TEST REPORT

Report Number: R16238088-E6c

Applicant : Samsung Electronics Co Ltd
129, Samsung-ro, Yeongtong-gu, Suwon-si,
Gyeonggi-do, 16677, Rep. of Korea

Model : SC-56G, SCG39

FCC ID : A3LSMF976JPN

EUT Description : GSM/WCDMA/LTE/NR/SCS Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax/be, UWB, WPT and NFC

Test Standard(s) : FCC 47 CFR PART 2, PART 27
ISED RSS-GEN ISSUE 5 + A1 + A2, RSS-139 ISSUE 4

Date Of Issue:

2026-06-03

Prepared by:
UL LLC
12 Laboratory Dr.
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ACCREDITED
CERT #0751.06

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2026-06-03	Initial Issue	Noah Bennett

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	Samsung Electronics Co Ltd 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
EUT DESCRIPTION:	GSM/WCDMA/LTE/NR/SCS Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax/be, UWB, WPT and NFC
SERIAL NUMBERS:	**ZBK0208M, ZBD0487M, ZAT0031M, ZBK0219M, ZBK0213M, ZAQ0548M, ZB30741M**
SAMPLE RECEIVE DATE:	2026-02-24
DATE TESTED:	2026-03-06 to 2026-04-28

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC 47 CFR PART 2, PART 27	Refer to Section 2
ISED RSS-GEN ISSUE 5 + A1 + A2, RSS-139 ISSUE 4	Refer to Section 2

UL LLC 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 LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document.

Approved & Released
For UL LLC By:

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Principle Engineer
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2. SUMMARY OF TEST RESULTS

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

Requirement Description	Requirement Clause Number (FCC)	Requirement Clause Number (ISED)	Result	Remarks
Equivalent Isotropic Radiated Power	27.50 (d) (4)	RSS139§5.5	Complies	None
Occupied Bandwidth	2.1049	RSS-GEN§6.7, RSS139	Complies	None
Band Edge and Emission Mask	2.1051, 27.53 (h)	RSS139§5.6	Complies	None
Out of Band Emissions	2.1051, 27.53 (h)	RSS139§5.6	Complies	None
Frequency Stability	2.1055, 27.54	RSS139§5.4	Complies	None
Peak-to-Average Ratio	27.50 (d) (5)	RSS139§5.5	Complies	None
Field Strength of Spurious Radiation	2.1051, 27.53 (h)	RSS139§5.6	Complies	None

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with the following.
FCC published lists of measurement procedures for compliance testing.
ISED published lists of normative test standards and acceptable alternatives procedures.

- ANSI C63.26:2015
- FCC 47 CFR Part 2, Part 27
- FCC KDB 971168 D01: Power Meas License Digital Systems (ISED acceptable alternative procedure)
- FCC KDB 971168 D02: Misc Rev Approv License Devices
- FCC KDB 412172 D01: Determining ERP and EIRP
- ISED RSS-Gen Issue 5 + A1 + A2, RSS-139 Issue 4

4. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, certification #0751.06, 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 2800 Suite Perimeter Park Dr. Suite B Morrisville, NC 27560, USA	US0067	27265	825374

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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}
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.52 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	4.88 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.24 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.37 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.17 dB
Occupied Channel Bandwidth	±0.39 %
Temperature	±0.9 °C
Supply voltages	±0.45 %
Time	±0.02 %

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

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6. EQUIPMENT UNDER TEST

6.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE/NR/SCS Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax/be, UWB, WPT and NFC.

The EUT supports the following LTE and 5G NR Bands and their antenna configurations:

Mode and Bands	Config 0	Config 1
LTE Band4 & LTE Band66 & 5G NR n66	ANT B	-

This report applies data referencing from FCC ID: A3LSMF976U. The test data to validate data referencing is included in Test Report R16238088-E28.

6.2. MAXIMUM OUTPUT POWER

EIRP/ERP TEST PROCEDURE

ANSI C63.26:2015
KDB 971168 D01 Section 5.2
ERP/EIRP = $P_{Meas} + G_T - L_C$
where: ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as P_{Meas}, typically dBW or dBm);
The EUT has different power levels for head use configuration and body use configuration. The tables below contain the highest of all configurations average conducted and peak EIRP/ERP output powers as follows:

LTE BAND 66

Part 27 / RSS 139								
EIRP Limit (W)		1.00						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
3.0	16QAM	1711.5	1778.5	23.76	0.238	2.716	2716.2	2M72G7W
5.0	QPSK	1712.5	1777.5	24.54	0.284	4.521	4521	4M52G7W
20.0	QPSK	1720.0	1770.0	24.42	0.277	17.981	17981	18M0G7W
	16QAM			23.65	0.232	17.990	17990	18M0D7W

5G NR n66

Part 27/ RSS 139								
EIRP Limit (W)		1.00						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
30.0	16QAM	1725.0	1765.0	23.03	0.201	28.698	28698	28M7D7W
35.0	BPSK	1727.5	1762.5	23.62	0.230	32.303	32303	32M3G7W
45.0	BPSK	1732.5	1757.5	23.66	0.232	43.012	43012	43M0G7W
	16QAM			22.81	0.191	43.137	43137	43M1D7W

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6.3. WORST-CASE CONFIGURATION AND MODE

This report covers the following technologies:

- LTE Band 4
- LTE Band 66, 5G NR n66

The worst-case scenario for all measurements is based upon an engineering evaluation made on conducted average power taken during pre-testing. The modulations with the highest output power were selected as worst-case. Conducted tests were performed on the worst-case antenna port per band. Full radiated Emissions Testing on each antenna was performed and reported.

The following is the worst-case antenna port, and modulation, as tested:

Bands 4 and 66	Worst-Case Antenna Port	Worst-Case Modulation
LTE Band 4, LTE Band 66, 5G NR n66	Ant G	QPSK (LTE) BPSK (FR1)

The EUT was investigated in three orthogonal orientations X/Y/Z and with the EUT in an open / folded / closed state on both Low Band (Fundamental Below 1GHz) Mid Band (Fundamental between 1-3GHz) and High Band (Fundamental above 3GHz) over all antennas to find the worst-case orientation. For Simultaneous Tx scans in which there are two or more F_c ranges with different worst-case orientations, scans were performed in the orientation with the highest output power, and sufficient margin was added to cover other orientations. The following are the worst-case orientations:

WWAN Bands	Config 0 Orientation	Config 1 Orientation
Low Band (F_c <1GHz)	-	-
Mid Band (1GHz < F_c < 3GHz)	X Open	X Open
High Band (F_c > 3GHz)	-	-

Worst Case emissions from 9kHz-30Mhz, 30-1000MHz, 18-26.5GHz, and 26.5GHz-40GHz were done on the modes with the highest pre-tuned conducted average power per antenna. No emissions within 20dB were observed.

LTE Band 66 results can cover LTE Band 4, as they have the same tune-up, and LTE Band 66 encompasses LTE4. LTE4 High CH SEMs were tested and reported.

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6.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Power Adapter	Sony	XQZ-UC11-010-236-21	NA	NA

I/O CABLES

I/O Cable List						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	USB-C	1	USB-C	Shielded	<3m	Phone to power adapter

TEST SETUP

The EUT was connected to a base station simulator and set to transmit at max power for WWAN testing

SETUP DIAGRAM

Please see R16238088-EP1c for Setup Diagrams and Setup Photos.

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7. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 4)

Equip. ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
	~~0.009-30MHz~~				
8939	Passive Loop Antenna	EMCO	EM-6872	2024-11-18	2026-11-18
8940	Passive Loop Antenna	EMCO	EM-6871	2024-11-18	2026-11-18
	30-1000 MHz				
90628	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2026-02-09	2028-02-09
	1-18 GHz				
206211*	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2024-04-09	2026-04-30
	18-40 GHz				
204704	Horn Antenna, 18-26.5GHz	Com Power	AH-826	2025-07-15	2027-07-15
204705	Horn Antenna, 26-40GHz	Com Power	AH-640	2025-11-19	2027-11-19
	Gain-Loss Chains				
207638	Gain-loss string: 0.009-30MHz	Various	Various	2025-06-13	2026-06-13
207639	Gain-loss string: 25-1000MHz	Various	Various	2025-06-13	2026-06-13
207640	Gain-loss string: 1-18GHz	Various	Various	2025-06-13	2026-06-13
225795	Gain-loss string: 18-40GHz	Various	Various	2025-06-13	2026-06-13
	Receiver & Software				
197954	Spectrum Analyzer	Rohde & Schwarz	ESW44	2025-04-21	2026-04-30
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
	Additional Equipment used				
241204	Environmental Meter	Fisher Scientific	15-077-963	2025-08-05	2027-08-05
213025	Wideband Radio Communications Tester	Rohde and Schwarz	CMW500		
208720	Wideband Radio Communications Tester	Rohde and Schwarz	CMW500		
21725	Radio Communications Tester	Rohde and Schwarz	CMX500		
212167	Wideband Radio Communications Tester	Anritsu	MT8821C		
169106*	1710-1785MHz notch filter, 2W, Fhigh = 9GHz	Micro-Tronics	BRM50713-01	2025-03-13	2026-03-31

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Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 2)

Equip. ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
	1-18 GHz				
86408	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2025-07-15	2027-07-15
	Gain-Loss Chains				
91977	Gain-loss string: 1-18GHz	Various	Various	2025-05-31	2026-05-31
	Receiver & Software				
197955	Spectrum Analyzer	Rohde & Schwarz	ESW44	2025-07-29	2026-07-29
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
	Additional Equipment used				
239540	Environmental Meter	Fisher Scientific	15-077-963	2025-08-05	2027-08-05
213025	Wideband Radio Communications Tester	Rohde and Schwarz	CMW500	N/A	N/A
169106*	1710-1785MHz notch filter, 2W, Fhigh = 9GHz	Micro-Tronics	BRM50713-01	2025-03-13	2026-03-31

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.

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Wireless Conducted Measurement Equipment.

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	Additional Equipment used				
90411	Spectrum Analyzer **MY54490314**	Keysight Technologies	N9030A	2026-03-03	2027-03-03
90416	Spectrum Analyzer **MY54490254**	Keysight Technologies	N9030A	2025-07-31	2026-07-31
212967	Wideband Radio Communications Tester **170733**	Rohde and Schwarz	CMW500	2026-02-13	2027-02-13
212166	Wideband Radio Communications Tester	Anritsu	MT8000A	2026-02-23	2027-02-23
262469	Humidity and Temperature Probe	Control Company	15-077-963	2025-04-28	2026-04-30

Test Equipment Used - Wireless Conducted Attenuators, Cables, and Couplers

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	Attenuators				
226569	2.92mm Coaxial 10dB Attenuator 40GHz	Fairview Microwave	SA4014-10	2025-09-02	2026-09-02
226554	20dB Attenuator	CentricRF	C18S2-20	2025-03-31 2026-04-01	2026-03-31 2027-04-01
226552	20dB Attenuator	CentricRF	C18S2-20	2025-03-31 2026-04-01	2026-03-31 2027-04-01
	Cables				
246257	SMA Cable	Huber + Suhner	104PEA	2025-09-05	2026-09-05
	Couplers				
238018 (CPL003-SAR)	Ultra-Wideband Directional Coupler 0.5-18GHz	Mini-Circuits	ZUDC10-183+	2025-04-48	2026-04-30

NOTES:

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

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8. CONDUCTED TEST RESULTS

8.1. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049
ISED: RSS139

LIMITS

For reporting purposes only.

TEST PROCEDURE

ANSI C63.26:2015: Section 5.4

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The 99% and -26dB bandwidths were measured with the spectrum analyzer at the middle channel in each band.

RESULTS

There is no limit required and power is the same for low, middle and high channel; therefore, only middle channel was tested.

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LTE BAND 66

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 66	1.4MHz, QPSK	6/0	1745.0	1.0998	1.402
	1.4MHz,16QAM			1.1087	1.399
	3MHz, QPSK	15/0		2.7077	3.085
	3MHz, 16QAM			2.7162	3.041
	5MHz, QPSK	25/0		4.5210	5.188
	5MHz, 16QAM			4.5174	5.154
	10MHz, QPSK	50/0		9.0149	10.10
	10MHz, 16QAM			8.9999	9.961
	15MHz, QPSK	75/0		13.488	15.00
	15MHz, 16QAM			13.512	14.98
	20MHz, QPSK	100/0		17.981	19.87
	20MHz, 16QAM			17.990	19.65
	20MHz, QPSK	1/0		0.26738	0.4667

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5G NR n66

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
5G NR n66	5MHz, BPSK	25/0	1745.0	4.5220	5.192
	5MHz, 16QAM			4.5269	5.223
	10MHz, BPSK	50/0		8.9728	9.821
	10MHz, 16QAM			9.0184	9.848
	15MHz, BPSK	75/0		13.475	14.55
	15MHz, 16QAM			13.497	14.60
	20MHz, BPSK	100/0		17.918	19.18
	20MHz, 16QAM			17.920	19.22
	25MHz, BPSK	128/0		23.010	24.43
	25MHz, 16QAM			23.00	24.28
	30MHz, BPSK	160/0		28.712	30.27
	30MHz, 16QAM			28.698	30.21
	35MHz, BPSK	180/0		32.303	34.02
	35MHz, 16QAM			32.237	33.99
	40MHz, BPSK	216/0		38.654	40.77
	40MHz, 16QAM			39.721	40.91
	45MHz, BPSK	240/0		43.012	45.46
	45MHz, 16QAM			43.137	45.29
	45MHz, BPSK	1/1		0.26916	0.5032

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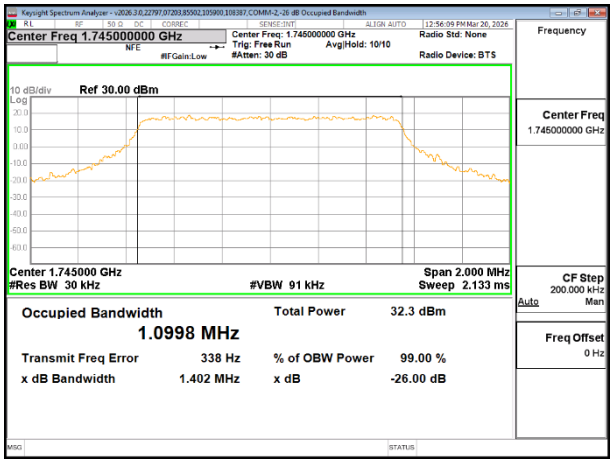
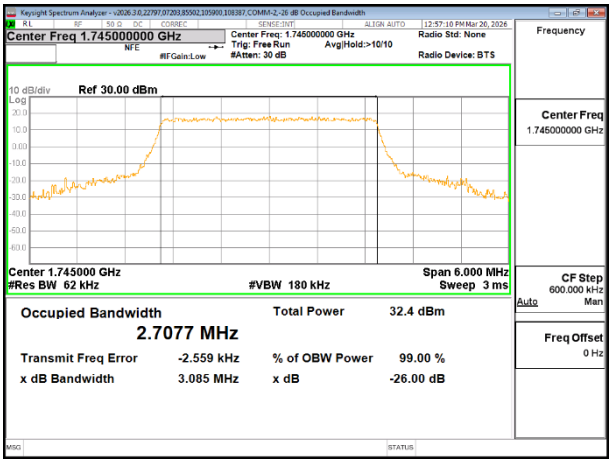
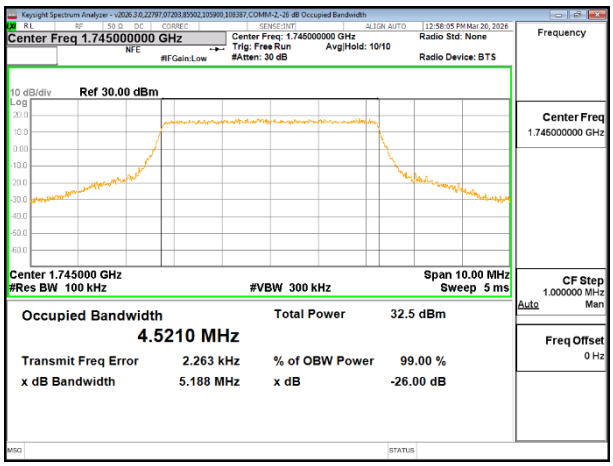
8.1.1. LTE BAND 66



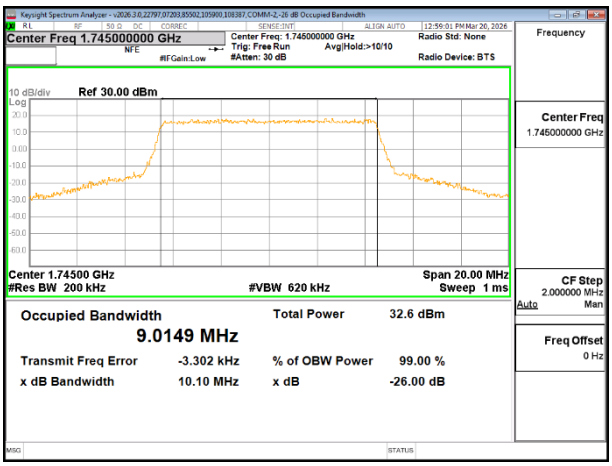
LTE B66 1.4MHz QPSK Middle Channel RB6-0



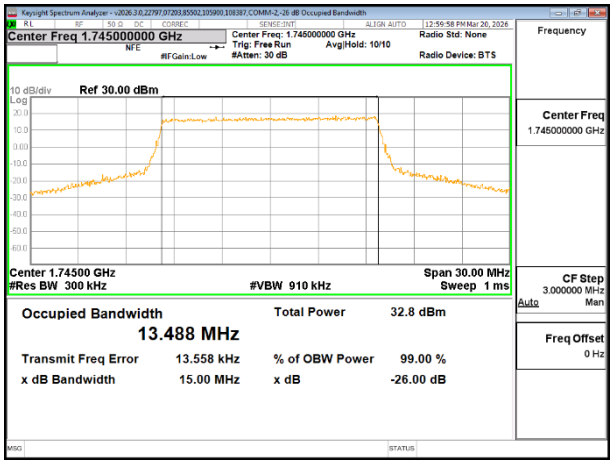
LTE B66 3MHz QPSK Middle Channel RB15-0



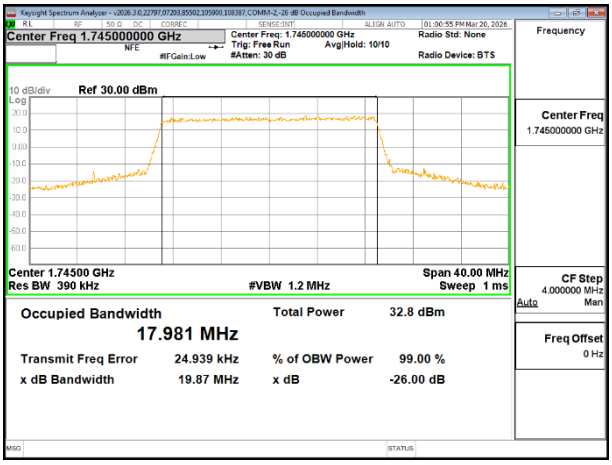
LTE B66 5MHz QPSK Middle Channel RB25-0



LTE B66 10MHz QPSK Middle Channel RB50-0



LTE B66 15MHz QPSK Middle Channel RB75-0



LTE B66 20MHz QPSK Middle Channel RB100-0

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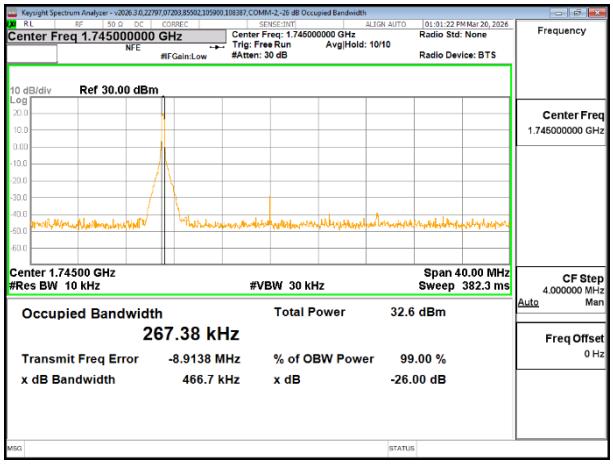

LTE B66 20MHz QPSK Middle Channel RB1-0

Intentionally Blank

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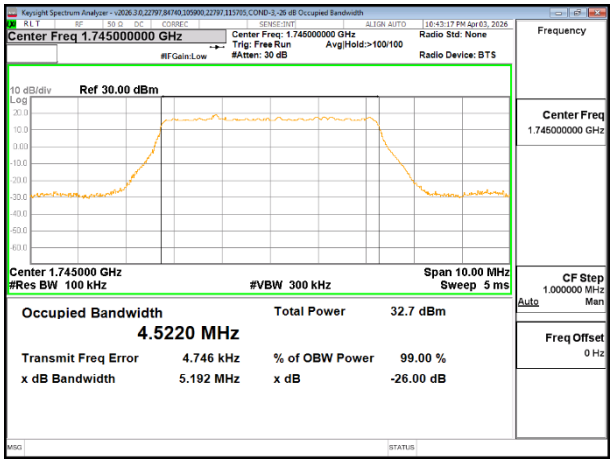
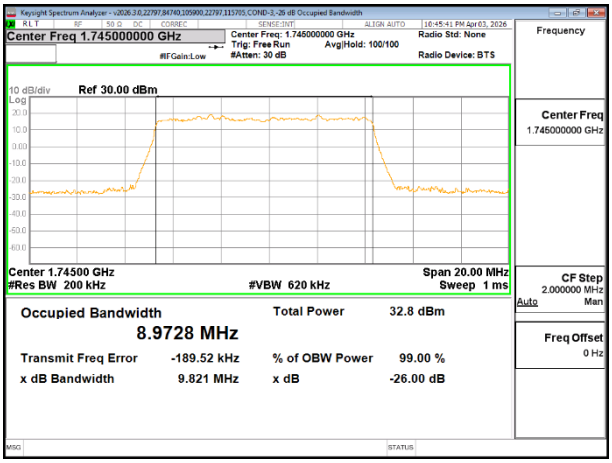
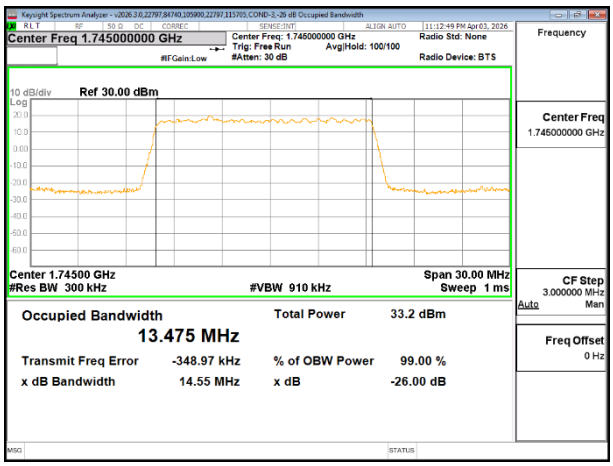
8.1.2. 5G NR n66



5G NR n66 5MHz BPSK Middle Channel RB25-0



5G NR n66 10MHz BPSK Middle Channel RB50-0



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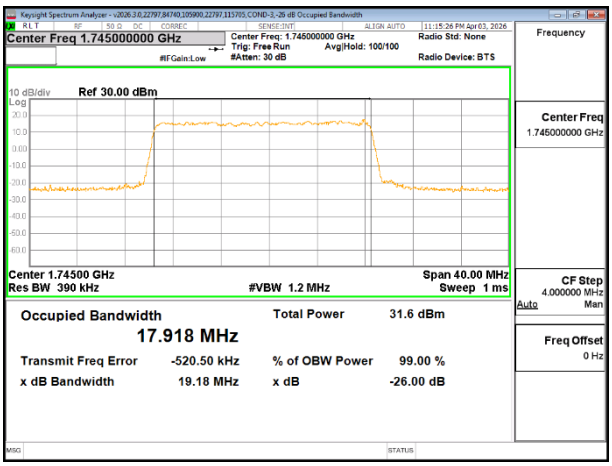

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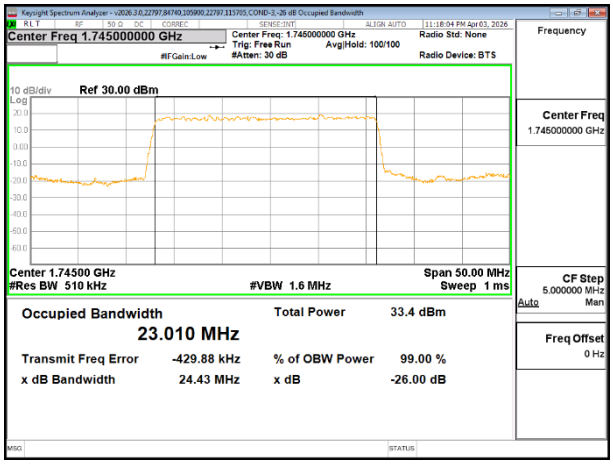

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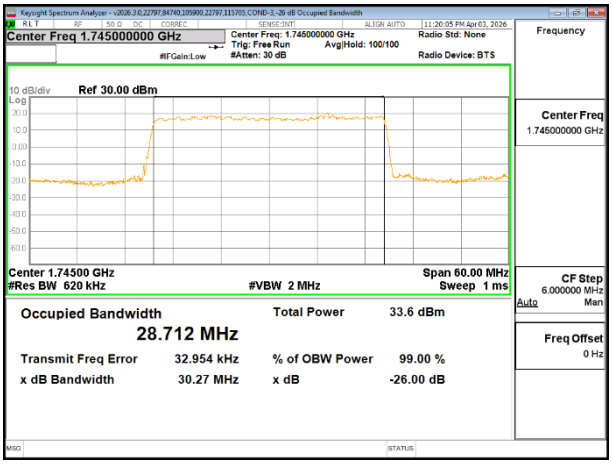

5G NR n66 30MHz BPSK Middle Channel RB160-0

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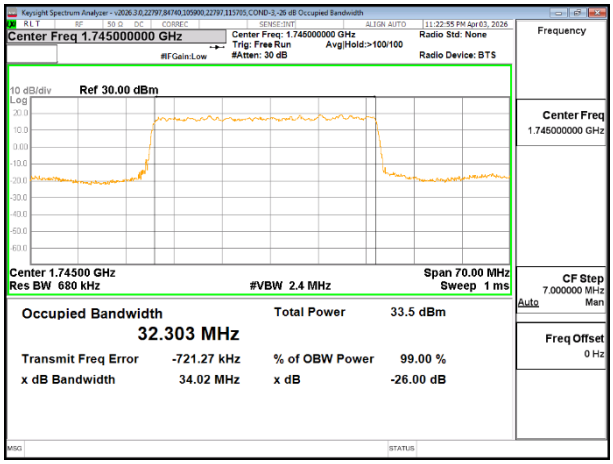
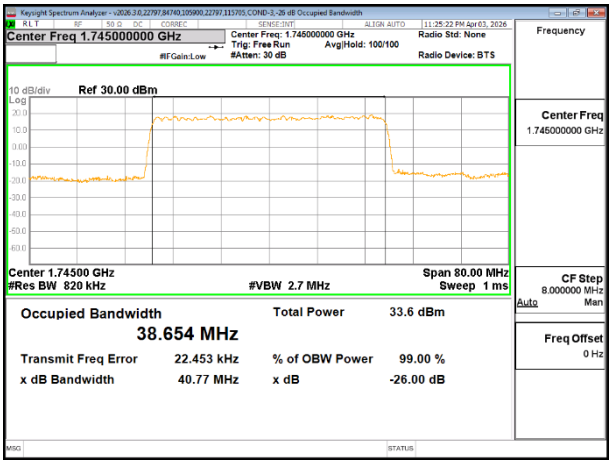


5G NR n66 35MHz BPSK Middle Channel RB180-0



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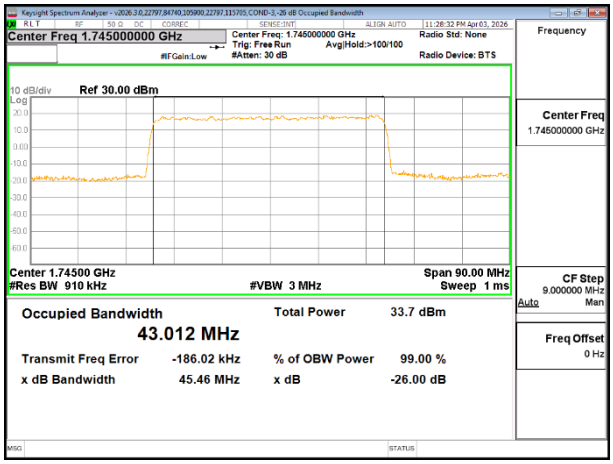
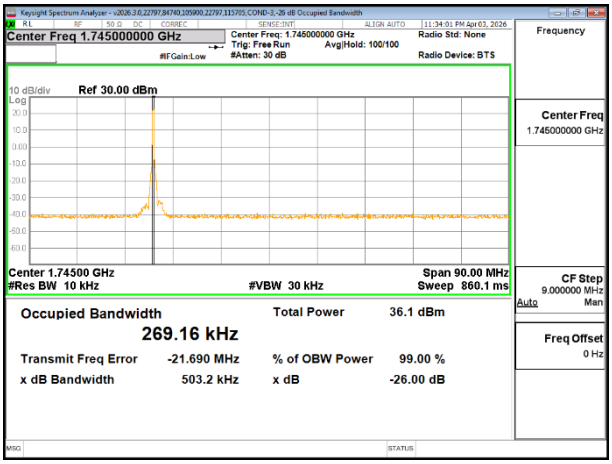


5G NR n66 45MHz BPSK Middle Channel RB240-0



5G NR n66 45MHz BPSK Middle Channel RB1-1

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8.2. EMISSION MASK AND ADJACENT CHANNEL POWER

LIMITS

FCC: §27.53(h)
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.

ISED: RSS139§5.6
Unwanted emissions shall be measured in terms of average values.

For all equipment, the TRP or total conducted power (sum of conducted power across all antenna connectors) of the unwanted emissions outside the frequency block or frequency block group shall not exceed the limits shown in table 6.

Table 6: Unwanted emission limits	
Offset from the edge of the frequency block or frequency block group	**Unwanted emission limits**
≤1 MHz	-13 dBm/(1% of OB*)
>1 MHz	-13 dBm/MHz

*OB is the frequency block or frequency block group. Note: EBW used over OB as worst-case.

TEST PROCEDURE

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

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

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

RESULTS

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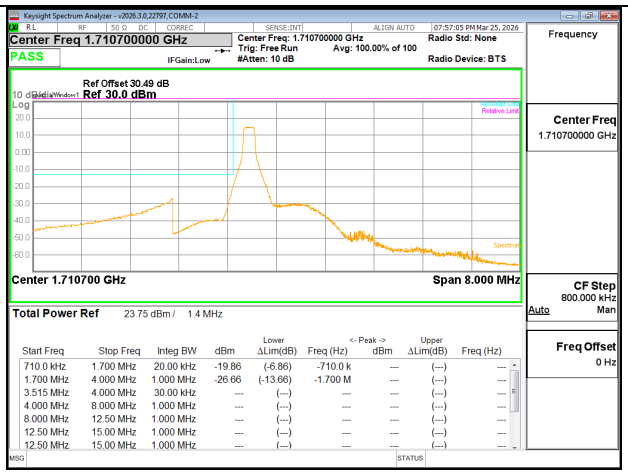
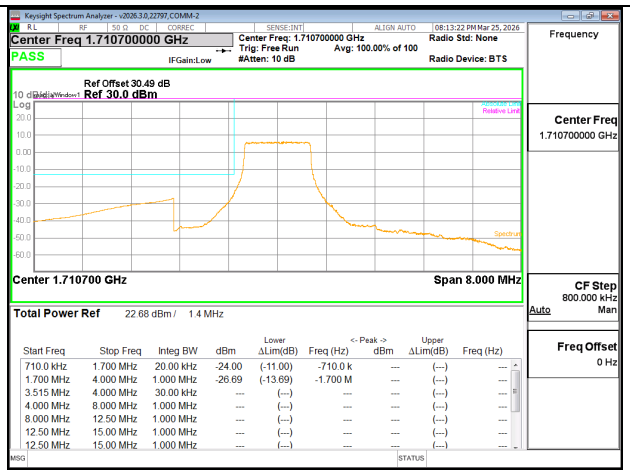
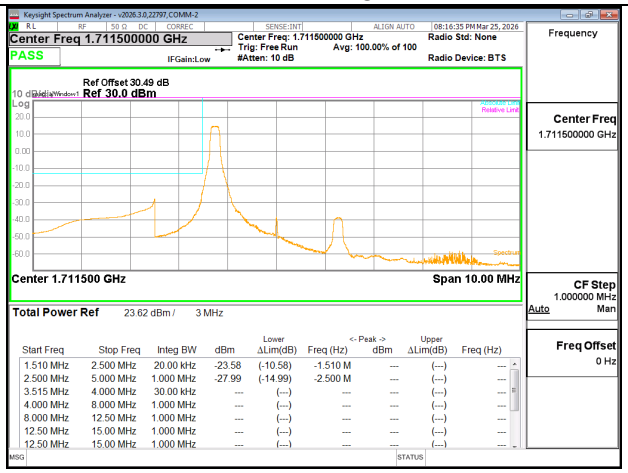
8.2.1. LTE Band 4



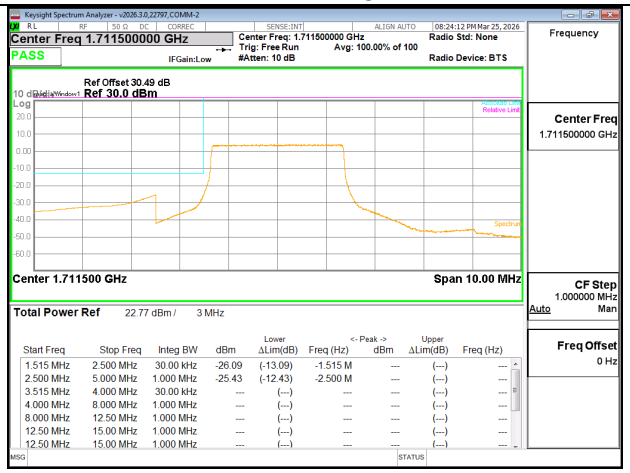
LTE B4 1.4MHz QPSK High Channel RB1-0



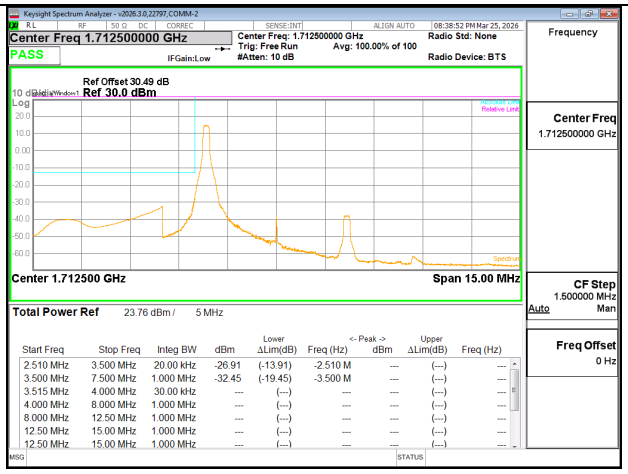
LTE B4 1.4MHz QPSK High Channel RB6-0



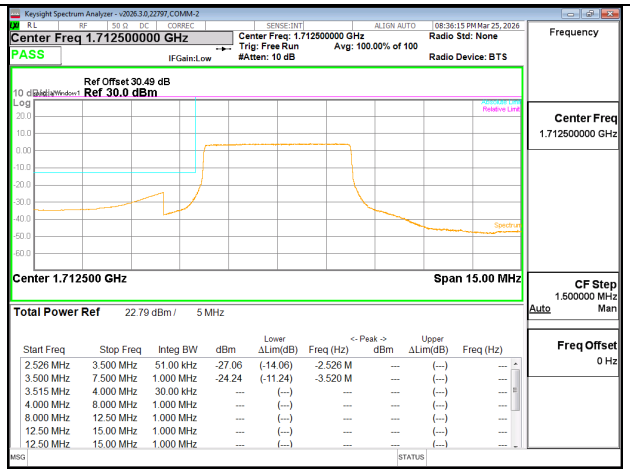
LTE B4 3MHz QPSK High Channel RB1-0



LTE B4 3MHz QPSK High Channel RB15-0



LTE B4 5MHz QPSK High Channel RB1-0



LTE B4 5MHz QPSK High Channel RB25-0

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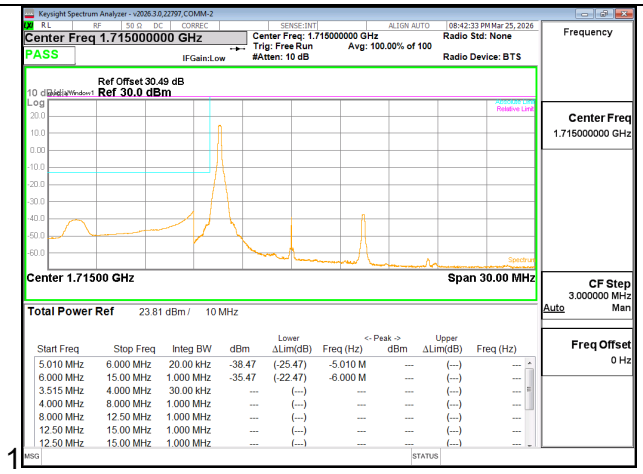

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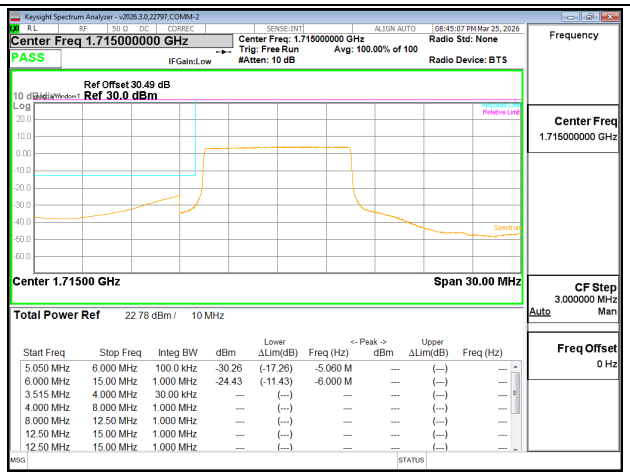
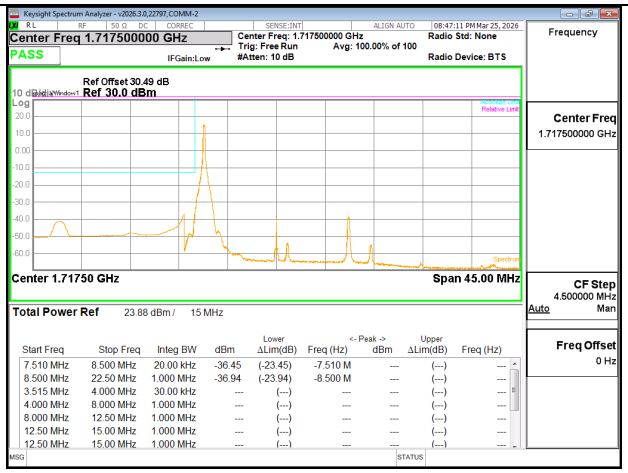
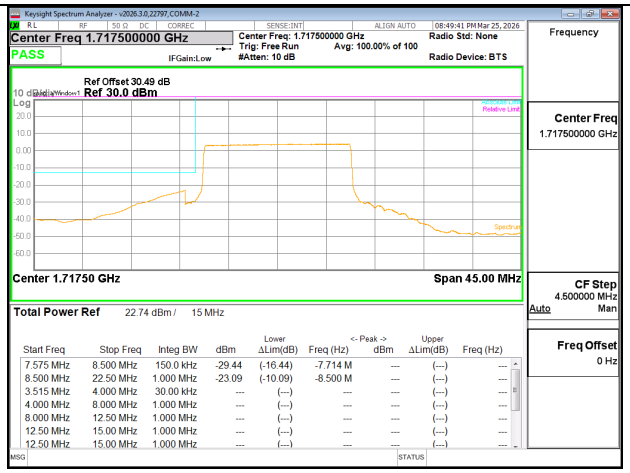
LTE B4 10MHz QPSK High Channel RB1-0



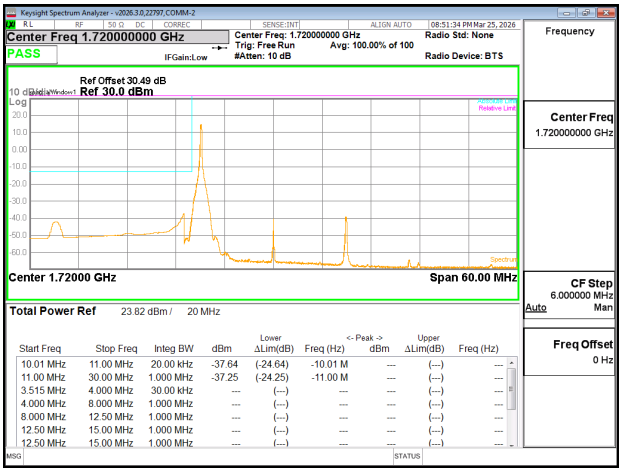
LTE B4 10MHz QPSK High Channel RB50-0



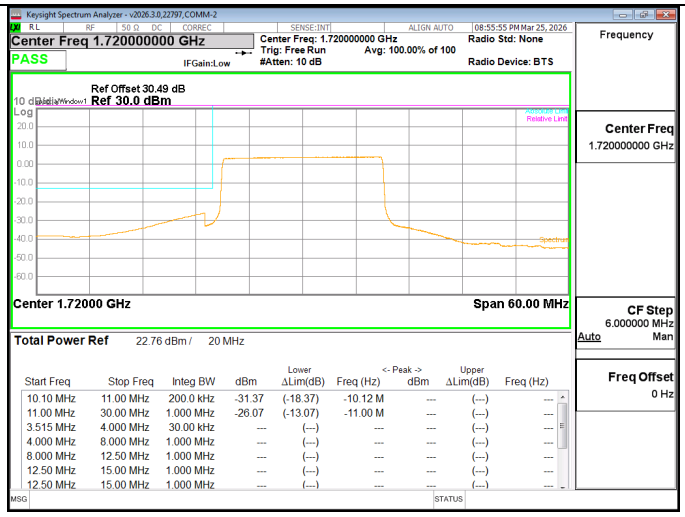
LTE B4 15MHz QPSK High Channel RB1-0



LTE B4 15MHz QPSK High Channel RB75-0



LTE B4 20MHz QPSK High Channel RB1-0



LTE B4 20MHz QPSK High Channel RB100-0

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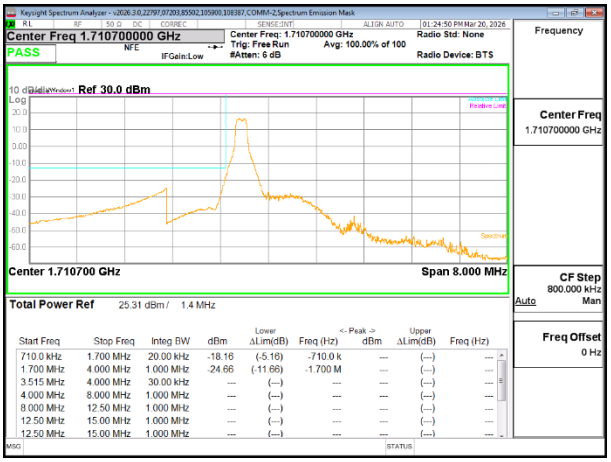
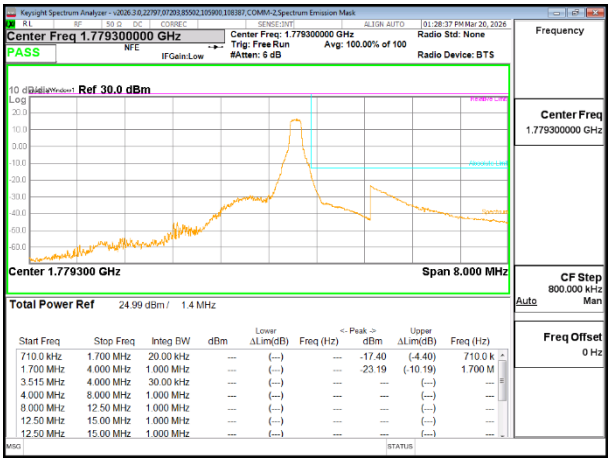
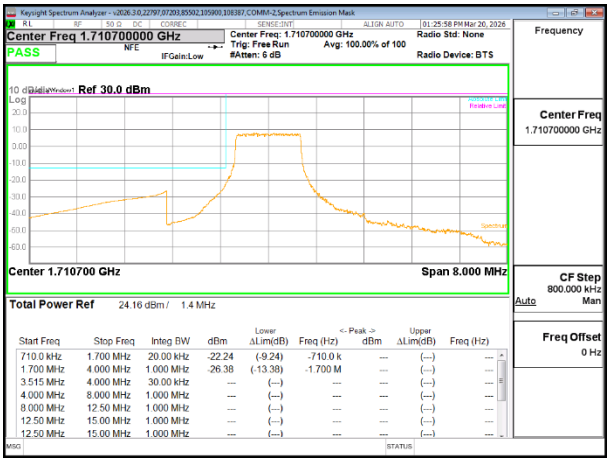
8.2.2. LTE BAND 66



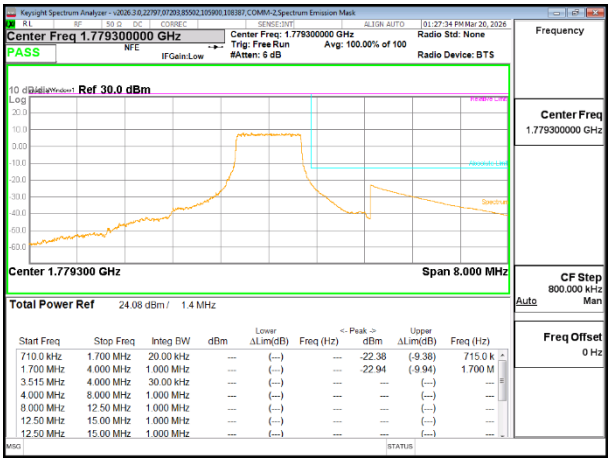
LTE B66 1.4MHz QPSK Low Channel RB1-0



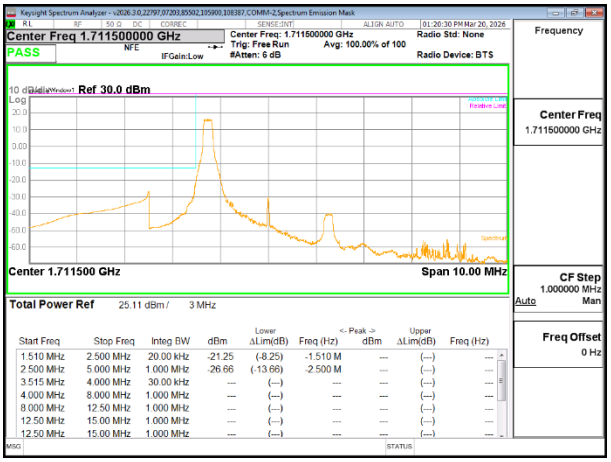
LTE B66 1.4MHz QPSK High Channel RB1-5



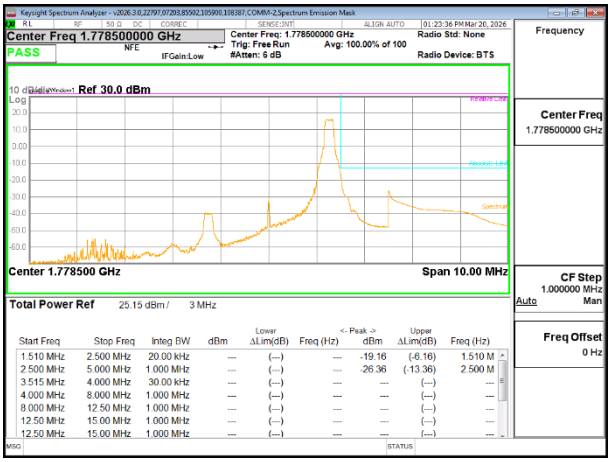
LTE B66 1.4MHz QPSK Low Channel RB6-0



LTE B66 1.4MHz QPSK High Channel RB6-0



LTE B66 3MHz QPSK Low Channel RB1-0



LTE B66 3MHz QPSK Low Channel RB1-14

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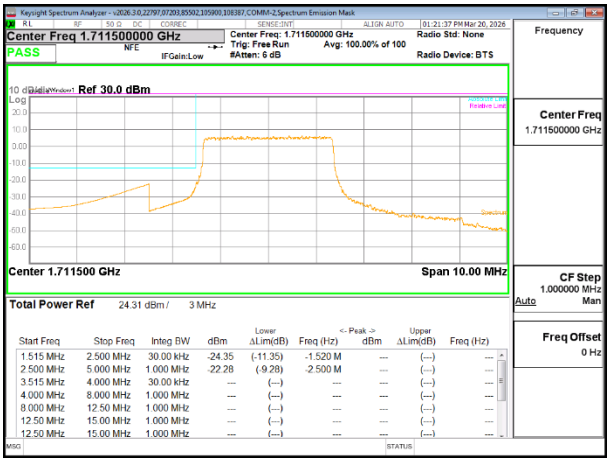
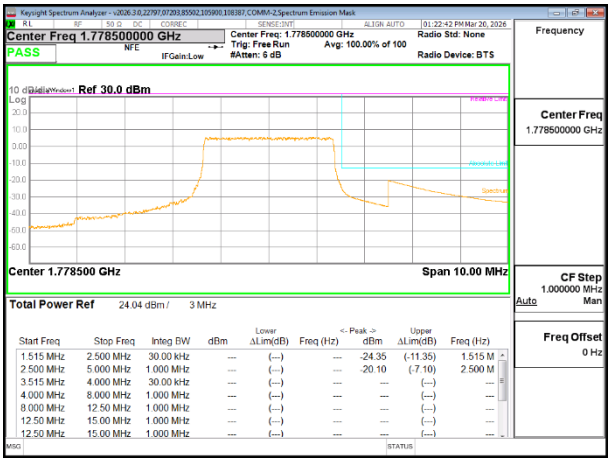


LTE B66 3MHz QPSK Low Channel RB15-0



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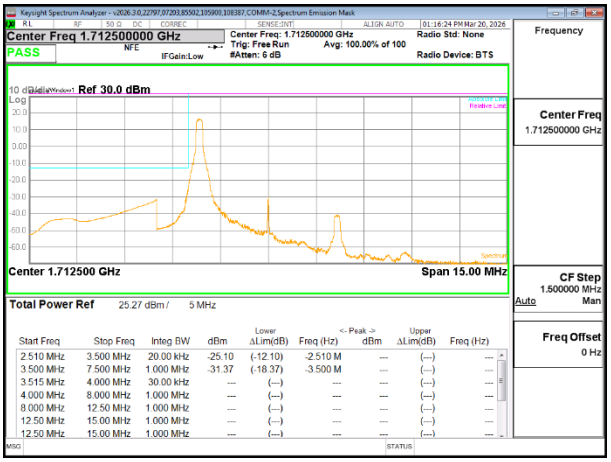
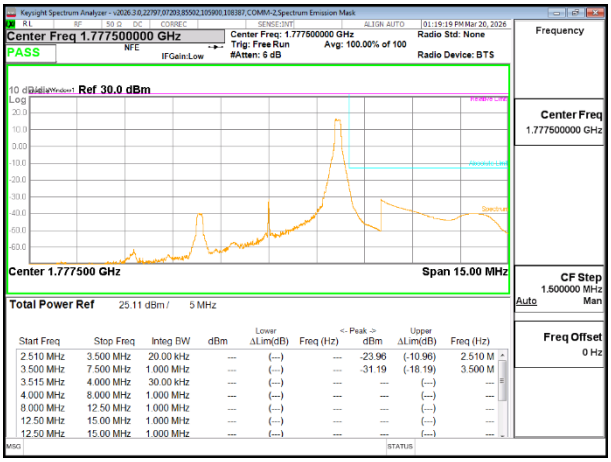
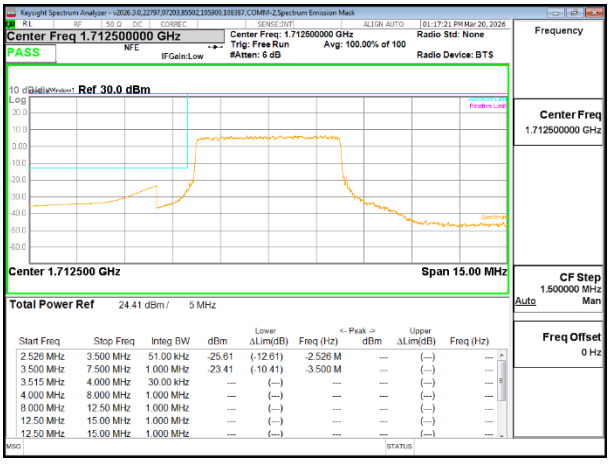


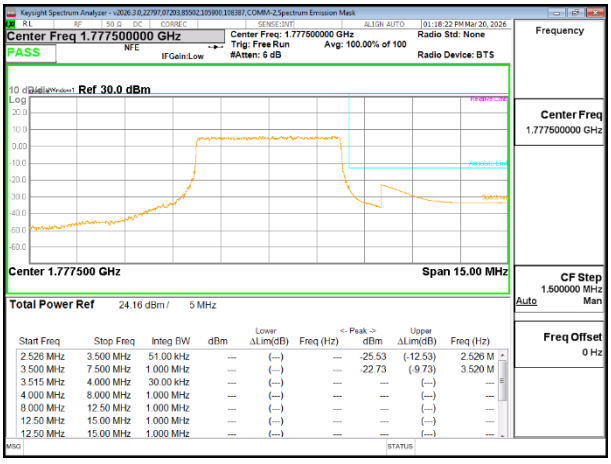
LTE B66 5MHz QPSK Low Channel RB1-0



LTE B66 5MHz QPSK High Channel RB1-24



LTE B66 5MHz QPSK Low Channel RB25-0



LTE B66 5MHz QPSK High Channel RB25-0

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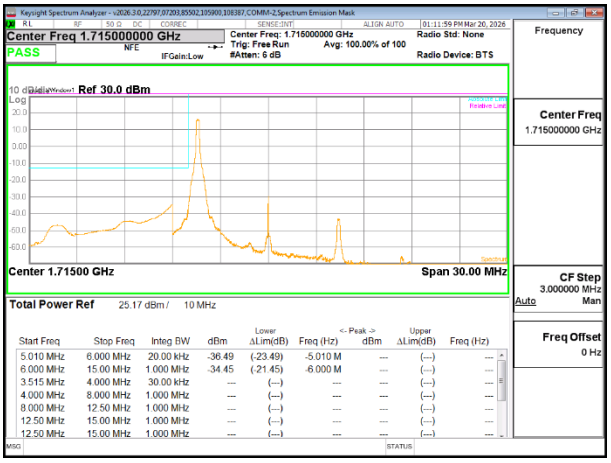
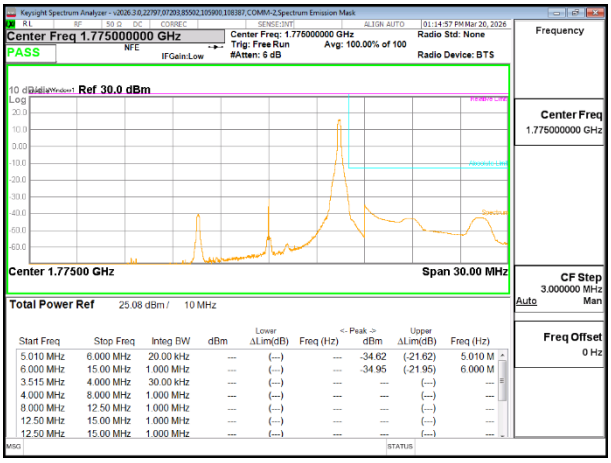
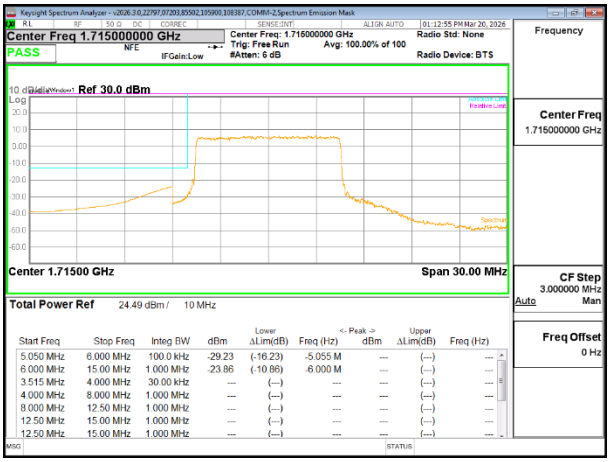


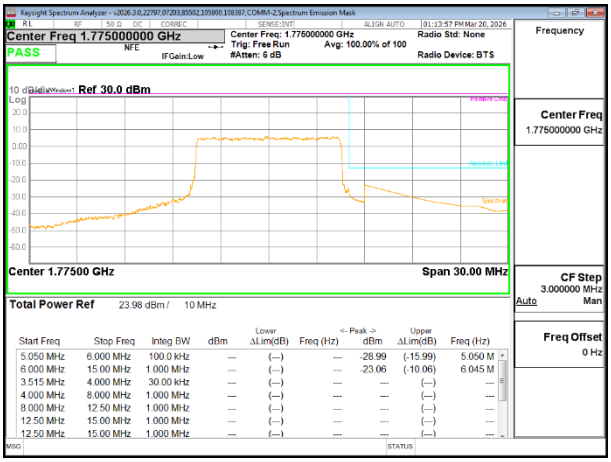
LTE B66 10MHz QPSK Low Channel RB1-0



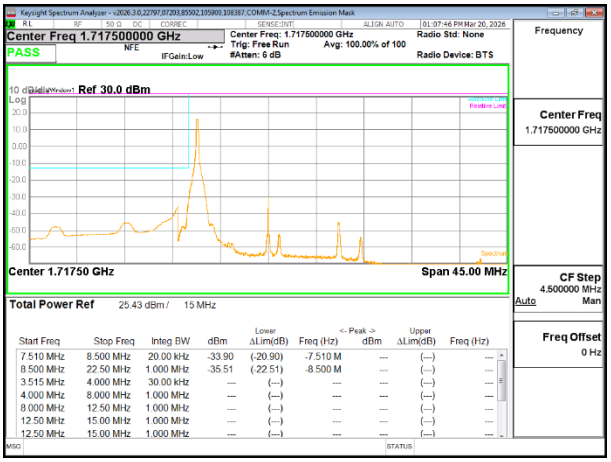
LTE B66 10MHz QPSK High Channel RB1-49



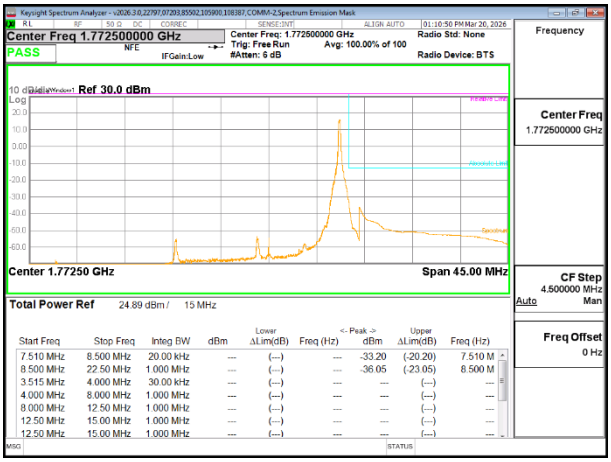
LTE B66 10MHz QPSK Low Channel RB50-0



LTE B66 10MHz QPSK High Channel RB50-0



LTE B66 15MHz QPSK Low Channel RB1-0



LTE B66 15MHz QPSK High Channel RB1-74

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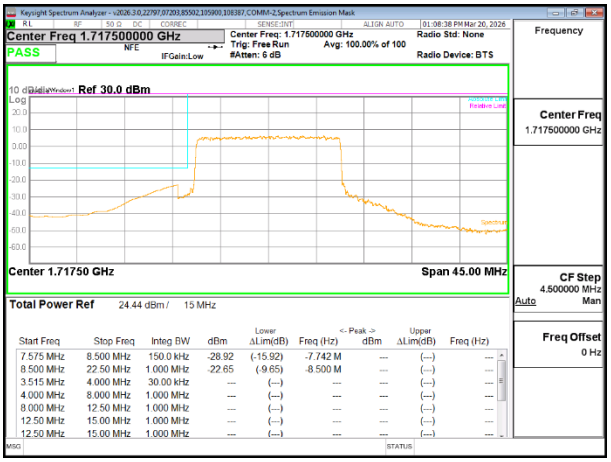
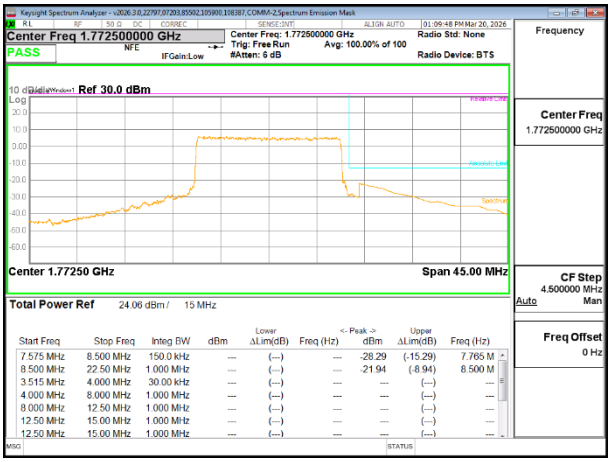
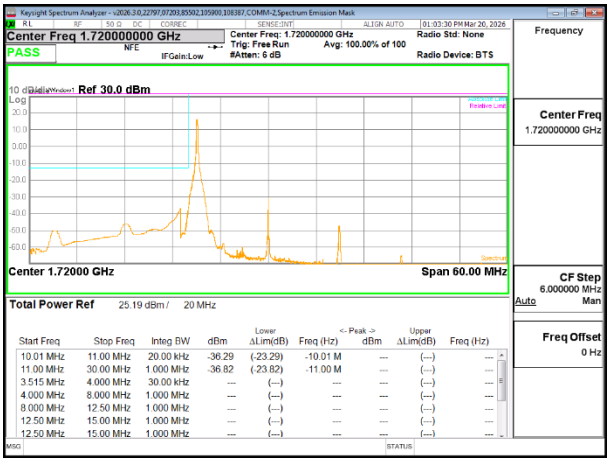


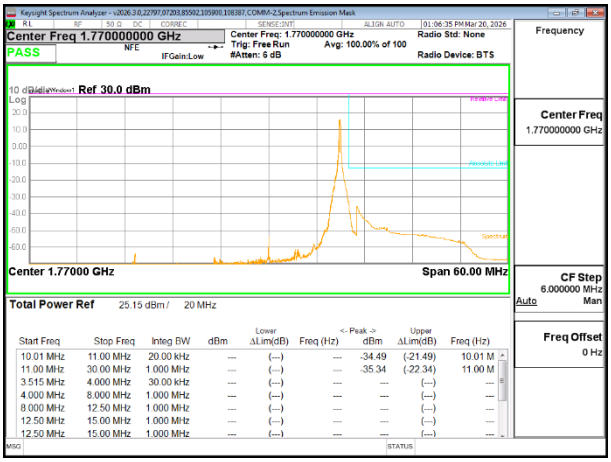
LTE B66 15MHz QPSK Low Channel RB75-0



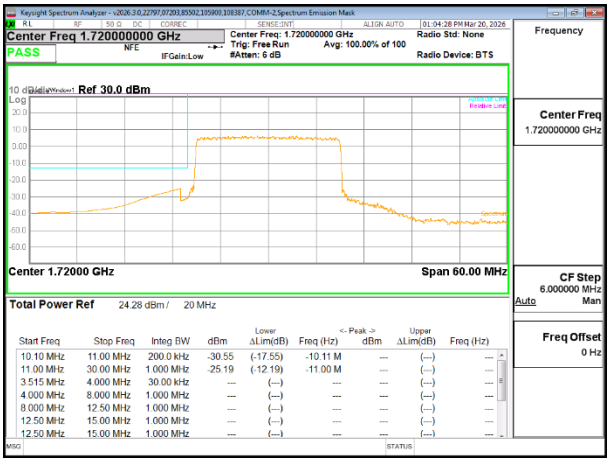
LTE B66 15MHz QPSK High Channel RB75-0



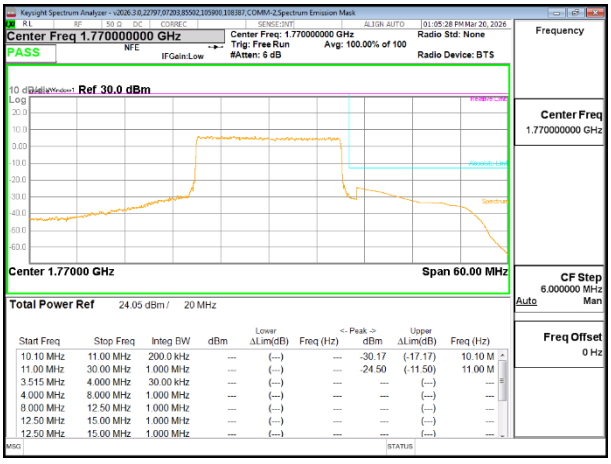
LTE B66 20MHz QPSK Low Channel RB1-0



LTE B66 20MHz QPSK High Channel RB1-99



LTE B66 20MHz QPSK Low Channel RB100-0



LTE B66 20MHz QPSK High Channel RB100-0

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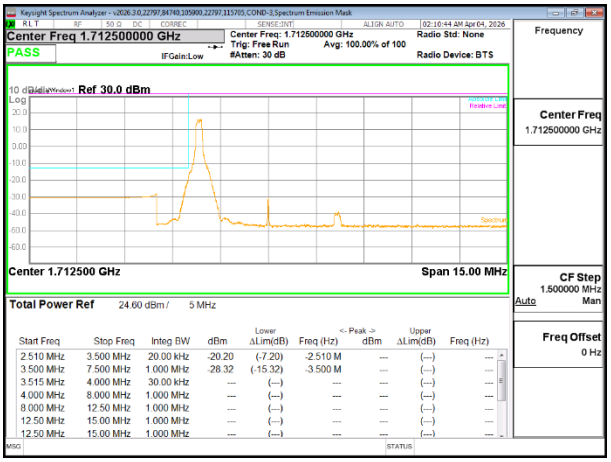
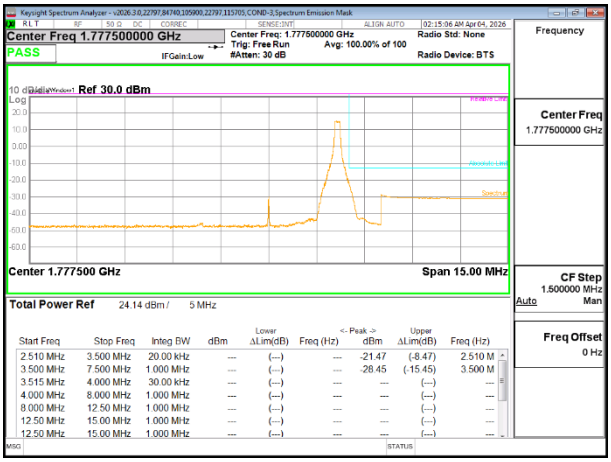
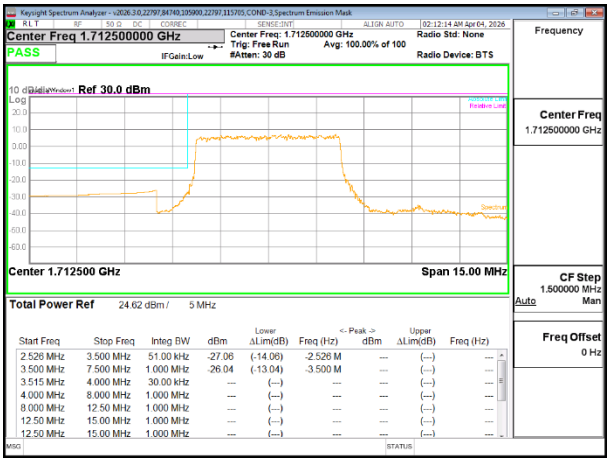
8.2.3. 5G NR n66



5G NR n66 5MHz BPSK Low Channel RB1-1



5G NR n66 5MHz BPSK High Channel RB1-24



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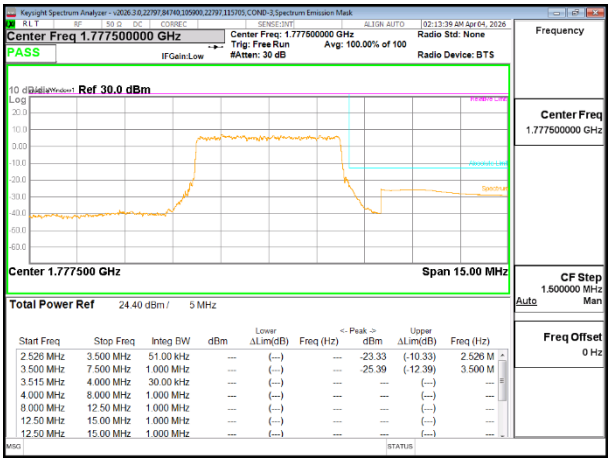

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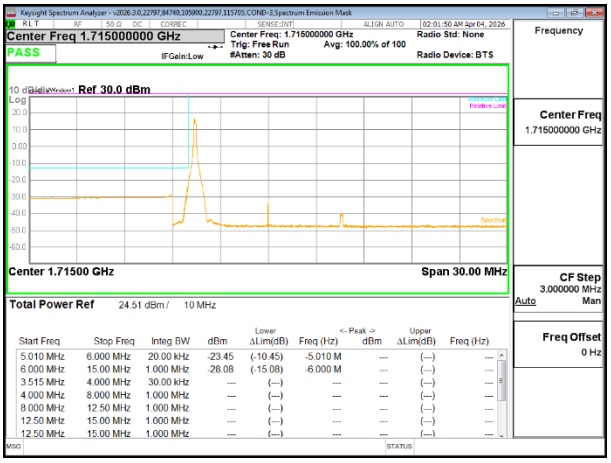
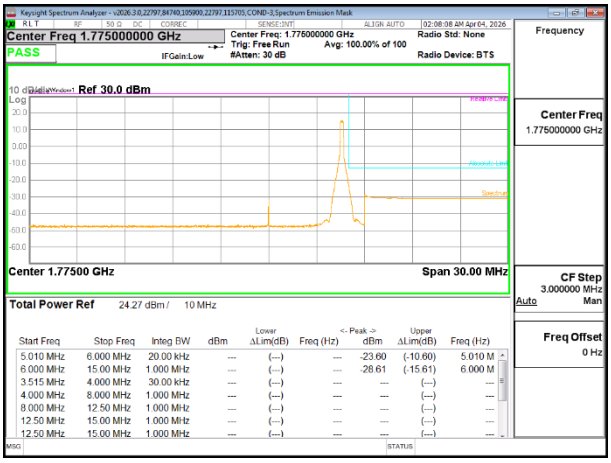


5G NR n66 10MHz BPSK Low Channel RB1-1



5G NR n66 10MHz BPSK High Channel RB1-50

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