

TEST REPORT

Report Number: 15105952-E1V1

Applicant : SAMSUNG ELECTRONICS CO., LTD.
129, SAMSUNG-RO, YEONGTONG-GU
SUWON-SI, GYEONGGI-DO, 16677, KOREA

Model : SM-A256E/DSN

FCC ID : A3LSMA256E

EUT Description : GSM/WCDMA/LTE/5G Phone with BT/BLE, DTS/UNII a/b/g/n/ac
and NFC

Test Standard(s) : FCC 47 CFR PART 27 SUBPART L

Date Of Issue:

2024-03-11

Prepared by:

UL VERIFICATION SERVICES

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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	2024-03-11	Initial Issue	

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	4
2. SUMMARY OF TEST RESULTS	5
3. TEST METHODOLOGY	6
4. FACILITIES AND ACCREDITATION	6
5. CALIBRATION AND UNCERTAINTY	7
5.1. MEASURING INSTRUMENT CALIBRATION	7
5.2. SAMPLE CALCULATION	7
5.3. MEASUREMENT UNCERTAINTY	7
6. EQUIPMENT UNDER TEST	8
6.1. DESCRIPTION OF EUT	8
6.2. MAXIMUM OUTPUT POWER	9
6.3. SOFTWARE AND FIRMWARE	10
6.4. MAXIMUM ANTENNA GAIN	10
6.5. WORST-CASE CONFIGURATION AND MODE	11
6.6. DESCRIPTION OF TEST SETUP	12
7. TEST AND MEASUREMENT EQUIPMENT	14
8. RADIATED TEST RESULTS	15
8.1. EFFECTIVE RADIATED POWER EIRP	15
8.1.1. 5G NR n66	17
8.2. FIELD STRENGTH OF SPURIOUS RADIATION	18
9. SETUP PHOTOS	27
9.1.1. RADIATED RF MEASUREMENT SET UP	27




1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	SAMSUNG ELECTRONICS CO., LTD. 129, SAMSUNG-RO, YEONGTONG-GU SUWON-SI, GYEONGGI-DO, 16677, KOREA
Model	SM-A256E/DSN
FCC ID	A3LSMA256E
EUT Description	GSM/WCDMA/LTE/5G PHONE WITH BT/BLE, DTS/UNII A/B/G/N/AC AND NFC
Serial Number	Radiated: R3CW70X5MJK
Date Tested	2024/02/24 – 2024/02/24
Applicable Standards	FCC 47 CFR PART 27L
Test Results	COMPLIES

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

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, any agency of the Federal Government, or any agency of the U.S. government.

Approved & Released By:	Reviewed By:	Prepared By:
		
Dan Corona Operations Leader UL Verification Services Inc.	Steven Tran Senior Project Engineer UL Verification Services Inc.	Chris Xiong Senior Test Engineer UL Verification Services Inc.

2. SUMMARY OF TEST RESULTS

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.

Requirement Description	Requirement Clause Number (FCC)	Result	Remarks
Equivalent Isotropic Radiated Power	27.50 (d) (4)	Complies	
Field Strength of Spurious Radiation	27.53 (h)	Complies	

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with the following:

- ANSI C63.26:2015
- TIA-603-E
- FCC 47 CFR Part 2 and Part 27
- [FCC KDB 971168 D01 v03r01](#): Power Meas License Digital Systems
- [FCC KDB 971168 D02 v02r02](#): Misc Rev Approv License Devices
- [FCC KDB 412172 D01 v01r01](#): Determining ERP and EIRP

4. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, Certificate Number 0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
<input type="checkbox"/>	Building 1: 47173 Benicia Street, Fremont, CA 94538 USA	US0104	2324A	550739
<input type="checkbox"/>	Building 2: 47266 Benicia Street, Fremont, CA 94538 USA			
<input checked="" type="checkbox"/>	Building 3: 843 Auburn Court, Fremont, CA 94538 USA			
<input type="checkbox"/>	Building 4: 47658 Kato Rd, Fremont, CA 94538 USA			
<input type="checkbox"/>	Building 5: 47670 Kato Rd, Fremont, CA 94538 USA			

5. CALIBRATION AND UNCERTAINTY

5.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

5.2. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

- 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 $20 * \log(3) = 9.5424$
 Then, $\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 9.5424 - 104.8 = E \text{ (dB}\mu\text{V/m)} - 95.2576$

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	U _{LAB}
Conducted Antenna Port Emission Measurement	1.94 dB
Power Spectral Density	2.466 dB
Time Domain Measurements Using SA	3.39 dB
RF Power Measurement Direct Method Using Power Meter	0.450 dB (Peak) 1.3 dB (Average)
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.2%
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 dB
Temperature	±0.57 %
Relative Humidity	3.39 %

Uncertainty figures are valid to a confidence level of 95%.

6. EQUIPMENT UNDER TEST

6.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE/5G Phone with BT/BLE, DTS/UNII a/b/g/n/ac and NFC.

The model SM-A256E/DSN was used for final testing and is representative of the test results in this report.

6.2. MAXIMUM OUTPUT POWER

EIRP LIMIT

FCC: §2.1046, §27.50

EIRP TEST PROCEDURE

ANSI C63.26:2015
KDB 971168 D01 Section 5.8
KDB 412172 D01

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

where: 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 dBi (EIRP);

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

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

The transmitter has a maximum average radiated ERP / EIRP output powers as follows:

5G NR n66 (FCC Part 27)

Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	EIRP Average (dBm)	EIRP Average (W)
40.0	QPSK	1730.0	1760.0	17.25	0.053
	16QAM			16.83	0.048
30.0	QPSK	1725.0	1765.0	16.92	0.049
	16QAM			15.88	0.039
25.0	QPSK	1712.5	1762.5	17.48	0.056
	16QAM			17.49	0.056

6.3. SOFTWARE AND FIRMWARE

The test utility software used during testing was A145M.001.

6.4. MAXIMUM ANTENNA GAIN

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

The radio utilizes a MFA antenna, with a maximum gain as follows:

Bands	Antenna	Antenna Gain (dBi)
5G NR n66, 1710 – 1780 MHz	B	-0.58

6.5. WORST-CASE CONFIGURATION AND MODE

The EUT supports 5G NRs Bands:
5G NR n66

For NR Bands the worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were measured on $\pi/2$ QPSK, QPSK, 16QAM, 64QAM and 256QAM modulations. It was found that QPSK and 16QAM results were worst case as below.

The fundamental of the EUT was investigated in three orthogonal orientations X, Y, & Z. It was determined that Y-Axis for 1700 AC/DC Adapter was worst-case orientation.

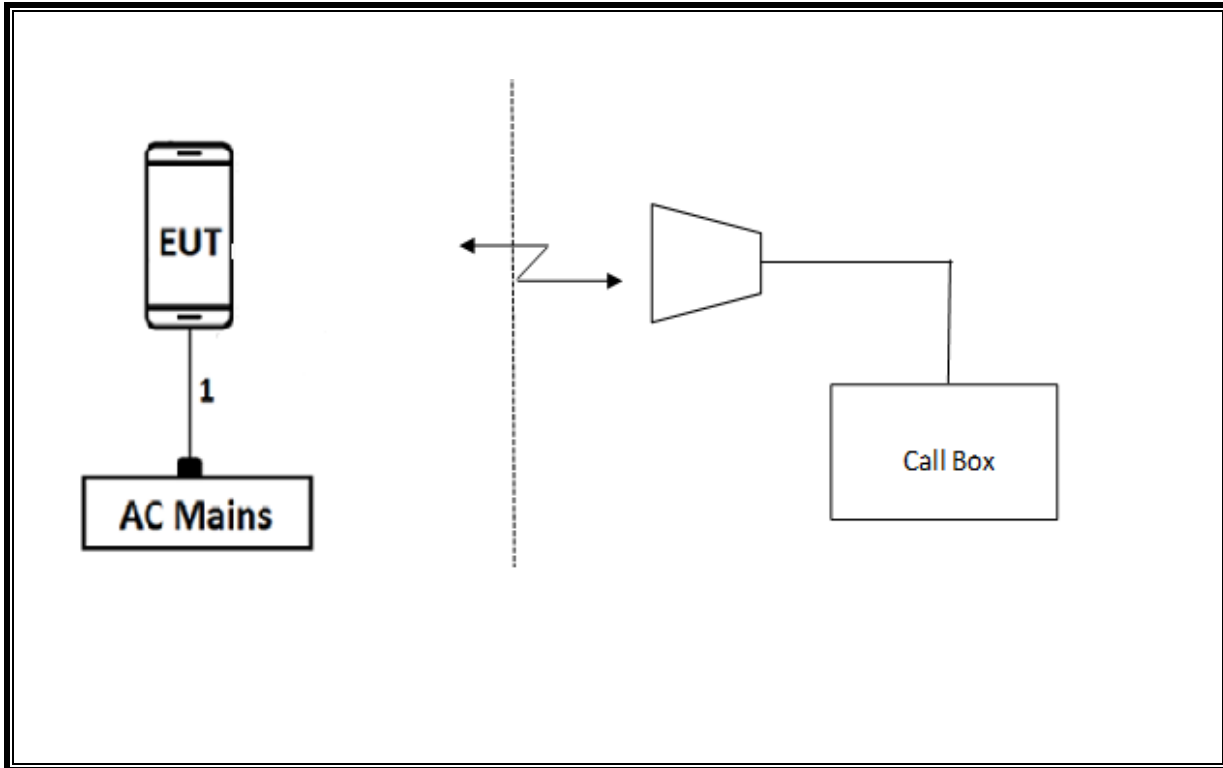
All radios that can be transmitted simultaneously have been evaluated for radiated for all possible combinations of transmission and found to be in compliance.

Radiated spurious emissions were investigated below 30MHz, 30MHz-1GHz, and above 1GHz. There were no emissions found below 30MHz and 30MHz-1GHz.

6.6. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description	Manufacturer	Model	Serial Number	FCC ID		
AC Adapter	Samsung	EP-TA800	R37MAMT21J2SE3	N/A		
I/O CABLES (RF CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	RF Out	1	Spectrum Analyzer	Shielded	None	N/A
2	Antenna Port	1	EUT	Shielded	0.1m	N/A
3	RF In/Out	1	Communication Test Set	Shielded	1m	N/A
I/O CABLES (RF RADIATED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	USB	1	USB	Shielded	1	N/A

RADIATED SETUP



7. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST					
Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	PRE0179372	02/29/2024	02/17/2023
Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	200897	03/31/2024	03/07/2023
Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	200785	10/31/2024	10/25/2022
RF Filter Box, 1-18GHz, 12 Port.	UL-FR1	Frankenstein	231874	08/30/2024	08/23/2023
Signal Generator, 8KHz-40GHz	Rohde & Schwarz	SMA100B	195765	2/29/2024	2/21/2023
5G Radio Communication Test Set	Anritsu Corporation	MT8000A	207617	10/31/2024	10/20/2023
UL AUTOMATION SOFTWARE					
Radiated Software	UL	UL EMC	Ver 9.5, May 1, 2023		

8. RADIATED TEST RESULTS

8.1. EFFECTIVE RADIATED POWER EIRP

RULE PART(S)

FCC: §2.1046, §27.50

LIMITS

27.50(d) - (4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.(Band 66 / 5G NR n66)

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13dB.

TEST PROCEDURE

ANSI / TIA / EIA 603-E (2016), Clause 2.2.17; PSA setting reference to 971168 D01 v03r01

For peak power measurement with a PSA:

a) Set the RBW \geq OBW; b) Set VBW $\geq 3 \times$ RBW; c) Set span $\geq 2 \times$ RBW; d) Sweep time = auto couple; e) Detector = peak; f) Ensure that the number of measurement points \geq span/RBW; g) Trace mode = max hold;

For average power measurement with a PSA:

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) Use free run trigger If burst duty cycle ≥ 98 ; h) Use trigger to capture bursts If burst duty cycle < 98 ; i) Trace average at least 100 traces in power averaging (i.e., RMS) mode. j) Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function.

TEST RESULTS

5G NR n66 (FCC PART 27)

BW (MHz)	Mode	RB/RB Size	f(MHz)	EIRP	
				dBm	W
40	QPSK	1/1	1730	17.15	0.0519
		1/1	1745	17.25	0.0531
		1/1	1760	16.04	0.0402
	16QAM	1/1	1730	16.13	0.0410
		1/1	1745	16.83	0.0482
		1/1	1760	15.08	0.0322
30	QPSK	1/1	1725	16.28	0.0425
		1/1	1745	16.05	0.0403
		1/1	1765	16.92	0.0492
	16QAM	1/1	1725	15.77	0.0378
		1/1	1745	14.97	0.0314
		1/1	1765	15.88	0.0387
25	QPSK	1/1	1722.5	16.68	0.0466
		1/1	1745	17.48	0.0560
		1/1	1767.5	17.41	0.0551
	16QAM	1/1	1722.5	15.74	0.0375
		1/1	1745	17.49	0.0561
		1/1	1767.5	17.48	0.0560

8.1.1. 5G NR n66

40MHz QPSK									40MHz 16QAM								
UL Verification Services, Inc. High Frequency Substitution Measurement Company: Lions Project #: 15138349 (SM-A256E_C2PC) Date: 2/19/2024 Test Engineer: 32595 RT Configuration: EUT Only Location: 03-RDE-A Mode: FR1_N66_QPSK 40 MHz Fundamentals Test Equipment: Receiving: Horn 200897, and 03-RDE-A SMA Cables Substitution: Horn 200785, 03-RDE-A Passthrough Cables									UL Verification Services, Inc. High Frequency Substitution Measurement Company: Lions Project #: 15138349 (SM-A256E_C2PC) Date: 2/19/2024 Test Engineer: 32595 RT Configuration: EUT Only Location: 03-RDE-A Mode: FR1_N66_16QAM 40 MHz Fundamentals Test Equipment: Receiving: Horn 200897, and 03-RDE-A SMA Cables Substitution: Horn 200785, 03-RDE-A Passthrough Cables								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch 1730.00 18.01 V 6.3 5.4 17.15 30.0 -12.9 1730.00 13.46 H 6.3 5.4 12.60 30.0 -17.4 Mid Ch 1745.00 18.28 V 6.3 5.3 17.25 30.0 -12.7 1745.00 14.99 H 6.3 5.3 13.96 30.0 -16.0 High Ch 1760.00 17.18 V 6.3 5.2 16.04 30.0 -14.0 1760.00 15.17 H 6.3 5.2 14.03 30.0 -16.0									Low Ch 1730.00 16.99 V 6.3 5.4 16.13 30.0 -13.9 1730.00 12.46 H 6.3 5.4 11.60 30.0 -18.4 Mid Ch 1745.00 17.86 V 6.3 5.3 16.83 30.0 -13.2 1745.00 14.04 H 6.3 5.3 13.01 30.0 -17.0 High Ch 1760.00 16.22 V 6.3 5.2 15.08 30.0 -14.9 1760.00 14.14 H 6.3 5.2 13.00 30.0 -17.0								
30MHz QPSK									30MHz 16QAM								
UL Verification Services, Inc. High Frequency Substitution Measurement Company: Lions Project #: 14938215 (SM-A256E_DSN) Date: 2/13/2024 Test Engineer: 32595 Configuration: EUT Only Location: 03-RDE-A Mode: FR1_N66_QPSK 30 MHz Fundamentals Test Equipment: Receiving: Horn 200897, and 03-RDE-A SMA Cables Substitution: Horn 200785, 03-RDE-A Passthrough Cables									UL Verification Services, Inc. High Frequency Substitution Measurement Company: Lions Project #: 14938215 (SM-A256E_DSN) Date: 2/13/2024 Test Engineer: 32595 Configuration: EUT Only Location: 03-RDE-A Mode: FR1_N66_16QAM 30 MHz Fundamentals Test Equipment: Receiving: Horn 200897, and 03-RDE-A SMA Cables Substitution: Horn 200785, 03-RDE-A Passthrough Cables								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch 1725.00 17.08 V 6.3 5.5 16.28 30.0 -13.7 1725.00 16.51 H 6.3 5.5 15.71 30.0 -14.3 Mid Ch 1745.00 17.08 V 6.3 5.3 16.05 30.0 -13.9 1745.00 16.38 H 6.3 5.3 15.35 30.0 -14.6 High Ch 1765.00 18.10 V 6.3 5.2 16.92 30.0 -13.1 1765.00 16.39 H 6.3 5.2 15.21 30.0 -14.8									Low Ch 1725.00 15.63 V 6.3 5.5 14.83 30.0 -15.2 1725.00 16.57 H 6.3 5.5 15.77 30.0 -14.2 Mid Ch 1745.00 16.00 V 6.3 5.3 14.97 30.0 -15.0 1745.00 15.22 H 6.3 5.3 14.19 30.0 -15.8 High Ch 1765.00 17.06 V 6.3 5.2 15.88 30.0 -14.1 1765.00 15.35 H 6.3 5.2 14.17 30.0 -15.8								
25MHz QPSK									25MHz 16QAM								
UL Verification Services, Inc. High Frequency Substitution Measurement Company: Lions Project #: 14938215 (SM-A256E_DSN) Date: 2/13/2024 Test Engineer: 32595 Configuration: EUT Only Location: 03-RDE-A Mode: FR1_N66_QPSK 25 MHz Fundamentals Test Equipment: Receiving: Horn 200897, and 03-RDE-A SMA Cables Substitution: Horn 200785, 03-RDE-A Passthrough Cables									UL Verification Services, Inc. High Frequency Substitution Measurement Company: Lions Project #: 14938215 (SM-A256E_DSN) Date: 2/13/2024 Test Engineer: 32595 Configuration: EUT Only Location: 03-RDE-A Mode: FR1_N66_16QAM 25 MHz Fundamentals Test Equipment: Receiving: Horn 200897, and 03-RDE-A SMA Cables Substitution: Horn 200785, 03-RDE-A Passthrough Cables								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch 1722.50 17.45 V 6.3 5.5 16.68 30.0 -13.3 1722.50 13.68 H 6.3 5.5 12.91 30.0 -17.1 Mid Ch 1745.00 18.51 V 6.3 5.3 17.48 30.0 -12.5 1745.00 17.56 H 6.3 5.3 16.53 30.0 -13.5 High Ch 1767.50 18.61 V 6.4 5.2 17.41 30.0 -12.6 1767.50 16.53 H 6.4 5.2 15.33 30.0 -14.7									Low Ch 1722.50 16.51 V 6.3 5.5 15.74 30.0 -14.3 1722.50 12.69 H 6.3 5.5 11.92 30.0 -18.1 Mid Ch 1745.00 18.52 V 6.3 5.3 17.49 30.0 -12.5 1745.00 17.50 H 6.3 5.3 16.47 30.0 -13.5 High Ch 1767.50 18.68 V 6.4 5.2 17.48 30.0 -12.5 1767.50 16.58 H 6.4 5.2 15.38 30.0 -14.6								

8.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §27.53

LIMIT

FCC: §27.53 (g), (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.

TEST PROCEDURE

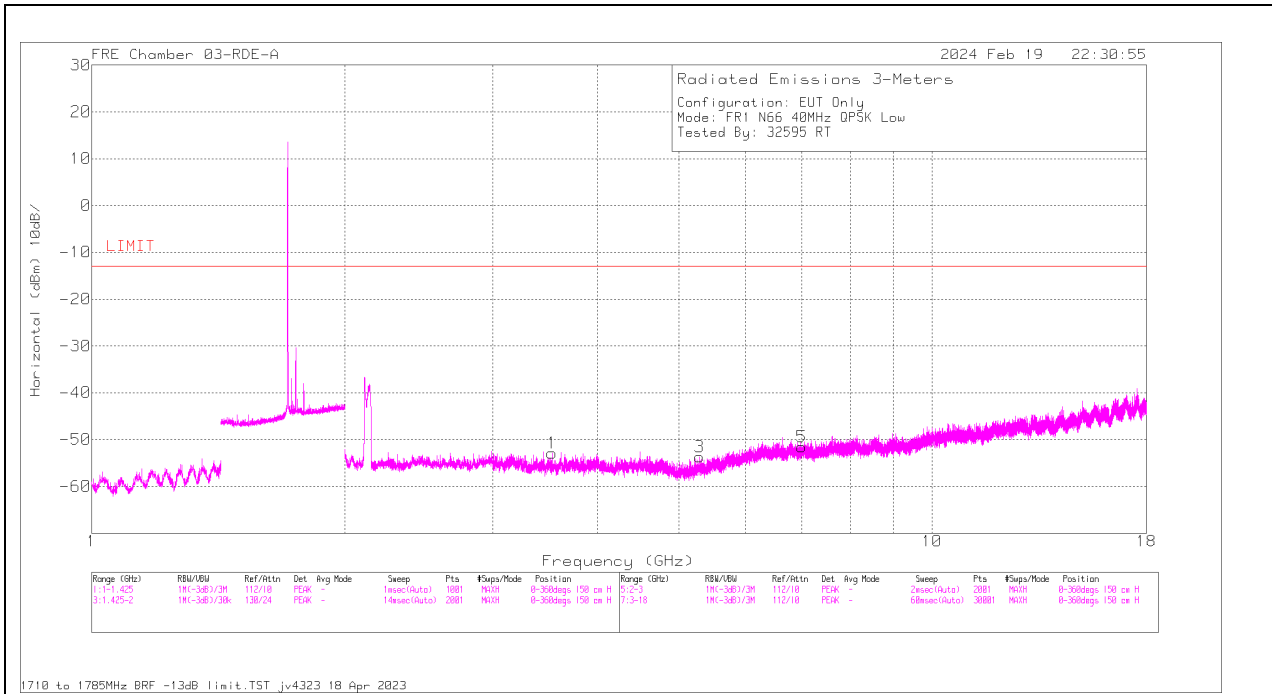
KDB 971168 D01 v03r01/D02 v02/r02

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

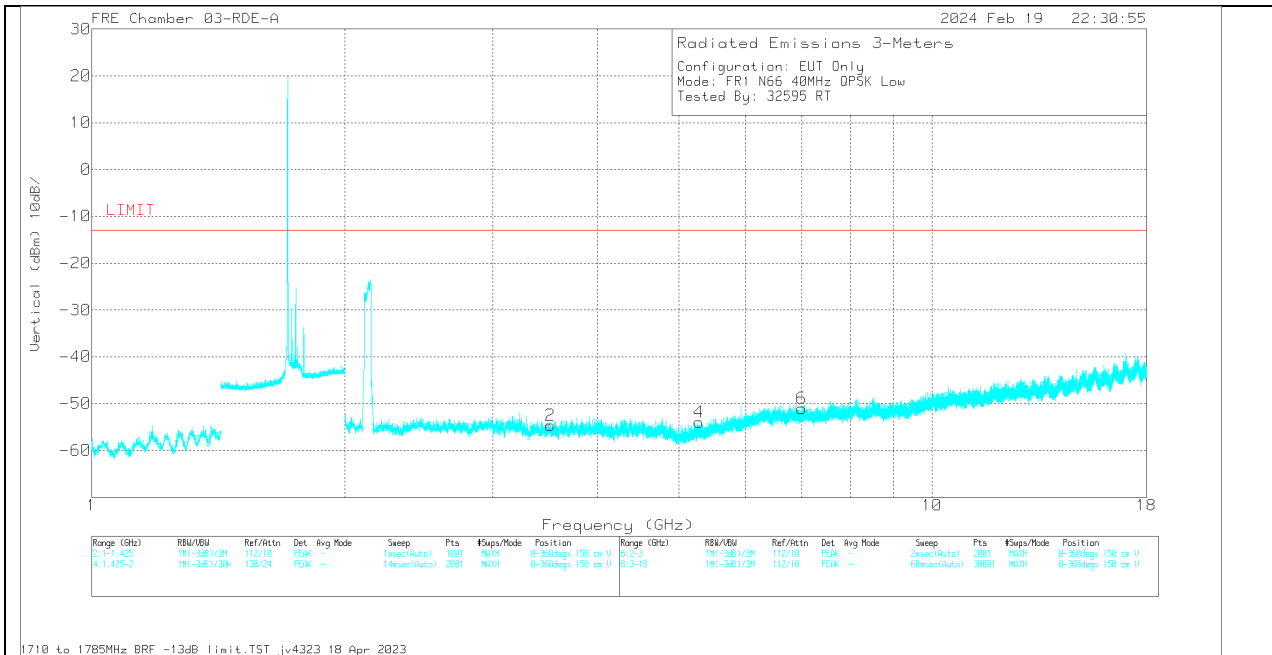
RESULTS

QPSK 5G NR n66 (40.0MHZ BANDWIDTH)

LOW CHANNEL RESULTS

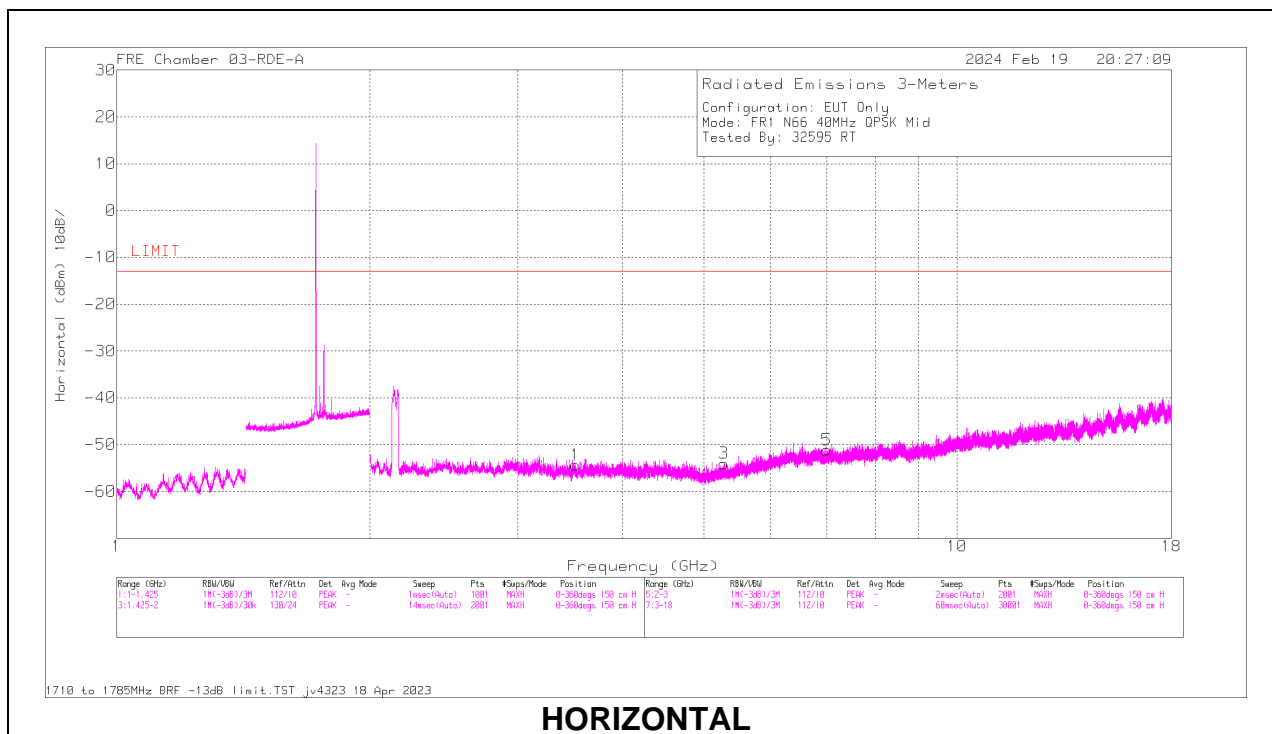


HORIZONTAL

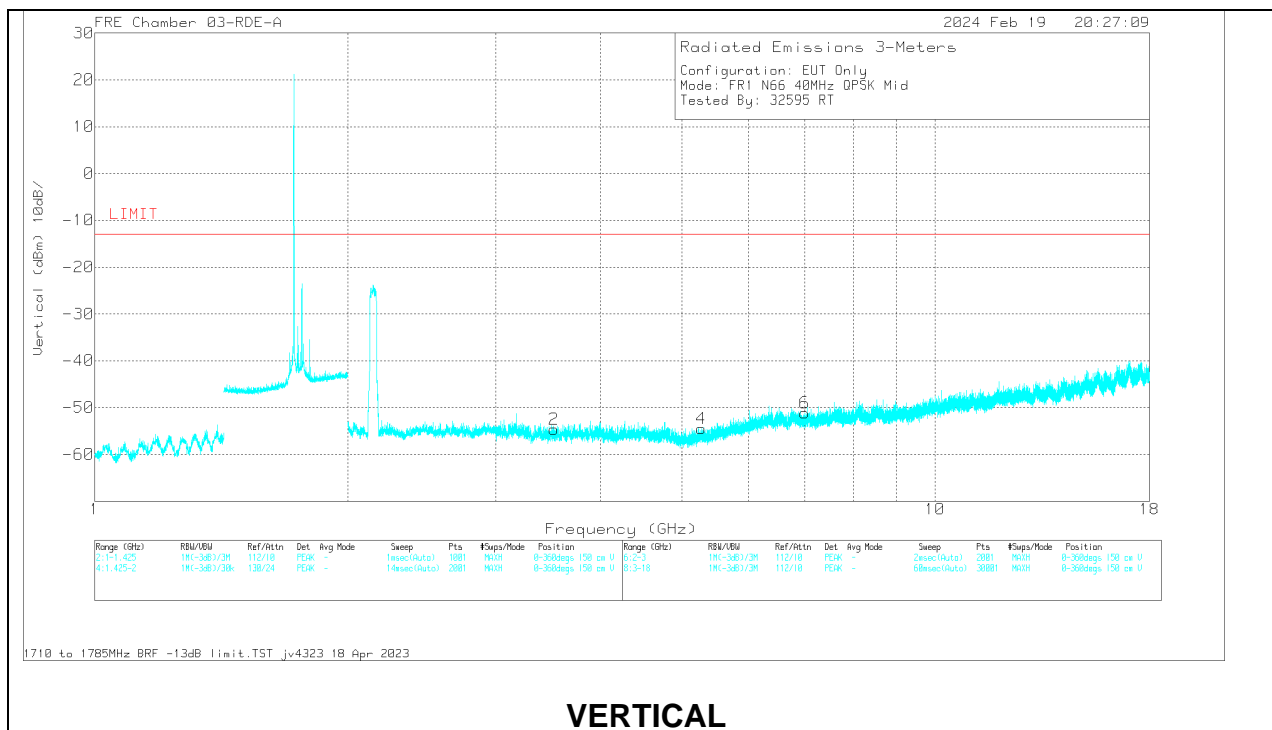


VERTICAL

MID CHANNEL RESULTS

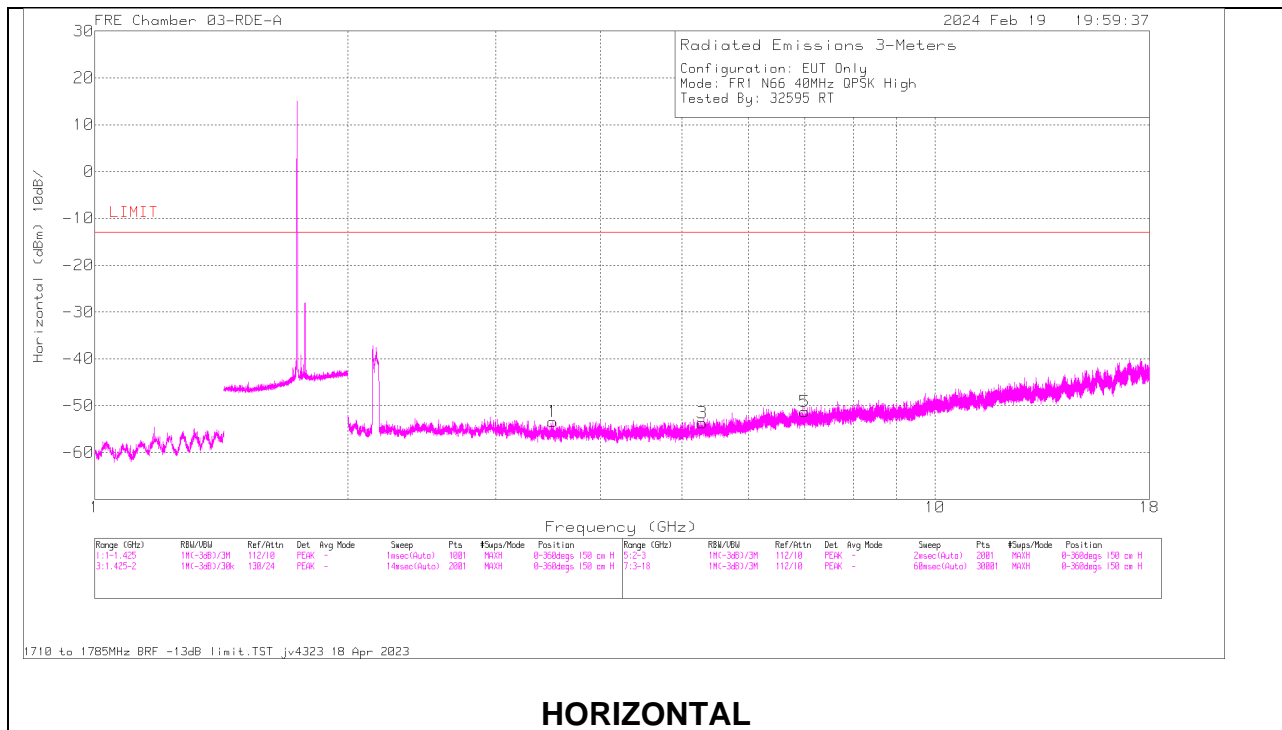


HORIZONTAL

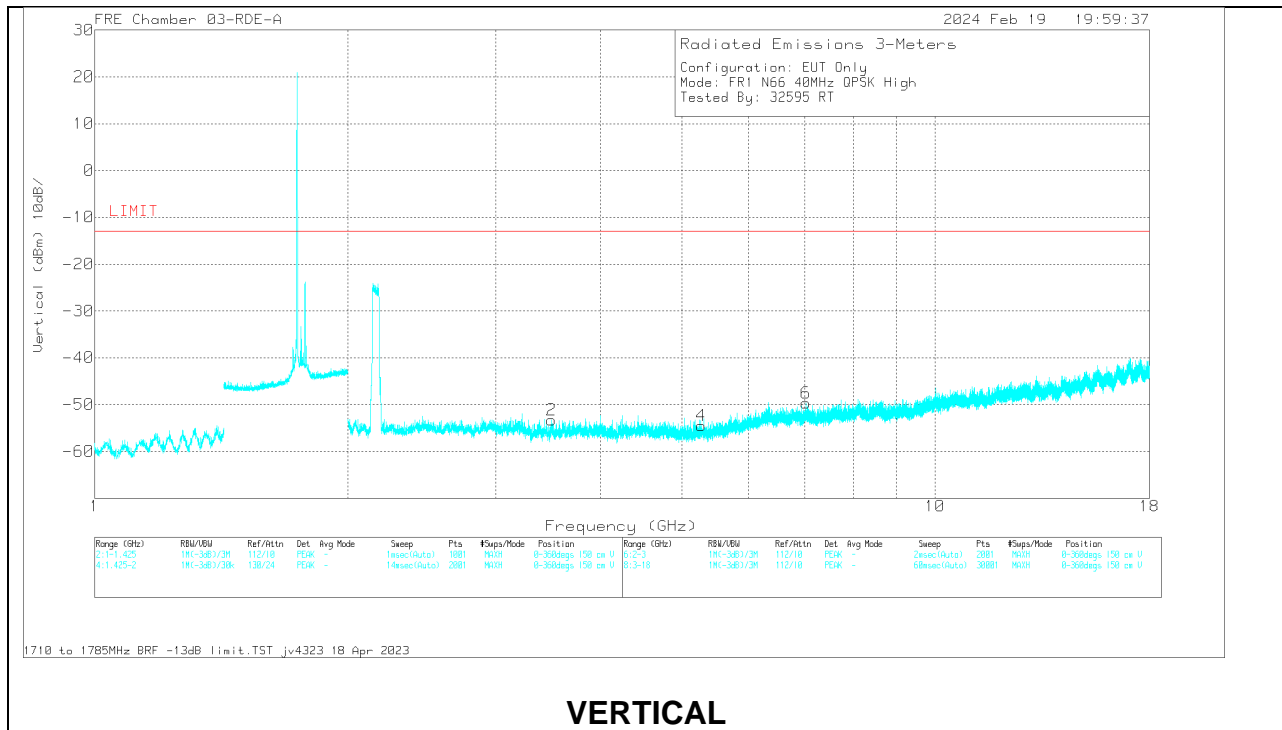


VERTICAL

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

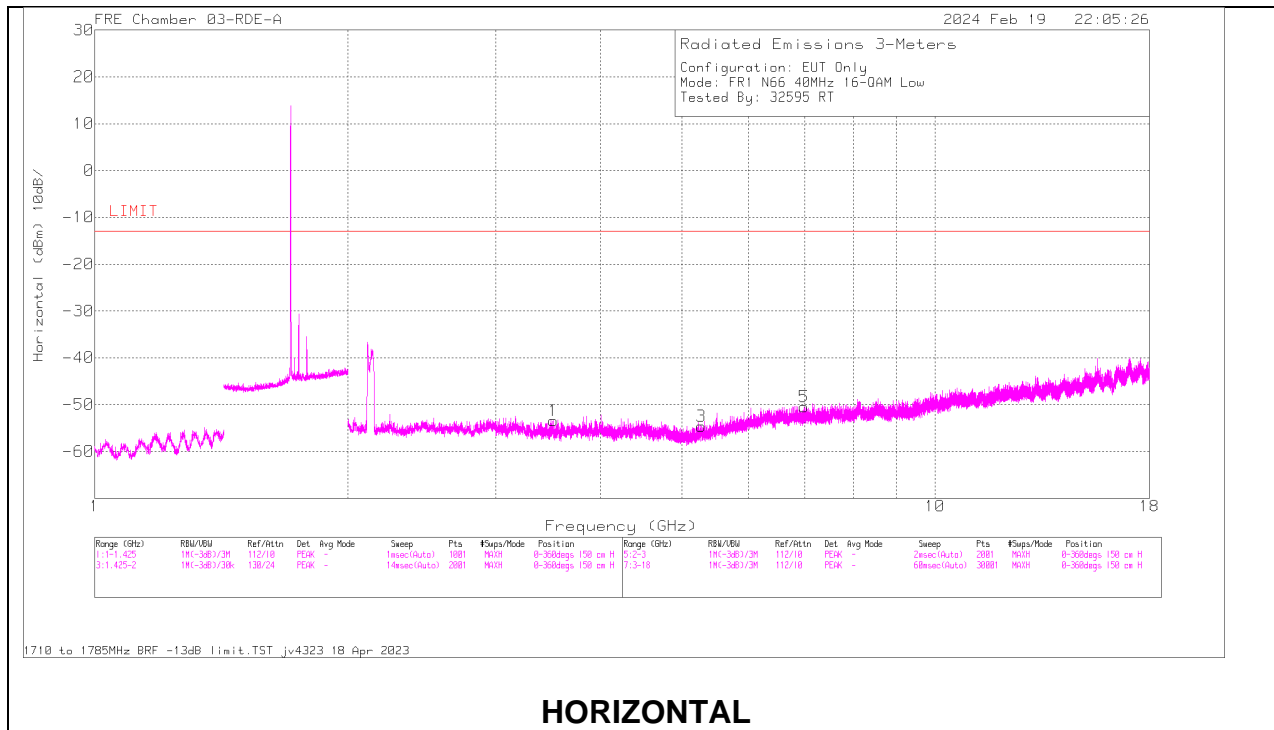
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1730 MHz												
1	* 3.53	56.37	Pk	32.8	-95.2	-46.87	-52.9	-13	-39.9	0-360	150	H
2	* 3.514	54.51	Pk	32.8	-95.2	-46.8	-54.69	-13	-41.69	0-360	150	V
4	5.2785	54.45	Pk	34.3	-95.2	-47.56	-54.01	-13	-41.01	0-360	150	V
3	5.2905	54.79	Pk	34.4	-95.2	-47.73	-53.74	-13	-40.74	0-360	150	H
6	6.9935	54.27	Pk	35.7	-95.2	-45.79	-51.02	-13	-38.02	0-360	150	V
5	7.003	53.73	Pk	35.6	-95.2	-45.67	-51.54	-13	-38.54	0-360	150	H
1745 MHz												
1	* 3.5145	54.82	Pk	32.8	-95.2	-46.78	-54.36	-13	-41.36	0-360	150	H
2	* 3.5185	54.39	Pk	32.8	-95.2	-46.63	-54.64	-13	-41.64	0-360	150	V
4	5.268	53.82	Pk	34.3	-95.2	-47.45	-54.53	-13	-41.53	0-360	150	V
3	5.2775	54.4	Pk	34.3	-95.2	-47.53	-54.03	-13	-41.03	0-360	150	H
5	6.9945	54.1	Pk	35.7	-95.2	-45.78	-51.18	-13	-38.18	0-360	150	H
6	7.004	54.07	Pk	35.6	-95.2	-45.62	-51.15	-13	-38.15	0-360	150	V
1760 MHz												
1	* 3.5065	55.55	Pk	32.8	-95.2	-46.6	-53.45	-13	-40.45	0-360	150	H
2	3.4955	55.92	Pk	32.7	-95.2	-46.73	-53.31	-13	-40.31	0-360	150	V
4	5.274	54.08	Pk	34.3	-95.2	-47.69	-54.51	-13	-41.51	0-360	150	V
3	5.285	54.61	Pk	34.4	-95.2	-47.55	-53.74	-13	-40.74	0-360	150	H
5	6.999	53.84	Pk	35.7	-95.2	-45.67	-51.33	-13	-38.33	0-360	150	H
6	7.0215	55.3	Pk	35.6	-95.2	-45.35	-49.65	-13	-36.65	0-360	150	V

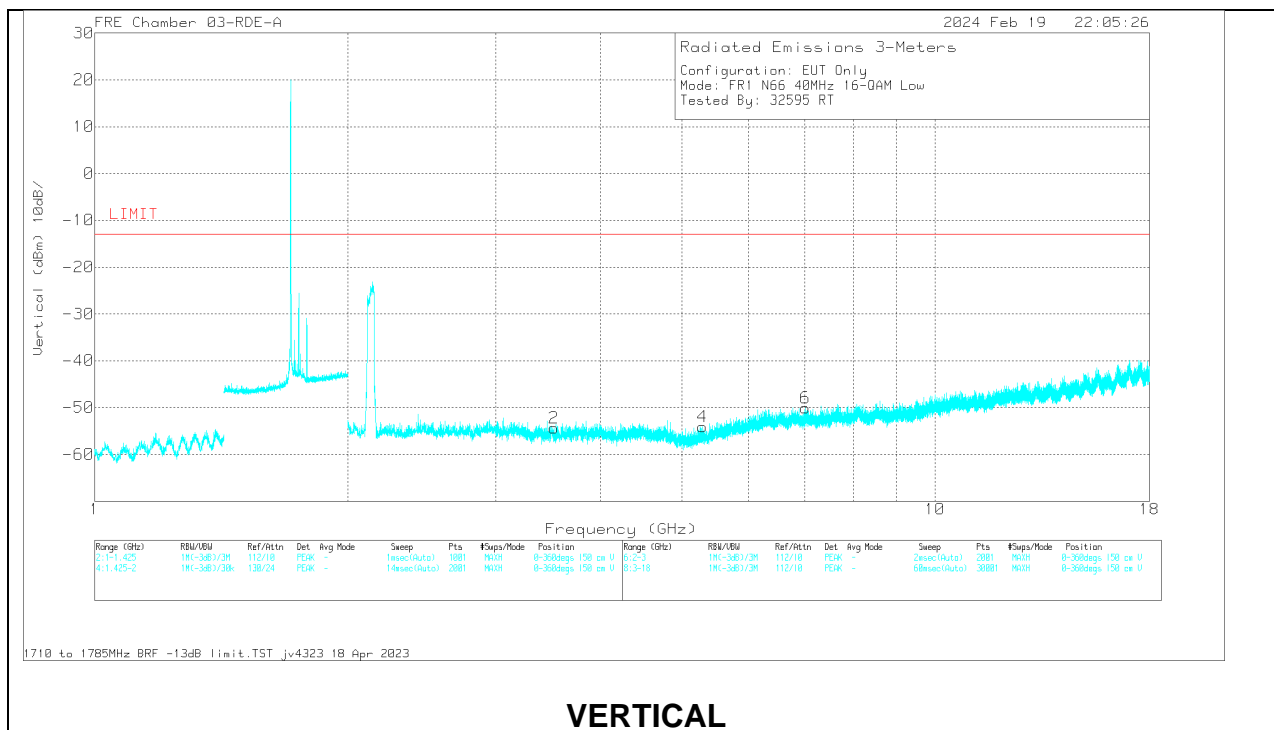
Pk - Peak detector

16QAM 5G NR n66 (40.0MHZ BANDWIDTH)

LOW CHANNEL RESULTS

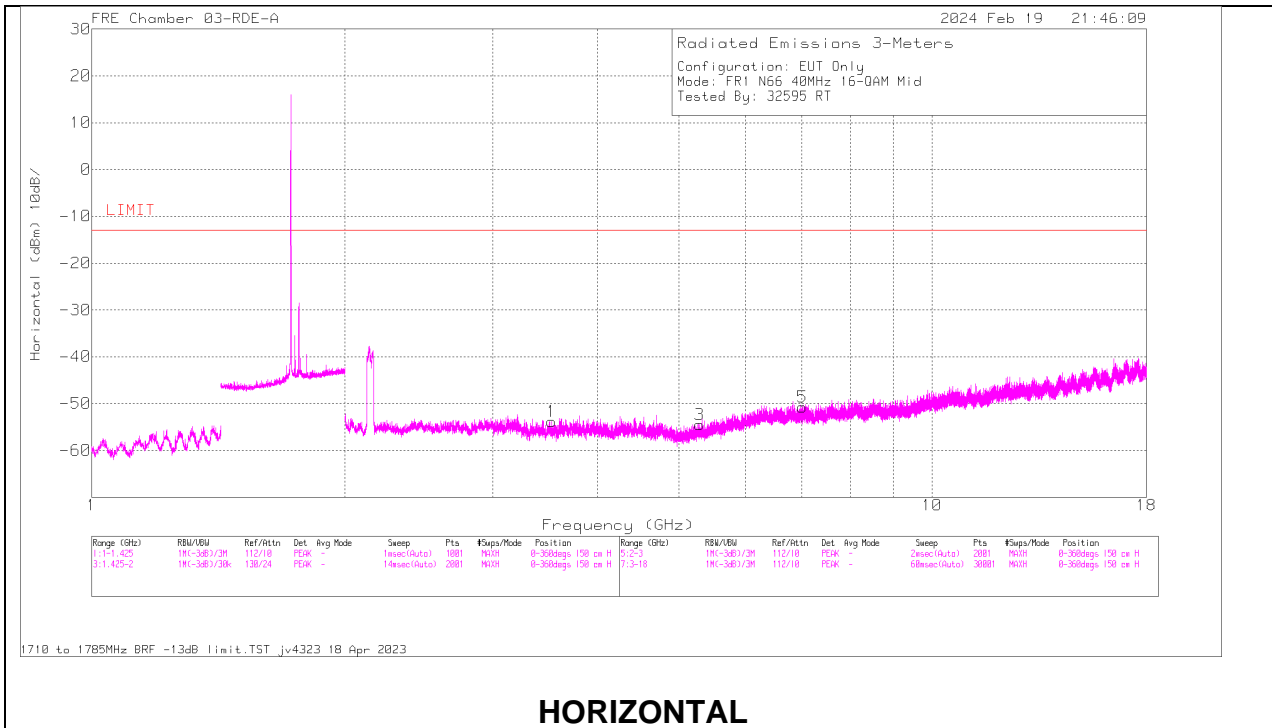


HORIZONTAL

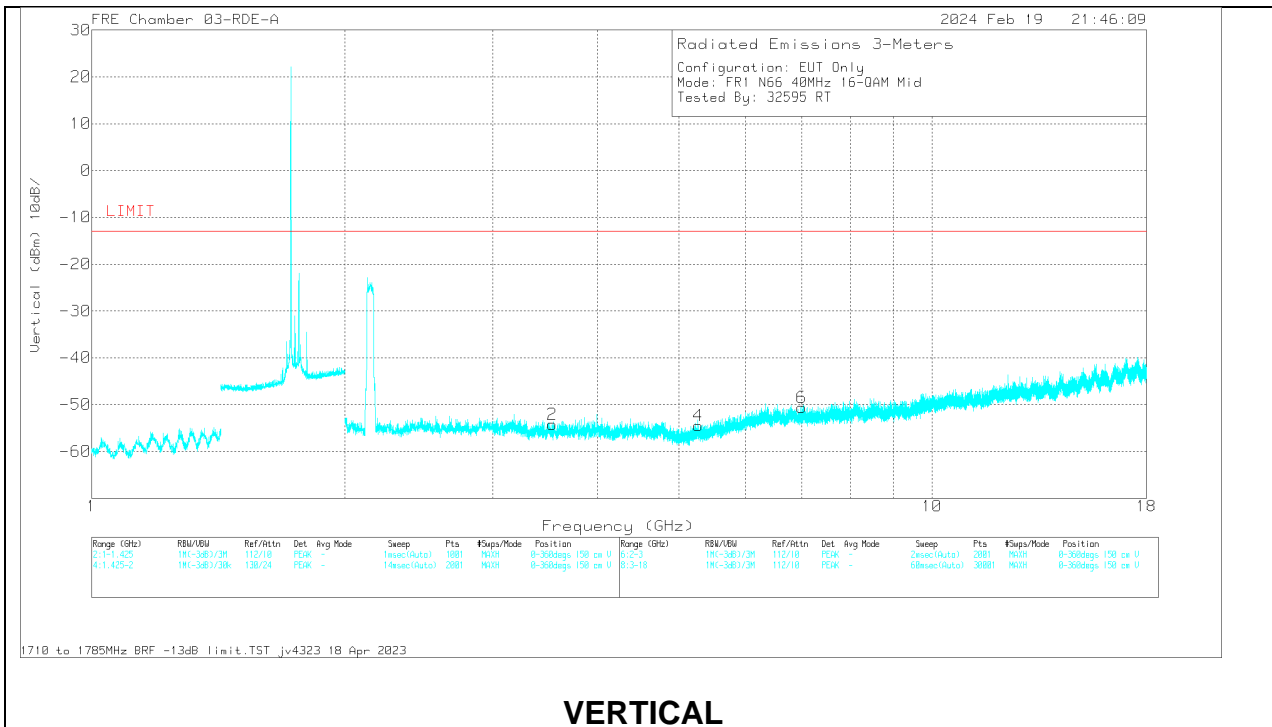


VERTICAL

MID CHANNEL RESULTS

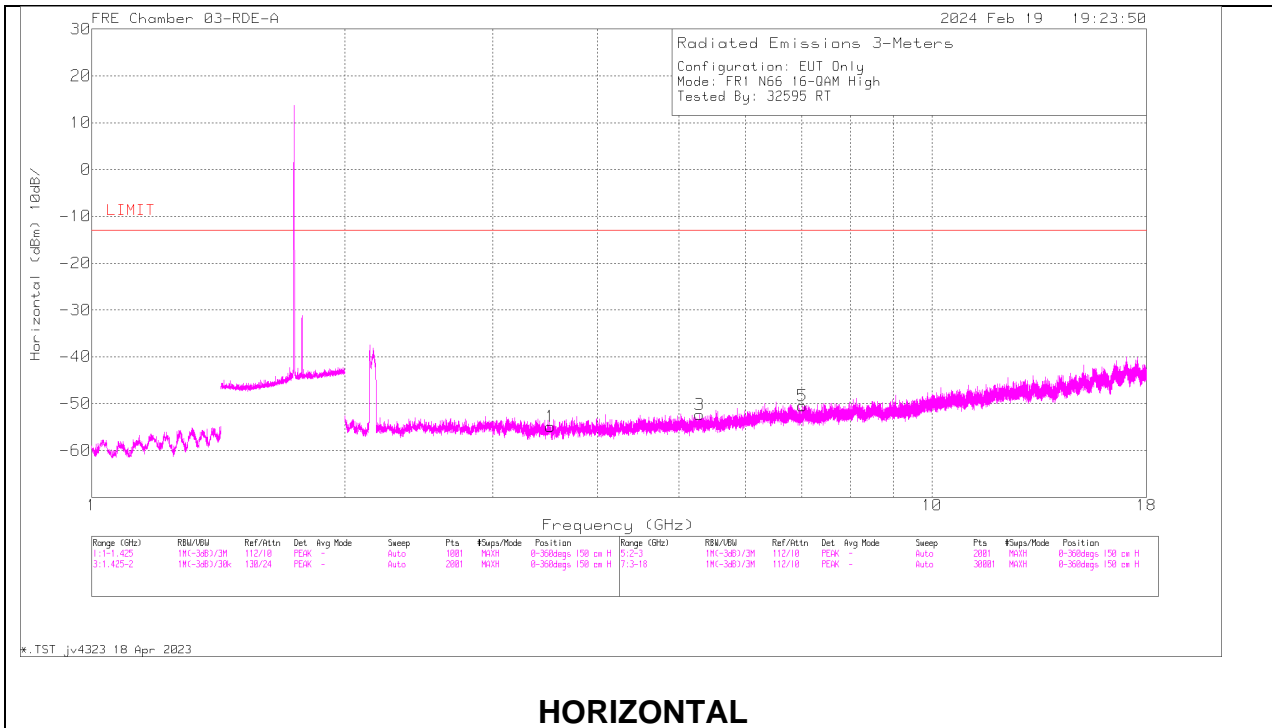


HORIZONTAL

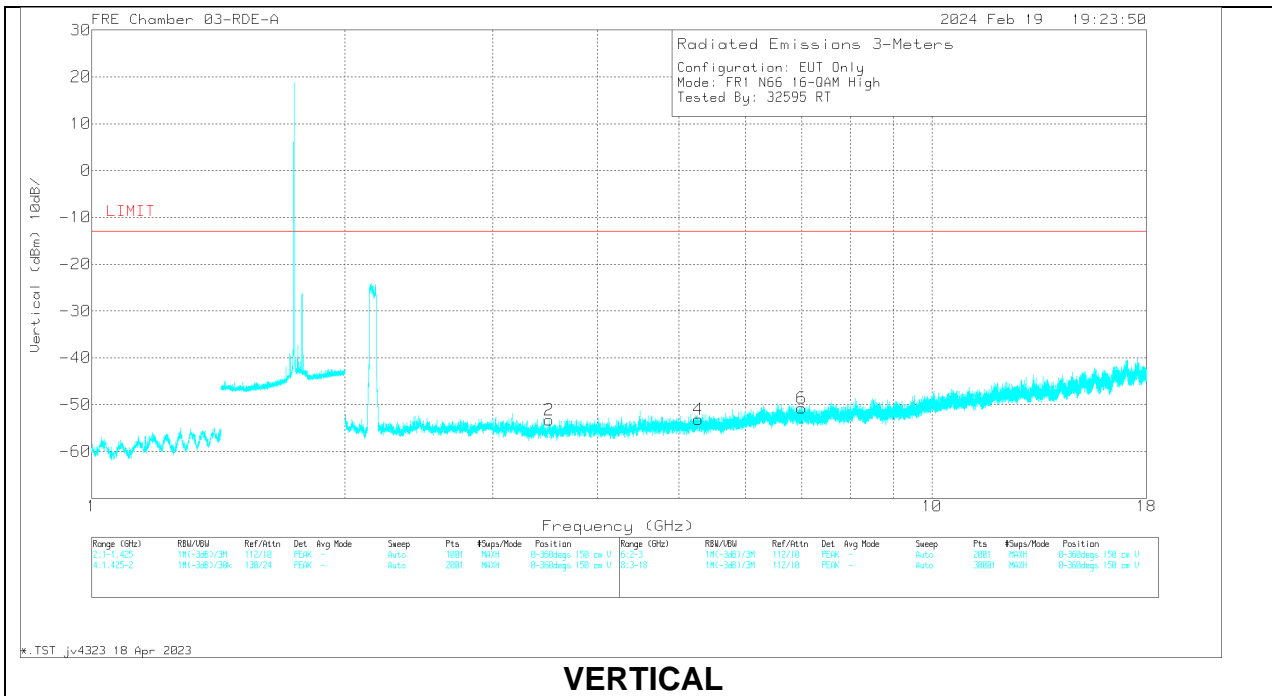


VERTICAL

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	200897 ACF 3m (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1730 MHz												
1	* 3.5155	55.71	Pk	32.8	-95.2	-46.7	-53.39	-13	-40.39	0-360	150	H
2	* 3.5185	54.64	Pk	32.8	-95.2	-46.63	-54.39	-13	-41.39	0-360	150	V
3	5.272	53.99	Pk	34.3	-95.2	-47.73	-54.64	-13	-41.64	0-360	150	H
4	5.2895	54.35	Pk	34.4	-95.2	-47.69	-54.14	-13	-41.14	0-360	150	V
5	6.9875	54.87	Pk	35.7	-95.2	-45.81	-50.44	-13	-37.44	0-360	150	H
6	7.011	54.96	Pk	35.6	-95.2	-45.49	-50.13	-13	-37.13	0-360	150	V
1745 MHz												
1	* 3.5245	55.33	Pk	32.8	-95.2	-46.75	-53.82	-13	-40.82	0-360	150	H
2	* 3.5325	55.08	Pk	32.8	-95.2	-46.9	-54.22	-13	-41.22	0-360	150	V
4	5.269	53.88	Pk	34.3	-95.2	-47.49	-54.51	-13	-41.51	0-360	150	V
3	5.2885	53.91	Pk	34.4	-95.2	-47.62	-54.51	-13	-41.51	0-360	150	H
6	6.998	54.55	Pk	35.7	-95.2	-45.69	-50.64	-13	-37.64	0-360	150	V
5	7.0105	54.37	Pk	35.6	-95.2	-45.5	-50.73	-13	-37.73	0-360	150	H
1760 MHz												
1	* 3.5155	54.23	Pk	32.8	-95.2	-46.7	-54.87	-13	-41.87	0-360	150	H
2	* 3.504	55.81	Pk	32.8	-95.2	-46.75	-53.34	-13	-40.34	0-360	150	V
4	5.2745	55.35	Pk	34.3	-95.2	-47.65	-53.2	-13	-40.2	0-360	150	V
3	5.2865	55.92	Pk	34.4	-95.2	-47.52	-52.4	-13	-39.4	0-360	150	H
6	7.0015	54.56	Pk	35.6	-95.2	-45.69	-50.73	-13	-37.73	0-360	150	V
5	7.0085	54.62	Pk	35.6	-95.2	-45.47	-50.45	-13	-37.45	0-360	150	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector