

TEST REPORT

Report Number: R15103618-E2V2

Applicant: Sony Corporation

1-7-1 Konan Minato-ku

Tokyo, 108-0075

Japan

FCC ID: PY7-46195Y

EUT Description: LTE/5G Portable Data Transmitter with BT,

DTS/UNII a/b/g/n/ac/ax and GPS

Test Standard: FCC CFR 47 PART 30 MOBILE TRANSMITTER (5GM)

Date Of Issue:

2024-03-04

Prepared by:

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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2024-02-22	Initial Issue	GP CHIN
V2	2024-03-04	Updated Pg. 18 and Pg. 136 per TCB's Feedback	GP CHIN

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Sony Corporation

1-7-1 Konan Minato-ku Tokyo, 108-0075

Japan

EUT DESCRIPTION: LTE/5G Portable Data Transmitter with BT, DTS/UNII

a/b/g/n/ac/ax and GPS

BRAND: SONY

SERIAL NUMBERS: QV7700AULA, QV7700BMLA

SAMPLE RECEIPT DATES: 2024-12-26

DATE TESTED: 2024-01-11 to 2024-02-05

APPLICABLE STANDARDS

STANDARD

TEST RESULTS

DATE: 2024-03-04

FCC PART 30 Mobile Transmitter (5GM)

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 For

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Tested By:

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Consumer Technology Division UL Verification Services Inc.

Haowen (Isaac) Lin Laboratory Engineer

Consumer Technology Division
UL Verification Services Inc.

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Tested By: Inn Pary

Sean Deocampo Laboratory Engineer Consumer Technology Division UL Verification Services Inc.

2. TEST METHODOLOGY

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

DATE: 2024-03-04

- 1. FCC CFR 47 Part 2
- 2. FCC CFR 47 Part 30
- 3. ANSI C63.26-2015
- 4. KDB 842590 D01 Upper Microwave Flexible Use Service v01r02
- 5. KDB 971168 D01 Power Meas. License Digital Systems v03r01

3. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, certification #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company No.	FCC Registration
\boxtimes	Building 1: 47173 Benicia Street, Fremont, California, USA	US0104	2324A	208313
\boxtimes	Building 2: 47266 Benicia Street, Fremont, California, USA	US0104	22541	208313
\boxtimes	Building 4: 47658 Kato Rd, Fremont, California, USA	US0104	2324B	208313

4. CALIBRATION AND UNCERTAINTY

4.1. 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.

4.2. 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.)

4.3. MEASUREMENT UNCERTAINTY

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

DATE: 2024-03-04

PARAMETER	U _{LAB}
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 TRP, 18000 to 26000 MHz	4.10 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 dB
Worst Case TRP, 26000 to 40000 MHz	4.95 dB
Worst Case Radiated Disturbance, >40000 MHz	2.89 dB
Worst Case TRP, >40000 MHz	2.94 dB
Temperature	±0.9 °C
Voltages	±0.45 %
Time	±0.02 %

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is an LTE/5G Portable Data Transmitter with BT, DTS/UNII a/b/g/n/ac/ax and GPS technologies. The rechargeable battery is not user accessible.

DATE: 2024-03-04

This test report addresses the TDD 5G NR operational mode on following frequency bands:

n260: 37 – 40 GHz

The EUT additionally supports bands n258 and n261, the results of which are documented in a separate test report. Refer to UL test report R15103618-E1V1 for details.

Two FR2 RFIC Chipset + Antenna sets are used. Both Chipsets are identical. Chipset 1 and Chipset 2 transmit on mmWave antenna Ant#0 and Ant#1, respectively.

The EUT supports SISO (1TX), SISO (2TX) and MIMO modes in following UE channel bandwidths configurations:

n260: 50 MHz, with 120 kHz SCS at 1 component carriers (1CC); 100 MHz, with 120 kHz SCS and up to 4 component carriers (1CC to 4CC) for carrier aggregation technique

The SISO (1TX) mode operates with either the horizontal or vertical elements active. The SISO (2TX) mode operates with both horizontal and vertical elements active at the same power level per polarization as the SISO (1TX) mode. Similarly, the MIMO mode operates with both horizontal and vertical elements active. MIMO mode only supports CP-OFDM access scheme, but SISO (2TX) supports both CP-OFDM and DFT-s-OFDM access schemes. DFT-s-OFDM operates at higher power than CP-OFDM.

QPSK, 16QAM and 64QAM modulation formats are used in all three SISO (1TX), SISO (2TX) and MIMO modes. Pi/2 BPSK modulation format is only used in (1TX) and SISO (2TX) modes.

5.2. DESCRIPTION OF AVAILABLE ANTENNAS

The EUT utilizes two sets of integrated dual-polarized patch antenna array. Both antenna arrays, Ant#0 and Ant#1, employ 1x5 elements antenna array. The peak antenna gain of cross-polarization of each antenna on n260 band are listed in the following table.

Fraguency Bond	Antenna	Peak Gain
Frequency Band	Antenna	(dBi)
n260	Ant#0	11.8
11200	Ant#1	11.2

5.3. MAXIMUM OBW AND EIRP

Maximum Occupied Bandwidths based on antennas.

	Antenna	Control System	CH BW	CCs Active	OBW	Emission	Modulation
			(MHz)		(MHz)	Designator	
	Ant#0	MIMO	100	4	392.51	393MG7W	QPSK
n260	Ant#0	SISO (2TX)	100	4	391.48	391MD7W	Pi/2 BPSK
n2	Ant#1	MIMO	100	4	393.33	393MG7W	QPSK
	Ant#1	SISO (2TX)	100	4	392.75	393MD7W	Pi/2 BPSK

Maximum Average EIRPs based on antennas.

Antenna		Control System	CH BW	CCs Active	Avg	EIRP	Modulation
			(MHz)		(dBm)	(W)	
	Ant#0	SISO (2TX)	50	1	31.74	1.493	QPSK
9	Ant#0	SISO (2TX)	50	1	28.98	0.791	16QAM
n2	Ant#1	SISO (2TX)	50	1	30.94	1.242	QPSK
	Ant#1	SISO (2TX)	100	1	27.85	0.610	16QAM

5.4. SOFTWARE AND FIRMWARE

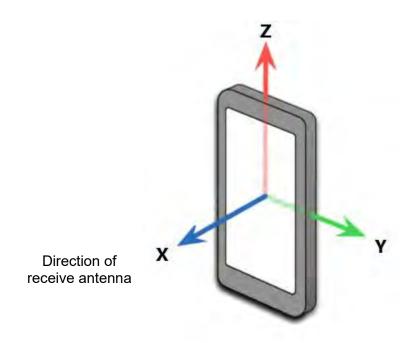
The Software/Firmware version used at test is 0.154.

5.5. WORST CASE ORIENTATION

For all 5G NR FR2 Bands, the worst-case scenario for all measurements is based on the EIRP measurement investigation results. EIRPs were measured on Pi/2 BPSK, QPSK, 16QAM and 64QAM modulations. It was found that QPSK results in SISO (2TX) supporting DFT-s-OFDM were worst case.

The fundamental and radiated spurious emission were investigated in three orthogonal planes, XY (azimuth), XZ (roll and elevation) and YZ (receive antenna polarization), where is applicable on all 3 antenna arrays.

In the exploratory scan, the EUT is placed on an open-air fixture, allowing no blockage of the signal as measured by the receive antenna. The positioners, one at a time, perform a sweep, taking EIRP reading using peak detection at small increments of step size. The positioner is then moved to its maximum EIRP orientation found during the sweep, and the next positioner will repeat the scan process. Once all positioners have individually scanned, the positioners will execute an additional set of scans for increased accuracy to identify the final optimum position resulting in highest EIRP for the frequency or band under investigation.



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5.6. BEAM ID

In all tests, the following Beam ID settings of each antenna were applied for final measurements.

n260 - Peak BID					
Antenna BID Paired with					
Ant#0	29	157			
Ant#1	28	156			

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST						
Description Manufacturer Model Serial Number						
Support Desktop	Lenovo	ThinkCentre	MJ0K955C			
EUT Power Adapter	Sony	XQZ-UC1-010-236-21	1821W34201362			

DATE: 2024-03-04

I/O CABLES

	I/O Cable List							
Cable No.	Port	No. of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks		
1	AC Power	1	3-prong	Shielded	~1.8			
2	Data	1	USB-A	Shielded	~7			
3	Data/Charger	1	USB-C	Shielded	~1			

TEST SETUP

Radiated spurious emission measurements from 30 MHz – 18 GHz were performed in a semi anechoic chamber (SAC) conforming to the normalized site attenuation requirements specified in ANSI C63.4 for below 1 GHz and the site validation criteria called out in CISPR 16-1-4:2019 over the frequency range 1 - 18 GHz.

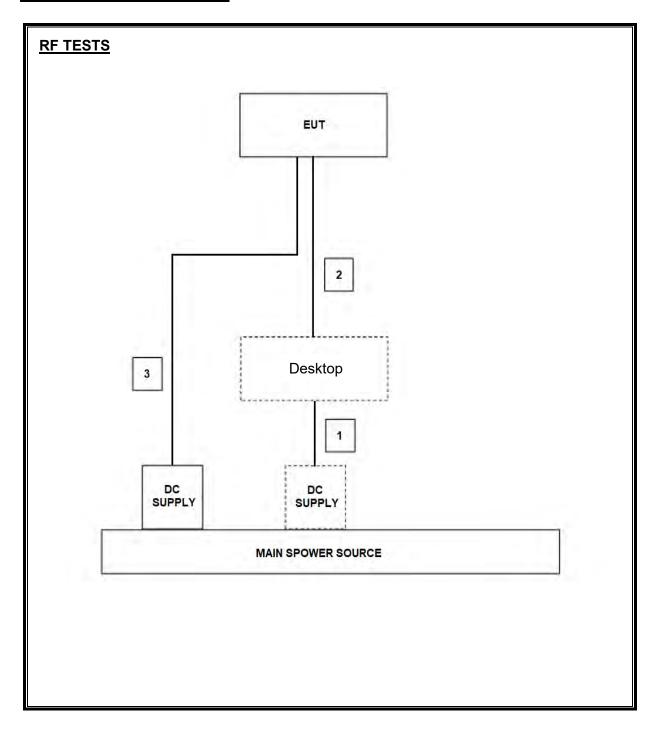
Radiated power (EIRP) measurements of the fundamental signal and radiated spurious emissions (EIRP and TRP) measurements above 18 GHz were performed in four full anechoic chambers (FAC), 01-mmW-A. In accordance with ANSI C63.26 and KDB publication 842590 D01 v01r02, the chambers meet the sVSWR validation requirements called out in CISPR 16-1-4:2019 over the frequency range 1 - 18 GHz. As required by ANSI C63.26, the reflection contributions are reduced to the extent possible to allow for measurements to be made up to 200 GHz in accordance with KDB 842590. The chamber absorber reflectivity fully supports chamber performance over this frequency range.

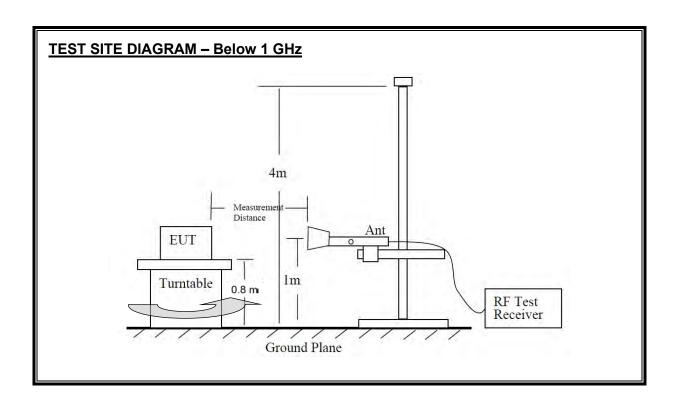
A roll-axis positioner was used to manipulate the EUT through the positions in space. The positioner was mounted on top of a turntable, bringing the EUT's antenna height on the test fixture to 1.5 m from ground plate. The test procedures for exploratory scan and final measurement were described in Section 5.5.

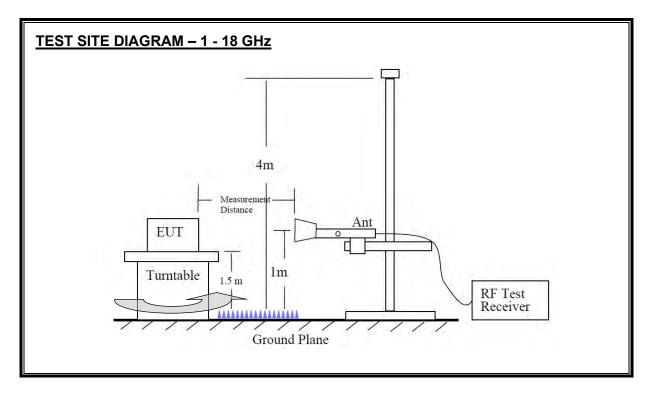
In the search of Beam ID pair transmitting the highest EIRP of each frequency band to use at final test, the Manufacturer provided several pairs of Beam ID of each antenna array that yield the highest EIRPs for investigation. These Beam ID combinations were explored based on simulated power density results.

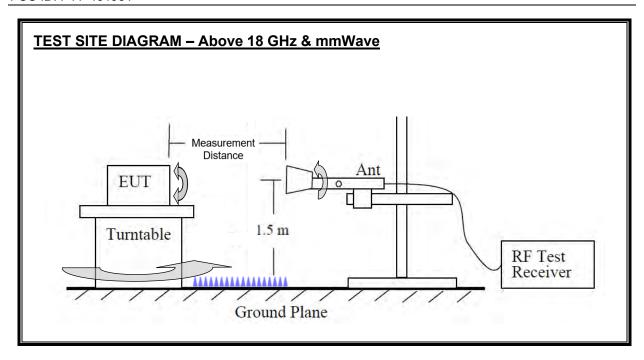
All tests were performed in a non-signaling, stand-alone Factory Test Mode (FTM) of operation. FTM software was used to configure EUT at continuous Tx operation in EN-DC mode. When implemented out in the field, the EUT will operate with a maximum uplink configuration (i.e., a maximum uplink duty cycle of 100%).

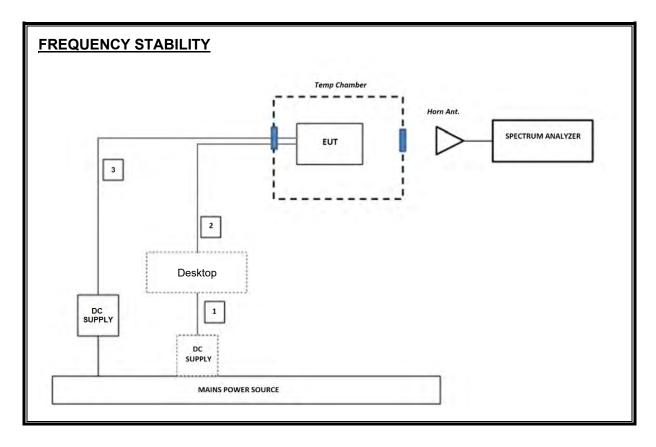
SETUP DIAGRAM FOR TESTS











FAR-FIELD DISTANCE AND MEASUREMENT DISTANCE

The equipment under test was transmitting while connected to its integral antenna and is placed on a turntable.

The measurement distance is in the far field per formula $2D^2/\lambda$ where D is the larger dimension of the antenna. For fundamental or band edge emissions, the largest far-field distance of either the EUT antenna or measurement antenna shall be used. For above 18 GHz spurious emissions, the far-field distance will be based on the measured antenna. In this case, the measurement antenna has the largest far-field distance. The EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest EIRP reading on the receive spectrum analyzer.

Frequency Range (GHz)	Wavelength (m)	Far Field Distance (m)	Measurement Distance Used (m)
18-26.5	0.0113	3.13	3.30
26.5-40	0.0075	2.61	3.00
40-50	0.0060	1.61	3.00
50-75	0.0040	1.05	1.50
75-110	0.0027	0.70	1.00
110-170	0.0018	0.46	1.00
170-200	0.0015	0.24	0.50

Radiated power levels are investigated while the receive antenna was rotated through all angles to determine the worst-case polarization/positioning.

6. 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	Local ID	Last Cal	Cal Due					
Spectrum Analyzer, 2 Hz to 50 GHz	Rohde & Schwarz	FSW50	215756	1/30/2023	1/31/2024*					
Spectrum Analyzer, 2 Hz to 50 GHz	Rohde & Schwarz	FSW50	198710	2/21/2023	2/29/2024					
Antenna, Horn 18-26.5 GHz	Com-Power	AH-826	222325	9/05/2023	9/30/2024					
Antenna, Horn 26.5-40 GHz	Com-Power	AH-640	222328	9/25/2023	9/30/2024					
EMI Test Receiver, 1 Hz to 44 GHz	Rohde & Schwarz	ESW44	201501	11/07/2023	11/30/2024					
EMI Test Receiver, 1 Hz to 44 GHz	Rohde & Schwarz	ESW44	191430	2/14/2023	2/29/2024					
Antenna, Double Ridge Guide Horn 1 to 18 GHz	ETS	3117	200786	3/07/2023	3/31/2024					
Amplifier, 9KHz to 1GHz, 32dB	Sonoma Instrument	310N	170649	2/21/2023	2/29/2024					
Antenna, Broadband Hybrid, 30MHz to 3GHz	Sunol Sciences Corp.	JB3	173997	1/18/2023	1/31/2024*					
RF Filter Box, 1-18GHz	UL-FR1	NA	168535	2/26/2023	2/29/2024					
Environmental Chamber	Cincinnati Sub Zero	ZPHS-8-3.5-SCT/WC	82472	12/15/23	6/30/2024					
50V/3A Adj. DC Power Supply	Rigol	DP712	T1746	CNR	CNR					
Horn antenna, 35-50 GHz	CMI	HO22R	201518	8/02/2023	8/31/2024					
LNA, 40-50 GHz	Evarant	SBL-3335033040-2222-E1	199504	8/03/2023	8/31/2024					
Waveguide BandPass Filter, 40-50 GHz	Evarant	SWF-46308340-22-B1	222195	8/04/2023	8/31/2024					
50-75 GHz Horn	CMI	HO15R	210519	8/02/2023	8/31/2024					
LNA, 50-75 GHz	VIVA TECH	VTLNA-15-6018-FB	202496	8/24/2023	8/31/2024					
50 – 75 GHz Downconverter	VDI	WR15SAX-F	198529	11/14/2023	11/31/2024					
75-110 GHz Horn	CMI	HO10R	201522	8/02/2023	8/31/2024					
LNA, 75-110 GHz	Spacek Labs	SLW-22-5	202520	8/15/2023	8/31/2024					
75 – 110 GHz Downconverter	VDI	WR10SAX-F	198531	11/14/2023	11/31/2024					
110-170 GHz Horn	CMI	HO6R	201528	8/02/2023	8/31/2024					
LNA 110-170 GHz	SAGE Millimeter, Inc.	SBL-1141741860-0606-EI	199832	8/31/2023	8/31/2024					
110-170 GHz Downconverter	VDI	WR6.5SAX-F	197515	11/14/2023	11/31/2024					
170-260 GHz Horn	CMI	HO4R	201525	8/02/2023	8/31/2024					
170-260 GHz Downconverter	VDI	WR4.3SAX-F	199495	11/14/2023	11/31/2024					
UL EMC Radiated Software	Version	Rev.9.5.01 May 2023								
mmWave FR2 Automation Tool Software	Version	V2024.1.22.0 v2021.8.18								

^{*}Equipment was used to perform tests prior to the calibration due date.

All horn antennas at and above the 33-50 GHz band are standard gain horns. In accordance with ANSI C63.26:2015, Clause 4.5.3 (a), Standard gain horns need not be periodically recalibrated, unless damage or deterioration is suspected or known to have occurred. The connector shall be checked periodically for damage. If a standard gain horn is not periodically recalibrated, its critical dimensions (see Annex A of IEEE Std 1309TM-2013) shall be verified and documented on an annual basis.

UL measures the critical dimensions on an annual basis and checks for damage and deterioration before each test.

7. SUMMARY OF TEST RESULTS

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result
2.1049	Occupied Bandwidth	N/A	Radiated	Compliant
2.1046 30.202	Equivalent Isotropic Radiated Power (EIRP)	+43 dBm	Radiated	Compliant
2.1051 30.203	Out-of-Band Emissions at the Band Edge	-13 dBm/MHz for all out-of-band emissions. -5 dBm/MHz from the band edge up to 10% of the channel BW	Radiated	Compliant
2.1051 2.947(f) 30.203	Radiated Spurious Emissions	-13 dBm/MHz for all out-of-band emissions	Radiated	Compliant
2.1055	Frequency Stability	Fundamental emissions are contained within allocated frequency band	Radiated	Compliant

8. APPLICABLE LIMITS AND TEST RESULTS

8.1. OCCUPIED BANDWIDTH

RULE PART

FCC: §2.1049

<u>LIMIT</u>

For reporting purposes only.

TEST PROCEDURES

99% bandwidth measurement function of the signal analyzer was used to measure 99% occupied.

DATE: 2024-03-04

- RBW = 1 − 5% of OBW
- VBW ≥ 3 x RBW
- Detector = Peak
- Trace mode = Max Hold
- Sweep = Auto Couple
- The trace was allowed to stabilize

KDB 842590 D01 Upper Microwave Flexible Use Service v01r02 Section 4.3 ANSI C63.26-2015 Clause 5.4.3

All modulations were investigated in SISO (2TX) mode and only QPSK modulation in SISO (1TX) and MIMO modes with Full RB allocation to determine worst case configuration. All modes of operations were investigation and results are reported in this section.

To minimize report size, the 1CC to 4CC plots of Full RB, SISO (2TX), QPSK, Mid CH of both channel bandwidths on Ant#0 are provided to demonstrate the test parameter setting on signal analyzer. The tabular data includes data for the other combination of test modes.

RESULTS

See the following pages.

Employee IDs: 27294, 27818 Test Date: 01/11/24 – 01/26/24 Test Locations: 01-mmW-A

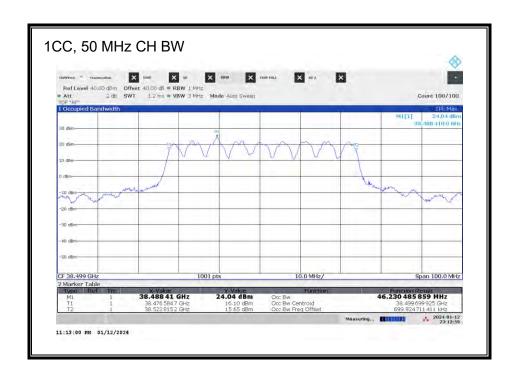
8.1.1. OBW n260 Ant#0

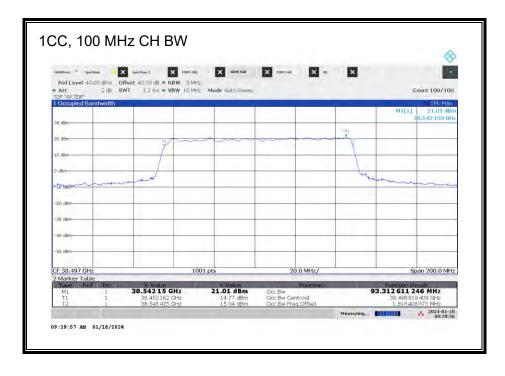
RESULTS

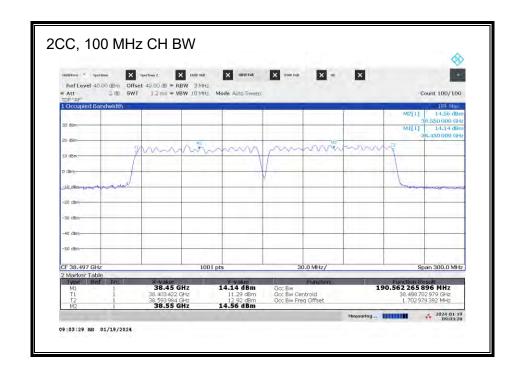
Full-RB

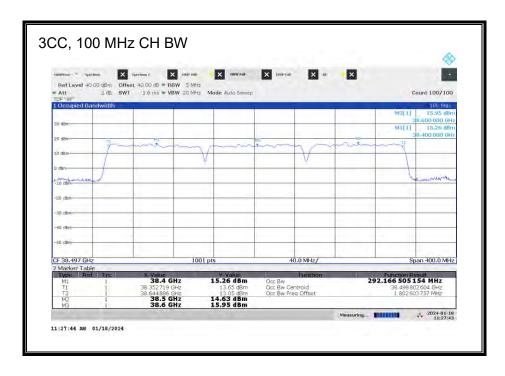
CCs Active	CH BW	Control System	Modulation	Channel	OBW (MHz)
		SISO (2TX)	Pi/2 BPSK	Mid	46.24
	1			Low	46.39
	I	SISO (2TX)		Mid	46.23
	50		QPSK	High	46.14
	50 	MIMO		Mid	46.36
	1	SISO (1TX)		Mid	46.15
	1	SISO (2TX)	16QAM	Mid	46.18
1	<u>[</u>	SISO (2TX)	64QAM	Mid	46.38
'	1	SISO (2TX)	Pi/2 BPSK	Mid	93.13
	1			Low	92.84
	1	SISO (2TX)		Mid	93.31
	100		QPSK	High	93.29
	100	MIMO		Mid	95.97
	1	SISO (1TX)		Mid	92.96
		SISO (2TX)	16QAM	Mid	92.87
	I	SISO (2TX)	64QAM	Mid	93.61
]	SISO (2TX)	Pi/2 BPSK	Mid	190.70
				Low	189.57
	1	SISO (2TX)		Mid	190.56
2	100		QPSK	High	189.69
2	100	MIMO		Mid	192.72
	2 100	SISO (1TX)		Mid	191.77
	1	SISO (2TX)	16QAM	Mid	191.11
	<u>[</u>	SISO (2TX)	64QAM	Mid	191.96
		SISO (2TX)	Pi/2 BPSK	Mid	292.47
	1			Low	292.60
	1	SISO (2TX)		Mid	292.17
	400		QPSK	High	292.08
3	100	MIMO		Mid	293.82
	1	SISO (1TX)		Mid	292.14
	1	SISO (2TX)	16QAM	Mid	291.78
	1	SISO (2TX)	64QAM	Mid	292.29
		()	2 : 22 :::		
		SISO (2TX)	Pi/2 BPSK	Mid	391.48
		3.33 (217)	. ,,2 5, 5,1	Low	389.71
		SISO (2TX)		Mid	390.98
		0100 (217)	QPSK		391.42
4	100	MIMO	QF SIN	High Mid	<u> </u>
					392.51
		SISO (1TX)	460414	Mid	391.96
		SISO (2TX)	16QAM	Mid	390.93
	L	SISO (2TX)	64QAM	Mid	390.80

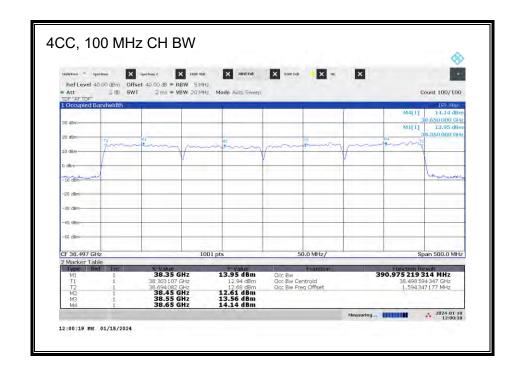
n260, Ant#0, Full-RB, SISO (2TX), QPSK, Mid-CH











8.1.2. OBW n260 Ant#1

Full-RB

CCs Active	CH BW	Control System	Modulation	Channel	OBW (MHz)
		SISO (2TX)	Pi/2 BPSK	Mid	45.87
	I	\ /		Low	45.70
	I	SISO (2TX)		Mid	45.61
	50		QPSK	High	46.25
	50	MIMO		Mid	46.29
	I	SISO (1TX)		Mid	46.25
		SISO (2TX)	16QAM	Mid	45.33
1	<u> </u>	SISO (2TX)	64QAM	Mid	45.73
'		SISO (2TX)	Pi/2 BPSK	Mid	91.44
	I			Low	92.19
	I	SISO-DUAL		Mid	91.43
	100		QPSK	High	92.28
	100	MIMO		Mid	95.94
	I	SISO (1TX)		Mid	92.32
		SISO (2TX)	16QAM	Mid	91.82
		SISO (2TX)	64QAM	Mid	91.34
		SISO (2TX)	Pi/2 BPSK	Mid	191.80
		2.2.2 (2-1.0)		Low	192.13
		SISO (2TX)	0.0014	Mid	191.75
2	100		QPSK	High	192.38
]	MIMO		Mid	193.79
	2 100	SISO (1TX)	400414	Mid	191.88
		SISO (2TX)	16QAM	Mid	192.19
	1	SISO (2TX)	64QAM	Mid	192.63
		SISO (2TV)	Pi/2 BPSK	Mid	290.42
	I	SISO (2TX)	FI/Z DESK		289.42 291.18
	I	SISO (2TX)		Low Mid	289.52
	I	3130 (217)	QPSK		-
3	100	NAINAO	QP3N	High	291.31
	I	MIMO		Mid	294.79
		SISO (1TX)	16001	Mid	291.50
	I	SISO (2TX)	16QAM	Mid	292.13
		SISO (2TX)	64QAM	Mid	292.93
		CICO (OTV)	Di/O DDCI/	N /1: ~1	202.75
		SISO (2TX)	Pi/2 BPSK	Mid	392.75
		CICO (OTX)		Low	392.17
		SISO (2TX)	00014	Mid	392.03
4	100	N 415 4 C	QPSK	High	391.37
		MIMO	4	Mid	393.33
		SISO (1TX)	100:	Mid	391.72
		SISO (2TX)	16QAM	Mid	392.14
		SISO (2TX)	64QAM	Mid	392.18

8.2. EQUIVALENT ISOTROPIC RADIATED POWER

DATE: 2024-03-04

RULE PART(S)

FCC: §2.1046, §30.202

LIMIT

30.202 (b) - For mobile stations, the average power of the sum of all antenna elements is limited to a maximum EIRP of +43 dBm.

TEST PROCEDURES

Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.

- RBW = 1 5% of the OBW
- VBW ≥ 3 x RBW
- Span = 2x to 3x the OBW
- Number of measurement points in sweep > 2 x span / RBW
- Sweep time = auto-couple
- Detector = RMS
- Trace mode = Power Averaging over 100 sweeps

KDB 842590 D01 Upper Microwave Flexible Use Service v01r02 Section 4.2 ANSI C63.26-2015 Clause 5.2, Clause 5.5, Clause 6.4, and Annex C.5.2

EIRP measurements of variable frequency bands were performed at the far field test distance listed on Section 5.

EIRP was calculated using the equations on ANSI C63.26-2015 Annex C.5.2. The total correction factors of horn antenna gain, cable loss and far-field path loss were calculated using equations C.8 and C.9, and pre-loaded into spectrum analyzer.

Sample calculation of EIRP:

EIRP = $P_{measured}$ (dBm), where Total Correction Factor preloaded.

In order to properly display of signal level on the plots, the pre-loaded correction factors were intentional lowered by 40 dB and an offset factor of 40 dB was applied on spectrum analyzer to compensate the true correction factors across frequency range of measurement.

Radiated power levels are investigated while the receive antenna was rotated through all angles to determine the worst-case polarization/positioning.

REPORT NO: R15103618-E2V2 FCC ID: PY7-46195Y

The SISO (1TX) mode operates with either the horizontal or vertical elements active. The SISO (2TX) mode operates with both horizontal and vertical elements active at the same power per polarization as the SISO (1TX) mode. Therefore, the SISO (2TX) mode represents the highest total EIRP across both SISO (1TX) and SISO (2TX) modes, only spot checks were performed on the SISO (1TX) mode to confirm this. Single RB (highest power) and full RB allocations were measured.

DATE: 2024-03-04

Pi/2 BPSK, QPSK, 16QAM and 64QAM modulations were all investigated in SISO (2TX) mode on both antennas. The highest power mode is QPSK for the modulations with SISO (2TX) mode. Spot checks in QPSK modulation were performed on the SISO (1TX) and MIMO modes. Full data is provided for these combinations.

To minimize report size, the 1CC to 4CC plots of Full RB, SISO (2TX), QPSK, any of tested low/mid/high CH with both channel bandwidths on Ant#0 are provided to demonstrate the test parameter setting on signal analyzer. The tabular data includes data for the other combination of test modes.

RESULTS

See the following pages.

Employee IDs: 27294, 27818 Test Date: 01/11/24 – 01/26/24 Test Locations: 01-mmW-A

DATE: 2024-03-04

8.2.1. EIRP n260 Ant#0

SISO (1TX)

CCs Active	CH BW	Modulation	Channel	Frequency	Ant Pol	RB	Avg EIRP	Limit	Margin
	(MHz)			(GHz)		(Size/Offset)	(dBm)	(dBm)	(dB)
1	50			38.499		1/15	28.09	43	-14.91
1	100			38.498		1/31	26.92	43	-16.08
2	100	QPSK	Mid	38.448	V	1/31	20.57	43	-22.43
3	100			38.398		1/31	20.65	43	-22.35
4	100			38.348		1/31	20.82	43	-22.18

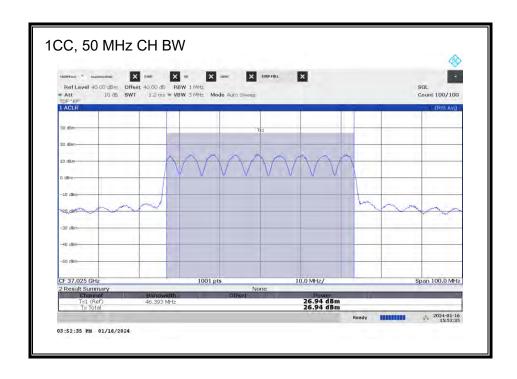
SISO (2TX)

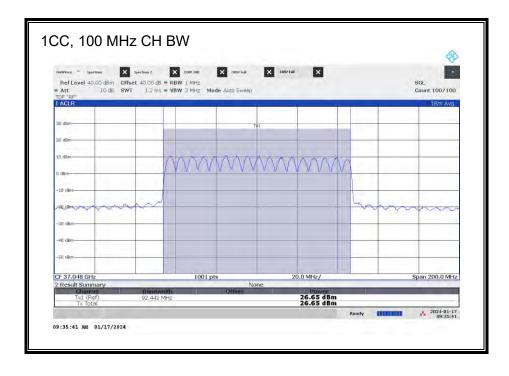
CCs Active	CH BW	Modulation	Channel	Frequency	RB	Avg EIRP	Limit	Margin
	(MHz)			(GHz)	(Size/Offset)	(dBm)	(dBm)	(dB)
		Pi/2 BPSK	Mid	38.499	1/15	31.02	43	-11.98
				37.003	1/0	29.48	43	-13.52
			Low	37.024	1/15	31.74	43	-11.26
	100 Capsian Prize Capsian	43	-16.06					
		OBSK	Mid	38.499	1/15	31.06	43	-11.94
	50	QPSK	IVIIU	38.499	32/0	26.53	43	-16.47
				39.974	1/15	30.37	43	-12.63
			High	39.997	1/31	26.17	43	-16.83
				39.975	32/0	25.56	43	-17.44
		16QAM	Mid	38.499	1/15	28.98	43	-14.02
1		64QAM	Mid	38.499	1/15	26.89	43	-16.11
		Pi/2 BPSK	Mid	38.498	1/31	27.34	43	-15.66
				37.003	1/0	29.76	43	-13.24
			Low	37.048	1/31	29.14	43	-13.86
				37.048	64/0	26.65	43	-16.35
	100	QPSK	Mid	38.498	1/31	27.58	43	-15.42
	100			39.948	1/31	29.21	43	-13.79
			High	39.994	1/63	26.58	43	-16.42
				39.947	64/0	26.12	43	-16.88
		16QAM	Mid	38.498	1/31	25.29	43	-17.71
		64QAM	IVIIU	38.498	1/31	23.38	43	-19.62
		Pi/2 BPSK	Mid	38.450	64/0	23.23	43	-19.77
			Low	37.003	1/0	20.72	43	-22.28
			LOW	37.047	64/0	23.82	43	-19.18
				38.403	1/0	20.78	43	-22.22
2	100	QPSK	Mid	38.448	1/31	21.48	43	-21.52
	100			38.494	1/63	20.08	43	-22.92
			High	39.894	1/63	23.24	43	-19.76
			ı ıığıı	39.850	64/0	23.40	43	-19.60
		16QAM	Mid	38.450	64/0	21.63	43	-21.37
		64QAM	Mid	38.450	64/0	19.73	43	-23.27

SISO (2TX)

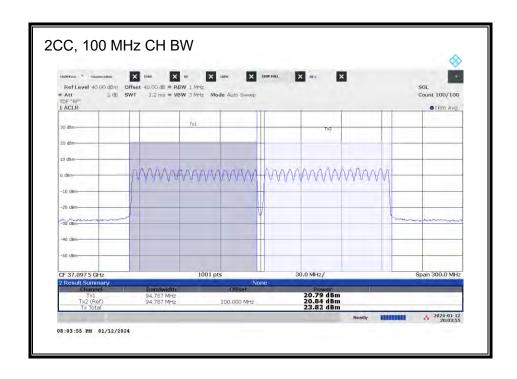
CCs Active	CH BW	Modulation	Channel	Frequency	RB	Avg EIRP	Limit	Margin
	(MHz)			(GHz)	(Size/Offset)	(dBm)	(dBm)	(dB)
			Low	37.003	1/0	22.64	43	-20.36
			Low	37.050	64/0	24.08	43	-18.92
		QPSK		38.353	1/0	22.30	43	-20.70
3	100		Mid	38.398	1/31	22.35	43	-20.65
				39.794	1/63	23.04	43	-19.96
			High	39.794	1/63	23.04	43	-19.96
				39.750	64/0	22.89	43	-20.11
		Pi/2 BPSK	Mid	38.350	64/0	23.19	43	-19.81
			Low	37.003	1/0	21.41	43	-21.59
			LOW	37.050	64/0	24.41	43	-18.59
				38.303	1/0	22.38	43	-20.62
4	100	QPSK	Mid	38.348	1/31	22.50	43	-20.50
4	100			38.394	1/63	21.92	43	-21.08
			High	39.694	1/63	22.94	43	-20.06
			IIIgii	39.650	64/0	22.72	43	-20.28
		16QAM	Mid	38.350	64/0	21.63	43	-21.37
		64QAM	Mid	38.350	64/0	19.79	43	-23.21

n260, Ant#0, Full-RB, SISO (2TX), QPSK, Low-CH



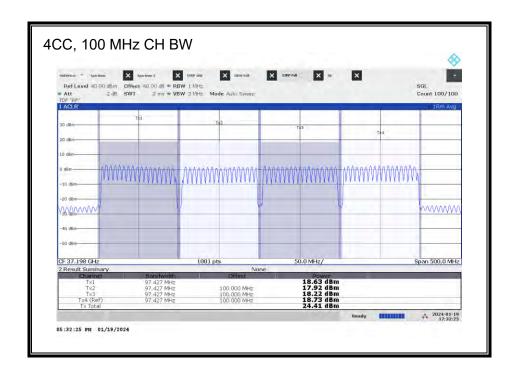


n260, Ant#0, Full-RB, SISO (2TX), QPSK, Low-CH





n260, Ant#0, Full-RB, SISO (2TX), QPSK, Low-CH



CCs Active	CH BW	Modulation	Channel	Frequency	RB	Avg EIRP	Limit	Margin
	(MHz)			(GHz)	(Size/Offset)	(dBm)	(dBm)	(dB)
			Low	37.025	32/0	23.61	43	-19.39
	50		Mid	38.499	1/15	24.55	43	-18.45
	30		IVIIU	38.499	32/0	23.81	43	-19.19
1		QPSK	High	39.975	32/0	23.11	43	-19.89
		QPSK	Low	37.050	66/0	23.44	43	-19.56
	100		Mid	38.499	1/32	24.04	43	-18.96
	100		IVIIU	38.499	66/0	23.55	43	-19.45
			High	39.950	66/0	24.02	43	-18.98
	2 400	QPSK	Low	37.049	66/0	23.60	43	-19.40
2			Mid	38.449	1/32	21.46	43	-21.54
2	100			38.450	66/0	22.31	43	-20.69
			High	39.850	66/0	21.77	43	-21.23
			Low	37.049	66/0	23.61	43	-19.39
3	100	QPSK	Mid	38.399	1/32	21.70	43	-21.30
3	100	QF3K	IVIIU	38.400	66/0	21.02	43	-21.98
			High	39.750	66/0	21.65	43	-21.35
			Low	37.049	66/0	23.78	43	-19.22
4	100	QPSK	Mid	38.349	1/32	21.62	43	-21.38
4	100	QP3K	IVIIU	38.350	66/0	22.58	43	-20.42
			High	39.650	66/0	21.59	43	-21.41

DATE: 2024-03-04

FAX: (510) 661-0888

8.2.2. EIRP n260 Ant#1

SISO (1TX)

CCs Active	CH BW	Modulation	Channel	Frequency	Ant Pol	RB	Avg EIRP	Limit	Margin
	(MHz)			(GHz)		(Size/Offset)	(dBm)	(dBm)	(dB)
1	50			38.499		1/15	28.13	43	-14.87
_ [100]		38.497		1/31	28.68	43	-14.32
2	100	QPSK	Mid	38.448	Н	1/31	21.75	43	-21.25
3	100]		38.398		1/31	21.75	43	-21.25
4	100	1		38.348		1/31	21.57	43	-21.43

CCs Active	CH BW	Modulation	Channel	Frequency	RB	Avg EIRP	Limit	Margin
	(MHz)			(GHz)	(Size/Offset)	(dBm)	(dBm)	(dB)
		Pi/2 BPSK	Mid	38.499	1/15	28.59	43	-14.41
				37.003	1/0	28.55	43	-14.45
			Low	37.024	1/15	30.94	43	-12.06
				37.025	32/0	26.58	43	-16.42
		QPSK	Mid	38.499	1/15	28.63	43	-14.37
	50	QPSK	iviiu	38.499	32/0	24.99	43	-18.01
				39.974	1/15	29.35	43	-13.65
			High	39.997	1/31	28.37	43	-14.63
				39.975	32/0	25.68	43	-17.32
		16QAM	Mid	38.499	1/15	26.48	43	-16.52
1		64QAM	IVIIU	38.499	1/15	24.03	43	-18.97
		Pi/2 BPSK	Mid	38.498	1/32	29.67	43	-13.33
				37.003	1/0	27.01	43	-15.99
			Low	37.048	1/31	30.76	43	-12.24
				37.048	64/0	26.74	43	-16.26
	100	QPSK	Mid	38.498	1/31	29.80	43	-13.20
	100			39.948	1/31	28.10	43	-14.90
			High	39.994	1/63	27.21	43	-15.79
				39.948	64/0	24.50	43	-18.50
		16QAM	Mid	38.498	1/31	27.85	43	-15.15
		64QAM	Mid	38.498	1/31	25.68	43	-17.32
		Pi/2 BPSK	Mid	38.450	64/0	22.82	43	-20.18
			Low	37.003	1/0	22.92	43	-20.08
			LOW	37.049	64/0	24.18	43	-18.82
				38.448	1/0	18.76	43	-24.24
2	100	QPSK	Mid	38.448	1/31	22.78	43	-20.22
	100			38.494	1/63	18.77	43	-24.23
			High	39.894	1/63	21.99	43	-21.01
			111811	38.848	64/0	22.20	43	-20.80
		16QAM	Mid	38.450	64/0	21.30	43	-21.70
		64QAM	IVIIG	38.450	64/0	19.52	43	-23.48

SISO (2TX)

CCs Active	CH BW	Modulation	Channel	Frequency	RB	Avg EIRP	Limit	Margin
	(MHz)			(GHz)	(Size/Offset)	(dBm)	(dBm)	(dB)
			Low	37.003	1/0	18.86	43	-24.14
			LOW	37.049	64/0	23.95	43	-19.05
				38.400	1/0	19.80	43	-23.20
3	100	QPSK	Mid	38.398	1/31	22.91	43	-20.09
				38.444	1/63	19.33	43	-23.67
			⊔iah	39.794	1/63	16.76	43	-26.24
			High	39.748	64/0	22.19	43	-20.81
		Pi/2 BPSK	Mid	38.350	64/0	22.82	43	-20.18
			Low	37.003	1/0	22.51	43	-20.49
			LOW	37.048	64/0	23.65	43	-19.35
				38.448	1/0	19.86	43	-23.14
4	100	QPSK	Mid	37.348	1/31	22.83	43	-20.17
4	4 100			38.394	1/63	21.92	43	-21.08
			⊔iah	39.694	1/63	19.32	43	-23.68
			High	39.649	64/0	22.09	43	-20.91
		16QAM	Mid	38.350	64/0	21.18	43	-21.82
		64QAM	Mid	38.350	64/0	19.47	43	-23.53

CCs Active	CH BW	Modulation	Channel	Frequency	RB	Avg EIRP	Limit	Margin								
	(MHz)			(GHz)	(Size/Offset)	(dBm)	(dBm)	(dB)								
			Low	37.025	32/0	24.42	43	-18.58								
	50		Mid	38.499	1/15	25.15	43	-17.85								
	30		iviiu	38.500	32/0	24.19	43	-18.81								
1		QPSK	High	39.975	32/0	24.39	43	-18.61								
1		QF3K	Low	37.050	66/0	24.91	43	-18.09								
	100		Mid	38.498	1/32	25.18	43	-17.82								
	100		iviiu	38.500	66/0	23.83	43	-19.17								
			High	39.948	66/0	23.42	43	-19.58								
	100		Low	37.050	66/0	22.87	43	-20.13								
2		QPSK	Mid	38.449	1/32	21.16	43	-21.84								
2	100		iviiu	38.450	66/0	21.86	43	-21.14								
			High	39.848	66/0	21.39	43	-21.61								
			Low	37.049	66/0	22.77	43	-20.23								
3	100	ODCK	OBSK	ODSK	OBSK	OBSK	ODSK	OPSK	OPSK	QPSK	Mid	38.399	1/32	20.72	43	-22.28
3	100	QF3K	IVIIU	38.400	66/0	21.72	43	-21.28								
			High	39.748	66/0	21.61	43	-21.39								
									Low	37.050	66/0	22.78	43	-20.22		
4	4 100	OBSK	Mid	38.349	1/32	20.80	43	-22.20								
4	100	QPSK	iviiu	38.350	66/0	21.64	43	-21.36								
			High	39.649	66/0	21.62	43	-21.38								

8.3. BAND EDGE EMISSIONS

RULE PART(S)

FCC: §2.1051, §30.203

LIMITS

30.203 (a) - The conductive power or the total radiated power of any emission outside a licensee's frequency block shall be -13 dBm/MHz or lower. However, in the bands immediately outside and adjacent to the licensee's frequency block, having a bandwidth equal to 10 percent of the channel bandwidth, the conductive power or the total radiated power of any emission shall be -5 dBm/MHz or lower.

DATE: 2024-03-04

TEST PROCEDURE

- RBW = 1 MHz
- VBW ≥ 3 x RBW
- Number of measurement points in sweep > 2 x span / RBW
- Sweep time = auto-couple
- Detector = RMS
- Trace mode = Power Averaging

KDB 842590 D01 Upper Microwave Flexible Use Service v01r02 Section 4.4.2 ANSI C63.26-2015 Clause 5.2, Clause 5.5, Clause 6.4, and Annex C.5.2

All Band Edge emissions were measured as EIRP to compare with the §30.203 TRP limits to demonstrate compliance.

Band Edge measurements of variable frequency bands were performed at the far field test distance listed on Section 5.

EIRP was calculated using the equations on ANSI C63.26-2015 Annex C.5.2. The total correction factors of horn antenna gain, cable loss and far-field path loss were calculated using equations C.8 and C.9, and pre-loaded into spectrum analyzer at test. The tabulated data factors in the EUT antenna gain to calculate the Final Adjusted EIRP of BE emissions.

Sample calculations of EIRP:

EIRP on Display Plot = $P_{measured}(dBm)$, where Correction Factor preloaded.

Final Adjusted EIRP = P_{measured}(dBm) – EUT Antenna Gain

In order to properly display of signal level on the plots, the pre-loaded correction factors were intentional lowered by 40 dB and an offset factor of 40 dB was applied on spectrum analyzer to compensate the true correction factors across the frequency range of measurement.

Pi/2 BPSK, QPSK, 16QAM and 64QAM modulations were all investigated in SISO (2TX) mode on all 2 antennas, since the highest band edge emissions were for the SISO (2TX) antenna configuration, consistent with this also being the configuration with the highest EIRP. The SISO (2TX) mode was, therefore, used for the final band-edge measurements to represent worse case of both SISO (2TX) and SISO (1TX) modes. Additional measurements were made with

DATE: 2024-03-04

Band edge measurements for multi-carrier (2CC - 4CC) QPSK modulated operations Single RB and Full RB allocations were investigated in each carrier in the (100 MHz + 100 MHz) modes. Note that inter-modulation products which can be seen in the band edge plots are evaluated as part of the radiated spurious emission measurements.

QPSK modulation on the MIMO mode as it has a wider bandwidth than the SISO (2TX) mode.

To minimize report size, the 1CC to 4CC plots of worst-case SISO (2TX) and MIMO, QPSK of both channel bandwidths on Ant#0 are provided to demonstrate the test parameter setting on signal analyzer. The tabular data includes data for the Pi/2 BPSK, 16QAM and 64QAM modulations.

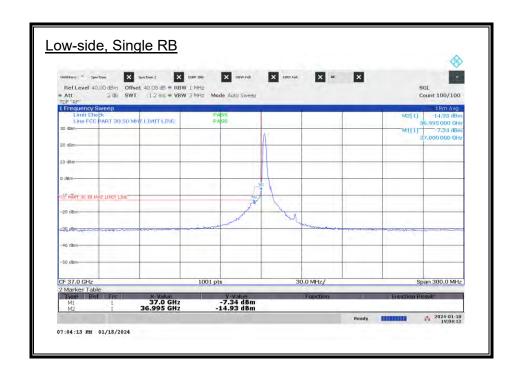
RESULTS

See the following pages.

Employee IDs: 27294, 27818 Test Date: 01/17/24 – 01/26/24 Test Locations: 01-mmW-A

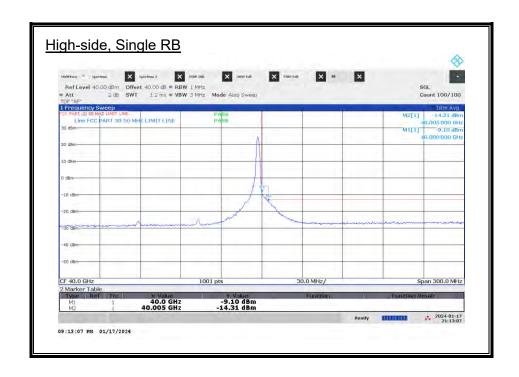
8.3.1. BAND EDGE n260 SISO (2TX) 1CC

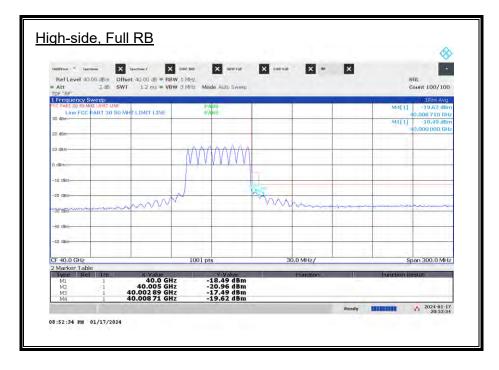
Ant#0, 50 MHz, SISO (2TX), 1CC, QPSK





Ant#0, 50 MHz, SISO (2TX), 1CC, QPSK





Ant#0 & Ant#1, 50 MHz, SISO (2TX), 1CC, QPSK

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size Offset)	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-7.34	11.80	-19.14	-5	-14.14
AIII#0				36.995	-14.93	11.80	-26.73	-13	-13.73
	50	L	1/0	37	-5.70	11.20	-16.90	-5	-11.90
Ant#1				36.995	-17.76	11.20	-28.96	-13	-15.96
				36.99288	-14.51	11.20	-25.71	-13	-12.71
				37	-17.10	11.80	-28.90	-5	-23.90
Ant#0				36.99706	-16.38	11.80	-28.18	-5	-23.18
AIII#0				36.995	-21.29	11.80	-33.09	-13	-20.09
	50	L	32/0	36.99137	-18.29	11.80	-30.09	-13	-17.09
				37	-17.70	11.20	-28.90	-5	-23.90
Ant#1				36.996	-16.69	11.20	-27.89	-5	-22.89
				36.995	-19.66	11.20	-30.86	-13	-17.86
Ant#0				40	-9.10	11.80	-20.90	-5	-15.90
Ant#0	50	н	1/31	40.005	-14.31	11.80	-26.11	-13	-13.11
Ant#1	50	П	1/31	40	-7.07	11.20	-18.27	-5	-13.27
Ant#1				40.005	-17.67	11.20	-28.87	-13	-15.87
				40	-18.49	11.80	-30.29	-5	-25.29
A == +#O				40.00289	-17.49	11.80	-29.29	-5	-24.29
Ant#0	50			40.005	-20.96	11.80	-32.76	-13	-19.76
		Н	32/0	40.00871	-19.62	11.80	-31.42	-13	-18.42
				40	-16.67	11.20	-27.87	-5	-22.87
Ant#1			-	40.005	-21.33	11.20	-32.53	-13	-19.53
	11.#1			40.00742	-17.47	11.20	-28.67	-13	-15.67

Ant#0 & Ant#1, 50 MHz, SISO (2TX), 1CC, Pi/2 BPSK

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size Offset)	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
				37	-5.98	11.80	-17.78	-5	-12.78
Ant#0				36.995	-13.54	11.80	-25.34	-13	-12.34
	50	L	1/0	36.9934	-13.12	11.80	-24.92	-13	-11.92
	50		1/0	37	-9.87	11.20	-21.07	-5	-16.07
Ant#1				36.995	-20.75	11.20	-31.95	-13	-18.95
				36.9928	-17.39	11.20	-28.59	-13	-15.59
				37	-17.12	11.80	-28.92	-5	-23.92
Ant#0			32/0	36.995	-22.80	11.80	-34.60	-13	-21.60
	50	L		36.98046	-22.00	11.80	-33.80	-13	-20.80
A + #1				37	-17.00	11.20	-28.20	-5	-23.20
Ant#1				36.995	-23.69	11.20	-34.89	-13	-21.89
A == ##O				40	-8.51	11.80	-20.31	-5	-15.31
Ant#0	50	н	1/21	40.005	-14.43	11.80	-26.23	-13	-13.23
Ant#1	50		1/31	40	-8.79	11.20	-19.99	-5	-14.99
AIIL#1				40.005	-18.03	11.20	-29.23	-13	-16.23
Ant#0				40	-17.95	11.80	-29.75	-5	-24.75
AIIL#U				40.005	-22.40	11.80	-34.20	-13	-21.20
	50	Н	32/0	40	-18.47	11.20	-29.67	-5	-24.67
Ant#1			40.005	-23.13	11.20	-34.33	-13	-21.33	
AIII#1			40.00596	-21.97	11.20	-33.17	-13	-20.17	

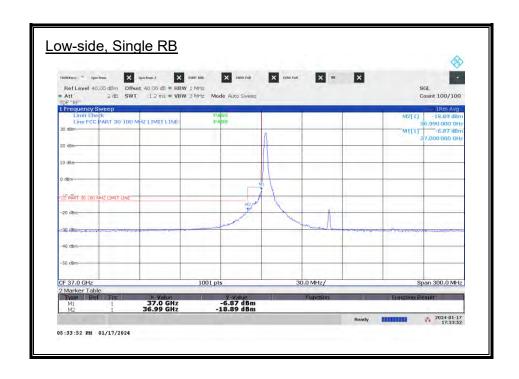
Ant#0 & Ant#1, 50 MHz, SISO (2TX), 1CC, 16QAM

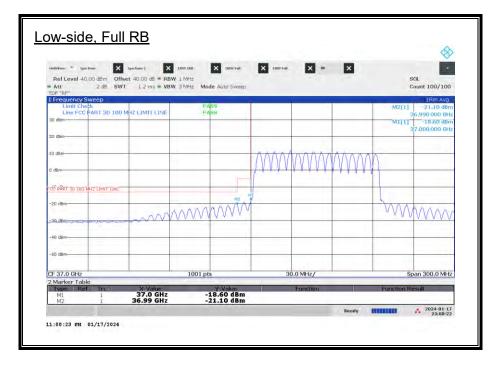
Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-8.38	11.80	-20.18	-5	-15.18
AIII#U				36.995	-15.27	11.80	-27.07	-13	-14.07
	50	L	1/0	37	-7.16	11.20	-18.36	-5	-13.36
Ant#1				36.995	-18.09	11.20	-29.29	-13	13.00
				36.99318	-15.70	11.20	-26.90	-13	13.00
				37	-19.65	11.80	-31.45	-5	-26.45
Ant#0				36.99728	-19.48	11.80	-31.28	-5	-26.28
Ant#0	50	L	32/0	36.995	-22.79	11.80	-34.59	-13	-21.59
	30			36.99107	-21.21	11.80	-33.01	-13	-20.01
Ant#1				37	-19.63	11.20	-30.83	-5	-25.83
Ant#1				36.995	-21.35	11.20	-32.55	-13	-19.55
Ant#0				40	-10.77	11.80	-22.57	-5	-17.57
AIII#U	50	н	1/31	40.005	-15.61	11.80	-27.41	-13	-14.41
Ant#1	30	"	1/31	40	-8.08	11.20	-19.28	-5	-14.28
AIII#1				40.005	-19.42	11.20	-30.62	-13	-17.62
				40	-19.50	11.80	-31.30	-5	-26.30
Ant#0	Ant#0 50			40.005	-23.41	11.80	-35.21	-13	-22.21
		н	22/0	40.00708	-22.11	11.80	-33.91	-13	-20.91
			32/0	40	-20.14	11.20	-31.34	-5	-26.34
Ant#1				40.005	-22.92	11.20	-34.12	-13	-21.12
			40.00636	-22.43	11.20	-33.63	-13	-20.63	

Ant#0 & Ant#1, 50 MHz, SISO (2TX), 1CC, 64QAM

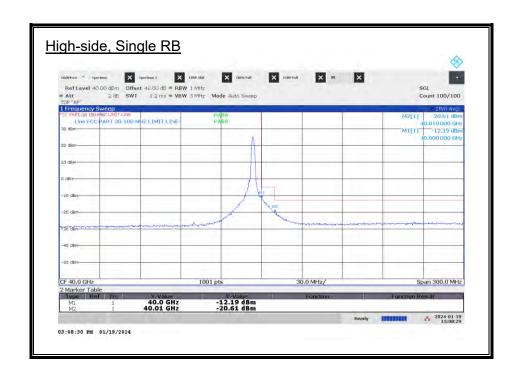
Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
				37	-10.36	11.80	-22.16	-5	-17.16
Ant#0				36.995	-18.15	11.80	-29.95	-13	-16.95
	50	L	1/0	36.99314	-17.56	11.80	-29.36	-13	-16.36
	30		1/0	37	-10.58	11.20	-21.78	-5	-16.78
Ant#1				36.995	-20.63	11.20	-31.83	-13	-18.83
				36.99288	-17.84	11.20	-29.04	-13	-16.04
Ant#0				37	-19.74	11.80	-31.54	-5	-26.54
AIII#U	50		22/0	36.995	-24.56	11.80	-36.36	-13	-23.36
Ant#1	50	L	32/0	37	-23.63	11.20	-34.83	-5	-29.83
AIII#1				36.995	-25.27	11.20	-36.47	-13	-23.47
Ant#0				40	-9.78	11.80	-21.58	-5	-16.58
AIII#U	50	Н	1/21	40.005	-16.36	11.80	-28.16	-13	-15.16
Ant#1	50	П	1/31	40	-9.92	11.20	-21.12	-5	-16.12
AIII#1				40.005	-20.99	11.20	-32.19	-13	-19.19
Ant#0				40	-21.28	11.80	-33.08	-5	-28.08
AIIL#U	E0.	н	22/0	40.005	-24.32	11.80	-36.12	-13	-23.12
An+#1	50		32/0	40	-22.95	11.20	-34.15	-5	-29.15
AIIL#1	nt#1		-	40.005	-25.71	11.20	-36.91	-13	-23.91

Ant#0, 100 MHz, SISO (2TX), 1CC, QPSK





Ant#0, 100 MHz, SISO (2TX), 1CC, QPSK





Ant#0 & Ant#1, 100 MHz, SISO (2TX), 1CC, QPSK

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size Offset)	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-6.87	11.80	-18.67	-5	-13.67
AIII#U	100	L	1/0	36.99	-18.89	11.80	-30.69	-13	-17.69
Ant#1	100	_	1/0	37	-9.42	11.20	-20.62	-5	-15.62
AIII#1				36.99	-24.03	11.20	-35.23	-13	-22.23
Ant#0				37	-18.60	11.80	-30.40	-5	-25.40
AIII#U				36.99	-21.10	11.80	-32.90	-13	-19.90
	100	L	64/0	37	-19.05	11.20	-30.25	-5	-25.25
Ant#1				36.99	-23.96	11.20	-35.16	-13	-22.16
				36.98844	-20.22	11.20	-31.42	-13	-18.42
Ant#0				40	-12.19	11.80	-23.99	-5	-18.99
Ant#0	100	н	1/63	40.01	-20.61	11.80	-32.41	-13	-19.41
Ant#1	100	П	1/03	40	-17.11	11.20	-28.31	-5	-23.31
Ant#1				40.01	-24.62	11.20	-35.82	-13	-22.82
				40	-20.58	11.80	-32.38	-5	-27.38
Ant#0				40.00087	-20.28	11.80	-32.08	-5	-27.08
AIIL#U				40.01	-24.38	11.80	-36.18	-13	-23.18
	100	н	64/0	40.01202	-22.59	11.80	-34.39	-13	-21.39
			04/0	40	-24.59	11.20	-35.79	-5	-30.79
Ant#1				40.00824	-20.53	11.20	-31.73	-5	-26.73
AIIL#1				40.01	-24.31	11.20	-35.51	-13	-22.51
				40.01379	-21.86	11.20	-33.06	-13	-20.06

Ant#0 & Ant#1, 100 MHz, SISO (2TX), 1CC, Pi/2 BPSK

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size Offset)	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-5.85	11.80	-17.65	-5	-12.65
AIIL#U	100	L	1/0	36.99	-19.41	11.80	-31.21	-13	-18.21
Ant#1	100	L	1/0	37	-17.70	11.20	-28.90	-5	-23.90
AIII#1				36.99	-26.93	11.20	-38.13	-13	-25.13
				37	-21.03	11.80	-32.83	-5	-27.83
Ant#0				36.99784	-20.67	11.80	-32.47	-5	-27.47
Antino			64/0	36.99	-25.55	11.80	-37.35	-13	-24.35
	100	L		36.98645	-24.66	11.80	-36.46	-13	-23.46
				37	-20.41	11.20	-31.61	-5	-26.61
Ant#1				36.99	-27.00	11.20	-38.20	-13	-25.20
				36.98318	-24.24	11.20	-35.44	-13	-22.44
Ant#0				40	-12.32	11.80	-24.12	-5	-19.12
AIII#U	100	Н	1/63	40.01	-21.03	11.80	-32.83	-13	-19.83
Ant#1	100	''	1/03	40	-16.87	11.20	-28.07	-5	-23.07
Allt#1				40.01	-23.99	11.20	-35.19	-13	-22.19
				40	-23.34	11.80	-35.14	-5	-30.14
∧nt#O				40.00168	-22.50	11.80	-34.30	-5	-29.30
A111#U	Ant#1 100	Н	64/0	40.01	-26.02	11.80	-37.82	-13	-24.82
			04/0	40.01126	-25.48	11.80	-37.28	-13	-24.28
Λnt#1				40	-22.89	11.20	-34.09	-5	-29.09
AIII#1				40.01	-25.68	11.20	-36.88	-13	-23.88

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size Offset)	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-14.68	11.80	-26.48	-5	-21.48
AIII#U	100	L	1/0	36.99	-26.14	11.80	-37.94	-13	-24.94
Ant#1	100	_	1/0	37	-20.48	11.20	-31.68	-5	-26.68
AIII#1				36.99	-29.00	11.20	-40.20	-13	-27.20
				37	-22.00	11.80	-33.80	-5	-28.80
Ant#0			64/0	36.99	-25.46	11.80	-37.26	-13	-24.26
	100	L		36.9867	-23.42	11.80	-35.22	-13	-22.22
	100			37	-22.57	11.20	-33.77	-5	-28.77
Ant#1				36.99	-26.55	11.20	-37.75	-13	-24.75
				36.986	-24.28	11.20	-35.48	-13	-22.48
Ant#0				40	-12.48	11.80	-24.28	-5	-19.28
AIII#U	100	н	1/63	40.01	-20.68	11.80	-32.48	-13	-19.48
Ant#1	100	П	1/03	40	-15.11	11.20	-26.31	-5	-21.31
AIII#I				40.01	-23.93	11.20	-35.13	-13	-22.13
				40	-23.17	11.80	-34.97	-5	-29.97
Ant#0				40.01	-25.24	11.80	-37.04	-13	-24.04
	* *	н	64/0	40.0145	-24.60	11.80	-36.40	-13	-23.40
An+#1				40	-23.80	11.20	-35.00	-5	-30.00
AIII#1				40.01	-25.62	11.20	-36.82	-13	-23.82

Ant#0 & Ant#1, 100 MHz, SISO (2TX), 1CC, 64QAM

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size Offset)	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-7.99	11.80	-19.79	-5	-14.79
AIII#U	100	L	1/0	36.99	-21.59	11.80	-33.39	-13	-20.39
Ant#1	100		1/0	37	-9.96	11.20	-21.16	-5	-16.16
AIIL#1				36.99	-24.38	11.20	-35.58	-13	-22.58
				37	-23.74	11.80	-35.54	-5	-30.54
Ant#0				36.99	-29.23	11.80	-41.03	-13	-28.03
	100	L	64/0	36.98753	-26.97	11.80	-38.77	-13	-25.77
				37	-24.59	11.20	-35.79	-5	-30.79
Ant#1				36.99	-28.49	11.20	-39.69	-13	-26.69
				36.9879	-27.08	11.20	-38.28	-13	-25.28
An+#0				40	-13.74	11.80	-25.54	-5	-20.54
Ant#0	100	н	1/62	40.01	-21.45	11.80	-33.25	-13	-20.25
A m+#1	100	Н	1/63	40	-18.70	11.20	-29.90	-5	-24.90
Ant#1				40.01	-25.22	11.20	-36.42	-13	-23.42
An+#0				40	-24.73	11.80	-36.53	-5	-31.53
AIIL#U	Ant#0	н	64/0	40.01	-27.50	11.80	-39.30	-13	-26.30
100	100		64/0	40	-27.19	11.20	-38.39	-5	-33.39
Ant#1			40.01	-27.06	11.20	-38.26	-13	-25.26	

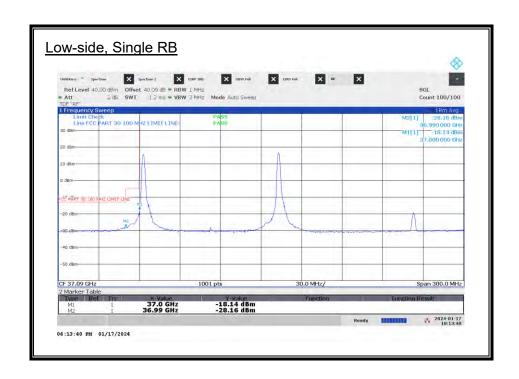
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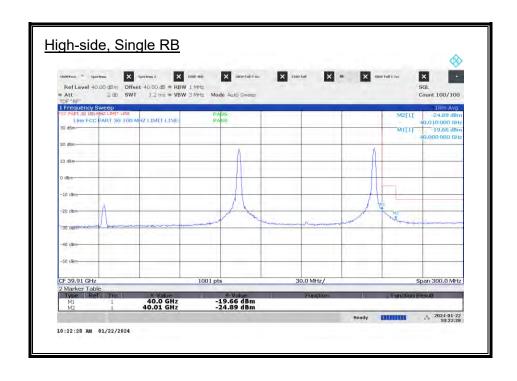
8.3.2. BAND EDGE n260 SISO (2TX) 2CC

Ant#0, 100 MHz, SISO (2TX), 2CC, QPSK





Ant#0, 100 MHz, SISO (2TX), 2CC, QPSK





Ant#0 & Ant#1, 100 MHz, SISO (2TX), 2CC, QPSK

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-18.14	11.80	-29.94	-5	-24.94
Antho	100	L	1/0	36.99	-28.16	11.80	-39.96	-13	-26.96
Ant#1	100	_	1/0	37	-13.50	11.20	-24.70	-5	-19.70
AIII#1				36.99	-26.41	11.20	-37.61	-13	-24.61
Ant#0				37	-25.20	11.80	-37.00	-5	-32.00
Antho			64/0	36.99	-26.37	11.80	-38.17	-13	-25.17
	100	L		37	-24.81	11.20	-36.01	-5	-31.01
Ant#1				36.99	-28.78	11.20	-39.98	-13	-26.98
				36.98647	-26.27	11.20	-37.47	-13	-24.47
Ant#0				40	-19.66	11.80	-31.46	-5	-26.46
Antho	100	н	1/63	40.01	-24.89	11.80	-36.69	-13	-23.69
Ant#1	100		1/03	40	-22.07	11.20	-33.27	-5	-28.27
Anthi				40.01	-26.30	11.20	-37.50	-13	-24.50
Ant#0				40	-25.37	11.80	-37.17	-5	-32.17
AIIL#U				40.01	-26.60	11.80	-38.40	-13	-25.40
	100	L00 H	64/0	40	-26.18	11.20	-37.38	-5	-32.38
Ant#1			I	40.00425	-25.20	11.20	-36.40	-5	-31.40
				40.01	-26.48	11.20	-37.68	-13	-24.68

Ant#0 & Ant#1, 100 MHz, SISO (2TX), 2CC, Pi/2 BPSK

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-18.58	11.80	-30.38	-5	-25.38
Ant#0	100		1/0	36.99	-27.96	11.80	-39.76	-13	-26.76
Ant#1	100	L	1/0	37	-13.58	11.20	-24.78	-5	-19.78
AIII#1				36.99	-27.22	11.20	-38.42	-13	-25.42
Ant#0				37	-25.92	11.80	-37.72	-5	-32.72
Ant#0				36.99	-26.64	11.80	-38.44	-13	-25.44
	100	L	64/0	37	-25.10	11.20	-36.30	-5	-31.30
Ant#1				36.99	-29.09	11.20	-40.29	-13	-27.29
				36.9872	-26.32	11.20	-37.52	-13	-24.52
Ant#0				40	-19.31	11.80	-31.11	-5	-26.11
AIII#0	100	н	1/63	40.01	-25.03	11.80	-36.83	-13	-23.83
Ant#1	100		1/03	40	-21.88	11.20	-33.08	-5	-28.08
AIII#1				40.01	-26.72	11.20	-37.92	-13	-24.92
Ant#0				40	-25.44	11.80	-37.24	-5	-32.24
AIII#0	100	н	64/0	40.01	-26.47	11.80	-38.27	-13	-25.27
Λn+#1			64/0	40	-26.41	11.20	-37.61	-5	-32.61
Ant#1			40.01	-26.43	11.20	-37.63	-13	-24.63	

Ant#0 & Ant#1, 100 MHz, SISO (2TX), 2CC, 16QAM

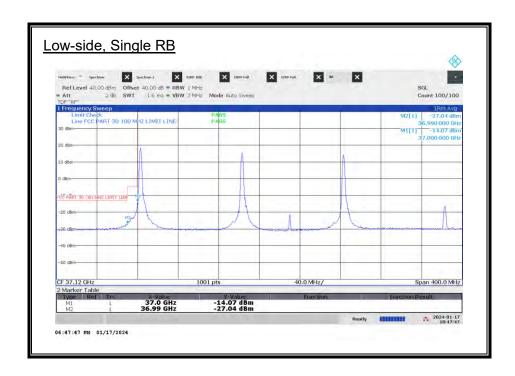
Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin	
	(MHz)		(Size	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)	
Ant#0				37	-14.99	11.80	-26.79	-5	-21.79	
AIIL#U	100	L	1/0	36.99	-28.08	11.80	-39.88	-13	-26.88	
Ant#1	100		1/0	37	-13.57	11.20	-24.77	-5	-19.77	
AIII#1				36.99	-27.19	11.20	-38.39	-13	-25.39	
Ant#0				37	-26.66	11.80	-38.46	-5	-33.46	
AIIL#U	100			36.99	-27.65	11.80	-39.45	-13	-26.45	
		L	64/0	37	-26.18	11.20	-37.38	-5	-32.38	
Ant#1				36.99	-29.43	11.20	-40.63	-13	-27.63	
				36.98681	-27.60	11.20	-38.80	-13	-25.80	
Ant#0				40	-20.65	11.80	-32.45	-5	-27.45	
AIIL#U	100	н	1/63	40.01	-25.34	11.80	-37.14	-13	-24.14	
Ant#1	100		1/63	40	-21.37	11.20	-32.57	-5	-27.57	
AIII#1				40.01	-27.20	11.20	-38.40	-13	-25.40	
Λnt#0				40	-25.97	11.80	-37.77	-5	-32.77	
AIIL#U	Ant#0 100		Н 6	64/0	40.01	-27.14	11.80	-38.94	-13	-25.94
Ant#1		"	64/0	40	-26.98	11.20	-38.18	-5	-33.18	
AIII#1				40.01	-26.47	11.20	-37.67	-13	-24.67	

Ant#0 & Ant#1, 100 MHz, SISO (2TX), 2CC, 64QAM

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-23.25	11.80	-35.05	-5	-30.05
AIII#U	100	L	1/0	36.99	-29.56	11.80	-41.36	-13	-28.36
Ant#1	100	-	1/0	37	-15.59	11.20	-26.79	-5	-21.79
Anthi				36.99	-27.81	11.20	-39.01	-13	-26.01
				37	-26.91	11.80	-38.71	-5	-33.71
Ant#0				36.99	-29.47	11.80	-41.27	-13	-28.27
	100	L	64/0	36.98655	-28.19	11.80	-39.99	-13	-26.99
			04/0	37	-27.54	11.20	-38.74	-5	-33.74
Ant#1				36.99	-29.73	11.20	-40.93	-13	-27.93
				36.98729	-28.11	11.20	-39.31	-13	-26.31
Ant#0				40	-21.11	11.80	-32.91	-5	-27.91
AIII#U	100	н	1/63	40.01	-25.48	11.80	-37.28	-13	-24.28
Ant#1	100		1/03	40	-23.02	11.20	-34.22	-5	-29.22
AIII#1				40.01	-26.74	11.20	-37.94	-13	-24.94
Ant#0				40	-27.03	11.80	-38.83	-5	-33.83
AIIL#U	100	н	64/0	40.01	-27.33	11.80	-39.13	-13	-26.13
Ant#1	100		04/0	40	-27.41	11.20	-38.61	-5	-33.61
AIIL#1				40.01	-27.76	11.20	-38.96	-13	-25.96

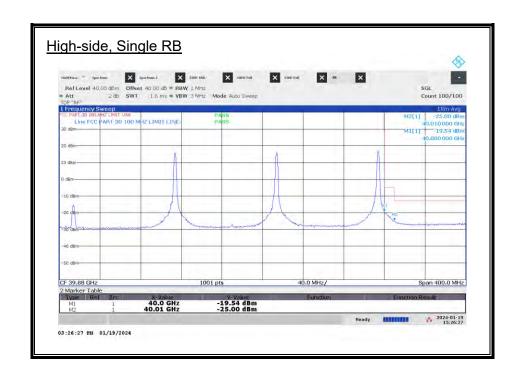
8.3.3. BAND EDGE n260 SISO (2TX) 3CC

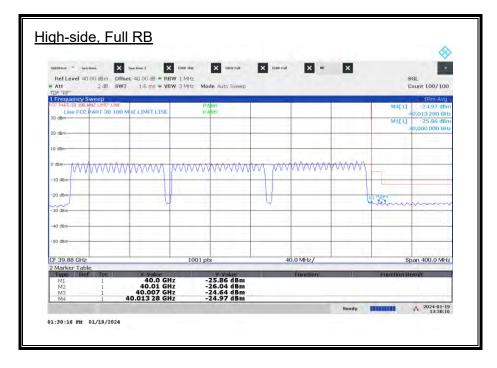
Ant#0, 100 MHz, SISO (2TX), 3CC, QPSK





Ant#0, 100 MHz, SISO (2TX), 3CC, QPSK





Ant#0 & Ant#1, 100 MHz, SISO (2TX), 3CC, QPSK

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
A ::::+#O				37	-14.07	11.80	-25.87	-5	-20.87
Ant#0	100		1/0	36.99	-27.04	11.80	-38.84	-13	-25.84
A	100	L	1/0	37	-19.96	11.20	-31.16	-5	-26.16
Ant#1				36.99	-29.12	11.20	-40.32	-13	-27.32
				37	-25.95	11.80	-37.75	-5	-32.75
Ant#0				36.9968	-25.37	11.80	-37.17	-5	-32.17
Ant#U				36.99	-26.68	11.80	-38.48	-13	-25.48
	100	L	64/0	36.98586	-25.20	11.80	-37.00	-13	-24.00
				37	-24.78	11.20	-35.98	-5	-30.98
Ant#1				36.99	-28.53	11.20	-39.73	-13	-26.73
				36.98826	-26.11	11.20	-37.31	-13	-24.31
Ant#0				40	-19.54	11.80	-31.34	-5	-26.34
AIII#U	100	н	1/63	40.01	-25.00	11.80	-36.80	-13	-23.80
Ant#1	100		1/03	40	-25.16	11.20	-36.36	-5	-31.36
AIII#1				40.01	-27.00	11.20	-38.20	-13	-25.20
				40	-25.86	11.80	-37.66	-5	-32.66
Ant#0				40.007	-24.64	11.80	-36.44	-5	-31.44
AIII#U				40.01	-26.04	11.80	-37.84	-13	-24.84
	100	Н	64/0	40.01328	-24.97	11.80	-36.77	-13	-23.77
				40	-26.25	11.20	-37.45	-5	-32.45
Ant#1				40.0084	-25.03	11.20	-36.23	-5	-31.23
				40.01	-25.36	11.20	-36.56	-13	-23.56

Ant#0 & Ant#1, 100 MHz, SISO (2TX), 3CC, Pi/2 BPSK

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-18.09	11.80	-29.89	-5	-24.89
Ant#0	100		1/0	36.99	-27.81	11.80	-39.61	-13	-26.61
Ant#1	100	L	1/0	37	-18.07	11.20	-29.27	-5	-24.27
Ant#1				36.99	-29.64	11.20	-40.84	-13	-27.84
				37	-25.67	11.80	-37.47	-5	-32.47
Ant#0	100 L			36.99	-26.38	11.80	-38.18	-13	-25.18
		100 L	64/0	36.98581	-25.71	11.80	-37.51	-13	-24.51
				37	-25.91	11.20	-37.11	-5	-32.11
Ant#1				36.99	-28.11	11.20	-39.31	-13	-26.31
				36.98852	-25.59	11.20	-36.79	-13	-23.79
Ant#0				40	-19.28	11.80	-31.08	-5	-26.08
AIIL#U	100	н	1/63	40.01	-24.77	11.80	-36.57	-13	-23.57
Ant#1	100	"	1/03	40	-25.08	11.20	-36.28	-5	-31.28
AIII#1				40.01	-26.91	11.20	-38.11	-13	-25.11
				40	-25.67	11.80	-37.47	-5	-32.47
Ant#0				40.01	-26.49	11.80	-38.29	-13	-25.29
	100	н	64/0	40.01377	-25.28	11.80	-37.08	-13	-24.08
	100		04/0	40	-26.62	11.20	-37.82	-5	-32.82
Ant#1				40.00892	-25.23	11.20	-36.43	-5	-31.43
				40.01	-25.36	11.20	-36.56	-13	-23.56

DATE: 2024-03-04

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Ant#0 & Ant#1, 100 MHz, SISO (2TX), 3CC, 16QAM

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-14.57	11.80	-26.37	-5	-21.37
AIII#U	100		1/0	36.99	-26.70	11.80	-38.50	-13	-25.50
Ant#1	100	L	1/0	37	-17.71	11.20	-28.91	-5	-23.91
AIII#1				36.99	-29.13	11.20	-40.33	-13	-27.33
				37	-27.85	11.80	-39.65	-5	-34.65
Ant#0				36.99767	-26.95	11.80	-38.75	-5	-33.75
Ant#0	100	L	64/0	36.99	-27.89	11.80	-39.69	-13	-26.69
	100		04/0	36.98557	-27.33	11.80	-39.13	-13	-26.13
Ant#1				37	-27.71	11.20	-38.91	-5	-33.91
Ant#1				36.99	-27.45	11.20	-38.65	-13	-25.65
Ant#0				40	-19.28	11.80	-31.08	-5	-26.08
Ant#0	100	Н	1/62	40.01	-24.77	11.80	-36.57	-13	-23.57
Ant#1	100	П	1/63	40	-25.44	11.20	-36.64	-5	-31.64
Ant#1				40.01	-27.63	11.20	-38.83	-13	-25.83
A n+#0				40	-26.19	11.80	-37.99	-5	-32.99
Ant#0 100	о Н		40.01	-26.97	11.80	-38.77	-13	-25.77	
Ant#1	100	П	64/0	40	-26.78	11.20	-37.98	-5	-32.98
AIIL#1				40.01	-26.95	11.20	-38.15	-13	-25.15

DATE: 2024-03-04

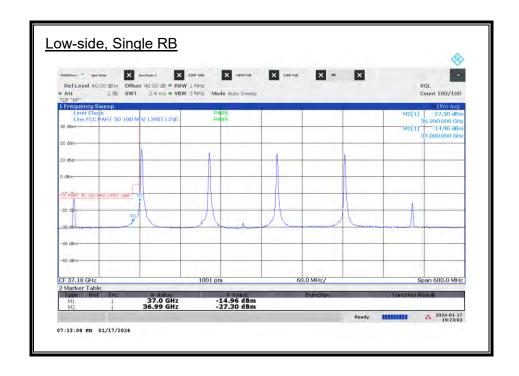
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Ant#0 & Ant#1, 100 MHz, SISO (2TX), 3CC, 64QAM

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-16.86	11.80	-28.66	-5	-23.66
AIII#U	100	L	1/0	36.99	-27.40	11.80	-39.20	-13	-26.20
Ant#1	100		1/0	37	-17.95	11.20	-29.15	-5	-24.15
AIII#1				36.99	-29.37	11.20	-40.57	-13	-27.57
				37	-27.37	11.80	-39.17	-5	-34.17
Ant#0				36.99	-29.73	11.80	-41.53	-13	-28.53
	100		64/0	36.98861	-28.43	11.80	-40.23	-13	-27.23
		L		37	-27.84	11.20	-39.04	-5	-34.04
Ant#1				36.99	-29.72	11.20	-40.92	-13	-27.92
				36.9885	-28.50	11.20	-39.70	-13	-26.70
Ant#0				40	-20.69	11.80	-32.49	-5	-27.49
AIII#U	100	Н	1/62	40.01	-25.76	11.80	-37.56	-13	-24.56
Ant#1	100	"	1/63	40	-25.69	11.20	-36.89	-5	-31.89
AIII#1				40.01	-27.03	11.20	-38.23	-13	-25.23
Ant#0				40	-26.66	11.80	-38.46	-5	-33.46
AIIL#U	100	н	64/0	40.01	-26.77	11.80	-38.57	-13	-25.57
Ant#1	100		64/0	40	-27.04	11.20	-38.24	-5	-33.24
AIII#1				40.01	-26.60	11.20	-37.80	-13	-24.80

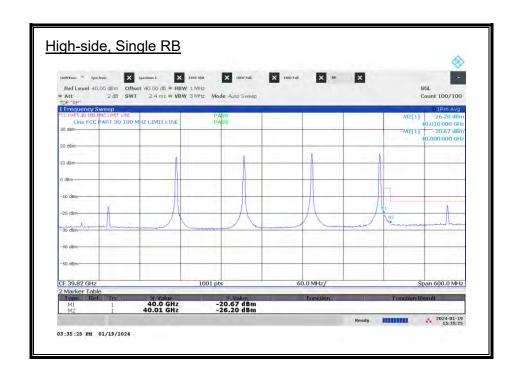
8.3.4. BAND EDGE n260 SISO (2TX) 4CC

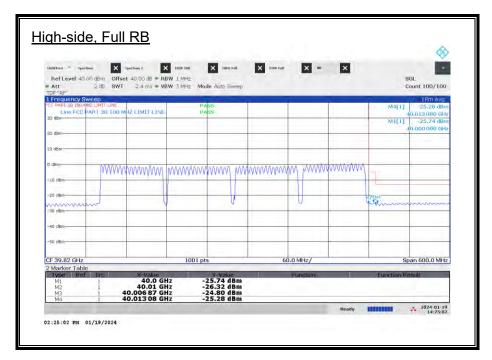
Ant#0, 100 MHz, SISO (2TX), 4CC, QPSK





Ant#0, 100 MHz, SISO (2TX), 4CC, QPSK





Ant#0 & Ant#1, 100 MHz, SISO (2TX), 4CC, QPSK

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-14.96	11.80	-26.76	-5	-21.76
Ant#0	100	L	1/0	36.99	-27.30	11.80	-39.10	-13	-26.10
Ant#1	100	_	1/0	37	-14.15	11.20	-25.35	-5	-20.35
Ant#1				36.99	-28.94	11.20	-40.14	-13	-27.14
				37	-25.90	11.80	-37.70	-5	-32.70
Ant#0				36.997	-24.99	11.80	-36.79	-5	-31.79
Ant#0				36.99	-28.42	11.80	-40.22	-13	-27.22
	100	L	64/0	36.98648	-25.10	11.80	-36.90	-13	-23.90
				37	-26.41	11.20	-37.61	-5	-32.61
Ant#1				36.99	-29.20	11.20	-40.40	-13	-27.40
				36.98708	-25.10	11.20	-36.30	-13	-23.30
Ant#0				40	-20.67	11.80	-32.47	-5	-27.47
Ant#0	100	н	1/63	40.01	-26.20	11.80	-38.00	-13	-25.00
Ant#1	100		1/03	40	-23.94	11.20	-35.14	-5	-30.14
Ant#1				40.01	-26.56	11.20	-37.76	-13	-24.76
				40	-25.74	11.80	-37.54	-5	-32.54
Ant#0				40.00687	-24.80	11.80	-36.60	-5	-31.60
AIIL#U				40.01	-26.32	11.80	-38.12	-13	-25.12
	100	Н	64/0	40.01308	-25.28	11.80	-37.08	-13	-24.08
				40	-26.52	11.20	-37.72	-5	-32.72
Ant#1				40.00911	-24.60	11.20	-35.80	-5	-30.80
				40.01	-25.10	11.20	-36.30	-13	-23.30

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-20.46	11.80	-32.26	-5	-27.26
Ant#0	100	L	1/0	36.99	-28.89	11.80	-40.69	-13	-27.69
Ant#1	100	_	1/0	37	-17.03	11.20	-28.23	-5	-23.23
AIII#1				36.99	-28.71	11.20	-39.91	-13	-26.91
				37	-26.89	11.80	-38.69	-5	-33.69
Ant#0				36.99708	-25.58	11.80	-37.38	-5	-32.38
AIII#U				36.99	-27.07	11.80	-38.87	-13	-25.87
	100	L	64/0	36.98599	-25.06	11.80	-36.86	-13	-23.86
				37	-25.63	11.20	-36.83	-5	-31.83
Ant#1				36.99	-27.74	11.20	-38.94	-13	-25.94
				36.98302	-26.11	11.20	-37.31	-13	-24.31
Ant#0				40	-20.38	11.80	-32.18	-5	-27.18
Antho	100	н	1/63	40.01	-26.09	11.80	-37.89	-13	-24.89
Ant#1	100	''	1/03	40	-24.47	11.20	-35.67	-5	-30.67
Anthi				40.01	-26.57	11.20	-37.77	-13	-24.77
				40	-25.93	11.80	-37.73	-5	-32.73
Ant#0				40.00284	-25.09	11.80	-36.89	-5	-31.89
Antho				40.01	-25.95	11.80	-37.75	-13	-24.75
	100	Н	64/0	40.01336	-25.14	11.80	-36.94	-13	-23.94
				40	-26.31	11.20	-37.51	-5	-32.51
Ant#1				40.00308	-25.46	11.20	-36.66	-5	-31.66
				40.01	-24.96	11.20	-36.16	-13	-23.16

Ant#0 & Ant#1, 100 MHz, SISO (2TX), 4CC, 16QAM

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-14.98	11.80	-26.78	-5	-21.78
AIII#U	100	L	1/0	36.99	-26.92	11.80	-38.72	-13	-25.72
Ant#1	100	_	1/0	37	-16.27	11.20	-27.47	-5	-22.47
AIII#1				36.99	-28.88	11.20	-40.08	-13	-27.08
				37	-26.38	11.80	-38.18	-5	-33.18
Ant#0				36.99	-28.35	11.80	-40.15	-13	-27.15
	100 L		64/0	36.98519	-27.54	11.80	-39.34	-13	-26.34
		_	04/0	37	-27.74	11.20	-38.94	-5	-33.94
Ant#1				36.99	-29.04	11.20	-40.24	-13	-27.24
				36.98305	-27.14	11.20	-38.34	-13	-25.34
Ant#0				40	-20.61	11.80	-32.41	-5	-27.41
AIII#0	100	н	1/63	40.01	-25.98	11.80	-37.78	-13	-24.78
Ant#1	100	П	1/03	40	-24.82	11.20	-36.02	-5	-31.02
AIII#1				40.01	-26.87	11.20	-38.07	-13	-25.07
				40	-26.64	11.80	-38.44	-5	-33.44
Ant#0				40.00102	-25.79	11.80	-37.59	-5	-32.59
	100	н	64/0	40.01	-26.42	11.80	-38.22	-13	-25.22
	100	П	04/0	40	-27.03	11.20	-38.23	-5	-33.23
Ant#1				40.00328	-25.87	11.20	-37.07	-5	-32.07
				40.01	-26.08	11.20	-37.28	-13	-24.28

Ant#0 & Ant#1, 100 MHz, SISO (2TX), 4CC, 64QAM

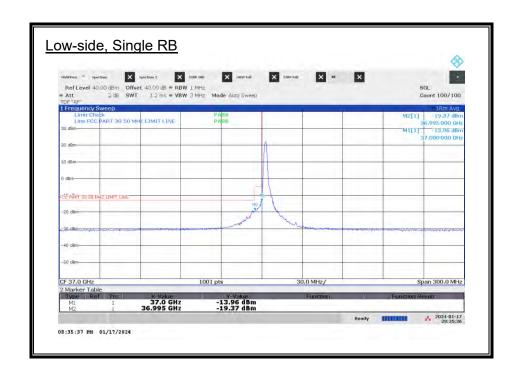
Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size Offset)	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-16.95	11.80	-28.75	-5	-23.75
AIII#0	100	L	1/0	36.99	-27.93	11.80	-39.73	-13	-26.73
Ant#1	100	_	1/0	37	18.32	11.20	7.12	-5	12.12
AIII#1				36.99	-29.46	11.20	-40.66	-13	-27.66
				37	-27.75	11.80	-39.55	-5	-34.55
Ant#0				36.99	-28.98	11.80	-40.78	-13	-27.78
	100	L	64/0	36.98639	-28.55	11.80	-40.35	-13	-27.35
	100	_	04,0	37	-28.26	11.20	-39.46	-5	-34.46
Ant#1				36.99	-29.88	11.20	-41.08	-13	-28.08
				36.98258	-28.58	11.20	-39.78	-13	-26.78
Ant#0				40	-21.89	11.80	-33.69	-5	-28.69
Ant#o	100	н	1/63	40.01	-26.29	11.80	-38.09	-13	-25.09
Ant#1	100	''	1/03	40	-24.46	11.20	-35.66	-5	-30.66
AII(#1				40.01	-26.89	11.20	-38.09	-13	-25.09
Ant#0				40	-27.03	11.80	-38.83	-5	-33.83
AIII#0	100		64/0	40.01	-27.37	11.80	-39.17	-13	-26.17
Ant#1	100	100 H	04/0	40	-27.09	11.20	-38.29	-5	-33.29
AIII#1				40.01	-27.30	11.20	-38.50	-13	-25.50

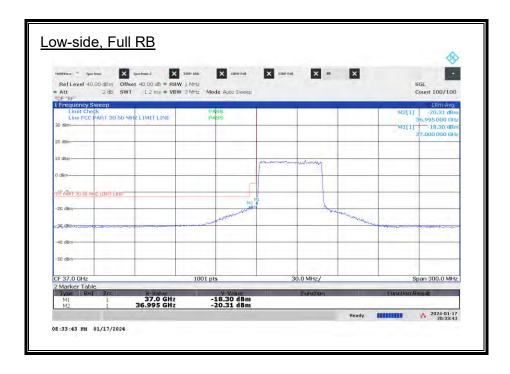
DATE: 2024-03-04

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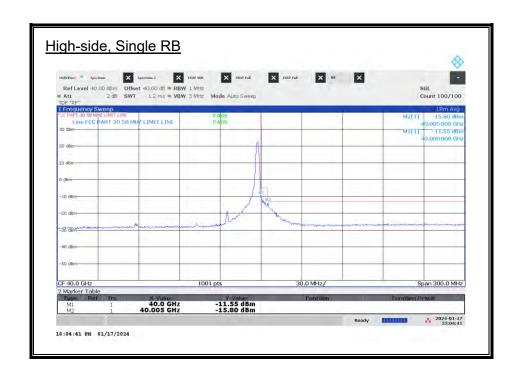
8.3.5. BAND EDGE n260 MIMO 1CC

Ant#0, 50 MHz, MIMO, 1CC, QPSK





Ant#0, 50 MHz, MIMO, 1CC, QPSK





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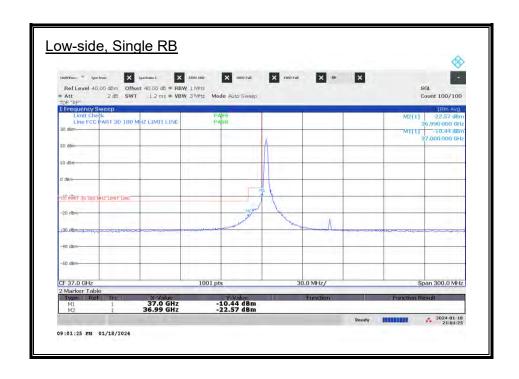
Ant#0 & Ant#1, 50 MHz, MIMO, 1CC, QPSK

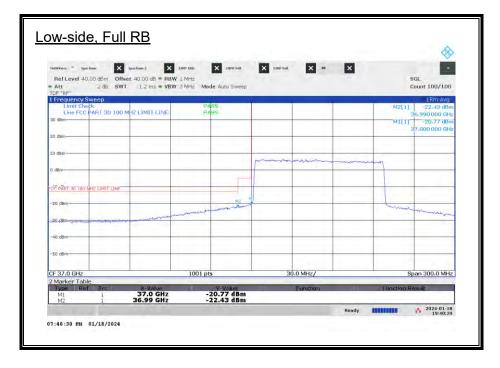
Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size Offset)	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-13.96	11.80	-25.76	-5	-20.76
Ant#0				36.995	-19.37	11.80	-31.17	-13	-18.17
	50	L	1/0	37	-10.16	11.20	-21.36	-5	-16.36
Ant#1				36.995	-19.68	11.20	-30.88	-13	-17.88
				36.993	-17.58	11.20	-28.78	-13	-15.78
Ant#0				37	-18.30	11.80	-30.10	-5	-25.10
AIIL#U	50		32/0	36.995	-20.31	11.80	-32.11	-13	-19.11
Ant#1	30	L		37	-18.25	11.20	-29.45	-5	-24.45
AIII#1				36.995	-19.26	11.20	-30.46	-13	-17.46
Ant#0				40	-11.55	11.80	-23.35	-5	-18.35
AIII#U	50	н	1/31	40.005	-15.80	11.80	-27.60	-13	-14.60
Ant#1	30	"	1/31	40	-13.10	11.20	-24.30	-5	-19.30
AIII#1				40.005	-20.63	11.20	-31.83	-13	-18.83
Ant#0				40	-18.27	11.80	-30.07	-5	-25.07
AIII#U	50	О Н	32/0	40.005	-20.92	11.80	-32.72	-13	-19.72
An+#1	30			40	-17.75	11.20	-28.95	-5	-23.95
AIII#1	Ant#1			40.005	-19.07	11.20	-30.27	-13	-17.27

DATE: 2024-03-04

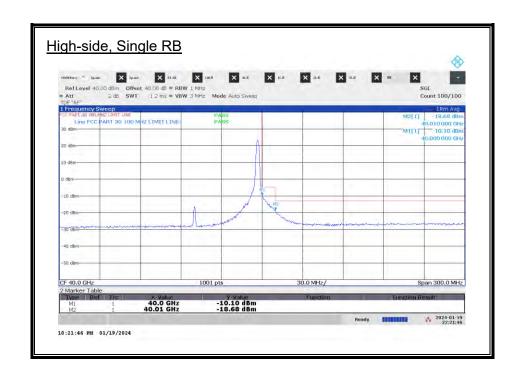
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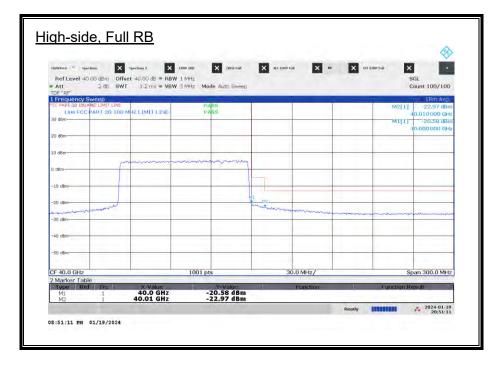
Ant#0, 100 MHz, MIMO, 1CC, QPSK





Ant#0, 100 MHz, MIMO, 1CC, QPSK





Ant#0 & Ant#1, 100 MHz, MIMO, 1CC, QPSK

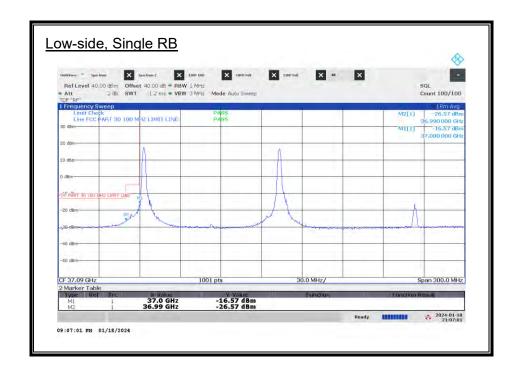
Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size Offset)	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-10.44	11.80	-22.24	-5	-17.24
Ant#0	100	L	1/0	36.99	-22.57	11.80	-34.37	-13	-21.37
Ant#1	100	-	1/0	37	-10.75	11.20	-21.95	-5	-16.95
AIII#1				36.99	-24.89	11.20	-36.09	-13	-23.09
Ant#0				37	-20.77	11.80	-32.57	-5	-27.57
Ant#0	100	L	66/0	36.99	-22.43	11.80	-34.23	-13	-21.23
A m+#1	100			37	-20.96	11.20	-32.16	-5	-27.16
Ant#1				36.99	-23.17	11.20	-34.37	-13	-21.37
Ant#0				40	-10.10	11.80	-21.90	-5	-16.90
Ant#0	100	Н	1/65	40.01	-18.68	11.80	-30.48	-13	-17.48
A m+#1	100		1/65	40	-12.40	11.20	-23.60	-5	-18.60
Ant#1				40.01	-24.40	11.20	-35.60	-13	-22.60
A m+#0				40	-20.58	11.80	-32.38	-5	-27.38
Ant#0	100	1	66/0	40.01	-22.97	11.80	-34.77	-13	-21.77
A + # 1	100	100 H	66/0	40	-21.40	11.20	-32.60	-5	-27.60
Ant#1			40.01	-23.02	11.20	-34.22	-13	-21.22	

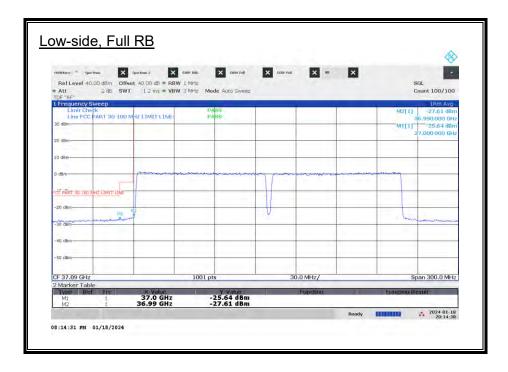
DATE: 2024-03-04

DATE: 2024-03-04

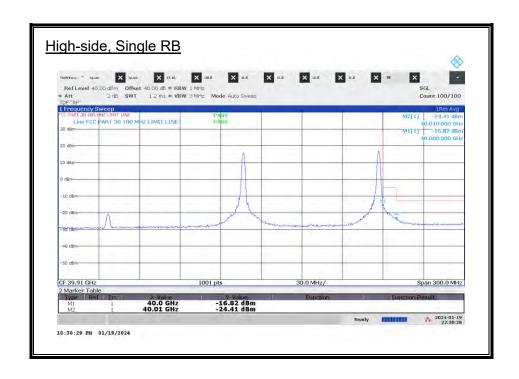
8.3.6. BAND EDGE n260 MIMO 2CC

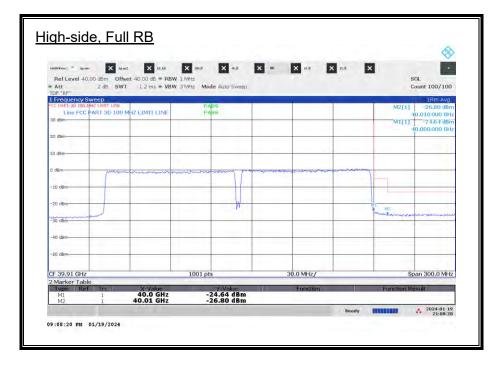
Ant#0, 100 MHz, MIMO, 2CC, QPSK





Ant#0, 100 MHz, MIMO, 2CC, QPSK





Ant#0 & Ant#1, 100 MHz, MIMO, 2CC, QPSK

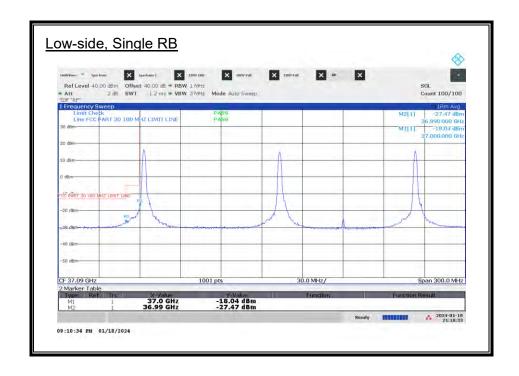
Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size Offset)	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-16.57	11.80	-28.37	-5	-23.37
AIII#U	100		1/0	36.99	-26.57	11.80	-38.37	-13	-25.37
Ant#1	100	L	1/0	37	-17.05	11.20	-28.25	-5	-23.25
AIII#1				36.99	-28.39	11.20	-39.59	-13	-26.59
Ant#0				37	-25.64	11.80	-37.44	-5	-32.44
AIII#U	100	L	66/0	36.99	-27.61	11.80	-39.41	-13	-26.41
A := ##1	100			37	-26.57	11.20	-37.77	-5	-32.77
Ant#1				36.99	-28.22	11.20	-39.42	-13	-26.42
Ant#0				40	-16.82	11.80	-28.62	-5	-23.62
AIII#U	100	н	1/65	40.01	-24.41	11.80	-36.21	-13	-23.21
Ant#1	100	"	1/65	40	-15.70	11.20	-26.90	-5	-21.90
AIII#1				40.01	-26.97	11.20	-38.17	-13	-25.17
Ant#0	•		•	40	-24.64	11.80	-36.44	-5	-31.44
AIIL#U	100	100 H	66/0	40.01	-26.80	11.80	-38.60	-13	-25.60
A n+#1	100			40	-25.65	11.20	-36.85	-5	-31.85
Ant#1			40.01	-26.30	11.20	-37.50	-13	-24.50	

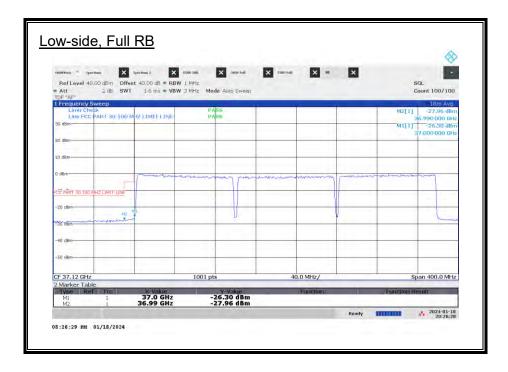
DATE: 2024-03-04

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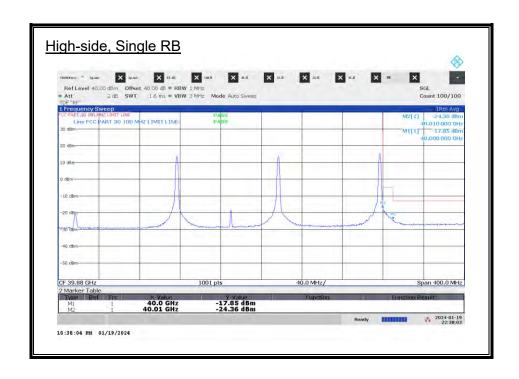
8.3.7. BAND EDGE n260 MIMO 3CC

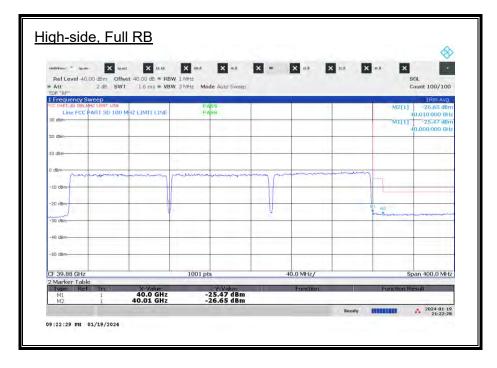
Ant#0, 100 MHz, MIMO, 3CC, QPSK





Ant#0, 100 MHz, MIMO, 3CC, QPSK





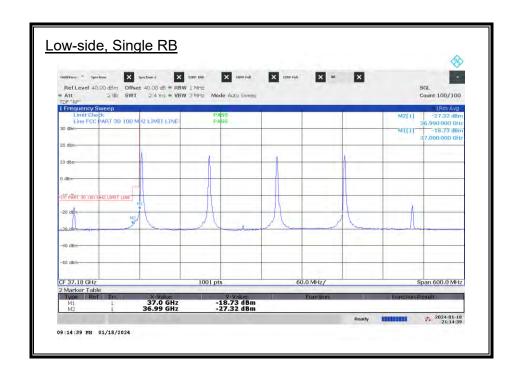
Ant#0 & Ant#1, 100 MHz, MIMO, 3CC, QPSK

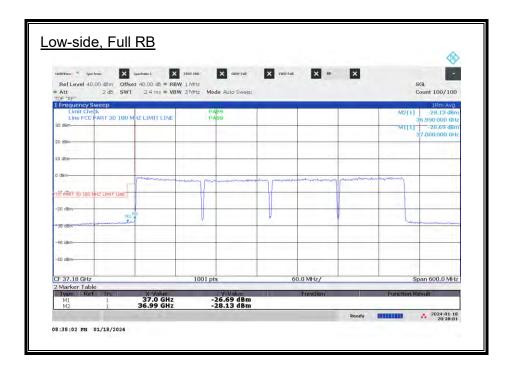
Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size Offset)	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-18.04	11.80	-29.84	-5	-24.84
AIII#U	100		1/0	36.99	-27.47	11.80	-39.27	-13	-26.27
Ant#1	100	L	1/0	37	-18.03	11.20	-29.23	-5	-24.23
AIII#1				36.99	-28.83	11.20	-40.03	-13	-27.03
Ant#0				37	-26.30	11.80	-38.10	-5	-33.10
AIIL#U	100	1	66/0	36.99	-27.96	11.80	-39.76	-13	-26.76
٨ 4 44 1	100	L		37	-27.03	11.20	-38.23	-5	-33.23
Ant#1				36.99	-28.53	11.20	-39.73	-13	-26.73
Ant#0				40	-17.85	11.80	-29.65	-5	-24.65
AIII#U	100	н	1/65	40.01	-24.36	11.80	-36.16	-13	-23.16
٨ سه ٢٠٠	100	П	1/05	40	-18.92	11.20	-30.12	-5	-25.12
Ant#1				40.01	-26.51	11.20	-37.71	-13	-24.71
Ant#0				40	-25.47	11.80	-37.27	-5	-32.27
AIII#U	100		66/0	40.01	-26.65	11.80	-38.45	-13	-25.45
Λ n+#1	100	Н		40	-26.13	11.20	-37.33	-5	-32.33
Ant#1			40.01	-26.58	11.20	-37.78	-13	-24.78	

DATE: 2024-03-04

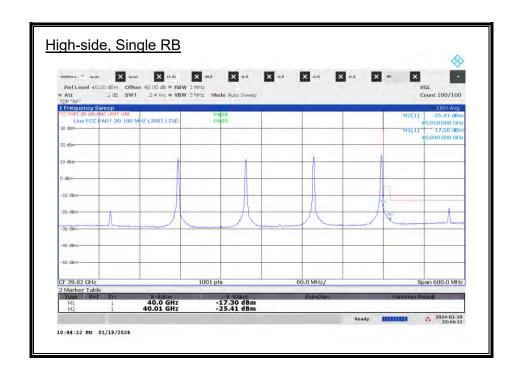
8.3.8. BAND EDGE n260 MIMO 4CC

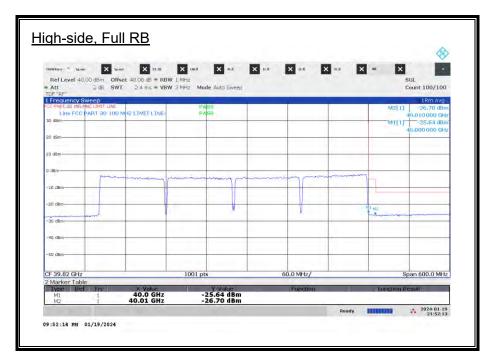
Ant#0, 100 MHz, MIMO, 4CC, QPSK





Ant#0, 100 MHz, MIMO, 4CC, QPSK





Ant#0 & Ant#1, 100 MHz, MIMO, 4CC, QPSK

Antenna	BW	Channel	RB	Freq.	Measured EIRP	EUT Ant Gain	Adj. EIRP	Avg TRP Limit	Margin
	(MHz)		(Size Offset)	(GHz)	(dBm)	(dBi)	(dBm)	(dBm)	(dB)
Ant#0				37	-18.73	11.80	-30.53	-5	-25.53
Ant#0	100	L	1/0	36.99	-27.32	11.80	-39.12	-13	-26.12
Ant#1	100	-	1/0	37	-17.68	11.20	-28.88	-5	-23.88
AIII#1				36.99	-28.85	11.20	-40.05	-13	-27.05
Ant#0				37	-26.69	11.80	-38.49	-5	-33.49
AIII#U	100	L	66/0	36.99	-28.13	11.80	-39.93	-13	-26.93
Ant#1	100	-	66/0	37	-27.60	11.20	-38.80	-5	-33.80
Ant#1				36.99	-28.27	11.20	-39.47	-13	-26.47
Ant#0				40	-17.30	11.80	-29.10	-5	-24.10
AIII#U	100	Н	1/65	40.01	-25.41	11.80	-37.21	-13	-24.21
Ant#1	100	"	1/03	40	-18.87	11.20	-30.07	-5	-25.07
AIII#1				40.01	-27.05	11.20	-38.25	-13	-25.25
Ant#0				40	-25.64	11.80	-37.44	-5	-32.44
AIII#U	100	Н	66/0	40.01	-26.70	11.80	-38.50	-13	-25.50
A m+#1	100	"		40	-26.52	11.20	-37.72	-5	-32.72
AII(#1	Ant#1			40.01	-26.46	11.20	-37.66	-13	-24.66

DATE: 2024-03-04

8.4. RADIATED SPURIOUS EMISSIONS

DATE: 2024-03-04

RULE PART(S)

FCC: §2.1051, §2.947(f), §30.203

LIMIT

30.203 - (a) The conductive power or the total radiated power of any emission outside a licensee's frequency block shall be −13 dBm/MHz or lower.

TEST PROCEDURE

KDB 842590 D01 Upper Microwave Flexible Use Service v01r02 Section 4.4.2 and Section 4.4.3. ANSI C63.26-2015 Clause 5.5.4 and Annex C.5.2.

All radiated spurious emissions were measured as EIRP to compare with the §30.203 TRP limits to demonstrate compliance.

Based on the pre-scan test results, the readings of emission in 9 kHz - 30 MHz range are attenuated more than 20 dB below the limit, therefore RSE was further investigated from 30 MHz - 200 GHz on n260 band.

Plots below 18 GHz are corrected field strength levels, measured at 3-meter test distance. The average EIRP reported below is calculated per section 5.2.7 of ANSI C63.26-2015 which states: EIRP (dBm) = E (dB μ V/m) + 20log(D) – 104.8; where D is the measurement distance (in the far field region) in m. The field strength E is calculated E (dB μ V/m) = Spectrum Analyzer Level (dBm) + Antenna Factor (dB/m) + Cable Loss (dB) + 107. All appropriate Antenna Factor and Cable Loss have been applied in the spectrum analyzer for each measurement.

RSEs from 1 – 200 GHz were measured at 1.5 meters height.

RSEs above 18 GHz were measured at the appropriate far field distances listed on Section 5 on this report (FAR-FIELD DISTANCE AND MEASUREMENT DISTANCE). RSEs from 18 – 50 GHz were measured using a spectrum analyzer or EMI receiver with an internal preamplifier when applicable. Emissions above 50 GHz were measured using a downconverter with spectrum analyzer, while an external LNA was used when applicable.

EIRP of RSE was calculated using the equations on ANSI C63.26-2015 Annex C.5.2. The total correction factor of cable/waveguide extension loss, horn antenna gain, downconverter loss, LNA gain and far-field path loss were calculated using equations C.8 and C.9, and pre-loaded into spectrum analyzer.

Sample calculation of EIRP:

EIRP = P_{measured}(dBm), where Total Correction Factor preloaded.

REPORT NO: R15103618-E2V2 FCC ID: PY7-46195Y

RSEs were measured using the configuration with the highest EIRP (QPSK, SISO (2TX) mode and a single mid-RB) as representing the worst case. Preliminary radiated emissions tests at the low, middle and high channels indicated that the worst case radiated spurious emissions were on the channel with the highest EIRP and only the test data for that channel is included in this report.

DATE: 2024-03-04

The following configurations with highest EIRP from Ant#0 and Ant#1 in each frequency band were used at RSE investigation at the pre-determined worst-case y-axis (portrait) orientation:

n260 Band:

Ant#0: SISO (2TX)_QPSK_50 MHz BW_Low CH_RB Offset 1/15 (1RB-M) Ant#1: SISO (2TX) QPSK 50 MHz BW Low CH_RB Offset 1/15 (1RB-M)

In addition, the 2CC to 4CC multi-carrier operations were verified for IMD products at the near upper and lower band edge regions, approximately 1 GHz wide. The measurements were made with the single RB active in each channel and plots showing the IMD products are provided. (100 MHz + 100 MHz) channel bandwidths are tested and the signal level of the IMD products are similar for both modes. Antenna gain of EUT is not factored into the EIRP calculation of IMD product measurements. The test data for the worst case IMD emissions are reported.

Where the measured EIRP value is above the TRP limit, a TRP measurement is made. Otherwise, the EIRP value is compared with the §30.203 TRP limits to demonstrate compliance.

For the investigations of simultaneous transmission of multiple wireless technologies in the LTE B2 + 5G FR2 bands, no noticeable new emission with high amplitude was found.

RESULTS

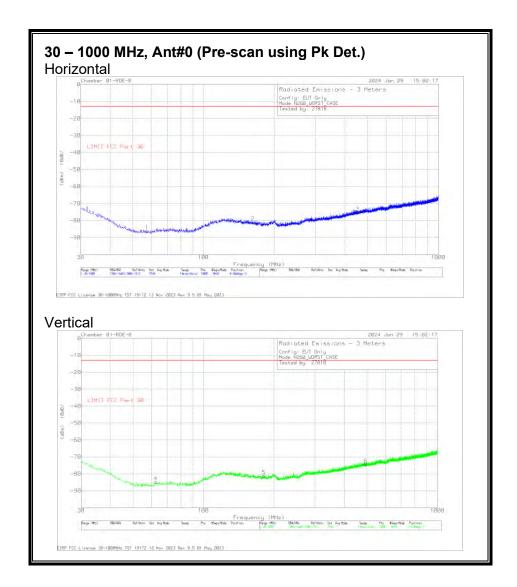
See the following pages.

Employee IDs: 27294, 27818 Test Date: 01/22/24 – 02/01/24

Test Location Below 18 GHz: 01-RDE-B

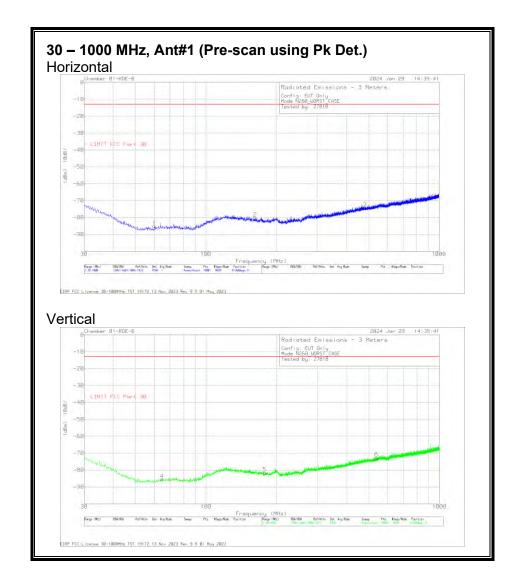
Test Locations Above 18 GHz: 01-mmW-A, 01-mmW-B

8.4.1. RSE n260 30 - 1000 MHz



Marker	Frequency (MHz)	Meter Reading (dBm)	Det	173997 ACF (dB/m)	Cbl (dB)	Unit Conversion (dB)	Corrected Reading (dBm)	LIMIT FCC Part 30	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	57.451	-79.92	Pk	13.2	-31.1	11.7	-86.12	-13	-73.12	0-360	102	Н
4	62.398	-79.06	Pk	13.6	-31	11.7	-84.76	-13	-71.76	0-360	299	V
2	162.211	-80.41	Pk	17.9	-30.2	11.7	-81.01	-13	-68.01	0-360	102	Н
5	181.223	-79.8	Pk	17.1	-30.2	11.7	-81.2	-13	-68.2	0-360	199	V
3	452.047	-80.84	Pk	22.9	-29	11.7	-75.24	-13	-62.24	0-360	199	Н
6	493.854	-80.55	Pk	23.6	-29.2	11.7	-74.45	-13	-61.45	0-360	102	V

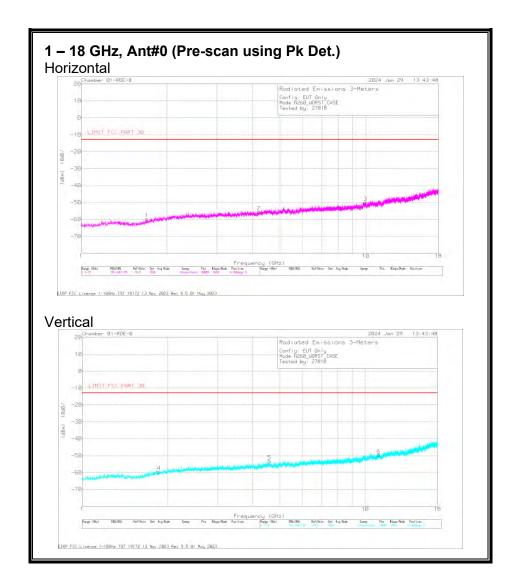
Pk - Peak detector



Marker	Frequency (MHz)	Meter Reading (dBm)	Det	173997 ACF (dB/m)	Cbl (dB)	Unit Conversion (dB)	Corrected Reading (dBm)	LIMIT FCC Part 30	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	60.07	-78.94	Pk	13.4	-31.2	11.7	-85.04	-13	-72.04	0-360	100	Н
4	64.532	-80	Pk	13.8	-31	11.7	-85.5	-13	-72.5	0-360	199	V
2	162.405	-79.83	Pk	17.9	-30.2	11.7	-80.43	-13	-67.43	0-360	399	Н
5	178.022	-80.5	Pk	17.2	-30.2	11.7	-81.8	-13	-68.8	0-360	299	V
3	481.438	-80.37	Pk	23.5	-29	11.7	-74.17	-13	-61.17	0-360	299	Н
6	537.019	-79.64	Pk	24	-28.9	11.7	-72.84	-13	-59.84	0-360	399	V

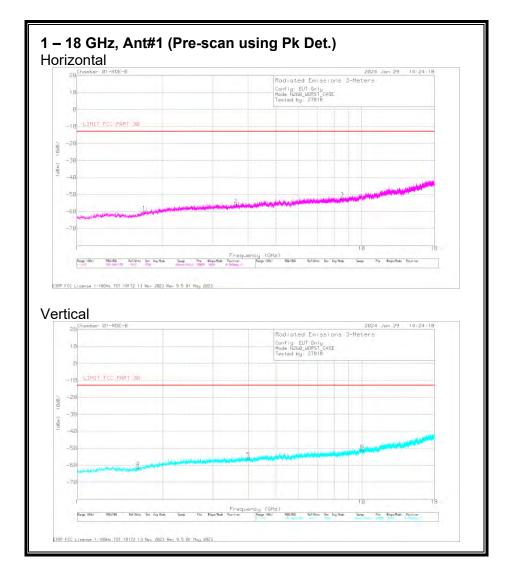
Pk - Peak detector

8.4.2. RSE n260 1 - 18 GHz



Marker	Frequency (GHz)	Meter Reading (dBm)	Det	200786 ACF (dB/m)	Unit Conversion (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT FCC PART 30	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.700435	-65.34	Pk	29	11.7	-35.15	-59.79	-13	-46.79	0-360	400	Н
4	1.864494	-66.18	Pk	30.2	11.7	-35.07	-59.35	-13	-46.35	0-360	101	V
2	4.208912	-69.33	Pk	33.5	11.7	-31.4	-55.53	-13	-42.53	0-360	400	Н
5	4.590582	-68.69	Pk	34.3	11.7	-30.45	-53.14	-13	-40.14	0-360	200	V
3	9.964553	-73.78	Pk	37.2	11.7	-25.1	-49.98	-13	-36.98	0-360	300	Η
6	11 138463	-75 95	Pk	37.8	11.7	-23 24	-49 69	-13	-36 69	0-360	101	V

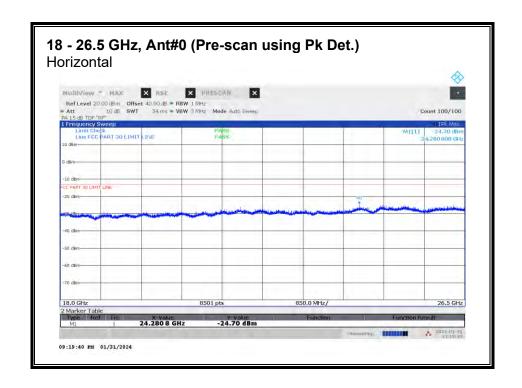
Pk - Peak detector

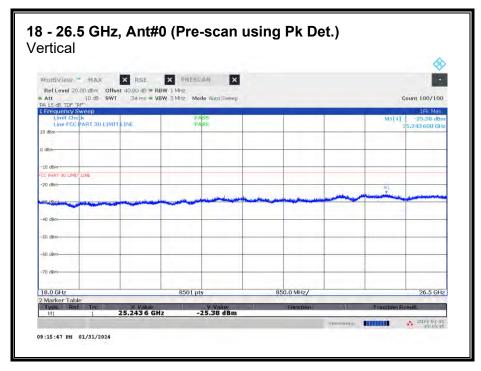


Marker	Frequency (GHz)	Meter Reading (dBm)	Det	200786 ACF (dB/m)	Unit Conversion (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT FCC PART 30	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	1.629882	-65.82	Pk	28.1	11.7	-35.19	-61.21	-13	-48.21	0-360	300	V
1	1.723387	-65.75	Pk	29.2	11.7	-35.16	-60.01	-13	-47.01	0-360	101	Н
2	3.616432	-67.49	Pk	32.9	11.7	-33.12	-56.01	-13	-43.01	0-360	101	Н
5	4.000652	-68.87	Pk	33.3	11.7	-31.82	-55.69	-13	-42.69	0-360	400	V
3	8.539881	-74.18	Pk	35.8	11.7	-25.41	-52.09	-13	-39.09	0-360	200	Н
6	10.064009	-74.97	Pk	37.4	11.7	-25.08	-50.95	-13	-37.95	0-360	300	V

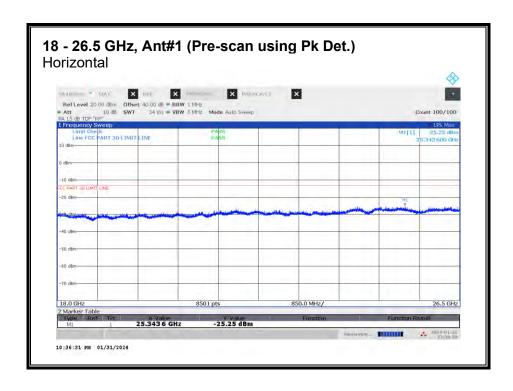
Pk - Peak detector

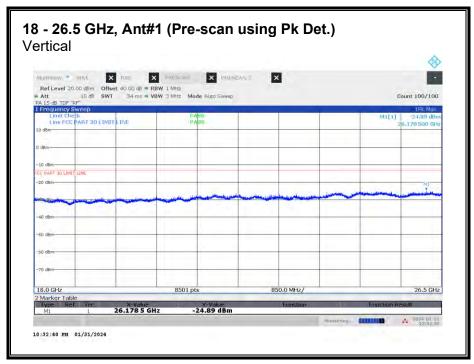
8.4.3. RSE n260 18 - 26.5 GHz





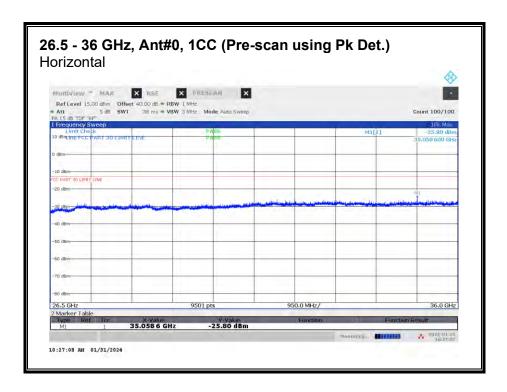
No emission detected using Peak Detection.

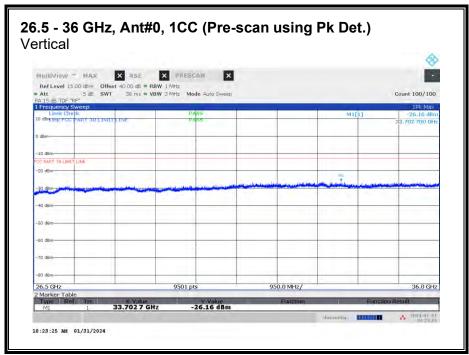




No emission detected using Peak Detection.

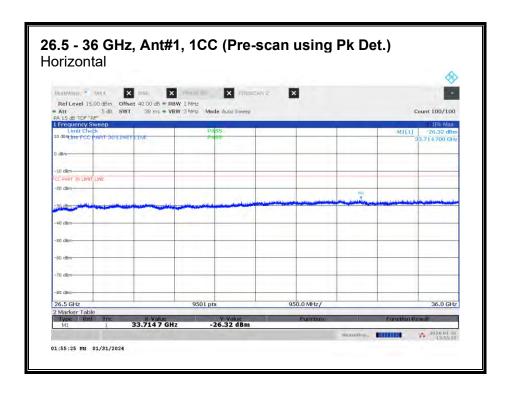
8.4.4. RSE n260 26.5 - 36 GHz

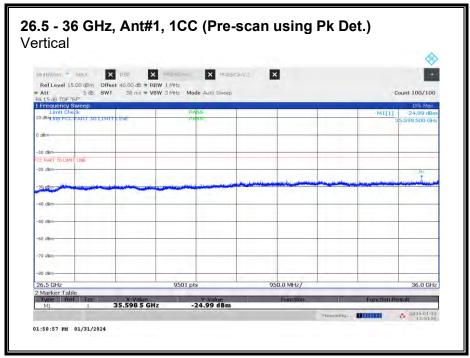




No emission detected using Peak Detection.

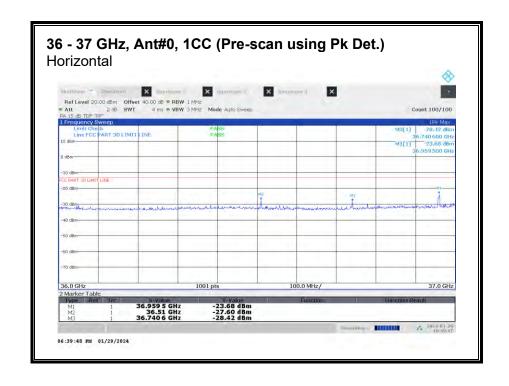
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

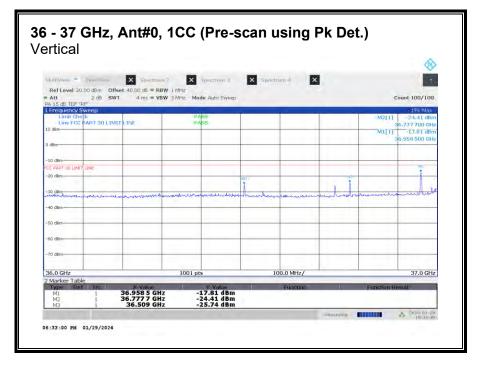




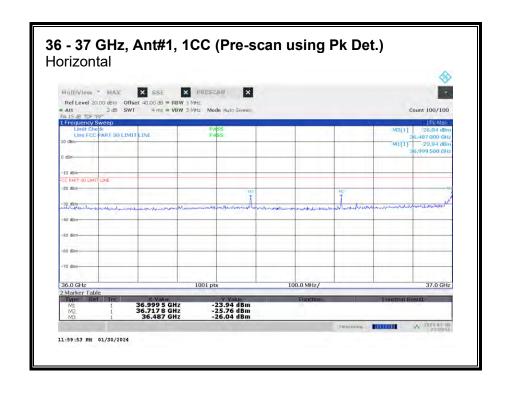
No emission detected using Peak Detection.

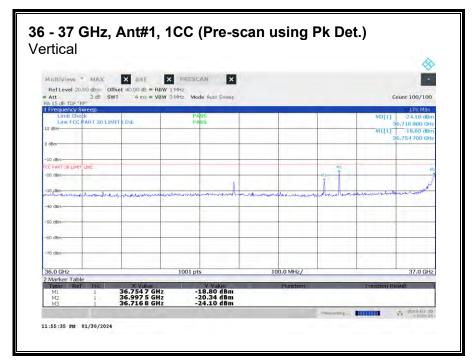
8.4.5. RSE n260 36 - 37 GHz





Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.



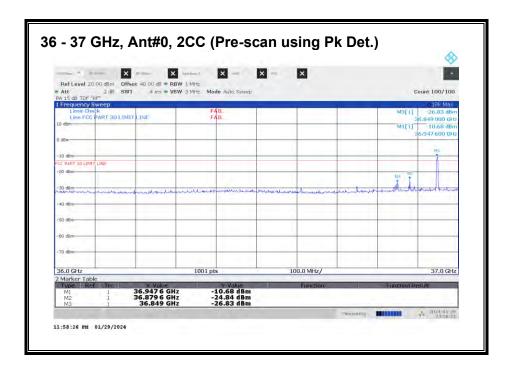


Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

Antenna	Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
	(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
Ant#0	36.959	3	Н	-34.1	-13	-21.10
Ant#0	36.959	3	٧	-26.4	-13	-13.40
Ant#0	36.778	3	Н	-41.52	-13	-28.52
Ant#0	36.778	3	٧	-35.53	-13	-22.53
Ant#0	36.510	3	Н	-33.25	-13	-20.25
Ant#0	36.510	3	٧	-30.01	-13	-17.01
Ant#1	36.487	3	Н	-33.71	-13	-20.71
Ant#1	36.487	3	٧	-27.8	-13	-14.80
Ant#1	36.717	3	Н	-34.35	-13	-21.35
Ant#1	36.717	3	V	-28.87	-13	-15.87
Ant#1	36.755	3	Н	-38.31	-13	-25.31
Ant#1	36.755	3	V	-38.29	-13	-25.29

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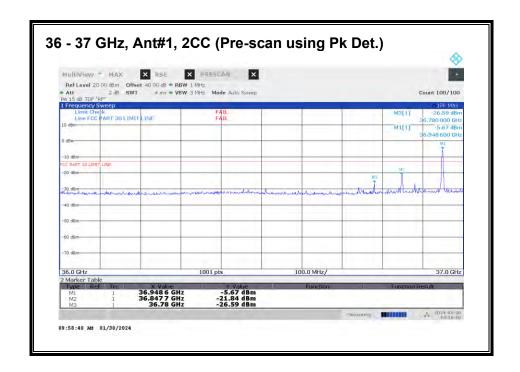
36 - 37 GHz n260, 2CC



Worst case configuration: SISO (2TX)_QPSK_(100 MHz + 100 MHz)_Low CH_RB Offset 1/31 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

Antenna	Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
	(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
Ant#0	36.947	3		-16.60	-13	-3.60

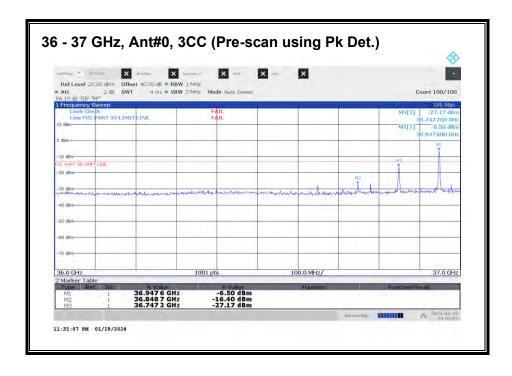


Worst case configuration: SISO (2TX)_QPSK_(100 MHz + 100 MHz)_Low CH_RB Offset 1/31 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

Antenna	Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
	(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
Ant#1	36.948	3		-14.50	-13	-1.50

36 - 37 GHz n260, 3CC

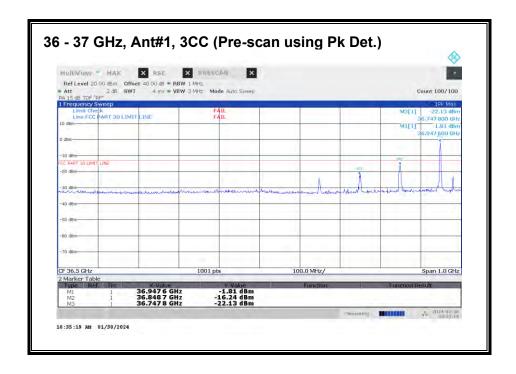


Worst case configuration:

SISO (2TX)_QPSK_(100 MHz + 100 MHz + 100 MHz)_Low CH_RB Offset 1/31 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

Antenna	Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
	(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
Ant#0	36.948	3	-	-14.06	-13	-1.06



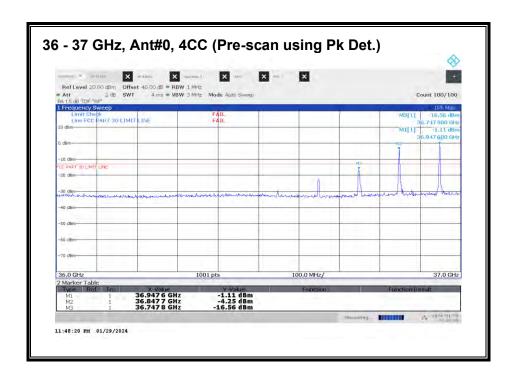
Worst case configuration:

SISO (2TX) QPSK (100 MHz + 100 MHz + 100 MHz) Low CH RB Offset 1/31 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

Antenna	Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
	(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
Ant#1	36.948	3		-15.12	-13	-2.12

36 - 37 GHz n260, 4CC



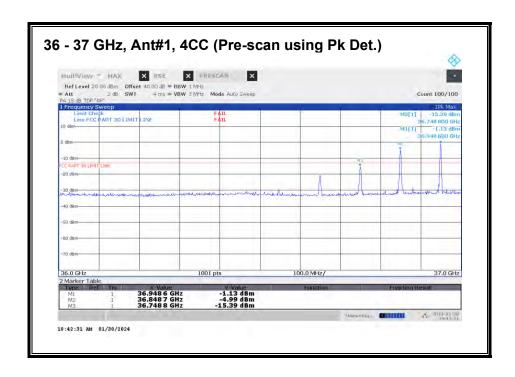
Worst case configuration:

SISO (2TX)_QPSK_(100 MHz + 100 MHz + 100 MHz + 100 MHz)_Low CH_RB Offset 1/31 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

Antenna	Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
	(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
Ant#0	36.949	3		-17.25	-13	-4.25
Ant#0	36.849	3		-16.98	-13	-3.98

36 - 37 GHz n260, 4CC



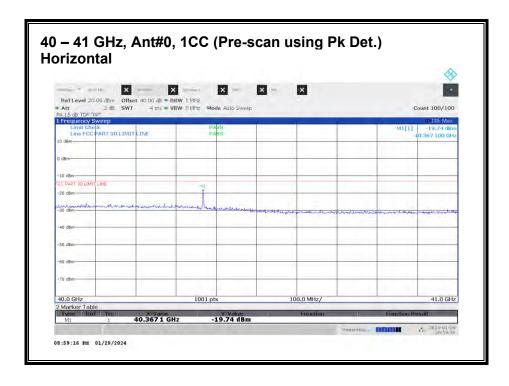
Worst case configuration:

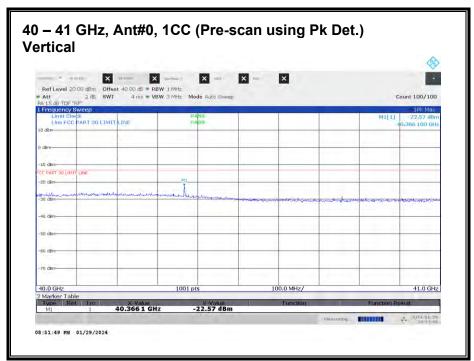
SISO (2TX)_QPSK_(100 MHz + 100 MHz + 100 MHz + 100 MHz)_Low CH_RB Offset 1/31 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

Antenna	Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
	(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
Ant#1	36.948	3		-15.63	-13	-2.63

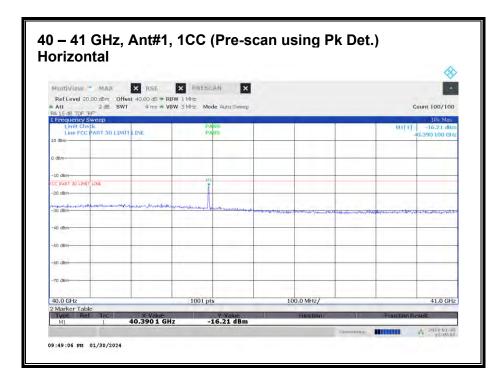
Note: 37 - 40 GHz covered by Fundamental and BE measurements.

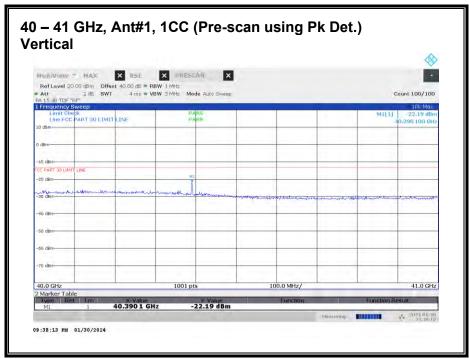




Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

DATE: 2024-03-04





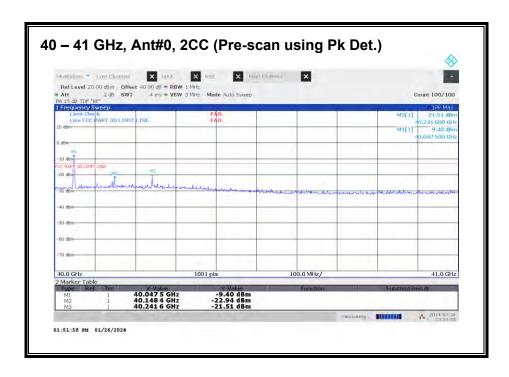
Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

REPORT NO: R15103618-E2V2 DATE: 2024-03-04 FCC ID: PY7-46195Y

40 - 41 GHz n260, 1CC

	(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
Ant#0	40.367	3	Н	-21.95	-13	-8.95
Ant#0	40.367	3	V	-38.53	-13	-25.53
Ant#1	40.390	3	Н	-19.15	-13	-6.15
Ant#1	40.390	3	V	-30.00	-13	-17.00

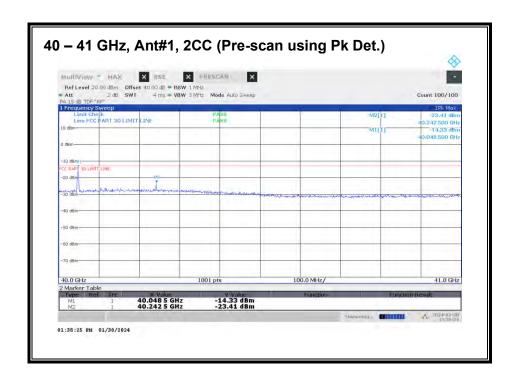
40 - 41 GHz n260, 2CC



Worst case configuration: SISO (2TX)_QPSK_(100 MHz + 100 MHz)_High CH_RB Offset 1/31 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

Antenna	Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
	(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
Ant#0	40.048	3		-23.49	-13	-10.49



Worst case configuration:

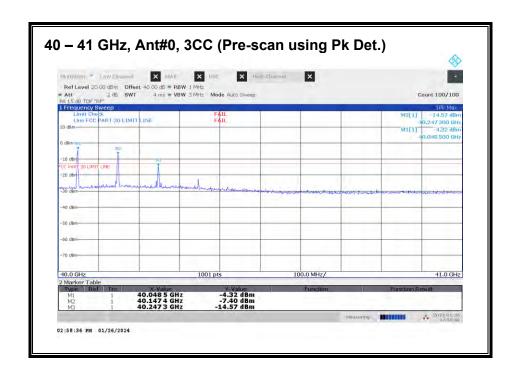
SISO (2TX)_QPSK_(100 MHz + 100 MHz)_High CH_RB Offset 1/31 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

All emissions were investigated, and the highest emission was reported.

Antenna	Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
	(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
Ant#1	40.0485	3		-30.57	-13	-17.57

40 - 41 GHz n260, 3CC



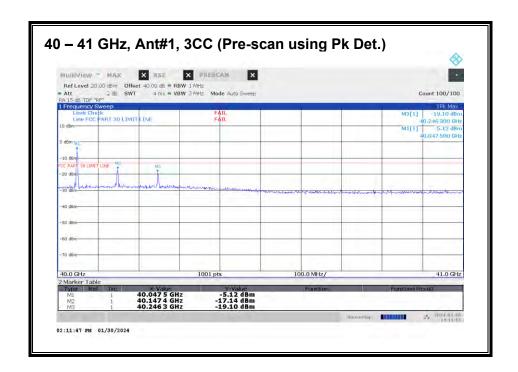
Worst case configuration:

SISO (2TX)_QPSK_(100 MHz + 100 MHz + 100 MHz)_High CH_RB Offset 1/31 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

All emissions were investigated, and the 2 highest emissions were reported.

Antenna	Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
	(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
Ant#0	40.048	3		-18.77	-13	-5.77
Ant#0	40.148	3	1	-18.17	-13	-5.17



Worst case configuration:

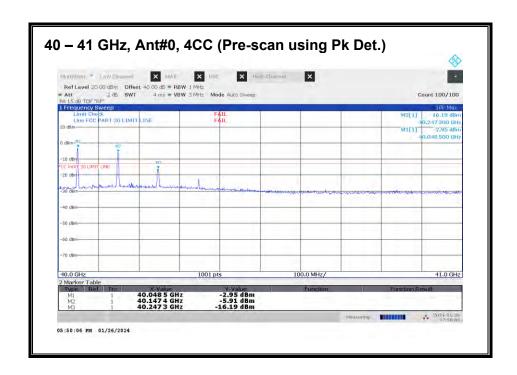
SISO (2TX) QPSK (100 MHz + 100 MHz + 100 MHz) High CH RB Offset 1/31 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

All emissions were investigated, and the highest emission was reported.

Antenna	Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
	(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
Ant#1	40.048	3		-21.65	-13	-8.65

40 - 41 GHz n260, 4CC



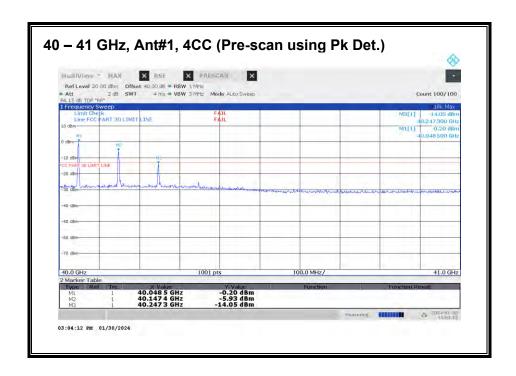
Worst case configuration:

SISO (2TX)_QPSK_(100 MHz + 100 MHz + 100 MHz + 100 MHz)_High CH_RB Offset 1/31 (1RB-M)

Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

All emissions were investigated, and 2 highest emissions were reported.

Antenna	Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
	(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
Ant#0	40.048	3		-19.32	-13	-6.32
Ant#0	40.148	3		-17.42	-13	-4.42



Worst case configuration:

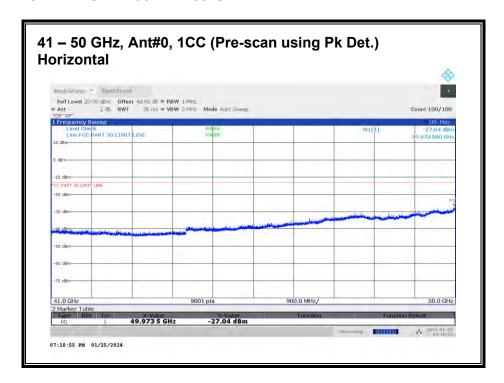
SISO (2TX)_QPSK_(100 MHz + 100 MHz + 100 MHz + 100 MHz)_High CH_RB Offset 1/31 (1RB-M)

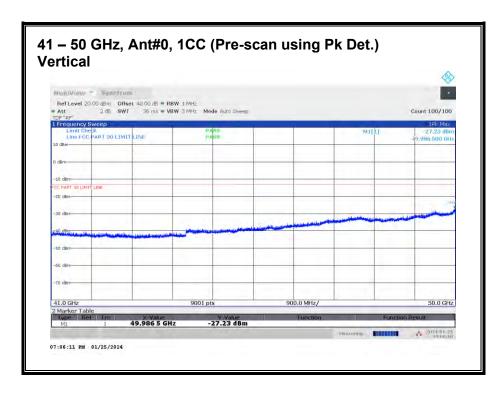
Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

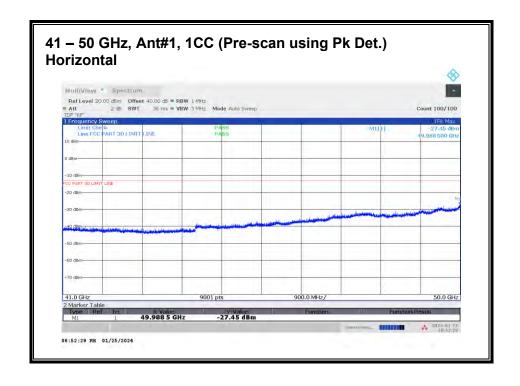
All emissions were investigated, and 2 highest emissions were reported.

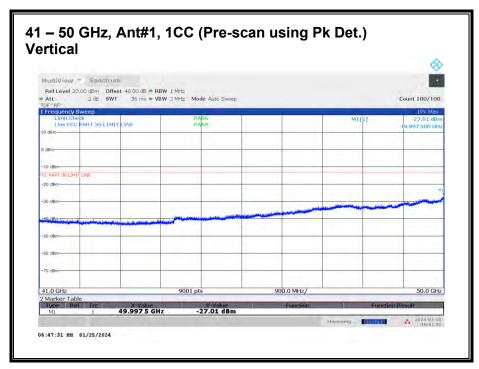
Antenna	Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
	(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
Ant#1	40.480	3		-16.69	-13	-3.69
Ant#1	40.147	3		-15.51	-13	-2.51

8.4.7. RSE n260 41 - 50 GHz

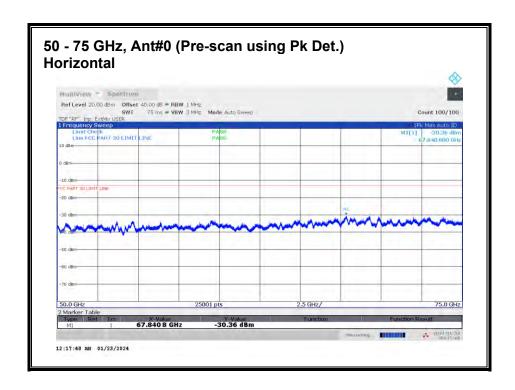


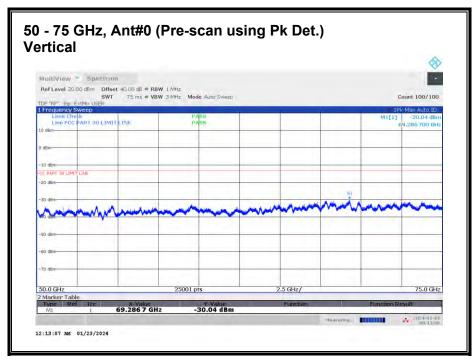


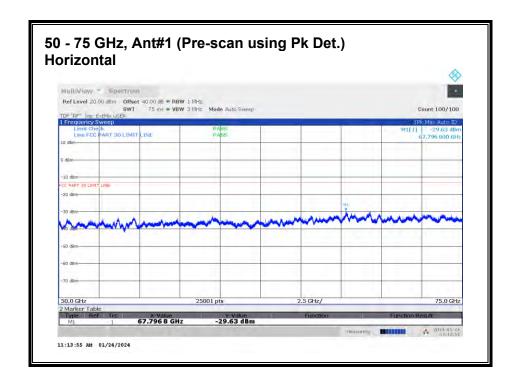


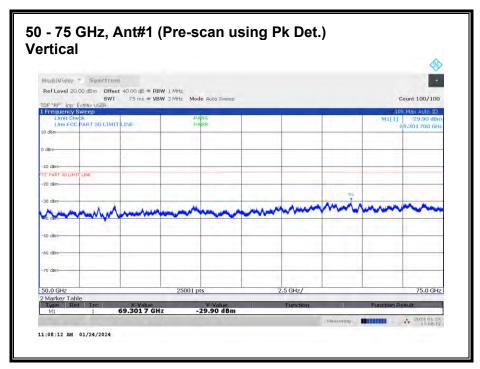


8.4.8. RSE n260 50 - 75 GHz

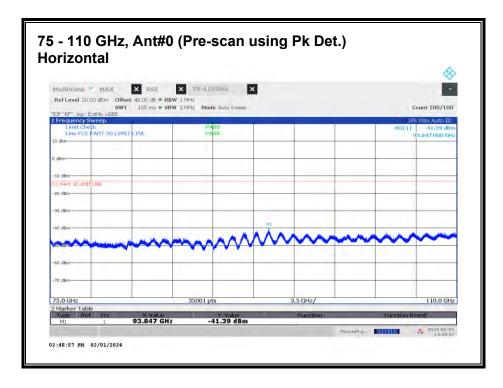


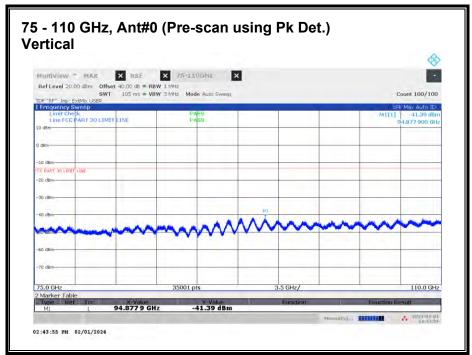


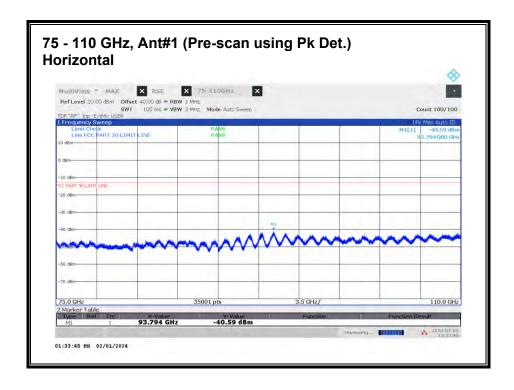


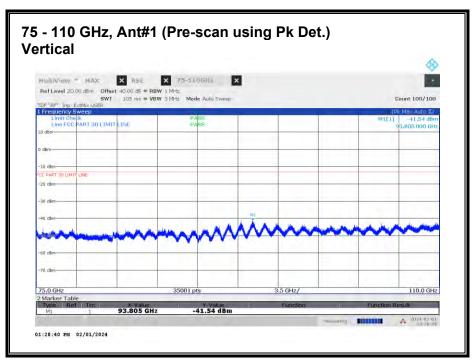


8.4.9. RSE n260 75 - 110 GHz

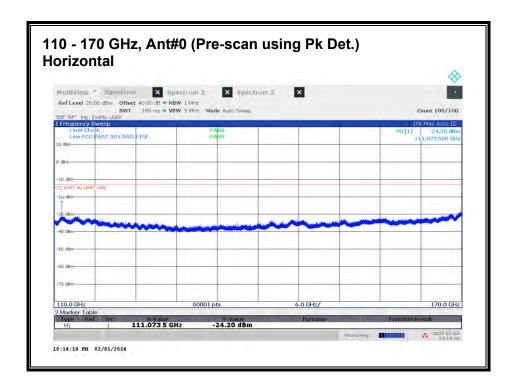


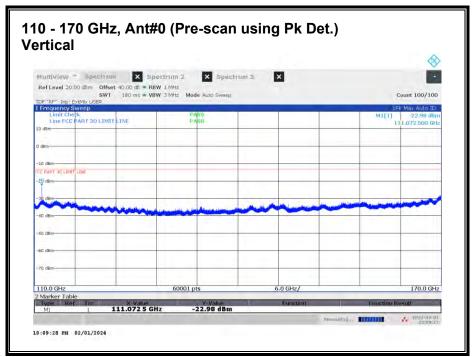




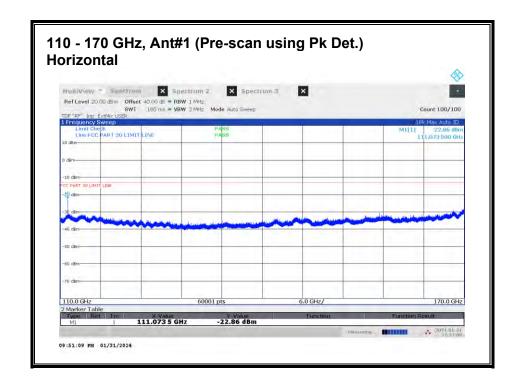


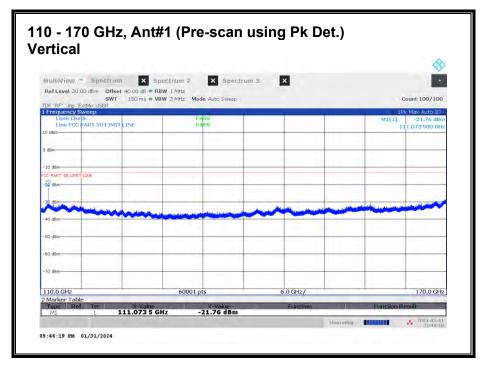
8.4.10. RSE n260 110 - 170 GHz





Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.



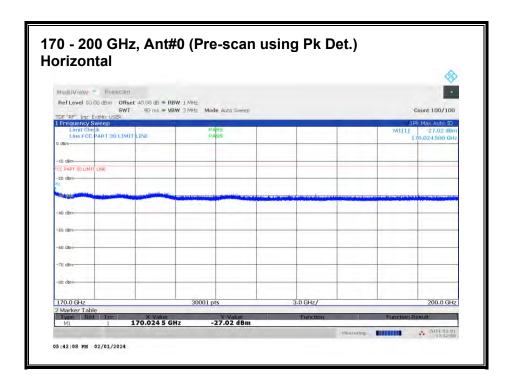


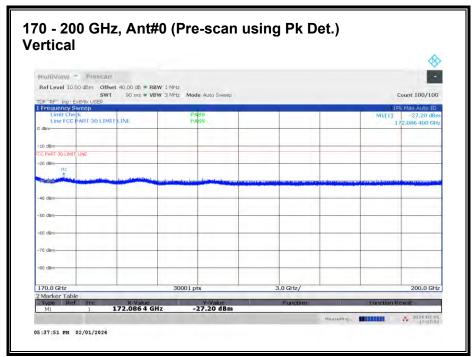
Emissions detected using Peak Detection at pre-scan. Avg EIRP was measured.

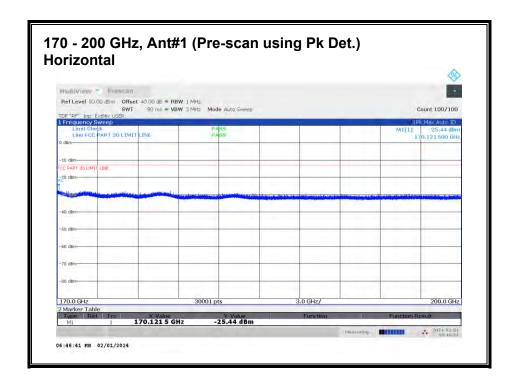
110 - 170 GHz n260, 1CC

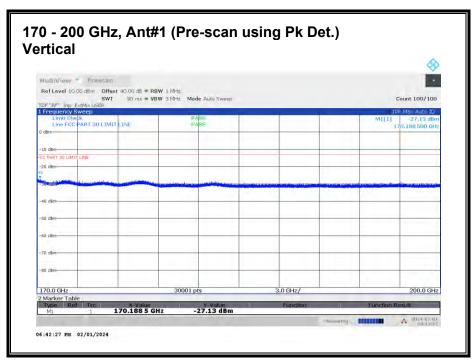
Antenna	Freq.	Meas. Distance	Rx Ant. Polarity	Corrected Avg EIRP	TRP Limit	Margin
	(GHz)	(m)	H/V	(dBm)	(dBm)	(dB)
Ant#0	111.073	1	Н	-36.01	-13	-23.01
Ant#0	111.073	1	V	-30.46	-13	-17.46
Ant#1	111.073	1	Н	-39.66	-13	-26.66
Ant#1	111.073	1	V	-28.94	-13	-15.94

8.4.11. RSE n260 170 - 200 GHz









8.5. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055

LIMIT

For reporting purposes only

TEST PROCEDURES

KDB 842590 D01 Upper Microwave Flexible Use Service v01r02 Section 4.5 ANSI C63.26-2015 Section 5.6

Test procedures for temperature variation:

- a. Position the EUT in temperature/humidity chamber with power off.
- b. Set chamber temperature to 50°C.
- c. Record maximum change in frequency within one minute after powering the EUT.
- d. Decrease chamber temperature at 10°C intervals from 50°C to -30°C. Record maximum change in frequency at each temperature.

DATE: 2024-03-04

- e. A period of at least 30 minutes is provided to allow stabilization of the equipment at each temperature level.
- Temp. = -30° C to $+50^{\circ}$ C

Test procedures for voltage variation:

- a. Position the EUT in temperature/humidity chamber with power off.
- b. Set chamber temperature to 20°C.
- b. The primary supply voltage is varied from 85% to 115% of the nominal value for AC and DC powered equipment. For hand-carried, battery-powered equipment the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.
- c. Power on the EUT and record the frequency at the extreme voltage values.
- Nominal Voltage = 4.28 Vdc
- Low (End point) Voltage = 3.69 Vdc

The measurements were performed with the CW signal of center frequency of n260 band. For the low voltage (end-point) test condition, the battery was drained to < 10% capacity and measurements were performed in this state.

Testing Ant#0 and Ant#1 represent the performance of Chipsets 1 and 2, respectively.

RESULTS

Employee IDs: 27294, 27818

Test Date: 02/05/2024

Test Location: Temperature Chamber B

8.5.1. FREQUENCY STABILITY

		Ant#0	n260
Input Voltage	Environment	Frequency	Delta
	Temperature (°C)	(GHz)	(kHz)
Normal	50	38.5049999	18.000
Normal	40	38.5049489	-33.000
Normal	30	38.5049909	9.000
Normal	20	38.5049819	Reference
Normal	10	38.5049549	-27.000
Normal	0	38.5049305	-51.400
Normal	-10	38.5049280	-53.900
Normal	-20	38.5050418	59.900
Normal	-30	38.5051117	129.800
End Point	20	38.5049615	-20.400

		Ant#1 ı	า260
Input Voltage	Environment	Frequency	Delta
	Temperature (°C)	(GHz)	(kHz)
Normal	50	38.5049309	-6.000
Normal	40	38.5050239	87.000
Normal	30	38.5049999	63.000
Normal	20	38.5049369	Reference
Normal	10	38.5049459	9.000
Normal	0	38.5049999	63.000
Normal	-10	38.5049399	3.000
Normal	-20	38.5050928	155.900
Normal	-30	38.5050179	81.000
End Point	20	38.5049848	47.900

The occupied bandwidths (Section 8.1) are smaller than the channel bandwidths by at least 4 MHz for all modes of operation (widest OBW of 95.97 MHz for 1CC 100 MHz CH BW MIMO QPSK Mid CH test configuration), the signal is at least 2 MHz from either edge of the channel. As the channels are fully contained within the FCC-allocated bands, and the frequency stability is significantly less than 2 MHz, with maximum frequency shift of 155.9 kHz over the test conditions (Ant#1 at -20°C). The signal is always contained within the allocated channel, therefore, always contained within the allocated band.

9. SETUP PHOTOS

Please refer to R15103618-EP2 for setup photos.

END OF REPORT

DATE: 2024-03-04

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APPENDIX A

1. 50 - 75 GHz VDI WR15SAX-F

Serial No.: SAX 621

2. 75 - 110 GHz VDI WR10SAX-F

Serial No.: SAX 860

3. 110 - 170 GHz VDI WR6.5SAX-F

Serial No.: SAX 624

4. 170 - 260 GHz VDI WR4.3SAX-F

Serial No.: SAX 651

DATE: 2024-03-04

DocuSign Envelope ID: 6883241A-2E4E-4B2C-A46D-F6C20886CF35



Virginia Diodes, Inc

979 2nd St. SE Suite 309 Charlottesville, VA 22902 Phone: 434-297-3257 Fax: 434-297-3258

Certificate of Conformance

To: UL LLC 47173 Benicia Street Fremont, CA 94538 United States

From: Virginia Diodes, Inc 979 2nd St. SE Suite 309 Charlottesville, VA 22902

 Packing List No:
 235277
 Today's Date:
 11/14/2023

 Shipping Date:
 11/14/2023
 PO Number:
 7862027793

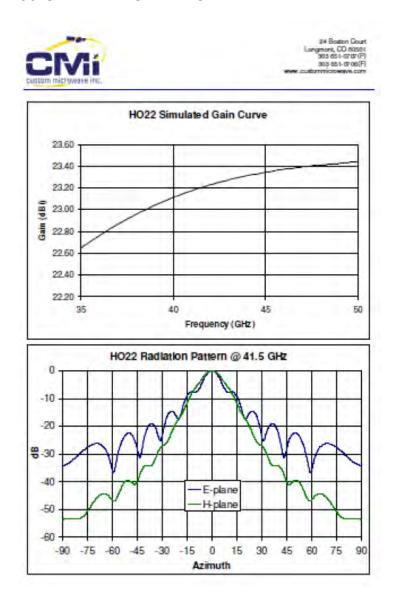
Quantity Shipped	<u>Unit</u> EA	<u>Description</u> RETEST-WR15SAX-F - WR15SAX / SN: SAX 621	Order-Job Number 230557A-01
1	EA	RETEST-WR10SAX-F - WR10SAX - SN: SAX 860	230557A-02
1	EA	RETEST-WR6.5SAX-F - WR6.5SAX / SN: SAX 624	230557A-03
1	EA	RETEST-WR4.3SAX-F - WR4.3SAX - SN: SAX 651	230557A-04

The VDI product(s) in this shipment meet(s) the guidelines for performance specifications established in accordance with the corresponding Purchase Order. Data presented in the User Guide, where applicable, has been obtained in accordance with VDI's Quality Management System. All instruments, used to obtain data, which require calibration have been calibrated with equipment traceable to the National Institute of Standards and Technology (NIST) and through NIST to the International System of Units (SI).

Authorized Signature Virginia Diodes, Inc

BW

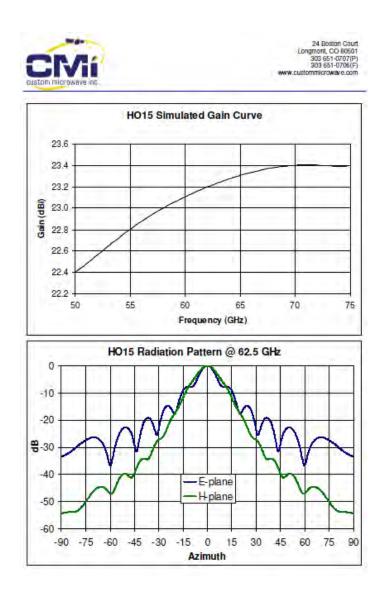
5. 35 - 50 GHz CMI HO22R HORN ANTENNA



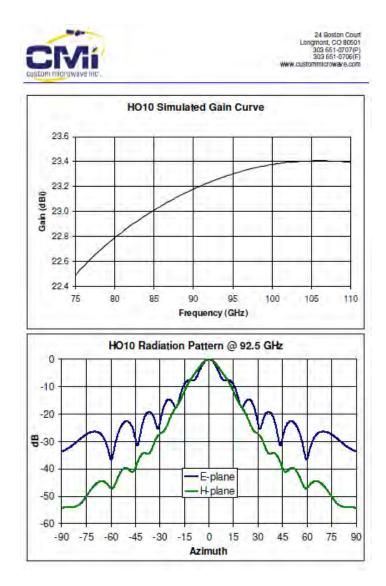
DATE: 2024-03-04

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6. 50 - 75 GHz CMI HO15R HORN ANTENNA

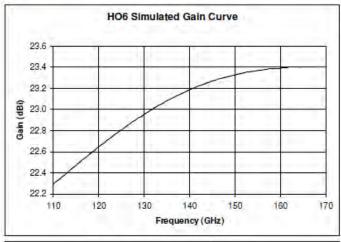


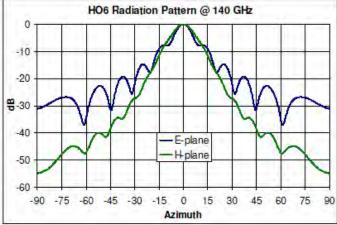
7. 75 - 110 GHz CMI HO10R HORN ANTENNA



8. 110 - 170 GHz CMI HO6R HORN ANTENNA

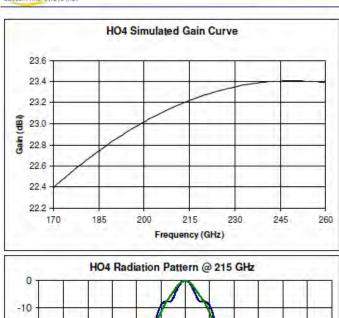


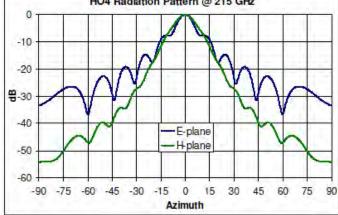




9. 170 - 260 GHz CMI HO4R HORN ANTENNA







LABORATORY ACCREDITATION



DATE: 2024-03-04

Testing Activities Performed in Support of FCC Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1 4 :

Rule Subpart/Technology	Test Method	Maximum Frequency (MHz)
Microwave and Millimeter Bands Radio Services		
Parts 25, 30, 74, 90 (above 3 GHz), 95 (above 3 GHz), 97 (above 3 GHz), and 101	ANSI/TIA-603-E; TIA-102.CAAA-E	330000
Broadcast Radio Services		
Parts 73 and 74 (below 3 GHz)	ANSI/TIA-603-E; TIA-102.CAAA-E	40000
RF Exposure		
Devices Subject to SAR Requirements	IEEE Std 1528:2013	6000
Hearing Aid Compatibility		
Part 20	ANSI C63.19:2011;	6000
(HAC for Commercial Mobile Services)	ANSI C63.19:2019	
Signal Boosters		
Part 20 (Wideband Consumer Signal	ANSI C63.26:2015	40000
Boosters, Provider-specific Signal Boosters, and Industrial Signal Boosters),		
Section 90.219		

⁴ Accreditation does not imply acceptance to the FCC equipment authorization program. Please see the FCC website (https://apps.fcc.gov/oetcf/eas/) for a listing of FCC approved laboratories.

(A2LA Certificate No. 0751.05) Revised 01/11/2024

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