

Report No.: SUCR241100045502

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TEST REPORT

Application No.: SUCR2411000455AT

Shanghai Sunmi Technology Co.,Ltd. Applicant:

Room 505, No.388 Song Hu Road, Yang Pu District, Shanghai, China **Address of Applicant:**

Shanghai Sunmi Technology Co.,Ltd. Manufacturer:

Room 505, No.388 Song Hu Road, Yang Pu District, Shanghai, China Address of Manufacturer:

POS System **EUT Description:**

Model No.:

Please refer to section 2 of this report which indicates which model was

actually tested and which were electrically identical.

Trade Mark: **SUNMI**

FCC ID: 2AH25T3

Standards: FCC 47 CFR Part 2, Subpart J

FCC 47 CFR Part 15, Subpart C

Date of Receipt: November 14, 2024

Date of Test: November 20, 2024 to December 20, 2024

Date of Issue: December 23, 2024

Test Result: PASS *

In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Hayley Zhang

Approved by: Cloud Peng/ **Technical Manager**

Cloud Peng

Prepared by: Hayley Zhang/ Project Manager

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Version

Revision Record								
Version	Chapter	Date	Date Modifier					
01		December 23, 2024		Original				

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Test Summary

Test Item	FCC Rule No.	Test Method	Test Result	Result
Antenna Requirement	15.203/15.247(b)		Clause 3.1	PASS
AC Power Line Conducted Emission	15.207	ANSI C63.10 (2013) Section 6.2	Clause 3.3	PASS
Conducted Output Power	15.247 (b)(1)	ANSI C63.10 (2013) Section 7.8.5	Clause 3.4	PASS
20dB Emission Bandwidth & 99% Occupied Bandwidth	15.247 (a)(1)	ANSI C63.10 (2013) Section 6.9.2/6.9.3	Clause 3.5	For Report Purpose
Carrier Frequencies Separation	15.247 (a)(1)	ANSI C63.10 (2013) Section 7.8.2	Clause 3.6	PASS
Hopping Channel Number	15.247 (a)(1)	ANSI C63.10 (2013) Section 7.8.3	Clause 3.7	PASS
Dwell Time	15.247 (a)(1)	ANSI C63.10 (2013) Section 7.8.4	Clause 3.8	PASS
Band-edge for RF Conducted Emissions	15.247(d)	ANSI C63.10 (2013) Section 7.8.6	Clause 3.9	PASS
RF Conducted Spurious Emissions	15.247(d)	ANSI C63.10 (2013) Section 7.8.7.1	Clause 3.10	PASS
Radiated Spurious emissions	15.247(d); 15.205/15.209	ANSI C63.10 (2013) Section 6.4 / 6.5 / 6.6	Clause 3.11	PASS
Restricted bands around fundamental frequency (Radiated Emission)	15.247(d); 15.205/15.209	ANSI C63.10 (2013) Section 6.10.5	Clause 3.12	PASS

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2 General Information

2.1 Details of Client

Applicant:	Shanghai Sunmi Technology Co.,Ltd.
Address of Applicant:	Room 505, No.388 Song Hu Road, Yang Pu District, Shanghai, China
Manufacturer:	Shanghai Sunmi Technology Co.,Ltd.
Address of Manufacturer:	Room 505, No.388 Song Hu Road, Yang Pu District, Shanghai, China

2.2 Test Location

Company:	SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.
Address:	South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone
Post code:	215000
Test engineer:	Ives Cheng, King-p Li

2.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• A2LA (Certificate No. 6336.01)

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6336.01.

• Innovation, Science and Economic Development Canada

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0120.

IC#: 27594.

• FCC -Designation Number: CN1312

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized as an

accredited testing laboratory. Designation Number: CN1312.

Test Firm Registration Number: 717327

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2.4 General Description of EUT

EUT Description:	POS System
Model No.:	L15C1, L15D1
Trade Mark:	SUNMI
Hardware Version:	6225Coreboard_MB_V3.0
Software Version:	1.0.0
Power Supply:	24V
Operation Frequency:	2400MHz~2483.5MHz fc = 2402 MHz + N * 1 MHz, where: -fc = "Operating Frequency" in MHz, -N = "Channel Number" with the range from 0 to 78.
Bluetooth version:	Bluetooth V5.0
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Number of Channel:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Antenna Type:	Internal Antenna
	2.2dBi
Antenna Gain:	Note: The antenna gain are derived from the gain information report provided by the manufacturer.
RF Cable*:	1dB

Note: *Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, SGS is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.

Remark:

- The only difference between the two models is that L15C1 comes with a printer and L15D1 does not come with a printer, everything else is exactly the same. Based on the above differences, complete testing will be conducted for L15C1 model, while L15D1 model will only check EMC.
- 2. As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

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	Operation Frequency of each channel									
Channel	. ,		Frequency	Channel	Frequency	Channel	Frequency			
0	2402MHz	20	2422MHz	40	2442MHz	60	2462MHz			
1	2403MHz	21	2423MHz	41	2443MHz	61	2463MHz			
2	2404MHz	22	2424MHz	42	2444MHz	62	2464MHz			
3	2405MHz	23	2425MHz	43	2445MHz	63	2465MHz			
4	2406MHz	24	2426MHz	44	2446MHz	64	2466MHz			
5	2407MHz	25	2427MHz	45	2447MHz	65	2467MHz			
6	2408MHz	26	2428MHz	46	2448MHz	66	2468MHz			
7	2409MHz	27	2429MHz	47	2449MHz	67	2469MHz			
8	2410MHz	28	2430MHz	48	2450MHz	68	2470MHz			
9	2411MHz	29	2431MHz	49	2451MHz	69	2471MHz			
10	2412MHz	30	2432MHz	50	2452MHz	70	2472MHz			
11	2413MHz	31	2433MHz	51	2453MHz	71	2473MHz			
12	2414MHz	32	2434MHz	52	2454MHz	72	2474MHz			
13	2415MHz	33	2435MHz	53	2455MHz	73	2475MHz			
14	2416MHz	34	2436MHz	54	2456MHz	74	2476MHz			
15	2417MHz	35	2437MHz	55	2457MHz	75	2477MHz			
16	2418MHz	36	2438MHz	56	2458MHz	76	2478MHz			
17	2419MHz	37	2439MHz	57	2459MHz	77	2479MHz			
18	2420MHz	38	2440MHz	58	2460MHz	78	2480MHz			
19	2421MHz	39	2441MHz	59	2461MHz					

Remark:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The Lowest channel(CH0)	2402MHz
The Middle channel(CH39)	2441MHz
The Highest channel(CH78)	2480MHz

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2.5 Test Environment

Environment Parameter	101.0 kPa Selected Values During Tests					
Relative Humidity	44-46 % RH Ambient					
Value	Temperature(℃)	Voltage(V)				
NTNV	22~23	24				
Remark:						

NV: Normal Voltage Normal Temperature NT:

2.6 Description of Support Units

The EUT has been tested as an independent unit.

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3 Test results and Measurement Data

3.1 Antenna Requirement

47 CFR Part 15C Section 15.203 /247(b) Standard requirement:

15.203 requirement: 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, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6

The antenna is Internal Antenna and no consideration of replacement.

The best case gain of the antenna is 2.2dBi.

Note:

The antenna gain are derived from the gain information report provided by the manufacturer.

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3.2 Other requirements Frequency Hopping Spread Spectrum System **Hopping Sequence**

Test Requirement: 3.2.1

47 CFR Part 15, Subpart C 15.247(a)(1),(g),(h)

3.2.2 Conclusion

Standard Requirement:

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. 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.

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.

Compliance for section 15.247(a)(1):

According to Technical Specification, the pseudo random sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first ONE of 9 consecutive ONEs; i.e. the shift register is initialized with nine ones.

- > Number of shift register stages: 9
- > Length of pseudo-random sequence: 29 -1 = 511 bits
- > Longest sequence of zeros: 8 (non-inverted signal)

Linear Feedback Shift Register for Generation of the PRBS sequence An example of Pseudorandom Frequency Hopping Sequence as follow:

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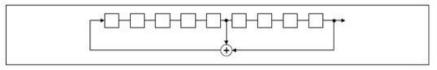
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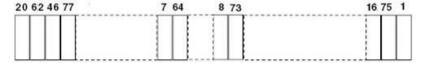
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Linear Feedback Shift Register for Generation of the PRBS sequence

An example of Pseudorandom Frequency Hopping Sequence as follow:



Each frequency used equally on the average by each transmitter.

According to Technical Specification, the receivers are designed to have input and IF bandwidths that match the hopping channel bandwidths of any transmitters and shift frequencies in synchronization with the transmitted signals.

Compliance for section 15.247(g):

Compliance for section 15.247(h):

According to Technical Specification, the system transmits the packet with the pseudorandom hopping frequency with a continuous data and the short burst transmission from the RF system is also transmitted under the frequency hopping system with the pseudorandom hopping frequency system.

According to Technical specification, the system incorporates with an adaptive system to detect other user within the spectrum band so that it individually and independently to avoid hopping on the occupied channels. The system is designed not have the ability to coordinated with other FHSS System in an effort to avoid the simultaneous occupancy of individual hopping frequencies by multiple transmitter.

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3.3 AC Power Line Conducted Emissions

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Test Requirement:	47 CFR Part 15C Section 15.207						
Test Method:	ANSI C63.10: 2013 Section 6.2						
Test Frequency Range:	150kHz to 30MHz						
Receiver Setup:	RBW = 9kHz, VBW = 30kHz						
Limit:	(MII-)	Limit (d	BuV)				
	Frequency range (MHz)	Quasi-peak	Average				
	0.15-0.5	66 to 56*	56 to 46*				
	0.5-5	56	46				
	5-30	60	50				
	* Decreases with the loga	arithm of the frequency.					
Test Procedure:	 * Decreases with the logarithm of the frequency. The mains terminal disturbance voltage test was conducted in a shielded room. The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane. The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI 						

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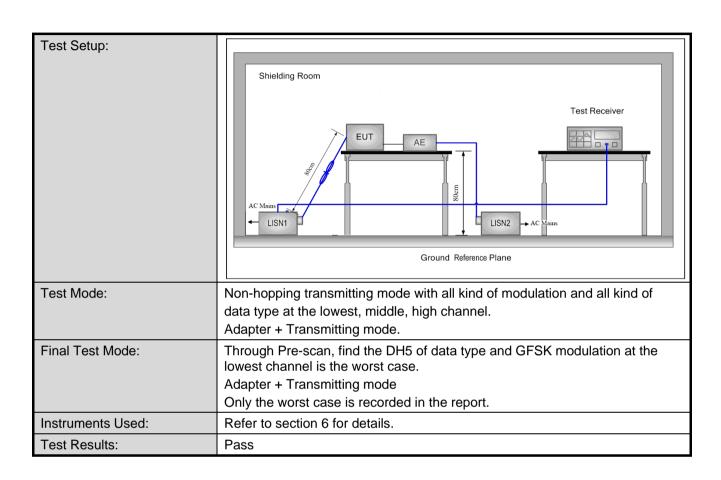
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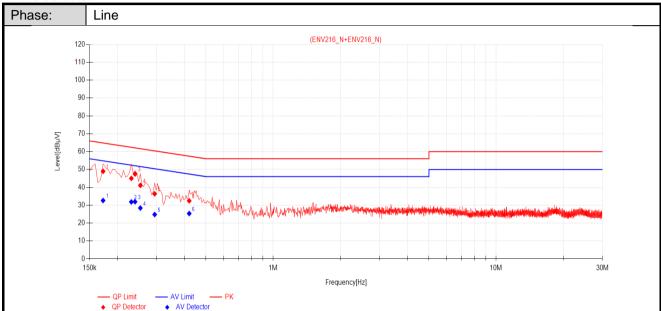
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Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.



Final	Final Data List										
NO.	Frequency [MHz]	Factor [dB]	QP Reading [dBµV]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.1725	10.19	38.77	48.96	64.84	15.88	22.44	32.63	54.84	22.21	PASS
2	0.2310	10.17	34.83	45.00	62.41	17.41	21.67	31.84	52.41	20.57	PASS
3	0.2400	10.16	37.30	47.46	62.10	14.64	21.78	31.94	52.10	20.16	PASS
4	0.2535	10.16	30.95	41.11	61.64	20.53	18.26	28.42	51.64	23.22	PASS
5	0.2940	10.15	26.23	36.38	60.41	24.03	14.63	24.78	50.41	25.63	PASS
6	0.4200	10.16	22.30	32.46	57.45	24.99	15.18	25.34	47.45	22.11	PASS

Remark:

- 1. The following Quasi-Peak and Average measurements were performed on the EUT:
- 2. Value =Reading[dBµV] + Factor(Lisn factor[dB] + cable loss[dB]).
- 3. Margin = Limit[dB μ V] Value[dB μ V]

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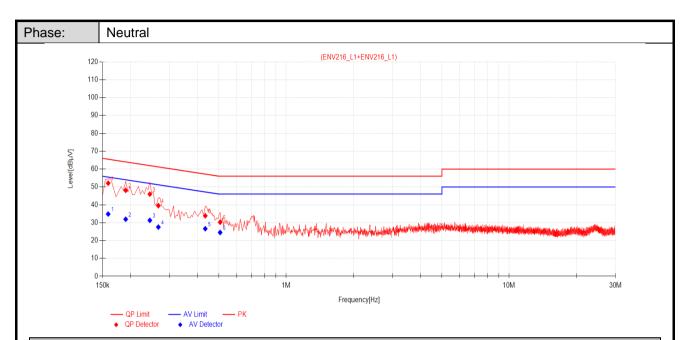
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Final	Final Data List										
NO.	Frequency [MHz]	Factor [dB]	QP Reading [dBµV]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.1590	10.20	41.90	52.10	65.52	13.42	24.62	34.82	55.52	20.70	PASS
2	0.1905	10.18	37.91	48.09	64.01	15.92	21.75	31.93	54.01	22.08	PASS
3	0.2445	10.16	35.81	45.97	61.94	15.97	21.13	31.29	51.94	20.65	PASS
4	0.2670	10.15	29.39	39.54	61.21	21.67	17.37	27.52	51.21	23.69	PASS
5	0.4335	10.17	23.67	33.84	57.19	23.35	16.45	26.62	47.19	20.57	PASS
6	0.5055	10.18	20.07	30.25	56.00	25.75	14.33	24.51	46.00	21.49	PASS

Remark:

- 1. The following Quasi-Peak and Average measurements were performed on the EUT:
- 2. Value =Reading[dBµV] + Factor(Lisn factor[dB] + cable loss[dB]).
- 3. Margin = Limit[dBµV] Value[dBµV]

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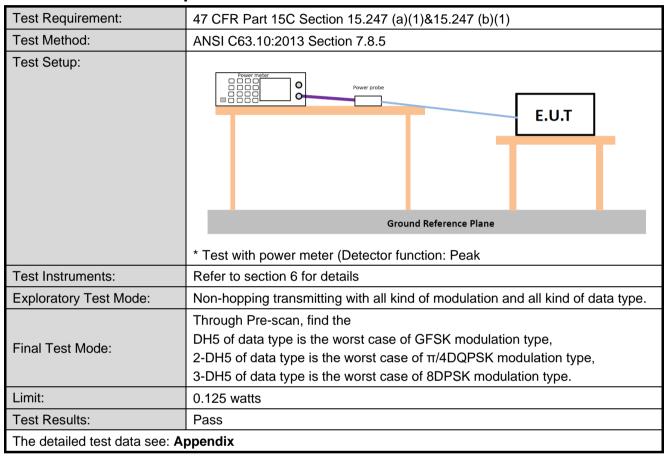


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3.4 Conducted Output Power



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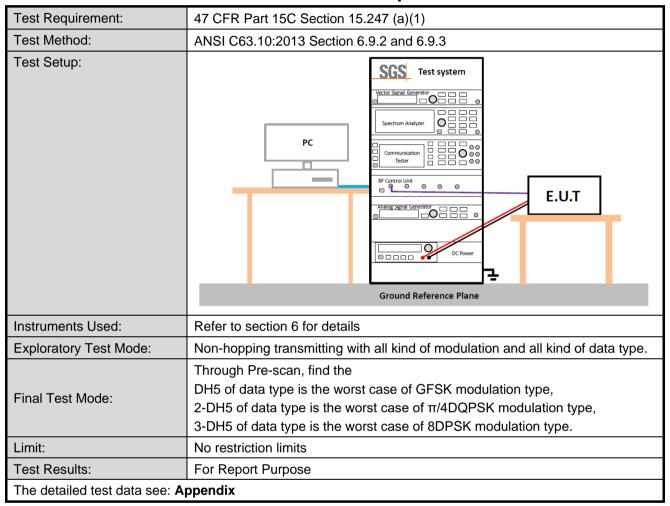


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3.5 20dB Emission Bandwidth & 99% Occupied Bandwidth



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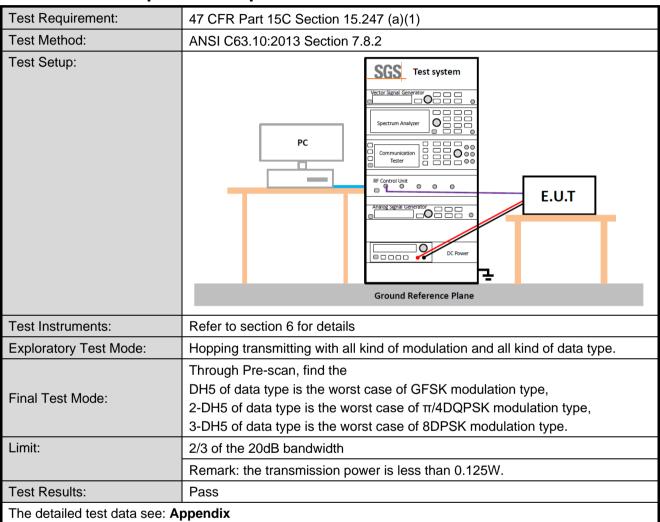


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3.6 Carrier Frequencies Separation



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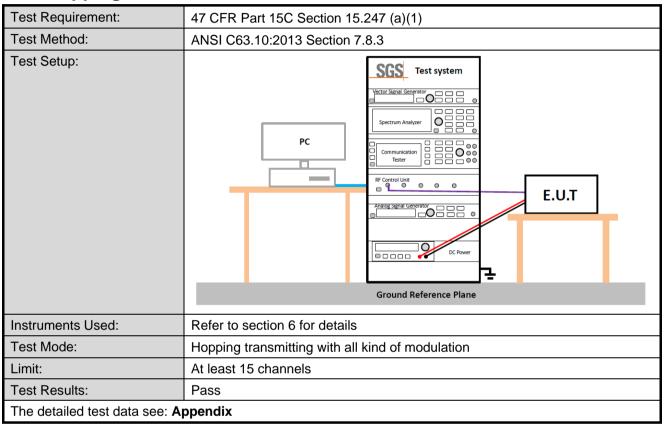


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3.7 Hopping Channel Number



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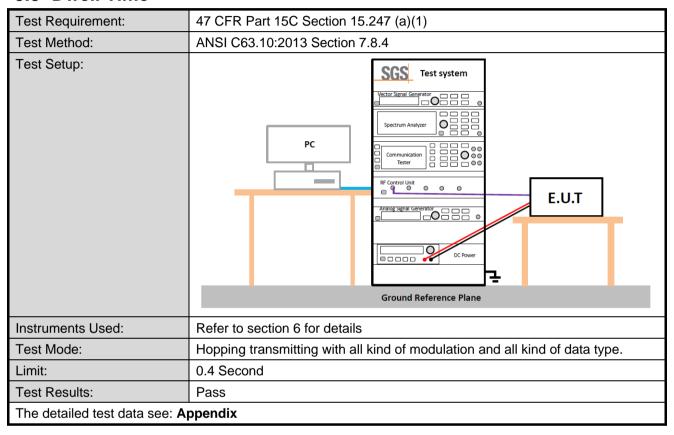


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3.8 Dwell Time



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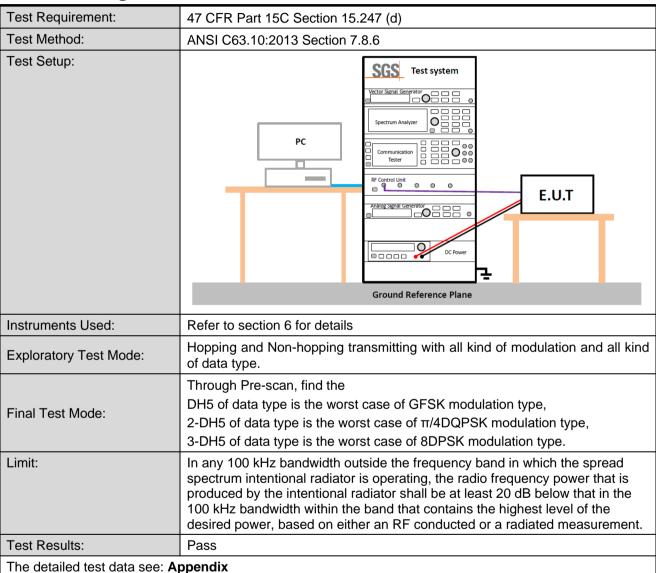


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3.9 Band-edge for RF Conducted Emissions



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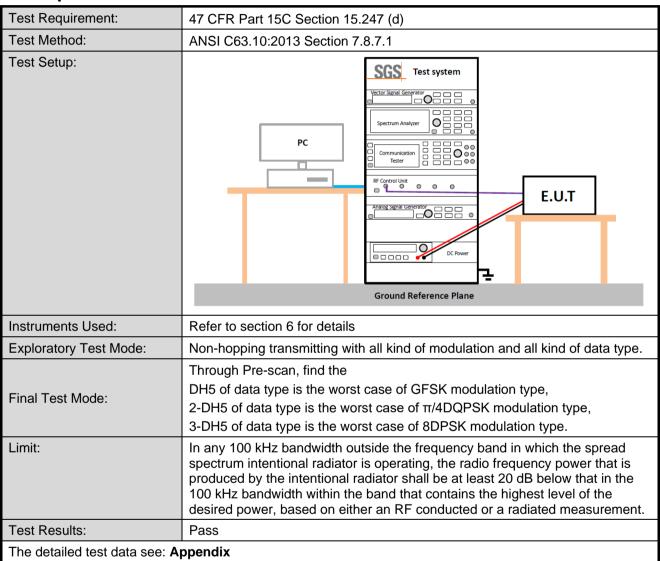


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3.10 Spurious RF Conducted Emissions



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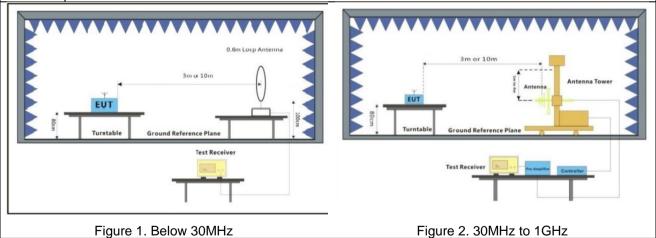
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3.11 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15C Section	47 CFR Part 15C Section 15.209 and 15.205							
Test Method:	ANSI C63.10 :2013 Section 6.4 / 6.5 / 6.6								
Test Site:	Measurement Distance: 3	Measurement Distance: 3m (Semi-Anechoic Chamber)							
Test Frequency:	9kHz ~ 25GHz								
Limit:	imit: Frequency Field strength Limit Remark dis								
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300				
	0.490MHz-1.705MHz 24000/F(kHz)		30						
	1.705MHz-30MHz	30	-	-	30				
	30MHz-88MHz	100	40.0	Quasi-peak	3				
	88MHz-216MHz	150	43.5	Quasi-peak	3				
	216MHz-960MHz	200	46.0	Quasi-peak	3				
	960MHz-1GHz	500	54.0	Quasi-peak	3				
	Above 1GHz	500	54.0	Average	3				
Remark: 15.35(b),Unless otherwise specified, the limit on peak radio frequency									
	emissions is 20dB above the maximum permitted average emission limit								
	applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.								

Test Setup:



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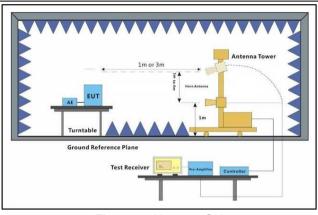


Figure 3. Above 1 GHz

Test Procedure:

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation (Distance from antenna to EUT is 1m for measurements >18GHz).
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified f. Bandwidth with Maximum Hold Mode.
- Test the EUT in the lowest channel, the middle channel, the Highest channel.
- The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case.
- i. Repeat above procedures until all frequencies measured was complete.
- The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the j. result which was 20dB lower than the limit line was not reported.
- The disturbance above 18GHz was very low, and the harmonics were the highest point could be found when testing, so only the harmonics had been displayed.
- At a measurement distance of 1 meter the limit line was increased by 20*LOG(3/1) = 9.54 dB.

Test Configuration:

Measurements below 30MHz

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	• RBW = 10 kHz
	• VBW = 30 kHz
	Detector = Peak & Average & Quasi-peak
	Trace mode = max hold
	Measurements Below 1000MHz
	• RBW = 120 kHz
	• VBW = 300 kHz
	Detector = Quasi-peak
	Trace mode = max hold
	Peak Measurements Above 1000 MHz
	• RBW = 1 MHz
	• VBW ≥ 3 MHz
	Detector = Peak
	Sweep time = auto
	Trace mode = max hold
	Average Measurements Above 1000MHz
	Use duty cycle correction factor method per 15.35(c).
	Duty cycle = On time / 100 milliseconds
	On time = $N_1*L_1 + N_2*L_2+N_{N-1}*L_{N-1} + N_N*L_N$
	Where N_1 is number of type 1 pulese, L_1 is length of type 1 pulses, etc.
	Average Value = Peak Value +20*log(Duty cycle).
F	Non-hopping transmitting mode with all kind of modulation and all kind of
Exploratory Test Mode:	data type
Mode.	Adapter + Transmitting mode.
	Through Pre-scan, find the
	DH5 of data type and GFSK modulation is the worst case.
Final Test Mode:	Pretest the EUT at Adapter + Transmitting mode
	For below 1GHz part, through pre-scan all channels, but only the worst case is recorded in the report.
Instruments Used:	Refer to section 6 for details
Test Results:	Pass
The detailed test data	a see: Appendix

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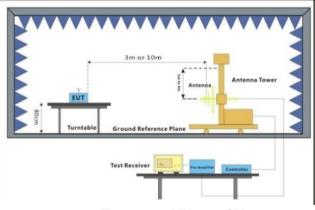
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3.12Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15C Section 15	47 CFR Part 15C Section 15.209 and 15.205							
Test Method:	ANSI C63.10: 2013 Section 6.10.5								
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)								
Limit:	Frequency Limit (dBuV/m) Remark								
	30MHz-88MHz	40.0	Quasi-peak						
	88MHz-216MHz	43.5	Quasi-peak						
	216MHz-960MHz	46.0	Quasi-peak						
	960MHz-1GHz	54.0	Quasi-peak						
	Above 1GHz	54.0	Average Value						
	Above 1GHZ	74.0	Peak Value						

Test Setup:



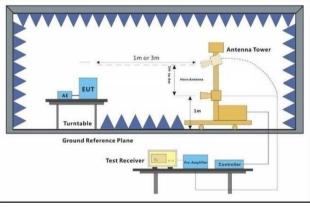


Figure 1. 30MHz to 1GHz

Figure 2. Above 1 GHz

Test Procedure:

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the

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Test Configuration:	rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. g. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel. h. Test the EUT in the lowest channel , the Highest channel. i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode,And found the X axis positioning which it is worse case. j. Repeat above procedures until all frequencies measured was complete. Measurements Below 1000MHz • RBW = 120 kHz
	• VBW = 300 kHz
	Detector = Quasi-peak
	Trace mode = max hold
	Peak Measurements Above 1000 MHz
	• RBW = 1 MHz
	• VBW ≥ 3 MHz
	Detector = Peak
	• Sweep time = auto
	Trace mode = max hold Average Magazine and Above 4000MHz
	Average Measurements Above 1000MHz
	Use duty cycle correction factor method per 15.35(c). Duty cycle = On time / 100 milliseconds
	On time = $N_1*L_1 + N_2*L_2+N_{N-1}*L_{N-1} + N_N*L_N$
	Where N_1 is number of type 1 pulese, L_1 is length of type 1 pulses, etc.
	Average Value = Peak Value +20*log(Duty cycle).
	Non-hopping transmitting mode with all kind of modulation and all kind of
Exploratory Test Mode:	data type
	Adapter + Transmitting mode.
Final Tost Modo:	Through Pre-scan, find the DH5 of data type and GFSK modulation is the worst case.
Final Test Mode:	Pretest the EUT at Adapter + Transmitting mode,
	Only the worst case is recorded in the report.
Instruments Used:	Refer to section 6 for details
Test Results:	Pass
The detailed test data see	e: Appendix

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Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Total RF power, conducted	±0.54dB
2	RF power density, conducted	±1.03dB
3	Spurious emissions, conducted	±0.54dB
4	Radio Frequency	1%
5	Duty Cycle	±0.37%
6	Occupied Bandwidth	1%
7	Conduction Emission	± 2.90dB (150kHz to 30MHz)
		± 3.13dB (9k -30MHz)
0	Dodieted Essiesies	± 4.8dB (30M -1GHz)
8	Radiated Emission	± 4.8dB (1GHz to 18GHz)
		± 4.80dB (Above 18GHz)

Remark:

The Ulab (lab Uncertainty) is less than Ucispir/ETSI Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;

- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

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Equipment List

RF Test Equipment									
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date				
Shielding Room	Brilliant-emc	N/A	SUWI-04-08-01	11/9/2022	11/8/2025				
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-07	2/18/2024	2/17/2025				
Signal Analyzer	ROHDE&SCHWARZ	FSV3030	SUWI-01-02-02	5/8/2024	5/7/2025				
Measurement Software	Measurement Tonscend		SUWI-03-55-03	NCR	NCR				
Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	5/8/2024	5/7/2025				
Temperature Chamber	ESPEC	SU-242	SUWI-01-13-02	5/9/2024	5/8/2025				
Wideband Radio Communication Tester	ROHDE&SCHWARZ	CMW500	SUWI-01-16-05	2/4/2024	2/3/2025				
DC Power Supply	HYELEC	EC HY3005B SUW		2/4/2024	2/3/2025				
Power meter	Anritsu	ML2495A	SUWI-01-31-01	11/19/2024	11/18/2025				
Pulse power sensor	Anritsu	MA2411B	SUWI-01-32-01	11/19/2024	11/18/2025				
MXG Vector signal genitor	KEYSIGHT	N5182B	SUWI-01-38-01	2/4/2024	2/3/2025				
Router	ASUS	GT- AXE11000(FCC ID MSQ- RTAXJF00)	SUWI-03-14-02	NCR	NCR				
Router	TP-LINK	Archer BE800 (FCC ID 2AXJ4BE800)	SUWI-03-14-03	NCR	NCR				
Signal Generator	ROHDE&SCHWARZ	SMM100A	SUWI-01-07-04	2/16/2024	2/15/2025				
Signal Analyzer	KEYSIGHT	N9020A	SUWI-01-02-07	11/19/2024	11/18/2025				

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CE Test System									
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date				
Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	2/1/2024	1/31/2025				
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-06	2/4/2024	2/3/2025				
Artificial network	ROHDE&SCHWARZ	ENV216	SUWI-01-19-03	2/4/2024	2/3/2025				
Artificial network	ROHDE&SCHWARZ	ENV216	SUWI-01-19-04	2/4/2024	2/3/2025				
Measurement Software	Tonscend	JS32-CE 4.0.0.2	SUWI-02-09-05	NCR	NCR				

RSE Test Equipment									
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date				
Semi-Anechoic Chamber	Brilliant-emc	N/A	SUWI-04-02-01	6/3/2023	6/2/2026				
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-05	2/18/2024	2/17/2025				
Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	5/8/2024	5/7/2025				
Signal Analyzer	KEYSIGHT	N9020A	SUWI-01-02-07	11/21/2024	11/20/2025				
Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	2/1/2024	1/31/2025				
Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	VULB 9163	SUWI-01-11-01	5/13/2023	5/12/2025				
Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	BBHA 9120D	SUWI-01-11-02	5/13/2023	5/12/2025				
Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	BBHA 9170	SUWI-01-11-03	5/12/2023	5/11/2025				
Active Loop Antenna	SCHWRZBECK MESS- ELEKTRONIK	FMZB 1519B	SUWI-01-21-01	5/13/2023	5/12/2025				
Amplifier	Tonscend	TAP9K3G40	SUWI-01-14-01	2/1/2024	1/31/2025				
Amplifier	Tonscend	TAP01018050	SUWI-01-14-02	2/1/2024	1/31/2025				
Amplifier	Tonscend	TAP18040048	SUWI-01-14-03	2/1/2024	1/31/2025				
Measurement Software	Tonscend	JS32-RE V4.0.0.0	SUWI-02-09-04	NCR	NCR				

Remark: NCR=No Calibration Requirement.

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6 **Photographs - Setup Photos**

Refer to Appendix A.2 BT&WLAN Setup Photos.

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7 Appendix

1. Duty Cycle

1.1 Test Result

1.1.1 Ant1

	Ant1								
Mode I _	TX	Frequency	Packet	T_on	Period	Duty Cycle	Duty Cycle	Max. DC	
	Type	(MHz)	Type	(ms)	(ms)	(%)	Correction Factor (dB)	Variation (%)	
		2402	DH5	2.909	3.749	77.59	1.10	0.03	
GFSK SISC	SISO	2441	DH5	2.909	3.749	77.59	1.10	0.03	
		2480	DH5	2.911	3.751	77.61	1.10	0.03	
		2402	2DH5	2.910	3.750	77.60	1.10	0.04	
Pi/4DQPSK	SISO	2441	2DH5	2.910	3.749	77.62	1.10	0.04	
		2480	2DH5	2.910	3.749	77.62	1.10	0.07	
		2402	3DH5	2.912	3.750	77.65	1.10	0.04	
8DPSK	SISO	2441	3DH5	2.912	3.751	77.63	1.10	0.06	
		2480	3DH5	2.912	3.749	77.67	1.10	0.04	

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2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mode	TX	Frequency	Packet	ANT	99% Occupied Bandwidth (MHz)		Verdict
iviode	Type	(MHz)	Type	AINT	Result	Limit	verdict
		2402	DH5	1	0.858	/	Pass
GFSK	SISO	2441	DH5	1	0.859	/	Pass
		2480	DH5	1	0.856	/	Pass
		2402	2DH5	1	1.193	/	Pass
Pi/4DQPSK	SISO	2441	2DH5	1	1.192	/	Pass
		2480	2DH5	1	1.223	/	Pass
		2402	3DH5	1	1.204	/	Pass
8DPSK	SISO	2441	3DH5	1	1.198	/	Pass
		2480	3DH5	1	1.235	/	Pass

2.1.2 20dB BW

Mode	TX	Frequency	Packet	ANT	20dB Bandwidth (MHz)		Verdict
iviode	Type	(MHz)	Type	AINT	Result	Limit	verdict
		2402	DH5	1	0.941	/	Pass
GFSK	SISO	2441	DH5	1	0.942	/	Pass
		2480	DH5	1	0.941	/	Pass
	SISO	2402	2DH5	1	1.300	/	Pass
Pi/4DQPSK		2441	2DH5	1	1.321	/	Pass
		2480	2DH5	1	1.312	/	Pass
		2402	3DH5	1	1.307	/	Pass
8DPSK	SISO	2441	3DH5	1	1.310	/	Pass
		2480	3DH5	1	1.314	/	Pass

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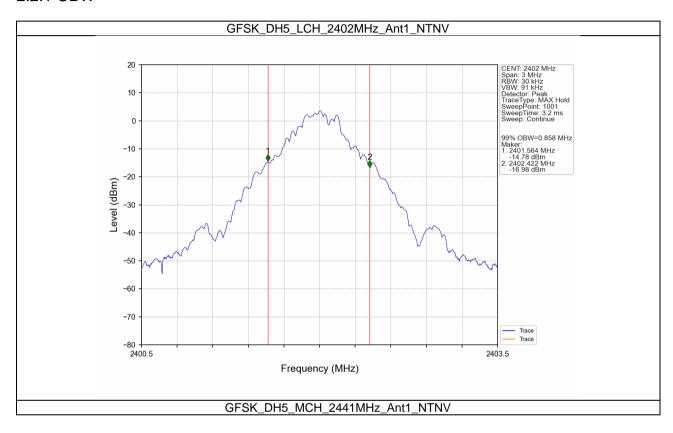
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2.2 Test Graph

2.2.1 OBW



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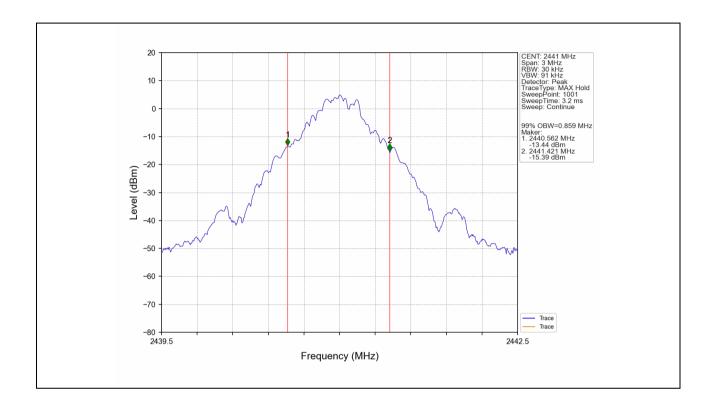
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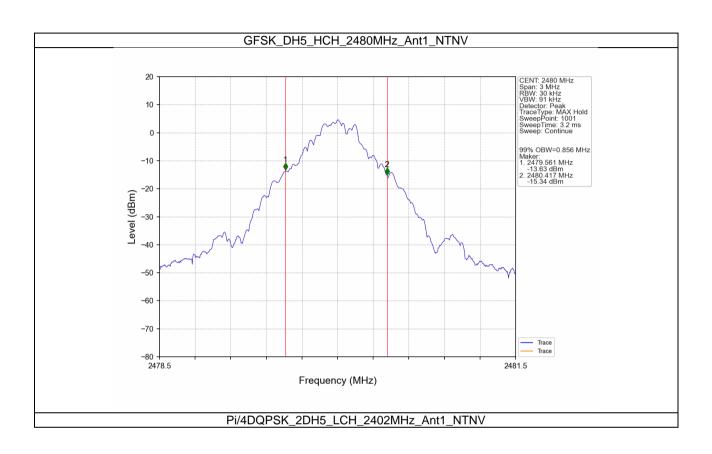
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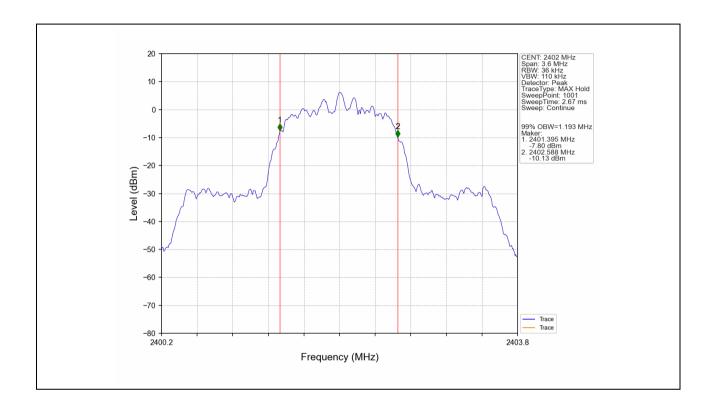
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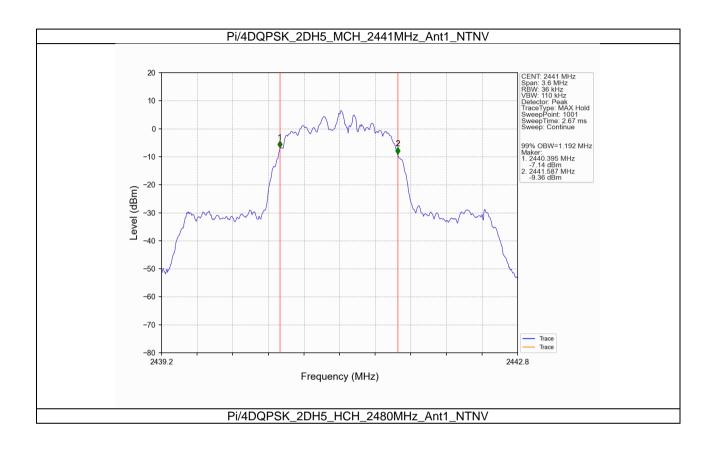
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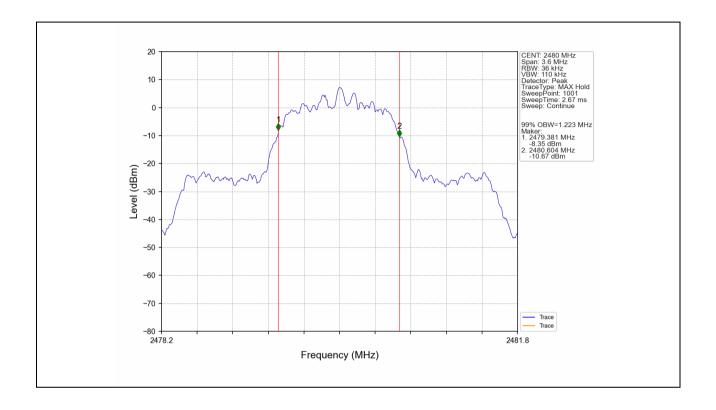
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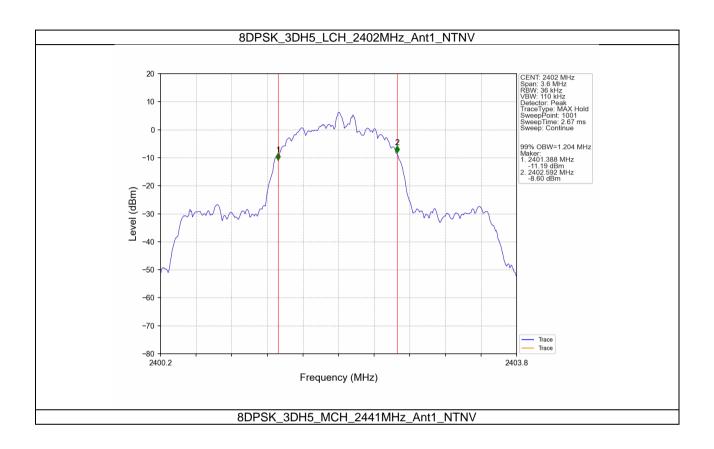
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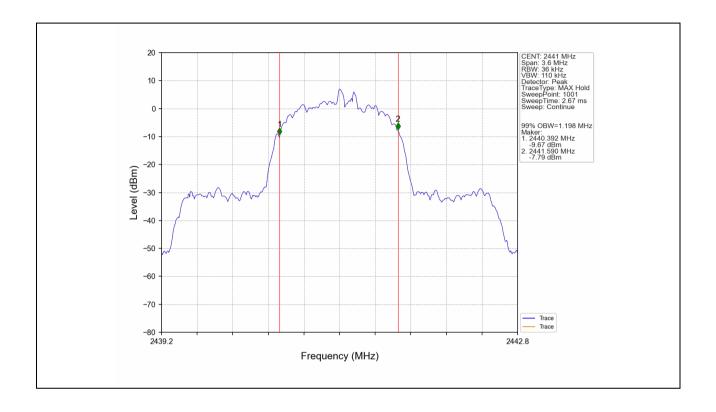
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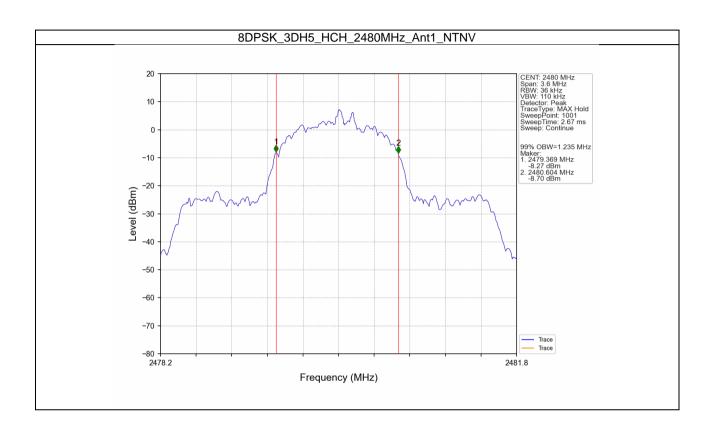
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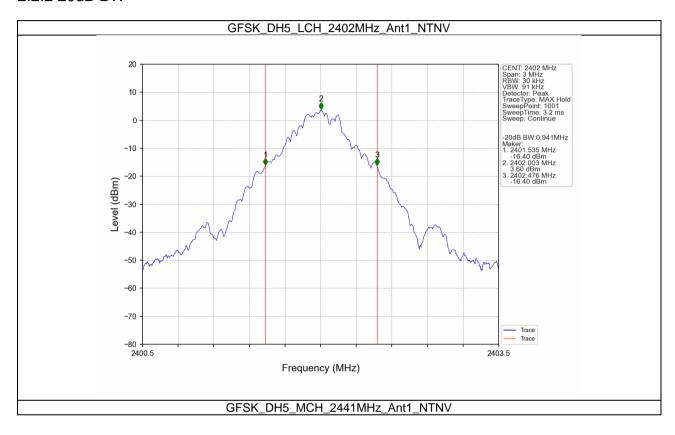


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2.2.2 20dB BW



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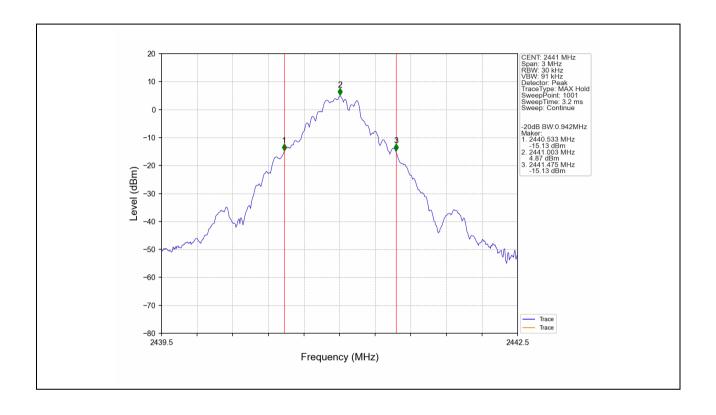
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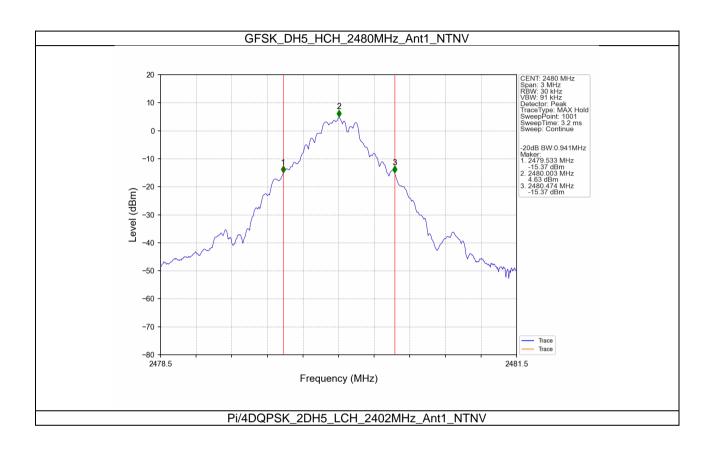
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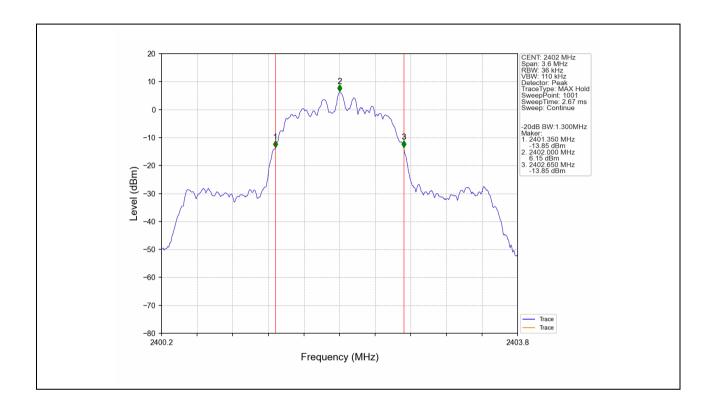
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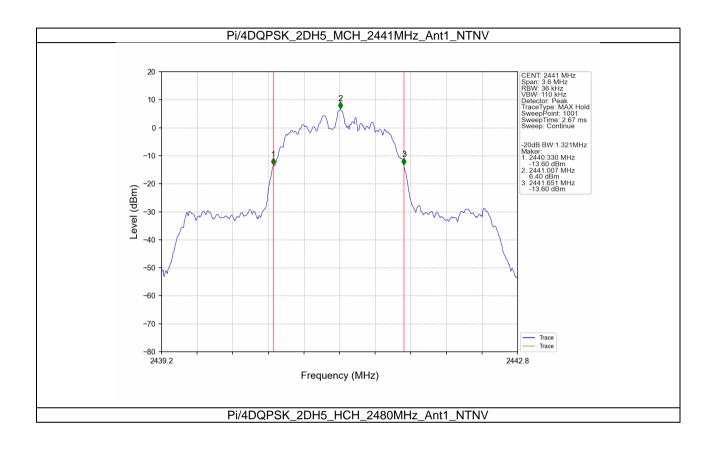
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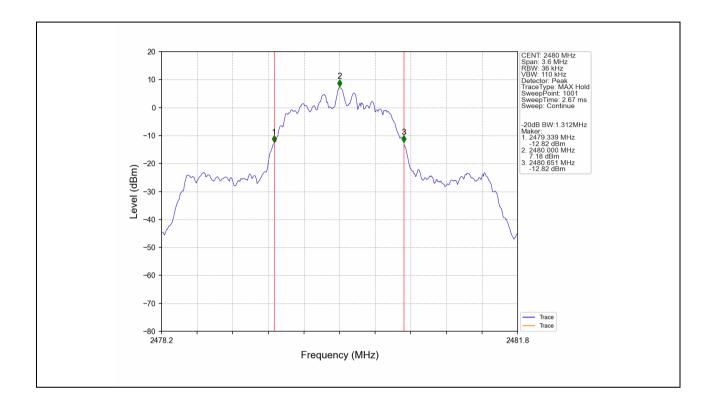
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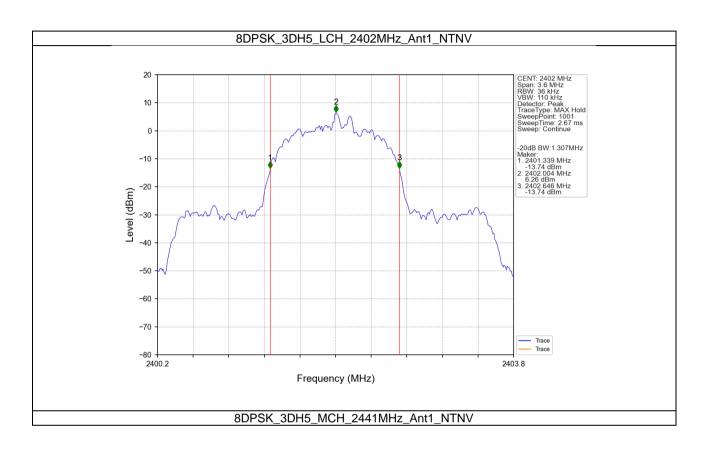
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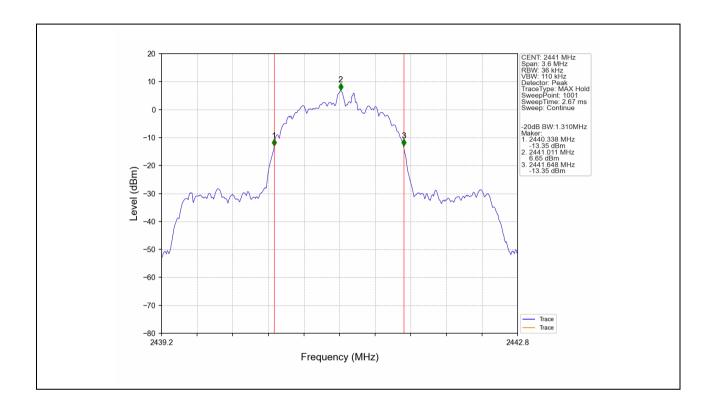
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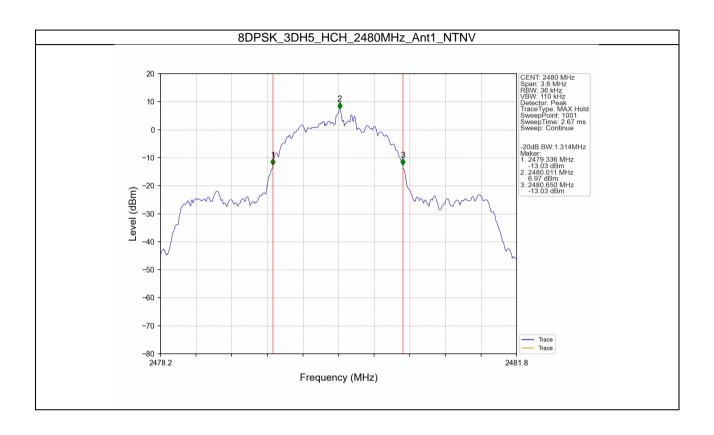
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3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

Mode	TX	Frequency	Packet	Maximum Peak Conduc	Verdict			
	Type	(MHz)	Type	ANT1	Limit	verdict		
GFSK	SISO	2402	DH5	5.42	<=30	Pass		
		2441	DH5	5.51	<=30	Pass		
		2480	DH5	6.81	<=30	Pass		
Pi/4DQPSK	SISO	2402	2DH5	8.42	<=20.97	Pass		
		2441	2DH5	9.15	<=20.97	Pass		
		2480	2DH5	9.67	<=20.97	Pass		
8DPSK	SISO	2402	3DH5	8.65	<=20.97	Pass		
		2441	3DH5	9.26	<=20.97	Pass		
		2480	3DH5	9.78	<=20.97	Pass		
Note1: Antenna Gain: Ant1: 2.20dBi;								

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4. Carrier Frequency Separation

4.1 Test Result

4.1.1 Ant1

Ant1								
Mode	TX	Frequency	Packet	Channel Separation	20dB Bandwidth	Limit	Verdict	
	Type	(MHz)	Type	(MHz)	(MHz)	(MHz)		
GFSK	SISO	HOPP	DH5	1.000	0.942	>=0.942	Pass	
Pi/4DQPSK	SISO	HOPP	2DH5	1.006	1.321	>=0.881	Pass	
8DPSK	SISO	HOPP	3DH5	0.998	1.314	>=0.876	Pass	

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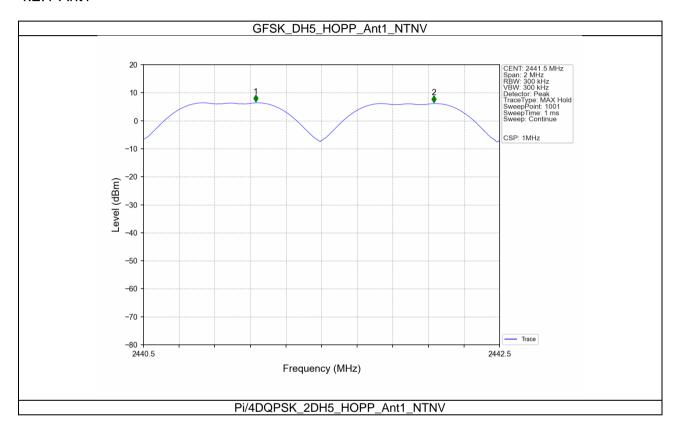
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4.2 Test Graph

4.2.1 Ant1



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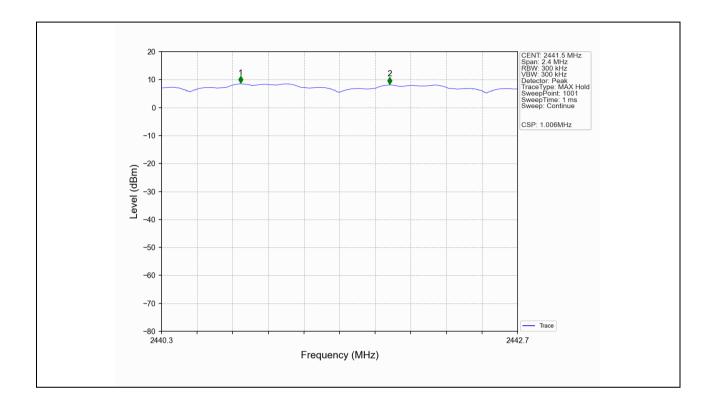
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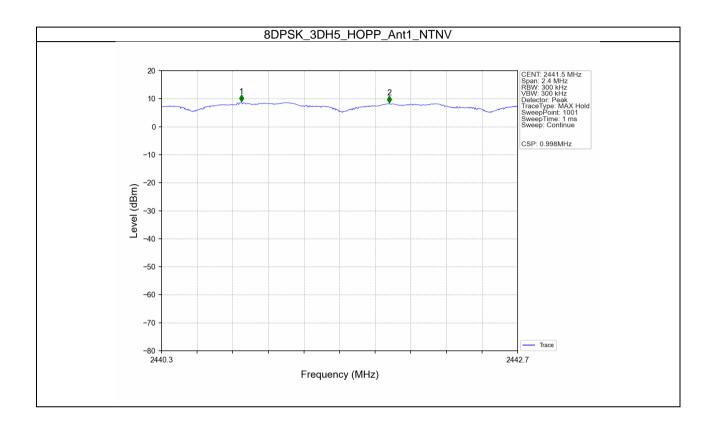
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5. Number of Hopping Frequencies

5.1 Test Result

5.1.1 HoppNum

Mode	TX	Frequency	Packet	Num of Hoppir	Verdict	
	Type	(MHz)	Type	ANT1	Limit	Verdict
GFSK	SISO	HOPP	DH5	79	>=15	Pass
Pi/4DQPSK	SISO	HOPP	2DH5	79	>=15	Pass
8DPSK	SISO	HOPP	3DH5	79	>=15	Pass

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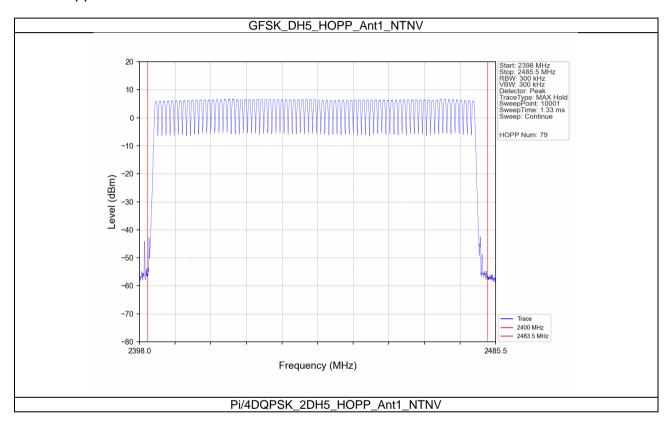
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5.2 Test Graph

5.2.1 HoppNum



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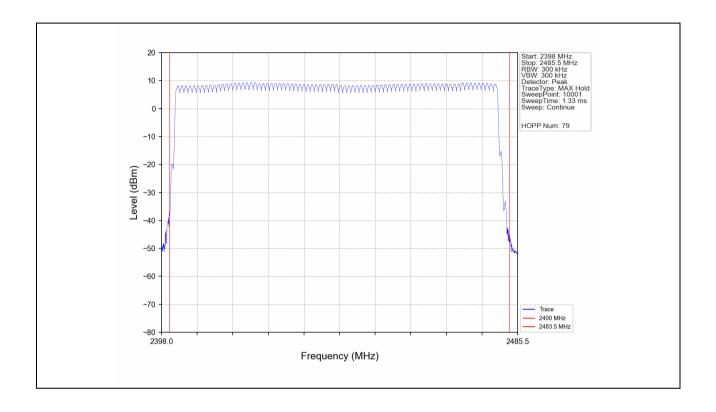
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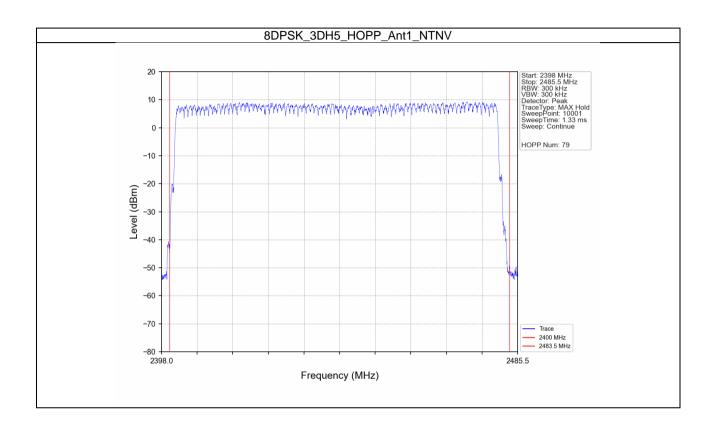
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6. Time of Occupancy (Dwell Time)

6.1 Test Result

6.1.1 Ant1

Ant1									
Mode TX	TX	Frequency	Packet	Duration of	Observation	Num of Pulse in	Dwell	Limit	Verdict
	Type	(MHz)	Type	Single Pulse (ms)	Period (s)	Observation Period	Time (ms)	(ms)	verdict
GFSK SISO		О НОРР	DH1	0.386	31.600	320	123.520	<=400	Pass
	SISO		DH3	1.642	31.600	155	254.510	<=400	Pass
			DH5	2.912	31.600	108	314.496	<=400	Pass
Pi/4DQPSK SISC		ISO HOPP	2DH1	0.390	31.600	320	124.800	<=400	Pass
	SISO		2DH3	1.664	31.600	157	261.248	<=400	Pass
			2DH5	2.892	31.600	122	352.824	<=400	Pass
8DPSK SIS			3DH1	0.392	31.600	320	125.440	<=400	Pass
	SISO	HOPP	3DH3	1.642	31.600	155	254.510	<=400	Pass
			3DH5	2.914	31.600	100	291.400	<=400	Pass

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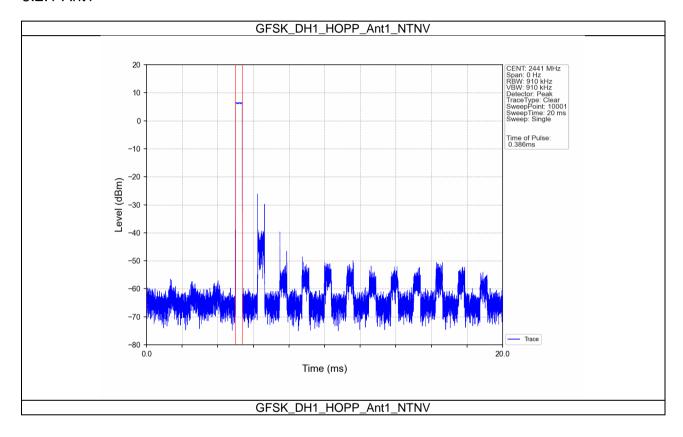
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6.2 Test Graph

6.2.1 Ant1



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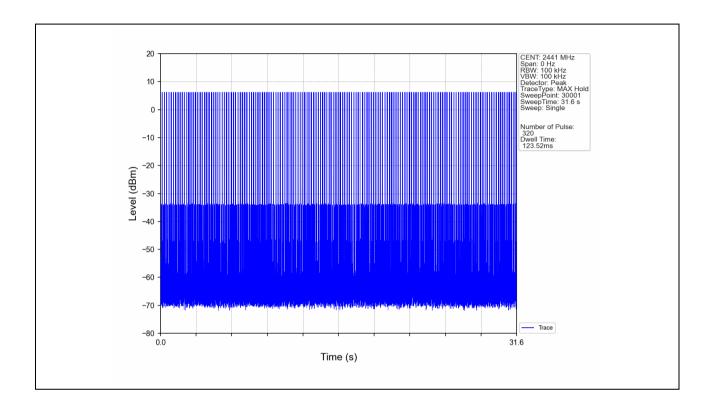
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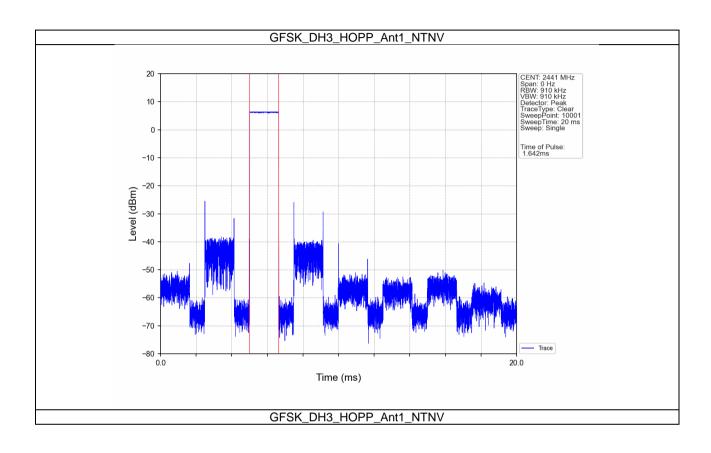
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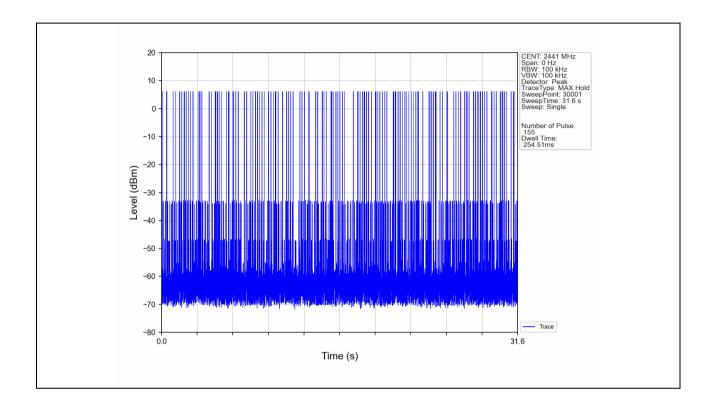
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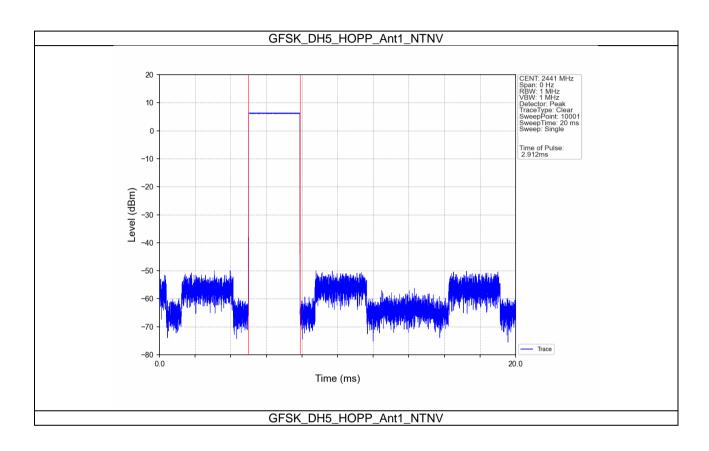
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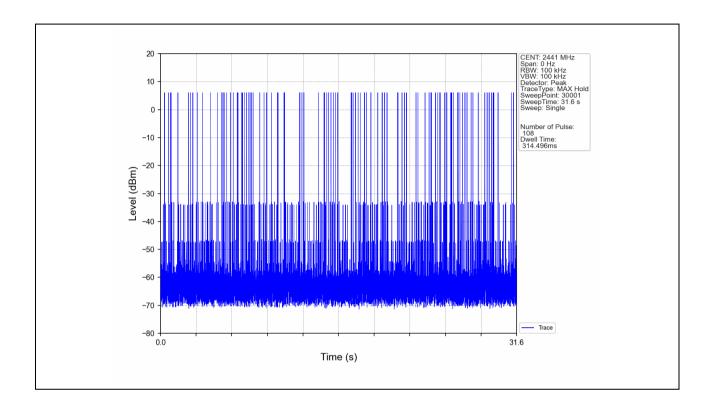
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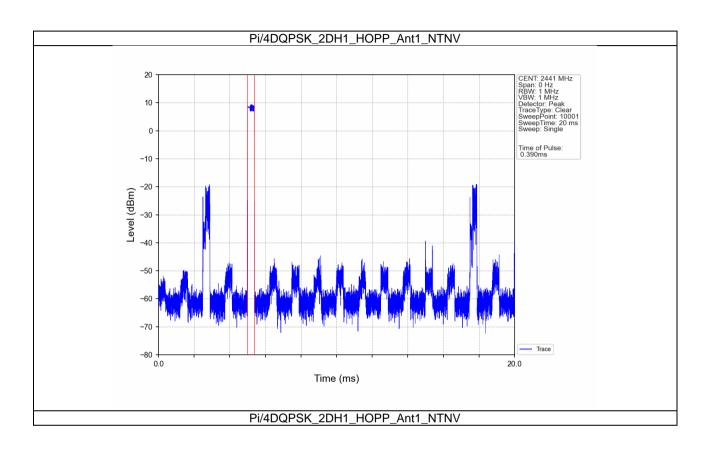
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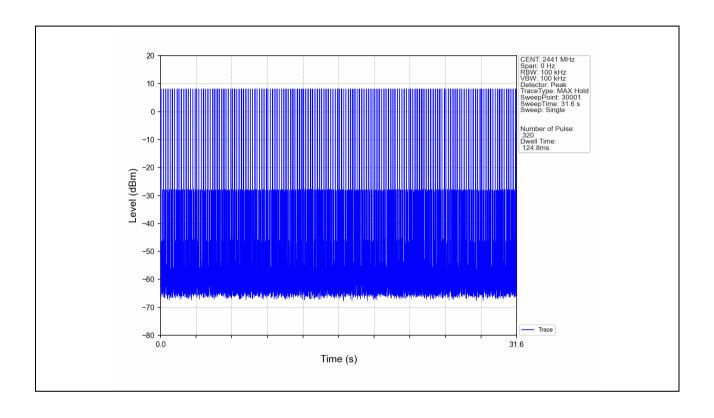
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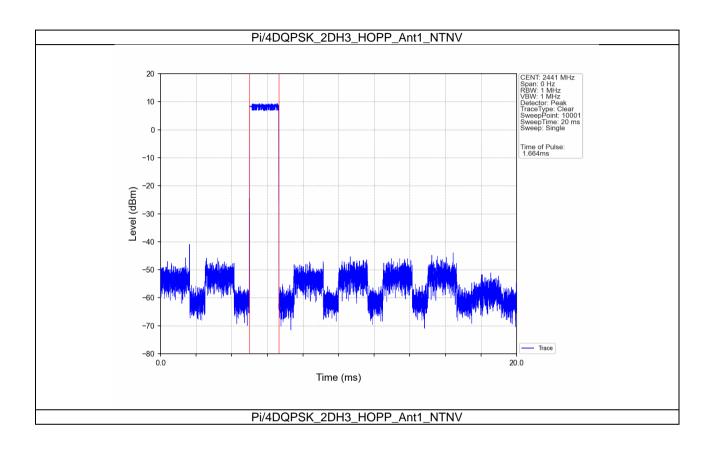
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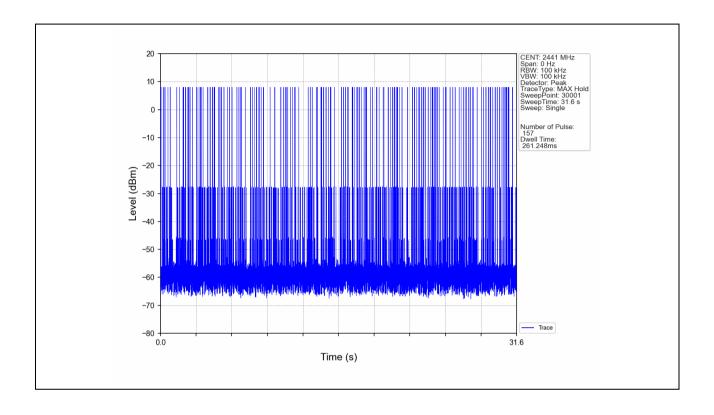
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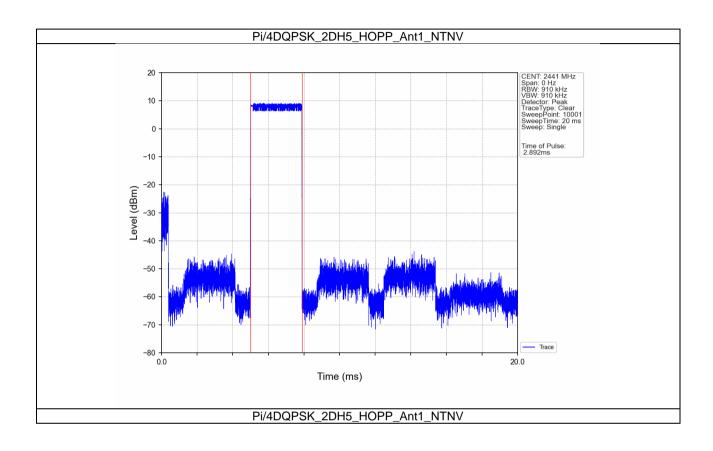
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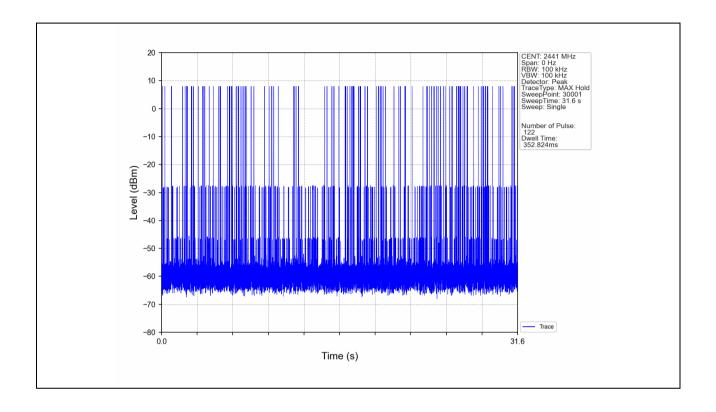
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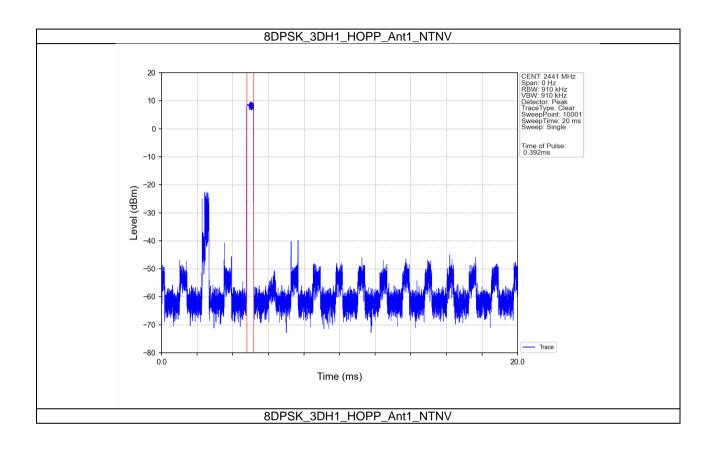
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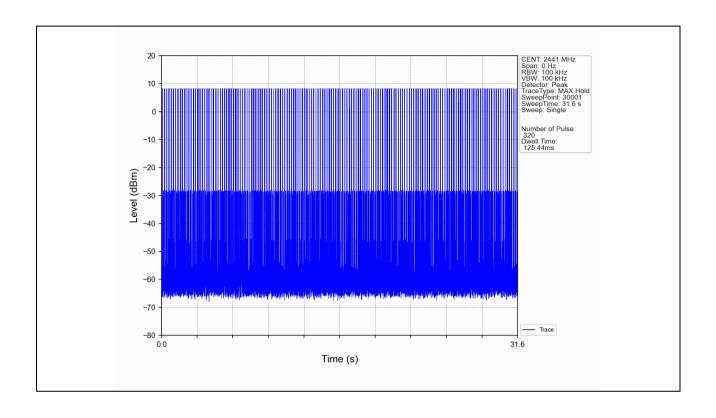
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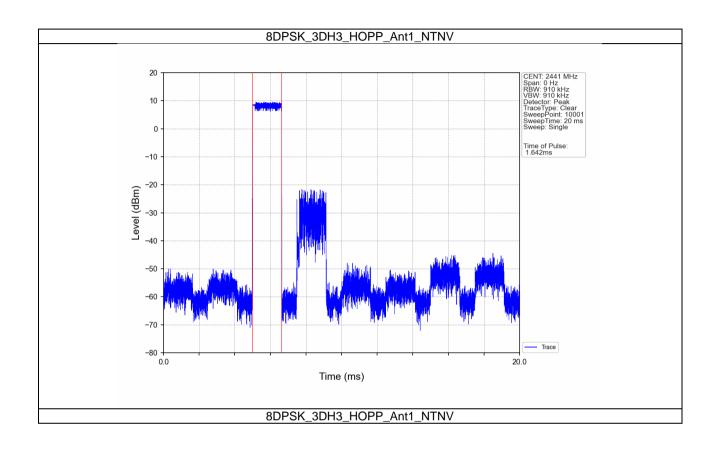
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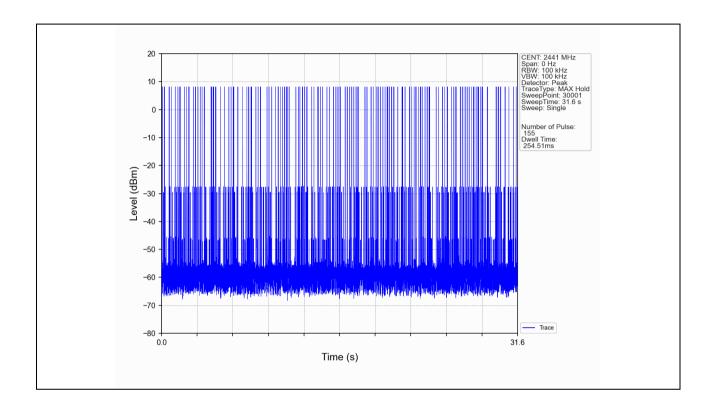
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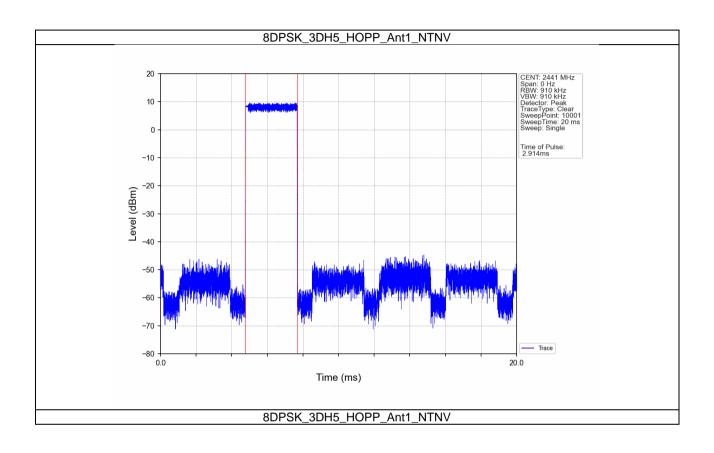
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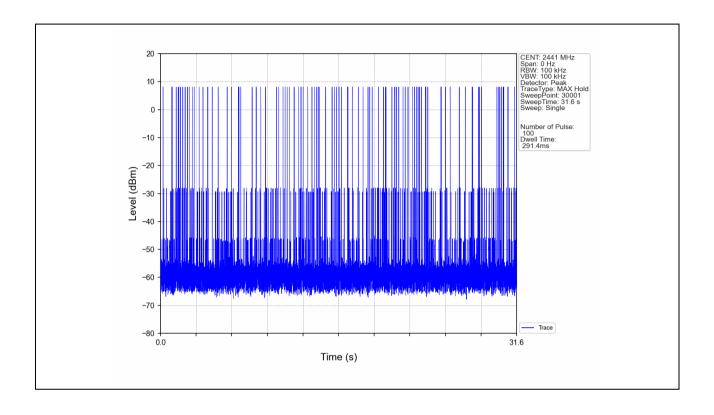
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7. Unwanted Emissions In Non-restricted Frequency Bands

7.1 Test Result

7.1.1 Ref

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)
GFSK		2402	DH5	1	5.03
	SISO	2441 DH5 1		6.18	
		2480	DH5	1	6.02
Pi/4DQPSK	SISO	2402	2DH5	1	7.32
		2441	2DH5	1	8.09
		2480	2DH5	1	8.41
8DPSK	SISO	2402	3DH5	1	7.51
		2441	3DH5	1	8.03
		2480	3DH5	1	8.53

Note1: Refer to RSS-247 Issue 3 section 5.5 and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

1.1.2 CSE

Mode	_TX	Frequency	Packet	ANT	Level of Reference	Limit	Verdict
	Type	(MHz) Type		, , , , ,	(dBm)	(dBm)	voluiot
GFSK	SISO	2402	DH5	1	6.18	-13.82	Pass
		2441	DH5	1	6.18	-13.82	Pass
		2480	DH5	1	6.18	-13.82	Pass
		HOPP	DH5	1	6.18	-13.82	Pass
					6.18	-13.82	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	8.41	-11.59	Pass
		2441	2DH5	1	8.41	-11.59	Pass
		2480	2DH5	1	8.41	-11.59	Pass
		HOPP	2DH5	1	8.41	-11.59	Pass
					8.41	-11.59	Pass
8DPSK	SISO	2402	3DH5	1	8.53	-11.47	Pass
		2441	3DH5	1	8.53	-11.47	Pass
		2480	3DH5	1	8.53	-11.47	Pass
		HOPP	3DH5	1	8.53	-11.47	Pass
					8.53	-11.47	Pass

Note1: Refer to RSS-247 Issue 3 section 5.5 and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

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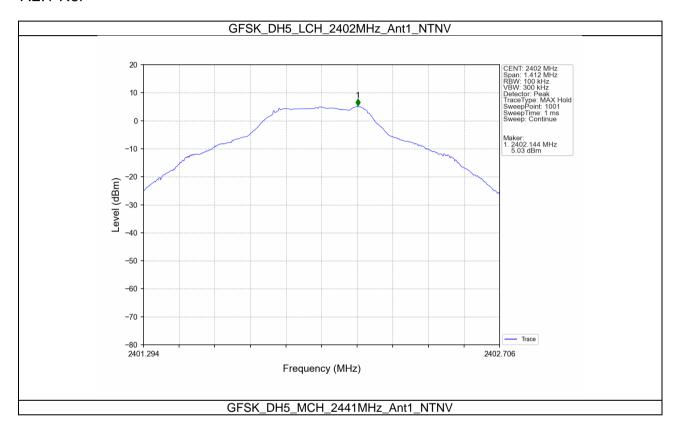
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7.2 Test Graph

7.2.1 Ref



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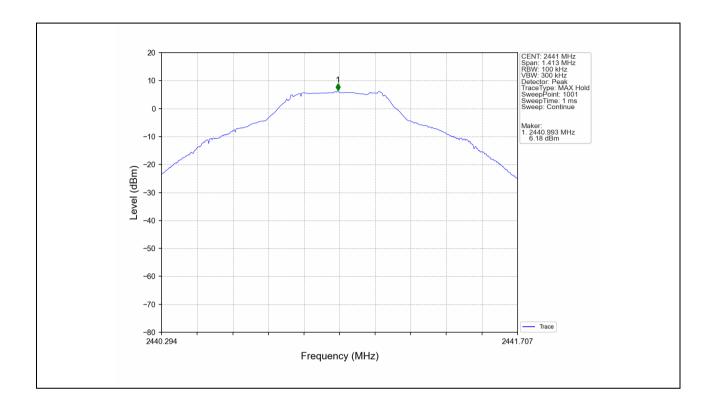
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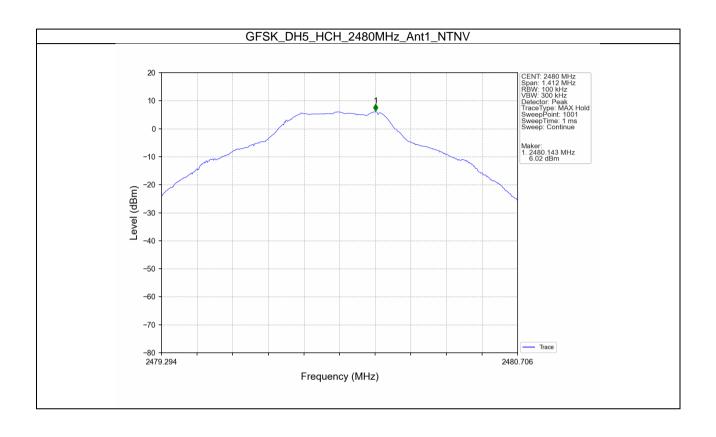
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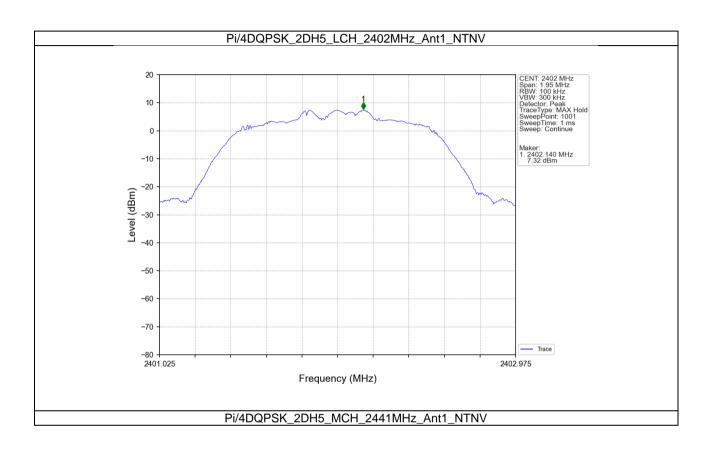
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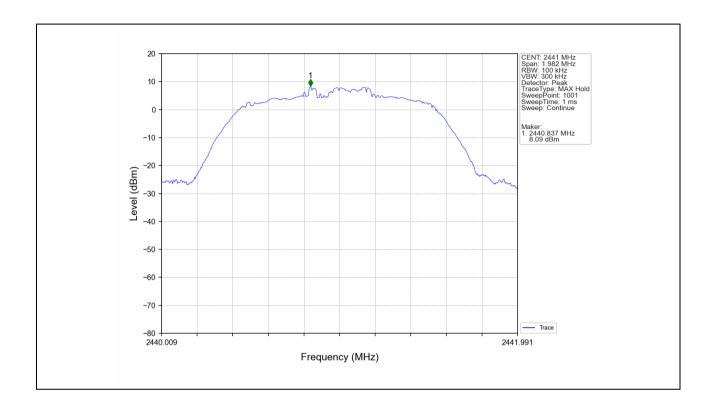
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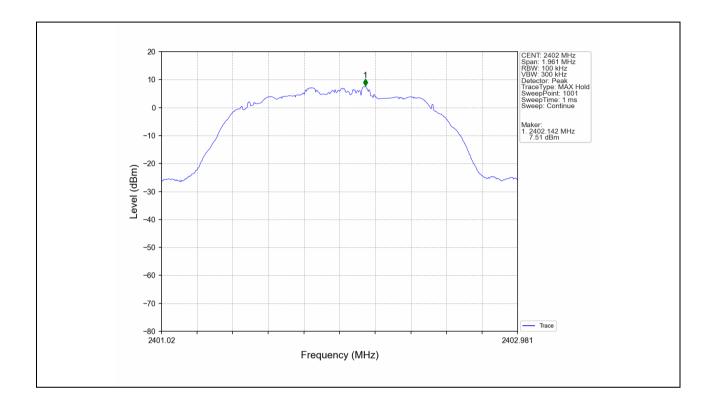
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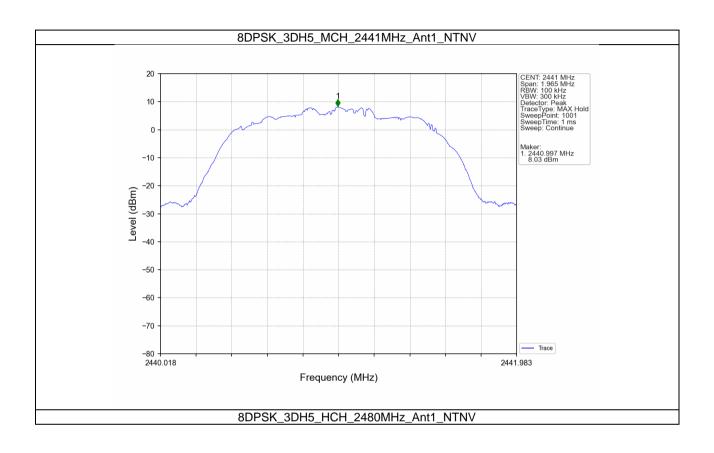
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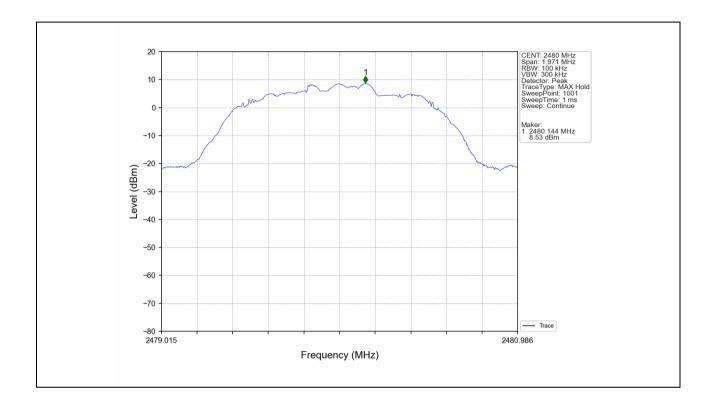
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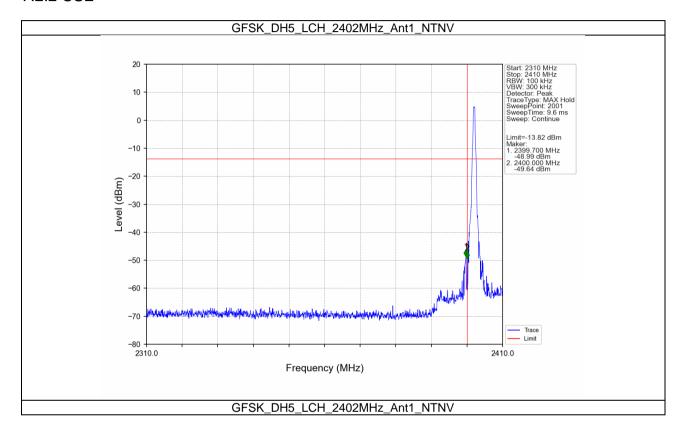


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7.2.2 CSE



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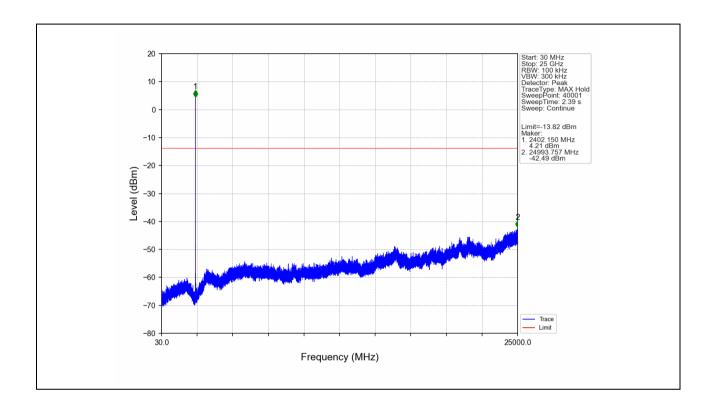
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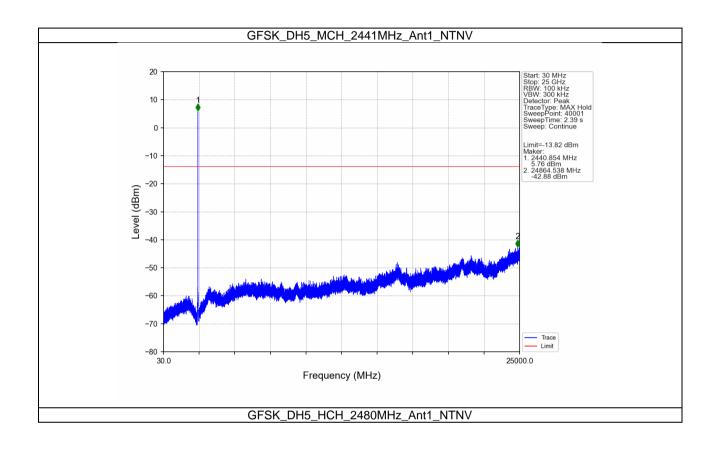
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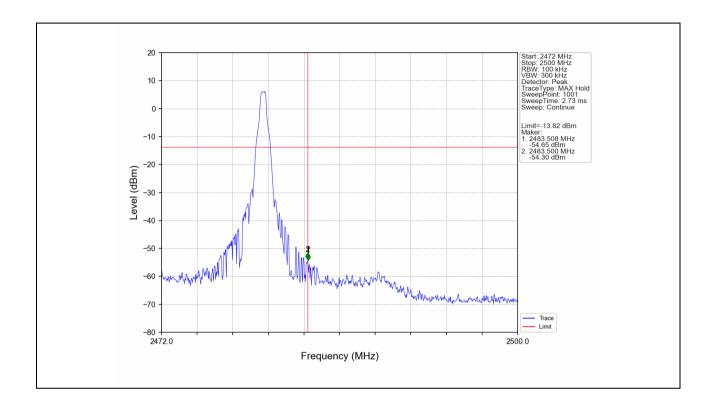
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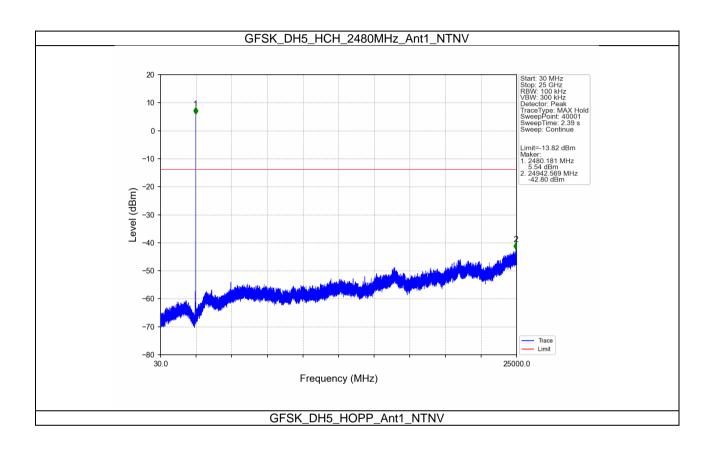
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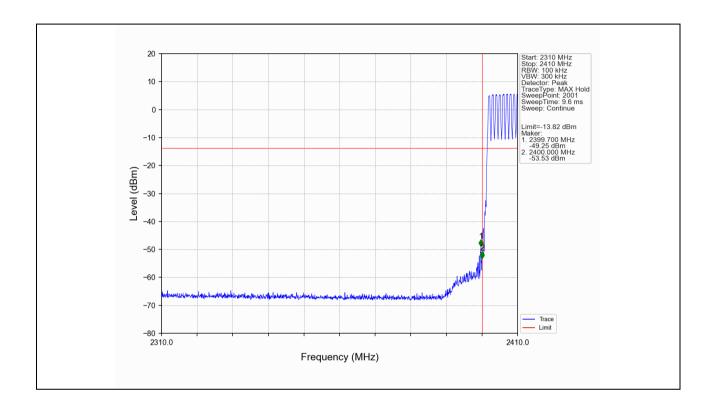
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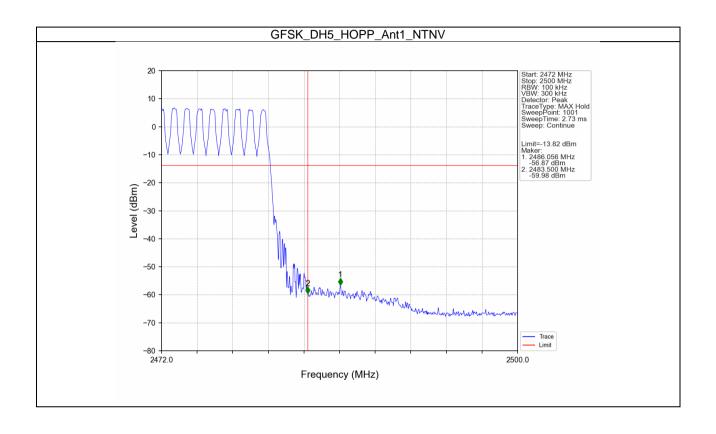
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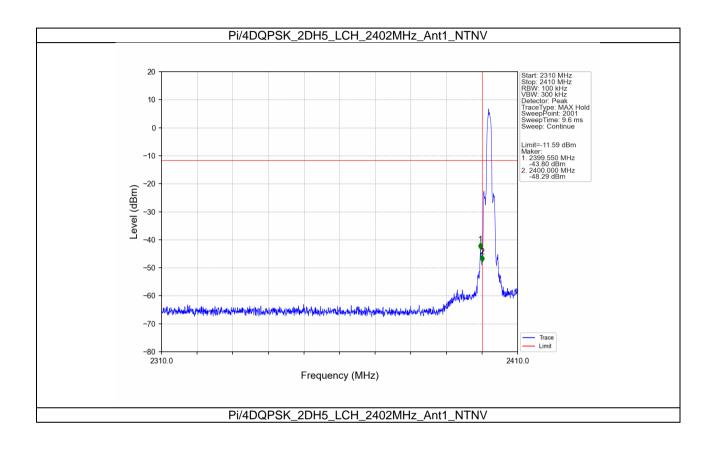
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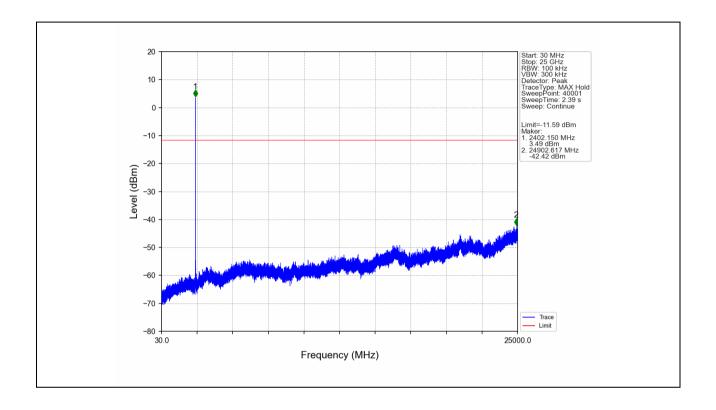
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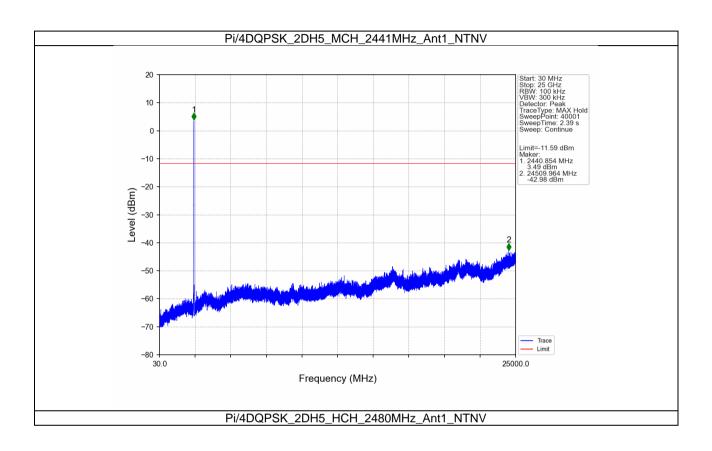
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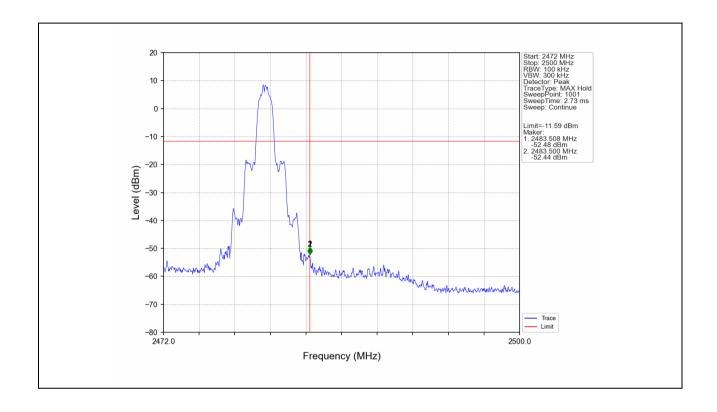
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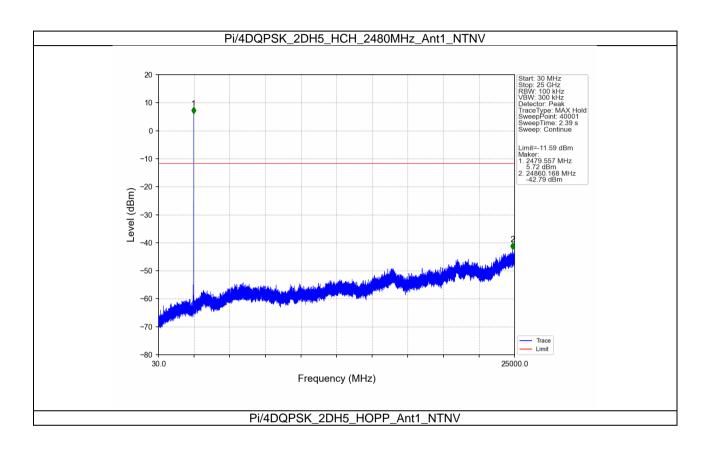
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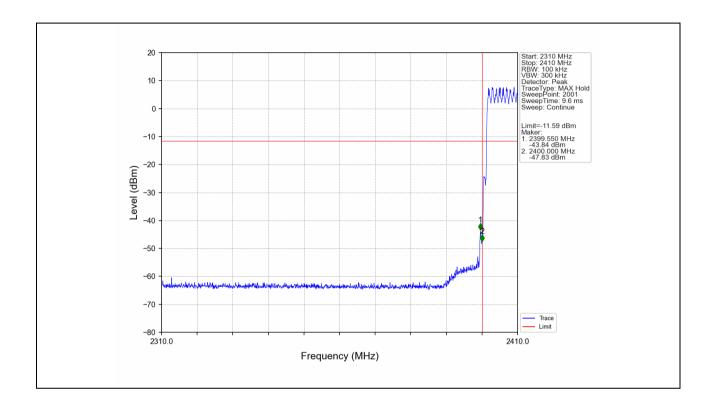
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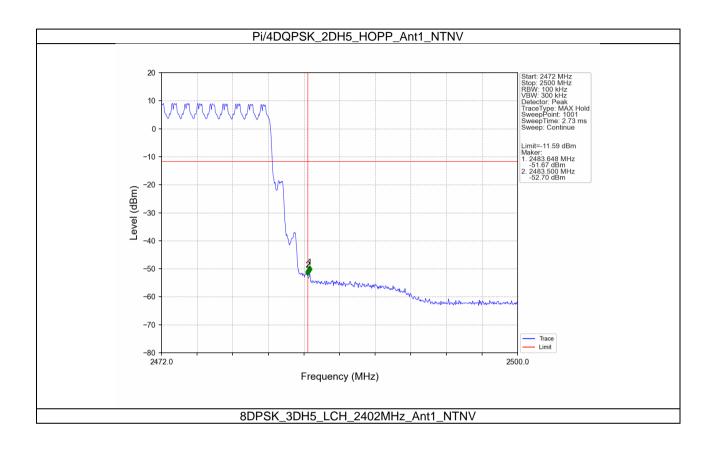
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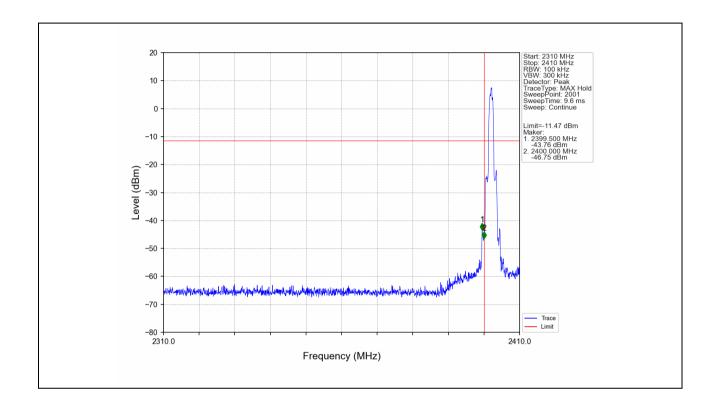
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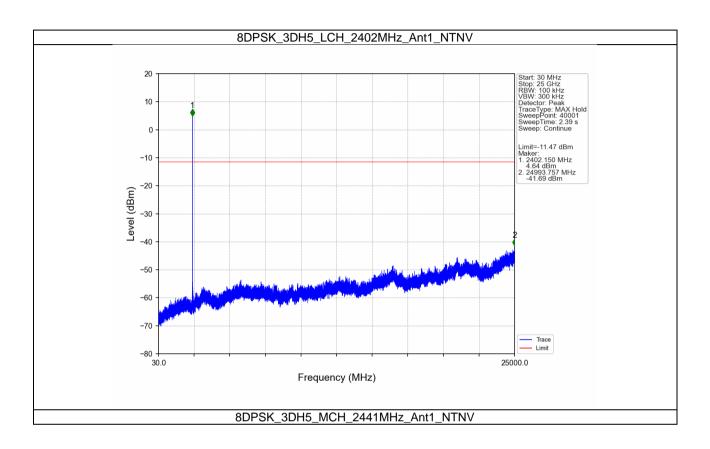
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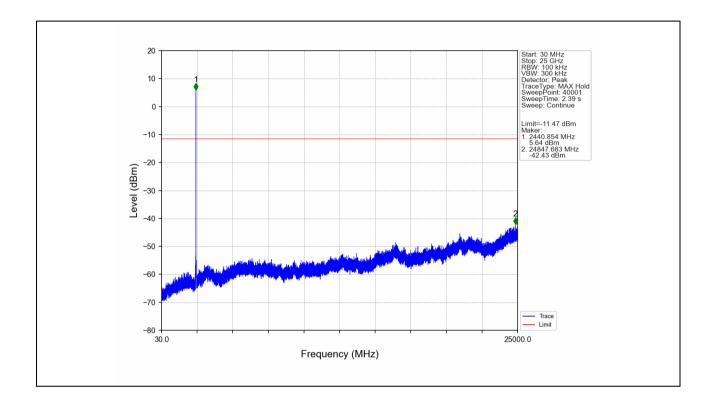
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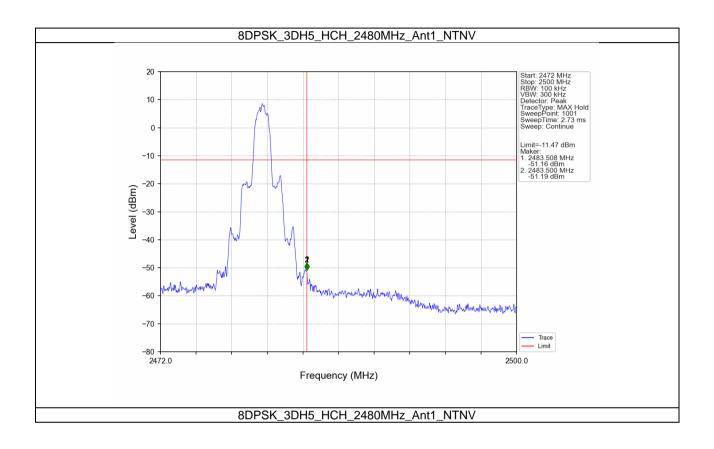
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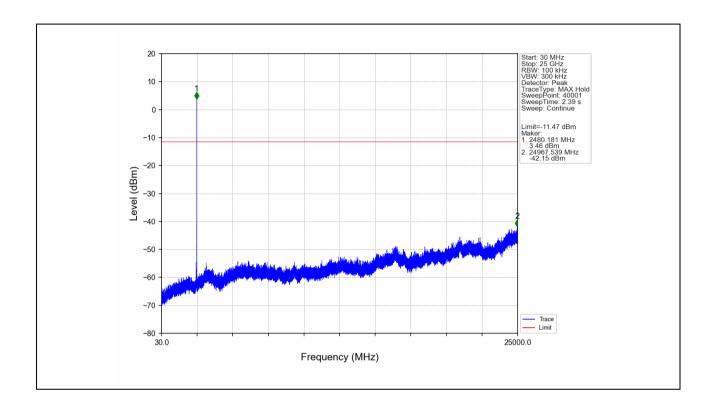
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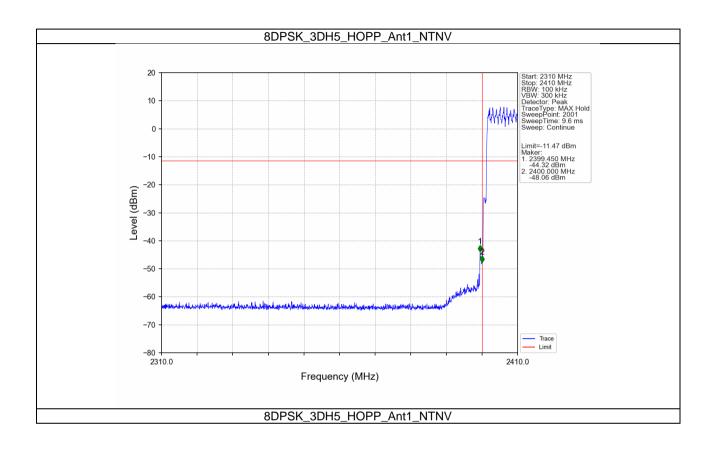
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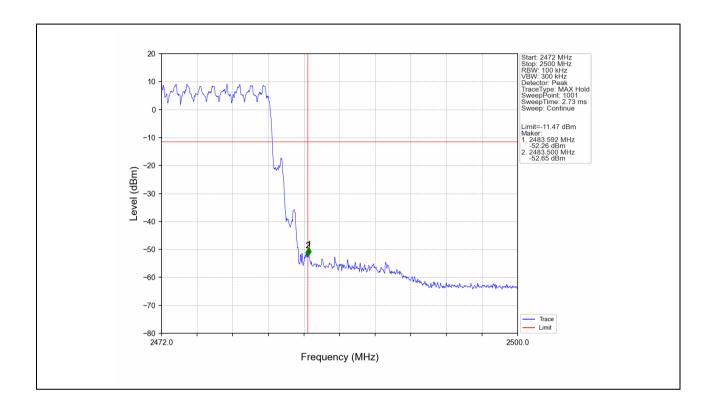
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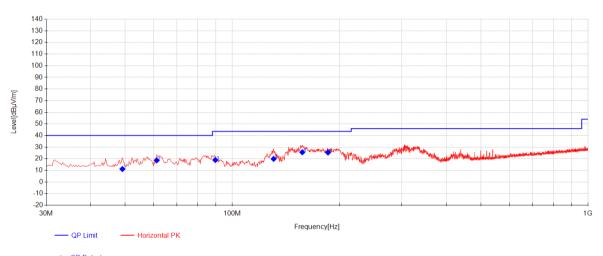
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Radiated Spurious Emissions

Radiated emission below 1GHz

Worst case Mode: GFSK Channel 78



٠	QP	Detect	О

Final	Data List							
NO.	Frequency [MHz]]	Reading [dBμV]	Factor [dB]	AF [dB/m]	QP Value [dBμV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Polarity
1	49.1550	26.40	-33.98	18.77	11.19	40.00	28.81	Horizontal
2	61.3734	34.99	-33.84	17.47	18.62	40.00	21.38	Horizontal
3	89.6926	37.89	-33.57	14.63	18.95	43.50	24.55	Horizontal
4	130.7948	35.39	-33.29	17.80	19.90	43.50	23.60	Horizontal
5	157.4355	39.61	-33.09	19.10	25.62	43.50	17.88	Horizontal
6	185.9001	42.20	-32.85	15.97	25.32	43.50	18.18	Horizontal

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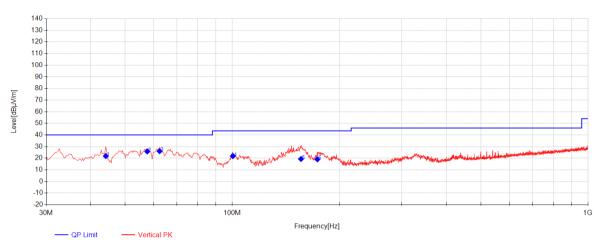
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	◆ QP De	tector						
Final	Data List							
NO.	Frequency [MHz]]	Reading [dBµV]	Factor [dB]	AF [dB/m]	QP Value [dBμV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Polarity
1	44.1575	37.03	-33.99	18.81	21.85	40.00	18.15	Vertical
2	57.7268	41.85	-33.89	17.84	25.80	40.00	14.20	Vertical
3	62.5181	42.39	-33.83	17.50	26.06	40.00	13.94	Vertical
4	100.4615	40.63	-33.48	14.67	21.82	43.50	21.68	Vertical
5	156.0981	33.68	-33.11	18.77	19.34	43.50	24.16	Vertical
6	173.6013	33.75	-32.92	18.22	19.05	43.50	24.45	Vertical

Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier gain. The basic equation with a sample calculation is as follows:

Value = Reading($dB\mu V$) + AF(dB/m) + Factor(dB):

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier gain(dB)

Margin = Limit($dB\mu V/m$) – Value($dB\mu V/m$)

2) All channels have been tested, but only the worst case data displayed in this report.

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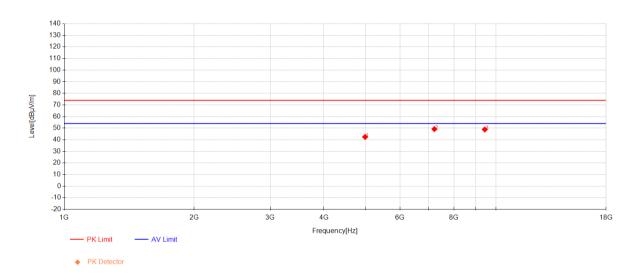


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Transmitter emission Above 1GHz GFSK_Channel 00



Data	Data List										
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	4981	50.70	33.16	-41.42	42.44	74.00	31.56	Horizontal			
2	7206	50.98	36.25	-38.02	49.21	74.00	24.79	Horizontal			
3	9429	44.95	37.73	-33.79	48.89	74.00	25.11	Horizontal			

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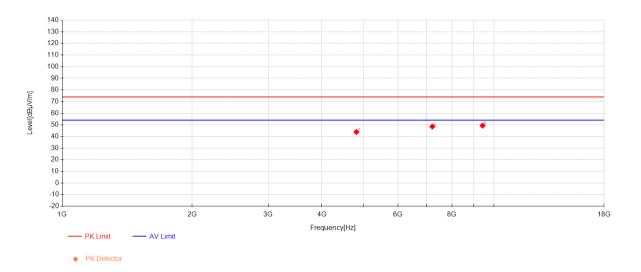


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GFSK Channel 00



Data I	Data List										
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	4805	52.56	32.77	-41.49	43.85	74.00	30.15	Vertical			
2	7206	50.33	36.25	-38.02	48.56	74.00	25.44	Vertical			
3	9419.5	45.38	37.73	-33.78	49.33	74.00	24.67	Vertical			

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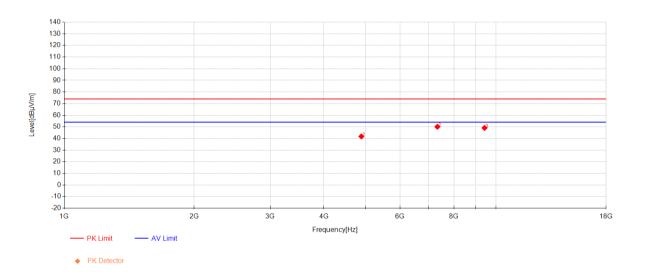


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GFSK Channel 39



Data	Data List										
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	4882	50.06	32.94	-41.25	41.75	74.00	32.25	Horizontal			
2	7323	51.15	36.39	-37.48	50.06	74.00	23.94	Horizontal			
3	9416	45.14	37.72	-33.77	49.09	74.00	24.91	Horizontal			

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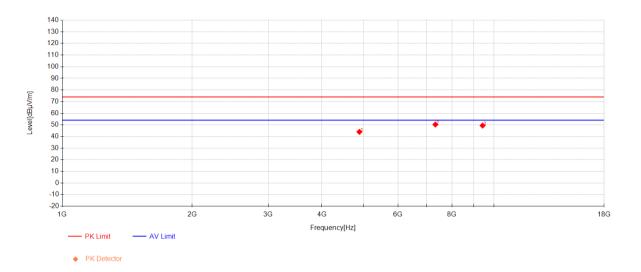


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Data	Data List										
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	4883	52.30	32.94	-41.25	43.99	74.00	30.01	Vertical			
2	7323.5	51.39	36.39	-37.48	50.29	74.00	23.71	Vertical			
3	9420.5	45.45	37.73	-33.78	49.40	74.00	24.60	Vertical			

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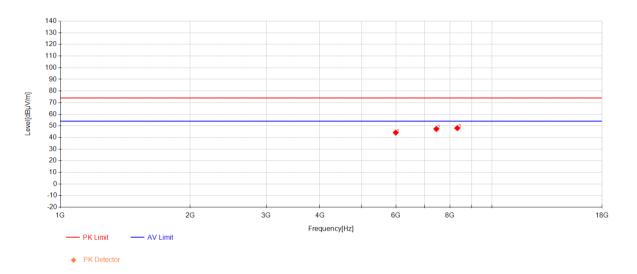


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GFSK Channel 78



Data	Data List										
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	5990.5	49.71	34.77	-40.27	44.21	74.00	29.79	Horizontal			
2	7440.5	48.62	36.53	-37.85	47.30	74.00	26.70	Horizontal			
3	8318	46.70	37.26	-35.93	48.03	74.00	25.97	Horizontal			

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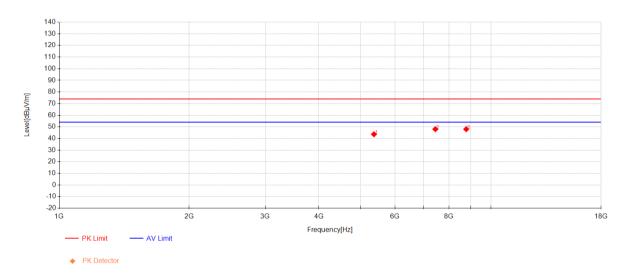


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GFSK Channel 78



Data	Data List										
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	5362	51.42	33.13	-40.90	43.64	74.00	30.36	Vertical			
2	7439.5	49.34	36.53	-37.85	48.02	74.00	25.98	Vertical			
3	8770	45.58	37.49	-35.06	48.01	74.00	25.99	Vertical			

Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier gain. The basic equation with a sample calculation is as follows:

Level = Reading(dBµV) + AF(dB/m) + Factor(dB):

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier gain(dB)

Margin = Limit($dB\mu V/m$) – Level($dB\mu V/m$)

2) All channels have been tested, but only the worst case data displayed in this report.

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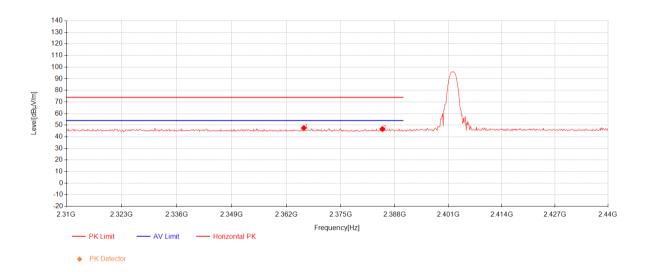


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Restricted bands around fundamental frequency **GFSK Channel 00**



Data	Data List									
NO.	Frequency [MHz]	Reading [dΒμV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity		
1	2366.16	43.73	27.11	-23.30	47.54	74.00	26.46	Horizontal		
2	2385.01	42.83	27.15	-23.31	46.67	74.00	27.33	Horizontal		

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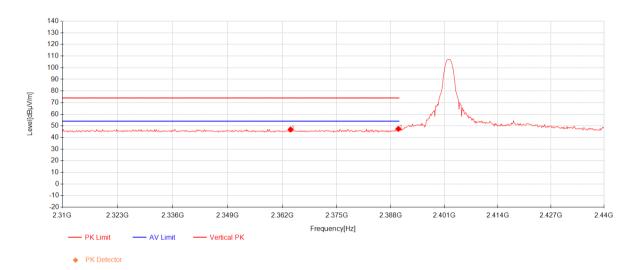


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GFSK Channel 00



Data	Data List										
NO.	Frequency [MHz]	Reading [dВµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	2363.95	43.11	27.10	-23.29	46.92	74.00	27.08	Vertical			
2	2389.82	43.58	27.16	-23.31	47.42	74.00	26.58	Vertical			

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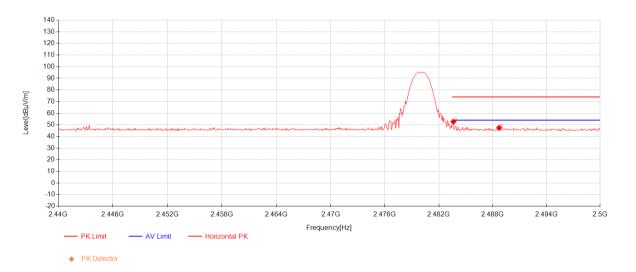


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GFSK Channel 78



Data	Data List										
NO.	Frequency [MHz]	Reading [dВµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity			
1	2483.62	48.66	27.36	-23.27	52.75	74.00	21.25	Horizontal			
2	2488.72	43.32	27.38	-23.27	47.43	74.00	26.57	Horizontal			

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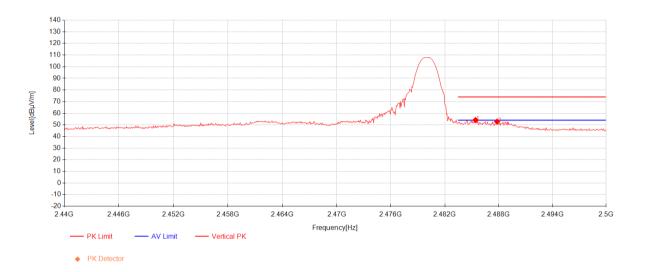


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Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2485.42	50.07	27.37	-23.27	54.17	74.00	19.83	Vertical
1*	2485.42	-		-	51.97	54.00	2.03	Vertical
2	2487.82	48.71	27.37	-23.27	52.82	74.00	21.18	Vertical

Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier gain. The basic equation with a sample calculation is as follows:

Level = Reading(dBµV) + AF(dB/m) + Factor(dB):

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier gain(dB)

Margin = Limit($dB\mu V/m$) – Level($dB\mu V/m$)

---End of Report---

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