

TEST REPORT

Report Number: R15980274-E22V2

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

Model : SM-S942U, SM-S942U1

FCC ID : A3LSMS942U

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

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

Date Of Issue:
2025-12-15

Prepared by:
UL LLC
12 Laboratory Dr.
Durham, NC 27713 USA
TEL: (919) 549-1400



Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2025-12-04	Initial Review	--
V2	2025-12-15	Various Typos Resolved. Added EIRP data to section 6.2 & 9.1 Added SRS RSE data to section 9.1	Noah Bennett

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	5
2. SUMMARY OF TEST RESULTS	6
3. TEST METHODOLOGY	6
4. FACILITIES AND ACCREDITATION	6
5. DECISION RULES AND MEASUREMENT UNCERTAINTY	7
5.1. METROLOGICAL TRACEABILITY	7
5.2. DECISION RULES	7
5.3. MEASUREMENT UNCERTAINTY	7
5.4. SAMPLE CALCULATION	7
6. EQUIPMENT UNDER TEST	8
6.1. DESCRIPTION OF EUT	8
6.2. MAXIMUM OUTPUT POWER	8
6.3. MAXIMUM ANTENNA GAIN	10
6.4. WORST-CASE CONFIGURATION AND MODE	10
6.5. DESCRIPTION OF TEST SETUP	11
7. TEST AND MEASUREMENT EQUIPMENT	12
8. CONDUCTED TEST RESULTS	16
8.1. OCCUPIED BANDWIDTH	16
8.1.1. LTE BAND 48	18
8.1.2. 5G NR n48	19
8.1.3. LTE ULCA BAND 48C	20
8.2. EMISSION MASK AND ADJACENT CHANNEL POWER	22
8.2.1. LTE BAND 48 EMISSION MASK	23
8.2.2. LTE BAND 48 ADJACENT CHANNEL POWER	27
8.2.3. 5G NR n48 EMISSION MASK	31
8.2.4. 5R NR n48 ADJACENT CHANNEL POWER	36
8.2.5. LTE ULCA BAND 48C EMISSION MASK	41
8.2.6. LTE ULCA BAND 48C ADJACENT CHANNEL POWER	42
8.3. OUT OF BAND EMISSIONS	43
8.3.1. LTE BAND 48	44
8.3.2. 5G NR n48	45

8.3.3.	LTE ULCA BAND 48C	46
8.4.	FREQUENCY STABILITY	47
8.4.1.	LTE BAND 48 QPSK (20MHz BANDWIDTH).....	48
8.4.2.	5G NR n48 BPSK (40MHz BANDWIDTH)	48
8.4.3.	LTE ULCA BAND 48C QPSK (20MHz + 20MHz BANDWIDTH)	49
8.5.	PEAK-TO-AVERAGE POWER RATIO	50
8.5.1.	LTE BAND 48	51
8.5.2.	5G NR n48	51
8.5.3.	LTE ULCA BAND 48C	51
9.	RADIATED TEST RESULTS	52
9.1.	EFFECTIVE ISOTROPIC RADIATED POWER (EIRP)	53
9.1.1.	LTE BAND 48	56
9.1.2.	5G NR n48	58
9.1.3.	LTE ULCA BAND 48C	66
9.2.	FIELD STRENGTH OF SPURIOUS RADIATION.....	67
9.2.1.	LTE BAND 48	70
9.2.2.	5G NR n48	71
9.2.3.	LTE ULCA BAND 48C	75
10.	SETUP PHOTOS	76

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/NTN Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax/be,
WPT and NFC

SERIAL NUMBERS: YHI0909M, YHK0046M, YHK0177M

SAMPLE RECEIVE DATE: 2025-09-11

DATE TESTED: 2025-09-11 to 2025-12-15

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47 CFR Part 2, Part 96	Complies

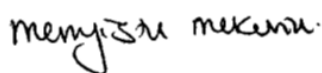
UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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:

Prepared By:



Mengistu Mekuria
Staff Laboratory Engineer
Consumer Technology Division
UL Verification Services

Noah Bennett
Engineer Project Associate
Consumer Technology Division
UL LLC

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

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with the following. FCC published lists of [measurement procedures](#) for compliance testing.

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

4. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, Certificate Number 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

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

6. EQUIPMENT UNDER TEST

6.1. DESCRIPTION OF EUT

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

The EUT supports the following LTE and 5G NR FR1 Bands and their antenna configurations:

Bands	Config 0	SRS
LTE Band 48	ANT F	-
5G NR FR1 n48	ANT F	C/H/D
ULCA LTE Band 48	ANT F	-

6.2. MAXIMUM OUTPUT POWER

LIMITS

FCC: §96.41

(b) Power Limits—

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

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

EIRP/ERP TEST PROCEDURE

ANSI C63.26:2015

KDB 971168 D01 Section 5.6

$$\text{ERP/EIRP} = \text{PMeas} + \text{GT} - \text{LC}$$

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 tables below contain the highest of all configurations average conducted and peak EIRP output powers as follows:

LTE BAND 48, CONFIG 0

Part 96								
EIRP Limit (W)/ 10MHz		0.20						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
20.0	QPSK	3560.0	3690.0	21.83	0.152	17.929	17929	17M9G7W
	16QAM			21.12	0.129	17.906	17906	17M9D7W

5G NR n48, CONFIG 0

Part 96								
EIRP Limit (W) /10MHz		0.20						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
40.0	QPSK	3570.0	3680.0	21.99	0.158	36.598	36598	36M6G7W
	16QAM			21.07	0.128	36.612	36612	36M6D7W

LTE ULCA BAND 48C, CONFIG 0

Part 96								
EIRP Limit (W)/ 10MHz		0.20						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	EIRP Average (dBm)	EIRP Average (W)	99% BW (MHz)	99% BW (kHz)	Emission Designator
20+20	QPSK	3560.0	3690.0	20.53	0.113	37.774	37774	37M8G7W
	16QAM			21.31	0.135	37.945	37945	37M9D7W

6.3. MAXIMUM ANTENNA GAIN

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

Frequency Band	ANT F Antenna Gain (dBi)
LTE BAND 48, FR1 5G NR 48, LTE ULCA BAND 48 3550 – 3700 MHz	-1.9

6.4. WORST-CASE CONFIGURATION AND MODE

For 5G NRs, conducted spurious emission tests were conducted on wider bandwidth with inner 1RB since this is the worst bandwidth and the highest output power.

BPSK modulation applied only for 5G NR frequencies and has the same tune up power as QPSK modulations.

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

The worst-case scenario for all measurements is based on an engineering evaluation made on different modulations. Then, QPSK and BPSK were observed as the worst mode to LTE bands and 5G NR bands respectively and set for all conducted and radiated. Output power measurements were measured on BPSK, QPSK, 16QAM, 64QAM, and 256QAM modulations. For testing purposes emissions on Section 9 were measured while QPSK/BPSK was set at or above target power for all bands. Conducted tests were performed on the worst-case antenna port because it has the highest conducted power. The worst-case antenna port is shown in the table below.

LTE & 5G NR FR1 Bands	Worst case Antenna Port
LTE BAND 48, FR1 5G NR 48, LTE ULCA BAND 48	Ant F

The EUT was investigated in three orthogonal orientations X/Y/Z on all available antennas to determine the worst-case orientation. The following table exhibits the worst-case orientations. The full tests of the EUT have made upon the orientations shown in the table below.

Frequency Range	ANT F
3550 – 3700 MHz	Z

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

For simultaneous transmission of multiple channels in the 2.4GHz/5GHz WLAN, UWB, and Cellular bands, tests were conducted for various configurations having the highest power, least separation in frequencies and widest operation bandwidths. No noticeable new emission was found.

6.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Power Adapter	Flextronics	G-1000-US	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 LTE and 5G NR testing

SETUP DIAGRAM

Please see R15980274-EP1 for Setup Diagrams and Setup Photos.

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 2)

Equip. ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
	1-18 GHz				
88761	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2023-10-05	2025-10-05
	Gain-Loss Chains				
91977	Gain-loss string: 1-18GHz	Various	Various	2025-05-31	2026-05-31
	Receiver & Software				
206496	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	2025-01-14	2026-01-14
169106 (BRF008)	1710-1785MHz notch filter, 2W, Fhigh = 9GHz	Micro-Tronics	BRM50713-01	2025-03-13	2026-03-13
169108 (BRF010)	1.85-1.97GHz notch filter, 2W, Fhigh = 9GHz	Micro-Tronics	BRM50714-01	2025-03-13	2026-03-13
231408 (BRF011)	2.495-2.690GHz notch filter, 2W, Fhigh = 18GHz	Micro-Tronics	BRM50709-01	2025-03-13	2026-03-13
169109 (BRF012)	3.4-3.8GHz notch filter, 2W, Fhigh = 18GHz	Micro-Tronics	BRM50711-01	2025-03-13	2026-03-13
82635 (HPF009)	1GHz high-pass filter, 2W, Fhigh =10GHz	Micro-Tronics	HPM17672	2025-03-13	2026-03-13

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 1)

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	1-18 GHz				
135143	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2024-02-07	2026-02-07
	Gain-Loss Chains				
91979	Gain-loss string: 1-18GHz	Various	Various	2025-05-31	2026-05-31
	Receiver & Software				
197955	Spectrum Analyzer	Rohde & Schwarz	ESW44	2025-05-12	2026-05-12
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
	Additional Equipment used				
241205	Environmental Meter	Fisher Scientific	15-077-963	2025-08-05	2027-08-05
213025	Wideband Radio Communications Tester	Rohde and Schwarz	CMW500	2025-01-14	2026-01-14
169108 (BRF010)	1.85-1.97GHz notch filter, 2W, Fhigh = 9GHz	Micro-Tronics	BRM50714-01	2025-03-13	2026-03-13
82635 (HPF009)	1GHz high-pass filter, 2W, Fhigh =10GHz	Micro-Tronics	HPM17672	2025-03-13	2026-03-13

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

Equip. ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
	30-1000 MHz				
90628	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2024-01-02	2026-01-02
	1-18 GHz				
206211	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2024-04-09	2026-04-09
	Gain-Loss Chains				
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
	Receiver & Software				
197954	Spectrum Analyzer	Rohde & Schwarz	ESW44	2025-04-21	2026-04-21
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	2025-01-14	2026-01-14
212167	Wideband Radio Communications Tester	Anritsu	MT8821C	2023-06-05	2024-06-05

Wireless Conducted Measurement Equipment.

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	Additional Equipment used				
90411	Spectrum Analyzer	Keysight Technologies	N9030A	2025-07-30	2026-07-30
212967	Wideband Radio Communications Tester	Rohde and Schwarz	CMW500	2025-02-07	2026-02-07
222797	Wideband Radio Communications Tester	Rohde and Schwarz	CMW500	2025-02-21	2026-02-28
262469	Humidity and Temperature Probe	Control Company	15-077-963	2024-04-28	2026-04-28

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

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	Attenuators				
226554	20dB Attenuator	CentricRF	C18S2-20	2025-03-19	2026-03-19
226552	20dB Attenuator	CentricRF	C18S2-20	2025-03-19	2026-03-19
	Cables				
80865	SMA Cable	Huber + Suhner	104PEA	2025-09-05	2026-09-05
247384	SMA Cable	Huber + Suhner	104PEA	2025-09-05	2026-09-05
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	2026-04-28

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. CONDUCTED TEST RESULTS

8.1. 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 were also measured and recorded.

RESULTS

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

LTE BAND 48

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE BAND 48	5MHz, QPSK	25/0	3625.0	4.475	5.04
	5MHz, 16QAM			4.484	5.16
	10MHz, QPSK	50/0		9.011	9.70
	10MHz, 16QAM			8.976	9.59
	15MHz, QPSK	75/0	3620.0	13.480	14.30
	15MHz, 16QAM			13.452	14.40
	20MHz, QPSK	100/0		17.929	19.38
	20MHz, 16QAM			17.906	19.30
	20MHz, QPSK	1/0		0.373	0.54

5G NR n48

Band	Mode	RB Allocation/RB Offset	f(MHz)	99% BW (MHz)	-26dB BW (MHz)
5G NR n48	10MHz, QPSK	24/0	3625.0	8.718	9.44
	10MHz, 16QAM			8.717	9.30
	15MHz, QPSK	36/0	3620.0	13.051	13.76
	15MHz, 16QAM			13.135	13.71
	20MHz, QPSK	50/0		18.225	18.89
	20MHz, 16QAM			18.319	19.02
	30MHz, QPSK	75/0	3625.0	27.422	28.50
	30MHz, 16QAM			27.320	28.30
	40MHz, QPSK	100/0	3620.0	36.598	38.02
	40MHz, 16QAM			36.612	37.80
	40MHz, QPSK	1/1		2.683	3.87

LTE ULCA BAND 48C

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE ULCA BAND 48C	5MHz + 20MHz BAND QPSK	25/0 + 100/0	3625	23.292	25.01
	5MHz + 20MHz BAND 16QAM			23.333	24.90
	20MHz + 5MHz BAND QPSK	100/0 + 25/0		23.407	24.94
	20MHz + 5MHz BAND 16QAM			23.303	24.95
	10MHz + 20MHz BAND QPSK	50/0 + 100/0		28.116	31.22
	10MHz + 20MHz BAND			28.262	30.26
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		28.070	29.94
	20MHz + 10MHz BAND			28.123	30.07
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		33.015	35.34
	15MHz + 20MHz BAND			32.785	35.82
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		32.971	35.07
	20MHz + 15MHz BAND			33.003	35.34
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.774	42.65
	20MHz + 20MHz BAND			37.945	39.91

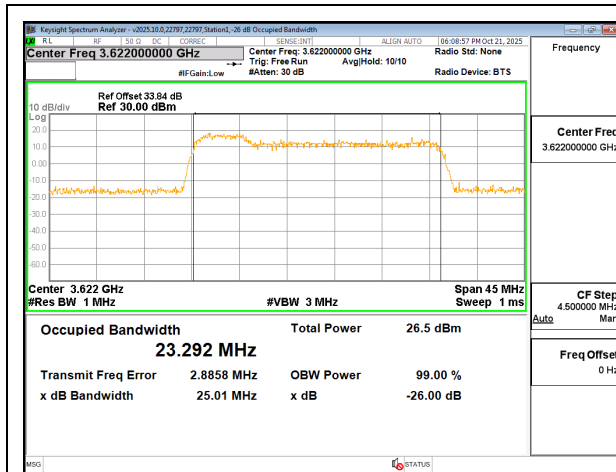
8.1.1. LTE BAND 48



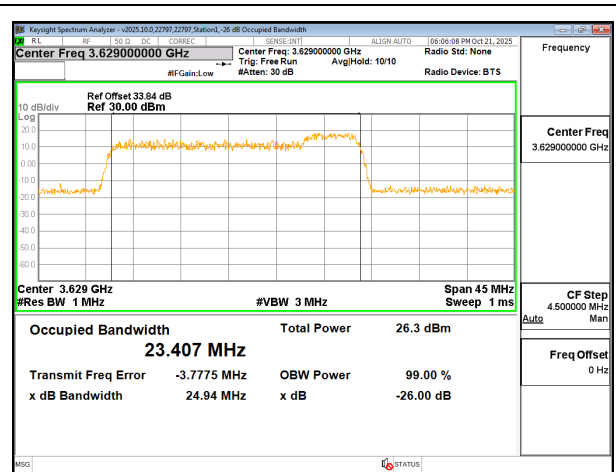
8.1.2. 5G NR n48



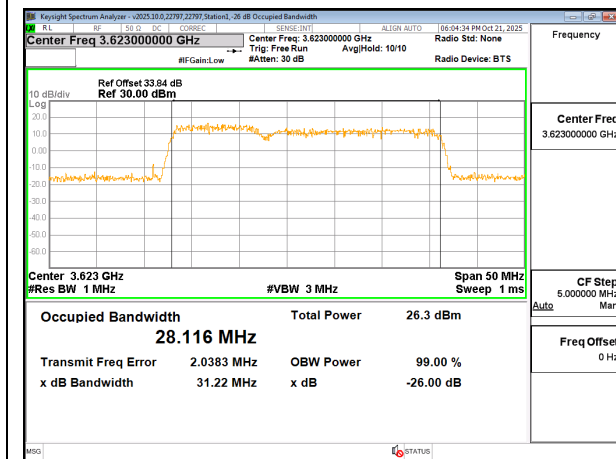
8.1.3. LTE ULCA BAND 48C



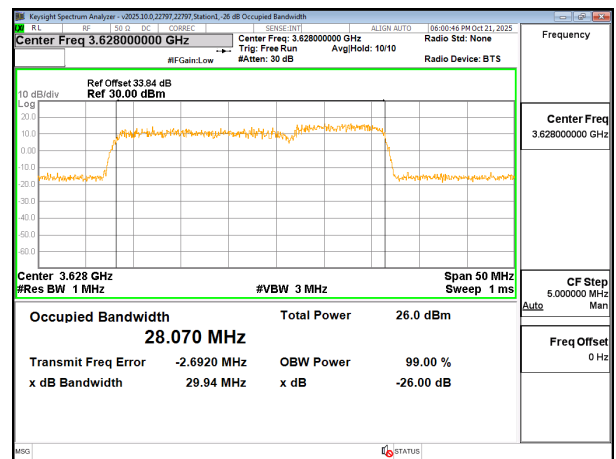
LTE ULCA B48C 5MHz + 20MHz QPSK RB25-0 + RB100-0



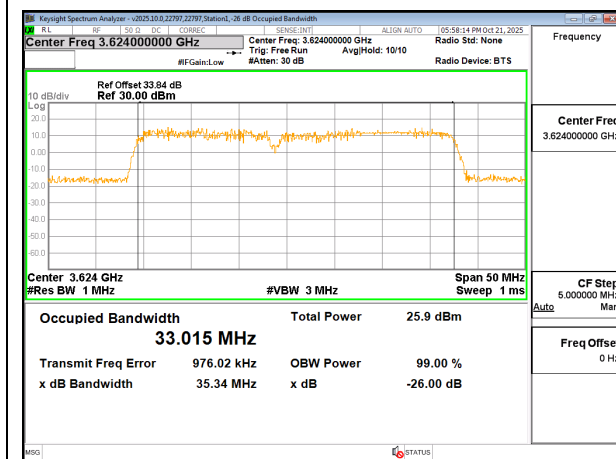
LTE ULCA B48C 20MHz + 5MHz QPSK RB100-0 + RB25-0



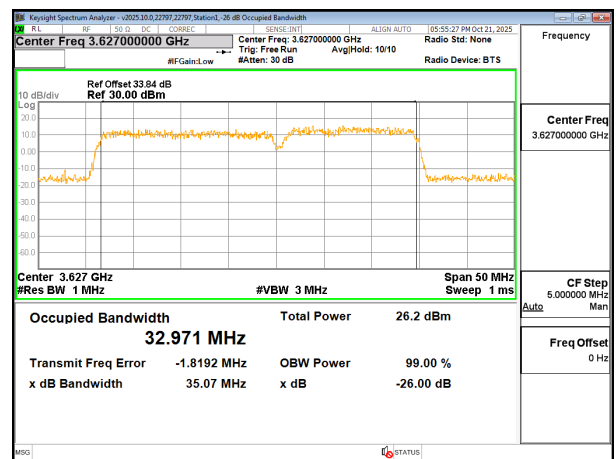
LTE ULCA B48C 10MHz + 20MHz QPSK RB50-0 + RB100-0



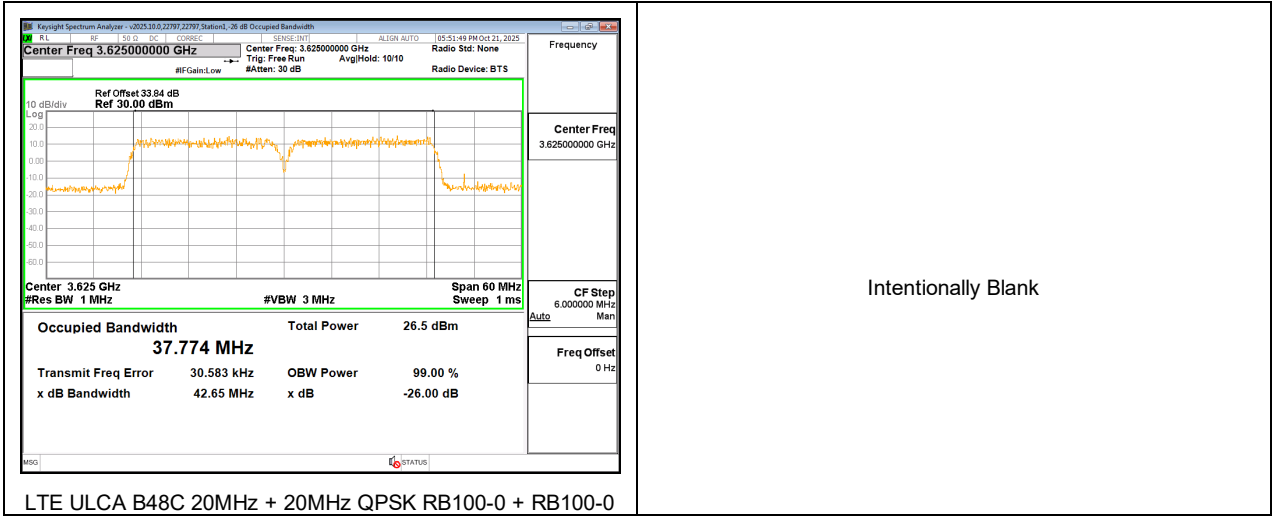
LTE ULCA B48C 20MHz + 10MHz QPSK RB100-0 + RB50-0



LTE ULCA B48C 15MHz + 20MHz QPSK RB75-0 + RB100-0



LTE ULCA B48C 20MHz + 15MHz QPSK RB100-0 + RB75-0



8.2. EMISSION MASK AND ADJACENT CHANNEL POWER

LIMITS

FCC: §96.41

(e) 3.5 GHz Emissions and Interference Limits—

(1) General protection levels

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

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

TEST PROCEDURE (FCC LTE BAND 48)

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

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

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

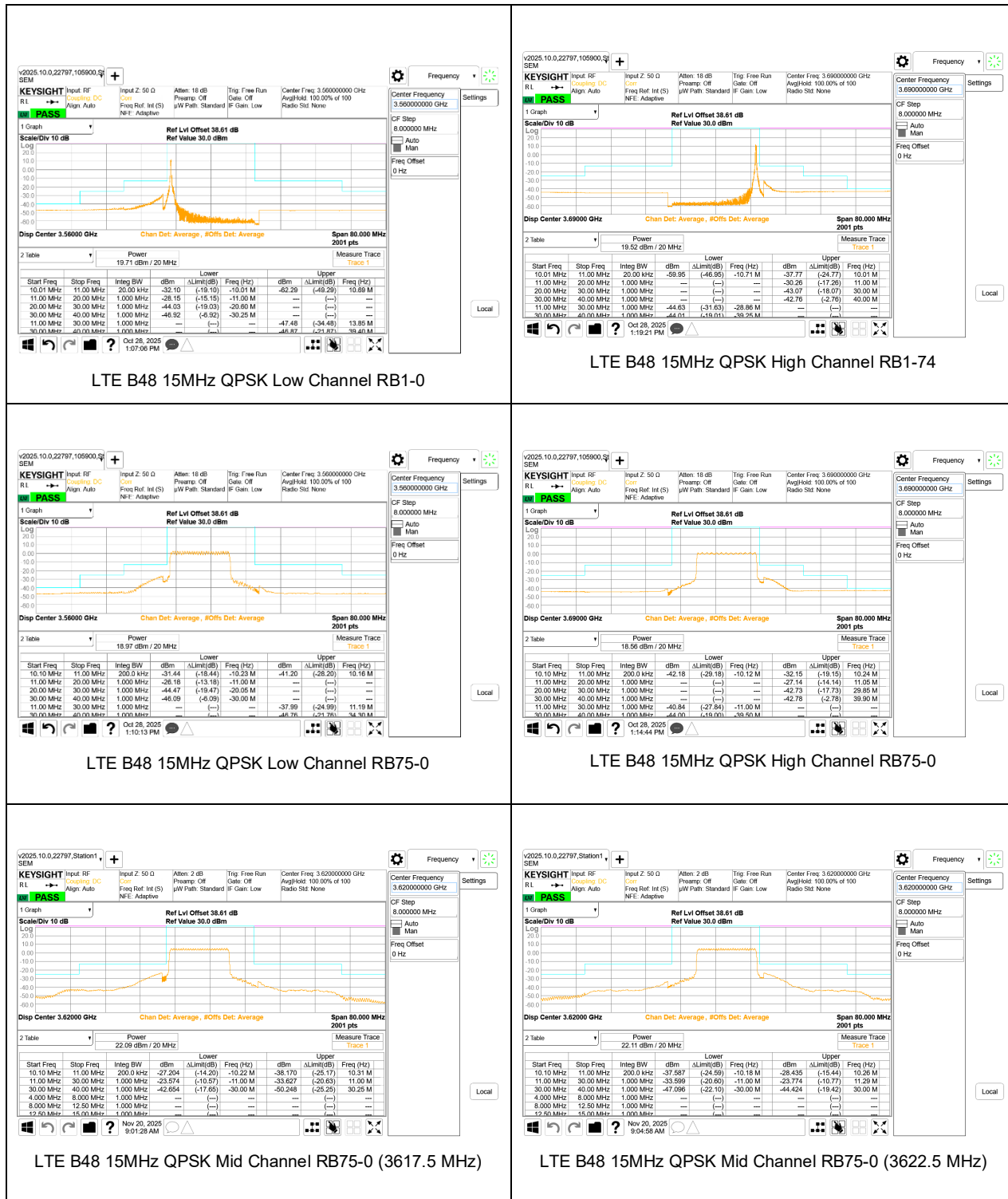
(2) Additional protection levels. Notwithstanding paragraph (e)(1) of this section, for CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed -25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40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

RESULTS

8.2.1. LTE BAND 48 EMISSION MASK

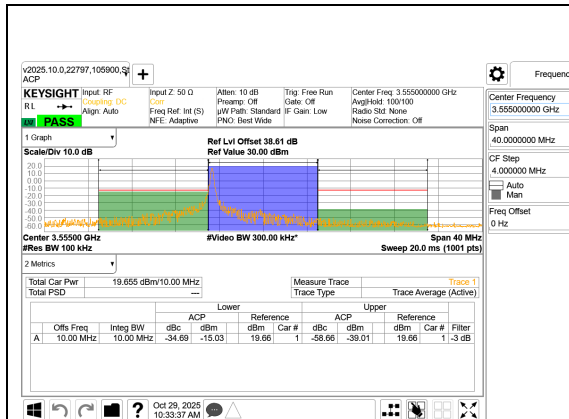




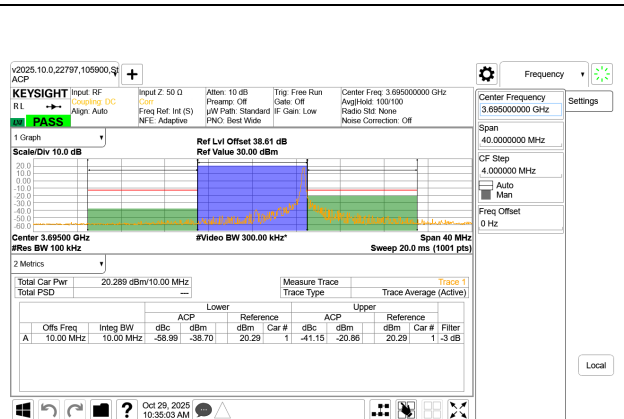




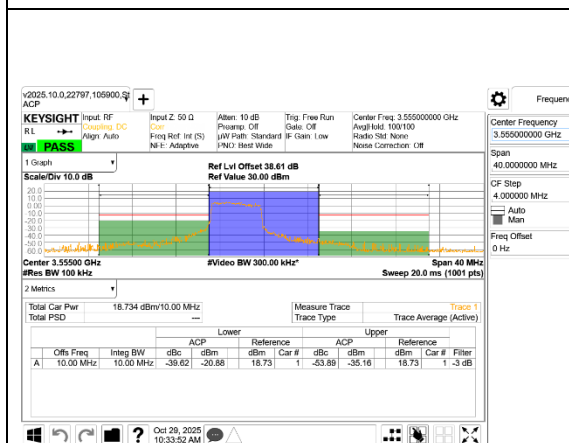
8.2.2. LTE BAND 48 ADJACENT CHANNEL POWER



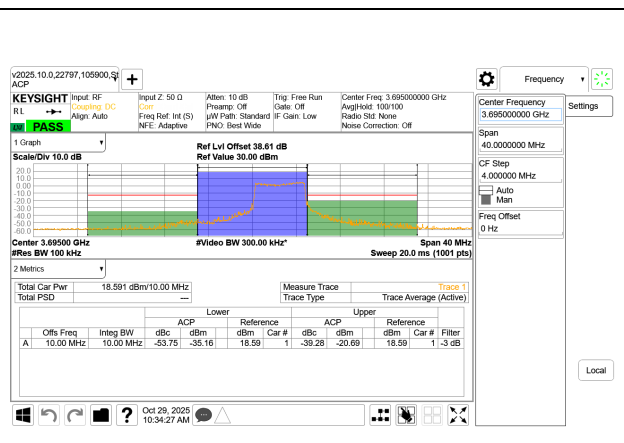
LTE B48 5MHz QPSK Low Channel RB1-0



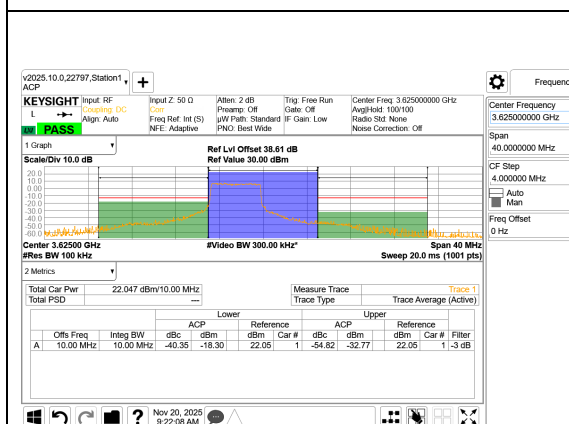
LTE B48 5MHz QPSK High Channel RB1-24



LTE B48 5MHz QPSK Low Channel RB25-0



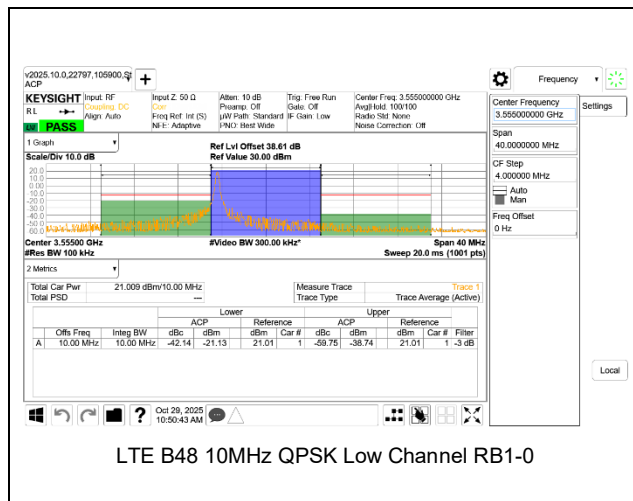
LTE B48 5MHz QPSK High Channel RB25-0



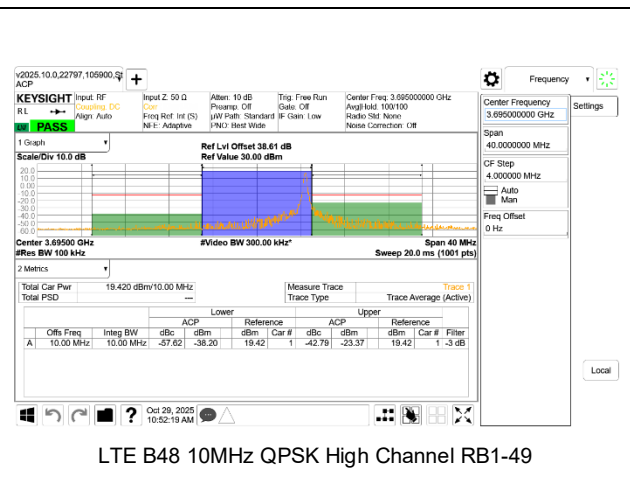
LTE B48 5MHz QPSK Mid Channel RB25-0 (3622.5 MHz)



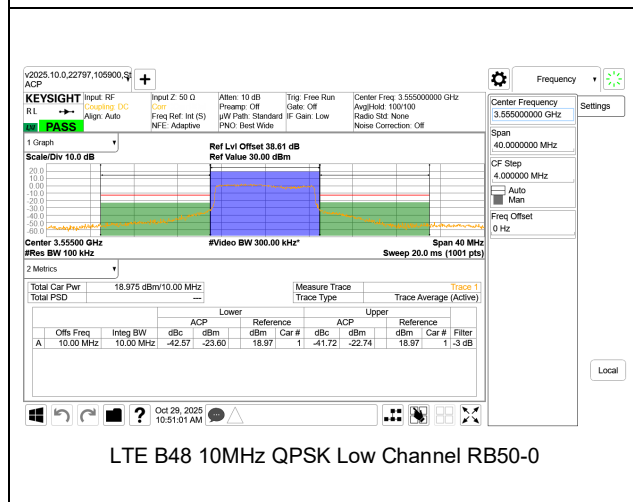
LTE B48 5MHz QPSK Mid Channel RB25-0 (3627.5 MHz)



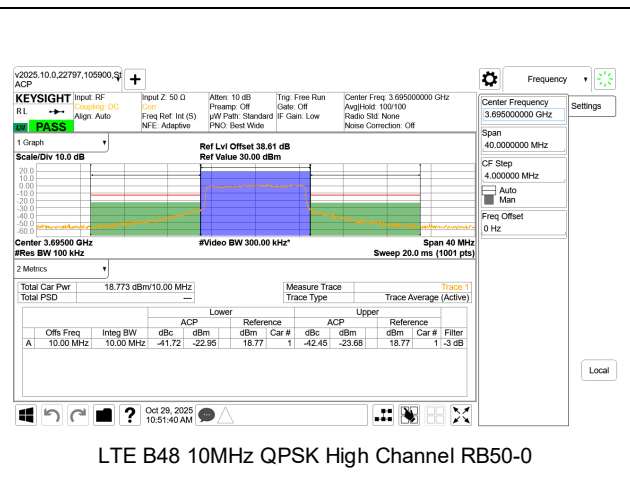
LTE B48 10MHz QPSK Low Channel RB1-0



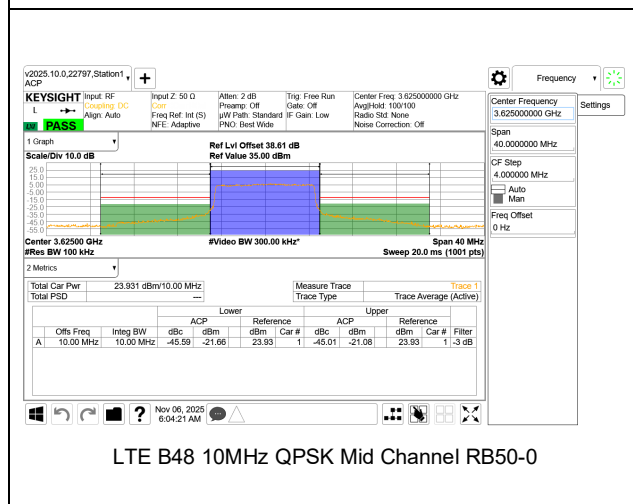
LTE B48 10MHz QPSK High Channel RB1-49



LTE B48 10MHz QPSK Low Channel RB50-0



LTE B48 10MHz QPSK High Channel RB50-0



LTE B48 10MHz QPSK Mid Channel RB50-0

Intentionally Blank