



TEST REPORT

Report Number: 13911916-E1V2

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

Model : A2595 (Parent Model, Full Test)
A2782, A2783, A2784, A2785 (Variant Models)

FCC ID : BCG-E4082A (Parent Model)
BCG-E8064A, BCG-E4083A, BCG-8076A (Variant Models)

IC : 579C-E4082A (Parent Model)
579C-E8064A, 579C-E4083A, 579C-8076A
(Variant Models)

EUT Description : SMARTPHONE

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
ISED RSS-247 ISSUE 2
ISED RSS-GEN ISSUE 5 + A1 + A2

Date Of Issue:
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REPORT REVISION HISTORY

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	1/21/2022	Initial Issue	Chin Pang
V2	2/7/2022	Address TCB's questions on cover page and page 9. Add Loop antenna in section 7	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: Smart Phone

MODEL: A2595 (Parent Model)
A2782, A2783, A2784, A2785 (Variant Models)

BRAND: APPLE

FCC ID: BCG-E4082A (Parent Model)
BCG-E8064A, BCG-E4083A, BCG-E8076A (Variant Models)

IC : 579C-E4082A (Parent Model)
579C-E8064A, 579C-E4083A, 579C-E8076A (Variant Models)

SERIAL NUMBER: DT23CMFDH2

SAMPLE RECEIPT DATE: SEPTEMBER 02, 2021

DATE TESTED: SEPTEMBER 02 2021 – JANUARY 24, 2022

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Complies
ISED RSS-247 Issue 2	Complies
ISED RSS-GEN Issue 5 + A1 + A2	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.

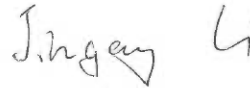
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Approved & Released For
UL Verification Services Inc. By:



Chin Pang
Senior Engineer
Consumer Technology Division
UL Verification Services Inc.

Prepared By:



Jingang Li
Test Engineer
Consumer Technology Division
UL Verification Services Inc.

2. TEST 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.

FCC Clause	ISED Clause	Requirement	Result	Comment
See Comment		Duty Cycle	Reporting purposes only	Per ANSI C63.10, Section 11.6.
See Comment	RSS-GEN 6.7	20dB BW/99% OBW	Reporting purposes only	ANSI C63.10 Sections 6.9.2 and 6.9.3
15.247 (a)(1)	RSS-247 (5.1) (b)	Hopping Frequency Separation	Complies	None.
15.247 (a)(1)(iii)	RSS-247 (5.1) (d)	Number of Hopping Channels	Complies	None.
15.247 (a)(1)(iii)	RSS-247 (5.1) (d)	Average Time of Occupancy	Complies	None.
15.247 (b)(1)	RSS-247 (5.4) (b)	Output Power	Complies	None.
See Comment		Average Power	Reporting purposes only	Per ANSI C63.10, Section 11.9.2.3.2.
15.247 (d)	RSS-247 (5.5)	Conducted Spurious Emissions	Complies	None.
15.209, 15.205	RSS-GEN 8.9, 8.10	Radiated Emissions	Complies	None.
15.207	RSS-Gen 8.8	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, ANSI C63.10-2013, KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, KDB 662911, RSS-GEN Issue 5 + A1 + A2, and RSS-247 Issue 2.

4. FACILITIES AND ACCREDITATION

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

Location	Address	ISED CABID	ISED Company Number	FCC Registration
<input checked="" 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	US0104	22541	550739
<input checked="" type="checkbox"/>	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA	US0104	2324B	550739

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:

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

PARAMETER	U _{Lab}
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 multimedia functions (music, application support, and video), cellular GSM, GPRS, EGPRS, UMTS, LTE, 5G FR1, IEEE 802.11a/b/g/n/ac/ax, Bluetooth, GPS and NFC. All models support at least one UICC based SIM. The second SIM is an UICC based e-SIM (electronic SIM) in some models. China model has 1 p-SIM only. The device supports a built-in inductive charging receiver. The rechargeable battery is not user accessible.

Testing was performed on the parent model and is used to support the application for the parent and variants identified in this report based on the test plan submitted and approved via KDB inquiry by the FCC and by ISED-Canada.

The Model and FCC IDs / ISED covered by this report includes:

Parent Model: A2595, FCC ID: BCG-E4082A, IC: 579C-E4082A

Variant Models: A2782, FCC ID: BCG-E8064A, IC: 579C-E8064A
 A2783; FCC ID: BCG-E4083A, IC: 579C-E4083A
 A2784 & A2785, FCC ID: BCG-E8076A, IC: 579C-8076A

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Antenna	Config	Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
ANT 2	High Power	2402 - 2480	Basic GFSK	17.92	61.94
		2402 - 2480	DQPSK	16.49	44.57
		2402 - 2480	Enhanced 8PSK	16.89	48.87
	Low Power	2402 - 2480	Basic GFSK	12.04	16.00
		2402 - 2480	DQPSK	11.60	14.45
		2402 - 2480	Enhanced 8PSK	11.74	14.93
ANT 3	High Power	2402 - 2480	Basic GFSK	20.40	109.65
		2402 - 2480	DQPSK	16.42	43.85
		2402 - 2480	Enhanced 8PSK	16.76	47.42
	Low Power	2402 - 2480	Basic GFSK	11.47	14.03
		2402 - 2480	DQPSK	11.16	13.06
		2402 - 2480	Enhanced 8PSK	11.20	13.18
BF, ANT 2 + ANT 3	High Power	2402 - 2480	Basic GFSK TxBF	20.38	109.14
		2402 - 2480	DQPSK TxBF	18.93	78.16
		2402 - 2480	Enhanced 8PSK TxBF	19.26	84.33
	Low Power	2402 - 2480	Basic GFSK TxBF	14.73	29.72
		2402 - 2480	DQPSK TxBF	14.49	28.12
		2402 - 2480	Enhanced 8PSK TxBF	14.54	28.44

Note: GFSK, DQPSK, 8PSK average Power are all investigated, The GFSK & 8PSK Power are the worst case. Testing is based on these modes to showing compliance. For average power data please refer to section 9.7.

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

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

Frequency Range (GHz)	ANT 2 (dBi)	ANT 3 (dBi)
2.4	2.6	-0.3

6.4. SOFTWARE AND FIRMWARE

The EUT firmware version is 19.5.418.4462

6.5. WORST-CASE CONFIGURATION AND MODE

The EUT was investigated in three orthogonal orientations X, Y and Z on ANT 2, ANT 3 and 2TX beamforming. It was determined that X (Flatbed) was the worst-case orientation for ANT 2, ANT 3 and 2TX Beamforming.

Radiated band edge, harmonic, and spurious emissions from 1GHz to 18GHz were performed with the EUT was set to transmit at highest power on Low/Middle/High channels.

Radiated emissions below 30MHz, below 1GHz, 18-26GHz and power line conducted emissions were performed with the EUT transmits at the channel with the highest output power as worst-case scenario. There were no emissions found below 30MHz within 20dB of the limit

For below 1GHz tests EUT was 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.

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

GFSK, DQPSK, 8PSK average power are all investigated, The GFSK & 8PSK power are the worst case. For average power data please refer to section 9.7.

Worst-case data rates as provided by the client were:

GFSK mode: DH5
 8PSK mode: 3-DH5
 Beamforming : GFSK, DH5, 8PSK, 3-DH5

There are two vendors of the WiFi/Bluetooth radio modules: variant 1 and variant 2. The WiFi/Bluetooth radio modules have the same mechanical outline (e.g., the same package dimension and pin-out layout), use the same on-board antenna matching circuit, have an identical antenna structure, and are built and tested to conform to the same specifications and to operate within the same tolerances.

Baseline testing was performed on the two variants to determine the worst case on all conducted power and radiated emissions.

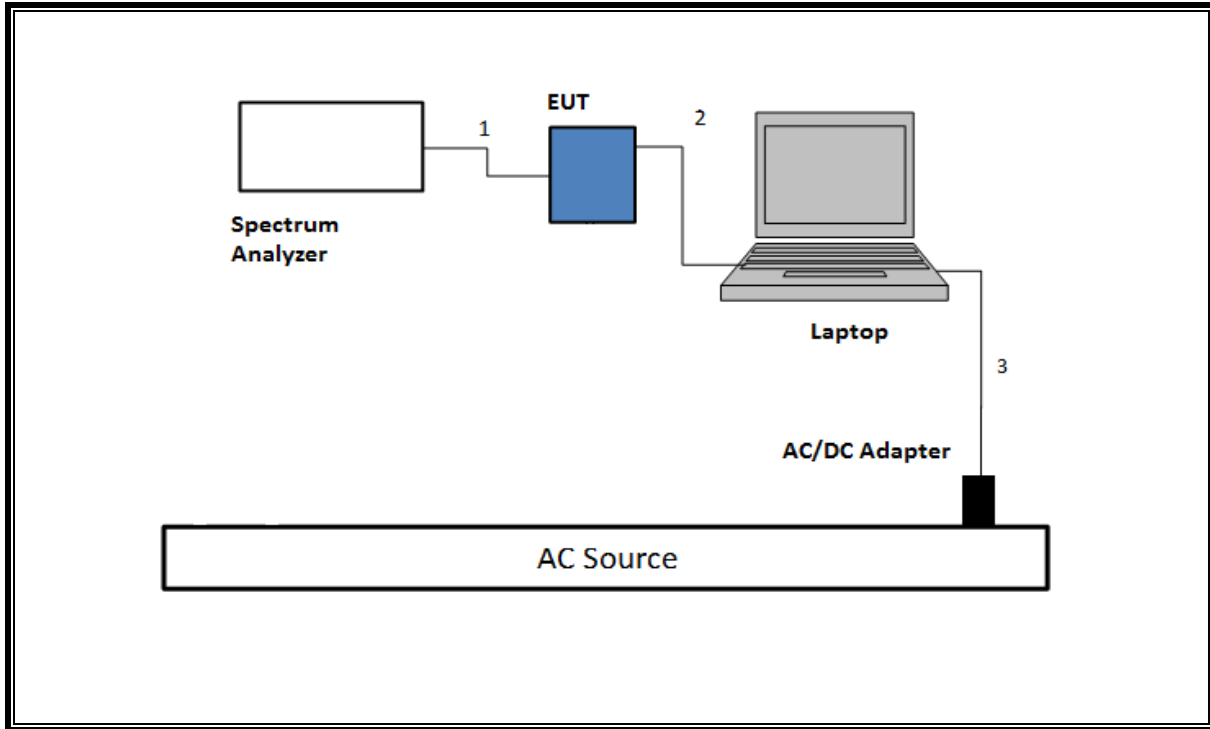
6.6. DESCRIPTION OF TEST SETUP

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		
I/O CABLES (RF CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	Antenna	1	SMA	Un-shielded	0.2	To spectrum Analyzer
2	USB	1	USB	Shielded	1.0	N/A
3	AC	1	AC	Un-shielded	2	N/A
I/O CABLES (RF RADIATED AND AC LINE AC 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	Un-shielded	1	N/A

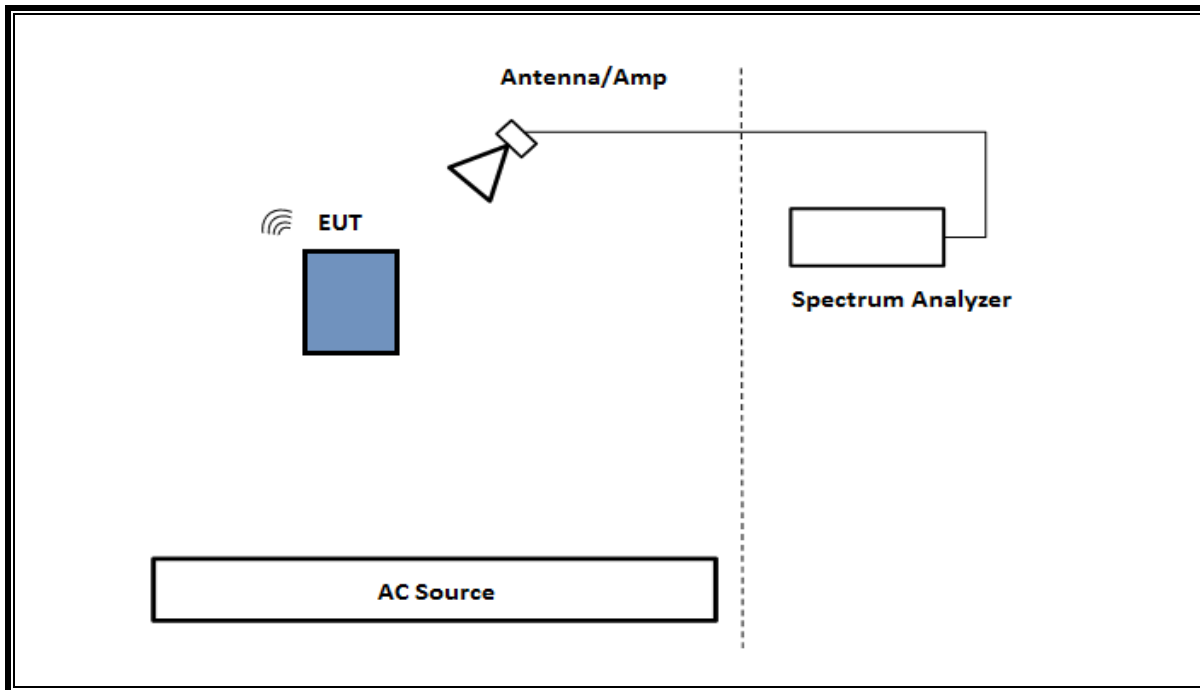
TEST SETUP

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

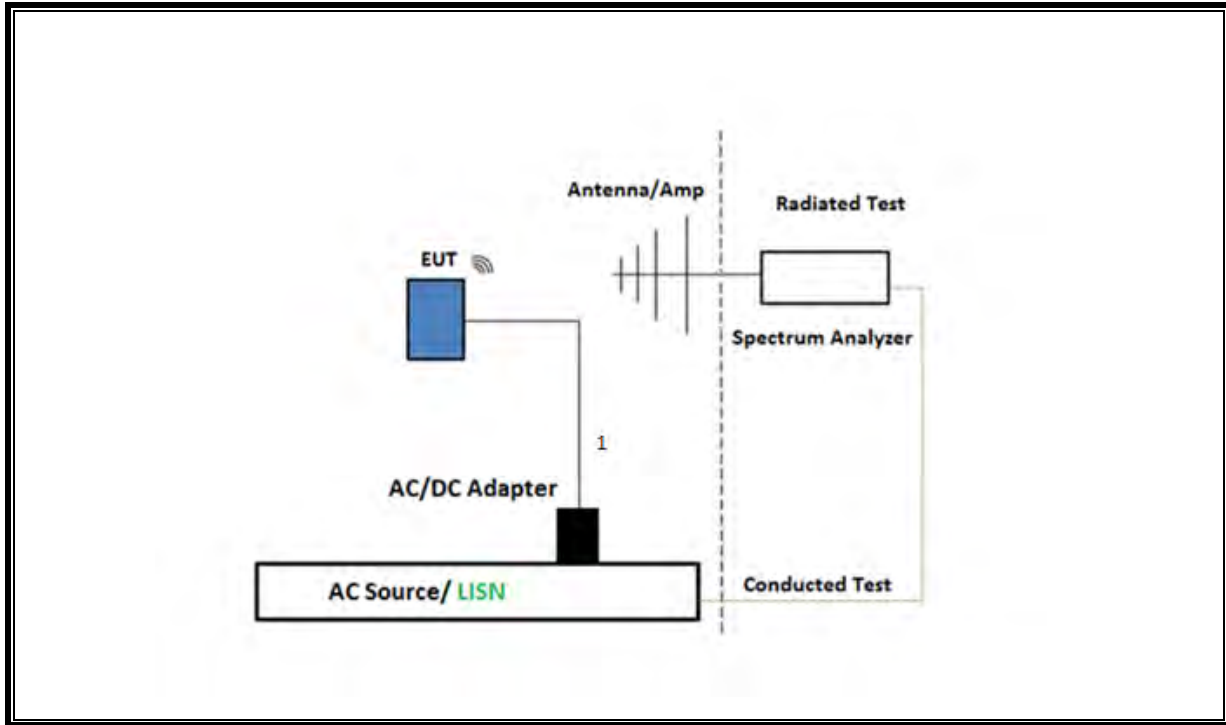
SETUP DIAGRAM FOR CONDUCTED TESTS



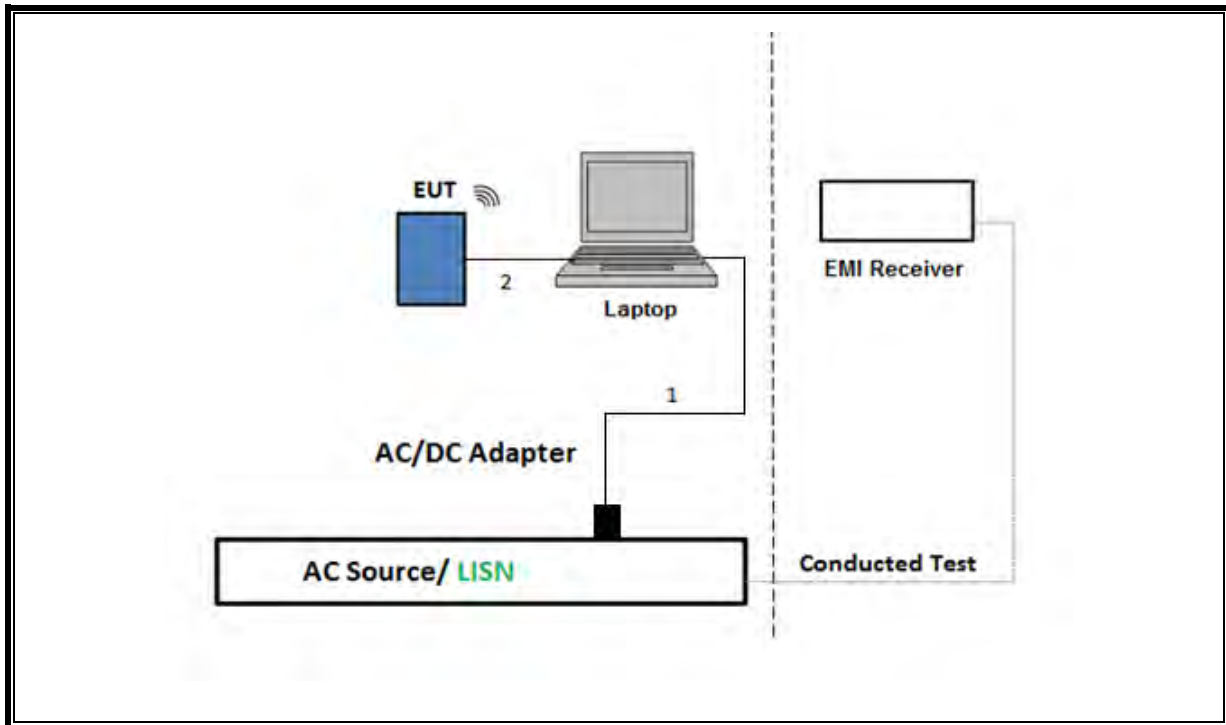
SETUP DIAGRAM FOR RADIATED TESTS Above 1 GHz



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
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T907	01/27/2022	01/27/2021
Antenna, Horn 1-18GHz	ETS Lindgren	3117	PRE0078107	03/01/2022	03/01/2021
Amplifier, 1 to 18GHz	AMPLICAL	AMP1G18-35	138301	03/30/2022	03/30/2021
Amplifier 10KHz to 1GHz 32dB	Sonoma	310N	79145	07/21/2022	07/21/2021
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	204045	03/03/2022	03/03/2021
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T1454	01/27/2022	01/27/2021
Antenna Horn 18 to 26.5GHz	ARA	MWH-1826/B	81140	04/22/2022	04/22/2021
Pre-Amp 18-26GHz	Agilent Technology	8449B	T404	04/19/2022	04/19/2021
Power Meter, P-series single channel	Keysight	N1911A	T1268	01/27/2022	01/27/2021
Power Sensor	Keysight	N1921A	T1225	01/28/2022	01/28/2021
Antenna, Horn 1-18GHz	ETS Lindgren	3117	T712	03/22/2022	03/22/2021
*Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T1466	01/25/2022	01/25/2021
Amplifier, 1 to 8GHz 35dB	Amplical	AMF-4D-01000800-30-29P	T1169	03/30/2022	03/30/2021
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	T345	05/26/2022	05/26/2021
Amplifier, 1 to 18GHz	Miteq	AFS42-00101800-25-S-42	T931	02/01/2022	02/01/2021
Antenna, Active Loop 9KHz to 30MHz	ETS-Lindgren	6502	T757	11/12/2021	11/12/2020
Spectrum Analyzer, PXA 3Hz to 44GHz	Keysight	N9030A	T340	01/28/2022	01/28/2021
Antenna	ETS-Lindgren	3117	206806	02/03/2022	02/03/2021
Amplifier, 1 to 18GHz, 35dB	AMPLICAL	AMP1G18-35	T1571	08/19/2022	08/19/2021

AC Line Conducted					
Description	Manufacturer	Model	ID Num	Cal Due	Last Cal
EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESR	T1436	02/19/2022	02/19/2021
*Power Cable, Line Conducted Emissions	UL	PR1	T861	10/27/2021	10/27/2020
*LISN for Conducted Emissions CISPR-16	FISCHER CUSTOM COMMUNICATIONS	FCC-LISN-50/250-25-2-01	PRE0186446	01/20/2022	01/20/2021
UL AUTOMATION SOFTWARE					
Radiated Software	UL	UL EMC	Ver 9.5, Mar 6, 2020		
Conducted Software	UL	UL EMC	2020.2.26		
AC Line Conducted Software	UL	UL EMC	Ver 9.5, February 21, 2020		

*Testing is completed before equipment expiration date.

8. MEASUREMENT METHODS

On Time and Duty Cycle: ANSI C63.10-2013 Section 11.6

Occupied BW (20dB): ANSI C63.10-2013 Section 6.9.2

Occupied BW (99%): ANSI C63.10-2013 Section 6.9.3

Carrier Frequency Separation: ANSI C63.10-2013 Section 7.8.2

Number of Hopping Frequencies: ANSI C63.10-2013 Section 7.8.3

Time of Occupancy (Dwell Time): ANSI C63.10-2013 Section 7.8.4

Peak Output Power: ANSI C63.10-2013 Section 7.8.5

Conducted Spurious Emissions: ANSI C63.10-2013 Section 7.8.8

Conducted Band-Edge: ANSI C63.10-2013 Section 6.10.4

Radiated Spurious Emissions Below 30MHz: ANSI C63.10-2013 Section 6.4 & 13

Radiated Spurious Emissions 30-1000MHz: ANSI C63.10-2013 Section 6.3, 6.5 & 13

Radiated Spurious Emissions above 1GHz: ANSI C63.10-2013 Section 6.3, 6.6 & 13

Radiated Band-edge: ANSI C63.10-2013 Section 6.10.5 & 13

AC Power-line conducted emissions: ANSI C63.10-2013, Section 6.2.

9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

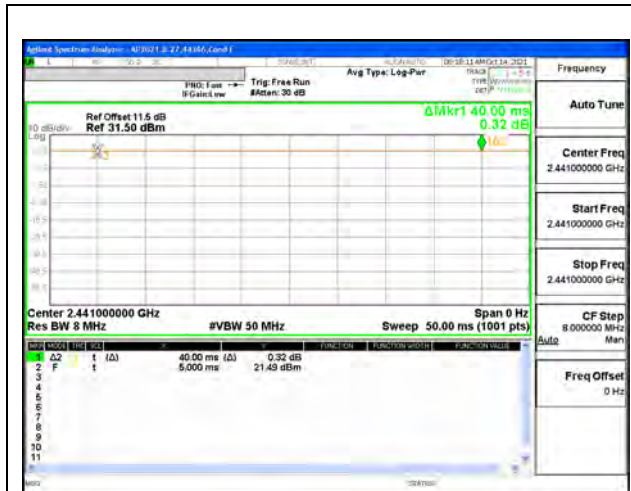
PROCEDURE

ANSI C63.10, Section 11.6 : 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)
Bluetooth GFSK	40.00	40.00	1.000	100.0%	0.00	0.010
Bluetooth 8PSK	40.00	40.00	1.000	100.0%	0.00	0.010
Bluetooth GFSK TxBF	40.00	40.00	1.000	100.0%	0.00	0.010
Bluetooth 8PSK TxBF	40.00	40.00	1.000	100.0%	0.00	0.010

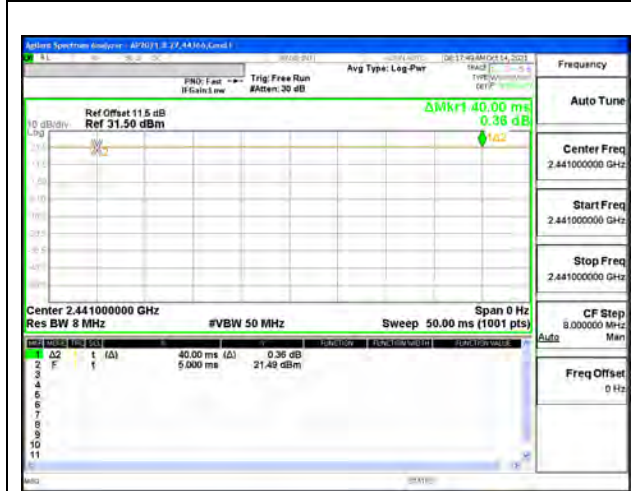
DUTY CYCLE PLOTS



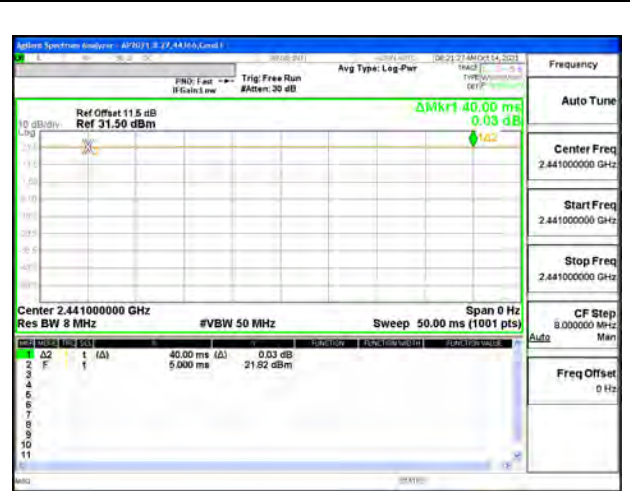
BLUETOOTH GFSK



BLUETOOTH 8PSK



BLUETOOTH TxBF GFSK



BLUETOOTH TxBF 8PSK

9.2. 20 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.

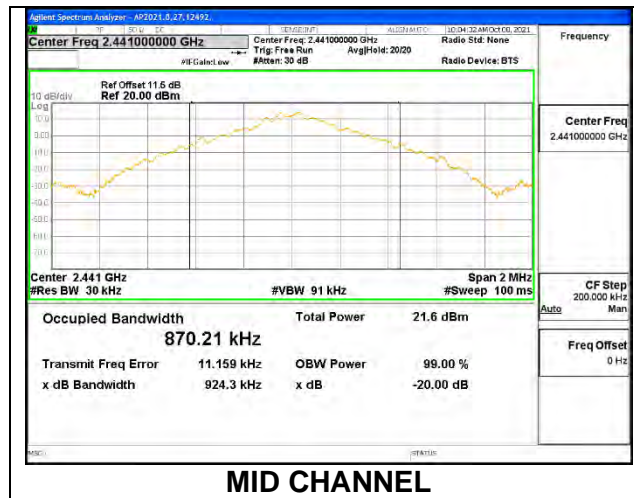
RESULTS

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 BASIC DATA RATE GFSK MODULATION

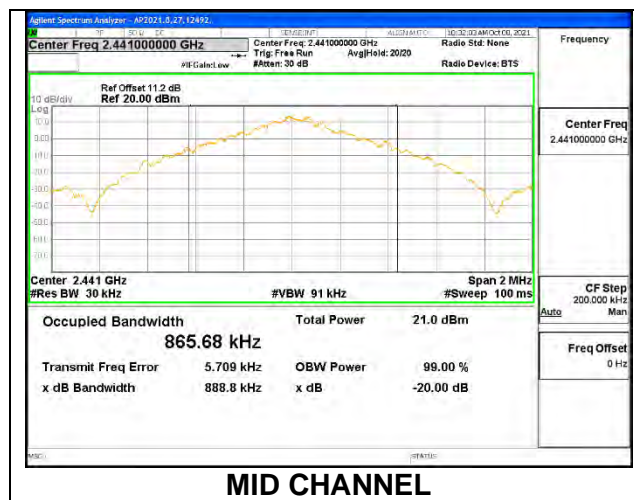
ANT 2

Channel	Frequency (MHz)	20dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	0.922	0.867
Mid	2441	0.924	0.870
High	2480	0.929	0.871



ANT 3

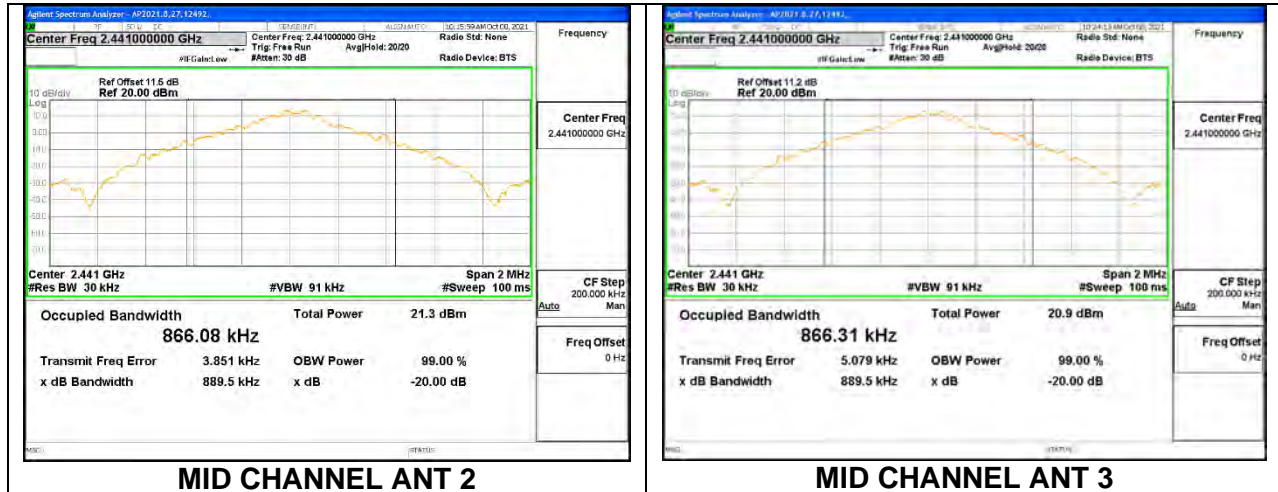
Channel	Frequency (MHz)	20dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	0.888	0.867
Mid	2441	0.888	0.866
High	2480	0.888	0.866



9.2.2. HIGH POWER BASIC DATA RATE TXBF GFSK MODULATION

Note: Test procedure on beamforming mode is same as BT basic and EDR mode

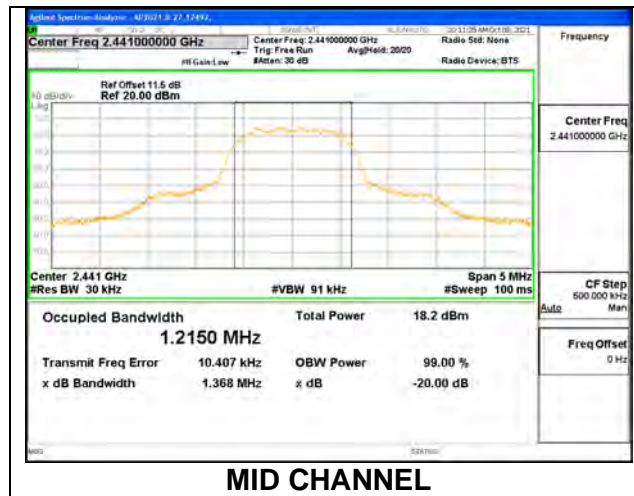
Channel	Frequency (MHz)	20dB Bandwidth ANT 2 (MHz)	20dB Bandwidth ANT 3 (MHz)	99% Bandwidth ANT 2 (MHz)	99% Bandwidth ANT 3 (MHz)
Low	2402	0.887	0.888	0.870	0.864
Mid	2441	0.889	0.889	0.866	0.866
High	2480	0.889	0.889	0.865	0.865



9.2.3. HIGH POWER ENHANCED DATA RATE 8PSK MODULATION

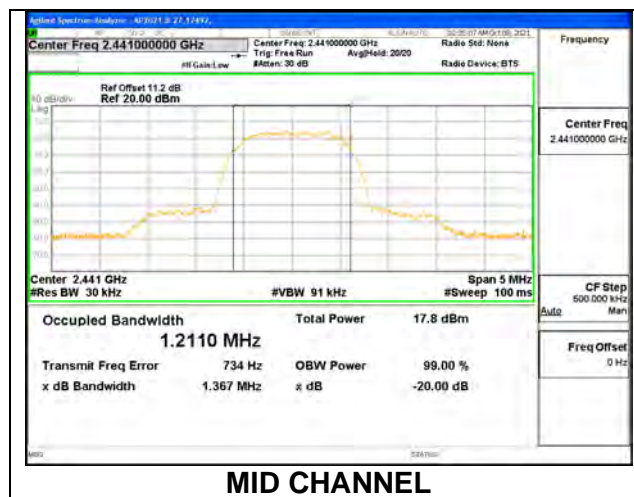
ANT 2

Channel	Frequency (MHz)	20dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	1.367	1.211
Mid	2441	1.368	1.215
High	2480	1.370	1.216



ANT 3

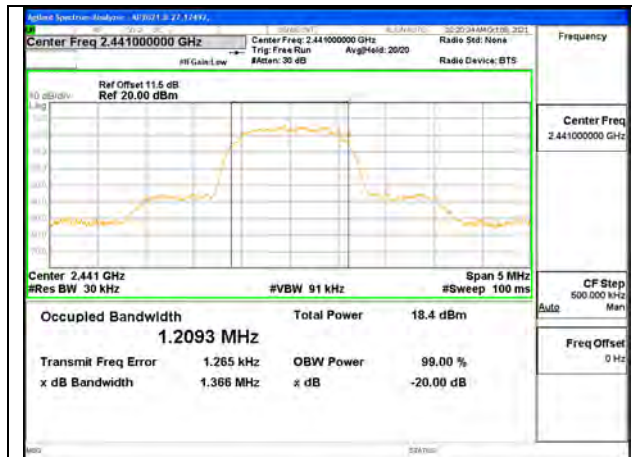
Channel	Frequency (MHz)	20dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	1.375	1.210
Mid	2441	1.367	1.211
High	2480	1.372	1.210



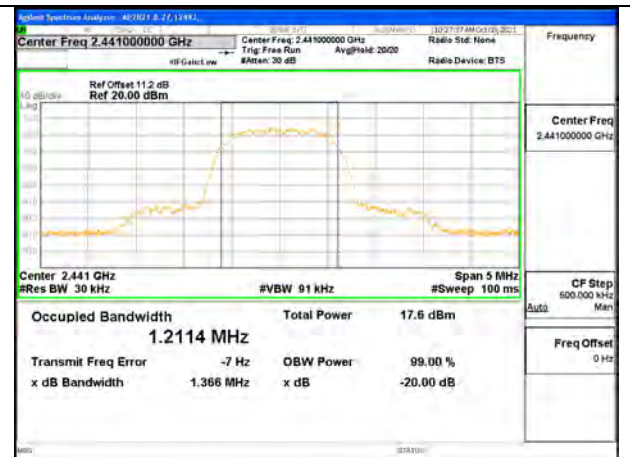
9.2.4. HIGH POWER ENHANCED DATA RATE TXBF 8PSK MODULATION

Note: Test procedure on beamforming mode is same as BT basic and EDR mode

Channel	Frequency (MHz)	20dB Bandwidth	20dB Bandwidth	99% Bandwidth	99% Bandwidth
		ANT 2 (MHz)	ANT 3 (MHz)	ANT 2 (MHz)	ANT 3 (MHz)
Low	2402	1.365	1.370	1.208	1.210
Mid	2441	1.366	1.366	1.209	1.211
High	2480	1.366	1.375	1.208	1.210



MID CHANNEL ANT 2



MID CHANNEL ANT 3

9.3. HOPPING FREQUENCY SEPARATION

LIMITS

FCC §15.247 (a) (1)

RSS-247 (5.1) (b)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

TEST PROCEDURE

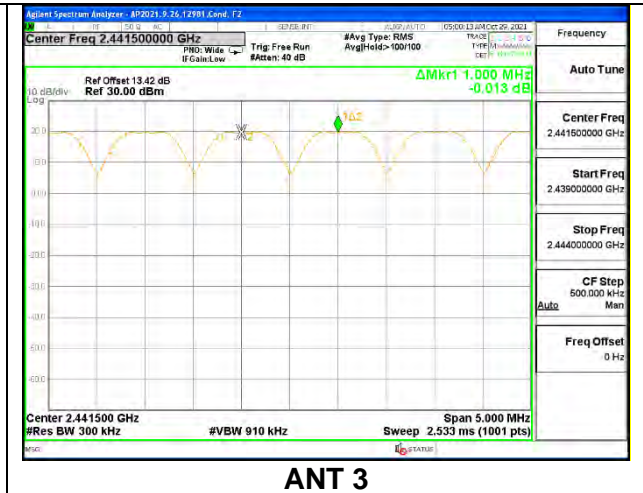
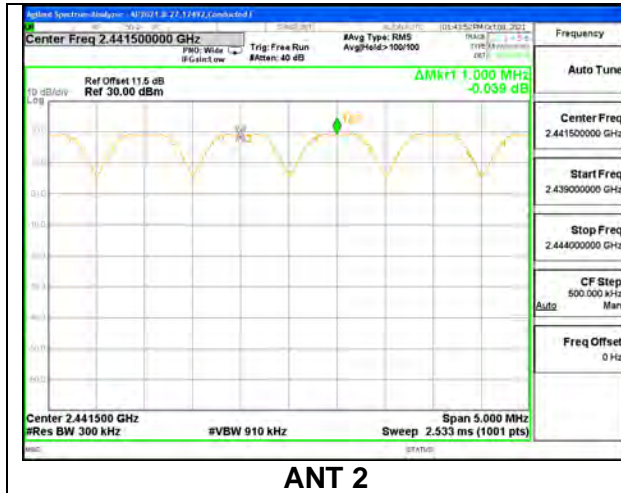
The transmitter output is connected to a spectrum analyzer. The RBW is set to 300 kHz and the VBW is set to $VBW \geq 3 \times RBW$. The sweep time is coupled.

RESULTS

Only High Power GFSK mode result is reported since EDR (QPSK/8PSK) has exact same channel plan.

9.3.1. HIGH POWER BASIC DATA RATE GFSK MODULATION

HOPPING FREQUENCY SEPARATION



9.4. NUMBER OF HOPPING CHANNELS

LIMITS

FCC §15.247 (a) (1) (iii)

RSS-247 (5.1) (d)

Frequency hopping systems in the 2400 – 2483.5 MHz band shall use at least 15 non-overlapping channels.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The span is set to cover the entire authorized band, in either a single sweep or in multiple contiguous sweeps. The RBW is set to a maximum of 1 % of the span. The analyzer is set to Max Hold.

RESULTS

Normal Mode: 79 Channels Observed. Only High Power GFSK mode result is reported since EDR (QPSK/8PSK) has exact same channel plan.

9.4.1. HIGH POWER BASIC DATA RATE GFSK MODULATION

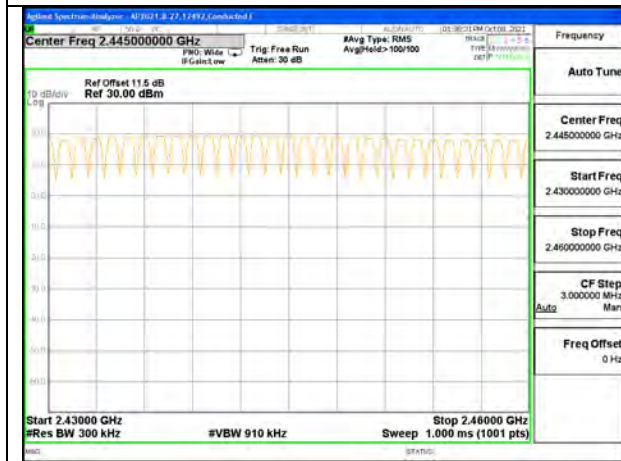
ANT 2



100MHz SPAN



30MHz SPAN, SEGMENT 1 OF 3



30MHz SPAN, SEGMENT 2 OF 3

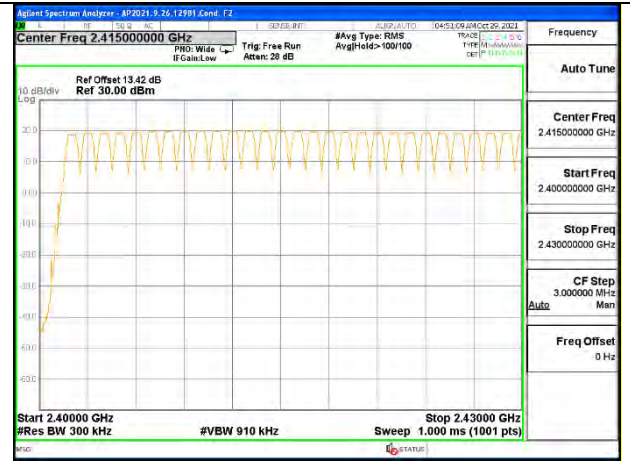


30MHz SPAN, SEGMENT 3 OF 3

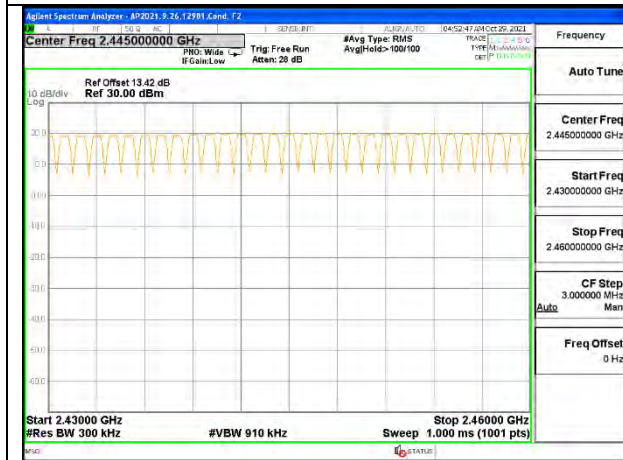
ANT 3



100MHz SPAN



30MHz SPAN, SEGMENT 1 OF 3



30MHz SPAN, SEGMENT 2 OF 3



30MHz SPAN, SEGMENT 3 OF 3

9.5. AVERAGE TIME OF OCCUPANCY

LIMITS

FCC §15.247 (a) (1) (iii)

RSS-247 (5.1) (d)

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The span is set to 0 Hz, centered on a single, selected hopping channel. The width of a single pulse is measured in a fast scan. The number of pulses is measured in a 3.16 second scan, to enable resolution of each occurrence.

The average time of occupancy in the specified 3.16 second period (79 channels * 0.4 s) is equal to $10 * (\# \text{ of pulses in } 3.16 \text{ s}) * \text{ pulse width}$.

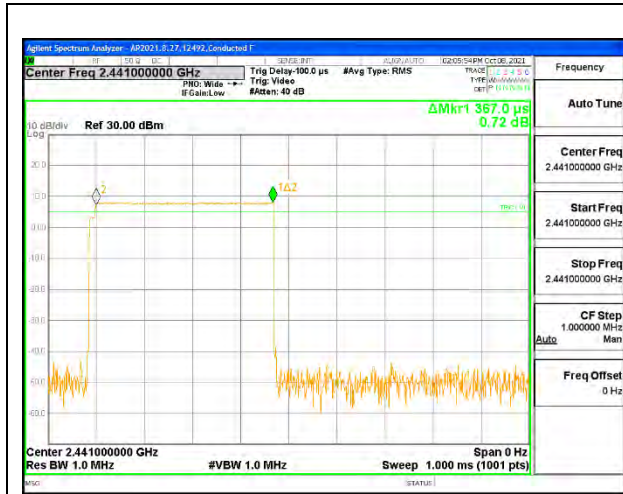
For AFH mode, the average time of occupancy in the specified 8 second period (20 channels * 0.4 seconds) is equal to $10 * (\# \text{ of pulses in } 0.8 \text{ s}) * \text{ pulse width}$.

RESULTS

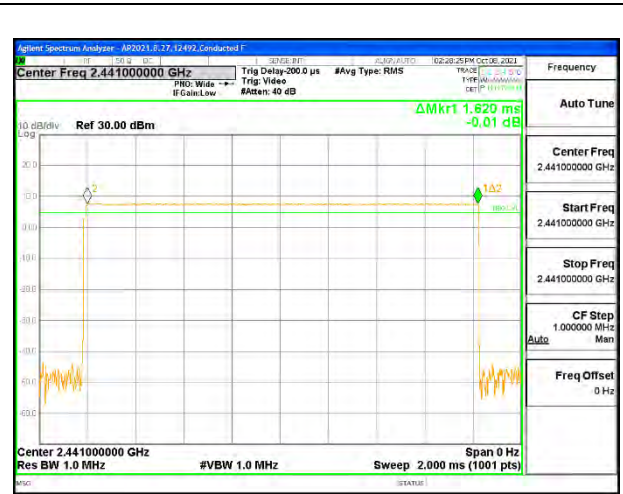
Only High Power GFSK mode result is reported since EDR (QPSK/8PSK) has exact same timing.

9.5.1. HIGH POWER BASIC DATA RATE GFSK MODULATION**ANT 2**

DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
GFSK Normal Mode					
DH1	0.367	31	0.114	0.4	-0.286
DH3	1.620	17	0.275	0.4	-0.125
DH5	2.860	12	0.343	0.4	-0.057
GFSK AFH Mode					
DH Packet	Pulse Width (sec)	Number of Pulses in 0.8 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
DH1	0.367	7.75	0.028	0.4	-0.372
DH3	1.62	4.25	0.069	0.4	-0.331
DH5	2.86	3	0.086	0.4	-0.314



PULSE WIDTH – DH1



PULSE WIDTH – DH3



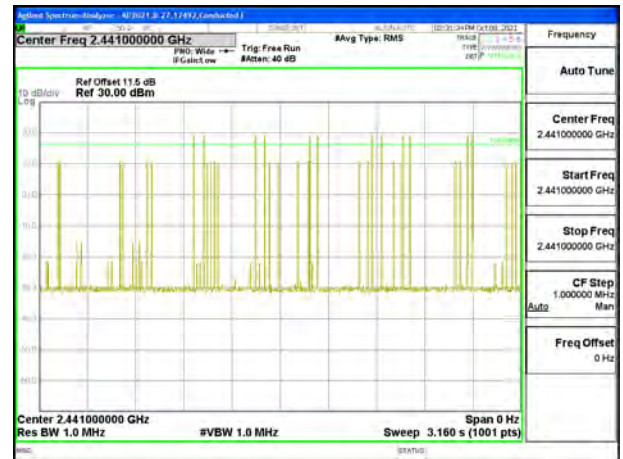
PULSE WIDTH – DH5



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH1



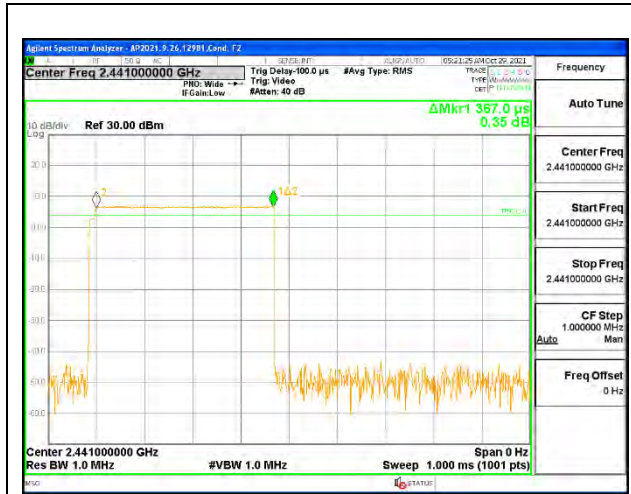
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH3



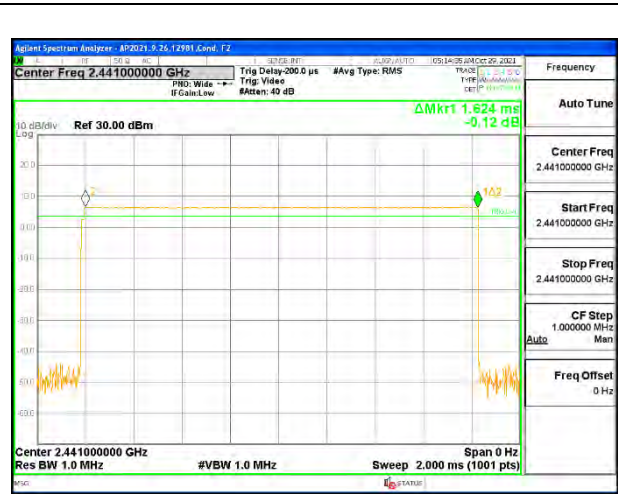
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH5

ANT 3

DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
GFSK Normal Mode					
DH1	0.367	31	0.114	0.4	-0.286
DH3	1.624	16	0.260	0.4	-0.140
DH5	2.860	10	0.286	0.4	-0.114
GFSK AFH Mode					
DH Packet	Pulse Width (sec)	Number of Pulses in 0.8 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
DH1	0.367	7.75	0.028	0.4	-0.372
DH3	1.624	4.00	0.065	0.4	-0.335
DH5	2.860	2.50	0.072	0.4	-0.329



PULSE WIDTH – DH1



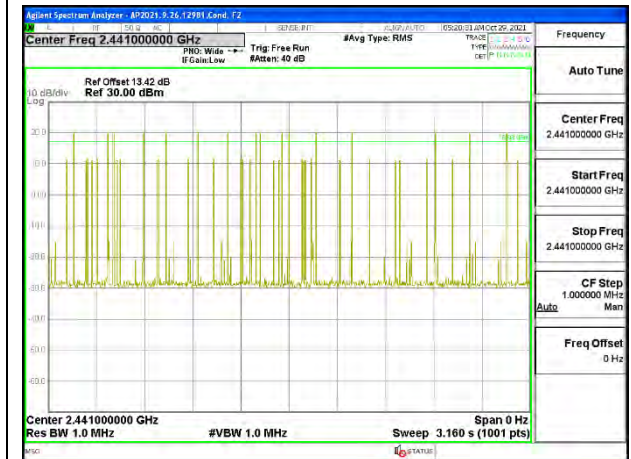
PULSE WIDTH – DH3



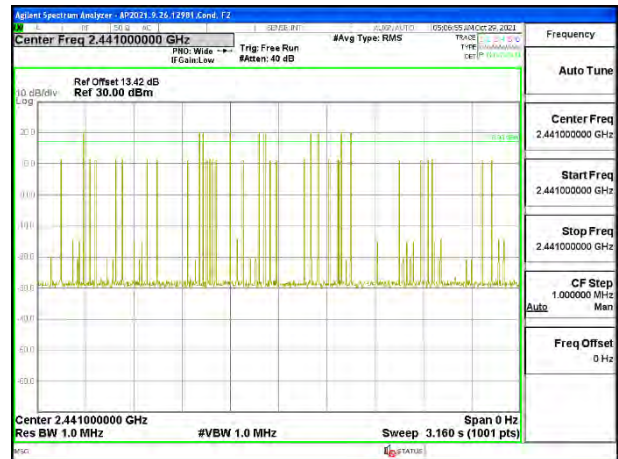
PULSE WIDTH – DH5



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH1



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH3



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH5

9.6. OUTPUT POWER

LIMITS

§15.247 (b) (1)

RSS-247 (5.4) (b)

The maximum antenna gain is less than 6 dBi, therefore the limit is 30 dBm. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts

TEST PROCEDURE

Measurements was perform using a power meter with wideband peak power sensor.

The power output was measured on the EUT antenna port using SMA cable with 10dB attenuator connected to a power meter via wideband peak power sensor. Peak output power was read directly from the power meter.

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 due to the device supporting Beamforming. The directional gains are as follows:

	ANT 2	ANT 3	Correlated Chains
Band (GHz)	Gain (dBi)	Gain (dBi)	Directional Gain (dBi)
2.4	2.60	-0.30	4.28

RESULTS

9.6.1. HIGH POWER BASIC DATA RATE GFSK MODULATION

ANT 2

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	17.28	21	-3.72
Middle	2441	17.92	21	-3.08
High	2480	17.31	21	-3.69

ANT 3

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	20.37	21	-0.63
Middle	2441	20.40	21	-0.6
High	2480	20.35	21	-0.65

9.6.2. HIGH POWER BASIC DATA RATE TXBF GFSK MODULATION

ANT 2 + ANT 3

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power ANT 2 (dBm)	Output Power ANT 3 (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	17.33	17.34	20.35	21	-0.65
Middle	2441	17.35	17.38	20.38	21	-0.62
High	2480	17.31	17.32	20.33	21	-0.67

9.6.3. HIGH POWER ENHANCED DATA RATE QPSK MODULATION

ANT 2

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	16.47	21	-4.53
Middle	2441	16.49	21	-4.51
High	2480	16.42	21	-4.58

ANT 3

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	16.40	21	-4.6
Middle	2441	16.42	21	-4.58
High	2480	16.35	21	-4.65

9.6.4. HIGH POWER ENHANCED DATA RATE TXBF QPSK MODULATION

ANT 2 + ANT 3

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power ANT 2 (dBm)	Output Power ANT 3 (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	15.94	15.85	18.91	21	-2.09
Middle	2441	15.96	15.87	18.93	21	-2.07
High	2480	15.89	15.81	18.86	21	-2.14

9.6.5. HIGH POWER ENHANCED DATA RATE 8PSK MODULATION**ANT 2**

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	16.86	21	-4.14
Middle	2441	16.89	21	-4.11
High	2480	16.83	21	-4.17

ANT 3

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	16.73	21	-4.27
Middle	2441	16.76	21	-4.24
High	2480	16.72	21	-4.28

9.6.6. HIGH POWER ENHANCED DATA RATE TXBF 8PSK MODULATION**ANT 2 + ANT 3**

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power ANT 2 (dBm)	Output Power ANT 3 (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	16.23	16.22	19.24	21	-1.76
Middle	2441	16.26	16.24	19.26	21	-1.74
High	2480	16.19	16.20	19.21	21	-1.79

9.6.7. LOW POWER BASIC DATA RATE GFSK MODULATION**ANT 2**

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	11.98	21	-9.02
Middle	2441	12.04	21	-8.96
High	2480	11.96	21	-9.04

ANT 3

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	11.45	21	-9.55
Middle	2441	11.47	21	-9.53
High	2480	11.40	21	-9.6

9.6.8. LOW POWER BASIC DATA RATE TXBF GFSK MODULATION**ANT 2 + ANT 3**

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power ANT 2 (dBm)	Output Power ANT 3 (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	11.86	11.43	14.66	21	-6.34
Middle	2441	11.88	11.56	14.73	21	-6.27
High	2480	11.80	11.41	14.62	21	-6.38

9.6.9. LOW POWER ENHANCED DATA RATE QPSK MODULATION**ANT 2**

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	11.46	21	-9.54
Middle	2441	11.60	21	-9.4
High	2480	11.41	21	-9.59

ANT 3

Tested By:	44366
Date:	11/2/2/021

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	10.90	21	-10.1
Middle	2441	11.16	21	-9.84
High	2480	10.89	21	-10.11

9.6.10. LOW POWER ENHANCED DATA RATE TXBF QPSK MODULATION**ANT 2 + ANT 3**

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power ANT 2 (dBm)	Output Power ANT 3 (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	10.5	11.10	13.82	21	-7.18
Middle	2441	11.75	11.19	14.49	21	-6.51
High	2480	11.24	11.10	14.18	21	-6.82

9.6.11. LOW POWER ENHANCED DATA RATE 8PSK MODULATION

ANT 2

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	10.52	21	-10.48
Middle	2441	11.74	21	-9.26
High	2480	11.27	21	-9.73

ANT 3

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	11.05	21	-9.95
Middle	2441	11.20	21	-9.8
High	2480	11.03	21	-9.97

9.6.12. LOW POWER ENHANCED DATA RATE TXBF 8PSK MODULATION

ANT 2 + ANT 3

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Output Power ANT 2 (dBm)	Output Power ANT 3 (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	10.63	11.20	13.93	21	-7.07
Middle	2441	11.82	11.22	14.54	21	-6.46
High	2480	11.33	11.16	14.26	21	-6.74

9.7. AVERAGE POWER

LIMITS

None; for reporting purposes only

TEST PROCEDURE

Measurements was performed using a power meter with wideband average power sensor.

The power output was measured on the EUT antenna port using SMA cable with 10dB attenuator connected to a power meter via wideband average power sensor. Gated average output power was read directly from power meter.

RESULTS

9.7.1. HIGH POWER BASIC DATA RATE GFSK MODULATION

ANT 2

Tested By:	44366
Date	1/24/2022

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	16.80
Middle	2441	16.90
High	2480	16.84

ANT 3

Tested By:	44366
Date	11/2/2021

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	19.89
Middle	2441	19.92
High	2480	19.87

9.7.2. HIGH POWER BASIC DATA RATE TXBF GFSK MODULATION

ANT 2 + ANT 3

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Average Power ANT 2 (dBm)	Average Power ANT 3 (dBm)	Total Power (dBm)
Low	2402	16.89	16.90	19.91
Middle	2441	16.92	16.94	19.94
High	2480	16.87	16.88	19.89

9.7.3. HIGH POWER ENHANCED DATA RATE QPSK MODULATION**ANT 2**

Tested By:	44366
Date	11/2/2021

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	13.81
Middle	2441	13.82
High	2480	13.77

ANT 3

Tested By:	44366
Date	11/2/2021

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	13.74
Middle	2441	13.76
High	2480	13.71

9.7.4. HIGH POWER BASIC DATA RATE TXBF QPSK MODULATION**ANT 2 + ANT 3**

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Average Power ANT 2 (dBm)	Average Power ANT 3 (dBm)	Total Power (dBm)
Low	2402	13.35	13.30	16.34
Middle	2441	13.37	13.33	16.36
High	2480	13.32	13.27	16.31

9.7.5. HIGH POWER ENHANCED DATA RATE 8PSK MODULATION**ANT 2**

Tested By:	44366
Date	11/2/2021

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	13.93
Middle	2441	13.95
High	2480	13.90

ANT 3

Tested By:	44366
Date	11/2/2021

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	13.81
Middle	2441	13.84
High	2480	13.80

9.7.6. HIGH POWER BASIC DATA RATE TXBF 8PSK MODULATION**ANT 2 + ANT 3**

Tested By:	44366
Date:	11/2/2021

Channel	Frequency (MHz)	Average Power ANT 2 (dBm)	Average Power ANT 3 (dBm)	Total Power (dBm)
Low	2402	13.44	13.41	16.44
Middle	2441	13.46	13.42	16.45
High	2480	13.40	13.38	16.40

9.7.7. LOW POWER BASIC DATA RATE GFSK MODULATION**ANT 2**

Tested By:	44366
Date	11/2/2021

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	11.44
Middle	2441	11.47
High	2480	11.41

ANT 3

Tested By:	44366
Date	1/24/2022

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	10.93
Middle	2441	10.95
High	2480	10.89

9.7.8. LOW POWER BASIC DATA RATE TXBF GFSK MODULATION**ANT 2 + ANT 3**

Tested By:	44366
Date:	1/24/2022

Channel	Frequency (MHz)	Average Power ANT 2 (dBm)	Average Power ANT 3 (dBm)	Total Power (dBm)
Low	2402	11.42	10.89	14.17
Middle	2441	11.44	10.92	14.20
High	2480	11.37	10.86	14.13

9.7.9. LOW POWER ENHANCED DATA RATE QPSK MODULATION**ANT 2**

Tested By:	44366
Date	1/24/2022

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	8.81
Middle	2441	8.89
High	2480	8.75

ANT 3

Tested By:	44366
Date	1/24/2022

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	8.32
Middle	2441	8.46
High	2480	8.22

9.7.10. LOW POWER BASIC DATA RATE TXBF QPSK MODULATION**ANT 2 + ANT 3**

Tested By:	44366
Date:	1/24/2022

Channel	Frequency (MHz)	Average Power ANT 2 (dBm)	Average Power ANT 3 (dBm)	Total Power (dBm)
Low	2402	7.51	8.28	10.92
Middle	2441	8.75	8.38	11.58
High	2480	8.22	8.29	11.27

9.7.11. LOW POWER ENHANCED DATA RATE 8PSK MODULATION

ANT 2

Tested By:	44366
Date	1/24/2022

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	7.73
Middle	2441	8.94
High	2480	8.47

ANT 3

Tested By:	44366
Date	1/24/2022

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	8.36
Middle	2441	8.48
High	2480	8.34

9.7.12. LOW POWER BASIC DATA RATE TXBF 8PSK MODULATION

ANT 2 + ANT 3

Tested By:	44366
Date:	1/24/2022

Channel	Frequency (MHz)	Average Power ANT 2 (dBm)	Average Power ANT 3 (dBm)	Total Power (dBm)
Low	2402	7.64	8.38	11.04
Middle	2441	8.82	8.41	11.63
High	2480	8.31	8.35	11.34

9.8. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

RSS-247 5.5

Limit = -20 dBc

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

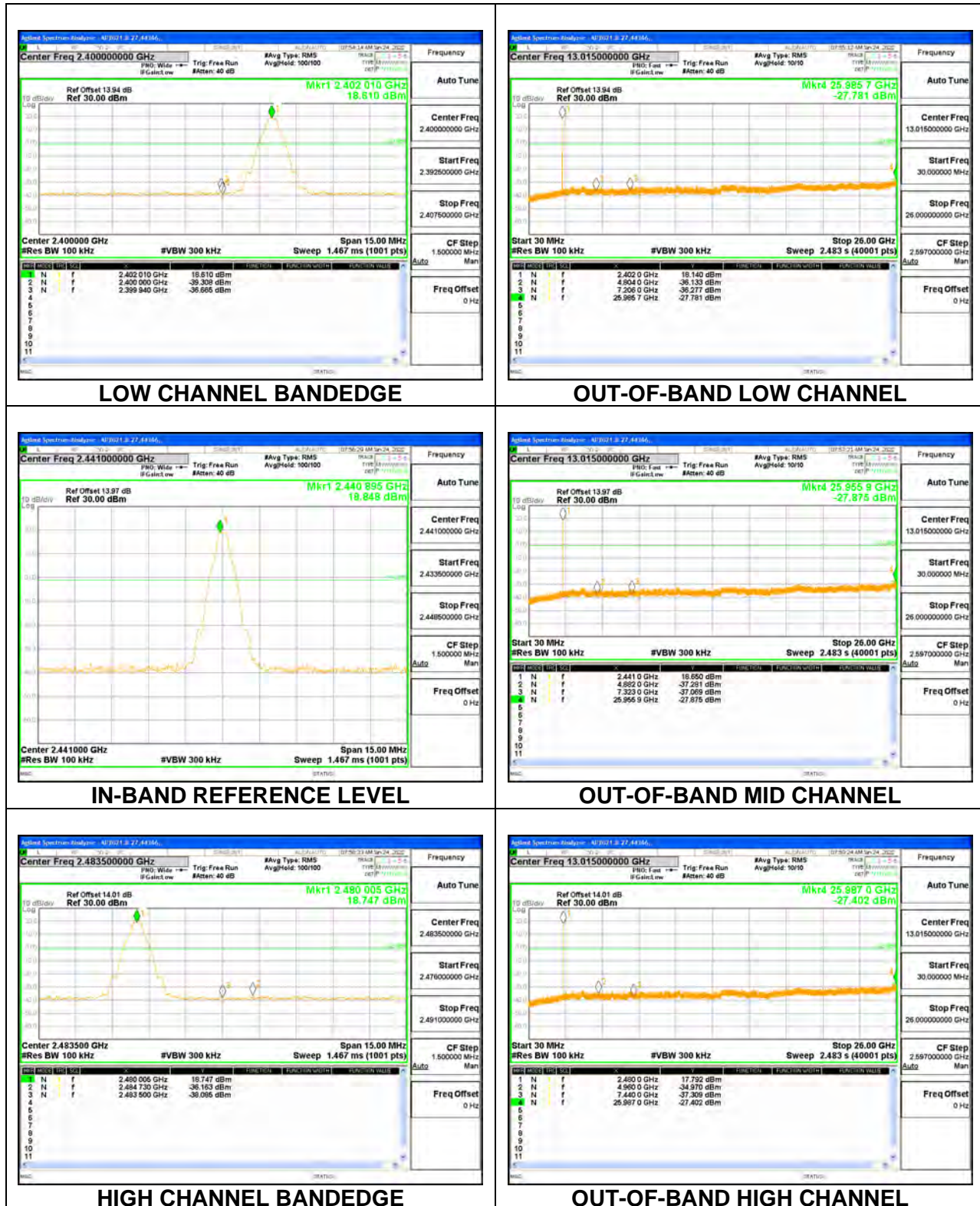
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

The band edges at 2.4 and 2.4835 GHz are investigated with the transmitter set to the normal hopping mode.

RESULTS

9.8.1. HIGH POWER BASIC DATA RATE GFSK MODULATION

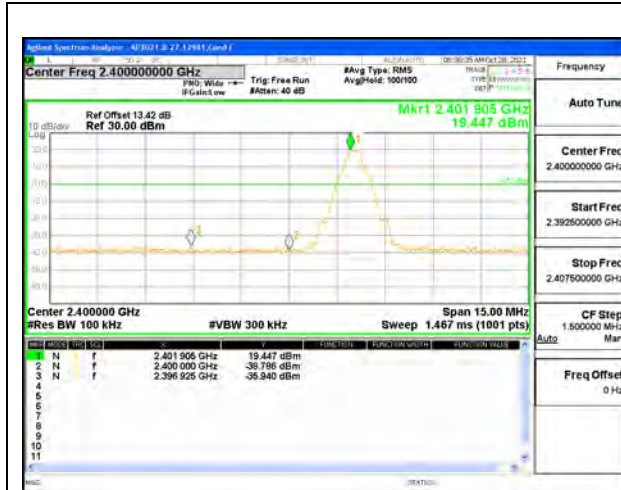
ANT 2 SPURIOUS EMISSIONS, NON-HOPPING



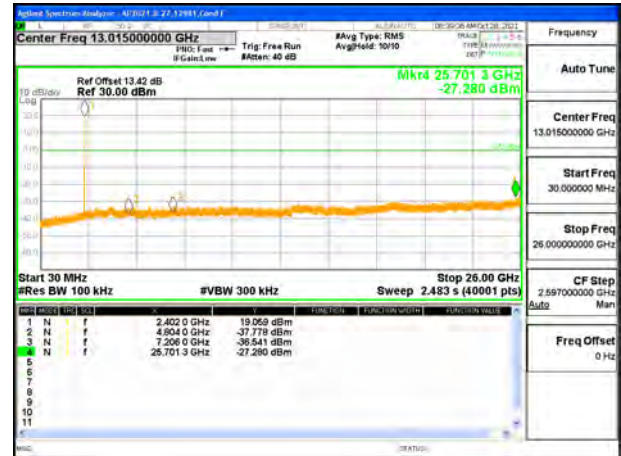
ANT 2 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



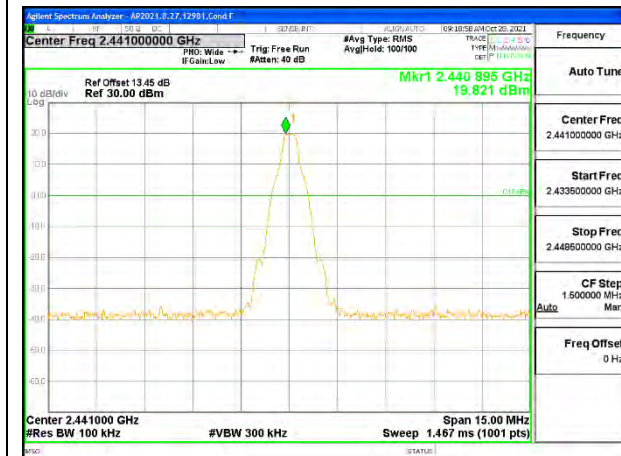
ANT 3 SPURIOUS EMISSIONS, NON-HOPPING



LOW CHANNEL BANDEDGE



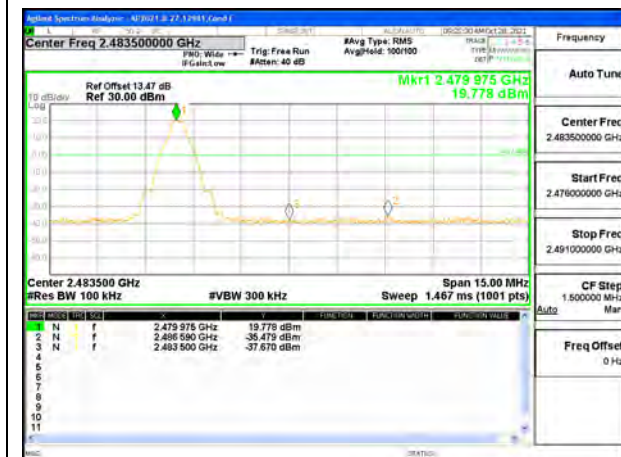
OUT-OF-BAND LOW CHANNEL



IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL

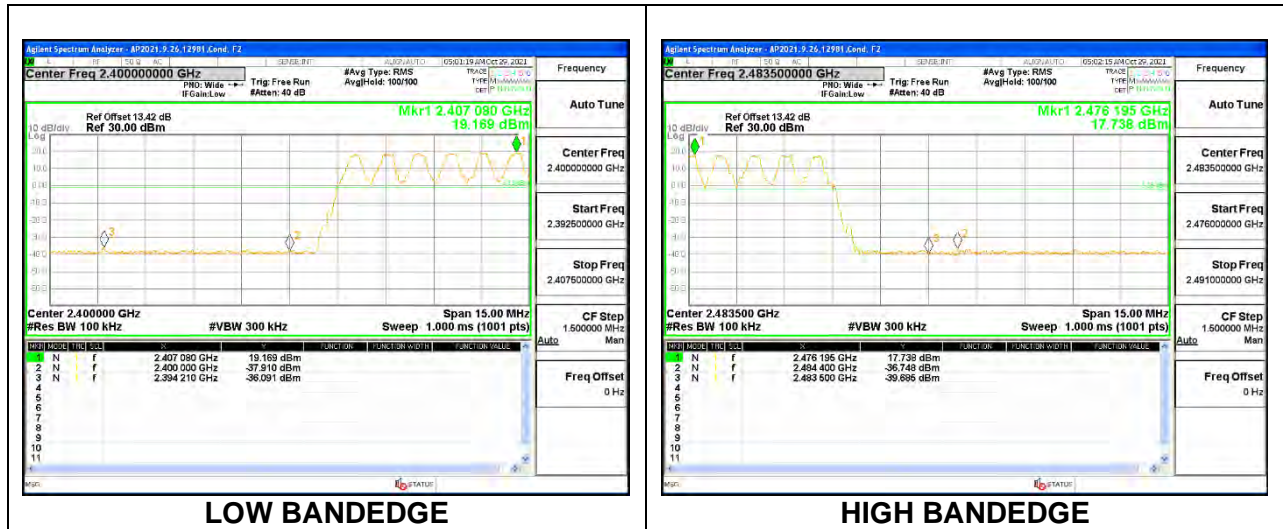


HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

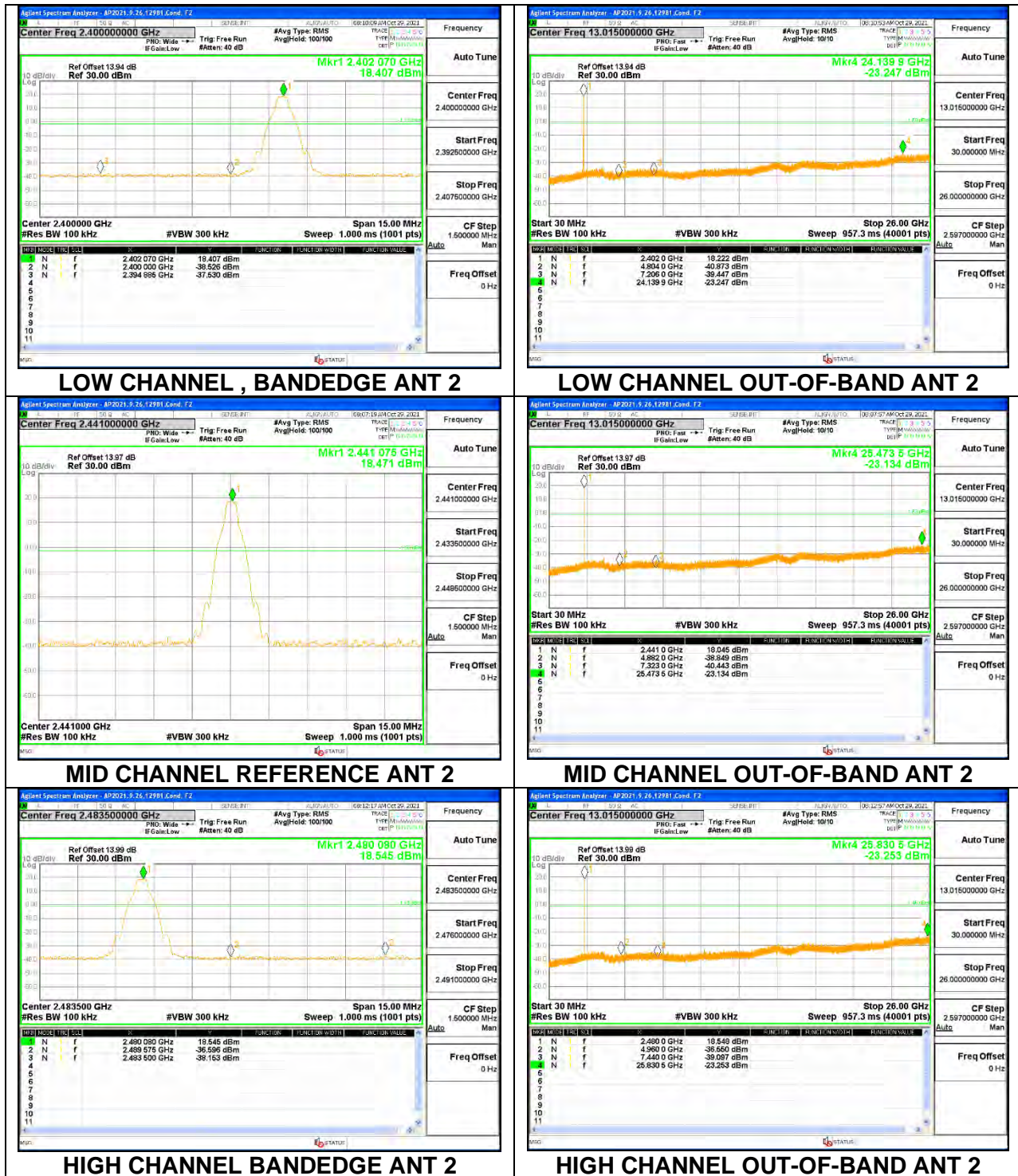
ANT 3 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



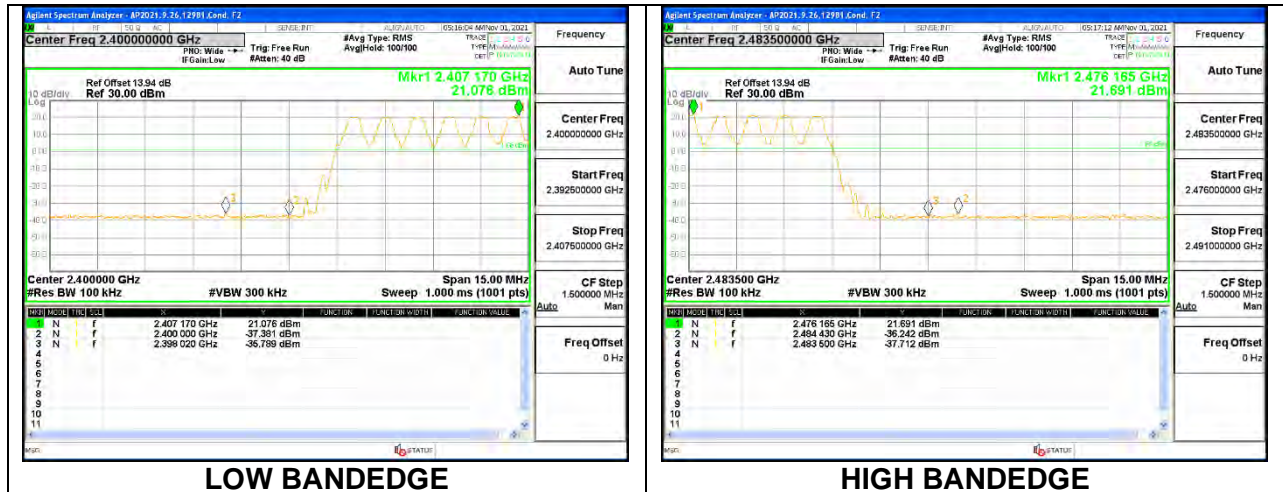
9.8.2. HIGH POWER BASIC DATA RATE TXBF GFSK MODULATION

Note: Test procedure on beamforming mode is same as BT basic and EDR mode

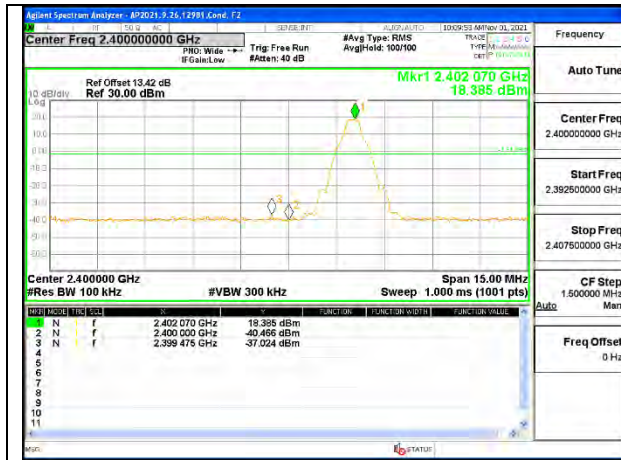
ANT 2 SPURIOUS EMISSIONS, NON-HOPPING



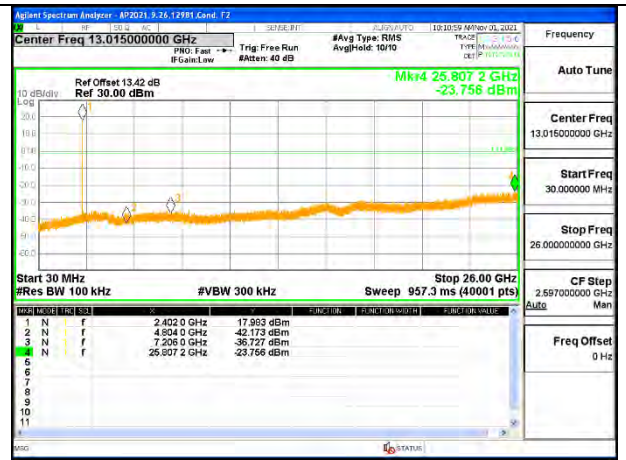
ANT 2 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



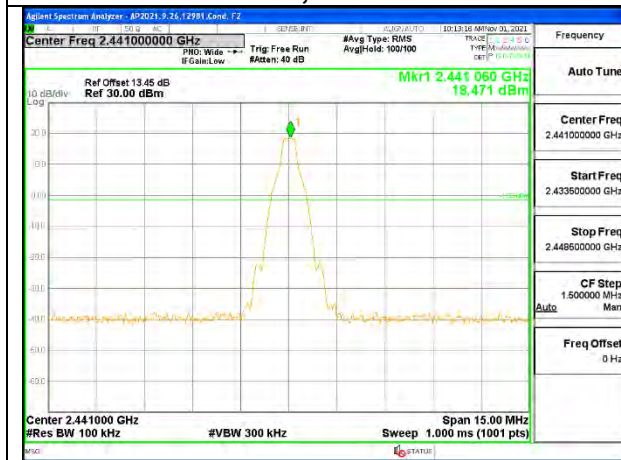
ANT 3 SPURIOUS EMISSIONS, NON-HOPPING



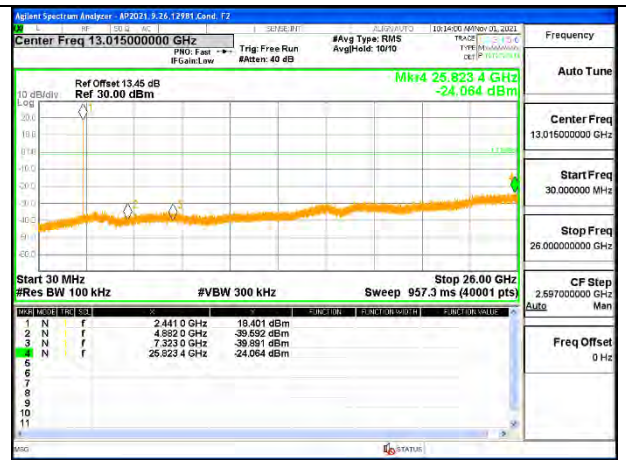
LOW CHANNEL , BANDEDGE ANT 3



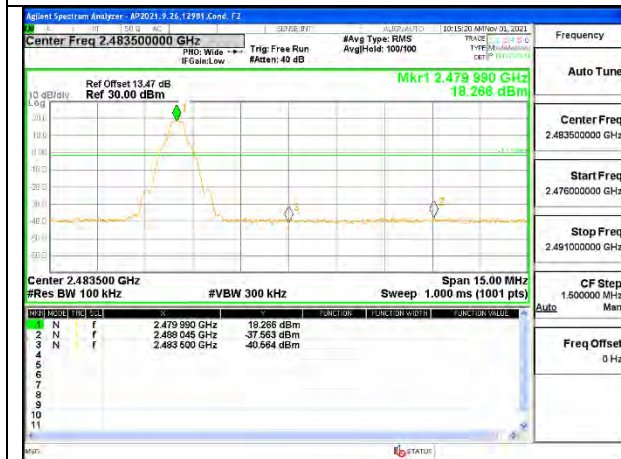
LOW CHANNEL OUT-OF-BAND ANT 3



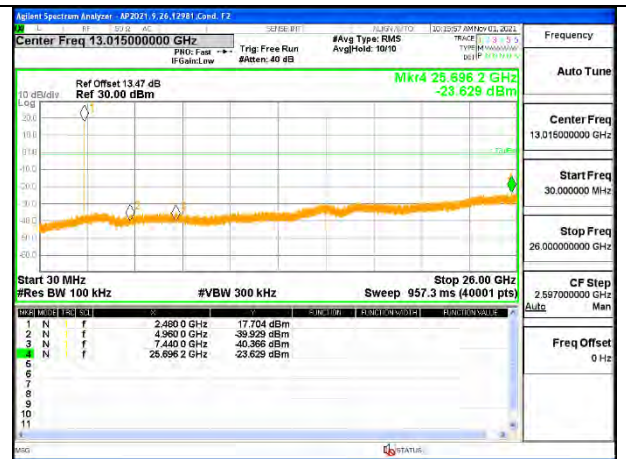
MID CHANNEL REFERENCE ANT 3



MID CHANNEL OUT-OF-BAND ANT 3

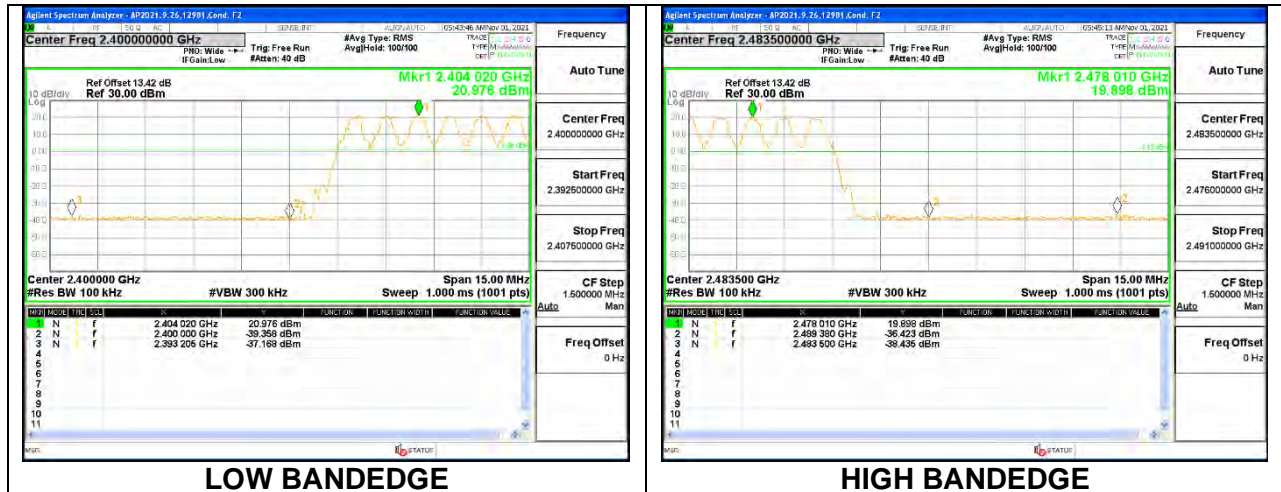


HIGH CHANNEL BANDEDGE ANT 3



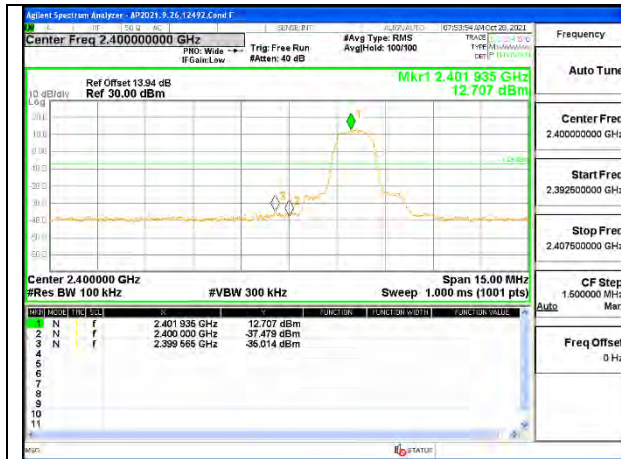
HIGH CHANNEL OUT-OF-BAND ANT 3

ANT 3 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON

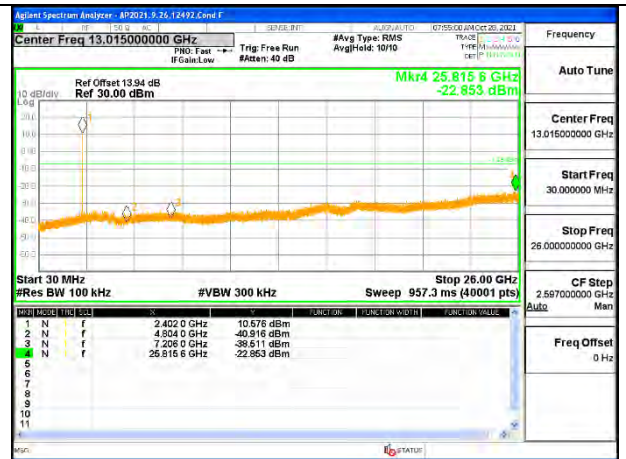


9.8.3. HIGH POWER ENHANCED DATA RATE 8PSK MODULATION

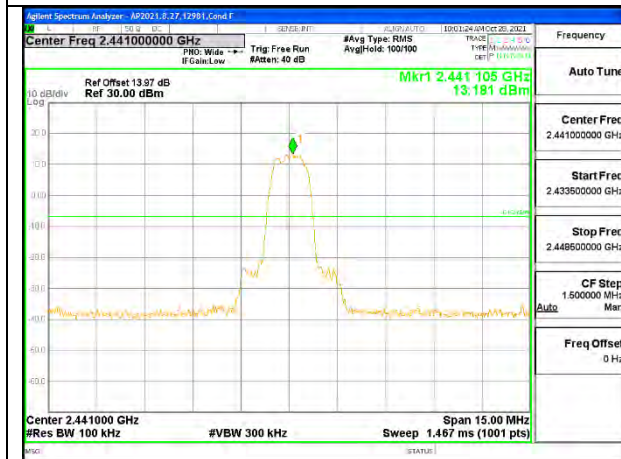
ANT 2 SPURIOUS EMISSIONS, NON-HOPPING



LOW CHANNEL BANDEDGE



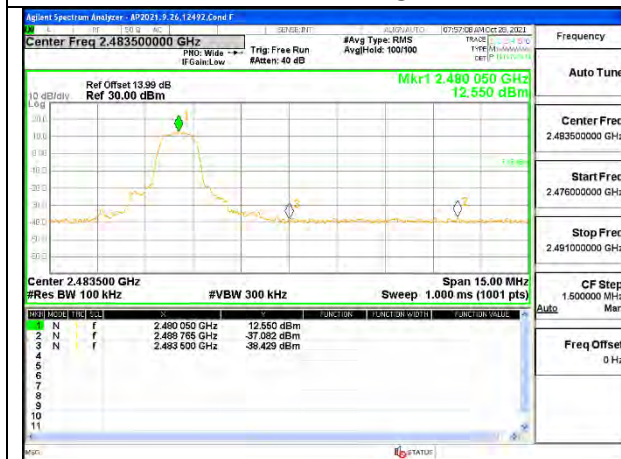
OUT-OF-BAND LOW CHANNEL



IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL

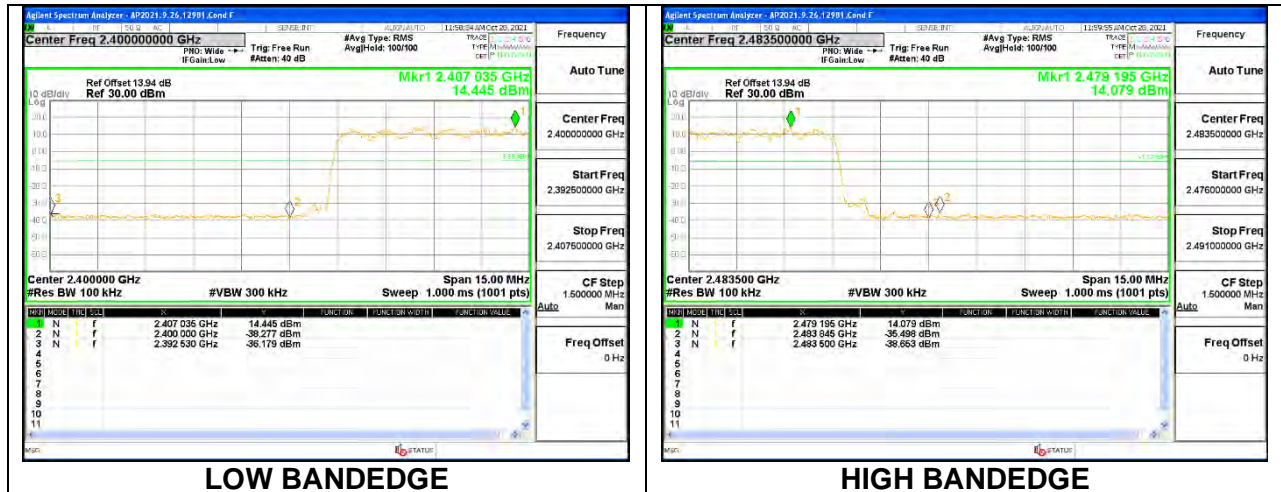


HIGH CHANNEL BANDEDGE

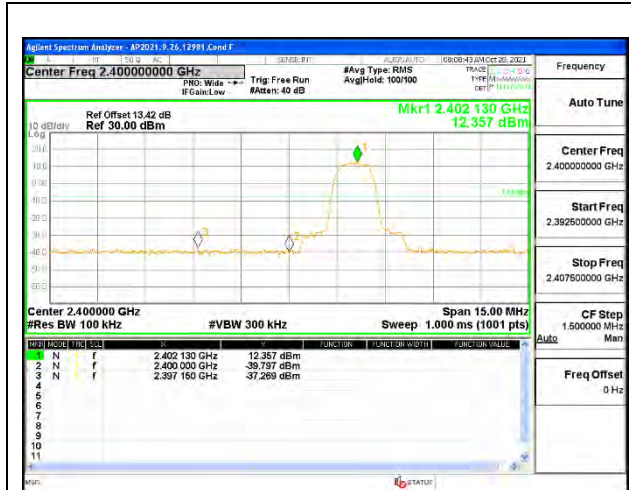


OUT-OF-BAND HIGH CHANNEL

ANT 2 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



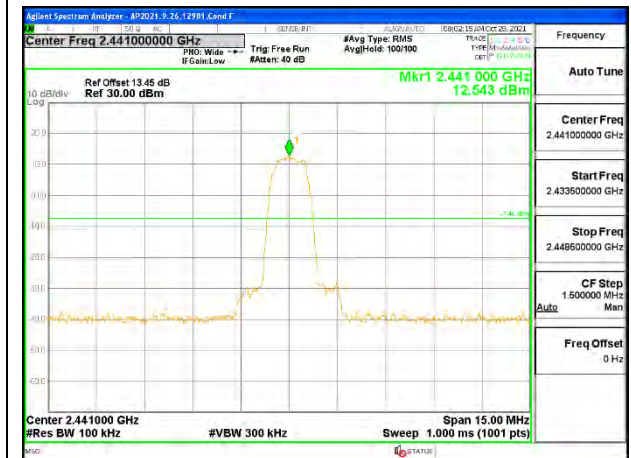
ANT 3 SPURIOUS EMISSIONS, NON-HOPPING



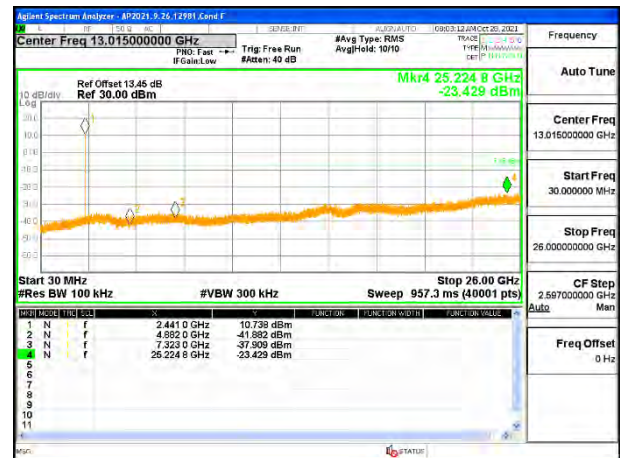
LOW CHANNEL BANDEDGE



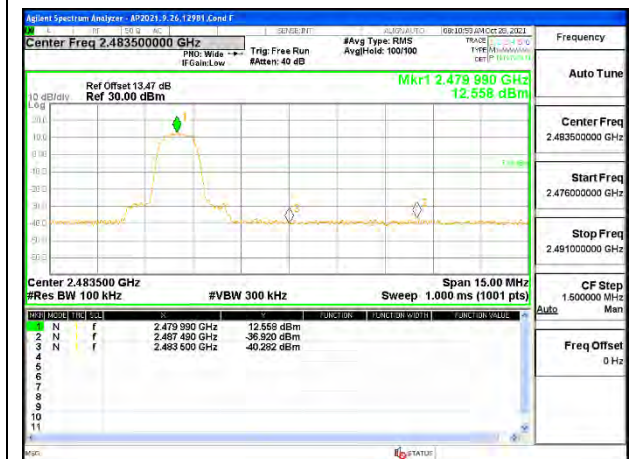
OUT-OF-BAND LOW CHANNEL



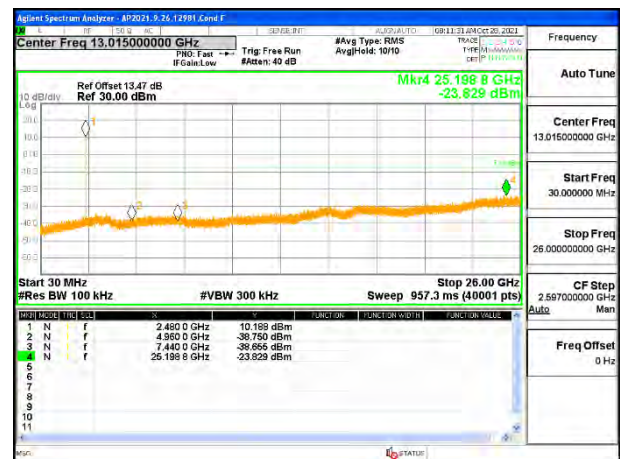
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL

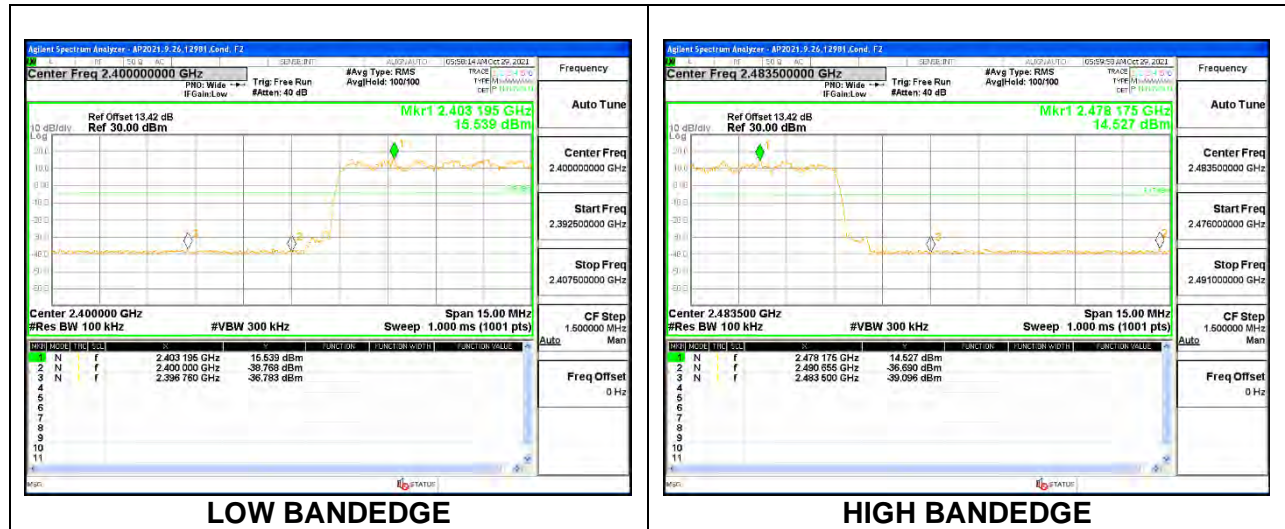


HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

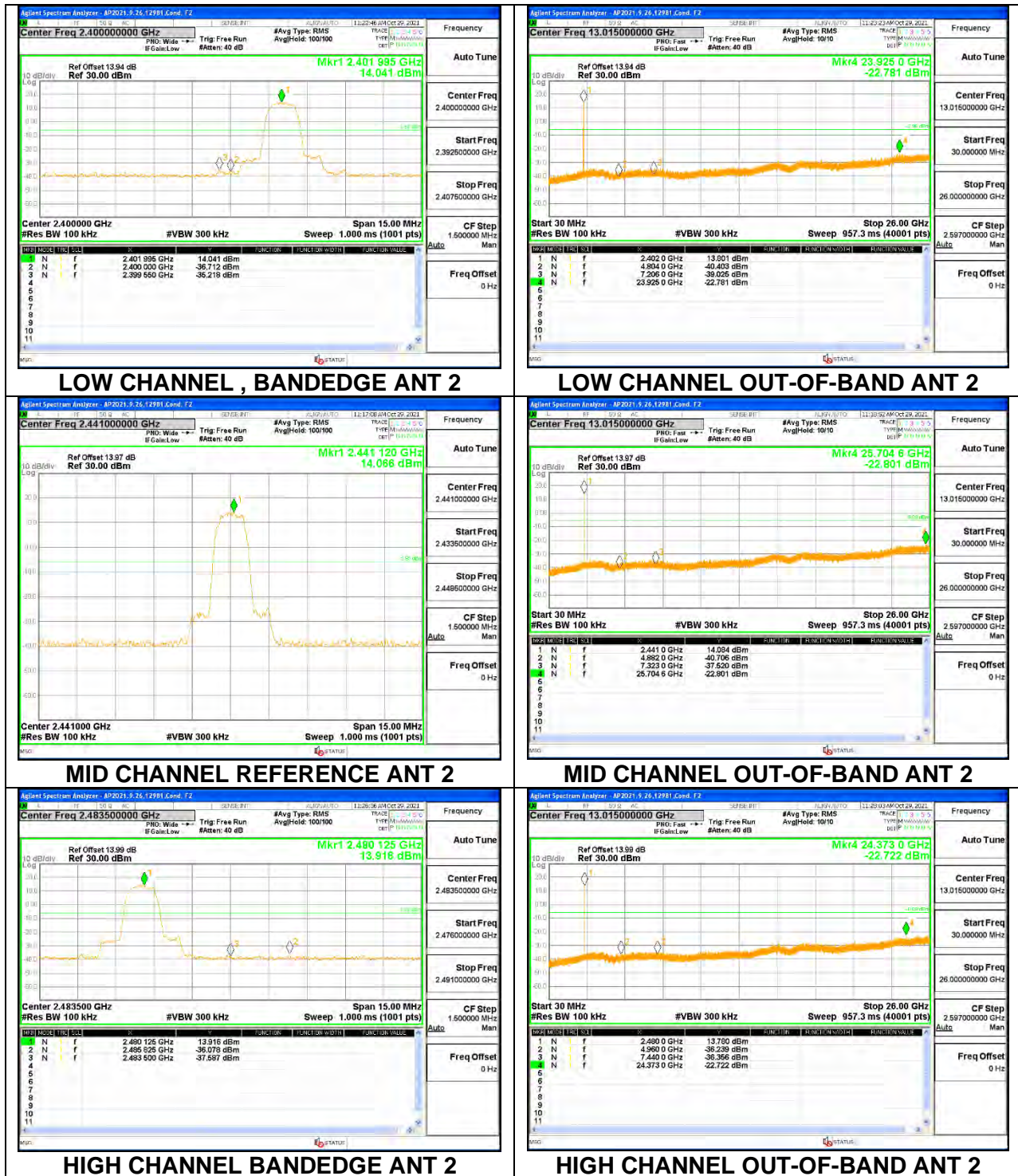
ANT 3 SPURIOUS BANDEGE EMISSIONS WITH HOPPING ON



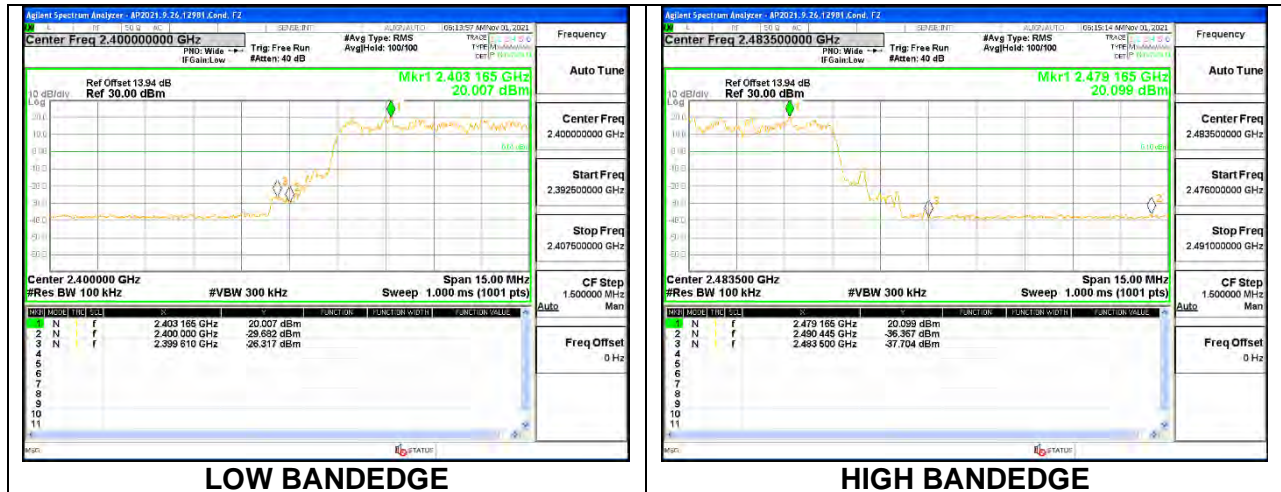
9.8.4. HIGH POWER BASIC DATA RATE TXBF 8PSK MODULATION

Note: Test procedure on beamforming mode is same as BT basic and EDR mode

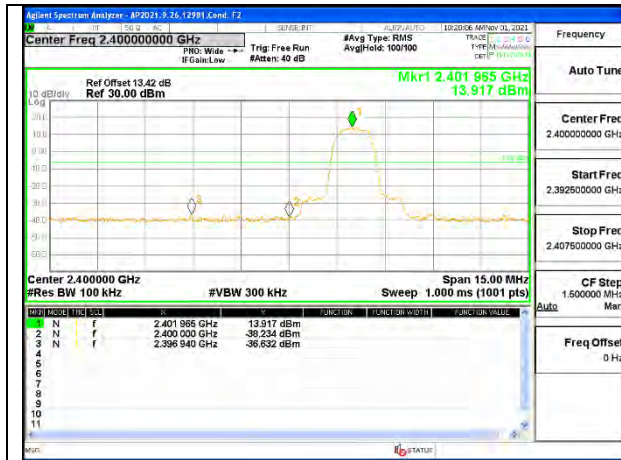
ANT 2 SPURIOUS EMISSIONS, NON-HOPPING



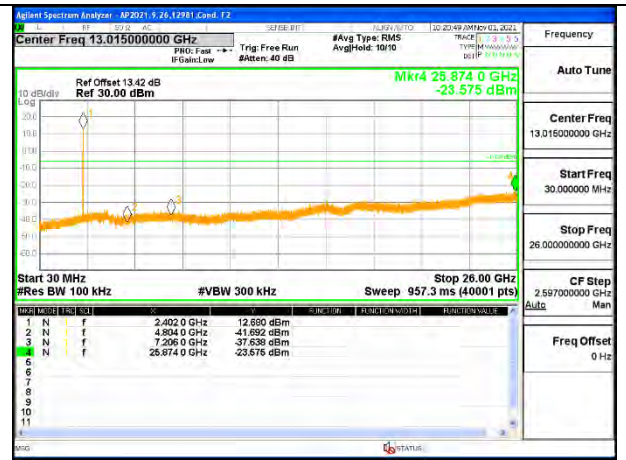
ANT 2 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



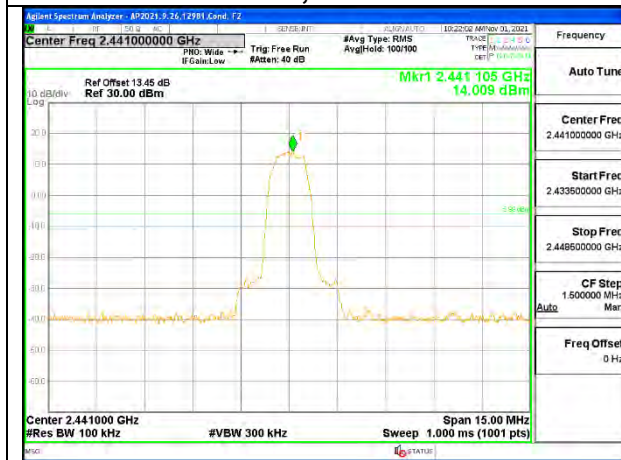
ANT 3 SPURIOUS EMISSIONS, NON-HOPPING



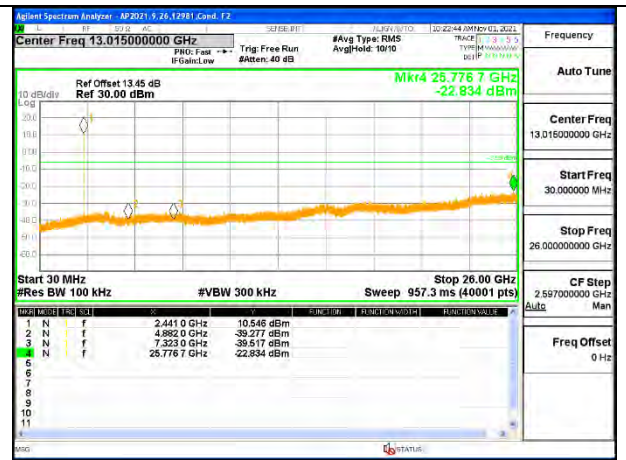
LOW CHANNEL , BANDEDGE ANT 3



LOW CHANNEL OUT-OF-BAND ANT 3



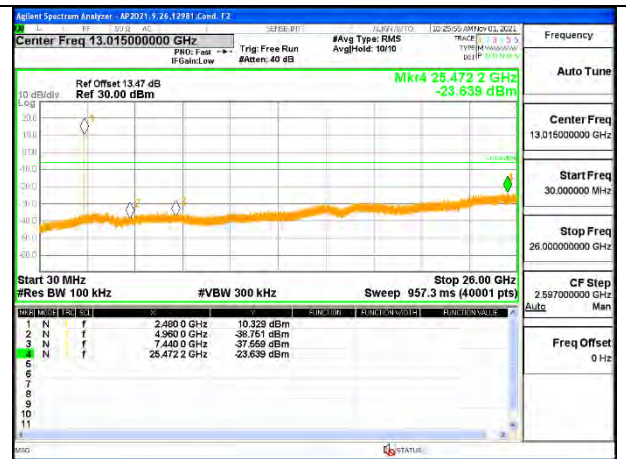
MID CHANNEL REFERENCE ANT 3



MID CHANNEL OUT-OF-BAND ANT 3

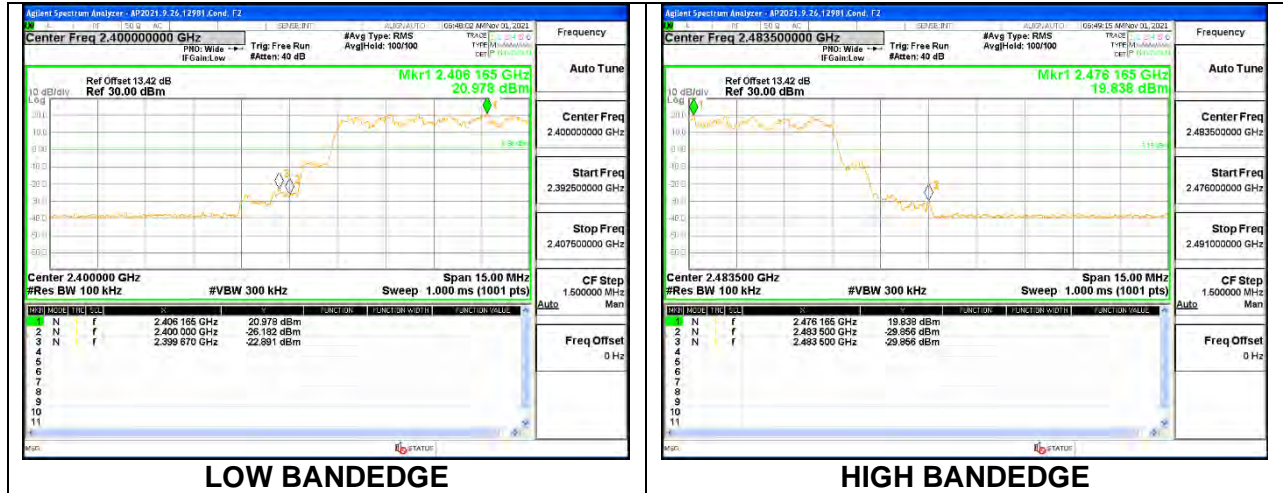


HIGH CHANNEL BANDEDGE ANT 3



HIGH CHANNEL OUT-OF-BAND ANT 3

ANT 3 SPURIOUS BANDEGE EMISSIONS WITH HOPPING ON



9.8.5. LOW POWER BASIC DATA RATE GFSK MODULATION

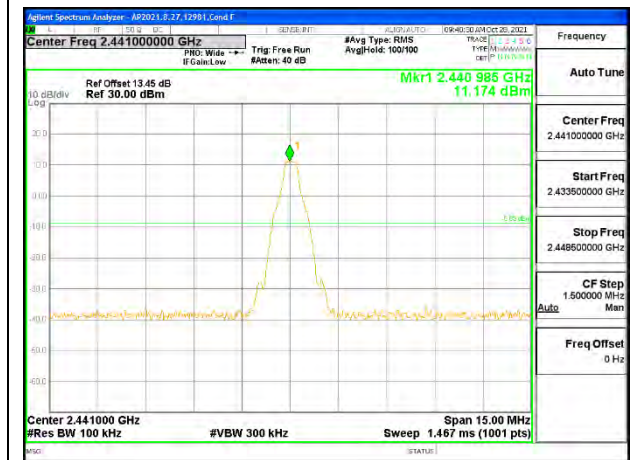
ANT 2 SPURIOUS EMISSIONS, NON-HOPPING



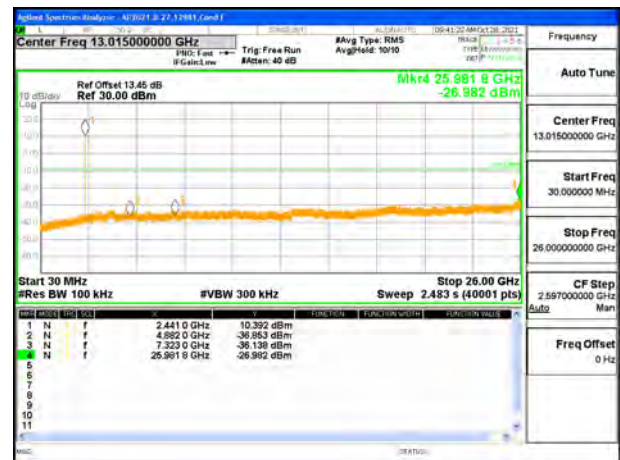
LOW CHANNEL BANDEDGE



OUT-OF-BAND LOW CHANNEL



IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL

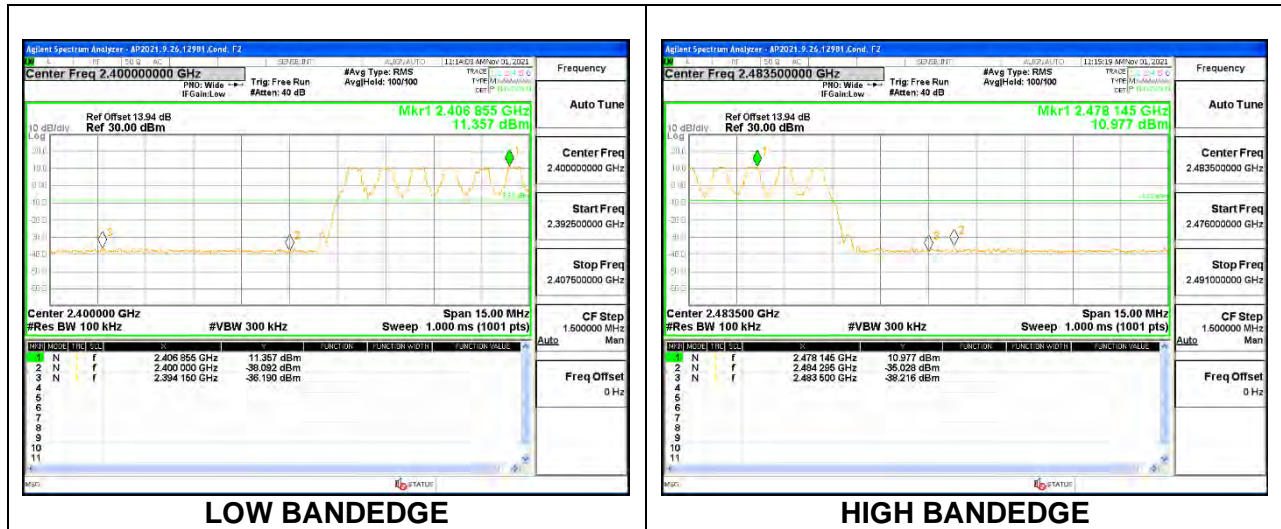


HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

ANT 2 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



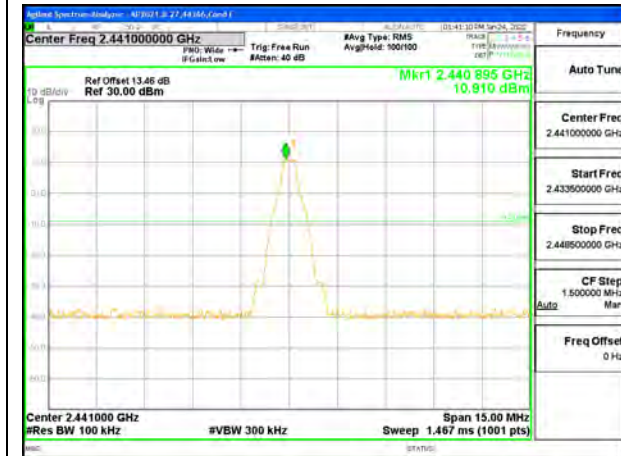
ANT 3 SPURIOUS EMISSIONS, NON-HOPPING



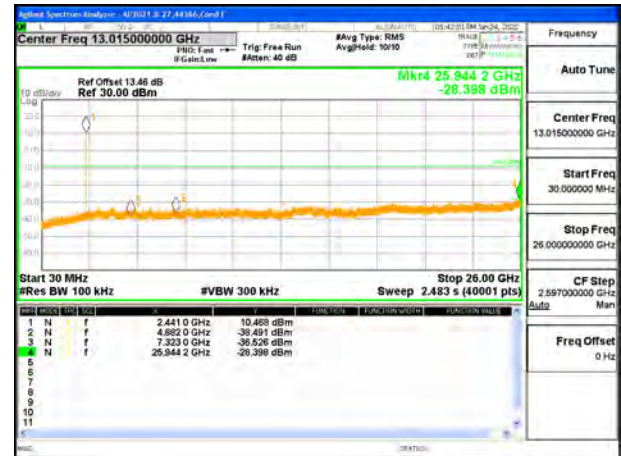
LOW CHANNEL BANDEDGE



OUT-OF-BAND LOW CHANNEL



IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL

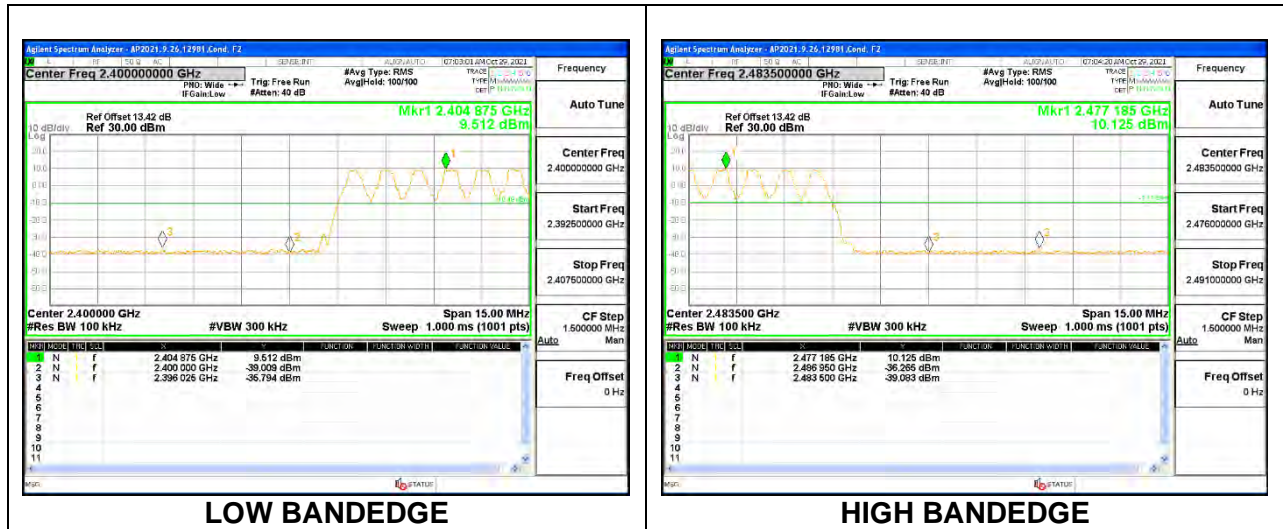


HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

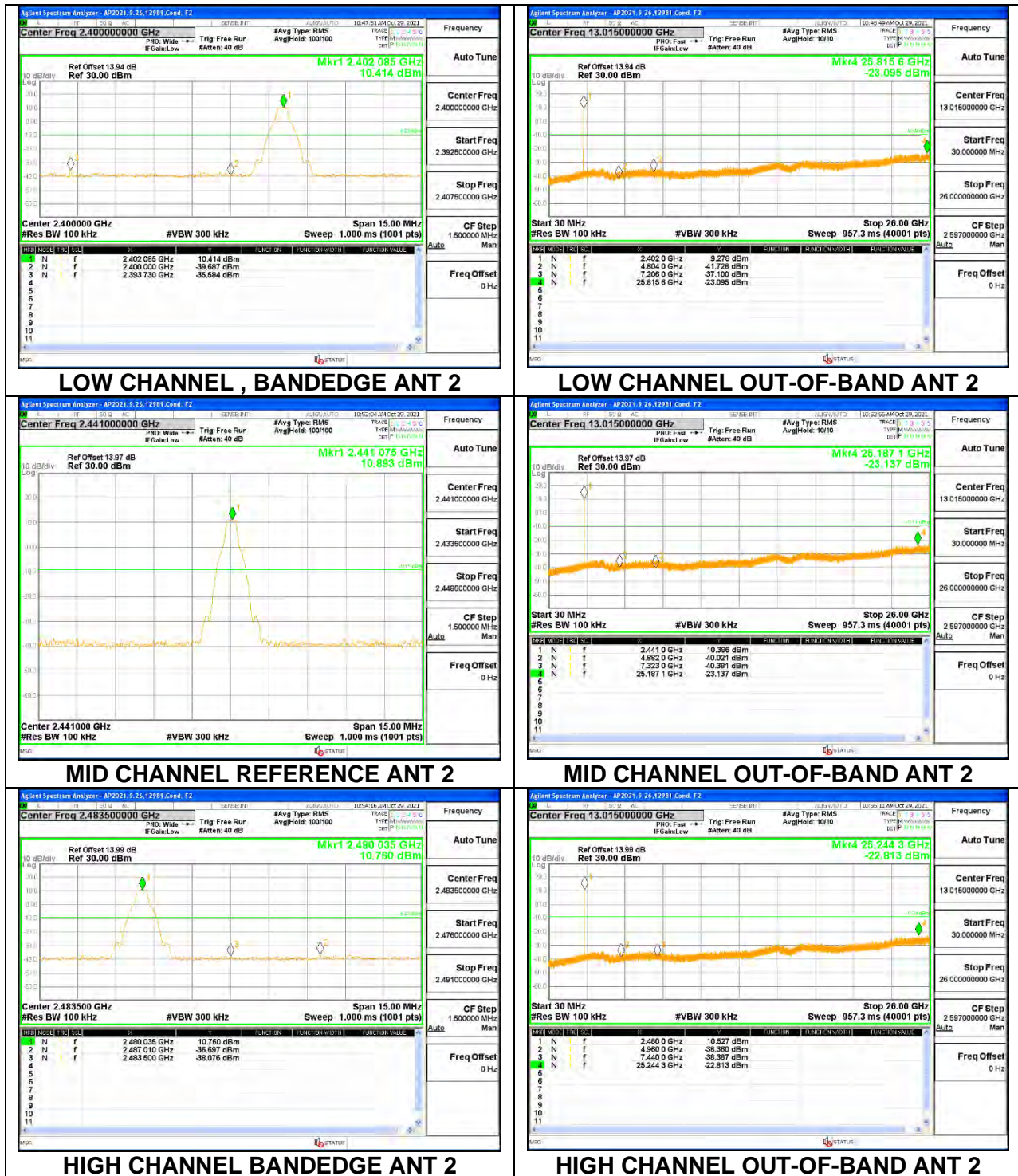
ANT 3 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



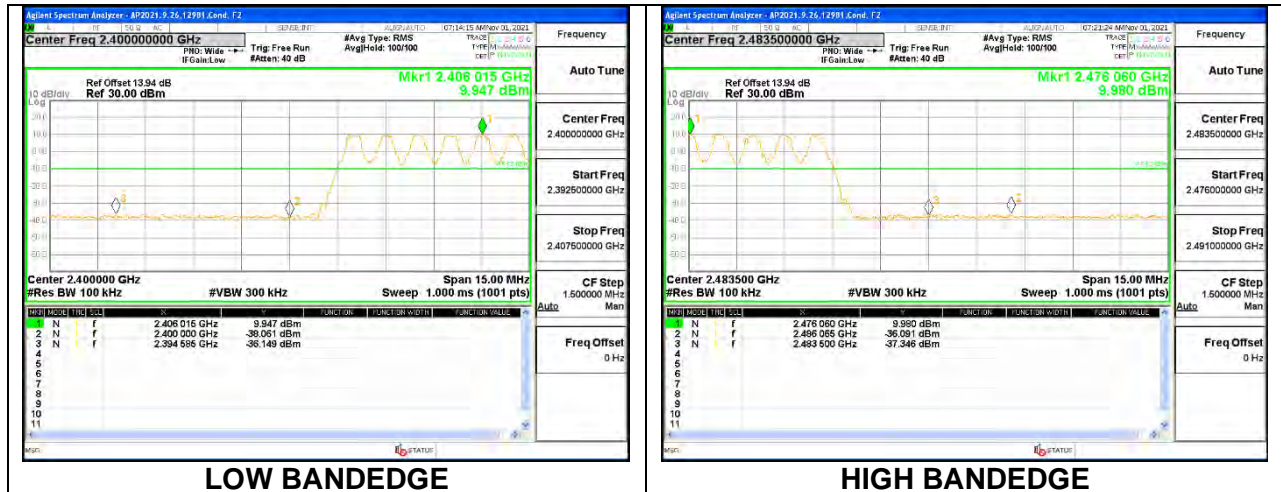
9.8.6. LOW POWER BASIC DATA RATE TXBF GFSK MODULATION

Note: Test procedure on beamforming mode is same as BT basic and EDR mode

ANT 2 SPURIOUS EMISSIONS, NON-HOPPING



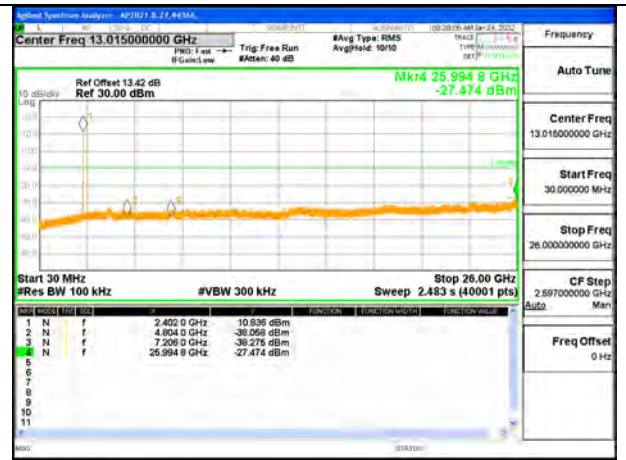
ANT 2 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



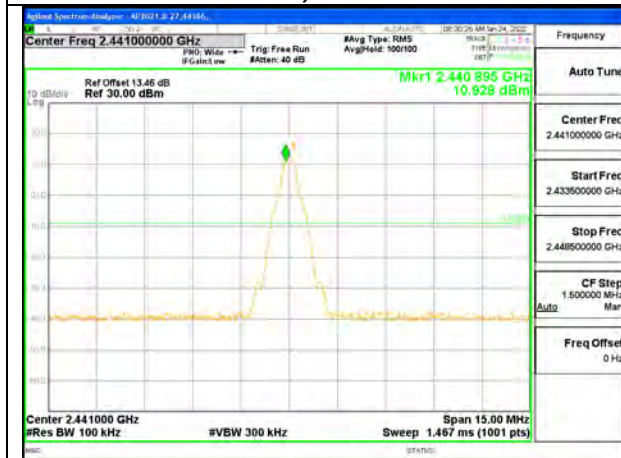
ANT 3 SPURIOUS EMISSIONS, NON-HOPPING



LOW CHANNEL, BANDEDGE ANT 3



LOW CHANNEL OUT-OF-BAND ANT 3



MID CHANNEL REFERENCE ANT 3



MID CHANNEL OUT-OF-BAND ANT 3



HIGH CHANNEL BANDEDGE ANT 3



HIGH CHANNEL OUT-OF-BAND ANT 3

ANT 3 SPURIOUS BANDEGE EMISSIONS WITH HOPPING ON



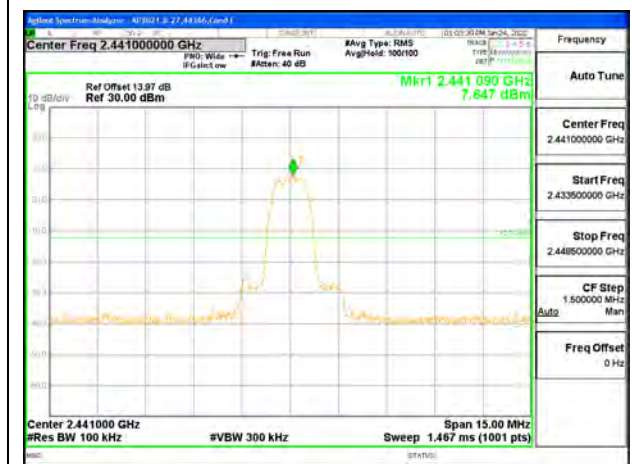
9.8.7. LOW POWER ENHANCED DATA RATE 8PSK MODULATION ANT 2 SPURIOUS EMISSIONS, NON-HOPPING



LOW CHANNEL BANDEDGE



OUT-OF-BAND LOW CHANNEL



IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL

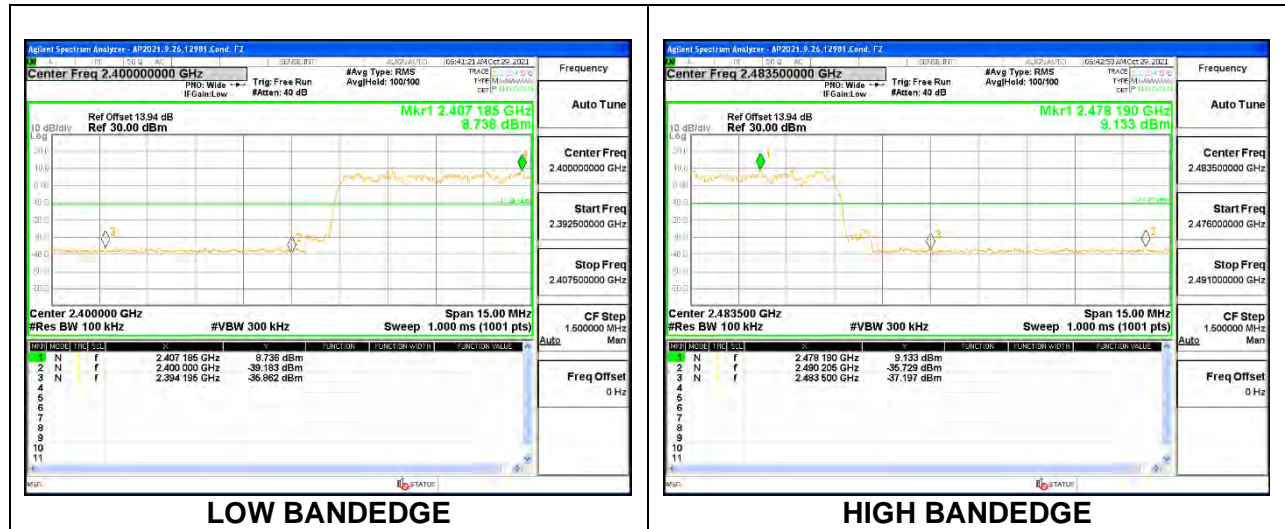


HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

ANT 2 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



ANT 3 SPURIOUS EMISSIONS, NON-HOPPING



LOW CHANNEL BANDEDGE



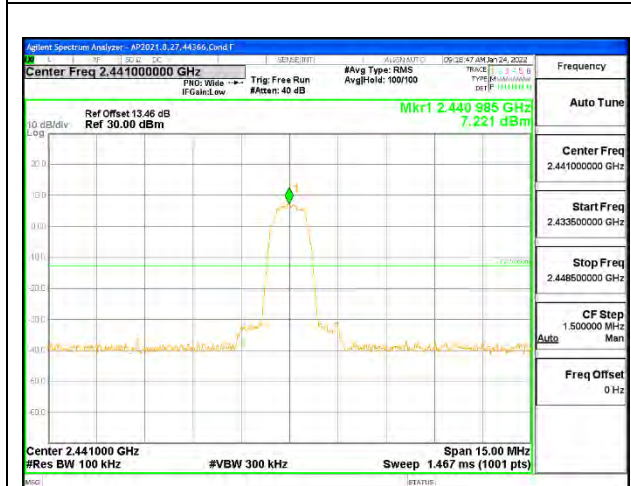
OUT-OF-BAND LOW CHANNEL



IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

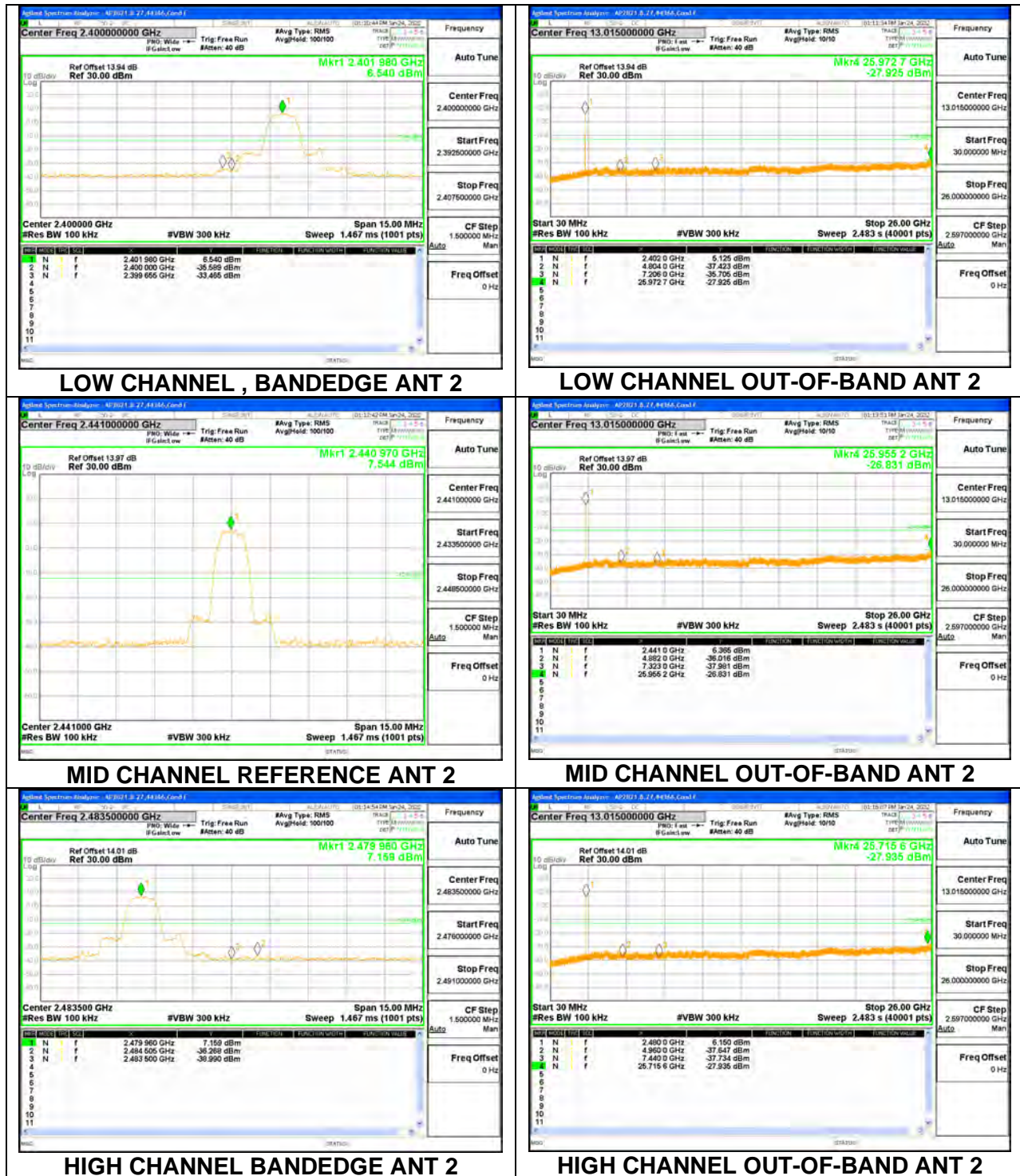
ANT 3 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



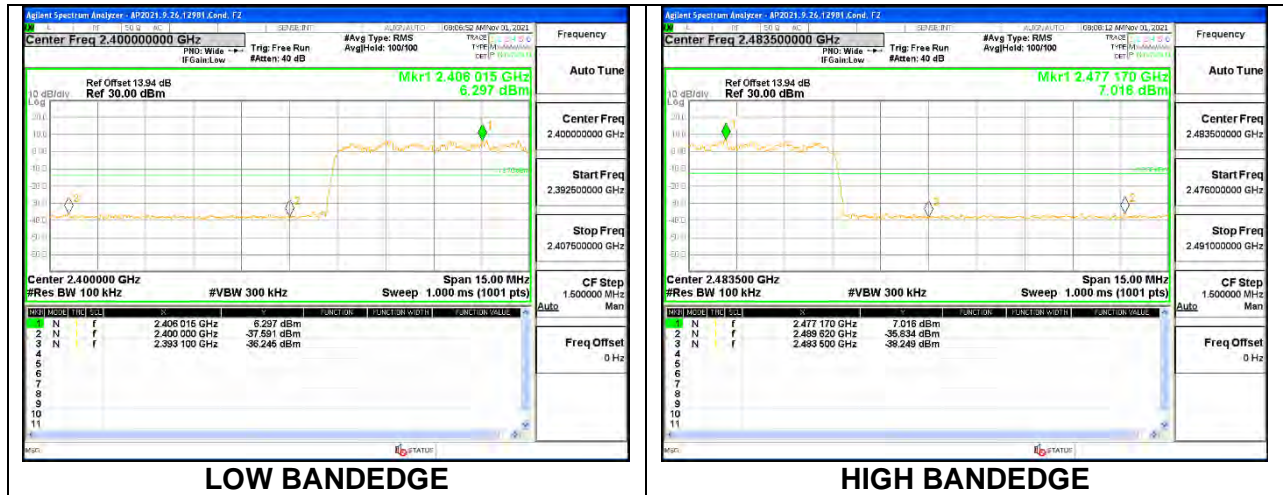
9.8.8. LOW POWER BASIC DATA RATE TXBF 8PSK MODULATION

Note: Test procedure on beamforming mode is same as BT basic and EDR mode

ANT 2 SPURIOUS EMISSIONS, NON-HOPPING



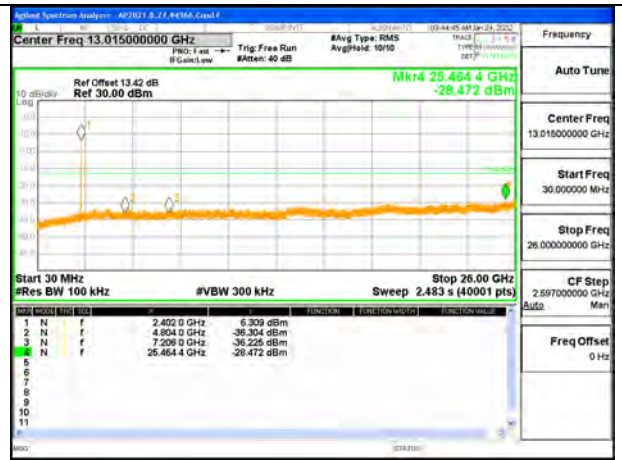
ANT 2 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



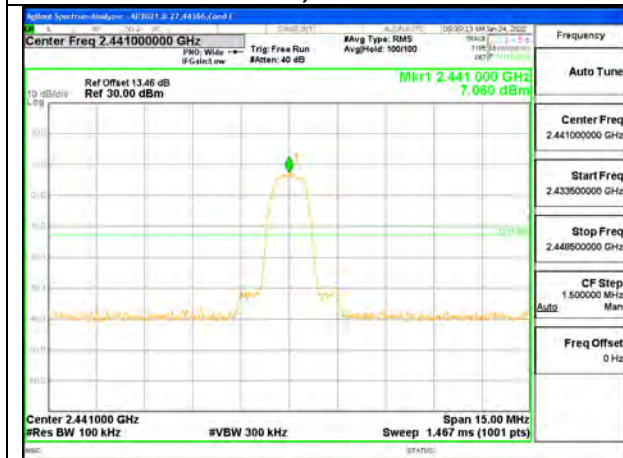
ANT 3 SPURIOUS EMISSIONS, NON-HOPPING



LOW CHANNEL , BANDEDGE ANT 3



LOW CHANNEL OUT-OF-BAND ANT 3



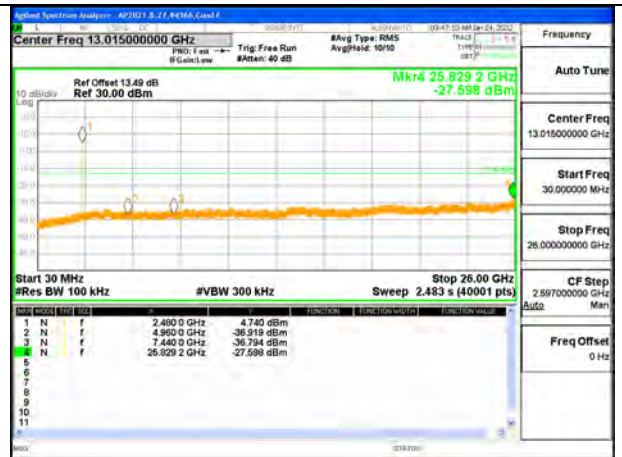
MID CHANNEL REFERENCE ANT 3



MID CHANNEL OUT-OF-BAND ANT 3

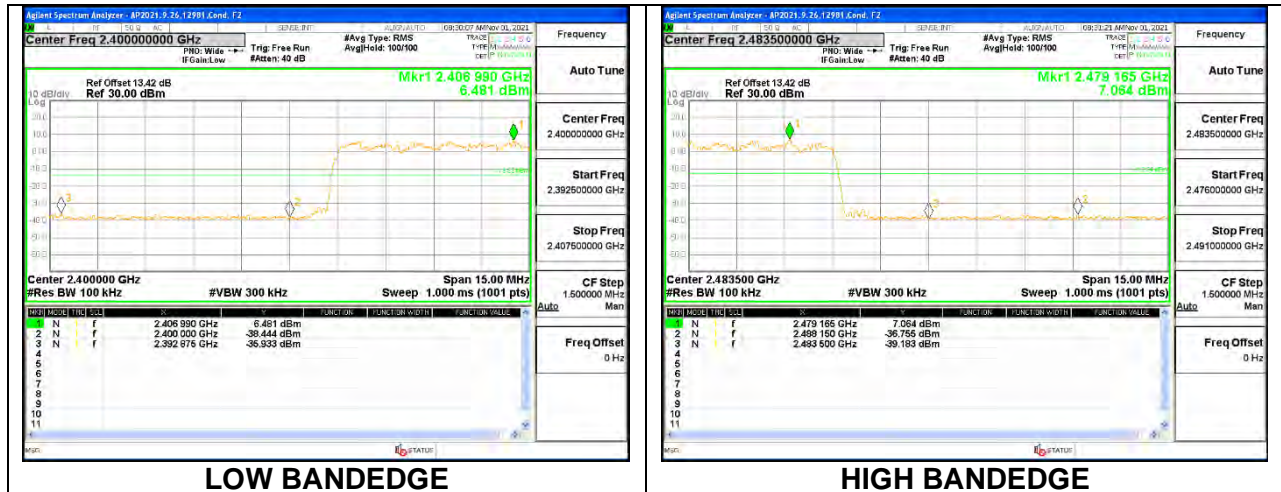


HIGH CHANNEL BANDEDGE ANT 3



HIGH CHANNEL OUT-OF-BAND ANT 3

ANT 3 SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



10. RADIATED TEST RESULTS

LIMITS

FCC §15.205 and §15.209

RSS-GEN, Section 8.9 and 8.10.

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	2400/F(kHz) @ 300 m	-
0.490-1.705	24000/F(kHz) @ 30 m	-
1.705 - 30	30 @ 30m	-
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; 1.5 m 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. Peak detection is used unless otherwise noted as quasi-peak.

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 scans above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T (10 Hz) video bandwidth with peak detector for average measurements.

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. Below 1GHz and above 18GHz emissions, the channel with the highest output power was tested.

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.

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.

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

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

KDB 558074 D01 15.247 Meas Guidance v05r02

Use of a duty cycle correction factor (DCCF) is permitted for calculating average radiated field strength emission levels for an FHSS device in 15.247. This DCCF can be applied when the field strength limit (e.g., within a Government Restricted band) and the conditions specified in Section 15.35(c) can be satisfied. The average radiated field strength is calculated by subtracting the DCCF from the maximum radiated field strength level as determined through measurement. The maximum radiated field strength level represents the worst-case (maximum amplitude) RMS measurement of the emission(s) during continuous transmission (i.e., not including any time intervals during which the transmitter is off or is transmitting at a reduced power level). It is also acceptable to apply the DCCF to a measurement performed with a peak detector instead of the specified RMS power averaging detector. Note that Section 15.35(c) specifies that the DCCF shall represent the worst-case (greatest duty cycle) over any 100 msec transmission period.

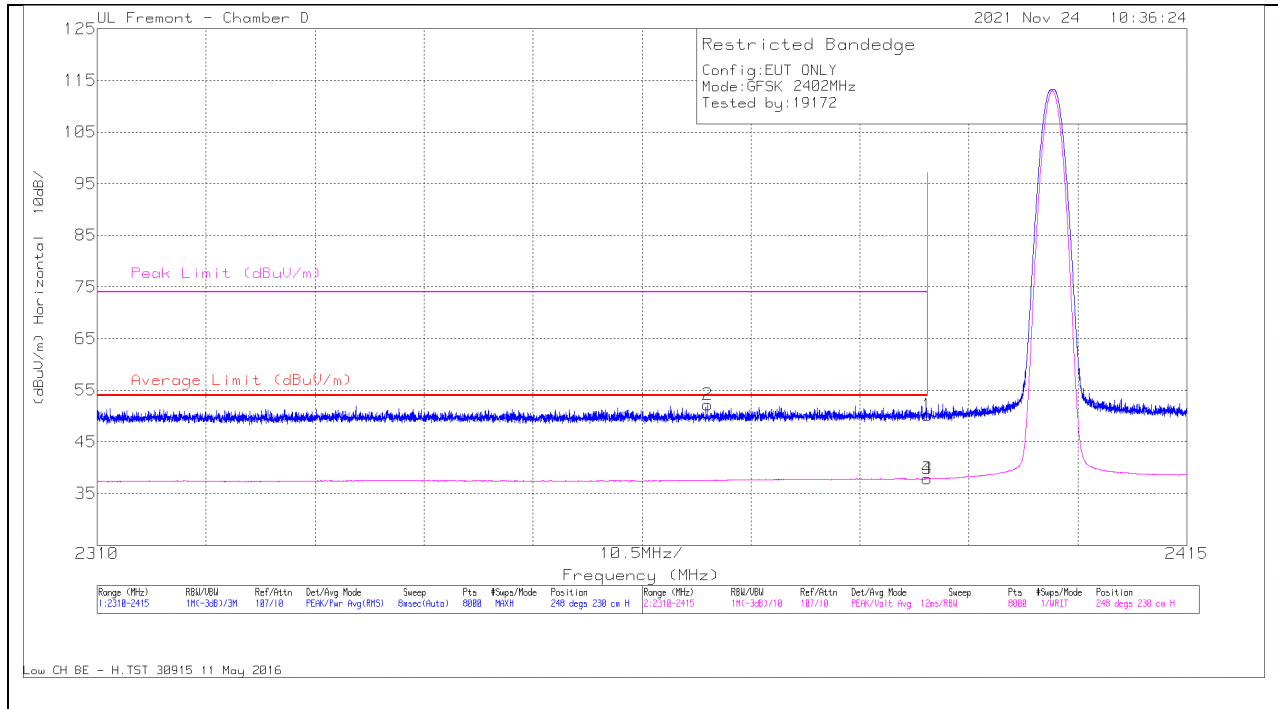
10.1. TRANSMITTER ABOVE 1 GHz

10.1.1. HIGH POWER BASIC DATA RATE GFSK MODULATION

ANT 2

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



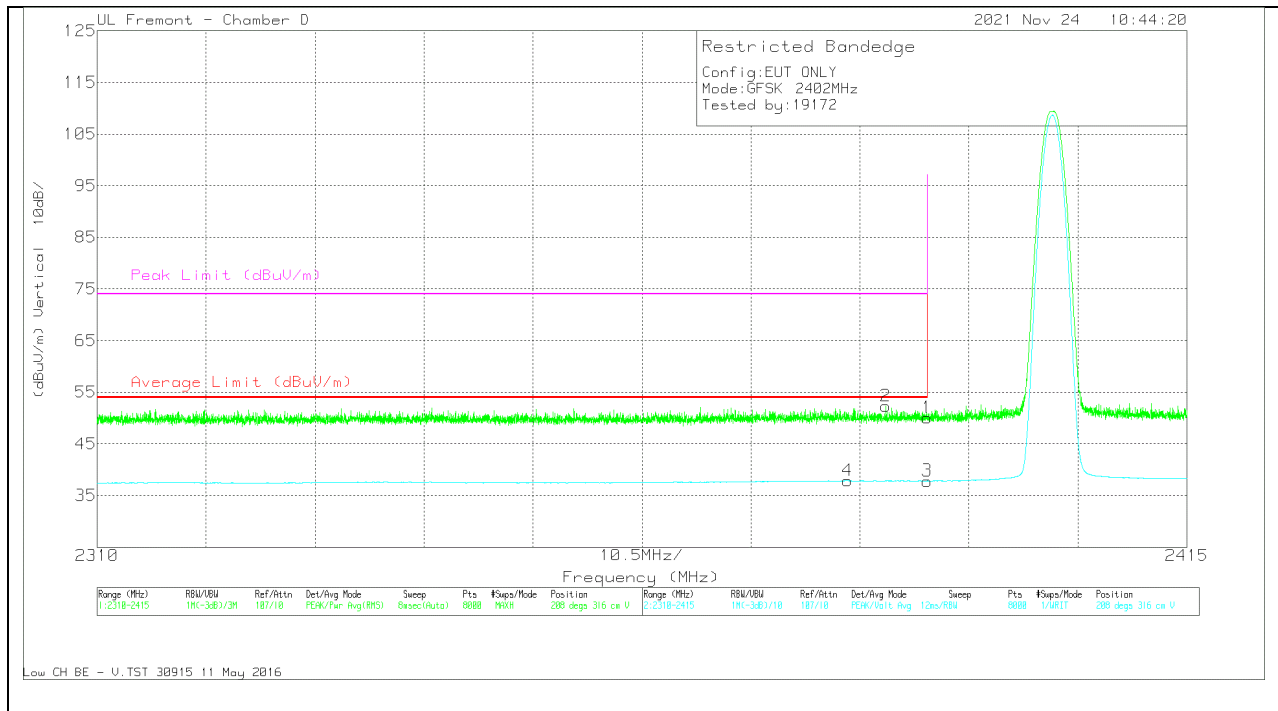
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.78	Pk	32.1	-20.7	50.18	-	-	74	-23.82	248	230	H
2	* 2368.84	41.04	Pk	31.9	-20.8	52.14	-	-	74	-21.86	248	230	H
3	* 2390	26.45	VA1T	32.1	-20.7	37.85	54	-16.15	-	-	248	230	H
4	* 2389.97	26.46	VA1T	32.1	-20.7	37.86	54	-16.14	-	-	248	230	H

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

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT

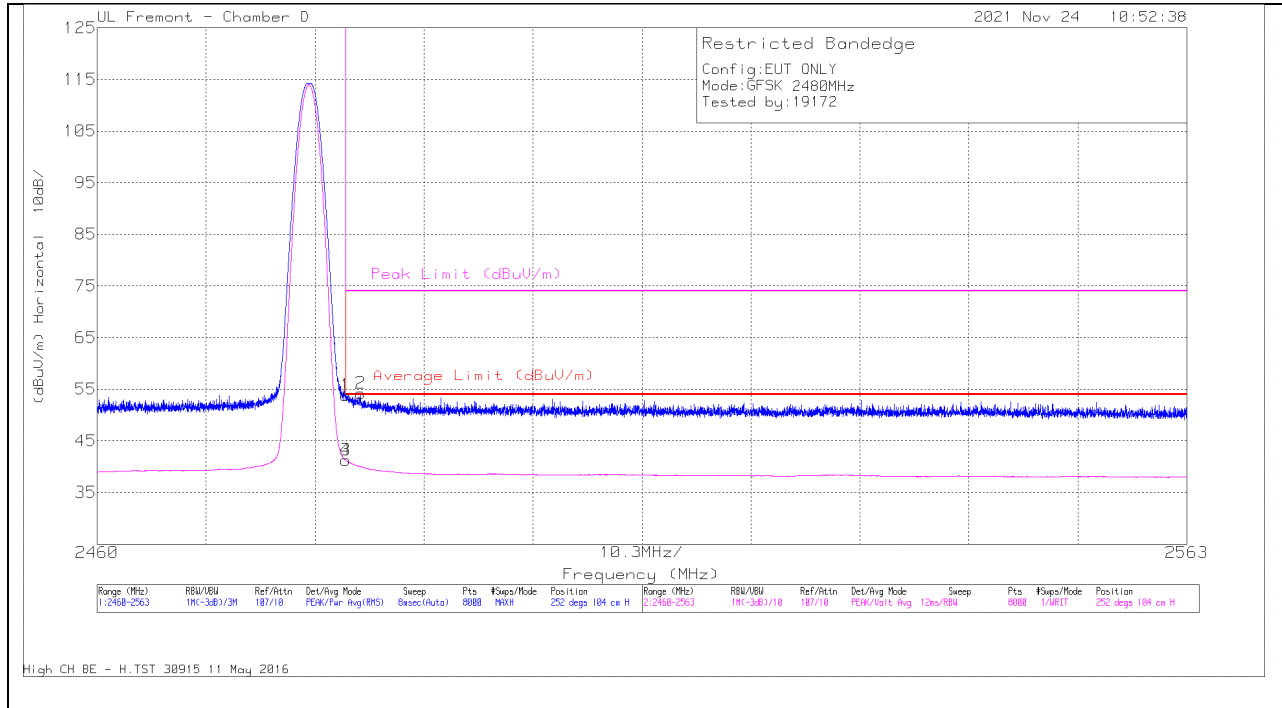


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.66	Pk	32.1	-20.7	50.06	-	-	74	-23.94	208	316	V
2	* 2385.98	40.99	Pk	32.1	-20.8	52.29	-	-	74	-21.71	208	316	V
3	* 2390	26.41	VA1T	32.1	-20.7	37.81	54	-16.19	-	-	208	316	V
4	* 2382.28	26.56	VA1T	32.1	-20.8	37.86	54	-16.14	-	-	208	316	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

BANDEDGE (HIGH CHANNEL)

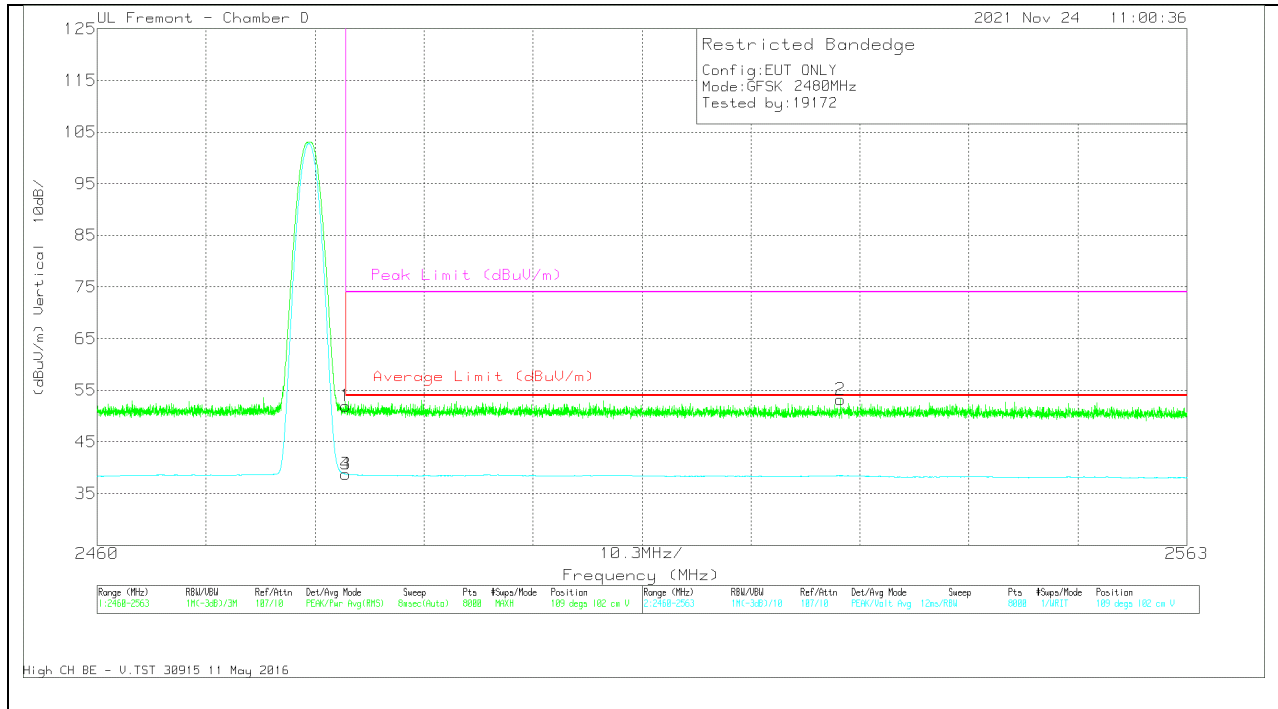
HORIZONTAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	41.83	Pk	32.7	-20.7	53.83	-	-	74	-20.17	252	104	H
2	* 2484.90	42.22	Pk	32.7	-20.7	54.22	-	-	74	-19.78	252	104	H
3	* 2483.5	29.23	VA1T	32.7	-20.7	41.23	54	-12.77	-	-	252	104	H
4	* 2483.501	29.23	VA1T	32.7	-20.7	41.23	54	-12.77	-	-	252	104	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	39.99	Pk	32.7	-20.7	51.99	-	-	74	-22.01	109	102	V
3	* 2483.5	26.71	VA1T	32.7	-20.7	38.71	54	-15.29	-	-	109	102	V
4	* 2483.50	26.71	VA1T	32.7	-20.7	38.71	54	-15.29	-	-	109	102	V
2	2530.283	41.23	Pk	32.6	-20.6	53.23	-	-	74	-20.77	109	102	V

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

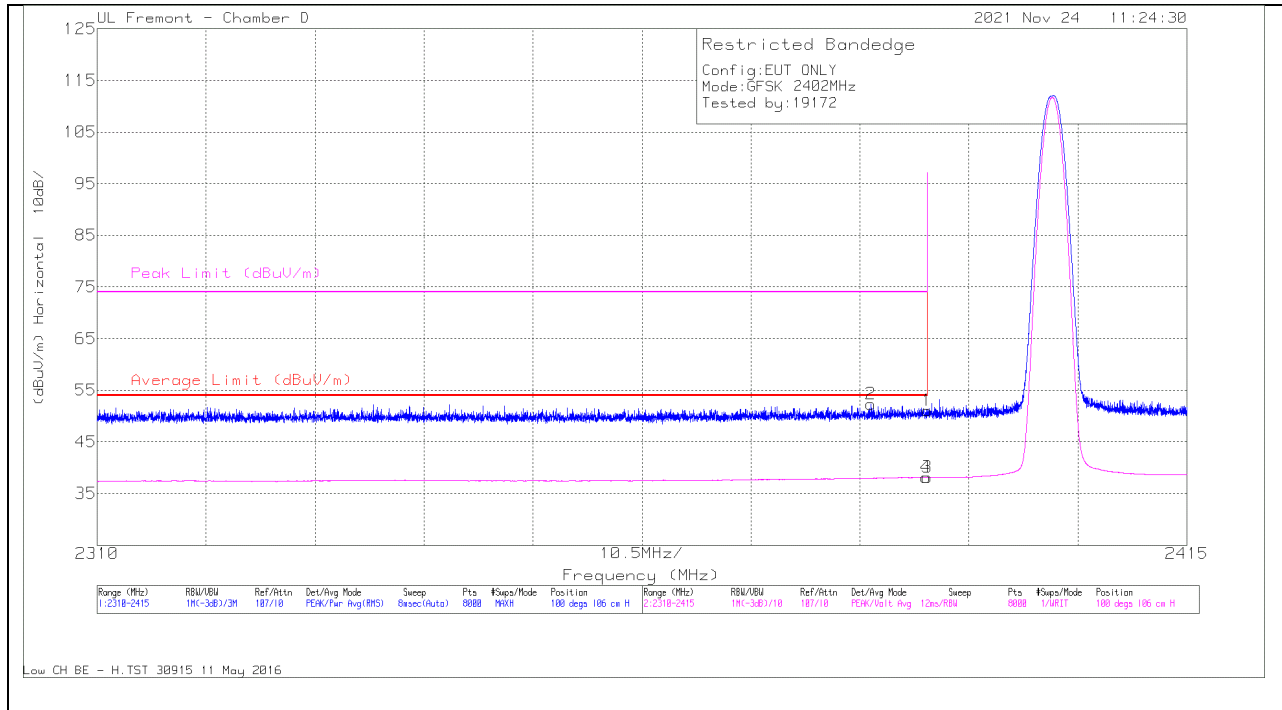
Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

ANT 3

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



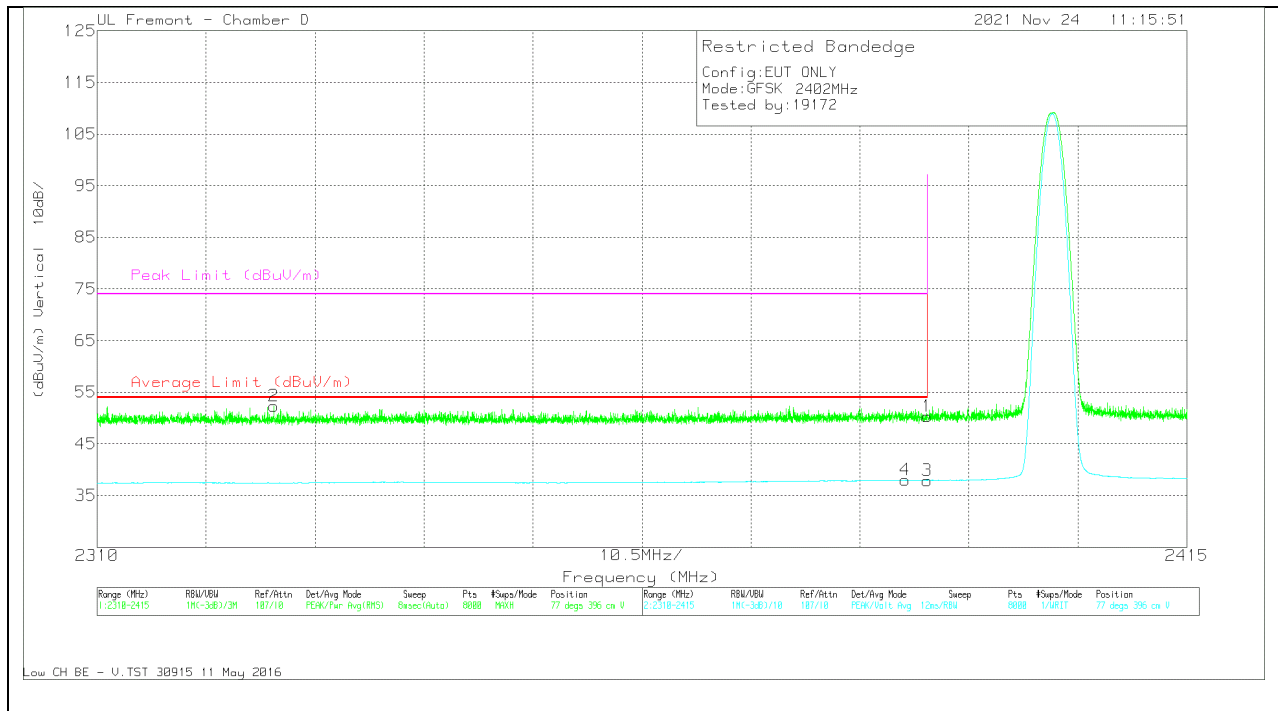
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb I/Filtr/PA d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	39.65	Pk	32.1	-20.7	51.05	-	-	74	-22.95	100	106	H
2	* 2384.57	41.02	Pk	32.1	-20.8	52.32	-	-	74	-21.68	100	106	H
3	* 2390	26.71	VA1T	32.1	-20.7	38.11	54	-15.89	-	-	100	106	H
4	* 2389.83	26.74	VA1T	32.1	-20.7	38.14	54	-15.86	-	-	100	106	H

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

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT

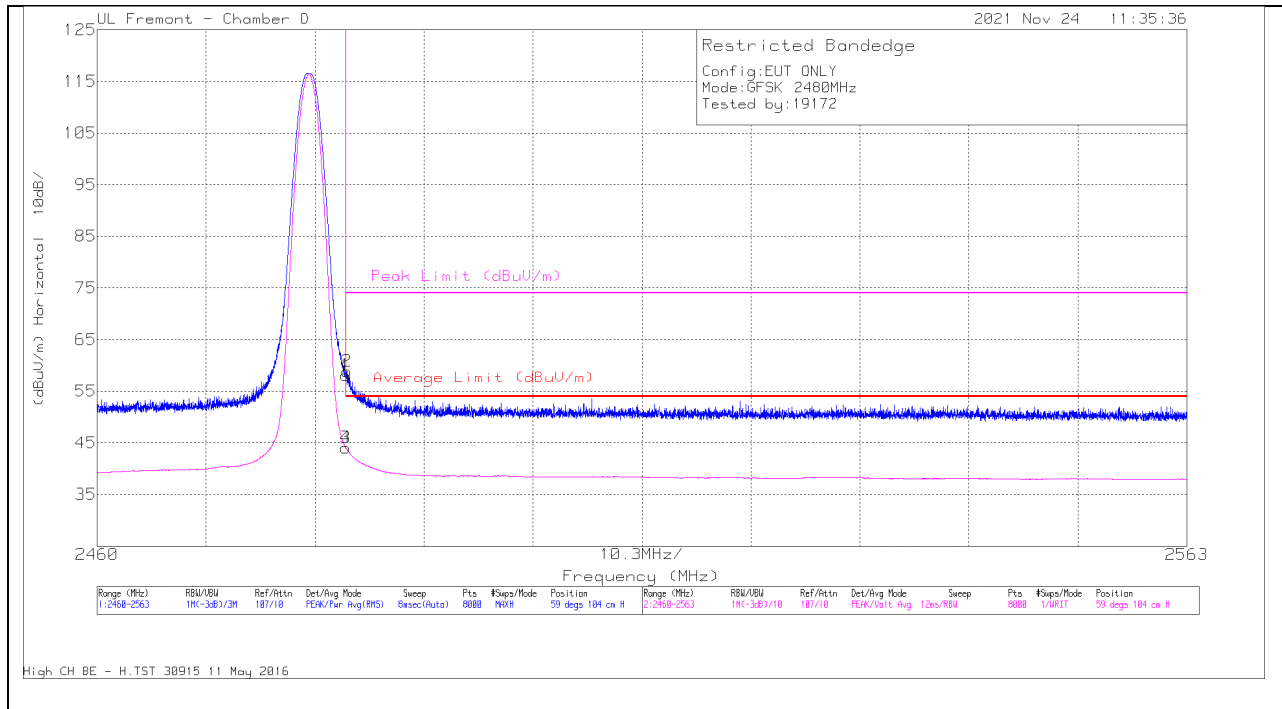


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.89	Pk	32.1	-20.7	50.29	-	-	74	-23.71	77	396	V
2	* 2327.04	41.42	Pk	31.8	-20.9	52.32	-	-	74	-21.68	77	396	V
3	* 2390	26.53	VA1T	32.1	-20.7	37.93	54	-16.07	-	-	77	396	V
4	* 2387.83	26.56	VA1T	32.1	-20.7	37.96	54	-16.04	-	-	77	396	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



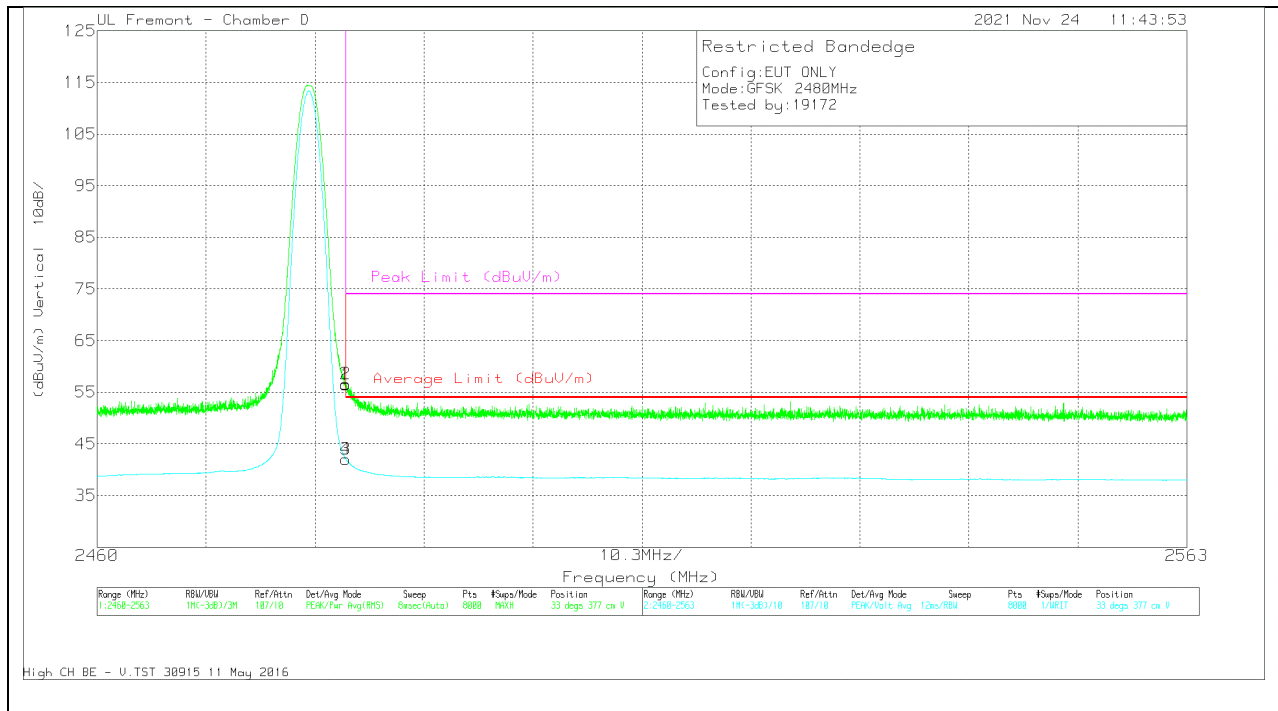
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb V/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	46.07	Pk	32.7	-20.7	58.07	-	-	74	-15.93	59	104	H
2	* 2483.59	46.83	Pk	32.7	-20.7	58.83	-	-	74	-15.17	59	104	H
3	* 2483.5	31.99	VA1T	32.7	-20.7	43.99	54	-10.01	-	-	59	104	H
4	* 2483.50	31.99	VA1T	32.7	-20.7	43.99	54	-10.01	-	-	59	104	H

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

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT



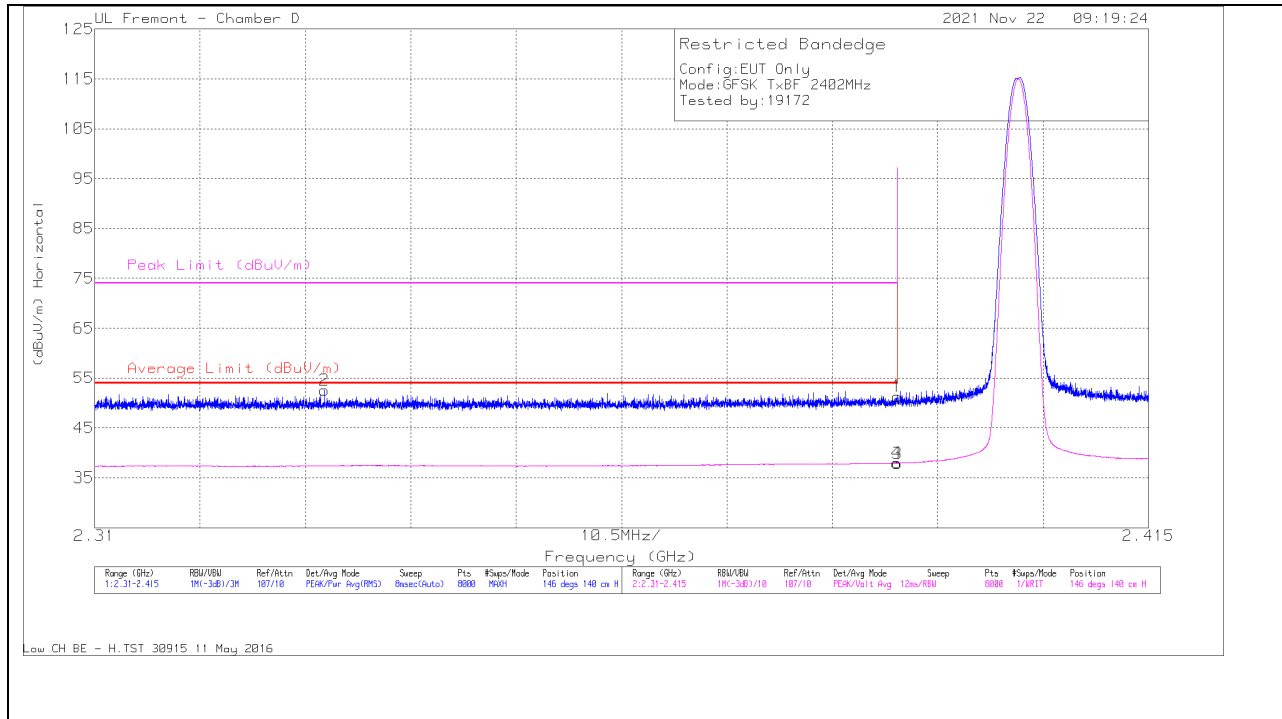
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	44.49	Pk	32.7	-20.7	56.49	-	-	74	-17.51	33	377	V
2	* 2483.51	44.58	Pk	32.7	-20.7	56.58	-	-	74	-17.42	33	377	V
3	* 2483.5	30.04	VA1T	32.7	-20.7	42.04	54	-11.96	-	-	33	377	V
4	* 2483.50	30.04	VA1T	32.7	-20.7	42.04	54	-11.96	-	-	33	377	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

10.1.2. HIGH POWER BASIC DATA RATE TX BF GFSK MODULATION

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



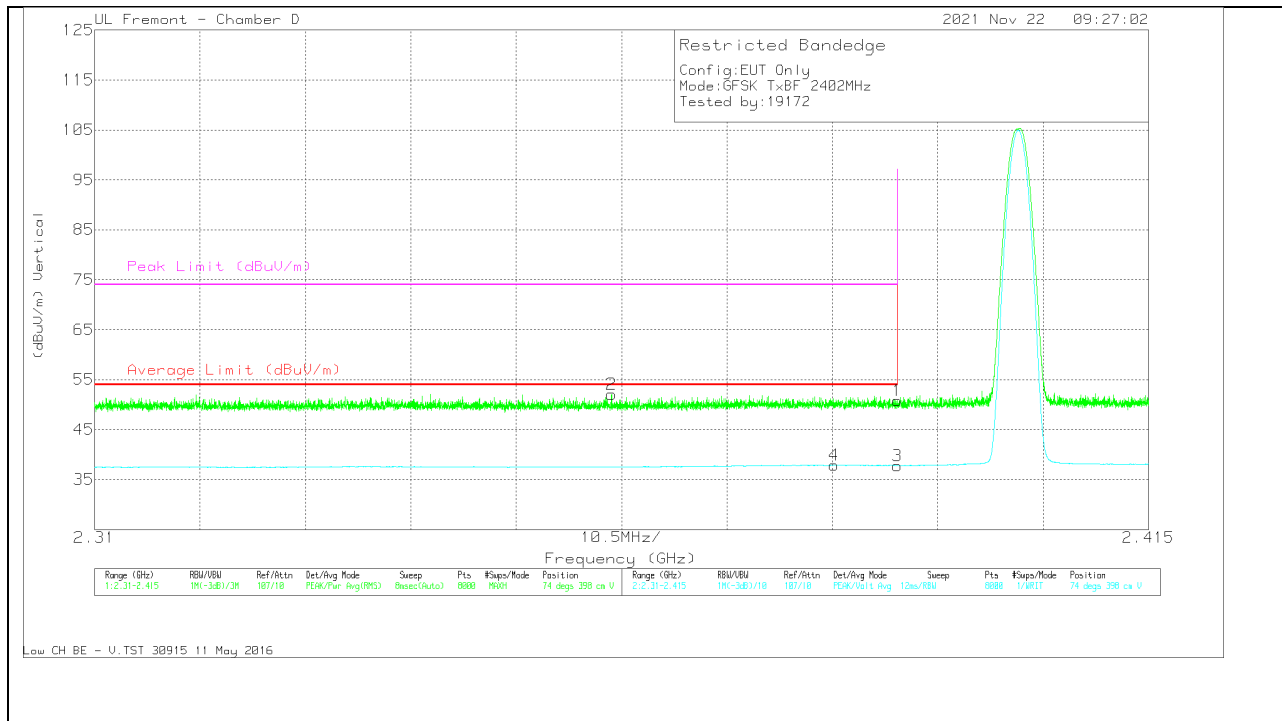
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/FI tr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.97	Pk	32.1	-20.7	51.37	-	-	74	-22.63	146	140	H
2	* 2.33289	41.59	Pk	31.9	-20.9	52.59	-	-	74	-21.41	146	140	H
3	* 2.39	26.53	VA1T	32.1	-20.7	37.93	54	-16.07	-	-	146	140	H
4	* 2.38993	26.55	VA1T	32.1	-20.7	37.95	54	-16.05	-	-	146	140	H

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

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B=1/T_{on}$ where: T_{on} is transmit duration

VERTICAL RESULT

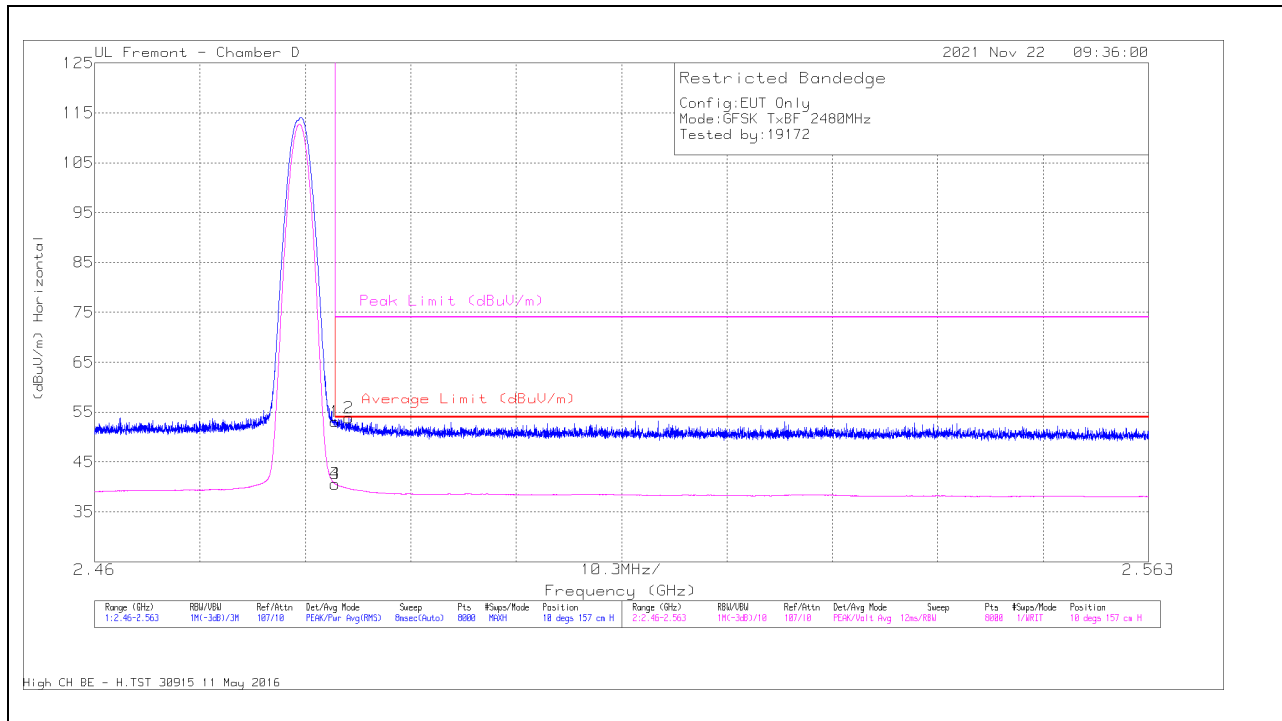


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.4	Pk	32.1	-20.7	50.8	-	-	74	-23.2	74	398	V
2	* 2.3615	40.99	Pk	31.9	-20.8	52.09	-	-	74	-21.91	74	398	V
3	* 2.39	26.4	VA1T	32.1	-20.7	37.8	54	-16.2	-	-	74	398	V
4	* 2.38368	26.58	VA1T	32.1	-20.8	37.88	54	-16.12	-	-	74	398	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



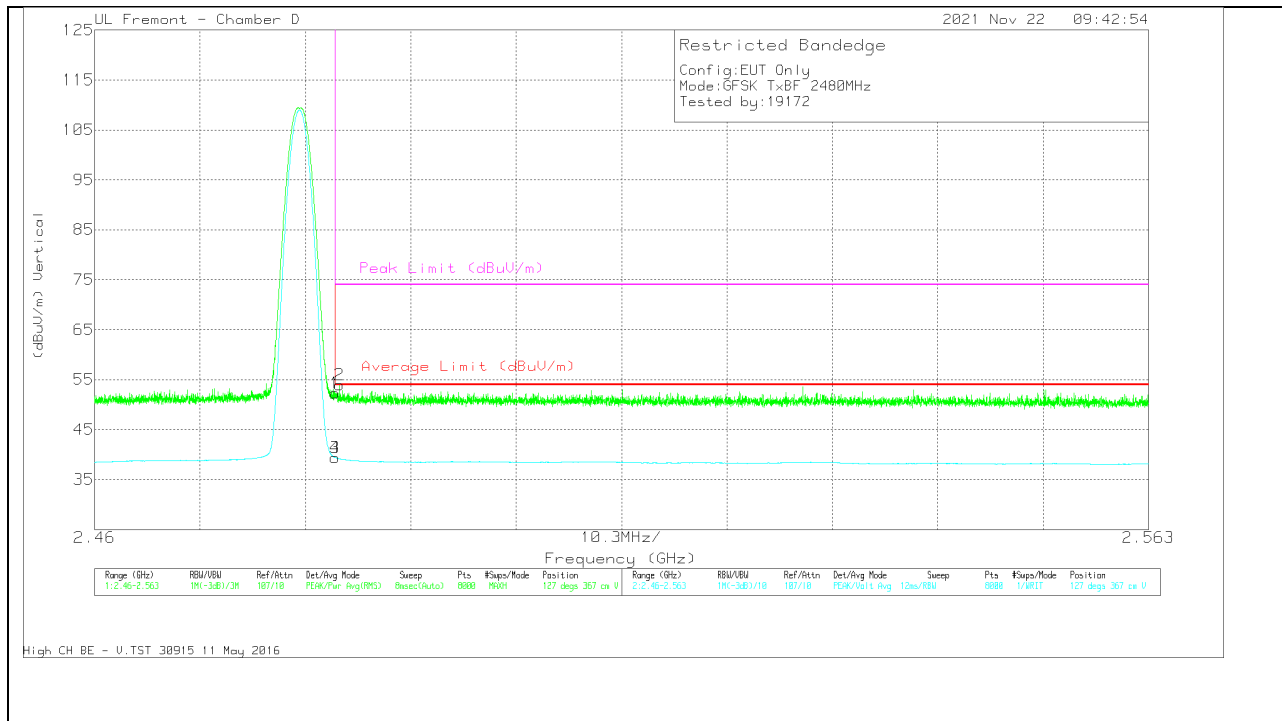
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	41.05	Pk	32.7	-20.7	53.05	-	-	74	-20.95	10	157	H
2	* 2.48484	41.8	Pk	32.7	-20.7	53.8	-	-	74	-20.2	10	157	H
3	* 2.4835	28.58	VA1T	32.7	-20.7	40.58	54	-13.42	-	-	10	157	H
4	* 2.4835	28.58	VA1T	32.7	-20.7	40.58	54	-13.42	-	-	10	157	H

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

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT

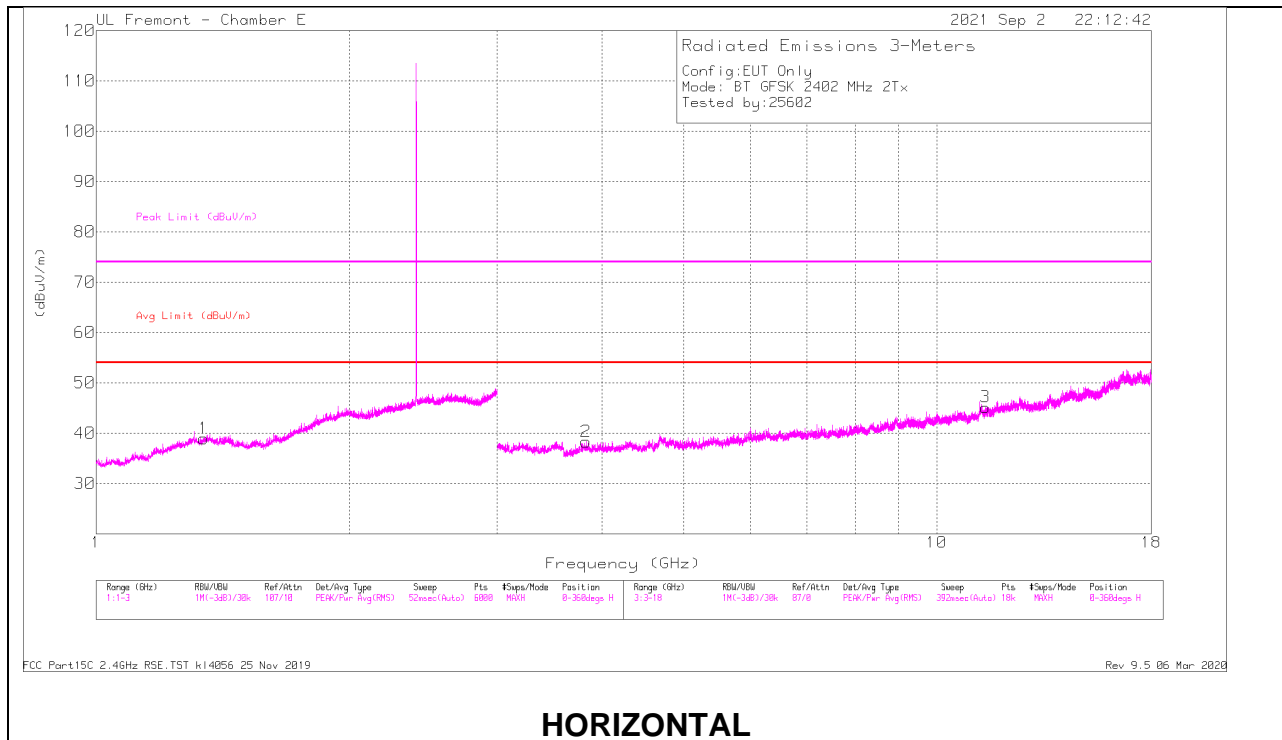


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb l/Filtr/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	40.28	Pk	32.7	-20.7	52.28	-	-	74	-21.72	127	367	V
2	* 2.48394	41.98	Pk	32.7	-20.7	53.98	-	-	74	-20.02	127	367	V
3	* 2.4835	27.4	VA1T	32.7	-20.7	39.4	54	-14.6	-	-	127	367	V
4	* 2.4835	27.4	VA1T	32.7	-20.7	39.4	54	-14.6	-	-	127	367	V

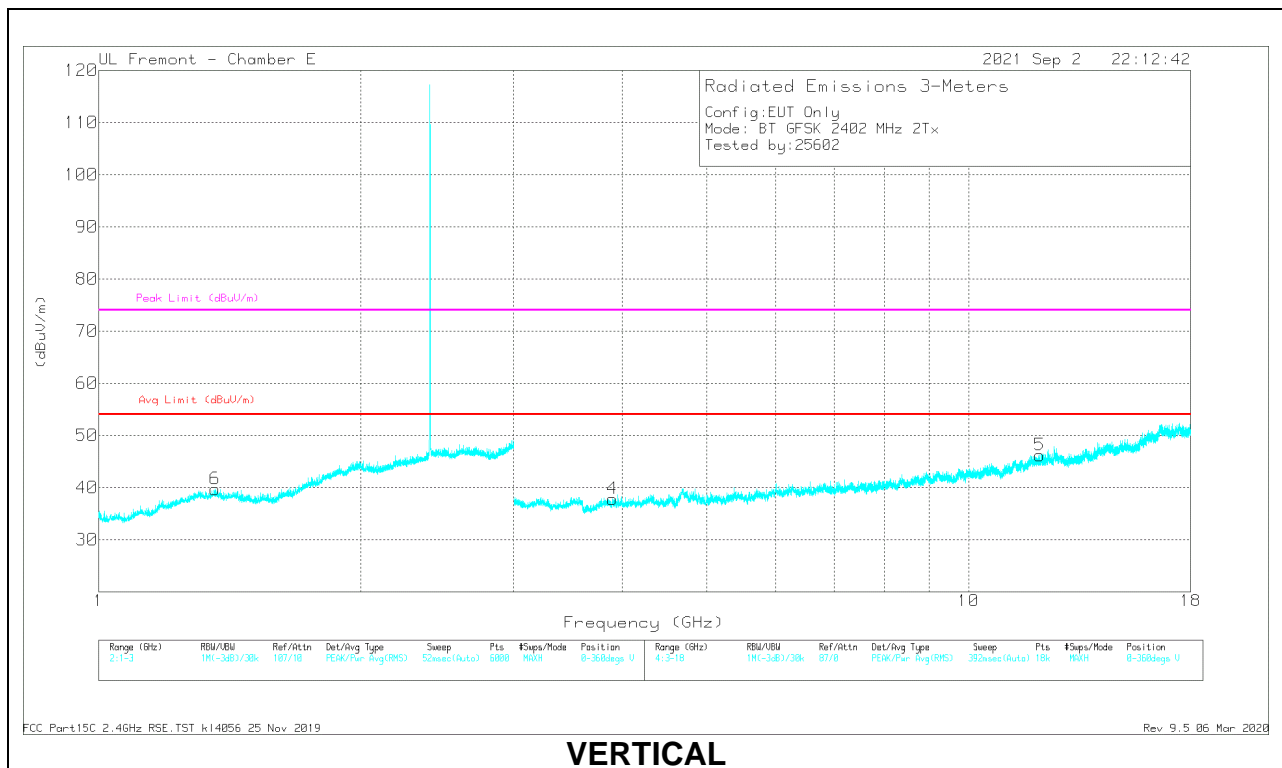
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

10.1.3. HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

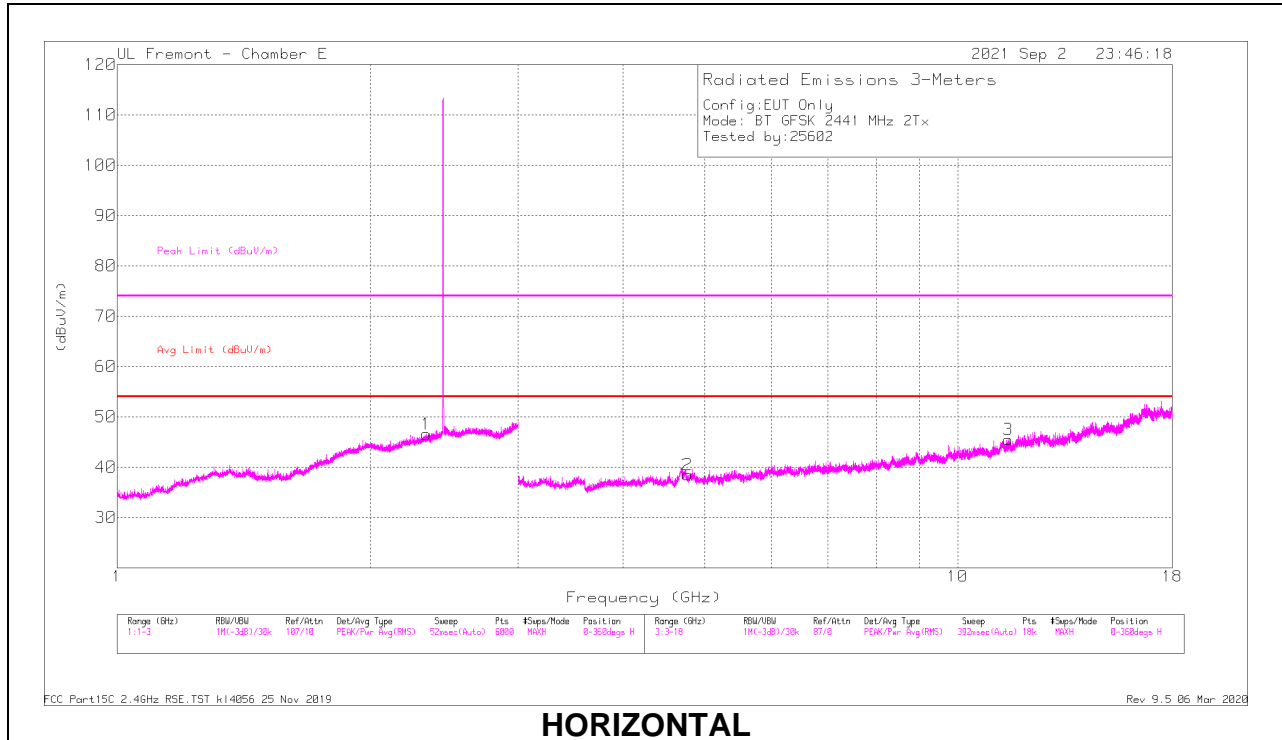
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0078107 (dB/m)	Amp/Cbl/Fitr/P ad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.34248	35.31	PKFH	29.7	-20	45.01	-	-	74	-28.99	342	394	H
	* 1.34371	23.42	VA1T	29.7	-20	33.12	54	-20.88	-	-	342	394	H
6	* 1.35888	35.28	PKFH	29.5	-19.8	44.98	-	-	74	-29.02	159	210	V
	* 1.36234	23.74	VA1T	29.6	-19.8	33.54	54	-20.46	-	-	159	210	V
2	* 3.82451	41.6	PKFH	33.4	-31.3	43.7	-	-	74	-30.3	205	194	H
	* 3.82388	29.18	VA1T	33.4	-31.3	31.28	54	-22.72	-	-	205	194	H
3	* 11.42551	34.9	PKFH	38.1	-22.3	50.7	-	-	74	-23.3	238	310	H
	* 11.42455	23.12	VA1T	38.1	-22.3	38.92	54	-15.08	-	-	238	310	H
4	* 3.89146	40.18	PKFH	33.5	-31	42.68	-	-	74	-31.32	16	334	V
	* 3.89151	28.49	VA1T	33.5	-31	30.99	54	-23.01	-	-	16	334	V
5	* 12.06537	33.91	PKFH	38.9	-21.3	51.51	-	-	74	-22.49	112	210	V
	* 12.0636	22.33	VA1T	38.9	-21.3	39.93	54	-14.07	-	-	112	210	V

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

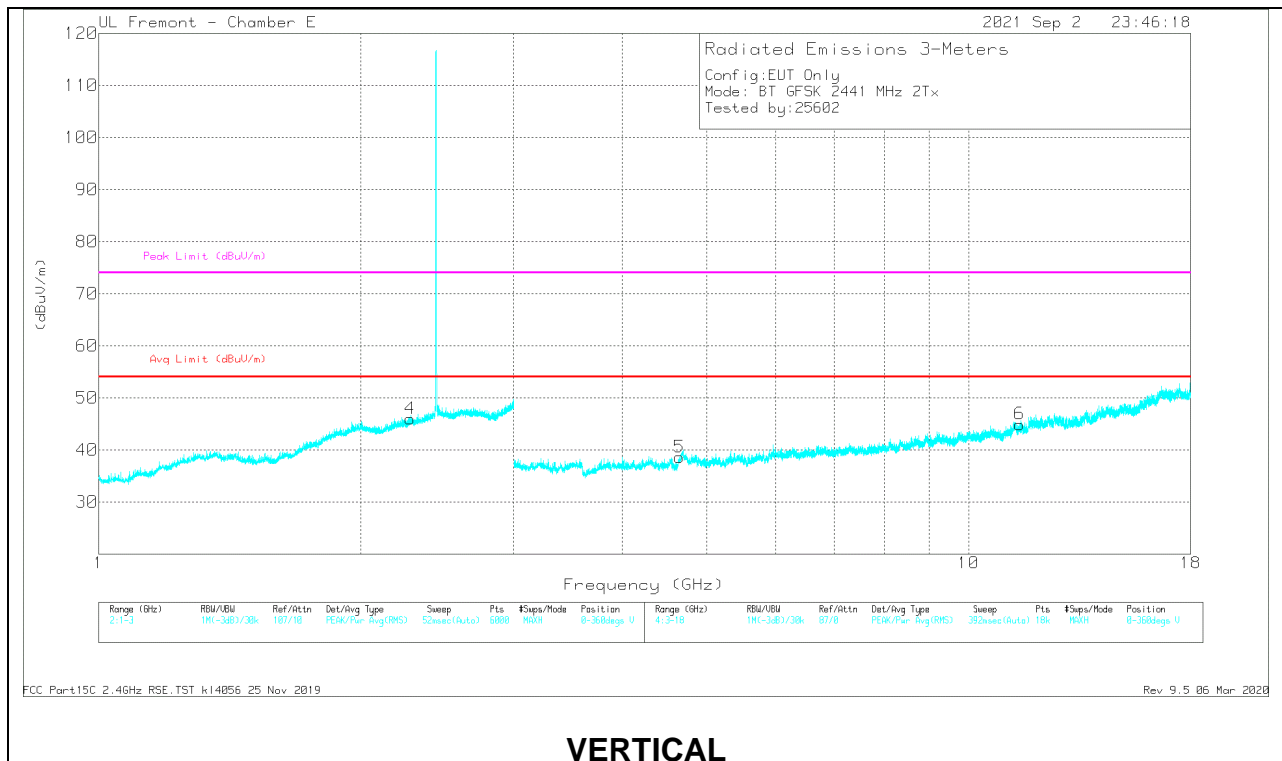
PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

MID CHANNEL RESULTS



HORIZONTAL



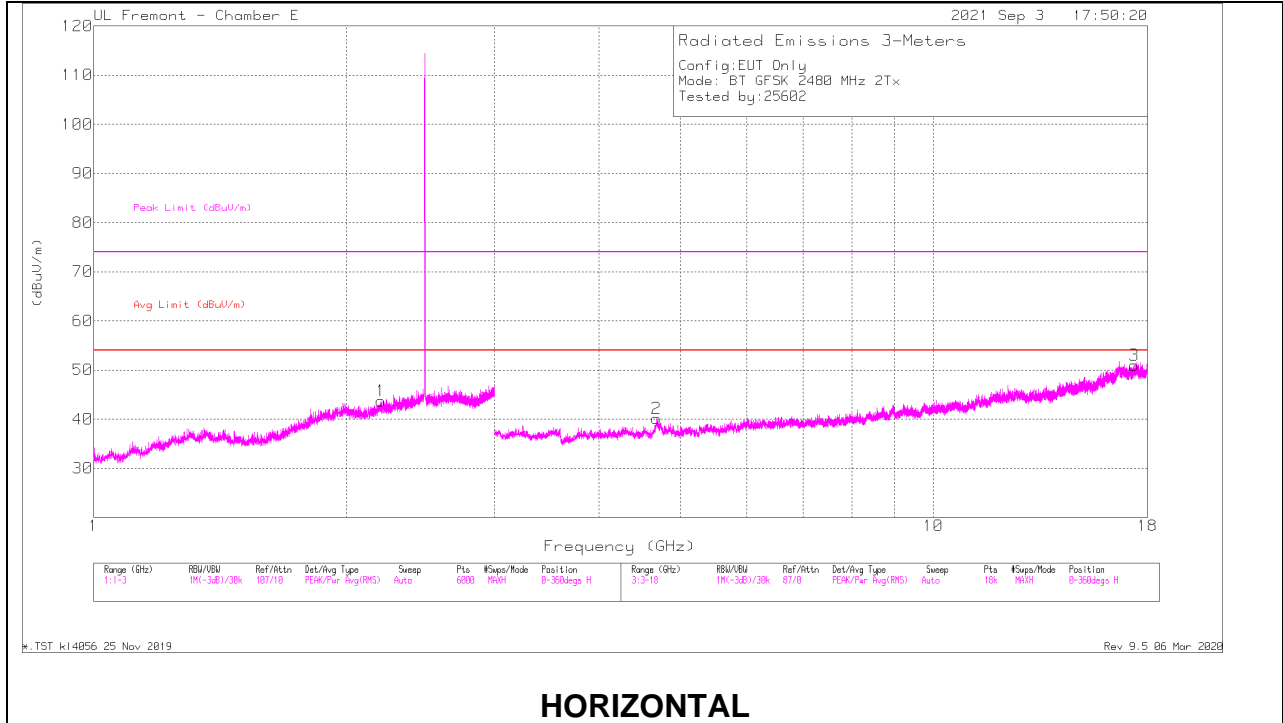
VERTICAL

RADIATED EMISSIONS

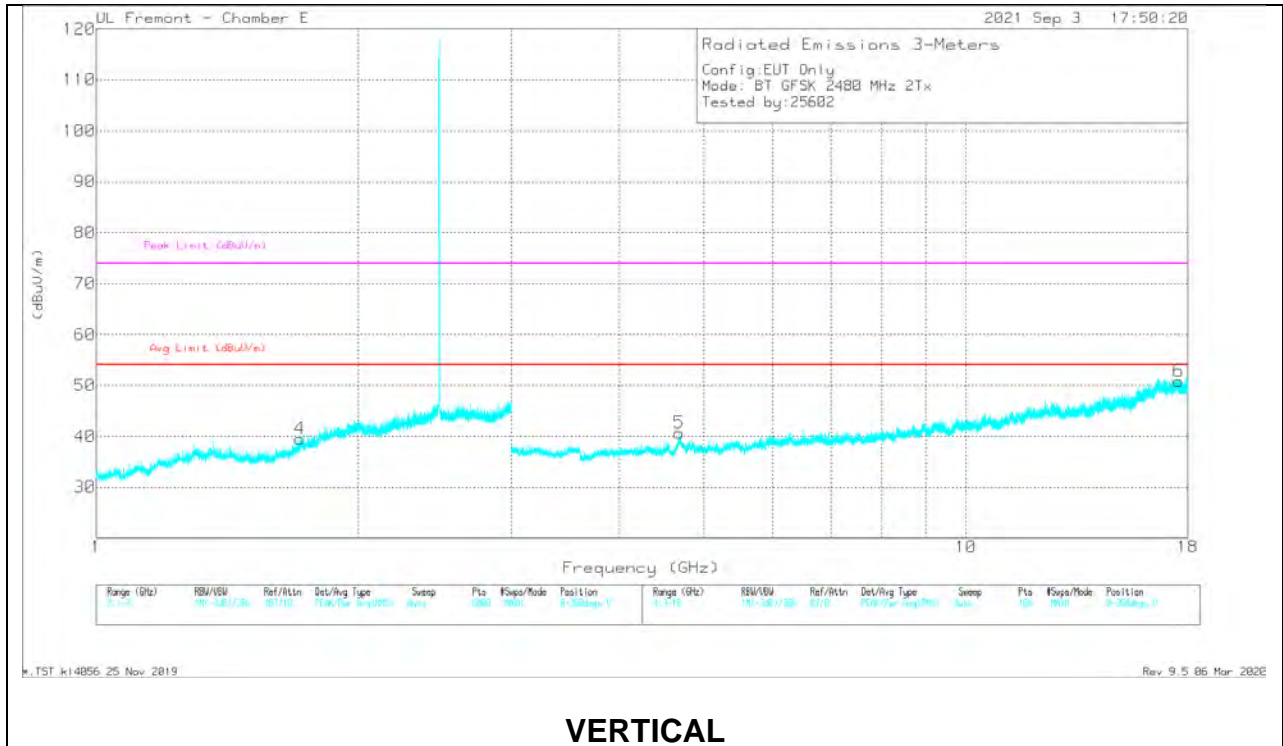
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0078107 (dB/m)	Amp/Cb/Fitr/P ad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.3326	37.72	PKFH	32.1	-17.7	52.12	-	-	74	-21.88	255	175	H
	* 2.33387	24.75	VA1T	32.1	-17.7	39.15	54	-14.85	-	-	255	175	H
4	* 2.2813	35.94	PKFH	31.8	-17.6	50.14	-	-	74	-23.86	183	141	V
	* 2.27904	24.77	VA1T	31.8	-17.6	38.97	54	-15.03	-	-	183	141	V
2	* 4.76954	40.05	PKFH	34.5	-30.5	44.05	-	-	74	-29.95	218	241	H
	* 4.76733	28.58	VA1T	34.6	-30.6	32.58	54	-21.42	-	-	218	241	H
3	* 11.48556	35.44	PKFH	38.1	-22.4	51.14	-	-	74	-22.86	71	246	H
	* 11.48226	23.01	VA1T	38.2	-22.4	38.81	54	-15.19	-	-	71	246	H
5	* 4.64689	39.44	PKFH	34.4	-29.8	44.04	-	-	74	-29.96	36	129	V
	* 4.65042	27.58	VA1T	34.4	-29.8	32.18	54	-21.82	-	-	36	129	V
6	* 11.44269	36	PKFH	38.1	-22.2	51.9	-	-	74	-22.1	47	110	V
	* 11.44319	23.19	VA1T	38.1	-22.2	39.09	54	-14.91	-	-	47	110	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF PRE0078107 (dB/m)	Amp/Cb/Filtr/P ad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 4.68266	39.47	PKFH	34.4	-30.3	43.57	-	-	74	-30.43	272	200	H
	* 4.68435	26.84	VA1T	34.4	-30.4	30.84	54	-23.16	-	-	272	200	H
5	* 4.67896	39.53	PKFH	34.4	-30.4	43.53	-	-	74	-30.47	272	101	V
	* 4.6807	26.84	VA1T	34.4	-30.4	30.84	54	-23.16	-	-	272	101	V
4	1.71217	14.56	VA1T	29.1	-18.7	24.96	-	-	-	-	272	101	V
	1.71328	35.46	PKFH	29.2	-18.7	45.96	-	-	-	-	272	101	V
1	2.19953	36.34	PKFH	31.7	-17.8	50.24	-	-	-	-	272	199	H
	2.19953	14.48	VA1T	31.7	-17.8	28.38	-	-	-	-	272	199	H
3	17.36467	18.9	VA1T	41.7	-18.1	42.5	-	-	-	-	272	200	H
	17.36531	33.8	PKFH	41.7	-18.1	57.4	-	-	-	-	272	200	H
6	17.55912	34.33	PKFH	41.5	-18	57.83	-	-	-	-	272	200	V
	17.55938	18.67	VA1T	41.5	-18	42.17	-	-	-	-	272	200	V

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

PKFH FHSS/BT RB=100k for Frequencies<1GHz / RB=1MHz for Frequencies>1GHz, VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

10.1.4. HIGH POWER ENHANCED DATA RATE 8PSK MODULATION

ANT 2

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



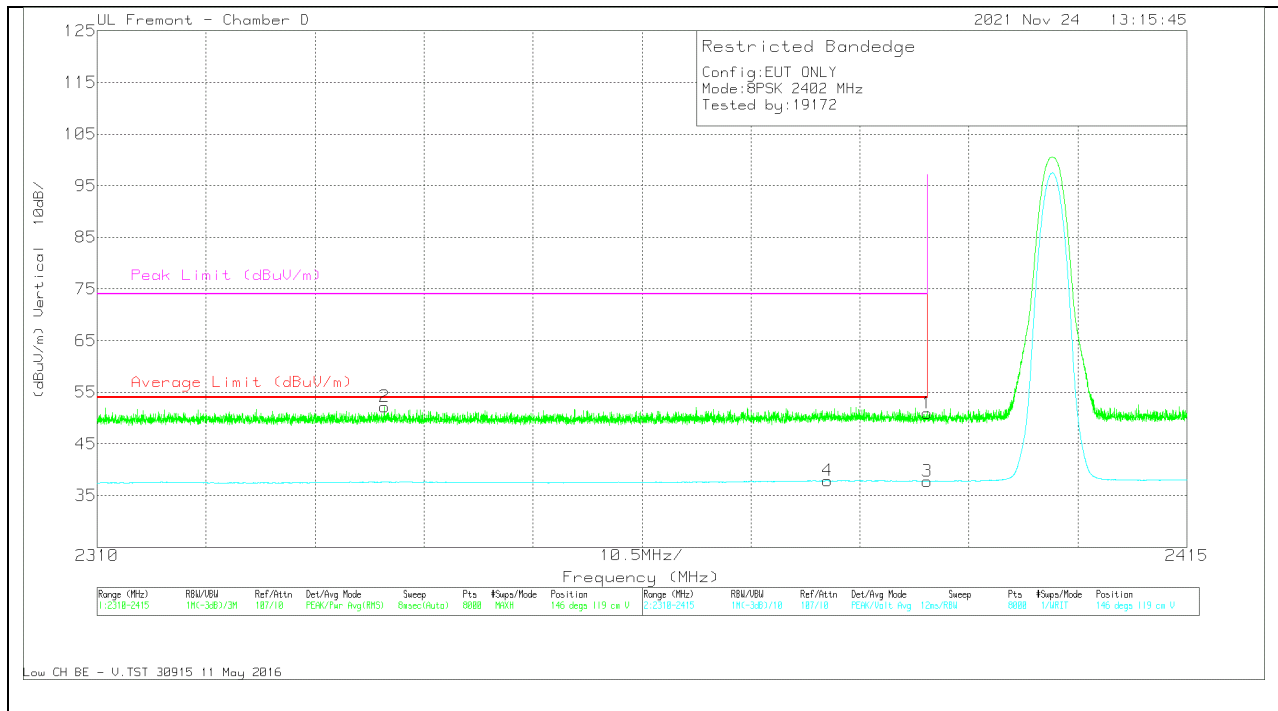
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.71	Pk	32.1	-20.7	50.11	-	-	74	-23.89	150	154	H
2	* 2343.72	41.29	Pk	31.9	-20.8	52.39	-	-	74	-21.61	150	154	H
3	* 2390	26.44	VA1T	32.1	-20.7	37.84	54	-16.16	-	-	150	154	H
4	* 2389.38	26.49	VA1T	32.1	-20.7	37.89	54	-16.11	-	-	150	154	H

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

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT

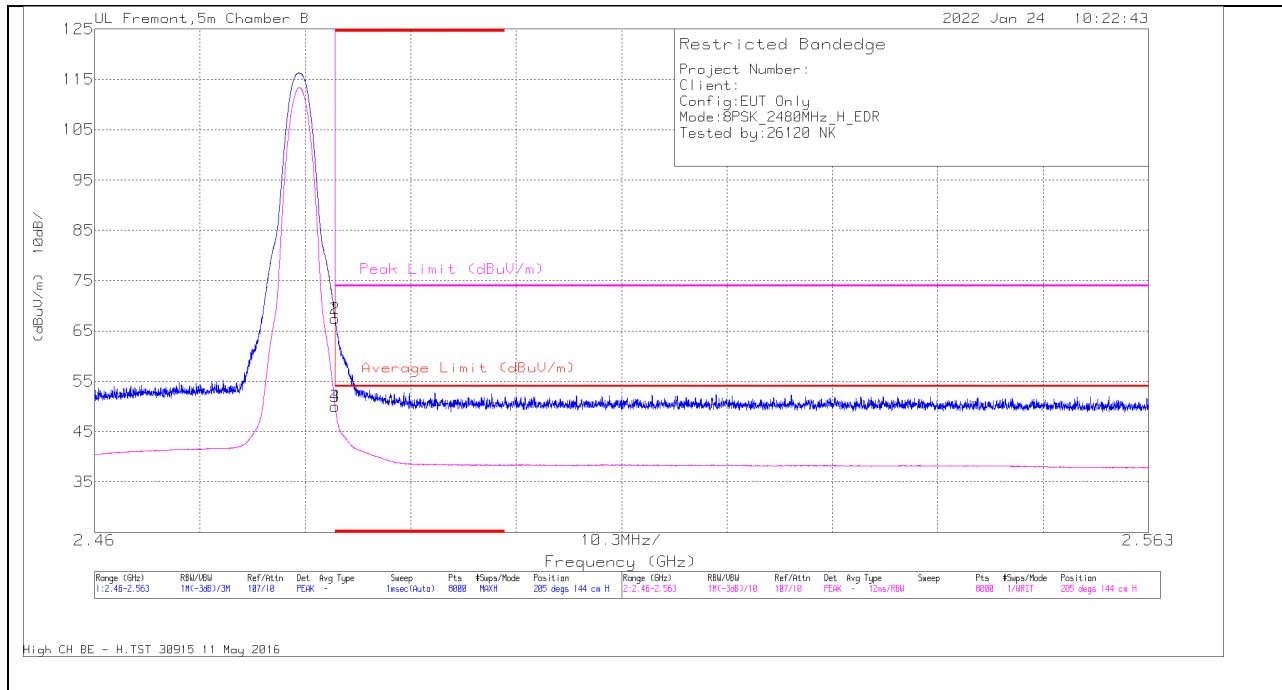


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	39.51	Pk	32.1	-20.7	50.91	-	-	74	-23.09	146	119	V
2	* 2337.67	41.2	Pk	31.9	-20.9	52.2	-	-	74	-21.8	146	119	V
3	* 2390	26.38	VA1T	32.1	-20.7	37.78	54	-16.22	-	-	146	119	V
4	* 2380.35	26.59	VA1T	32.1	-20.8	37.89	54	-16.11	-	-	146	119	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



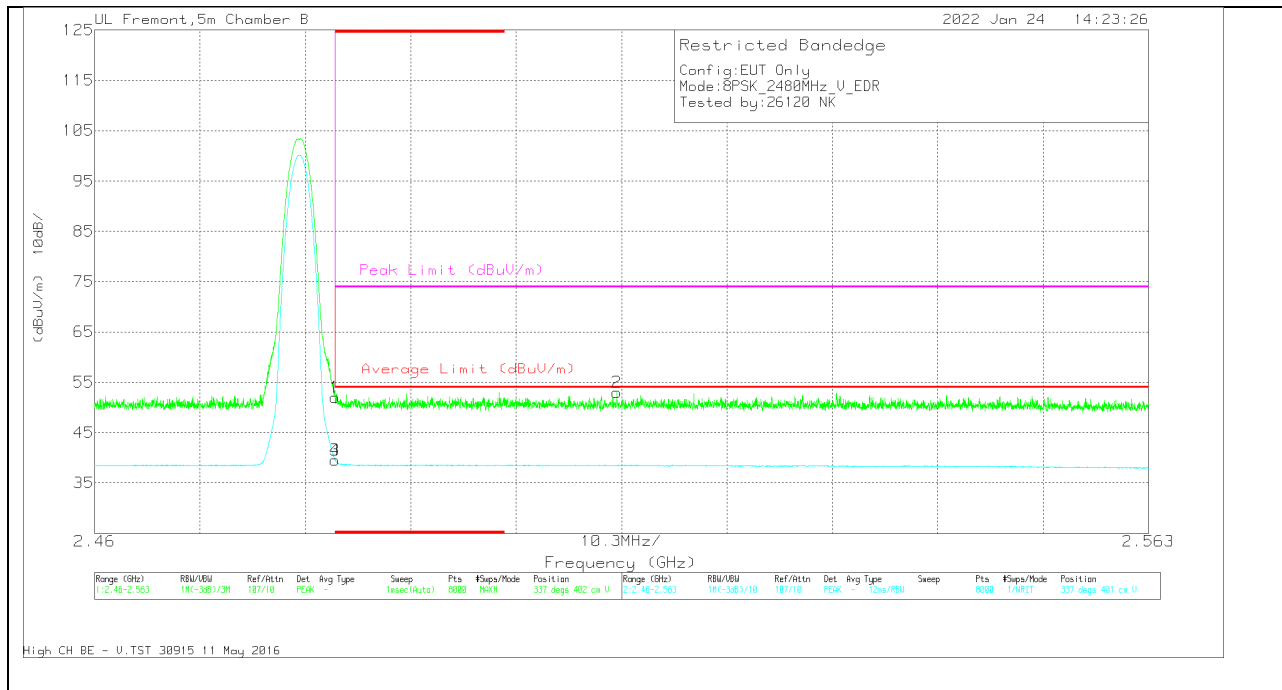
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb I/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	59.63	Pk	32.6	-24.8	67.43	-	-	74	-6.57	205	144	H
2	* 2.483501	59.65	Pk	32.6	-24.8	67.45	-	-	74	-6.55	205	144	H
3	* 2.4835	42.2	VA1T	32.6	-24.8	50	54	-4	-	-	205	144	H
4	* 2.483501	42.19	VA1T	32.6	-24.8	49.99	54	-4.01	-	-	205	144	H

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

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B=1/T_{on}$ where: T_{on} is transmit duration

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb I/Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	44.15	Pk	32.6	-24.8	51.95	-	-	74	-22.05	337	402	V
3	* 2.4835	31.71	VA1T	32.6	-24.8	39.51	54	-14.49	-	-	337	401	V
4	* 2.483501	31.71	VA1T	32.6	-24.8	39.51	54	-14.49	-	-	337	401	V
2	2.511032	44.97	Pk	32.7	-24.7	52.97	-	-	74	-21.03	337	402	V

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

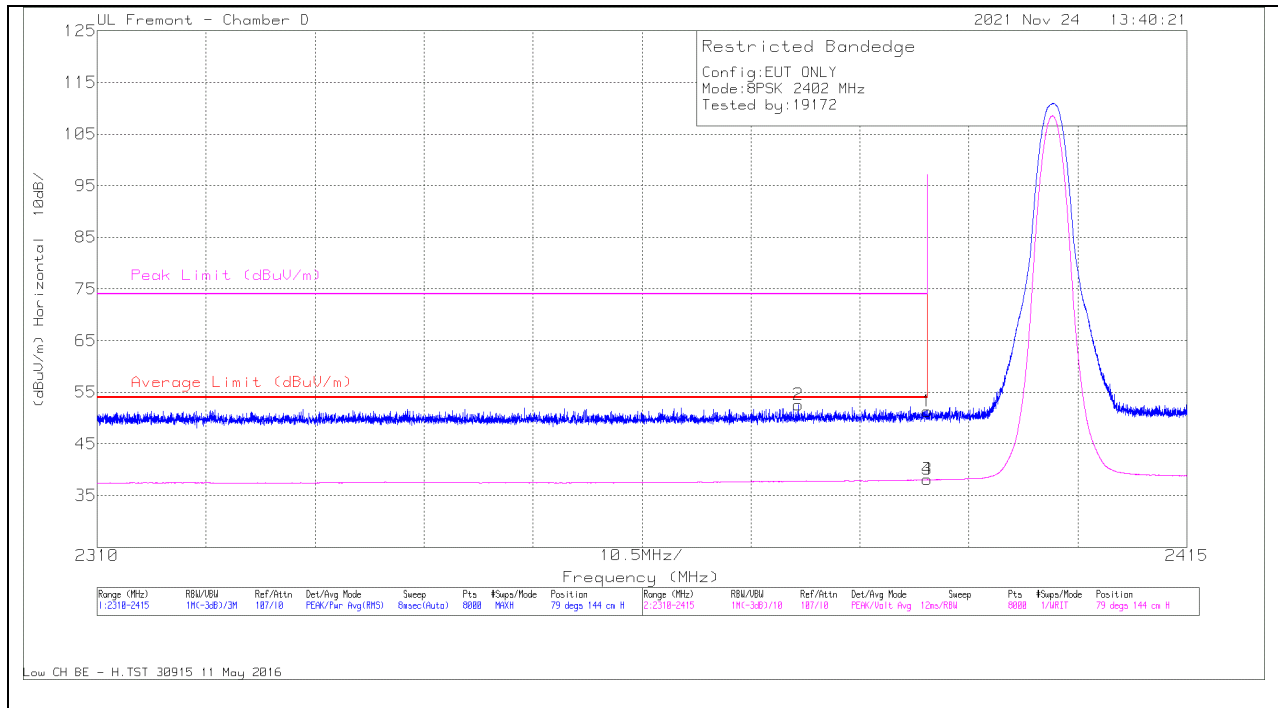
Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

ANT 3

BANDEGE (LOW CHANNEL)

HORIZONTAL RESULT



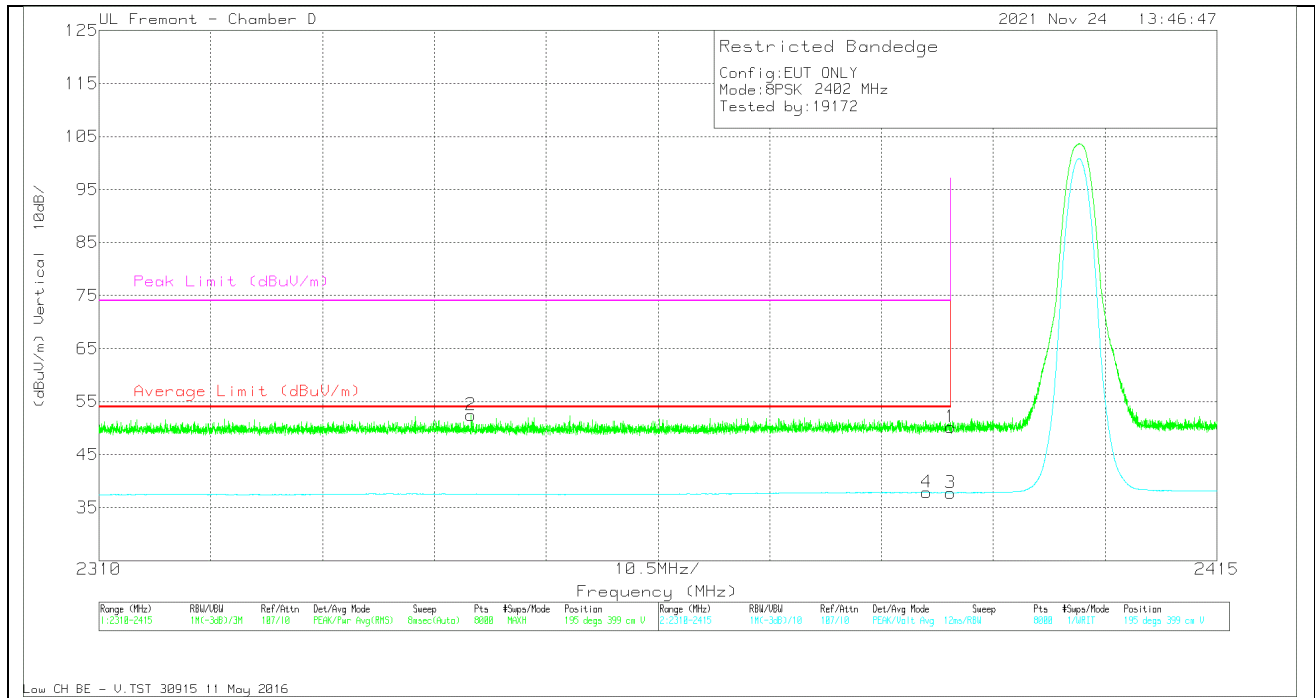
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	39.86	Pk	32.1	-20.7	51.26	-	-	74	-22.74	79	144	H
2	* 2377.54	41.19	Pk	32.1	-20.7	52.59	-	-	74	-21.41	79	144	H
3	* 2390	26.67	VA1T	32.1	-20.7	38.07	54	-15.93	-	-	79	144	H
4	* 2389.99	26.67	VA1T	32.1	-20.7	38.07	54	-15.93	-	-	79	144	H

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

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT

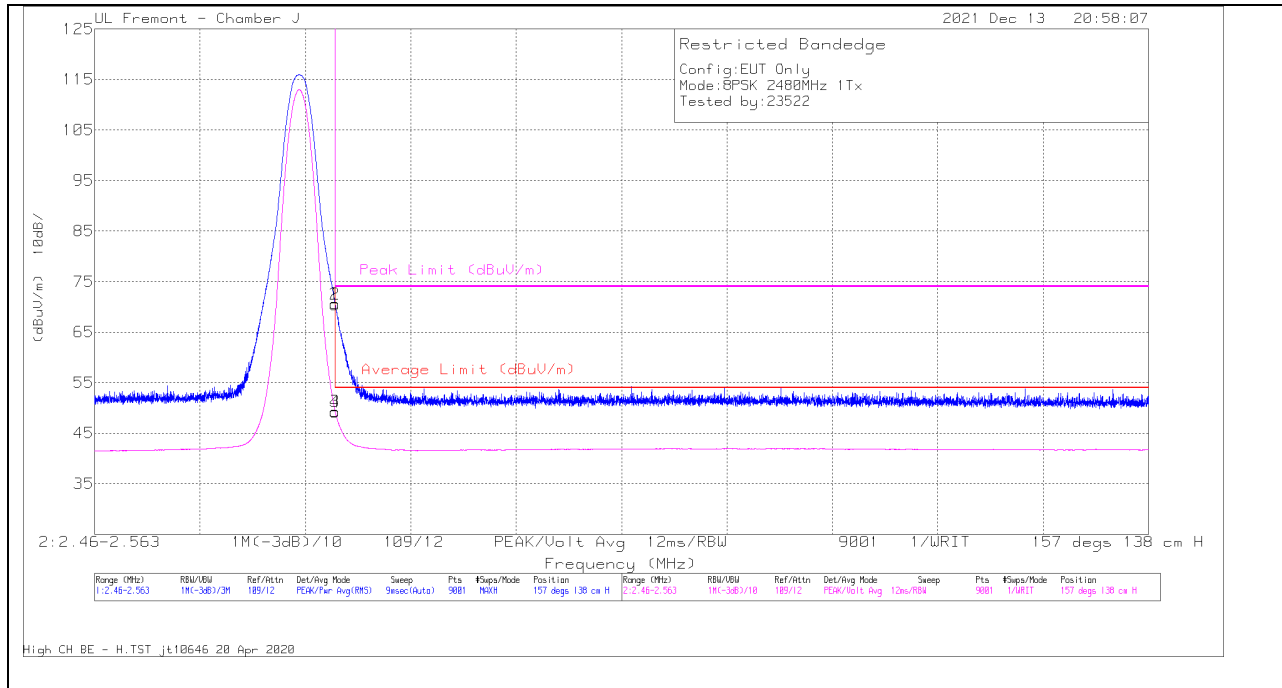


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.84	Pk	32.1	-20.7	50.24	-	-	74	-23.76	195	399	V
2	* 2344.92	41.34	Pk	31.9	-20.8	52.44	-	-	74	-21.56	195	399	V
3	* 2390	26.38	VA1T	32.1	-20.7	37.78	54	-16.22	-	-	195	399	V
4	* 2387.74	26.5	VA1T	32.1	-20.7	37.9	54	-16.1	-	-	195	399	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

BANDEDGE (HIGH CHANNEL)

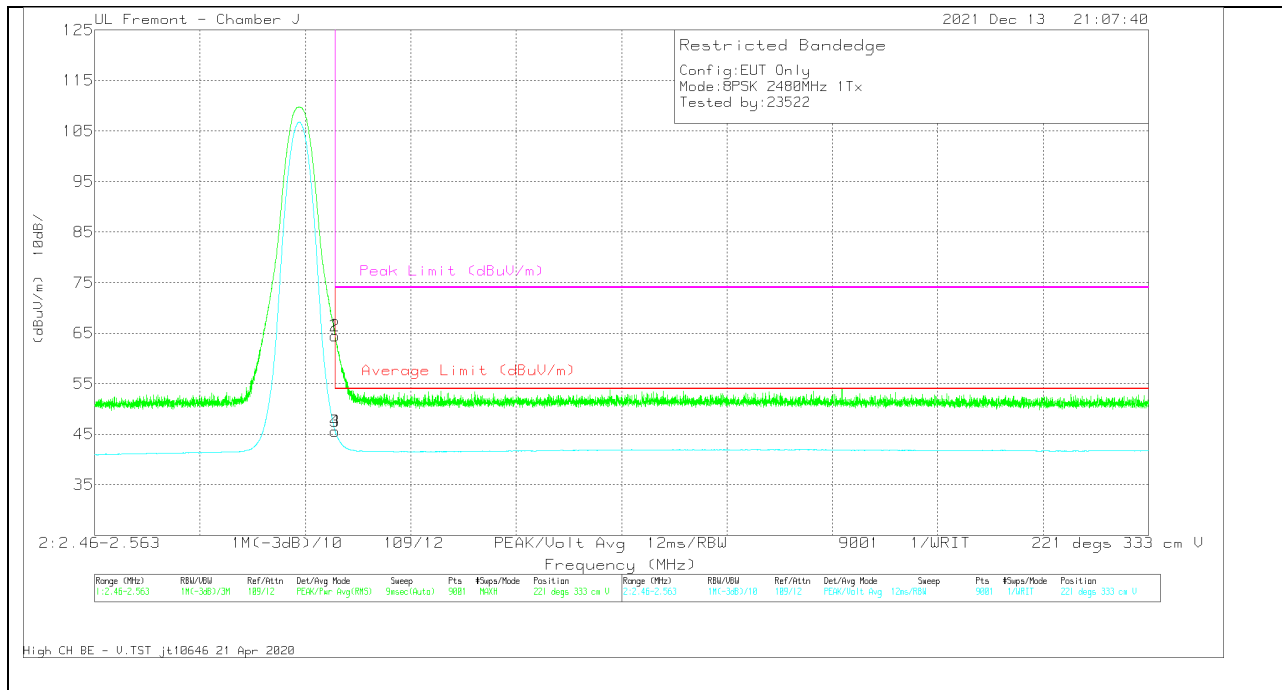
HORIZONTAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF 206806 (dB/m)	Amp/C b/Filtr/ Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	54.23	Pk	32.4	-16	70.63	-	-	74	-3.37	157	138	H
2	* 2483.506	54.07	Pk	32.4	-16	70.47	-	-	74	-3.53	157	138	H
3	* 2483.5	32.9	VA1T	32.4	-16	49.3	54	-4.7	-	-	157	138	H
4	* 2483.506	32.82	VA1T	32.4	-16	49.22	54	-4.78	-	-	157	138	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF 206806 (dB/m)	Amp/Cb/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	48.1	Pk	32.4	-16	64.5	-	-	74	-9.5	221	333	V
2	* 2483.506	48.02	Pk	32.4	-16	64.42	-	-	74	-9.58	221	333	V
3	* 2483.5	29.22	VA1T	32.4	-16	45.62	54	-8.38	-	-	221	333	V
4	* 2483.506	29.16	VA1T	32.4	-16	45.56	54	-8.44	-	-	221	333	V

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

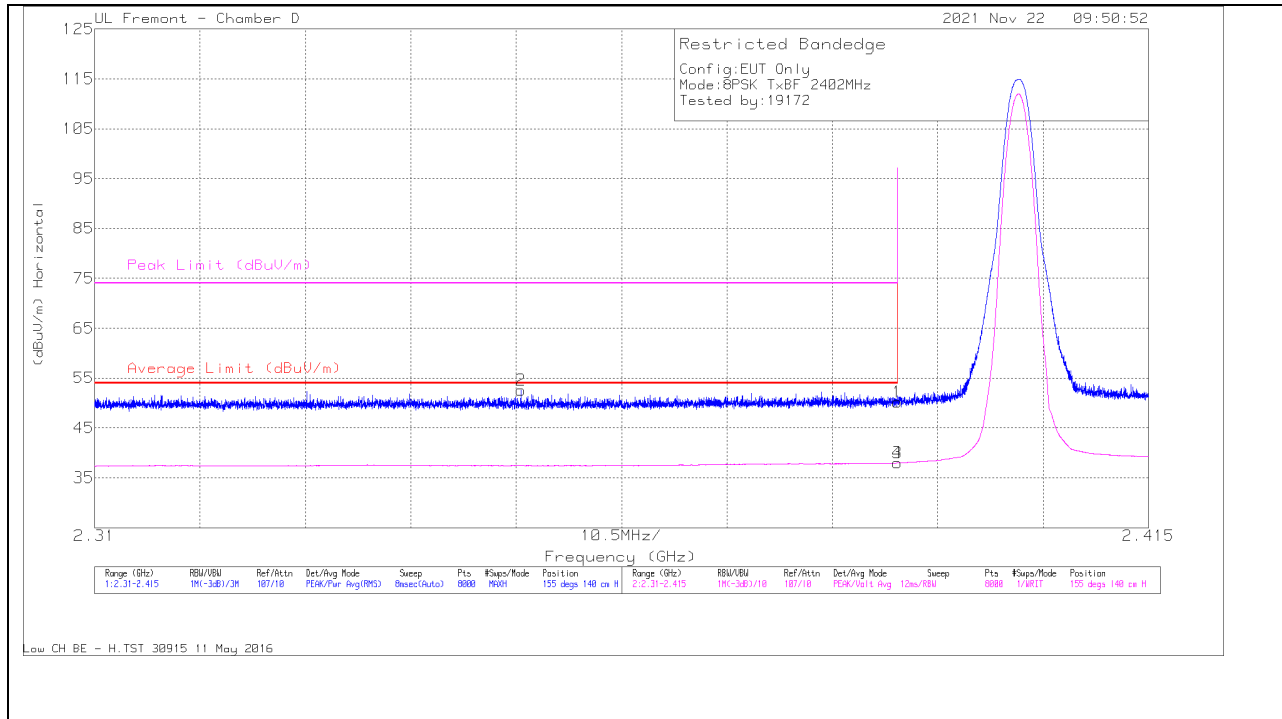
Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

10.1.5. HIGH POWER BASIC DATA RATE TXBF 8PSK MODULATION

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



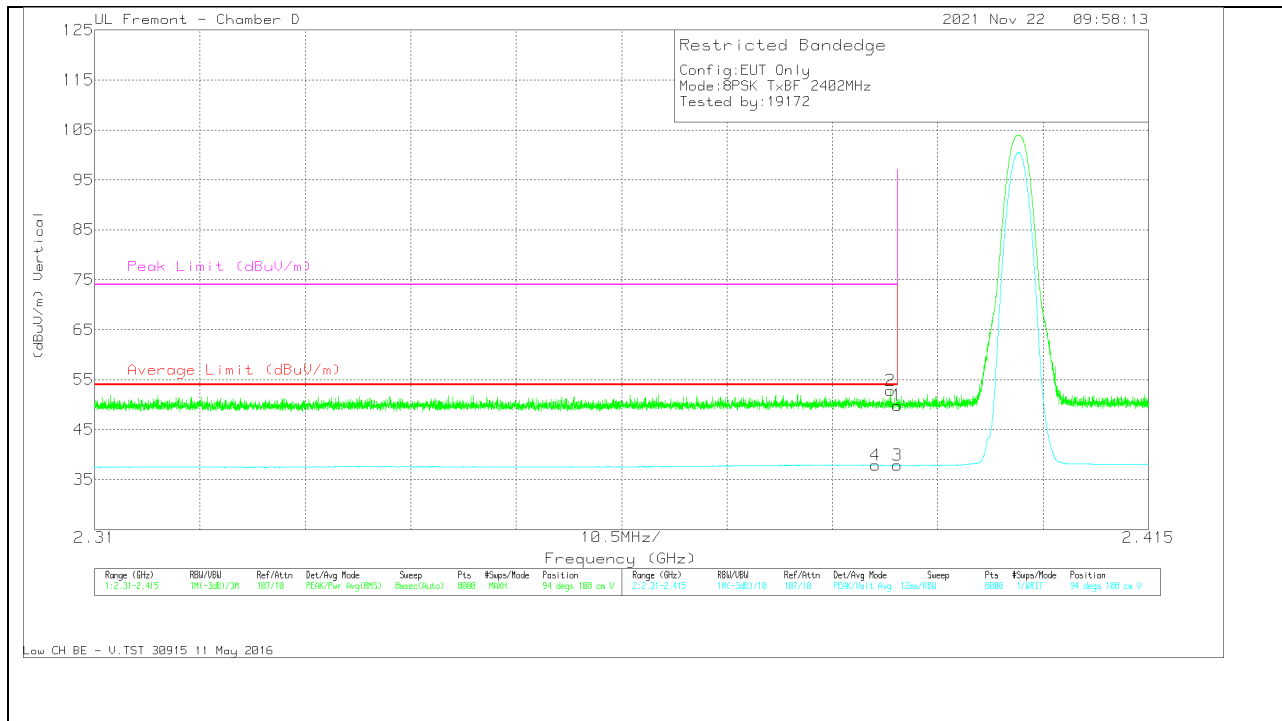
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb I/Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	38.83	Pk	32.1	-20.7	50.23	-	-	74	-23.77	155	140	H
2	* 2.35245	41.7	Pk	31.8	-20.9	52.6	-	-	74	-21.4	155	140	H
3	* 2.39	26.59	VA1T	32.1	-20.7	37.99	54	-16.01	-	-	155	140	H
4	* 2.38997	26.6	VA1T	32.1	-20.7	38	54	-16.00	-	-	155	140	H

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

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT

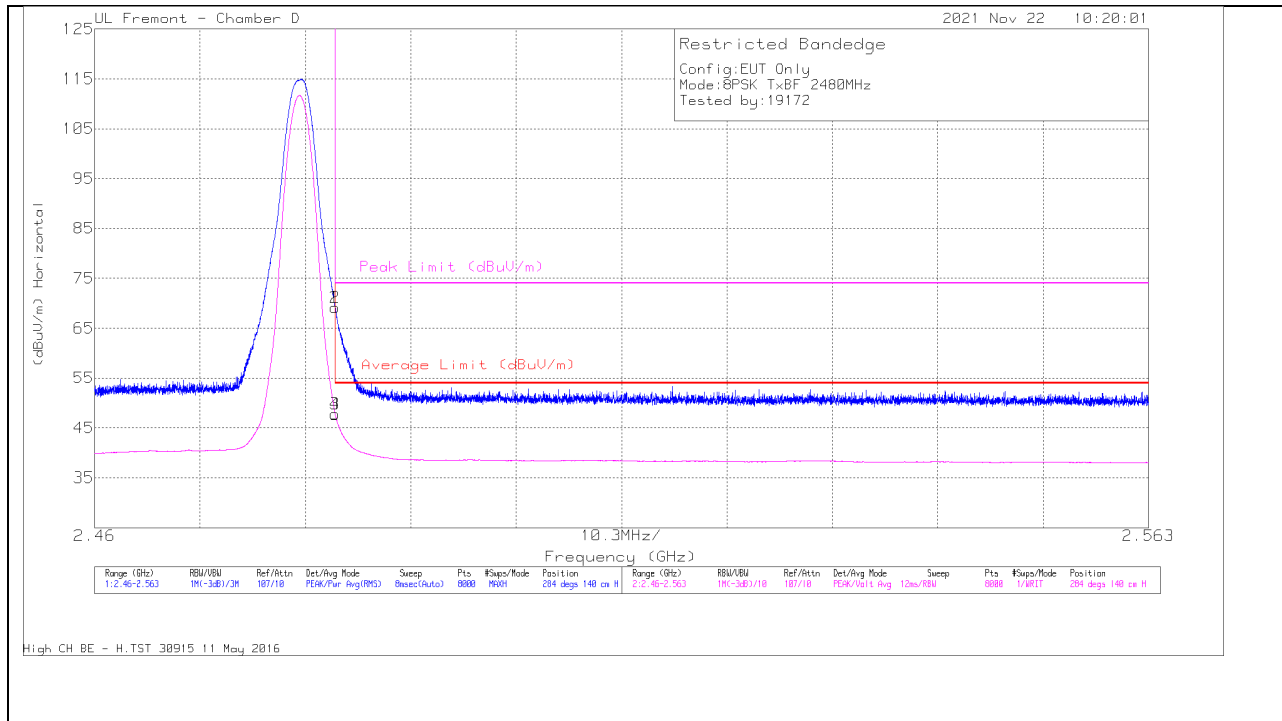


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb I/Filtr/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	38.47	Pk	32.1	-20.7	49.87	-	-	74	-24.13	94	108	V
2	* 2.38927	41.43	Pk	32.1	-20.7	52.83	-	-	74	-21.17	94	108	V
3	* 2.39	26.42	VA1T	32.1	-20.7	37.82	54	-16.18	-	-	94	108	V
4	* 2.3878	26.5	VA1T	32.1	-20.7	37.9	54	-16.1	-	-	94	108	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



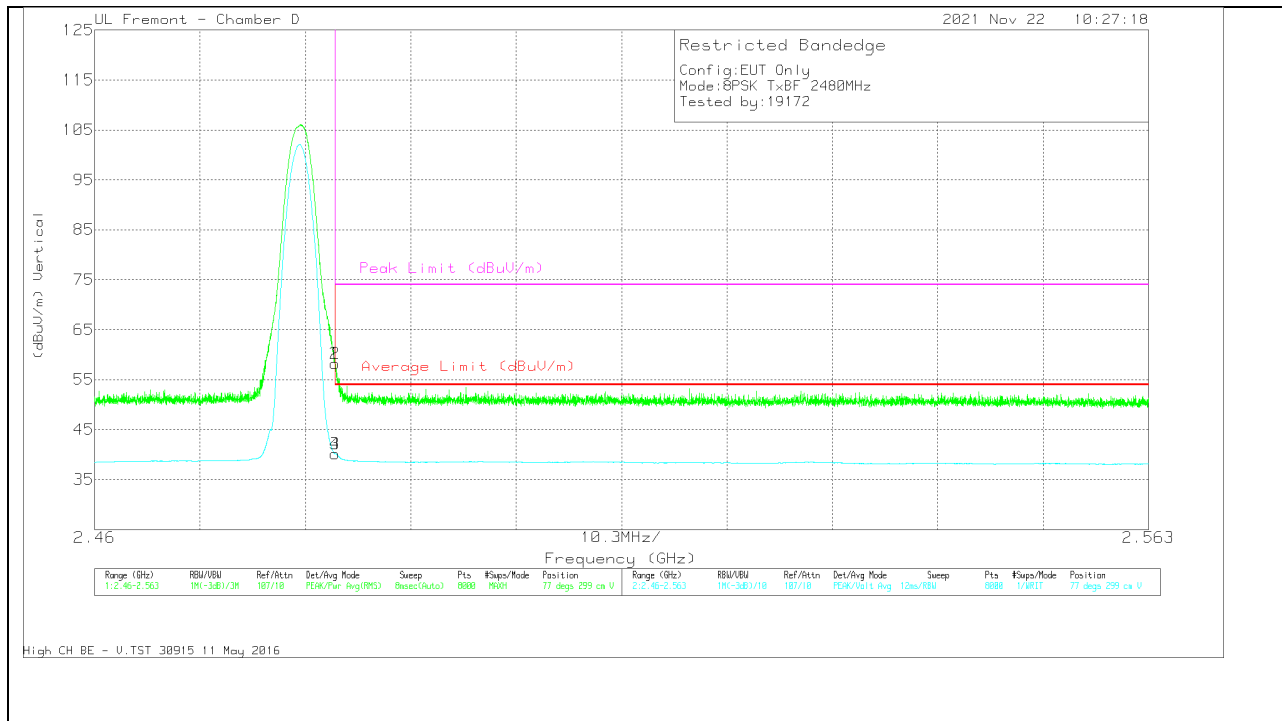
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb I/Filtr/PA d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	57.12	Pk	32.7	-20.7	69.12	-	-	74	-4.88	284	140	H
2	* 2.4835	57.11	Pk	32.7	-20.7	69.11	-	-	74	-4.89	284	140	H
3	* 2.4835	35.75	VA1T	32.7	-20.7	47.75	54	-6.25	-	-	284	140	H
4	* 2.4835	35.74	VA1T	32.7	-20.7	47.74	54	-6.26	-	-	284	140	H

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

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	46.22	Pk	32.7	-20.7	58.22	-	-	74	-15.78	77	299	V
2	* 2.4835	46.22	Pk	32.7	-20.7	58.22	-	-	74	-15.78	77	299	V
3	* 2.4835	28.16	VA1T	32.7	-20.7	40.16	54	-13.84	-	-	77	299	V
4	* 2.4835	28.16	VA1T	32.7	-20.7	40.16	54	-13.84	-	-	77	299	V

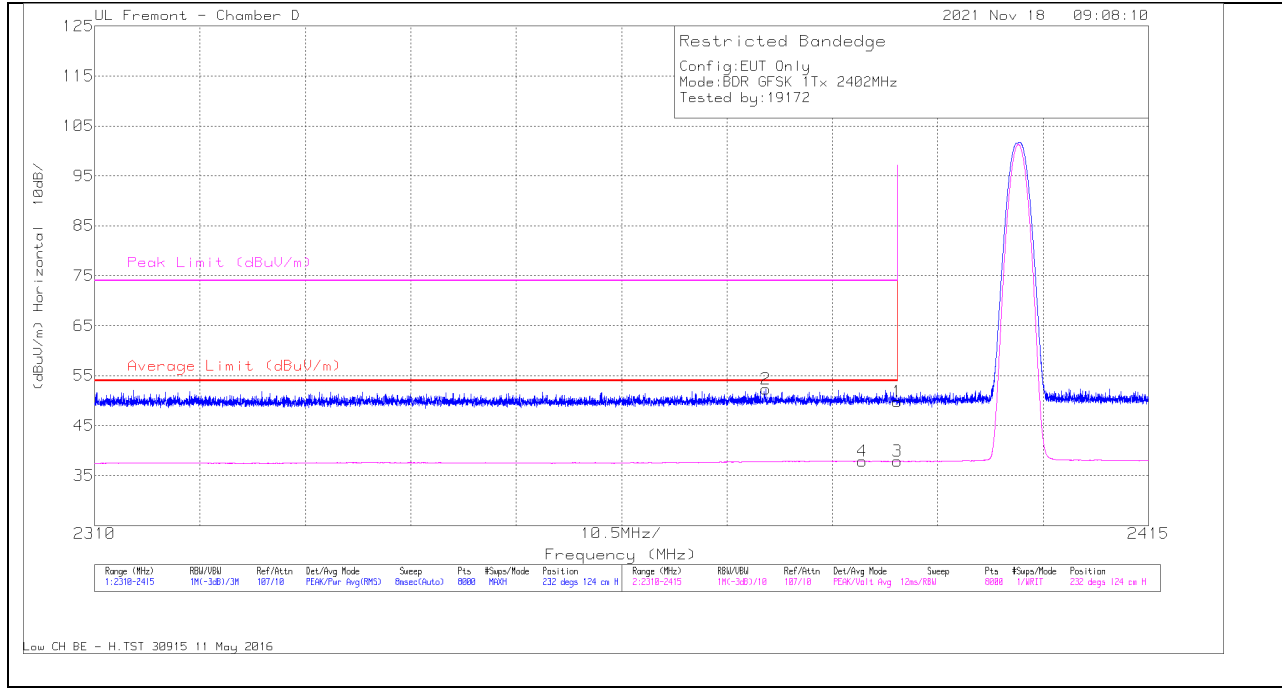
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average $V_B=1/T_{on}$ where: T_{on} is transmit duration

10.1.6. LOW POWER BASIC DATA RATE GFSK MODULATION

ANT 2

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



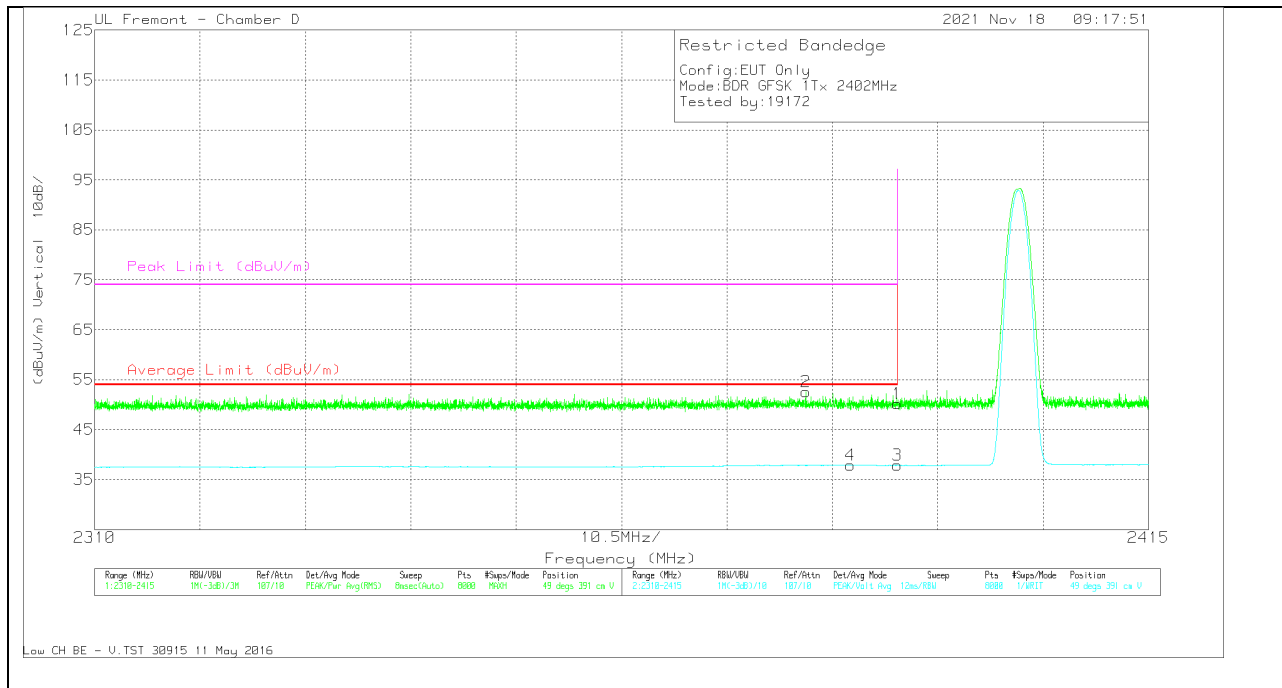
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb I/Fitr/Pa d (dB)	Correct ed Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.38	Pk	32.1	-20.7	49.78	-	-	74	-24.22	232	124	H
2	* 2377	40.95	Pk	32.1	-20.7	52.35	-	-	74	-21.65	232	124	H
3	* 2390	26.44	VA1T	32.1	-20.7	37.84	54	-16.16	-	-	232	124	H
4	* 2386.5	26.59	VA1T	32.1	-20.8	37.89	54	-16.11	-	-	232	124	H

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

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT

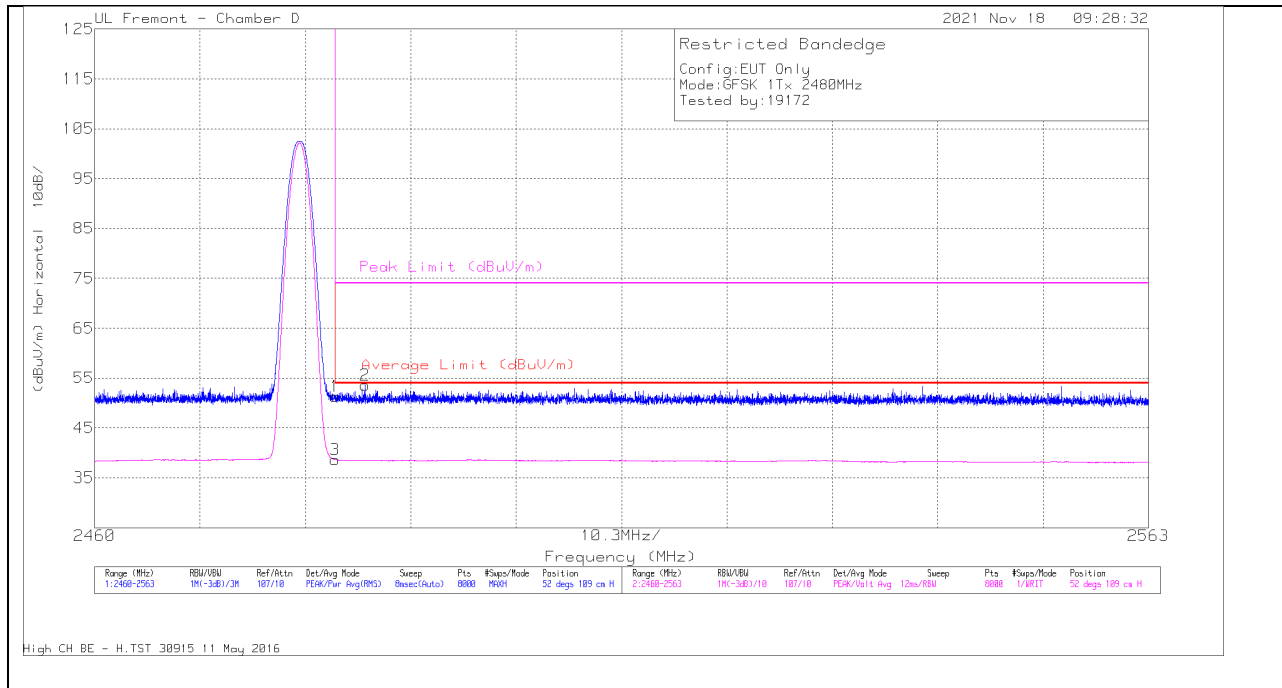


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb I/Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.73	Pk	32.1	-20.7	50.13	-	-	74	-23.87	49	391	V
2	* 2381	41.25	Pk	32.1	-20.8	52.55	-	-	74	-21.45	49	391	V
3	* 2390	26.42	VA1T	32.1	-20.7	37.82	54	-16.18	-	-	49	391	V
4	* 2385	26.62	VA1T	32.1	-20.8	37.92	54	-16.08	-	-	49	391	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



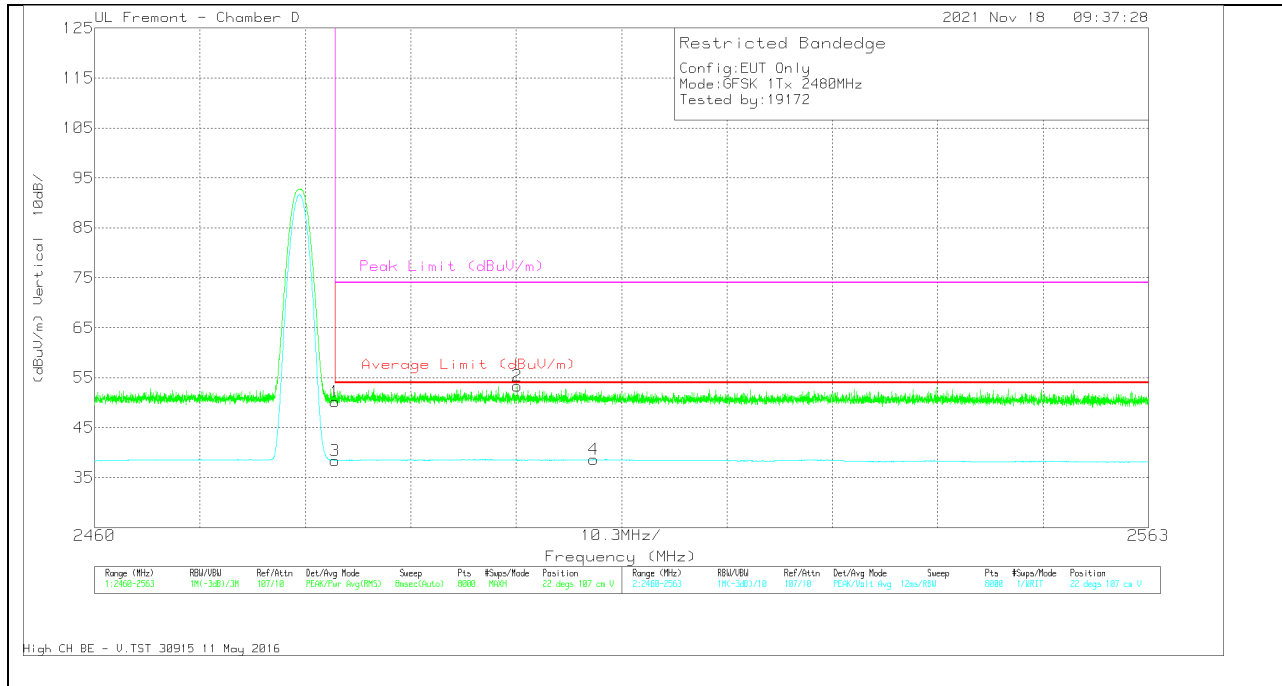
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb I/Filtr/PA d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	39.36	Pk	32.7	-20.7	51.36	-	-	74	-22.64	52	109	H
2	* 2486.42	41.54	Pk	32.7	-20.7	53.54	-	-	74	-20.46	52	109	H
3	* 2483.5	26.67	VA1T	32.7	-20.7	38.67	54	-15.33	-	-	52	109	H

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

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT



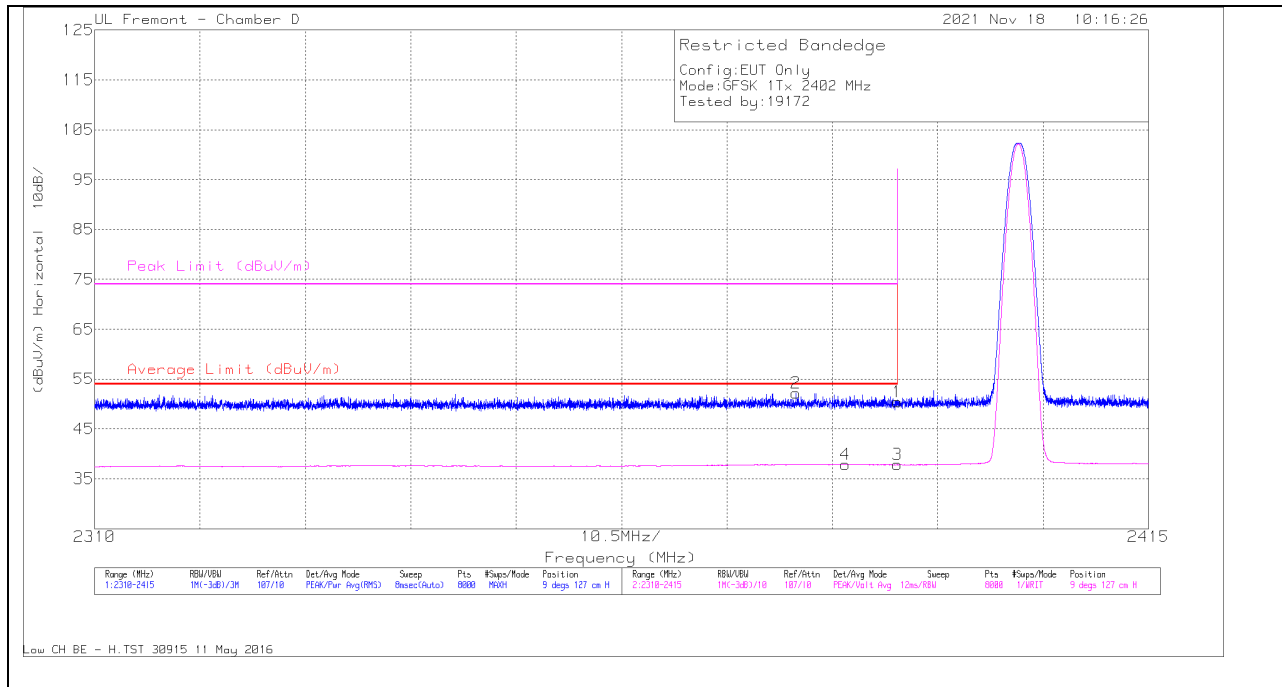
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb l/Fitr/PA d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	38.23	Pk	32.7	-20.7	50.23	-	-	74	-23.77	22	107	V
3	* 2483.5	26.43	VA1T	32.7	-20.7	38.43	54	-15.57	-	-	22	107	V
2	2501.3	41.34	Pk	32.7	-20.7	53.34	-	-	74	-20.66	22	107	V
4	2508.76	26.39	VA1T	32.7	-20.5	38.59	54	-15.41	-	-	22	107	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

ANT 3

BANEDGE (LOW CHANNEL)

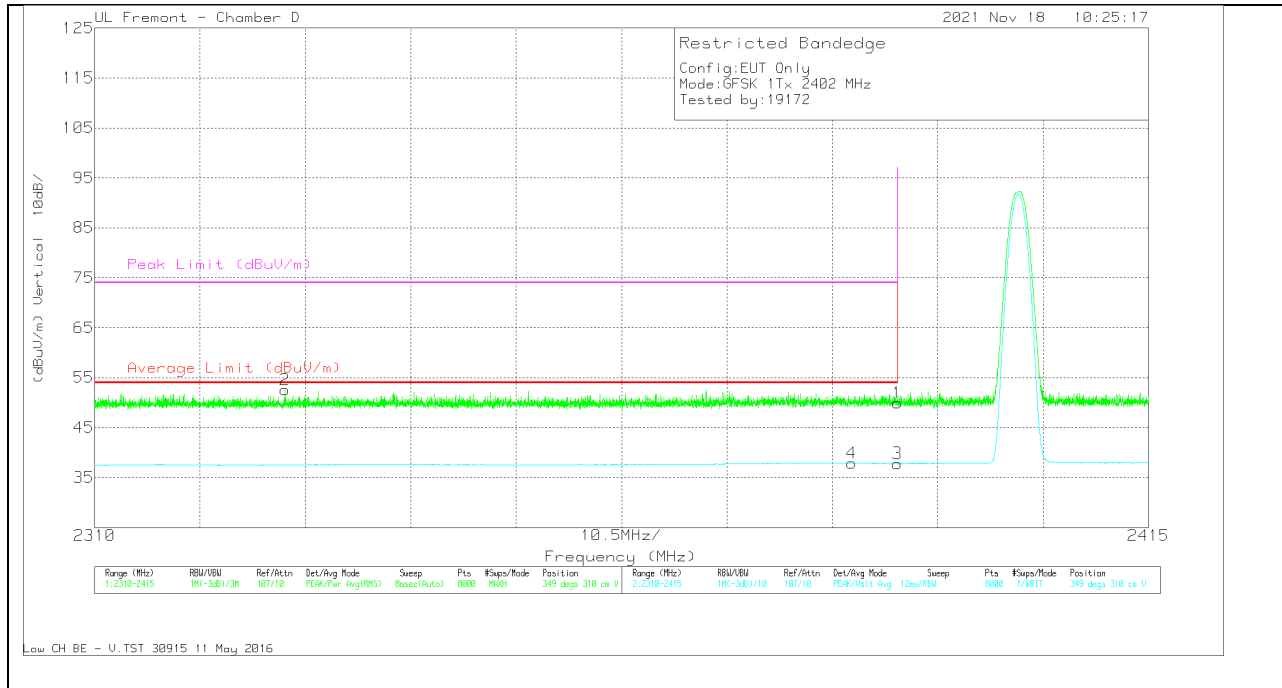
HORIZONTAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb I/Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	39.04	Pk	32.1	-20.7	50.44	-	-	74	-23.56	9	127	H
2	* 2380	40.94	Pk	32.1	-20.8	52.24	-	-	74	-21.76	9	127	H
3	* 2390	26.42	VA1T	32.1	-20.7	37.82	54	-16.18	-	-	9	127	H
4	* 2384.8	26.61	VA1T	32.1	-20.8	37.91	54	-16.09	-	-	9	127	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT

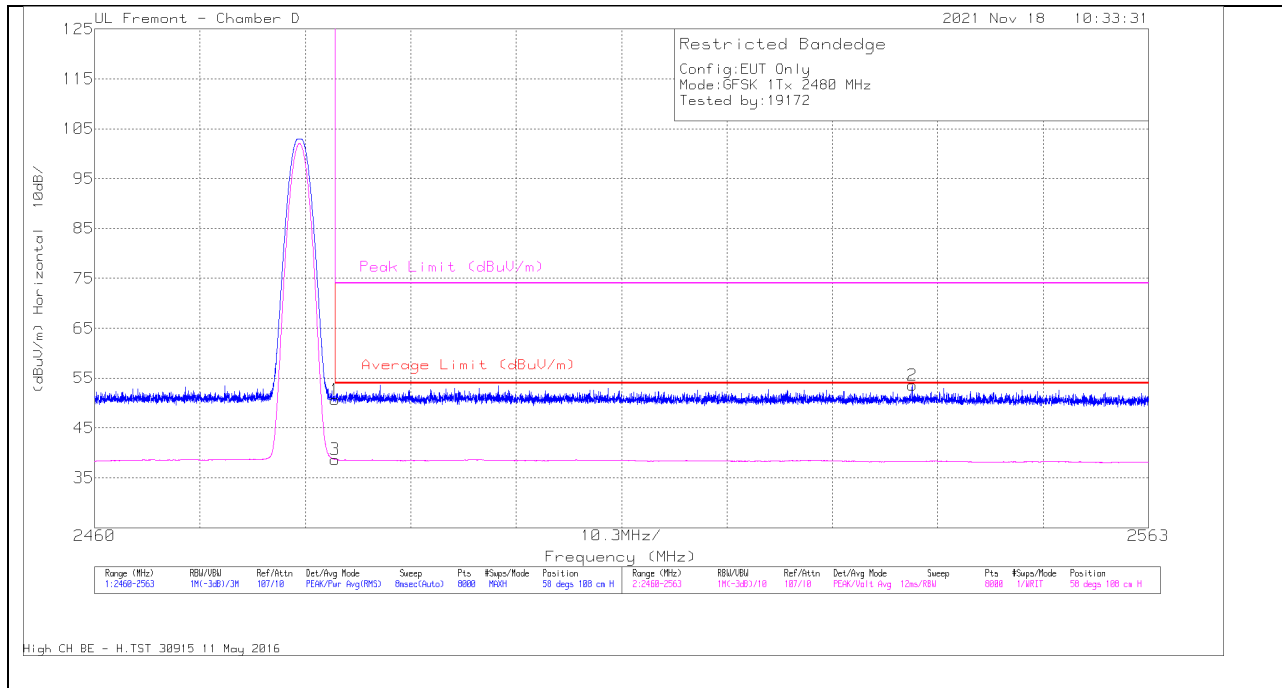


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb I/Fitr/Par d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.59	Pk	32.1	-20.7	49.99	-	-	74	-24.01	349	310	V
2	* 2328.9	41.67	Pk	31.8	-20.9	52.57	-	-	74	-21.43	349	310	V
3	* 2390	26.41	VA1T	32.1	-20.7	37.81	54	-16.19	-	-	349	310	V
4	* 2385.5	26.62	VA1T	32.1	-20.8	37.92	54	-16.08	-	-	349	310	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

BANDEDGE (HIGH CHANNEL)

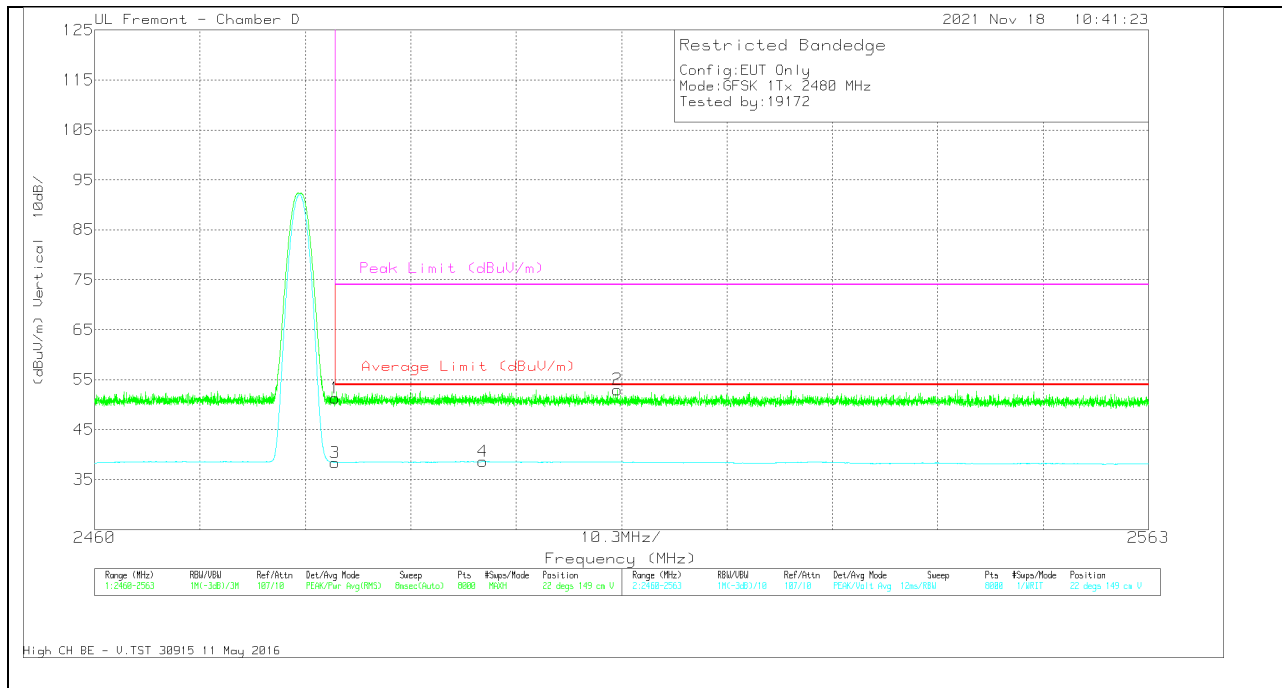
HORIZONTAL RESULT



Marker	Frequen- cy (MHz)	Meter Readin- g (dBuV)	Det	AF T712 (dB/m)	Amp/C b/Filtr/P ad (dB)	Correct ed Readin- g (dBuV/ m)	Averag e Limit (dBuV/ m)	Margin (dB)	Peak Limit (dBuV/ m)	PK Margin (dB)	Azimet h (Degs)	Height (cm)	Polarity
1	* 2483.5	38.72	Pk	32.7	-20.7	50.72	-	-	74	-23.28	58	108	H
3	* 2483.5	26.69	VA1T	32.7	-20.7	38.69	54	-15.31	-	-	58	108	H
2	2539.90	41.61	Pk	32.4	-20.4	53.61	-	-	74	-20.39	58	108	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb I/Filtr/PA d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	39.28	PK	32.7	-20.7	51.28	-	-	74	-22.72	22	149	V
3	* 2483.5	26.43	VA1T	32.7	-20.7	38.43	54	-15.57	-	-	22	149	V
4	* 2497.91	26.4	VA1T	32.8	-20.6	38.6	54	-15.4	-	-	22	149	V
2	2511.09	40.91	PK	32.7	-20.6	53.01	-	-	74	-20.99	22	149	V

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

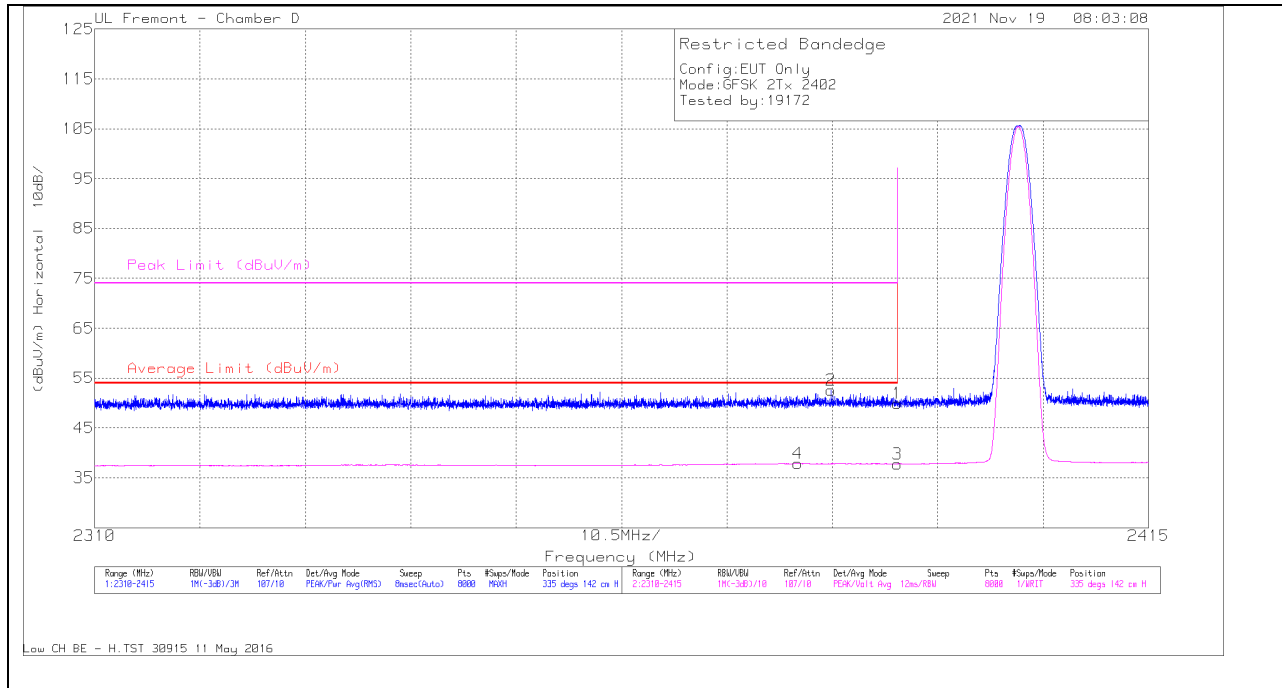
Pk - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B=1/T_{on}$ where: T_{on} is transmit duration

10.1.7. LOW POWER BASIC DATA RATE TXBF GFSK MODULATION

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



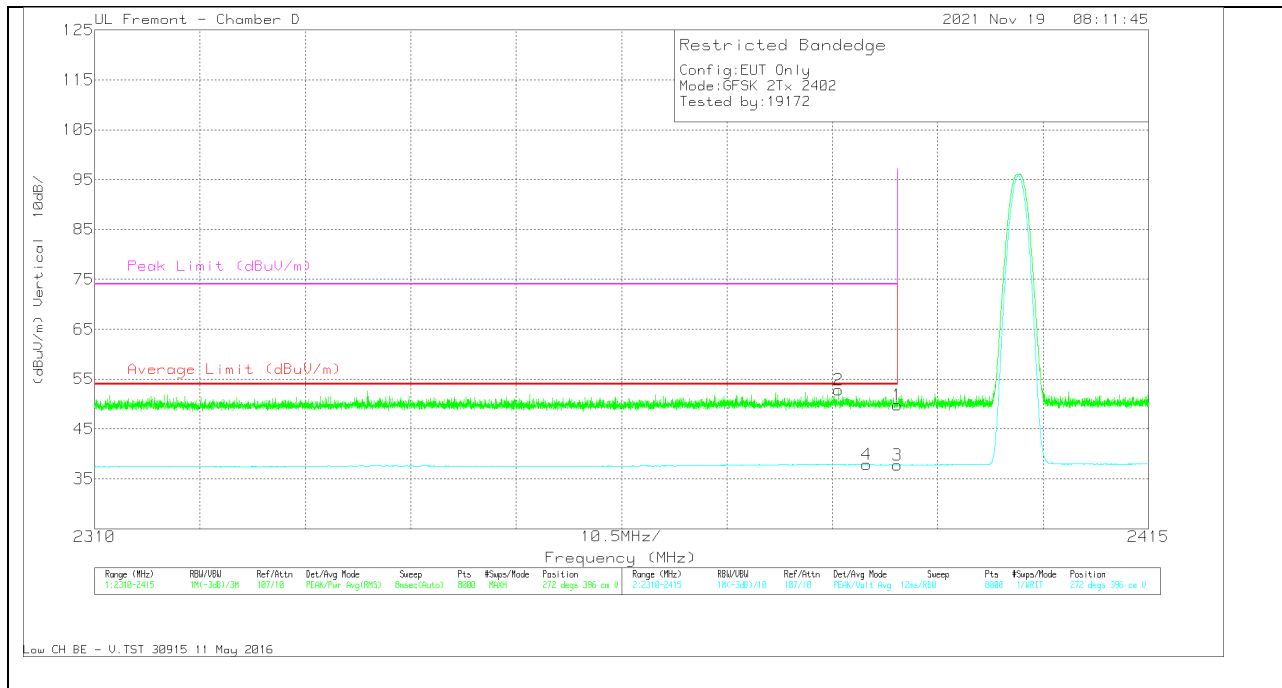
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.59	PK	32.1	-20.7	49.99	-	-	74	-24.01	335	142	H
2	* 2383.4	41.22	PK	32.1	-20.8	52.52	-	-	74	-21.48	335	142	H
3	* 2390	26.4	VA1T	32.1	-20.7	37.8	54	-16.2	-	-	335	142	H
4	* 2380.0	26.59	VA1T	32.1	-20.8	37.89	54	-16.11	-	-	335	142	H

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

PK - Peak detector

VA1T - FHSS: Linear Voltage Average $V_B=1/T_{on}$ where: T_{on} is transmit duration

VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.35	Pk	32.1	-20.7	49.75	-	-	74	-24.25	272	396	V
2	* 2384.1	41.47	Pk	32.1	-20.8	52.77	-	-	74	-21.23	272	396	V
3	* 2390	26.38	VA1T	32.1	-20.7	37.78	54	-16.22	-	-	272	396	V
4	* 2386.9	26.59	VA1T	32.1	-20.8	37.89	54	-16.11	-	-	272	396	V

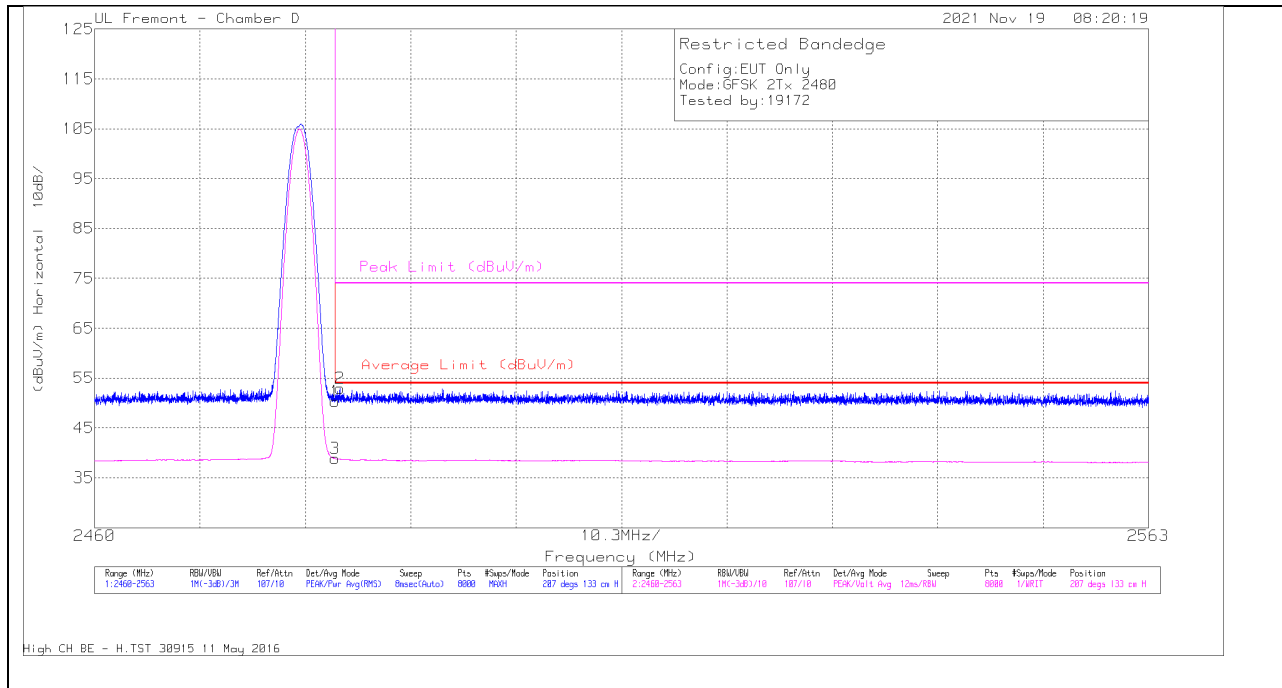
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

BANDEGE (HIGH CHANNEL)

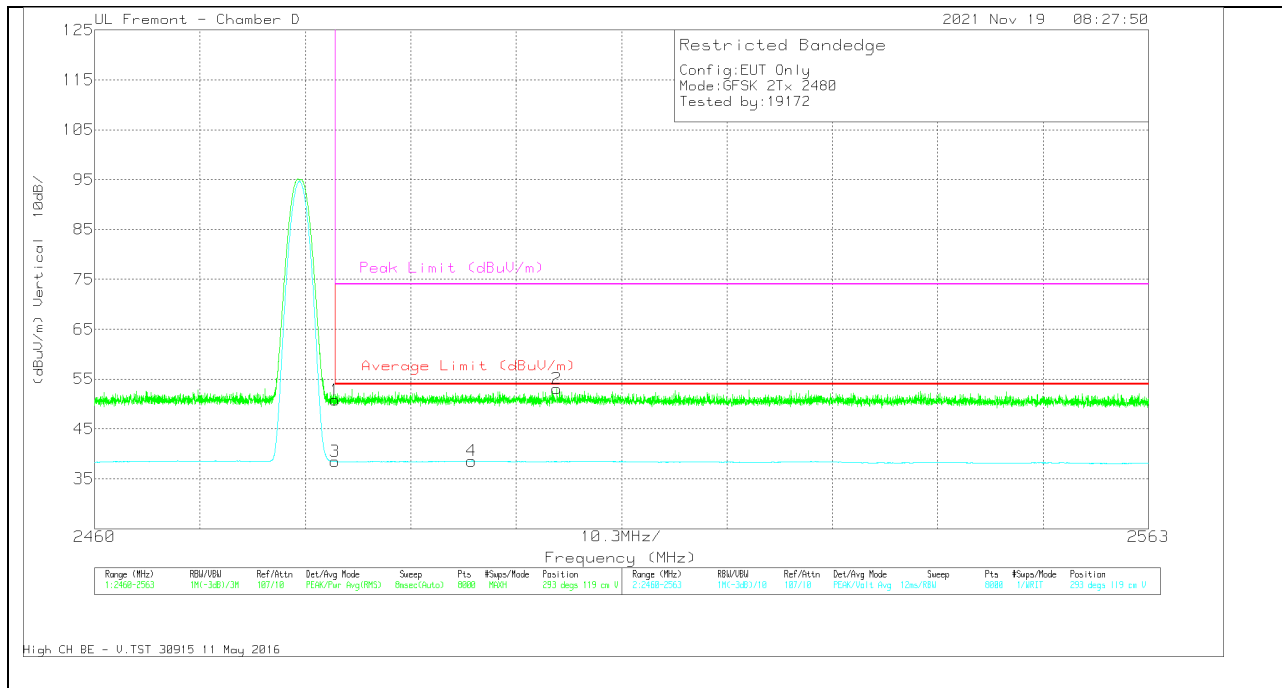
HORIZONTAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb l/Filtr/Pa d (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	38.33	Pk	32.7	-20.7	50.33	-	-	74	-23.67	207	133	H
2	* 2483.96	40.97	Pk	32.7	-20.7	52.97	-	-	74	-21.03	207	133	H
3	* 2483.5	26.85	VA1T	32.7	-20.7	38.85	54	-15.15	-	-	207	133	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb I/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	38.76	Pk	32.7	-20.7	50.76	-	-	74	-23.24	293	119	V
3	* 2483.5	26.46	VA1T	32.7	-20.7	38.46	54	-15.54	-	-	293	119	V
4	* 2496.82	26.37	VA1T	32.8	-20.6	38.57	54	-15.43	-	-	293	119	V
2	2505.14	41.08	Pk	32.7	-20.7	53.08	-	-	74	-20.92	293	119	V

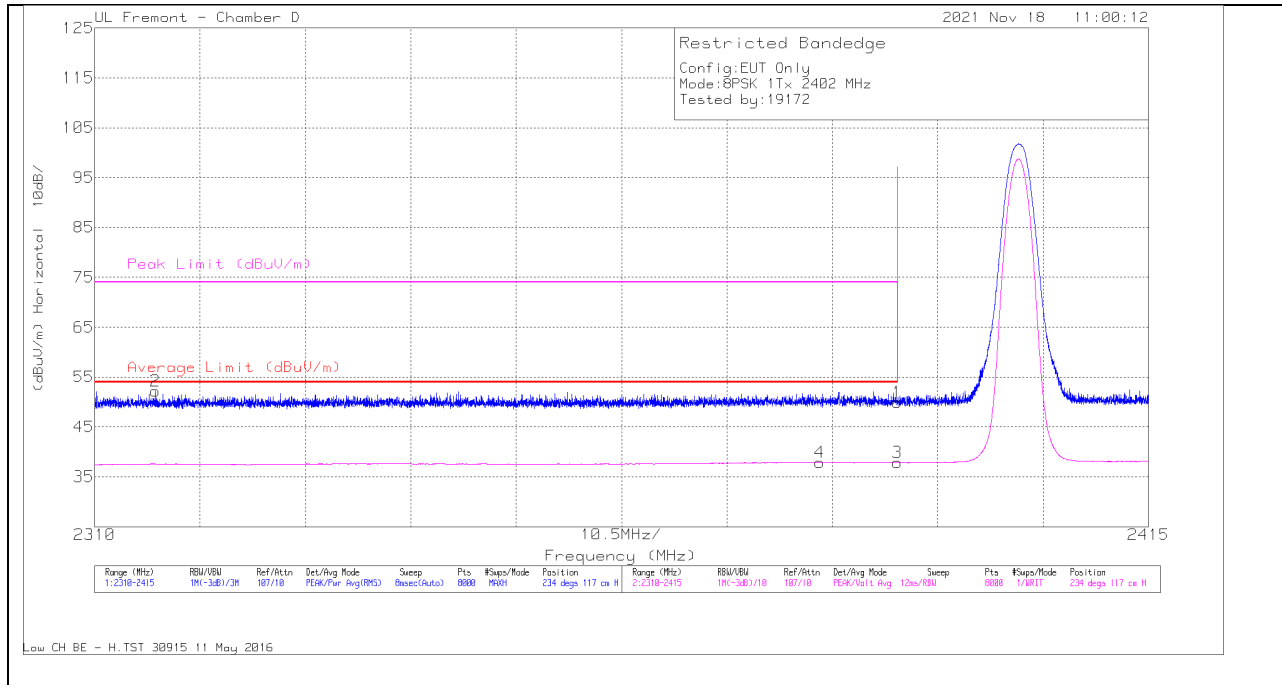
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average $V_B=1/T_{on}$ where: T_{on} is transmit duration

10.1.8. LOW POWER ENHANCED DATA RATE 8PSK MODULATION

ANT 2

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



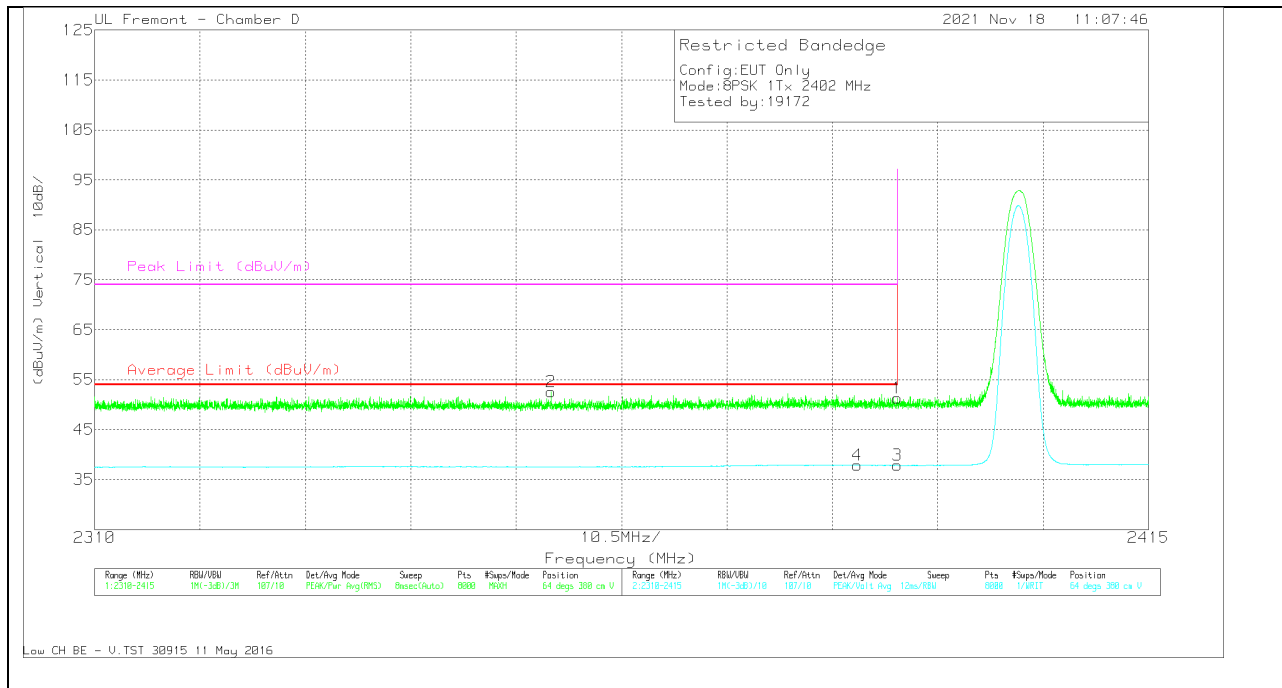
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb I/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.52	PK	32.1	-20.7	49.92	-	-	74	-24.08	234	117	H
2	* 2316.05	41.35	PK	31.8	-20.9	52.25	-	-	74	-21.75	234	117	H
3	* 2390	26.43	VA1T	32.1	-20.7	37.83	54	-16.17	-	-	234	117	H
4	* 2382.25	26.63	VA1T	32.1	-20.8	37.93	54	-16.07	-	-	234	117	H

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

PK - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T712 (dB/m)	Amp/Cb I/Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	39.96	Pk	32.1	-20.7	51.36	-	-	74	-22.64	64	380	V
2	* 2355.47	41.54	Pk	31.8	-20.8	52.54	-	-	74	-21.46	64	380	V
3	* 2390	26.43	VA1T	32.1	-20.7	37.83	54	-16.17	-	-	64	380	V
4	* 2386.00	26.62	VA1T	32.1	-20.8	37.92	54	-16.08	-	-	64	380	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
 Pk - Peak detector
 VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration