



TEST REPORT

Report Number: 15107843-E3V2

Applicant : Google LLC
1600 Amphitheatre Parkway
Mountain View, CA 94043 U.S.A.

Model : G2YBB

FCC ID : A4RG2YBB

EUT Description : Phone

Test Standard(s) : FCC 47 CFR Part 2, Part 22, Part 27, and Part 96

Date Of Issue:

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Prepared by:

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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	2024-05-01	Initial Review	
V2	2024-05-13	Updated Section 2, 4, 6.3, and Table of contents	Dan Corona

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1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	GOOGLE LLC 1600 AMPHITHEATRE PARKWAY, MOUNTAIN VIEW, CA, 94043 USA
Model	G2YBB
FCC ID	A4RG2YBB
EUT Description	PHONE
Serial Number	Conducted: 41151FDAQ00063, 352207820041643 and 41151FDAQ0000J Radiated: 41061FDAQ0009D and 3B091FDAQ000LC
Sample Receipt Date	2024-01-08
Date Tested	2024-01-10 to 2024-04-24
Applicable Standards	FCC 47 CFR Part 2, Part 22, 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.

	
Thu Chan Operations Leader UL Verification Services Inc.	Kiya Kedida Senior Project 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.

Requirement Description	Band	Requirement Clause Number (FCC)	Result	Remarks
RF Conducted Output Power		2.1046	Complies	
Effective Radiated Power	5	22.913 (a)(5)	Complies	
Equivalent Isotropic Radiated power	7,38,41,66	27.50 (h) (2) 27.50 (d) (4)	Complies	
Occupied Bandwidth	7,38,41,66	2.1049	Complies	
Band Edge and Emission Mask	7,38,41,66	2.1051, 22.917 (a), 27.53(h), 27.53 (m)(4) &(m)(6)	Complies	
Out of Band Emissions	7,38,41,66	2.1051, 22.917 (a), 27.53(h) 27.53 (m)(4) &(m)(6)	Complies	
Frequency Stability	7,38,41,66	2.1055, 22.355, 27.54	Complies	
Peak-to-Average Ratio	7,38,41,66	22.913 (d), 27.50 (d) (5)	Complies	
Field Strength of Spurious Radiation	7,38,41,66	2.1053, 22.917 (a), 27.53(h), 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
<input type="checkbox"/>	Building 1: 47173 Benicia Street, Fremont, CA 94538, USA	US0104	2324A	550739
<input checked="" type="checkbox"/>	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA			
<input type="checkbox"/>	Building 3: 843 Auburn Court, Fremont, CA 94538, USA			
<input checked="" type="checkbox"/>	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA			
<input checked="" type="checkbox"/>	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:

$$\text{Field Strength (dBuV/m)} = \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} - \text{Preamp Gain (dB)}$$

$$36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$$

6. EQUIPMENT UNDER TEST

6.1. DESCRIPTION OF EUT

The EUT is a Phone.

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.

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

OUTPUT POWER FOR LTE BAND 5B

Part 22H/RSS 132								
EIRP Limit (W)		7.00						
Antenna Gain (dBi)_(Ant 0)		-2.70						
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	841.5	24.28	19.43	0.088	7509.8	7M51G7W
	16QAM			24.18	19.33	0.086	7484.6	7M48D7W
5+3	QPSK	826.5	847.5	24.28	19.43	0.088	7473.9	7M47G7W
	16QAM			24.35	19.50	0.089	7444	7M44D7W
5+10	QPSK	826.5	844.0	24.30	19.45	0.088	13841	13M8G7W
	16QAM			23.27	18.42	0.070	13832	13M8D7W
10+5	QPSK	829.0	846.5	24.27	19.42	0.087	13853	13M9G7W
	16QAM			23.38	18.53	0.071	13855	13M9D7W
10+10	QPSK	829.0	844.0	24.27	19.42	0.087	18550	18M6G7W
	16QAM			23.64	18.79	0.076	18549	18M5D7W

OUTPUT POWER FOR LTE BAND 7C

Part 27/RSS 199								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)_(Ant 2)		1.40						
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	23.77	25.17	0.329	28193	28M2G7W
	16QAM			22.74	24.14	0.259	27177	27M2D7W
20+10	QPSK	2510.0	2564.5	23.82	25.22	0.333	28797	28M8G7W
	16QAM			22.89	24.29	0.269	28741	28M7D7W
15+15	QPSK	2507.5	2562.5	23.75	25.15	0.327	28797	28M8G7W
	16QAM			22.63	24.03	0.253	28741	28M7D7W
15+20	QPSK	2507.8	2560.0	23.75	25.15	0.327	33010	33M0G7W
	16QAM			22.71	24.11	0.258	33005	33M0D7W
20+15	QPSK	2510.0	2562.2	23.75	25.15	0.327	32984	33M0G7W
	16QAM			22.75	24.15	0.260	32961	33M0D7W
20+20	QPSK	2510.0	2560.0	23.81	25.21	0.332	37775	37M8G7W
	16QAM			22.77	24.17	0.261	37797	37M8D7W

OUTPUT POWER FOR LTE BAND 41C

Part 27								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)_(Ant 2)		1.00						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
5+20	QPSK	2499.3	2680.0	23.96	24.96	0.313	23440	23M4G7W
	16QAM			22.35	23.35	0.216	23351	23M4D7W
20+5	QPSK	2506.0	2686.7	23.97	24.97	0.314	23365	23M4G7W
	16QAM			23.00	24.00	0.251	23357	23M4D7W
10+20	QPSK	2501.5	2680.0	23.95	24.95	0.313	28157	28M2G7W
	16QAM			23.22	24.22	0.264	28162	28M2D7W
20+10	QPSK	2506.0	2684.5	23.95	24.95	0.313	28123	28M1G7W
	16QAM			23.22	24.22	0.264	28131	28M1D7W
15+15	QPSK	2503.5	2682.5	23.96	24.96	0.313	28682	28M7G7W
	16QAM			22.97	23.97	0.249	28705	28M7D7W
15+20	QPSK	2503.8	2680.0	23.81	24.81	0.303	32488	32M5G7W
	16QAM			23.02	24.02	0.252	32525	32M5D7W
20+15	QPSK	2506.0	2682.2	23.61	24.61	0.289	33011	33M0G7W
	16QAM			22.63	23.63	0.231	32904	32M9D7W
20+20	QPSK	2506.0	2680.0	23.86	24.86	0.306	37825	37M8G7W
	16QAM			22.90	23.90	0.245	37762	37M8D7W

OUTPUT POWER FOR LTE BAND 66B

Part 27 / RSS 139								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)_(Ant 0)		2.40						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
5+5	QPSK	1712.5	1777.5	23.15	25.55	0.359	9278.6	9M28G7W
	16QAM			22.25	24.65	0.292	9206.7	9M21D7W
5+10	QPSK	1712.8	1775.0	23.10	25.50	0.355	13720	13M7G7W
	16QAM			22.08	24.48	0.281	13690	13M7D7W
10+5	QPSK	1715.0	1777.2	23.14	25.54	0.358	13816	13M8G7W
	16QAM			22.12	24.52	0.283	13807	13M8D7W
5+15	QPSK	1713.0	1772.5	23.04	25.44	0.350	18008	18M0G7W
	16QAM			22.34	24.74	0.298	18047	18M0D7W
15+5	QPSK	1717.5	1777.0	23.20	25.60	0.363	18164	18M2G7W
	16QAM			22.02	24.42	0.277	18162	18M2D7W
10+10	QPSK	1715.0	1775.0	23.14	25.54	0.358	18633	18M6G7W
	16QAM			22.33	24.73	0.297	18626	18M6D7W

OUTPUT POWER FOR LTE BAND 66C

Part 27/RSS139								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)_(Ant0)		2.40						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
10+15	QPSK	1715.3	1772.5	23.19	25.59	0.362	23178	23M2G7W
	16QAM			22.30	24.70	0.295	23235	23M2D7W
15+10	QPSK	1717.5	1774.7	23.14	25.54	0.358	23242	23M2G7W
	16QAM			22.30	24.70	0.295	23164	23M2D7W
10+20	QPSK	1715.5	1770.0	23.15	25.55	0.359	27750	27M8G7W
	16QAM			22.27	24.67	0.293	27780	27M8D7W
20+10	QPSK	1720.0	1774.5	23.19	25.59	0.362	27800	27M8G7W
	16QAM			22.36	24.76	0.299	27700	27M7D7W
15+15	QPSK	1717.5	1772.5	23.09	25.49	0.354	28277	28M3G7W
	16QAM			22.15	24.55	0.285	28381	28M4D7W
15+20	QPSK	1717.8	1770.0	23.27	25.67	0.369	32581	32M6G7W
	16QAM			22.44	24.84	0.305	32513	32M5D7W
20+15	QPSK	1720.0	1772.2	23.15	25.55	0.359	32617	32M6G7W
	16QAM			22.10	24.50	0.282	32539	32M5D7W
20+5	QPSK	1720.0	1776.7	23.12	25.52	0.356	23031	23M0G7W
	16QAM			22.16	24.56	0.286	22996	23M0D7W
5+20	QPSK	1713.3	1770.0	23.13	25.53	0.357	22959	23M0G7W
	16QAM			22.26	24.66	0.292	22853	22M9D7W
20+20	QPSK	1720.0	1770.0	23.22	25.62	0.365	37583	37M6G7W
	16QAM			22.18	24.58	0.287	37484	37M5D7W

6.3. MAXIMUM ANTENNA GAIN

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

LTE Bands	Frequency Range (MHz)	ANT 0 Antenna Gain (dBi)	ANT 1 Antenna Gain (dBi)	ANT 2 Antenna Gain (dBi)	ANT 5 Antenna Gain (dBi)	ANT 6 Antenna Gain (dBi)	ANT 7 Antenna Gain (dBi)
LTE Band 5	824 – 849	-2.7	-2.2				
LTE Band 7	2500 – 2570	-0.1		1.4			
LTE Band 41	2496 – 2690	-0.2		1.0			
LTE Band 66	1710 -1755	2.4	-5.2	1.6	-3.2		

6.4. WORST-CASE CONFIGURATION AND MODE

The EUT supports LTE dual carrier Bands of: Band 5B, Band 7C, Band 41C Band 38C, Band 66B and Band 66C.

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 5B	ANT 0
LTE BAND 7C, 38C, 41C, 66B, 66C	ANT 2

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 0, ANT1, ANT2 and ANT5 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.

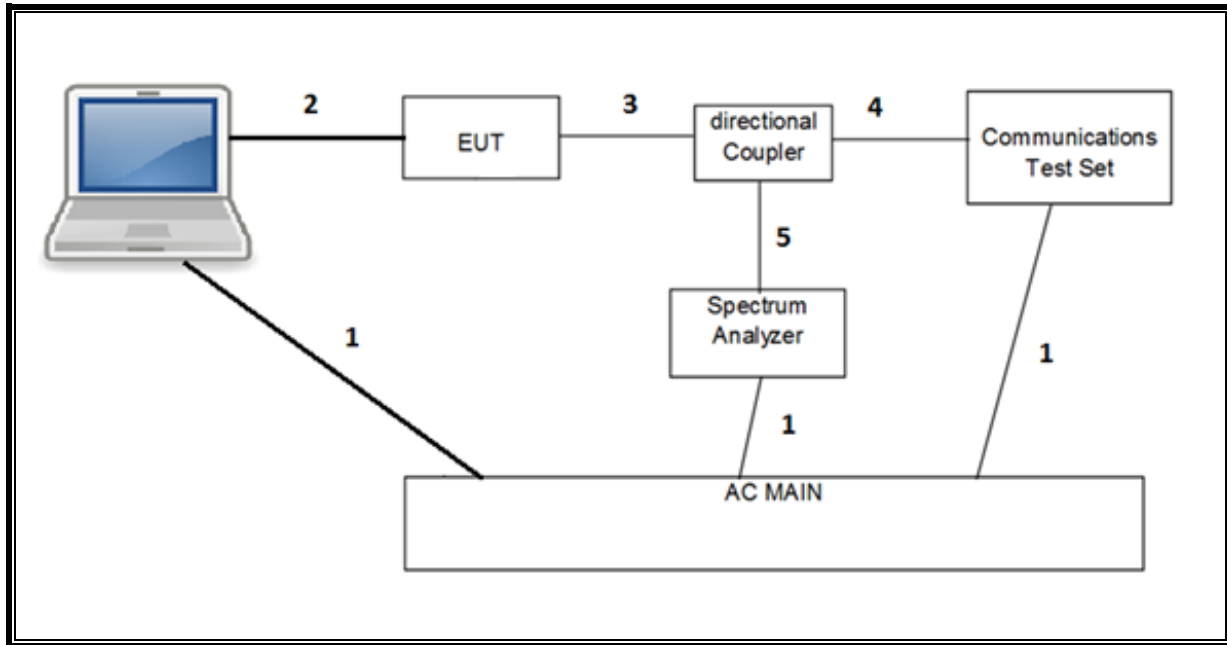
Frequency Bands	ANT0	ANT1	ANT2	ANT5
824 – 849 MHz	Z	Z	N/A	N/A
1710 – 1780 MHz	Z	X	X	X
2496 – 2570 MHz	X	N/A	X	N/A

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.

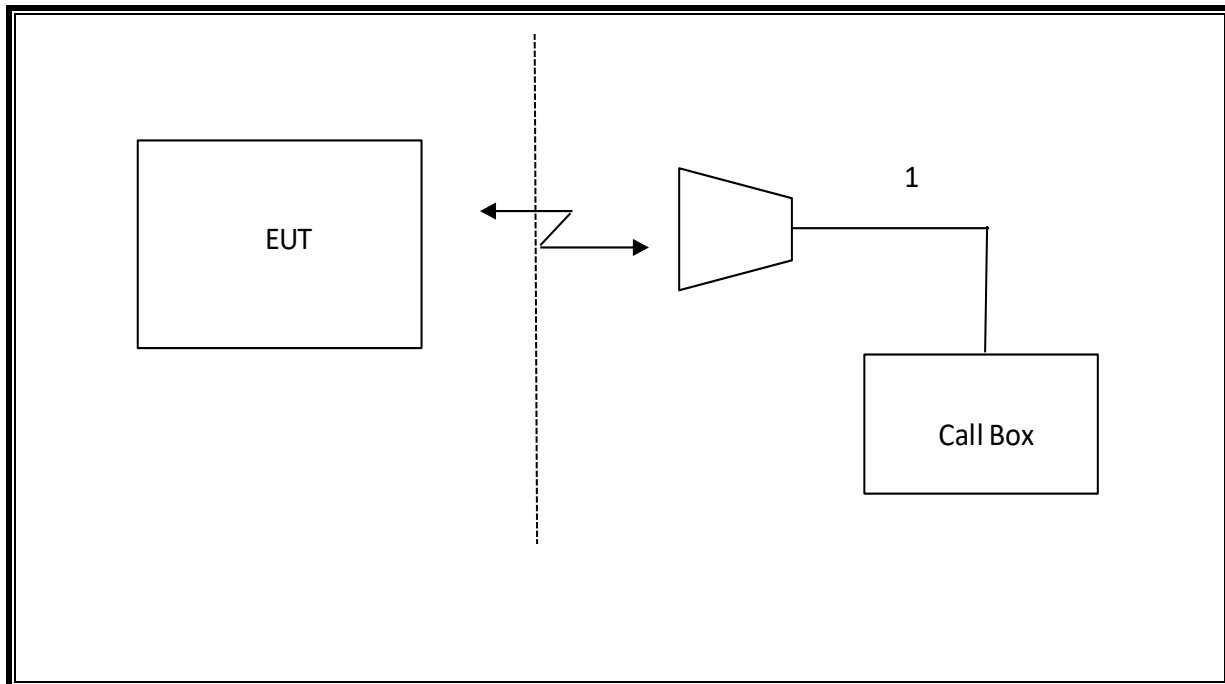
6.5. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description	Manufacturer	Model	Serial Number	FCC ID/ DoC		
Laptop	Dell	Latitude 7300	876819127	DoC		
AC/DC adapter	Dell	DA130PE1-00	CN-0M55GJ-DES00-066-5THK-A02	DoC		
Power Adapter	Google	GW8L7	1HV003B901000B9DE	DoC		
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	USB-C	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	AC	1	US 115V	Un-shielded	2.0	N/A
1	USB	1	USB-C	Un-shielded	1	N/A
2	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	206805	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.
10dB Fixed Attenuator	Pasternack Enterprises	PE7087-10	236360	Verified/Characterized before use
10dB Fixed Attenuator	Pasternack Enterprises	PE7087-10	236285	Verified/Characterized before use
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 VERIFICATION

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. LTE BAND 5B

Test Engineer ID:	50822	Test Date:	2024-02-09
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OUTPUT POWER FOR LTE BAND 5 (3.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB		SCC1 RB		Conducted Average (dBm)							
			Size	Offset	Size	Offset	ANT 0				ANT 1			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
3MHz / 5MHz	825.5	829.4	1	14	1	0	23.99	24.18	23.98	23.87	23.66	23.86	23.56	23.7
			15	0	25	0	24.1	24.1	24.11	24.13	23.72	23.69	23.7	23.7
	834.0	837.9	1	14	1	0	24.14	24.08	24.15	24.02	23.59	23.8	23.5	23.53
			15	0	25	0	24.28	24.09	24.13	24.17	23.68	23.59	23.67	23.68
	842.5	846.5	1	14	1	0	24.14	24.14	24.25	24.07	23.59	23.78	23.74	23.56
			15	0	25	0	24.28	24.15	24.18	24.23	23.68	23.63	23.7	23.74

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

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB		SCC1 RB		Conducted Average (dBm)							
			Size	Offset	Size	Offset	ANT 0				ANT 1			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz / 3MHz	826.5	830.4	1	24	1	0	24.14	24.24	24.35	24.23	23.7	23.64	23.74	23.55
			25	0	15	0	24.27	24.25	24.22	24.29	23.74	23.77	23.73	23.7
	835.0	838.9	1	24	1	0	24.2	24.35	24.3	24.26	24.14	23.53	23.67	23.62
			25	0	15	0	24.28	24.25	24.24	24.31	24.2	23.73	23.72	23.66
	843.6	847.5	1	24	1	0	24.2	24.25	24.33	23.95	24.14	24.13	24.1	24.09
			25	0	15	0	24.28	24.31	24.25	24.23	24.2	24.19	24.15	24.12

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

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB		SCC1 RB		Conducted Average (dBm)							
			Size	Offset	Size	Offset	ANT 0				ANT 1			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz / 10MHz	826.5	833.7	1	24	1	0	24.08	23.25	20.98	19.06	23.54	22.59	20.7	18.43
			25	0	50	0	22.25	21.23	21.27	19.27	21.55	20.56	20.52	18.46
	831.6	838.8	1	24	1	0	24.16	23.06	21.03	19.06	23.96	22.97	21.1	18.98
			25	0	50	0	22.16	21.14	21.16	19.14	21.97	20.97	20.97	18.97
	836.8	844.0	1	24	1	0	24.3	23.27	21.31	19.16	24	23.01	20.91	19.05
			25	0	50	0	22.24	21.22	21.2	19.15	22.06	21.04	21.06	19.03

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

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB		SCC1 RB		Conducted Average (dBm)							
			Size	Offset	Size	Offset	ANT 0				ANT 1			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz/ 5MHz	829.0	836.2	1	49	1	0	24.1	23.3	21	19.05	23.4	22.54	20.49	18.37
			50	0	25	0	22.22	21.18	21.25	19.2	21.5	20.48	20.53	18.48
	834.3	841.5	1	49	1	0	24.27	23.38	21.01	19.09	24.11	23.26	21.03	18.94
			50	0	25	0	22.25	21.26	21.27	19.25	22.15	21.14	21.16	19.13
	839.3	846.5	1	49	1	0	24.27	23.14	21.24	19.08	24.11	23.05	21.15	19.08
			50	0	25	0	22.25	21.26	21.27	19.25	22.15	21.13	21.13	19.12

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

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB		SCC1 RB		Conducted Average (dBm)							
			Size	Offset	Size	Offset	ANT 0				ANT 1			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz/ 10MHz	829.0	838.9	1	49	1	0	24.16	23.43	21.16	19.07	24.48	24.19	21.82	19.58
			1	0	1	49	15.87	16.07	17.11	15.65	16.24	16.74	16.43	16.42
			50	0	50	0	22.17	21.14	21.15	19.11	22.49	21.48	21.53	19.47
	831.5	841.4	1	49	1	0	24.18	23.28	21.21	19.24	25.02	24.4	22.41	20.18
			1	0	1	49	15.93	15.8	15.89	15.93	16.78	17.4	17.34	16.89
			50	0	50	0	22.21	21.18	21.22	19.18	23.06	22.07	22.08	20.05
834.1	844.0	1	49	1	0	24.27	23.64	21.07	19.25	25.08	24.44	22.19	20.18	
		1	0	1	49	15.88	16.15	15.91	15.94	16.92	17.29	16.99	17.18	
			50	0	50	0	22.26	21.23	21.24	19.19	23.09	22.09	22.1	20.1

8.2. LTE BAND 7C

Test Engineer ID:	50822	Test Date:	2024-02-09
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OUTPUT POWER FOR LTE BAND 7 (10.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB Offset	SCC1 RB	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 0				ANT 2			
							Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
10MHz / 20MHz	2505.5	2519.9	1	49	1	0	22.91	21.81	19.94	17.90	23.25	22.19	20.30	18.27
			50	0	100	0	20.92	19.90	19.95	17.94	21.27	20.27	20.32	18.32
	2525.6	2540.0	1	49	1	0	23.34	22.19	20.32	18.15	23.71	22.55	20.65	18.52
			50	0	100	0	21.32	20.30	20.34	18.30	21.69	20.62	20.71	18.68
	2545.6	2560.0	1	49	1	0	23.40	22.37	20.36	18.18	23.77	22.74	20.73	18.58
			50	0	100	0	21.37	20.36	20.38	18.36	21.73	20.71	20.72	18.76

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

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB Offset	SCC1 RB	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 0				ANT 2			
							Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
20MHz / 10MHz	2510.0	2524.4	1	99	1	0	23.43	22.22	20.47	18.37	23.82	22.71	20.99	18.76
			100	0	50	0	21.34	20.31	20.33	18.34	21.72	20.65	20.7	18.65
	2530.1	2544.5	1	99	1	0	23.39	22.39	20.63	18.46	23.68	22.82	21.02	18.59
			100	0	50	0	21.35	20.31	20.33	18.33	21.68	20.65	20.64	18.62
	2550.1	2564.5	1	99	1	0	23.42	22.21	20.50	18.34	23.82	22.89	21.01	18.79
			100	0	50	0	21.36	20.33	20.34	18.34	21.74	20.75	20.74	18.73

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

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB Offset	SCC1 RB	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 0				ANT 2			
							Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
15MHz / 15MHz	2507.5	2522.5	1	74	1	0	23.37	22.24	20.33	18.31	23.71	22.62	20.73	18.71
			75	0	75	0	21.30	20.29	20.30	18.28	21.64	20.65	20.67	18.66
	2527.5	2542.5	1	74	1	0	23.40	22.20	20.15	18.30	23.75	22.58	20.50	18.68
			75	0	75	0	21.29	20.28	20.32	18.26	21.68	20.64	20.61	18.64
	2547.5	2562.5	1	74	1	0	23.39	22.25	20.06	18.22	23.75	22.63	20.46	18.62
			75	0	75	0	21.30	20.27	20.31	18.28	21.68	20.65	20.69	18.65

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

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB Offset	SCC1 RB	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 0				ANT 2			
							Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
15MHz / 20MHz	2507.8	2524.9	1	74	1	0	23.38	22.21	20.29	18.28	23.74	22.58	20.63	18.62
			75	0	100	0	21.31	20.25	20.28	18.25	21.67	20.62	20.64	18.61
	2525.3	2542.4	1	74	1	0	23.32	22.34	20.51	18.13	23.75	22.71	20.85	18.47
			75	0	100	0	21.3	20.28	20.29	18.28	21.77	20.64	20.68	18.64
	2542.9	2560.0	1	74	1	0	23.42	22.28	20.39	18.4	23.75	22.63	20.72	18.74
			75	0	100	0	21.41	20.37	20.39	18.37	21.77	20.7	20.71	18.73

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

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB Offset	SCC1 RB	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 0				ANT 2			
							Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
20MHz / 15MHz	2510.0	2527.1	1	99	1	0	23.40	22.35	20.65	18.38	23.75	22.71	21.00	18.74
			100	0	75	0	21.34	20.34	20.33	18.32	21.70	20.74	20.70	18.71
	2527.6	2544.7	1	99	1	0	23.33	22.39	20.64	18.25	23.74	22.75	21.05	18.61
			100	0	75	0	21.31	20.29	20.31	18.31	21.72	20.67	20.69	18.66
	2545.1	2562.2	1	99	1	0	23.38	22.28	20.54	18.37	23.74	22.64	20.91	18.77
			100	0	75	0	21.34	20.28	20.33	18.31	21.72	20.66	20.68	18.65

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

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB Offset	SCC1 RB	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 0				ANT 2			
							Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
20MHz / 20MHz	2510.0	2529.8	1	99	1	0	23.44	22.34	20.62	18.39	23.81	22.77	21.01	18.79
			100	0	100	0	21.33	20.32	20.33	18.30	21.75	20.73	20.72	18.73
	2525.1	2544.9	1	99	1	0	23.32	22.43	20.63	18.21	23.77	22.69	20.88	18.81
			100	0	100	0	21.31	20.30	20.29	18.25	21.69	20.70	20.68	18.66
	2540.2	2560.0	1	99	1	0	23.43	22.52	20.63	18.42	23.79	22.69	20.83	18.78
			100	0	100	0	21.38	20.37	20.39	18.34	21.76	20.75	20.76	18.70

8.3. LTE BAND 41C

Test Engineer ID:	50822	Test Date:	2024-02-01
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OUTPUT POWER FOR LTE BAND 41 (5.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB Offset	SCC1 RB	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 0				ANT 2			
							Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
5MHz / 20MHz	2499.3	2511.0	1	24	1	0	23.33	22.4	20.47	18.22	23.95	23.48	20.85	18.97
			25	0	100	0	21.37	20.34	20.34	18.34	22.12	21.09	21.11	19.07
			1	24	1	0	22.97	22.27	20.33	18.32	23.96	23.05	22.35	19.15
	2583.8	2595.5	25	0	100	0	21.06	20.33	20.39	18.39	22.01	21.01	21.01	18.98
			1	24	1	0	22.97	21.98	19.96	17.85	23.82	22.99	21.04	18.75
			25	0	100	0	21.06	20.07	20.02	18.03	21.88	20.88	20.85	18.86

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

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB Offset	SCC1 RB	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 0				ANT 2			
							Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
20MHz / 5MHz	2506.0	2517.7	1	99	1	0	23.46	22.32	20.33	18.59	23.97	23	20.94	19
			100	0	25	0	14.53	14.37	14.25	14.44	15.1	15	15.04	15.16
			1	99	1	0	21.45	20.49	20.49	18.45	22.09	21.12	21.08	19.09
	2590.5	2602.2	100	0	25	0	23.25	22.02	20.36	18.43	23.9	22.92	20.82	18.88
			1	99	1	0	14.47	14.38	14.16	14.73	15.07	14.71	14.92	15.04
			100	0	25	0	21.41	20.46	20.46	18.45	22.01	21.02	20.96	18.99

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

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB Offset	SCC1 RB	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 0				ANT 2			
							Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
10MHz / 20MHz	2501.5	2515.9	1	49	1	0	23.41	22.47	20.42	18.58	23.95	23.22	21.17	19.33
			50	0	100	0	21.38	20.37	20.41	18.4	22.13	21.12	21.16	19.15
			1	49	1	0	22.98	22.21	20.32	18.35	23.73	22.96	21.07	19.1
	2583.6	2598.0	50	0	100	0	21.05	20.38	20.42	18.4	21.8	21.13	21.17	19.15
			1	49	1	0	22.98	21.98	19.92	18.03	23.73	22.73	20.67	18.78
			50	0	100	0	21.05	20.02	20.05	18.04	21.8	20.77	20.8	18.79

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

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB Offset	SCC1 RB	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 0				ANT 2			
							Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
20MHz / 10MHz	2506.0	2520.4	1	99	1	0	23.31	22.3	20.24	18.28	23.95	23.22	21.15	19.31
			100	0	50	0	21.36	20.39	20.37	18.39	22.15	21.12	21.16	19.15
			1	99	1	0	22.82	22.23	20.3	18.25	23.79	22.96	21.07	19.12
	2588.1	2602.5	100	0	50	0	20.94	20.34	20.39	18.36	21.82	21.13	21.17	19.15
			1	99	1	0	22.82	21.82	19.73	18.09	23.79	22.73	20.67	18.75
			100	0	50	0	20.94	19.94	19.95	17.97	21.82	20.77	20.8	18.74

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

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB Offset	SCC1 RB	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 0				ANT 2			
							Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
15MHz / 15MHz	2503.5	2518.5	1	74	1	0	23.48	22.43	20.49	18.58	23.96	22.97	21.04	19.14
			75	0	75	0	21.46	20.46	20.47	18.46	22.02	21.01	21.02	19.00
			1	74	1	0	22.99	22.28	20.52	18.39	23.54	22.85	21.07	18.94
	2585.5	2600.5	75	0	75	0	21.02	20.46	20.43	18.47	21.55	21.01	20.96	19.02
			1	74	1	0	22.99	22.12	19.96	17.88	23.54	22.67	20.51	18.40
			75	0	75	0	21.02	19.98	19.99	17.98	21.55	20.53	20.54	18.51

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

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB Offset	SCC1 RB	SCC1 RB Offset	Conducted Average (dBm)							
							ANT 0				ANT 2			
							Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
15MHz / 20MHz	2503.8	2520.9	1	74	1	0	23.5	22.61	20.35	18.6	23.81	22.9	20.66	18.91
			75	0	100	0	14.49	14.65	14.6	14.68	14.78	14.96	14.91	14.99
			1	74	1	0	21.47	20.44	20.5	18.5	21.76	20.72	20.81	18.81
	2583.3	2600.4	75	0	100	0	23.58	22.71	20.57	18.3	23.8	23.02	20.84	18.61
			1	74	1	0	14.5	14.54	14.43	14.24	14.8	14.85	14.74	14.55
			75	0	100	0	21.49	20.46	20.47	18.48	21.8	20.77	20.78	18.79

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 0			ANT 2					
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	
20MHz / 15MHz	2506.0	2523.1	1	99	1	0	23.41	22.46	20.42	18.60	23.61	22.63	20.60	18.78	
			100	0	75	0	21.36	20.36	20.41	18.42	21.55	20.56	20.61	18.60	
	2585.6	2602.7	1	99	1	0	23.00	22.22	20.31	18.37	23.22	22.42	20.50	18.57	
			100	0	75	0	21.05	20.38	20.41	18.40	21.25	20.57	20.61	18.60	
	2665.1	2682.2	1	99	1	0	23.00	22.00	19.93	18.04	23.22	22.20	20.11	18.24	
			100	0	75	0	21.05	20.02	20.05	18.05	21.25	20.22	20.25	18.25	

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 0			ANT 2					
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	
20MHz/ 20MHz	2506.0	2525.8	1	99	1	0	23.37	22.51	20.16	18.30	23.86	22.90	20.82	18.97	
			1	0	1	99	14.51	14.36	14.44	14.42	14.92	14.68	15.02	14.94	
			100	0	100	0	21.41	20.42	20.44	18.47	21.85	20.84	20.88	18.82	
			1	99	1	0	23.39	22.46	20.36	18.27	23.77	22.82	20.63	18.67	
	2583.1	2602.9	1	0	1	99	14.54	14.48	14.44	14.59	14.77	14.69	14.72	14.96	
			100	0	100	0	21.44	20.46	20.44	18.45	21.74	20.75	20.75	18.74	
			1	99	1	0	22.99	21.82	20.00	17.89	23.60	22.75	20.92	18.71	
			1	0	1	99	14.10	13.81	13.85	14.10	14.71	14.67	14.46	14.56	
	2660.2	2680.0	1	0	1	99	14.10	13.81	13.85	14.10	14.71	14.67	14.46	14.56	
			100	0	100	0	21.02	20.02	19.91	17.90	21.63	20.64	20.66	18.61	

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	7.5068	8.160
	3MHz + 5MHz BAND 16QAM			7.4945	8.209
	5MHz + 3MHz BAND QPSK	25/0 + 15/0		7.5030	8.262
	5MHz + 3MHz BAND 16QAM			7.4938	8.277
	5MHz + 10MHz BAND QPSK	25/0 + 50/0		13.768	14.77
	5MHz + 10MHz BAND 16QAM			13.818	14.77
	10MHz + 5MHz BAND QPSK	50/0 + 25/0		13.853	15.00
	10MHz + 5MHz BAND 16QAM			13.849	14.81
	10MHz + 10MHz BAND QPSK	50/0 + 50/0		18.551	19.99
	10MHz + 10MHz BAND 16QAM			18.551	19.94

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	28.193	30.72
	10MHz + 20MHz BAND 16QAM			28.177	30.72
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		28.206	30.86
	20MHz + 10MHz BAND 16QAM			28.143	30.68
	15MHz + 15MHz BAND QPSK	75/0 + 75/0		28.797	31.69
	15MHz + 15MHz BAND 16QAM			28.741	31.71
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		33.010	36.02
	15MHz + 20MHz BAND 16QAM			33.005	35.98
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		32.984	36.07
	20MHz + 15MHz BAND 16QAM			32.961	36.09
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.775	40.67
	20MHz + 20MHz BAND 16QAM			37.797	40.87

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	23.440	25.38
	5MHz + 20MHz BAND 16QAM			23.351	25.22
	20MHz + 5MHz BAND QPSK	100/0 + 25/0		23.365	25.39
	20MHz + 5MHz BAND 16QAM			23.357	25.45
	10MHz + 20MHz BAND QPSK	50/0 + 100/0		28.157	30.57
	10MHz + 20MHz BAND 16QAM			28.162	30.80
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		28.123	30.77
	20MHz + 10MHz BAND 16QAM			28.131	30.45
	15MHz + 15MHz BAND QPSK	75/0 + 75/0		28.682	31.46
	15MHz + 15MHz BAND 16QAM			28.7025	31.34
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		32.488	35.04
	15MHz + 20MHz BAND 16QAM			32.525	35.15
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		33.011	35.38
	20MHz + 15MHz BAND 16QAM			32.904	35.37
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.825	40.75
	20MHz + 20MHz BAND 16QAM			37.762	40.28

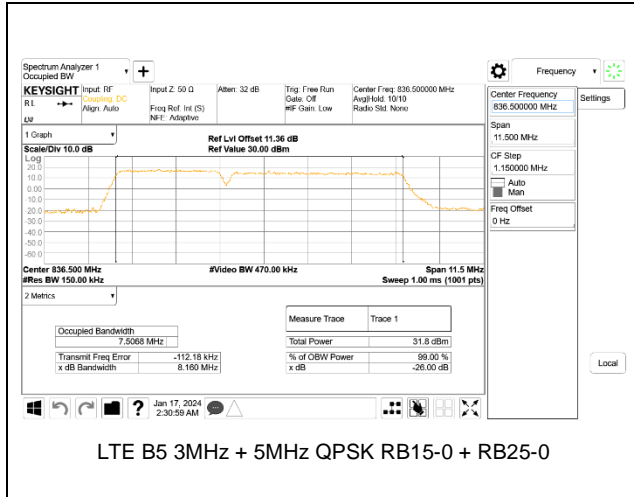
LTE BAND 66B

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 66	5MHz + 5MHz BAND QPSK	25/0 + 25/0	1745.0	9.2786	10.16
	5MHz + 5MHz BAND 16QAM			9.2067	10.08
	5MHz + 10MHz BAND QPSK	25/0 + 50/0		13.720	14.57
	5MHz + 10MHz BAND 16QAM			13.690	14.53
	10MHz + 5MHz BAND QPSK	50/0 + 25/0		13.816	14.89
	10MHz + 5MHz BAND 16QAM			13.807	14.74
	5MHz + 15MHz BAND QPSK	25/0 + 75/0		18.008	18.83
	5MHz + 15MHz BAND 16QAM			18.047	18.97
	15MHz + 5MHz BAND QPSK	75/0 + 25/0		18.164	19.42
	15MHz + 5MHz BAND 16QAM			18.162	19.54
	10MHz + 10MHz BAND QPSK	10/0 + 10/0		18.633	20.22
	10MHz + 10MHz BAND 16QAM			18.626	20.16

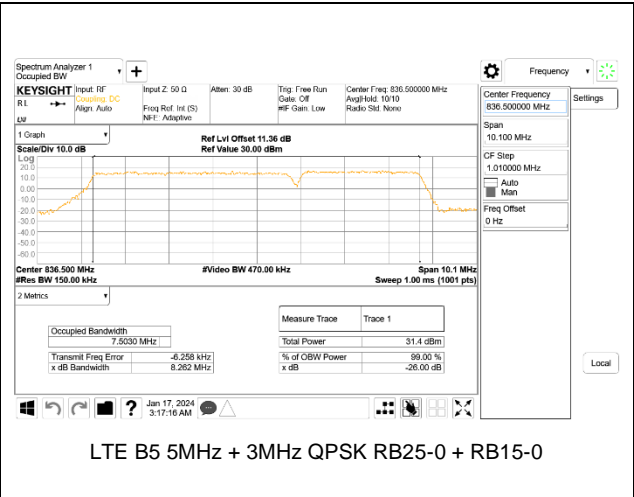
LTE BAND 66C

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE66	10MHz + 15MHz BAND QPSK	50/0 + 75/0	1745.0	23.178	25.19
	10MHz + 15MHz BAND 16QAM			23.235	25.20
	15MHz + 10MHz BAND QPSK	75/0 + 50/0		23.242	25.26
	15MHz + 10MHz BAND 16QAM			23.164	24.99
	10MHz + 20MHz BAND QPSK	50/0 + 100/0		27.750	29.63
	10MHz + 20MHz BAND 16QAM			27.780	29.84
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		27.800	29.69
	20MHz + 10MHz BAND 16QAM			27.700	29.46
	15MHz + 15MHz BAND QPSK	75/0 + 75/0		28.277	30.02
	15MHz + 15MHz BAND 16QAM			28.381	30.00
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		32.581	34.48
	15MHz + 20MHz BAND 16QAM			32.513	34.30
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		32.617	34.30
	20MHz + 15MHz BAND 16QAM			32.539	34.39
	20MHz + 5MHz BAND QPSK	100/0 + 25/0		23.031	25.09
	20MHz + 5MHz BAND 16QAM			22.996	24.80
	5MHz + 20MHz BAND QPSK	25/0 + 100/0		22.959	24.51
	5MHz + 20MHz BAND 16QAM			22.853	24.41
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.538	39.40
	20MHz + 20MHz BAND 16QAM			37.484	39.29

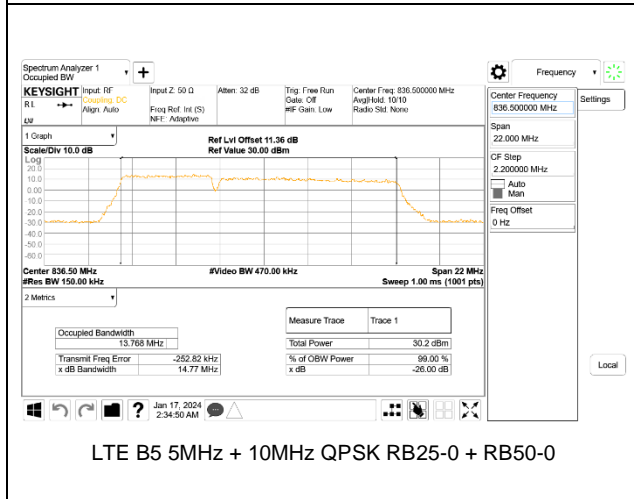
9.1.1.LTE BAND 5B



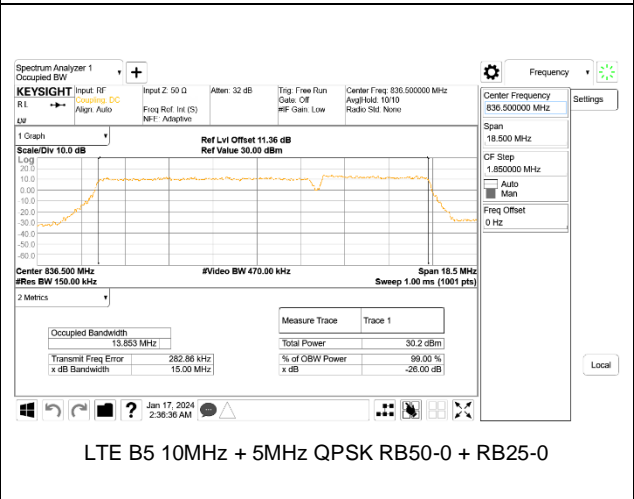
LTE B5 3MHz + 5MHz QPSK RB15-0 + RB25-0



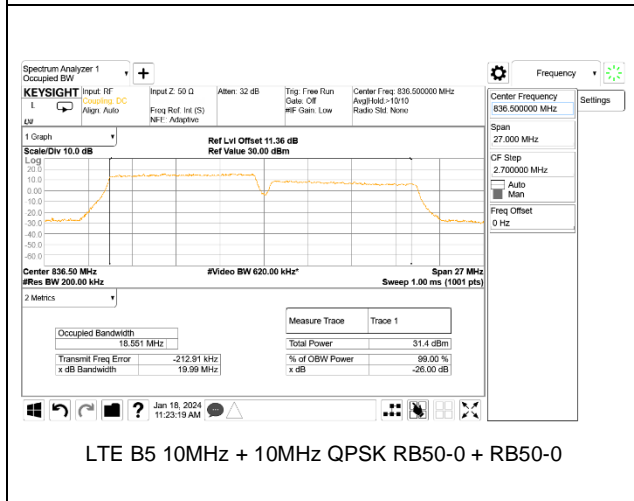
LTE B5 5MHz + 3MHz QPSK RB25-0 + RB15-0



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

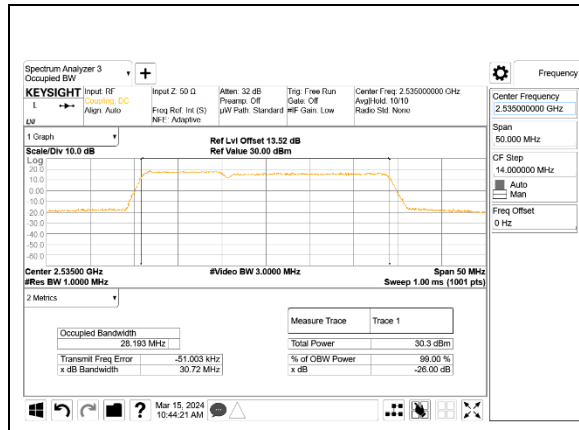


LTE B5 10MHz + 5MHz QPSK RB50-0 + RB25-0

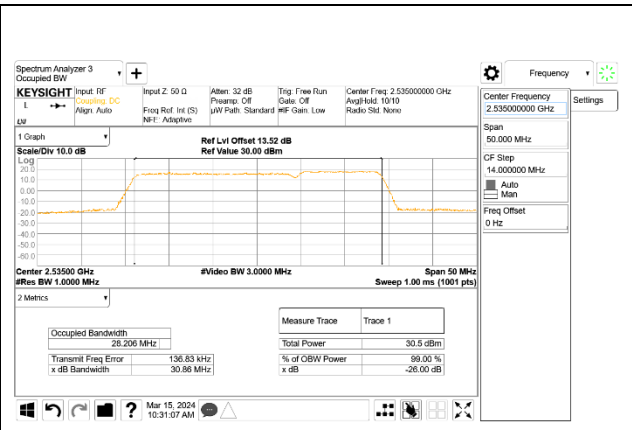


LTE B5 10MHz + 10MHz QPSK RB50-0 + RB50-0

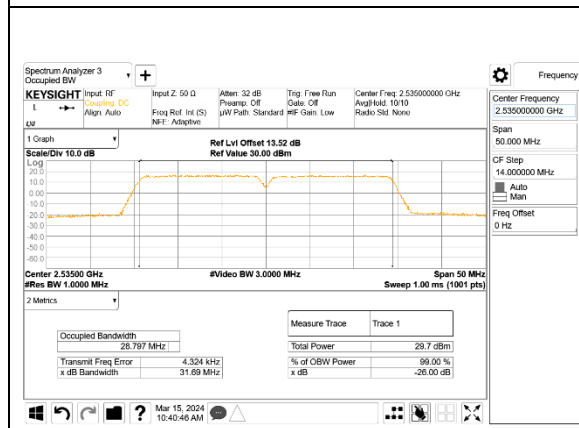
9.1.2. LTE BAND 7C



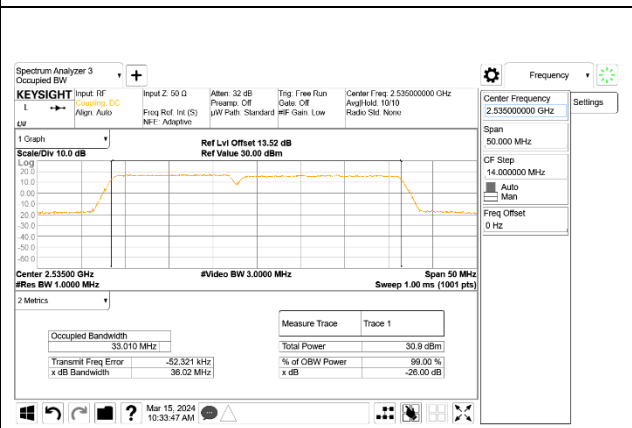
LTE B7 10MHz + 20MHz QPSK RB50-0 + RB100-0



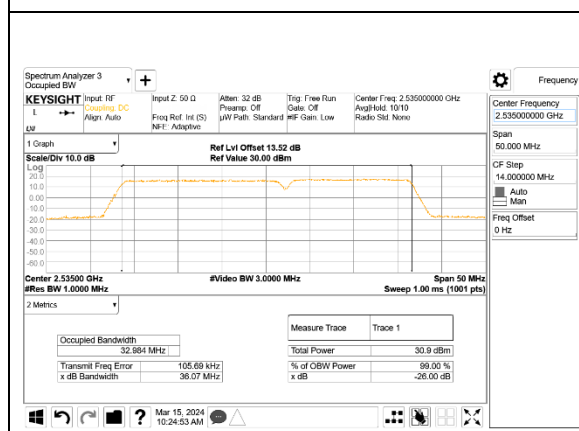
LTE B7 20MHz + 10MHz QPSK RB100-0 + RB50-0



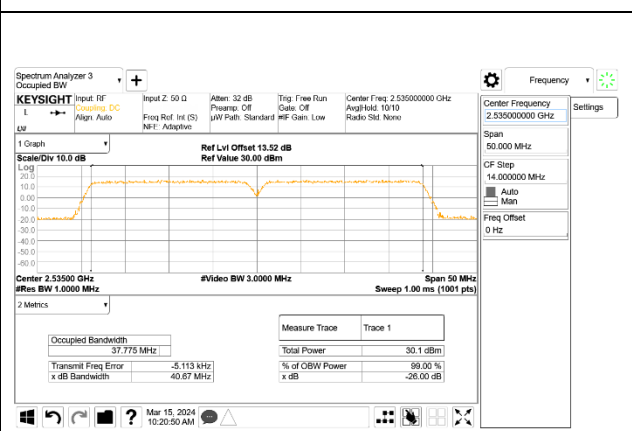
LTE B7 15MHz + 15MHz QPSK RB75-0 + RB75-0



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

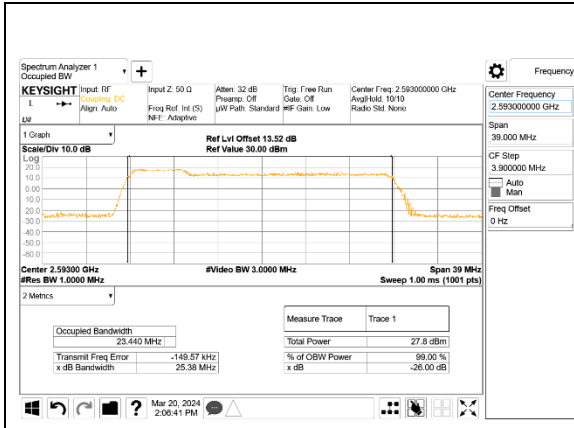


LTE B7 20MHz + 15MHz QPSK RB100-0 + RB75-0

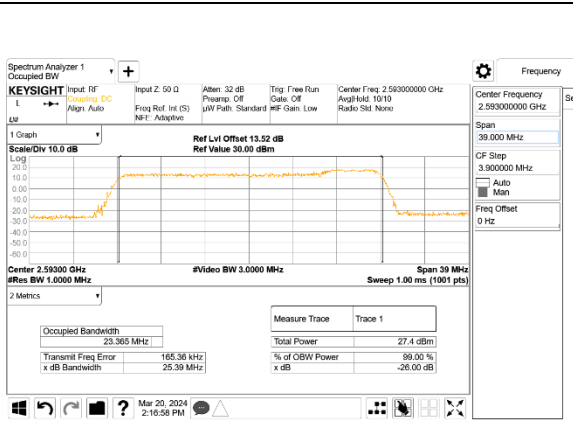


LTE B7 20MHz + 20MHz QPSK RB100-0 + RB100-0

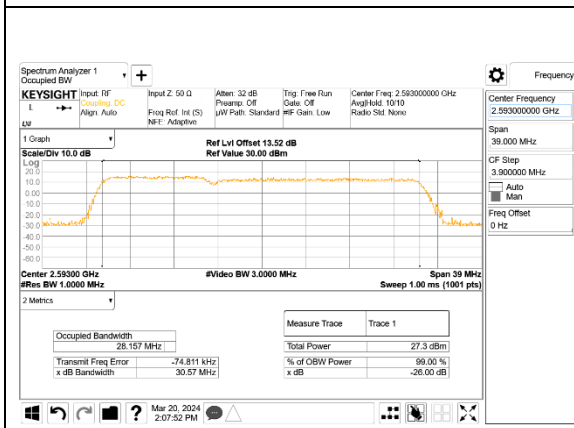
9.1.3. LTE BAND 41C



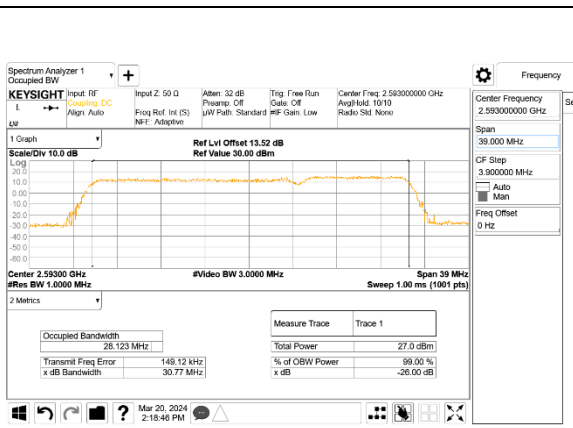
LTE B41 5MHz + 20MHz QPSK RB25-0 + RB100-0



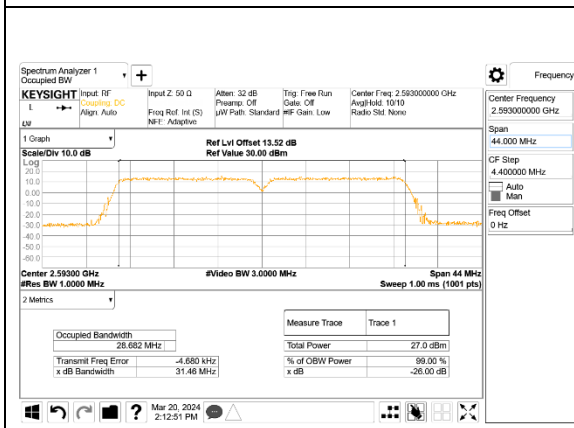
LTE B41 20MHz + 5MHz QPSK RB100-0 + RB25-0



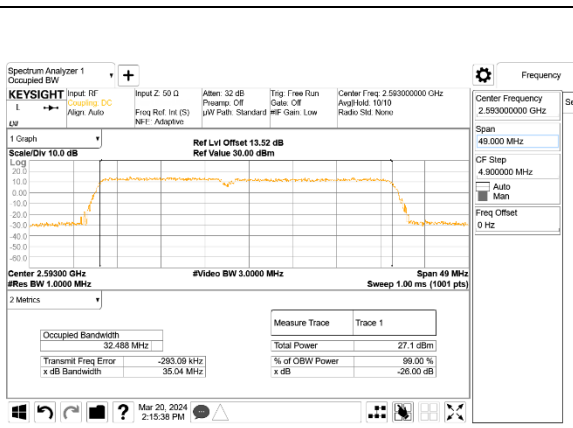
LTE B41 10MHz + 20MHz QPSK RB50-0 + RB100-0



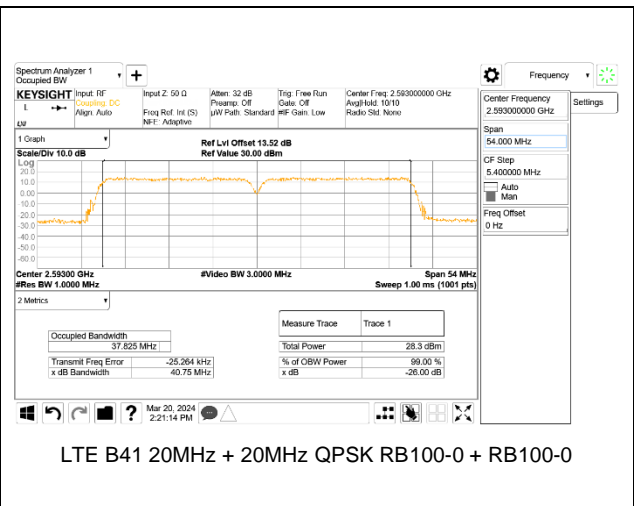
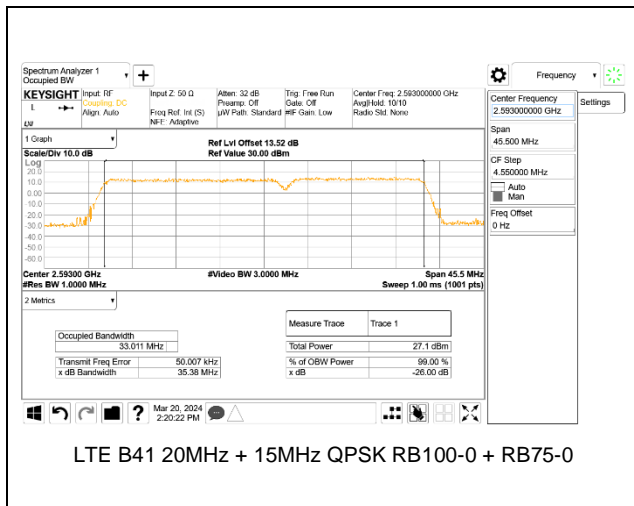
LTE B41 20MHz + 10MHz QPSK RB100-0 + RB50-0



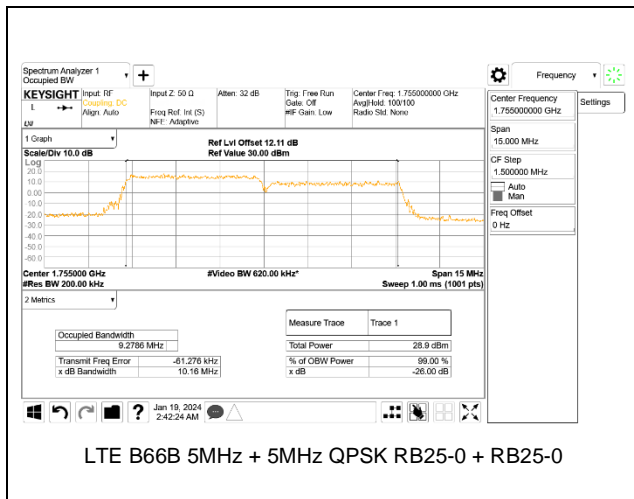
LTE B41 15MHz + 15MHz QPSK RB75-0 + RB75-0



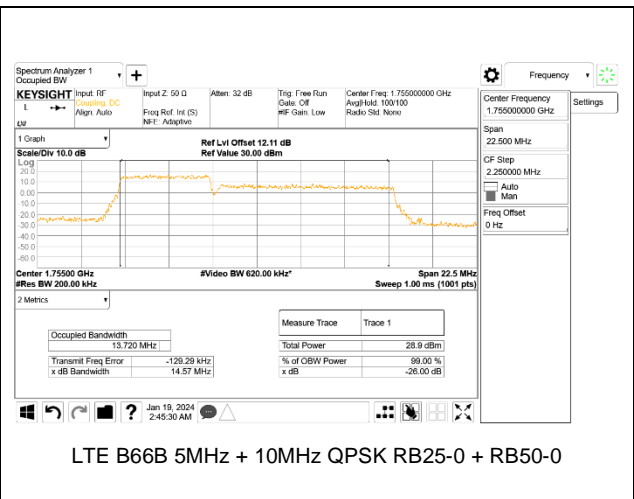
LTE B41 15MHz + 20MHz QPSK RB75-0 + RB100-0



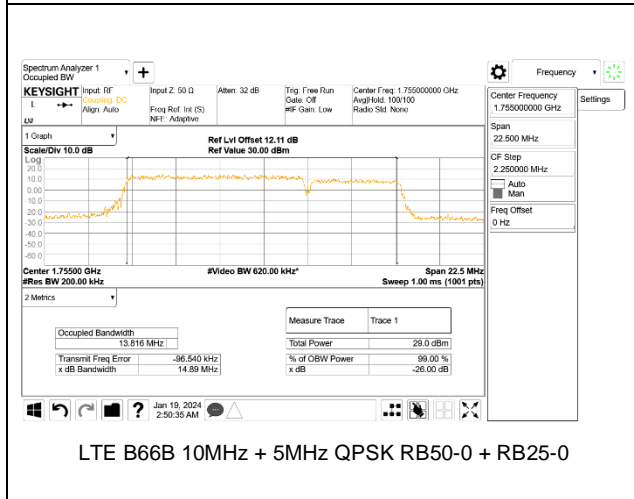
9.1.4. LTE BAND 66B



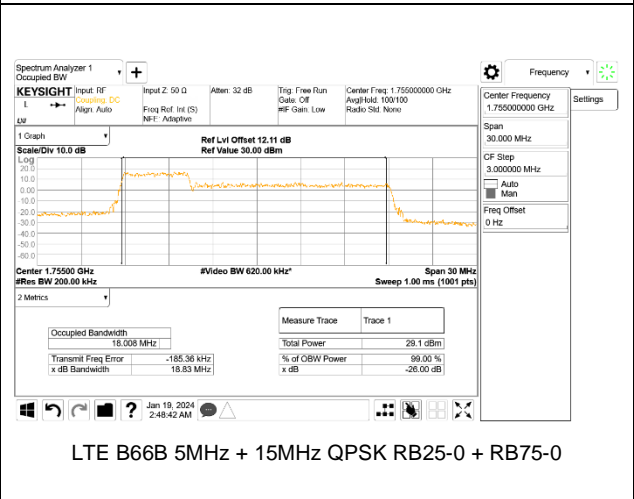
LTE B66B 5MHz + 5MHz QPSK RB25-0 + RB25-0



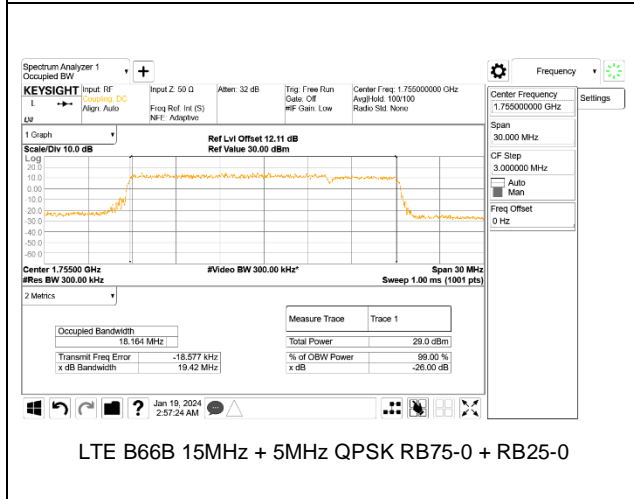
LTE B66B 5MHz + 10MHz QPSK RB25-0 + RB50-0



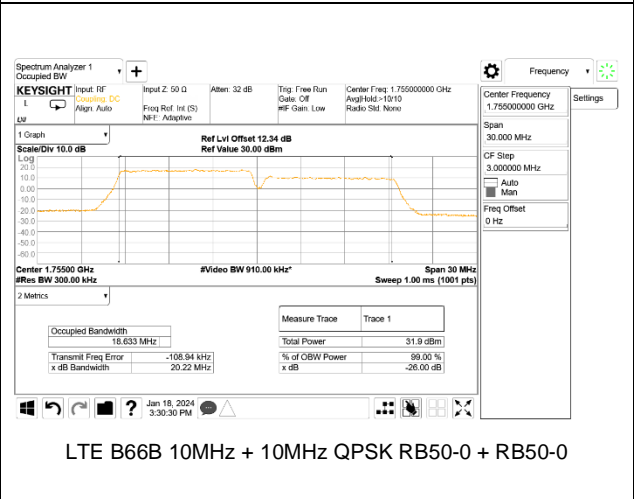
LTE B66B 10MHz + 5MHz QPSK RB50-0 + RB25-0



LTE B66B 5MHz + 15MHz QPSK RB25-0 + RB75-0

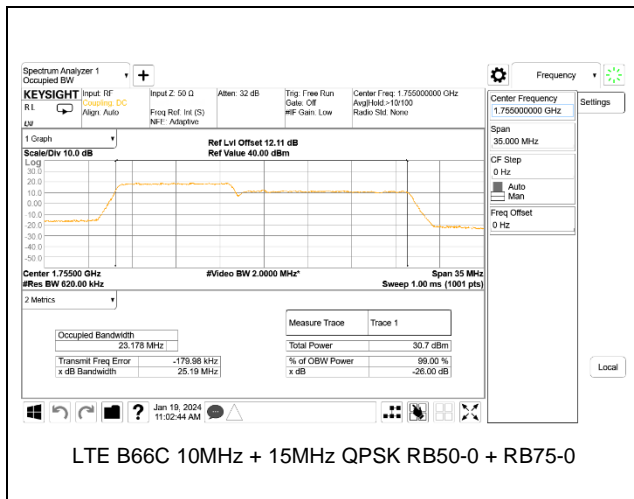


LTE B66B 15MHz + 5MHz QPSK RB75-0 + RB25-0

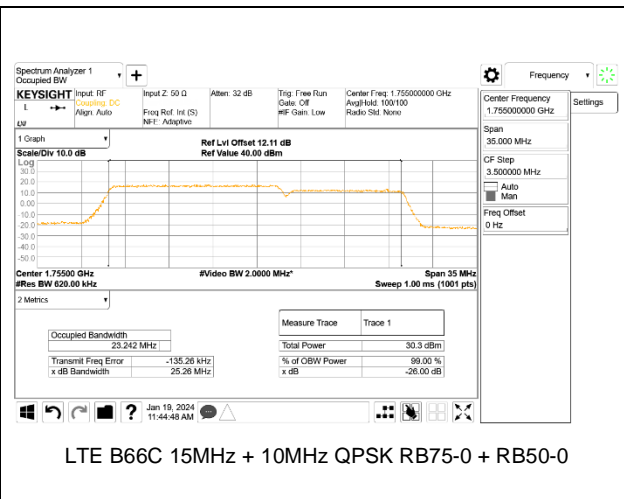


LTE B66B 10MHz + 10MHz QPSK RB50-0 + RB50-0

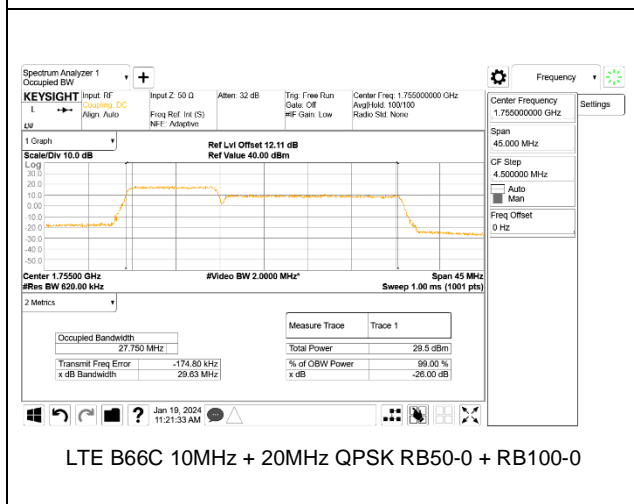
9.1.5. LTE BAND 66C



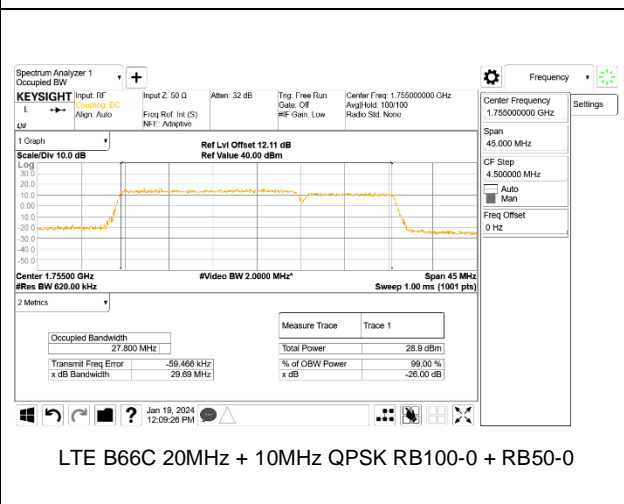
LTE B66C 10MHz + 15MHz QPSK RB50-0 + RB75-0



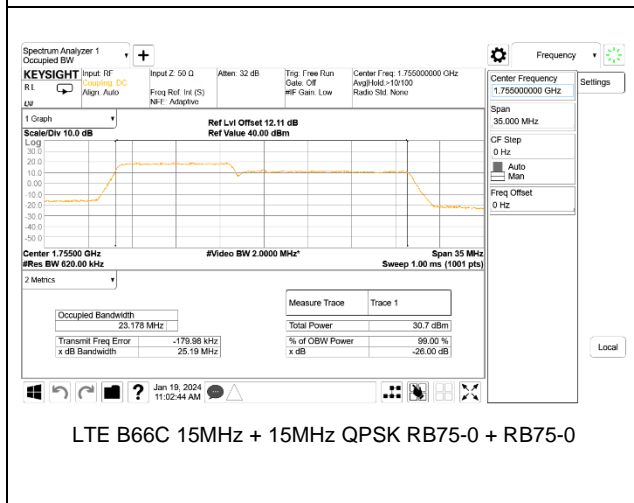
LTE B66C 15MHz + 10MHz QPSK RB75-0 + RB50-0



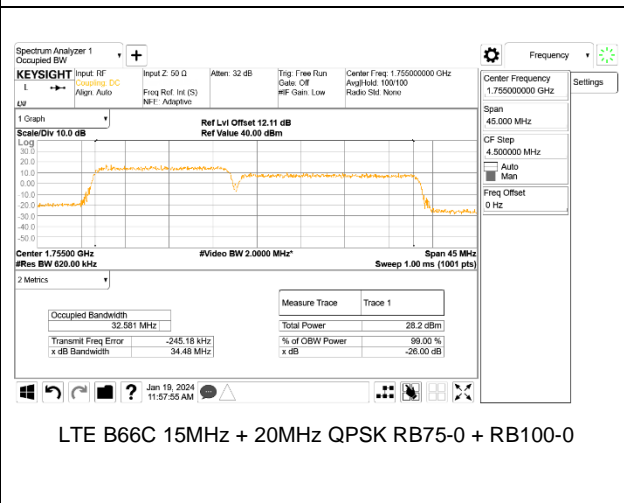
LTE B66C 10MHz + 20MHz QPSK RB50-0 + RB100-0



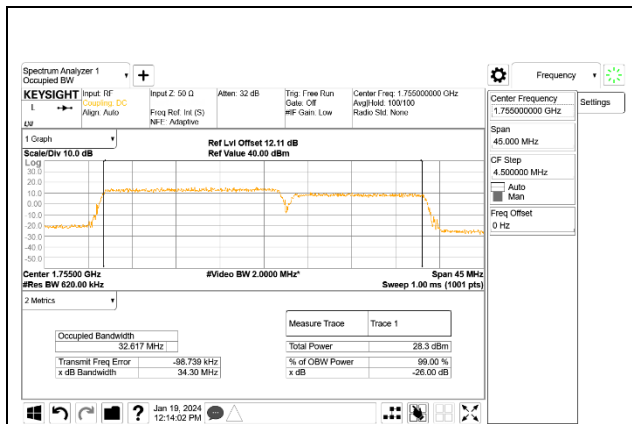
LTE B66C 20MHz + 10MHz QPSK RB100-0 + RB50-0



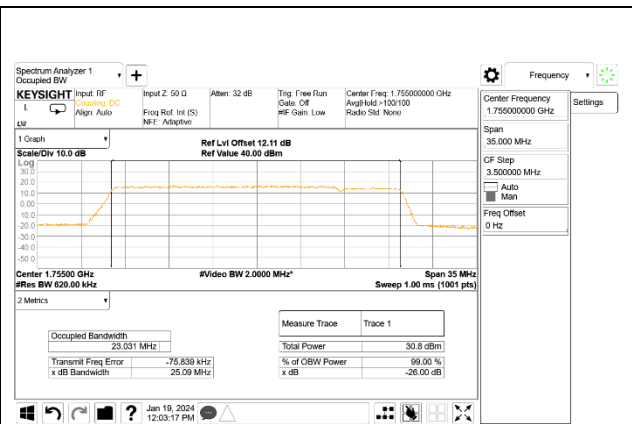
LTE B66C 15MHz + 15MHz QPSK RB75-0 + RB75-0



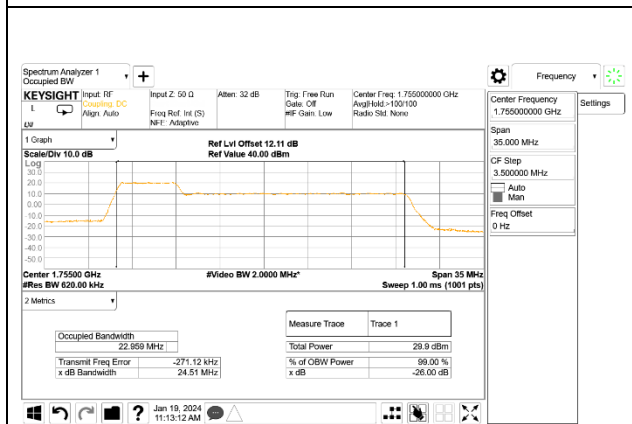
LTE B66C 15MHz + 20MHz QPSK RB75-0 + RB100-0



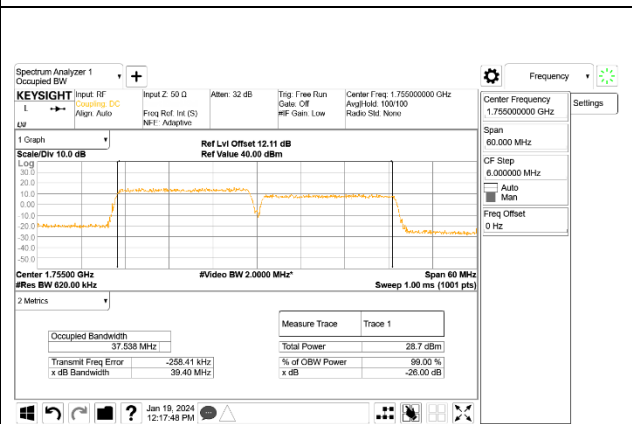
LTE B66C 20MHz + 15MHz QPSK RB100-0 + RB75-0



LTE B66C 20MHz + 5MHz QPSK RB100-0 + RB25-0



LTE B66C 5MHz + 20MHz QPSK RB25-0 + RB100-0



LTE B66C 20MHz + 20MHz QPSK RB100-0 + RB100-0

9.2. EMISSION MASK AND ADJACENT CHANNEL POWER

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.

TEST PROCEDURE FOR FCC PART 96

(3) Measurement procedure.

(i) Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's authorized frequency channel, a resolution bandwidth of no less than one percent of the fundamental emission bandwidth may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full reference bandwidth (i.e., 1 MHz or 1 percent of emission bandwidth, as specified). The fundamental emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(ii) When measuring unwanted emissions to demonstrate compliance with the limits, the CBSD and End User Device nominal carrier frequency/channel shall be adjusted as close to the licensee's authorized frequency block edges, both upper and lower, as the design permits.

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

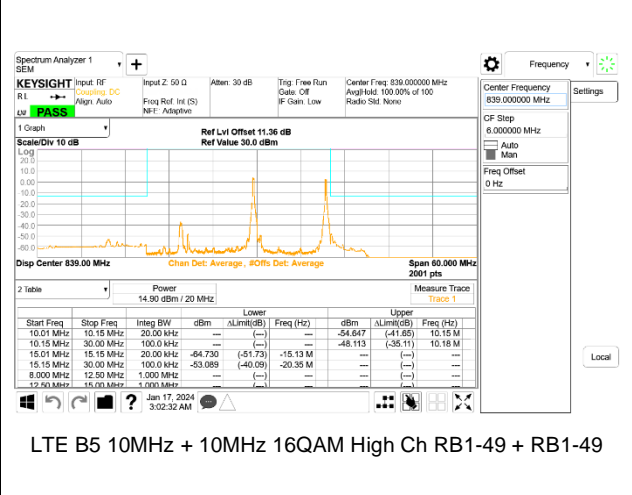
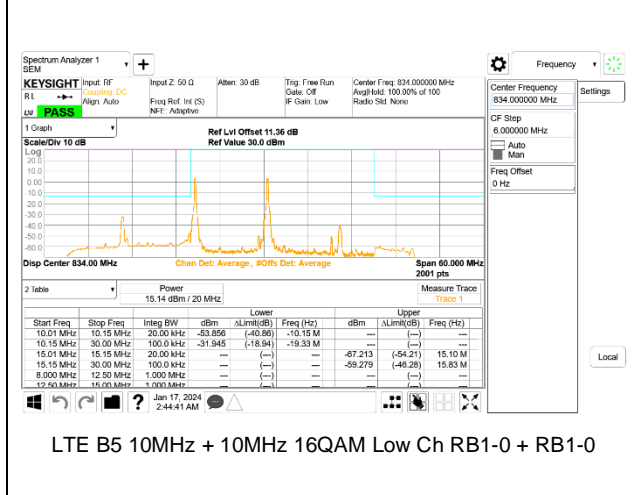
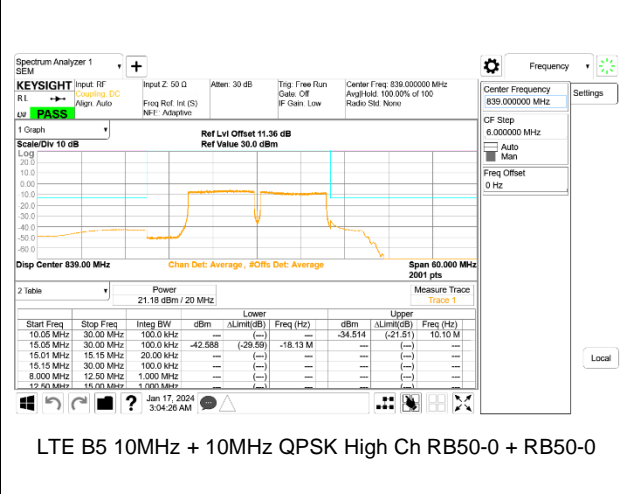
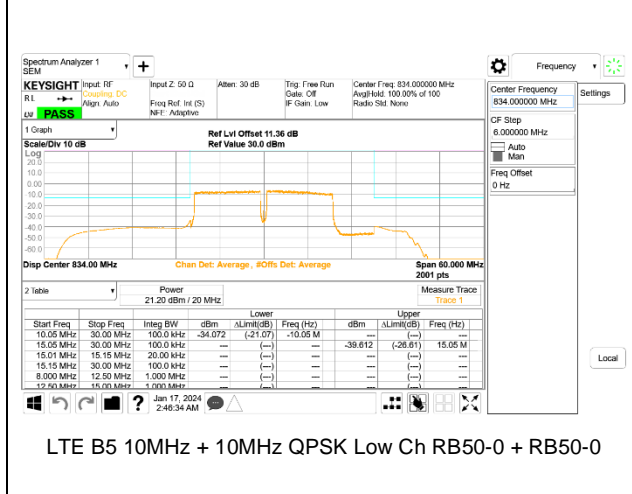
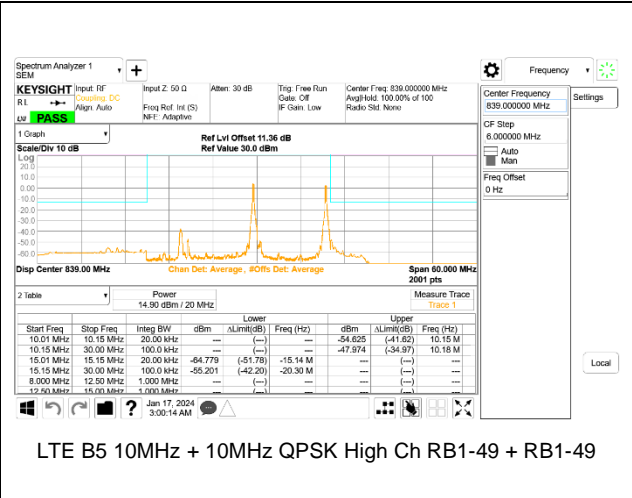
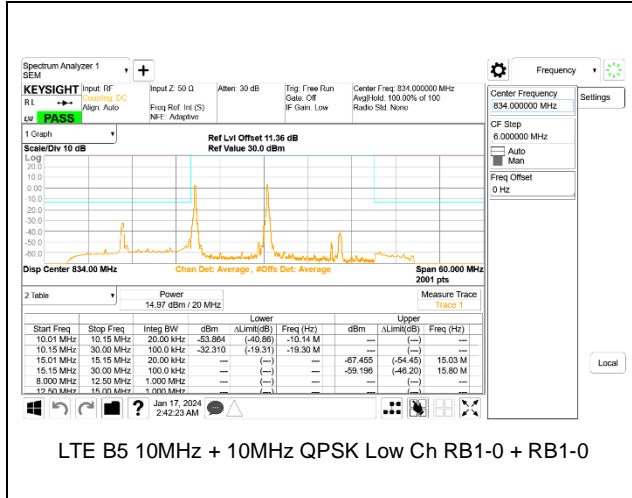
RESULTS

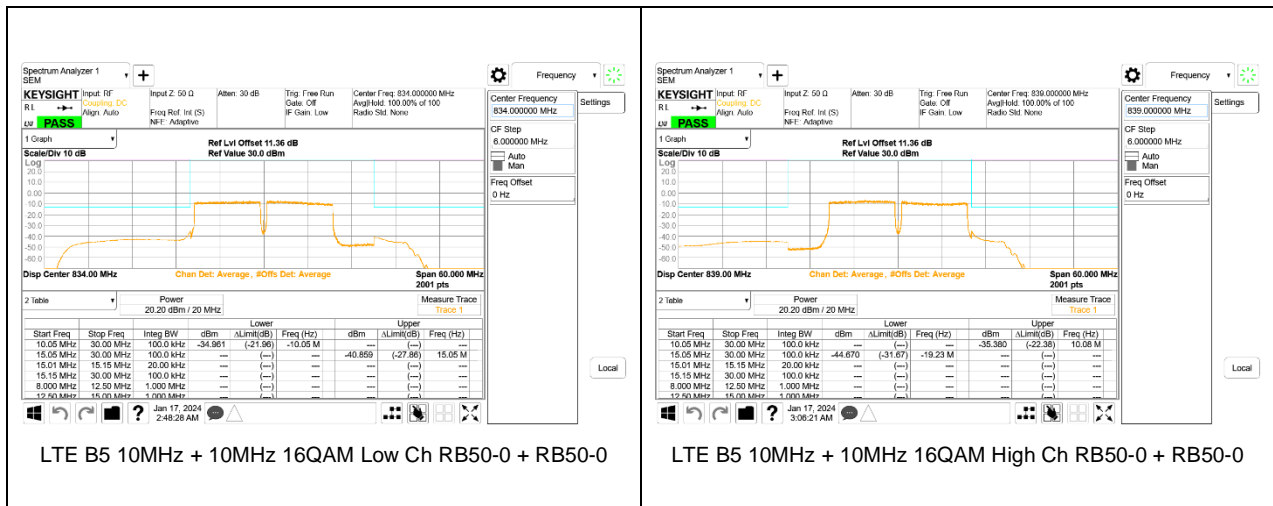
9.2.1.LTE BAND 5B

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.

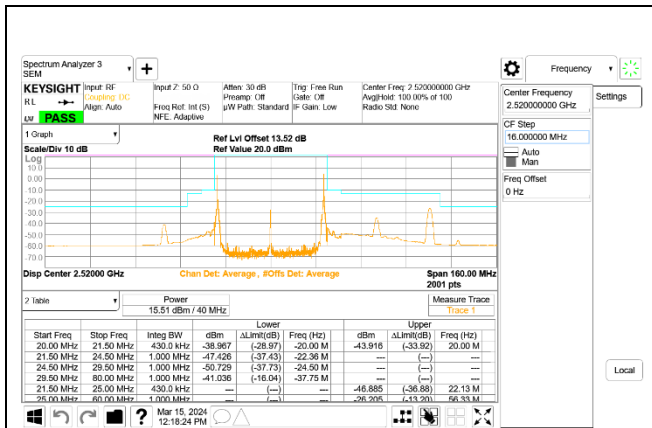




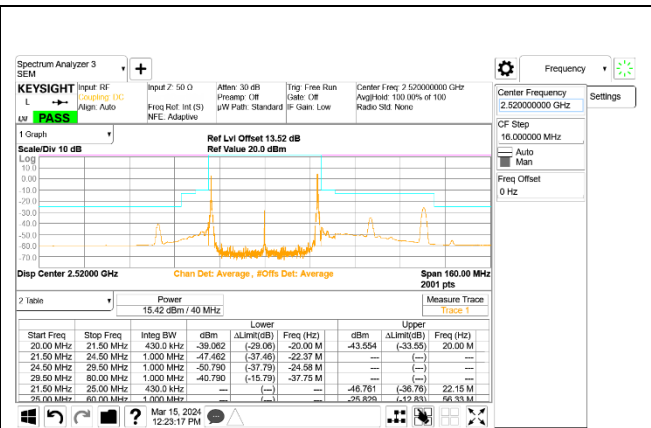
9.2.2. LTE BAND 7C

LIMITS

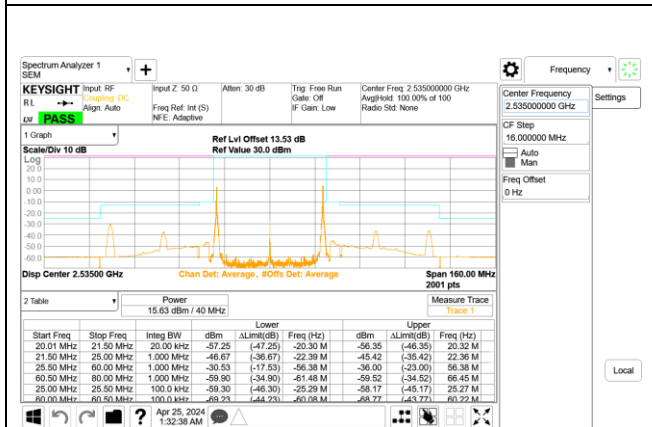
FCC: §27.53(m)(4) For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 +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



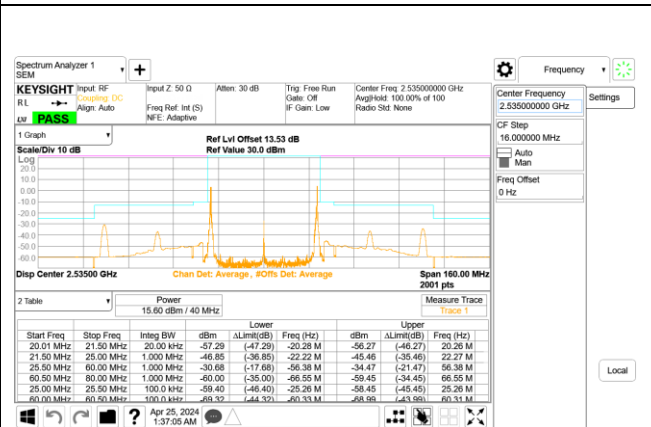
LTE B7 20MHz + 20MHz QPSK Low Ch RB1-0 + RB1-99



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