

FCC Test Report

Report No.: AGC11447201001FE03

FCC ID : QOS-TCNANORX
APPLICATION PURPOSE : Original Equipment
PRODUCT DESIGNATION : NANO RX
BRAND NAME : TBS TRACER
MODEL NAME : NANO RX
APPLICANT : TBS Avionics Limited
DATE OF ISSUE : Mar. 16, 2021
STANDARD(S) : FCC Part 15.247
REPORT VERSION : V1.0



Attestation of Global Compliance (Shenzhen) Co., Ltd



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REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Mar. 16, 2021	Valid	Initial Release

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TABLE OF CONTENTS

1. VERIFICATION OF CONFORMITY.....	5
2. GENERAL INFORMATION	6
2.1. PRODUCT DESCRIPTION	6
2.2. TABLE OF CARRIER FREQUENCIES	6
2.3. RECEIVER INPUT BANDWIDTH	7
2.4. EXAMPLE OF A HOPPING SEQUENCY IN DATA MODE	7
2.5. EQUALLY AVERAGE USE OF FREQUENCIES AND BEHAVIOUR	7
2.6. RELATED SUBMITTAL(S) / GRANT (S)	8
2.7. TEST METHODOLOGY	8
2.8. SPECIAL ACCESSORIES	8
2.9. EQUIPMENT MODIFICATIONS.....	8
2.10. ANTENNA REQUIREMENT.....	8
3. MEASUREMENT UNCERTAINTY	9
4. DESCRIPTION OF TEST MODES	10
5. SYSTEM TEST CONFIGURATION	11
5.1. CONFIGURATION OF EUT SYSTEM.....	11
5.2. EQUIPMENT USED IN TESTED SYSTEM.....	11
5.3. SUMMARY OF TEST RESULTS	11
6. TEST FACILITY	12
7. PEAK OUTPUT POWER.....	13
7.1. MEASUREMENT PROCEDURE	13
7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	13
7.3. LIMITS AND MEASUREMENT RESULT	14
8. 20DB BANDWIDTH.....	18
8.1. MEASUREMENT PROCEDURE	18
8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	18
8.3. LIMITS AND MEASUREMENT RESULTS	19
9. CONDUCTED SPURIOUS EMISSION.....	23
9.1. MEASUREMENT PROCEDURE	23

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9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	23
9.3. MEASUREMENT EQUIPMENT USED	23
9.4. LIMITS AND MEASUREMENT RESULT	23
10. RADIATED EMISSION	34
10.1. MEASUREMENT PROCEDURE	34
10.2. TEST SETUP	36
10.3. LIMITS AND MEASUREMENT RESULT	37
10.4. TEST RESULT	37
11. NUMBER OF HOPPING FREQUENCY	54
11.1. MEASUREMENT PROCEDURE	54
11.2. TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION)	54
11.3. MEASUREMENT EQUIPMENT USED	54
11.4. LIMITS AND MEASUREMENT RESULT	54
12. TIME OF OCCUPANCY (DWELL TIME)	56
12.1. MEASUREMENT PROCEDURE	56
12.2. TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION)	56
12.3. MEASUREMENT EQUIPMENT USED	56
12.4. LIMITS AND MEASUREMENT RESULT	56
13. FREQUENCY SEPARATION	64
13.1. MEASUREMENT PROCEDURE	64
13.2. TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION)	64
13.3. MEASUREMENT EQUIPMENT USED	64
13.4. LIMITS AND MEASUREMENT RESULT	64
APPENDIX A: PHOTOGRAPHS OF TEST SETUP	66
APPENDIX B: PHOTOGRAPHS OF EUT	68

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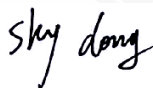
1. VERIFICATION OF CONFORMITY

Applicant	TBS Avionics Limited
Address	9/F, Tungtex Building 203 Wai Yip Street, Kwun Tong, Hong Kong, China
Manufacturer	TBS Avionics Limited
Address	9/F, Tungtex Building 203 Wai Yip Street, Kwun Tong, Hong Kong, China
Factory	TBS Avionics Limited
Address	9/F, Tungtex Building 203 Wai Yip Street, Kwun Tong, Hong Kong, China
Product Designation	NANO RX
Brand Name	TBS TRACER
Test Model	NANO RX
Date of test	Mar. 12, 2021 to Mar. 16, 2021
Deviation	No any deviation from the test method
Condition of Test Sample	Normal
Test Result	Pass
Report Template	AGCRT-US-BR/RF

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC PART 15.247.

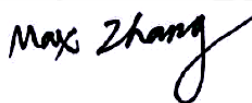
Prepared By



Sky Dong
(Project Engineer)

Mar. 16, 2021

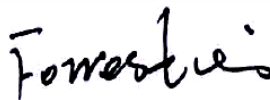
Reviewed By



Max Zhang
(Reviewer)

Mar. 16, 2021

Approved By



Forrest Lei
(Authorized Officer)

Mar. 16, 2021

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2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as “NANO RX”. It is designed by way of utilizing the GFSK technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency	2403 MHz to 2470.2 MHz
RF Output Power	13.226dBm (Max)
Modulation	GFSK
Number of channels	84
Hardware Version	V1.01
Software Version	v4.39
Antenna Designation	Dipole Antenna (Comply with requirements of the FCC part 15.203)
Antenna Gain	Antenna 1:2.0dBi Antenna 2:2.0dBi
Power Supply	DC 4.5V to 8.4V by Rechargeable lithium batteries

2.2. TABLE OF CARRIER FREQUENCIES

Frequency Band	Channel Number	Frequency(MHz)
2403~2480MHz	1	2403.4
	2	2404.2
	3	2405.0
	:	:
	:	:
	42	2436.2
	43	2437.0
	:	:
	:	:
	83	2469.0
	84	2469.8

Channel Separation: 0.8MHz

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2.3. RECEIVER INPUT BANDWIDTH

The input bandwidth of the receiver is 2.5MHz, in every connection one device is the master and the other one is slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master. Additionally, the type of connection (e.g. single or multi slot packet) is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also, the slave of the connection will use these settings. Repeating of a packet has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means, a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.

2.4. EXAMPLE OF A HOPPING SEQUENCY IN DATA MODE

Example of a hopping sequence in data mode:

10, 14, 22, 16, 01, 05, 24, 25, 09, 11, 08, 17, 66, 67, 68, 69, 18, 83,
60, 61, 62, 74, 78, 79, 63, 64, 13, 02, 15, 57, 58, 03, 12, 04, 53, 77,
07, 81, 82, 30, 31, 75, 76, 32, 33, 06, 19, 55, 56, 20, 21, 23, 26, 27,
28, 29, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49,
50, 51, 52, 54, 84, 59, 65, 70, 71, 72, 73, 80

2.5. EQUALLY AVERAGE USE OF FREQUENCIES AND BEHAVIOUR

The generation of the hopping sequence in connection mode depends essentially on two input values:

1. LAP/UAP of the master of the connection.
2. Internal master clock.

The LAP (lower address part) are the 24 LSB's of the 48 BD_ADDRESS. The BD_ADDRESS is an unambiguous number of every unit. The UAP (upper address part) are the 24MSB's of the 48BD_ADDRESS. The internal clock of a unit is derived from a free running clock which is never adjusted and is never turned off. For behavior action with other units only offset is used. It has no relation to the time of the day. Its resolution is at least half the RX/TX slot length of 312.5us. The clock has a cycle of about one day(23h30).

In most case it is implemented as 28 bits counter. For the deriving of the hopping sequence the entire. LAP (24 bits), 4LSB's (4bits) (Input 1) and the 27MSB's of the clock (Input 2) are used. With this input values different mathematical procedures (permutations, additions, XOR-operations) are performed to generate the Sequence. This will be done at the beginning of every new transmission.

Regarding short transmissions the system has the following behavior:

The first connection between the two devices is established, a hopping sequence was generated. For Transmitting the wanted data the complete hopping sequence was not used. The connection ended. The second connection will be established. A new hopping sequence is generated. Due to the fact the clock has a different value, because the period between the two transmission is longer (and it

Cannot be shorter) than the minimum resolution of the clock (312.5us). The hopping sequence will always differ from the first one.

2.6. RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: QOS-TCNANORX** filing to comply with the FCC PART 15.247 requirements.

2.7. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2013). Radiated testing was performed at an antenna to EUT distance 3 meters.

2.8. SPECIAL ACCESSORIES

Refer to section 5.2.

2.9. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

2.10. ANTENNA REQUIREMENT

This intentional radiator is designed with a permanently attached antenna of an antenna to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

For more information of the antenna, please refer to the APPENDIX B: PHOTOGRAPHS OF EUT.

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3. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

- Uncertainty of Conducted Emission, $U_c = \pm 3.2$ dB
- Uncertainty of Radiated Emission below 1GHz, $U_c = \pm 3.9$ dB
- Uncertainty of Radiated Emission above 1GHz, $U_c = \pm 4.8$ dB
- Uncertainty of total RF power, conducted, $U_c = \pm 0.8$ dB
- Uncertainty of spurious emissions, conducted, $U_c = \pm 2.7$ dB
- Uncertainty of Occupied Channel Bandwidth: $U_c = \pm 2$ %
- Uncertainty of Dwell Time: $U_c = \pm 2$ %
- Uncertainty of Frequency: $U_c = \pm 2$ %

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4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Low channel GFSK(2403.4MHz) with charging
2	Middle channel GFSK(2436.2MHz) with charging
3	High channel GFSK(2469.8MHz) with charging
4	Hopping mode GFSK with charging

Note:

1. Only the result of the worst case was recorded in the report, if no other cases.
2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
3. For Conducted Test method, a temporary antenna connector is provided by the manufacture.
4. The test software is the puTTY Release 0.74 which can set the EUT into the individual test modes.

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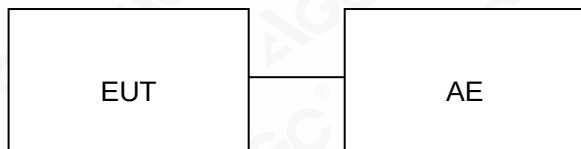
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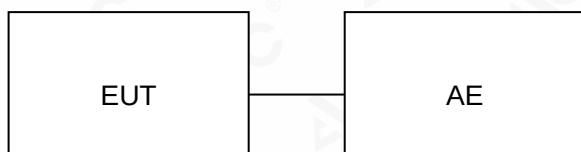
5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF EUT SYSTEM

Radiated Emission Configure:



Conducted Emission Configure:



5.2. EQUIPMENT USED IN TESTED SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	NANO RX	NANO RX	QOS-TCNANORX	EUT
2	PC	Nbl-WAQ9R	N/A	AE
3	Control board	C3	DC 5V	AE

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
15.247 (b)(1)	Peak Output Power	Compliant
15.247 (a)(1)	20 dB Bandwidth	Compliant
15.247 (d)	Conducted Spurious Emission	Compliant
15.209	Radiated Emission	Compliant
15.247 (a)(1)(iii)	Number of Hopping Frequency	Compliant
15.247 (a)(1)(iii)	Time of Occupancy	Compliant
15.247 (a)(1)	Frequency Separation	Compliant
15.207	Conducted Emission	Not Applicable

Note: The conducted limits are not required for devices which only employ battery power for operation.

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6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Designation Number	CN1259
FCC Test Firm Registration Number	975832
A2LA Cert. No.	5054.02
Description	Attestation of Global Compliance (Shenzhen) Co., Ltd is accredited by A2LA

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	May 15, 2020	May 14, 2021
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec. 07, 2020	Dec. 06, 2021
2.4GHz Filter	EM Electronics	2400-2500MHz	N/A	Mar. 23, 2020	Mar. 22, 2022
Attenuator	ZHINAN	E-002	N/A	N/A	N/A
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Sep. 09, 2019	Sep. 08, 2021
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	May 22, 2020	May 21, 2022
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May 17, 2019	May 16, 2021
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Sep. 03, 2020	Sep. 02, 2022
ANTENNA	SCHWARZBECK	VULB9168	494	Sep. 20, 2019	Sep. 19, 2021
Test software	Tonscend	JS32-RE (Ver.2.5)	N/A	N/A	N/A

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7. PEAK OUTPUT POWER

7.1. MEASUREMENT PROCEDURE

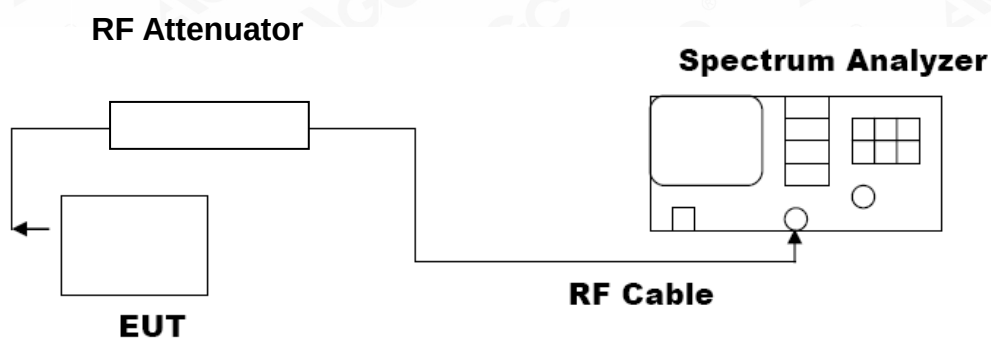
For peak power test:

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Span: Approximately five times the 20 dB bandwidth, centered on a hopping channel.
3. RBW > 20 dB bandwidth of the emission being measured.
4. VBW $\geq$ RBW.
5. Sweep: Auto.
6. Detector function: Peak.
7. Trace: Max hold.

Allow trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power, after any corrections for external attenuators and cables.

7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

PEAK POWER TEST SETUP



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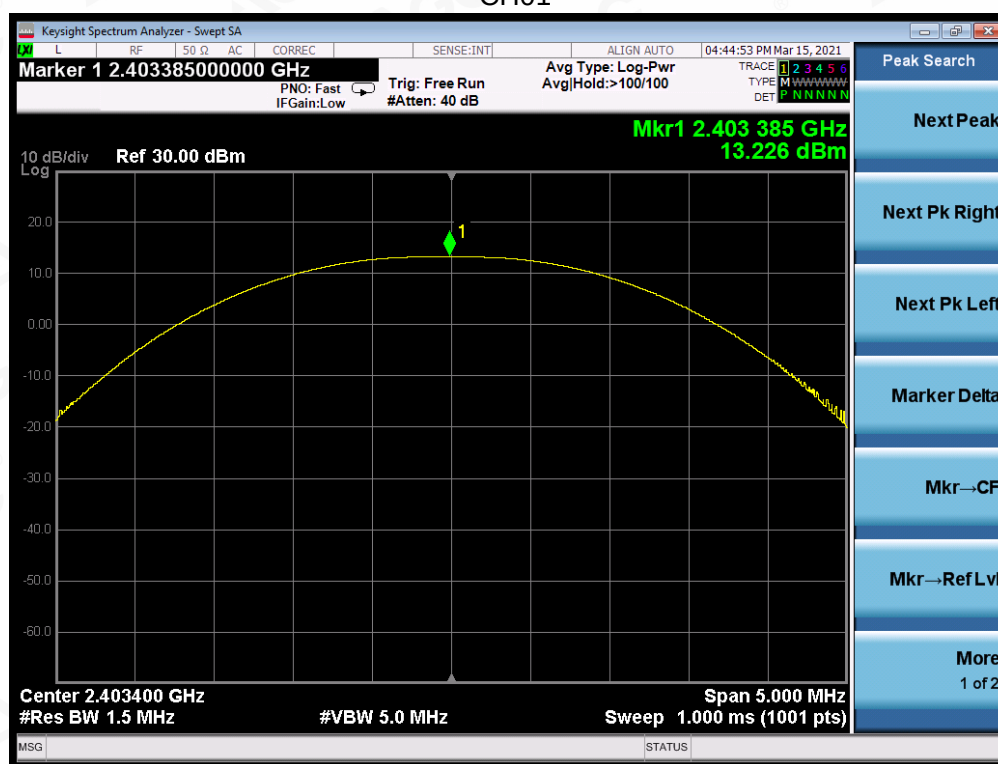


7.3. LIMITS AND MEASUREMENT RESULT

Antenna 1

PEAK OUTPUT POWER MEASUREMENT RESULT FOR GFSK MODULATION			
Frequency (MHz)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2403.4	13.226	30	Pass
2436.2	13.091	30	Pass
2469.8	12.654	30	Pass

CH01

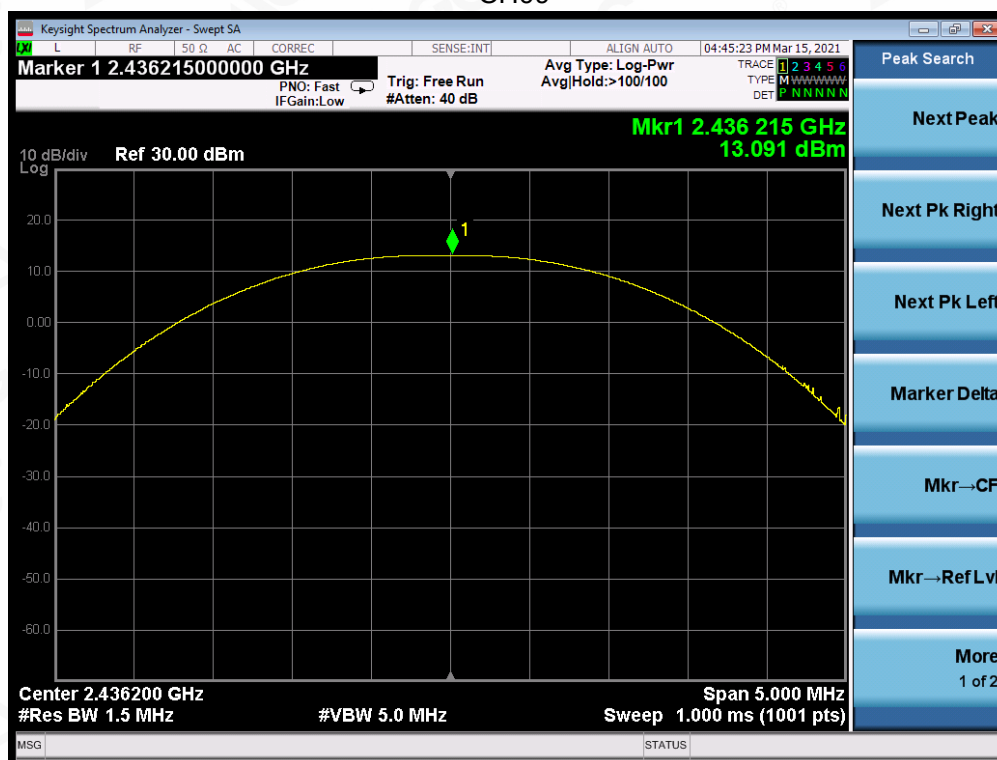


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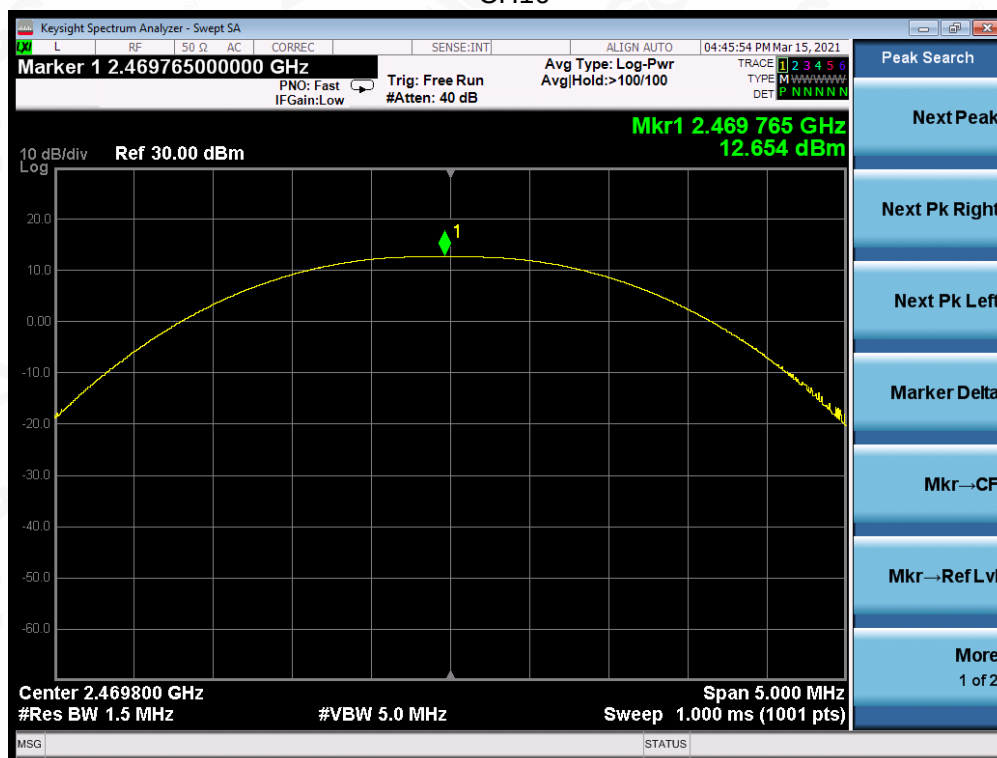
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CH16



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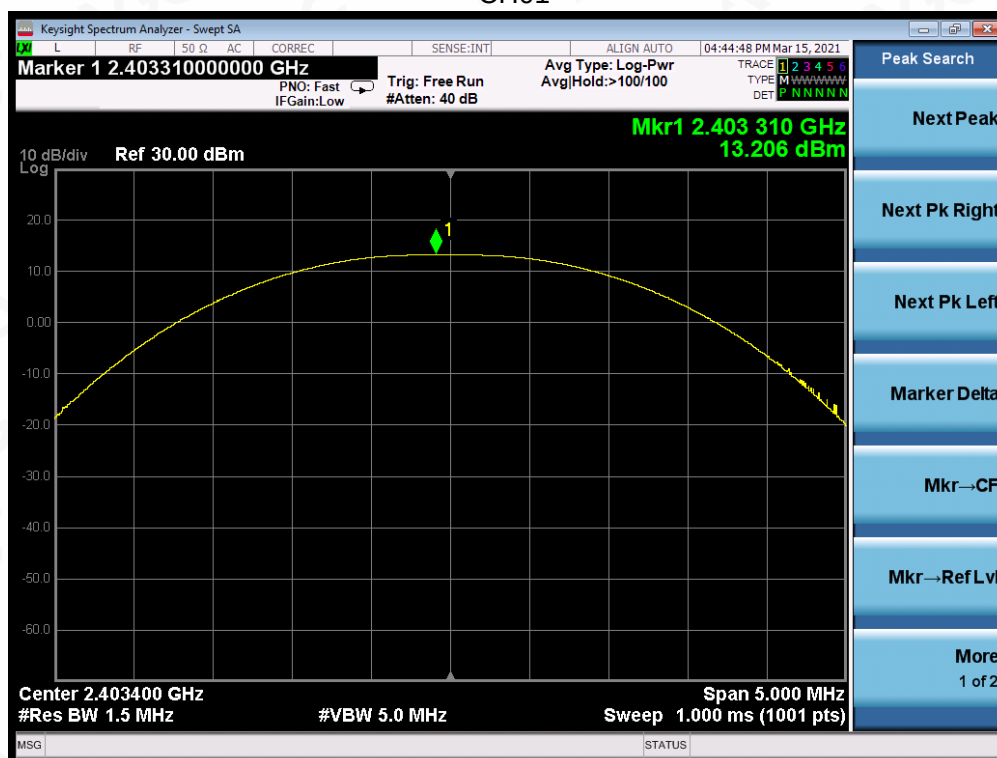
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Antenna 2

PEAK OUTPUT POWER MEASUREMENT RESULT FOR GFSK MOUDULATION			
Frequency (MHz)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2403.4	13.206	30	Pass
2436.2	13.075	30	Pass
2469.8	12.646	30	Pass

CH01

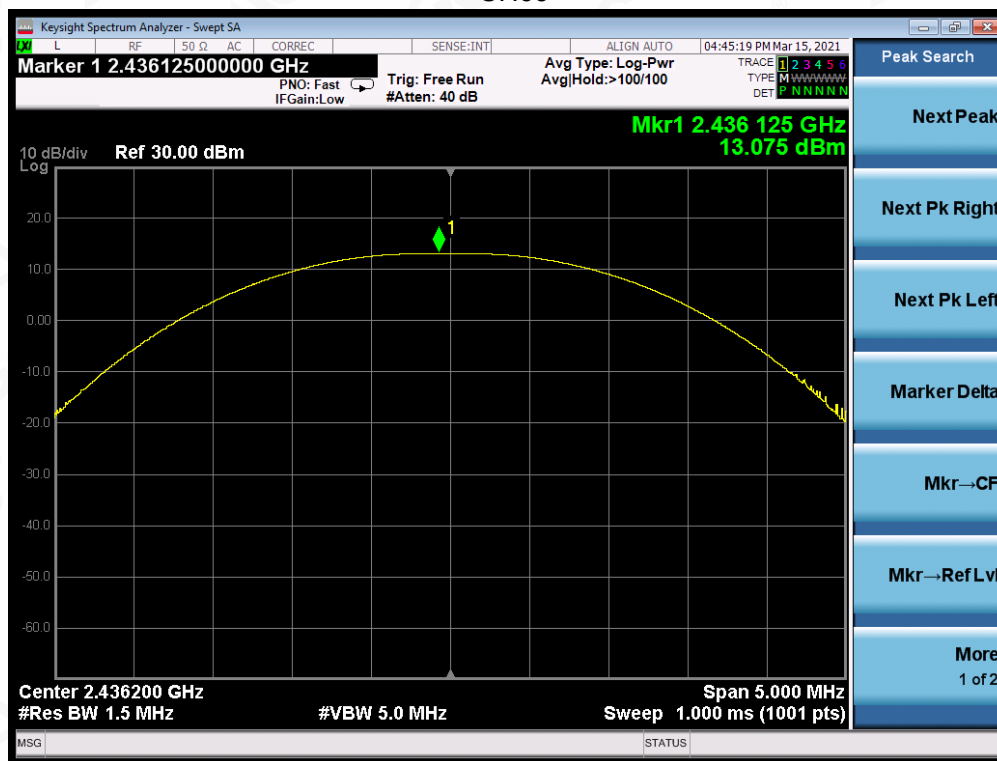


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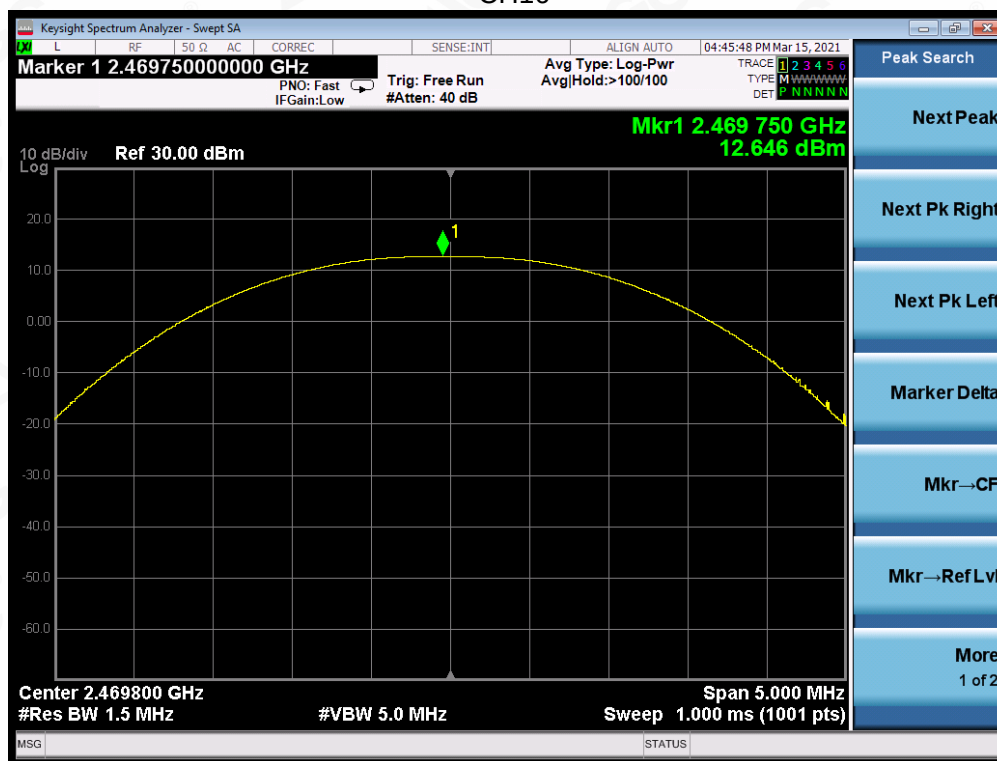
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CH09



CH16



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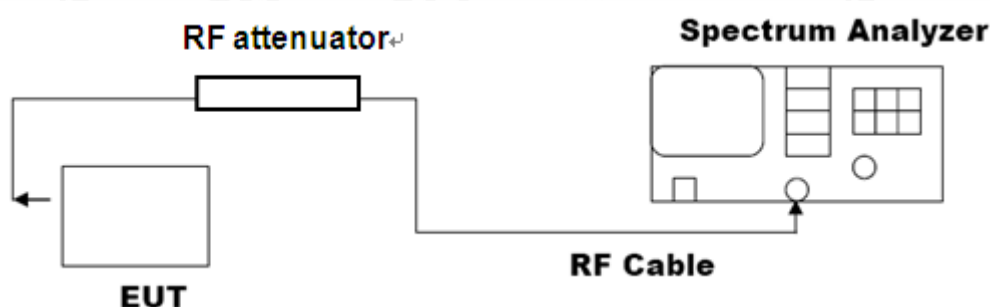


8. 20DB BANDWIDTH

8.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set Span = approximately 2 to 5 times the 20 dB bandwidth, centered on a hopping channel
The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW; Sweep = auto; Detector function = peak
4. Set SPA Trace 1 Max hold, then View.

8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



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8.3. LIMITS AND MEASUREMENT RESULTS

Antenna 1

MEASUREMENT RESULT FOR GFSK MOUDULATION			
Applicable Limits	Measurement Result		
	Test Data (KHz)		Criteria
N/A	Low Channel	718.3	PASS
	Middle Channel	714.4	PASS
	High Channel	716.2	PASS

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



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TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



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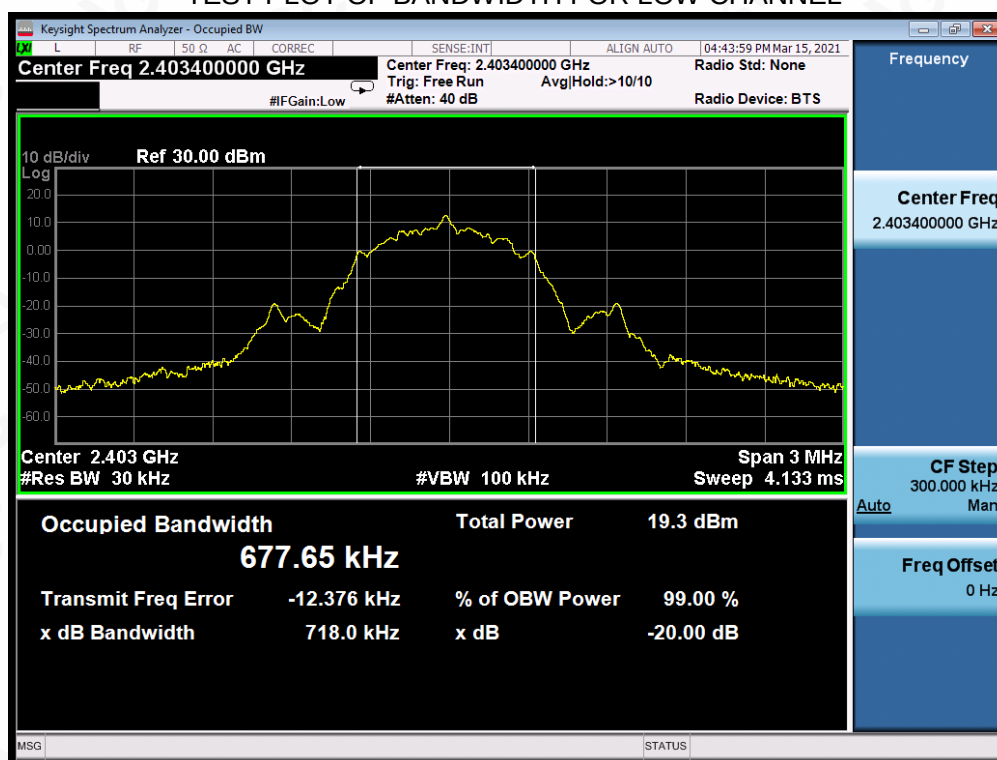
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Antenna 2

MEASUREMENT RESULT FOR GFSK MODULATION			
Applicable Limits	Measurement Result		
	Test Data (KHz)		Criteria
N/A	Low Channel	718.0	PASS
	Middle Channel	711.6	PASS
	High Channel	716.6	PASS

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



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TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



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9. CONDUCTED SPURIOUS EMISSION

9.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the Middle and the bottom operation frequency individually.
3. Set the Span = wide enough to capture the peak level of the in-band emission and all spurious emissions from the lowest frequency generated in the EUT up through the 10th harmonic.
RBW = 100 kHz; VBW= 300 kHz; Sweep = auto; Detector function = peak.
4. Set SPA Trace 1 Max hold, then View.

9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 8.2

9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6

9.4. LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT		
Applicable Limits	Measurement Result	
	Test Data	Criteria
In any 100 kHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produce by the intentional radiator shall be at least 20 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power. In addition, radiation emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in§15.209(a))	At least -20dBc than the limit Specified on the BOTTOM Channel	PASS
	At least -20dBc than the limit Specified on the TOP Channel	PASS

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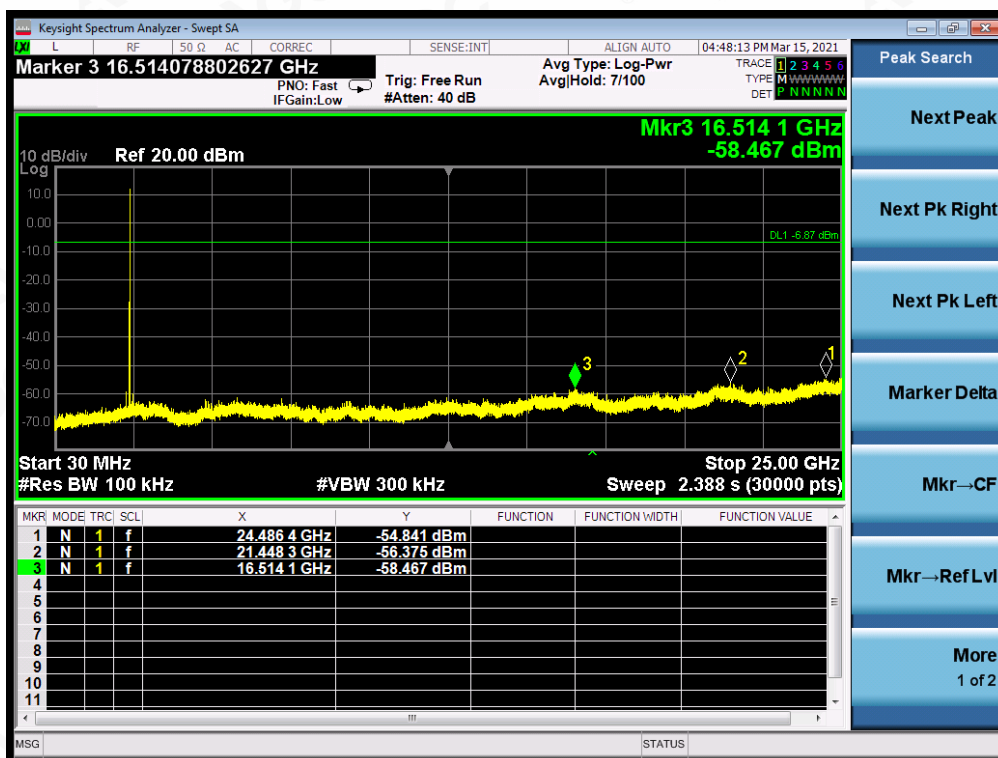
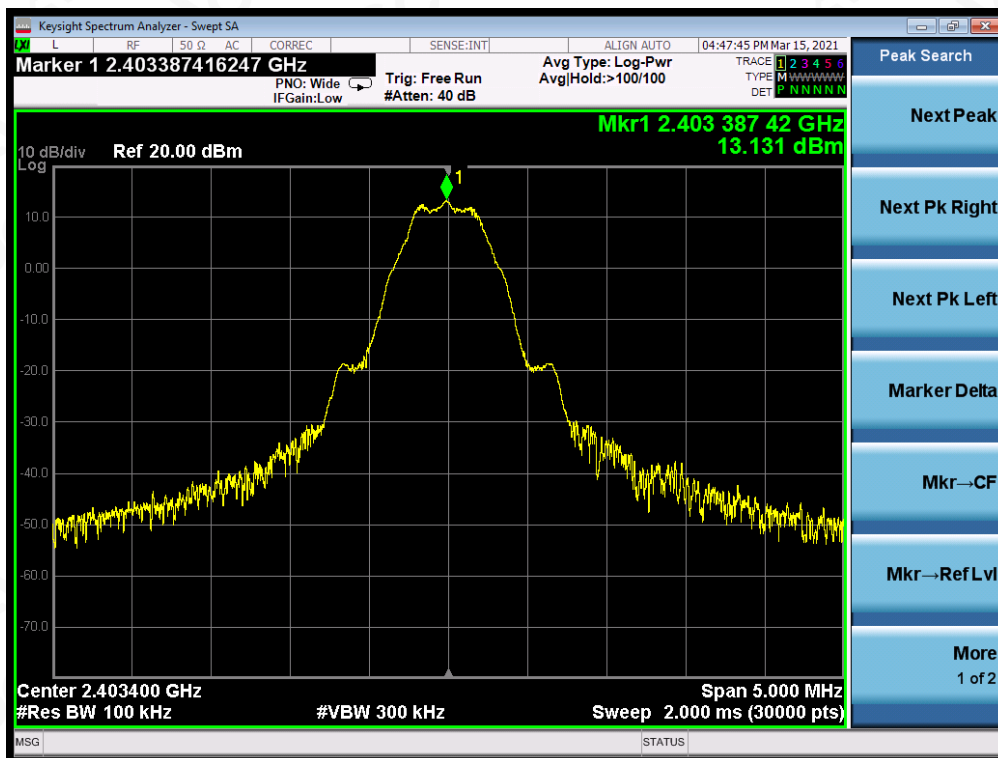
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TEST RESULT FOR ENTIRE FREQUENCY RANGE

Antenna 1

TEST PLOT OF OUT OF BAND EMISSIONS OF GFSK MODULATION IN LOW CHANNEL

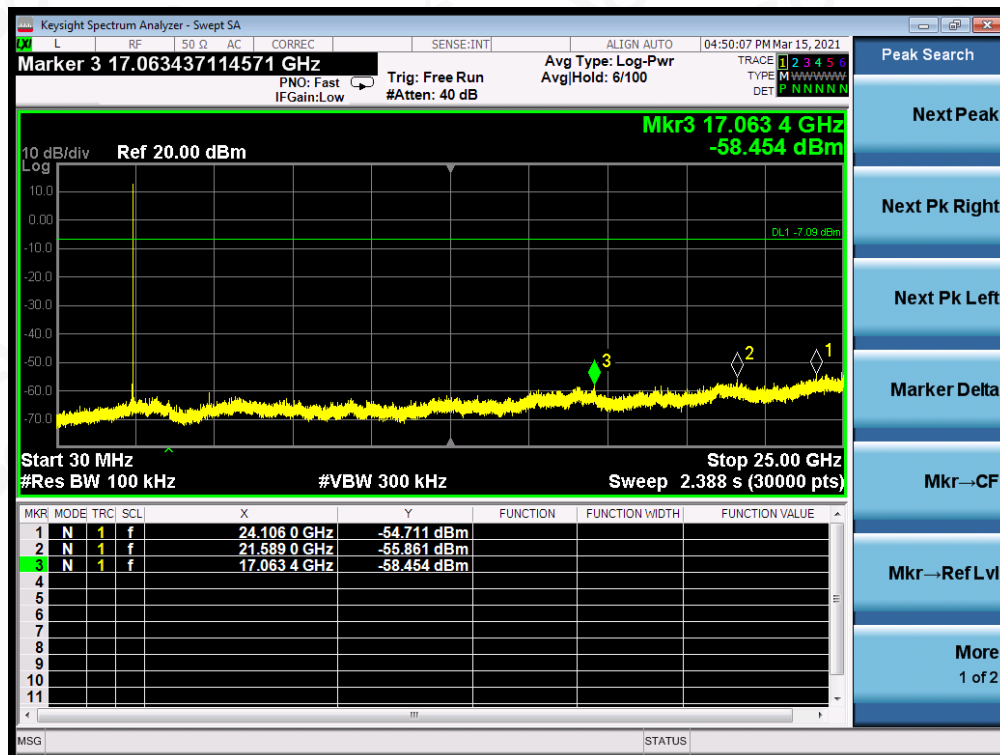
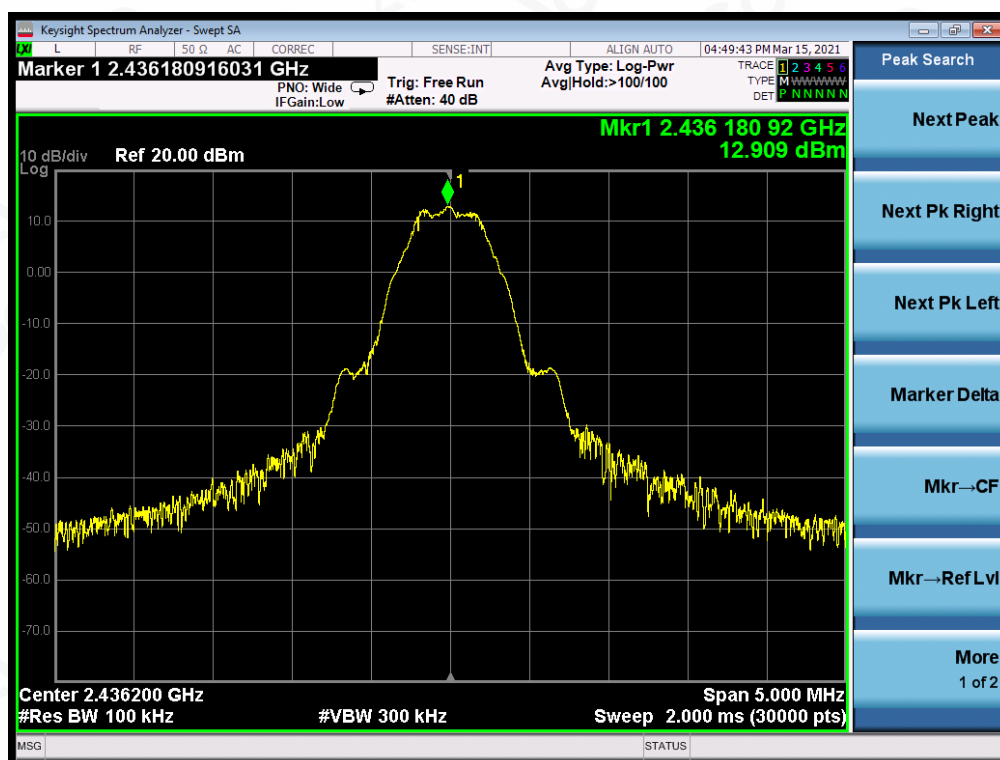


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TEST PLOT OF OUT OF BAND EMISSIONS OF GFSK MODULATION IN MIDDLE CHANNEL

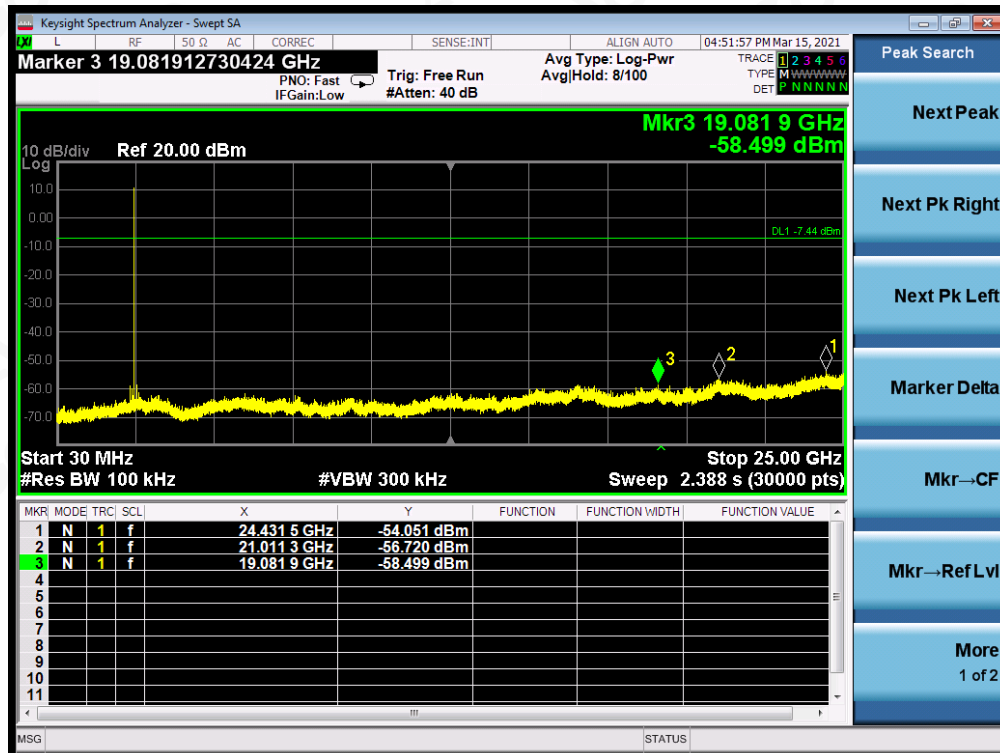
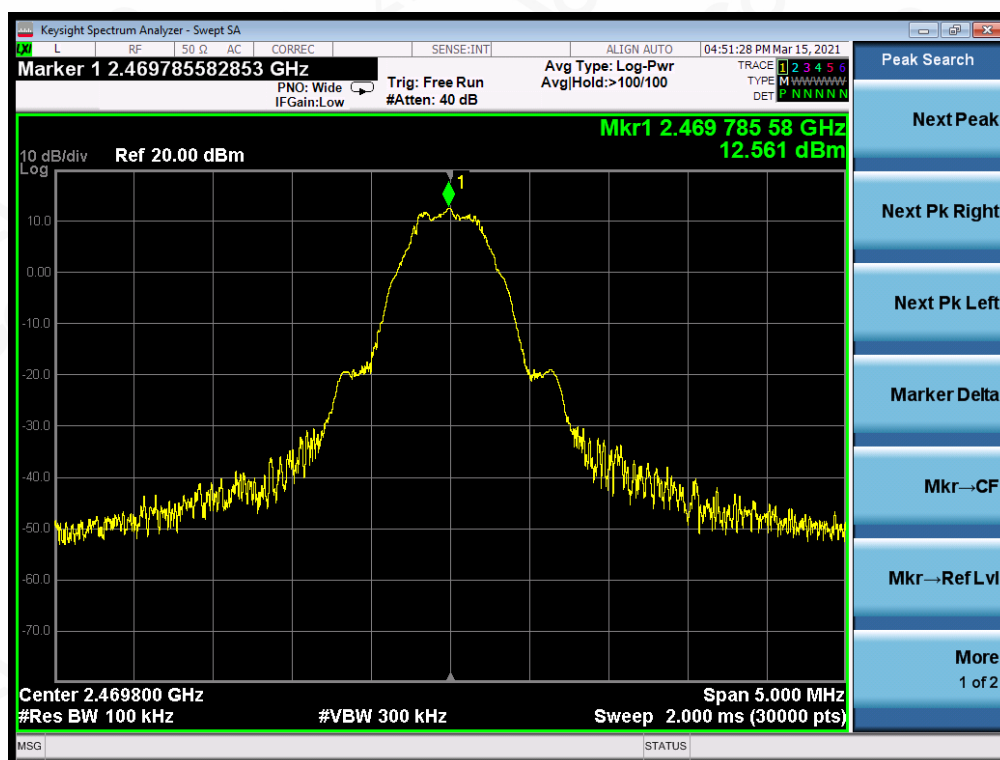


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TEST PLOT OF OUT OF BAND EMISSIONS OF GFSK MODULATION IN HIGH CHANNEL



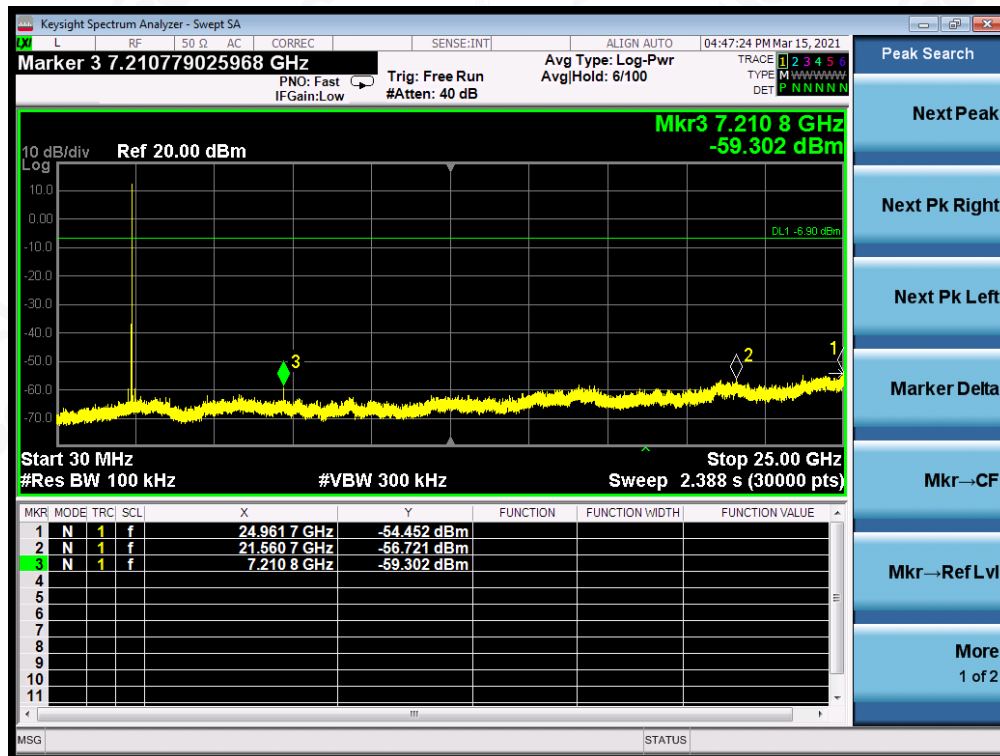
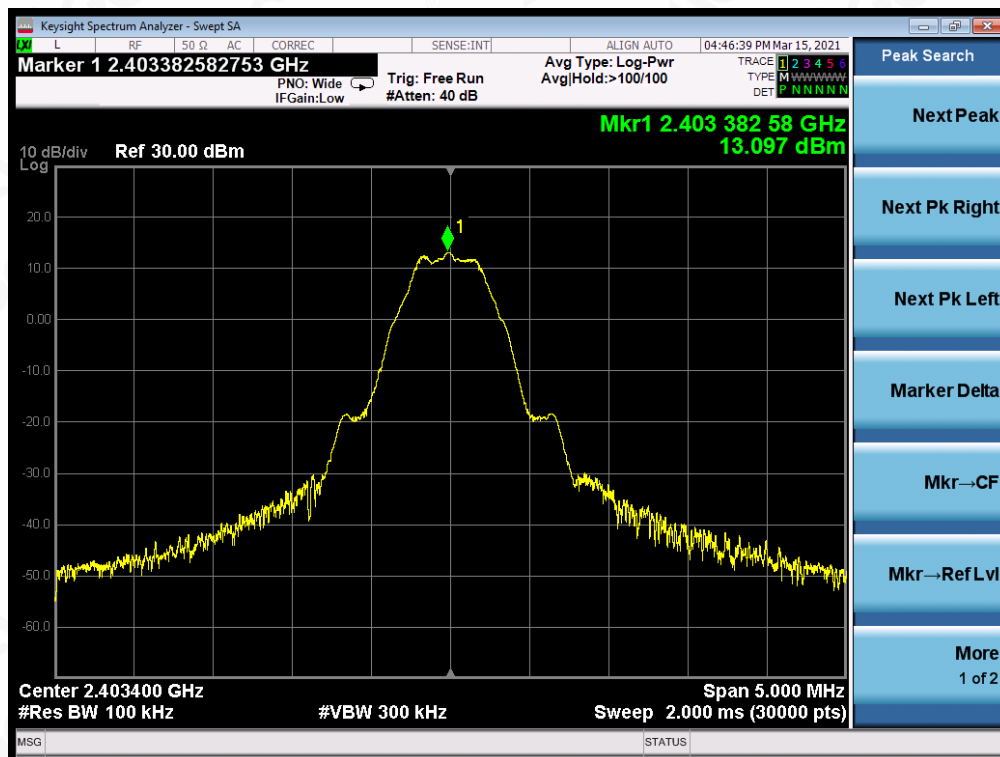
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Antenna 2

TEST PLOT OF OUT OF BAND EMISSIONS OF GFSK MODULATION IN LOW CHANNEL

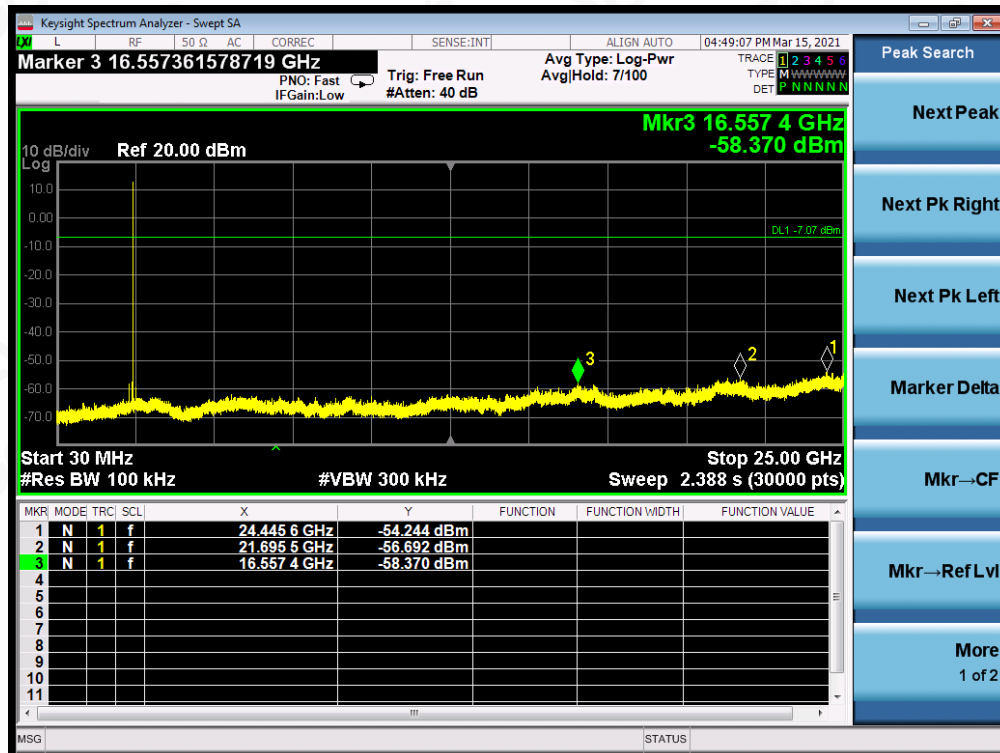
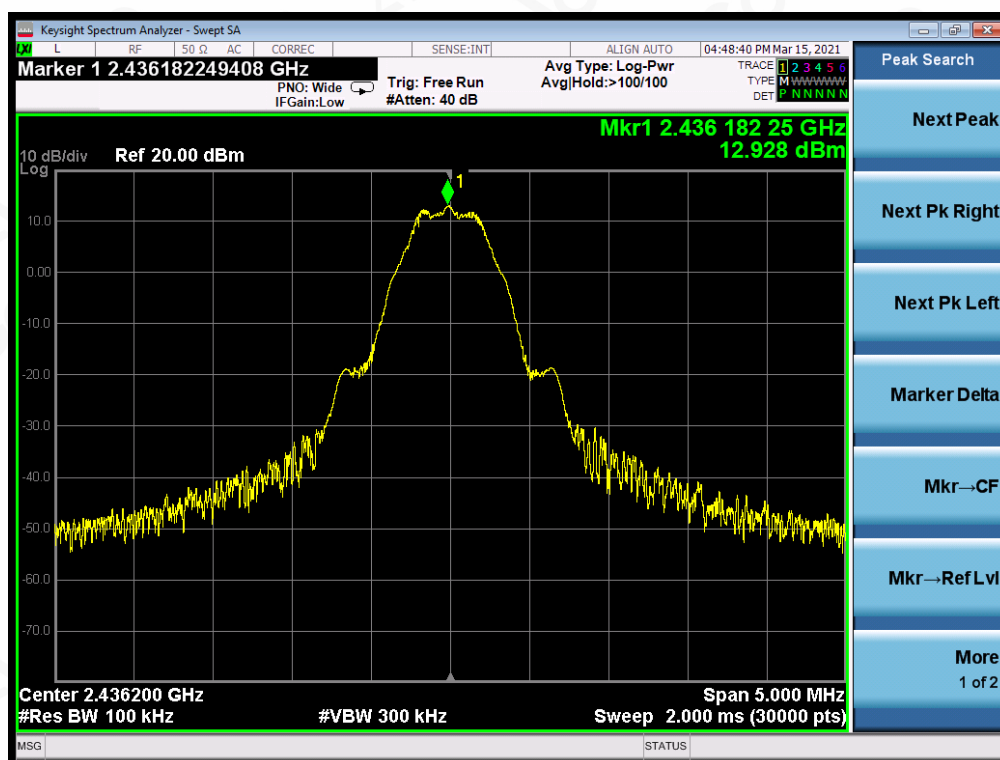


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TEST PLOT OF OUT OF BAND EMISSIONS OF GFSK MODULATION IN MIDDLE CHANNEL

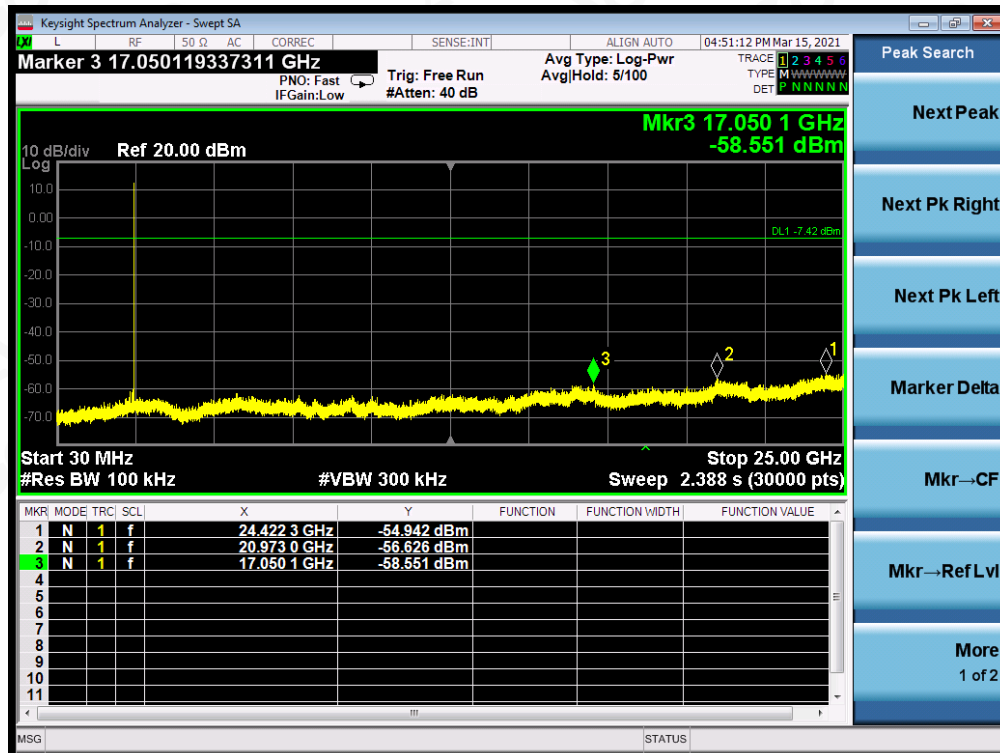
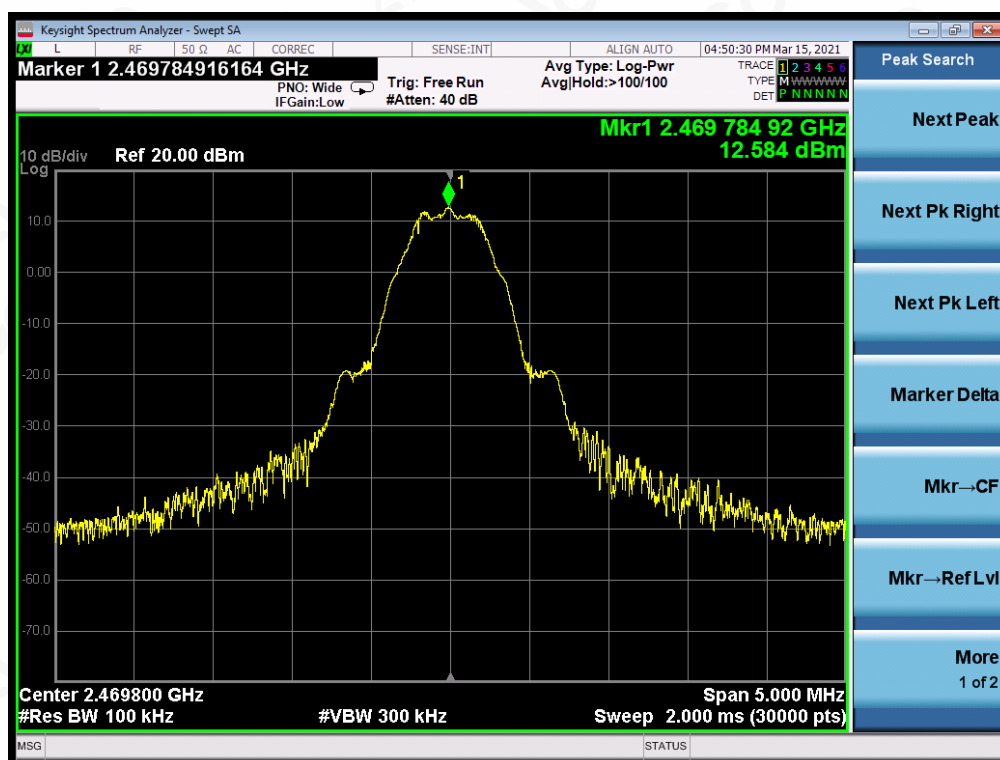


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TEST PLOT OF OUT OF BAND EMISSIONS OF GFSK MODULATION IN HIGH CHANNEL



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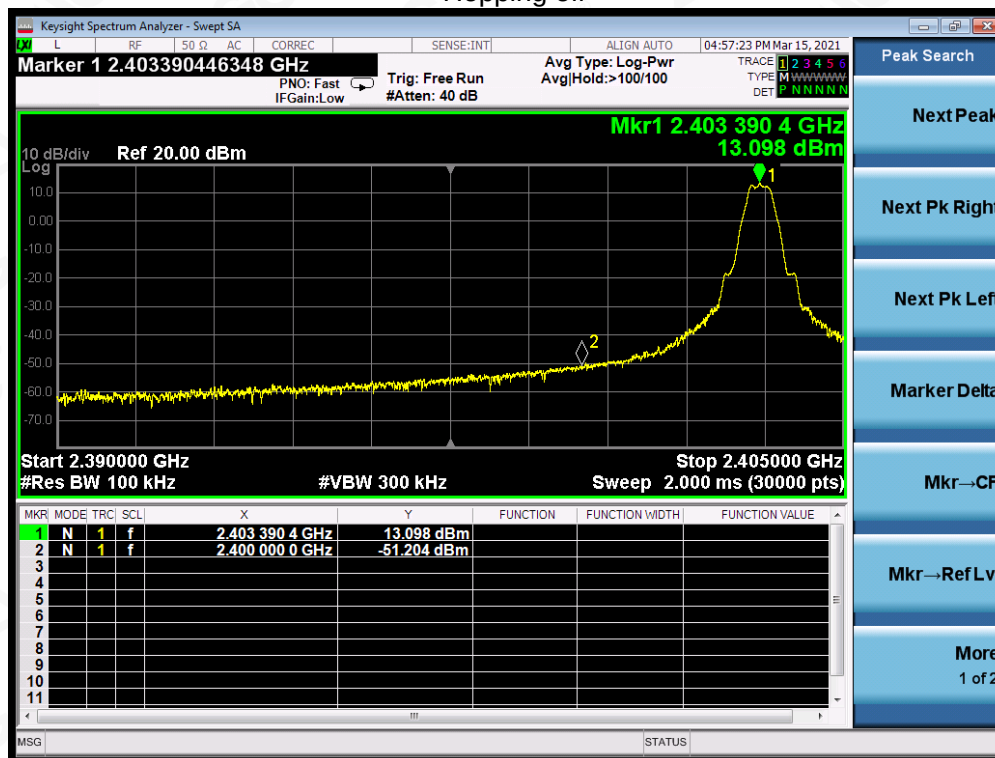
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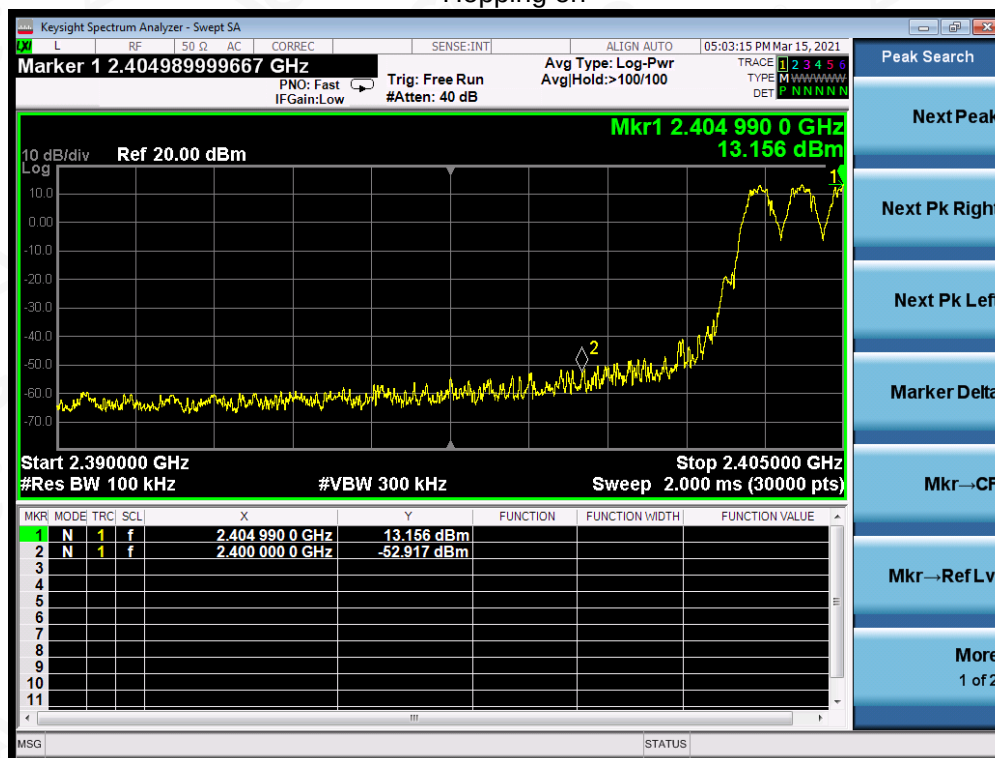
TEST RESULT FOR BAND EDGE

GFSK MODULATION IN LOW CHANNEL- Antenna 1

Hopping off



Hopping on

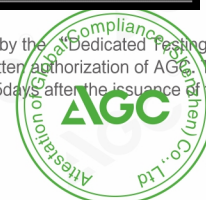


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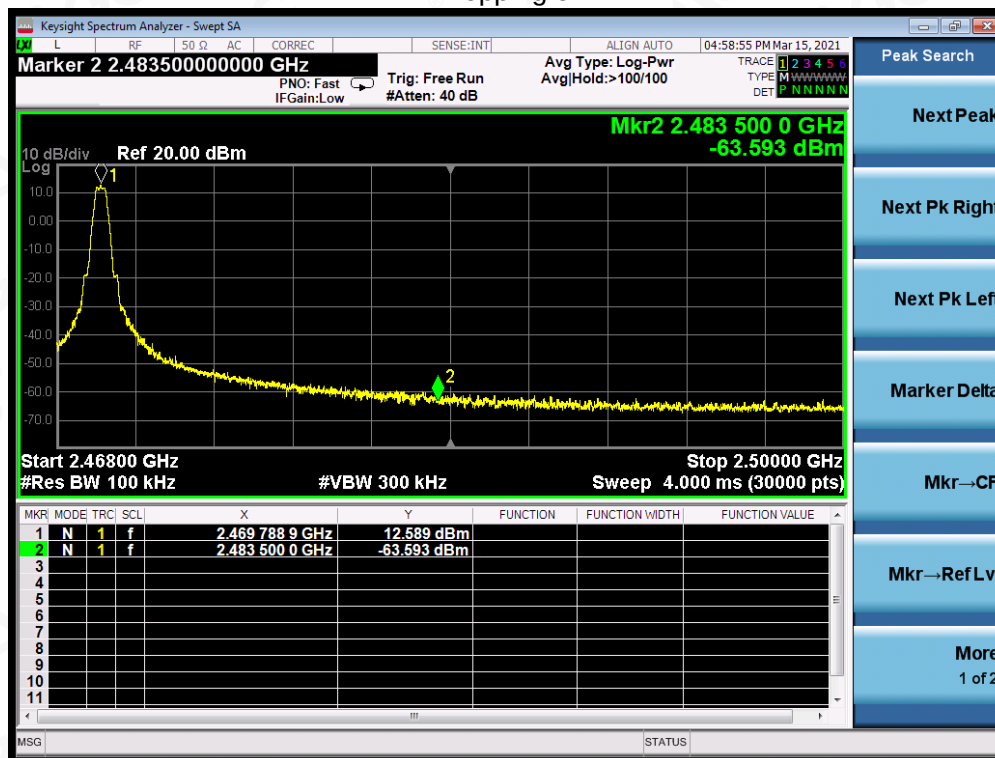
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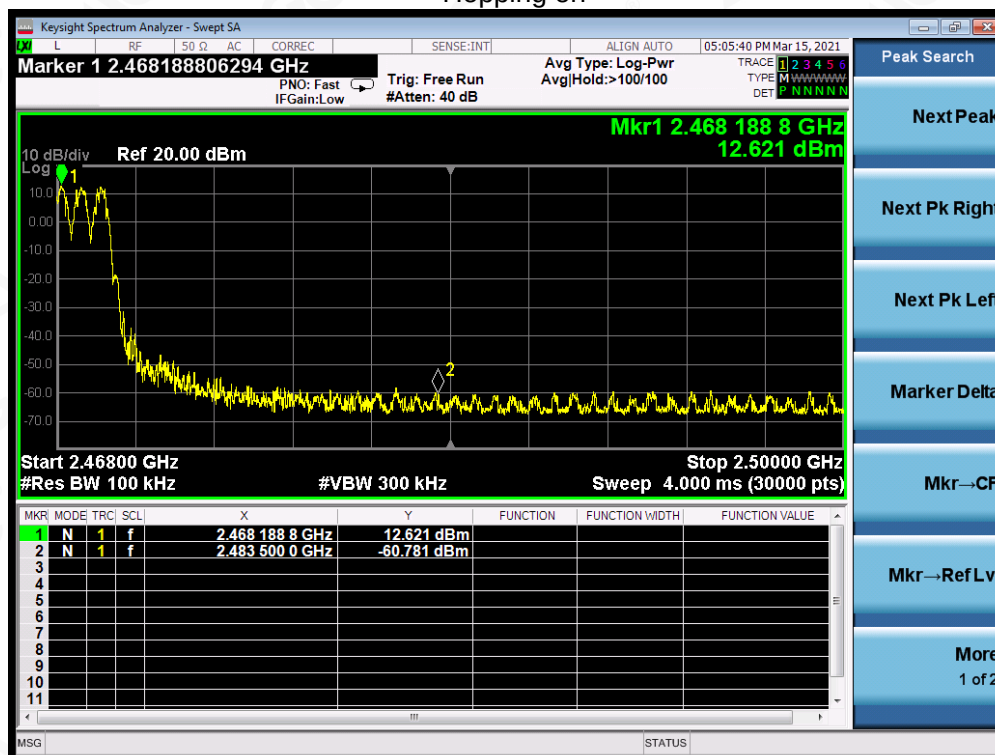
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GFSK MODULATION IN HIGH CHANNEL- Antenna 1 Hopping off



Hopping on

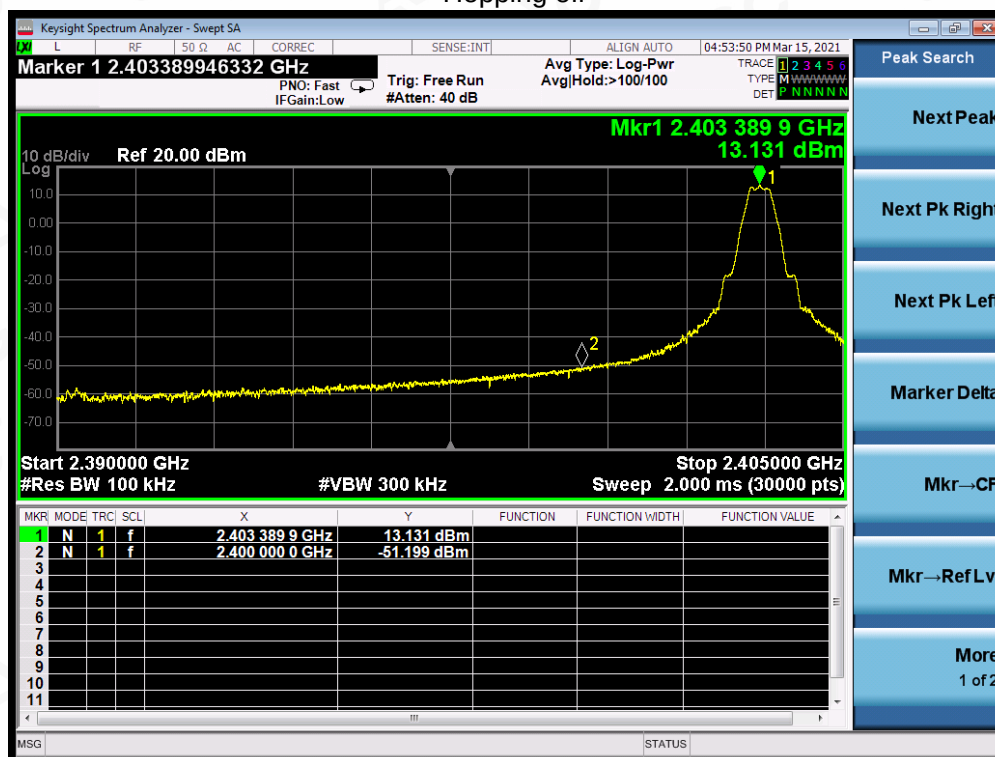


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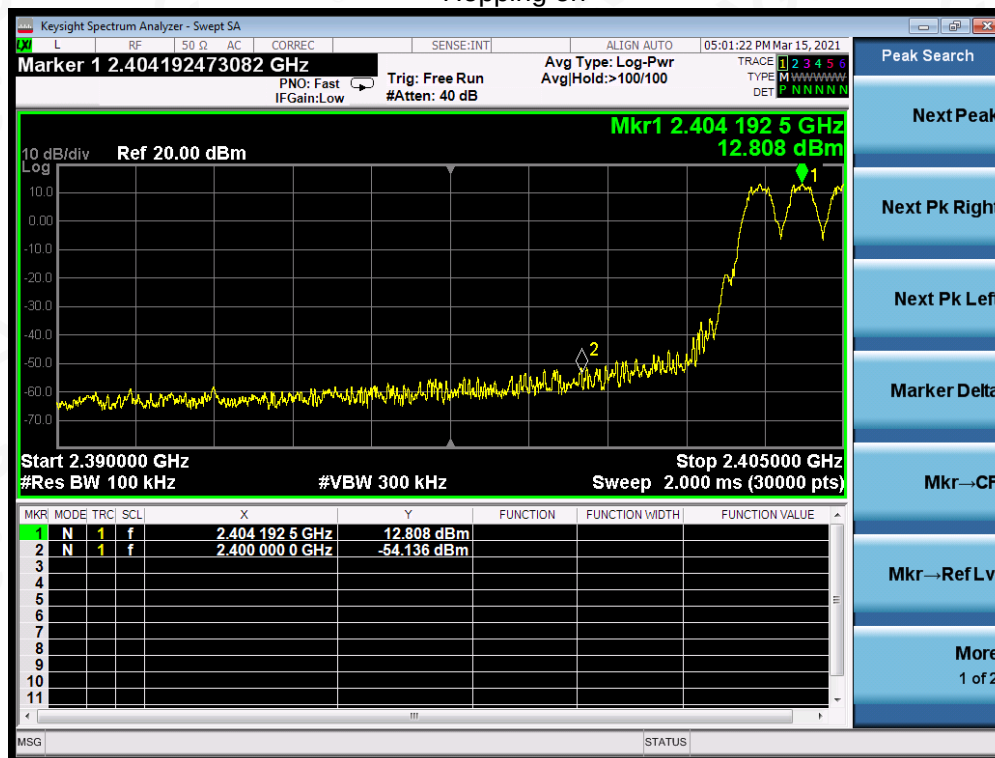
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GFSK MODULATION IN LOW CHANNEL- Antenna 2 Hopping off



Hopping on

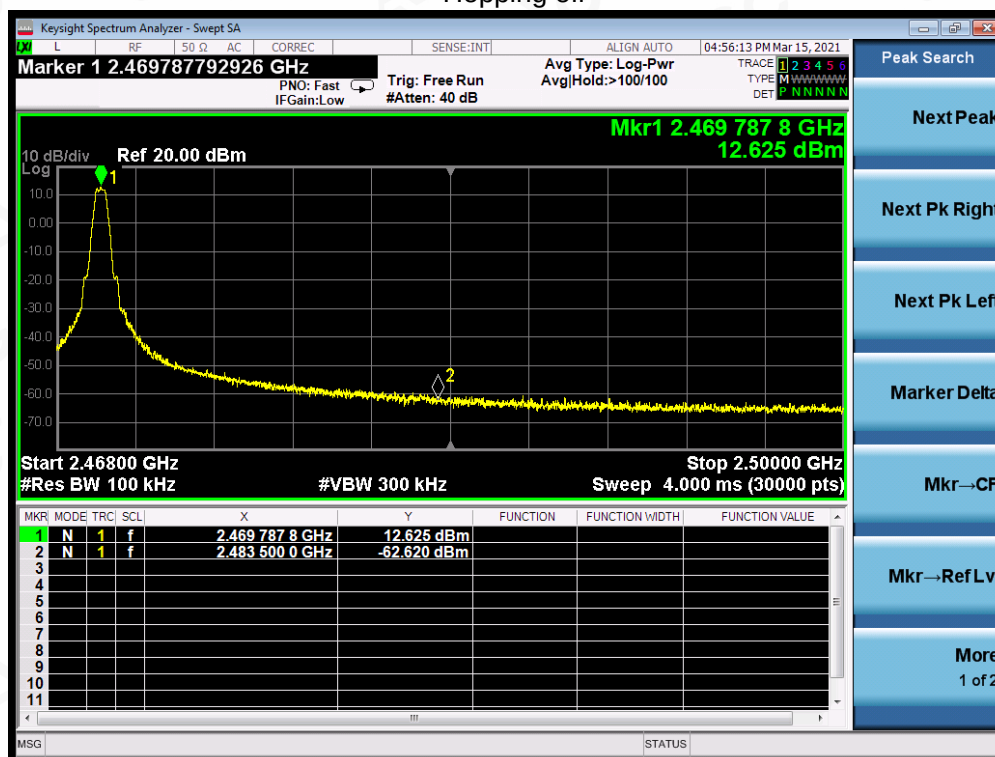


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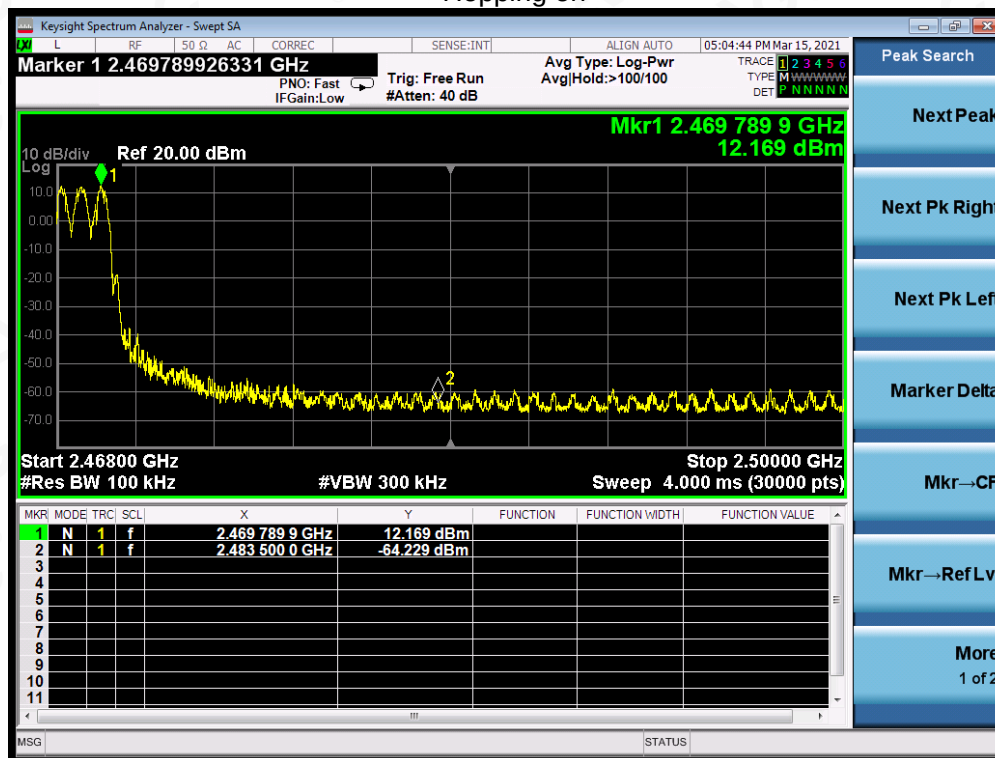
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GFSK MODULATION IN HIGH CHANNEL- Antenna 2 Hopping off



Hopping on



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10. RADIATED EMISSION

10.1. MEASUREMENT PROCEDURE

1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz RBW and 3MHz VBW for peak reading. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

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The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP
Start ~Stop Frequency	1GHz~26.5GHz 1MHz/3MHz for Peak, 1MHz/3MHz for Average

Receiver Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP

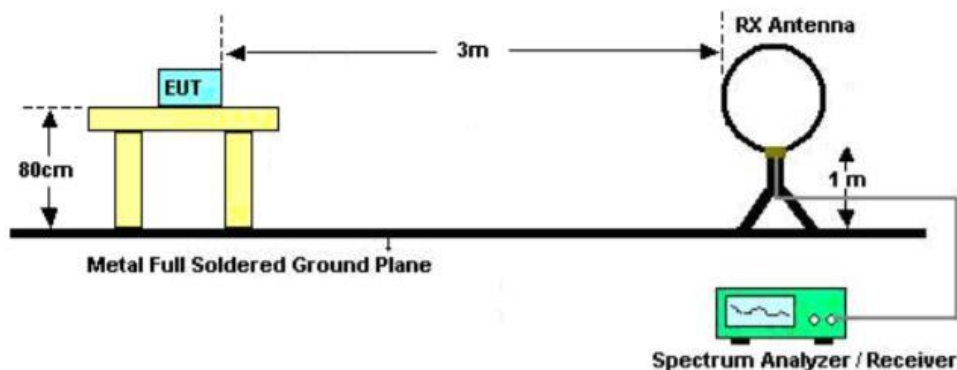
Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

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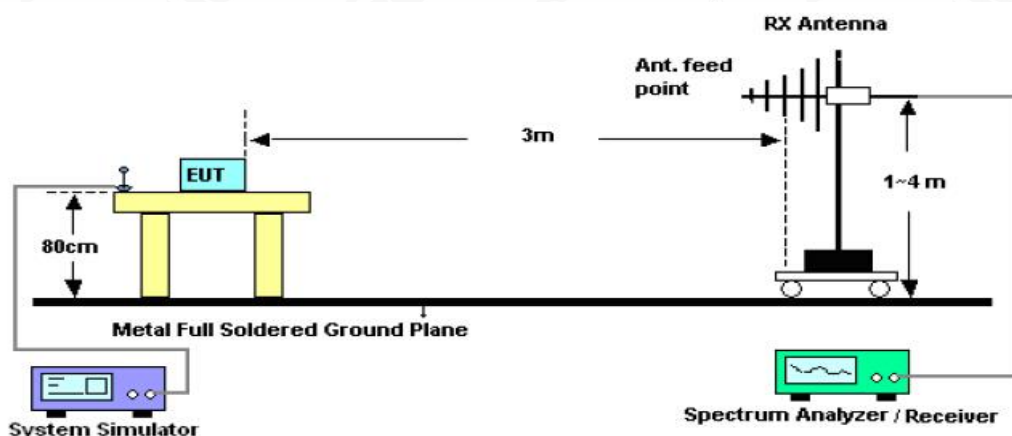


10.2. TEST SETUP

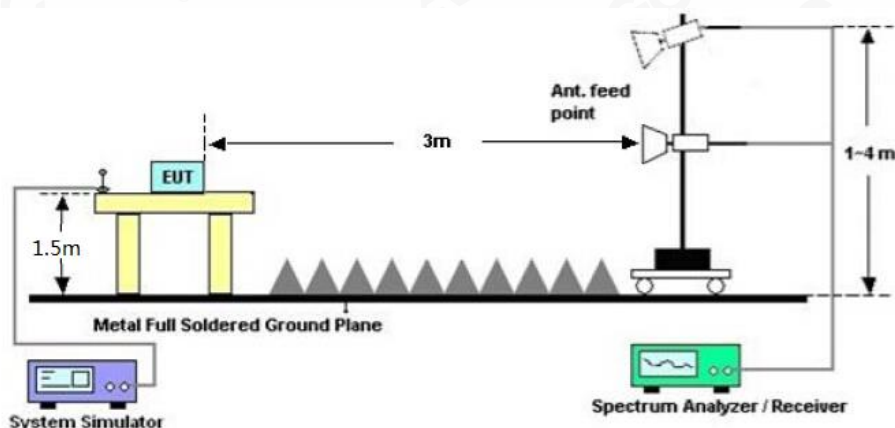
Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



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10.3. LIMITS AND MEASUREMENT RESULT

15.209 Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note: All modes were tested for restricted band radiated emission, the test records reported below are the worst result compared to other modes.

10.4. TEST RESULT

RADIATED EMISSION BELOW 30MHz

The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.

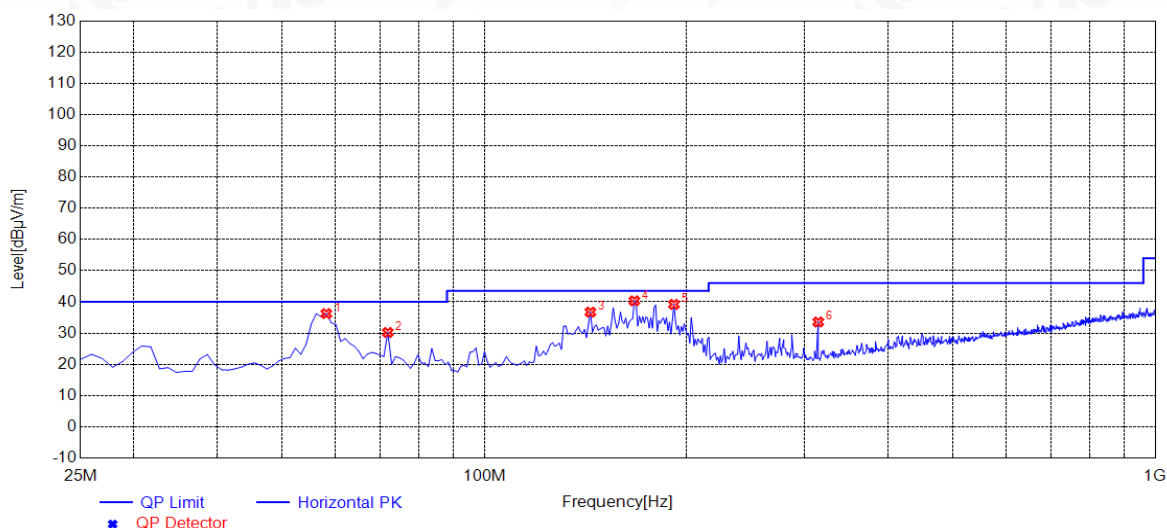
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RADIATED EMISSION BELOW 1GHz

EUT	NANO RX	Model Name	NANO RX
Temperature	21.8°C	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal



NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	58.1500	36.25	11.05	40.00	3.75	200	188	Horizontal
2	71.8000	30.21	8.85	40.00	9.79	200	1	Horizontal
3	143.9500	36.73	14.88	43.50	6.77	100	216	Horizontal
4	167.3500	40.34	14.21	43.50	3.16	100	210	Horizontal
5	191.7250	39.21	12.45	43.50	4.29	100	210	Horizontal
6	314.5750	33.56	16.46	46.00	12.44	200	345	Horizontal

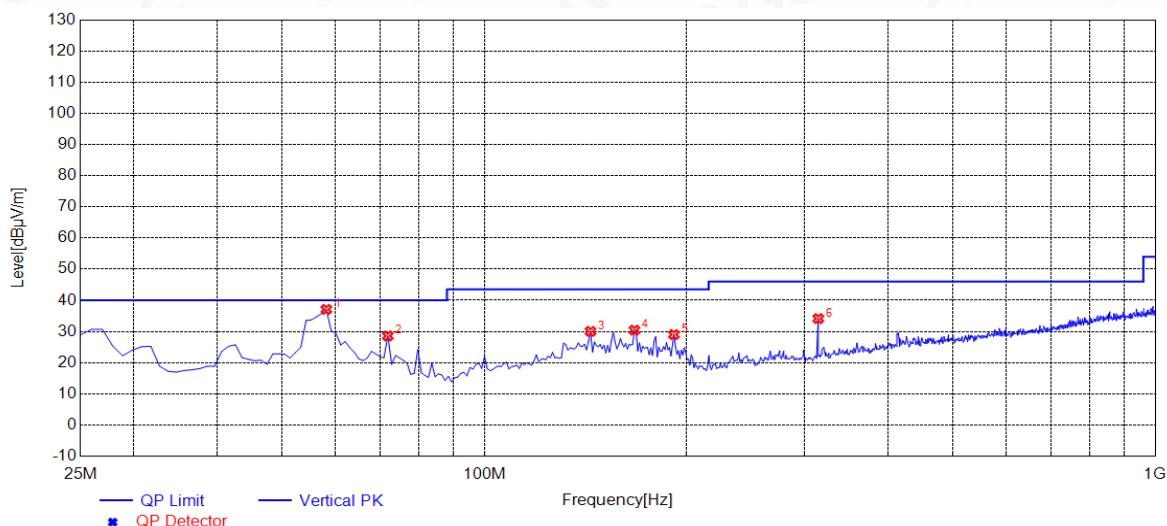
RESULT: PASS

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

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EUT	NANO RX	Model Name	NANO RX
Temperature	21.8°C	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical



NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	58.1500	37.09	11.05	40.00	2.91	100	147	Vertical
2	71.8000	28.59	8.85	40.00	11.41	100	44	Vertical
3	143.9500	30.04	14.88	43.50	13.46	100	260	Vertical
4	167.3500	30.44	14.21	43.50	13.06	100	270	Vertical
5	191.7250	29.03	12.45	43.50	14.47	100	266	Vertical
6	314.5750	34.14	16.46	46.00	11.86	100	203	Vertical

RESULT: PASS

Note: 1. Factor=Antenna Factor + Cable loss, Over= Limit-Level.

2. All test modes of two antennas had been pre-tested. The mode 1 of antenna 1 is the worst case and recorded in the report.

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RADIATED EMISSION ABOVE 1GHz

Antenna 1

EUT	NANO RX	Model Name	NANO RX
Temperature	21.8°C	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4806.800	46.95	0.08	47.03	74	-26.97	peak
4806.800	36.27	0.08	36.35	54	-17.65	AVG
7210.200	42.18	2.21	44.39	74	-29.61	peak
7210.200	32.59	2.21	34.8	54	-19.2	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	NANO RX	Model Name	NANO RX
Temperature	21.8°C	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4806.800	46.23	0.08	46.31	74	-27.69	peak
4806.800	37.84	0.08	37.92	54	-16.08	AVG
7210.200	41.21	2.21	43.42	74	-30.58	peak
7210.200	32.46	2.21	34.67	54	-19.33	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

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