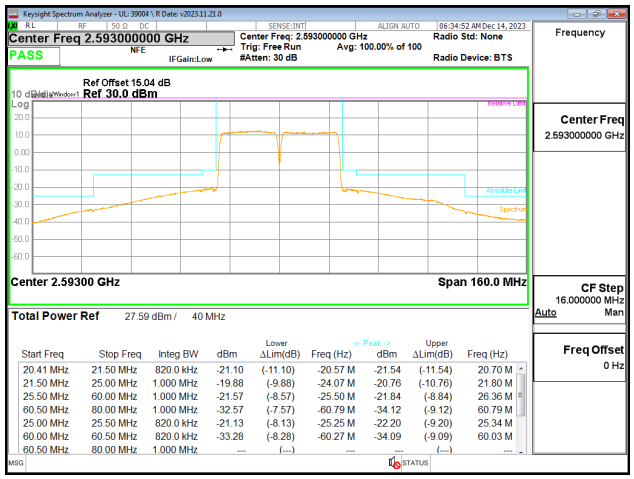
LTE B41 20MHz + 20MHz QPSK Low Ch RB100-0 + RB100-0



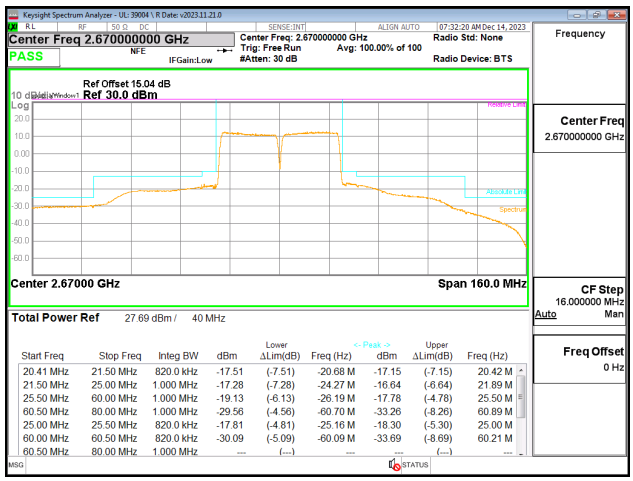
LTE B41 20MHz + 20MHz 16QAM Low Ch RB100-0 + RB100-0



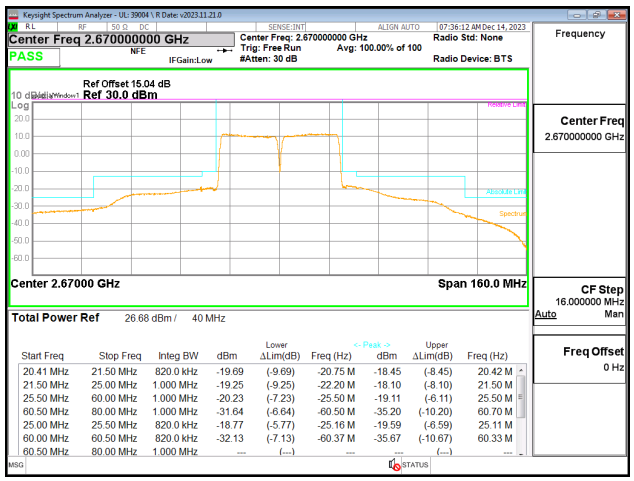
LTE B41 20MHz + 20MHz QPSK Mid Ch RB100-0 + RB100-0



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)

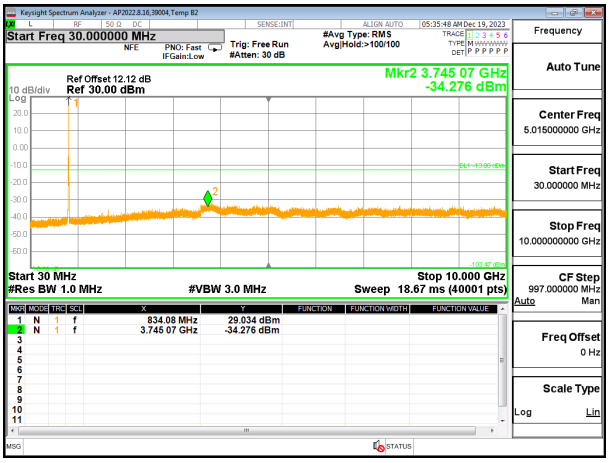
RESULTS

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

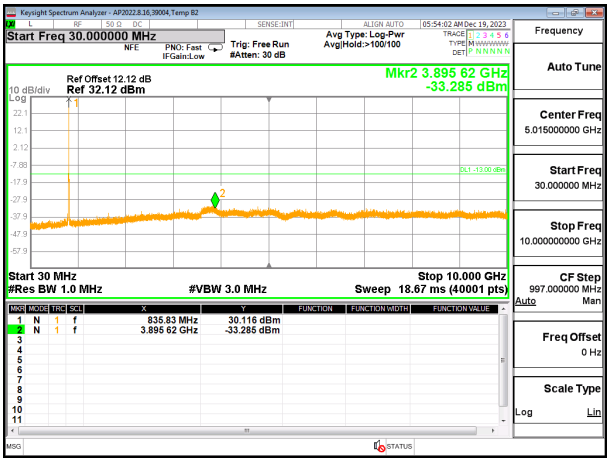
9.3.1. LTE BAND 5

LIMITS

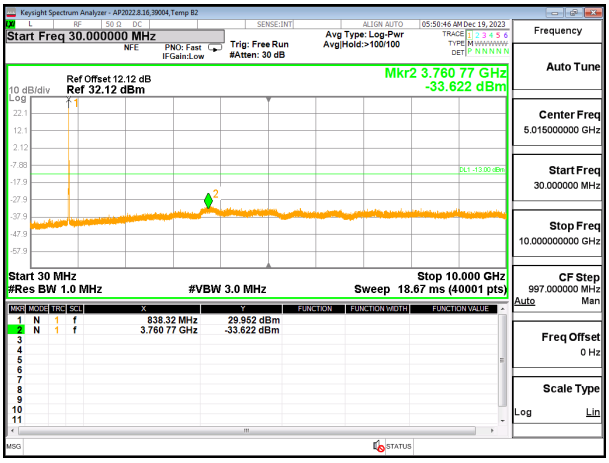
FCC: §22.917
The minimum permissible attenuation level of any spurious emissions is 43 + 10 log (P) dB where transmitting power (P) in Watts.



LTE B5 10MHz + 10MHz QPSK Low Ch RB1-49 + RB1-0



LTE B5 10MHz + 10MHz QPSK Middle Ch RB1-49 + RB1-0



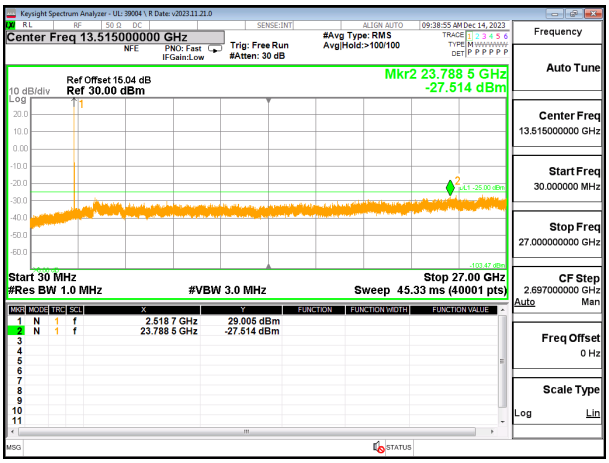
LTE B5 10MHz + 10MHz QPSK High Ch RB1-49 + RB1-0

Intentionally Blank

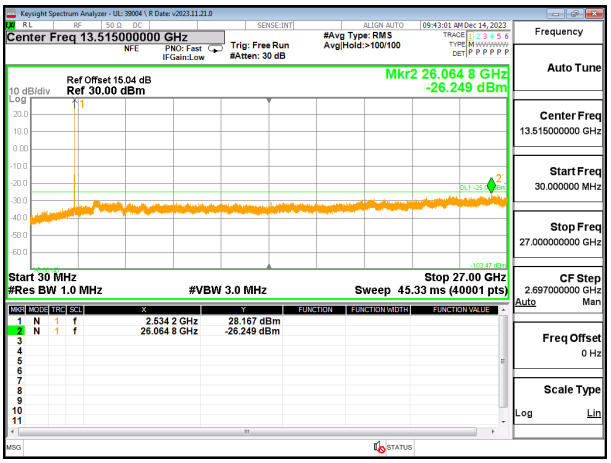
9.3.2. LTE BAND 7

LIMITS

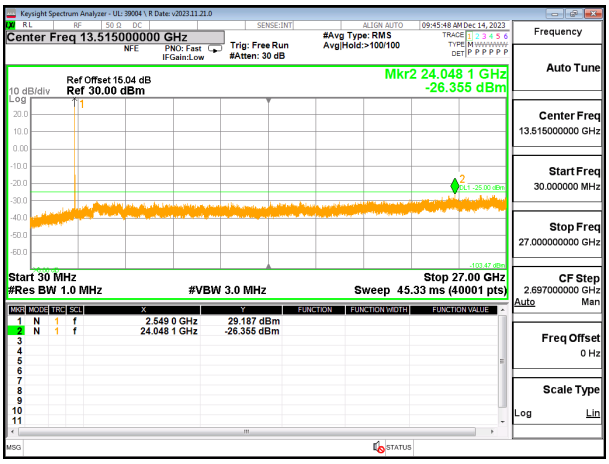
FCC: §27.53 (m)
The minimum permissible attenuation level of any spurious emissions is 55 + 10 log (P) dB where transmitting power (P) in Watts.



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



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



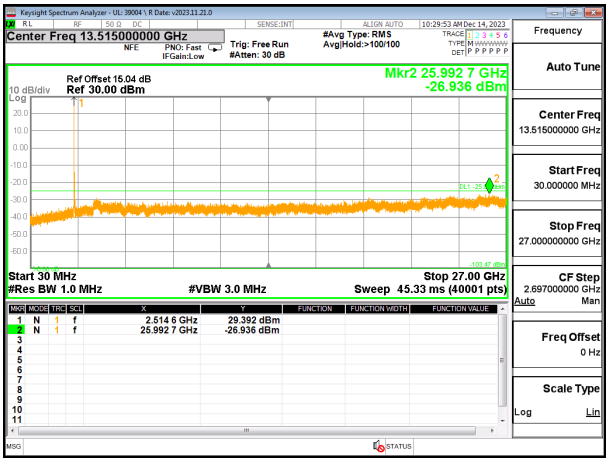
LTE B7 20MHz + 20MHz QPSK High Ch RB1-99 + RB1-0

Intentionally Blank

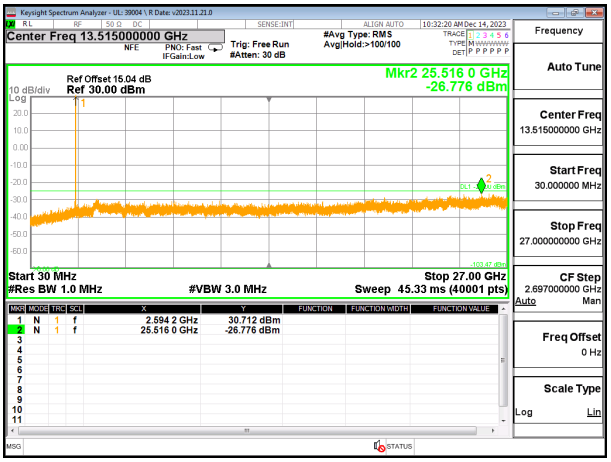
9.3.3. LTE BAND 41

LIMITS

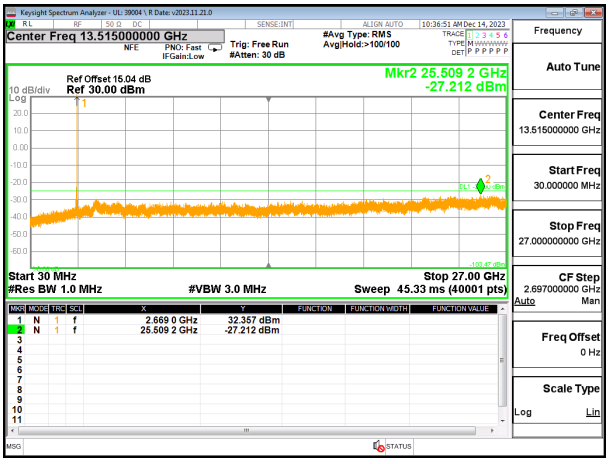
FCC: §27.53 (m)
The minimum permissible attenuation level of any spurious emissions is 55 + 10 log (P) dB where transmitting power (P) in Watts.



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



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



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

Intentionally Blank

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 place inside a temperature chamber. The temperature is set to 20ºC 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 +50ºC 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:	39004	Test Date:	2024-01-19

QPSK (10MHz + 10MHz BANDWIDTH)

Band	5	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		824	849		2.5	
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	824.5728	848.4317			
Extreme (50°C)		824.5728	848.4317	19.5	0.023	Yes
Extreme (40°C)		824.5728	848.4317	15.6	0.019	Yes
Extreme (30°C)		824.5728	848.4317	21.3	0.025	Yes
Extreme (10°C)		824.5728	848.4317	17.7	0.021	Yes
Extreme (0°C)		824.5728	848.4317	4.1	0.005	Yes
Extreme (-10°C)		824.5728	848.4317	4.5	0.005	Yes
Extreme (-20°C)		824.5728	848.4317	-10.3	-0.012	Yes
Extreme (-30°C)		824.5728	848.4317	-20.4	-0.024	Yes
20°C	15%	824.5728	848.4317	22.5	0.027	Yes
	-15%	824.5728	848.4317	25.4	0.030	Yes
	End Point Voltage	824.5728	848.4317	23.7	0.028	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:	39004	Test Date:	2024-01-19

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)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	2501.1503	2568.8834			
Extreme (50°C)		2501.1503	2568.8834	18.7	0.007	Yes
Extreme (40°C)		2501.1503	2568.8834	34.9	0.014	Yes
Extreme (30°C)		2501.1503	2568.8834	38.4	0.015	Yes
Extreme (10°C)		2501.1503	2568.8834	17.8	0.007	Yes
Extreme (0°C)		2501.1503	2568.8834	21.2	0.008	Yes
Extreme (-10°C)		2501.1503	2568.8834	3.3	0.001	Yes
Extreme (-20°C)		2501.1503	2568.8834	-14.5	-0.006	Yes
Extreme (-30°C)		2501.1503	2568.8834	-34.2	-0.013	Yes
20°C	15%	2501.1503	2568.8834	15.6	0.006	Yes
	-15%	2501.1503	2568.8834	18.2	0.007	Yes
	End Point Voltage	2501.1503	2568.8834	14.8	0.006	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:	39904	Test Date:	2024-01-19

QPSK (20MHz + 20MHz BANDWIDTH)

Band	41	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2496	2690			
Temperature	Voltage	Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Normal (20°C)	Normal	2497.1380	2689.6007			
Extreme (50°C)		2497.1380	2689.6007	24.3	0.009	Yes
Extreme (40°C)		2497.1380	2689.6007	31.5	0.012	Yes
Extreme (30°C)		2497.1380	2689.6007	27.1	0.010	Yes
Extreme (10°C)		2497.1380	2689.6007	13.5	0.005	Yes
Extreme (0°C)		2497.1380	2689.6007	-1.9	-0.001	Yes
Extreme (-10°C)		2497.1380	2689.6007	-20.2	-0.008	Yes
Extreme (-20°C)		2497.1380	2689.6007	-24.0	-0.009	Yes
Extreme (-30°C)		2497.1380	2689.6007	-36.2	-0.014	Yes
20°C	15%	2497.1380	2689.6007	-1.0	0.000	Yes
	-15%	2497.1380	2689.6007	-3.5	-0.001	Yes
	End Point Voltage	2497.1380	2689.6007	-5.1	-0.002	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:	39004	Test Date:	2023-12-20

Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 5	3MHz / 5MHz	834.0	837.9	QPSK	31.80	26.44	5.36
				16QAM	31.83	25.51	6.32
	5 MHz / 3MHz	835.0	838.9	QPSK	31.67	26.23	5.44
				16QAM	31.70	25.23	6.47
	5MHz / 10MHz	831.6	838.8	QPSK	31.86	26.64	5.22
				16QAM	31.90	25.96	5.94
	10MHz / 5MHz	834.3	841.5	QPSK	31.80	26.61	5.19
				16QAM	31.86	25.91	5.95
	10MHz / 10MHz	831.5	841.4	QPSK	31.76	26.51	5.25
				16QAM	31.86	25.85	6.01
Duty Cycle Correction Factor (dB) =			0.00				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

9.5.2. LTE BAND 7

Test Engineer ID:	39004	Test Date:	2023-12-20

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	32.39	24.31	8.08
				16QAM	32.47	23.33	9.14
	20MHz / 10MHz	2530.1	2544.5	QPSK	32.41	24.27	8.14
				16QAM	32.38	23.31	9.07
	15 MHz / 15MHz	2527.5	2542.5	QPSK	32.39	24.28	8.11
				16QAM	32.45	23.28	9.17
	15MHz / 20MHz	2525.3	2542.4	QPSK	32.44	24.29	8.15
				16QAM	32.42	23.30	9.12
	20MHz / 15MHz	2527.6	2544.7	QPSK	34.31	26.98	7.33
				16QAM	32.47	23.32	9.15
	20MHz / 20MHz	2525.1	2544.9	QPSK	32.44	24.22	8.22
				16QAM	32.44	23.31	9.13
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:	39004	Test Date:	2023-12-20

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	33.10	23.50	2.61
				16QAM	33.11	22.51	3.61
	20MHz / 5MHz	2590.5	2602.2	QPSK	34.65	23.51	4.15
				16QAM	33.07	22.53	3.55
	10MHz / 20MHz	2583.6	2598.0	QPSK	33.08	23.50	2.59
				16QAM	34.67	22.51	5.17
	20MHz / 10MHz	2588.1	2602.5	QPSK	34.65	23.50	4.16
				16QAM	34.67	22.51	5.17
	15MHz / 15MHz	2585.5	2600.5	QPSK	34.66	23.50	4.17
				16QAM	34.65	22.51	5.15
	15MHz / 20MHz	2583.3	2600.4	QPSK	34.65	23.51	4.15
				16QAM	33.11	22.51	3.61
	20MHz / 15MHz	2585.6	2602.7	QPSK	34.62	23.52	4.11
				16QAM	34.67	22.50	5.18
	20MHz / 20MHz	2583.1	2602.9	QPSK	34.65	23.5	4.16
				16QAM	33.07	22.54	3.54
Duty Cycle Correction Factor (dB) =			6.99				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

10. RADIATED TEST RESULTS

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.

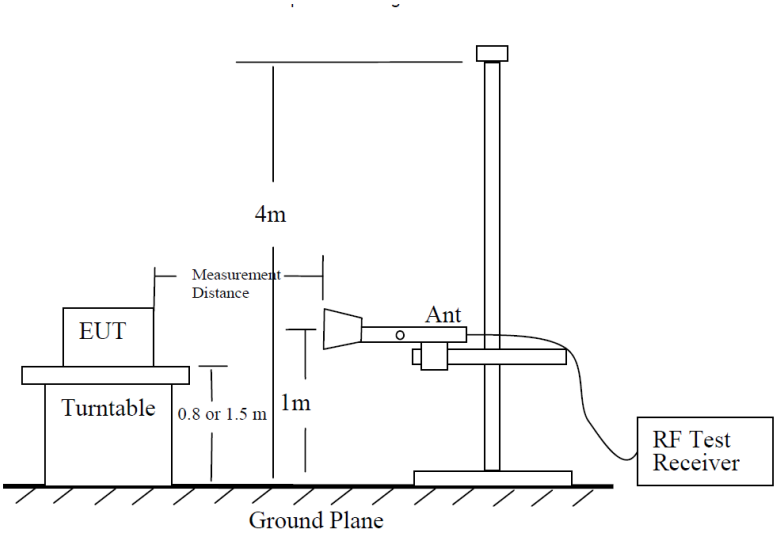


Figure 6—Test site-up for radiated ERP and/or EIRP measurements

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

a) E (dBμV/m) = Measured amplitude level (dBμV) + Cable Loss (dB) + Antenna Factor (dB/m).

b) E (dBμV/m) = Measured amplitude level (dBm) + 107 + Cable Loss (dB) + Antenna Factor (dB/m).

c) E (dBμV/m) = EIRP (dBm) − 20log(D) + 104.8; where D is the measurement distance (in the far field region) in m.

d) EIRP (dBm) = E (dBμV/m) + 20log(D) − 104.8; where D is the measurement distance (in the far field region) in m.

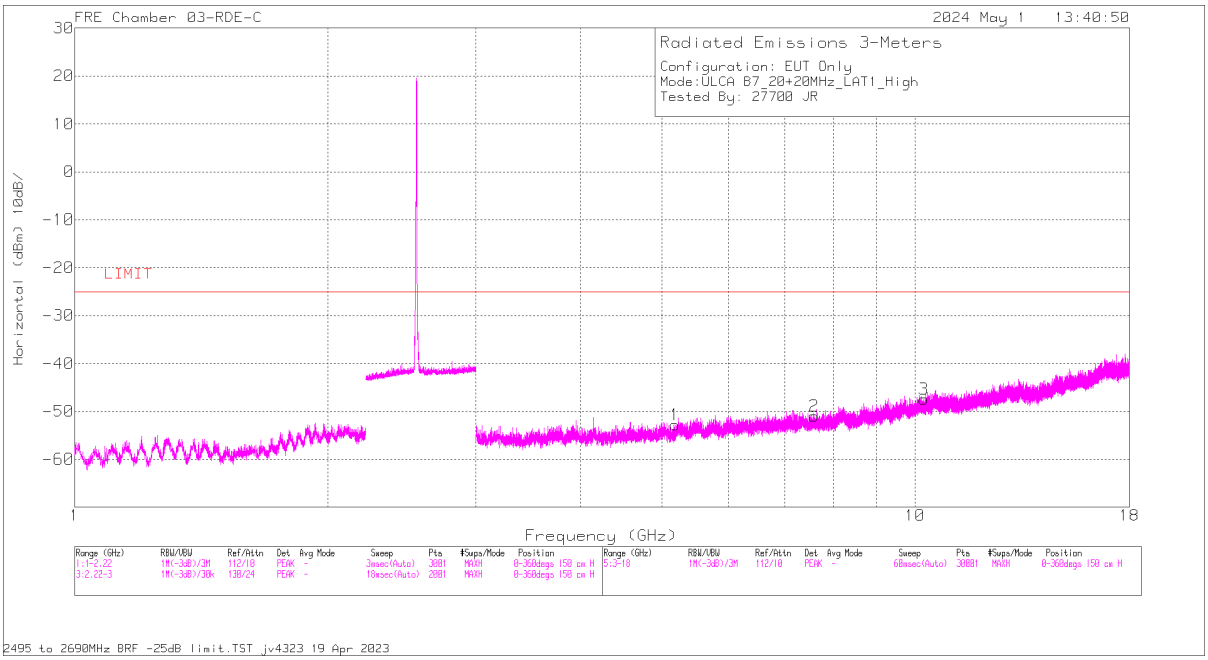
So, from d)

The measuring distance is usually at 3m, then 20*Log(3)=9.5424

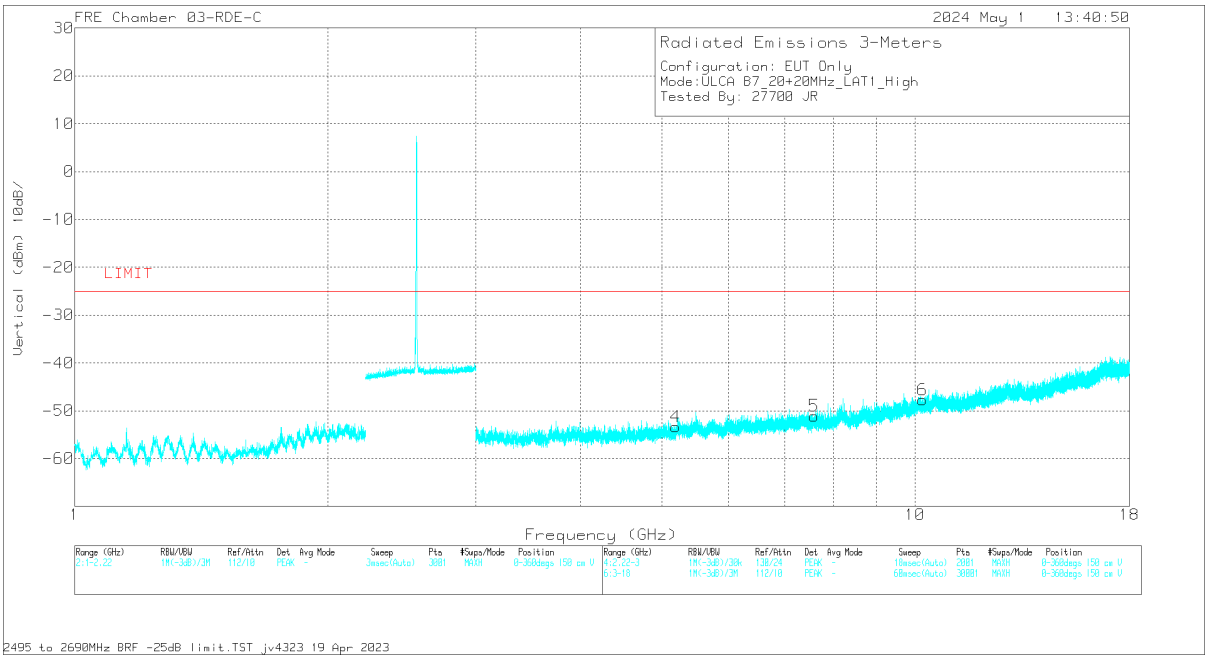
Then, EIRP (dBm) = E (dBμV/m) + 9.5424 − 104.8 = E (dBμV/m) – 95.2576

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



Horizontal Polarity



Vertical Polarity

Trace Markers

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m) 3m	EIRP CF	EIRP CF	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
5.184500	55.64	Pk	34.1	-95.2	-47.30	-52.76	-25	-27.76	H
5.191000	55.06	Pk	34.1	-95.2	-47.30	-53.34	-25	-28.34	V
* 7.586000	53.88	Pk	35.7	-95.2	-45.40	-51.02	-25	-26.02	H
* 7.581000	53.85	Pk	35.7	-95.2	-45.40	-51.05	-25	-26.05	V
10.247500	54.86	Pk	37.6	-95.2	-44.75	-47.49	-25	-22.49	H
10.216000	54.67	Pk	37.5	-95.2	-44.70	-47.73	-25	-22.73	V

TEST PROCEDURE

KDB 971168 D01/D02

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

RESULTS

10.1. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 1

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 #:	14982436
Date:	3/21/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	LTECA B5 10+10MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBm)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz + 838.9MHz									
1.689850	58.37	Pk	29.2	-95.2	-49.49	-57.12	-13	-44.12	H
1.691200	58.24	Pk	29.2	-95.2	-49.54	-57.30	-13	-44.30	V
2.507500	58.72	Pk	32.2	-95.2	-48.70	-52.98	-13	-39.98	H
2.499850	60.52	Pk	32.2	-95.2	-48.86	-51.34	-13	-38.34	V
3.371950	56.39	Pk	32.6	-95.2	-47.01	-53.22	-13	-40.22	H
3.3859000	57.02	Pk	32.6	-95.2	-47.29	-52.87	-13	-39.87	V
Mid Channel, 831.6MHz + 841.5MHz									
1.681750	57.67	Pk	29.1	-95.2	-49.49	-57.92	-13	-44.92	H
1.677250	57.84	Pk	29.0	-95.2	-49.54	-57.90	-13	-44.90	V
2.524600	56.85	Pk	32.2	-95.2	-48.48	-54.63	-13	-41.63	H
2.528200	56.12	Pk	32.2	-95.2	-48.51	-55.39	-13	-42.39	V
3.351250	53.87	Pk	32.6	-95.2	-46.98	-55.71	-13	-42.71	H
3.369700	55.03	Pk	32.6	-95.2	-47.08	-54.65	-13	-41.65	V
High Channel, 834.1MHz + 844MHz									
1.699300	58.90	Pk	29.3	-95.2	-49.56	-56.56	-13	-43.56	H
1.697950	58.50	Pk	29.3	-95.2	-49.54	-56.94	-13	-43.94	V
2.520100	57.41	Pk	32.2	-95.2	-48.46	-54.05	-13	-41.05	H
2.515150	58.42	Pk	32.2	-95.2	-48.54	-53.12	-13	-40.12	V
3.389500	56.31	Pk	32.6	-95.2	-47.03	-53.32	-13	-40.32	H
3.386350	55.87	Pk	32.6	-95.2	-47.26	-53.99	-13	-40.99	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 #:	14982436
Date:	5/1/2024
Test Engineer:	27700
Configuration:	EUT Only
Mode	LTECA B7 20+20MHz
Chamber #:	03-RDE-C

Frequency (GHz)	Meter Reading (dBuV)	Det	223084 ACF (dB/m) 3m	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz+2529.8MHz									
5.088500	55.25	Pk	33.9	-95.2	-47.25	-53.30	-25	-28.30	H
5.069000	55.63	Pk	33.9	-95.2	-47.20	-52.87	-25	-27.87	V
7.593500	54.52	Pk	35.7	-95.2	-45.50	-50.48	-25	-25.48	H
7.585000	55.00	Pk	35.7	-95.2	-45.30	-49.80	-25	-24.80	V
10.130000	55.41	Pk	37.4	-95.2	-44.50	-46.89	-25	-21.89	H
10.120000	55.85	Pk	37.4	-95.2	-44.60	-46.55	-25	-21.55	V
Mid Channel, 2525.1MHz+2544.9MHz									
5.101500	55.40	Pk	34.0	-95.2	-47.30	-53.10	-25	-28.10	H
5.102500	55.50	Pk	34.0	-95.2	-47.30	-53.00	-25	-28.00	V
7.654000	54.28	Pk	35.7	-95.2	-45.50	-50.72	-25	-25.72	H
7.640500	54.60	Pk	35.7	-95.2	-45.55	-50.45	-25	-25.45	V
10.105500	55.05	Pk	37.4	-95.2	-44.55	-47.30	-25	-22.30	H
10.095000	55.16	Pk	37.4	-95.2	-44.6	-47.24	-25	-22.24	V
High Channel, 2540.2MHz+2560MHz									
5.184500	55.64	Pk	34.1	-95.2	-47.30	-52.76	-25	-27.76	H
5.191000	55.06	Pk	34.1	-95.2	-47.30	-53.34	-25	-28.34	V
7.586000	53.88	Pk	35.7	-95.2	-45.40	-51.02	-25	-26.02	H
7.581000	53.85	Pk	35.7	-95.2	-45.40	-51.05	-25	-26.05	V
10.247500	54.86	Pk	37.6	-95.2	-44.75	-47.49	-25	-22.49	H
10.216000	54.67	Pk	37.5	-95.2	-44.70	-47.73	-25	-22.73	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 #:	14982436
Date:	5/1/2024
Test Engineer:	32990
Configuration:	EUT Only
Mode	LTECA 41 FCC 20+20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.013500	54.60	Pk	34.0	-95.2	-47.42	-54.02	-25	-29.02	H
5.013500	56.73	Pk	34.0	-95.2	-47.42	-51.89	-25	-26.89	V
7.517500	53.56	Pk	35.8	-95.2	-45.24	-51.08	-25	-26.08	H
7.517500	52.01	Pk	35.8	-95.2	-45.24	-52.63	-25	-27.63	V
10.023500	53.45	Pk	37.2	-95.2	-45.86	-50.41	-25	-25.41	H
10.023500	52.67	Pk	37.2	-95.2	-45.86	-51.19	-25	-26.19	V
Mid Channel, 2583.1MHz + 2602.9MHz									
5.166000	54.05	Pk	34.2	-95.2	-47.44	-54.39	-25	-29.39	H
5.166000	53.94	Pk	34.2	-95.2	-47.44	-54.50	-25	-29.50	V
7.749500	51.71	Pk	35.9	-95.2	-44.91	-52.50	-25	-27.50	H
7.749500	52.45	Pk	35.9	-95.2	-44.91	-51.76	-25	-26.76	V
10.332000	52.72	Pk	37.4	-95.2	-45.25	-50.33	-25	-25.33	H
10.332000	53.62	Pk	37.4	-95.2	-45.25	-49.43	-25	-24.43	V
High Channel, 2660.2MHz + 2680MHz									
5.320000	53.91	Pk	34.6	-95.2	-47.32	-54.01	-25	-29.01	H
5.320000	55.04	Pk	34.6	-95.2	-47.32	-52.88	-25	-27.88	V
8.007000	55.42	Pk	36.0	-95.2	-44.78	-48.56	-25	-23.56	H
8.007500	57.76	Pk	36.0	-95.2	-44.78	-46.22	-25	-21.22	V
10.641000	53.00	Pk	37.7	-95.2	-44.96	-49.46	-25	-24.46	H
10.638000	53.43	Pk	37.7	-95.2	-44.99	-49.06	-25	-24.06	V

10.2. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 2

TEST PROCEDURE

KDB 971168 D01/D02

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 #:	14982436
Date:	3/25/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	LTECA B5 10+10MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBm)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz + 838.9MHz									
1.688500	58.21	Pk	29.2	-95.2	-49.51	-57.30	-13	-44.30	H
1.670500	58.12	Pk	29.0	-95.2	-49.5	-57.58	-13	-44.58	V
2.512450	59.53	Pk	32.2	-95.2	-48.5	-51.97	-13	-38.97	H
2.498050	58.19	Pk	32.2	-95.2	-48.86	-53.67	-13	-40.67	V
3.351250	56.59	Pk	32.6	-95.2	-46.98	-52.99	-13	-39.99	H
3.357550	55.14	Pk	32.6	-95.2	-47.15	-54.61	-13	-41.61	V
Mid Channel, 831.6MHz + 841.5MHz									
1.675000	57.02	Pk	29.0	-95.2	-49.6	-58.78	-13	-45.78	H
1.6700500	56.22	Pk	28.9	-95.2	-49.5	-59.58	-13	-46.58	V
2.531800	55.51	Pk	32.2	-95.2	-48.38	-55.87	-13	-42.87	H
2.528200	55.83	Pk	32.2	-95.2	-48.51	-55.68	-13	-42.68	V
3.351250	53.08	Pk	32.6	-95.2	-46.98	-56.50	-13	-43.50	H
3.383650	54.71	Pk	32.6	-95.2	-47.27	-55.16	-13	-42.16	V
High Channel, 834.1MHz + 844MHz									
1.696600	58.18	Pk	29.3	-95.2	-49.52	-57.24	-13	-44.24	H
1.688950	58.84	Pk	29.2	-95.2	-49.51	-56.67	-13	-43.67	V
2.525500	58.22	Pk	32.2	-95.2	-48.54	-53.32	-13	-40.32	H
2.506600	57.88	Pk	32.2	-95.2	-48.66	-53.78	-13	-40.78	V
3.373750	56.44	Pk	32.6	-95.2	-47.15	-53.31	-13	-40.31	H
3.369700	55.32	Pk	32.6	-95.2	-47.08	-54.36	-13	-41.36	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 #:	14982436
Date:	3/25/2024
Test Engineer:	32545
Configuration:	EUT Only
Mode	LTECA B7 20+20MHz
Chamber #:	02-RDE-E

Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz+2529.8MHz									
5.040500	54.96	Pk	34.0	-95.2	-47.49	-53.73	-25	-28.73	H
5.040500	52.99	Pk	34.0	-95.2	-47.49	-55.70	-25	-30.70	V
7.557000	57.70	Pk	35.7	-95.2	-45.55	-47.35	-25	-22.35	H
7.556750	62.39	Pk	35.7	-95.2	-45.55	-42.66	-25	-17.66	V
10.080000	53.39	Pk	37.4	-95.2	-45.28	-49.69	-25	-24.69	H
10.080000	54.59	Pk	37.4	-95.2	-45.28	-48.49	-25	-23.49	V
Mid Channel, 2525.1MHz+2544.9MHz									
5.070500	52.88	Pk	34.1	-95.2	-47.62	-55.84	-25	-30.84	H
5.069500	53.84	Pk	34.1	-95.2	-47.59	-54.85	-25	-29.85	V
7.602000	55.46	Pk	35.8	-95.2	-45.63	-49.57	-25	-24.57	H
7.602000	62.54	Pk	35.8	-95.2	-45.63	-42.49	-25	-17.49	V
10.140000	52.85	Pk	37.5	-95.2	-44.67	-49.52	-25	-24.52	H
10.140000	55.02	Pk	37.5	-95.2	-44.67	-47.35	-25	-22.35	V
High Channel, 2540.2MHz+2560MHz									
5.100500	53.21	Pk	34.2	-95.2	-47.50	-55.29	-25	-30.29	H
5.100500	53.44	Pk	34.2	-95.2	-47.50	-55.06	-25	-30.06	V
7.647000	53.50	Pk	35.8	-95.2	-45.69	-51.59	-25	-26.59	H
7.647000	63.47	Pk	35.8	-95.2	-45.69	-41.62	-25	-16.62	V
10.201000	53.10	Pk	37.5	-95.2	-44.61	-49.21	-25	-24.21	H
10.201000	52.67	Pk	37.5	-95.2	-44.61	-49.64	-25	-24.64	V

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 #:	14982436
Date:	5/3/2024
Test Engineer:	104996
Configuration:	EUT Only
Mode	LTECA 41 FCC 20+20MHz
Chamber #:	03-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.032500	54.89	Pk	34.2	-95.2	-49.50	-55.61	-25	-30.61	H
5.032500	55.75	Pk	34.2	-95.2	-49.50	-54.75	-25	-29.75	V
7.548500	54.30	Pk	36.0	-95.2	-48.15	-53.05	-25	-28.05	H
7.548500	55.13	Pk	36.0	-95.2	-48.15	-52.22	-25	-27.22	V
10.065000	56.16	Pk	37.6	-95.2	-48.40	-49.84	-25	-24.84	H
10.065000	55.67	Pk	37.6	-95.2	-48.40	-50.33	-25	-25.33	V
Mid Channel, 2583.1MHz + 2602.9MHz									
5.186500	54.09	Pk	34.4	-95.2	-47.27	-53.98	-25	-28.98	H
5.186500	54.08	Pk	34.4	-95.2	-47.27	-53.99	-25	-28.99	V
7.776000	58.48	Pk	35.9	-95.2	-45.42	-46.24	-25	-21.24	H
7.776000	53.66	Pk	35.9	-95.2	-45.42	-51.06	-25	-26.06	V
10.372250	52.54	Pk	37.6	-95.2	-44.22	-49.28	-25	-24.28	H
10.372000	53.06	Pk	37.6	-95.2	-44.22	-48.76	-25	-23.76	V
High Channel, 2660.2MHz + 2680MHz									
5.360000	55.92	Pk	34.4	-95.2	-47.38	-52.26	-25	-27.26	H
5.331000	56.52	Pk	34.4	-95.2	-47.45	-51.73	-25	-26.73	V
8.032500	53.72	Pk	35.7	-95.2	-44.64	-50.42	-25	-25.42	H
7.977000	53.57	Pk	35.8	-95.2	-44.55	-50.38	-25	-25.38	V
10.718500	54.10	Pk	37.7	-95.2	-44.66	-48.06	-25	-23.06	H
10.637500	55.16	Pk	37.7	-95.2	-44.99	-47.33	-25	-22.33	V

10.3. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 3

TEST PROCEDURE

KDB 971168 D01/D02

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 #:	14982436
Date:	5/3/2024
Test Engineer:	104996
Configuration:	EUT Only
Mode	LTECA B7 20+20MHz
Chamber #:	03-RDE-B

Frequency (GHz)	Meter Reading (dBuV)	Det	230300 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz+2529.8MHz									
5.040000	55.52	Pk	34.2	-95.2	-49.5	-54.98	-25	-29.98	H
5.040000	56.18	Pk	34.2	-95.2	-49.500	-54.32	-25	-29.32	V
7.560500	53.79	Pk	36.0	-95.2	-48.20	-53.61	-25	-28.61	H
7.560500	52.69	Pk	36.0	-95.2	-48.20	-54.71	-25	-29.71	V
10.080500	54.47	Pk	37.6	-95.2	-48.45	-51.58	-25	-26.58	H
10.080500	55.29	Pk	37.6	-95.2	-48.45	-50.76	-25	-25.76	V
Mid Channel, 2525.1MHz+2544.9MHz									
5.070500	55.74	Pk	34.2	-95.2	-49.65	-54.91	-25	-29.91	H
5.070500	56.43	Pk	34.2	-95.2	-49.65	-54.22	-25	-29.22	V
7.605500	54.62	Pk	35.9	-95.2	-48.35	-53.03	-25	-28.03	H
7.605500	53.47	Pk	35.9	-95.2	-48.35	-54.18	-25	-29.18	V
10.080500	54.47	Pk	37.6	-95.2	-48.45	-51.58	-25	-26.58	H
10.080500	55.29	Pk	37.6	-95.2	-48.45	-50.76	-25	-25.76	V
High Channel, 2540.2MHz+2560MHz									
5.129500	57.02	Pk	34.1	-95.2	-47.82	-51.90	-25	-26.90	H
5.106000	57.54	Pk	34.0	-95.2	-47.95	-51.61	-25	-26.61	V
7.666000	54.79	Pk	35.7	-95.2	-45.55	-50.26	-25	-25.26	H
7.609000	54.34	Pk	35.7	-95.2	-45.96	-51.12	-25	-26.12	V
10.221500	54.67	Pk	37.5	-95.2	-44.81	-47.84	-25	-22.84	H
10.206500	54.72	Pk	37.5	-95.2	-45.19	-48.17	-25	-23.17	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 #:	14982436
Date:	3/26/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	LTECA 41 FCC 20+20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.052000	57.42	Pk	33.9	-95.2	-47.84	-51.72	-25	-26.72	H
5.029500	55.93	Pk	33.9	-95.2	-47.36	-52.73	-25	-27.73	V
7.550500	54.06	Pk	35.7	-95.2	-45.45	-50.89	-25	-25.89	H
7.478000	54.34	Pk	35.7	-95.2	-45.40	-50.56	-25	-25.56	V
10.089500	54.67	Pk	37.4	-95.2	-45.40	-48.53	-25	-23.53	H
10.071500	54.52	Pk	37.3	-95.2	-45.51	-48.89	-25	-23.89	V
Mid Channel, 2583.1MHz + 2602.9MHz									
5.215500	55.26	Pk	34.2	-95.2	-47.33	-53.07	-25	-28.07	H
5.163000	56.56	Pk	34.1	-95.2	-47.41	-51.95	-25	-26.95	V
7.851000	54.71	Pk	35.8	-95.2	-45.50	-50.19	-25	-25.19	H
7.829000	55.25	Pk	35.8	-95.2	-45.41	-49.56	-25	-24.56	V
10.414500	55.03	Pk	37.6	-95.2	-45.12	-47.69	-25	-22.69	H
10.426000	54.90	Pk	37.6	-95.2	-45.01	-47.71	-25	-22.71	V
High Channel, 2660.2MHz + 2680MHz									
5.343000	57.48	Pk	34.4	-95.2	-47.24	-50.56	-25	-25.56	H
5.346500	56.11	Pk	34.4	-95.2	-47.38	-52.07	-25	-27.07	V
8.051000	54.04	Pk	35.7	-95.2	-44.79	-50.25	-25	-25.25	H
7.990500	53.51	Pk	35.8	-95.2	-44.69	-50.58	-25	-25.58	V
10.708500	53.47	Pk	37.7	-95.2	-44.68	-48.71	-25	-23.71	H
10.731000	54.00	Pk	37.6	-95.2	-44.64	-48.24	-25	-23.24	V

10.4. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 4

TEST PROCEDURE

KDB 971168 D01/D02

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 #:	14982436
Date:	3/26/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	LTECA B7 20+20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz+2529.8MHz									
5.081000	56.40	Pk	33.9	-95.2	-47.86	-52.76	-25	-27.76	H
5.080000	56.16	Pk	33.9	-95.2	-47.94	-53.08	-25	-28.08	V
7.599500	54.36	Pk	35.7	-95.2	-45.95	-51.09	-25	-26.09	H
7.565000	54.11	Pk	35.7	-95.2	-45.49	-50.88	-25	-25.88	V
10.129500	55.63	Pk	37.4	-95.2	-45.85	-48.02	-25	-23.02	H
10.163000	54.88	Pk	37.5	-95.2	-45.48	-48.30	-25	-23.30	V
Mid Channel, 2525.1MHz+2544.9MHz									
5.076000	55.68	Pk	33.9	-95.2	-47.77	-53.39	-25	-28.39	H
5.049000	54.13	Pk	33.9	-95.2	-47.55	-54.72	-25	-29.72	V
7.631000	53.19	Pk	35.7	-95.2	-45.82	-52.13	-25	-27.13	H
7.614500	52.24	Pk	35.7	-95.2	-45.90	-53.16	-25	-28.16	V
10.168500	53.62	Pk	37.5	-95.2	-45.58	-49.66	-25	-24.66	H
10.157500	53.58	Pk	37.4	-95.2	-45.64	-49.86	-25	-24.86	V
High Channel, 2540.2MHz+2560MHz									
5.111500	57.32	Pk	34.0	-95.2	-47.86	-51.74	-25	-26.74	H
5.085500	56.44	Pk	33.9	-95.2	-47.92	-52.78	-25	-27.78	V
7.670000	54.38	Pk	35.7	-95.2	-45.53	-50.65	-25	-25.65	H
7.620500	53.98	Pk	35.7	-95.2	-45.91	-51.43	-25	-26.43	V
10.242000	54.58	Pk	37.5	-95.2	-44.51	-47.63	-25	-22.63	H
10.175500	55.44	Pk	37.5	-95.2	-45.54	-47.80	-25	-22.80	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 #:	14982436
Date:	3/26/2024
Test Engineer:	32145
Configuration:	EUT Only
Mode	LTECA 41 FCC 20+20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.079000	57.03	Pk	33.9	-95.2	-47.97	-52.24	-25	-27.24	H
5.075000	56.23	Pk	33.9	-95.2	-47.70	-52.77	-25	-27.77	V
7.546000	54.10	Pk	35.7	-95.2	-45.44	-50.84	-25	-25.84	H
7.481500	55.38	Pk	35.7	-95.2	-45.45	-49.57	-25	-24.57	V
10.089000	54.80	Pk	37.4	-95.2	-45.41	-48.41	-25	-23.41	H
10.094000	54.94	Pk	37.4	-95.2	-45.63	-48.49	-25	-23.49	V
Mid Channel, 2583.1MHz + 2602.9MHz									
5.221000	55.92	Pk	34.2	-95.2	-47.34	-52.42	-25	-27.42	H
5.227500	56.10	Pk	34.2	-95.2	-47.08	-51.98	-25	-26.98	V
7.818500	54.91	Pk	35.8	-95.2	-45.31	-49.80	-25	-24.80	H
7.720000	54.09	Pk	35.8	-95.2	-45.18	-50.49	-25	-25.49	V
10.385500	54.92	Pk	37.6	-95.2	-45.16	-47.84	-25	-22.84	H
10.410500	54.72	Pk	37.6	-95.2	-45.08	-47.96	-25	-22.96	V
High Channel, 2660.2MHz + 2680MHz									
5.339500	56.02	Pk	34.4	-95.2	-47.41	-52.19	-25	-27.19	H
5.350000	55.13	Pk	34.4	-95.2	-47.46	-53.13	-25	-28.13	V
8.021000	54.37	Pk	35.7	-95.2	-44.72	-49.85	-25	-24.85	H
7.996000	52.85	Pk	35.8	-95.2	-44.70	-51.25	-25	-26.25	V
10.724000	54.06	Pk	37.7	-95.2	-44.68	-48.12	-25	-23.12	H
10.768500	53.98	Pk	37.6	-95.2	-44.42	-48.04	-25	-23.04	V

11. SETUP PHOTOS

Please refer to 14982436-EP1V1 for Setup Photo Report for setup photos

END OF REPORT