

TEST REPORT

Report Number : 14523740-E7V2

Applicant : APPLE, INC.
1 APPLE PARK WAY
CUPERTINO, CA 95014, U.S.A.

Model : A2848

Brand : APPLE

FCC ID : BCG-8435A

EUT Description : SMARTPHONE

Test Standard(s) : FCC 47 CFR PART 15 SUBPART E

Date Of Issue:

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Prepared by:

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REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	7/24/2023	Initial Issue	Chin Pang
V2	7/31/2023	Address TCB Questions section 6.2, 7, 9.4, 10	Chin Pang

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: APPLE INC.
1 APPLE PARK WAY
CUPERTINO, CA 95014, U.S.A

EUT DESCRIPTION: SMARTPHONE

MODEL: A2848

BRAND: APPLE

SERIAL NUMBER: C07GQU0010S00003PJ (Conducted)
C07GTH0012C00003PJ (Conducted)
LVMPXQW46R (Radiated)

SAMPLE RECEIPT DATE: FEBRUARY 14, 2023

DATE TESTED: APRIL 3, 2023 – JULY 29, 2023

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart E	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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2. TEST RESULT SUMMARY

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

Below is a list of the data provided by the customer:

1. Antenna gain and type (see section 6.3)
2. Cable loss (see section 6.3)

FCC Clause	Requirement	Result	Comment
See Comment	Duty Cycle	Reporting purposes only	Per ANSI C63.10, Section 12.2.
See Comment	26dB BW/99% OBW	Reporting purposes only	Per ANSI C63.10 Sections 6.9.2 and 6.9.3
15.407 (e)	6 dB BW	Complies	None.
15.407 (a) (1 & 3)	Output Power	Complies	None.
15.407 (a) (1 & 3)	PSD	Complies	None.
15.209, 15.205, 15.407 (b)	Radiated Emissions	Complies	None.
15.207	AC Mains Conducted Emissions	Complies	None.

3. TEST METHODOLOGY

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

- FCC CFR 47 Part 2
- FCC CFR 47 Part 15
- FCC KDB 662911 D01 v02r01
- FCC KDB 789033 D02 v02r01
- FCC KDB 644545 D03 v01
- ANSI C63.10-2013
- KDB 414788 D01 Radiated Test Site v01r01

4. FACILITIES AND ACCREDITATION

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

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	U _{LAB}
Conducted Antenna Port Emission Measurement	1.94 dB
Power Spectral Density	2.466 dB
Time Domain Measurements Using SA	3.39 %
RF Power Measurement Direct Method Using Power Meter	0.450 dB (Peak), 1.3 dB (Ave)
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.22%
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 dB

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

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The Apple iPhone is a smartphone with cellular GSM, GPRS, EGPRS, UMTS, LTE, 5G NR1, 5G NR2, IEEE 802.11a/b/g/n/ac/ax, Bluetooth (BT), Ultra-Wideband (UWB), GPS, NFC, NB UNII, 802.15.4, 802.15.4ab-NB and MSS technologies. The rechargeable battery is not user accessible.

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Antenna	Configuration	Output Power (dBm)	Output Power (mW)
5162 - 5245 (UNII-1)	BDR	ANT 6	High Power	9.95	9.89
			Low Power	4.96	3.13
		ANT 5	High Power	9.97	9.93
			Low Power	5.97	3.95
		BF, ANT 6 + ANT 5	High Power	9.98	9.95
			Low Power	8.51	7.10
	HDR 4	ANT 6	High Power	11.95	15.67
			Low Power	-1.52	0.70
		ANT 5	High Power	11.97	15.74
			Low Power	-0.55	0.88
		BF, ANT 6 + ANT 5	High Power	11.90	15.49
			Low Power	1.89	1.55
	HDR 8	ANT 6	High Power	13.98	25.00
			Low Power	-1.52	0.70
		ANT 5	High Power	13.96	24.89
			Low Power	-0.67	0.86
		BF, ANT 6 + ANT 5	High Power	13.96	24.89
			Low Power	1.86	1.53

Frequency Range (MHz)	Mode	Antenna	Configuration	Output Power (dBm)	Output Power (mW)
5733 - 5844 (UNII-3)	BDR	ANT 6	High Power	19.96	99.08
			Low Power	4.98	3.15
		ANT 5	High Power	19.48	88.72
			Low Power	6.43	4.40
		BF, ANT 6 + ANT 5	High Power	22.73	187.50
			Low Power	8.74	7.48
	HDR 4	ANT 6	High Power	14.47	27.99
			Low Power	-1.42	0.72
		ANT 5	High Power	14.47	27.99
			Low Power	-0.15	0.97
		BF, ANT 6 + ANT 5	High Power	17.47	55.85
			Low Power	2.18	1.65
	HDR 8	ANT 6	High Power	14.48	28.05
			Low Power	-1.55	0.70
		ANT 5	High Power	14.48	28.05
			Low Power	-0.12	0.97
		BF, ANT 6 + ANT 5	High Power	17.47	55.85
			Low Power	2.23	1.67

6.3. DESCRIPTION OF AVAILABLE ANTENNAS AND CABLE LOSS

The antenna(s) gain and type, as provided by the manufacturer' are as follows:
 Cable loss is 2.7dB.

Frequency Range (GHz)	ANT 6 (dBi)	ANT 5 (dBi)
5162-5245	-3.4	-6.0
5733-5844	-5.2	-3.6

The cables loss of 2.7dB were used for RF antenna port tests that had been offset to the test equipment during testing.

6.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was 23_10_663.

6.5. WORST-CASE CONFIGURATION AND MODE

The EUT was investigated in three orthogonal orientations X, Y and Z on ANT 6, ANT 5 and 2TX, it was determined that Y (Landscape) was the worst-case orientation for both ANT 6 and

2TX Beamforming modes was used to perform on radiated harmonic spurious final test to cover all SISO modes. Max power was tuned to maximum based on among all the modes. For testing purposes, radiated harmonics spurious below 1GHz, 1-18GHz L/M/H channels, 18-40GHz, and power line conducted emissions were performed with the EUT set at the 2TX Beamforming mode with power setting equal or higher than FCC conducted SISO modes as worst-case scenario.

Below 1GHz tests were performed with EUT connected to AC power adapter as the worst case; and for above 1GHz, the worst-case configuration reported was tested with EUT only. For AC line conducted emission, test was investigated with AC power adapter and with laptop. There were no emissions found below 30MHz within 20dB of the limit.

For simultaneous transmission of multiple channels in the 2.4GHz BT and NB UNII 5GHz bands, no noticeable emission was found.

NOTE: For radiated data, ANT0=ANT6, ANT1=ANT 5.

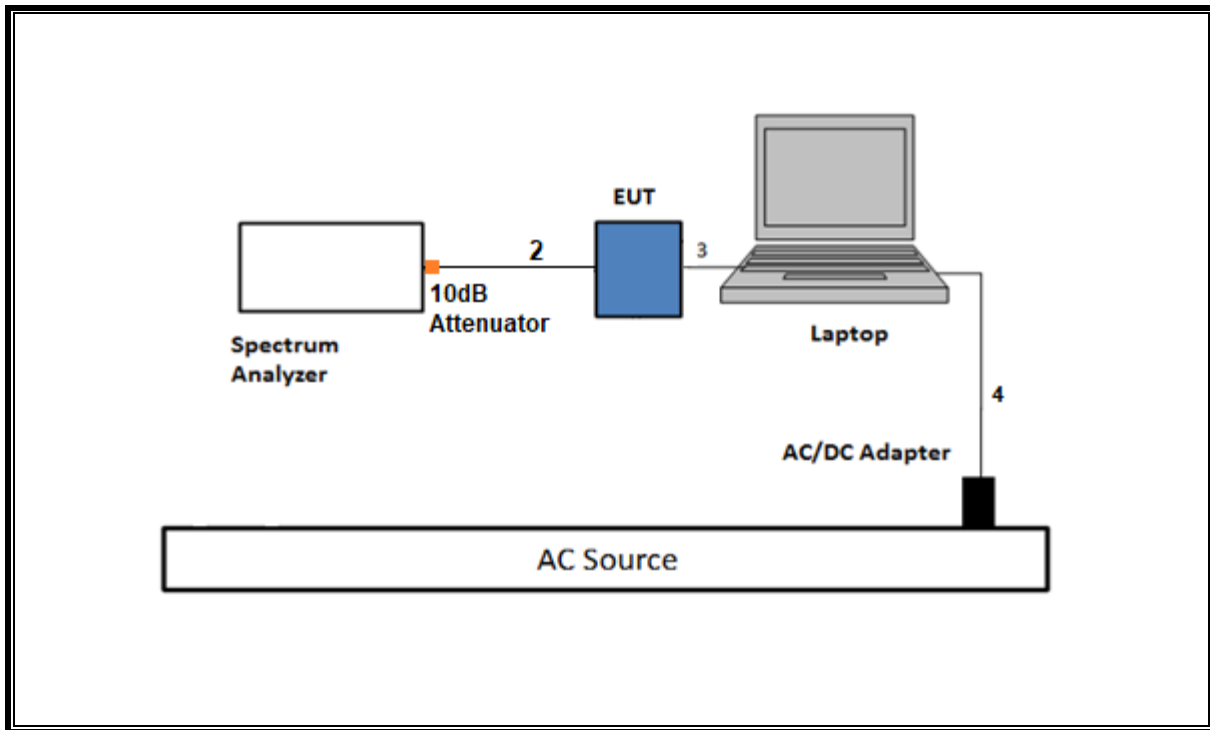
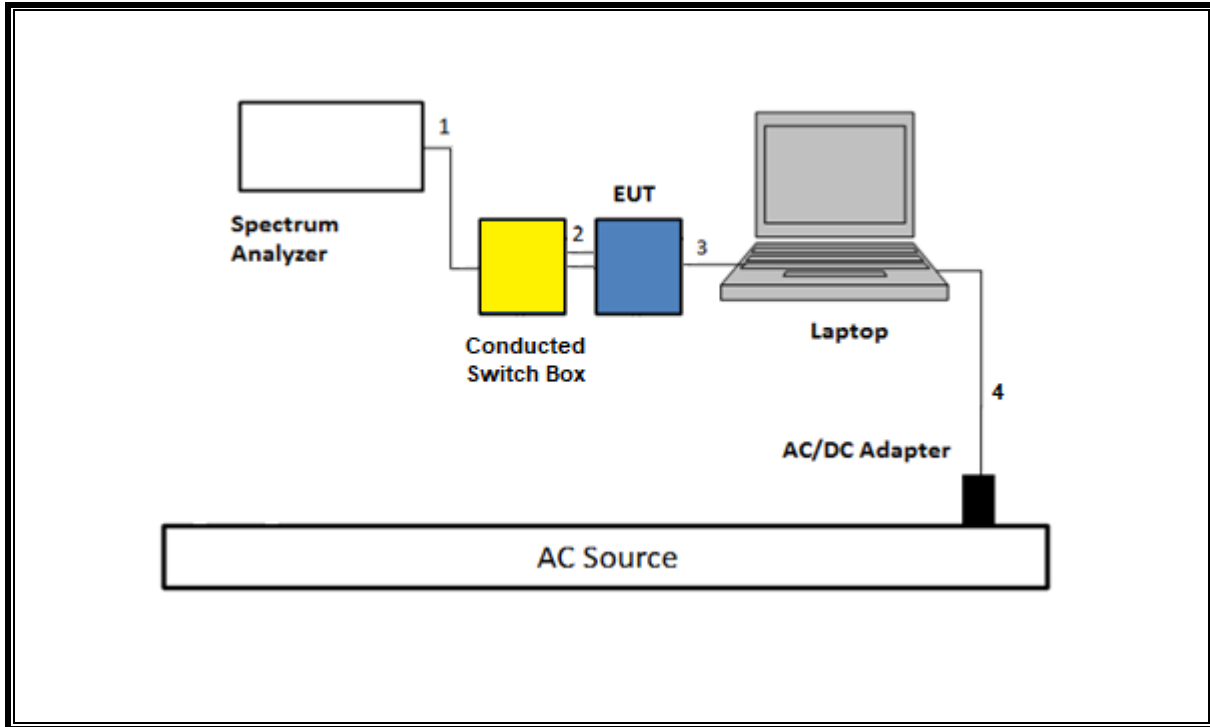
6.5 DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description	Manufacturer	Model	Serial Number	FCC ID/ DoC		
Laptop	Apple	Macbook Pro	C02VD7SAHV22	BCGA1708		
Laptop AC/DC adapter	Liteon Technology	A1424	NSW25679	DoC		
EUT AC/DC adapter	Apple	A1720	C3D8417A7R93KVPA8	DoC		
Conducted Switch Box	UL	n/a	208281	N/A		
10dB Fixed Attenuator, 2 Watts Up to 26.5 GHz	Pasternack Enterprises	PE7024-10	236358	N/A		
I/O CABLES (RF CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	SMA	1	SMA	Shielded	0.75	To spectrum Analyzer
2	Antenna	2	SMA	Un-shielded	0.2	To Conducted Switch Box
3	USB-C	1	USB-C	Shielded	1.0	N/A
4	AC	1	AC	Un-shielded	2	N/A
I/O CABLES (RF RADIATED AND AC LINE CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	1	AC	Un-shielded	2	N/A
2	USB	1	USB	Shielded	1	N/A

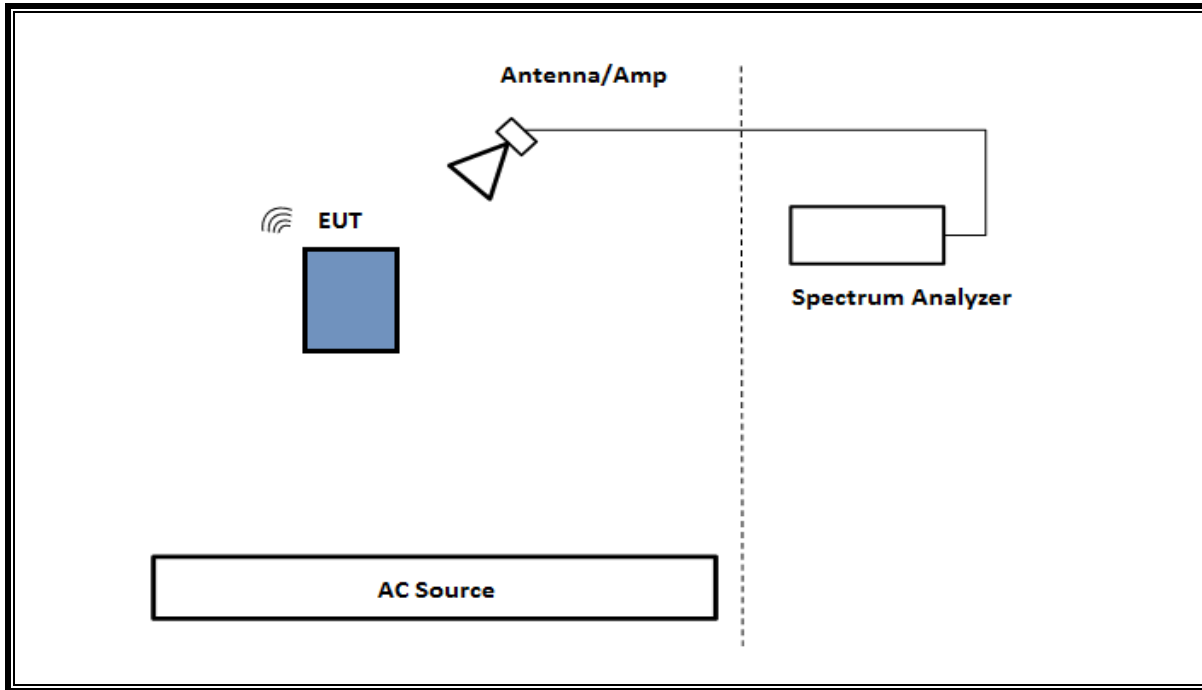
TEST SETUP

The EUT setup is shown as below. Test software exercised the radio card.

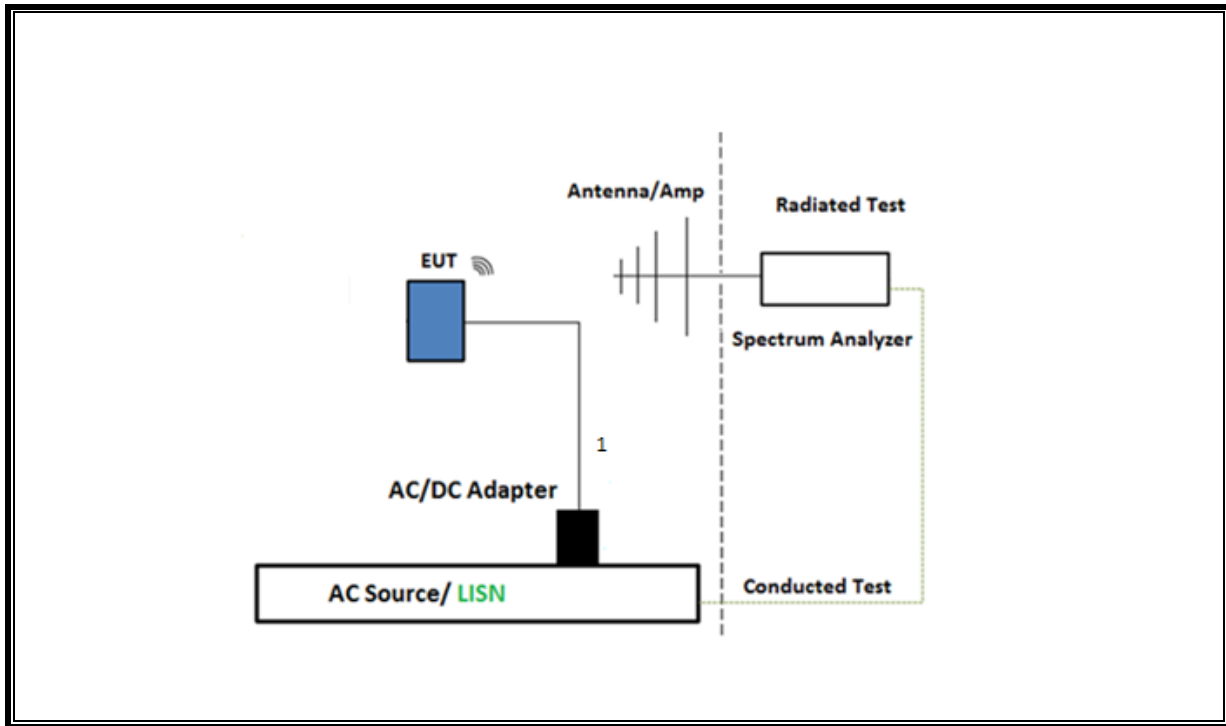
SETUP DIAGRAM FOR CONDUCTED TESTS



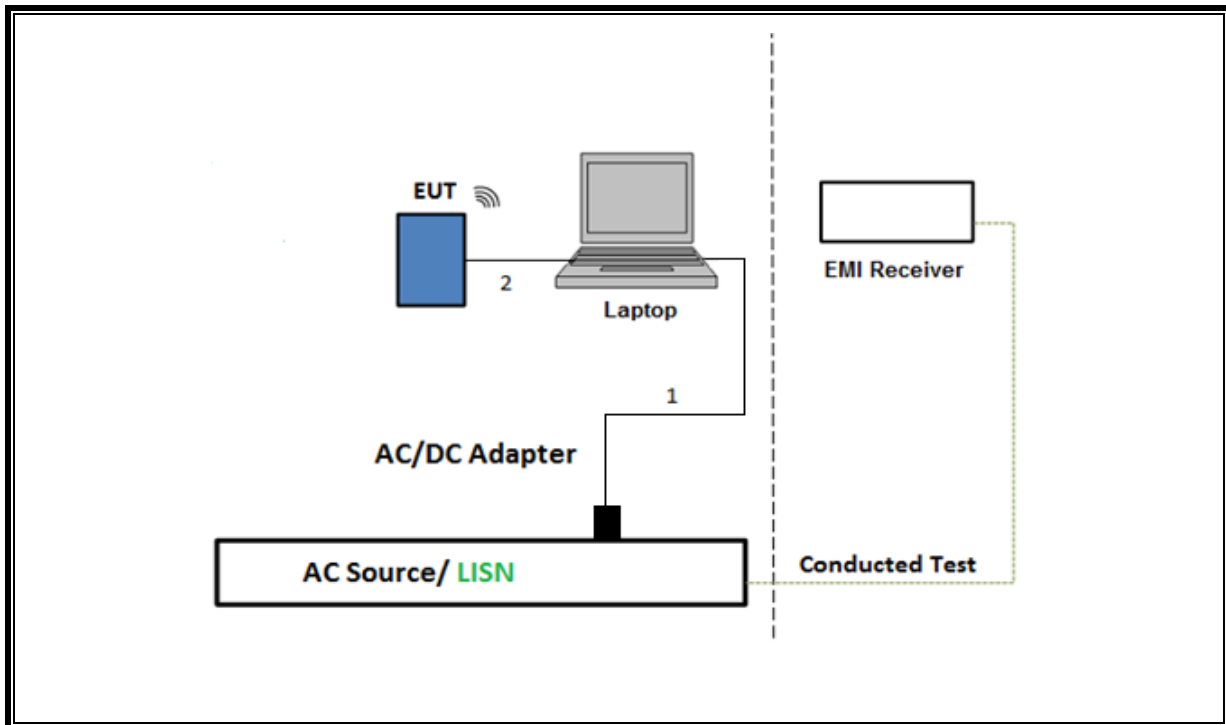
SETUP DIAGRAM FOR RADIATED TESTS Above 1 GHz



SETUP DIAGRAM FOR Below 1GHz and AC LINE CONDUCTED TEST



TEST SETUP- AC LINE CONDUCTED: LAPTOP CONFIGURATION



7. TEST AND MEASUREMENT EQUIPMENT

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

Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
Antenna, Horn 1-18GHz	ETS Lindgren	3117	80404	08/08/2023	08/08/2022
RF Filter Box, 1-18GHz, 12 Port	UL-FR1	Frankenstein	216812	09/17/2023	09/17/2022
EMI Receiver	Rohde & Schwarz	ESW44	235670	04/30/2024	04/30/2023
Antenna, Horn 1-18GHz	ETS Lindgren	3117	84797	09/20/2023	09/20/2022
*RF Filter Box, 1-18GHz	UL-FR1	NA	171389	05/13/2023	05/13/2022
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	201497	02/29/2024	02/29/2023
*RF Filter Box, 8 ports, 1-18GHz	UL-FR1	SAC 8 Port rf Bo 1	197920	04/19/2023	04/19/2022
*Antenna, Horn 1-18GHz	ETS Lindgren	3117	206805	07/05/2023	07/05/2022
Antenna, Broadband Hybrid, 30MHz to 3GHz	Sunol Sciences Corp	JB3	80714	10/06/2023	10/06/2022
Antenna, Horn 1-18GHz	ETS Lindgren	3117	226672	01/09/2024	01/09/2023
RF Filter Box, 1-18GHz, 17 Ports	UL-FR1	RATS 2	226781	04/30/2024	04/30/2023
EMI Receiver	Rohde & Schwarz	ESW44	235670	04/30/2024	04/30/2023
Antenna, Horn 1-18GHz	ETS Lindgren	3117	226673	01/09/2024	01/09/2023
RF Filter Box, 1-18GHz, 12 Port.	UL-FR1	Frankenstein	231874	04/19/2024	04/19/2023
EMI Test Receiver	Rohde & Schwarz	ESW44	201499	02/29/2024	02/29/2023
Antenna, Horn 1-18GHz	ETS Lindgren	3117	206807	02/28/2024	02/28/2023
RF Filter Box 1-18GHz	UL-FR1	SAC 12 port rf box	217521	10/09/2023	10/09/2022
Amplifier, 9KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310	175953	02/08/2024	02/08/2023
*Antenna Horn, 26.5 to 40GHz	ARA	MWH-2640/B	172367	06/01/2023	06/01/2022
Power Meter, P-series single channel	Keysight	N1912A	90630	01/31/2024	01/31/2023
Power sensor	ETS-Lindgren	7002-006	86948	02/29/2024	02/29/2023
*Antenna, Passive Loop 100KHz to 30MHz	ETS-Lindgren	EM-6872	170015	07/28/2023	07/28/2022
*Antenna, Passive Loop 30Hz to 1MHz	Electro-Metrics	EM-6871	170013	07/28/2023	07/28/2022
Amplifier, 9KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310	204041	08/24/2023	08/24/2022
Spectrum Analyzer, PSA, 3Hz to 26.5GHz	Keysight Technologies Inc	E4440A	81311	02/29/2024	02/29/2023
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A	80397	02/28/2024	02/28/2023
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A	85214	02/28/2024	02/23/2023
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A-544	87738	02/28/2024	02/28/2023
*Conducted Switch Box	N/A	CSB	221008	06/21/2023	06/21/2022
10dB Fixed Attenuator, 2 Watts Up to 26.5 GHz	Pasternack Enterprises	PE7024-10	236358	Verified/Characterized before use	
10dB Fixed Attenuator, 2 Watts Up to 26.5 GHz	Pasternack Enterprises	PE7024-10	236358	Verified/Characterized before use	
Power Meter, P-series single channel	Keysight Technologies Inc	N1911A	90756	01/31/2024	01/31/2023
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight Technologies Inc	N1921A	90389	01/31/2024	01/31/2023

Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
Antenna, Horn 1-18GHz	ETS Lindgren	3117	222740	08/31/2023	08/31/2022
EMI Test Receiver	Rohde & Schwarz	ESW44	201500	02/29/2024	02/29/2023
Filter Box, 1-18GHz 12 Port	UL-FR1	Frankenstein	217255	08/23/2023	08/23/2022
Antenna, Horn 1-18GHz	ETS Lindgren	3117	230300	01/12/2024	01/12/2023
Filter Box, 1-18GHz 12 Port	UL-FR1	Frankenstein	216812	09/17/2023	09/17/2022
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169935	02/29/2024	02/29/2023
*Antenna, Horn 1-18GHz	ETS Lindgren	3117	206805	07/05/2023	07/05/2022
*RF Filter Box, 8 ports, 1-18GHz	UL-FR1	SAC 8 Port rf Bo 1	197920	04/19/2023	04/19/2022
EMI Test Receiver	Rohde & Schwarz	ESW44	169927	02/29/2024	02/29/2023
Antenna, Horn 1-18GHz	ETS Lindgren	3117	200784	01/31/2024	01/31/2023
RF Filter Box, 1-18GHz, 17 Ports	UL-FR1	RATS 2	226781	04/30/2024	04/30/2023
EMI Receiver	Rohde & Schwarz	ESW44	235670	04/30/2024	04/30/2023
Antenna, Horn 1-18GHz	ETS Lindgren	3117	226671	01/09/2024	01/09/2023
RF Filter Box, 1-18GHz	UL-FR1	NA	171875	11/10/2023	11/10/2022
EMI Receiver	Rohde & Schwarz	ESW44	201502	02/29/2024	02/29/2023
AMP26G40-65	AMPLICAL	AMP26G40-65	172346	02/29/2024	02/29/2023
*Antenna Horn, 18 to 26.5GHz	ARA	MWH-1826/B	172353	06/01/2023	06/01/2022
RF Amplifier Assembly, 18-26.5GHz, 60dB Gain	AMPLICAL	AMP18G26.5-60	171583	02/29/2024	02/29/2023
*Antenna, Horn 26.5 to 40GHz	ARA	MWH-2640/B	81105	07/11/2023	07/11/2022

AC Line Conducted					
Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESR	93091	02/29/2024	02/29/2023
LISN for Conducted Emissions CISPR-16	FISCHER CUSTOM COMMUNICATIONS	FCC-LISN-50/250-25-2-01-480V	175764	01/31/2024	01/31/2023
*Transient Limiter	TE	TBFL1	207996	07/15/2023	07/15/2022
UL AUTOMATION SOFTWARE					
Radiated Software	UL	UL EMC	Ver 9.5, May 1, 2023		
Conducted Software	UL	UL EMC	2020.8.16		
AC Line Conducted Software	UL	UL EMC	Ver 9.5, Mar 3, 2023		

*Testing was completed before equipment calibration date

8. MEASUREMENT METHODS

On Time and Duty Cycle: KDB 789033 D02 v02r01, Section B.

6 dB Emission BW: KDB 789033 D02 v02r01, Section C.2

26 dB Emission BW: KDB 789033 D02 v02r01, Section C.1

99% Occupied BW: KDB 789033 D02 v02r01, Section D.

Conducted Output Power: KDB 789033 D02 v02r01

Power Spectral Density: KDB 789033 D02 v02r01, Section F

Unwanted emissions in restricted bands: KDB 789033 D02 v02r01, Sections G.3, G.4, G.5, and G.6.

Unwanted emissions in non-restricted bands: KDB 789033 D02 v02r01, Sections G.3, G.4, and G.5.

AC Power Line Conducted Emissions: ANSI C63.10-2013, Section 6.2.

Radiated Spurious Emissions Below 30MHz: ANSI C63.10-2013 Section 6.4

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

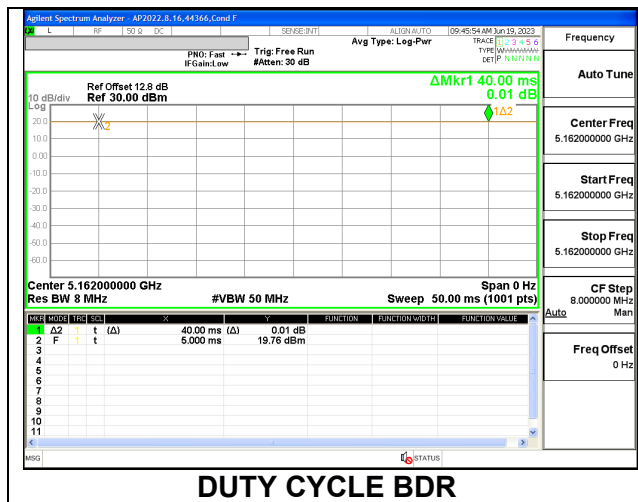
ANSI C63.10, Section 12.2: Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
BDR	0.04	0.04	1.000	100.0%	0.00	0.010
HDR4	0.04	0.04	1.000	100.0%	0.00	0.010
HDR8	0.04	0.04	1.000	100.0%	0.00	0.010

Note: There are the same DCCF on 1TX and 2TX.

DUTY CYCLE PLOTS



9.2. 26 dB AND 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The RBW is set to $\geq 1\%$ of the 20 dB bandwidth. The VBW is set to $\geq 3 \times \text{RBW}$. The sweep time is coupled.

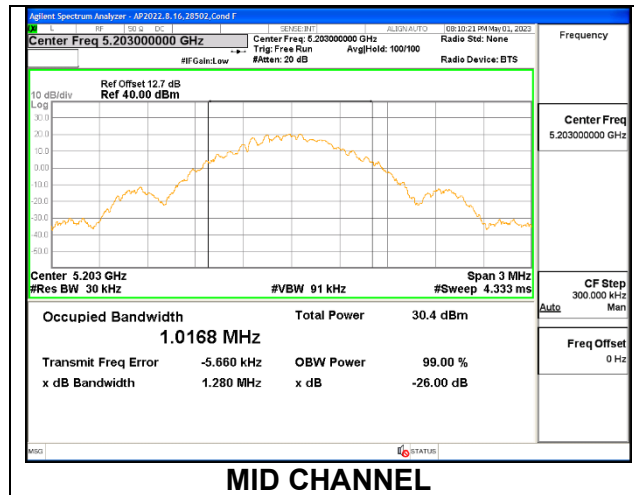
RESULTS

Only High Power modes result is reported, it covers all Low Power modes. Only Mid channel plot is reported to show setting parameter complies with testing method/procedure.

9.2.1. HIGH POWER BDR, UNII-1

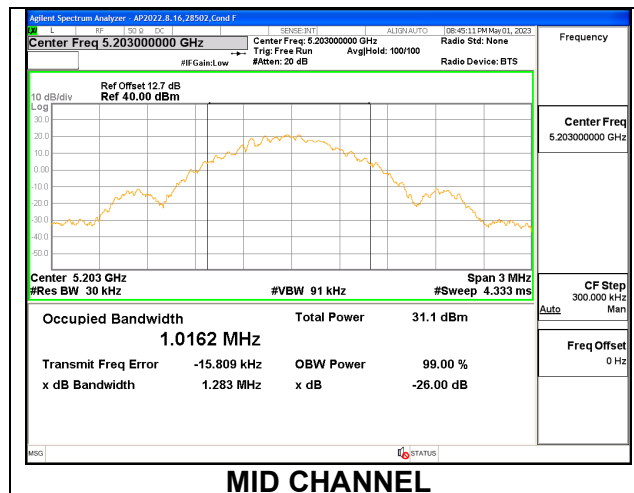
ANT 6

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5162	1.2800	1.0170
Mid	5203	1.2800	1.0168
High	5245	1.2800	1.0126



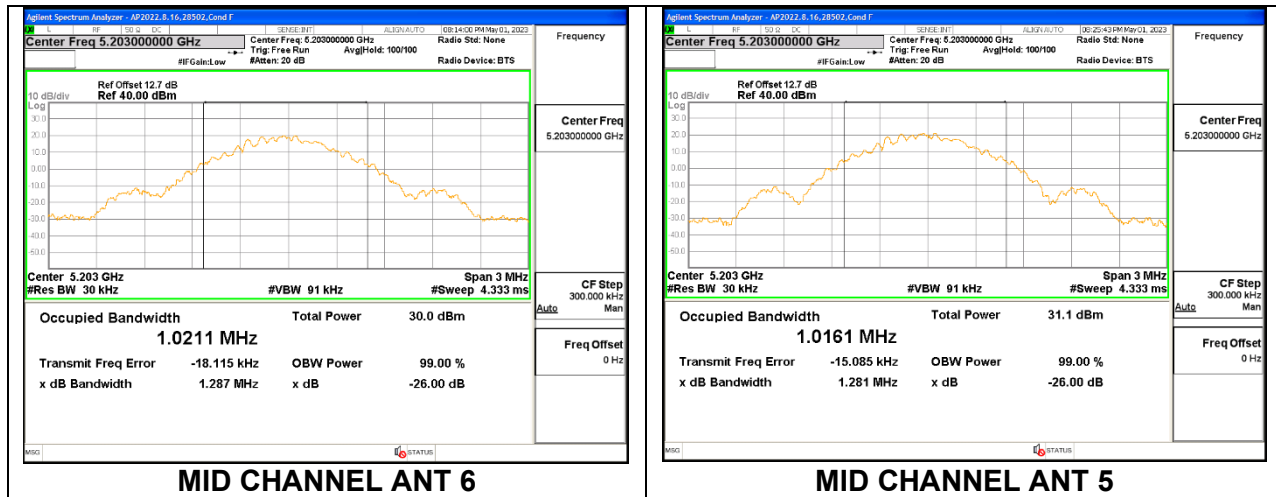
ANT 5

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5162	1.2830	1.0164
Mid	5203	1.2830	1.0162
High	5245	1.2810	1.0131



9.2.2. HIGH POWER BDR TXBF UNII-1

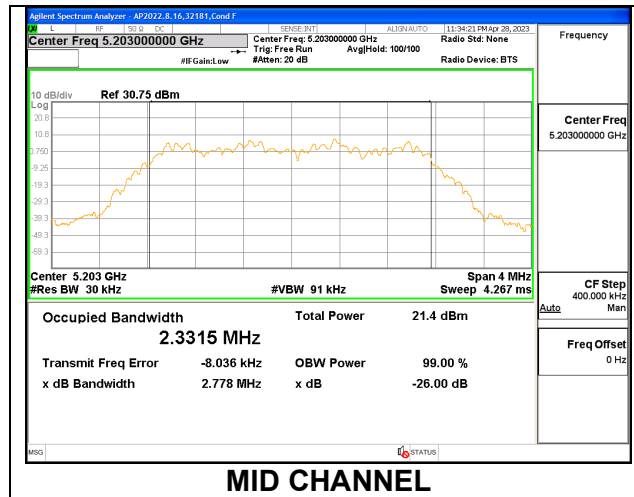
Channel	Frequency (MHz)	26dB Bandwidth ANT 6 (MHz)	26dB Bandwidth ANT 5 (MHz)	99% Bandwidth ANT 6 (MHz)	99% Bandwidth ANT 5 (MHz)
Low	5162	1.3080	1.2750	1.0228	1.0197
Mid	5203	1.2870	1.2810	1.0211	1.0161
High	5245	1.3190	1.2790	1.0223	1.0183



9.2.3. HIGH POWER HDR4, UNII-1

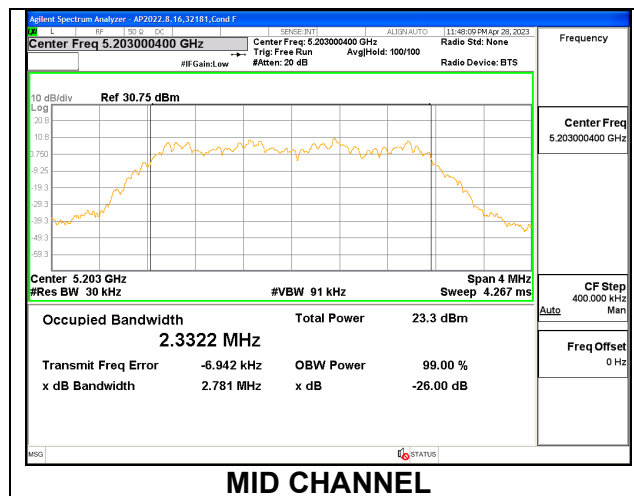
ANT 6

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5162	2.7800	2.3324
Mid	5203	2.7780	2.3315
High	5245	2.7780	2.3338



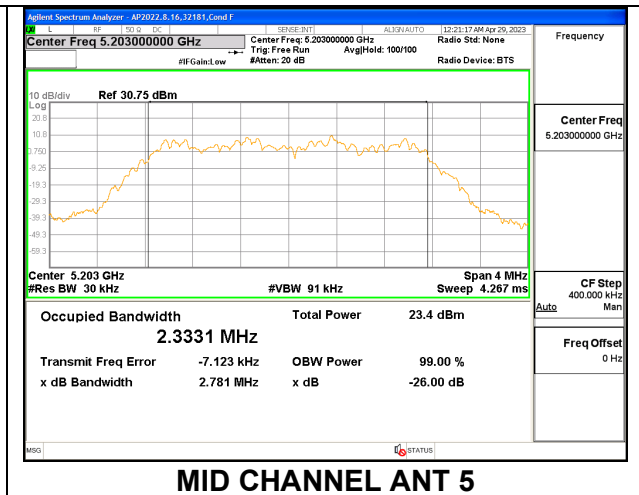
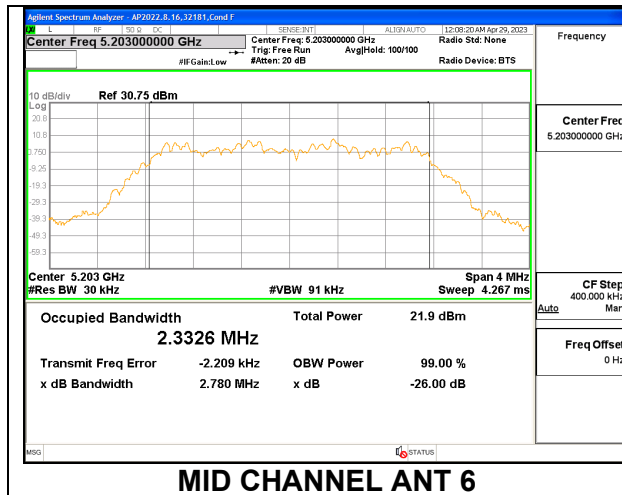
ANT 5

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5162	2.7820	2.3316
Mid	5203	2.7810	2.3320
High	5245	2.7810	2.3323



9.2.4. HIGH POWER HDR4 TXBF UNII-1

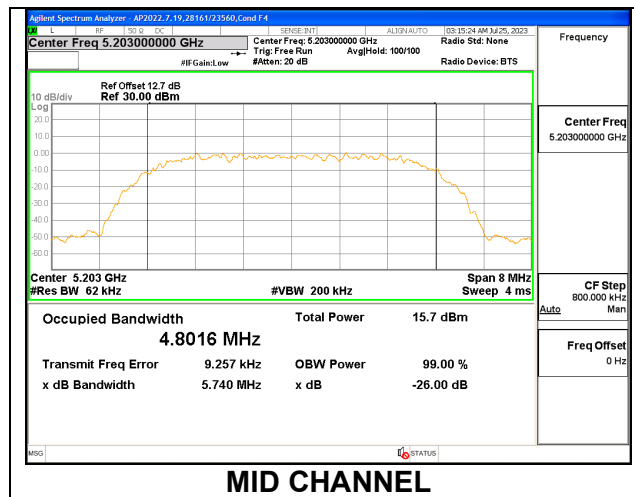
Channel	Frequency (MHz)	26dB Bandwidth ANT 6 (MHz)	26dB Bandwidth ANT 5 (MHz)	99% Bandwidth ANT 6 (MHz)	99% Bandwidth ANT 5 (MHz)
Low	5162	2.7760	2.7810	2.3313	2.3330
Mid	5203	2.7800	2.7810	2.3326	2.3331
High	5245	2.7790	2.7820	2.3313	2.3345



9.2.5. HIGH POWER HDR8, UNII-1

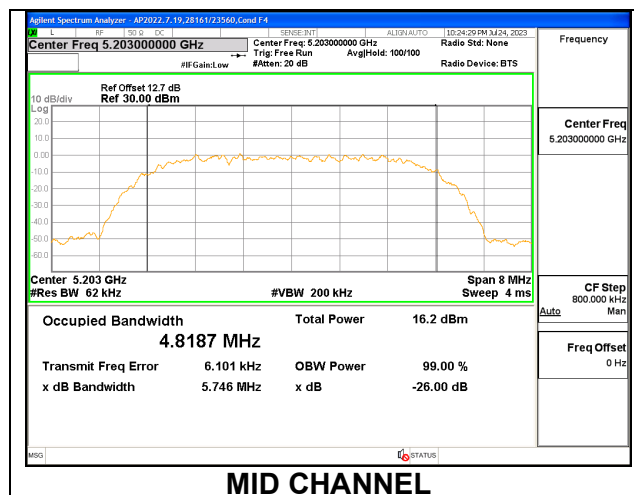
ANT 6

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5162	5.7520	4.8257
Mid	5203	5.7400	4.8016
High	5245	5.7450	4.8092



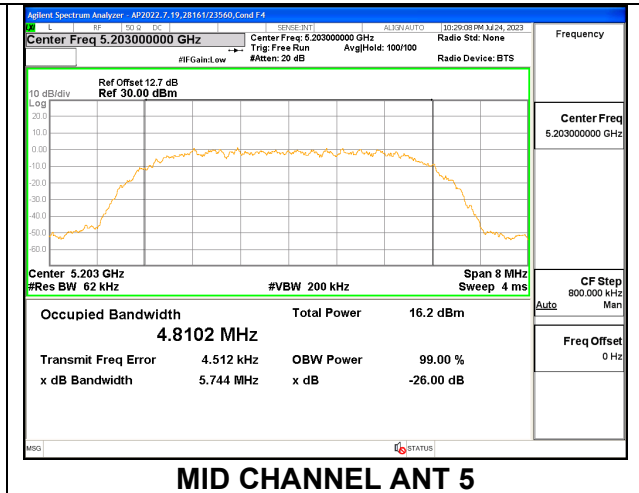
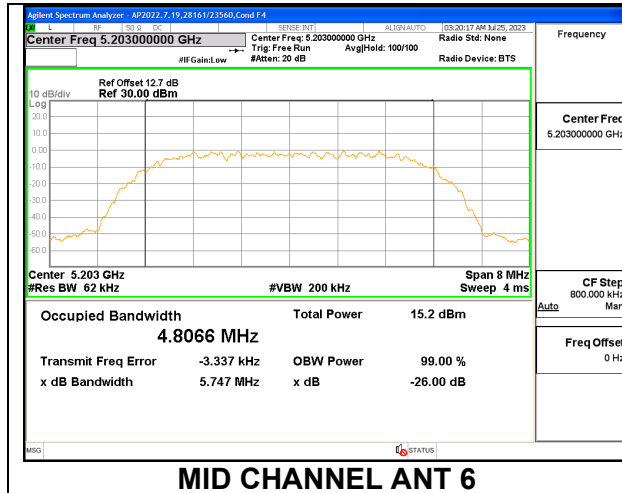
ANT 5

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5162	5.7590	4.8212
Mid	5203	5.7460	4.8187
High	5245	5.7420	4.8105



9.2.6. HIGH POWER HDR8 TXBF UNII-1

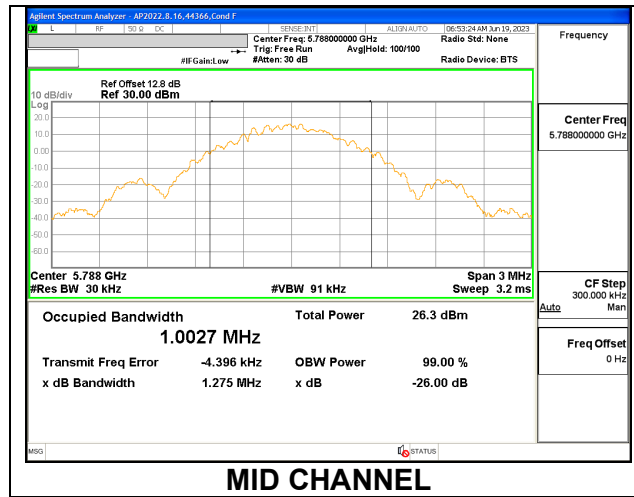
Channel	Frequency (MHz)	26dB Bandwidth ANT 6 (MHz)	26dB Bandwidth ANT 5 (MHz)	99% Bandwidth ANT 6 (MHz)	99% Bandwidth ANT 5 (MHz)
Low	5162	5.7310	5.7420	4.8095	4.8146
Mid	5203	5.7470	5.7440	4.8066	4.8102
High	5245	5.7450	5.7480	4.8333	4.8170



9.2.7. HIGH POWER BDR, UNII-3

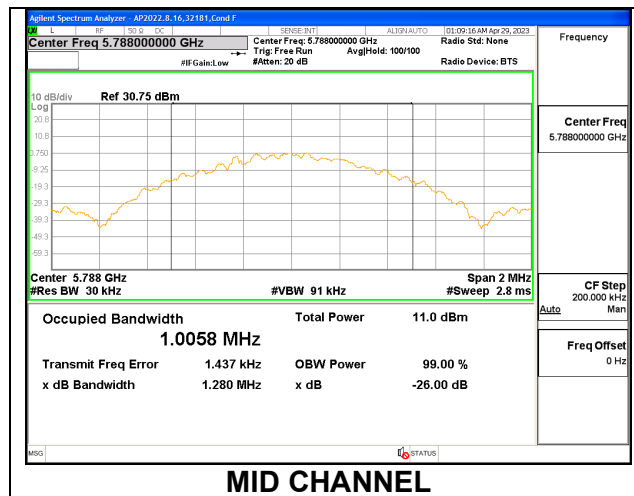
ANT 6

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5733	1.2810	1.0112
Mid	5788	1.2750	1.0027
High	5844	1.2790	1.0033



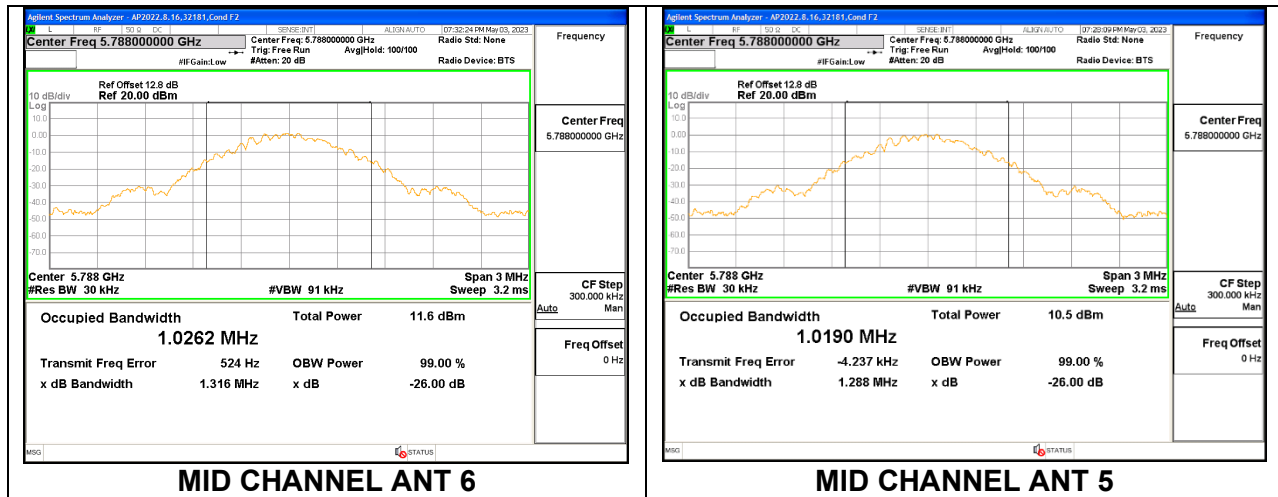
ANT 5

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5733	1.276	1.0058
Mid	5788	1.280	1.0058
High	5844	1.278	1.0091



9.2.8. HIGH POWER BDR TXBF UNII-3

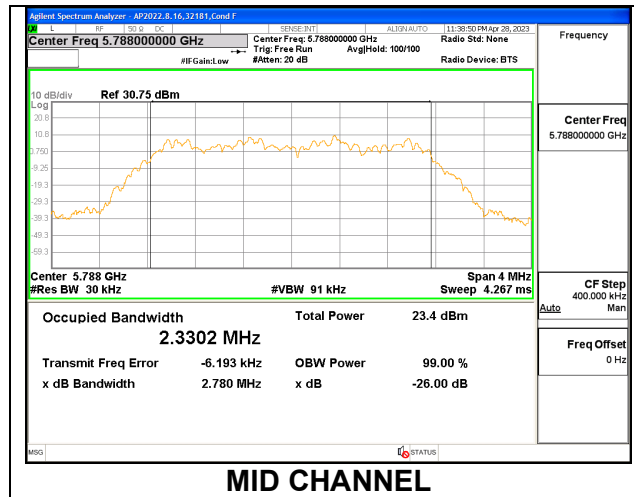
Channel	Frequency (MHz)	26dB Bandwidth ANT 6 (MHz)	26dB Bandwidth ANT 5 (MHz)	99% Bandwidth ANT 6 (MHz)	99% Bandwidth ANT 5 (MHz)
Low	5733	1.294	1.315	1.0217	1.0255
Mid	5788	1.316	1.288	1.0262	1.0190
High	5844	1.309	1.295	1.0310	1.0235



9.2.9. HIGH POWER HDR4, UNII-3

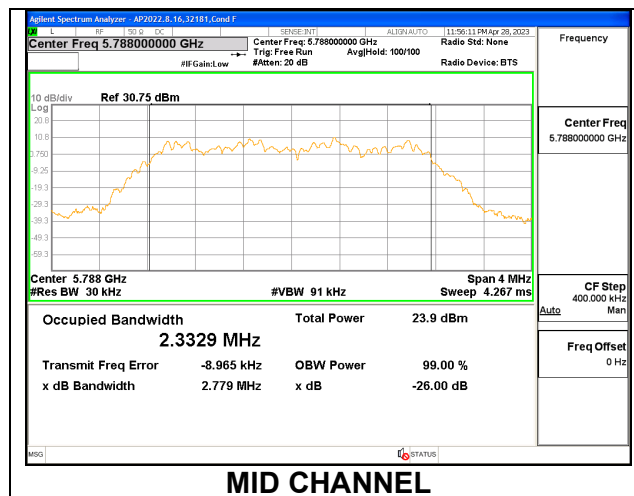
ANT 6

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5733	2.7790	2.3315
Mid	5788	2.7800	2.3302
High	5844	2.7800	2.3310



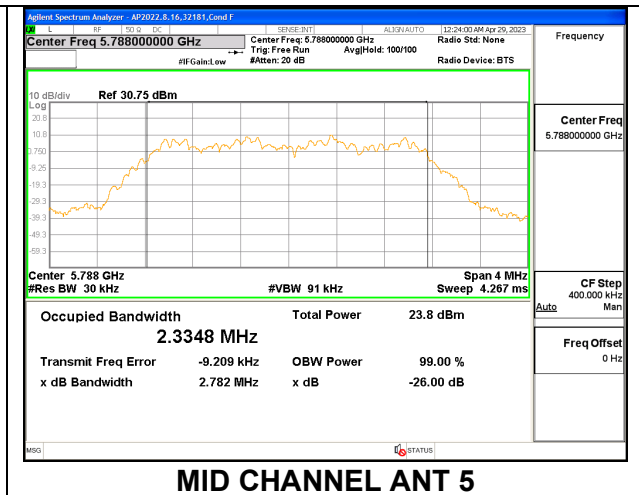
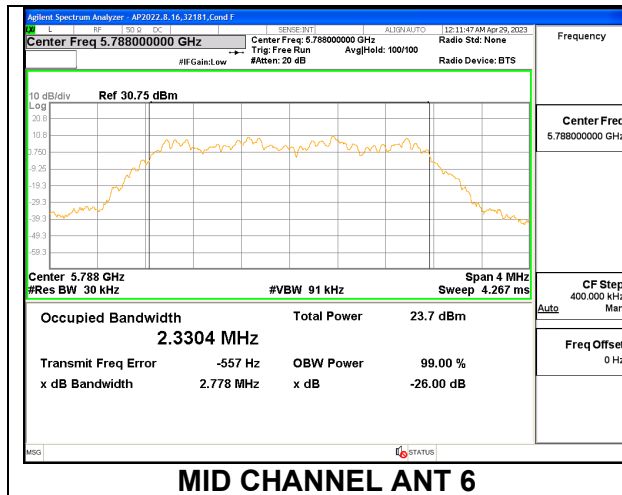
ANT 5

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5733	2.7820	2.3335
Mid	5788	2.7790	2.3329
High	5844	2.7800	2.3309



9.2.10. HIGH POWER HDR4 TXBF UNII-3

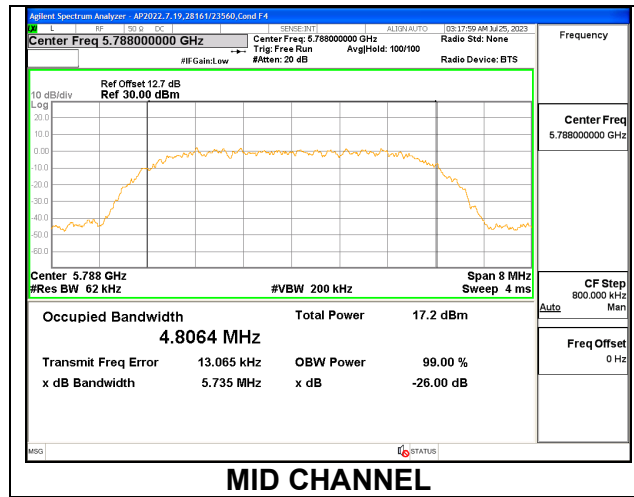
Channel	Frequency (MHz)	26dB Bandwidth ANT 6 (MHz)	26dB Bandwidth ANT 5 (MHz)	99% Bandwidth ANT 6 (MHz)	99% Bandwidth ANT 5 (MHz)
Low	5733	2.7790	2.7800	2.3326	2.3307
Mid	5788	2.7780	2.7820	2.3304	2.3348
High	5844	2.7770	2.7830	2.3309	2.3330



9.2.11. HIGH POWER HDR8, UNII-3

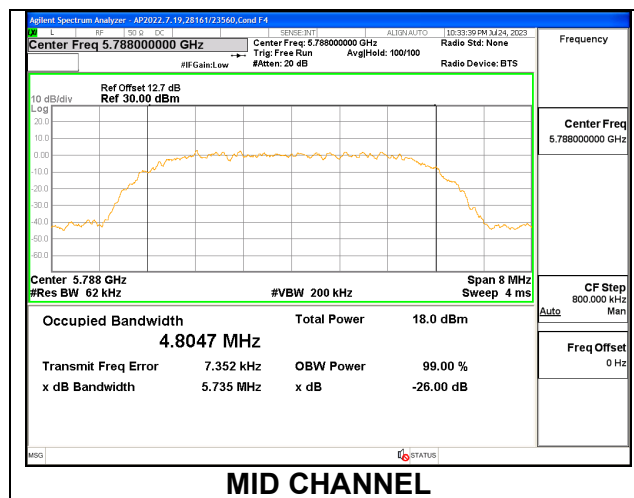
ANT 6

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5733	5.7460	4.8092
Mid	5788	5.7350	4.8064
High	5844	5.7400	4.8035



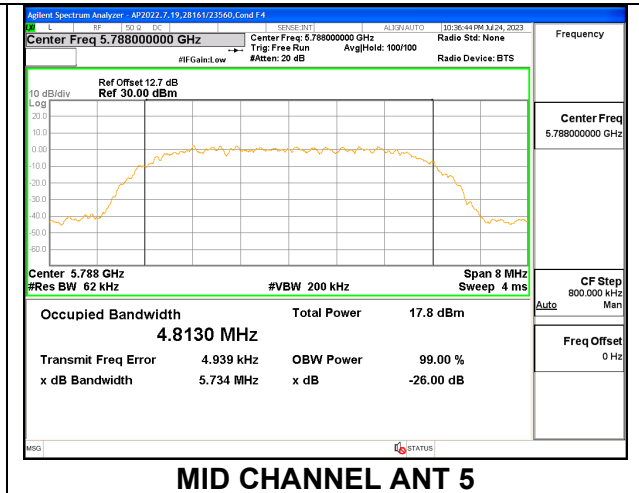
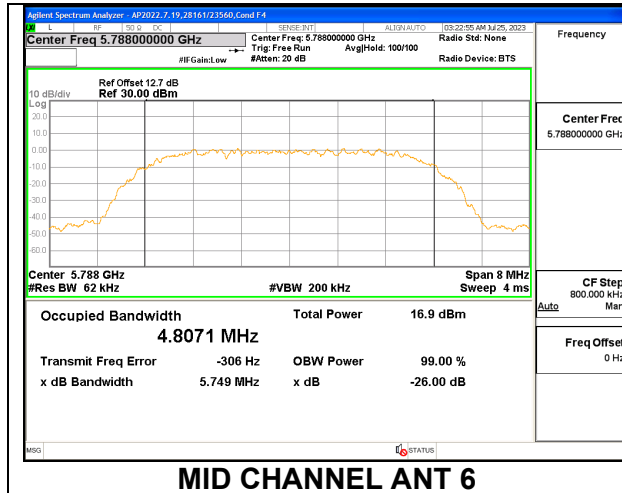
ANT 5

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5733	5.7270	4.8007
Mid	5788	5.7350	4.8047
High	5844	5.7360	4.8017



9.2.12. HIGH POWER HDR8 TXBF UNII-3

Channel	Frequency (MHz)	26dB Bandwidth ANT 6 (MHz)	26dB Bandwidth ANT 5 (MHz)	99% Bandwidth ANT 6 (MHz)	99% Bandwidth ANT 5 (MHz)
Low	5733	5.7370	5.7600	4.8033	4.8196
Mid	5788	5.7490	5.7340	4.8071	4.8130
High	5844	5.7510	5.7440	4.8151	4.8199



9.3. 6 dB BANDWIDTH

LIMITS

FCC §15.407 (e)

The minimum 6 dB bandwidth shall be at least 500 kHz.

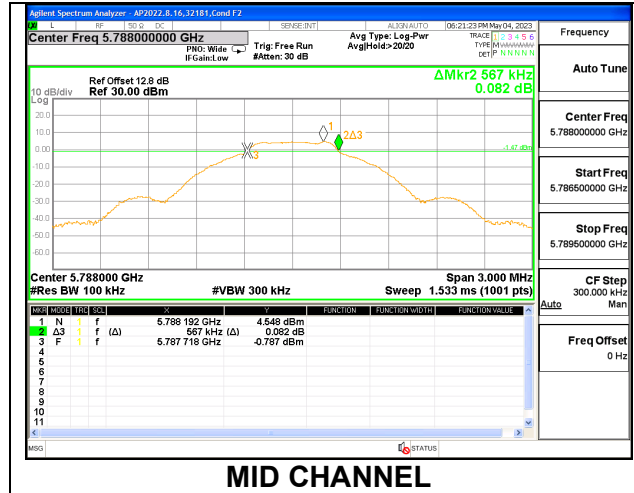
RESULTS

Only High Power modes result is reported, it covers all Low Power modes. Only Mid channel plot is reported to show setting parameter complies with testing method/procedure.

9.3.1. HIGH OUTPUT BDR MODE IN THE UNII-3 BAND

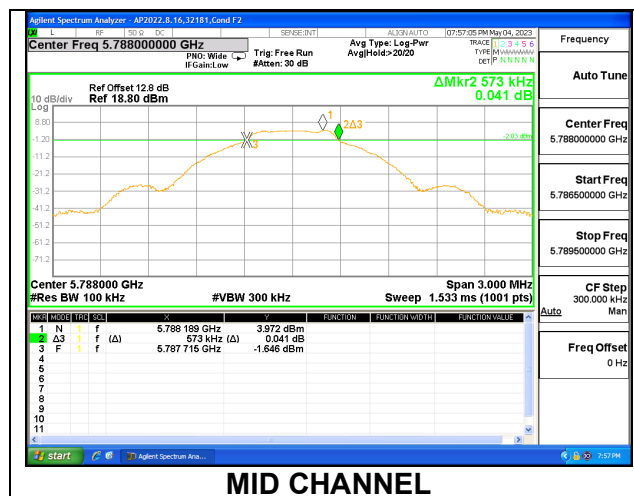
1TX Antenna 6

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5733	0.564	0.5
Mid	5788	0.567	0.5
High	5844	0.561	0.5



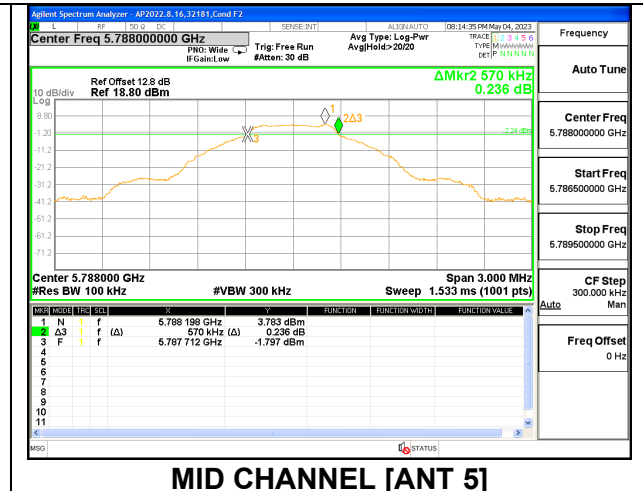
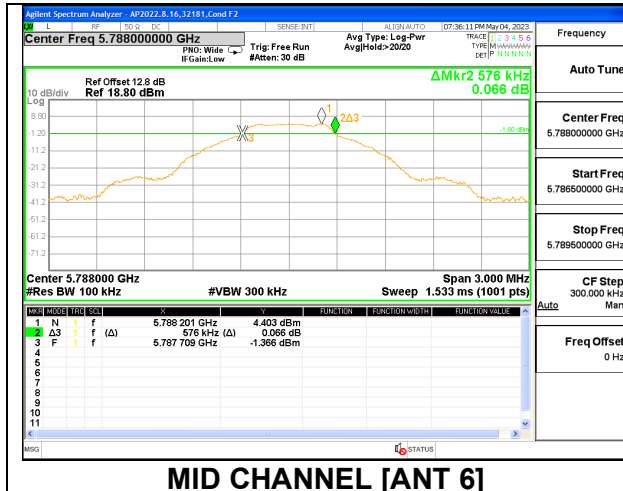
1TX Antenna 5

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5733	0.597	0.5
Mid	5788	0.573	0.5
High	5844	0.570	0.5



2TX Antenna 6 + Antenna 5 TX BF MODE

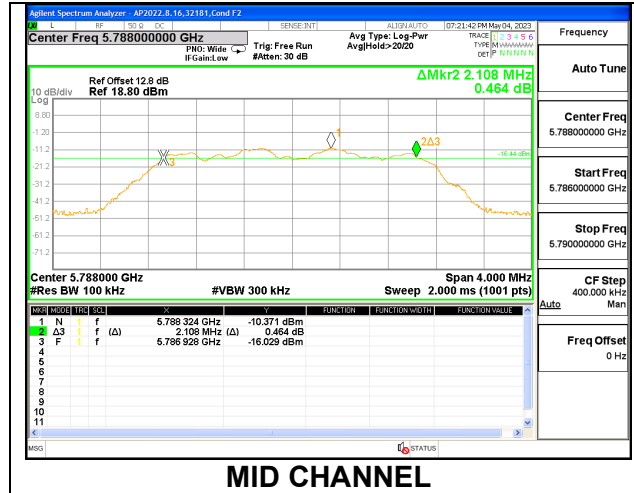
Channel	Frequency (MHz)	6 dB Bandwidth Antenna 6 (MHz)	6 dB Bandwidth Antenna 5 (MHz)	Minimum Limit (MHz)
Low	5733	0.585	0.582	0.5
Mid	5788	0.576	0.570	0.5
High	5844	0.564	0.561	0.5



9.3.2. HIGH OUTPUT HDR4 MODE IN THE UNII-3 BAND

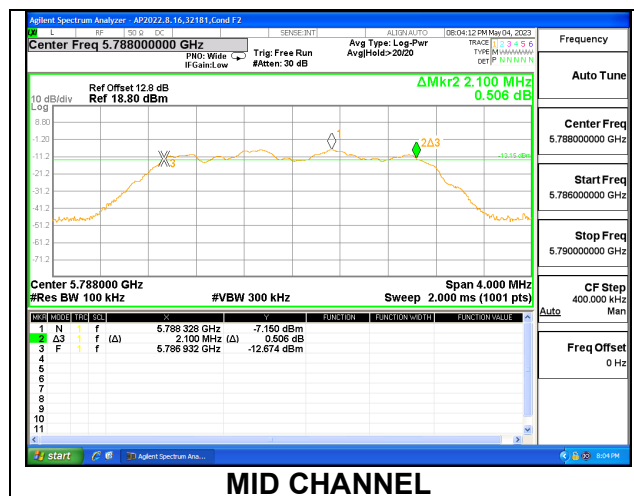
1TX Antenna 6

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5733	2.104	0.5
Mid	5788	2.108	0.5
High	5844	2.136	0.5



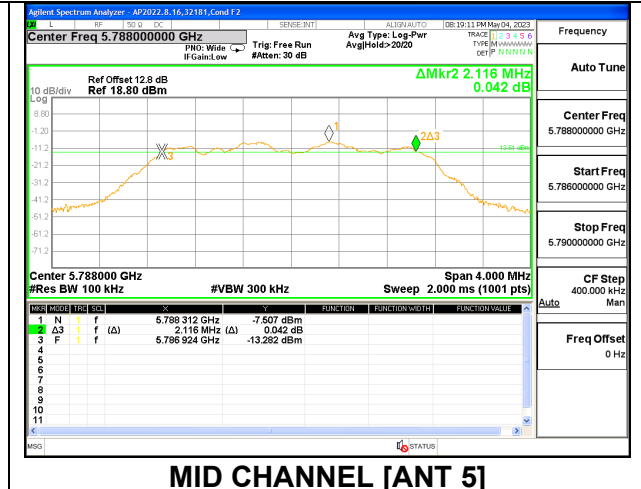
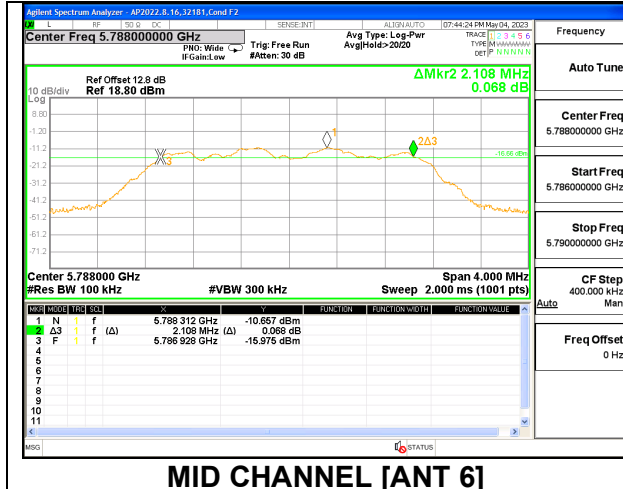
1TX Antenna 5

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5733	2.100	0.5
Mid	5788	2.100	0.5
High	5844	2.104	0.5



2TX Antenna 6 + Antenna 5 TX BF MODE

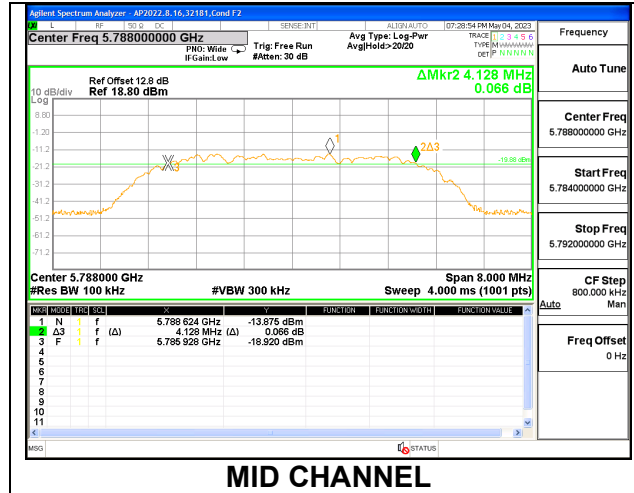
Channel	Frequency (MHz)	6 dB Bandwidth Antenna 6 (MHz)	6 dB Bandwidth Antenna 5 (MHz)	Minimum Limit (MHz)
Low	5733	2.124	2.116	0.5
Mid	5788	2.108	2.116	0.5
High	5844	2.112	2.140	0.5



9.3.3. HIGH OUTPUT HDR8 MODE IN THE UNII-3 BAND

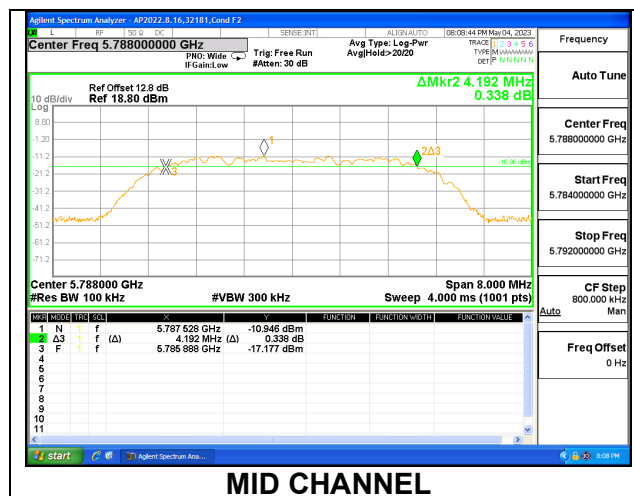
1TX Antenna 6

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5733	4.144	0.5
Mid	5788	4.128	0.5
High	5844	4.040	0.5



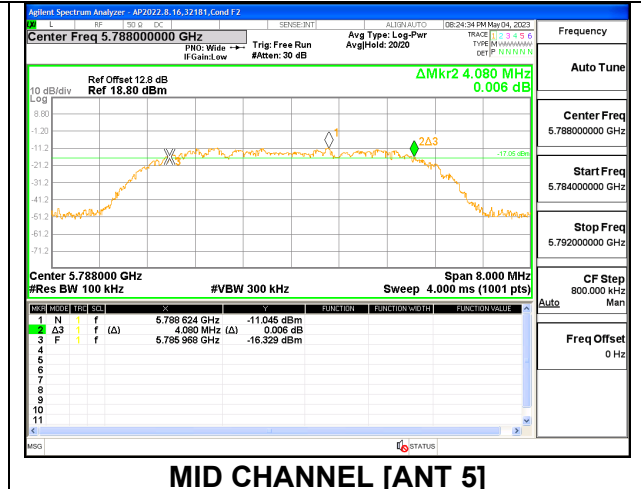
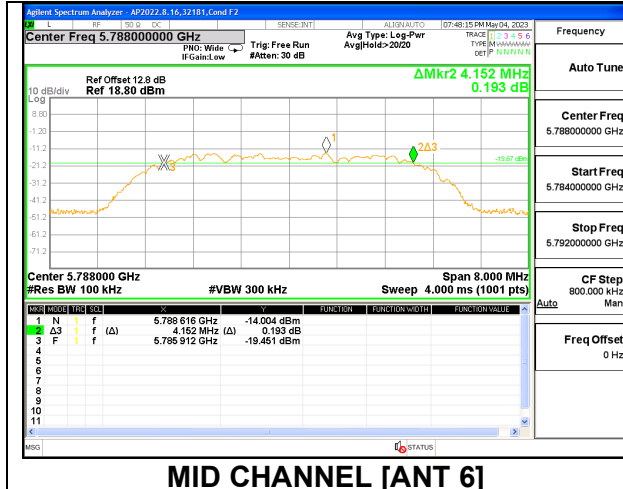
1TX Antenna 5

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	5733	4.200	0.5
Mid	5788	4.192	0.5
High	5844	4.208	0.5



2TX Antenna 6 + Antenna 5 TX BF MODE

Channel	Frequency (MHz)	6 dB Bandwidth Antenna 6 (MHz)	6 dB Bandwidth Antenna 5 (MHz)	Minimum Limit (MHz)
Low	5733	4.168	4.112	0.5
Mid	5788	4.152	4.080	0.5
High	5844	4.136	4.152	0.5



9.4. OUTPUT POWER AND PSD

LIMITS

FCC §15.407

Band 5.15–5.25 GHz

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Band 5.725-5.85 GHz

The maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information.

TEST PROCEDURE

The measurement method used for output power is KDB 789033 D02 v02r01, Section E.3.b (Method PM-G).

The measurement method used for power spectral density is KDB 789033 D02 v02r01, Section F.

DIRECTIONAL ANTENNA GAIN

For 1 TX:

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

For 2 TX:

Tx chains are correlated for power and correlated for PSD due to the device supporting TX BF in all MIMO modes. The directional gains are as follows:

Band (GHz)	ANT 6 Gain (dBi)	ANT 5 Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)	Correlated Chains Directional Gain (dBi)
UNII-1, 5.2GHz	-3.40	-6.00	-4.51	-1.59
UNII-3, 5.8GHz	-5.20	-3.60	-4.33	-1.35

RESULTS:

DIRECTIONAL GAIN CALCULATION:

ANSI C63.10-2013 section 14.4.3

Uncorrelated directional gain= $10 \cdot \text{LOG}(((10^{(\text{Ant1}/10)}+10^{(\text{Ant2}/10)})/2)$

Correlated directional Gain= $10 \cdot \text{LOG}(((10^{(\text{Ant1}/20)}+10^{(\text{Ant2}/20)})^2/2)$

Sample Calculation:

Ant6=-3.4, Ant5=-6.0

Uncorrelated Antenna gain= $10 \log[(10^{(-3.39/10)}+10^{(-6.03/10)})/2]=-4.51\text{dBi}$

Correlated Antenna gain= $10 \log[(10^{(-3.39/20)}+10^{(-6.03/20)})^2/2]=-1.59\text{dBi}$

9.4.1. HIGH OUTPUT BDR MODE IN UNII-1 BAND

1TX Antenna 6 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-3.40	24.00	11.00
Mid	5203	-3.40	24.00	11.00
High	5245	-3.40	24.00	11.00

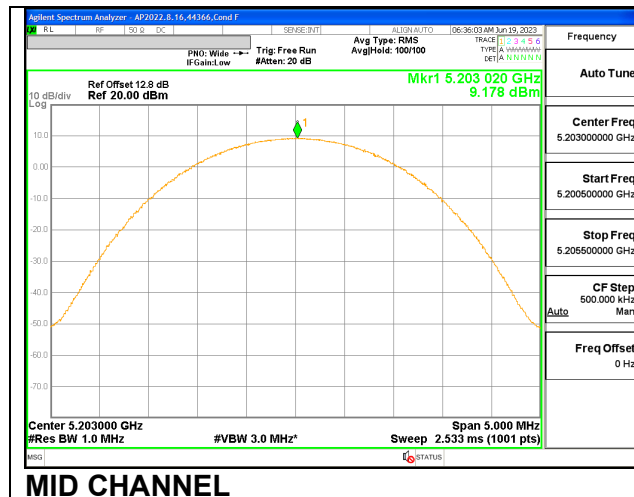
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	9.95	9.95	24.00	-14.05
Mid	5203	9.83	9.83	24.00	-14.17
High	5245	9.93	9.93	24.00	-14.07

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	9.381	9.381	11.00	-1.619
Mid	5203	9.178	9.178	11.00	-1.822
High	5245	9.015	9.015	11.00	-1.985



1TX Antenna 5 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-6.00	24.00	11.00
Mid	5203	-6.00	24.00	11.00
High	5245	-6.00	24.00	11.00

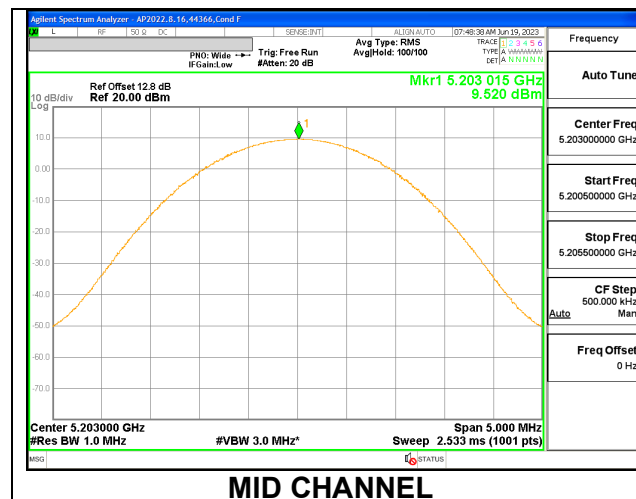
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	9.97	9.97	24.00	-14.03
Mid	5203	9.95	9.95	24.00	-14.05
High	5245	9.87	9.87	24.00	-14.13

PSD Results

Channel	Frequency (MHz)	Antenna 5 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	9.584	9.584	11.00	-1.416
Mid	5203	9.520	9.520	11.00	-1.480
High	5245	9.605	9.605	11.00	-1.395



2TX Antenna 6 + Antenna 5 TX BF MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-1.59	-1.59	24.00	11.00
Mid	5203	-1.59	-1.59	24.00	11.00
High	5245	-1.59	-1.59	24.00	11.00

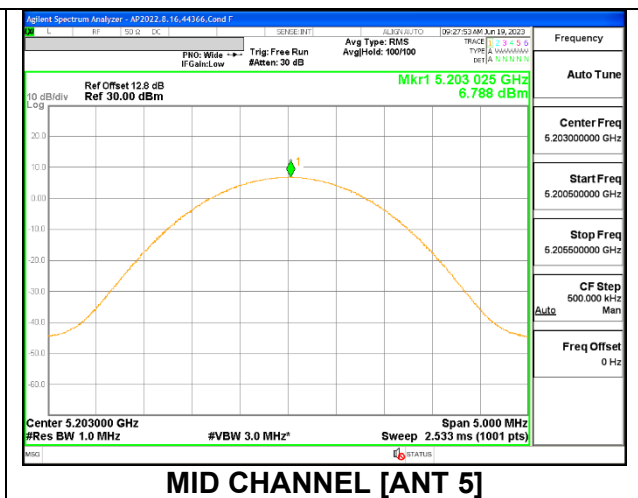
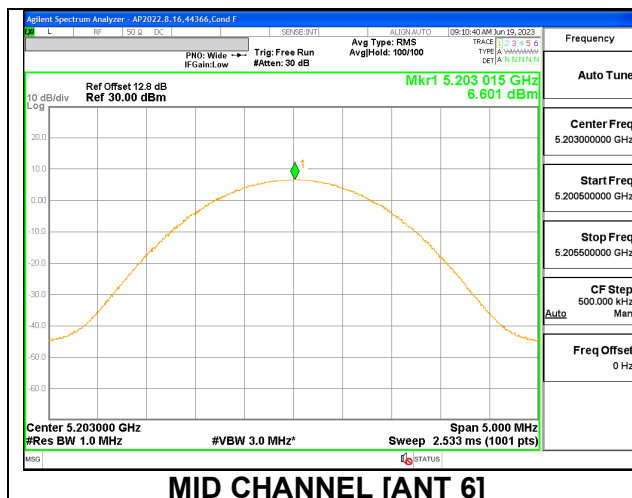
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	6.96	6.96	9.97	24.00	-14.03
Mid	5203	6.89	6.93	9.92	24.00	-14.08
High	5245	6.97	6.97	9.98	24.00	-14.02

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/1MHz)	Antenna 5 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	6.808	6.598	9.715	11.00	-1.285
Mid	5203	6.601	6.788	9.706	11.00	-1.294
High	5245	6.772	6.721	9.757	11.00	-1.243



9.4.2. LOW OUTPUT BDR MODE IN UNII-1 BAND

1TX Antenna 6 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-3.40	24.00	11.00
Mid	5203	-3.40	24.00	11.00
High	5245	-3.40	24.00	11.00

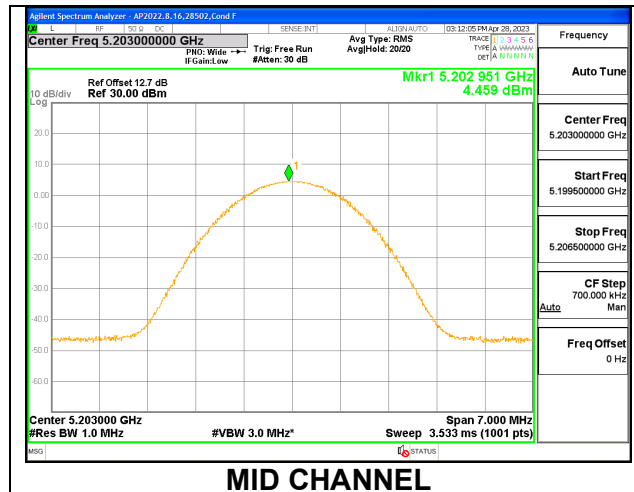
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	4.75	4.75	24.00	-19.25
Mid	5203	4.96	4.96	24.00	-19.04
High	5245	4.88	4.88	24.00	-19.12

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	4.230	4.230	11.00	-6.770
Mid	5203	4.459	4.459	11.00	-6.541
High	5245	4.153	4.153	11.00	-6.847



1TX Antenna 5 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-6.00	24.00	11.00
Mid	5203	-6.00	24.00	11.00
High	5245	-6.00	24.00	11.00

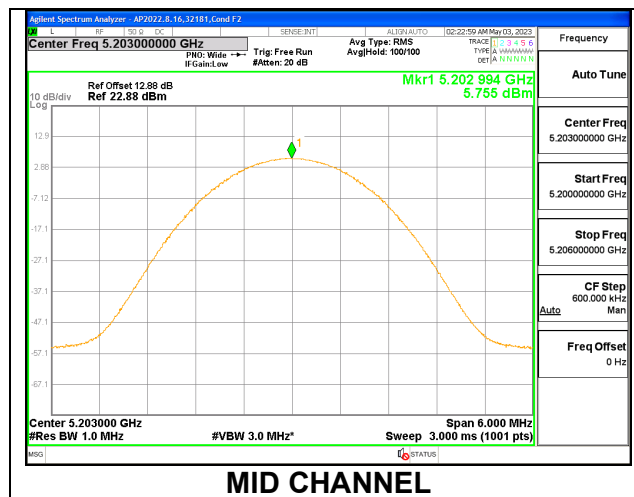
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	5.97	5.97	24.00	-18.03
Mid	5203	5.84	5.84	24.00	-18.16
High	5245	5.95	5.95	24.00	-18.05

PSD Results

Channel	Frequency (MHz)	Antenna 5 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	5.525	5.525	11.00	-5.475
Mid	5203	5.755	5.755	11.00	-5.245
High	5245	5.786	5.786	11.00	-5.214



2TX Antenna 6 + Antenna 5 TX BF MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-1.59	-1.59	24.00	11.00
Mid	5203	-1.59	-1.59	24.00	11.00
High	5245	-1.59	-1.59	24.00	11.00

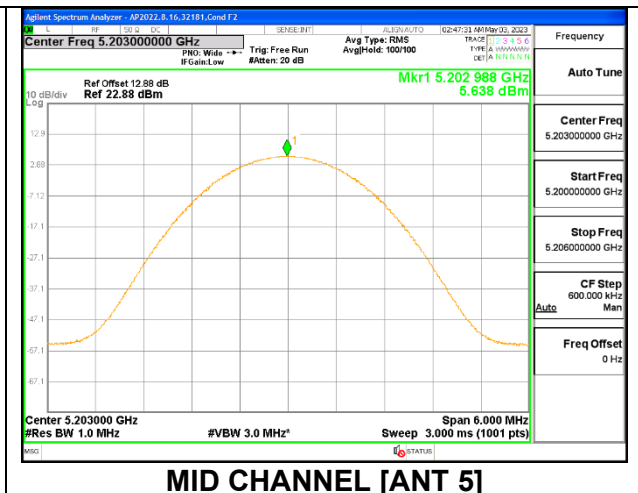
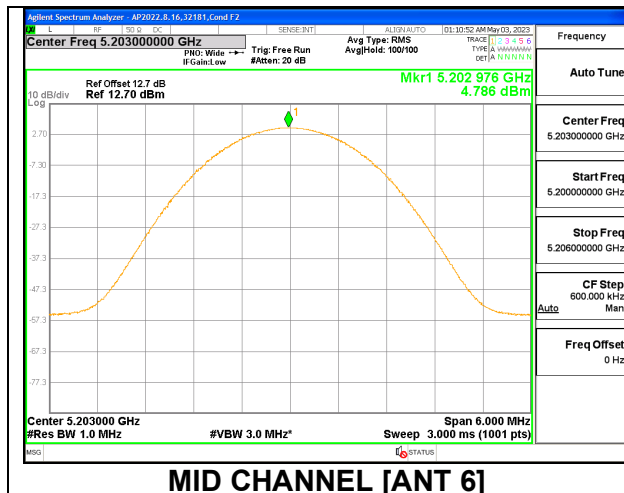
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	4.79	5.80	8.33	24.00	-15.67
Mid	5203	4.96	5.75	8.38	24.00	-15.62
High	5245	4.98	5.97	8.51	24.00	-15.49

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/1MHz)	Antenna 5 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	4.614	5.651	8.174	11.00	-2.826
Mid	5203	4.786	5.638	8.243	11.00	-2.757
High	5245	4.598	5.635	8.158	11.00	-2.842



9.4.3. HIGH OUTPUT HDR4 MODE IN UNII-1 BAND

1TX Antenna 6 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-3.40	24.00	11.00
Mid	5203	-3.40	24.00	11.00
High	5245	-3.40	24.00	11.00

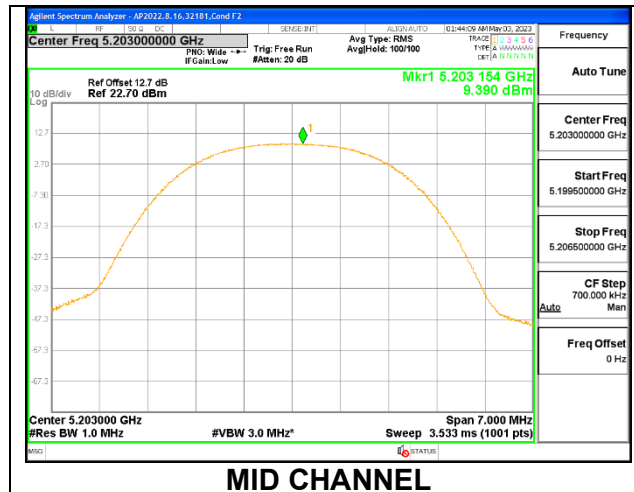
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	11.79	11.79	24.00	-12.21
Mid	5203	11.90	11.90	24.00	-12.10
High	5245	11.95	11.95	24.00	-12.05

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	9.333	9.333	11.00	-1.667
Mid	5203	9.390	9.390	11.00	-1.610
High	5245	9.414	9.414	11.00	-1.586



1TX Antenna 5 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-6.00	24.00	11.00
Mid	5203	-6.00	24.00	11.00
High	5245	-6.00	24.00	11.00

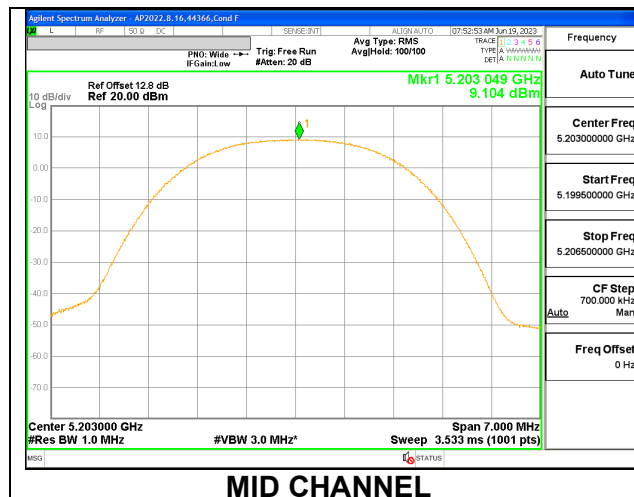
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	11.97	11.97	24.00	-12.03
Mid	5203	11.83	11.83	24.00	-12.17
High	5245	11.83	11.83	24.00	-12.17

PSD Results

Channel	Frequency (MHz)	Antenna 5 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	9.241	9.241	11.00	-1.759
Mid	5203	9.104	9.104	11.00	-1.896
High	5245	9.133	9.133	11.00	-1.867



2TX Antenna 6 + Antenna 5 TX BF MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-1.59	-1.59	24.00	11.00
Mid	5203	-1.59	-1.59	24.00	11.00
High	5245	-1.59	-1.59	24.00	11.00

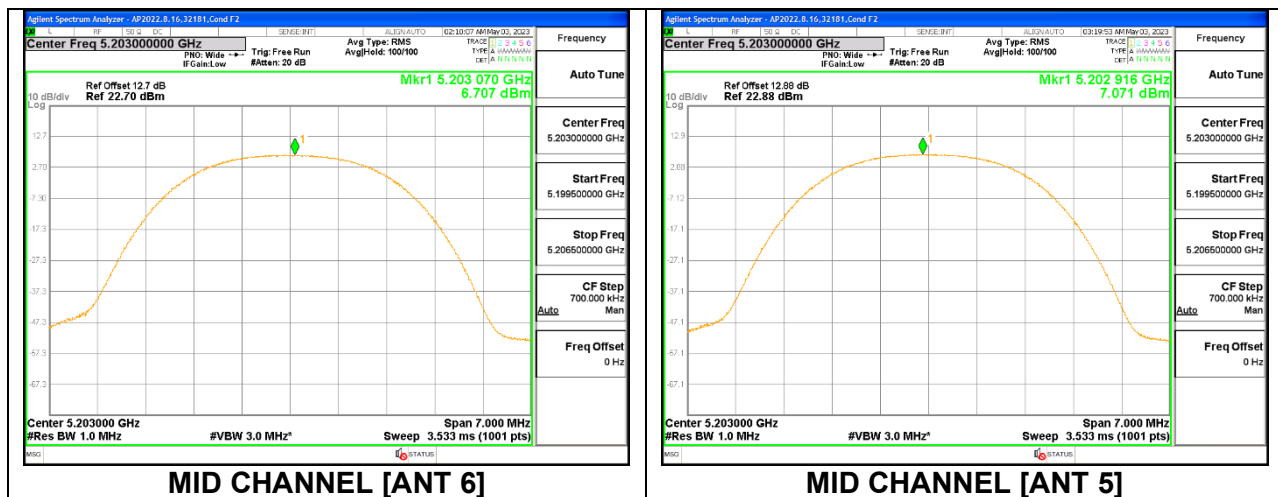
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	8.89	8.87	11.89	24.00	-12.11
Mid	5203	8.81	8.97	11.90	24.00	-12.10
High	5245	8.73	8.82	11.79	24.00	-12.21

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/1MHz)	Antenna 5 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	6.680	6.815	9.758	11.00	-1.242
Mid	5203	6.707	7.071	9.903	11.00	-1.097
High	5245	6.692	6.768	9.740	11.00	-1.260



9.4.4. LOW OUTPUT HDR4 MODE IN UNII-1 BAND

1TX Antenna 6 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-3.40	24.00	11.00
Mid	5203	-3.40	24.00	11.00
High	5245	-3.40	24.00	11.00

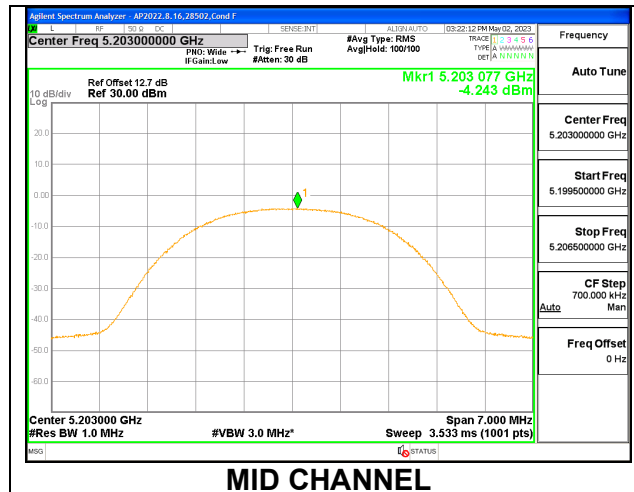
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	-1.54	-1.54	24.00	-25.54
Mid	5203	-1.52	-1.52	24.00	-25.52
High	5245	-1.74	-1.74	24.00	-25.74

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	-4.465	-4.465	11.00	-15.465
Mid	5203	-4.243	-4.243	11.00	-15.243
High	5245	-4.535	-4.535	11.00	-15.535



1TX Antenna 5 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-6.00	24.00	11.00
Mid	5203	-6.00	24.00	11.00
High	5245	-6.00	24.00	11.00

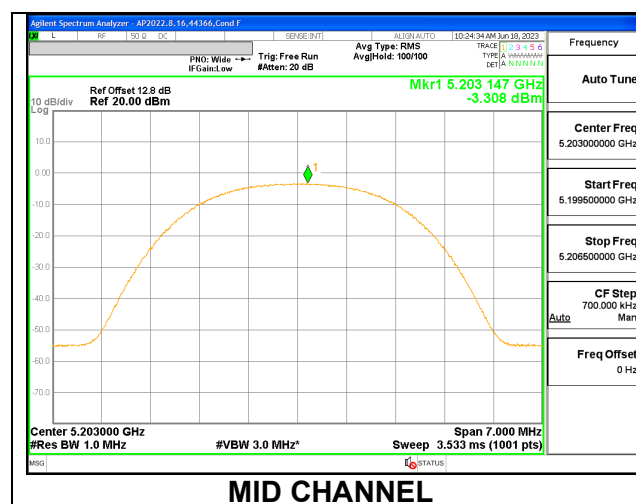
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	-0.77	-0.77	24.00	-24.77
Mid	5203	-0.55	-0.55	24.00	-24.55
High	5245	-0.60	-0.60	24.00	-24.60

PSD Results

Channel	Frequency (MHz)	Antenna 5 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	-3.362	-3.362	11.00	-14.362
Mid	5203	-3.308	-3.308	11.00	-14.308
High	5245	-3.519	-3.519	11.00	-14.519



2TX Antenna 6 + Antenna 5 TX BF MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-1.59	-1.59	24.00	11.00
Mid	5203	-1.59	-1.59	24.00	11.00
High	5245	-1.59	-1.59	24.00	11.00

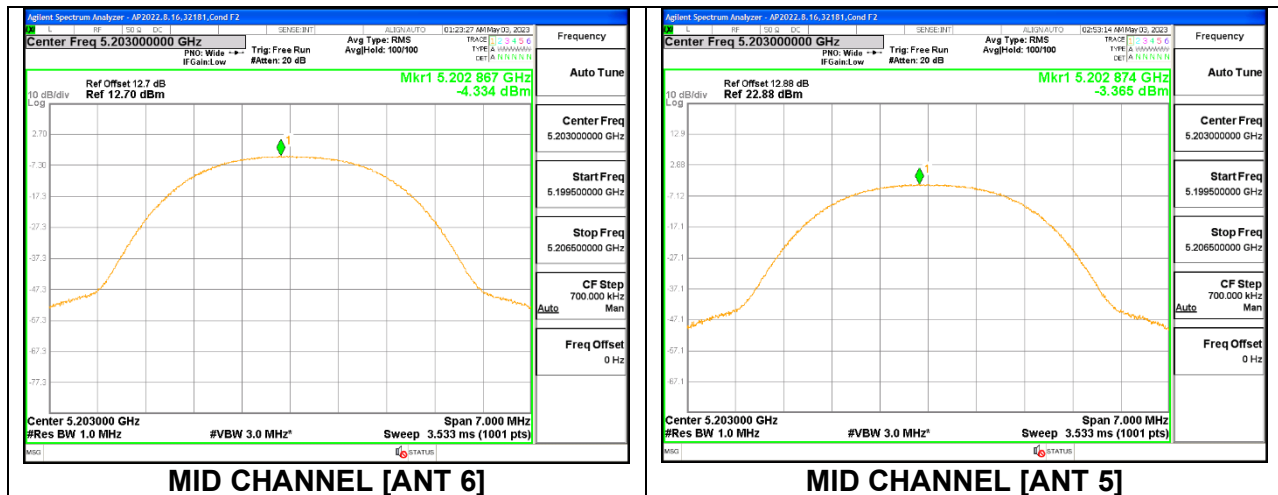
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	-1.69	-0.62	1.89	24.00	-22.11
Mid	5203	-1.67	-0.81	1.79	24.00	-22.21
High	5245	-1.72	-0.79	1.78	24.00	-22.22

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/1MHz)	Antenna 5 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	-4.331	-3.261	-0.753	11.00	-11.753
Mid	5203	-4.334	-3.365	-0.812	11.00	-11.812
High	5245	-4.428	-3.442	-0.897	11.00	-11.897



9.4.5. HIGH OUTPUT HDR8 MODE IN UNII-1 BAND

1TX Antenna 6 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-3.40	24.00	11.00
Mid	5203	-3.40	24.00	11.00
High	5245	-3.40	24.00	11.00

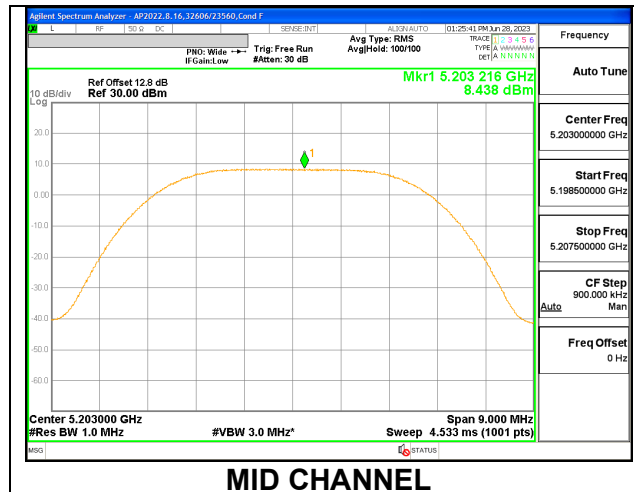
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	13.92	13.92	24.00	-10.08
Mid	5203	13.95	13.95	24.00	-10.05
High	5245	13.98	13.98	24.00	-10.02

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	8.392	8.392	11.00	-2.608
Mid	5203	8.438	8.438	11.00	-2.562
High	5245	8.517	8.517	11.00	-2.483



1TX Antenna 5 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-6.00	24.00	11.00
Mid	5203	-6.00	24.00	11.00
High	5245	-6.00	24.00	11.00

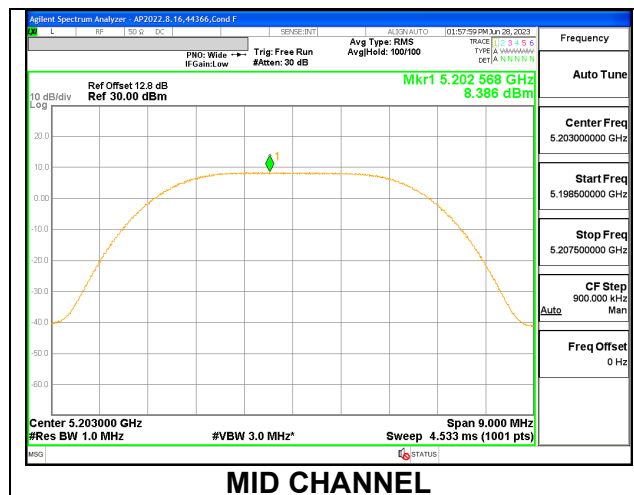
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	13.92	13.92	24.00	-10.08
Mid	5203	13.95	13.95	24.00	-10.05
High	5245	13.96	13.96	24.00	-10.04

PSD Results

Channel	Frequency (MHz)	Antenna 5 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	8.257	8.257	11.00	-2.743
Mid	5203	8.386	8.386	11.00	-2.614
High	5245	8.429	8.429	11.00	-2.571



2TX Antenna 6 + Antenna 5 TX BF MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-1.59	-1.59	24.00	11.00
Mid	5203	-1.59	-1.59	24.00	11.00
High	5245	-1.59	-1.59	24.00	11.00

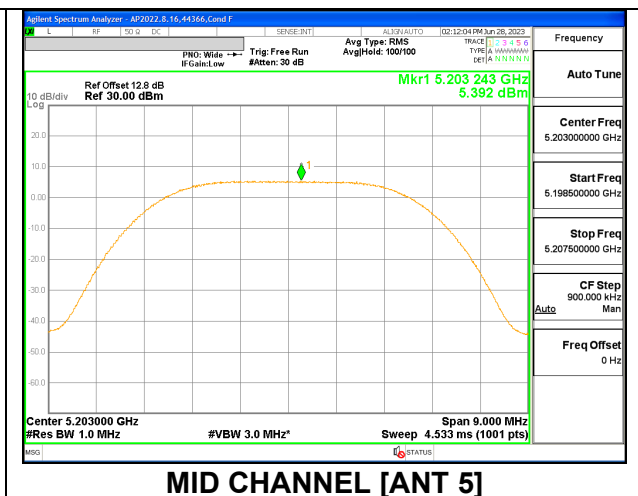
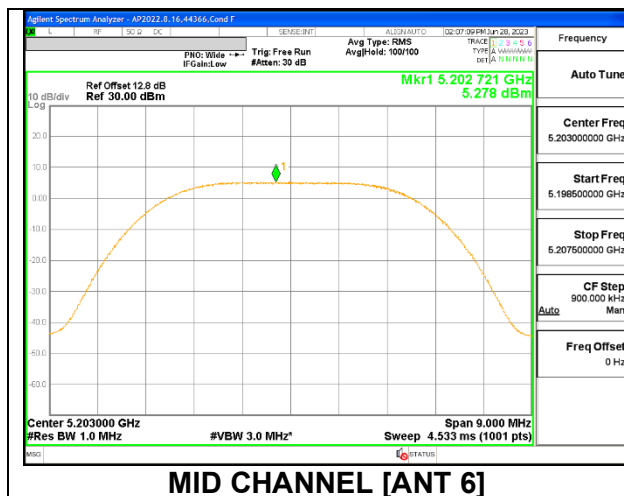
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	10.88	10.89	13.90	24.00	-10.10
Mid	5203	10.84	10.92	13.89	24.00	-10.11
High	5245	10.94	10.95	13.96	24.00	-10.04

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/1MHz)	Antenna 5 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	5.252	5.294	8.283	11.00	-2.717
Mid	5203	5.278	5.392	8.346	11.00	-2.654
High	5245	5.349	5.305	8.337	11.00	-2.663



9.4.6. LOW OUTPUT HDR8 MODE IN UNII-1 BAND

1TX Antenna 6 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-3.40	24.00	11.00
Mid	5203	-3.40	24.00	11.00
High	5245	-3.40	24.00	11.00

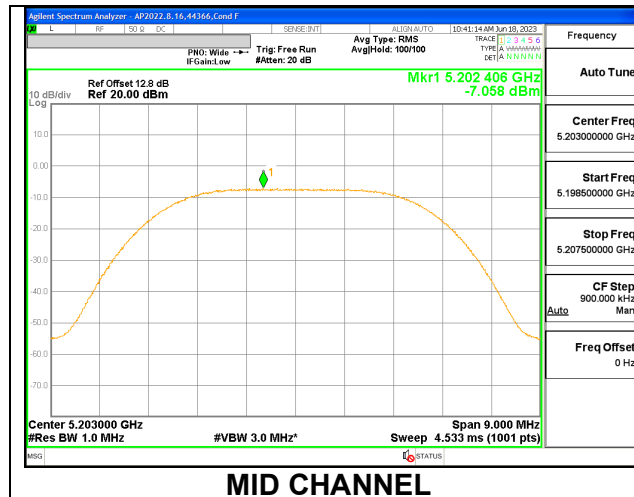
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	-1.56	-1.56	24.00	-25.56
Mid	5203	-1.52	-1.52	24.00	-25.52
High	5245	-1.72	-1.72	24.00	-25.72

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	-7.172	-7.172	11.00	-18.172
Mid	5203	-7.058	-7.058	11.00	-18.058
High	5245	-7.355	-7.355	11.00	-18.355



1TX Antenna 5 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-6.00	24.00	11.00
Mid	5203	-6.00	24.00	11.00
High	5245	-6.00	24.00	11.00

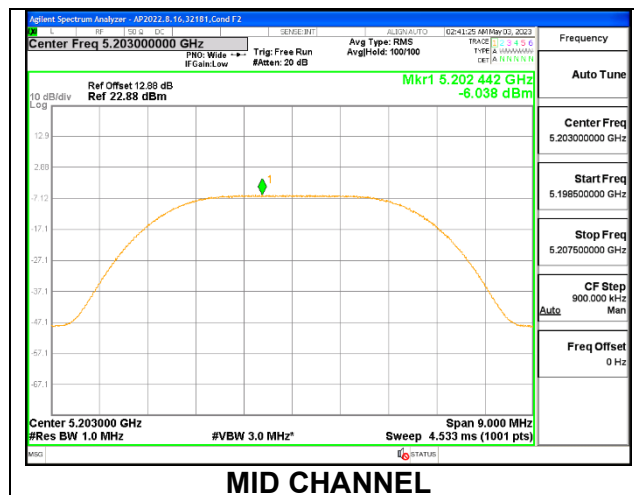
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	-0.67	-0.67	24.00	-24.67
Mid	5203	-0.71	-0.71	24.00	-24.71
High	5245	-0.75	-0.75	24.00	-24.75

PSD Results

Channel	Frequency (MHz)	Antenna 5 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	-6.034	-6.034	11.00	-17.034
Mid	5203	-6.038	-6.038	11.00	-17.038
High	5245	-6.175	-6.175	11.00	-17.175



2TX Antenna 6 + Antenna 5 TX BF MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain for Power (dBi)	Directional Gain for PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/ 1MHz)
Low	5162	-1.59	-1.59	24.00	11.00
Mid	5203	-1.59	-1.59	24.00	11.00
High	5245	-1.59	-1.59	24.00	11.00

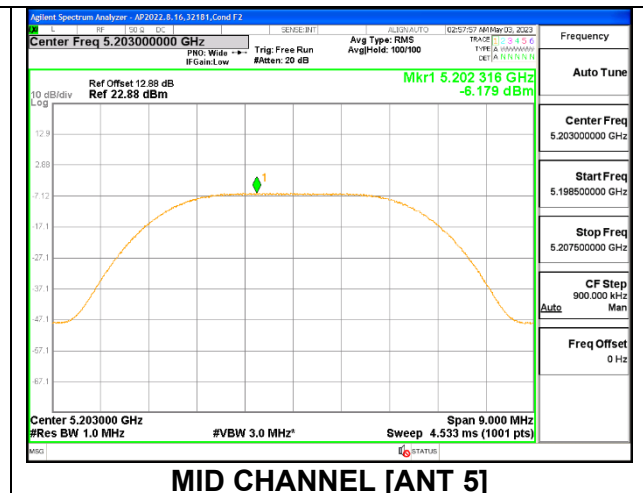
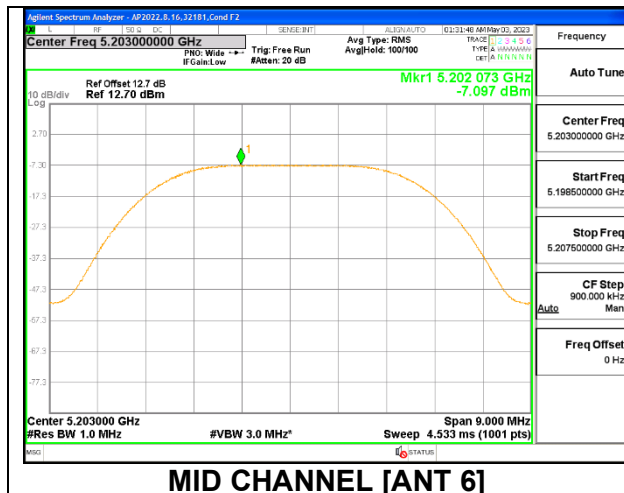
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5162	-1.71	-0.73	1.82	24.00	-22.18
Mid	5203	-1.61	-0.78	1.84	24.00	-22.16
High	5245	-1.66	-0.70	1.86	24.00	-22.14

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/1MHz)	Antenna 5 Meas PSD (dBm/1MHz)	Total Corr'd PSD (dBm/1MHz)	PSD Limit (dBm/ 1MHz)	PSD Margin (dB)
Low	5162	-7.221	-6.229	-3.686	11.00	-14.686
Mid	5203	-7.097	-6.179	-3.603	11.00	-14.603
High	5245	-7.257	-6.172	-3.670	11.00	-14.670



9.4.7. HIGH OUTPUT BDR MODE IN UNII-3 BAND

1TX Antenna 6 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-5.20	30.00	30.00
Mid	5788	-5.20	30.00	30.00
High	5844	-5.20	30.00	30.00

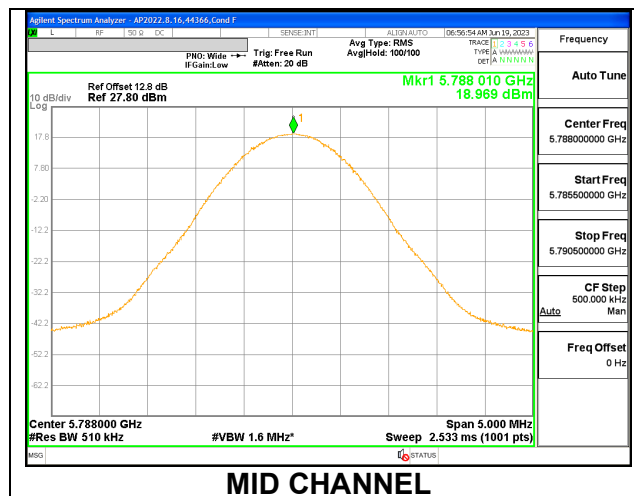
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	19.94	19.94	30.00	-10.06
Mid	5788	19.95	19.95	30.00	-10.05
High	5844	19.96	19.96	30.00	-10.04

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	18.944	18.944	30.00	-11.056
Mid	5788	18.969	18.969	30.00	-11.031
High	5844	18.800	18.800	30.00	-11.200



1TX Antenna 5 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-3.60	30.00	30.00
Mid	5788	-3.60	30.00	30.00
High	5844	-3.60	30.00	30.00

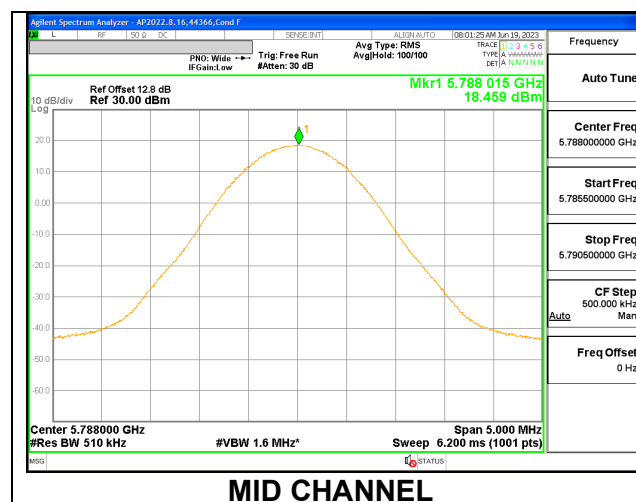
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	19.47	19.47	30.00	-10.53
Mid	5788	19.45	19.45	30.00	-10.55
High	5844	19.48	19.48	30.00	-10.52

PSD Results

Channel	Frequency (MHz)	Antenna 5 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	18.476	18.476	30.00	-11.524
Mid	5788	18.459	18.459	30.00	-11.541
High	5844	18.563	18.563	30.00	-11.437



2TX Antenna 6 + Antenna 5 TX BF MODE (FCC)

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain For Power (dBi)	Directional Gain For PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-1.35	-1.35	30.00	30.00
Mid	5788	-1.35	-1.35	30.00	30.00
High	5844	-1.35	-1.35	30.00	30.00

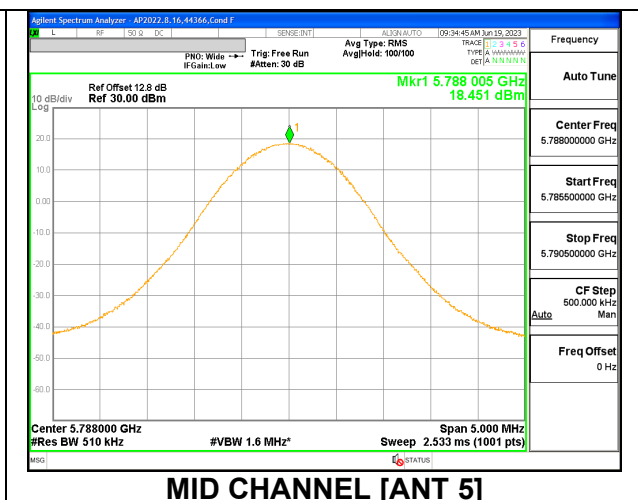
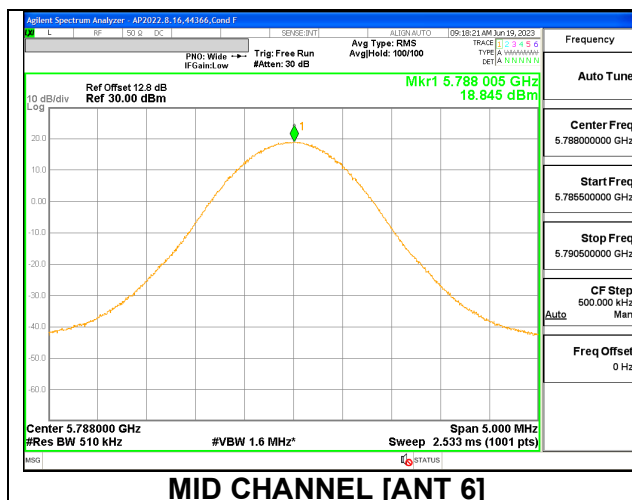
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	19.88	19.46	22.69	30.00	-7.31
Mid	5788	19.95	19.47	22.73	30.00	-7.27
High	5844	19.94	19.45	22.71	30.00	-7.29

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/500KHz)	Antenna 5 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	18.656	18.291	21.488	30.00	-8.512
Mid	5788	18.845	18.451	21.663	30.00	-8.337
High	5844	18.824	18.482	21.667	30.00	-8.333



9.4.8. LOW OUTPUT BDR MODE IN UNII-3 BAND

1TX Antenna 6 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-5.20	30.00	30.00
Mid	5788	-5.20	30.00	30.00
High	5844	-5.20	30.00	30.00

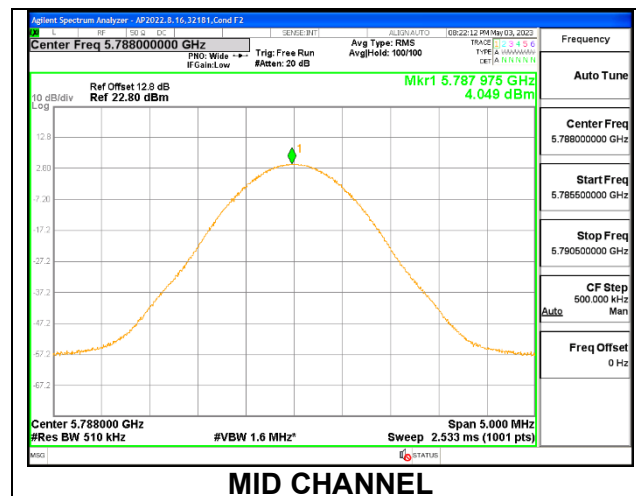
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	4.98	4.98	30.00	-25.02
Mid	5788	4.95	4.95	30.00	-25.05
High	5844	4.65	4.65	30.00	-25.35

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	4.275	4.275	30.00	-25.725
Mid	5788	4.049	4.049	30.00	-25.951
High	5844	4.349	4.349	30.00	-25.651



1TX Antenna 5 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-3.60	30.00	30.00
Mid	5788	-3.60	30.00	30.00
High	5844	-3.60	30.00	30.00

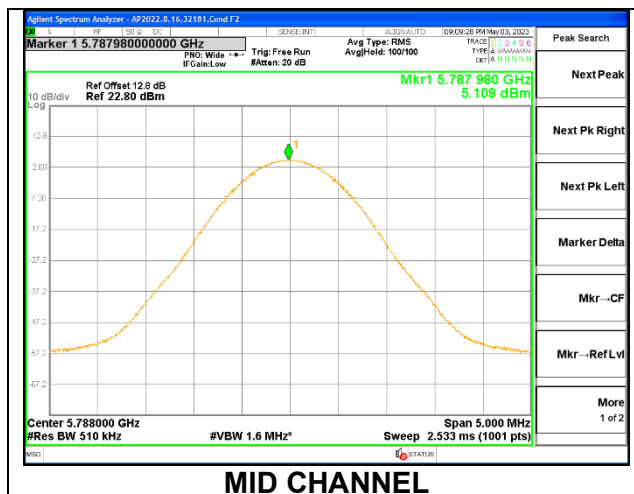
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	6.41	6.41	30.00	-23.59
Mid	5788	6.43	6.43	30.00	-23.57
High	5844	6.28	6.28	30.00	-23.72

PSD Results

Channel	Frequency (MHz)	Antenna 5 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	4.990	4.990	30.00	-25.010
Mid	5788	5.109	5.109	30.00	-24.891
High	5844	5.320	5.320	30.00	-24.680



2TX Antenna 6 + Antenna 5 TX BF MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain For Power (dBi)	Directional Gain For PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-1.35	-1.35	30.00	30.00
Mid	5788	-1.35	-1.35	30.00	30.00
High	5844	-1.35	-1.35	30.00	30.00

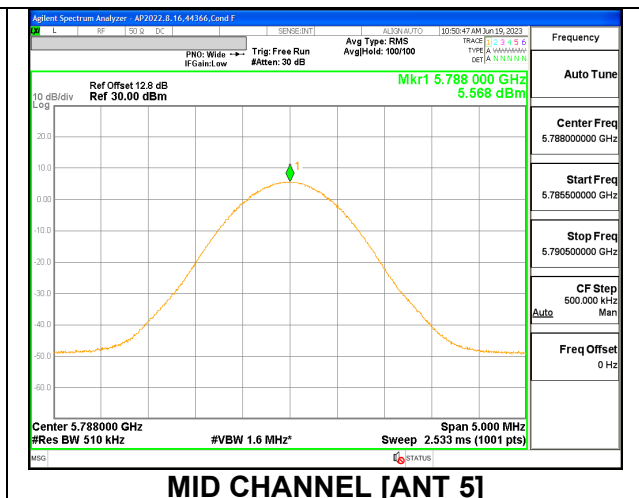
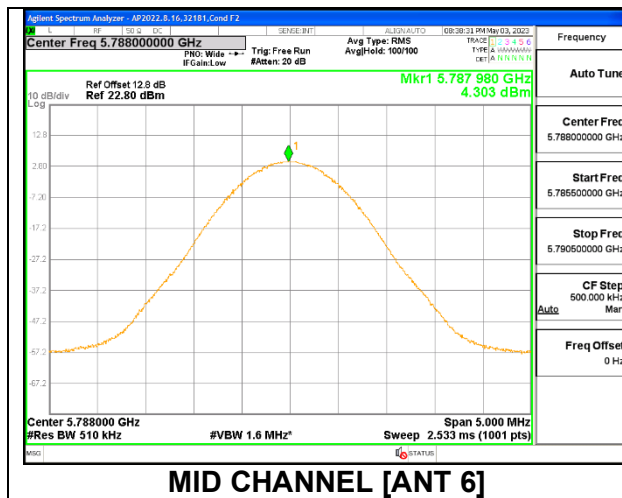
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	4.93	6.35	8.71	30.00	-21.29
Mid	5788	4.93	6.40	8.74	30.00	-21.26
High	5844	4.75	6.38	8.65	30.00	-21.35

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/500KHz)	Antenna 5 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	4.319	5.248	7.819	30.00	-22.181
Mid	5788	4.303	5.568	7.992	30.00	-22.008
High	5844	4.287	5.588	7.996	30.00	-22.004



9.4.9. HIGH OUTPUT HDR4 MODE IN UNII-3 BAND

1TX Antenna 6 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-5.20	30.00	30.00
Mid	5788	-5.20	30.00	30.00
High	5844	-5.20	30.00	30.00

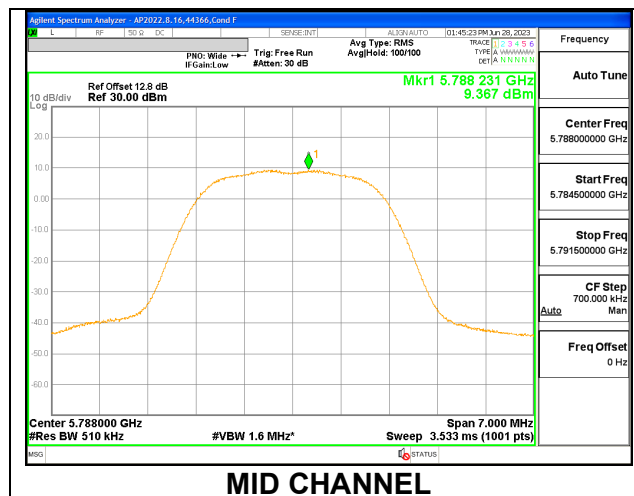
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	14.45	14.45	30.00	-15.55
Mid	5788	14.47	14.47	30.00	-15.53
High	5844	14.46	14.46	30.00	-15.54

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	9.344	9.344	30.00	-20.656
Mid	5788	9.367	9.367	30.00	-20.633
High	5844	9.330	9.330	30.00	-20.670



1TX Antenna 5 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-3.60	30.00	30.00
Mid	5788	-3.60	30.00	30.00
High	5844	-3.60	30.00	30.00

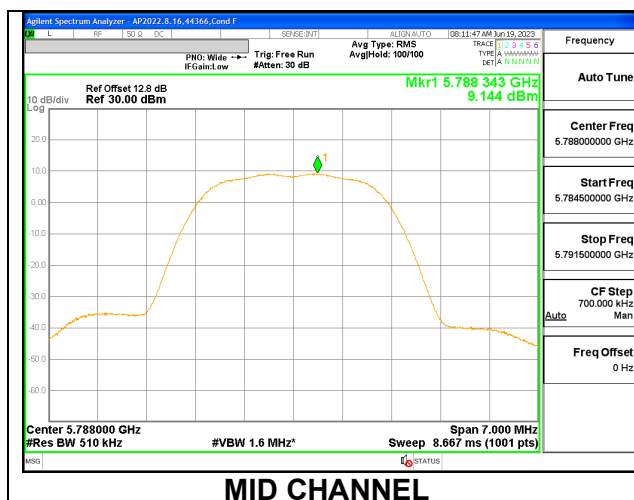
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	14.43	14.43	30.00	-15.57
Mid	5788	14.44	14.44	30.00	-15.56
High	5844	14.47	14.47	30.00	-15.53

PSD Results

Channel	Frequency (MHz)	Antenna 5 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	9.203	9.203	30.00	-20.797
Mid	5788	9.144	9.144	30.00	-20.856
High	5844	9.342	9.342	30.00	-20.658



2TX Antenna 6 + Antenna 5 TX BF MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain For Power (dBi)	Directional Gain For PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-1.35	-1.35	30.00	30.00
Mid	5788	-1.35	-1.35	30.00	30.00
High	5844	-1.35	-1.35	30.00	30.00

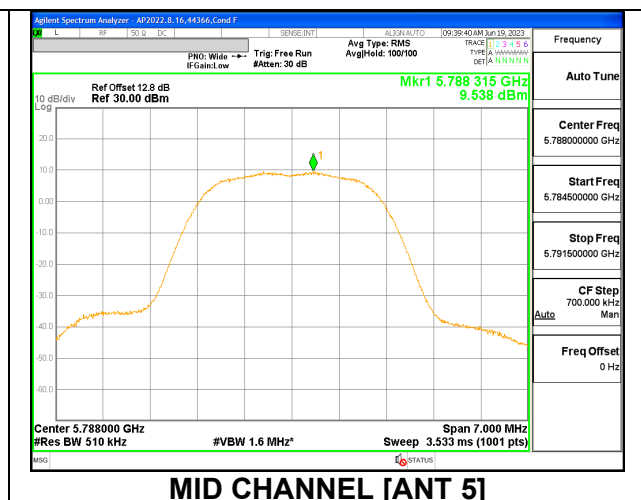
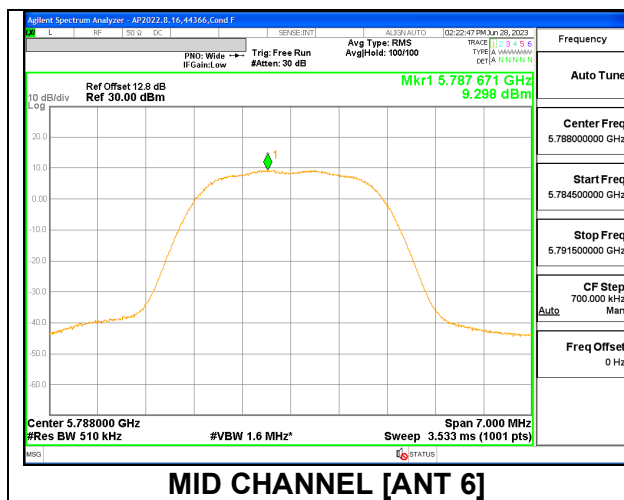
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	14.42	14.35	17.40	30.00	-12.60
Mid	5788	14.45	14.42	17.45	30.00	-12.55
High	5844	14.46	14.45	17.47	30.00	-12.53

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/500KHz)	Antenna 5 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	9.383	9.273	12.339	30.00	-17.661
Mid	5788	9.298	9.538	12.430	30.00	-17.570
High	5844	9.298	9.508	12.415	30.00	-17.585



9.4.10. LOW OUTPUT HDR4 MODE IN UNII-3 BAND

1TX Antenna 6 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-5.20	30.00	30.00
Mid	5788	-5.20	30.00	30.00
High	5844	-5.20	30.00	30.00

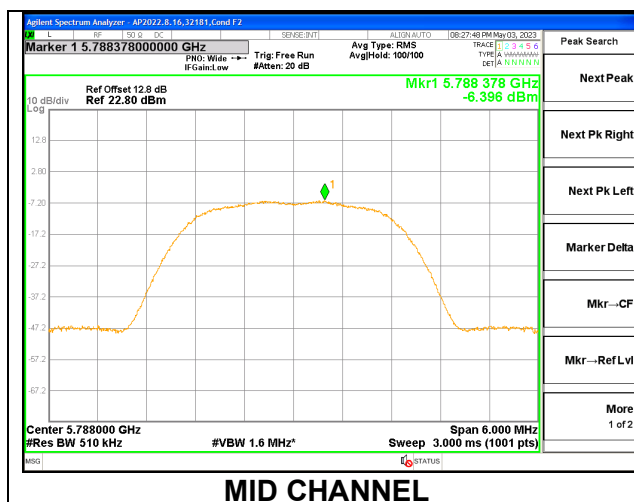
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	-1.46	-1.46	30.00	-31.46
Mid	5788	-1.42	-1.42	30.00	-31.42
High	5844	-1.62	-1.62	30.00	-31.62

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	-6.344	-6.344	30.00	-36.344
Mid	5788	-6.396	-6.396	30.00	-36.396
High	5844	-6.137	-6.137	30.00	-36.137



1TX Antenna 5 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-3.60	30.00	30.00
Mid	5788	-3.60	30.00	30.00
High	5844	-3.60	30.00	30.00

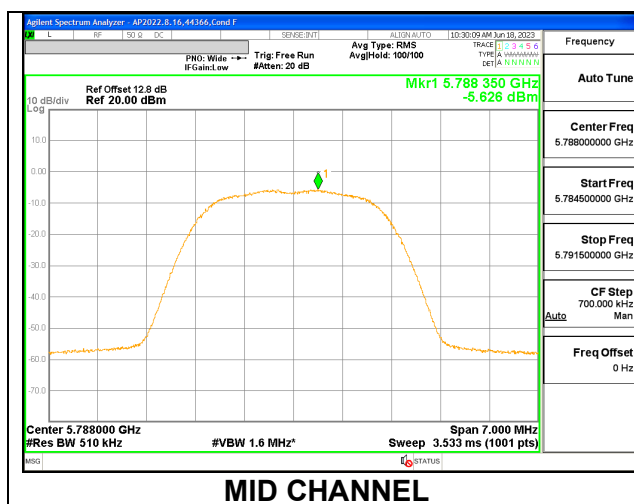
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	-0.16	-0.16	30.00	-30.16
Mid	5788	-0.17	-0.17	30.00	-30.17
High	5844	-0.15	-0.15	30.00	-30.15

PSD Results

Channel	Frequency (MHz)	Antenna 5 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	-5.487	-5.487	30.00	-35.487
Mid	5788	-5.626	-5.626	30.00	-35.626
High	5844	-5.640	-5.640	30.00	-35.640



2TX Antenna 6 + Antenna 5 TX BF MODE (FCC)

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain For Power (dBi)	Directional Gain For PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-1.35	-1.35	30.00	30.00
Mid	5788	-1.35	-1.35	30.00	30.00
High	5844	-1.35	-1.35	30.00	30.00

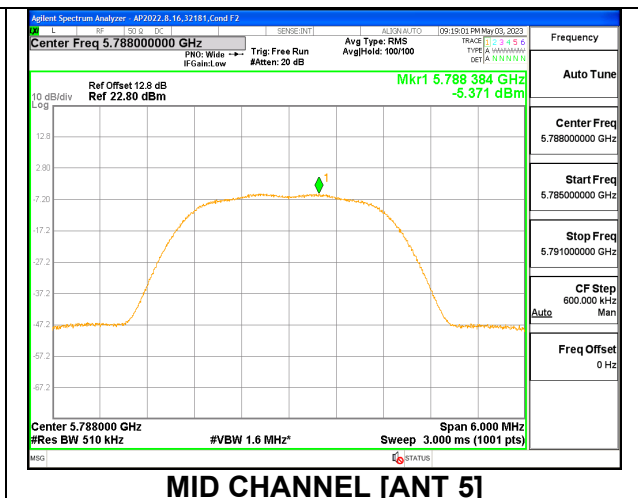
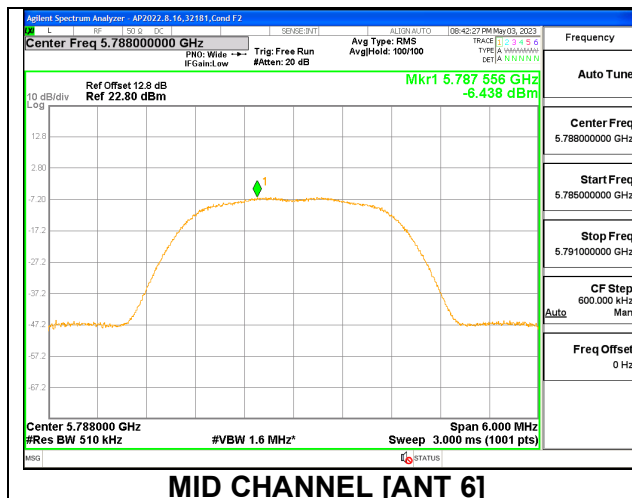
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	-1.53	-0.26	2.16	30.00	-27.84
Mid	5788	-1.53	-0.22	2.18	30.00	-27.82
High	5844	-1.70	-0.20	2.12	30.00	-27.88

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/500KHz)	Antenna 5 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	-6.212	-5.301	-2.722	30.00	-32.722
Mid	5788	-6.438	-5.371	-2.862	30.00	-32.862
High	5844	-6.557	-5.150	-2.786	30.00	-32.786



9.4.11. HIGH OUTPUT HDR8 MODE IN UNII-3 BAND

1TX Antenna 6 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-5.20	30.00	30.00
Mid	5788	-5.20	30.00	30.00
High	5844	-5.20	30.00	30.00

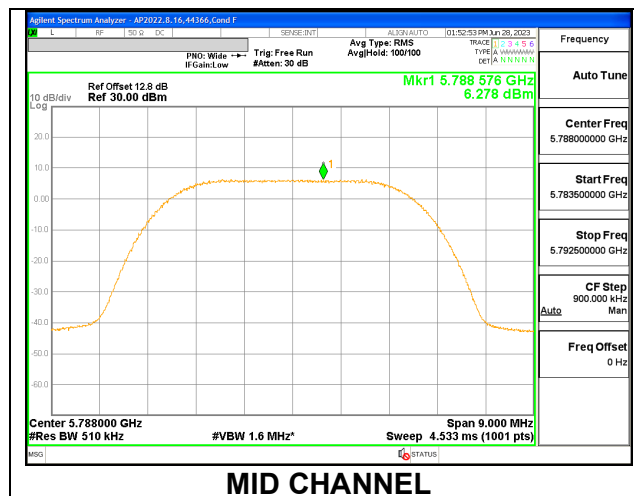
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	14.43	14.43	30.00	-15.57
Mid	5788	14.45	14.45	30.00	-15.55
High	5844	14.48	14.48	30.00	-15.52

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	6.285	6.285	30.00	-23.715
Mid	5788	6.278	6.278	30.00	-23.722
High	5844	6.358	6.358	30.00	-23.642



1TX Antenna 5 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-3.60	30.00	30.00
Mid	5788	-3.60	30.00	30.00
High	5844	-3.60	30.00	30.00

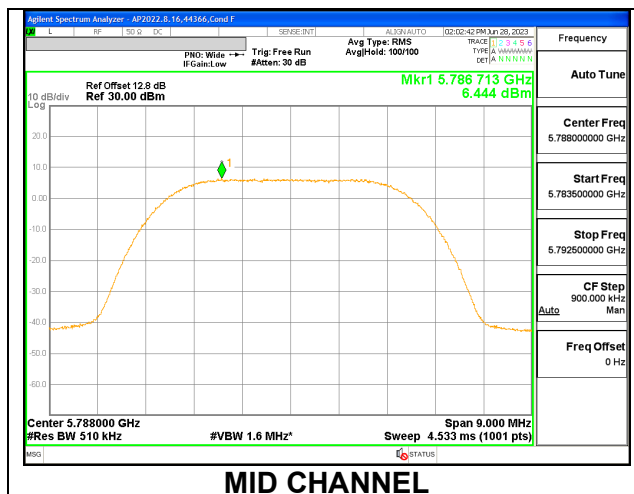
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	14.44	14.44	30.00	-15.56
Mid	5788	14.36	14.36	30.00	-15.64
High	5844	14.48	14.48	30.00	-15.52

PSD Results

Channel	Frequency (MHz)	Antenna 5 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	6.272	6.272	30.00	-23.728
Mid	5788	6.444	6.444	30.00	-23.556
High	5844	6.146	6.146	30.00	-23.854



2TX Antenna 6 + Antenna 5 TX BF MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain For Power (dBi)	Directional Gain For PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-1.35	-1.35	30.00	30.00
Mid	5788	-1.35	-1.35	30.00	30.00
High	5844	-1.35	-1.35	30.00	30.00

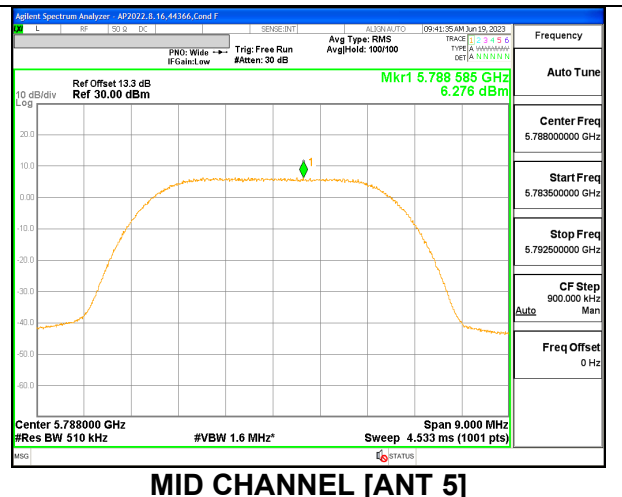
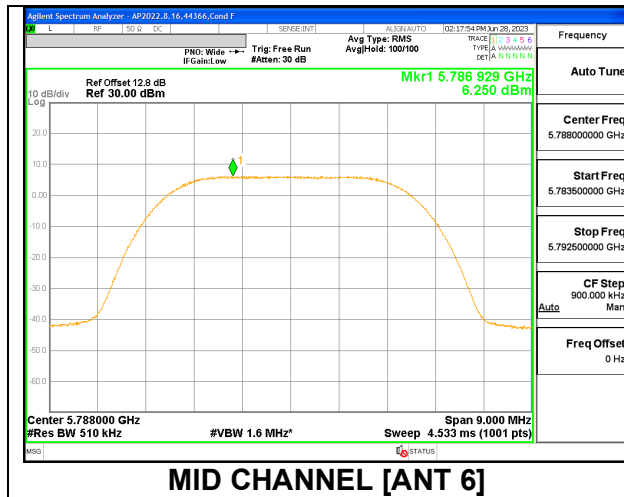
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	14.43	14.40	17.43	30.00	-12.57
Mid	5788	14.46	14.45	17.47	30.00	-12.53
High	5844	14.48	14.44	17.47	30.00	-12.53

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/500KHz)	Antenna 5 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	6.202	6.029	9.127	30.00	-20.873
Mid	5788	6.250	6.276	9.273	30.00	-20.727
High	5844	6.403	6.120	9.274	30.00	-20.726



9.4.12. LOW OUTPUT HDR8 MODE IN UNII-3 BAND

1TX Antenna 6 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-5.20	30.00	30.00
Mid	5788	-5.20	30.00	30.00
High	5844	-5.20	30.00	30.00

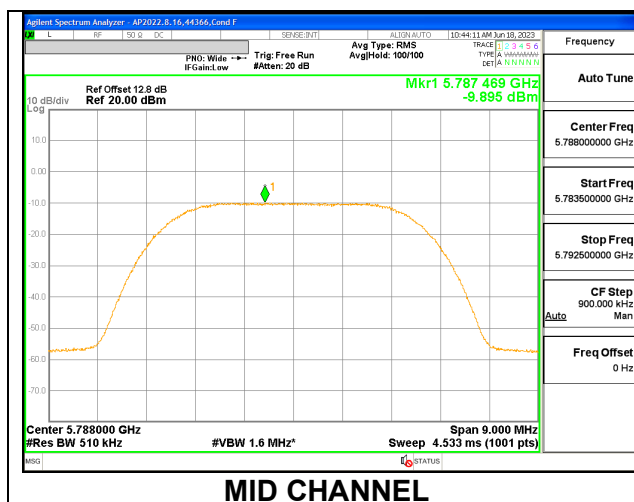
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	-1.55	-1.55	30.00	-31.55
Mid	5788	-1.58	-1.58	30.00	-31.58
High	5844	-1.66	-1.66	30.00	-31.66

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	-10.004	-10.004	30.00	-40.004
Mid	5788	-9.895	-9.895	30.00	-39.895
High	5844	-10.057	-10.057	30.00	-40.057



1TX Antenna 5 MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-3.60	30.00	30.00
Mid	5788	-3.60	30.00	30.00
High	5844	-3.60	30.00	30.00

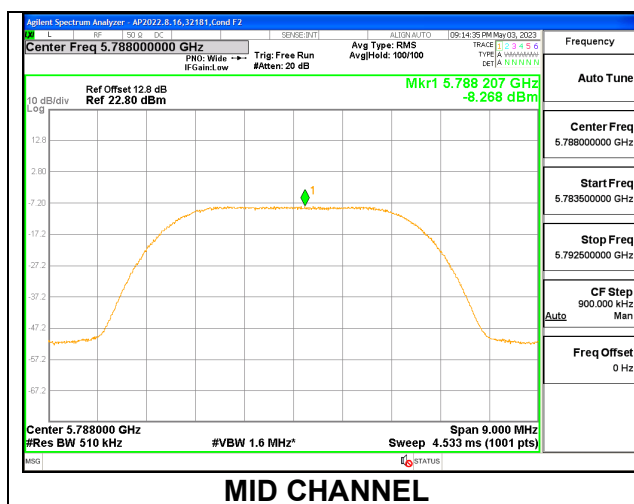
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	-0.19	-0.19	30.00	-30.19
Mid	5788	-0.14	-0.14	30.00	-30.14
High	5844	-0.12	-0.12	30.00	-30.12

PSD Results

Channel	Frequency (MHz)	Antenna 5 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	-8.530	-8.530	30.00	-38.530
Mid	5788	-8.268	-8.268	30.00	-38.268
High	5844	-8.248	-8.248	30.00	-38.248



2TX Antenna 6 + Antenna 5 TX BF MODE

Test Engineer:	44366
Test Date:	6/19/2023

Antenna Gain and Limit

Channel	Frequency (MHz)	Directional Gain For Power (dBi)	Directional Gain For PSD (dBi)	Power Limit (dBm)	PSD Limit (dBm/500KHz)
Low	5733	-1.35	-1.35	30.00	30.00
Mid	5788	-1.35	-1.35	30.00	30.00
High	5844	-1.35	-1.35	30.00	30.00

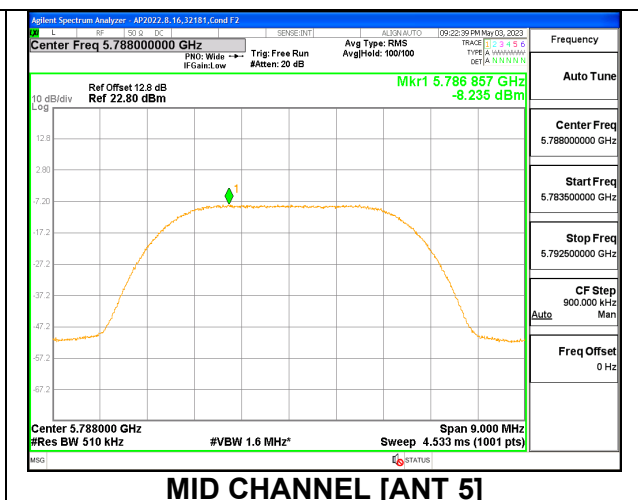
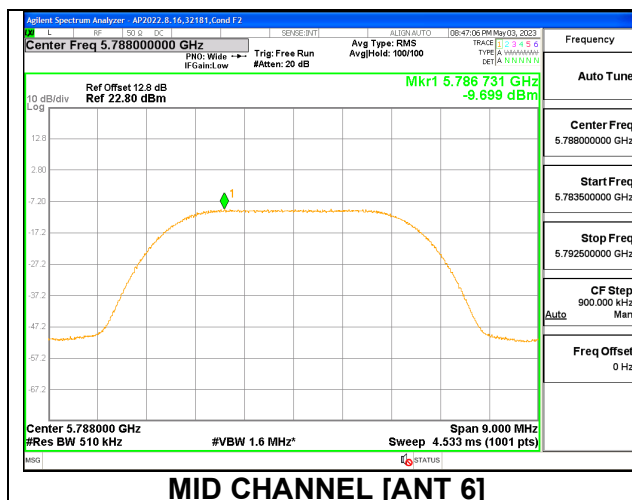
Duty Cycle CF (dB)	0.00	Included in Calculations of Corr'd PSD
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Output Power Results

Channel	Frequency (MHz)	Antenna 6 Meas Power (dBm)	Antenna 5 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Power Margin (dB)
Low	5733	-1.58	-0.19	2.18	30.00	-27.82
Mid	5788	-1.55	-0.12	2.23	30.00	-27.77
High	5844	-1.71	-0.19	2.13	30.00	-27.87

PSD Results

Channel	Frequency (MHz)	Antenna 6 Meas PSD (dBm/500KHz)	Antenna 5 Meas PSD (dBm/500KHz)	Total Corr'd PSD (dBm/500KHz)	PSD Limit (dBm/500KHz)	PSD Margin (dB)
Low	5733	-9.482	-8.608	-6.013	30.00	-36.013
Mid	5788	-9.699	-8.235	-5.895	30.00	-35.895
High	5844	-9.563	-8.012	-5.708	30.00	-35.708



10. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209 -Restricted bands
FCC §15.407(b)(1-3) -Un-Restricted bands

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz and 1.5 meters above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements in the 30-1000MHz range, 9kHz for peak and/or quasi-peak detection measurements in the 0.15-30MHz range and 200Hz for peak and/or quasi-peak detection measurements in the 9 to 150kHz range. Peak detection is used unless otherwise noted as quasi-peak or average (9-90kHz and 110-490kHz).

For pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

For final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

The spectrum from 30 MHz to 1GHz and 18GHz to 40 GHz is investigated with the transmitter set to transmit at the channel with highest output power as worst-case scenario. 1GHz to 18GHz was set to the lowest, middle, and highest channels in the 5 GHz bands.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

Note: The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as report in the table) using free space impedance of 377 Ohms. For example, the measurement at frequency X kHz resulted in a level of Y dBuV/m, which is equivalent to $Y - 51.5 = Z$ dBuA/m, which has the same margin, W dB to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limit.

KDB 414788 Open Field Site(OFS) and Chamber Correlation Justification

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

OFS and chamber correlation testing had been performed and chamber measured test result is the worst-case test result.

RESULTS

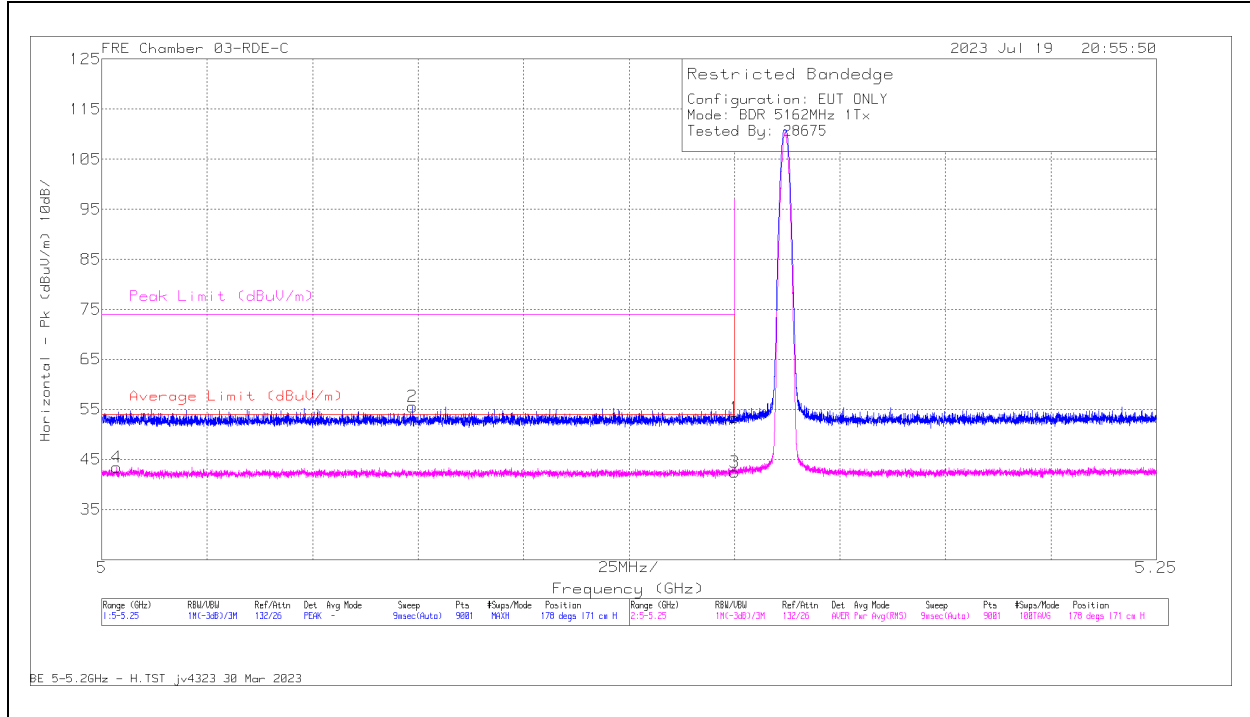
10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. BDR, HIGH POWER UNII-1 BANDEDGE

ANT 6

BANDEDGE (LOW CHANNEL)

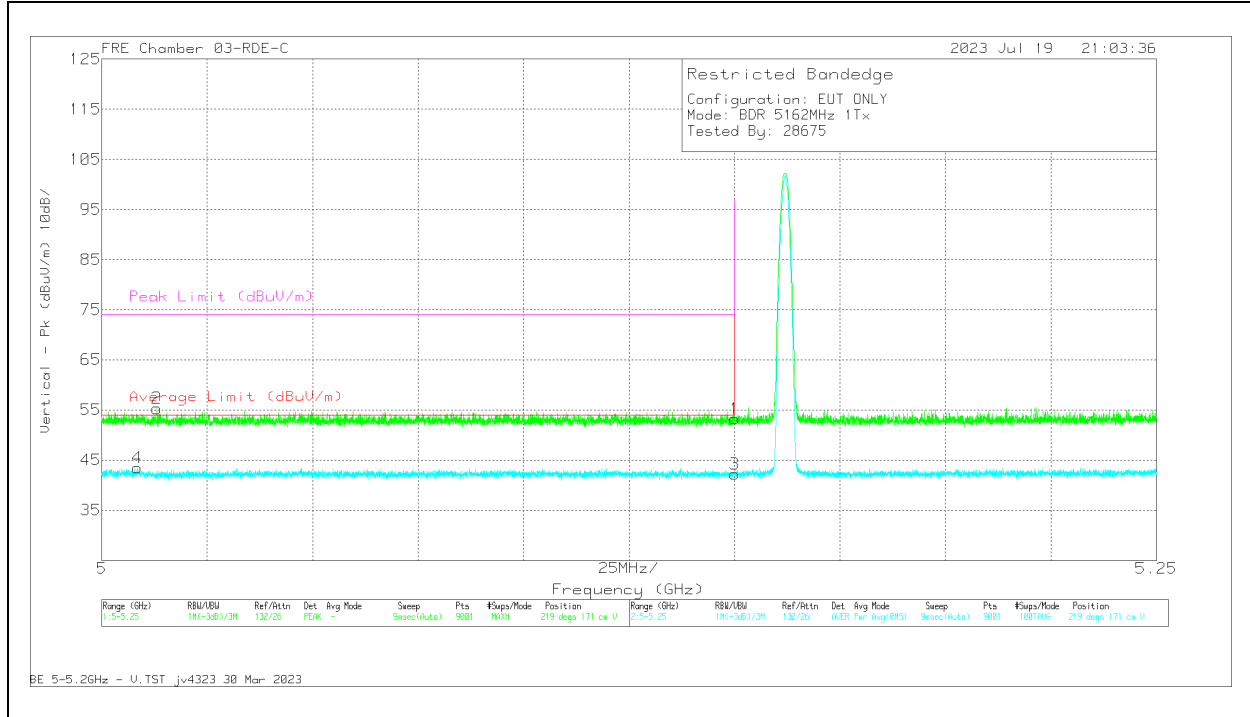
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	57.38	Pk	34.4	-38.4	53.38	-	-	74	-20.62	178	171	H
2	* 5.073723	59.84	Pk	34.2	-38.5	55.54	-	-	74	-18.46	178	171	H
3	* 5.15	46.52	RMS	34.4	-38.4	42.52	54	-11.48	-	-	178	171	H
4	* 5.003583	48.02	RMS	34.1	-38.6	43.52	54	-10.48	-	-	178	171	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK - Peak detector
 RMS - RMS detection

VERTICAL RESULT



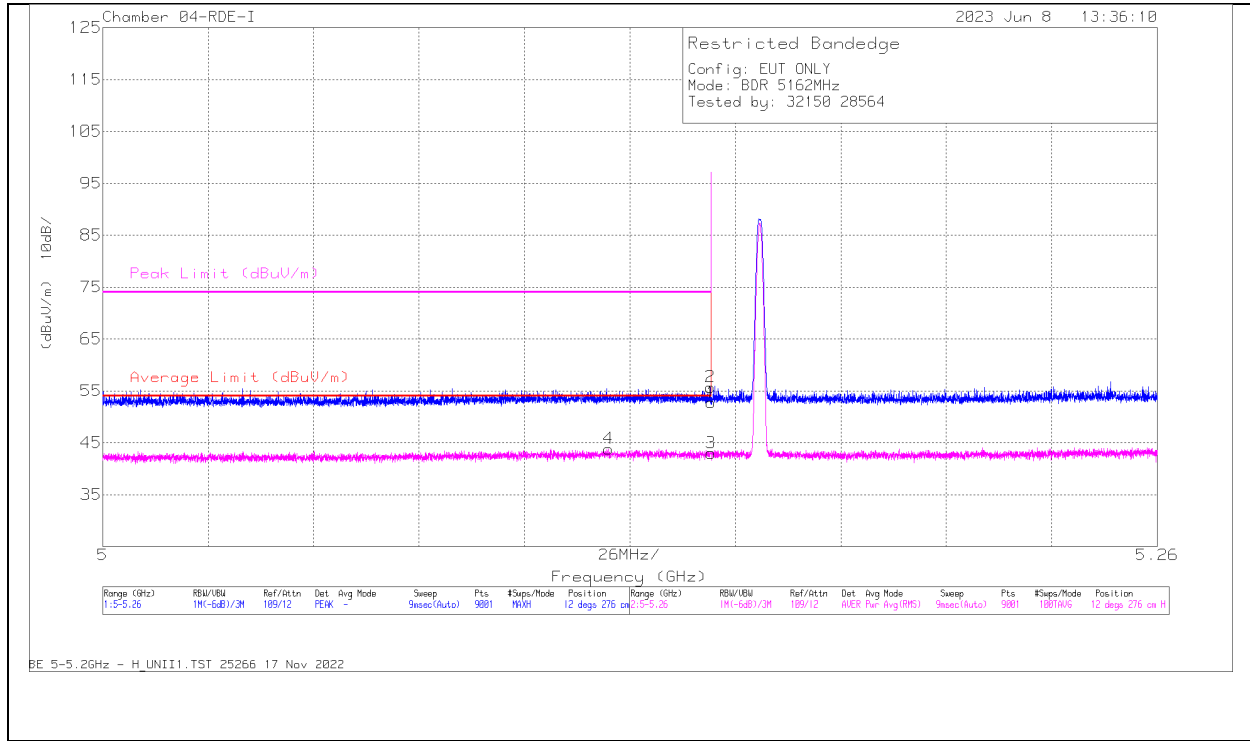
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	57.22	Pk	34.4	-38.4	53.22	-	-	74	-20.78	219	171	V
2	* 5.013111	59.79	Pk	34.1	-38.6	55.29	-	-	74	-18.71	219	171	V
3	* 5.15	46.23	RMS	34.4	-38.4	42.23	54	-11.77	-	-	219	171	V
4	* 5.0085	47.92	RMS	34.1	-38.55	43.47	54	-10.53	-	-	219	171	V

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

ANT 5

BANDEDGE (LOW CHANNEL)

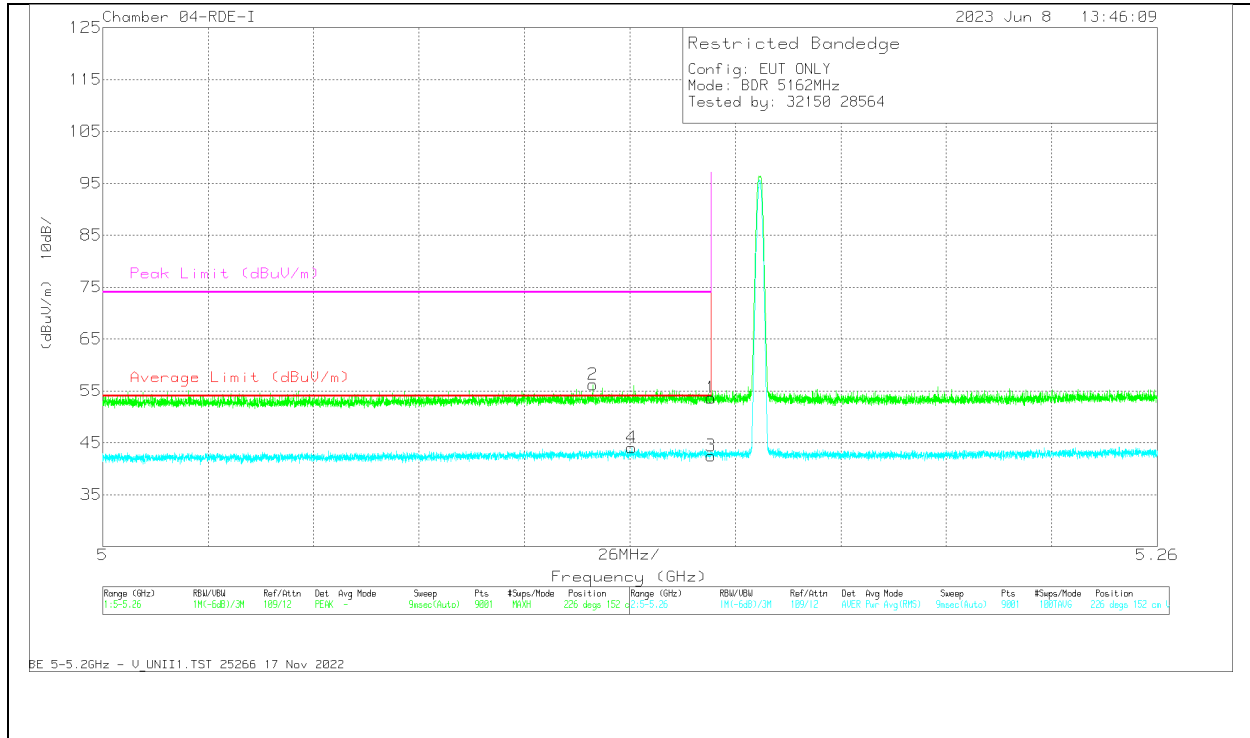
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	84797 ACF (dB) - 3mH	Cbl/Amp (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	32.75	Pk	34.2	-14.2	52.75	-	-	74	-21.25	12	276	H
2	* 5.149818	35.74	Pk	34.2	-14.2	55.74	-	-	74	-18.26	12	276	H
3	* 5.15	23.02	RMS	34.2	-14.2	43.02	54	-10.98	-	-	12	276	H
4	* 5.124743	23.85	RMS	34.2	-14.2	43.85	54	-10.15	-	-	12	276	H

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

VERTICAL RESULT



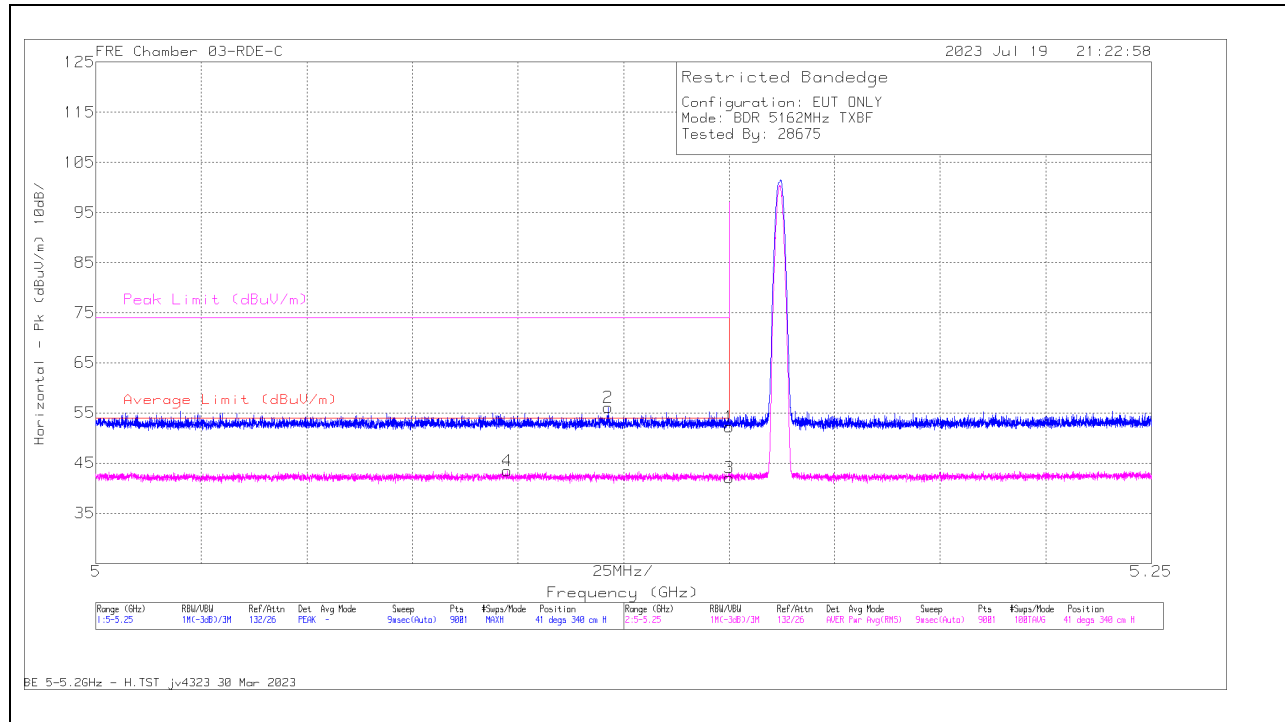
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	84797 ACF (dB) - 3mH	Cbl/Amp (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	33.71	Pk	34.2	-14.2	53.71	-	-	74	-20.29	226	152	V
2	* 5.1209	36.23	Pk	34.1	-14.1	56.23	-	-	74	-17.77	226	152	V
3	* 5.15	22.49	RMS	34.2	-14.2	42.49	54	-11.51	-	-	226	152	V
4	* 5.130405	24.06	RMS	34.2	-14.2	44.06	54	-9.94	-	-	226	152	V

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

2TX Antenna 6 + Antenna 5 TX BF MODE

BANDEDGE (LOW CHANNEL)

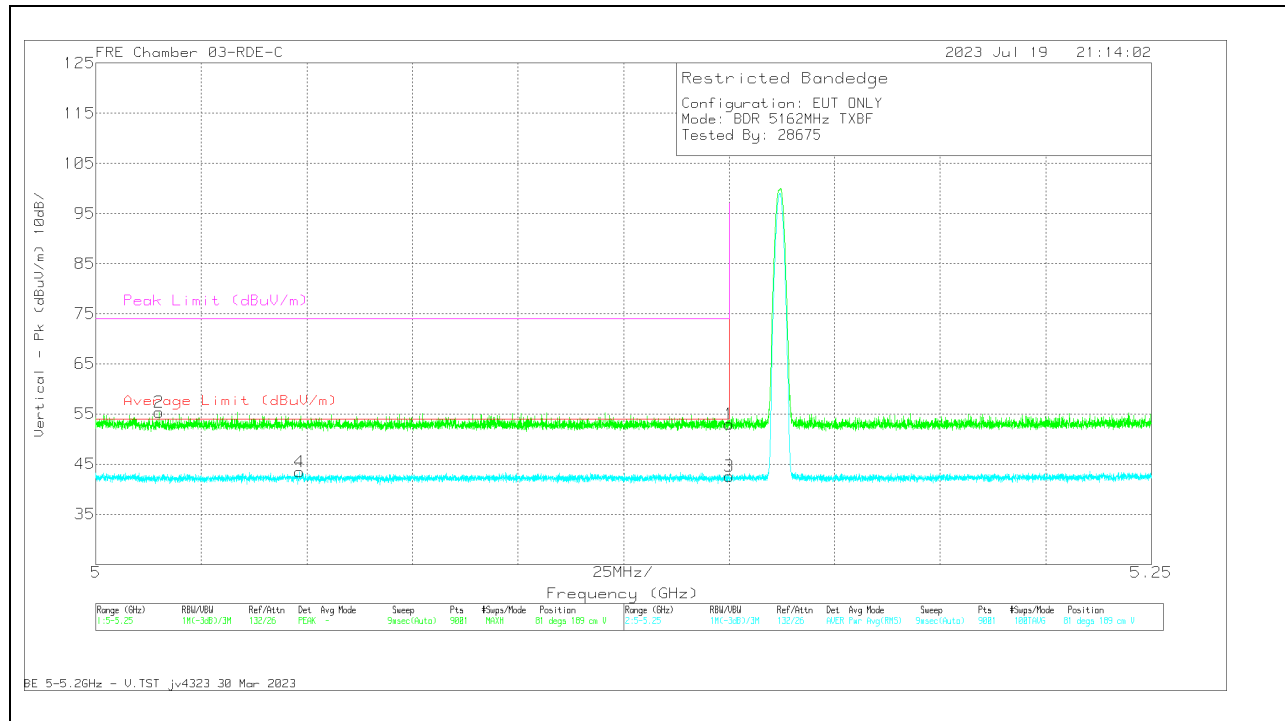
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	56.18	Pk	34.4	-38.4	52.18	-	-	74	-21.82	41	340	H
2	* 5.121279	60.16	PK	34.3	-38.4	56.06	-	-	74	-17.94	41	340	H
3	* 5.15	46.06	RMS	34.4	-38.4	42.06	54	-11.94	-	-	41	340	H
4	* 5.097445	47.57	RMS	34.3	-38.44	43.43	54	-10.57	-	-	41	340	H

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

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	56.99	Pk	34.4	-38.4	52.99	-	-	74	-21.01	81	189	V
2	* 5.015028	59.8	PK	34.1	-38.5	55.4	-	-	74	-18.6	81	189	V
3	* 5.15	46.6	RMS	34.4	-38.4	42.6	54	-11.4	-	-	81	189	V
4	* 5.048195	47.62	RMS	34.2	-38.4	43.42	54	-10.58	-	-	81	189	V

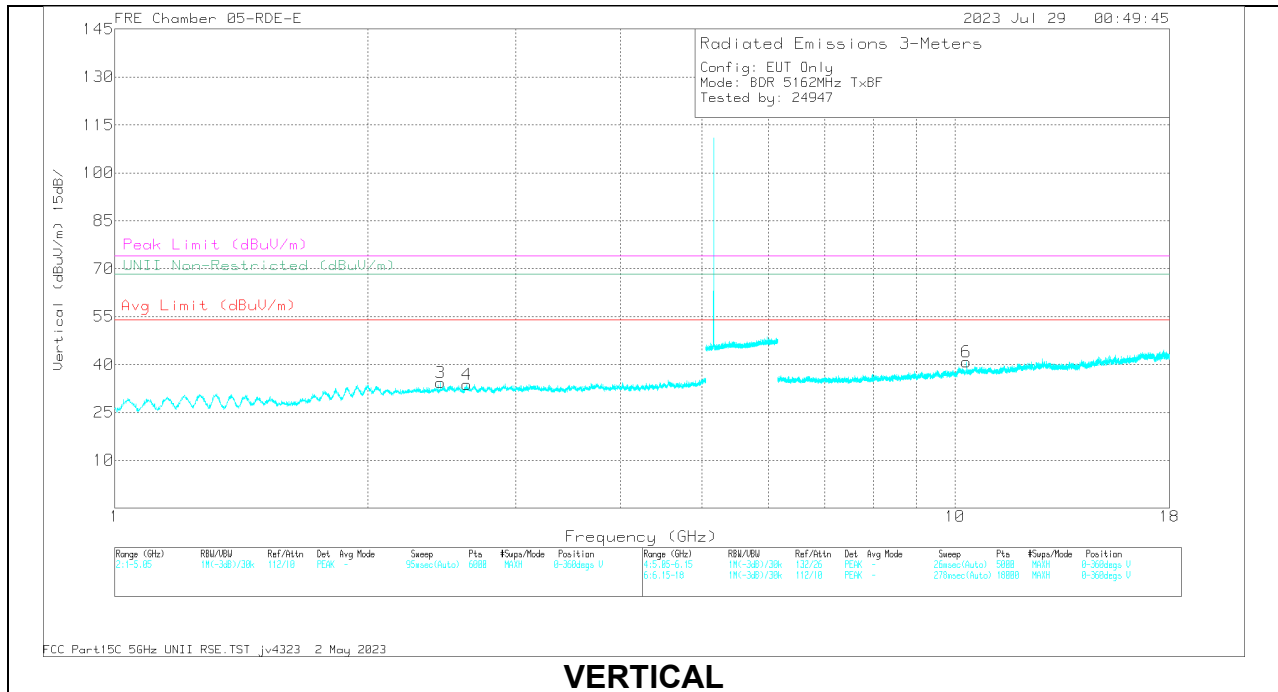
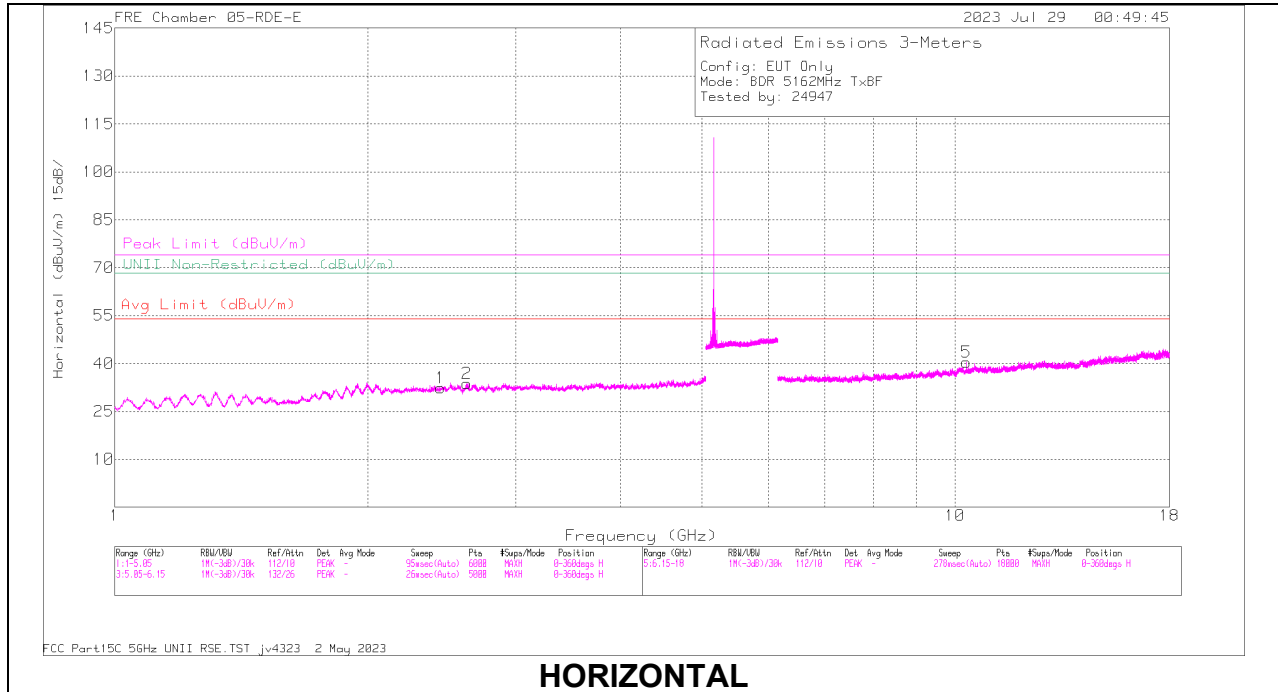
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

RMS - RMS detection

10.1.2. BDR, HIGH POWER, UNII-1, HARMONIC AND SPURIOUS IN THE 5.2 GHz BAND

LOW CHANNEL 5162MHz

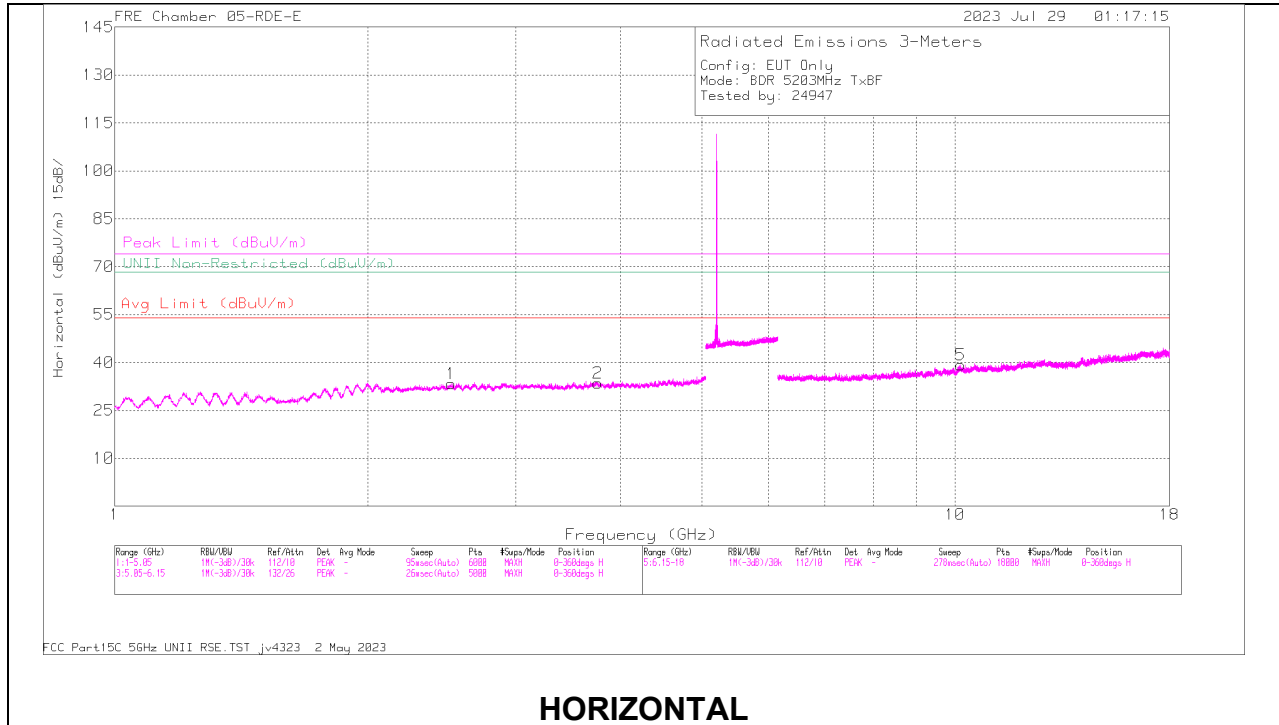


RADIATED EMISSIONS

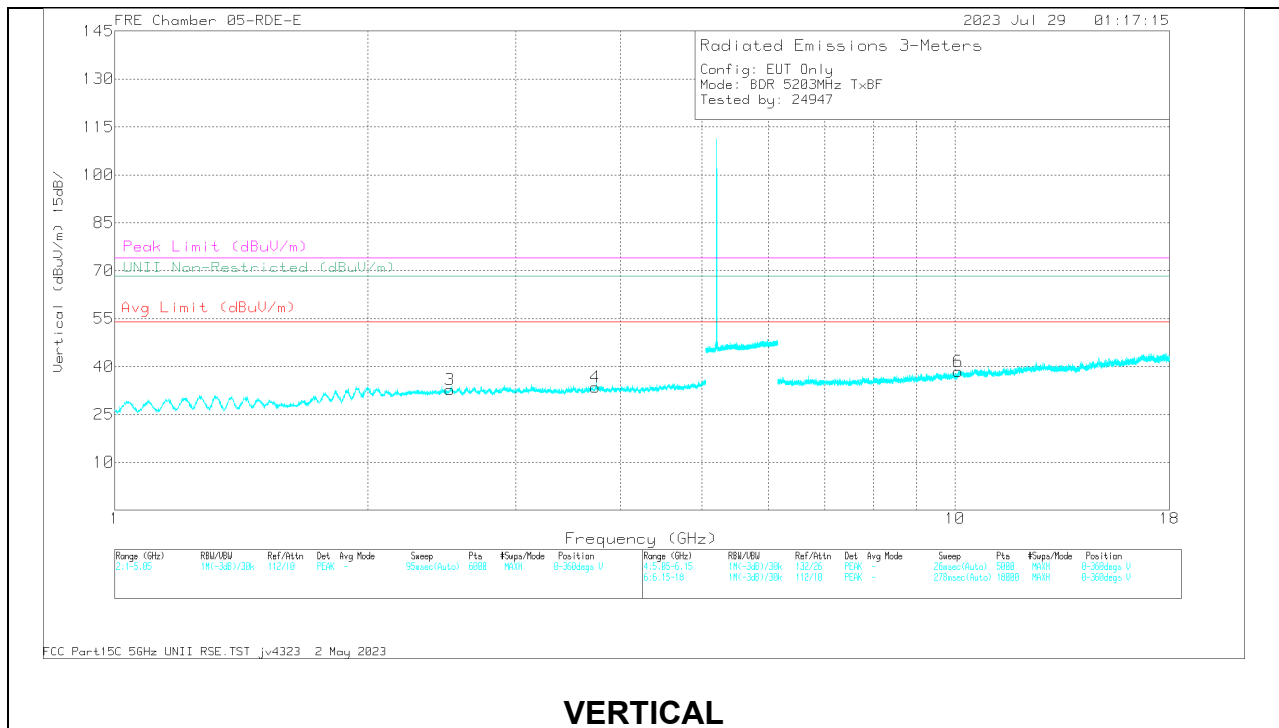
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226671 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.440232	61.66	PK-U	32.1	-50.23	43.53	68.2	-24.67	360	101	H
3	2.44399	61.61	PK-U	32.1	-50.14	43.57	68.2	-24.63	360	101	V
4	2.623183	60.97	PK-U	32.4	-49.72	43.65	68.2	-24.55	360	101	V
2	2.623725	60.59	PK-U	32.4	-49.72	43.27	68.2	-24.93	360	101	H
6	10.323714	58.5	PK-U	37.6	-46.49	49.61	68.2	-18.59	360	101	V
5	10.324022	58.23	PK-U	37.6	-46.49	49.34	68.2	-18.86	360	101	H

PK-U - U-NII: Maximum Peak
 ADR - U-NII AD primary method, RMS average

MID CHANNEL, 5203MHz



HORIZONTAL



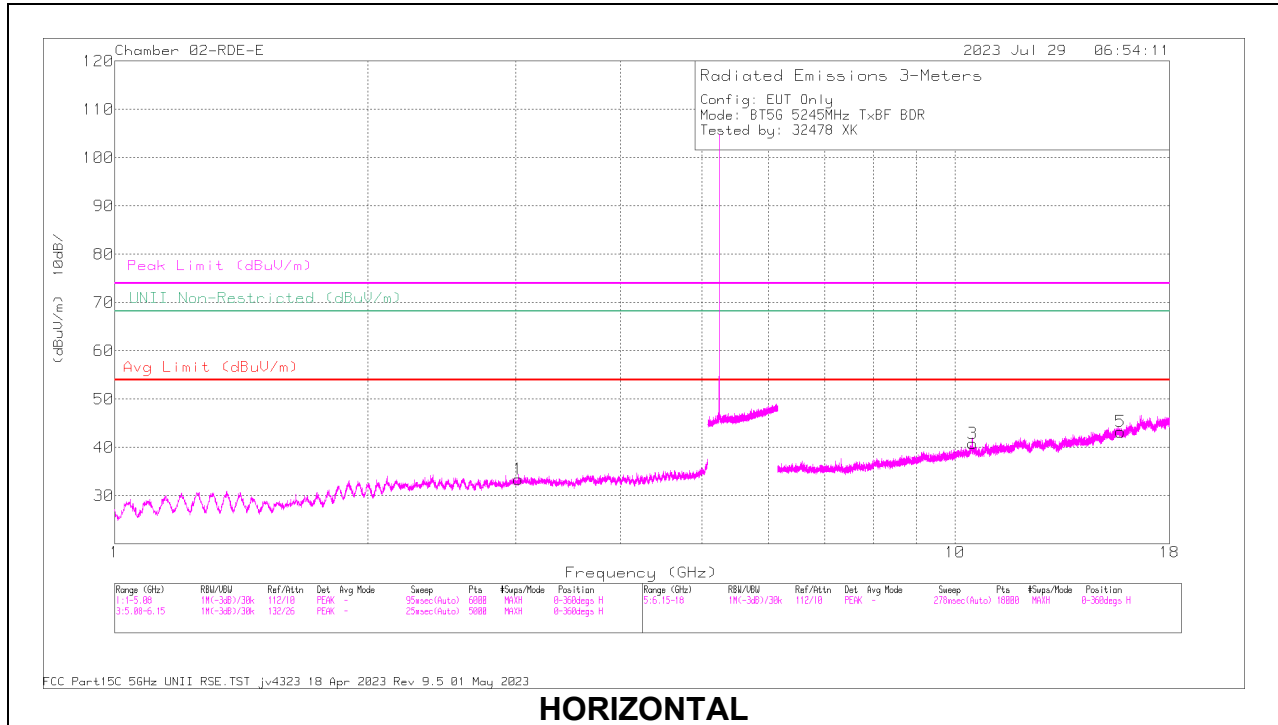
VERTICAL

RADIATED EMISSIONS

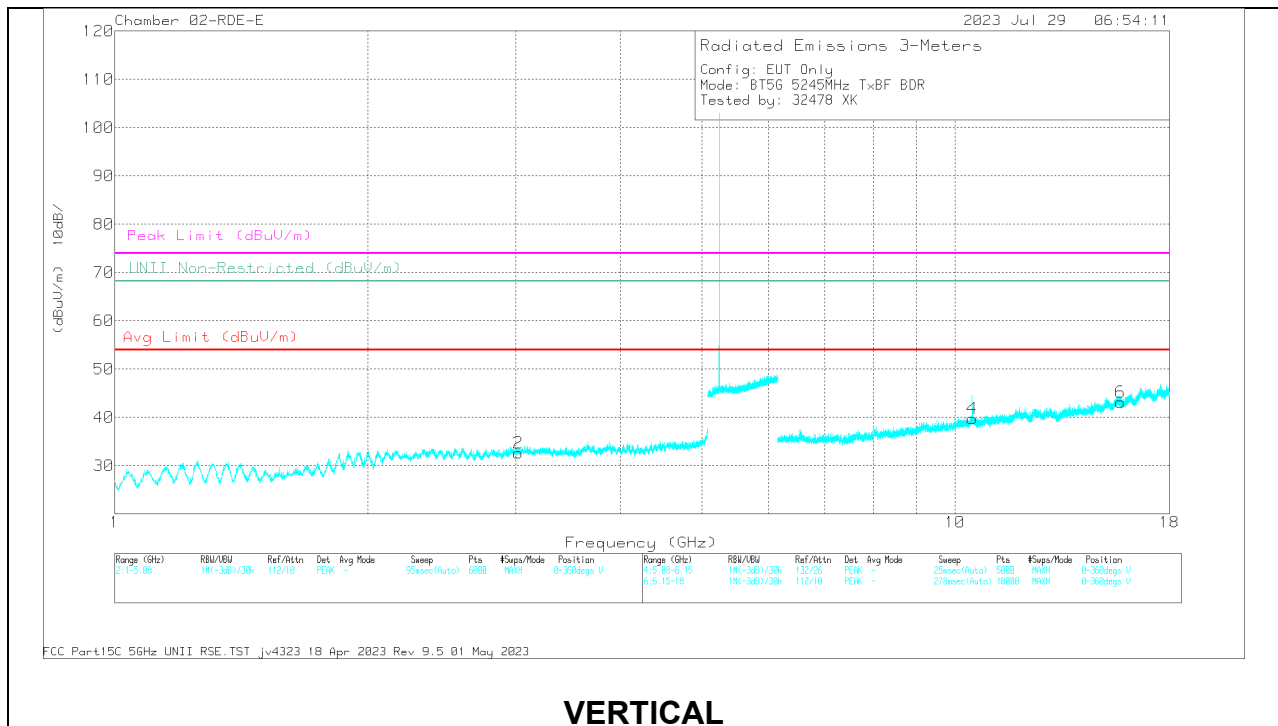
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226671 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.760397	57.6	PK-U	33.3	-47.25	43.65	-	-	74	-30.35	-	-	0	200	H
	* 3.756649	46.04	ADR	33.3	-47.23	32.11	54	-21.89	-	-	-	-	0	200	H
4	* 3.732851	57.77	PK-U	33.3	-47.3	43.77	-	-	74	-30.23	-	-	0	200	V
	* 3.732939	46.02	ADR	33.3	-47.3	32.02	54	-21.98	-	-	-	-	0	200	V
3	2.504827	60.65	PK-U	32.2	-49.86	42.99	-	-	-	-	68.2	-25.21	0	101	V
1	2.514373	60.54	PK-U	32.3	-49.77	43.07	-	-	-	-	68.2	-25.13	0	101	H
6	10.094536	57.63	PK-U	37.3	-46.97	47.96	-	-	-	-	68.2	-20.24	0	200	V
5	10.161432	57.12	PK-U	37.4	-46.25	48.27	-	-	-	-	68.2	-19.93	0	101	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK-U - U-NII: Maximum Peak
 ADR - U-NII AD primary method, RMS average

HIGH CHANNEL 5245MHz



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 15.734038	54.46	PK-U	40.5	-42.21	52.75	-	-	74	-21.25	-	-	296	211	H
	* 15.736989	43.19	ADR	40.5	-42.22	41.47	54	-12.53	-	-	-	-	296	211	H
6	* 15.733095	54.73	PK-U	40.5	-42.21	53.02	-	-	74	-20.98	-	-	29	310	V
	* 15.732811	43.24	ADR	40.5	-42.21	41.53	54	-12.47	-	-	-	-	29	310	V
2	3.02201	59.03	PK-U	32.9	-47.85	44.08	-	-	-	-	68.2	-24.12	129	314	V
1	3.023171	58.76	PK-U	32.9	-47.84	43.82	-	-	-	-	68.2	-24.38	16	118	H
4	10.485371	57.84	PK-U	37.7	-43.96	51.58	-	-	-	-	68.2	-16.62	54	120	V
3	10.488698	55.1	PK-U	37.7	-43.83	48.97	-	-	-	-	68.2	-19.23	343	324	H

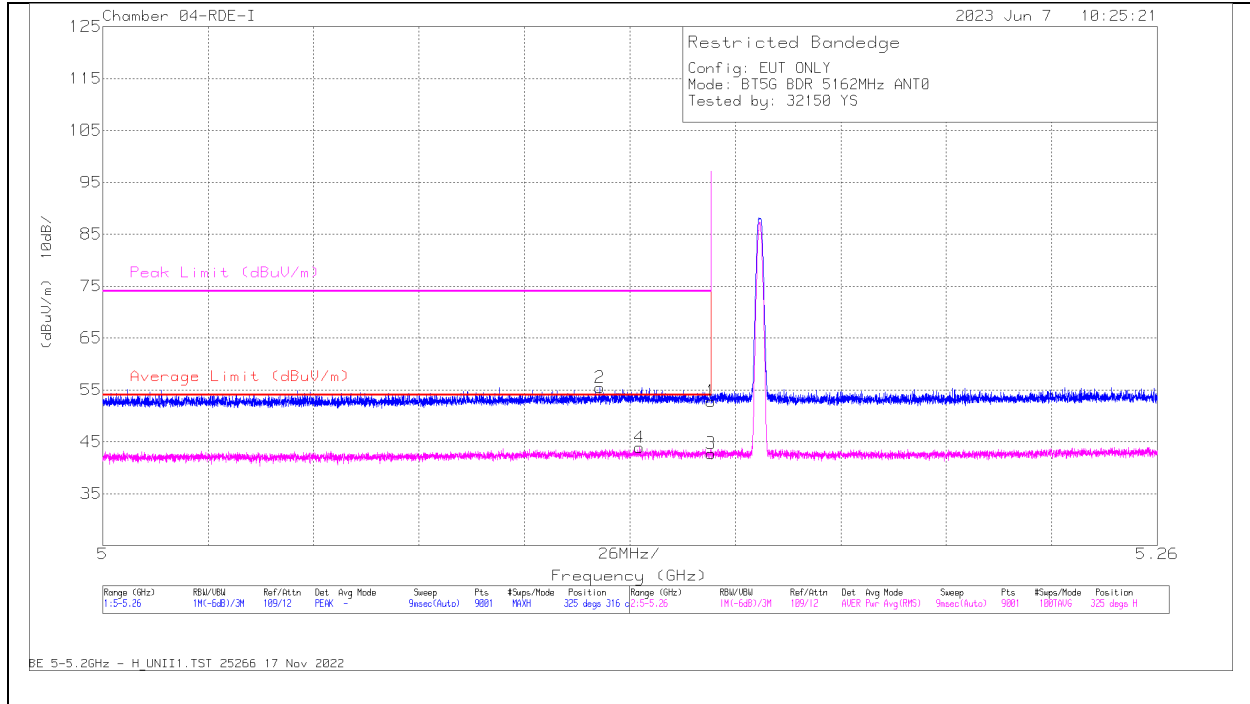
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK-U - U-NII: Maximum Peak
 ADR - U-NII AD primary method, RMS average

10.1.3. BDR, LOW POWER UNII-1 BANDEGE

ANT 6

Low Channel

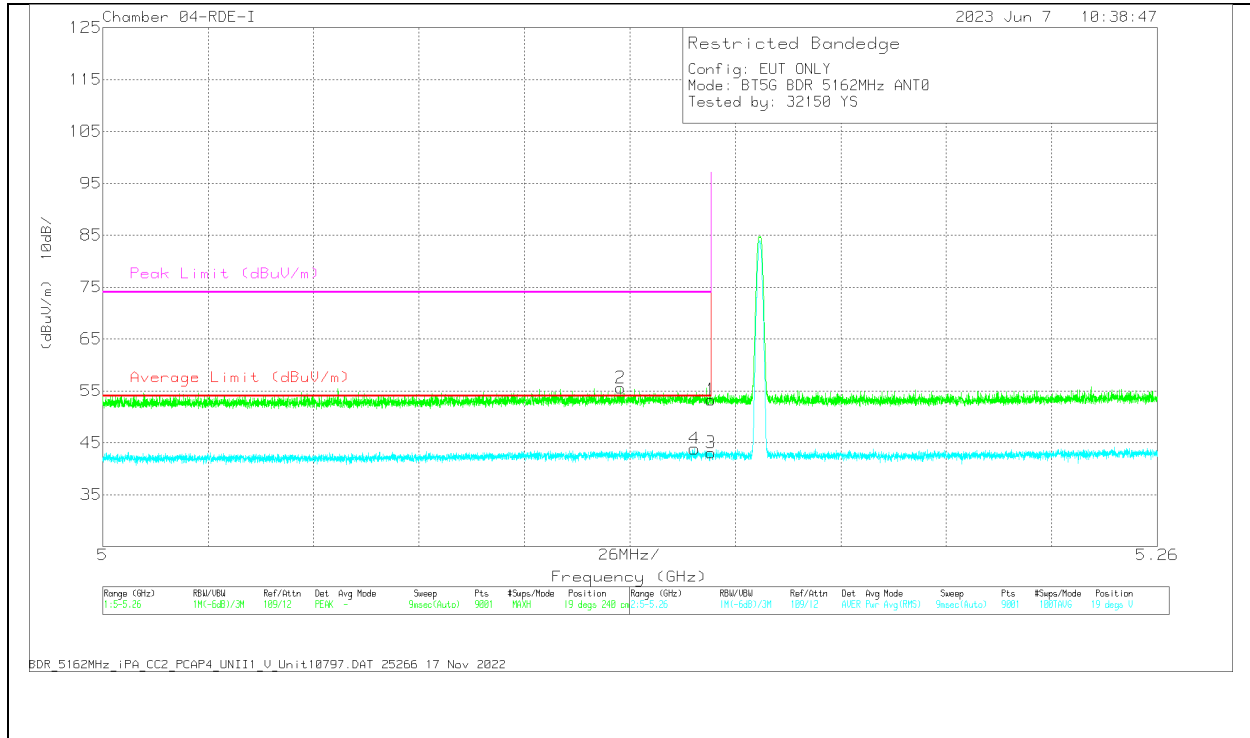
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	84797 ACF (dB) - 3mH	Cbl/Amp (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	32.79	Pk	34.2	-14.2	52.79	-	-	74	-21.21	325	316	H
2	* 5.122605	35.33	Pk	34.2	-14.1	55.43	-	-	74	-18.57	325	316	H
3	* 5.15	22.72	RMS	34.2	-14.2	42.72	54	-11.28	-	-	325	316	H
4	* 5.132341	23.8	RMS	34.2	-14.1	43.9	54	-10.1	-	-	325	316	H

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

VERTICAL RESULT



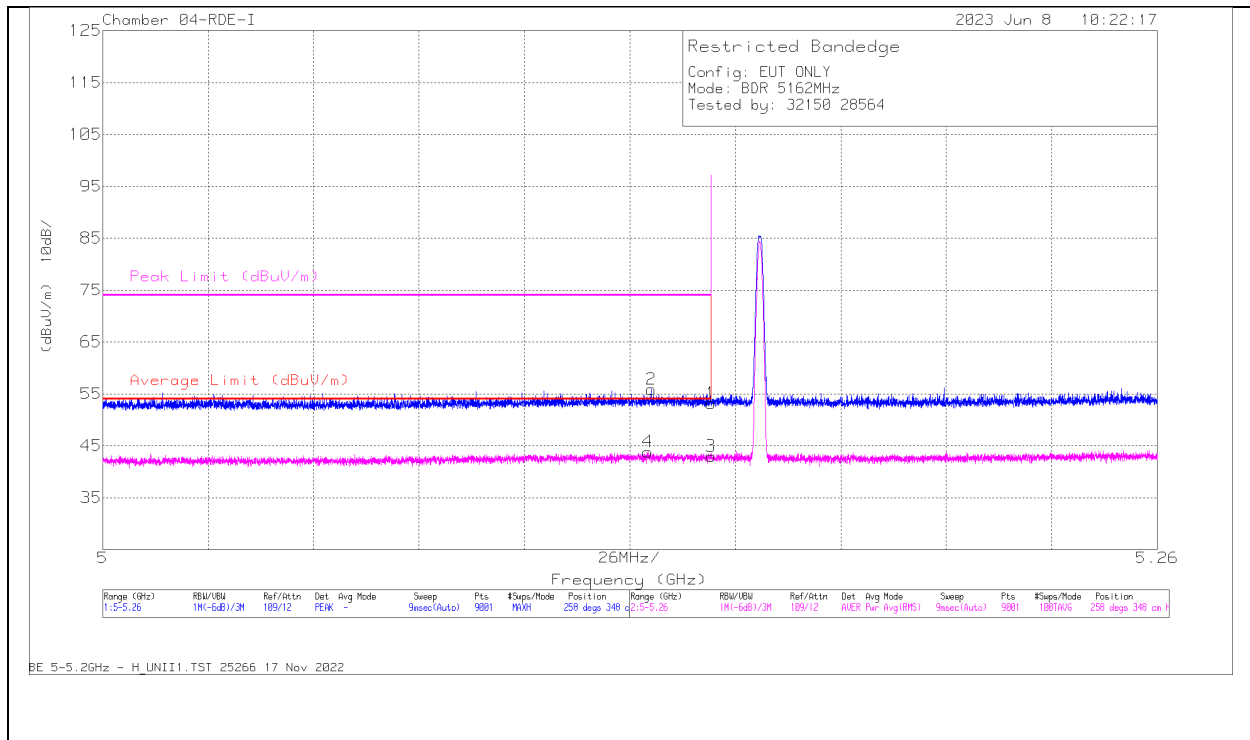
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	84797 ACF (dB) - 3mH	Cbl/Amp (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	33.28	Pk	34.2	-14.2	53.28	-	-	74	-20.72	19	240	V
2	* 5.12766	35.47	Pk	34.2	-14.1	55.57	-	-	74	-18.43	19	240	V
3	* 5.15	23.07	RMS	34.2	-14.2	43.07	54	-10.93	-	-	19	240	V
4	* 5.145889	23.98	RMS	34.2	-14.3	43.88	54	-10.12	-	-	19	240	V

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

ANT 5

Low Channel

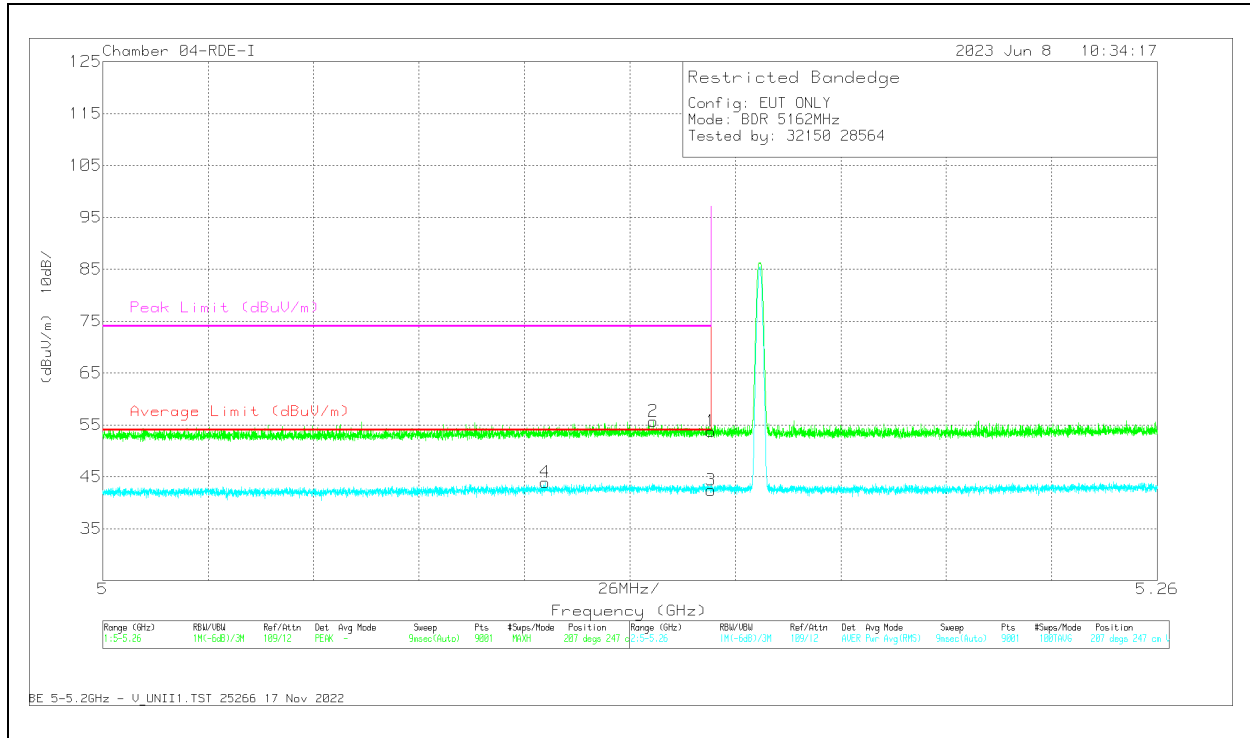
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	84797 ACF (dB) - 3mH	Cbl/Amp (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	33.21	Pk	34.2	-14.2	53.21	-	-	74	-20.79	258	348	H
2	* 5.135287	35.78	Pk	34.2	-14.1	55.88	-	-	74	-18.12	258	348	H
3	* 5.15	22.98	RMS	34.2	-14.2	42.98	54	-11.02	-	-	258	348	H
4	* 5.134449	23.73	RMS	34.2	-14.1	43.83	54	-10.17	-	-	258	348	H

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

VERTICAL RESULT



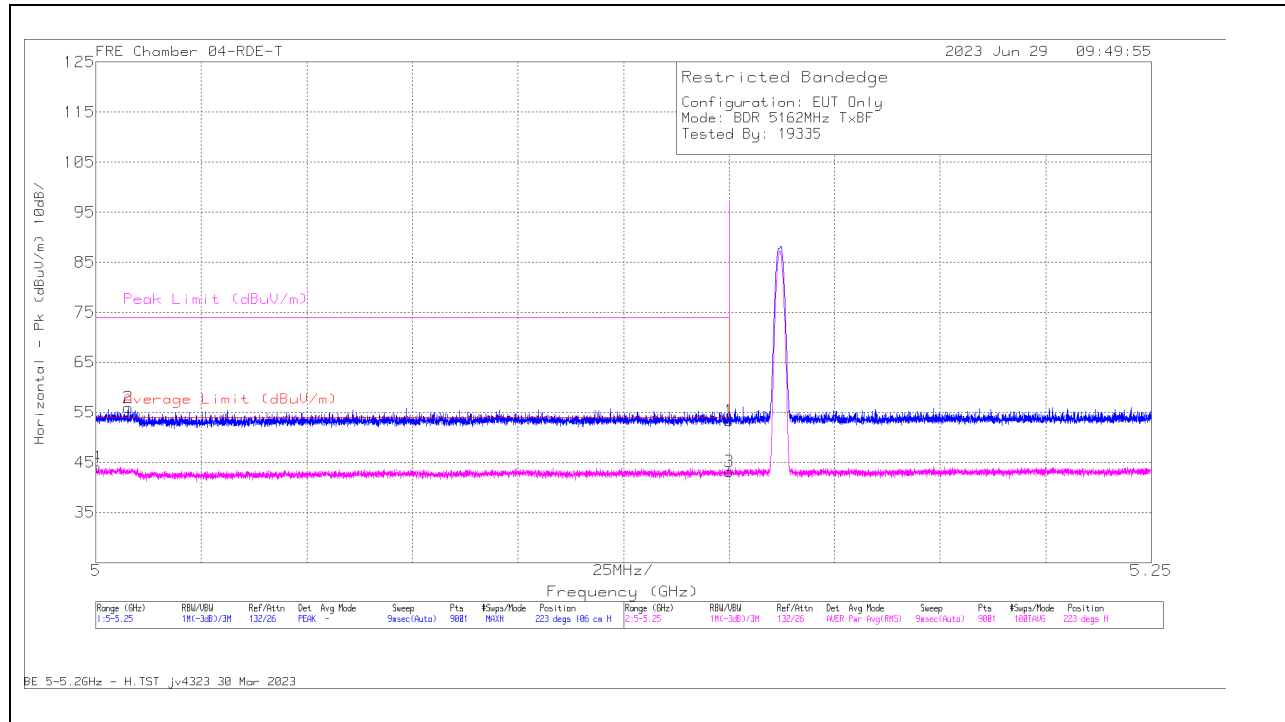
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	84797 ACF (dB) - 3mH	Cbl/Amp (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	33.76	Pk	34.2	-14.2	53.76	-	-	74	-20.24	207	247	V
2	* 5.135778	35.61	Pk	34.2	-14.1	55.71	-	-	74	-18.29	207	247	V
3	* 5.15	22.42	RMS	34.2	-14.2	42.42	54	-11.58	-	-	207	247	V
4	* 5.109114	23.96	RMS	34.1	-14.1	43.96	54	-10.04	-	-	207	247	V

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

2TX Antenna 6 + Antenna 5 TX BF MODE

BANDEDGE (LOW CHANNEL)

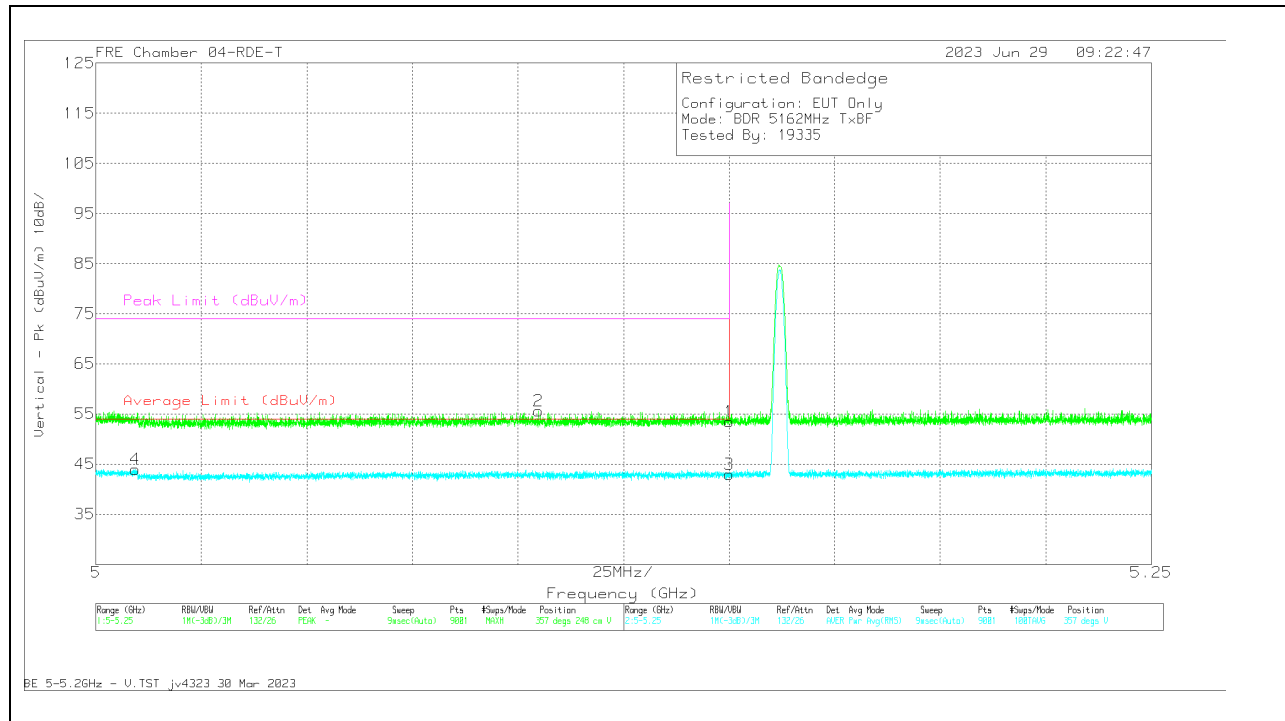
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	55.01	Pk	34.2	-35.9	53.31	-	-	74	-20.69	223	106	H
2	* 5.00775	58.29	Pk	34	-36.37	55.92	-	-	74	-18.08	223	106	H
3	* 5.15	44.86	RMS	34.2	-35.9	43.16	54	-10.84	-	-	223	106	H
4	* 5.000194	46.49	RMS	34	-36.42	44.07	54	-9.93	-	-	223	106	H

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

VERTICAL RESULT

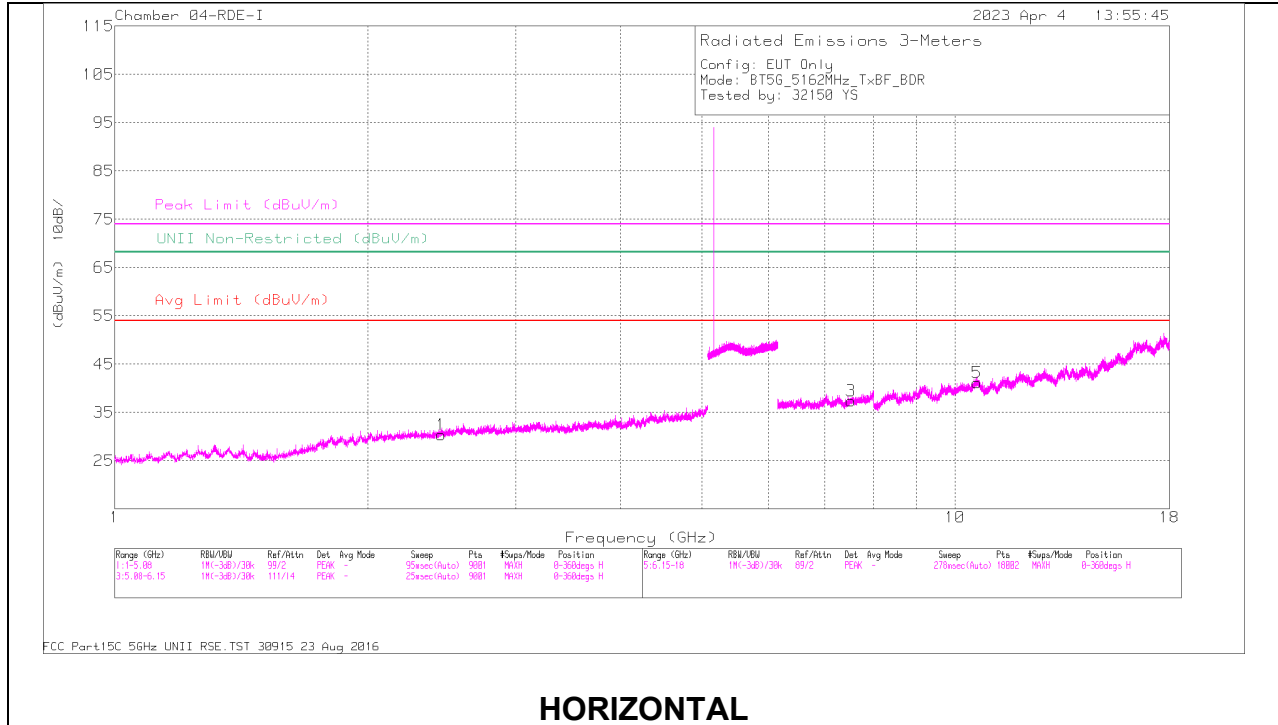


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	55.21	Pk	34.2	-35.9	53.51	-	-	74	-20.49	357	248	V
2	* 5.104862	57.56	Pk	34.1	-36.1	55.56	-	-	74	-18.44	357	248	V
3	* 5.15	44.64	RMS	34.2	-35.9	42.94	54	-11.06	-	-	357	248	V
4	* 5.009333	46.35	RMS	34	-36.39	43.96	54	-10.04	-	-	357	248	V

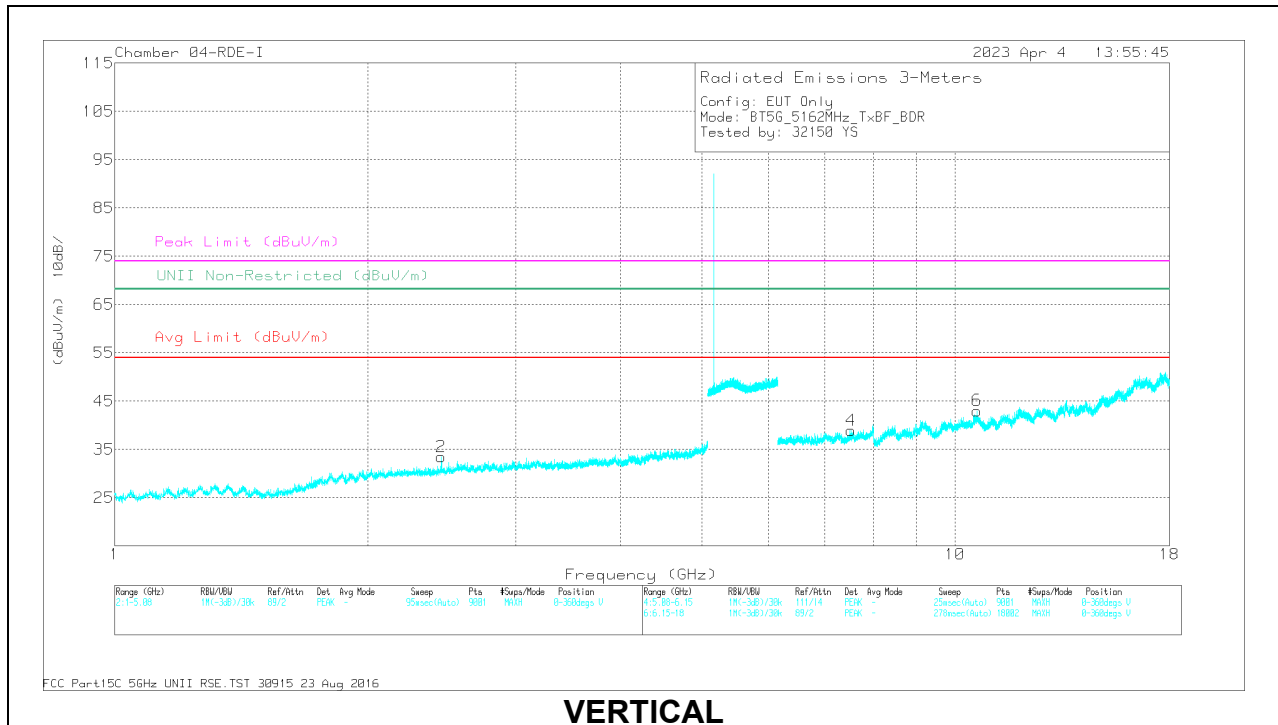
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 RMS - RMS detection

10.1.4. BDR, LOW POWER, UNII-1, HARMONIC AND SPURIOUS TX ABOVE 1 GHz IN THE 5.2 GHz BAND

LOW CHANNEL 5162MHz



HORIZONTAL



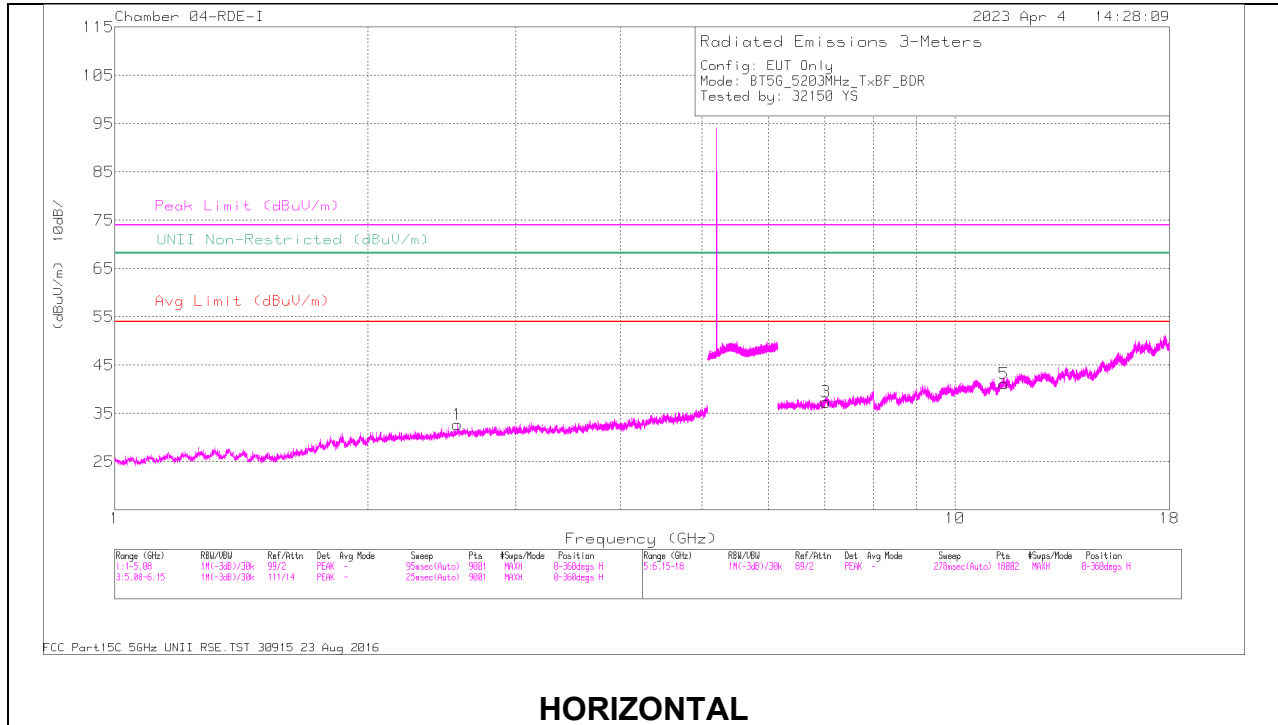
VERTICAL

RADIATED EMISSIONS

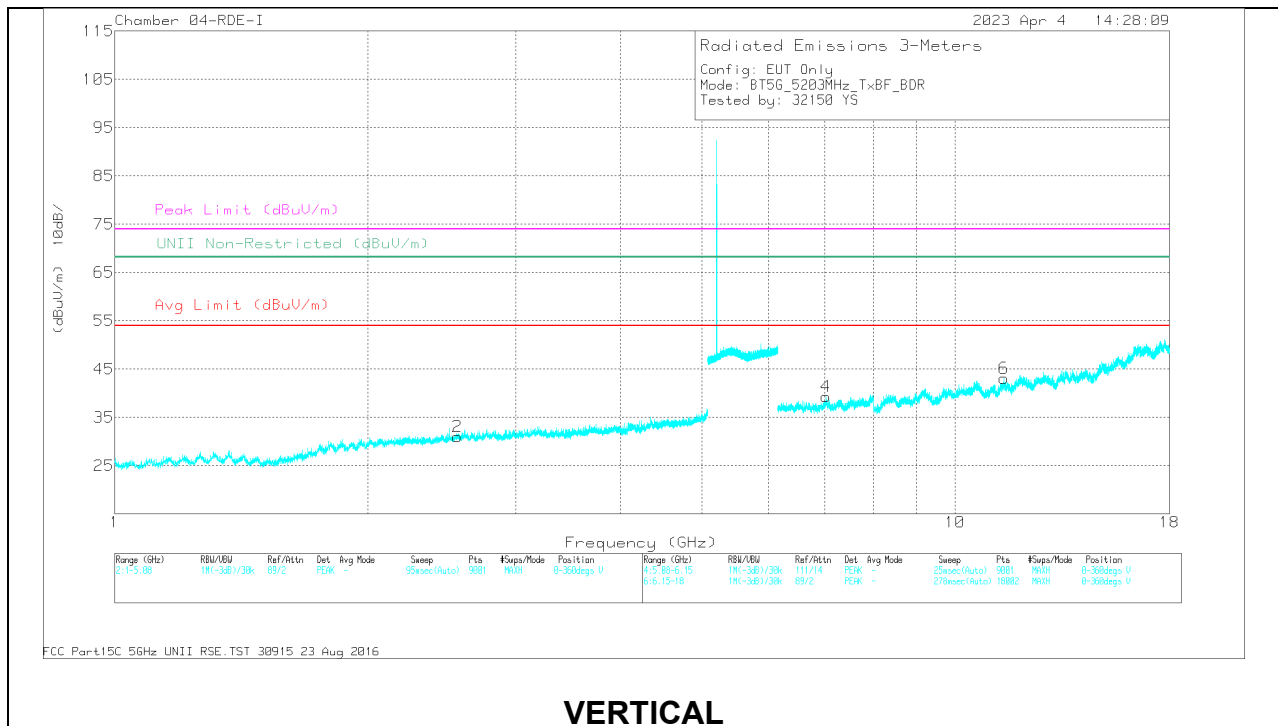
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	84797 ACF (dB) - 3mH	Amp/Cbl/Filtr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.445976	41.41	PK-U	31.9	-31.1	42.21	-	-	-	-	68.2	-25.99	169	242	H
2	2.447591	40.46	PK-U	31.9	-31.1	41.26	-	-	-	-	68.2	-26.94	220	267	V
3	* 7.520912	33.77	PK-U	35.7	-20.6	48.87	-	-	74	-25.13	-	-	255	339	H
3	* 7.522166	21.68	ADR	35.7	-20.6	36.78	54	-17.22	-	-	-	-	255	339	H
5	* 10.629122	32.59	PK-U	37.6	-18.3	51.89	-	-	74	-22.11	-	-	339	271	H
5	* 10.627965	20.99	ADR	37.6	-18.4	40.19	54	-13.81	-	-	-	-	339	271	H
4	* 7.519214	33.1	PK-U	35.7	-20.6	48.2	-	-	74	-25.8	-	-	159	182	V
4	* 7.519675	21.33	ADR	35.7	-20.6	36.43	54	-17.57	-	-	-	-	159	182	V
6	* 10.63084	32.8	PK-U	37.6	-18.4	52	-	-	74	-22	-	-	249	253	V
6	* 10.628735	20.94	ADR	37.6	-18.3	40.24	54	-13.76	-	-	-	-	249	253	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK-U - U-NII: Maximum Peak
 ADR - U-NII AD primary method, RMS average

MID CHANNEL 5203MHz



HORIZONTAL



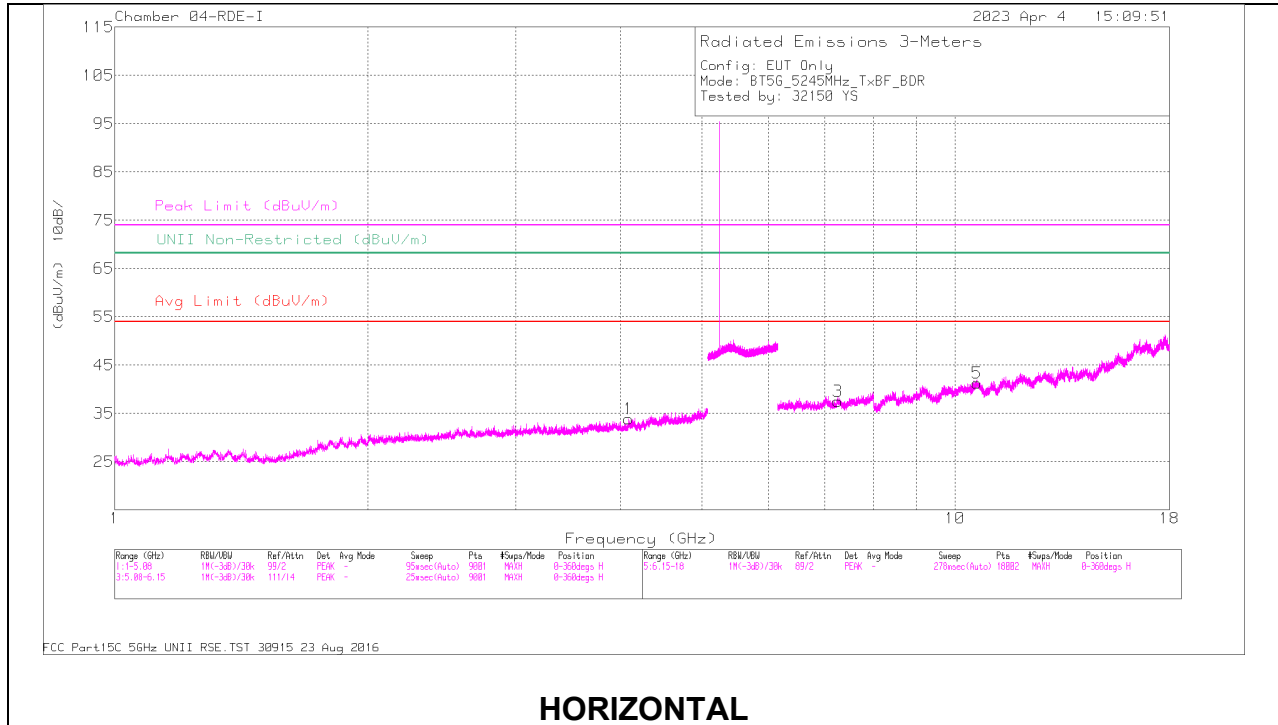
VERTICAL

RADIATED EMISSIONS

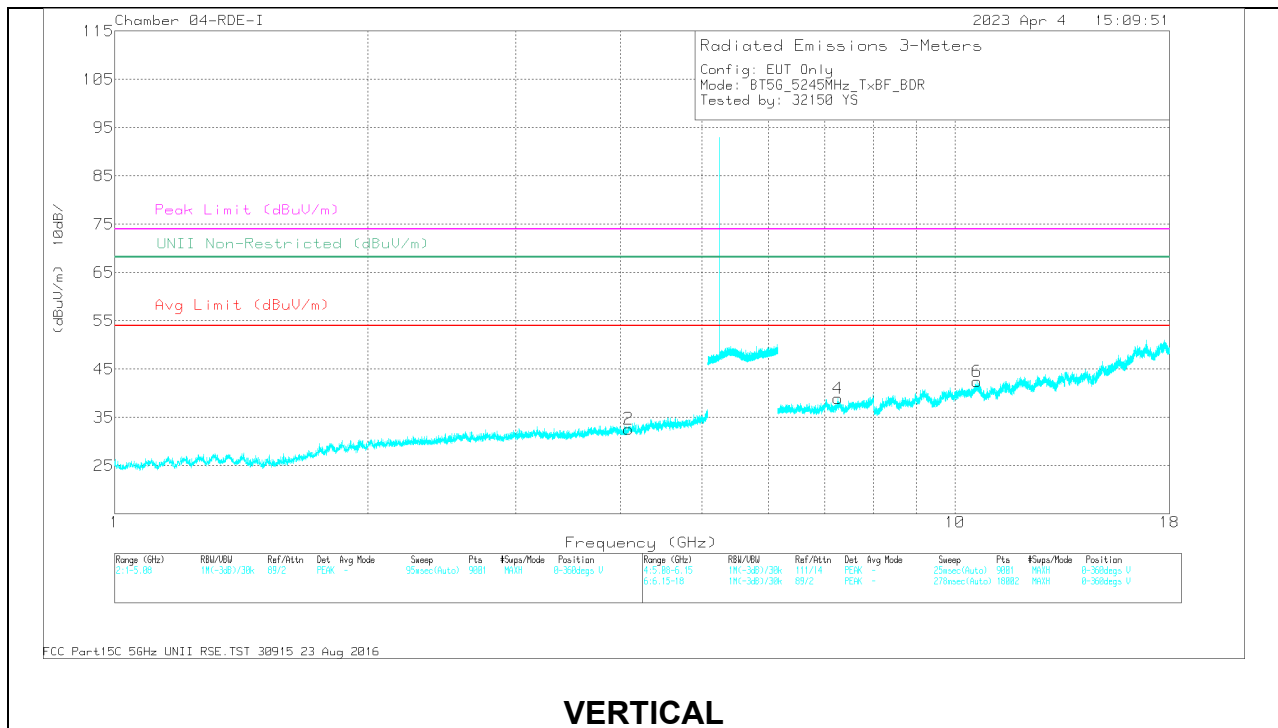
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	84797 ACF (dB) - 3mH	Amp/C bl/Filtr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.558634	40.46	PK-U	32.3	-30.9	41.86	-	-	-	-	68.2	-26.34	148	171	H
2	2.560663	40.27	PK-U	32.3	-30.9	41.67	-	-	-	-	68.2	-26.53	207	227	V
3	7.020725	33.27	PK-U	35.6	-21.1	47.77	-	-	-	-	68.2	-20.43	164	254	H
5	* 11.43584	31.63	PK-U	37.9	-17.7	51.83	-	-	74	-22.17	-	-	109	141	H
5	* 11.433293	20.11	ADR	37.9	-17.7	40.31	54	-13.69	-	-	-	-	109	141	H
4	7.020946	33.56	PK-U	35.6	-21.1	48.06	-	-	-	-	68.2	-20.14	219	187	V
6	* 11.434043	32.75	PK-U	37.9	-17.7	52.95	-	-	74	-21.05	-	-	284	332	V
6	* 11.43589	20.67	ADR	37.9	-17.7	40.87	54	-13.13	-	-	-	-	284	332	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK-U - U-NII: Maximum Peak
 ADR - U-NII AD primary method, RMS average

HIGH CHANNEL 5245MHz



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading g (dBuV)	Det	84797 ACF (dB) - 3mH	Amp/C bl/Fitr (dB)	Correct ed Readin g (dBuV/ m)	Avg Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/ m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.091816	38.44	PK-U	33.4	-28.3	43.54	-	-	74	-30.46	163	132	H
1	* 4.089313	26.98	ADR	33.4	-28.4	31.98	54	-22.02	-	-	163	132	H
2	* 4.089021	38.44	PK-U	33.4	-28.4	43.44	-	-	74	-30.56	246	197	V
2	* 4.090332	26.74	ADR	33.4	-28.3	31.84	54	-22.16	-	-	246	197	V
3	* 7.253817	33.13	PK-U	35.6	-20.7	48.03	-	-	74	-25.97	209	257	H
3	* 7.254866	21.2	ADR	35.6	-20.7	36.1	54	-17.9	-	-	209	257	H
5	* 10.627379	32.84	PK-U	37.6	-18.4	52.04	-	-	74	-21.96	297	182	H
5	* 10.629589	20.99	ADR	37.6	-18.4	40.19	54	-13.81	-	-	297	182	H
4	* 7.253437	33.06	PK-U	35.6	-20.7	47.96	-	-	74	-26.04	158	318	V
4	* 7.253664	21.83	ADR	35.6	-20.7	36.73	54	-17.27	-	-	158	318	V
6	* 10.627751	31.97	PK-U	37.6	-18.4	51.17	-	-	74	-22.83	316	233	V
6	* 10.63014	20.74	ADR	37.6	-18.5	39.84	54	-14.16	-	-	316	233	V

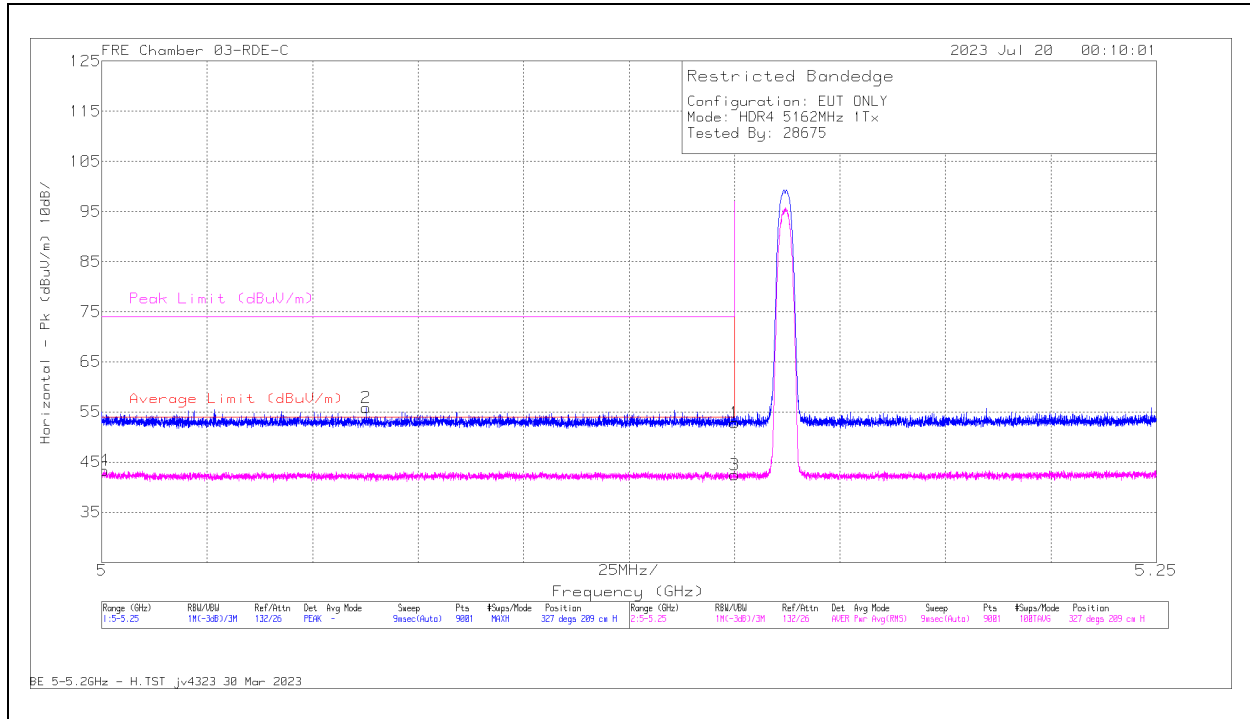
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK-U - U-NII: Maximum Peak
 ADR - U-NII AD primary method, RMS average

10.1.5. HDR4, HIGH POWER UNII-1 BANDEDGE

ANT 6

BANDEDGE (LOW CHANNEL)

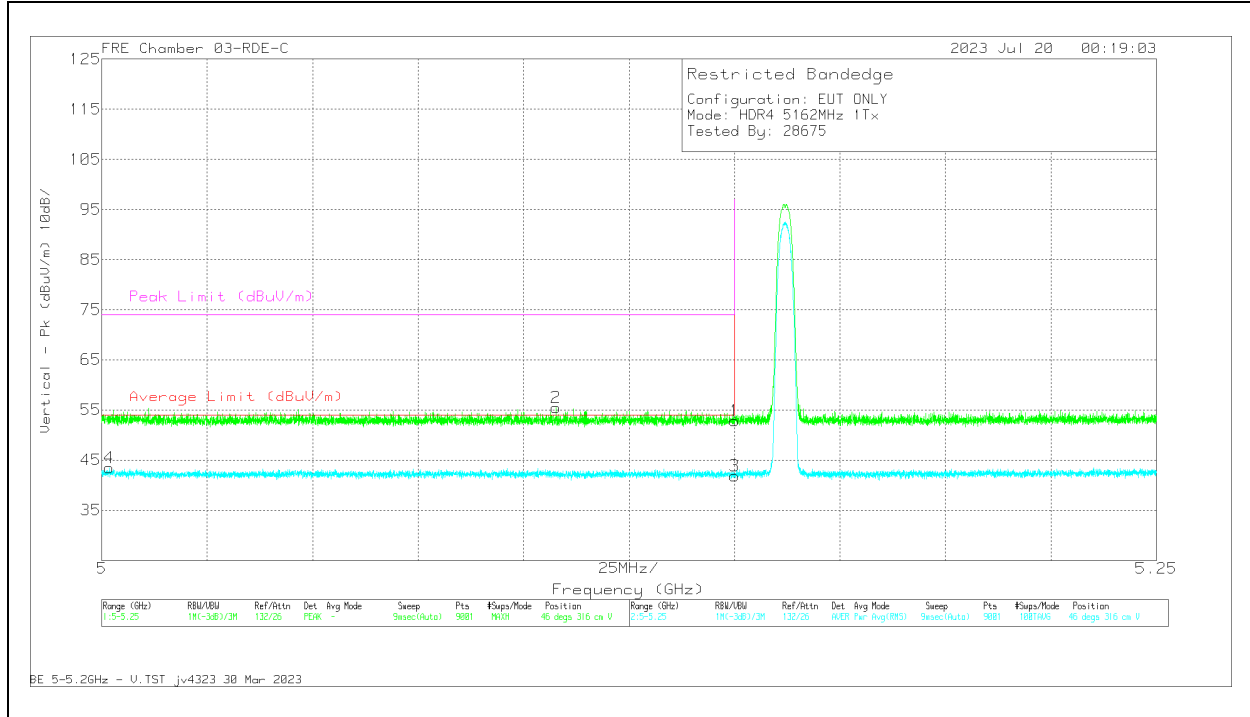
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3MHz	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	56.81	Pk	34.4	-38.4	52.81	-	-	74	-21.19	327	209	H
2	* 5.062895	60.15	Pk	34.2	-38.5	55.85	-	-	74	-18.15	327	209	H
3	* 5.15	46.44	RMS	34.4	-38.4	42.44	54	-11.56	-	-	327	209	H
4	* 5.000611	47.71	RMS	34.1	-38.5	43.31	54	-10.69	-	-	327	209	H

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

VERTICAL RESULT

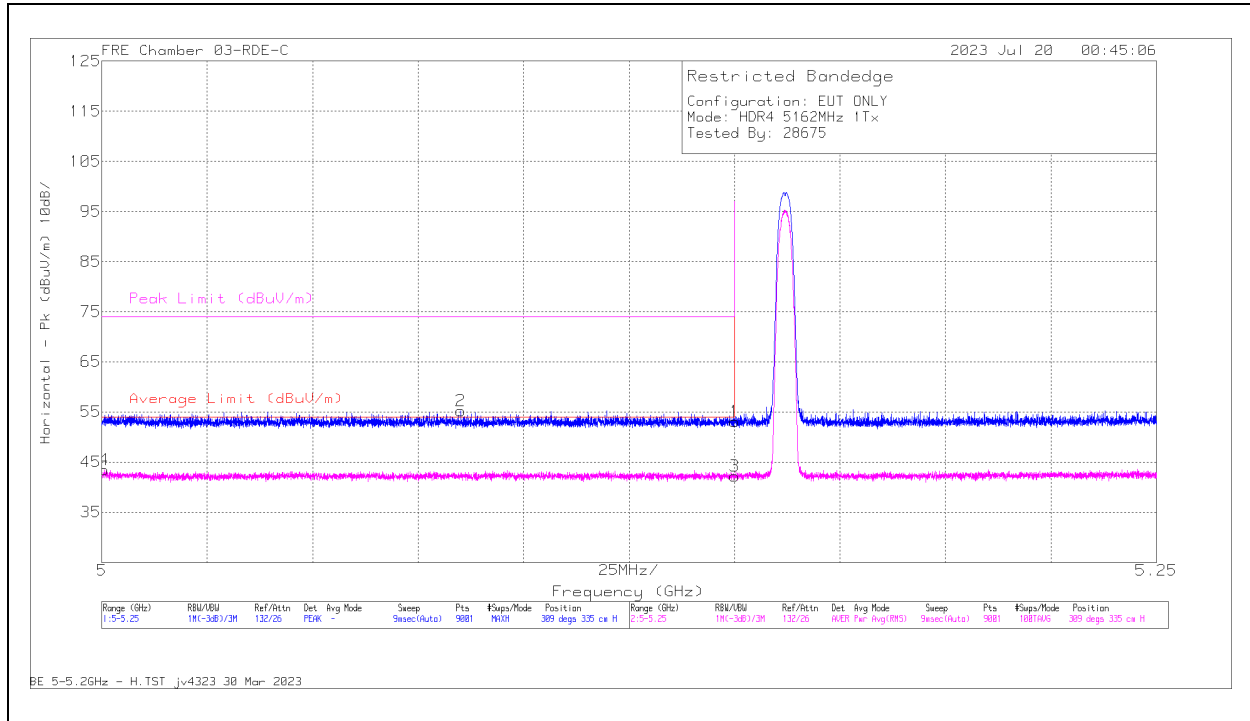


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Z26672 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	56.86	PK	34.4	-38.4	52.86	-	-	74	-21.14	46	316	V
2	* 5.107723	59.66	PK	34.3	-38.47	55.49	-	-	74	-18.51	46	316	V
3	* 5.15	45.78	RMS	34.4	-38.4	41.78	54	-12.22	-	-	46	316	V
4	* 5.001806	47.82	RMS	34.1	-38.5	43.42	54	-10.58	-	-	46	316	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK - Peak detector
 RMS - RMS detection

ANT 5
BANDEDGE (LOW CHANNEL)

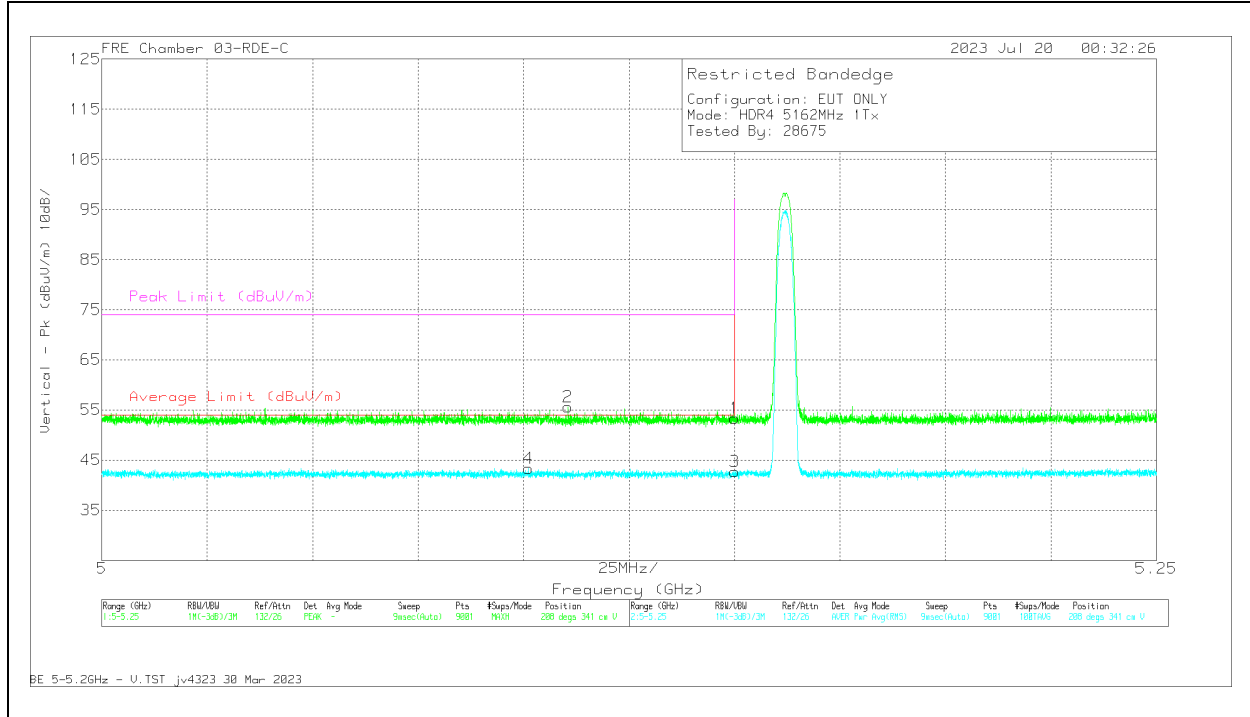
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226672 ACF (dB) 3MHz	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	57.15	Pk	34.4	-38.4	53.15	-	-	74	-20.85	309	335	H
2	* 5.085084	59.55	Pk	34.2	-38.51	55.24	-	-	74	-18.76	309	335	H
3	* 5.15	46.17	RMS	34.4	-38.4	42.17	54	-11.83	-	-	309	335	H
4	* 5.000611	47.82	RMS	34.1	-38.5	43.42	54	-10.58	-	-	309	335	H

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

VERTICAL RESULT



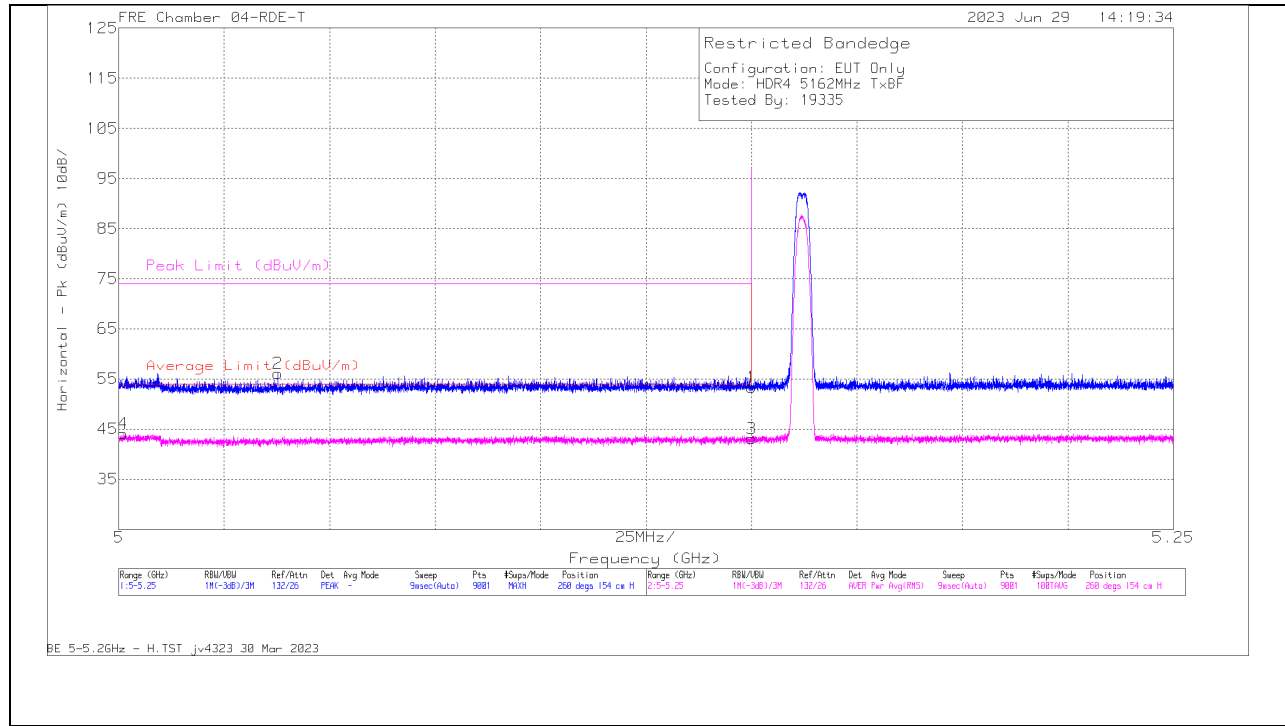
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Z26672 ACF (dB) 3MHz	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	57.38	PK	34.4	-38.4	53.38	-	-	74	-20.62	208	341	V
2	* 5.110556	59.72	PK	34.3	-38.46	55.56	-	-	74	-18.44	208	341	V
3	* 5.15	46.71	RMS	34.4	-38.4	42.71	54	-11.29	-	-	208	341	V
4	* 5.10114	47.54	RMS	34.3	-38.5	43.34	54	-10.66	-	-	208	341	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK - Peak detector
 RMS - RMS detection

2TX Antenna 6 + Antenna 5 TX BF MODE

BANDEDGE (LOW CHANNEL)

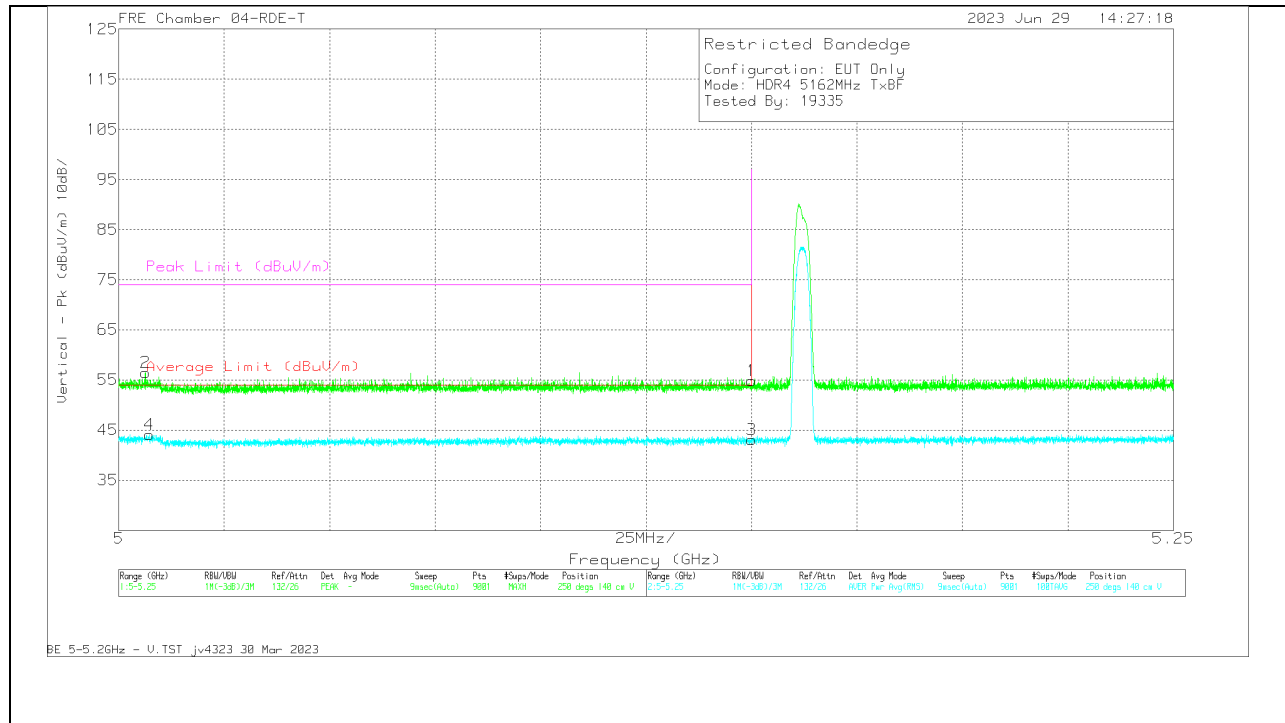
HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3MHz	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	55.01	Pk	34.2	-35.9	53.31	-	-	74	-20.69	260	154	H
2	* 5.03775	58.4	Pk	34	-36.3	56.1	-	-	74	-17.9	260	154	H
3	* 5.15	44.79	RMS	34.2	-35.9	43.09	54	-10.91	-	-	260	154	H
4	* 5.001083	46.46	RMS	34	-36.41	44.05	54	-9.95	-	-	260	154	H

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

VERTICAL RESULT

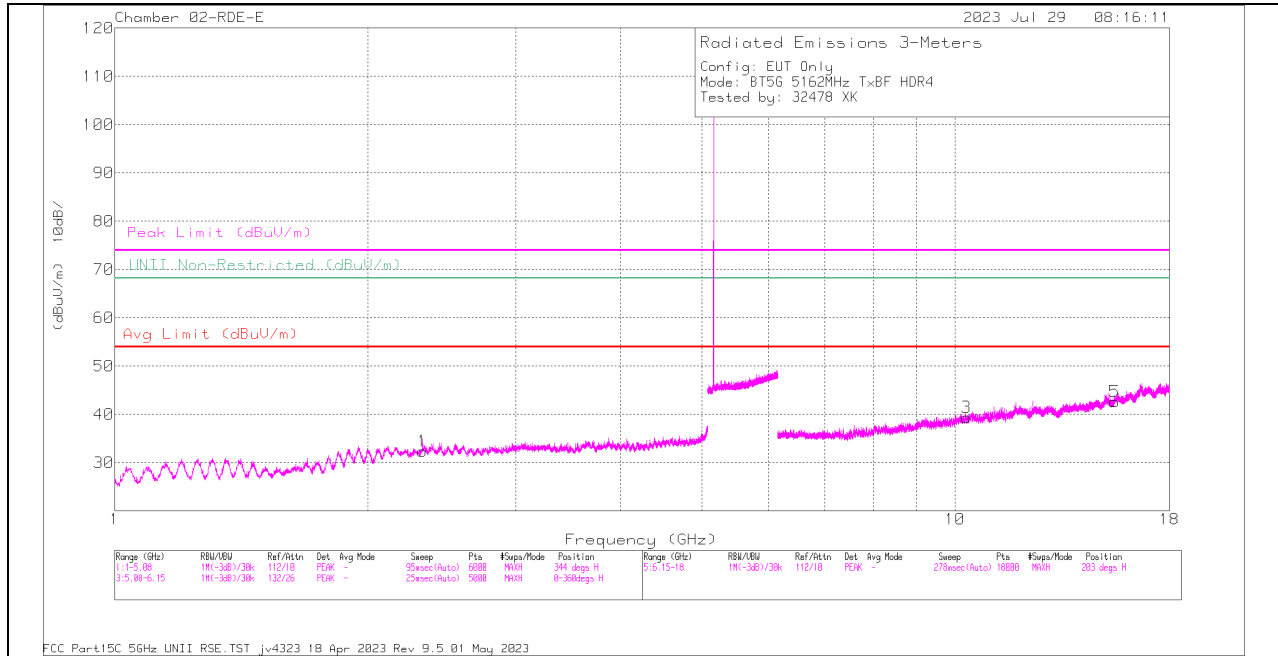


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB) 3mH	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 5.15	56.6	Pk	34.2	-35.9	54.9	-	-	74	-19.1	250	140	V
2	* 5.006306	58.9	Pk	34	-36.37	56.53	-	-	74	-17.47	250	140	V
3	* 5.15	44.78	RMS	34.2	-35.9	43.08	54	-10.92	-	-	250	140	V
4	* 5.007222	46.43	RMS	34	-36.36	44.07	54	-9.93	-	-	250	140	V

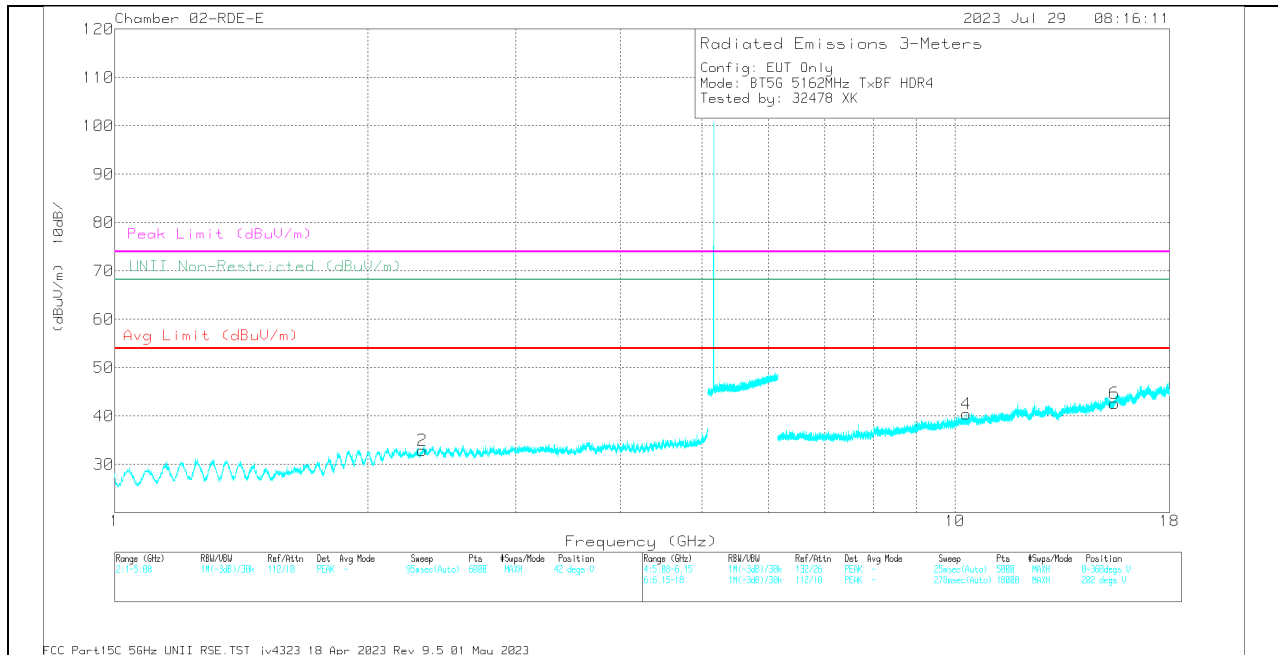
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK - Peak detector
 RMS - RMS detection

10.1.6. HDR4, HIGH POWER UNII-1 HARMONIC AND SPURIOUS IN THE 5.2 GHz BAND

LOW CHANNEL 5162MHz



HORIZONTAL



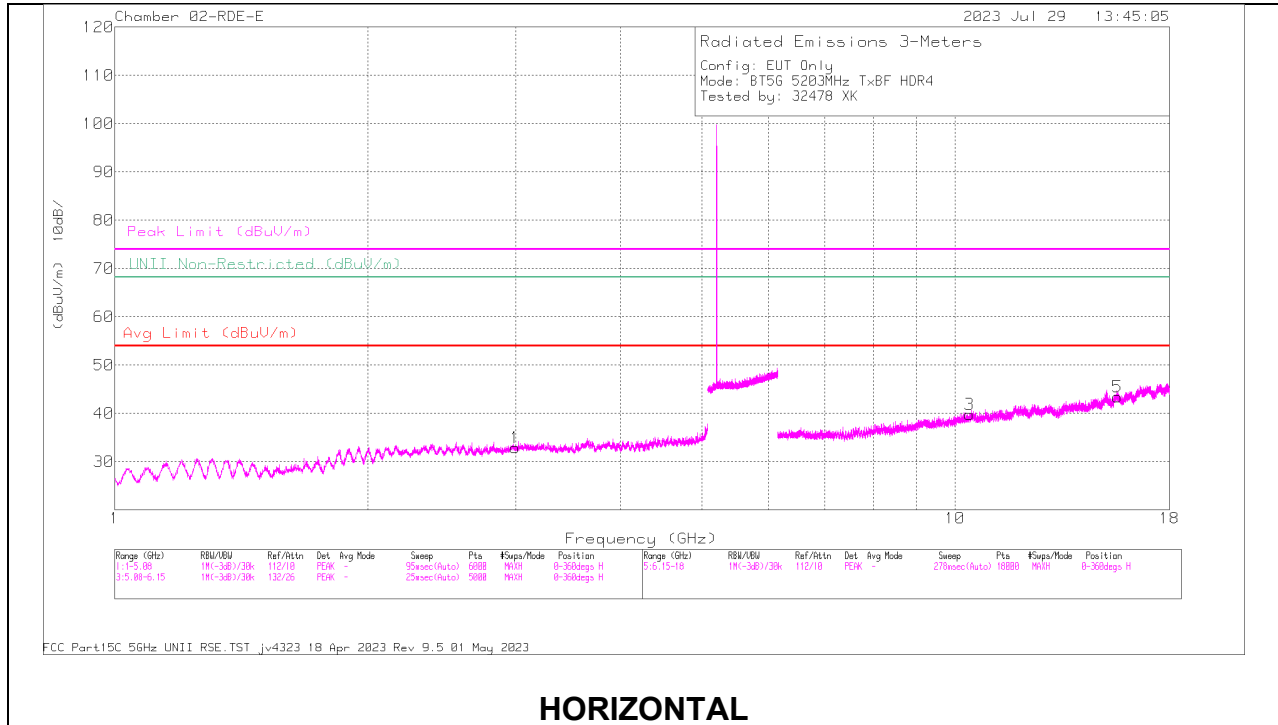
VERTICAL

RADIATED EMISSIONS

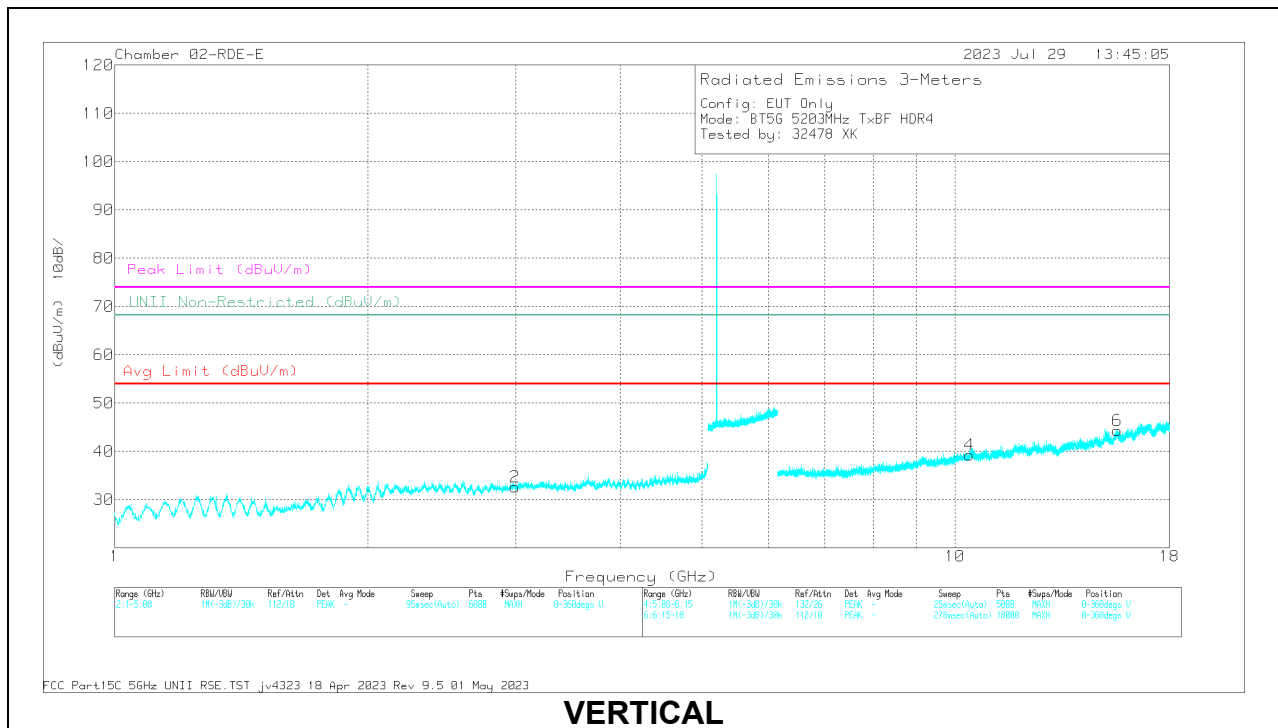
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.323875	60.83	PK-U	32.1	-49.38	43.55	-	-	74	-30.45	-	-	102	392	H
	* 2.324844	48.81	ADR	32.1	-49.38	31.53	54	-22.47	-	-	-	-	102	392	H
2	* 2.324906	60.43	PK-U	32.1	-49.38	43.15	-	-	74	-30.85	-	-	293	159	V
	* 2.322437	48.66	ADR	32.1	-49.37	31.39	54	-22.61	-	-	-	-	293	159	V
6	* 15.48914	53.5	PK-U	40.2	-41.36	52.34	-	-	74	-21.66	-	-	111	342	V
	* 15.487102	42.15	ADR	40.2	-41.39	40.96	54	-13.04	-	-	-	-	111	342	V
5	* 15.487662	53.84	PK-U	40.2	-41.38	52.66	-	-	74	-21.34	-	-	355	101	H
	* 15.487102	42.55	ADR	40.2	-41.39	41.16	54	-12.84	-	-	-	-	111	342	V
4	10.323347	56.14	PK-U	37.5	-44.93	48.71	-	-	-	-	68.2	-19.49	16	338	V
3	10.323704	56.5	PK-U	37.5	-44.94	49.06	-	-	-	-	68.2	-19.14	320	133	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK-U - U-NII: Maximum Peak
 ADR - U-NII AD primary method, RMS average

MID CHANNEL 5203MHz



HORIZONTAL



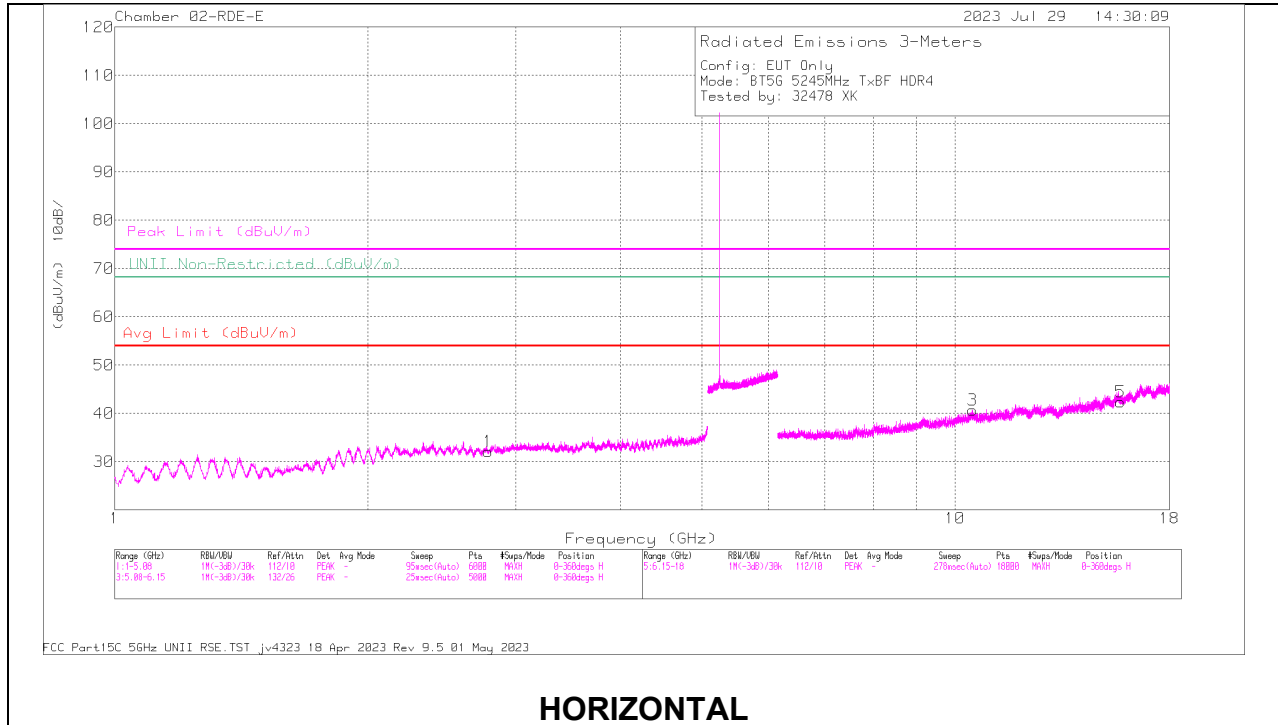
VERTICAL

RADIATED EMISSIONS

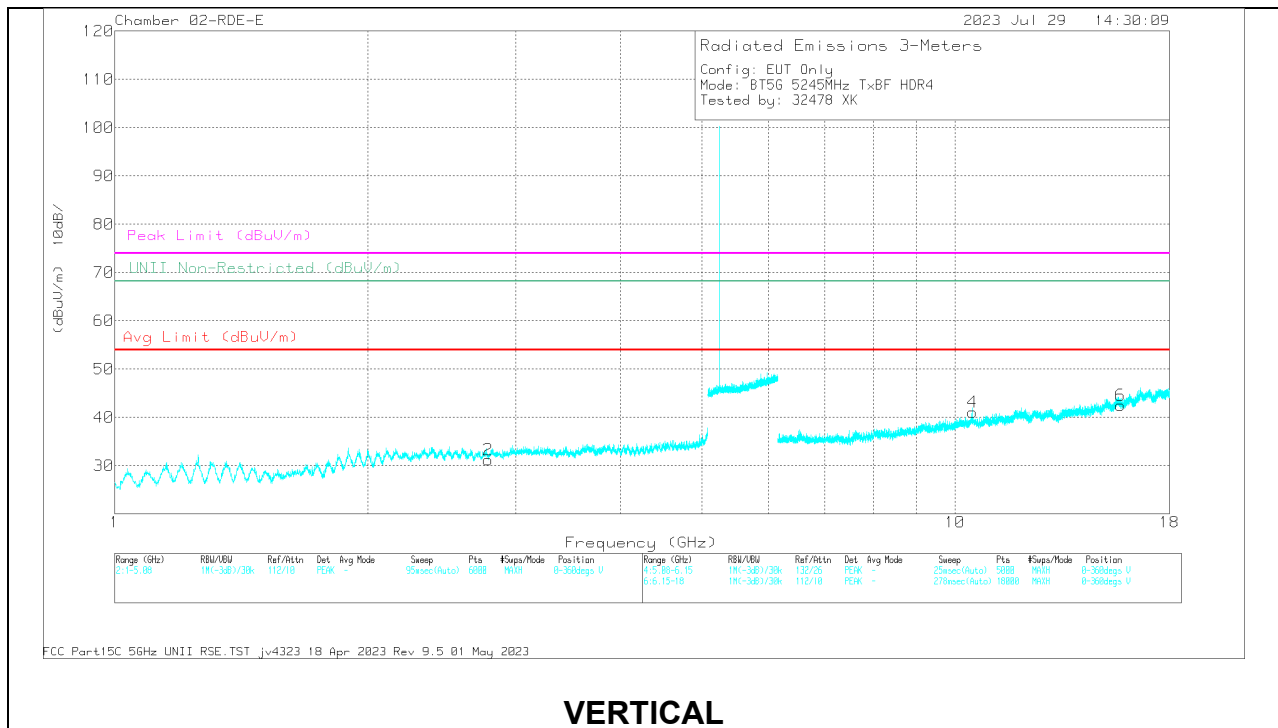
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 15.609151	52.47	PK-U	40.4	-40.83	52.04	-	-	74	-21.96	-	-	59	189	H
	* 15.609779	41.38	ADR	40.4	-40.83	40.95	54	-13.05	-	-	-	-	59	189	H
6	* 15.608492	53.31	PK-U	40.4	-40.84	52.87	-	-	74	-21.13	-	-	180	121	V
	* 15.607863	41.44	ADR	40.4	-40.85	40.99	54	-13.01	-	-	-	-	180	121	V
2	2.996551	58.46	PK-U	32.8	-47.89	43.37	-	-	-	-	68.2	-24.83	276	147	V
1	2.997124	59.13	PK-U	32.8	-47.88	44.05	-	-	-	-	68.2	-24.15	72	249	H
3	10.407235	55.81	PK-U	37.6	-44.36	49.05	-	-	-	-	68.2	-19.15	51	387	H
4	10.408729	56.16	PK-U	37.6	-44.46	49.3	-	-	-	-	68.2	-18.9	334	184	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK-U - U-NII: Maximum Peak
 ADR - U-NII AD primary method, RMS average

HIGH CHANNEL 5245MHz



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	206807 ACF (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.781871	58.62	PK-U	32.1	-48.42	42.3	-	-	74	-31.7	-	-	76	245	H
	* 2.782018	47.28	ADR	32.1	-48.42	30.96	54	-23.04	-	-	-	-	76	245	H
2	* 2.783138	59.07	PK-U	32.1	-48.43	42.74	-	-	74	-31.26	-	-	296	360	V
	* 2.784515	47.09	ADR	32.1	-48.45	30.74	54	-23.26	-	-	-	-	296	360	V
5	* 15.73501	54.72	PK-U	40.5	-42.22	53	-	-	74	-21	-	-	345	125	H
	* 15.733507	42.42	ADR	40.5	-42.21	40.71	54	-13.29	-	-	-	-	345	125	H
6	* 15.734681	54.11	PK-U	40.5	-42.22	52.39	-	-	74	-21.61	-	-	344	328	V
	* 15.73292	43.03	ADR	40.5	-42.21	41.32	54	-12.68	-	-	-	-	344	328	V
4	10.489471	57.32	PK-U	37.7	-43.81	51.21	-	-	-	-	68.2	-16.99	48	115	V
3	10.490681	56.18	PK-U	37.7	-43.8	50.08	-	-	-	-	68.2	-18.12	25	183	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PK-U - U-NII: Maximum Peak
 ADR - U-NII AD primary method, RMS average