TEST REPORT

Reference No.	:	WTX22X04073376W001
FCC ID	:	2ANYC-E100
Applicant	:	Guangzhou Netum Electronic Technology Co., Ltd.
Address	:	Building 1, No. 51 Xiangshan Avenue, Ningxi Street, Zengcheng District, Guangzhou 511300, China
Manufacturer	:	The same as Applicant
Address	:	The same as Applicant
Product Name	:	Barcode Scanner
Model No.	:	E100
Standards	:	FCC Part 15.247
Date of Receipt sample	:	2022-04-18
Date of Test	:	2022-04-18 to 2022-06-17
Date of Issue	:	2022-06-17
Test Report Form No.	:	WTX_Part 15_247W
Test Result	:	**Pass**

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

Prepared By:

Waltek Testing Group (Shenzhen) Co., Ltd.

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Tested by:	Approved by:
Jack Huang	Silin Chen
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Report version

Version No.	Date of issue	Description
Rev.00	2022-06-17	Original
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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	Barcode Scanner
Trade Name	NETUM NetumScan Zacoora
Model No.:	E100
Adding Model(s):	E200, E300, E500, E700, E740, E750, E760, E800, E840, E850, E860, E900, E950, E970, E990
Rated Voltage:	Battery DC 3.7V
Battery Capacity:	1200mAh
Adapter Model:	/
Note: The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model E100, but the circuit and the electronic construction do not change, declared by the manufacturer.	

Technical Characteristics of EUT	
Bluetooth Version:	V4.2 (BR/EDR mode)
Frequency Range:	2402-2480MHz
RF Output Power:	-3.53dBm (Conducted)
Data Rate:	1Mbps, 2Mbps, 3Mbps
Modulation:	GFSK, π/4 DQPSK, 8DPSK
Quantity of Channels:	79
Channel Separation:	1MHz
Type of Antenna:	PCB Antenna
Antenna Gain:	2dBi
Note: The Antenna Gain is provided by the customer and can affect the validity of results.	

1.2 Test Standards

The tests were performed according to following standards:

<u>FCC Rules Part 15.247</u>: Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz.
<u>558074 D01 15.247 Meas Guidance v05r02</u>: Guidance for Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating under section 15.247 of the Fcc rules.
<u>ANSI C63.10-2013</u>: American National Standard for Testing Unlicensed Wireless Devices.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013,
The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted accordingly in reference to the Operating Instructions.

1.4 Test Facility

Address of the test laboratory
Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.
Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

FCC – Registration No.: 125990
Waltek Testing Group (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintain ed in our files. The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A
The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

1.5 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, and to measure its highest ossible emissions level, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	Low Channel	2402MHz
TM2	Middle Channel	2441MHz
TM3	High Channel	2480MHz
TM4	Hopping	2402-2480MHz

Modulation Configure			
Modulation	Packet	Packet Type	Packet Size
GFSK	DH1	4	27
	DH3	11	183
	DH5	15	339
π /4 DQPSK	2DH1	20	54
	2DH3	26	367
	2DH5	30	679
8DPSK	3DH1	24	83
	3DH3	27	552
	3DH5	31	1021
Normal mode: the Bluetooth has been tested on the modulation of GFSK, π /4 DQPSK and 8DPSK, compliance test and record the worst case.			

Test Conditions	
Temperature:	22~25 °C
Relative Humidity:	45~55 %
ATM Pressure:	1019 mbar

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
USB Cable	1.20	Unshielded	Without Ferrite

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	E445	EB12648265

1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	±0.42dB
Occupied Bandwidth	Conducted	±1.5%
Conducted Spurious Emission	Conducted	±2.17dB
Conducted Emissions	Conducted	9-150kHz ±3.74dB
		0.15-30MHz ±3.34dB
Transmitter Spurious Emissions	Radiated	30-200MHz ±4.52dB
		0.2-1GHz ±5.56dB
		1-6GHz ±3.84dB
		6-26GHz ±3.92dB

1.7 Test Equipment List and Details

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
SEMT-1075	Communication Tester	Rohde & Schwarz	CMW500	148650	2022-03-22	2023-03-21
SEMT-1063	GSM Tester	Rohde & Schwarz	CMU200	114403	2022-03-22	2023-03-21
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2022-03-25	2023-03-24
SEMT-1079	Spectrum Analyzer	Agilent	N9020A	US47140102	2022-03-22	2023-03-21
SEMT-1080	Signal Generator	Agilent	83752A	3610A01453	2022-03-22	2023-03-21
SEMT-1081	Vector Signal Generator	Agilent	N5182A	MY47070202	2022-03-22	2023-03-21
SEMT-1028	Power Divider	Weinschel	1506A	PM204	2022-03-22	2023-03-21
SEMT-C001	Cable	Zheng DI	LL142-07-07-10M(A)	/	/	/
SEMT-C002	Cable	Zheng DI	ZT40-2.92J-2.92J-6M	/	/	/
SEMT-C003	Cable	Zheng DI	ZT40-2.92J-2.92J-2.5M	/	/	/
SEMT-C004	Cable	Zheng DI	2M0RFC	/	/	/
SEMT-C005	Cable	Zheng DI	1M0RFC	/	/	/
SEMT-C006	Cable	Zheng DI	1M0RFC	/	/	/
☒Chamber A: Below 1GHz						
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2022-03-22	2023-03-21
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2022-03-22	2023-03-21
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2022-01-07	2023-01-06
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-20	2023-03-19
SEMT-1068	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2021-03-20	2023-03-19
☒Chamber A: Above 1GHz						
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2022-03-22	2023-03-21
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2022-03-22	2023-03-21
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2022-03-22	2023-03-21
SEMT-1042	Horn Antenna	ETS	3117	00086197	2021-03-19	2023-03-18
SEMT-1121	Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170582	2021-04-27	2023-04-26
SEMT-1216	Pre-amplifier	Schwarzbeck	BBV 9721	9721-031	2022-03-25	2023-03-24

SEMT-1163	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2022-03-22	2023-03-21
☐Chamber B:Below 1GHz						
SEMT-1068	Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2021-04-09	2023-04-08
SEMT-1067	Amplifier	Agilent	8447D	2944A10179	2022-03-22	2023-03-21
SEMT-1066	EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2022-03-22	2023-03-21
☐Chamber C:Below 1GHz						
SEMT-1319	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2022-01-07	2023-01-06
SEMT-1343	Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2021-05-28	2023-05-27
SEMT-1333	Amplifier	HP	8447F	2944A03869	2022-03-22	2023-03-21
☒Conducted Room 1#						
SEMT-1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2022-03-21	2023-03-20
SEMT-1002	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2022-03-25	2023-03-24
SEMT-1003	AC LISN	Schwarz beck	NSLK8126	8126-224	2022-03-22	2023-03-21
☐Conducted Room 2#						
SEMT-1334	EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2022-03-22	2023-03-21
SEMT-1336	LISN	Rohde & Schwarz	ENV 216	100097	2022-03-22	2023-03-21

Software List			
Description	**Manufacturer**	**Model**	**Version**
EMI Test Software (Radiated Emission)*	Farad	EZ-EMC	RA-03A1
EMI Test Software (Conducted Emission)*	Farad	EZ-EMC	RA-03A1

*Remark: indicates software version used in the compliance certification testing.

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§15.203; §15.247(b)(4)(i)	Antenna Requirement	Compliant
§15.205	Restricted Band of Operation	Compliant
§15.207(a)	Conducted Emission	Compliant
§15.209(a)	Radiated Spurious Emissions	Compliant
§15.247(a)(1)(iii)	Quantity of Hopping Channel	Compliant
§15.247(a)(1)	Channel Separation	Compliant
§15.247(a)(1)(iii)	Time of Occupancy (Dwell time)	Compliant
§15.247(a)	20dB Bandwidth	Compliant
§15.247(b)(1)	RF Power Output	Compliant
§15.247(d)	Band Edge (Out of Band Emissions)	Compliant
§15.247(a)(1)	Frequency Hopping Sequence	Compliant
§15.247(g), (h)	Frequency Hopping System	Compliant

N/A: Not applicable.

3. Antenna Requirement

3.1 Standard Applicable

According to FCC Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

3.2 Evaluation Information

This product has a PCB Antenna, fulfill the requirement of this section.

4. Frequency Hopping System Requirements

4.1 Standard Applicable

According to FCC Part 15.247(a)(1), the system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

(g) Frequency hopping spread spectrum systems are not required to employ all available hopping channels during each transmission. However, the system, consisting of both the transmitter and the receiver, must be designed to comply with all of the regulations in this section should the transmitter be presented with a continuous data (or information) stream. In addition, a system employing short transmission bursts must comply with the definition of a frequency hopping system and must distribute its transmissions over the minimum number of hopping channels specified in this section.

(h) The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hopsets to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.

4.2 Frequency Hopping System

This transmitter device is frequency hopping device, and complies with FCC part 15.247 rule.

This device uses Bluetooth radio which operates in 2400-2483.5MHz band. Bluetooth uses a radio technology called frequency-hopping spread spectrum, which chops up the data being sent and transmits chunks of it on up to 79 bands (1MHz each; centred from 2402 to 2480MHz) in the range 2,400-2,483.5MHz. The transmitter switches hop frequencies 1,600 times per second to assure a high degree of data security. All Bluetooth devices participating in a given piconet are synchronized to the frequency-hopping channel for the piconet. The frequency hopping sequence is determined by the master's device address and the phase of the hopping sequence (the frequency to hop at a specific time) is determined by the master's internal clock. Therefore, all slaves in a piconet must know the master's device address and must synchronize their clocks with the master's clock.

Adaptive Frequency Hopping (AFH) was introduced in the Bluetooth specification to provide an effective way for a Bluetooth radio to counteract normal interference. AFH identifies "bad" channels, where either other wireless devices are interfering with the Bluetooth signal or the Bluetooth signal is interfering with another device. The AFH-enabled Bluetooth device will then communicate with other devices within its piconet to share details of any identified bad channels. The devices will then switch to alternative available "good" channels, away from the areas of interference, thus having no impact on the bandwidth used.

This device was tested with a Bluetooth system receiver to check that the device maintained hopping synchronization, and the device complied with these requirements for 558074 D01 15.247 Meas Guidance v05r02 and FCC Part 15.247 rule.

4.3 EUT Pseudorandom Frequency Hopping Sequence

Pseudorandom Frequency Hopping Sequence Table as below:
Channel: 08, 24, 40, 56, 40, 56, 72, 09, 01, 09, 33, 41, 33, 41, 65, 73, 53, 69, 06, 22, 04, 20, 36, 52, 38, 46, 70, 78, 68, 76, 21, 29, 10, 26, 42, 58, 44, 60, 76, 13, 03, 11, 35, 43, 37, 45, 69, 77, 55, 71, 08, 24, 08, 24, 40, 56, 40, 48, 72, 01, 72, 01, 25, 33, 12, 28, 44, 60, 42, 58, 74, 11, 05, 13, 37, 45 etc.

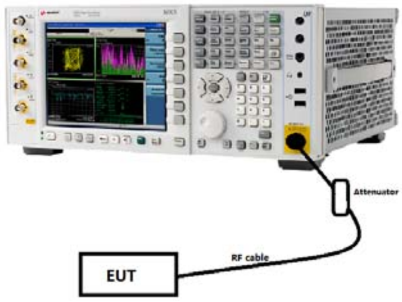
The system receiver have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

5. Quantity of Hopping Channels and Channel Separation

5.1 Standard Applicable

According to FCC 15.247(a)(1), frequency hopping systems operating in the 2400-2483.5MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, and frequency hopping systems in the 2400-2483.5MHz band shall use at least 15 channels.

5.2 Test Setup Block Diagram



5.3 Test Procedure

According to KDB 558074 D01 v05r02 Subclause 9 and ANSI C63.10-2013 section 7.8.3, the number of hopping frequencies test method as follows.

a) Span: The frequency band of operation. Depending on the number of channels the device supports, it may be necessary to divide the frequency range of operation across multiple spans, to allow the individual channels to be clearly seen.
b) RBW: To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.
c) VBW ⩾ RBW.
d) Sweep: Auto.
e) Detector function: Peak.
f) Trace: Max hold.
g) Allow the trace to stabilize.

According to DA 00-705 Section 15.247(a), the EUT shall have its hopping function enabled, the Carrier frequency separation test method as follows:

Span = wide enough to capture the peaks of two adjacent channels
Resolution (or IF) Bandwidth (RBW) ⩾ 1% of the span
Video (or Average) Bandwidth (VBW) ⩾ RBW
Sweep = auto
Detector function = peak
Trace = max hold

Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section. Submit this plot.

5.4 Summary of Test Results/Plots

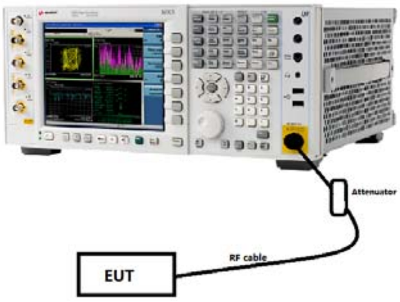
Please refer to Appendix A

6. Dwell Time of Hopping Channel

6.1 Standard Applicable

According to 15.247(a)(1)(iii), frequency hopping systems in the 2400–2483.5MHz band shall use at least 15 channels. 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.

6.2 Test Setup Block Diagram



6.3 Test Procedure

According to KDB 558074 D01 v05r02 Subclause 9 and ANSI C63.10-2013 section 7.8.4, the dwell time of a hopping channel test method as follows.

a) Span: Zero span, centered on a hopping channel.
b) RBW shall be ≤ channel spacing and where possible RBW should be set >> 1 / T, where T is the expected dwell time per channel.
c) Sweep: As necessary to capture the entire dwell time per hopping channel; where possible use a video trigger and trigger delay so that the transmitted signal starts a little to the right of the start of the plot. The trigger level might need slight adjustment to prevent triggering when the system hops on an adjacent channel; a second plot might be needed with a longer sweep time to show two successive hops on a channel.
d) Detector function: Peak.
e) Trace: Max hold.

Use the marker-delta function to determine the transmit time per hop. If this value varies with different modes of operation (data rate, modulation format, number of hopping channels, etc.), then repeat this test for each variation in transmit time.
Repeat the measurement using a longer sweep time to determine the number of hops over the period specified in the requirements. The sweep time shall be equal to, or less than, the period specified in the requirements. Determine the number of hops over the sweep time and calculate the total number of hops in the period specified in the requirements, using the following equation:
(Number of hops in the period specified in the requirements) =
(number of hops on spectrum analyzer) × (period specified in the requirements / analyzer sweep time)

The average time of occupancy is calculated from the transmit time per hop multiplied by the number of hops in the period specified in the requirements. If the number of hops in a specific time varies with different modes of operation (data rate, modulation format, number of hopping channels, etc.), then repeat this test for each variation. The measured transmit time and time between hops shall be consistent with the values described in the operational description for the EUT.

6.4 Summary of Test Results/Plots

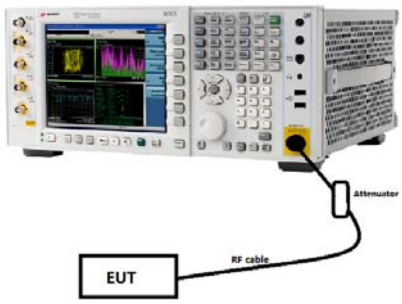
The dwell time within a period in data mode is independent from the packet type (packet length).
The test period: T = 0.4 Second * 79 Channel = 31.6 s
Dwell time = time slot length * (Hopping rate / Number of hopping channels) * Period
Please refer to Appendix B

7. 20dB Bandwidth

7.1 Standard Applicable

According to 15.247(a) and 15.215(c), 20dB bandwidth is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

7.2 Test Setup Block Diagram



7.3 Test Procedure

According to KDB 558074 D01 v05r02 Subclause 9 and ANSI C63.10-2013 section 6.9.2, the 20dB bandwidth test method as follows.

a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW.
b) The nominal IF filter bandwidth (3dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW, unless otherwise specified by the applicable requirement.
c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level.
d) Steps a) through c) might require iteration to adjust within the specified tolerances.
e) The dynamic range of the instrument at the selected RBW shall be more than 10 dB below the target "−xx dB down" requirement; that is, if the requirement calls for measuring the −20 dB OBW, the instrument noise floor at the selected RBW shall be at least 30dB below the reference value.
f) Set detection mode to peak and trace mode to max hold.
g) Determine the reference value: Set the EUT to transmit an unmodulated carrier or modulated signal, as applicable. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).
h) Determine the "−xx dB down amplitude" using [(reference value) − xx]. Alternatively, this calculation may be made by using the marker-delta function of the instrument.
i) If the reference value is determined by an unmodulated carrier, then turn the EUT modulation ON, and either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise, the trace from step g) shall be used for step j).

j) Place two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “−xx dB down amplitude” determined in step h). If a marker is below this “−xx dB down amplitude” value, then it shall be as close as possible to this value. The occupied bandwidth is the frequency difference between the two markers. Alternatively, set a marker at the lowest frequency of the envelope of the spectral display, such that the marker is at or slightly below the “−xx dB down amplitude” determined in step h). Reset the marker-delta function and move the marker to the other side of the emission until the delta marker amplitude is at the same level as the reference marker amplitude. The marker-delta frequency reading at this point is the specified emission bandwidth.
k) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

7.4 Summary of Test Results/Plots

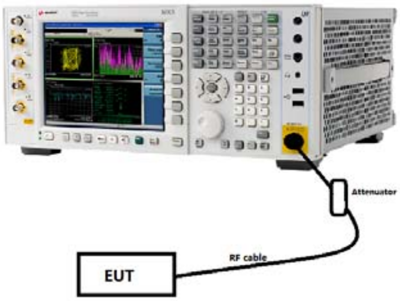
Please refer to Appendix C

8. RF Output Power

8.1 Standard Applicable

According to 15.247(b)(1), for frequency hopping systems operating in the 2400–2483.5MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725–5850MHz band: 1 watt. For all other frequency hopping systems in the 2400–2483.5MHz band: 0.125 watts.

8.2 Test Setup Block Diagram



8.3 Test Procedure

According to KDB 558074 D01 v05r02 Subclause 9 and ANSI C63.10-2013 section 7.8.5, the output power test method as follows.
Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
This is an RF-conducted test to evaluate maximum peak output power. Use a direct connection between the antenna port of the unlicensed wireless device and the spectrum analyzer, through suitable attenuation. The hopping shall be disabled for this test:
a) Use the following spectrum analyzer settings:
 1) Span: Approximately five times the 20dB bandwidth, centered on a hopping channel.
 2) RBW > 20dB bandwidth of the emission being measured.
 3) VBW ≥ RBW.
 4) Sweep: Auto.
 5) Detector function: Peak.
 6) Trace: Max hold.
b) Allow trace to stabilize.
c) Use the marker-to-peak function to set the marker to the peak of the emission.
d) The indicated level is the peak output power, after any corrections for external attenuators and cables.
e) A plot of the test results and setup description shall be included in the test report.

8.4 Summary of Test Results/Plots

Please refer to Appendix D

9. Field Strength of Spurious Emissions

9.1 Standard Applicable

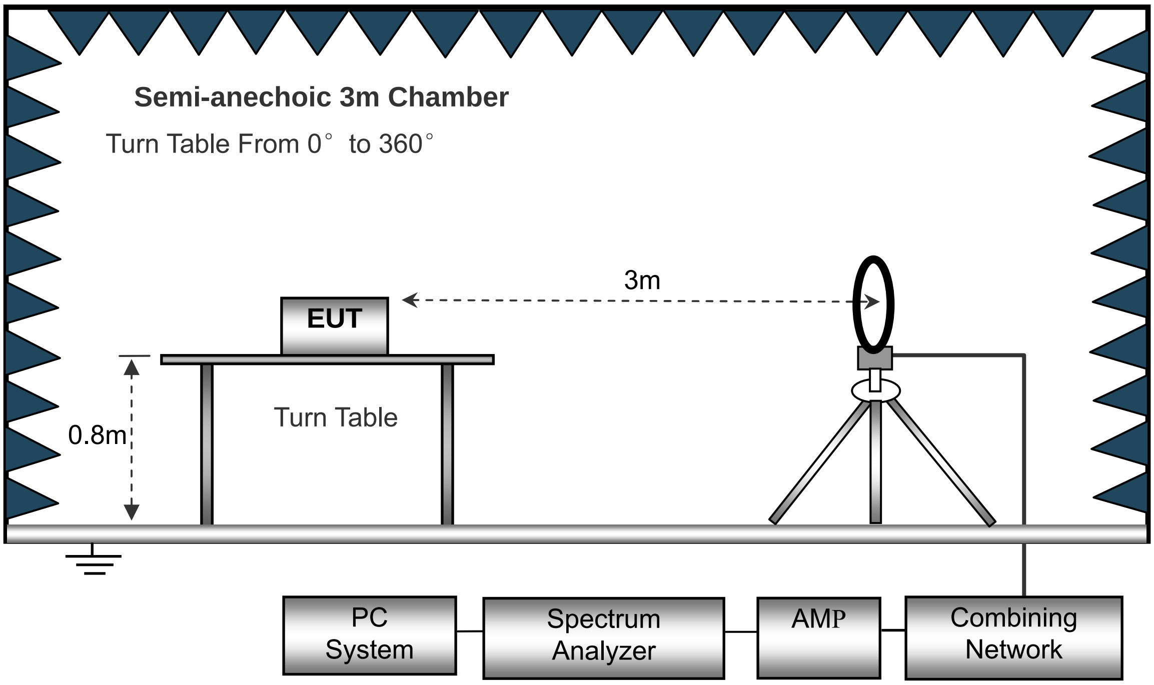
According to §15.247(d), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30dB instead of 20dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated 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).

The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

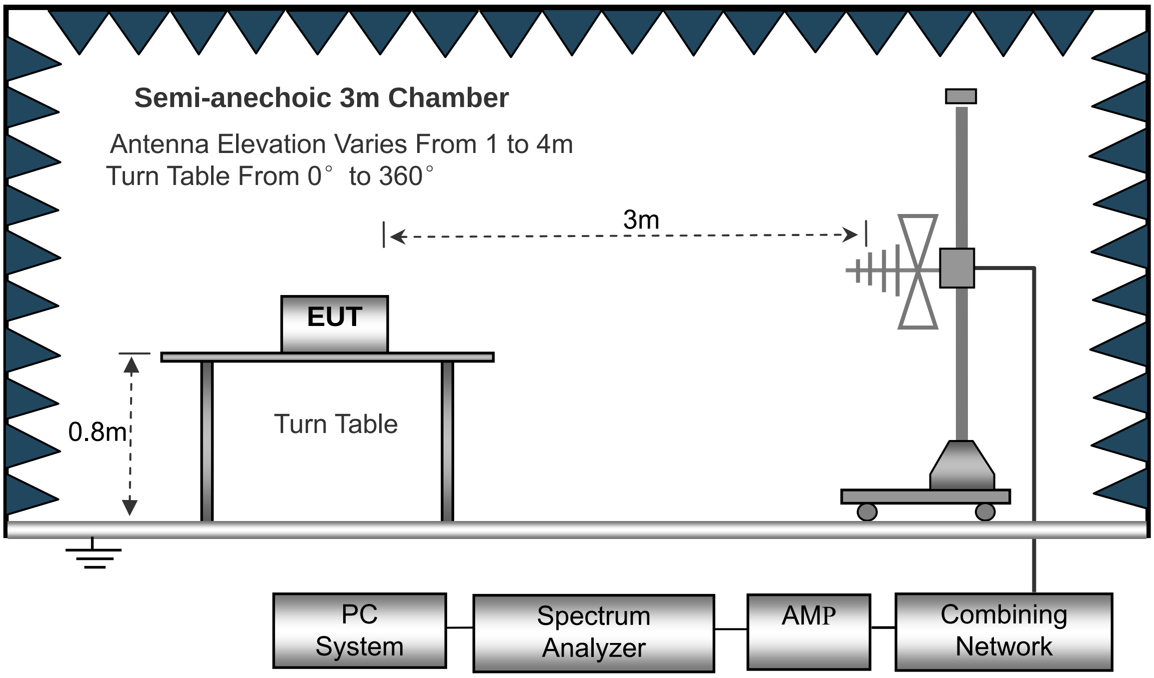
9.2 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.205 15.247(a) and FCC Part 15.209 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle.
The spacing between the peripherals was 10cm.

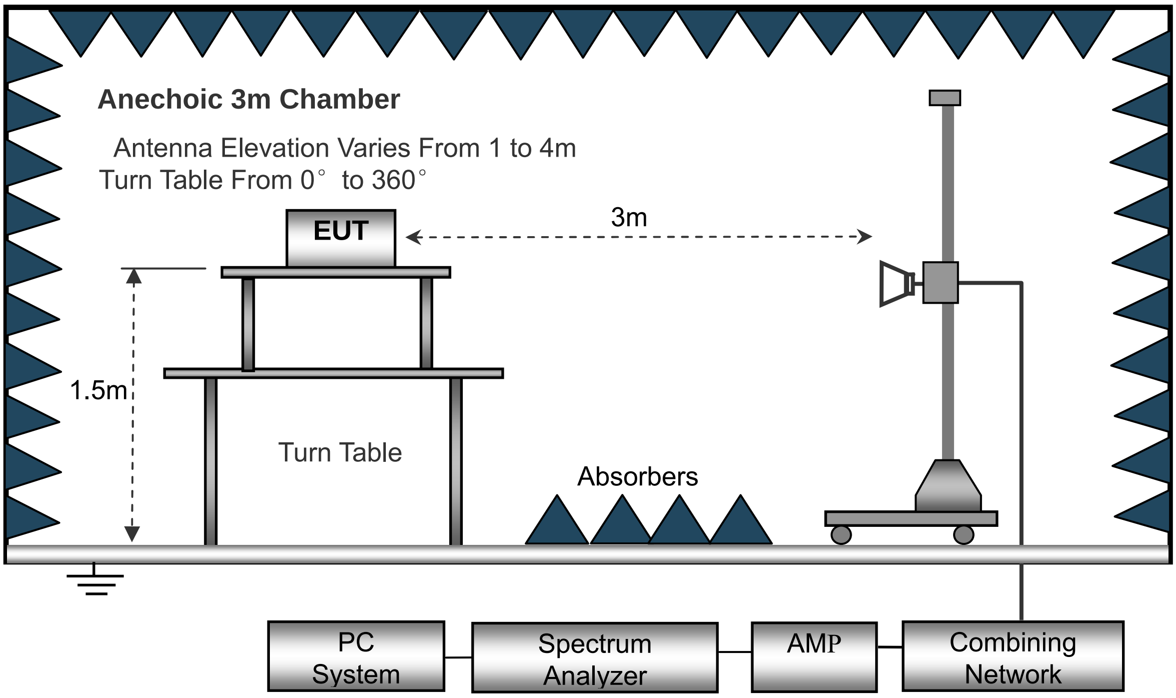
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30MHz to 1GHz.



The test setup for emission measurement above 1GHz.



Frequency :9kHz-30MHz	Frequency :30MHz-1GHz	Frequency :Above 1GHz
RBW=10KHz,	RBW=120KHz,	RBW=1MHz,
VBW =30KHz	VBW=300KHz	VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto	Sweep time= Auto	Sweep time= Auto
Trace = max hold	Trace = max hold	Trace = max hold
Detector function = peak	Detector function = peak, QP	Detector function = peak, AV

9.3 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Correct
Correct = Ant. Factor + Cable Loss – Ampl. Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit. The equation for margin calculation is as follows:

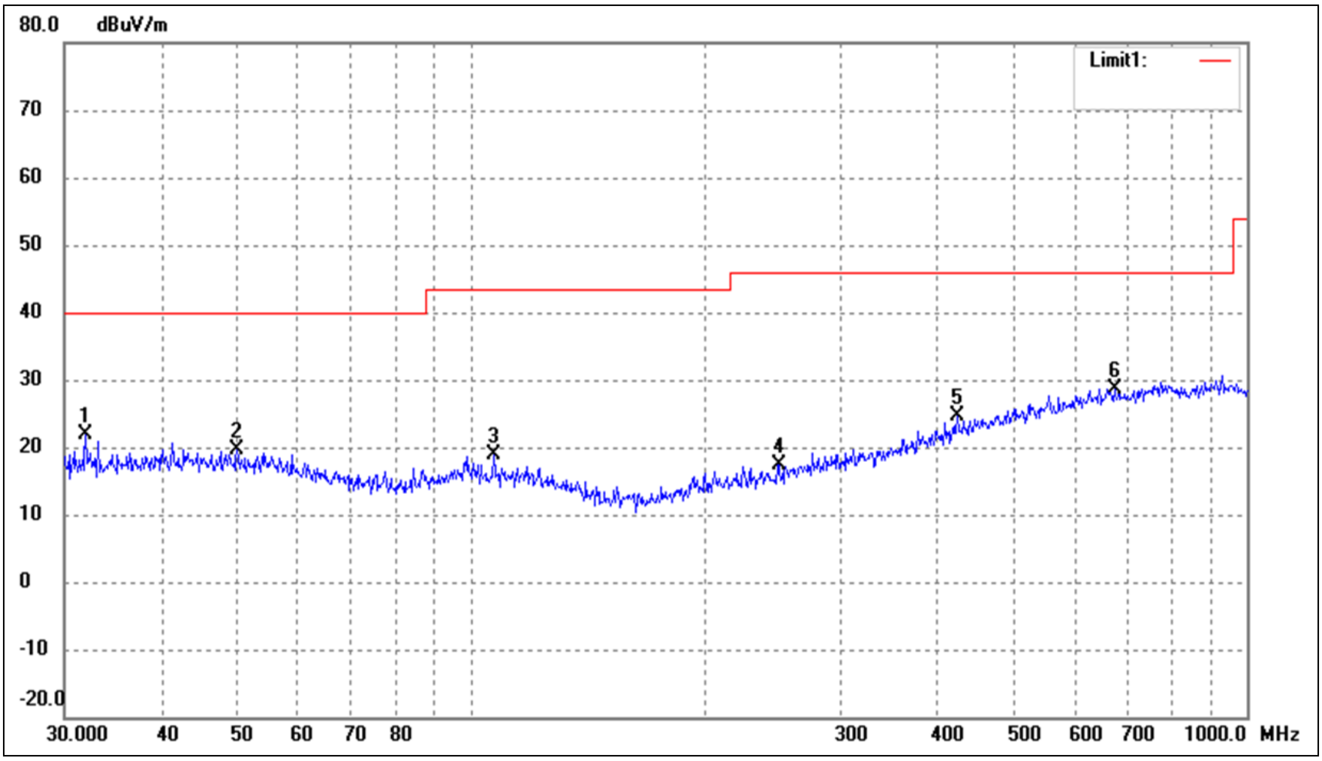
Margin = Corr. Ampl. – FCC Part 15 Limit

9.4 Summary of Test Results/Plots

Note: this EUT was tested in 3 orthogonal positions and the worst case position data was reported.
All test modes (different data rate and different modulation) are performed, but only the worst case (GFSK) is recorded in this report.

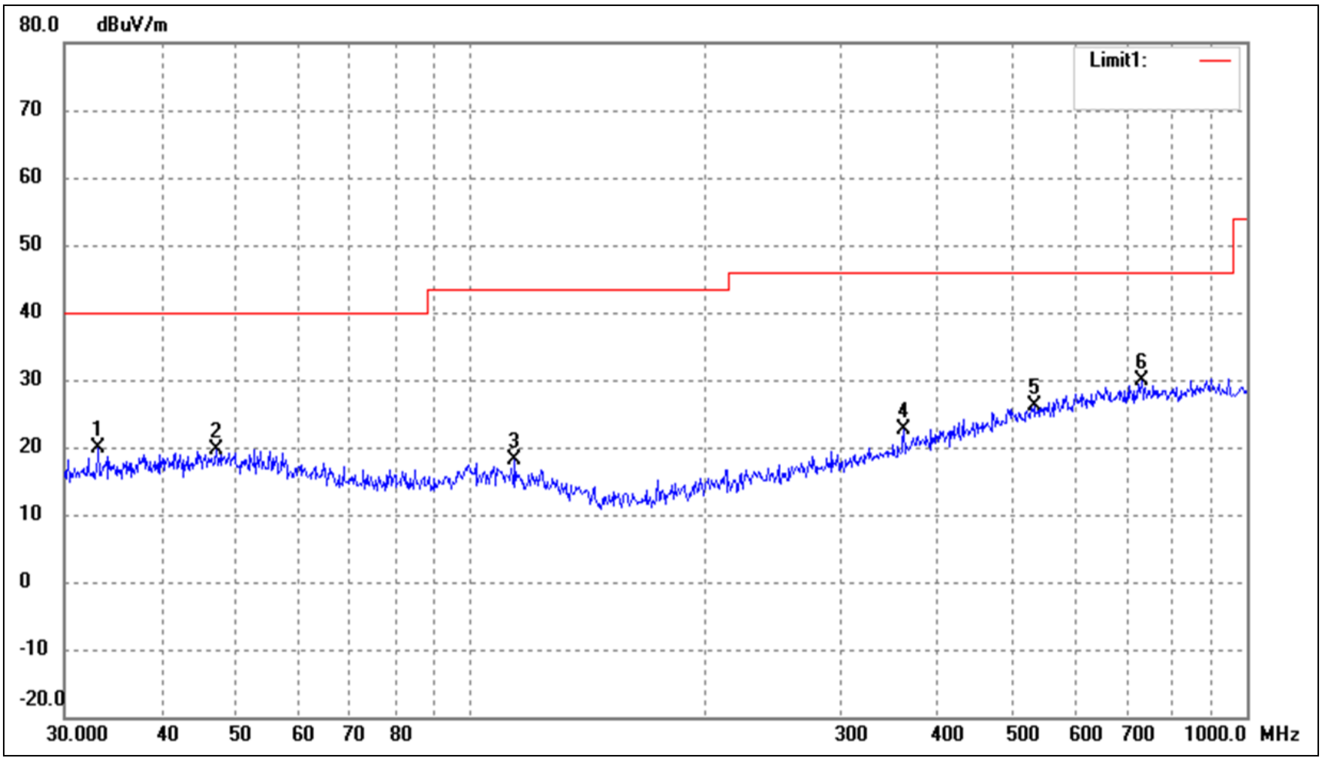
➢ Spurious Emissions Below 1GHz

Test Channel	Low(worst case)	Polarity:	Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	31.9546	30.75	-8.97	21.78	40.00	-18.22	-	-	peak
2	50.0566	26.55	-6.97	19.58	40.00	-20.42	-	-	peak
3	107.1337	27.77	-8.83	18.94	43.50	-24.56	-	-	peak
4	249.4250	25.78	-8.32	17.46	46.00	-28.54	-	-	peak
5	423.5403	27.84	-3.27	24.57	46.00	-21.43	-	-	peak
6	675.2080	27.55	1.18	28.73	46.00	-17.27	-	-	peak

Test Channel	Low(worst case)	Polarity:	Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	33.2112	28.64	-8.67	19.97	40.00	-20.03	-	-	peak
2	47.1599	26.66	-6.97	19.69	40.00	-20.31	-	-	peak
3	114.1138	27.18	-9.17	18.01	43.50	-25.49	-	-	peak
4	361.7139	27.65	-5.05	22.60	46.00	-23.40	-	-	peak
5	531.9635	27.00	-0.77	26.23	46.00	-19.77	-	-	peak
6	731.9203	28.35	1.63	29.98	46.00	-16.02	-	-	peak

Remark: ‘-’Means’ the test Degree and Height are not recorded by the test software and only show the worst case in the test report.

➢ Spurious Emissions Above 1GHz

Frequency (MHz)	Reading (dBuV/m)	Correct dB	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar H/V	Detector
Low Channel-2402MHz							
4804.000	50.94	-6.13	44.81	74.00	-29.19	H	PK
7206.000	50.80	-1.64	49.16	74.00	-24.84	H	PK
4804.000	51.24	-6.13	45.11	74.00	-28.89	V	PK
7206.000	50.05	-1.64	48.41	74.00	-25.59	V	PK
Middle Channel-2441MHz							
4882.000	50.87	-5.92	44.95	74.00	-29.05	H	PK
7323.000	50.46	-1.58	48.88	74.00	-25.12	H	PK
4882.000	50.65	-5.92	44.73	74.00	-29.27	V	PK
7323.000	50.39	-1.58	48.81	74.00	-25.19	V	PK
High Channel-2480MHz							
4960.000	50.38	-5.71	44.67	74.00	-29.33	H	PK
7440.000	48.04	-1.52	46.52	74.00	-27.48	H	PK
4960.000	49.90	-5.71	44.19	74.00	-29.81	V	PK
7440.000	48.10	-1.52	46.58	74.00	-27.42	V	PK

Note: 1.Testing is carried out with frequency rang 9kHz to the tenth harmonics, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
2.Average measurement was not performed if peak level is lower than average limit(54 dBuV/m) for above 1GHz.

10. Out of Band Emissions

10.1 Standard Applicable

According to §15.247 (d), in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30dB instead of 20dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated 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).

10.2 Test Procedure

According to ANSI C63.10-2013 section 7.8.6, the Band-edge measurements for RF conducted emissions test method as follows.

a) Connect the EMI receiver or spectrum analyzer to the EUT using an appropriate RF cable connected to the EUT output. Configure the spectrum analyzer settings as described in step e) (be sure to enter all losses between the unlicensed wireless device output and the spectrum analyzer).
b) Set the EUT to the lowest frequency channel (for the hopping on test, the hopping sequence shall include the lowest frequency channel).
c) Set the EUT to operate at maximum output power and 100% duty cycle, or equivalent "normal mode of operation" as specified in 6.10.3.
d) If using the radiated method, then use the applicable procedure(s) of 6.4, 6.5, or 6.6, and orient the EUT and measurement antenna positions to produce the highest emission level.
e) Perform the test as follows:

1) Span: Wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products that fall outside of the authorized band of operation.
2) Reference level: As required to keep the signal from exceeding the maximum instrument input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.
3) Attenuation: Auto (at least 10dB preferred).
4) Sweep time: Coupled.
5) Resolution bandwidth: 100kHz.
6) Video bandwidth: 300kHz.
7) Detector: Peak.
8) Trace: Max hold.

f) Allow the trace to stabilize. For the test with the hopping function turned ON, this can take several minutes to achieve a reasonable probability of intercepting any emissions due to oscillator overshoot.

g) Set the marker on the emission at the band edge, or on the highest modulation product outside of the band, if this level is greater than that at the band edge. Enable the marker-delta function, and then use the marker-to-peak function to move the marker to the peak of the in-band emission.
h) Repeat step c) through step e) for every applicable modulation.
i) Set the EUT to the highest frequency channel (for the hopping on test, the hopping sequence shall include the highest frequency channel) and repeat step c) through step d).
j) The band-edge measurement shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

Restricted-band band-edge test method please refers to ANSI C63.10-2013 section 6.10.5. The emission must comply with the 15.209 limit for fall in the restricted bands listed in section 15.205. Note that the method of measurement KDB publication number: 913591 may be used for the radiated band-edge measurements.

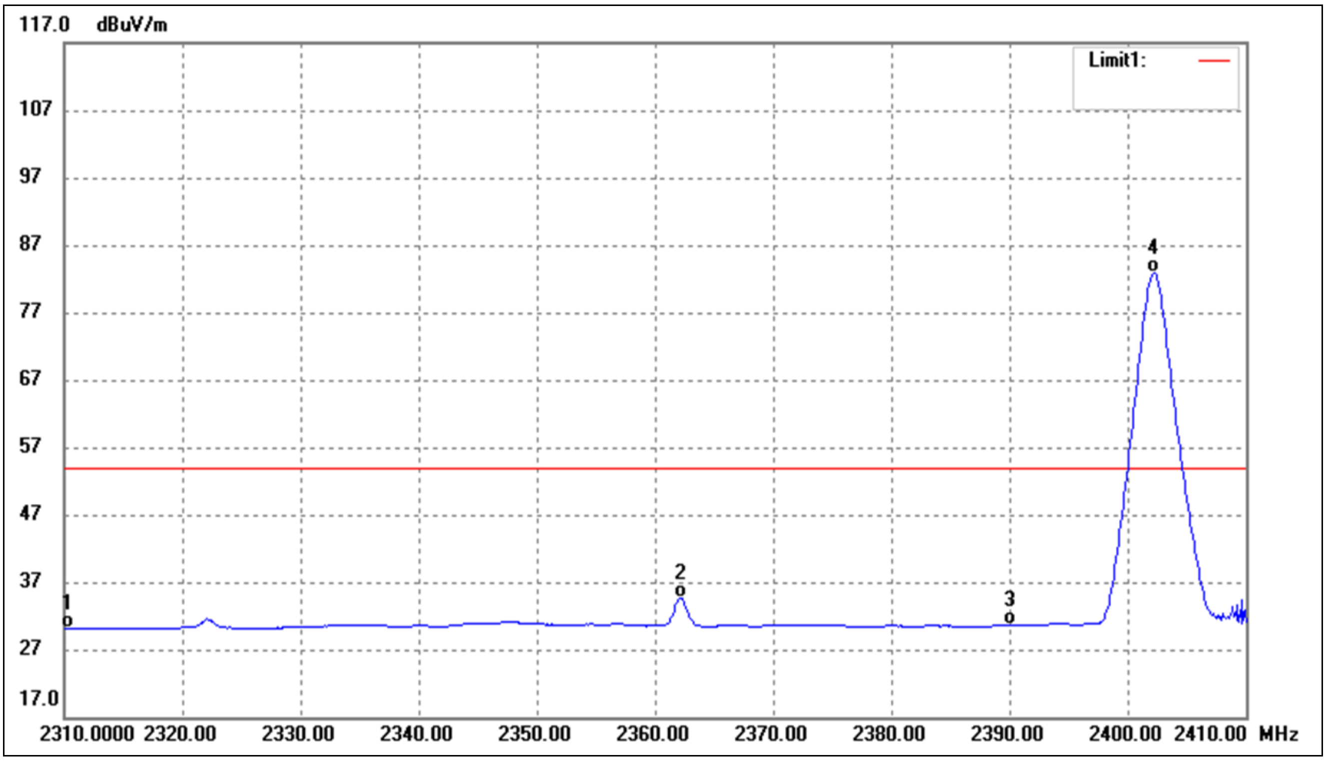
According to ANSI C63.10-2013 section 7.8.8, Conducted spurious emissions shall be measured for the transmit frequency, per 5.5 and 5.6, and at the maximum transmit powers.
Connect the primary antenna port through an attenuator to the spectrum analyzer input; in the results, account for all losses between the unlicensed wireless device output and the spectrum analyzer. The instrument shall span 30 MHz to 10 times the operating frequency in GHz, with a resolution bandwidth of 100 kHz, video bandwidth of 300 kHz, and a coupled sweep time with a peak detector. The band 30 MHz to the highest frequency may be split into smaller spans, as long as the entire spectrum is covered.

10.3 Summary of Test Results/Plots

Note: All test modes (different data rate and different modulation) are performed, but only the worst case（GFSK） is recorded in this report.

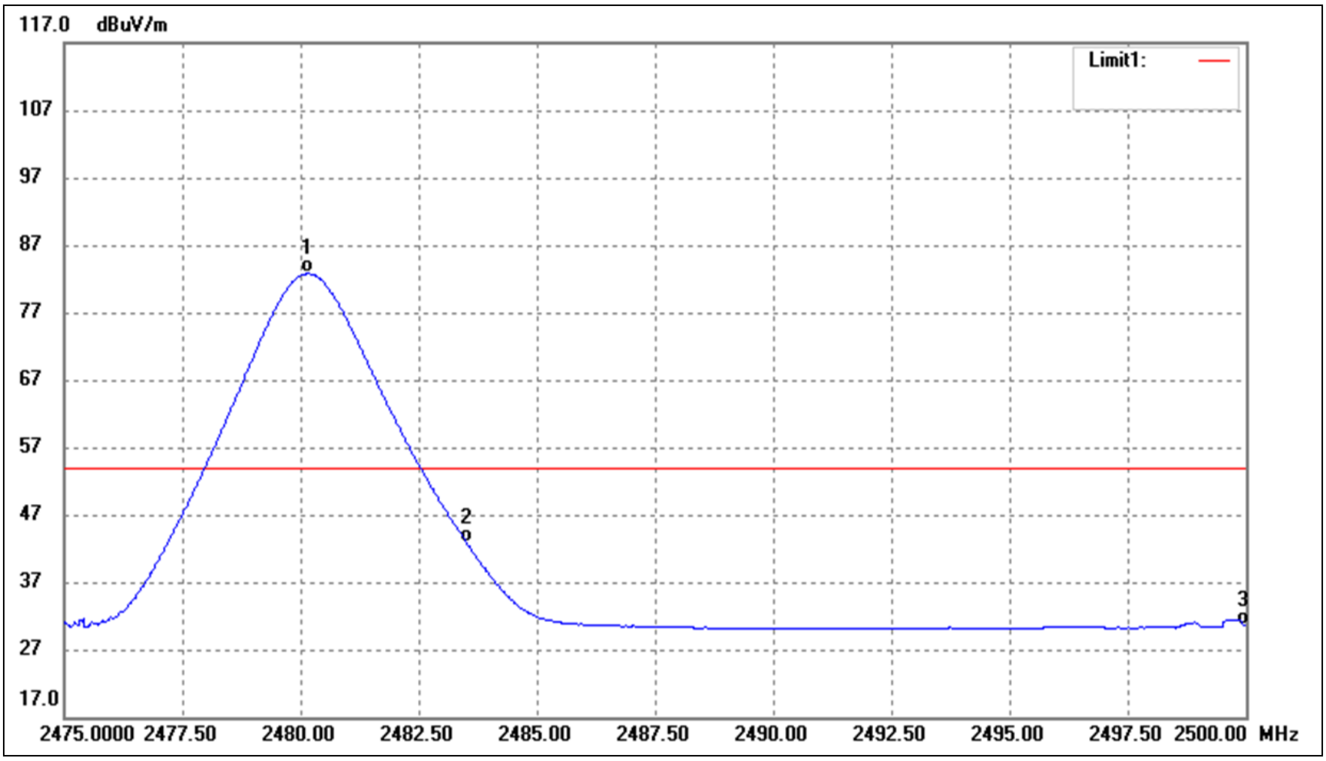
➢ Radiated test

Test Channel	Low	Polarity:	Horizontal (worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	41.02	-10.82	30.20	54.00	-23.80	Average Detector
	2310.000	52.81	-10.82	41.99	74.00	-32.01	Peak Detector
2	2362.200	45.40	-10.75	34.65	54.00	-19.35	Average Detector
3	2390.000	41.31	-10.70	30.61	54.00	-23.39	Average Detector
	2310.000	52.81	-10.82	41.99	74.00	-32.01	Peak Detector
4	2402.200	93.48	-10.69	82.79	/	/	Average Detector
	2402.200	94.23	-10.69	83.54	/	/	Peak Detector

Test Channel	High	Polarity:	Horizontal (worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	2480.150	93.34	-10.58	82.76	/	/	Average Detector
	2480.150	93.90	-10.58	83.32	/	/	Peak Detector
2	2483.500	53.57	-10.58	42.99	54.00	-11.01	Average Detector
	2483.500	59.05	-10.58	48.47	74.00	-25.53	Peak Detector
3	2500.000	41.12	-10.55	30.57	54.00	-23.43	Average Detector
	2500.000	52.84	-10.55	42.29	74.00	-31.71	Peak Detector

Note: Average measurement was not performed if peak level is lower than average limit(54dBuV/m) for above 1GHz.

➢ Conducted test

Please refer to Appendix E

11. Conducted Emissions

11.1 Test Procedure

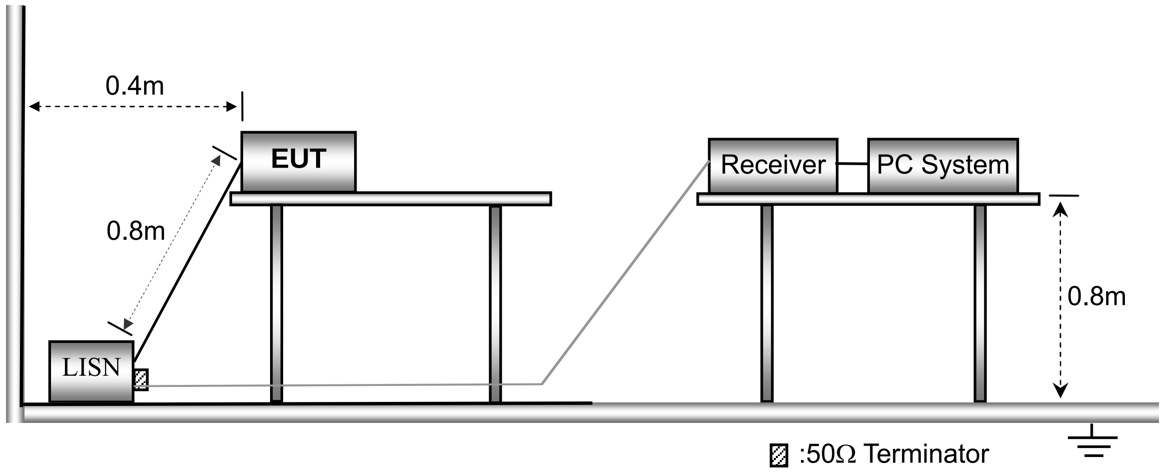
The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle.

The spacing between the peripherals was 10cm.

11.2 Basic Test Setup Block Diagram

The conducted emission tests were performed using the setup accordance with the ANSI C63.10:2013.



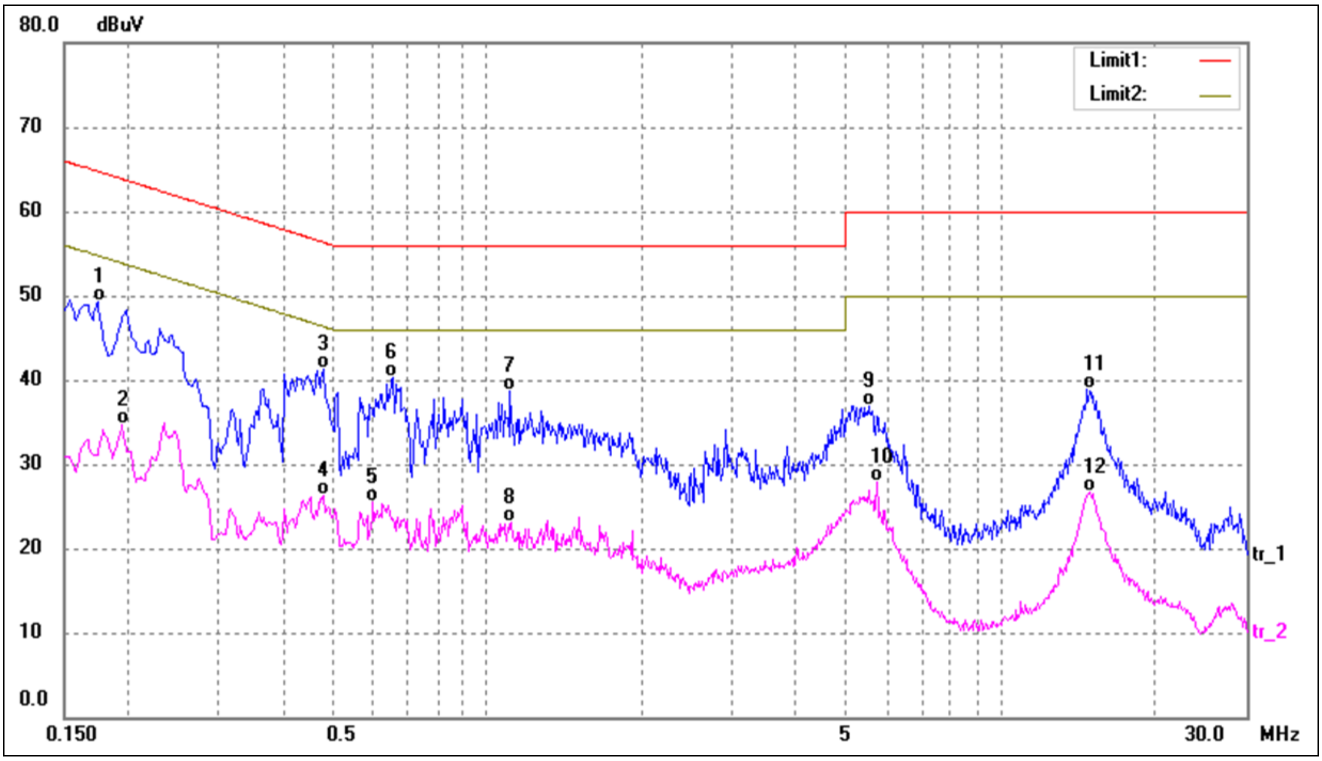
11.3 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency 150kHz
Stop Frequency 30MHz
Sweep Speed .... Auto
IF Bandwidth... 10kHz
Quasi-Peak Adapter Bandwidth 9kHz
Quasi-Peak Adapter Mode .... Normal

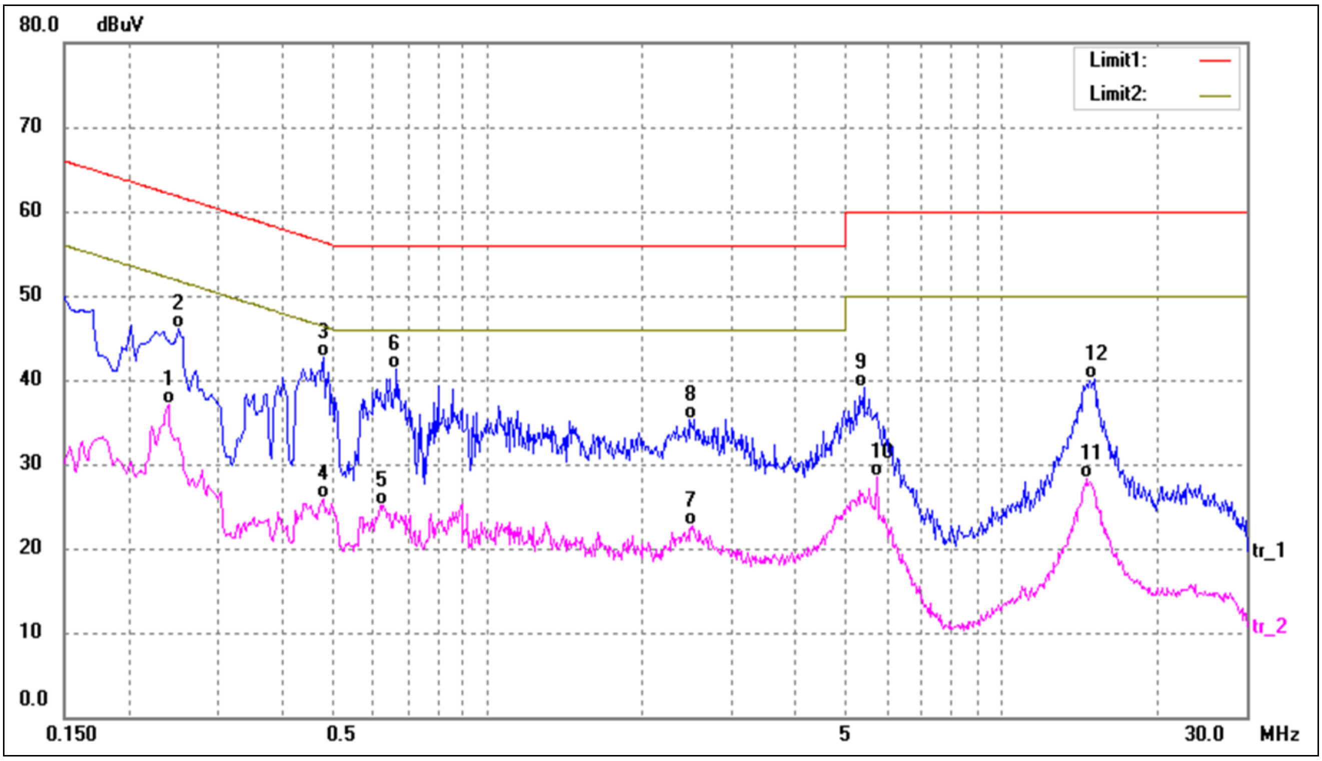
11.4 Summary of Test Results/Plots

Test Mode	Communication	AC120V 60Hz	Polarity:	Neutral



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1740	39.02	10.37	49.39	64.76	-15.37	QP
2	0.1940	24.26	10.37	34.63	53.86	-19.23	AVG
3*	0.4780	31.09	10.27	41.36	56.37	-15.01	QP
4	0.4780	16.11	10.27	26.38	46.37	-19.99	AVG
5	0.5980	15.20	10.32	25.52	46.00	-20.48	AVG
6	0.6540	30.02	10.35	40.37	56.00	-15.63	QP
7	1.1060	28.25	10.52	38.77	56.00	-17.23	QP
8	1.1140	12.54	10.51	23.05	46.00	-22.95	AVG
9	5.5340	26.98	9.99	36.97	60.00	-23.03	QP
10	5.7300	17.87	9.99	27.86	50.00	-22.14	AVG
11	14.6820	28.74	10.13	38.87	60.00	-21.13	QP
12	14.8860	16.51	10.15	26.66	50.00	-23.34	AVG

Test Mode	Communication	AC120V 60Hz	Polarity:	Line



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.2380	26.74	10.36	37.10	52.16	-15.06	AVG
2	0.2500	35.72	10.35	46.07	61.75	-15.68	QP
3*	0.4780	32.52	10.27	42.79	56.37	-13.58	QP
4	0.4780	15.64	10.27	25.91	46.37	-20.46	AVG
5	0.6260	14.86	10.34	25.20	46.00	-20.80	AVG
6	0.6660	30.89	10.36	41.25	56.00	-14.75	QP
7	2.5020	12.52	10.11	22.63	46.00	-23.37	AVG
8	2.5340	25.27	10.11	35.38	56.00	-20.62	QP
9	5.3940	29.05	9.99	39.04	60.00	-20.96	QP
10	5.7300	18.43	9.99	28.42	50.00	-21.58	AVG
11	14.7300	18.11	10.13	28.24	50.00	-21.76	AVG
12	15.1460	30.04	10.15	40.19	60.00	-19.81	QP

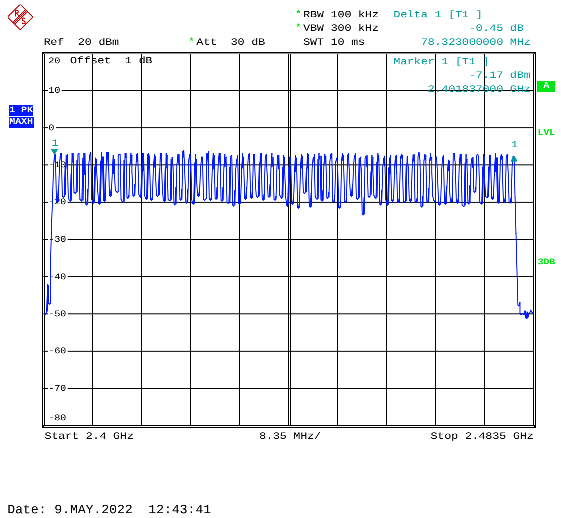
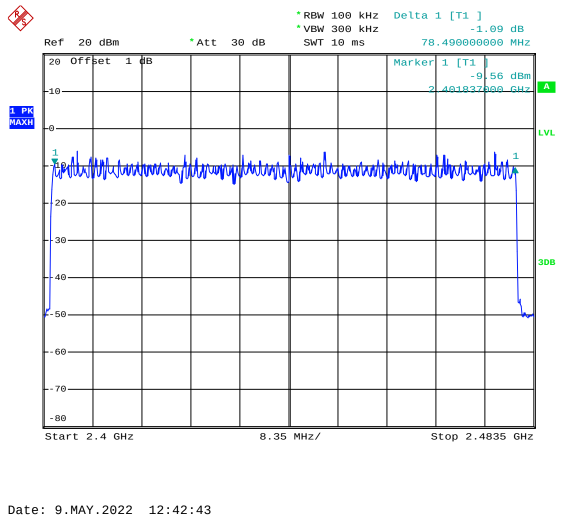
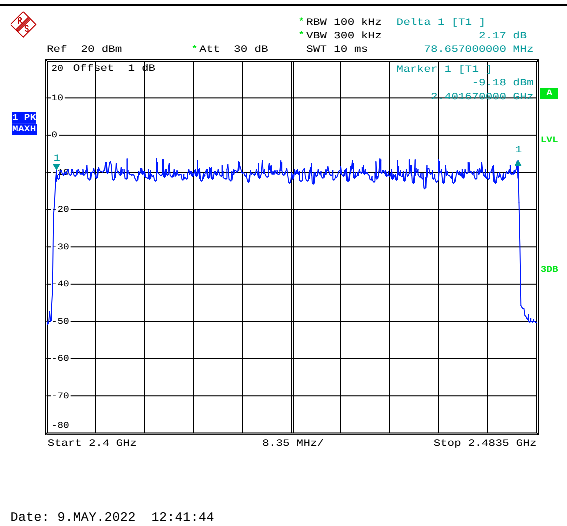
APPENDIX SUMMARY

Project No.	WTX22X04073376W	Test Engineer	Dashan
Start date	2022/05/07	Finish date	2022/05/09
Temperature	24.4℃	Humidity	47%
RF specifications	BT-BR/EDR		

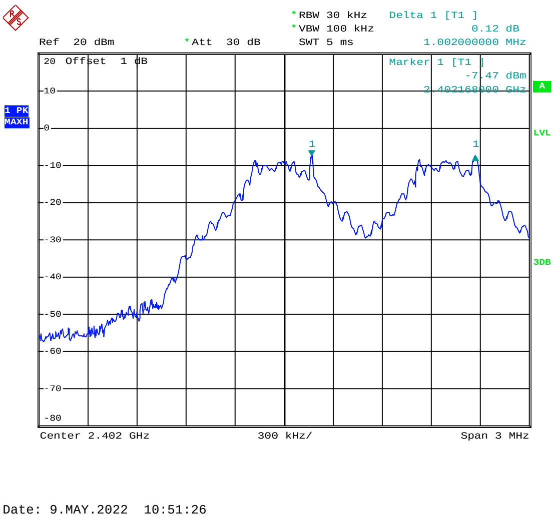
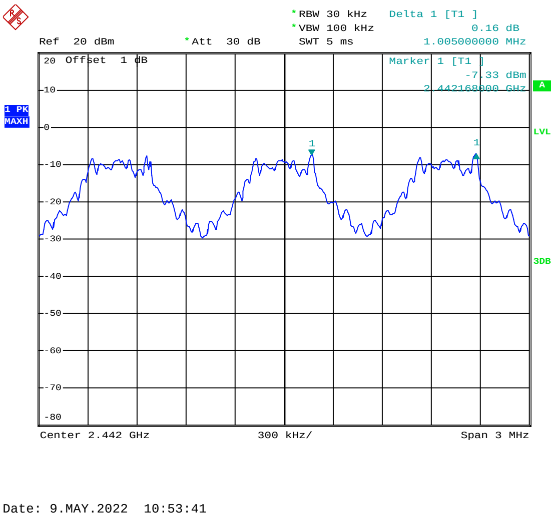
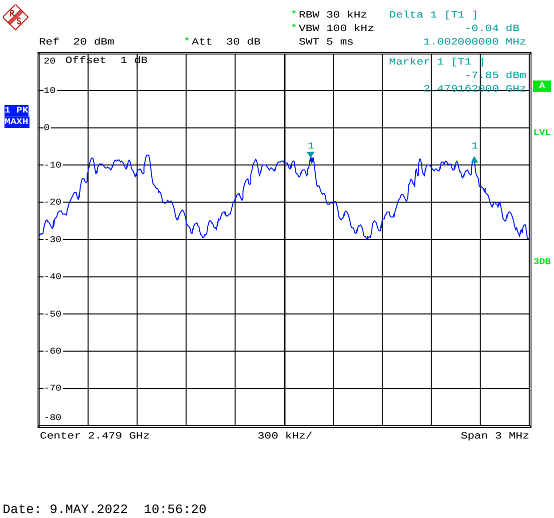
APPENDIX	Description of Test Item	Result
A	Hopping Channels and Channel Separation	Compliant
B	Dwell Time of Hopping Channel	Compliant
C	20dB Bandwidth	Compliant
D	RF Output Power	Compliant
E	Conducted Out of Band Emissions	Compliant

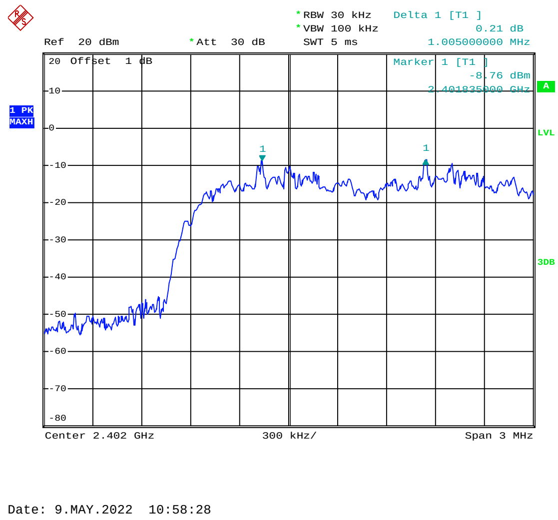
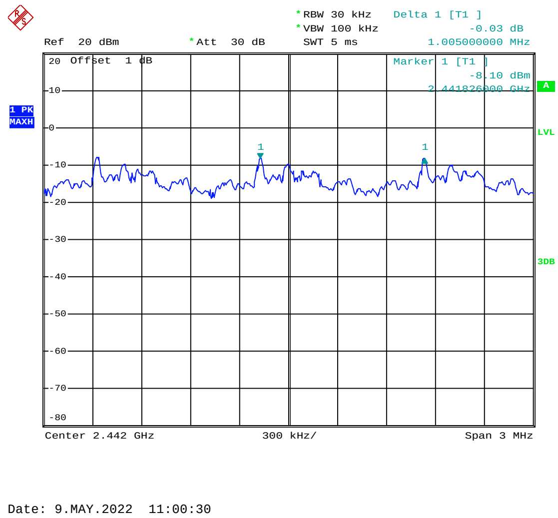
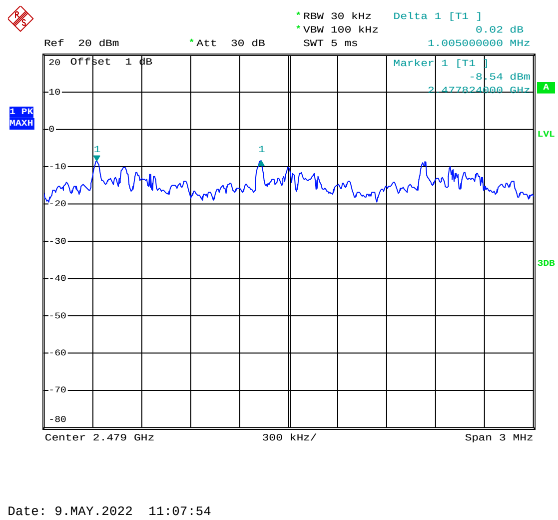
APPENDIX A

Hopping Channels Number			
Mode	Test Result	Limit	Result
GFSK	79	≥15	Pass
π/4 DQPSK	79	≥15	Pass
8DPSK	79	≥15	Pass

GFSK	
π/4 DQPSK	
8DPSK	

Channel Separation			
Mode	Channel	Carrier Frequencies Separation (kHz)	Result
GFSK	Low	1002	Pass
	Middle	1005	Pass
	High	1002	Pass
8DPSK	Low	1005	Pass
	Middle	1005	Pass
	High	1005	Pass

GFSK-Low	
GFSK-Middle	
GFSK-High	

8DPSK-Low	
8DPSK-Middle	
8DPSK-High	

APPENDIX B

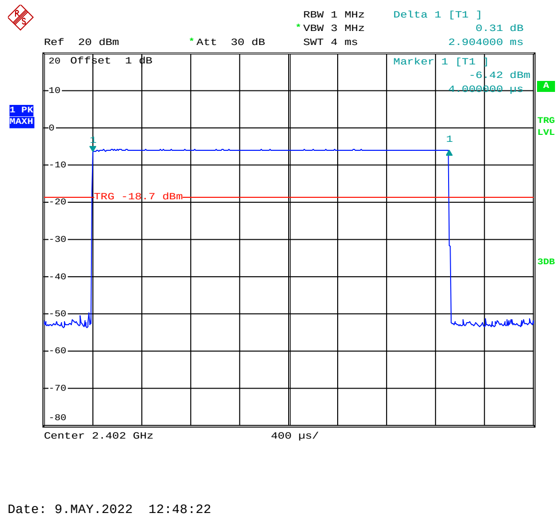
Dwell Time of Hopping Channel					
Modulation	Packet	Test Channel	Time Slot Length	Dwell Time	Limit
			ms	ms	ms
GFSK	DH5	Low	2.904	309.76	≤400
		Middle	2.896	308.91	≤400
		High	2.904	309.76	≤400
π/4 DQPSK	2DH5	Low	2.888	308.05	≤400
		Middle	2.888	308.05	≤400
		High	2.888	308.05	≤400
8DPSK	3DH5	Low	2.904	309.76	≤400
		Middle	2.896	308.91	≤400
		High	2.896	308.91	≤400

Note: The test period: T = 0.4 Second * 79 Channel = 31.6 s
Dwell time = time slot length * (Hopping rate / Number of hopping channels) * Period

Dwell time=Pulse time (ms) × (1600 ÷ 2 ÷ 79) ×31.6 Second for DH1, 2-DH1, 3-DH1

Dwell time=Pulse time (ms) × (1600 ÷ 4 ÷ 79) ×31.6 Second for DH3, 2-DH3, 3-DH3

Dwell time=Pulse time (ms) × (1600 ÷ 6 ÷ 79) ×31.6 Second for DH5, 2-DH5, 3-DH5

<table>
<tr><td>DH5-Low</td><td>
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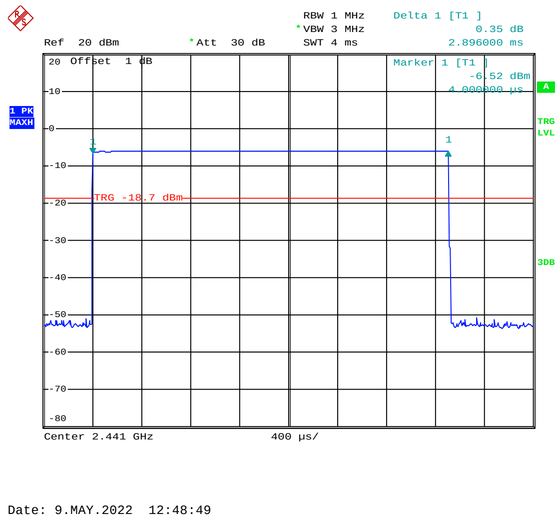
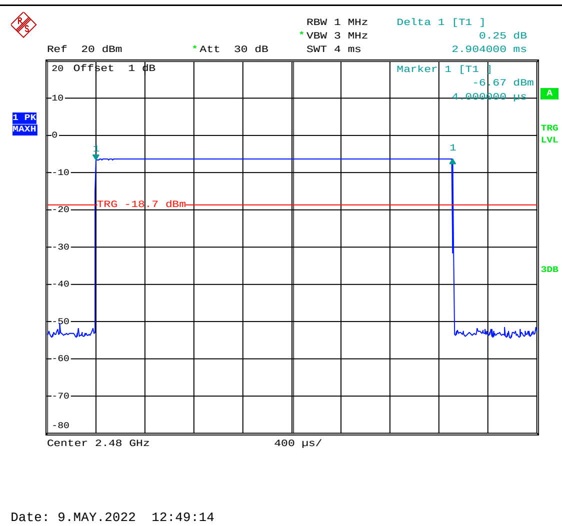
<tr><td>DH5-Middle</td><td>
</td></tr>
<tr><td>DH5-High</td><td>
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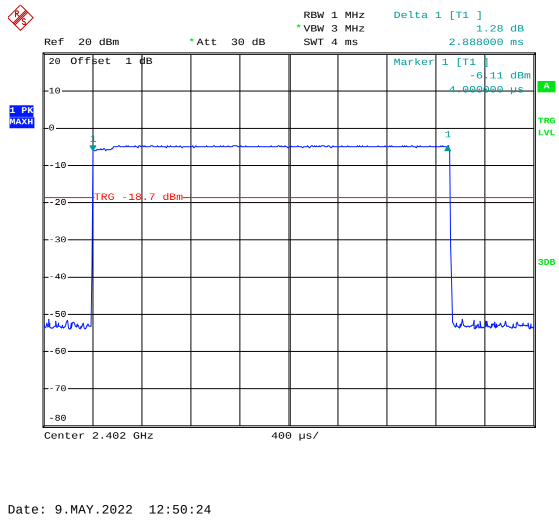
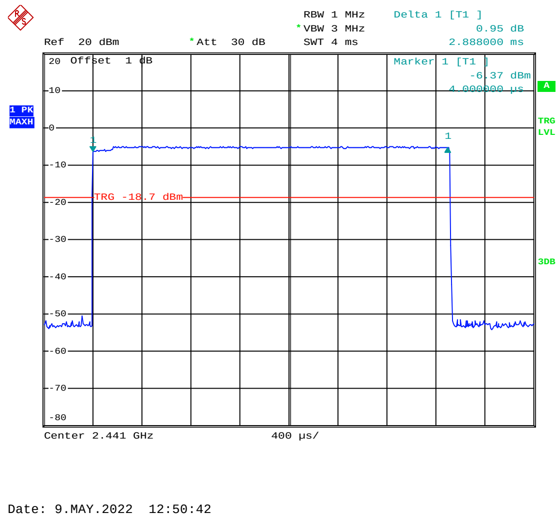
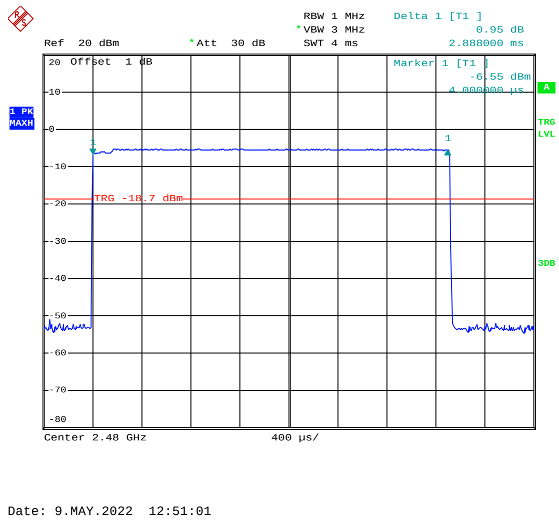
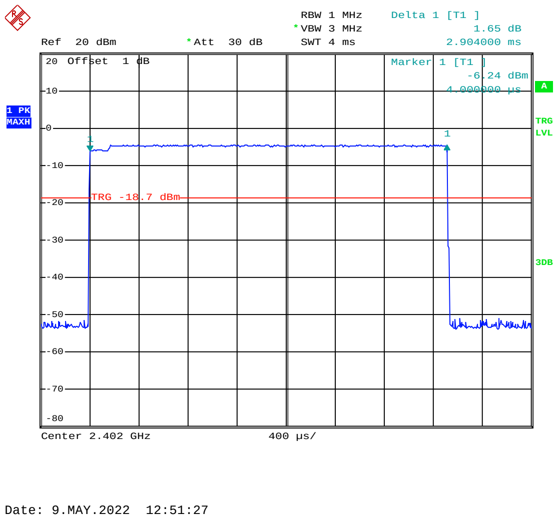
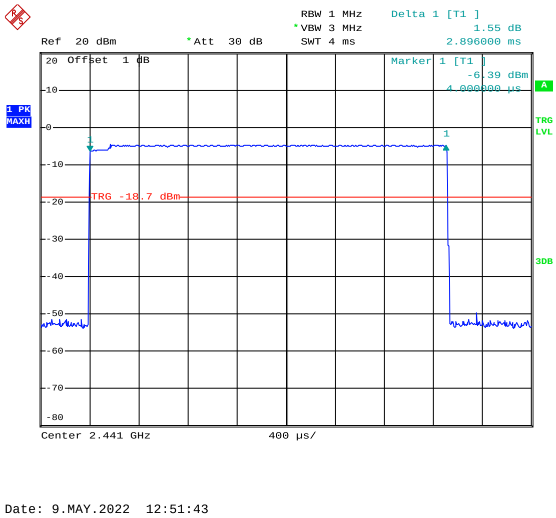
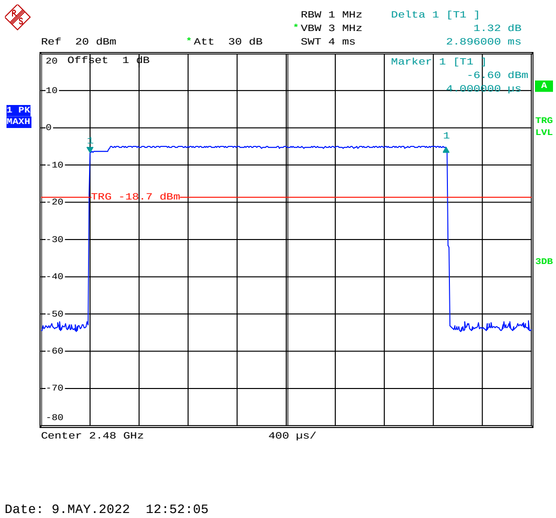
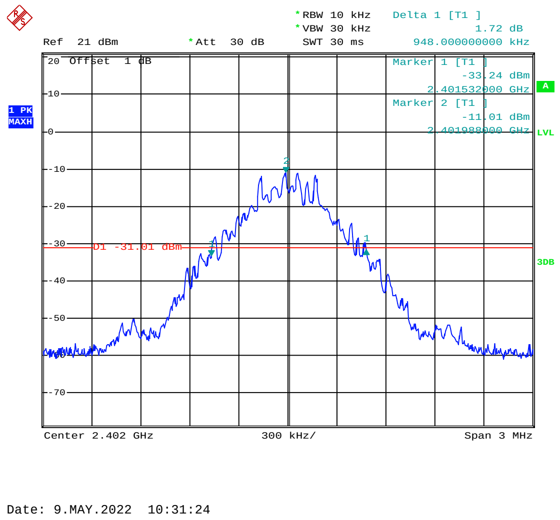
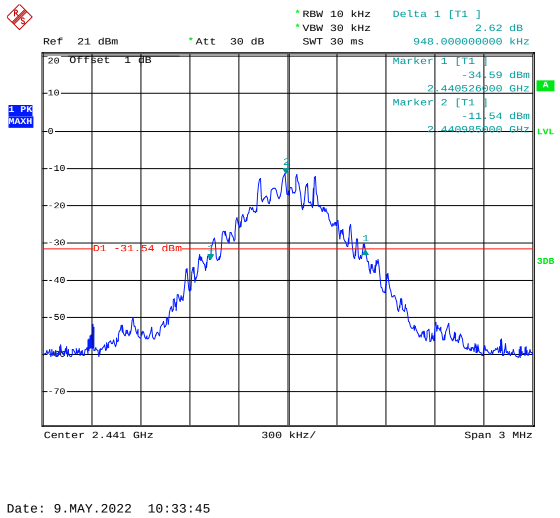
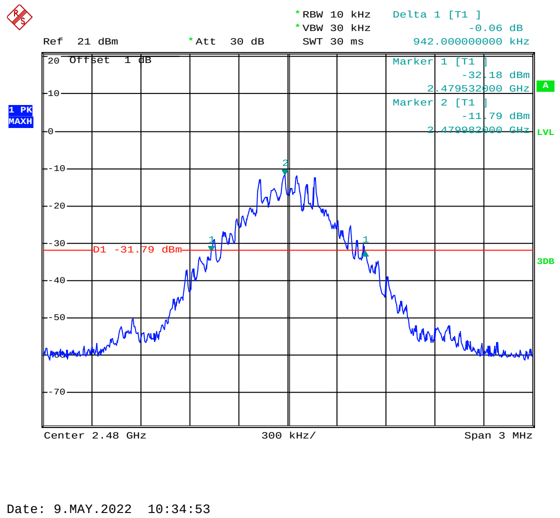
2DH5-Low	
2DH5-Middle	
2DH5-High	

3DH5-Low	
3DH5-Middle	
3DH5-High	

APPENDIX C

20 dB Bandwidth			
Test Mode	Test Channel MHz	20 dB Bandwidth MHz	Result
GFSK	2402	0.948	Pass
	2441	0.948	Pass
	2480	0.942	Pass
π/4 DQPSK	2402	1.287	Pass
	2441	1.290	Pass
	2480	1.290	Pass
8DPSK	2402	1.296	Pass
	2441	1.296	Pass
	2480	1.299	Pass

GFSK-Low	
GFSK-Middle	
GFSK-High	

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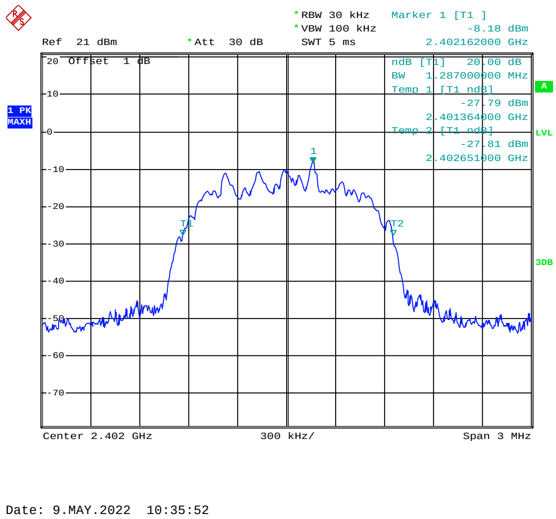
<tr><td>π/4 DQPSK-Low</td><td>
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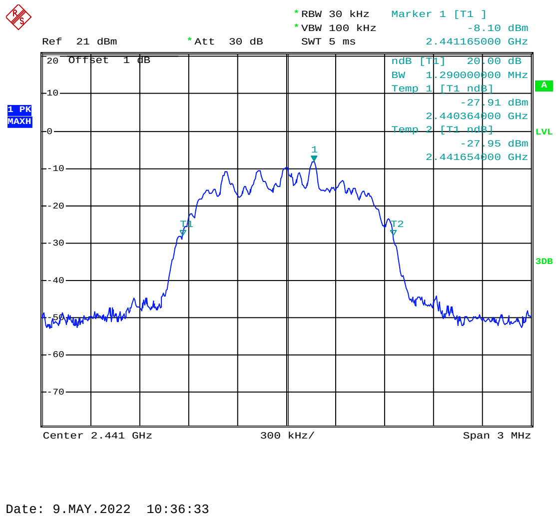
<tr><td>π/4 DQPSK-Middle</td><td>
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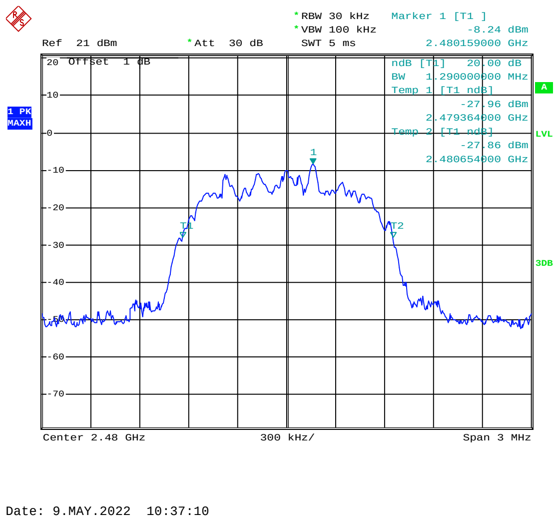
<tr><td>π/4 DQPSK-High</td><td>
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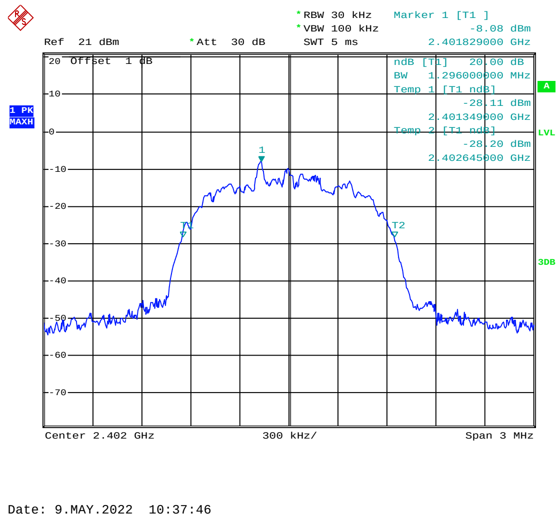
<tr><td>8DPSK-Low</td><td>
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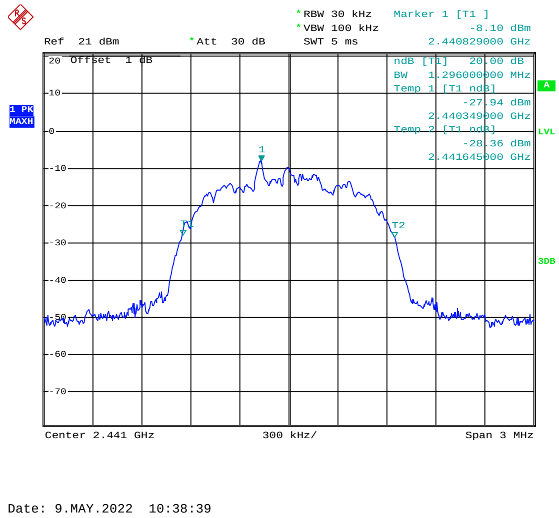
<tr><td>8DPSK-Middle</td><td>
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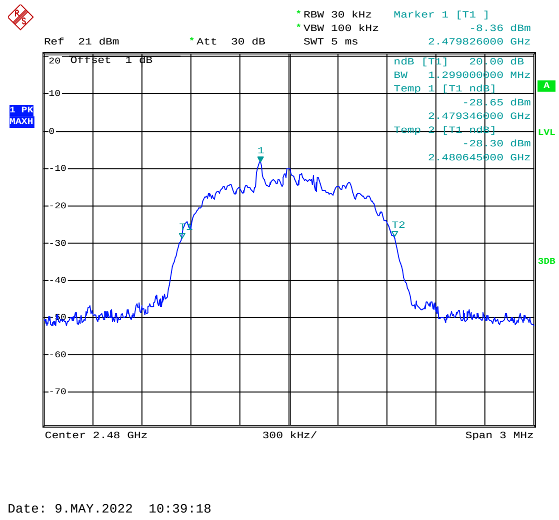
<tr><td>8DPSK-High</td><td>
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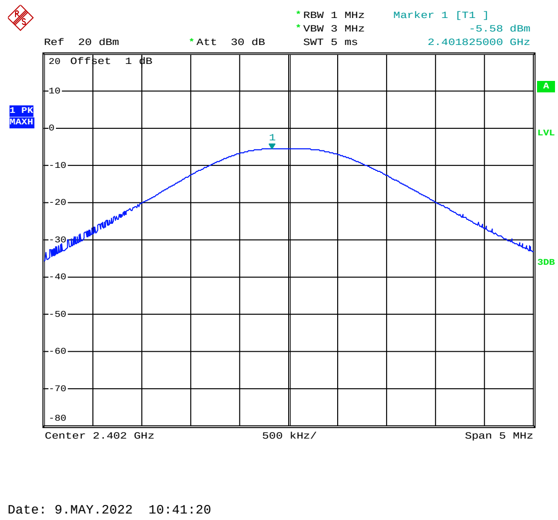
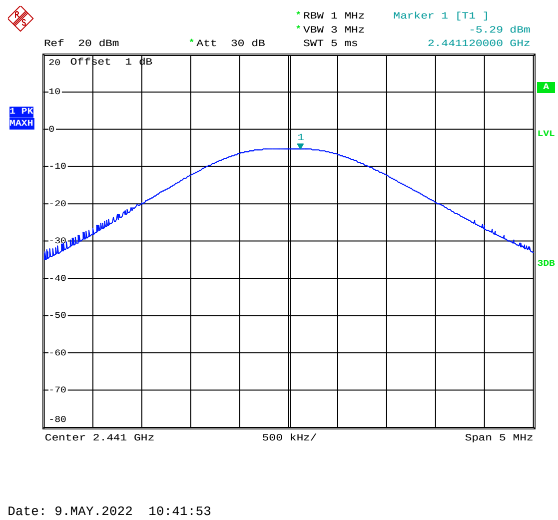
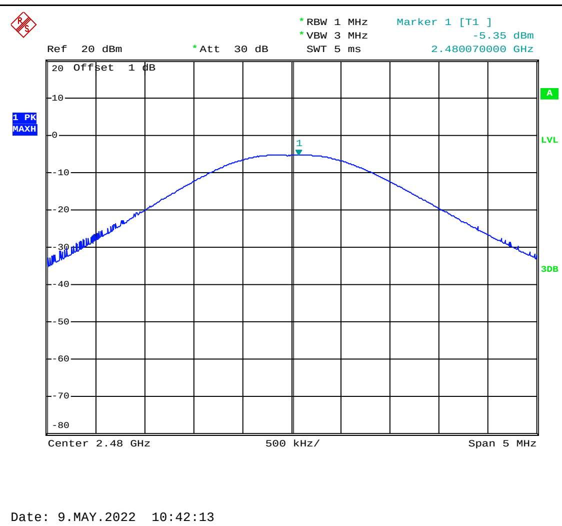
APPENDIX D

RF Output Power				
Modulation type	Channel	Output power (dBm)	Limit (dBm)	Result
GFSK	Low	-5.58	30.00	Pass
	Middle	-5.29		
	High	-5.35		
π/4 DQPSK	Low	-4.17	30.00	Pass
	Middle	-3.99		
	High	-4.23		
8DPSK	Low	-3.50	30.00	Pass
	Middle	-3.53		
	High	-3.68		

GFSK-Low	
GFSK-Middle	
GFSK-High	

Reference No.: WTX22X04073376W001

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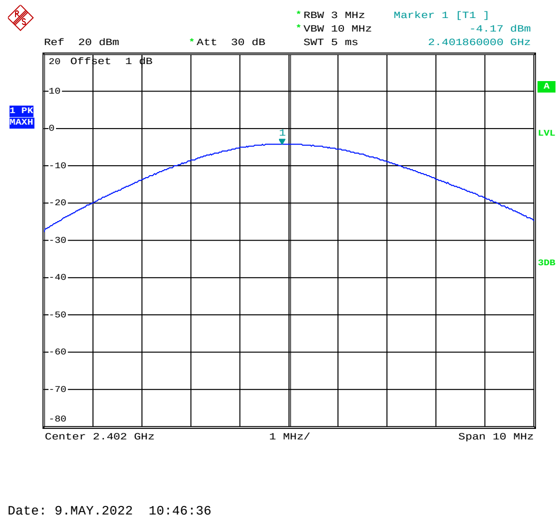
<tr><td>π/4 DQPSK-Low</td><td>
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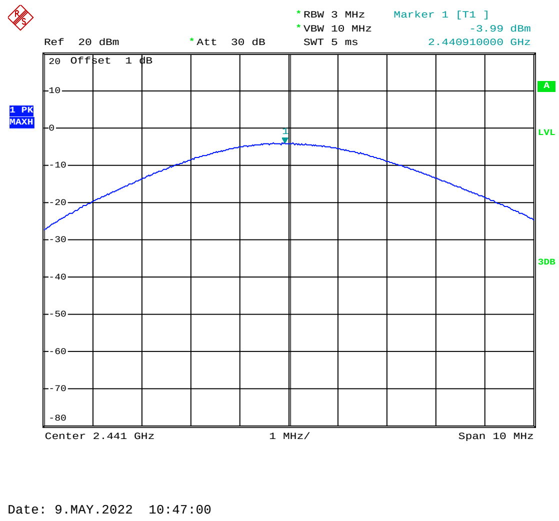
<tr><td>π/4 DQPSK-Middle</td><td>
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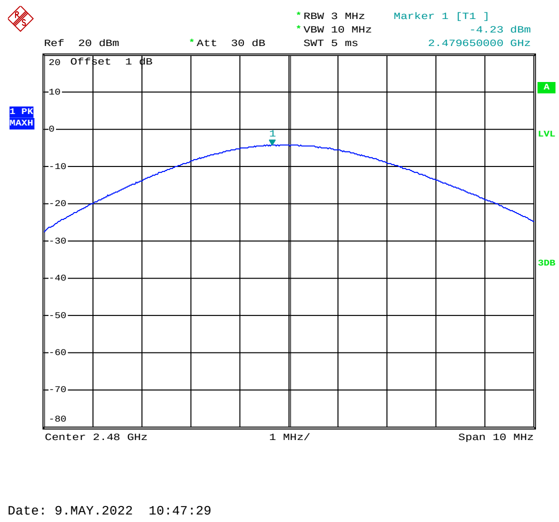
<tr><td>π/4 DQPSK-High</td><td>
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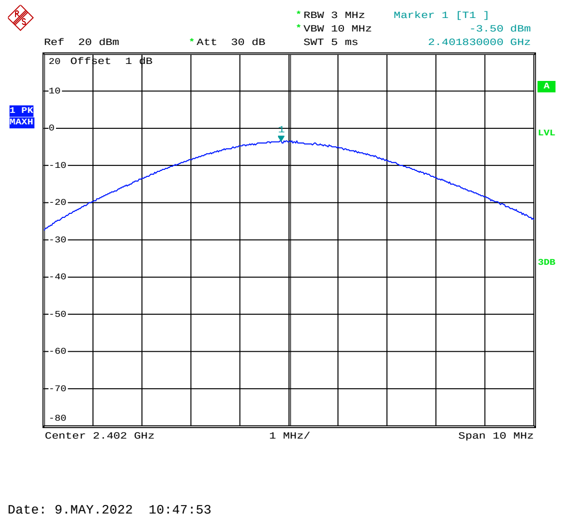
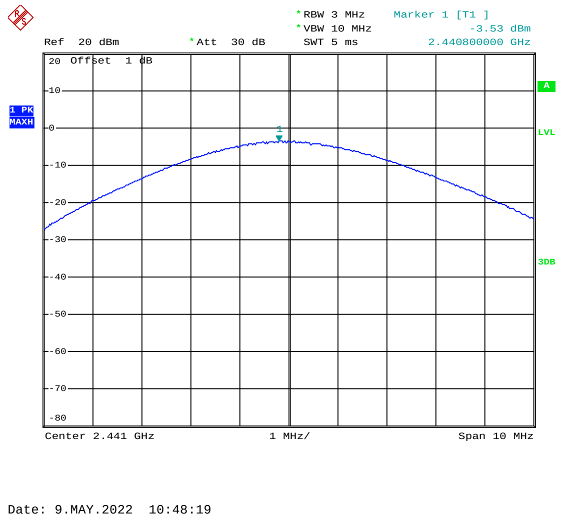
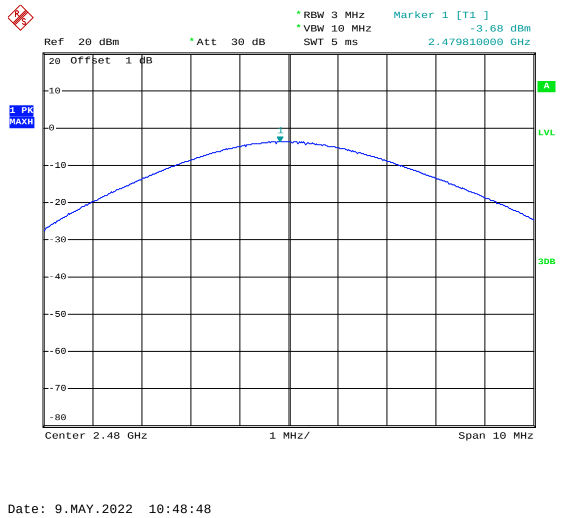
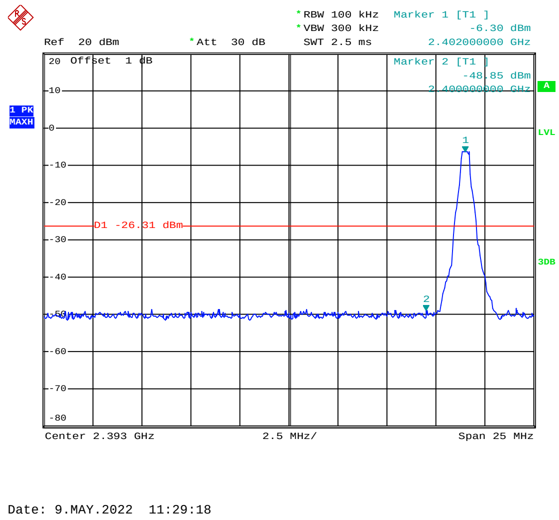
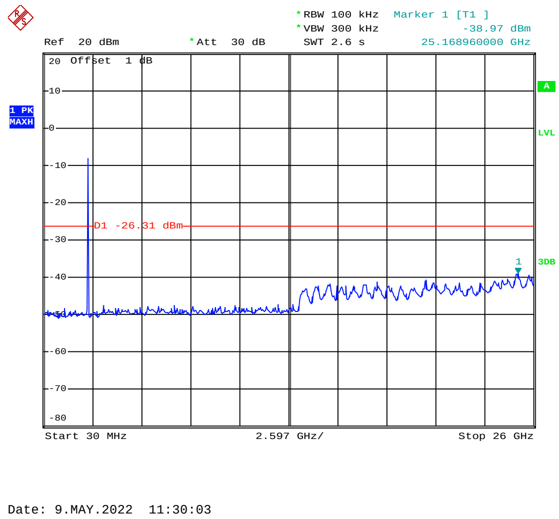
8DPSK-Low	
8DPSK-Middle	
8DPSK-High	

APPENDIX E

Conducted Out of Band Emissions

1M Low	
	

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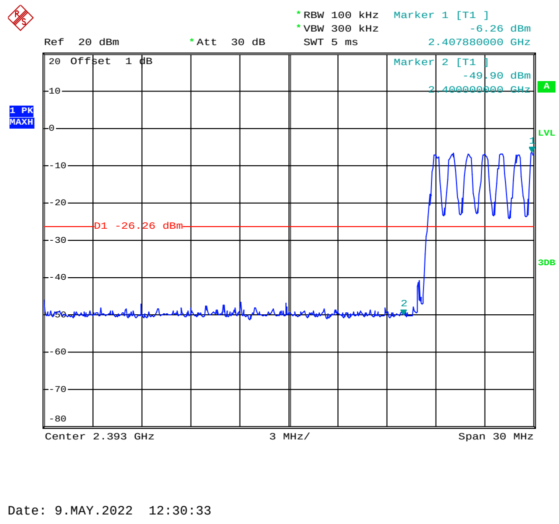
<tr><td></td><td>
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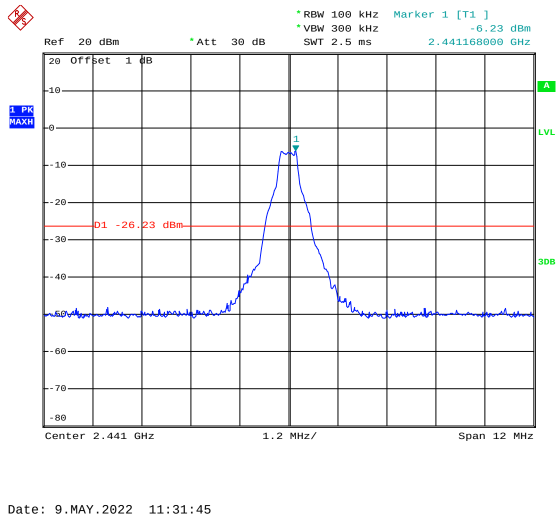
<tr><td rowspan="2">1M Middle</td><td>
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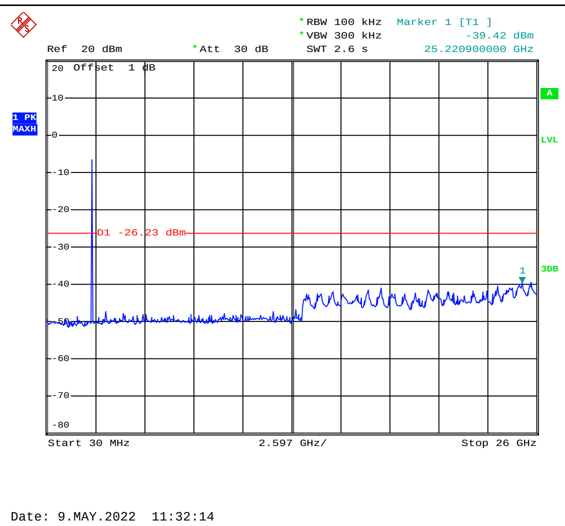
<tr><td>
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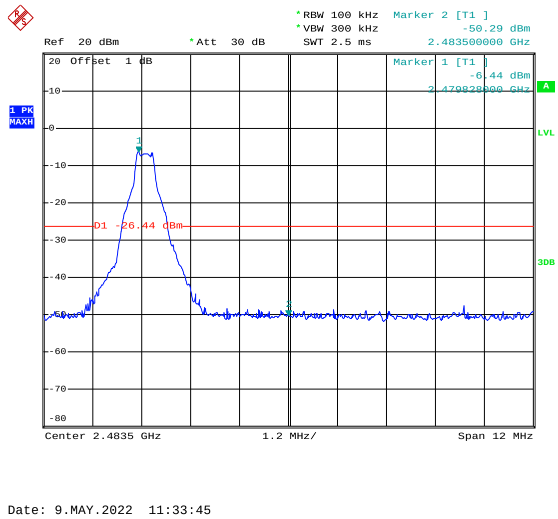
<table>
<tr><td rowspan="3">1M High</td><td>
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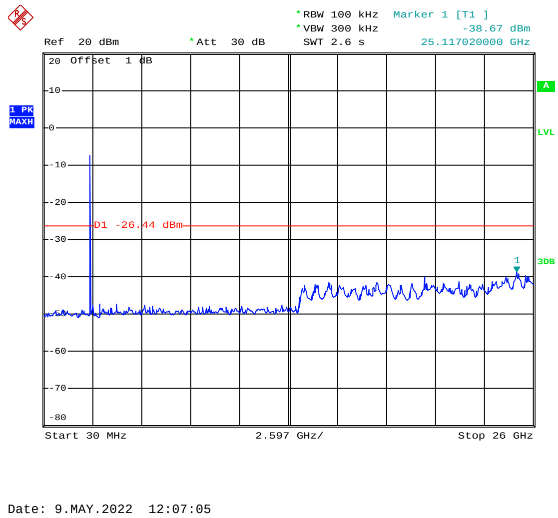
<tr><td>
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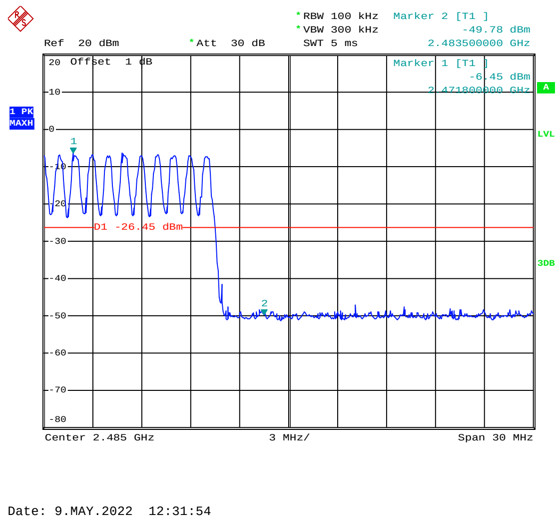
<tr><td>
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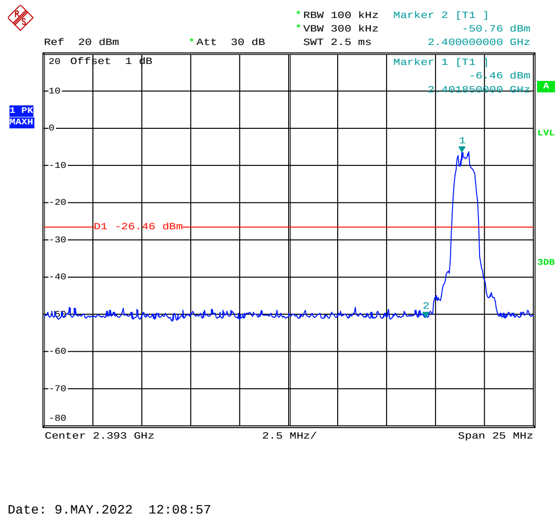
<tr><td rowspan="3">2M Low</td><td>
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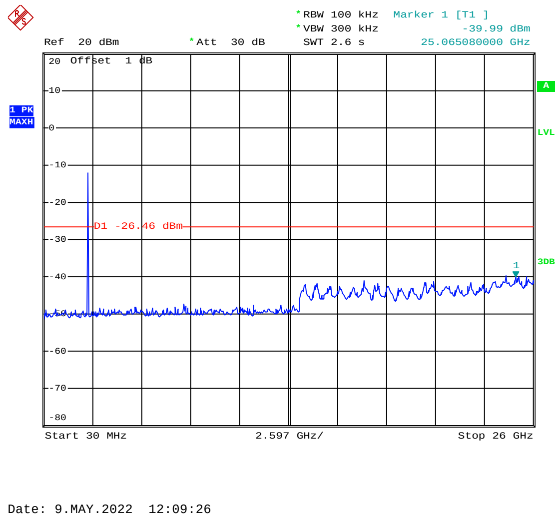
<tr><td>
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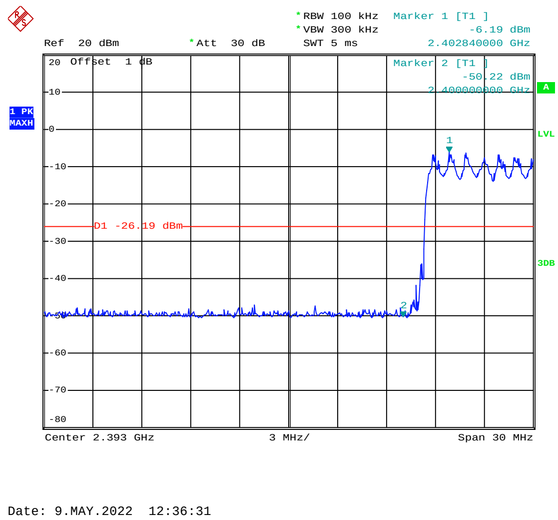
<tr><td>
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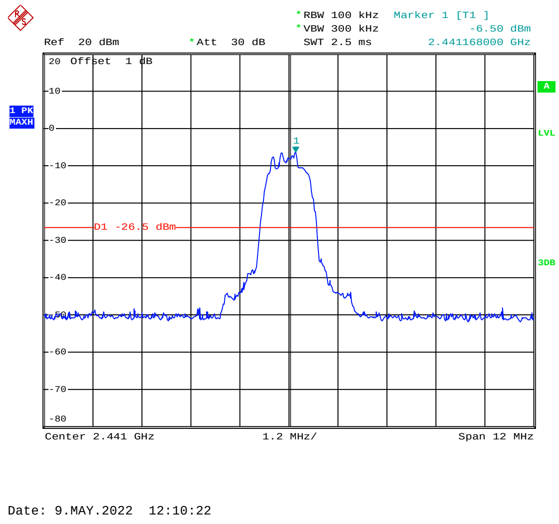
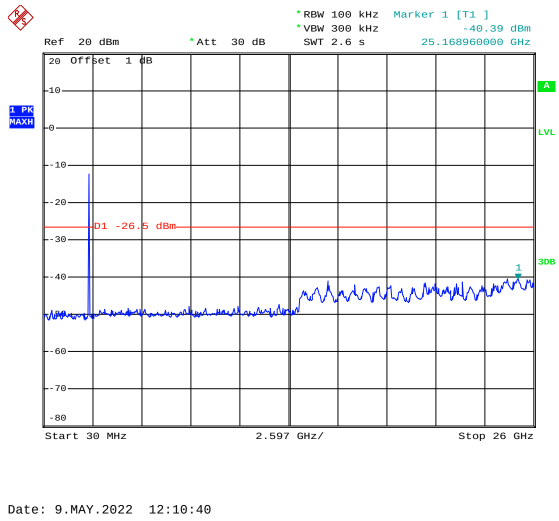
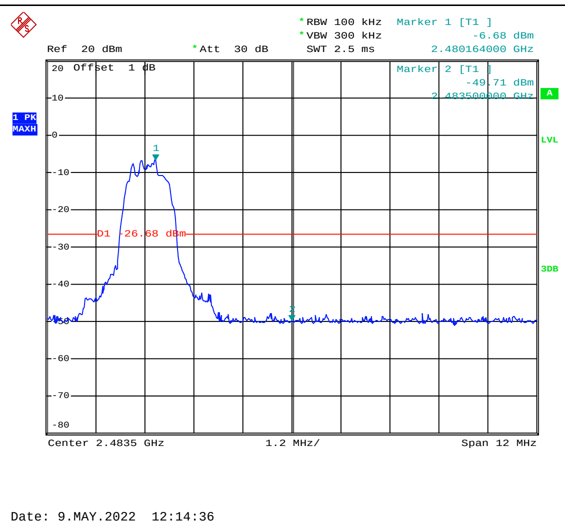
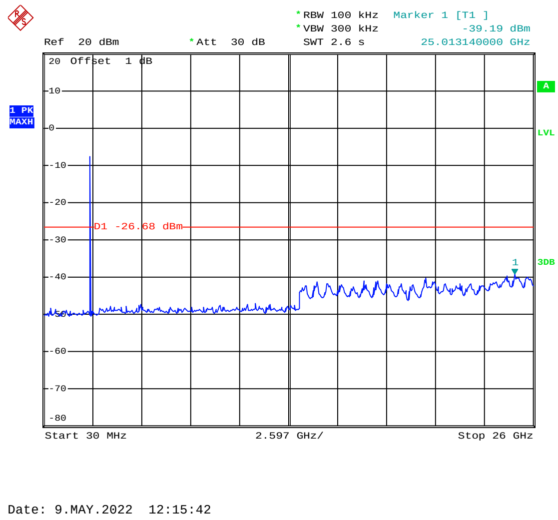
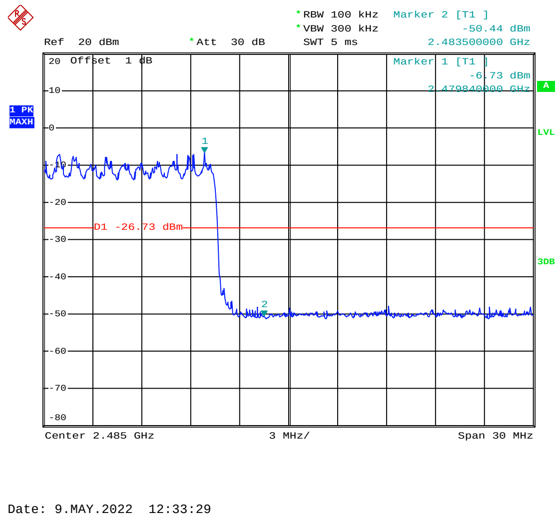
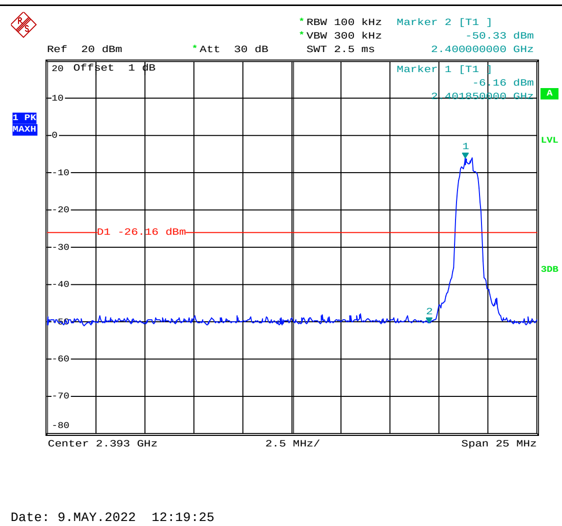
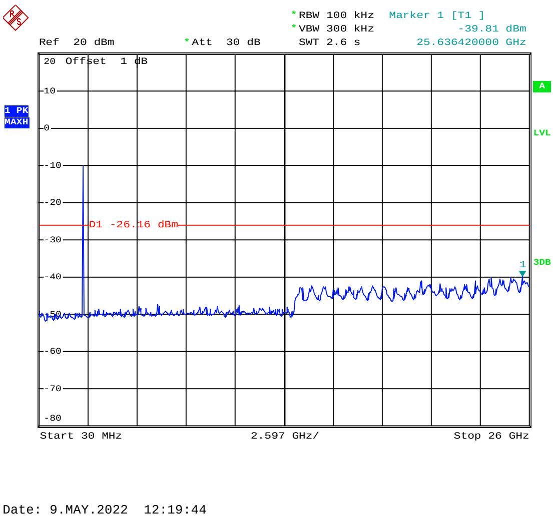
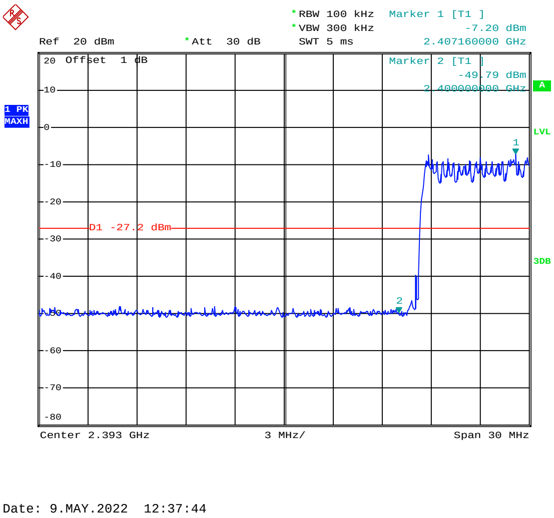
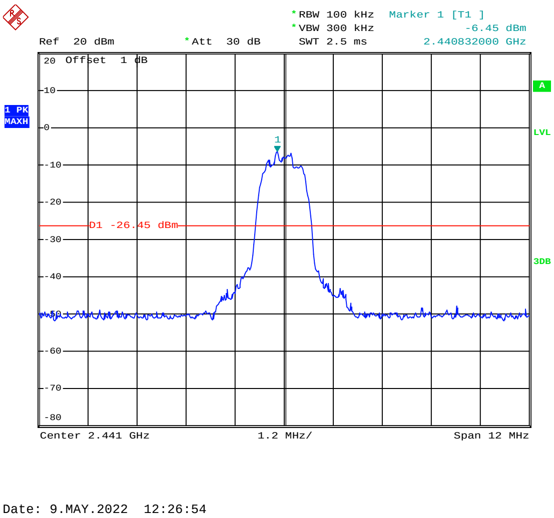
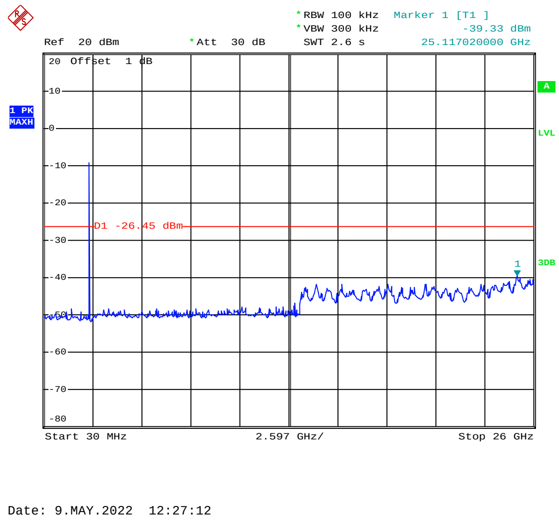
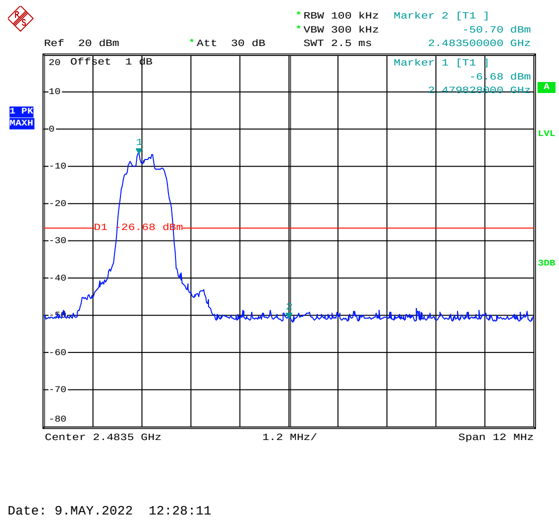
2M Middle	
	
2M High	

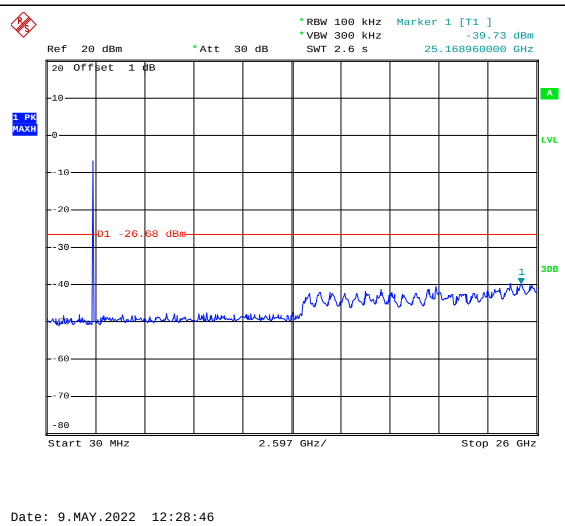
	RBW 100 kHz VBW 300 kHz Marker 1 [T1] -39.19 dBm 25.013140000 GHz Ref 20 dBm Att 30 dB SWT 2.6 s 20 Offset 1 dB 1 PK MAXH D1 -26.68 dBm Start 30 MHz 2.597 GHz/ Stop 26 GHz Date: 9.MAY.2022 12:15:42
	RBW 100 kHz VBW 300 kHz Marker 2 [T1] -50.44 dBm 2.483500000 GHz Ref 20 dBm Att 30 dB SWT 5 ms 20 Offset 1 dB Marker 1 [T1] -6.73 dBm 2.479840000 GHz 1 PK MAXH D1 -26.73 dBm Center 2.485 GHz 3 MHz/ Span 30 MHz Date: 9.MAY.2022 12:33:29
3M Low	RBW 100 kHz VBW 300 kHz Marker 2 [T1] -50.33 dBm 2.400000000 GHz Ref 20 dBm Att 30 dB SWT 2.5 ms 20 Offset 1 dB Marker 1 [T1] -6.16 dBm 2.401850000 GHz 1 PK MAXH D1 -26.16 dBm Center 2.393 GHz 2.5 MHz/ Span 25 MHz Date: 9.MAY.2022 12:19:25

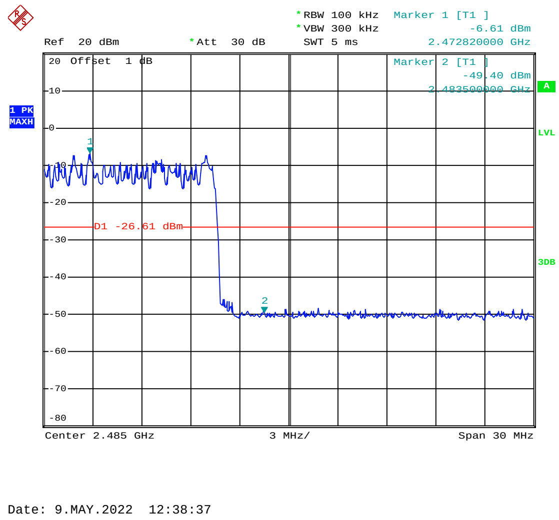
	RBW 100 kHz VBW 300 kHz Marker 1 [T1] -39.81 dBm 25.636420000 GHz Ref 20 dBm Att 30 dB SWT 2.6 s Offset 1 dB 1 PK MAXH D1 -26.16 dBm Start 30 MHz 2.597 GHz/ Stop 26 GHz Date: 9.MAY.2022 12:19:44
	RBW 100 kHz VBW 300 kHz Marker 1 [T1] -7.20 dBm 2.407160000 GHz Ref 20 dBm Att 30 dB SWT 5 ms Offset 1 dB Marker 2 [T1] -49.79 dBm 2.400000000 GHz 1 PK MAXH D1 -27.2 dBm Center 2.393 GHz 3 MHz/ Span 30 MHz Date: 9.MAY.2022 12:37:44
3M Middle	RBW 100 kHz VBW 300 kHz Marker 1 [T1] -6.45 dBm 2.440832000 GHz Ref 20 dBm Att 30 dB SWT 2.5 ms Offset 1 dB 1 PK MAXH D1 -26.45 dBm Center 2.441 GHz 1.2 MHz/ Span 12 MHz Date: 9.MAY.2022 12:26:54


*RBW 100 kHz Marker 1 [T1]
*VBW 300 kHz -39.33 dBm
Ref 20 dBm *Att 30 dB SWT 2.6 s 25.117020000 GHz
Offset 1 dB
1 PK MAXH
D1 -26.45 dBm
Start 30 MHz 2.597 GHz/ Stop 26 GHz
Date: 9.MAY.2022 12:27:12

3M High


*RBW 100 kHz Marker 2 [T1]
*VBW 300 kHz -50.70 dBm
Ref 20 dBm *Att 30 dB SWT 2.5 ms 2.483500000 GHz
Offset 1 dB
Marker 1 [T1]
-6.68 dBm
2.479828000 GHz
1 PK MAXH
D1 -26.68 dBm
Center 2.4835 GHz 1.2 MHz/ Span 12 MHz
Date: 9.MAY.2022 12:28:11


*RBW 100 kHz Marker 1 [T1]
*VBW 300 kHz -39.73 dBm
Ref 20 dBm *Att 30 dB SWT 2.6 s 25.168960000 GHz
Offset 1 dB
1 PK MAXH
D1 -26.68 dBm
Start 30 MHz 2.597 GHz/ Stop 26 GHz
Date: 9.MAY.2022 12:28:46



*RBW 100 kHz
*VBW 300 kHz
Marker 1 [T1]
-6.61 dBm
2.472820000 GHz
Ref 20 dBm
*Att 30 dB
SWT 5 ms
20 Offset 1 dB
Marker 2 [T1]
-49.40 dBm
2.483500000 GHz
1 PK
MAXH
A
LVL
3DB
D1 -26.61 dBm
Center 2.485 GHz
3 MHz/
Span 30 MHz
Date: 9.MAY.2022 12:38:37

APPENDIX PHOTOGRAPHS

Please refer to "ANNEX"

******* END OF REPORT *******