

Japan - TEST REPORT

Report Number	:	6895025052201	Date of Issue:	2026-01-22
Model	:	WLT3266		
Product Type	:	BT module		
Applicant	:	Shenzhen Skyworth Energy Storage Technology Limited		
Address	:	Apartment Block 105, Skyworth Digital Building, Songbai Road, Tangtou Community, Shiyao Street, Baoan District, 518108 Shenzhen, Guangdong, PEOPLE'S REPUBLIC OF CHINA		
Manufacturer	:	Shenzhen Skyworth Energy Storage Technology Limited		
Address	:	Apartment Block 105, Skyworth Digital Building, Songbai Road, Tangtou Community, Shiyao Street, Baoan District, 518108 Shenzhen, Guangdong, PEOPLE'S REPUBLIC OF CHINA		
Test Result	:	☒ Positive ☐ Negative		
Total pages including Appendices	:	50		

Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question. It does not imply a general statement regarding the quality of products from regular production. For further details please see Testing, Certification, Validation and Verification Regulations, chapter A-3.3. For details, please see clause 2.1 of this report.

Table of Content

1	General Information	3
1.1	Notes	3
1.2	Testing Laboratory	4
1.3	Application Details	4
1.4	Test Item	4
1.5	Test Summary	5
2	Equipment Specification	6
2.1	General Description	6
2.2	Technical Data	6
2.3	Test Conditions and Test Connections	7
2.4	Auxiliary Equipment Used during Test	7
2.5	Lists of Test Instruments	8
2.6	Measurement Uncertainty (95% confidence levels, k=2)	8
3	Measurements Result	9
3.1	Antenna Power	9
3.2	Tolerances for Antenna Power	11
3.3	Frequency Tolerance	12
3.4	Occupied Frequency Bandwidth	16
3.5	Spread Bandwidth & Process Gain	19
3.6	Dwell Time	22
3.7	Interference Prevention Function	33
3.8	Transmitter Spurious Emissions (Conducted) (For transmitter)	34
3.9	Secondary Radiated Emissions (Conducted) (For receiver)	42
4	Photographs of Test Set-ups	50

1 General Information

1.1 Notes

Results of conformity assessment activities (such as test reports* or audit reports), which have not been issued in the form of a certificate or attestation of conformity, may not be used by the client for advertising purposes and may not be reproduced either in part or in full. References to reports of results or names of TSC(TÜV SÜD Company) for promotional purposes are not permitted. Exceptions to this are cases in which the responsible CAB of TSC has expressly approved this in advance in text form*, or the respective conformity assessment provides for the report's use, or disclosure is required due to statutory, regulatory or accreditation requirements. If reports of results of conformity assessment activities are used for advertising purposes with TSC's approval, the client shall not attach to the reports any statements or interpretations that go beyond their actual content, in particular no falsifying or misleading statements or interpretations that could cast doubt on TÜV SÜD's neutrality. The client shall at all times ensure that TSC's results are reproduced correctly and without distortion. This applies in particular to all communication activities, advertisements, notices, sales documents, etc., in digital media, audio features or print media initiated by the client. If TSC reports of results may be used as set out above, their wording shall be unchanged and complete and their date of preparation stated. Under no circumstances, however, shall TSC reports of results be used to state or imply that TSC specifically recommends the client, its product or system.

Prepared By
Project Engineer

2026-01-22
Date

Joe Gu
Name



Signature

Approved by
Project Manager

2026-01-22
Date

John Zhi
Name



Signature

1.2 Testing Laboratory

Test Site 1:

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch

Address: Building 12&13, Zhiheng Wisdomland Business Park, Guankou Erlu, Nantou, Nanshan District, Shenzhen City, 518052, P. R. China,

Phone: +86-755-8828 6998

Fax: +86-755-8828 5299

1.3 Application Details

Date of receipt of order: 2025-04-03

Date of receipt of test item: 2025-04-03

Date of test: 2025-04-04 – 2025-04-28

1.4 Test Item

Refer to table 1.

1.5 Applied Standard

APPLIED PRODUCT STANDARD

Article 2 paragraph 1 item 19
MIC notice No. 88 Appendix No.43

Test Summary

Table 1. Summary of results

Essential parameter	Corresponding technical requirements	Result	Test Site
Transmitter requirements	3.2 (2) Antenna Power	PASS	Site 1
	3.2 (3) Tolerances for Antenna Power	PASS	Site 1
	3.2 (4) Frequency Tolerance	PASS	Site 1
	3.2 (5) Transmission Rate	N/A*	---
	3.2 (7) Occupied Frequency Bandwidth	PASS	Site 1
	3.2 (8) Spread Bandwidth	PASS	Site 1
	3.2 (9) Process gain	PASS	Site 1
	3.2 (10) Number of Carriers	N/A*	---
	3.2 (11) Dwell Time	PASS	Site 1
	3.2 (6) Spurious Emissions	PASS	Site 1
	5.7 Transmission Antenna Gain (EIRP Antenna Power)	N/A	Note 3
	5.8 Transmission Radiation Angle Width (3dB Beamwidth)	N/A	Note 3
Receiver requirements	3.3 (1) Secondary Radiated Emissions	PASS	Site 1
	3.4 (1) Interference prevention function	PASS	Site 1

NOTE 1 Measurement taken is within the measurement uncertainty of measurement system.

NOTE 2 “*” N/A is an abbreviation for Not Applicable.

NOTE 3: When the EIRP is less than 12.14 dBm/MHz, it is not necessary.

2 Equipment Specification

2.1 General Description

EUT is a BT module with Bluetooth BDR+EDR function.

2.2 Technical Data

EUT Description	
Description	BT module
Model Numbers	WLT3266
Operation frequency	2402-2480MHz
BT Antenna type	PCB Antenna
Antenna Gain	3dBi
Modulation	GFSK, $\pi/4$ -DQPSK, 8DPSK
Rated Input	3.3V dc

Table 2. Work Frequency

Mode	Work Frequency	
	Transmitting Frequency	Receiving Frequency
Bluetooth	2402MHz-2480MHz	2402MHz-2480MHz

2.3 Test Conditions and Test Connections

2.3.1 Test Conditions

The EUT will be connected to test system in order to simulate normal operating conditions (with reference to the guidance given in the standard for this type of equipment).

When the input voltage to equipment fluctuated $\pm 10\%$, the RF unit circuit voltage fluctuation under 1%, measurement tested with the rated voltage.

Test Configuration:

Voltage Fluctuation Test	Normal Voltage	High Voltage +10% of Normal Voltage	Low Voltage -10% of Normal Voltage
Input To EUT	DC 3.3V	DC 3.63V	DC 2.97V
Output To RF Module	DC 3.3V	DC 3.3V	DC 3.3V
Voltage Variation (%)	0	0	0

2.3.2 Test Connections



Figure 1. Test Configuration 1

2.4 Auxiliary Equipment Used during Test

Table 3. Auxiliary Equipment Used during Test

Description	Manufacturer	Model NO.	S/N
Computer	HP	5CD302CY52	---

2.5 Lists of Test Instruments

Table 4. Lists of Test Instruments (Test Site 1)

Description	Manufacturer	Model no.	Equipment ID	Serial no.	cal interval (year)	cal. due date
Signal Generator	Rohde & Schwarz	SMBV100A	68-4-48-18-001	262825	1	2025-5-11
Signal Analyzer	Rohde & Schwarz	FSV40	68-4-74-14-004	101030	1	2025-5-11
RF Switch Module	Rohde & Schwarz	OSP120/OSP-B157W	68-4-93-14-003	101226/100929	1	2025-5-11
Power Splitter	Weinschel	1580	68-4-85-14-001	SC319	1	2025-5-11
10dB Attenuator	R&S	DNF	68-4-81-14-004	DNF-001	1	2025-5-11
Test software	TST PASS	TST PASS	68-4-93-23-001-A03	Version 2.0	N/A	N/A
Shielding Room	TDK	TS8997	68-4-90-19-003	----	3	2025-10-15

Calibration Method:

- a) Calibration conducted by the National Institute of Information and Communications Technology (NICT) (hereinafter referred to as "NICT") or a designated calibration agency under Article 102-18 paragraph (1)
- b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992)
- c) Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1)
- d) Calibration conducted by using measuring instruments and other equipment listed in the right column of Table No. 3 attached hereto, which shall have been given any of calibration, etc. listed above from a) to d)

Remark: The above test experimental equipment is applied to method c) for calibration.

Calibration company: CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

From JRL Article 24-2, paragraph 4, Item 2

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

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-5}$
Uncertainty for Output power test	$\pm 0.83\text{dB}$
Conducted Emissions Test	$\pm 2.0\text{dB}$
Radiated Emission Test	$\pm 2.0\text{dB}$
Occupied Bandwidth Test	$\pm 1.0\text{dB}$
Power density test	$\pm 1.85\text{dB}$
All emission, radiated	$\pm 3\text{dB}$
Antenna Port Emission	$\pm 3\text{dB}$
Temperature	$\pm 0.5^\circ\text{C}$
Humidity	$\pm 3\%$

Measurement Uncertainty Decision Rule:

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115: 2023, clause 4.4.3 and 4.5.1.

3 Measurements Result

3.1 Antenna Power

3.1.1 Test Condition

Test position:	Transmitting
Ambient temperature:	23.2°C
Relative humidity:	49.0%
Ambient Pressure	102.3Kpa

3.1.2 Limit (ARIB STD-T66, Clause 3.2 (2)-a)

- a. The antenna power of a transmitting equipment (with a frequency band of 2,427 – 2,470.75 MHz, for spread spectrum systems using FH systems, hybrid systems of DS and FH, or hybrid systems of FH and OFDM) shall be such that the mean power within a bandwidth of 1 MHz is 3 mW or less in the case of modulation using a standard coding test signal with the same transmission rate as that of the modulation signal.
- b. The antenna power of a transmitting equipment using a spread spectrum system other than any of those in “a” and the OFDM system shall be such that the mean power within a bandwidth of 1 MHz is 10 mW or less in the case of modulation using a standard coding test signal with the same transmission rate as that of the modulation signal.

3.1.3 Test Procedure

Frequency hopping system or combined systems of direct spread and frequency hopping:

- a. Connect the high frequency power meter to the output of the attenuator and measure the total power (without bandwidth limitation)
- b. Divide the total power by the spread bandwidth to find the “average” power per MHz.
- c. Confirm that frequency distribution of the hopping frequencies is homogeneous according to the supporting data. If frequency distribution of the frequencies is not homogeneous, consider other measurement or correction methods based on the supporting data.
- d. Set the antenna power as follows:
 - Continuous waves: value in b.
 - Burst waves: value in b. and value calculated from the average power within bursts from rates of transmission times (i.e. correction on the duty-cycle, to find the average within the transmit burst)

3.1.4 Test Result

	Mode	Frequency (MHz)	Packet Type	Result (dBm)	Result (mW)	Spread Bandwidth (MHz)	Antenna Power (mW/MHz)	
							Result (mW /MHz)	Limit
NTNV	GFSK	HOPP	DH5	2.15	1.64	71.903	0.023	<=3.00
	Pi/4DQPSK	HOPP	2DH5	2.73	1.88	72.042	0.026	<=3.00
	8DPSK	HOPP	3DH5	2.73	1.88	72.061	0.026	<=3.00

	Mode	Frequency (MHz)	Packet Type	Gain (dBi)	EIRP (dBm)	Spread Bandwidth (MHz)	EIRP Power (dBm/MHz)	
							Result (dBm/MHz)	Limit
NTNV	GFSK	HOPP	DH5	3	5.15	71.903	0.072	<=12.14
	Pi/4DQPSK	HOPP	2DH5	3	5.73	72.042	0.080	<=12.14
	8DPSK	HOPP	3DH5	3	5.73	72.061	0.080	<=12.14

3.1.5 Result

The equipment met the requirement of this clause.

3.2 Tolerances for Antenna Power

3.2.1 Test Condition

Test position:	Transmitting
Ambient temperature:	23.2°C
Relative humidity:	49.0%
Ambient Pressure	102.3Kpa

3.2.2 Limit (ARIB STD-T66, Clause 3.2 (3))

Upper and lower limits of the tolerance for antenna power shall be 20% and 80%, respectively. Note that they represent the tolerance for the maximum rated antenna power and that no upper and lower limits of the tolerance are regulated in the case of antenna power reduction for communications reasons.

3.2.3 Test Result

ENV	Mode	Packet Type	Antenna Power (mW/MHz)		Nominal Power (mW/MHz)	Tolerance (%)		Verdict
			Measured	Limit		Measured	Limit	
NTNV	GFSK	DH5	0.023	<=3.00	0.030	-23.33	-80 to 20	Pass
	Pi/4DQPSK	2DH5	0.026	<=3.00	0.030	-13.33	-80 to 20	Pass
	8DPSK	3DH5	0.026	<=3.00	0.030	-13.33	-80 to 20	Pass

Note: Deviation = (Output power – Declared Output Power) / Declared Output Power * 100%

3.2.1 Result

The equipment met the requirement of this clause.

3.3 Frequency Tolerance

3.3.1 Test Condition

Test position:	Transmitting
Ambient temperature:	23.2°C
Relative humidity:	49.0%
Ambient Pressure	102.3Kpa

3.3.2 Limit (ARIB STD-T66, Clause 3.2 (4))

Tolerance of frequency: $\pm 50 \times 10^{-6}$.

3.3.3 Test Procedure

If the fluctuation of input voltage to the circuit of the radio part (excl. power) in the test equipment is confirmed below $\pm 1\%$, Measurement shall be tested with the rated voltage.

When there is a fluctuation of $\pm 10\%$ input voltage from external power to the test equipment. In case the test equipment is designed to function only within the specified fluctuation range of $\pm 10\%$ for the voltage source tests shall be conducted applying the rated voltage and a respective specified maximum/minimum value of fluctuation range.

Set the EUT on the test frequency and transmit.

Stop the modulation (stop the spreading), set on "continuous transmission of no-modulated radiation" in principle. If impossible, on "continuous burst transmission of no-modulated radiation", or a modulation mode to generate a specific frequency spectrum so that the frequency can be measured using a spectrum analyzer (example: a wave of the sub-carrier).

In case of no-modulation (consecutive or continuous burst), direct measurement is conducted with the frequency meter.

In case of burst wave, the measurement is conducted for a time period to achieve a sufficient accuracy. The mean value is employed as the measurement value.

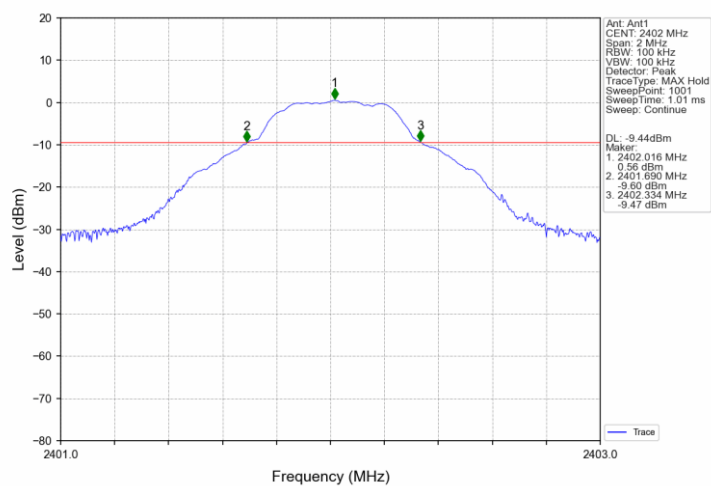
In case of a test mode generating specific frequency spectrum, the spectrum frequency is measured with the spectrum analyzer.

3.3.4 Test Result

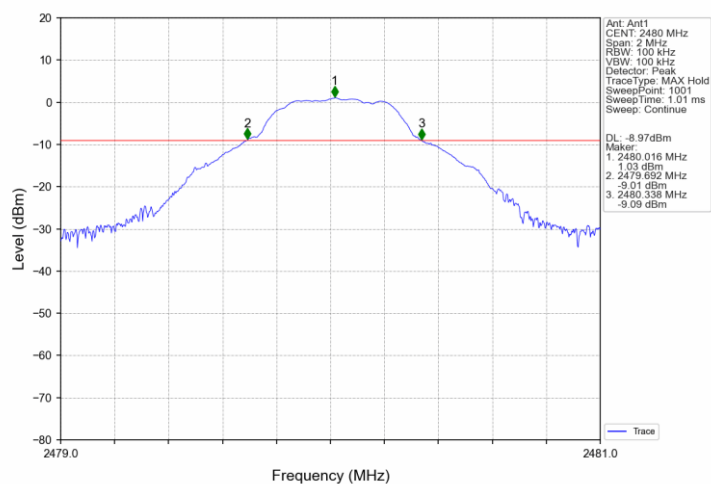
ENV	Mode	TX Type	Frequency (MHz)	Packet Type	Measured Frequency (MHz)	Tolerance (ppm)		Verdict
						Result	Limit	
NTNV	GFSK	SISO	2402	DH5	2402.012	5.00	-50 to 50	Pass
			2480	DH5	2480.015	6.05	-50 to 50	Pass
	Pi/4DQPSK	SISO	2402	2DH5	2402.019	7.99	-50 to 50	Pass
			2480	2DH5	2480.019	7.74	-50 to 50	Pass
	8DPSK	SISO	2402	3DH5	2402.017	6.99	-50 to 50	Pass
			2480	3DH5	2480.017	6.77	-50 to 50	Pass

3.3.5 Result

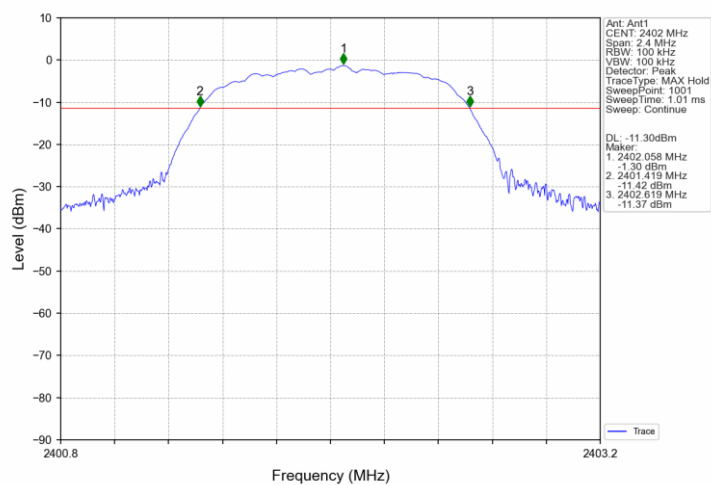
GFSK_DH5_2402MHz_Ant1_NTNV



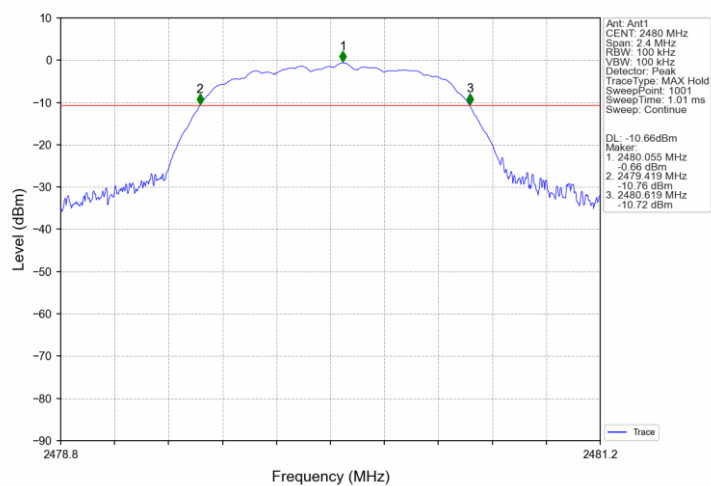
GFSK_DH5_2480MHz_Ant1_NTNV



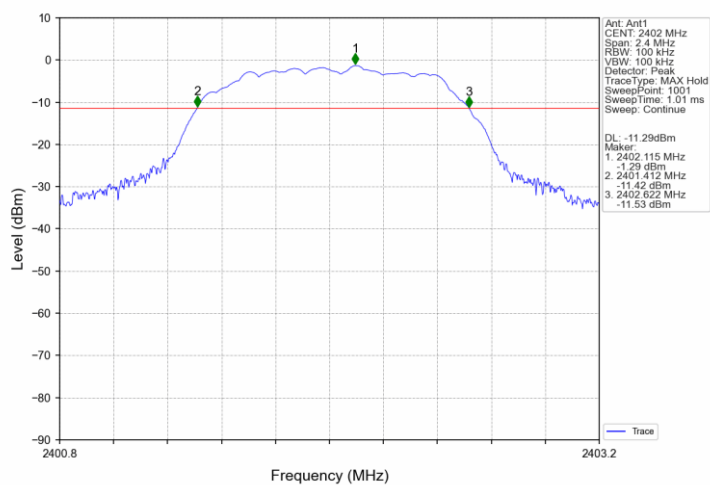
Pi/4DQPSK_2DH5_2402MHz_Ant1_NTNV



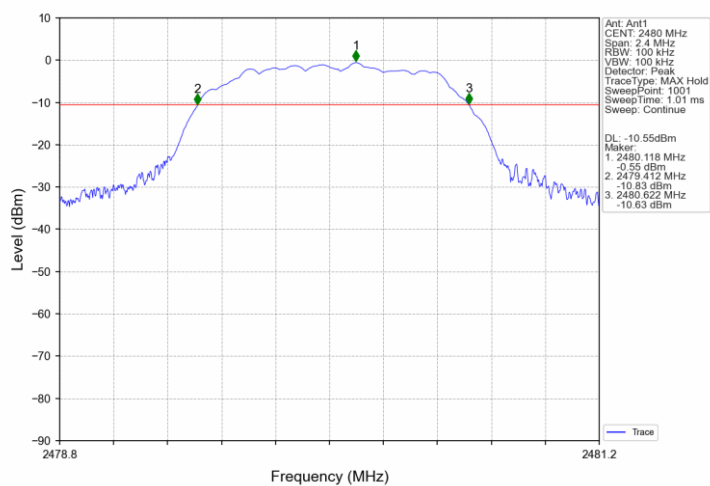
Pi/4DQPSK_2DH5_2480MHz_Ant1_NTNV



8DPSK 3DH5 2402MHz Ant1 NTN



8DPSK 3DH5 2480MHz Ant1 NTN



3.4 Occupied Frequency Bandwidth

3.4.1 Test Condition

Test position:	Transmitting
Ambient temperature:	23.2°C
Relative humidity:	49.0%
Ambient Pressure	102.3Kpa

3.4.2 Limit (ARIB STD-T66, Clause 3.2 (7))

Permissible value for occupied bandwidth using the FH system, a hybrid system combining DS and FH systems, or a hybrid system combining FH and OFDM systems shall be 83.5 MHz or less, while necessary bandwidth (minimum occupied bandwidth sufficient to ensure information transmission of required quality at a required transmission rate for the system used under specified conditions for a given emission type) using a system other than any of the above shall be 26 MHz or less.

3.4.3 Test Procedure

Spectrum analyzer is set as below:

Central Frequency	Test frequency
Sweeping Bandwidth	2 to 3.5 times the allowable value
Resolution Bandwidth	Lower than 3 % of allowable value
Video Bandwidth	Same level as Resolution Bandwidth
Y-Axis Scale	10 dB/Div
Input Level	Carrier level is sufficiently higher than spectrum analyzer noise
Sweep Time	Minimum time to assure the measurement accuracy (In case of burst wave, 1 burst per 1 sample)
Sampling points	More than 400 points
Sweep Mode	Consecutive sweep
Phase-Detection Mode	Positive peak
Trigger Condition	Max-hold

The measured value of the spectrum analyzer is processed by the computer internally or externally
Conditions of EUT

Set the test frequency and the modulation is performed with the standard coded test signal. In case of OFDM with burst wave, the modulation is conducted to minimize the rate of the time that the number of sub-carrier is less (short preamble).

After a repetition of sweep so that no variation is found, values of all the data points are loaded into the array variable on the computer.

For all the data, the dB values are converted to antilogarithm of power dimension.

Power summation of all the data is estimated and stored as "total power value".

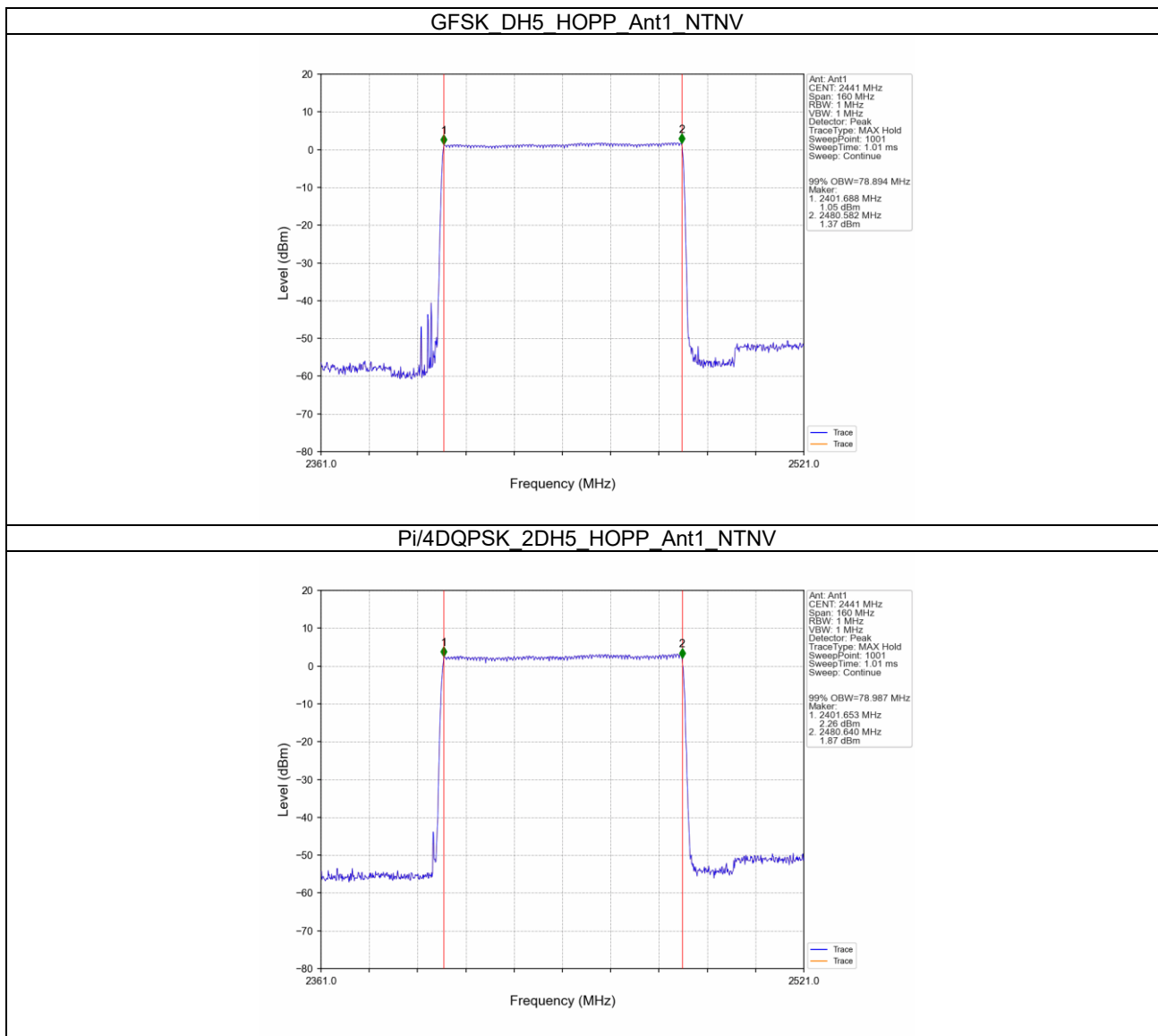
Starting with the data of the minimum frequency, the power is summed sequentially, and the limiting data point where the value achieves 0.5% of the total power is sensed. The limiting point is converted to frequency, stored as "lower limit".

Starting with the data of the maximum frequency, the power is summed sequentially, and the limiting data point where the value achieves 0.5% of the total power is sensed. The limiting point is converted to frequency, stored as "upper limit".

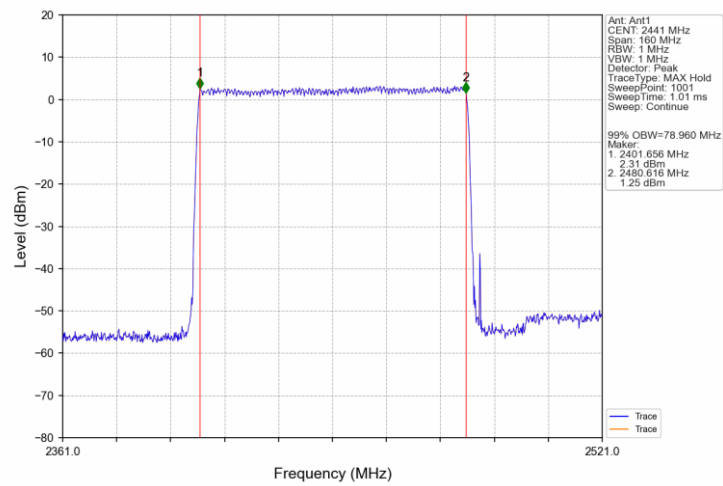
3.4.4 Test Result

Test Condition	Test Mode	Freq. (MHz)	Result [MHz]	Limit [MHz]	Verdict
NTNV	DH5	Hop	78.894	≤83.5	PASS
NTNV	2DH5	Hop	78.987	≤83.5	PASS
NTNV	3DH5	Hop	78.960	≤83.5	PASS

3.4.5 Test Graphs



8DPSK 3DH5 HOPP Ant1 NTN



3.4.6 Result

The equipment met the requirement of this clause.

3.5 Spread Bandwidth & Process Gain

3.5.1 Test Condition

Test position:	Transmitting
Ambient temperature:	23.2°C
Relative humidity:	49.0%
Ambient Pressure	102.3Kpa

3.5.2 Limit (ARIB STD-T66, Clause 3.2 (8))

In spread spectrum systems, spread bandwidth (which refers to a frequency bandwidth with an upper limit and lower limit such that each of the mean powers radiated above the upper frequency limit and below the lower frequency limit is equal to 5 % of the total mean power radiated; this also applies hereafter) shall be 500 kHz or more

Process gain (value obtained by dividing the spread bandwidth by a frequency equal to the transmission rate of the modulation signal; this also applies hereafter) in the spread spectrum system shall be 5 or more.

3.5.3 Test Procedure

Spectrum analyzer is set as below:

Central Frequency	Test frequency
Sweeping Bandwidth	2 to 3.5 times the allowable value
Resolution Bandwidth	Lower than 3 % of allowable value
Video Bandwidth	Same level as Resolution Bandwidth
Y-Axis Scale	10 dB/Div
Input Level	Carrier level is sufficiently higher than spectrum analyzer noise
Sweep Time	Minimum time to assure the measurement accuracy (In case of burst wave, 1 burst per 1 sample)
Sampling points	More than 400 points
Sweep Mode	Consecutive sweep
Phase-Detection Mode	Positive peak
Trigger Condition	Max-hold

The measured value of the spectrum analyzer is processed by the computer internally or externally
Conditions of EUT

Set the test frequency and the modulation is performed with the standard coded test signal. In case of OFDM with burst wave, the modulation is conducted to minimize the rate of the time that the number of sub-carrier is less (short preamble).

After a repetition of sweep so that no variation is found, values of all the data points are loaded into the array variable on the computer.

For all the data, the dB values are converted to antilogarithm of power dimension.

Power summation of all the data is estimated and stored as "total power value".

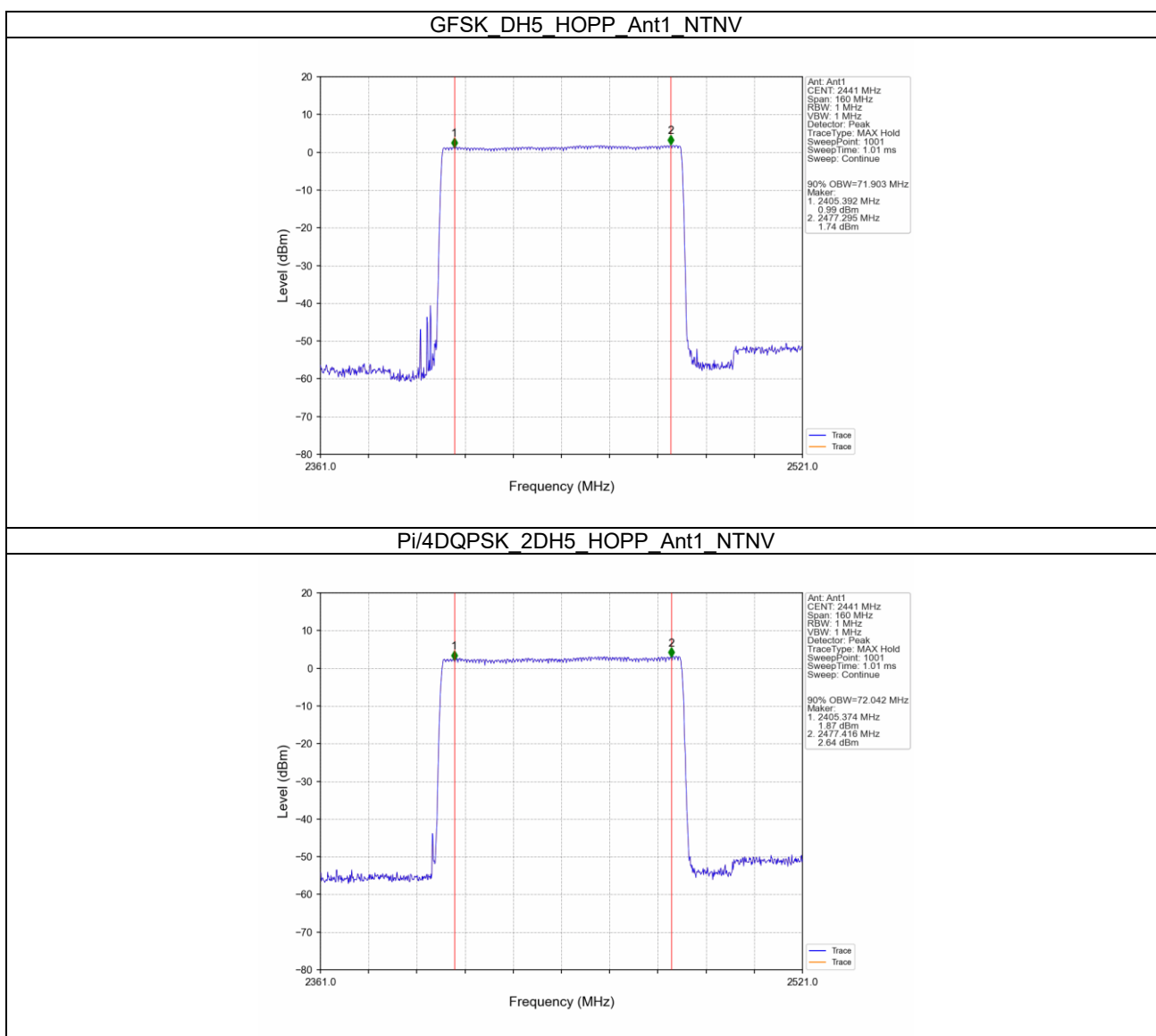
Starting with the data of the minimum frequency, the power is summed sequentially, and the limiting data point where the value achieves 0.5% of the total power is sensed. The limiting point is converted to frequency, stored as "lower limit".

Starting with the data of the maximum frequency, the power is summed sequentially, and the limiting data point where the value achieves 0.5% of the total power is sensed. The limiting point is converted to frequency, stored as "upper limit".

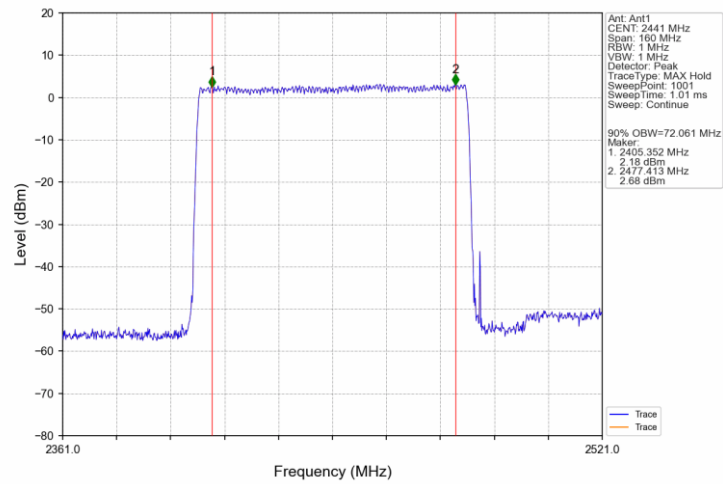
3.5.4 Test Result

Test Condition	Test Mode	Freq. (MHz)	Result [MHz]	Limit [MHz]	Verdict
NTNV	DH5	Hop	71.903	≥ 0.5	PASS
NTNV	2DH5	Hop	72.042	≥ 0.5	PASS
NTNV	3DH5	Hop	72.061	≥ 0.5	PASS

3.5.5 Test Graphs



8DPSK 3DH5 HOPP Ant1 NTN



3.5.6 Result

The equipment met the requirement of this clause.

3.6 Dwell Time

3.6.1 Test Condition

Test position:	Transmitting
Ambient temperature:	23.5°C
Relative humidity:	43.1%
Ambient Pressure	100.6Kpa

3.6.2 Limit (ARIB STD-T66, Clause 3.2 (11))

Frequency dwell time (time during which radio waves continue to be emitted at a specified frequency) of a transmitting equipment using the FH system shall be 0.4 seconds or less.

3.6.3 Test Procedure

Set the EUT at the test frequency with test spreading code (Frequency Hopping), then modulation is performed with standard PN test signal.

Spectrum analyzer is set as below:

Central Frequency	Measurement hopping frequency
Sweep Frequency Bandwidth	0 MHz
Resolution Bandwidth	Approx. 1 MHz
Video Bandwidth	Same level as resolution bandwidth
Y-Axis Scale	10 dB/Div
Sweep Time	Hopping period
Sweep Mode	Single sweep
Trigger Condition	Video trigger
Phase-Detection Mode	Positive peak

Set the spectrum analyzer as in 2 above, wait for the hopping signal at the frequency to hop to.

Read the staying time from the trajectory on the screen at the frequency to hop in the hopping period by using marker, confirm the summation of the staying time to be less than 0.4 seconds.

In the same manner as (2), read the integral of the staying time at the frequency to hop in the hopping period. Calculate the total of the frequency staying time at the frequency to hop to as described in the equation below.

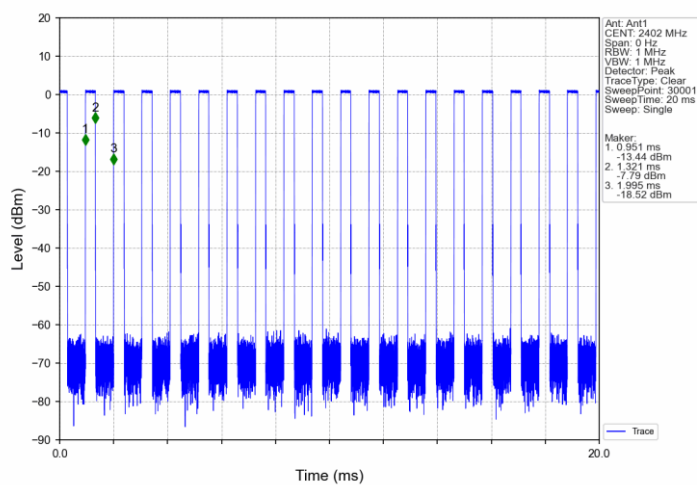
Repeat the measurement for each frequency to hop.

3.6.4 Test Result

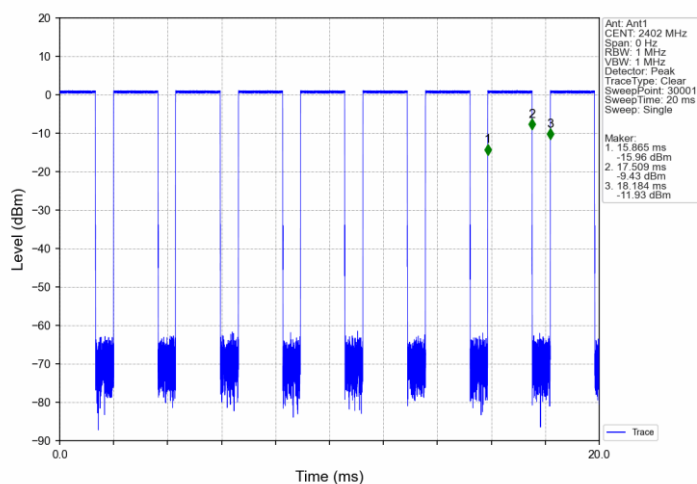
Ant1											
ENV	Mode	Tx Type	Frequency (MHz)	Packet Type	Spreading Rate	T _{on} (ms)	Period (ms)	Hopp Number	Dwell Time (ms)		Verdict
NTNV	GFSK	SISO	2402	DH1	71.903	0.370	1.044	79	129.027	<=400	Pass
				DH3	71.903	1.644	2.319	79	258.096	<=400	Pass
				DH5	71.903	2.898	3.572	79	295.370	<=400	Pass
			2480	DH1	71.903	0.369	1.044	79	128.678	<=400	Pass
				DH3	71.903	1.629	2.304	79	257.406	<=400	Pass
				DH5	71.903	2.900	3.574	79	295.409	<=400	Pass
	Pi/4DQPSK	SISO	2402	2DH1	72.042	0.370	1.053	79	128.172	<=400	Pass
				2DH3	72.042	1.626	2.300	79	257.876	<=400	Pass
				2DH5	72.042	2.890	3.564	79	295.787	<=400	Pass
			2480	2DH1	72.042	0.369	1.052	79	127.947	<=400	Pass
				2DH3	72.042	1.646	2.329	79	257.798	<=400	Pass
				2DH5	72.042	2.899	3.573	79	295.961	<=400	Pass
	8DPSK	SISO	2402	3DH1	72.061	0.369	1.052	79	127.981	<=400	Pass
				3DH3	72.061	1.635	2.310	79	258.249	<=400	Pass
				3DH5	72.061	2.900	3.582	79	295.397	<=400	Pass
			2480	3DH1	72.061	0.369	1.052	79	127.981	<=400	Pass
				3DH3	72.061	1.644	2.319	79	258.663	<=400	Pass
				3DH5	72.061	2.901	3.575	79	296.077	<=400	Pass

3.6.5 Test Graphs

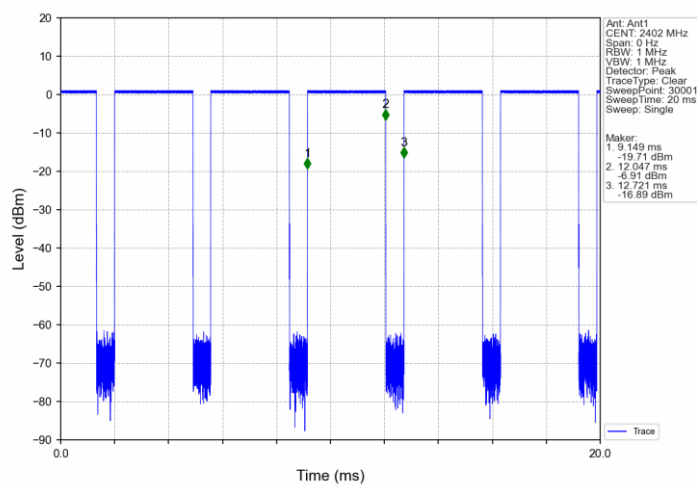
GFSK_DH1_2402MHz_Ant1_NTNV



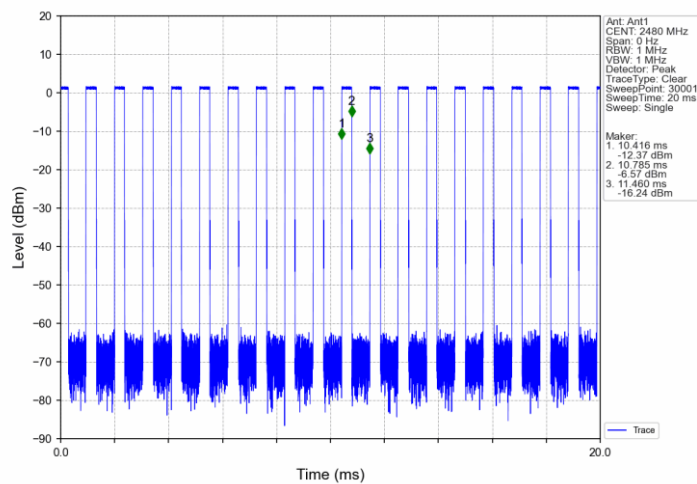
GFSK_DH3_2402MHz_Ant1_NTNV



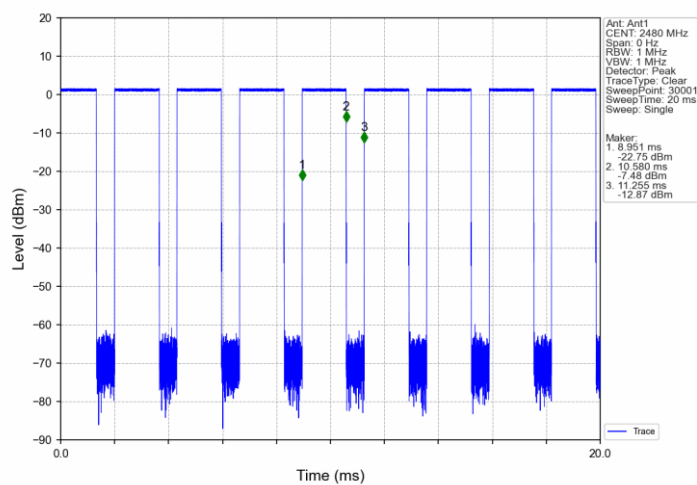
GFSK_DH5_2402MHz_Ant1_NTNV



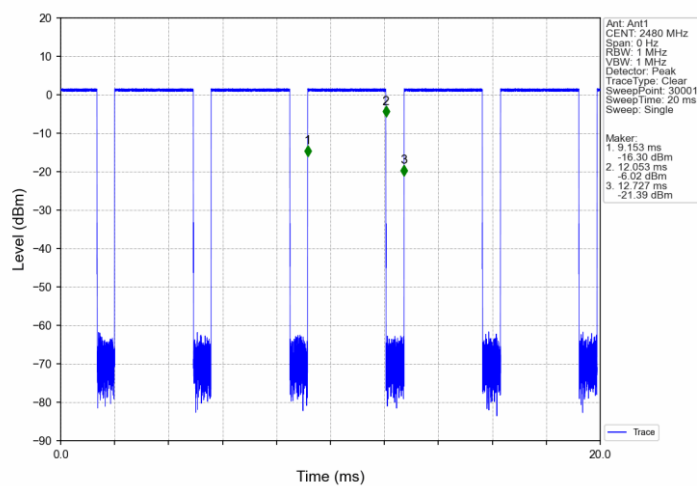
GFSK_DH1_2480MHz_Ant1_NTNV



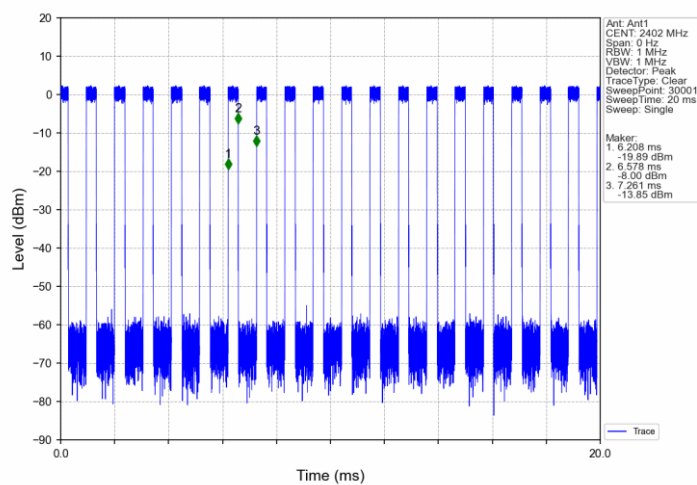
GFSK_DH3_2480MHz_Ant1_NTNV



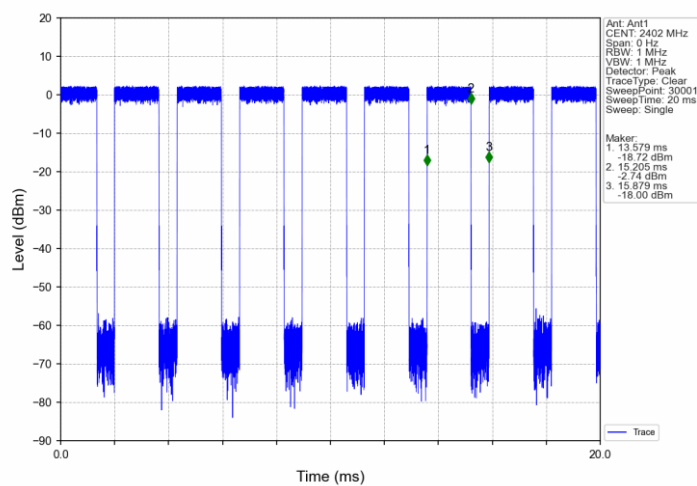
GFSK_DH5_2480MHz_Ant1_NTNV



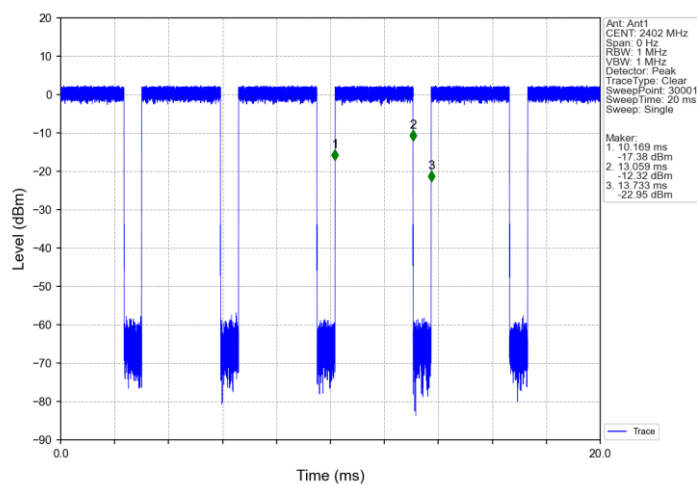
Pi/4DQPSK_2DH1_2402MHz_Ant1_NTNV



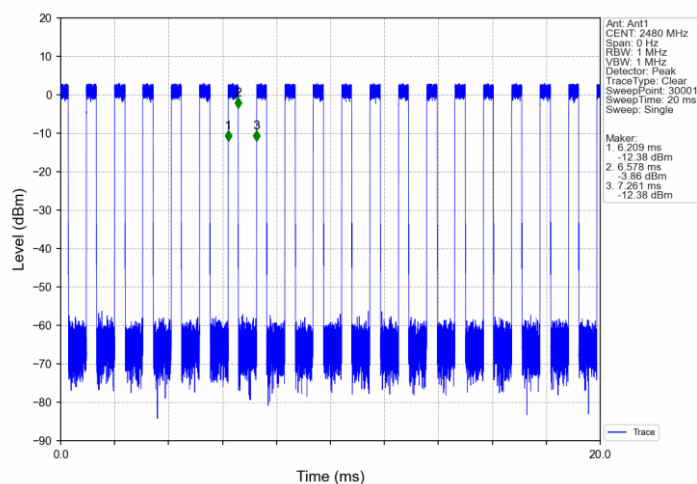
Pi/4DQPSK_2DH3_2402MHz_Ant1_NTNV



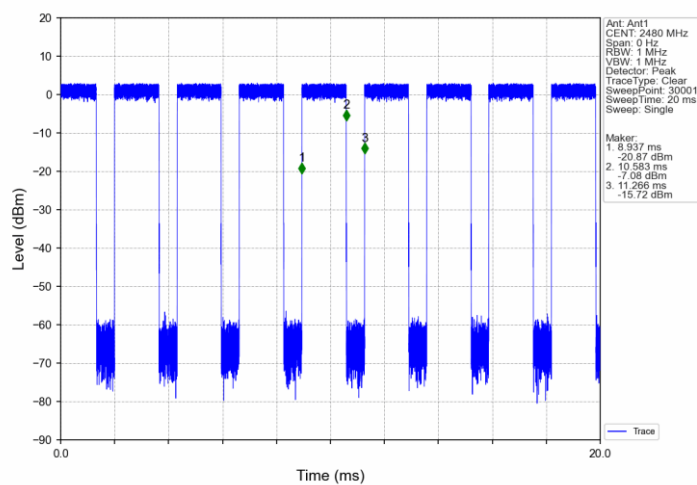
Pi/4DQPSK_2DH5_2402MHz_Ant1_NTNV



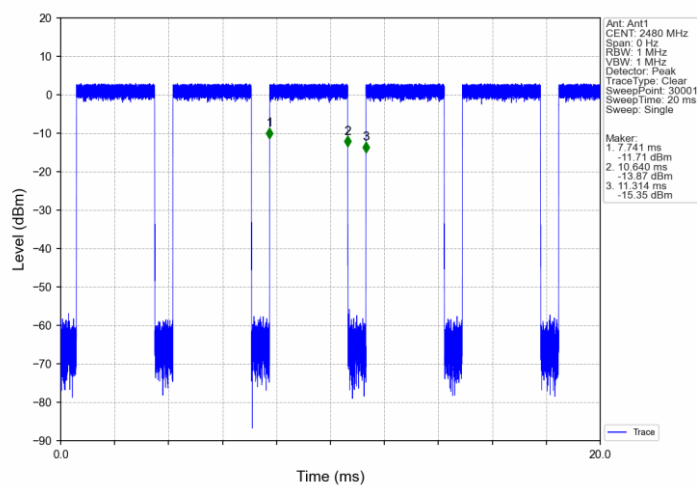
Pi/4DQPSK_2DH1_2480MHz_Ant1_NTNV



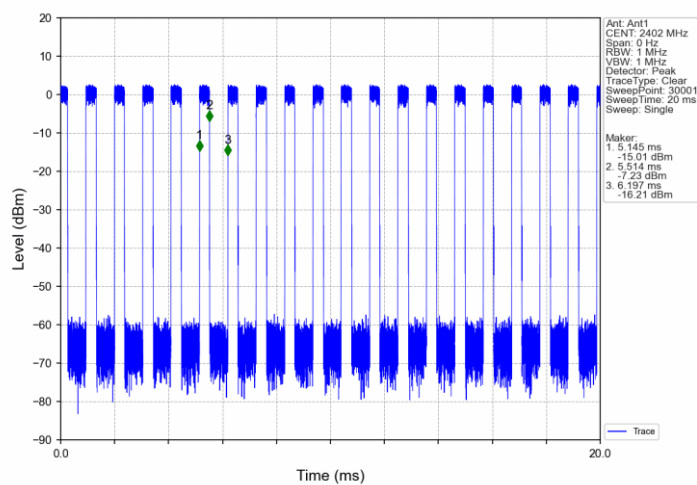
Pi/4DQPSK_2DH3_2480MHz_Ant1_NTNV



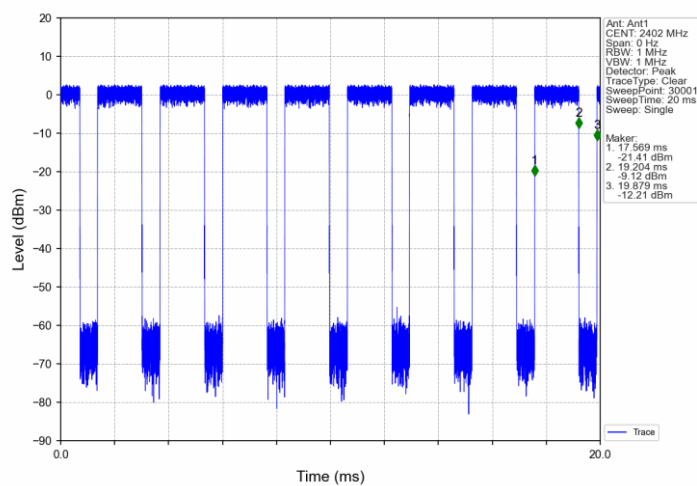
Pi/4DQPSK_2DH5_2480MHz_Ant1_NTNV



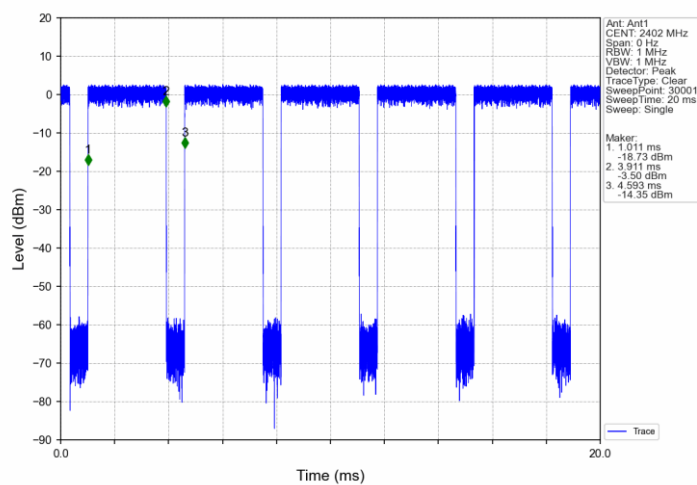
8DPSK_3DH1_2402MHz_Ant1_NTNV



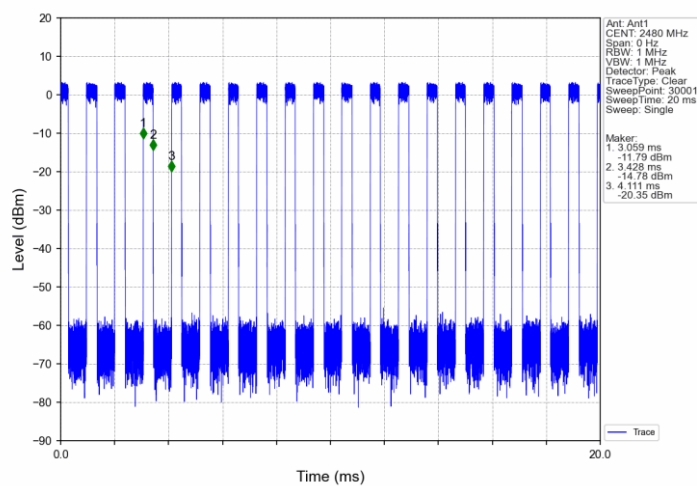
8DPSK_3DH3_2402MHz_Ant1_NTNV



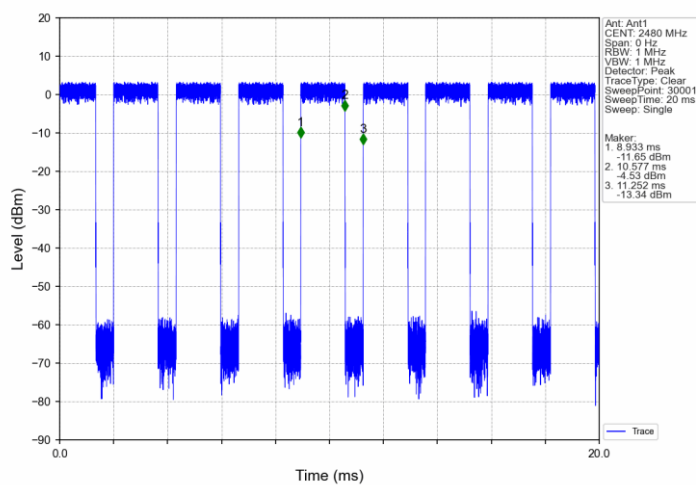
8DPSK_3DH5_2402MHz_Ant1_NTNV



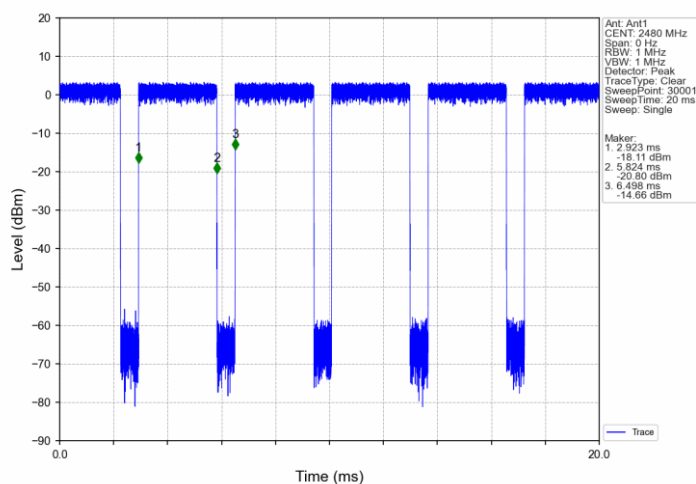
8DPSK_3DH1_2480MHz_Ant1_NTNV



8DPSK 3DH3 2480MHz Ant1 NTN



8DPSK 3DH5 2480MHz Ant1 NTN



3.6.6 Result

The equipment met the requirement of this clause.

3.7 Interference Prevention Function

3.7.1 Test Condition

Test position:	Receiving
Ambient temperature:	23.5°C
Relative humidity:	43.1%
Ambient Pressure	100.6Kpa

3.7.2 Limit

Item	Limits
Identification Code	≥48 bits

3.7.3 Test Procedure

1. Set the EUT in the usual operation condition
2. The radio equipment with automatic transmitting function of identification code
 - A. Transmit the assigned identification code from the radio equipment.
 - B. Confirm the identification code received by the demodulator.
3. The radio equipment with automatic receiving function of identification code
 - A. Transmit the assigned identification code from the opposite equipment.
 - B. Confirm that the usual communication is available.
 - C. Transmit the identification code distinct from the assigned one from the opposite equipment.
 - D. Confirm that the radio equipment is stopped or an indication is displayed as the identification code is different.

The identification function shall be recorded.

3.7.4 Measured Result

Test Conditions	Operation Frequency		
	2402 MHz	2441 MHz	2480 MHz
NTNV	48bits	48bits	48bits

3.7.5 Result

The equipment met the requirement of this clause.

3.8 Transmitter Spurious Emissions (Conducted) (For transmitter)

3.8.1 Test Condition

Test position:	Transmitting
Ambient temperature:	23.5°C
Relative humidity:	43.1%
Ambient Pressure	100.6Kpa

3.8.2 Limit (ARIB STD-T66, Clause 3.2 (6))

Permissible mean power of spurious emission of each frequency supplied to a feeder, that is, mean power of spurious emission in the 1 MHz bandwidth at frequency f other than frequency band used shall be as follows:
a. $2,387\text{MHz} \leq f \leq 2,400\text{MHz}$ and $2,483.35\text{MHz} < f \leq 2,496.5\text{MHz}$ 25 μW or less
b. $2,387\text{MHz} > f$ and $2,496.5\text{MHz} < f$ 2.5 μW or less.

3.8.3 Test Procedure

(1) Spectrum analyzer for seeking the spurious emission is set as below:

Sweeping Bandwidth	For seeking the spurious emission, from frequency lowest possible to the 5 times the carrier frequency
Resolution Bandwidth	1 MHz
Video Bandwidth	Approx. As same as Resolution bandwidth
Y-Axis Scale	10 dB/Div
Input Level	Value of maximum dynamic range
Sweep Time	Minimum time to assure the measurement accuracy (Note 1)
Sweep Mode	Single sweep
Phase-Detection Mode	Positive peak

(2) The settings of the spectrum analyzer while conducting spurious amplitude measurements are as follows:

- Central Frequency: Acquired spurious frequencies in (1)
- Sweep Frequency 0 Hz
- Resolution Bandwidth 1 MHz
- Video Bandwidth same as Resolution Bandwidth
- Note: take into account that the requirement limits the power in a bandwidth of 1 MHz.
- If the measurement is carried out with a bandwidth of 100 kHz (for frequencies below 1 GHz), the limit shall be reduced with 10 dB.
- For example 2.5 μW in 1 MHz = -26 dBm limit, becomes -36 dBm for 100 kHz bandwidth.
- Y-Axis Scale 10 dB/Div
- Input Level: choose input level within the linear range of the SA mixer (so that no additional spurious are generated by the mixer)
- Sweep Time: Minimum amount of time to ensure measurement accuracy. However, in the case of burst waves, time exceeds duration of 1 burst.
- Data Points Over 400 points
- Sweep Mode: Single sweep
- Detection Mode Sample (BIN-Width $\ll$ RBW, so that all spurious emissions are captured) [BIN-width is the frequency difference between 2 adjacent sample points on the display]

(3) Set EUT as occupied bandwidth is measure. That is, Set the EUT on the test frequency and the continuous TX mode or continuous (constant period, constant burst length) burst TX mode. In case of spreading code used, set on the test spreading code, then the modulation is performed with standard coding test signal.

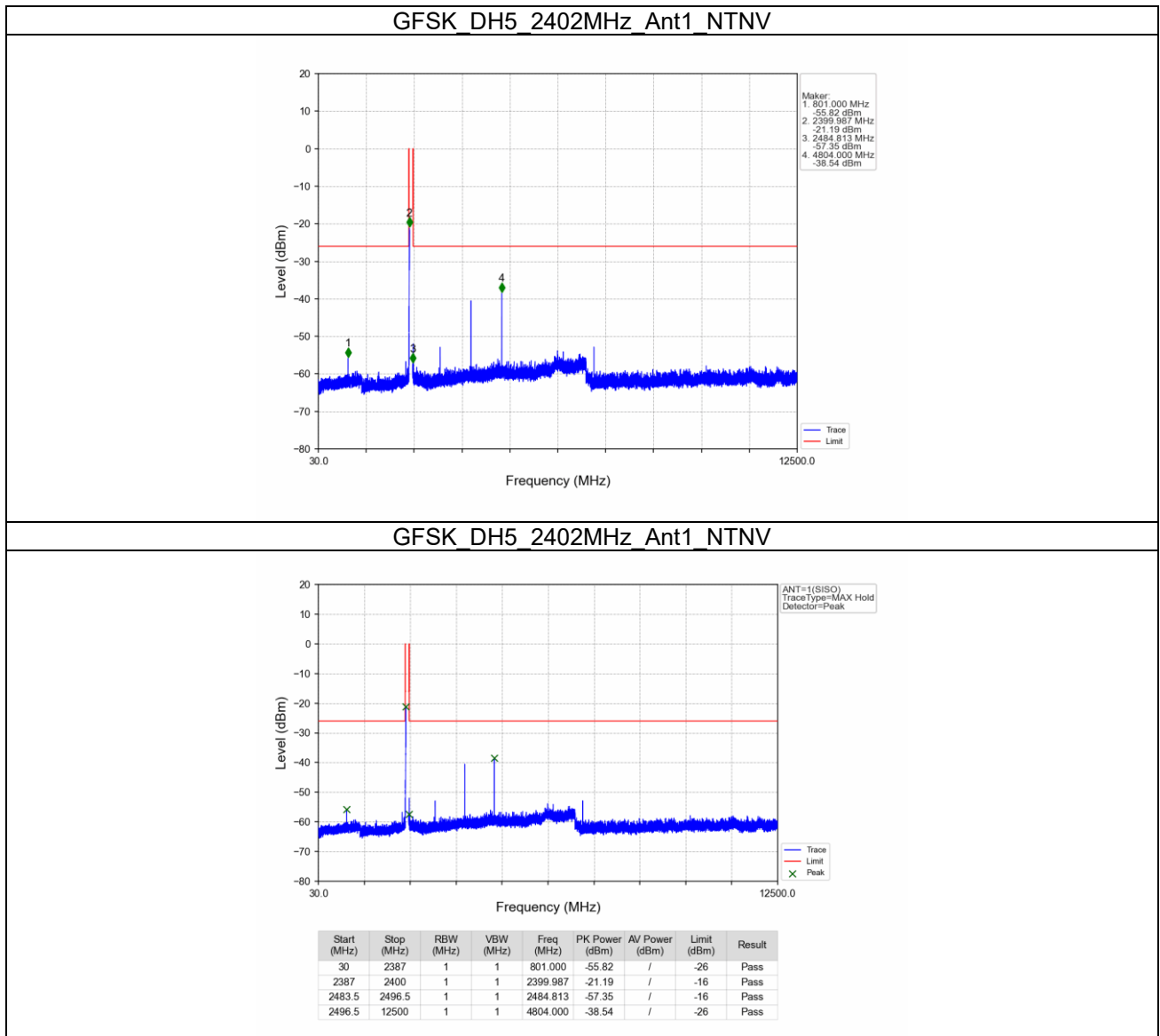
The spectrum analyzer is set as 2 (1). Seek the spurious emission If the amplitude of the sought spurious emission satisfies the specified value (in case of 2 (2) Note 1, the specified value is -3dB), the measurement of 2 (2) is not performed, then the estimated value is employed as the measured value.

In case the sought spurious emission amplitude exceeds the specified value, seek the spurious frequency by narrowing the sweeping band sequentially as 100 MHz, 10 MHz, 1 MHz for the purpose of higher accuracy of the spectrum analyzer. Set the spectrum analyzer as 2 (2). Estimate the mean value of the spurious amplitude, then employ it as the measured value (In case DSSS as well as OFDM with burst wave, the mean inside of the burst).

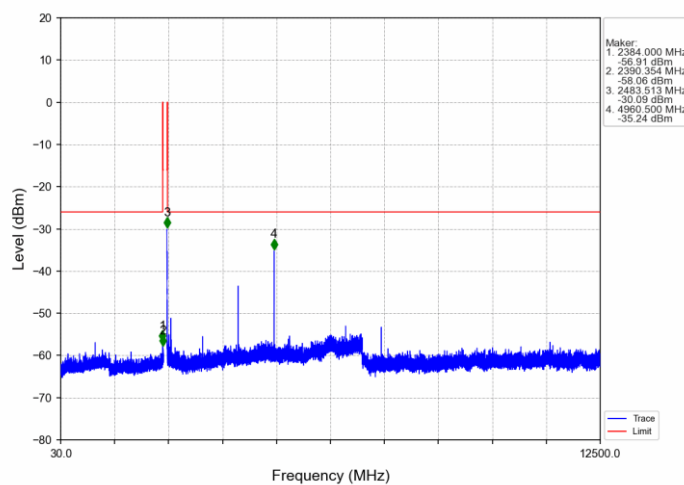
3.8.4 Test Result

NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (uW /MHz)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm /MHz)	PK Power (uW /MHz)	AV Power (dBm /MHz)	AV Power (uW /MHz)		
GFSK	SISO	2402	1	30	2387	801	-55.82	0.003	/	/	2.5	Pass
				2387	2400	2399.987	-21.19	7.603	/	/	25	Pass
				2483.5	2496.5	2484.813	-57.35	0.002	/	/	25	Pass
				2496.5	12500	4804	-38.54	0.140	/	/	2.5	Pass
		2480	1	30	2387	2384	-56.91	0.002	/	/	2.5	Pass
				2387	2400	2390.354	-58.06	0.002	/	/	25	Pass
				2483.5	2496.5	2483.513	-30.09	0.979	/	/	25	Pass
				2496.5	12500	4960.5	-35.24	0.299	/	/	2.5	Pass
Pi/4DQPSK	SISO	2402	1	30	2387	801	-54.16	0.004	/	/	2.5	Pass
				2387	2400	2399.935	-20.42	9.078	/	/	25	Pass
				2483.5	2496.5	2488.622	-54.36	0.004	/	/	25	Pass
				2496.5	12500	4804	-36.89	0.205	/	/	2.5	Pass
		2480	1	30	2387	2384	-53.64	0.004	/	/	2.5	Pass
				2387	2400	2392.083	-55.09	0.003	/	/	25	Pass
				2483.5	2496.5	2483.617	-29.02	1.253	/	/	25	Pass
				2496.5	12500	4960.5	-33.82	0.415	/	/	2.5	Pass
8DPSK	SISO	2402	1	30	2387	2306	-54.93	0.003	/	/	2.5	Pass
				2387	2400	2399.974	-20.37	9.183	/	/	25	Pass
				2483.5	2496.5	2483.513	-54.09	0.004	/	/	25	Pass
				2496.5	12500	4804	-37.25	0.188	/	/	2.5	Pass
		2480	1	30	2387	826.5	-53.99	0.004	/	/	2.5	Pass
				2387	2400	2399.766	-55.00	0.003	/	/	25	Pass
				2483.5	2496.5	2483.565	-28.68	1.355	/	/	25	Pass
				2496.5	12500	4960	-33.87	0.410	/	/	2.5	Pass

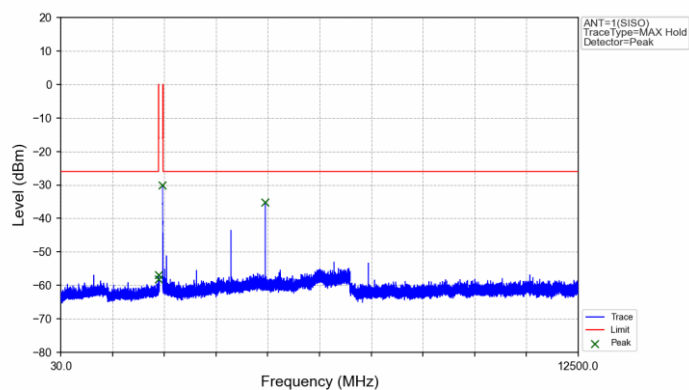
3.8.5 Test Graphs



GFSK_DH5_2480MHz_Ant1_NTNV

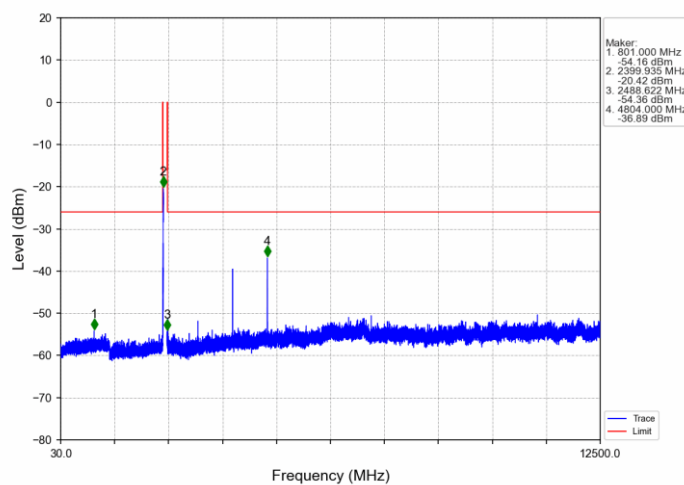


GFSK_DH5_2480MHz_Ant1_NTNV

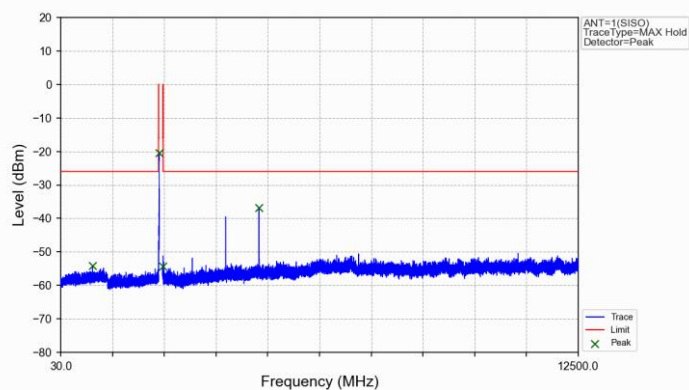


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2384.000	-56.91	/	-26	Pass
2387	2400	1	1	2390.354	-58.06	/	-16	Pass
2483.5	2496.5	1	1	2483.513	-30.09	/	-16	Pass
2496.5	12500	1	1	4960.500	-35.24	/	-26	Pass

Pi/4DQPSK_2DH5_2402MHz_Ant1_NTNV

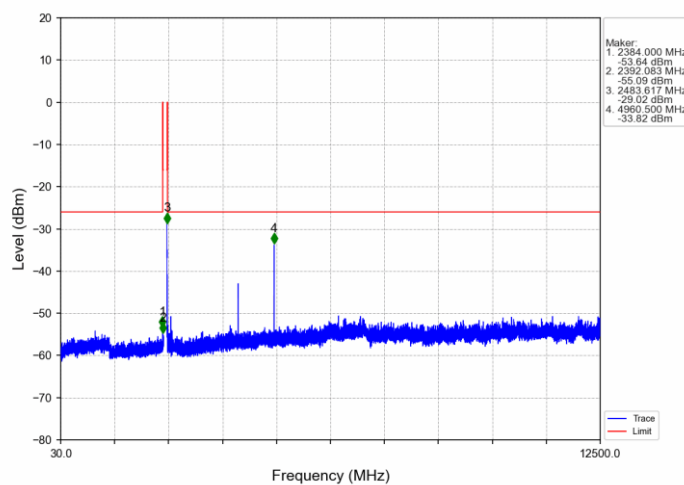


Pi/4DQPSK_2DH5_2402MHz_Ant1_NTNV

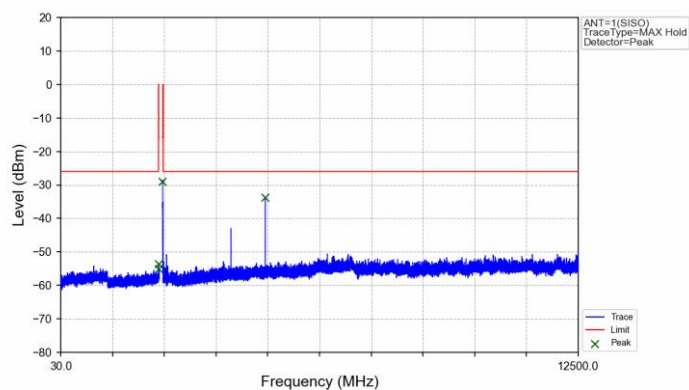


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	801.000	-54.16	/	-26	Pass
2387	2400	1	1	2399.935	-20.42	/	-16	Pass
2483.5	2496.5	1	1	2488.622	-54.36	/	-16	Pass
2496.5	12500	1	1	4804.000	-36.89	/	-26	Pass

Pi/4DQPSK_2DH5_2480MHz_Ant1_NTNV

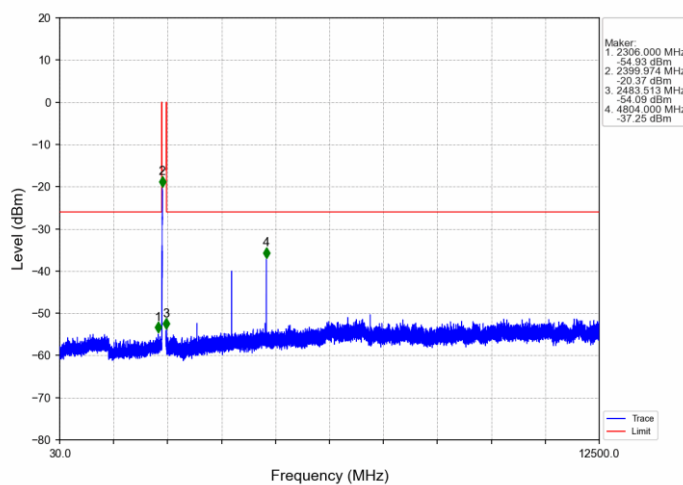


Pi/4DQPSK_2DH5_2480MHz_Ant1_NTNV

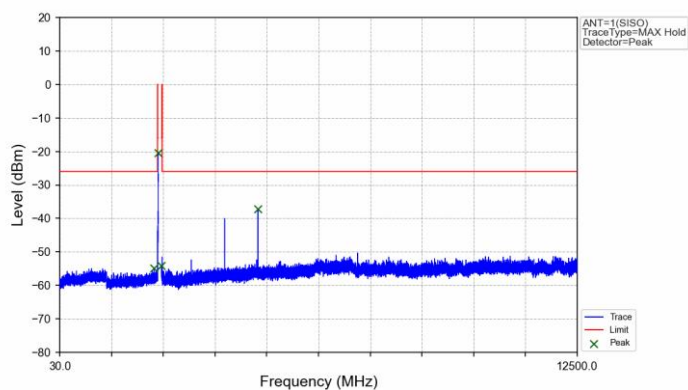


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2384.000	-53.64	/	-26	Pass
2387	2400	1	1	2392.083	-55.09	/	-16	Pass
2483.5	2496.5	1	1	2483.617	-29.02	/	-16	Pass
2496.5	12500	1	1	4960.500	-33.82	/	-26	Pass

8DPSK 3DH5 2402MHz Ant1 NTN

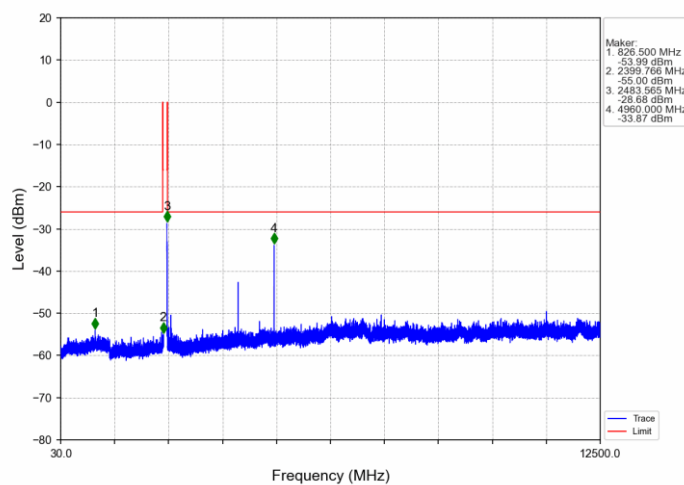


8DPSK 3DH5 2402MHz Ant1 NTN

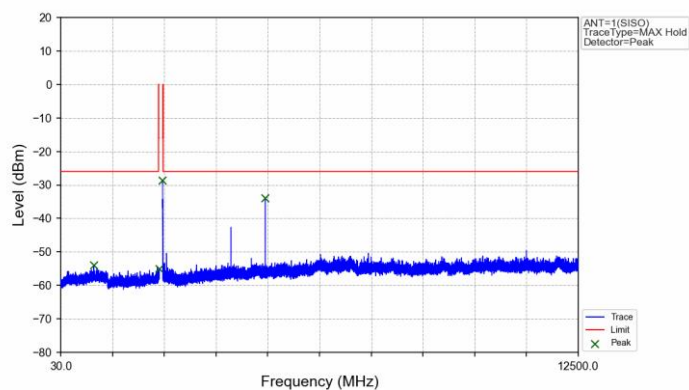


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2306.000	-54.93	/	-26	Pass
2387	2400	1	1	2399.974	-20.37	/	-16	Pass
2483.5	2496.5	1	1	2483.513	-54.09	/	-16	Pass
2496.5	12500	1	1	4804.000	-37.25	/	-26	Pass

8DPSK 3DH5 2480MHz Ant1 NTN



8DPSK 3DH5 2480MHz Ant1 NTN



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	826.500	-53.99	/	-26	Pass
2387	2400	1	1	2399.766	-55.00	/	-16	Pass
2483.5	2496.5	1	1	2483.565	-28.68	/	-16	Pass
2496.5	12500	1	1	4960.000	-33.87	/	-26	Pass

3.8.6 Result

The equipment met the requirement of this clause.

3.9 Secondary Radiated Emissions (Conducted) (For receiver)

3.9.1 Test Condition

Test position:	Receiving
Ambient temperature:	23.7°C
Relative humidity:	47.5%
Ambient Pressure	102.3Kpa

3.9.2 Limit (ARIB STD-T66, Clause 3.3 (1))

The limit on secondary emissions radiated from the receiving equipment within which the function of other radio equipment will not be impaired shall be, in terms of the power of a dummy antenna circuit that has the same electrical constant as the receiving antenna, 4 nW or less at a frequency below 1 GHz and 20 nW or less at a frequency of 1 GHz or higher as measured using the circuit.

3.9.3 Test Procedure

Set the EUT so that the test frequency can be measured receipt consecutively all the time.

(1) Set the attenuation value of the dummy load lowest as possible, due to low level of the measured object.

(2) Set Spectrum analyzer for seeking the collateral emission is set as below:

Sweeping Bandwidth	30MHz to 5 times of carrier frequency
Resolution Bandwidth	In case of frequency lower than 1 GHz, 100 kHz In case of frequency higher than 1 MHz
Video Bandwidth	Same level as the resolution bandwidth
Sweep Time	Minimum time to assure the measurement accuracy
Y-Axis Scale	10 dB/Div
Sweep Mode	Single sweep
Phase-Detection Mode	Positive peak

(3) Spectrum analyzer for measuring the collateral emission is set as below:

Central Frequency	Collateral emission frequency
Sweeping Bandwidth	0 Hz
Resolution Bandwidth	In case of frequency lower than 1 GHz, 100 kHz In case of frequency higher than 1 MHz
Video Bandwidth	Same level as the resolution bandwidth
Sweep Mode	Single sweep
Detection Mode	Sample

Set the spectrum analyzer as (2), seek the maximum amplitude of the collateral emission.

In case of sought result lower than 1/10 limit value, employ the sought value as the measured value.

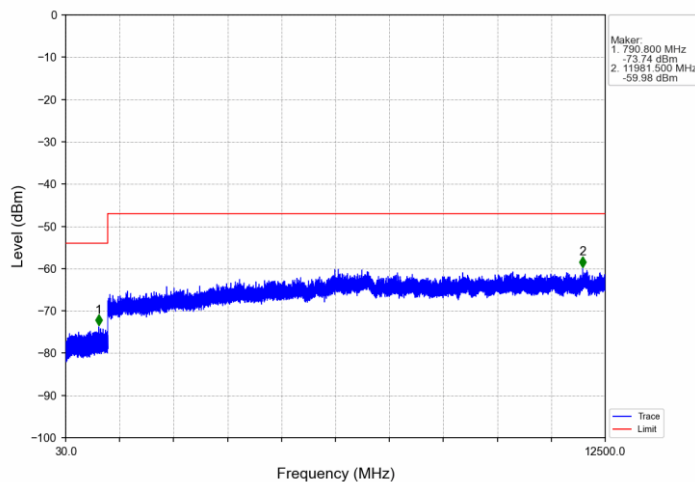
In case the sought value exceeds 1/10 limit value, seek the collateral emission frequency by narrowing the sweeping band sequentially to 1/10 for the purpose of higher accuracy of the spectrum analyzer. Set the spectrum analyzer as (3).

3.9.4 Test Result

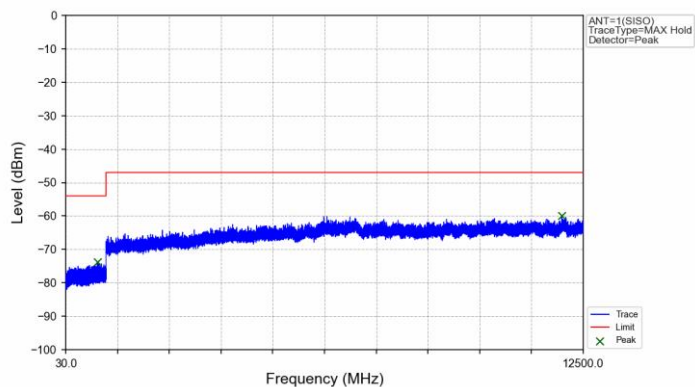
NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (nW)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm)	PK Power (nW)	AV Power (dBm)	AV Power (nW)		
GFSK	SISO	2402	1	30	1000	790.8	-73.74	0.042	/	/	4	Pass
				1000	12500	11981.5	-59.98	1.005	/	/	20	Pass
		2480	1	30	1000	832.45	-73.38	0.046	/	/	4	Pass
				1000	12500	10070.5	-59.81	1.045	/	/	20	Pass
Pi/4DQPSK	SISO	2402	1	30	1000	829.1	-74.43	0.036	/	/	4	Pass
				1000	12500	7071.5	-59.96	1.009	/	/	20	Pass
		2480	1	30	1000	454.15	-73.91	0.041	/	/	4	Pass
				1000	12500	2414	-58.94	1.276	/	/	20	Pass
8DPSK	SISO	2402	1	30	1000	941.65	-74.26	0.037	/	/	4	Pass
				1000	12500	11389	-60.08	0.982	/	/	20	Pass
		2480	1	30	1000	969.15	-73.84	0.041	/	/	4	Pass
				1000	12500	6415	-59.42	1.143	/	/	20	Pass

3.9.5 Test Graphs

GFSK_DH5_2402MHz_Ant1_NTNV

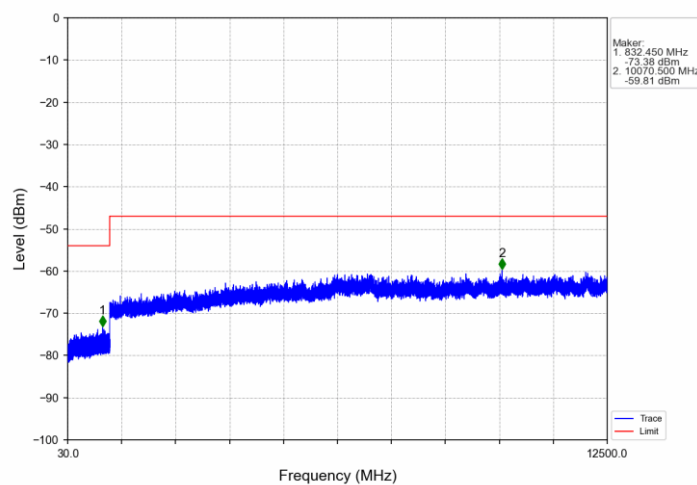


GFSK_DH5_2402MHz_Ant1_NTNV

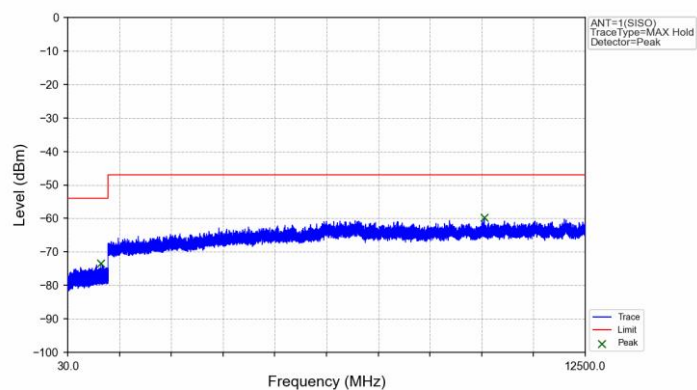


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	790.800	-73.74	/	-54	Pass
1000	12500	1	1	11981.500	-59.98	/	-47	Pass

GFSK_DH5_2480MHz_Ant1_NTNV

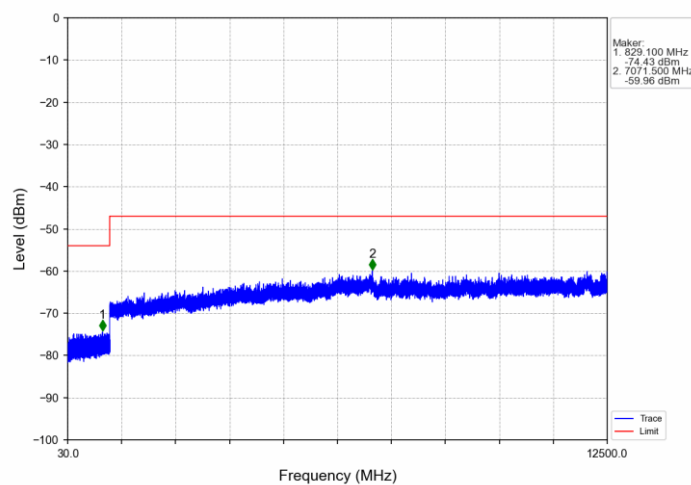


GFSK_DH5_2480MHz_Ant1_NTNV

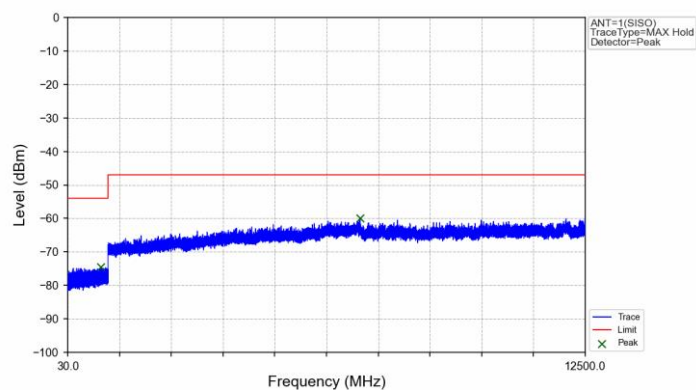


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	832.450	-73.38	/	-54	Pass
1000	12500	1	1	10070.500	-59.81	/	-47	Pass

Pi/4DQPSK_2DH5_2402MHz_Ant1_NTNV

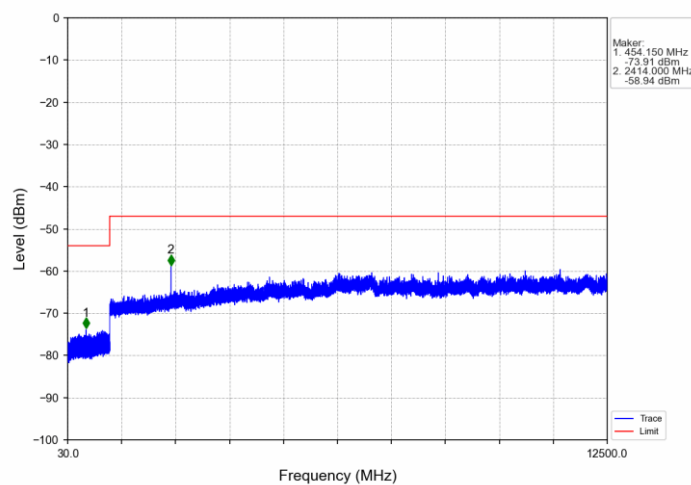


Pi/4DQPSK_2DH5_2402MHz_Ant1_NTNV

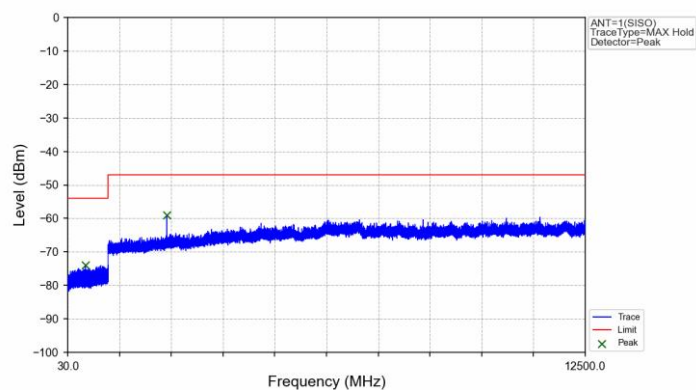


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	829.100	-74.43	/	-54	Pass
1000	12500	1	1	7071.500	-59.96	/	-47	Pass

Pi/4DQPSK_2DH5_2480MHz_Ant1_NTNV

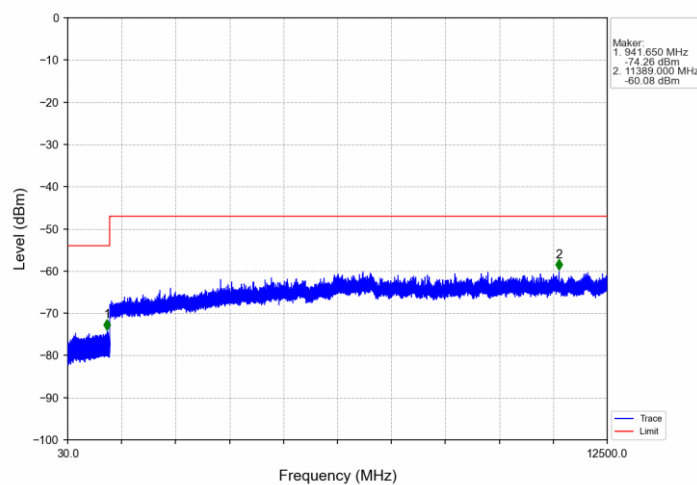


Pi/4DQPSK_2DH5_2480MHz_Ant1_NTNV

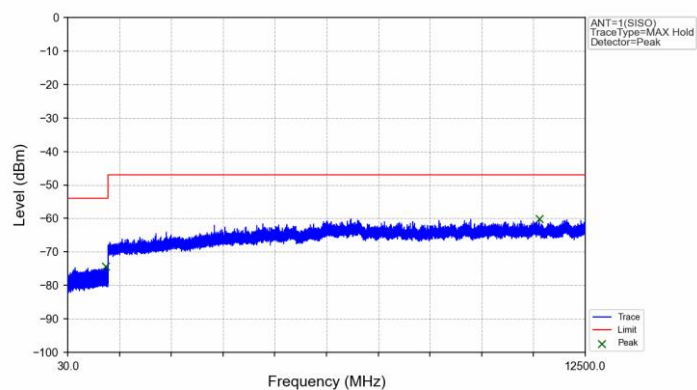


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	454.150	-73.91	/	-54	Pass
1000	12500	1	1	2414.000	-58.94	/	-47	Pass

8DPSK_3DH5_2402MHz_Ant1_NTNV

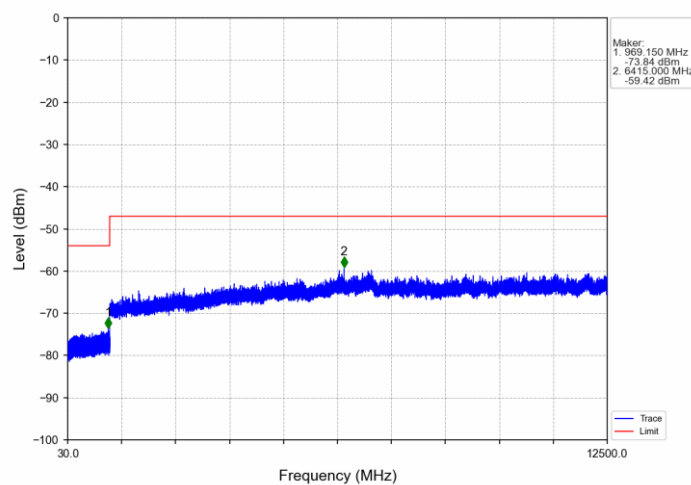


8DPSK_3DH5_2402MHz_Ant1_NTNV

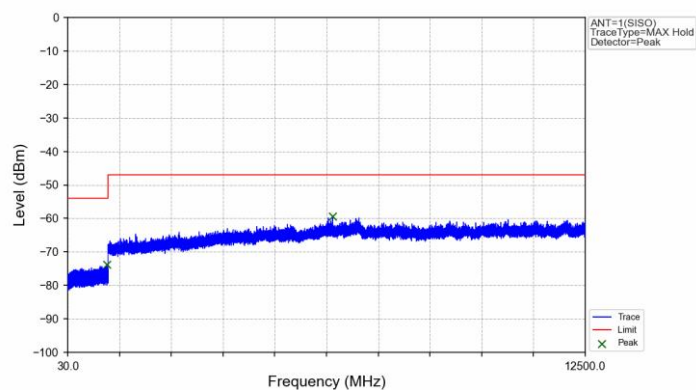


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	941.650	-74.26	/	-54	Pass
1000	12500	1	1	11389.000	-60.08	/	-47	Pass

8DPSK 3DH5 2480MHz Ant1 NTN



8DPSK 3DH5 2480MHz Ant1 NTN



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	969.150	-73.84	/	-54	Pass
1000	12500	1	1	6415.000	-59.42	/	-47	Pass

3.9.6 Result

The equipment met the requirement of this clause.

4 Photographs of Test Set-ups



---THE END OF REPORT---