

TEST REPORT

Report Number: R16314687-E5c

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

Model : SM-S741B/DS(Main model), SM-S741B(multi model)

FCC ID : A3LSMS741B

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

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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2026-07-16	Initial Review	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, WPT and NFC

SERIAL NUMBERS: ZDH0462M, ZDH0492M, ZDR0384M, ZDR0394M

SAMPLE RECEIVE DATE: 2026-04-27 and 2026-05-06

DATE TESTED: 2026-05-11 thru 2026-06-17

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:

Prepared By:



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Consumer, Medical and IT Segment
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)	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

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

Model differences:

Representative Model	Difference	Derivative Model
		SM-S741B
SM-S741B/DS	Hardware	Same as SM-S741B/DS
	Software	Different UI + Single SIM Only

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

Mode and Bands	Config 0	Config 1
5G NR n66	ANT A	ANT F

Note: This report applies data referencing from FCC ID: A3LSMS741U. The test data to validate data referencing is included in Test Report R16314687-E12.

6.2. MAXIMUM OUTPUT POWER

EIRP/ERP TEST PROCEDURE

ANSI C63.26:2015
KDB 971168 D01 Section 5.2

$$\text{ERP/EIRP} = P_{\text{Meas}} + G_T - L_C$$

where: ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as P_{Meas} , typically dBW or dBm);

For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

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

5G NR n66

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
20.0	16QAM	1720.0	1770.0	25.43	0.349	17.943	17943	17M9D7W
30.0	BPSK	1725.0	1765.0	26.39	0.436	28.849	28849	28M8G7W
40.0	BPSK	1730.0	1760.0	25.61	0.364	38.898	38898	38M9G7W
	16QAM			24.67	0.293	38.791	38791	38M8D7W

6.3. WORST-CASE CONFIGURATION AND MODE

This report covers the following technologies:

- 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:

Band 66	Worst-Case Antenna Port	Worst-Case Modulation
5G NR n66	Ant A	BPSK (FR1)

The EUT was investigated in three orthogonal orientations X/Y/Z 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 ($F_c < 1\text{GHz}$)	-	-
Mid Band ($1\text{GHz} < F_c < 3\text{GHz}$)	Z	Z
High Band ($F_c > 3\text{GHz}$)	-	-

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.

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 R16314687-EP1c 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 - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	Conducted Room 3				
90411	Spectrum Analyzer MY54490314	Keysight Technologies	N9030A	2026-03-03	2027-03-03
208721	Wideband Radio Communications Tester	Rohde and Schwarz	CMW500	2025-09-10	2026-09-10
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
245766	Environmental Meter	Fisher Scientific	06-662-4	2026-03-10	2027-03-10

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

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	Attenuators				
226554	SMA Coaxial 20dB Attenuator 25MHz-18GHz	CentricRF	C18S2-20	2026-05-05	2027-05-05
Pad G	SMA Coaxial 10dB Attenuator 25MHz-18GHz	CentricRF	C27S-10	2026-05-05	2027-05-05
Pad III	SMA Coaxial 10dB Attenuator 25MHz-18GHz	CentricRF	C27S-10	2025-08-18	2026-08-18
	Cables				
246257	SMA Cable	Huber + Suhner	104PEA	2025-09-05	2026-09-05
CBL093	Micro-Coax UTiFLEX Cable Assembly, Low Loss, 40GHz	Carlisle Interconnect Technologies	UFA147A-2-0360-200200	2025-9-5	2026-9-5
	Couplers				
238018	Ultra-Wideband Directional Coupler 0.5-18GHz	Mini-Circuits	ZUDC10-183+	2026-05-05	2027-05-05

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				
135143	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2026-03-02	2028-03-02
	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	2026-06-30
207639	Gain-loss string: 25-1000MHz	Various	Various	2025-06-13	2026-06-30
207640	Gain-loss string: 1-18GHz	Various	Various	2025-06-13	2026-06-30
225795	Gain-loss string: 18-40GHz	Various	Various	2025-06-13	2026-06-30
	Receiver & Software				
197954	Spectrum Analyzer	Rohde & Schwarz	ESW44	2026-05-13	2027-05-13
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
21725	Wideband Radio Communications Tester	Rohde and Schwarz	CMX500	2025-11-25	2026-11-25
208721	Wideband Radio Communications Tester	Rohde and Schwarz	CMW500	2025-09-10	2026-09-10
169108 (BRF010)	1.85-1.97GHz notch filter, 2W, Fhigh = 9GHz	Micro-Tronics	BRM50714-01	2026-04-01	2027-04-01
231408 (BRF011)	2.495-2.690GHz notch filter, 2W, Fhigh = 18GHz	Micro-Tronics	BRM50709-01	2026-04-01	2027-04-01

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

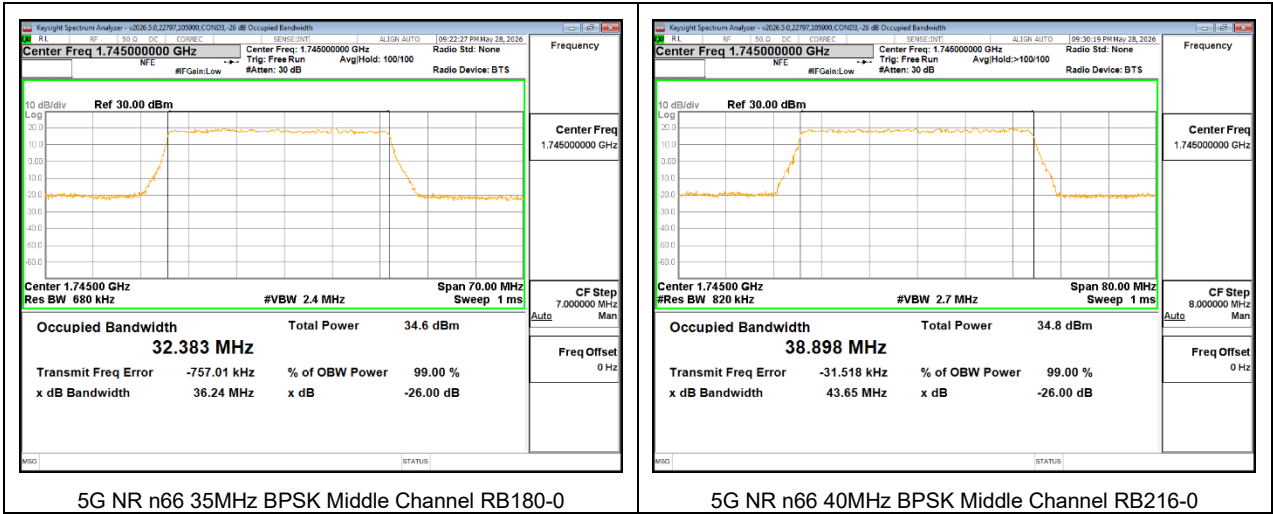
There is no limit required and power is the same for low, middle and high channel; therefore, only middle channel was tested.

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	4.5205	5.317
	5MHz, 16QAM			4.5223	5.292
	10MHz, BPSK	50/0		9.0327	10.10
	10MHz, 16QAM			8.9670	9.920
	15MHz, BPSK	75/0		13.459	14.55
	15MHz, 16QAM			13.461	14.71
	20MHz, BPSK	100/0		18.010	19.34
	20MHz, 16QAM			17.943	19.32
	25MHz, BPSK	128/0		22.993	25.04
	25MHz, 16QAM			22.972	25.19
	30MHz, BPSK	160/0		28.849	32.83
	30MHz, 16QAM			28.765	32.56
	35MHz, BPSK	180/0		32.383	36.24
	35MHz, 16QAM			32.283	35.98
	40MHz, BPSK	216/0		38.898	43.65
	40MHz, 16QAM			38.791	42.62

8.1.1. 5G NR n66





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.

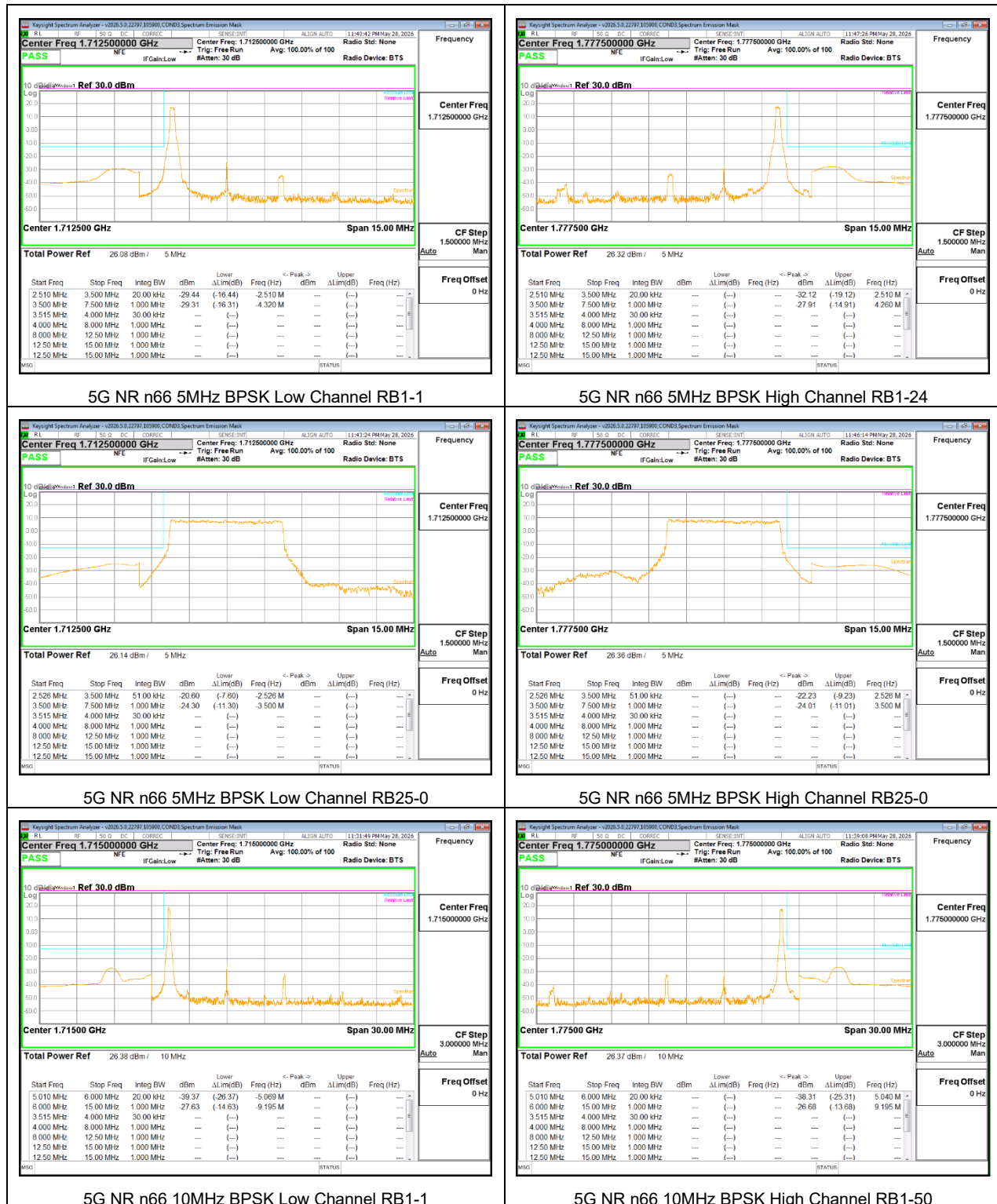
The transmitter output was connected to a base station simulator and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

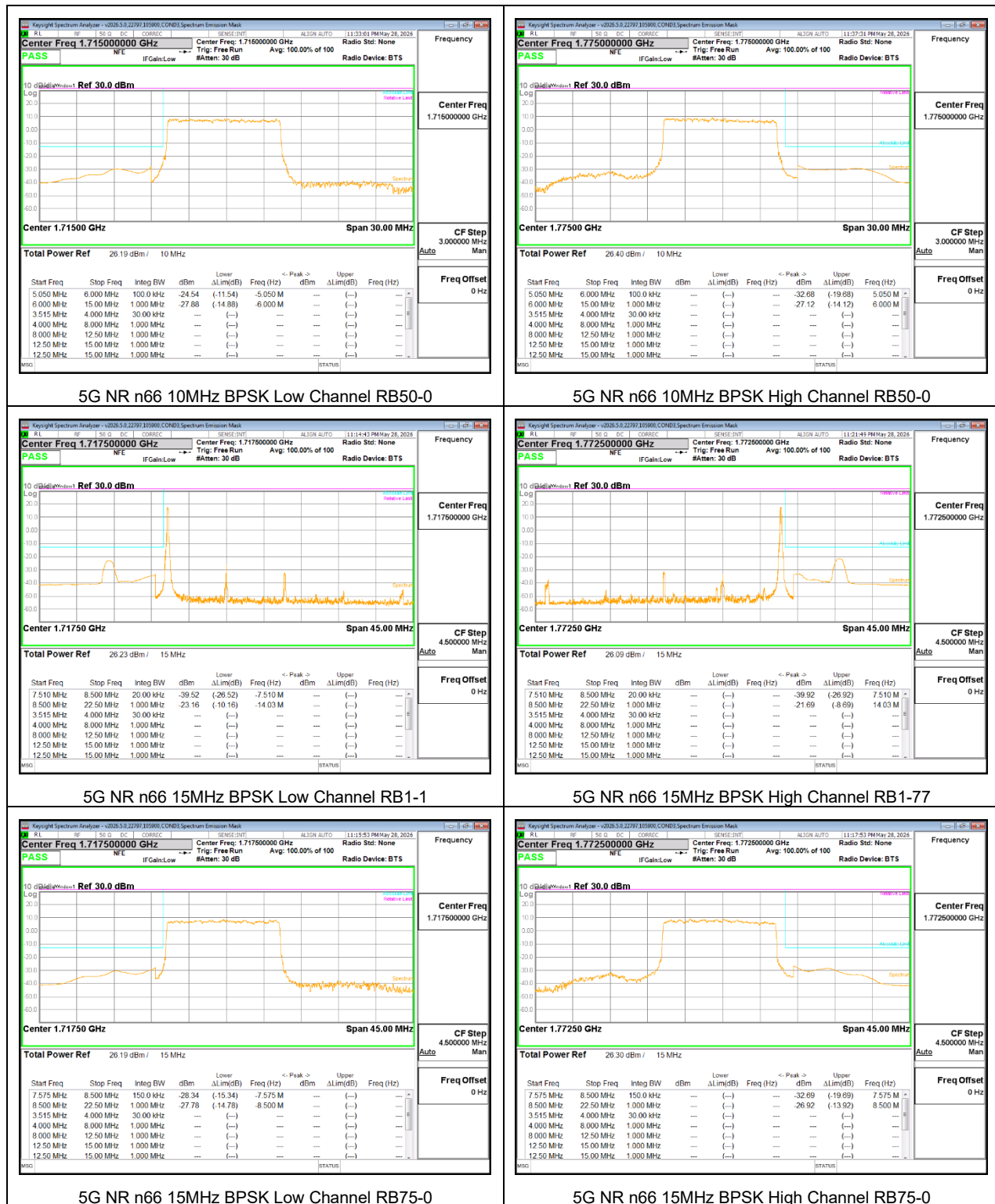
For each band edge measurement:

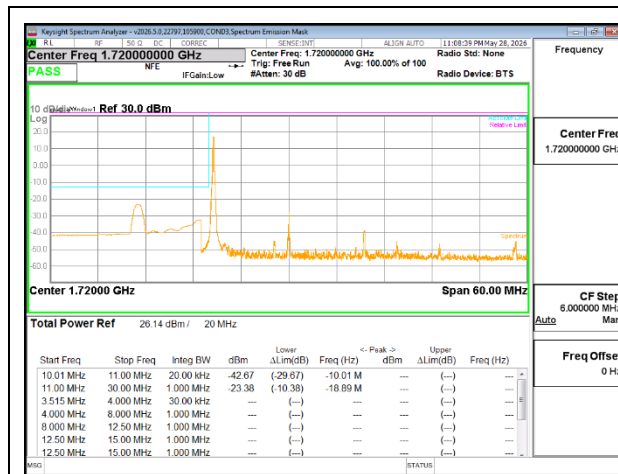
1. Set the spectrum analyzer span to include the block edge frequency.
2. Set a marker to point the corresponding band edge frequency in each test case.
3. Set display line at -13 dBm
4. Set resolution bandwidth to at least 1% of emission bandwidth.

RESULTS

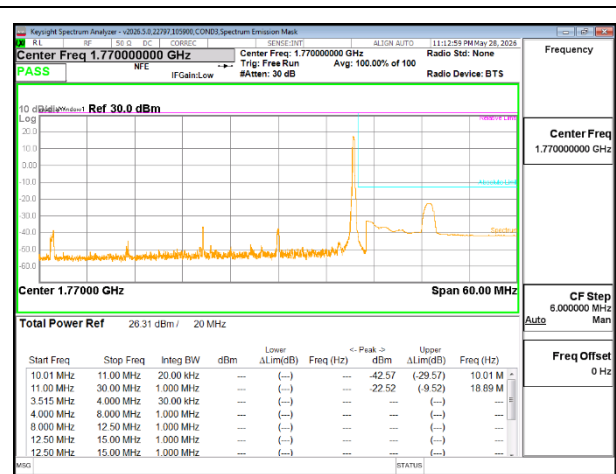
8.2.1. 5G NR n66



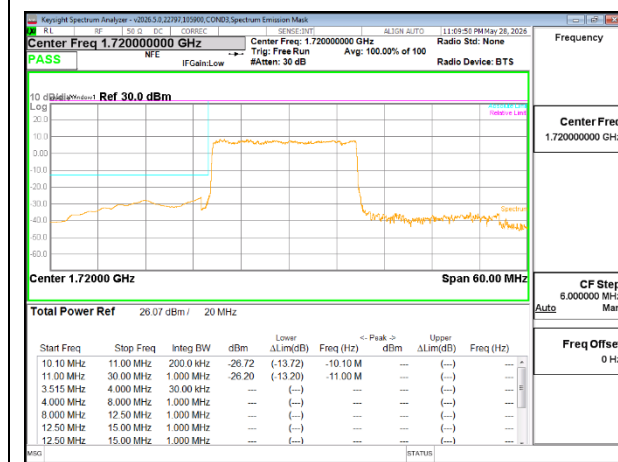




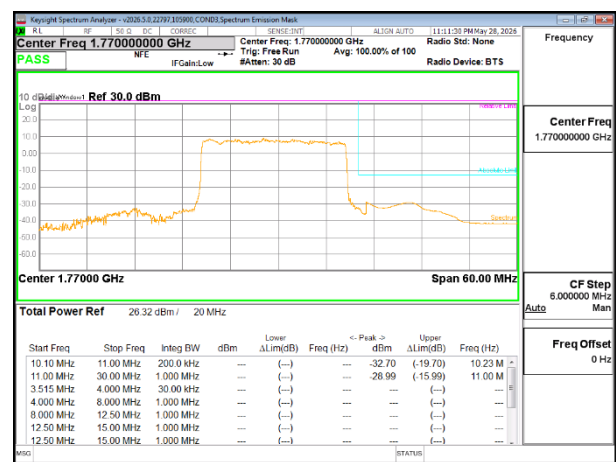
5G NR n66 20MHz BPSK Low Channel RB1-1



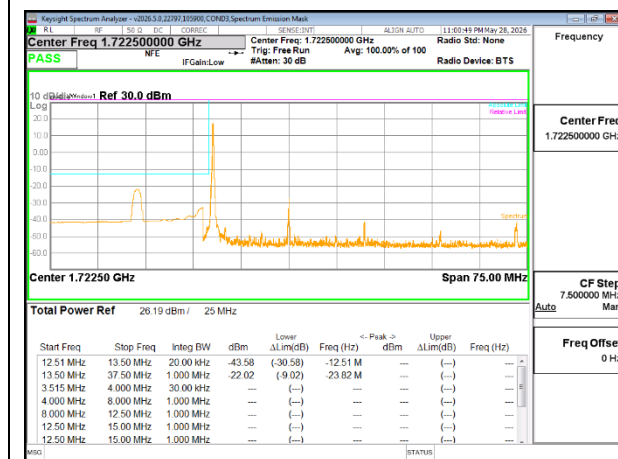
5G NR n66 20MHz BPSK High Channel RB1-104



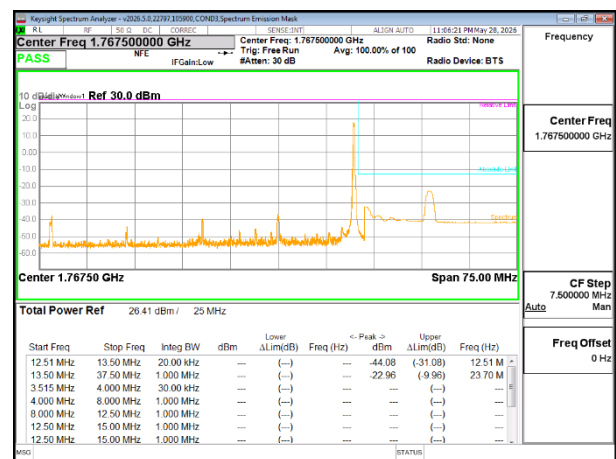
5G NR n66 20MHz BPSK Low Channel RB100-0



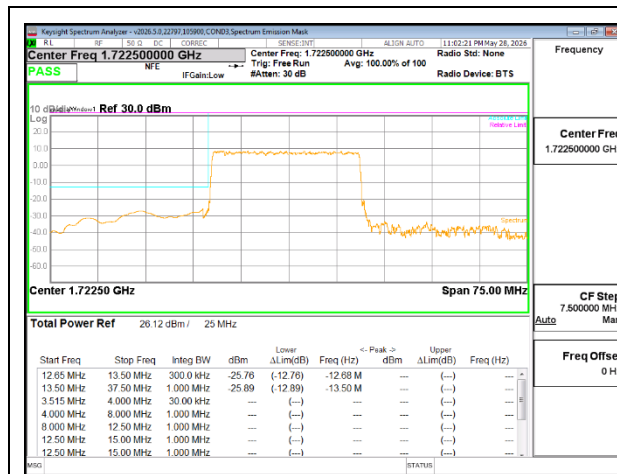
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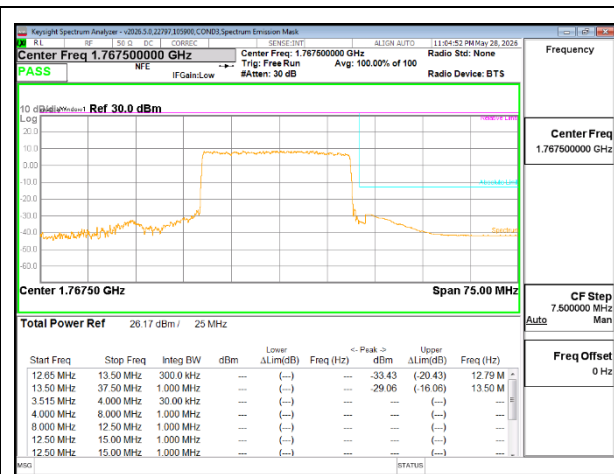
5G NR n66 25MHz BPSK Low Channel RB1-1



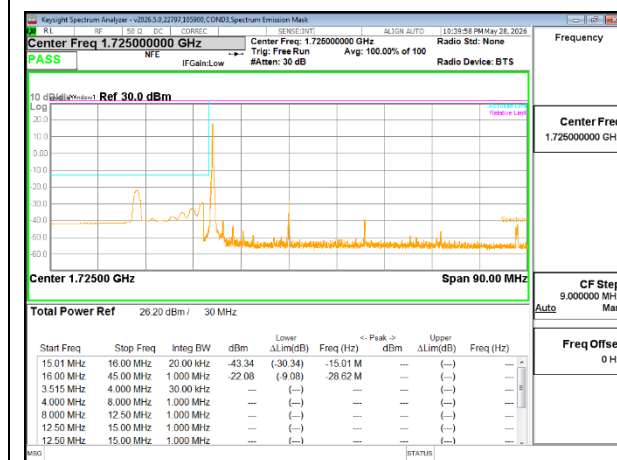
5G NR n66 25MHz BPSK High Channel RB1-131



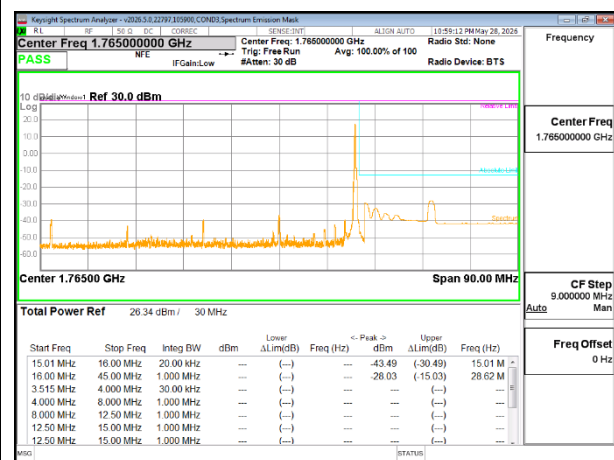
5G NR n66 25MHz BPSK Low Channel RB128-0



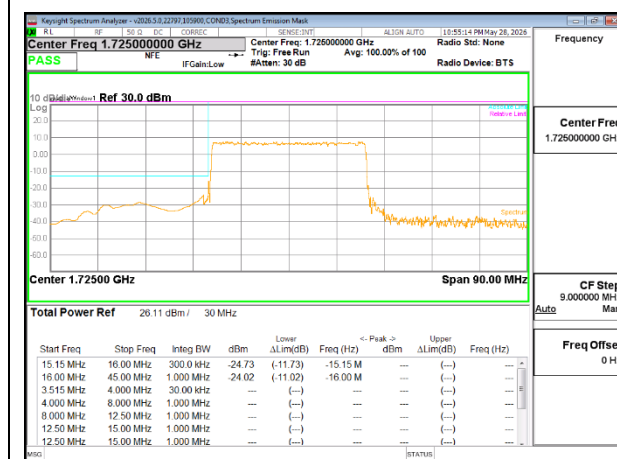
5G NR n66 25MHz BPSK High Channel RB128-0



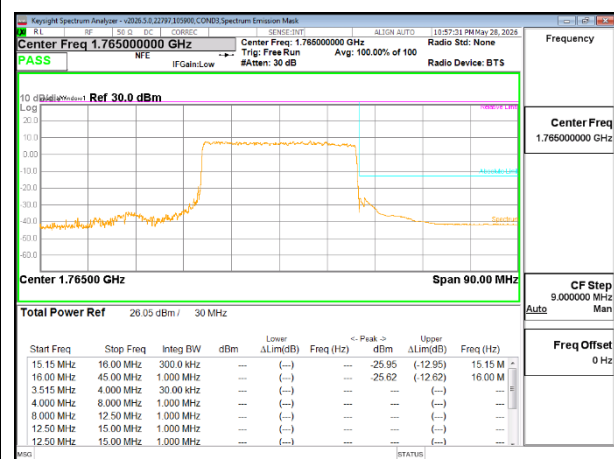
5G NR n66 30MHz BPSK Low Channel RB1-1



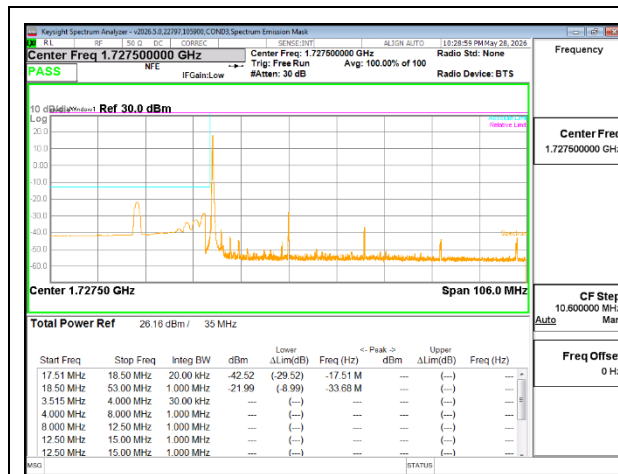
5G NR n66 30MHz BPSK High Channel RB1-158



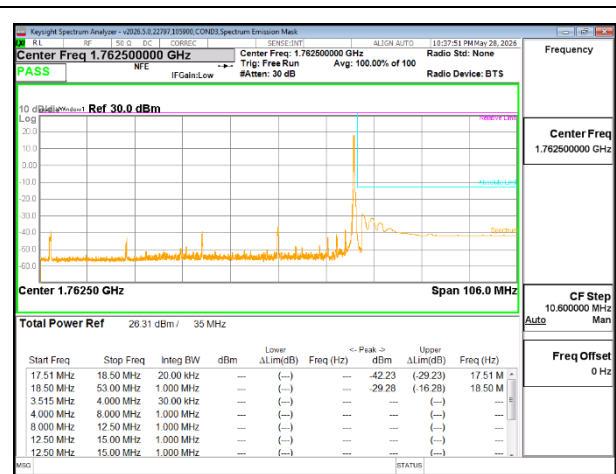
5G NR n66 30MHz BPSK Low Channel RB160-0



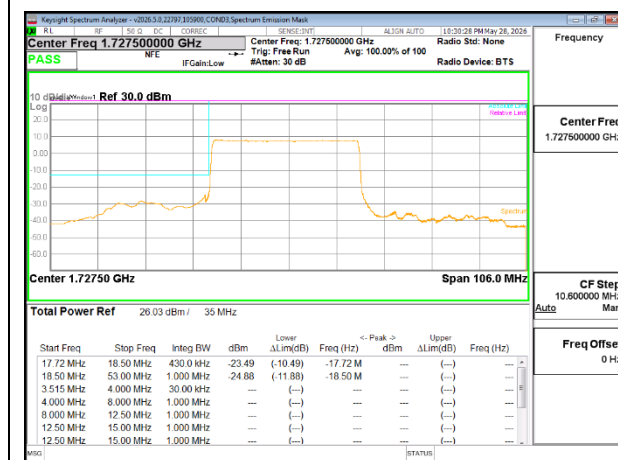
5G NR n66 30MHz BPSK High Channel RB160-0



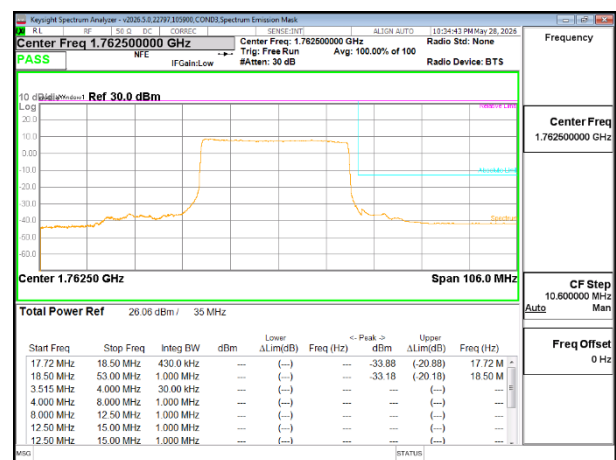
5G NR n66 35MHz BPSK Low Channel RB1-1



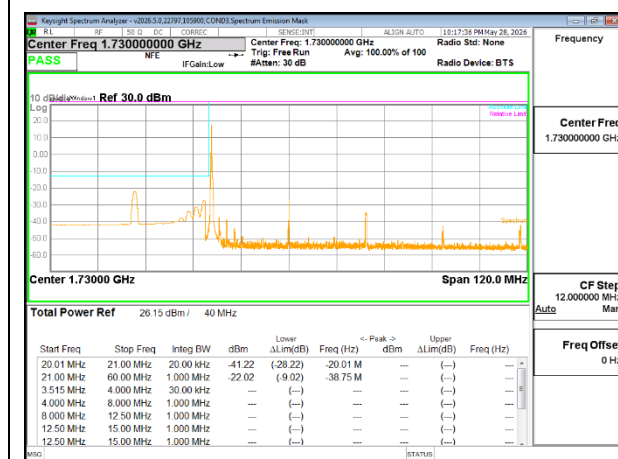
5G NR n66 35MHz BPSK High Channel RB1-186



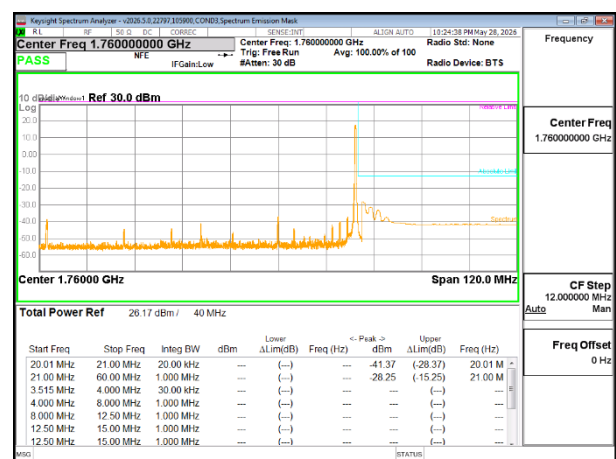
5G NR n66 35MHz BPSK Low Channel RB180-0



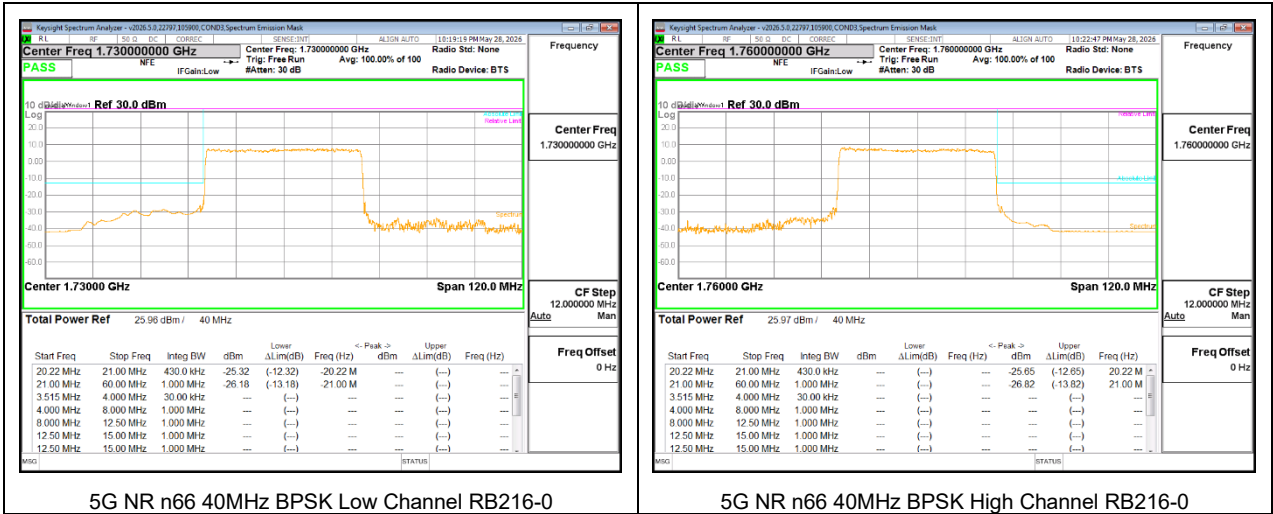
5G NR n66 35MHz BPSK High Channel RB180-0



5G NR n66 40MHz BPSK Low Channel RB1-1



5G NR n66 40MHz BPSK High Channel RB1-214



8.3. OUT OF BAND EMISSIONS

LIMITS

FCC: §27.53 (h)

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

ISED: RSS139§5.6

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

TEST PROCEDURE

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

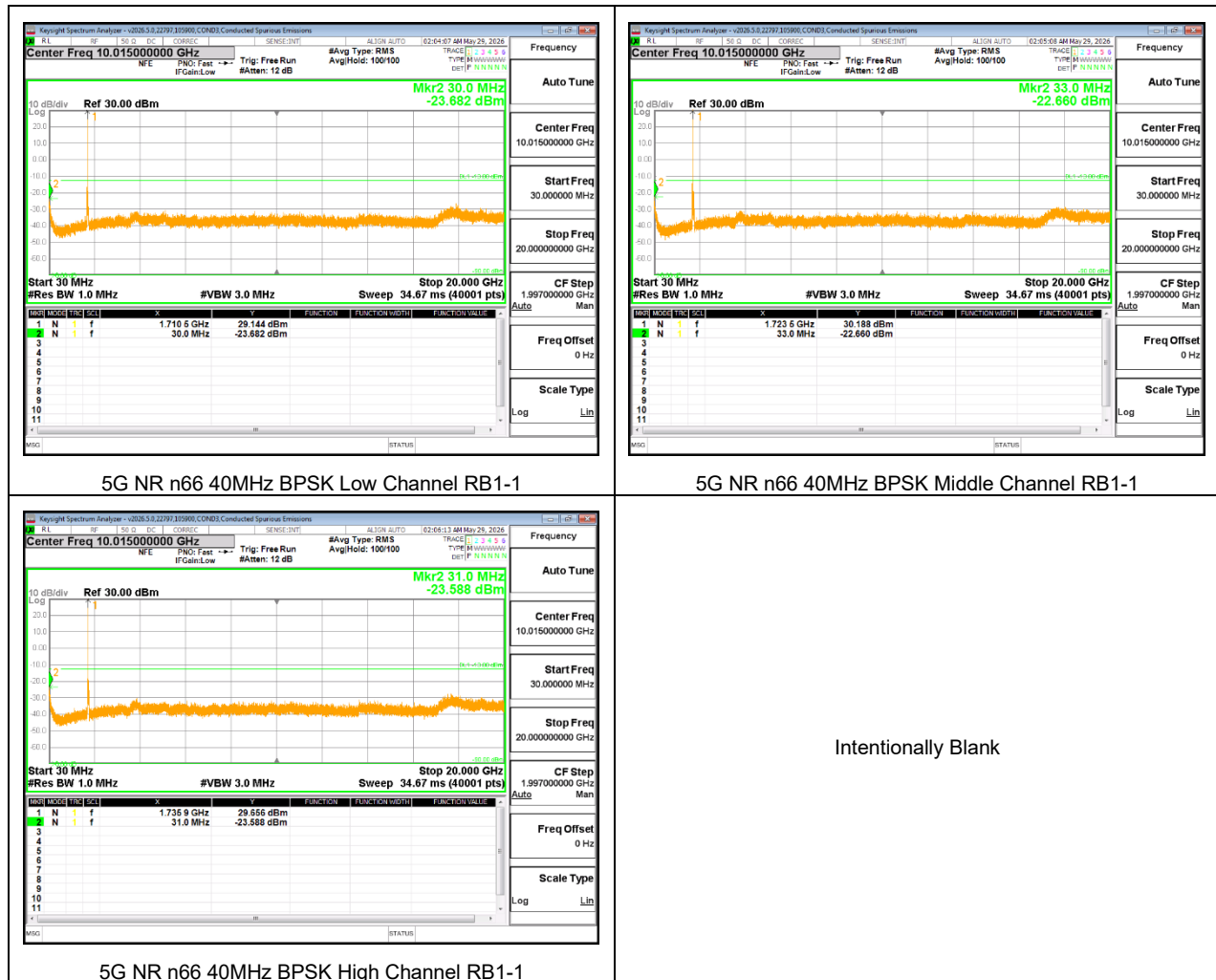
For each out of band emissions measurement:

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

RESULTS

BPSK with 1RB is the highest power to all bandwidth. 1RB has the same frequency and power to all bandwidth. Therefore, BPSK with 1RB and wider bandwidths results are reported as worst case for 5G NRs.

8.3.1. 5G NR n66



8.4. FREQUENCY STABILITY

LIMITS

FCC: §27.54

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

ISED: RSS139§5.4

The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block or frequency block group when tested to the temperature and supply voltage variations specified in RSS-Gen.

TEST PROCEDURE

Use base station simulator with Frequency Error measurement capability.

- Temp. = -30°C to +50°C
- Voltage = (85% - 115%)
Low voltage, 3.7VDC, Normal, 3.89VDC and High voltage, 4.45VDC.
End Voltage, 3.7VDC.

Frequency Stability vs Temperature:

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

Frequency Stability vs Voltage:

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

RESULTS

See the following pages.

8.4.1. 5G NR n66 (40MHz BANDWIDTH)

Test Engineer ID:	105900	Test Data:	2026/06/09 – 2026/06/10
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Band	66	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		1710	1780			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	1722.7875	1766.8500			
Extreme (50°C)		1722.7875	1766.8500	-0.0013	0.000	Yes
Extreme (40°C)		1722.7875	1766.8500	-0.0006	0.000	Yes
Extreme (30°C)		1722.7875	1766.8500	0.0029	0.000	Yes
Extreme (10°C)		1722.7875	1766.8500	-0.0017	0.000	Yes
Extreme (0°C)		1722.7875	1766.8500	-0.0011	0.000	Yes
Extreme (-10°C)		1722.7875	1766.8500	0.0021	0.000	Yes
Extreme (-20°C)		1722.7875	1766.8500	-0.0024	0.000	Yes
Extreme (-30°C)		1722.7875	1766.8500	0.0028	0.000	Yes
20°C	End Point Voltage	1722.7875	1766.8500	-0.0022	0.000	Yes

8.5. PEAK-TO-AVERAGE POWER RATIO

LIMIT

FCC: §27.50 (d) (5)

In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

ISED: RSS139§5.5

In addition, the peak to average power ratio (PAPR) of the equipment shall not exceed 13 dB for more than 0.1% of the time, using a signal that corresponds to the highest PAPR during periods of continuous transmission.

TEST PROCEDURE

The EUT was connected to a Wideband Power Sensor to measure Peak and Average Output power.

RESULT

Config 0 to measure as the worst case; full resource block (FRB) for each bandwidth was used to measure as the worst case.

8.5.1. 5G NR n66

Test Engineer ID:	105900	Test Date	2026-06-09
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Band	Bandwidth (MHz)	Frequency (MHz)	RB Allocation	RB OffSet	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio
						Peak	Average	
5G NR n66	5MHz	1745.0	25	0	BPSK	28.27	23.23	5.04
					16QAM	27.94	21.74	6.19
	10MHz		50	0	BPSK	28.59	23.25	5.34
					16QAM	28.06	21.71	6.35
	15MHz		75	0	BPSK	28.68	23.23	5.45
					16QAM	27.91	21.70	6.20
	20MHz		100	0	BPSK	28.65	23.23	5.42
					16QAM	27.98	21.70	6.28
	25MHz		128	0	BPSK	29.24	23.23	6.01
					16QAM	28.36	21.75	6.60
	30MHz		160	0	BPSK	29.08	23.26	5.82
					16QAM	28.38	21.68	6.70
	35MHz		180	0	BPSK	29.04	23.25	5.78
					16QAM	28.41	21.71	6.70
	40MHz		216	0	BPSK	29.24	22.20	7.04
					16QAM	28.46	21.67	6.80
Duty Cycle Correction Factor (dB) =								
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor								

9. RADIATED TEST RESULTS

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.

Radiated measurement using the Field Strength Method

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

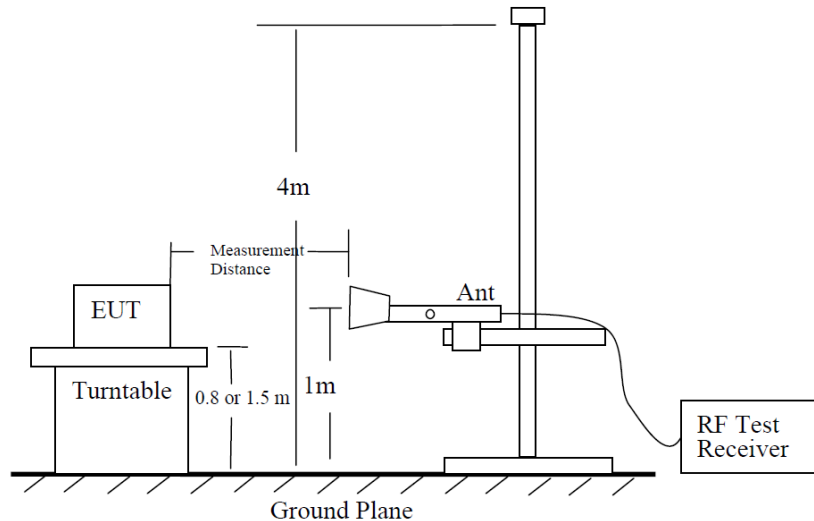


Figure 6 —Test site-up for radiated ERP and/or EIRP measurements

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

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

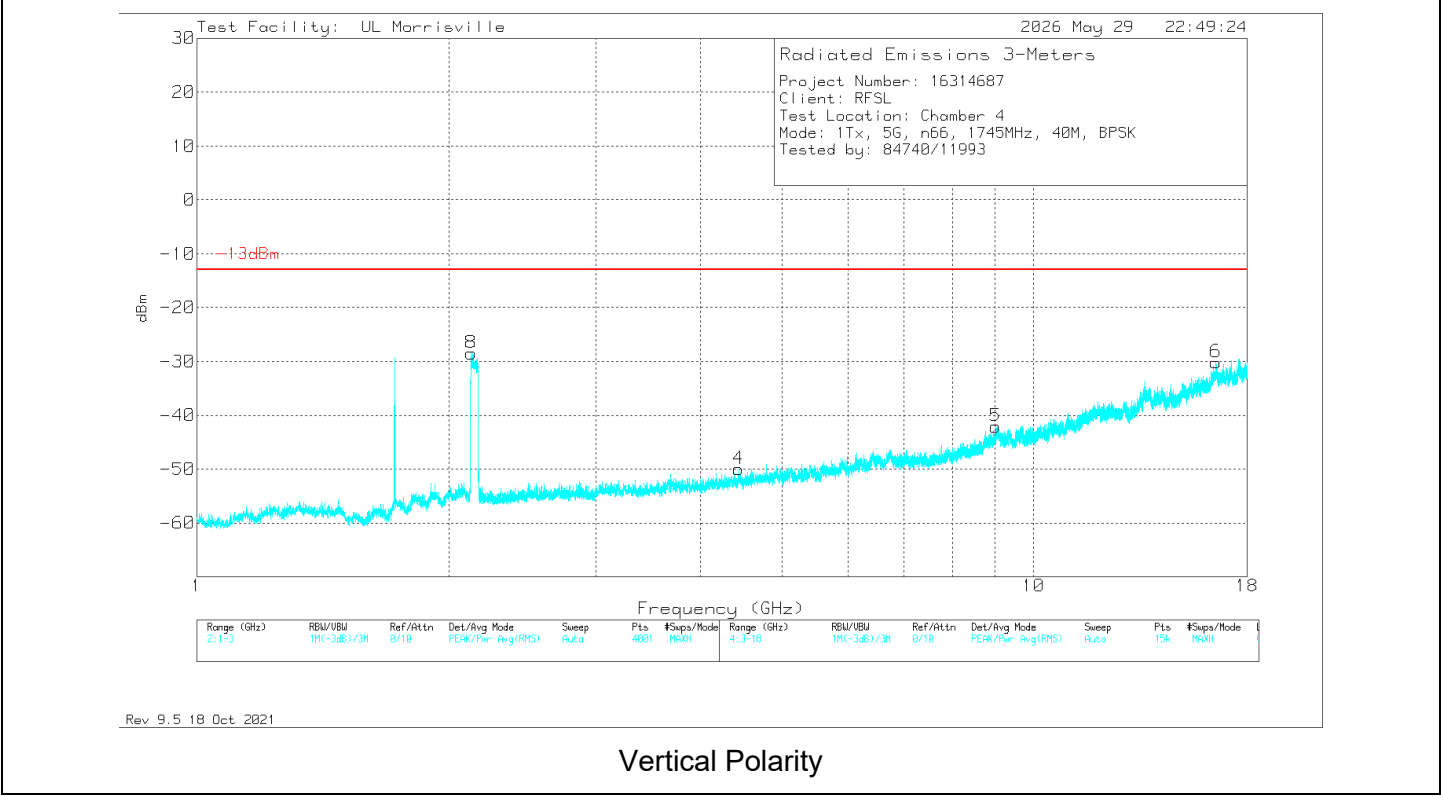
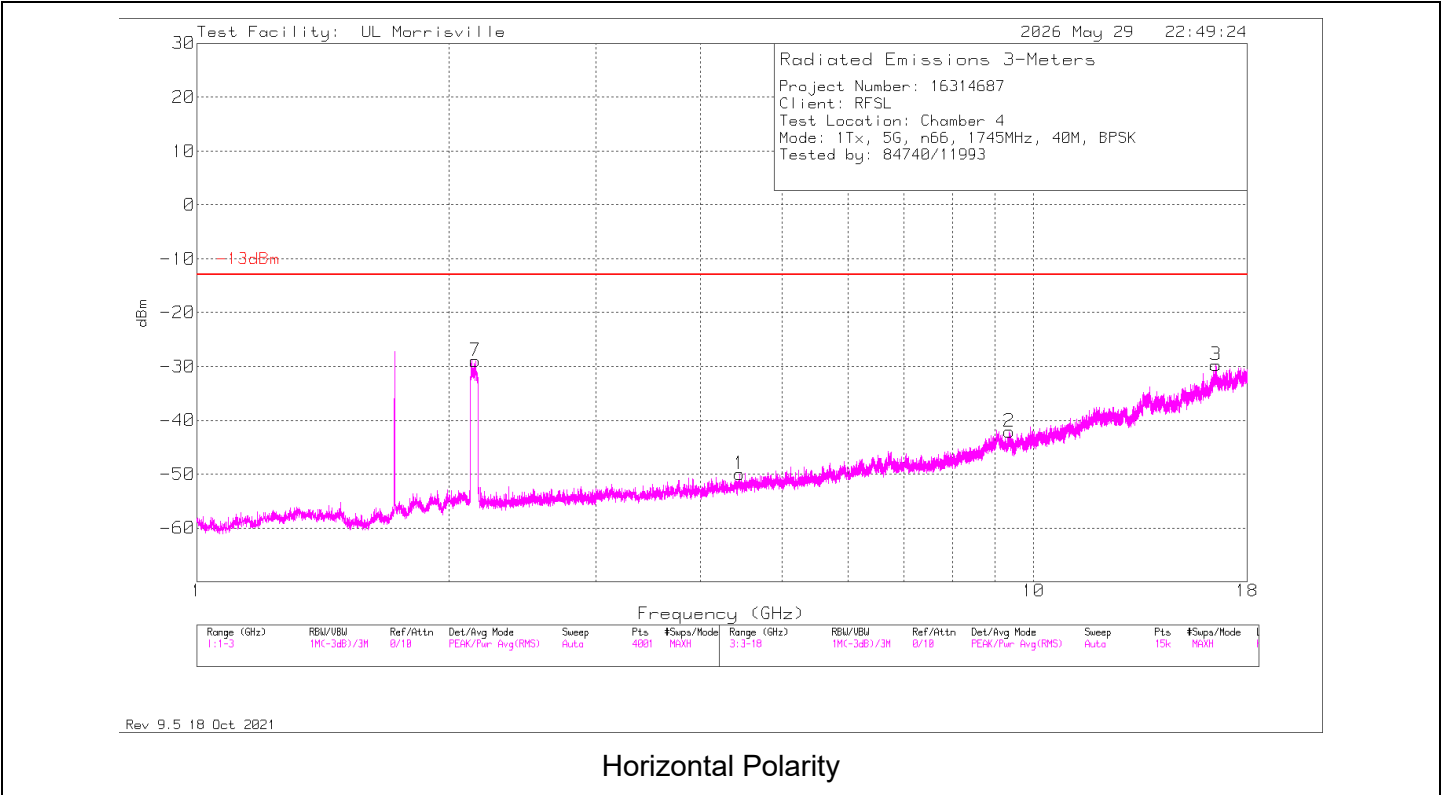
So, from d)

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

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

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

Example Plot



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	135143 ACF (dB/m)	Gain/Loss (dB)	Filter (dB)	CF (dB)	Corrected Reading dBm	-13dBm	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5*	2.141	-36.97	Pk	31.4	-35.6	11.8	1.4	-27.97	-	-	0-360	200	V
1*	2.1475	-37.72	Pk	31.4	-35.7	11.8	1.3	-28.92	-	-	0-360	100	H
6	2.5835	-51.02	Pk	32.5	-35.7	11.8	.6	-41.82	-13	-28.82	0-360	200	V
2	3.446	-57.81	Pk	32.7	-33.6	11.8	0	-46.91	-13	-33.91	0-360	200	H
7	3.446	-59	Pk	32.7	-33.6	11.8	0	-48.1	-13	-35.1	0-360	300	V
3	5.17	-47.49	Pk	34.3	-30.4	11.8	0	-31.79	-13	-18.79	0-360	100	H
8	5.17	-46.86	Pk	34.3	-30.4	11.8	0	-31.16	-13	-18.16	0-360	200	V
9	17.56	-66.07	Pk	40.8	-15.8	11.8	0	-29.27	-13	-16.27	0-360	300	V
4	17.573	-67.17	Pk	40.8	-15.3	11.8	0	-29.87	-13	-16.87	0-360	100	H

Pk - Peak detector

DL – Downlink from Callbox.

9.1. EFFECTIVE RADIATED POWER ERP/EIRP

EIRP/ERP TEST PROCEDURE

ANSI C63.26:2015
KDB 971168 D01 Section 5.2

For average power measurements:

- a) Set span to at least 1.5 times the OBW;
- b) Set RBW = 1-5% of the OBW, not to exceed 1 MHz;
- c) Set VBW $\geq 3 \times$ RBW;
- d) Set number of points in sweep $\geq 2 \times$ span / RBW;
- e) Sweep time = auto-couple;
- f) Detector = RMS (power averaging);
- g) Trace average at least 100 traces in power averaging (i.e., RMS) mode.
- h) Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function.

TEST RESULTS

9.1.1. 5G NR n66

Freq (MHz)	Band/Bandwidth	RB Size-Offset	Modulation (Of EUT)	EIRP (W)	EIRP _{DUT} (dBm)	Limit (dBm)	Margin (dB)
1712.500	n66(4) / 5MHz (ANT A)	RB1-1	BPSK	0.353	25.48	30.00	-4.52
1745.000		RB1-12	BPSK	0.347	25.40	30.00	-4.60
1777.500		RB1-23	BPSK	0.398	26.00	30.00	-4.00
1712.500		RB1-1	16QAM	0.273	24.36	30.00	-5.64
1745.000		RB1-12	16QAM	0.284	24.54	30.00	-5.46
1777.500		RB1-23	16QAM	0.321	25.07	30.00	-4.93
1715.000	n66(4) / 10MHz (ANT A)	RB1-1	BPSK	0.354	25.49	30.00	-4.51
1745.000		RB1-26	BPSK	0.344	25.36	30.00	-4.64
1775.000		RB1-50	BPSK	0.407	26.10	30.00	-3.90
1715.000		RB1-1	16QAM	0.283	24.52	30.00	-5.48
1745.000		RB1-26	16QAM	0.275	24.40	30.00	-5.60
1775.000		RB1-50	16QAM	0.322	25.08	30.00	-4.92
1717.500	n66(4) / 15MHz (ANT A)	RB1-1	BPSK	0.352	25.47	30.00	-4.53
1745.000		RB1-39	BPSK	0.353	25.48	30.00	-4.52
1772.500		RB1-77	BPSK	0.391	25.92	30.00	-4.08
1717.500		RB1-1	16QAM	0.284	24.53	30.00	-5.47
1745.000		RB1-39	16QAM	0.269	24.30	30.00	-5.70
1772.500		RB1-77	16QAM	0.309	24.90	30.00	-5.10
1720.000	n66(4) / 20MHz (ANT A)	RB1-1	BPSK	0.346	25.39	30.00	-4.61
1745.000		RB1-53	BPSK	0.343	25.35	30.00	-4.65
1770.000		RB1-104	BPSK	0.431	26.34	30.00	-3.66
1720.000		RB1-1	16QAM	0.279	24.45	30.00	-5.55
1745.000		RB1-53	16QAM	0.276	24.41	30.00	-5.59
1770.000		RB1-104	16QAM	0.349	25.43	30.00	-4.57
1722.500	n66(4) / 25MHz (ANT A)	RB1-1	BPSK	0.343	25.35	30.00	-4.65
1745.000		RB1-66	BPSK	0.345	25.38	30.00	-4.62
1767.500		RB1-131	BPSK	0.375	25.74	30.00	-4.26
1722.500		RB1-1	16QAM	0.277	24.42	30.00	-5.58
1745.000		RB1-66	16QAM	0.268	24.28	30.00	-5.72
1767.500		RB1-131	16QAM	0.309	24.90	30.00	-5.10
1725.000	n66(4) / 30MHz (ANT A)	RB1-1	BPSK	0.353	25.48	30.00	-4.52
1745.000		RB1-80	BPSK	0.351	25.45	30.00	-4.55
1765.000		RB1-158	BPSK	0.436	26.39	30.00	-3.61
1725.000		RB1-1	16QAM	0.280	24.47	30.00	-5.53
1745.000		RB1-80	16QAM	0.274	24.38	30.00	-5.62
1765.000		RB1-158	16QAM	0.341	25.33	30.00	-4.67
1727.500	n66(4) / 35MHz (ANT A)	RB1-1	BPSK	0.338	25.29	30.00	-4.71
1745.000		RB1-94	BPSK	0.340	25.32	30.00	-4.68
1762.500		RB1-186	BPSK	0.292	24.66	30.00	-5.34
1727.500		RB1-1	16QAM	0.277	24.43	30.00	-5.57
1745.000		RB1-94	16QAM	0.269	24.30	30.00	-5.70
1762.500		RB1-186	16QAM	0.292	24.65	30.00	-5.35
1730.000	n66(4) / 40MHz (ANT A)	RB1-1	BPSK	0.348	25.42	30.00	-4.58
1745.000		RB1-108	BPSK	0.337	25.27	30.00	-4.73
1760.000		RB1-214	BPSK	0.364	25.61	30.00	-4.39
1730.000		RB1-1	16QAM	0.275	24.40	30.00	-5.60
1745.000		RB1-108	16QAM	0.272	24.35	30.00	-5.65
1760.000		RB1-214	16QAM	0.293	24.67	30.00	-5.33

CONFIG 0

Freq (MHz)	Band/Bandwidth	RB Size-Offset	Modulation (Of EUT)	EIRP (W)	EIRP _{DUT} (dBm)	Limit (dBm)	Margin (dB)
1712.500	n66(4) / 5MHz (ANT F)	RB1-1	BPSK	0.103	20.14	30.00	-9.86
1745.000		RB1-12	BPSK	0.097	19.85	30.00	-10.15
1777.500		RB1-23	BPSK	0.092	19.64	30.00	-10.36
1712.500		RB1-1	16QAM	0.096	19.84	30.00	-10.16
1745.000		RB1-12	16QAM	0.091	19.60	30.00	-10.40
1777.500		RB1-23	16QAM	0.086	19.36	30.00	-10.64
1715.000	n66(4) / 10MHz (ANT F)	RB1-1	BPSK	0.105	20.23	30.00	-9.77
1745.000		RB1-26	BPSK	0.096	19.83	30.00	-10.17
1775.000		RB1-50	BPSK	0.092	19.64	30.00	-10.36
1715.000		RB1-1	16QAM	0.102	20.09	30.00	-9.91
1745.000		RB1-26	16QAM	0.090	19.53	30.00	-10.47
1775.000		RB1-50	16QAM	0.086	19.36	30.00	-10.64
1717.500	n66(4) / 15MHz (ANT F)	RB1-1	BPSK	0.107	20.29	30.00	-9.71
1745.000		RB1-39	BPSK	0.098	19.92	30.00	-10.08
1772.500		RB1-77	BPSK	0.093	19.68	30.00	-10.32
1717.500		RB1-1	16QAM	0.099	19.95	30.00	-10.05
1745.000		RB1-39	16QAM	0.091	19.58	30.00	-10.42
1772.500		RB1-77	16QAM	0.086	19.36	30.00	-10.64
1720.000	n66(4) / 20MHz (ANT F)	RB1-1	BPSK	0.105	20.20	30.00	-9.80
1745.000		RB1-53	BPSK	0.097	19.85	30.00	-10.15
1770.000		RB1-104	BPSK	0.093	19.68	30.00	-10.32
1720.000		RB1-1	16QAM	0.099	19.96	30.00	-10.04
1745.000		RB1-53	16QAM	0.089	19.51	30.00	-10.49
1770.000		RB1-104	16QAM	0.086	19.37	30.00	-10.63
1722.500	n66(4) / 25MHz (ANT F)	RB1-1	BPSK	0.104	20.16	30.00	-9.84
1745.000		RB1-66	BPSK	0.096	19.81	30.00	-10.19
1767.500		RB1-131	BPSK	0.093	19.68	30.00	-10.32
1722.500		RB1-1	16QAM	0.098	19.91	30.00	-10.09
1745.000		RB1-66	16QAM	0.089	19.47	30.00	-10.53
1767.500		RB1-131	16QAM	0.086	19.36	30.00	-10.64
1725.000	n66(4) / 30MHz (ANT F)	RB1-1	BPSK	0.108	20.35	30.00	-9.65
1745.000		RB1-80	BPSK	0.097	19.87	30.00	-10.13
1765.000		RB1-158	BPSK	0.093	19.68	30.00	-10.32
1725.000		RB1-1	16QAM	0.100	20.01	30.00	-9.99
1745.000		RB1-80	16QAM	0.088	19.43	30.00	-10.57
1765.000		RB1-158	16QAM	0.086	19.36	30.00	-10.64
1727.500	n66(4) / 35MHz (ANT F)	RB1-1	BPSK	0.104	20.19	30.00	-9.81
1745.000		RB1-94	BPSK	0.096	19.82	30.00	-10.18
1762.500		RB1-186	BPSK	0.092	19.64	30.00	-10.36
1727.500		RB1-1	16QAM	0.099	19.95	30.00	-10.05
1745.000		RB1-94	16QAM	0.087	19.39	30.00	-10.61
1762.500		RB1-186	16QAM	0.086	19.36	30.00	-10.64
1730.000	n66(4) / 40MHz (ANT F)	RB1-1	BPSK	0.108	20.35	30.00	-9.65
1745.000		RB1-108	BPSK	0.079	18.98	30.00	-11.02
1760.000		RB1-214	BPSK	0.082	19.14	30.00	-10.86
1730.000		RB1-1	16QAM	0.098	19.92	30.00	-10.08
1745.000		RB1-108	16QAM	0.070	18.48	30.00	-11.52
1760.000		RB1-214	16QAM	0.070	18.42	30.00	-11.58

CONFIG 1

9.2. FIELD STRENGTH OF SPURIOUS RADIATION, ABOVE 1GHz

TEST PROCEDURE

KDB 971168 D01 /D02

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

RESULTS

9.2.1. 5G NR n66

5G NR n66 (BPSK 40MHZ BANDWIDTH, Config 0)

Project #:	16314687
Date:	2026-05-29
Test Engineer:	84740 / 11993
Configuration:	EUT Only
Mode	5G NR n66 BPSK 40MHz
Chamber #:	Chamber 4

Frequency (GHz)	Meter Reading (dBm)	Det	135143 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	Limit (dBm)	Margin (dB)	Polarity
Low Channel, 1732.5MHz										
6.431	-67.06	Pk	35.6	-26.7	11.8	0	-46.36	-13	-33.36	V
6.435	-67.13	Pk	35.6	-26.6	11.8	0	-46.33	-13	-33.33	H
9.026	-66.06	Pk	36.2	-23.7	11.8	0	-41.76	-13	-28.76	V
9.042	-65.55	Pk	36.2	-23.3	11.8	0	-40.85	-13	-27.85	H
17.239	-66.42	Pk	40.8	-16.2	11.8	0	-30.02	-13	-17.02	H
17.597	-66.77	Pk	40.9	-16	11.8	0	-30.07	-13	-17.07	V
Mid Channel, 1745MHz										
4.441	-65.24	Pk	33.7	-30.2	11.8	0	-49.94	-13	-36.94	V
4.452	-65.37	Pk	33.7	-30.1	11.8	0	-49.97	-13	-36.97	H
9.004	-65.64	Pk	36.2	-24.4	11.8	0	-42.04	-13	-29.04	V
9.354	-66.89	Pk	36.4	-23.4	11.8	0	-42.09	-13	-29.09	H
16.51	-65.49	Pk	40.9	-17.4	11.8	0	-30.19	-13	-17.19	V
16.513	-65.16	Pk	40.9	-17.3	11.8	0	-29.76	-13	-16.76	H
High Channel, 1757.5MHz										
4.019	-62.96	Pk	33.1	-31.5	11.8	0	-49.56	-13	-36.56	H
4.393	-64.15	Pk	33.8	-31.3	11.8	0	-49.85	-13	-36.85	V
9.345	-66.24	Pk	36.4	-23.6	11.8	0	-41.64	-13	-28.64	V
9.65	-65.82	Pk	36.6	-24.2	11.8	0	-41.62	-13	-28.62	H
17.588	-67.52	Pk	40.9	-15.7	11.8	0	-30.52	-13	-17.52	V
17.591	-66.73	Pk	40.9	-15.8	11.8	0	-29.83	-13	-16.83	H

5G NR n66 (BPSK 40MHZ BANDWIDTH, Config 1)

Project #:	16314687
Date:	2026-06-01
Test Engineer:	19289
Configuration:	EUT Only
Mode	5G NR n66 BPSK 40MHz
Chamber #:	Chamber 4

Frequency (GHz)	Meter Reading (dBm)	Det	206211 (dB/m)	Gain/Loss (dB)	CF (dB)	Filter (dB)	Corrected Reading dBm	Limit (dBm)	Margin (dB)	Polarity
Low Channel, 1732.5MHz										
2.5385	-54.87	Pk	32.4	-35.6	11.8	.7	-45.57	-13	-32.57	H
2.5845	-57.27	Pk	32.5	-35.7	11.8	.6	-48.07	-13	-35.07	V
3.421	-57.93	Pk	32.7	-33.5	11.8	0	-46.93	-13	-33.93	H
3.421	-60.63	Pk	32.7	-33.5	11.8	0	-49.63	-13	-36.63	V
5.132	-52.38	Pk	34.3	-30.2	11.8	0	-36.48	-13	-23.48	H
5.132	-54.3	Pk	34.3	-30.2	11.8	0	-38.4	-13	-25.4	V
16.423	-65.83	Pk	40.7	-17.8	11.8	0	-31.13	-13	-18.13	H
16.489	-66.39	Pk	40.9	-17.9	11.8	0	-31.59	-13	-18.59	V
Mid Channel, 1745MHz										
2.5835	-51.02	Pk	32.5	-35.7	11.8	.6	-41.82	-13	-28.82	V
3.446	-57.81	Pk	32.7	-33.6	11.8	0	-46.91	-13	-33.91	H
3.446	-59	Pk	32.7	-33.6	11.8	0	-48.1	-13	-35.1	V
5.17	-47.49	Pk	34.3	-30.4	11.8	0	-31.79	-13	-18.79	H
5.17	-46.86	Pk	34.3	-30.4	11.8	0	-31.16	-13	-18.16	V
17.56	-66.07	Pk	40.8	-15.8	11.8	0	-29.27	-13	-16.27	V
17.573	-67.17	Pk	40.8	-15.3	11.8	0	-29.87	-13	-16.87	H
High Channel, 1757.5MHz										
2.5485	-58.59	Pk	32.4	-35.6	11.8	.7	-49.29	-13	-36.29	V
3.471	-60.41	Pk	32.8	-33.3	11.8	0	-49.11	-13	-36.11	H
5.207	-57.12	Pk	34.3	-30.7	11.8	0	-41.72	-13	-28.72	H
5.207	-55.05	Pk	34.3	-30.7	11.8	0	-39.65	-13	-26.65	V
16.512	-66.17	Pk	40.9	-17.4	11.8	0	-30.87	-13	-17.87	H
16.518	-66.46	Pk	40.9	-17.3	11.8	0	-31.06	-13	-18.06	V

10. SETUP PHOTOS

Please see R16314687-EP1c for Setup Diagrams and Setup Photos.

END OF REPORT