JAPAN RADIO TEST REPORT

Applicant:	Shenzhen KY Intelligent Digital Co., Ltd
Address:	B1 Building 5th floor XuJingChang Industry zoom, Fuhai road, Baoan, SZ. 518126
Manufacturer:	Shenzhen KY Intelligent Digital Co., Ltd
Address:	B1 Building 5th floor XuJingChang Industry zoom, Fuhai road, Baoan, SZ. 518126
EUT:	SMART WATCH
Trade Mark:	N/A
Model Number:	X12
Date of Receipt:	Sep. 09, 2025
Test Date:	Sep. 09, 2025 - Sep. 17, 2025
Date of Report:	Sep. 17, 2025
Prepared By:	Shenzhen DL Testing Technology Co., Ltd.
Address:	101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1 Baolong Fifth Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China
Applicable Standards:	Item 19 of Article 2 Paragraph 1 ARIB STD T-66 Ver.3.7(2014) Article 2-1, Item 19-MIC Notice No. 88 Appendix No. 43
Test Result:	Pass
Report Number:	DLE-250909019R

Prepared (Test Engineer):	Ken Tan
Reviewer (Supervisor):	Jack Bu
Approved (Manager):	Jade Yang

This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.

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1 SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

ARIB STD T-66 Ver.3.7 Article 2-1, Item 19-MIC Notice No. 88 Appendix No. 43			
Standard Section	Test Item	Judgment	Remark
General provisions			
5	Frequency Error	PASS	
6	Occupied Bandwidth	PASS	
7	Spurious Emissions Intensity	PASS	
8	Interference Prevention Capability	PASS	
Transmitting equipment			
14	Antenna Power	PASS	
14.2	SAR	N/A	
Transmitting antenna			
20	Type, Configuration, etc., of Transmitting Antenna	PASS	
22	Direction Pattern of Transmitting Antenna (Provided at Individual Antenna Report)	PASS	
Receiving antenna			
24	Limitation of Collateral Emission of Receiver	PASS	
26	Refer to All Articles for Transmitting Antenna	PASS	
Operating frequency 2400~2483MHz			
49.20(1); a	RF Shielding Method	PASS	
49.20(1); a	Communication Method	PASS	
49.20(1); b	Spread-spectrum Method	PASS	
49.20(1); c	Antenna Power	PASS	
49.20(1); d	EIRP power	PASS	
4.7	Transmission Radiation Angle Width (3dB Bandwidth)	N/A	
49.20(1); e	Spread-Spectrum Bandwidth	Only for reported	
49.20(1); f	Spreading Factor	Only for reported	
49.20(1); g	Hopping Frequency Dwell Time (FH employed)	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

1.1 TEST FACILITY

Shenzhen DL Testing Technology Co., Ltd.
Add.: 101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1 Baolong Fifth Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China
FCC Test Firm Registration Number: 854456
Designation Number: CN1307
IC Registered No.: 27485
CAB ID.: CN0118
CNAS: L11567

1.2 MEASUREMENT UNCERTAINTY

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

No.	Item	Uncertainty
1	Conducted Emission Test	±3.2dB
2	Radiated Emission Test	±4.7dB
3	RF power, conducted	±0.16dB
4	Spurious emissions, conducted	±0.21dB
5	All emissions, radiated (<1G)	±4.68dB
6	All emissions, radiated(>1G)	±5.0dB
7	frequency error ppm	±0.5ppm
8	Occupied Bandwidth	±0.2MHz

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	SMART WATCH	
Trademark:	N/A	
Model Name	X12	
Test Model:	X12	
Model Difference	N/A	
Product Description:	Operation Frequency:	2402~2480 MHz
	BT Version:	5.4(EDR)
	Bit Rate of Transmitter:	GFSK, PI/4-DQPSK+8DPSK
	Number of Channel:	79CH
	Antenna Designation:	Please see Note 3.
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.	
Channel List:	Please refer to the Note 2.	
Power supply:	DC 3.8V from battery DC 5V from charger	
Hardware Version:	HV01	
Software Version:	SV01	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2.

Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	27	2429	54	2456
01	2403	28	2430	55	2457
02	2404	29	2431	56	2458
03	2405	30	2432	57	2459
04	2406	31	2433	58	2460
05	2407	32	2434	59	2461
06	2408	33	2435	60	2462
07	2409	34	2436	61	2463
08	2410	35	2437	62	2464
09	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		

3.

Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	2.4G	Internal Antenna	N/A	0	

2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	GFSK (CH00 CH39 CH78)
Mode 2	PI/4-DQPSK (CH00 CH39 CH78)
Mode 3	8DPSK (CH00 CH39 CH78)

Final Test Mode	Description
Mode 1	GFSK (CH00 CH39 CH78)
Mode 2	PI/4-DQPSK (CH00 CH39 CH78)
Mode 3	8DPSK (CH00 CH39 CH78)

2.3 TEST CONDITIONS

The BT module was tested while in a continuous transmitter/receiver mode.
The EUT was tuned to a low, middle, and high channel for all tests. For all test case pre/scans were completed in all Modes to determine worst case levels.

Power Supply Voltage Fluctuation Test

Voltage Fluctuation Test	Normal Voltage	High Voltage +10% of Normal Voltage	Low Voltage -10% of Normal Voltage
Input DC Power	3.8V	4.18V	3.42V
RF Chip	3.3V	3.3V	3.3V
Voltage Variation (%)	0	0	0

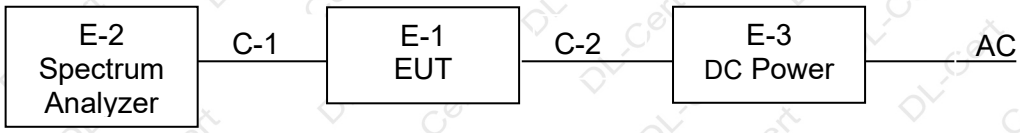
NOTE:
Voltage Variation (%)
= (Output high or Low Voltage - Output Normal Voltage)/ Output Normal Voltage* 100
During the input supply voltage to the EUT from the external power source is varied by +/- 10%, if output voltage had been confirmed that the fluctuation of power supply to the RF circuit of EUT (excluding power source) is equal to or less than +/-1%. Exempt extremely high and low supply voltage condition test, EUT only operated in normal voltage to test all regulations.
The RF Chip voltage on the motherboard inside the product does not change more than 1%.

2.4 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of FHSS

Test software Version	Software name: FCC_V2.25		
Frequency	2402MHz	2441 MHz	2480 MHz
Max output power parameters setting of software	10	10	10

2.5 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.6 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	SMART WATCH	N/A	X12	N/A	EUT
E-2	Spectrum Analyzer	Agilent	N9020A	108040	
E-3	DC Power	N/A	PS-305D	010952961	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	15cm	RF Cable
C-2	NO	NO	30cm	Mini USB Cable

Note:

(1) The support equipment was authorized by Declaration of Confirmation.

(2) For detachable type I/O cable should be specified the length in cm in『Length』column.

(3) “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.

2.7 EQUIPMENTS LIST FOR ALL TEST ITEMS

Item	Kind Of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
1	SPECTRUM ANALYZER	AGILENT	E4407B	160400005	Nov. 01, 2024	Oct. 31, 2025
2	TEST RECEIVER	R&S	ESPI	101318	Nov. 01, 2024	Oct. 31, 2025
3	BILOG ANTENNA	TESEQ	CBL6111D	31216	Nov. 01, 2024	Oct. 31, 2025
4	50Ω COAXIAL SWITCH	ANRITSU	MP59B	6200264416	Nov. 01, 2024	Oct. 31, 2025
5	SPECTRUM ANALYZER	ADVANTEST	R3132	150900201	Nov. 01, 2024	Oct. 31, 2025
6	HORN ANTENNA	EM	EM-AH-10180	2011071402	Nov. 01, 2024	Oct. 31, 2025
7	HORN ANT	SCHWARZBECK	BBHA 9170	9170-181	Nov. 01, 2024	Oct. 31, 2025
8	AMPLIFIER	EM	EM-30180	060538	Nov. 01, 2024	Oct. 31, 2025
9	LOOP ANTENNA	ARA	PLA-1030/B	1029	Nov. 01, 2024	Oct. 31, 2025
10	POWER METER	R&S	NRVS	100696	Nov. 01, 2024	Oct. 31, 2025
11	TEST RECEIVER	R&S	ESCI	101160	Nov. 01, 2024	Oct. 31, 2025
12	SPECTRUM ANALYZER	AGILENT	N9020A	MY55370280	Nov. 01, 2024	Oct. 31, 2025
13	WIDEBAND RADIO COMMUNICATION TESTER	R&S	CMW500	106504	Nov. 01, 2024	Oct. 31, 2025
14	50Ω COAXIAL SWITCH	ANRITSU	MP59B	6200264417	Nov. 01, 2024	Oct. 31, 2025
15	DC Power	N/A	PS-305D	010952961	Nov. 01, 2024	Oct. 31, 2025

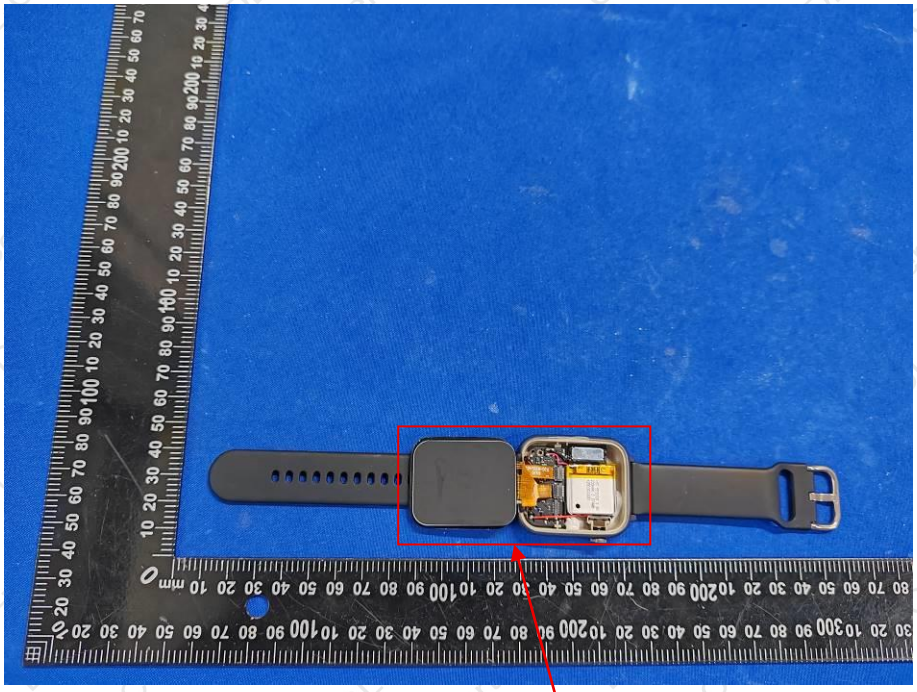
Remark:
(a) Calibration conducted by the National Institute of Information and Communications Technology (NICT) in Japan (hereinafter referred to as "NICT") or a designated calibration agency under Article102-18 paragraph (1) in JRL.
(b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act No.51 of 1992).
(c) Calibration conducted in countries except Japan, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article102-18 paragraph (1).
(d) Calibration,etc. conducted by using measuring instruments and other equipment listed in the right column of appended table No.3, which shall have been given any type of calibration, etc. listed above from (a) to (C)

2.8 ENVIRONMENTAL CONDITIONS

During the measurement the environmental conditions were within the listed ranges:
- Temperature: 15-35ºC
- Humidity: 45-85%
- Atmospheric pressure: 86-106 kPa

3 RF SHIELDING METHOD

Enclosure:
the product structure is stuck by special glue, If you do not use a special tool, you will not be able to open it. See below the structure:



Special glue is used on red line for cannot be open easily structure.



Glue name: SA0097

Glue type: Acrylic tree structure
Manufacturer: supreme resources Inc

4 TEST RESULT

4.1 FREQUENCY ERROR

4.2 LIMIT

Item	Limits
Frequency Error	±50ppm

4.3 MEASURING INSTRUMENTS AND SETTING

The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RB / VB	10KHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.4 TEST PROCEDURES

(1)In the case of unmodulated signal (continuous or continuous burst), measure the frequency directly by a frequency meter.

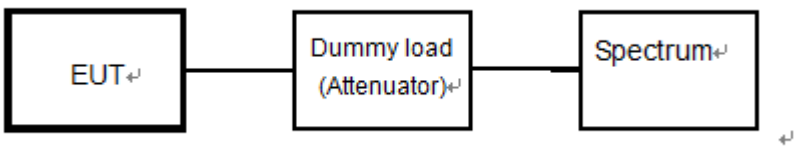
(2)In the case of burst waves, the measurement shall be done for enough time in order to obtain the enough measuring accuracy, and the average of the measured values becomes the final value.

(3)In the case of a test mode with a specific frequency spectrum, measure the frequency of the specific spectrum by a spectrum analyzer.

(4)In the cases above, if the frequency equivalent to the test frequency is not directly measured in principle, it shall be obtained by necessary calculation.

In the case of modulated signal, if there is no specific spectrum measurable by a spectrum analyzer but a specific dip is observed, it is allowed to measure the frequency with the signal generator (synthesized). That is, observe a signal of the signal generator concurrently (or alternately) with the tested signal using the spectrum analyzer while setting the frequency of the signal generator to the position of the dip on the screen of the spectrum analyzer, and determine the frequency of the signal generator at the time as a measured value.

4.5 TEST SETUP LAYOUT



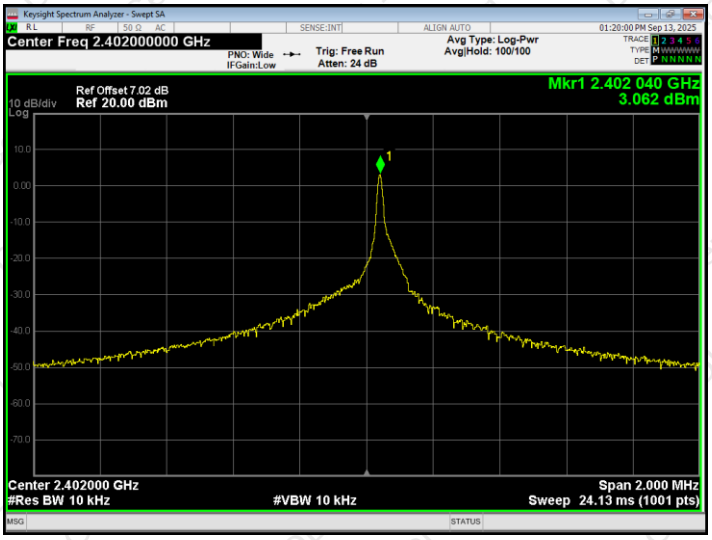
4.5.1 TEST RESULT

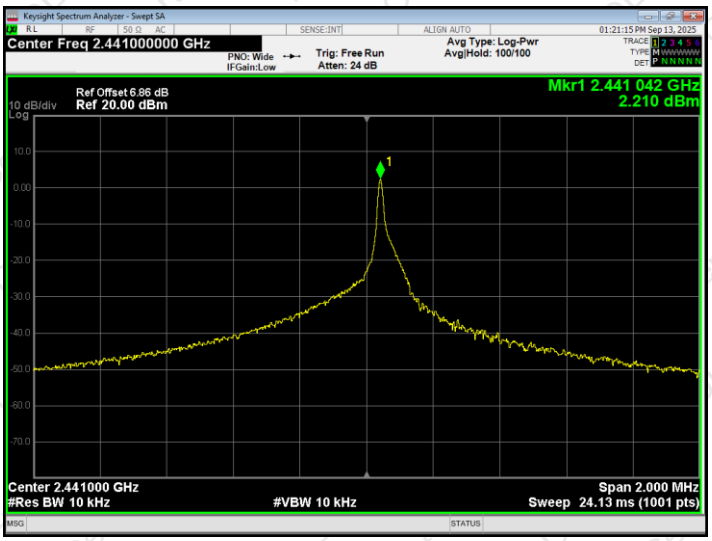
Operation Mode:	Transmiting

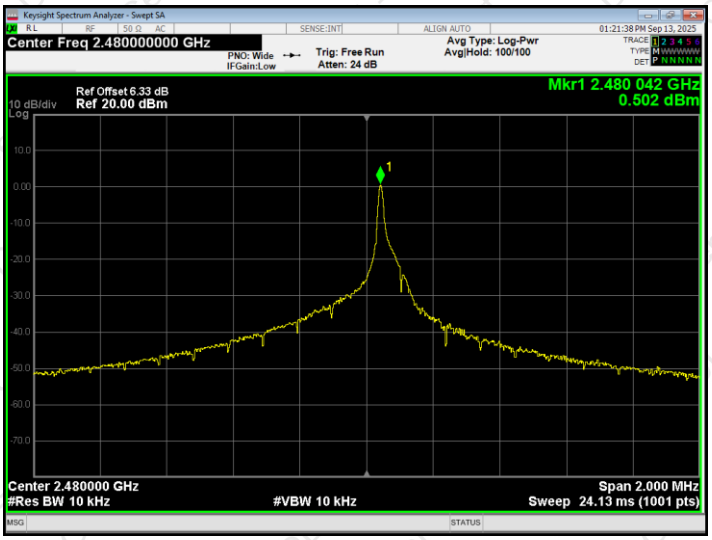
Temperature:	25.3 ℃	Relative Humidity:	55.4%	Pressure:	1010mbar

Voltage	Frequecy	Reading	Tolerance	Limit
	MHz	MHz	ppm	(ppm)
Normal Voltage	2402	2402.04	16.65	±50
	2441	2441.042	17.21	±50
	2480	2480.042	16.94	±50

Normal voltage







5. ANTENNA POWER

5.1 LIMIT

Item	Limits
Antenna Power Density	≦3mW/MHz (FH form 2427 - 2470.75 MHz) ≦10mW/MHz (OFDM,DS from2400~2483.5MHz) ≦10mW (Other from 2400~2483.5MHz)
Antenna Power Error	+20%(Base on manufacturer declare antenna power density)

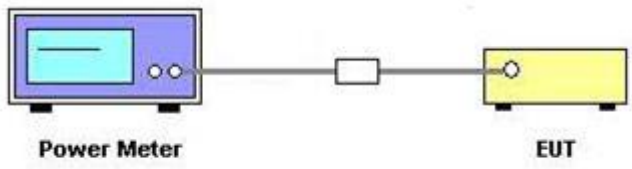
5.2 MEASURING INSTRUMENTS AND SETTING

The power meter is directly connected to the EUT through an attenuator.

5.3 TEST PROCEDURES

1. The EUT is connected to the power meter to measure the total power
2. The antenna power is obtained by using total power/spread bandwidth.
3. Antenna Power Error is definition that actual measure antenna power tolerance between + 20% power range that base on manufacturer declare the conducted power density.

5.4 TEST SETUP LAYOUT



5.5 TEST DEVIATION

There is no deviation with the original standard.

5.6 TEST RESULT

Temperature:	25.2 ℃	Relative Humidity:	55.1%	Pressure:	1010mbar

Mode	Voltage	Conduction Power (dBm)	Conduction Power (mW)	Spread Bandwidth (MHz)	Conducted RF output power density (mW/MHz)	Rated power density (mW/MHz)	Limits (mW/MHz)	Antenna Power Error (%)
GFSK/ Hopping	Normal voltage	9.36	8.63	70.706	0.122	0.3	3	-59.32
PI/4 DQPSK/ Hopping	Normal voltage	9.59	9.10	70.398	0.129			-56.91
8DPSK/ Hopping	Normal voltage	9.42	8.75	70.288	0.124			-58.50
Limit : +20% (Base on manufacturer declare antenna power density)								

Reamrk : Conducted RF output power density = Conduction Power/ Spread Bandwidth.

6. EIRP POWER

6.1 LIMIT

Item	Limits
Radiation power EIRP	FH form 2427-2470,75 MHz, EIRP≦6.91dBm CCK/OFDM/DBPSK(2400-2483.5MHz) OFDM or DS other than(802.11b/g/n HT20) EIRP≦12.14dBm OFDM or DS other than(802.11n HT40) EIRP≦9.13dBm other than 2400-2483.5MHz: 12.14dBm or less

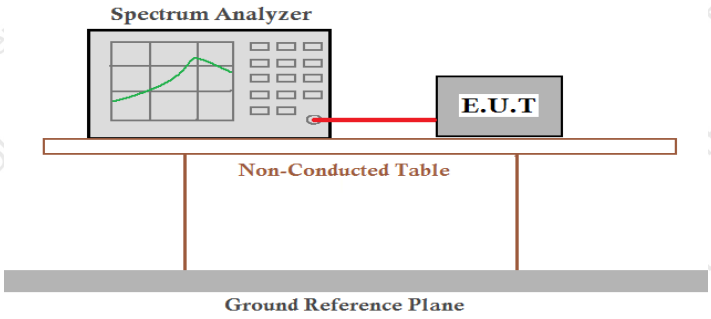
The EIRP power= Conducted RF output power density(dBm/MHz) + Antenna Gain

6.2 TEST RESULT

Temperature:	25.5 ℃	Relative Humidity:	55.8%	Pressure:	1010mbar

Mode	Voltage	Conducted RF output power density		Antenna Gain	EIRP	Limits
		(mW/MHz)	(dBm/MHz)	dBi	(dBm/MHz)	(dBm/MHz)
GFSK/ Hopping	Normal voltage	0.122	-9.136	0	-9.136	≦6.91
PI/4 DQPSK/ Hopping	Normal voltage	0.129	-8.894	0	-8.894	
8DPSK/ Hopping	Normal voltage	0.124	-9.066	0	-9.066	

7. OCCUPIED BANDWITH

Test condition:	Test diffusion code and modulate with standard coding test signal
Spectrum set:	Test Frequency: test channel, 99% Occupied bandwidth: RBW=1MHz VBW=1MHz, 90% Occupied bandwidth: RBW=300kHz VBW=300kHz, Span=120MHz, Sweep time=Auto, Detector mode=Positive peak
Limit:	Occupied Band Width: FH 83.5MHz; OFDM,DS ≦26MHz;Others≦26MHz
Test setup:	
Test Instruments:	Refer to section 2.7 for details

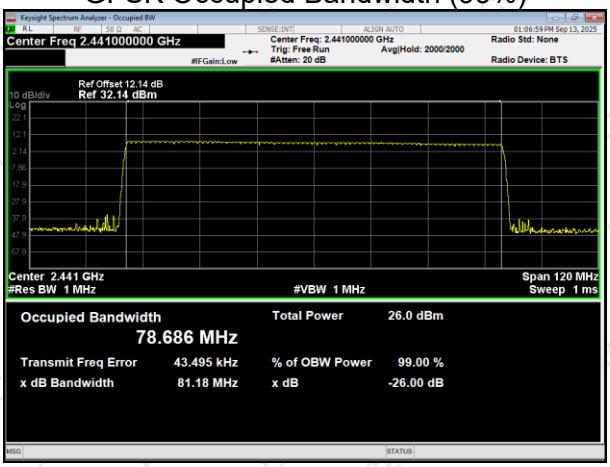
7.1 TEST RESULT

Temperature:	25.3 ℃	Relative Humidity:	55.4%	Pressure:	1010mbar

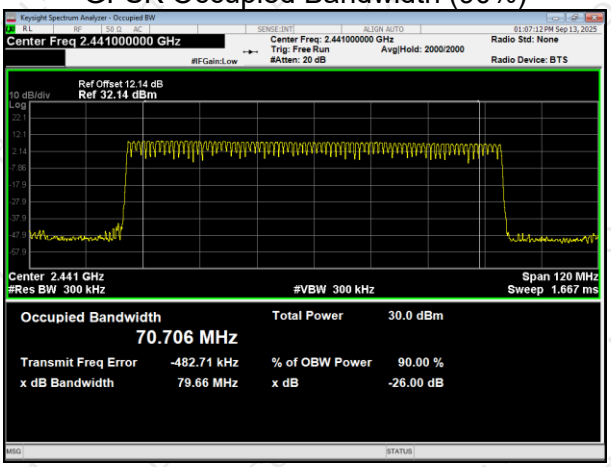
Test Voltage	Test Condition	Test Channel	99% (Occupied bandwidth)MHz	Limit MHz	90% (Occupied bandwidth) MHz
Normal Voltage	GFSK	Hopping	78.686	≦83.5	70.706
	PI/4-DQPSK	Hopping	78.699	≦83.5	70.398
	8DPSK	Hopping	78.704	≦83.5	70.288

Normal Voltage

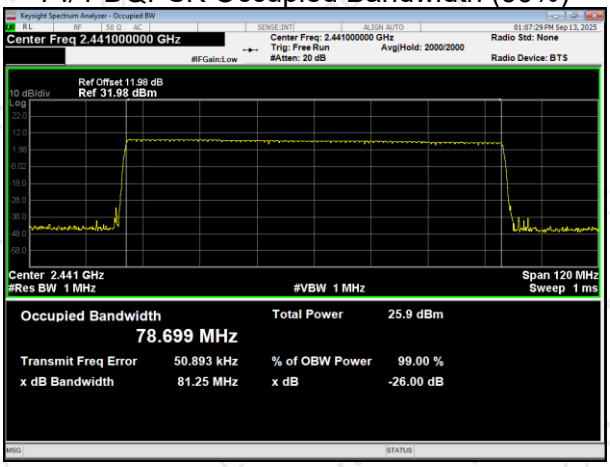
GFSK Occupied Bandwidth (99%)



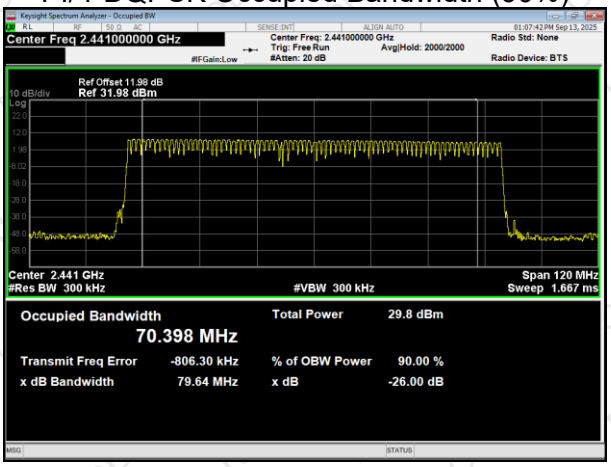
GFSK Occupied Bandwidth (90%)



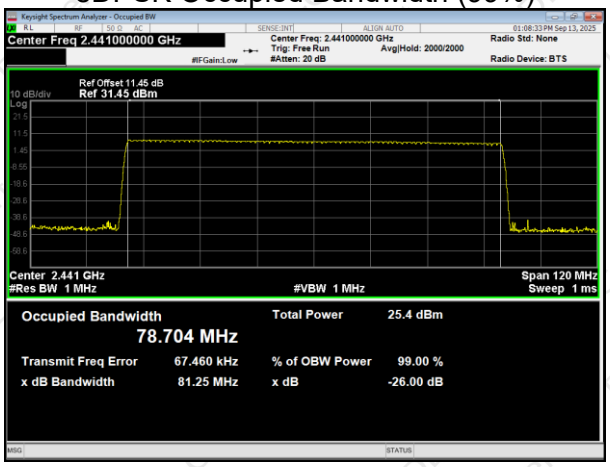
PI/4-DQPSK Occupied Bandwidth (99%)



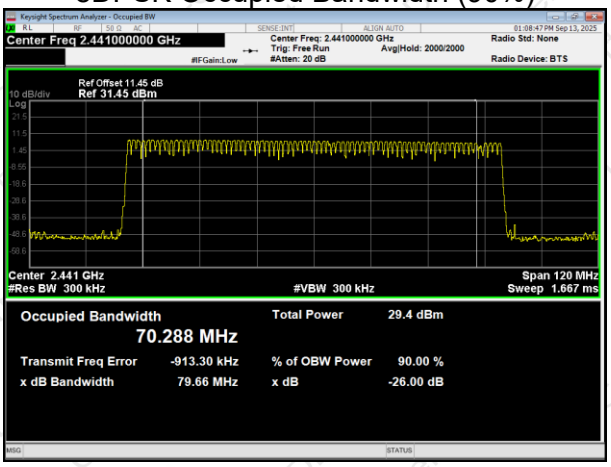
PI/4-DQPSK Occupied Bandwidth (90%)



8DPSK Occupied Bandwidth (99%)



8DPSK Occupied Bandwidth (90%)



8 DWELL TIME

8.1 LIMIT

Item	Limits
Hopping Freq. Dwell Time	≦ 0.4 sec (In 0.4 sec × spreading rate)

8.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	0 Hz
RB	1 MHz
VB	1 MHz
Detector	Peak
Trace	Max Hold
Sweep	Continuous

8.3 TEST PROCEDURES

a. The transmitter output (antenna port) was connected to the spectrum analyzer
b. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
c. Use a video trigger with the trigger level set to enable triggering only on full pulses.
d. Sweep Time is more than once pulse time.
e. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
f. Measure the maximum time duration of one single pulse.
g. Set the EUT for DH5, DH3 and DH1 packet transmitting.
h. Measure the maximum time duration of one single pulse.
i. Dwell time = [Pulse Time] x Burst Count. (to be determined for each mode, DH1, DH3, DH5)

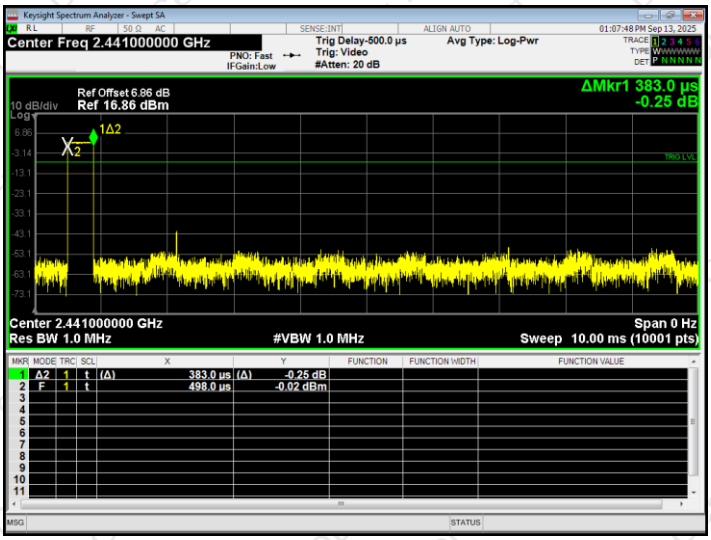
8.4 TEST SETUP LAYOUT

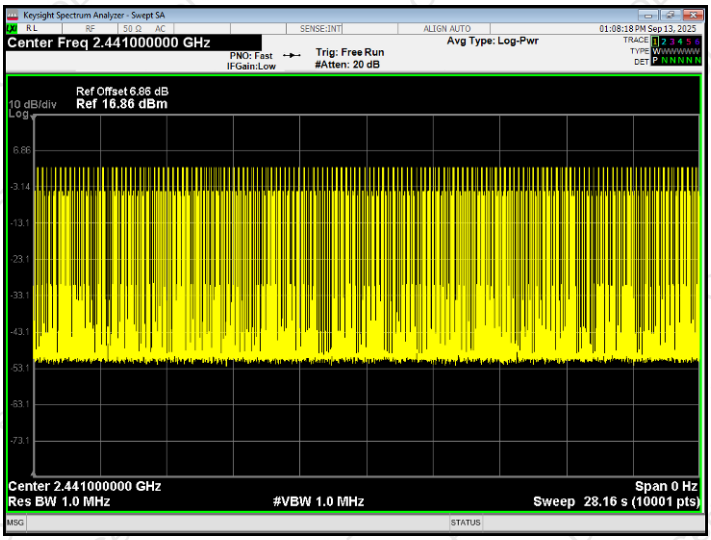


8.5 TEST RESULT

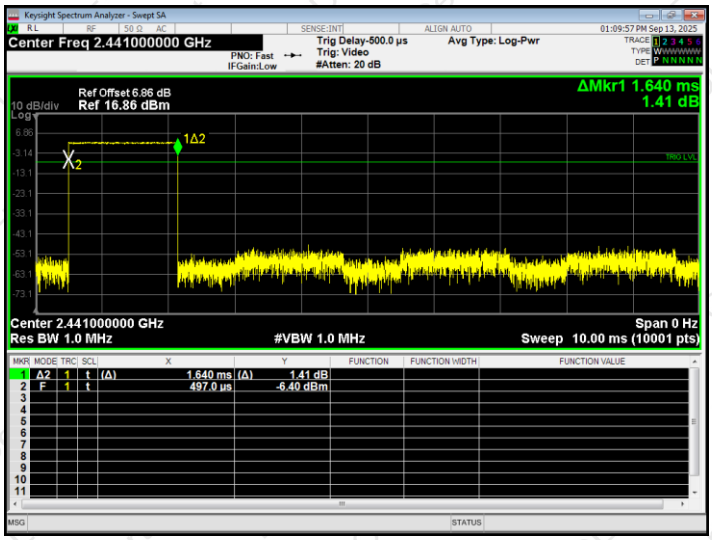
Temperature:	25.3 ℃	Relative Humidity:	55.5%	Pressure:	1010mbar

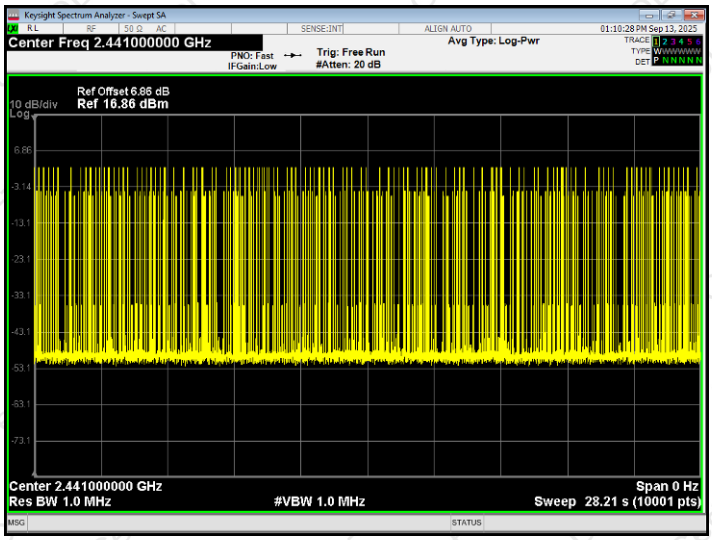
Mode	Pulse Time (ms)	Period Time (ms)	Burst Count	Total Dwell Time (ms)	Limit (ms)	Verdict
1-DH1	0.383	31600	283	108.389	400	Pass
1-DH3	1.64	31600	150	246	400	Pass
1-DH5	2.887	31600	88	254.056	400	Pass
2-DH1	0.393	31600	318	124.974	400	Pass
2-DH3	1.644	31600	159	261.396	400	Pass
2-DH5	2.892	31600	107	309.444	400	Pass
3-DH1	0.392	31600	315	123.48	400	Pass
3-DH3	1.643	31600	164	269.452	400	Pass
3-DH5	2.895	31600	102	295.29	400	Pass


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-500.0 µs
Trig: Video
#Atten: 20 dB
Avg Type: Log-Pwr
01:07:48 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
ΔMkr1 383.0 µs
-0.25 dB
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 Δ2 t (Δ) 383.0 µs (Δ) -0.25 dB
2 F 1 t 498.0 µs -0.02 dBm

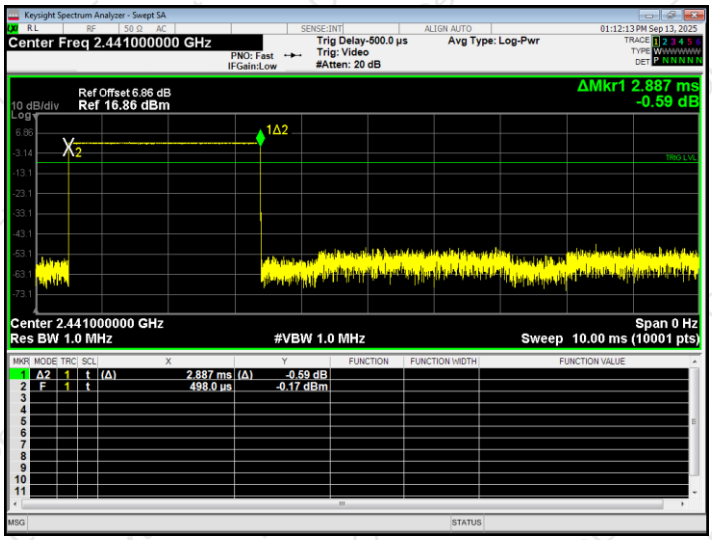

Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
01:08:18 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 28.16 s (10001 pts)

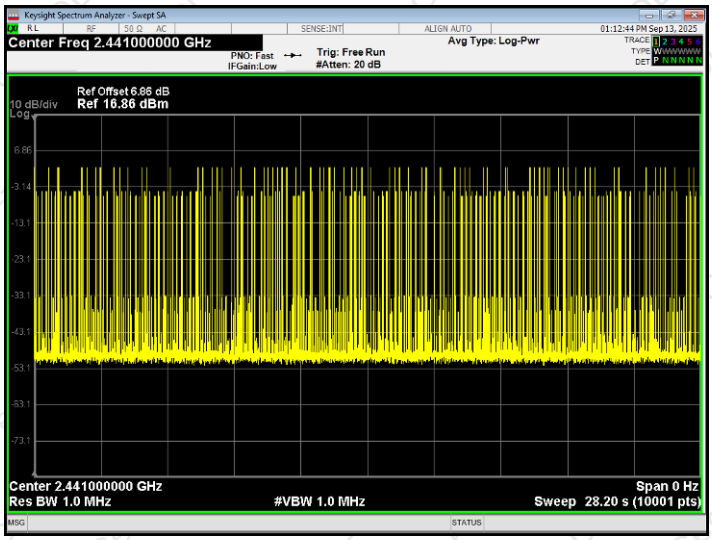
DH1


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-500.0 µs
Trig: Video
#Atten: 20 dB
Avg Type: Log-Pwr
01:09:57 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
ΔMkr1 1.640 ms
1.41 dB
1Δ2
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 Δ2 1 t (Δ) 1.640 ms (Δ) 1.41 dB
2 F 1 t 497.0 µs -6.40 dBm

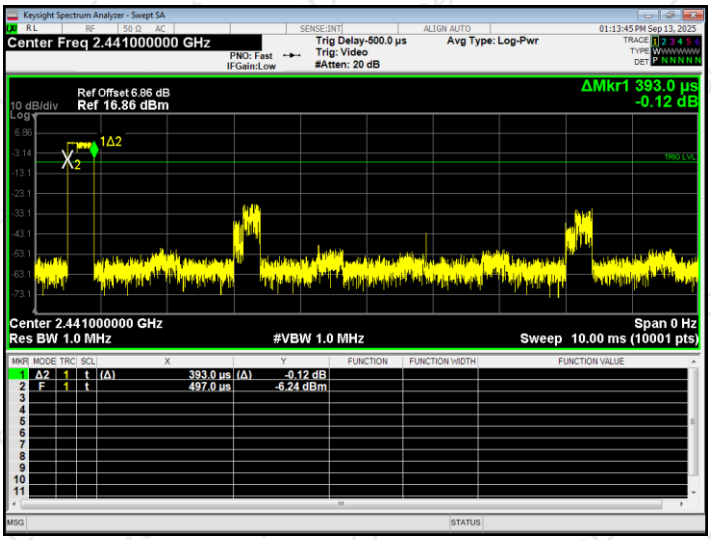

Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
01:10:28 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 28.21 s (10001 pts)

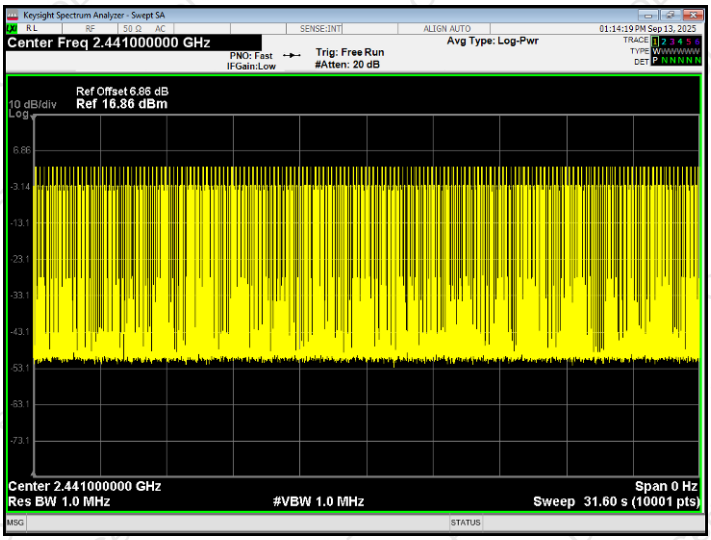
DH3


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-500.0 µs
Trig: Video
#Atten: 20 dB
Avg Type: Log-Pwr
01:12:13 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
ΔMkr1 2.887 ms
-0.59 dB
1Δ2
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 Δ2 1 t (Δ) 2.887 ms -0.59 dB
2 F 1 t 498.0 µs -0.17 dBm

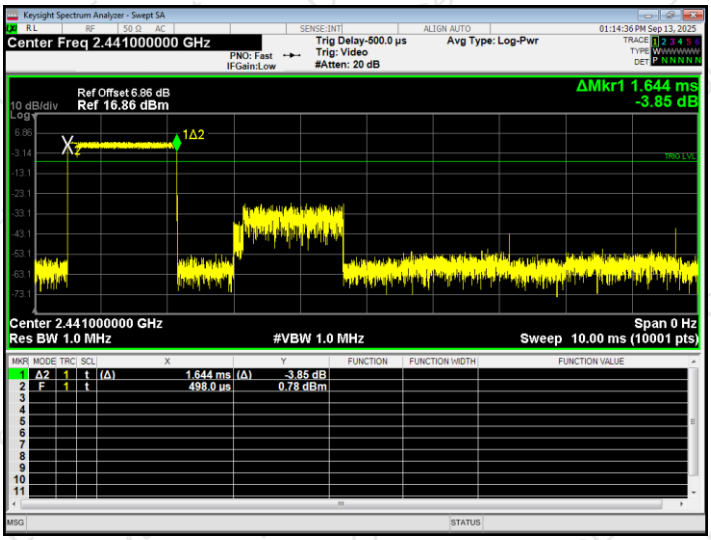

Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
01:12:44 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 28.20 s (10001 pts)

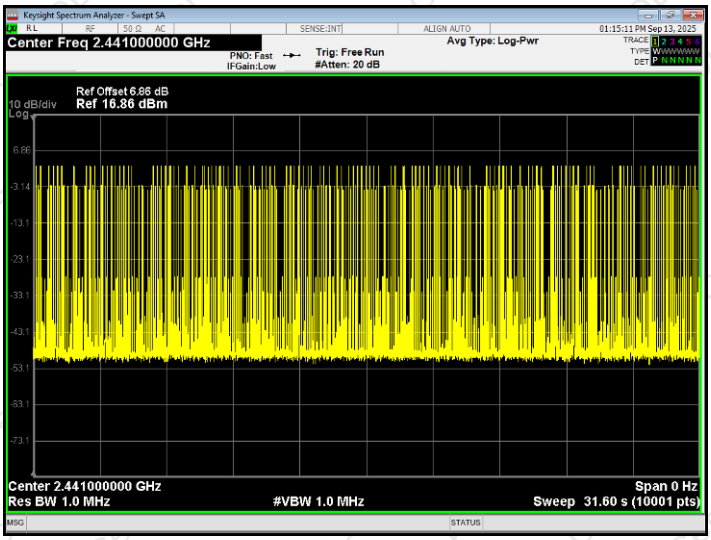
DH5


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-500.0 µs
Trig: Video
#Atten: 20 dB
Avg Type: Log-Pwr
01:13:45 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
ΔMkr1 393.0 µs
-0.12 dB
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 Δ2 1 t (Δ) 393.0 µs (Δ) -0.12 dB
2 F 1 t 497.0 µs -6.24 dBm

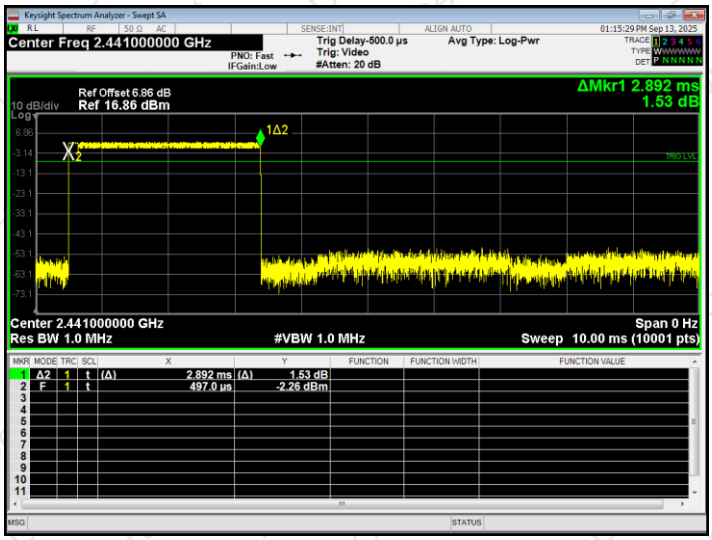

Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
01:14:19 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 31.60 s (10001 pts)

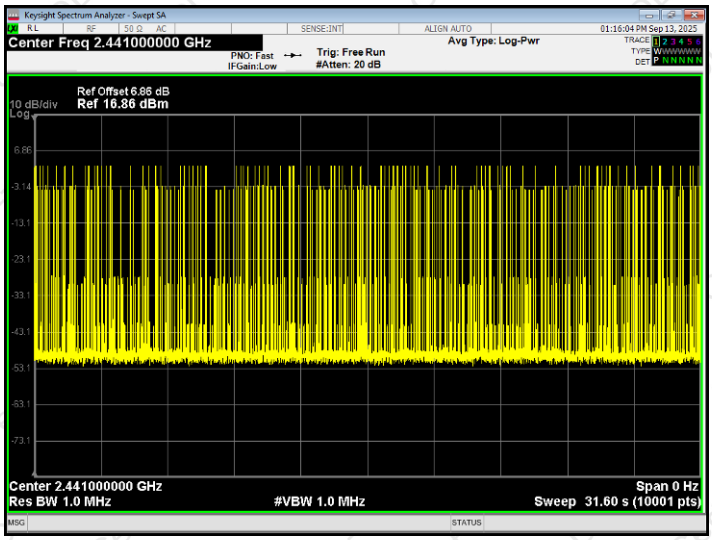
2DH1


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-500.0 µs
Trig: Video
#Atten: 20 dB
Avg Type: Log-Pwr
01:14:36 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
ΔMkr1 1.644 ms
-3.85 dB
1Δ2
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 Δ2 1 t (Δ) 1.644 ms (Δ) -3.85 dB
2 F 1 t 498.0 µs 0.78 dBm

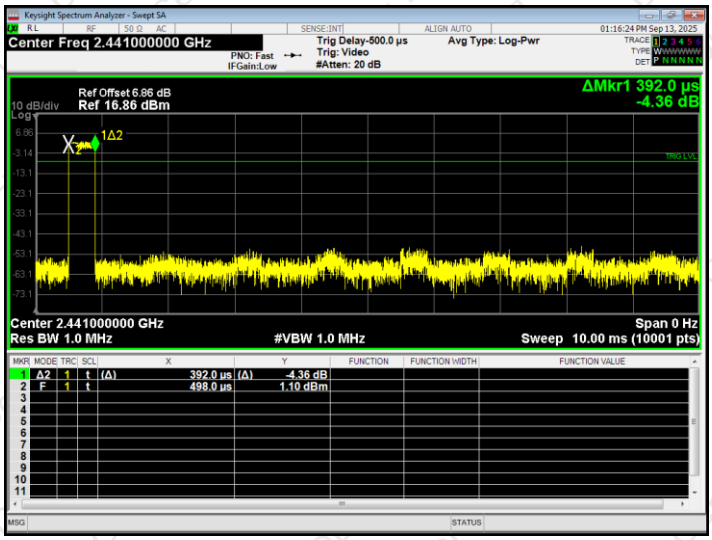

Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
01:15:11 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 31.60 s (10001 pts)

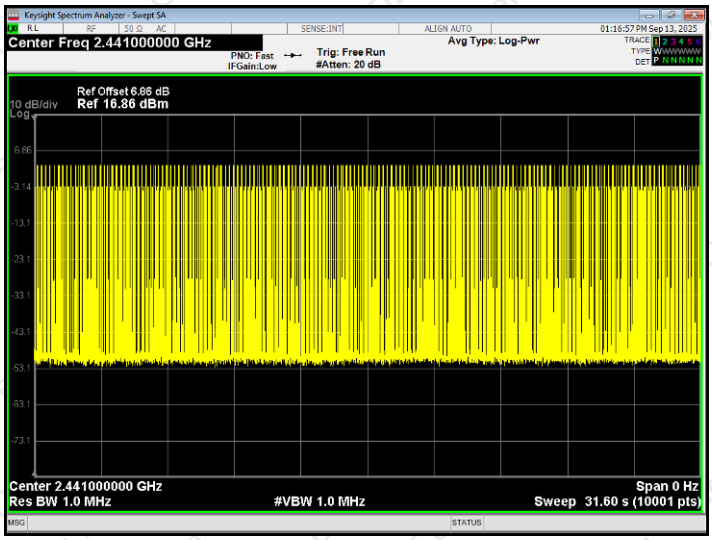
2DH3


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-500.0 µs
Trig: Video
#Atten: 20 dB
Avg Type: Log-Pwr
01:15:29 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
ΔMkr1 2.892 ms
1.53 dB
1Δ2
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 Δ2 1 t (Δ) 2.892 ms (Δ) 1.53 dB
2 F 1 t 497.0 µs -2.26 dBm

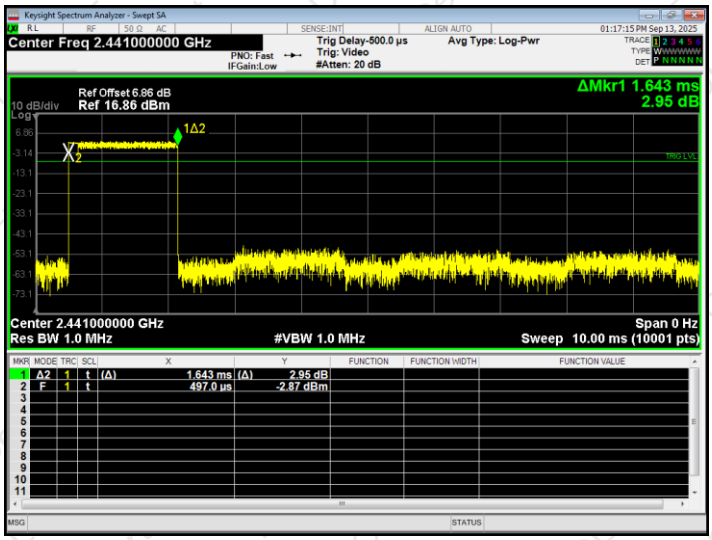

Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
01:16:04 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 31.60 s (10001 pts)

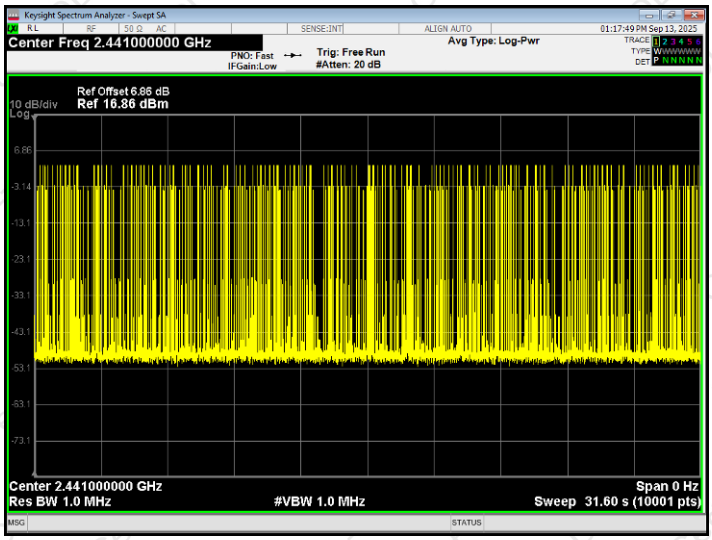
2DH5


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-500.0 µs
Trig: Video
#Atten: 20 dB
Avg Type: Log-Pwr
01:16:24 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
ΔMkr1 392.0 µs
-4.36 dB
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 Δ2 t (Δ) 392.0 µs (Δ) -4.36 dB
2 F 1 t 498.0 µs 1.10 dBm

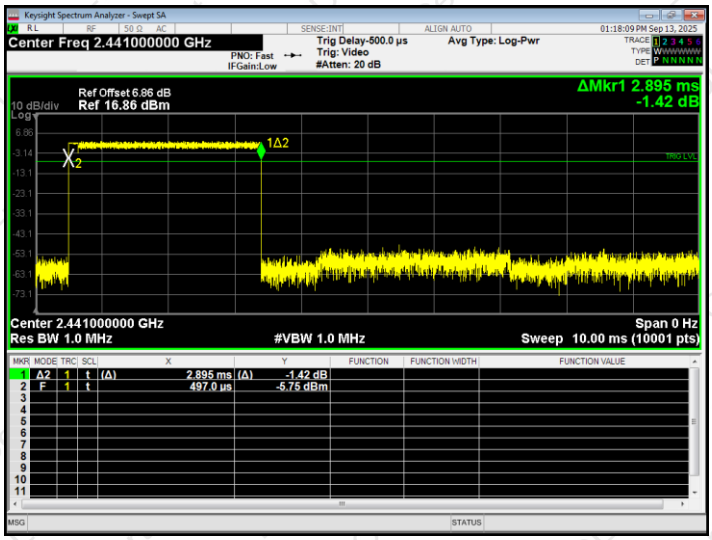

Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
01:16:57 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 31.60 s (10001 pts)

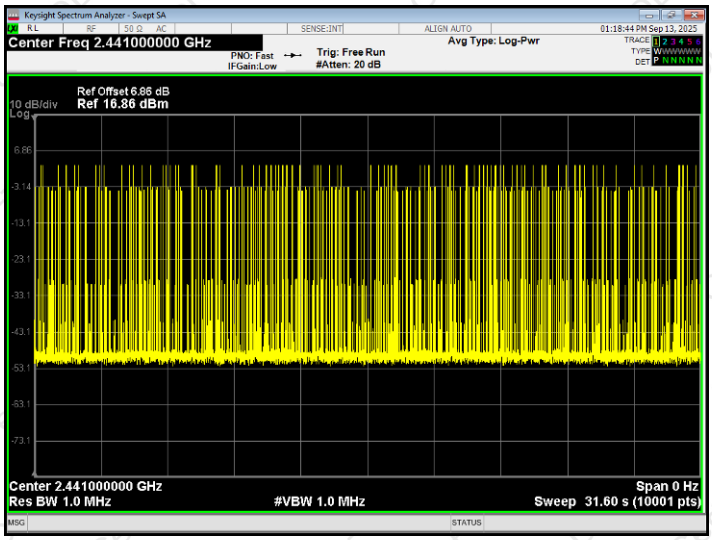
3DH1


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-500.0 µs
Trig: Video
#Atten: 20 dB
Avg Type: Log-Pwr
01:17:15 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
ΔMkr1 1.643 ms
2.95 dB
1Δ2
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 Δ2 1 t (Δ) 1.643 ms 2.95 dB
2 F 1 t 497.0 µs -2.87 dBm


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
01:17:49 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 31.60 s (10001 pts)

3DH3


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-500.0 µs
Trig: Video
#Atten: 20 dB
Avg Type: Log-Pwr
01:18:09 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
ΔMkr1 2.895 ms
-1.42 dB
1Δ2
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 10.00 ms (10001 pts)
1 Δ2 1 t (Δ) 2.895 ms -1.42 dB
2 F 1 t 497.0 µs -5.75 dBm


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
Avg Type: Log-Pwr
01:18:44 PM Sep 13, 2025
Ref Offset 6.86 dB
10 dB/div
Ref 16.86 dBm
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 1.0 MHz
Span 0 Hz
Sweep 31.60 s (10001 pts)

3DH5

9. UNWANTED EMISSION INTENSITY MEASUREMENT

9.1 LIMIT

Item	Limits
TX Spurious Emission	≦ 2.5 μW (30MHz≦f≦1000MHz) ≦ -26 dBm (30MHz≦f≦1000MHz)
	≦ 2.5 μW (1000MHz<f≦2387MHz) ≦ -26 dBm (1000MHz<f≦2387MHz)
	≦ 25 μW (2387MHz<f≦2400MHz) ≦ -16 dBm (2387MHz<f≦2400MHz)
	≦ 25 μW (2483.5MHz≦f<2496.5MHz) ≦ -16 dBm (2483.5MHz≦f<2496.5MHz)
	≦ 2.5 μW (2496.5MHz≦f<12500MHz) ≦ -26 dBm (2496.5MHz≦f<12500MHz)

9.2. MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 in this report. The following table is the setting of Spectrum Analyzer.

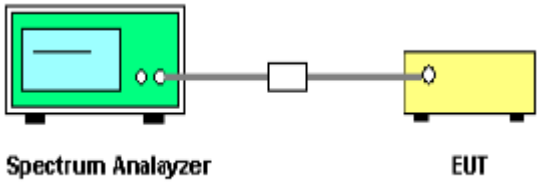
Spectrum Parameter	Setting
Attenuation	Auto
RB / VB	1MHz (below 1GHz emissions) 1MHz (above 1GHz emissions)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

9.3. TEST PROCEDURES

1. EUT have transmitted the maximum modulation signal and fixed channelize.
2. Setting of SA is following as: Below 1GHz RB:1MHz / VB:1MHz
   Above 1GHz RB:1MHz / VB:1MHz / AT: 10dB Ref: 0dBm / Sweep time: Auto
   Sweep Mode: Continuous sweep / Detect mode: Positive peak
   Trace mode: Max hold
3. Setting of SA is following as 30MHz and stop frequency 1000MHz Then to mark peak reading value + cable loss shall be less than 2.5μW.
4. Setting of SA is following as 1000MHz and stop frequency 2387MHz Then to mark peak reading value + cable loss shall be less than 2.5μW.
5. SA adjusted to start frequency 2387MHz and stop frequency 2400MHz. Then to mark peak reading value + cable loss shall be less than 25μW.
6. SA adjusted to start frequency 2483.5MHz and stop frequency 2496.5MHz Then to mark peak reading value + cable loss shall be less than 25μW
7. SA adjusted to start frequency 2496.5MHz and stop frequency 12500MHz Then to mark peak reading value + cable loss shall be less than 2.5μW

8. Measure side band spurious as follows: For 2.4GHz band: 2374MHz~2400MHz and 2483.5MHz~2509.5MHz RBW = VBW = 30kHz, Result_Value = Meaured_ Value + 15.2 [dBm]
9. If the Result_Value is over the requirement, take total sum of 1MHz band centered at the spur frequency like ACLP measurement as Result_Value.

9.4. TEST SETUP LAYOUT



9.5. TEST DEVIATION

There is no deviation with the original standard.

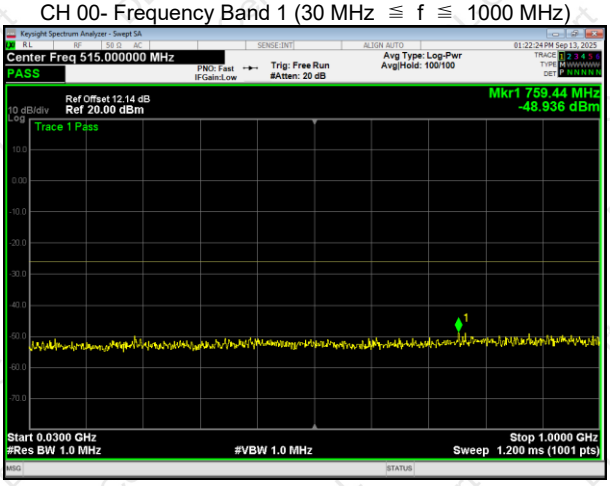
9.6. TEST RESULT

Temperature:	25.4 ℃	Relative Humidity:	55.7%	Pressure:	1010mbar

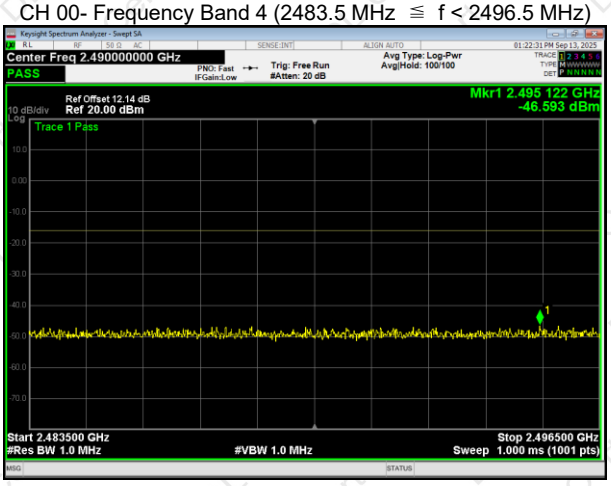
Condition	Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm/MHz)	Max Value (uW/MHz)	Limit (uW/MHz)	Verdict
NVNT	1-DH1	2402	30-1000	759.44	-48.94	0.0128	2.5	Pass
NVNT	1-DH1	2402	1000-2387	2210.85	-38.33	0.1469	2.5	Pass
NVNT	1-DH1	2402	2387-2400	2399.61	-25.72	2.6792	25	Pass
NVNT	1-DH1	2402	2483.5-2496.5	2495.12	-46.59	0.0219	25	Pass
NVNT	1-DH1	2402	2496.5-13000	2591.03	-37.35	0.1841	2.5	Pass
NVNT	1-DH1	2441	30-1000	755.56	-49.78	0.0105	2.5	Pass
NVNT	1-DH1	2441	1000-2387	2249.69	-37.23	0.1892	2.5	Pass
NVNT	1-DH1	2441	2387-2400	2394.1	-43.37	0.046	25	Pass
NVNT	1-DH1	2441	2483.5-2496.5	2485.74	-44.8	0.0331	25	Pass
NVNT	1-DH1	2441	2496.5-13000	4880.79	-36.9	0.2042	2.5	Pass
NVNT	1-DH1	2480	30-1000	922.4	-49.42	0.0114	2.5	Pass
NVNT	1-DH1	2480	1000-2387	2288.52	-36.53	0.2223	2.5	Pass
NVNT	1-DH1	2480	2387-2400	2394.44	-46.71	0.0213	25	Pass
NVNT	1-DH1	2480	2483.5-2496.5	2483.55	-34.47	0.3573	25	Pass
NVNT	1-DH1	2480	2496.5-13000	4964.82	-38.38	0.1452	2.5	Pass
NVNT	2-DH1	2402	30-1000	942.77	-49.02	0.0125	2.5	Pass
NVNT	2-DH1	2402	1000-2387	2210.85	-39.46	0.1132	2.5	Pass
NVNT	2-DH1	2402	2387-2400	2399.74	-25.21	3.013	25	Pass
NVNT	2-DH1	2402	2483.5-2496.5	2485.79	-46.17	0.0242	25	Pass
NVNT	2-DH1	2402	2496.5-13000	4807.27	-37.22	0.1897	2.5	Pass
NVNT	2-DH1	2441	30-1000	806.97	-49.24	0.0119	2.5	Pass
NVNT	2-DH1	2441	1000-2387	2249.69	-37.62	0.173	2.5	Pass
NVNT	2-DH1	2441	2387-2400	2399.13	-43.32	0.0466	25	Pass
NVNT	2-DH1	2441	2483.5-2496.5	2485.59	-44.22	0.0378	25	Pass
NVNT	2-DH1	2441	2496.5-13000	4880.79	-37.21	0.1901	2.5	Pass
NVNT	2-DH1	2480	30-1000	404.42	-49.76	0.0106	2.5	Pass
NVNT	2-DH1	2480	1000-2387	2288.52	-36.29	0.235	2.5	Pass
NVNT	2-DH1	2480	2387-2400	2394.9	-47.39	0.0182	25	Pass
NVNT	2-DH1	2480	2483.5-2496.5	2483.63	-34.49	0.3556	25	Pass
NVNT	2-DH1	2480	2496.5-13000	4964.82	-37.82	0.1652	2.5	Pass
NVNT	3-DH1	2402	30-1000	427.7	-48.81	0.0132	2.5	Pass
NVNT	3-DH1	2402	1000-2387	2210.85	-37.85	0.1641	2.5	Pass
NVNT	3-DH1	2402	2387-2400	2399.96	-26.22	2.3878	25	Pass
NVNT	3-DH1	2402	2483.5-2496.5	2496.38	-46.39	0.023	25	Pass
NVNT	3-DH1	2402	2496.5-13000	4807.27	-36.8	0.2089	2.5	Pass
NVNT	3-DH1	2441	30-1000	438.37	-49.4	0.0115	2.5	Pass
NVNT	3-DH1	2441	1000-2387	2249.69	-37.31	0.1858	2.5	Pass
NVNT	3-DH1	2441	2387-2400	2396.53	-42.47	0.0566	25	Pass
NVNT	3-DH1	2441	2483.5-2496.5	2483.9	-44.21	0.0379	25	Pass
NVNT	3-DH1	2441	2496.5-13000	4880.79	-36.54	0.2218	2.5	Pass
NVNT	3-DH1	2480	30-1000	791.45	-49.64	0.0109	2.5	Pass
NVNT	3-DH1	2480	1000-2387	2288.52	-37.12	0.1941	2.5	Pass
NVNT	3-DH1	2480	2387-2400	2390.38	-47.48	0.0179	25	Pass
NVNT	3-DH1	2480	2483.5-2496.5	2492.08	-45.47	0.0284	25	Pass
NVNT	3-DH1	2480	2496.5-13000	4964.82	-37.41	0.1816	2.5	Pass

GFSK NORMAL VOLTAGE

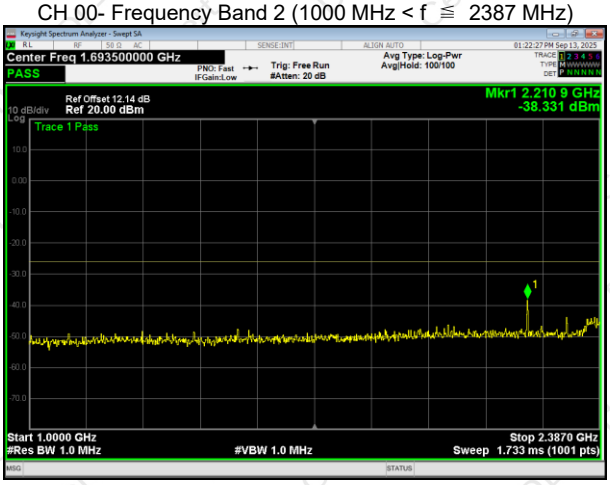
CH 00- Frequency Band 1 (30 MHz ≦ f ≦ 1000 MHz)



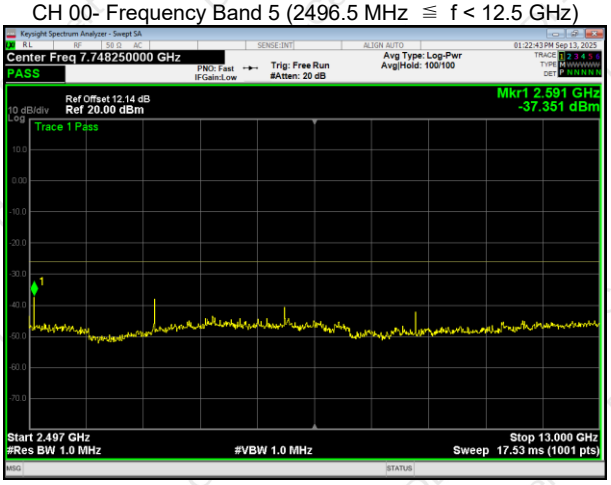
CH 00- Frequency Band 4 (2483.5 MHz ≦ f < 2496.5 MHz)



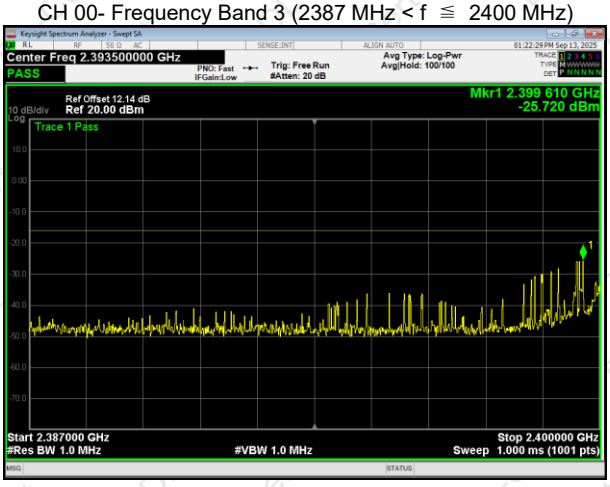
CH 00- Frequency Band 2 (1000 MHz < f ≦ 2387 MHz)



CH 00- Frequency Band 5 (2496.5 MHz ≦ f < 12.5 GHz)

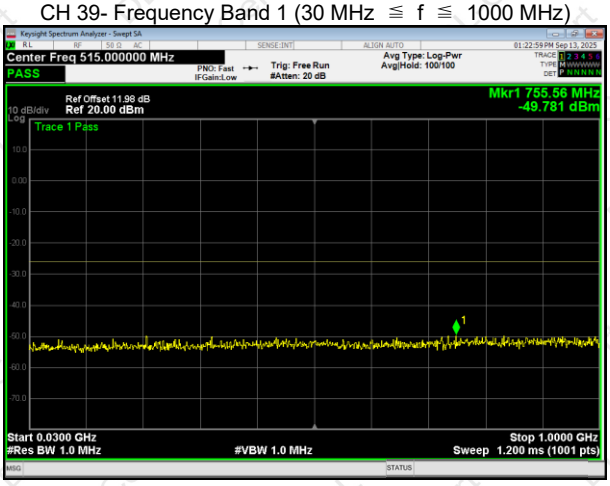


CH 00- Frequency Band 3 (2387 MHz < f ≦ 2400 MHz)

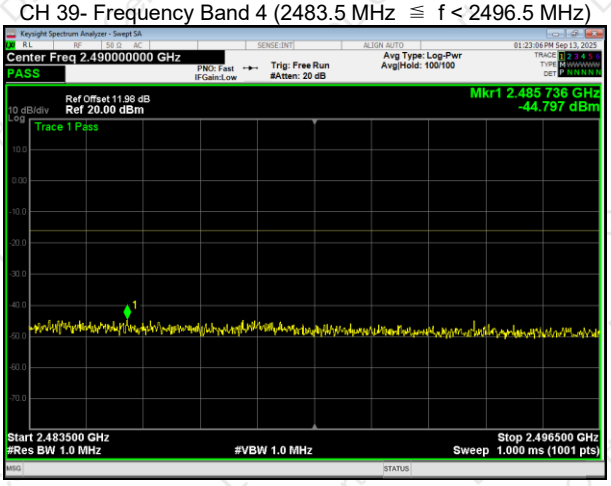


GFSK NORMAL VOLTAGE

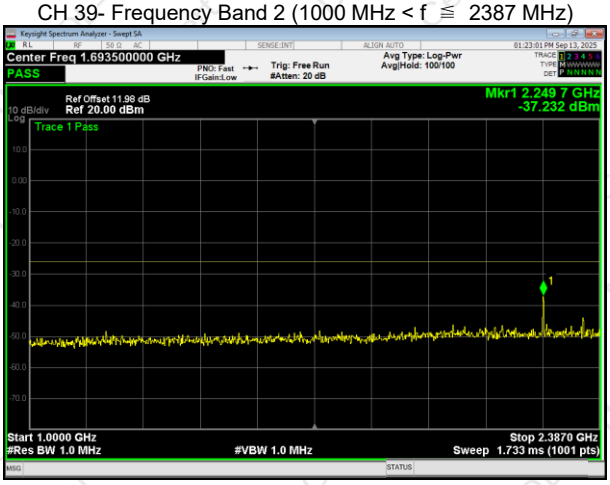
CH 39- Frequency Band 1 (30 MHz ≦ f ≦ 1000 MHz)



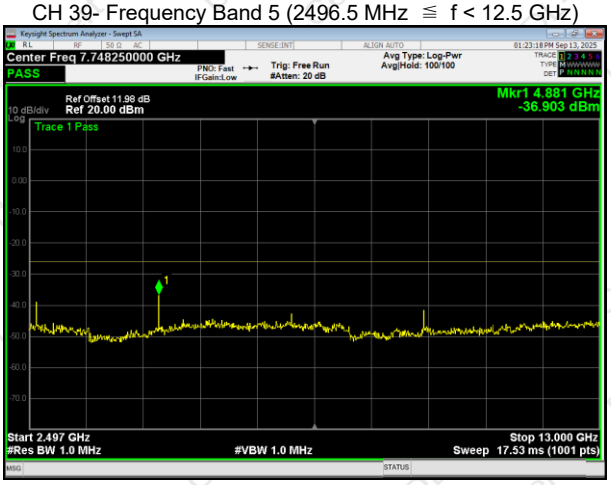
CH 39- Frequency Band 4 (2483.5 MHz ≦ f < 2496.5 MHz)



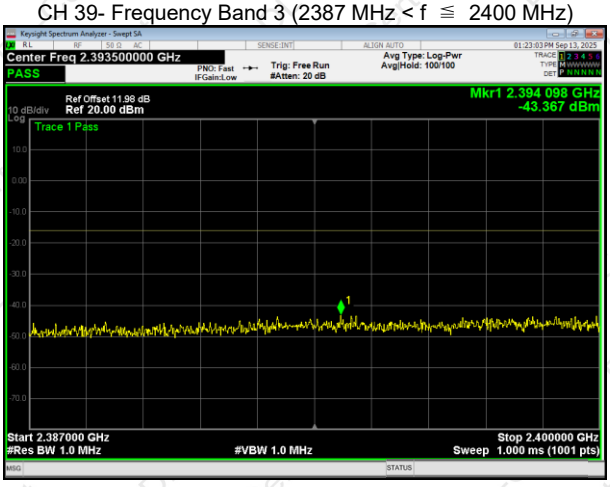
CH 39- Frequency Band 2 (1000 MHz < f ≦ 2387 MHz)



CH 39- Frequency Band 5 (2496.5 MHz ≦ f < 12.5 GHz)

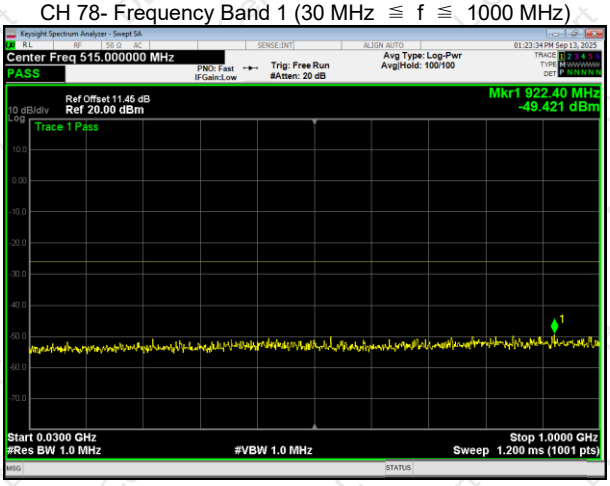


CH 39- Frequency Band 3 (2387 MHz < f ≦ 2400 MHz)

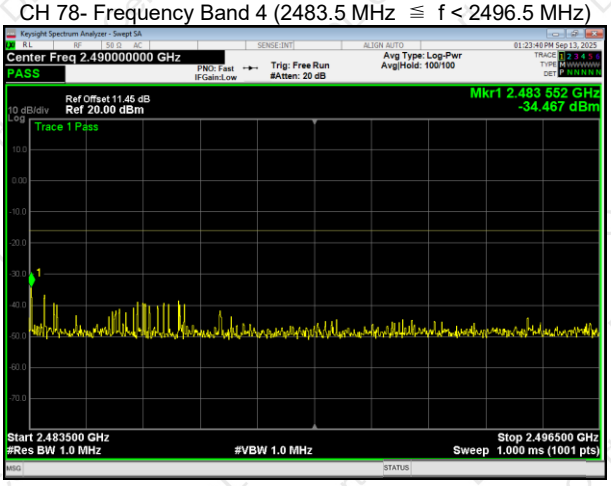


GFSK NORMAL VOLTAGE

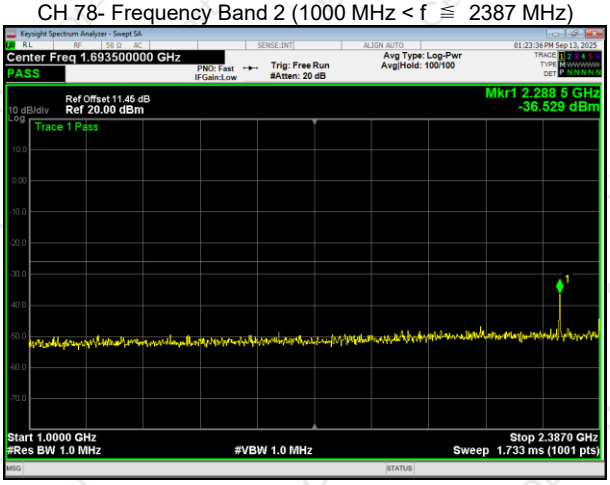
CH 78- Frequency Band 1 (30 MHz ≦ f ≦ 1000 MHz)



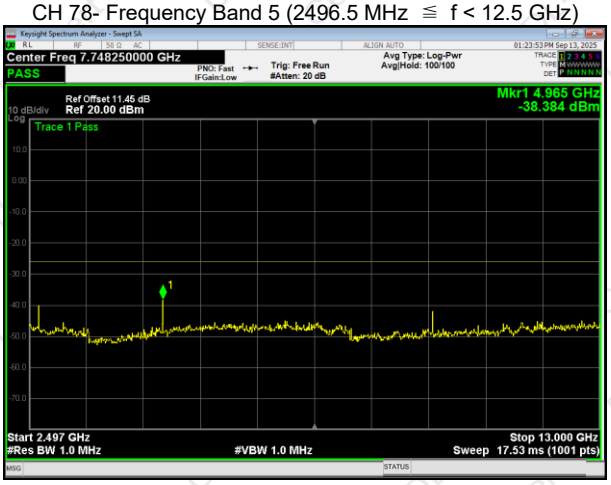
CH 78- Frequency Band 4 (2483.5 MHz ≦ f < 2496.5 MHz)



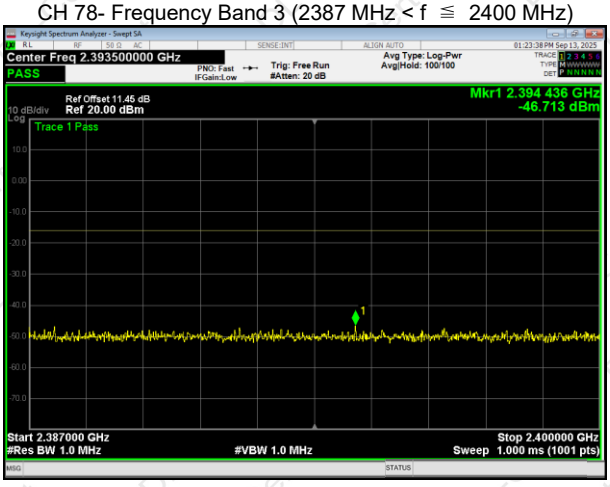
CH 78- Frequency Band 2 (1000 MHz < f ≦ 2387 MHz)



CH 78- Frequency Band 5 (2496.5 MHz ≦ f < 12.5 GHz)

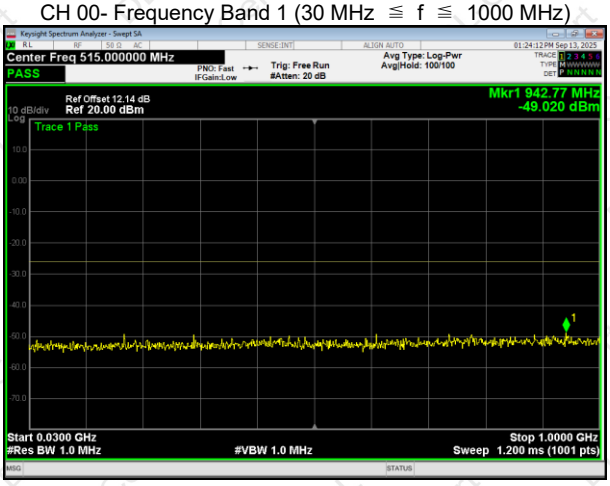


CH 78- Frequency Band 3 (2387 MHz < f ≦ 2400 MHz)

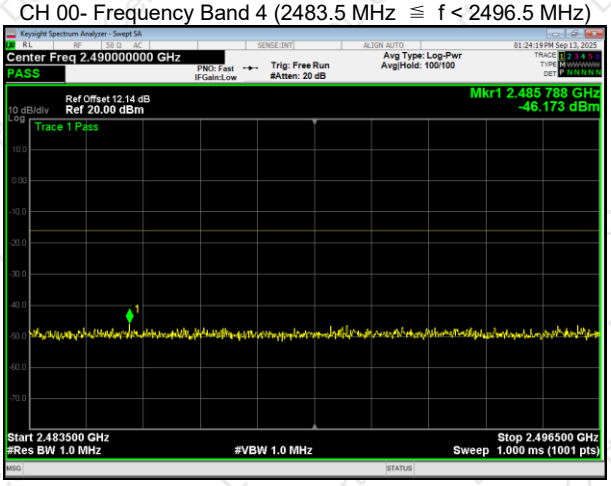


PI/4-DQPSK NORMAL VOLTAGE

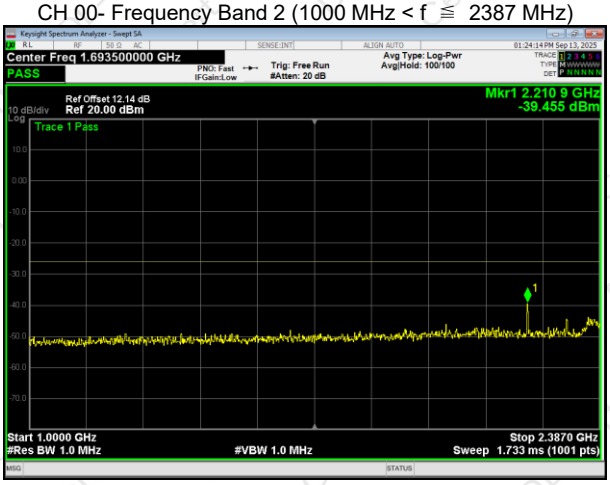
CH 00- Frequency Band 1 (30 MHz ≦ f ≦ 1000 MHz)



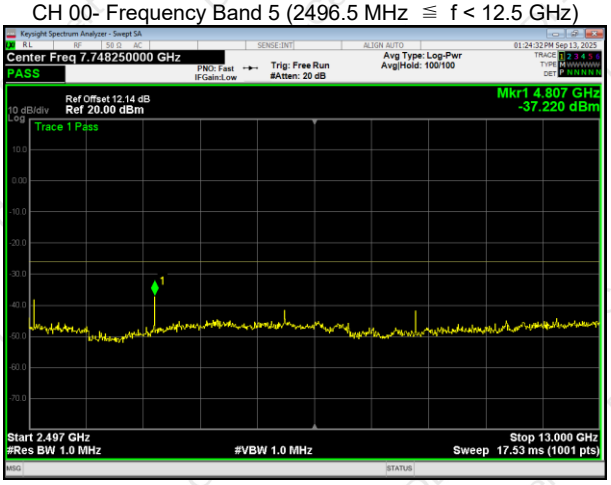
CH 00- Frequency Band 4 (2483.5 MHz ≦ f < 2496.5 MHz)



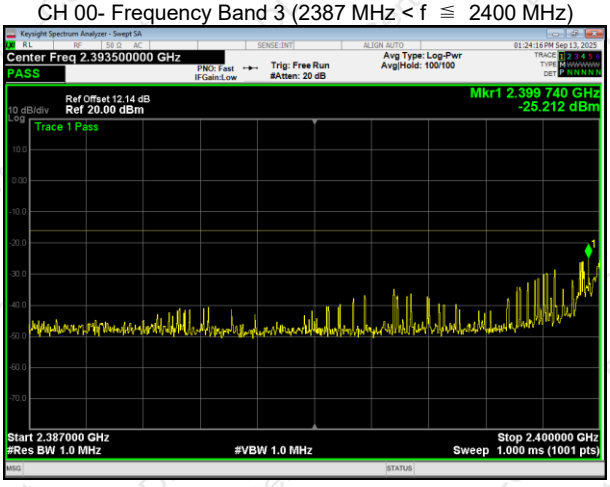
CH 00- Frequency Band 2 (1000 MHz < f ≦ 2387 MHz)



CH 00- Frequency Band 5 (2496.5 MHz ≦ f < 12.5 GHz)

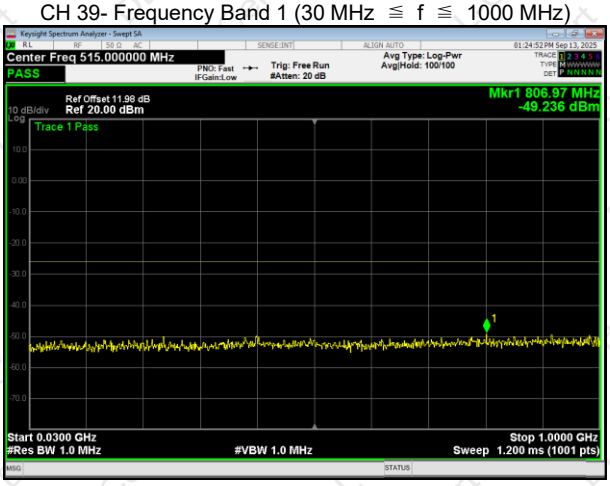


CH 00- Frequency Band 3 (2387 MHz < f ≦ 2400 MHz)

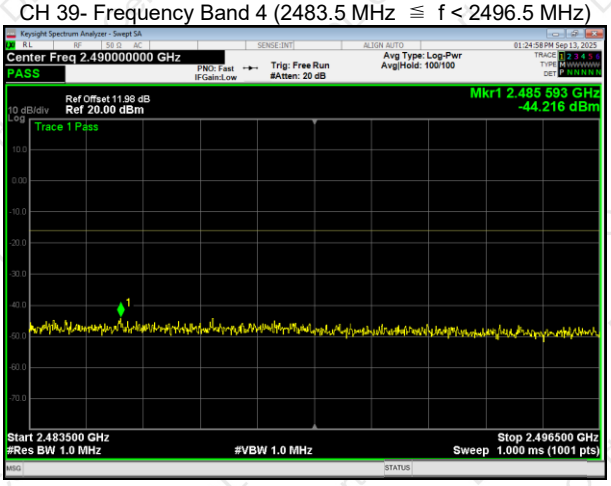


PI/4-DQPSK NORMAL VOLTAGE

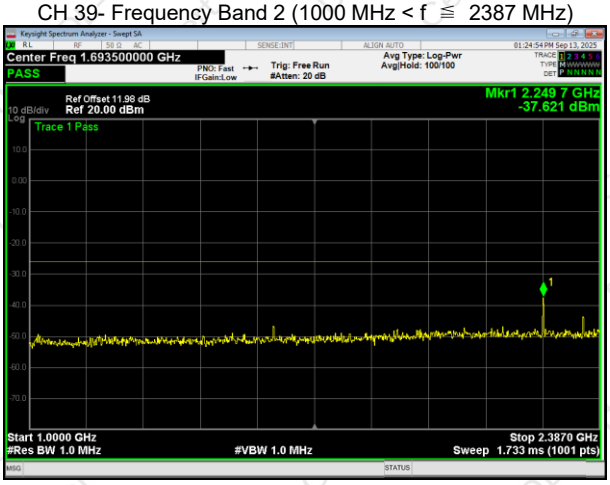
CH 39- Frequency Band 1 (30 MHz ≦ f ≦ 1000 MHz)



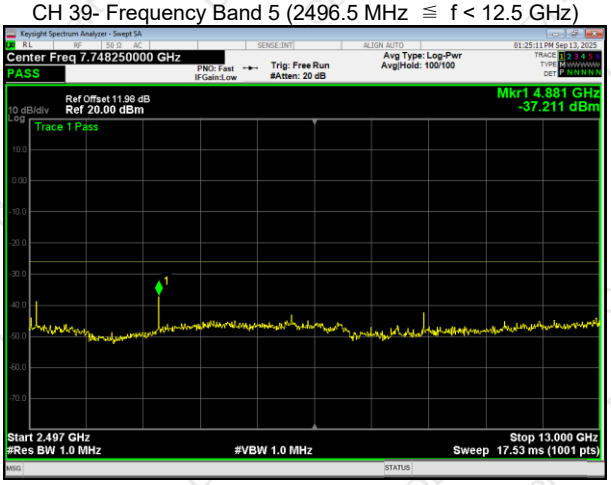
CH 39- Frequency Band 4 (2483.5 MHz ≦ f < 2496.5 MHz)



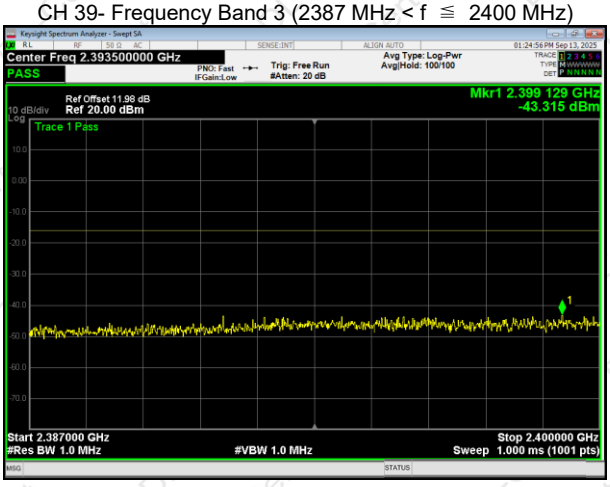
CH 39- Frequency Band 2 (1000 MHz < f ≦ 2387 MHz)



CH 39- Frequency Band 5 (2496.5 MHz ≦ f < 12.5 GHz)

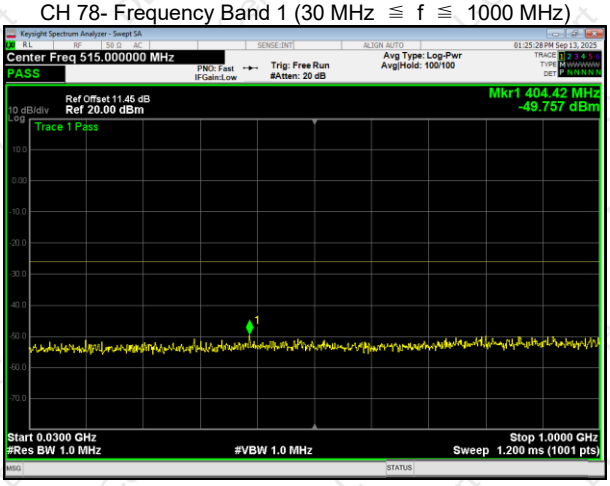


CH 39- Frequency Band 3 (2387 MHz < f ≦ 2400 MHz)

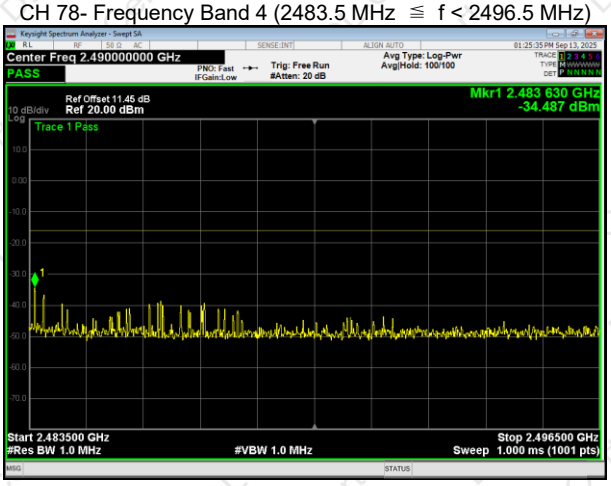


PI/4-DQPSK NORMAL VOLTAGE

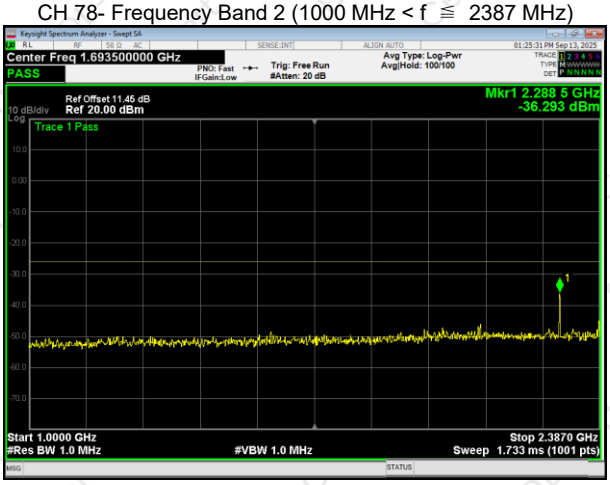
CH 78- Frequency Band 1 (30 MHz ≦ f ≦ 1000 MHz)



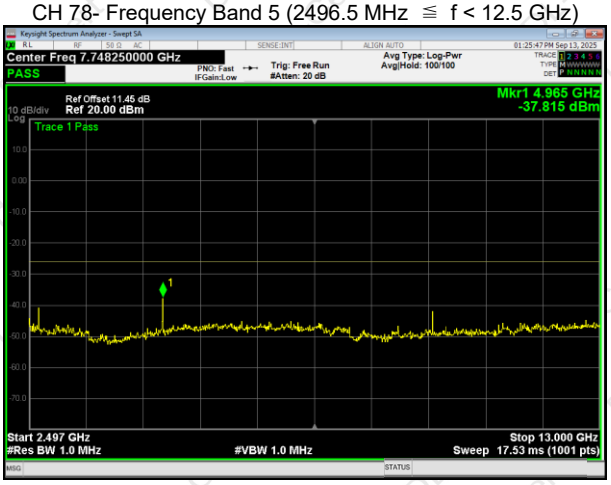
CH 78- Frequency Band 4 (2483.5 MHz ≦ f < 2496.5 MHz)



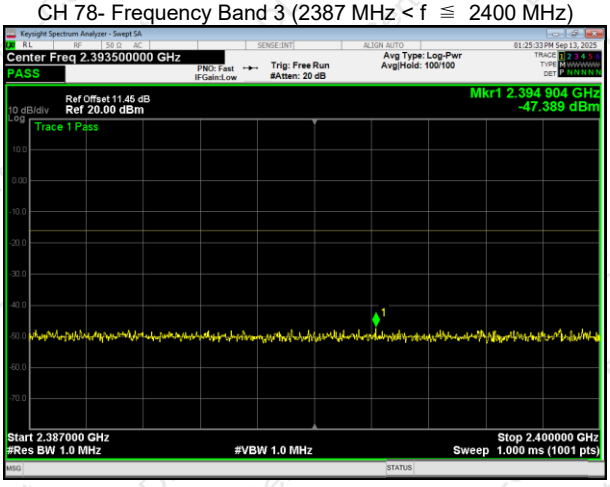
CH 78- Frequency Band 2 (1000 MHz < f ≦ 2387 MHz)



CH 78- Frequency Band 5 (2496.5 MHz ≦ f < 12.5 GHz)

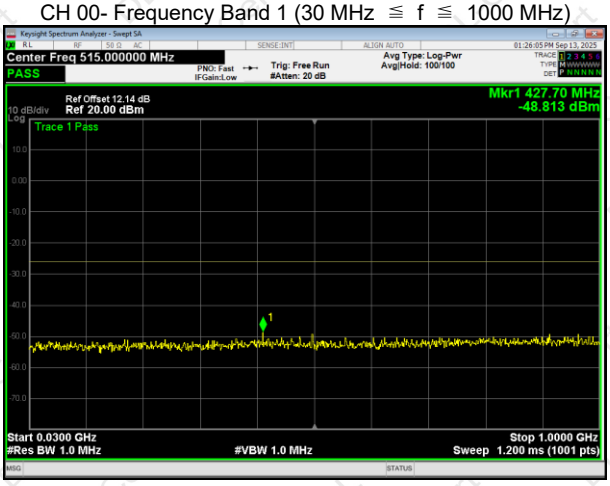


CH 78- Frequency Band 3 (2387 MHz < f ≦ 2400 MHz)

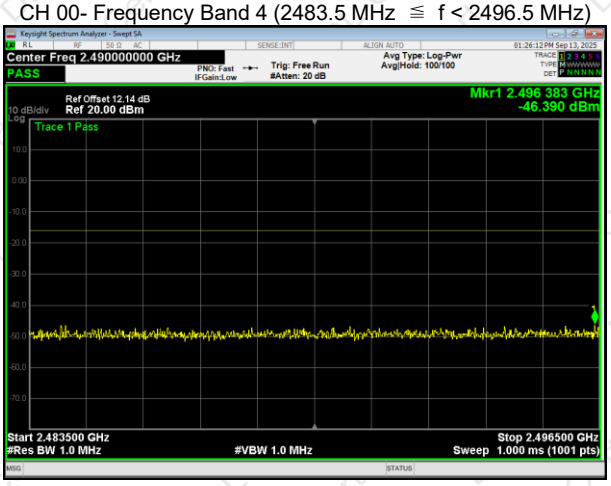


8-DPSK NORMAL VOLTAGE

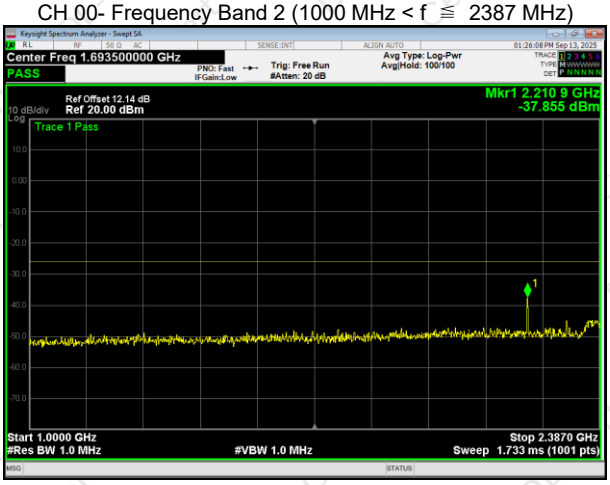
CH 00- Frequency Band 1 (30 MHz ≦ f ≦ 1000 MHz)



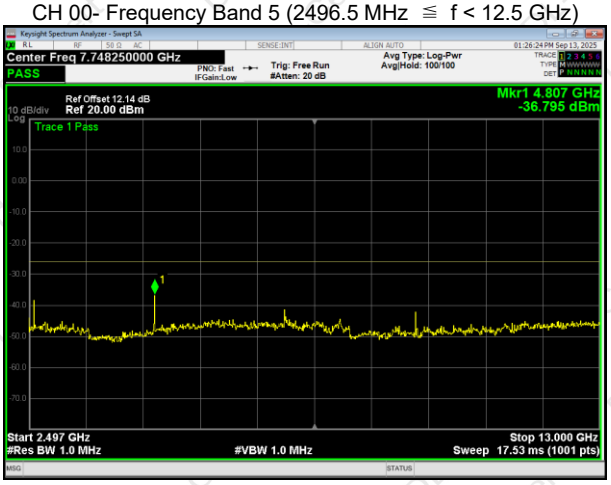
CH 00- Frequency Band 4 (2483.5 MHz ≦ f < 2496.5 MHz)



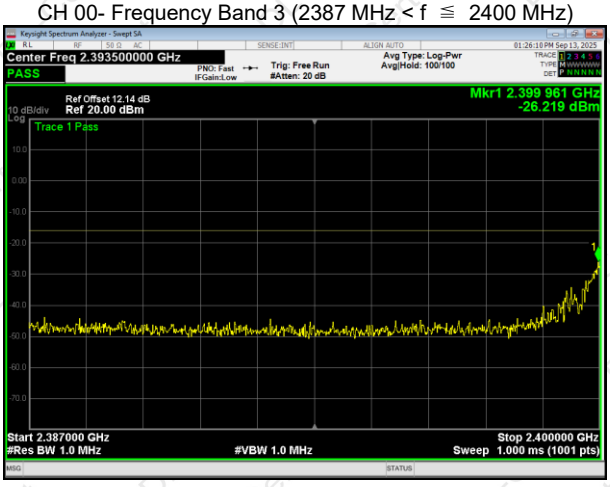
CH 00- Frequency Band 2 (1000 MHz < f ≦ 2387 MHz)



CH 00- Frequency Band 5 (2496.5 MHz ≦ f < 12.5 GHz)

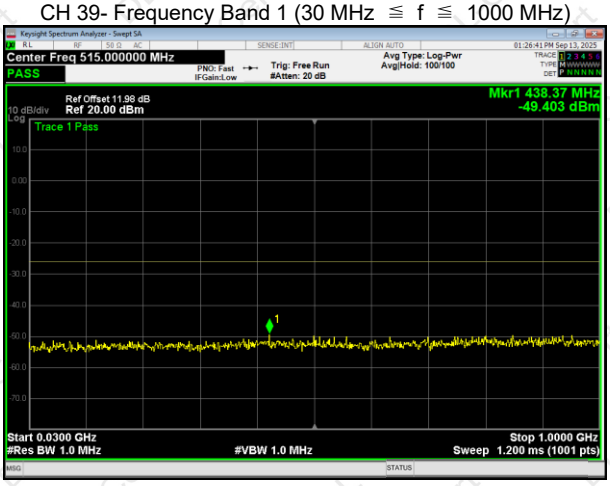


CH 00- Frequency Band 3 (2387 MHz < f ≦ 2400 MHz)

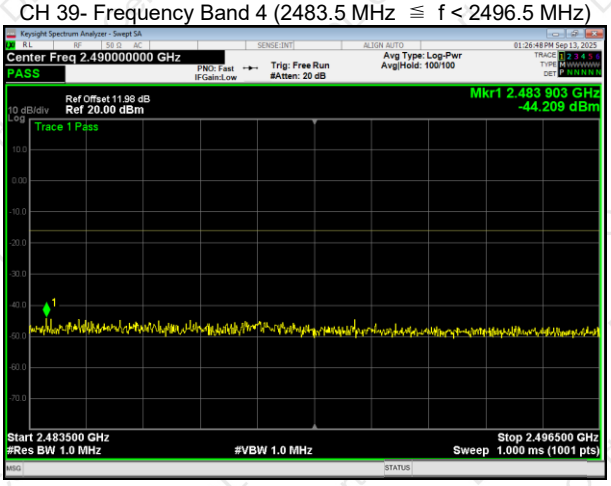


8-DPSK NORMAL VOLTAGE

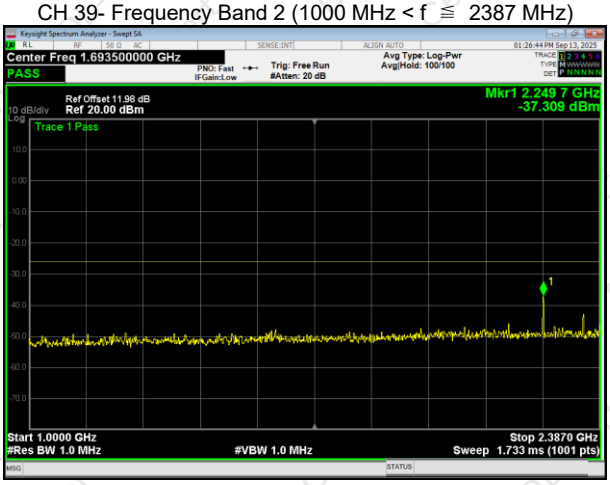
CH 39- Frequency Band 1 (30 MHz ≦ f ≦ 1000 MHz)



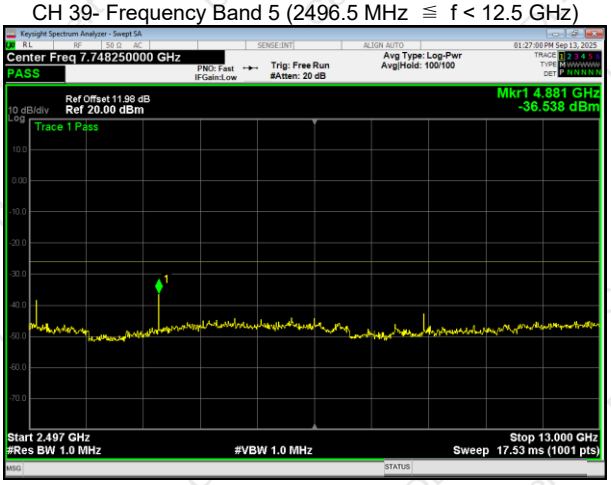
CH 39- Frequency Band 4 (2483.5 MHz ≦ f < 2496.5 MHz)



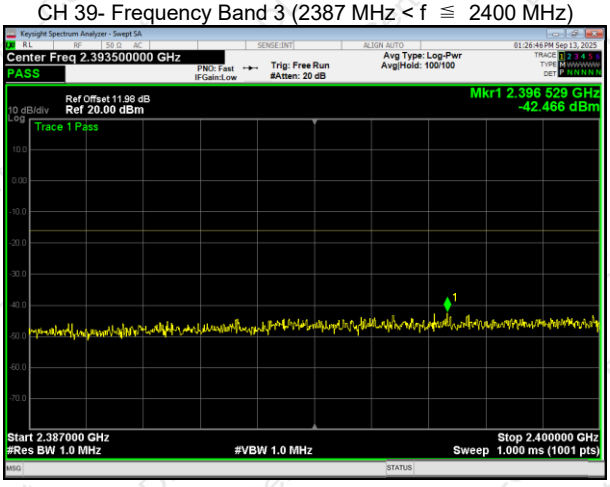
CH 39- Frequency Band 2 (1000 MHz < f ≦ 2387 MHz)



CH 39- Frequency Band 5 (2496.5 MHz ≦ f < 12.5 GHz)

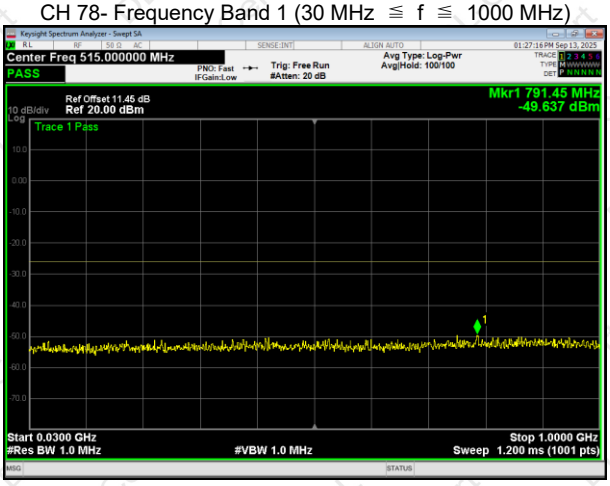


CH 39- Frequency Band 3 (2387 MHz < f ≦ 2400 MHz)

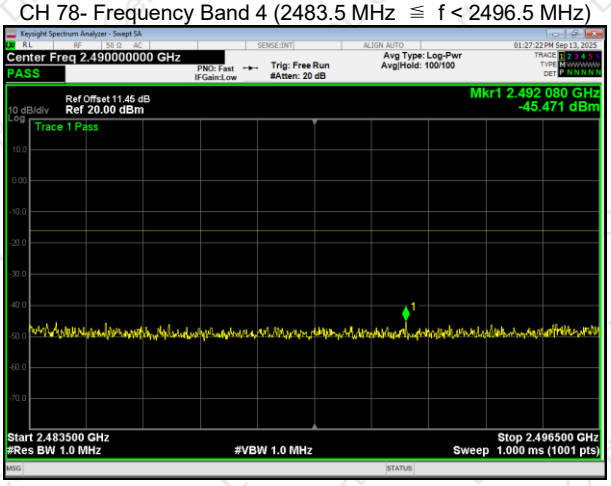


8-DPSK NORMAL VOLTAGE

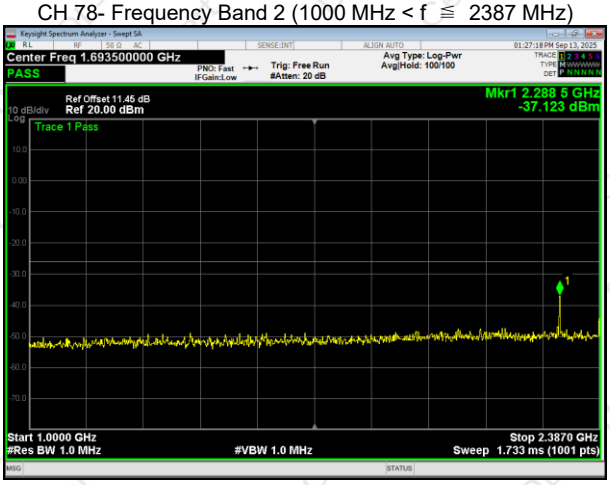
CH 78- Frequency Band 1 (30 MHz ≦ f ≦ 1000 MHz)



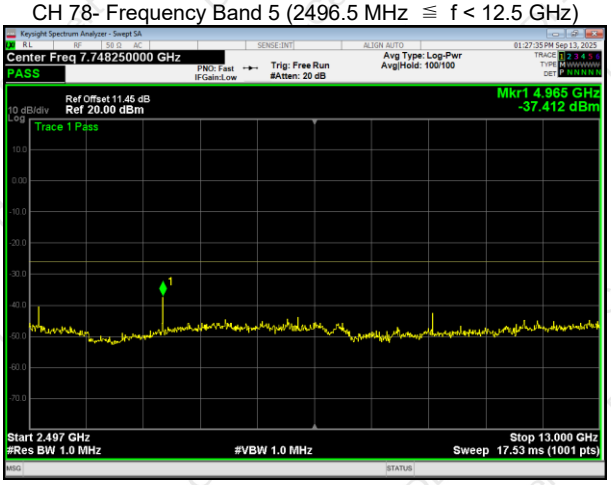
CH 78- Frequency Band 4 (2483.5 MHz ≦ f < 2496.5 MHz)



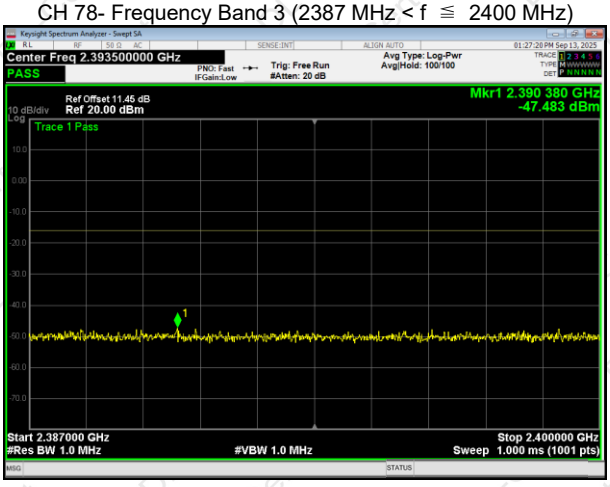
CH 78- Frequency Band 2 (1000 MHz < f ≦ 2387 MHz)



CH 78- Frequency Band 5 (2496.5 MHz ≦ f < 12.5 GHz)



CH 78- Frequency Band 3 (2387 MHz < f ≦ 2400 MHz)



10. RADIO INTERFERENCE PREVENTION CAPABILITY MEASUREMENT

10.1. LIMIT

Item	Limits
Identification code	≧48 bits

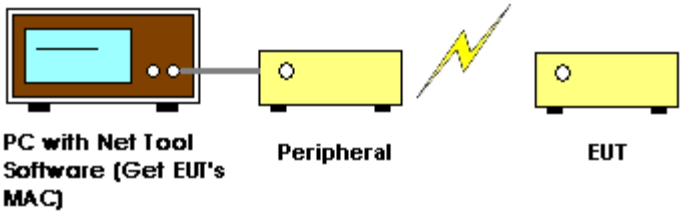
10.2. MEASURING ID CODE SOFTWARE

Item	Limits
MAC IP List	MAC Scan

10.3. TEST PROCEDURES

1. In the case that the EUT has the function of automatically transmitting the identification code: a. Transmit the predetermined identification codes form EUT. b. Check the transmitted identification codes with the demodulator.
2. In the case of receiving the identification ocde: a. Transmit the predetermined identification codes form the counterpart. b . Check if communication is normal. c. Transmit the signals other than predetermined ID codes form the counterpart. d. check if the EUT stops the transmission, or if it displays that idnetification codes are different from the predetermined ones.

10.4. TEST SETUP LAYOUT



10.5. TEST DEVIATION

There is no deviation with the original standard.

10.6. EUT OPERATION DURING TEST

The EUT was programmed to be in normal transmitting mode.

10.7. TEST RESULT OF RADIO INTERFERENCE PREVENTION CAPABILIT

Temperature:	25.5 ℃	Relative Humidity:	55.6%	Pressure:	1010mbar

Test result:	CONFORM MAC Address:90:2B:D2:6C:5B:7A

11. TRANSMISSION RADIATION ANGLE WIDTH (3DB BEAMWIDTH) MEASUREMENT

11.1. LIMIT

Item	Limits
3dB antenna beam width	360/A (If A<1; then A=1) A = {EIRP Power [mW] / 12.14 for DS, OFDM} or A = {EIRP Power [mW] / 4.9 for FH}

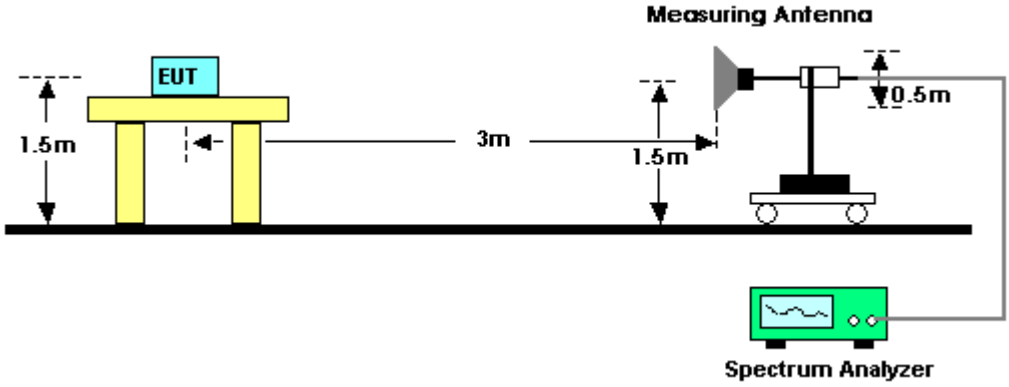
11.2. MEASURING INSTRUMENTS AND SETTING

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	0 MHz
RB	1 MHz
VB	1 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

11.3. TEST PROCEDURES

1. Set EUT and measuring antenna at the same height and roughly facing each other.
2. Set spectrum analyzer with condition in section 4.7.2 and tune reference level to observe receiving signal position.
3. Rotate directions of the EUT horizontally and ertically to find the maximum receiving power.
4. Move the measuring antenna height up and down within ± 50cm of EUT height and swing it to find the maximum output of measuring antenna. The output level at the spectrum analyzer is read as “E”
5. Caluate permitted radiation angle in horizontal and vertical using EIRP measured in another test method.
6. Calculate 3dB antenna beam width by the formula below 360/A (If A<1; then A=1).
   A = {EIRP Power [mW] / 16.36 for DS, OFDM} or
   A = {EIRP Power [mW] / 4.9 for FH}

11.4. TEST SETUP LAYOUT



11.5. TEST DEVIATION

There is no deviation with the original standard.

11.6. EUT OPERATION DURING TEST

The EUT was programmed to be in continuously transmitting mode.

11.7. TEST RESULT

Temperature:	25.4 ℃	Relative Humidity:	55.7%	Pressure:	1010mbar

Not applicable since the EIRP Power is less than 6.91dBm/MHz.

12. IMITATION OF COLLATERAL EMISSION OF RECEIVER MEASUREMENT

12.1 LIMIT

Item	Limits
RX Spurious Emission:	≦ 4nW (f<1GHz) ≦ -54 dBm (f<1GHz)
	≦ 20nW (1GHz≦f) ≦ -47 dBm (1GHz≦f)

12.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 in this report. The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RB	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
VB	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

12.3 TEST PROCEDURES

1. EUT have the continuous reception mode and fixed only one channelize.
2. Setting of SA is following as RB / VB: 100 kHz (below 1GHz emissions) / 1 MHz (above 1GHz emissions) /
   AT: 10dB / Ref: 0dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
3. SA set RB: 100kHz and VB: 100kHz. Then adjust to start frequency 30MHz and stop frequency 1000MHz. Search to mark peak reading value + cable loss shall be less than 4nW
4. SA set RB: 1MHz and VB: 1MHz. Then adjust to start frequency 1000MHz and stop frequency 12500MHz. Search to mark peak reading value + cable loss shall be less than 20nW
5. If power level of lower emissions are more than 1/10 of limit (.0.4nW for f < 1GHz, 2nW for f >= 1GHz), all those are to be indicated in the 2nd and 3rd lines. If others are 1/10 or less more of the limit, no necessary to be indicated.

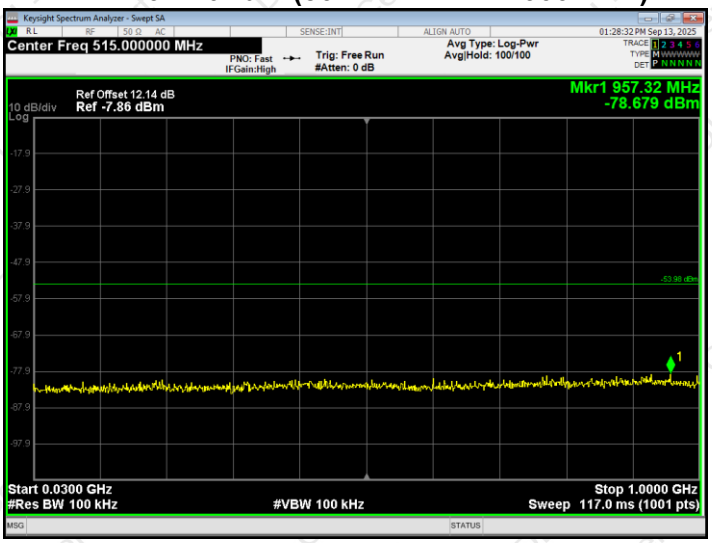
12.4 TEST RESULT

All modulation modes of high, medium and low channels have been tested, and only the worst channel results are shown in the report.

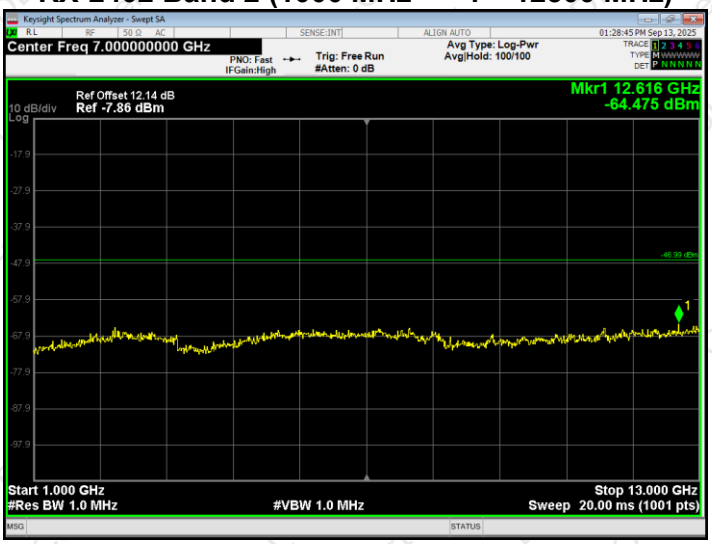
Condition	Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm/MHz)	Max Value (nW/MHz)	Limit (nW/MHz)	Verdict
NVNT	GFSK	2402	30-1000	957.32	-78.68	0.0136	4	Pass
		2402	1000-13000	12616	-64.47	0.3573	20	Pass
		2441	30-1000	547.98	-79.31	0.0117	4	Pass
		2441	1000-13000	7756	-65.51	0.2812	20	Pass
		2480	30-1000	794.36	-79.1	0.0123	4	Pass
		2480	1000-13000	2428	-63.52	0.4446	20	Pass
	PI/4 DQPSK	2402	30-1000	895.24	-78.86	0.013	4	Pass
		2402	1000-13000	2476	-55.22	3.0061	20	Pass
		2441	30-1000	797.27	-79.13	0.0122	4	Pass
		2441	1000-13000	12712	-64.83	0.3289	20	Pass
		2480	30-1000	945.68	-79.74	0.0106	4	Pass
		2480	1000-13000	2476	-57.64	1.7219	20	Pass
	8DPSK	2402	30-1000	766.23	-78.82	0.0131	4	Pass
		2402	1000-13000	12568	-64.96	0.3192	20	Pass
		2441	30-1000	933.07	-78.46	0.0143	4	Pass
		2441	1000-13000	12232	-65.27	0.2972	20	Pass
		2480	30-1000	899.12	-79.6	0.011	4	Pass
		2480	1000-13000	2476	-56.8	2.0893	20	Pass

Temperature:	25 ℃	Pressure:	1010mbar
Humidity:	55 % RH	Test Voltage	NORMAL VOLTAGE
Operation Mode:	GFSK		

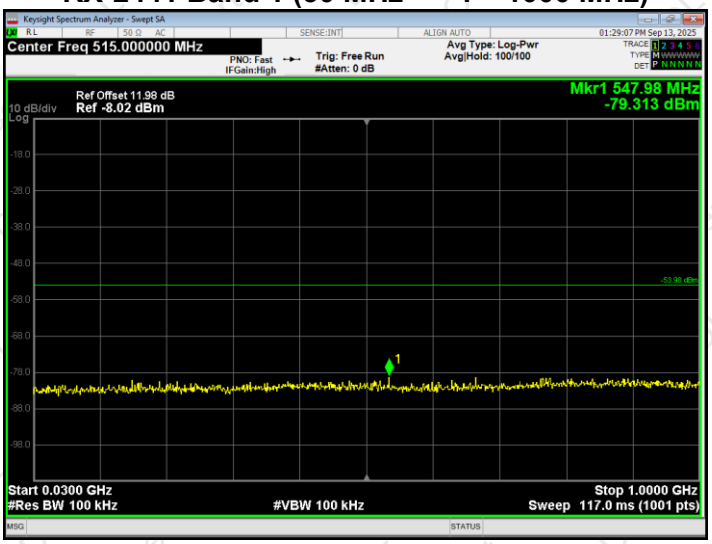
RX-2402 Band 1 (30 MHz ≦ f < 1000 MHz)



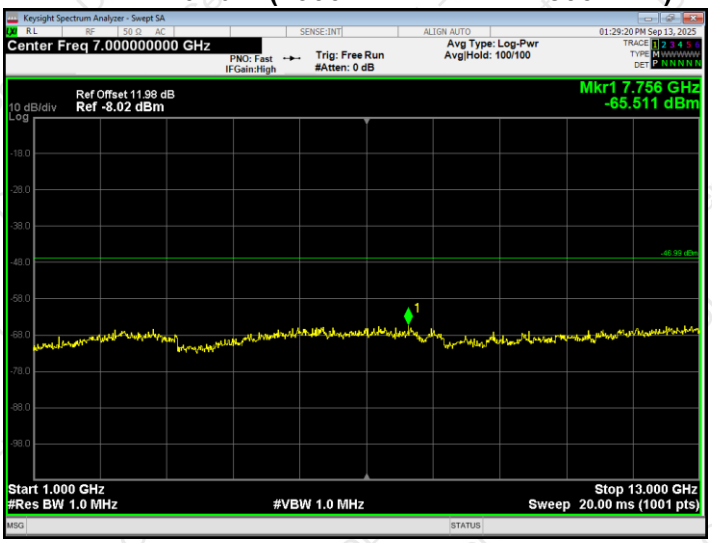
RX-2402 Band 2 (1000 MHz ≦ f < 12500 MHz)



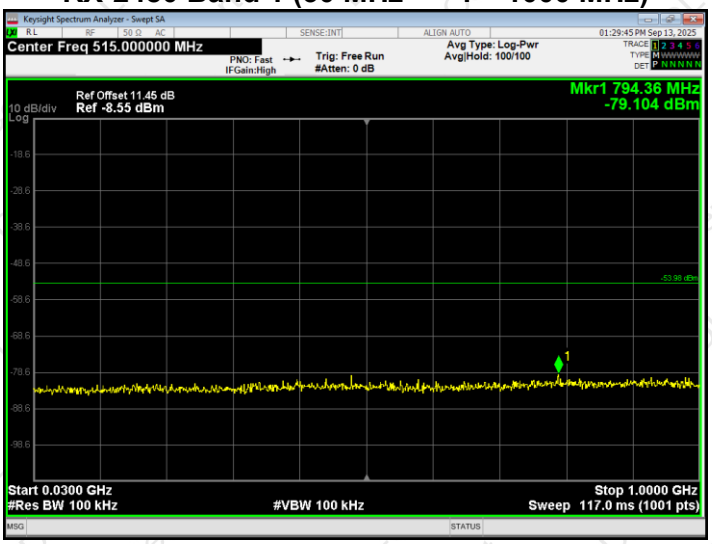
RX-2441 Band 1 (30 MHz ≦ f < 1000 MHz)



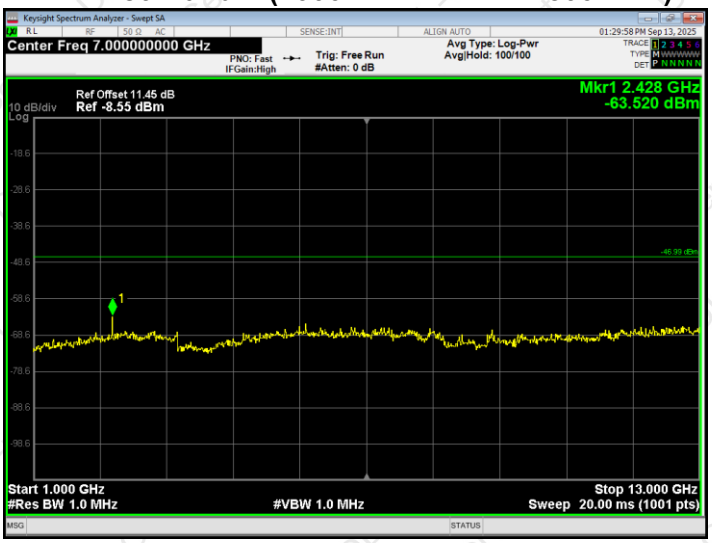
RX-2441 Band 2 (1000 MHz ≦ f < 12500 MHz)



RX-2480 Band 1 (30 MHz ≦ f < 1000 MHz)

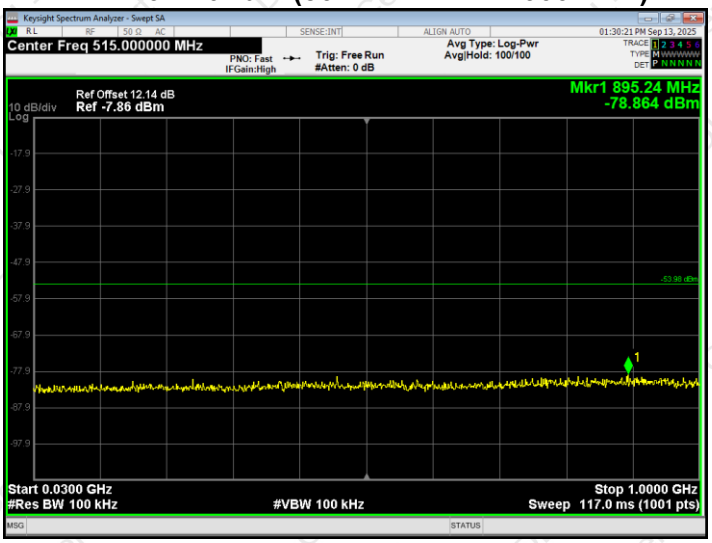


RX-2480 Band 2 (1000 MHz ≦ f < 12500 MHz)

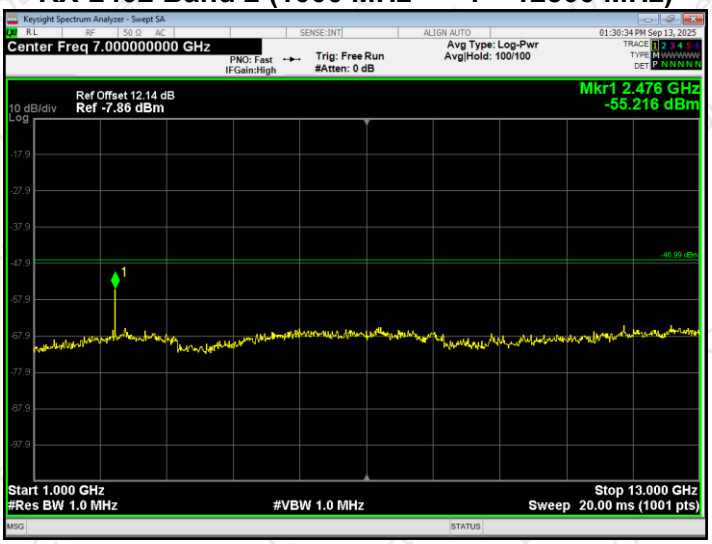


Temperature:	25℃	Pressure:	1010mbar
Humidity:	55 % RH	Test Voltage	NORMAL VOLTAGE
Operation Mode:	PI/4 DQPSK		

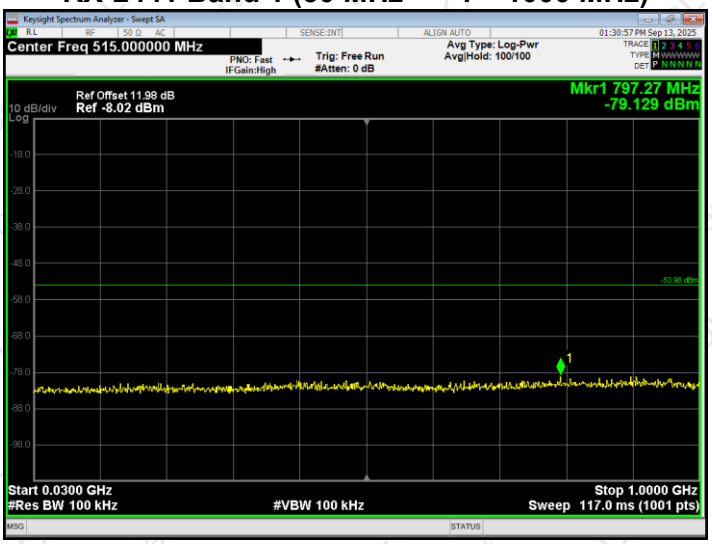
RX-2402 Band 1 (30 MHz ≦ f < 1000 MHz)



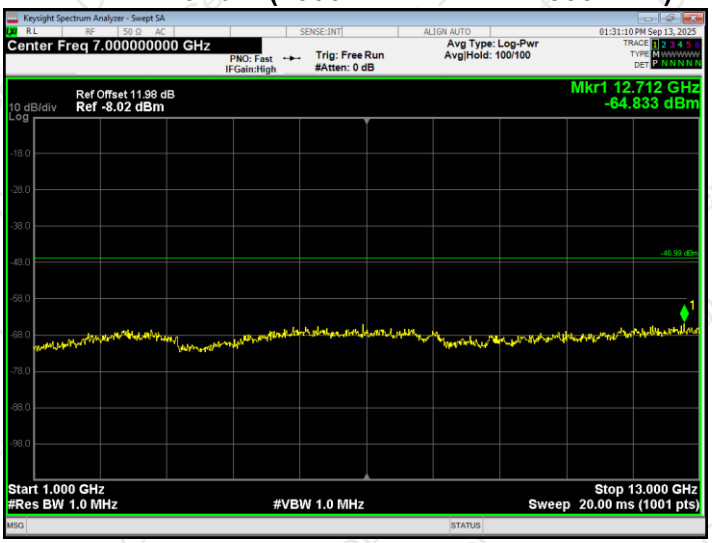
RX-2402 Band 2 (1000 MHz ≦ f < 12500 MHz)



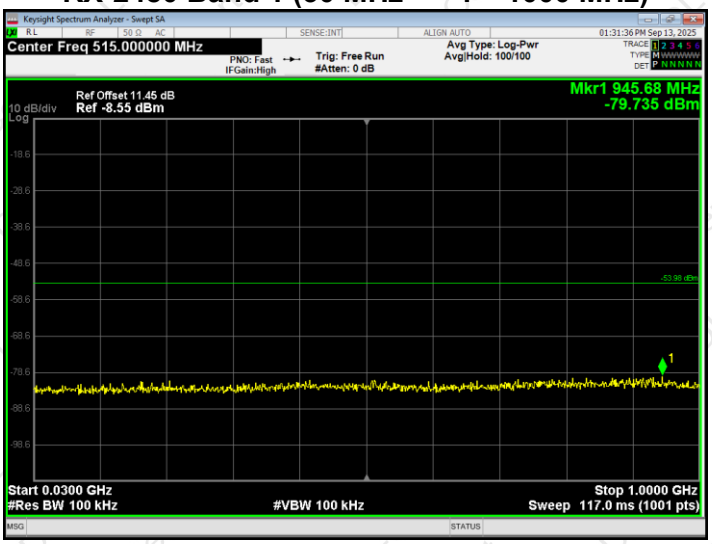
RX-2441 Band 1 (30 MHz ≦ f < 1000 MHz)



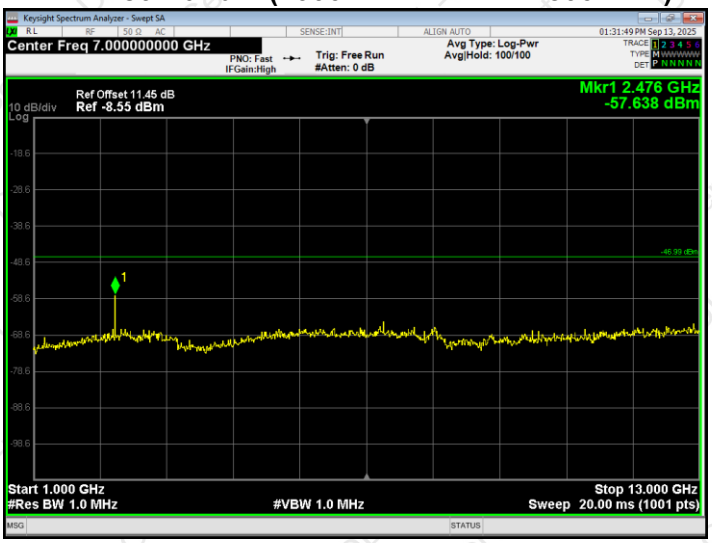
RX-2441 Band 2 (1000 MHz ≦ f < 12500 MHz)



RX-2480 Band 1 (30 MHz ≦ f < 1000 MHz)

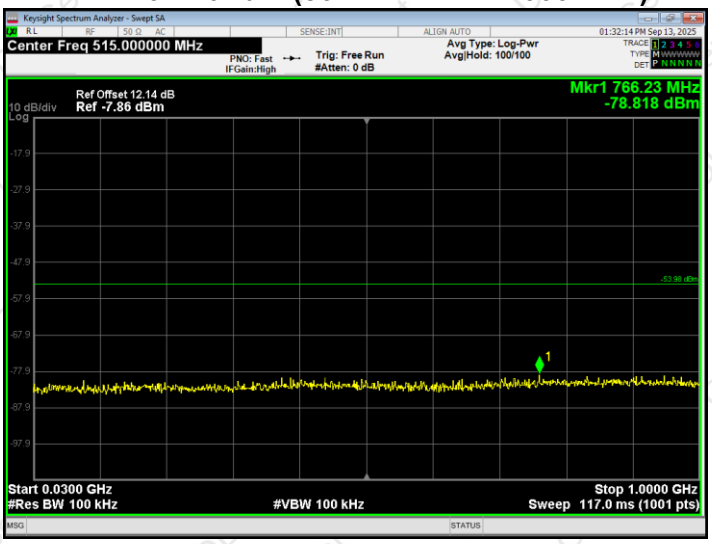


RX-2480 Band 2 (1000 MHz ≦ f < 12500 MHz)

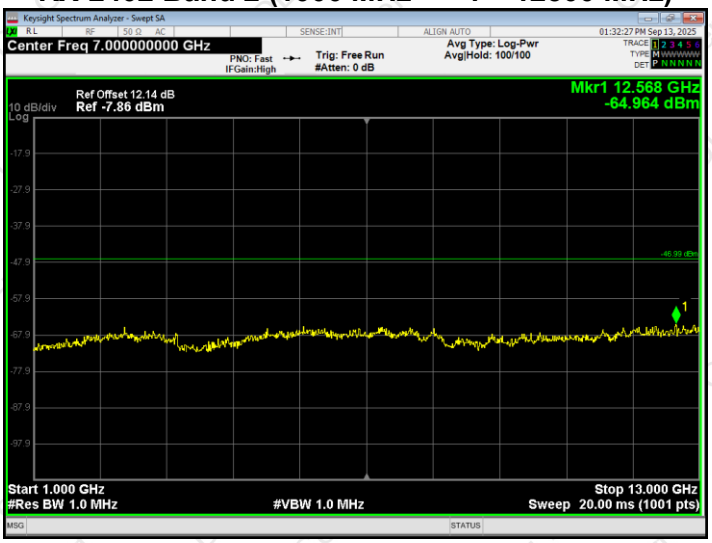


Temperature:	25℃	Pressure:	1010mbar
Humidity:	55 % RH	Test Voltage	NORMAL VOLTAGE
Operation Mode:	8DPSK		

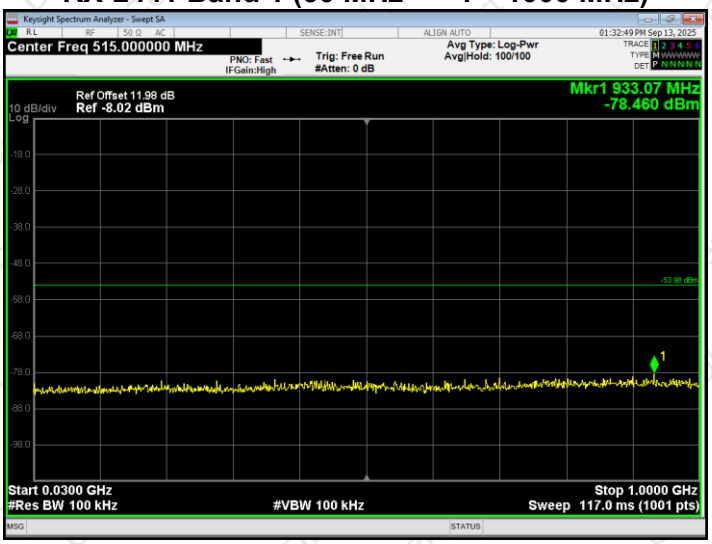
RX-2402 Band 1 (30 MHz ≦ f < 1000 MHz)



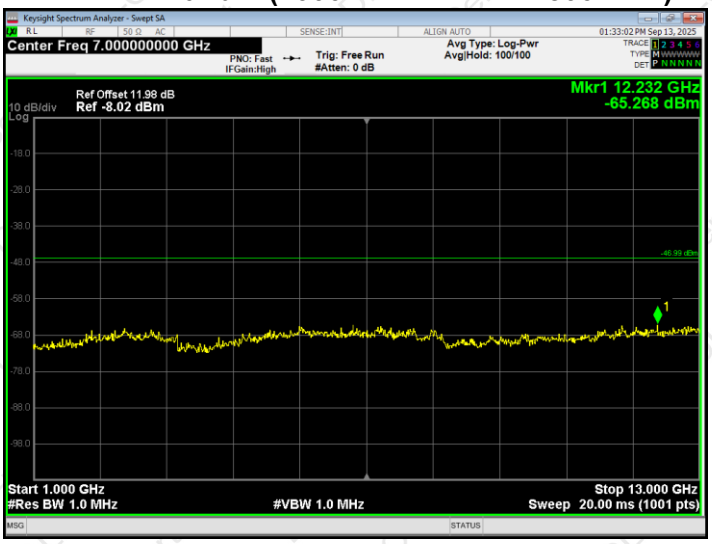
RX-2402 Band 2 (1000 MHz ≦ f < 12500 MHz)



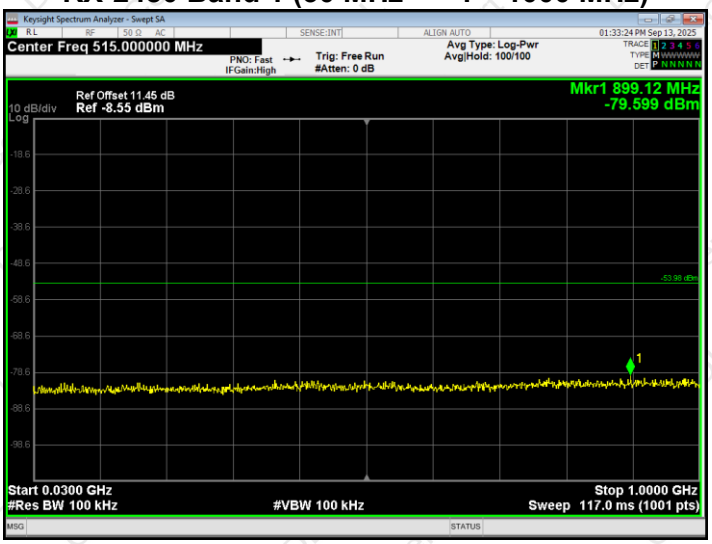
RX-2441 Band 1 (30 MHz ≦ f < 1000 MHz)



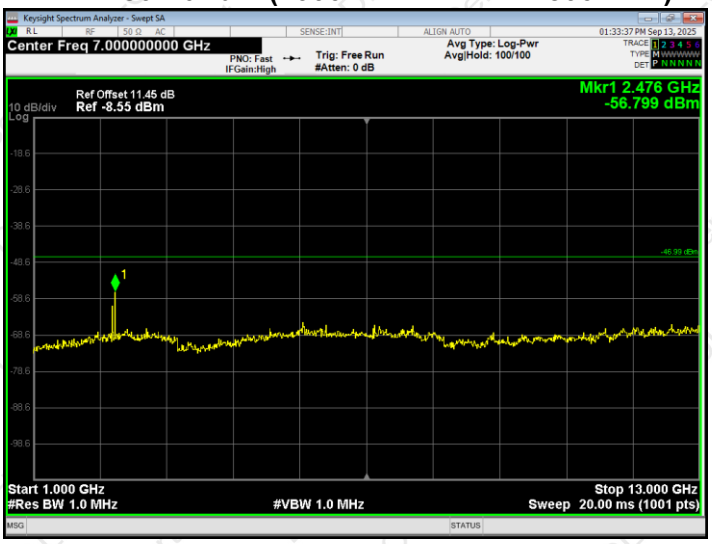
RX-2441 Band 2 (1000 MHz ≦ f < 12500 MHz)



RX-2480 Band 1 (30 MHz ≦ f < 1000 MHz)

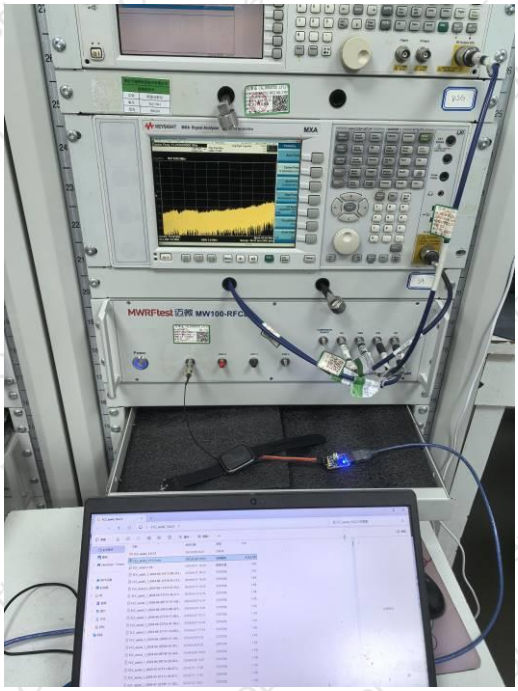


RX-2480 Band 2 (1000 MHz ≦ f < 12500 MHz)



13. EUT TEST PHOTO

Measurement Photos



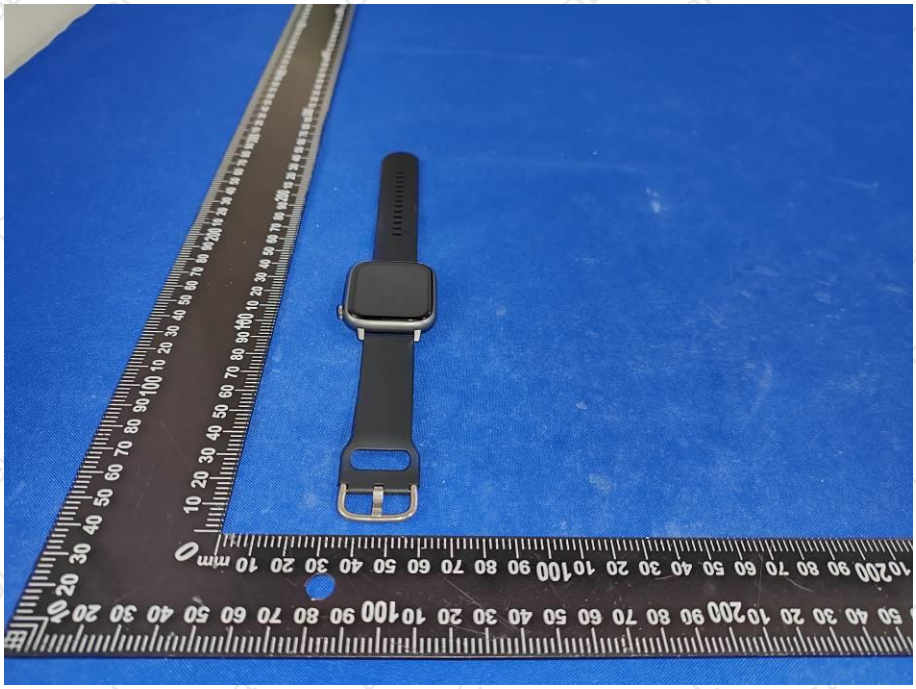
14. EUT PHOTOS

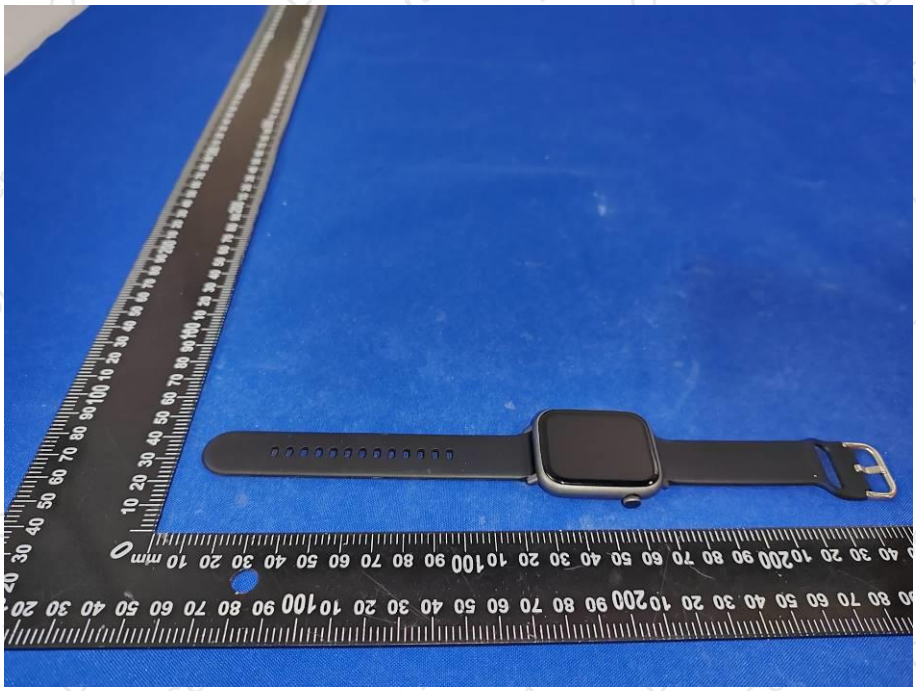


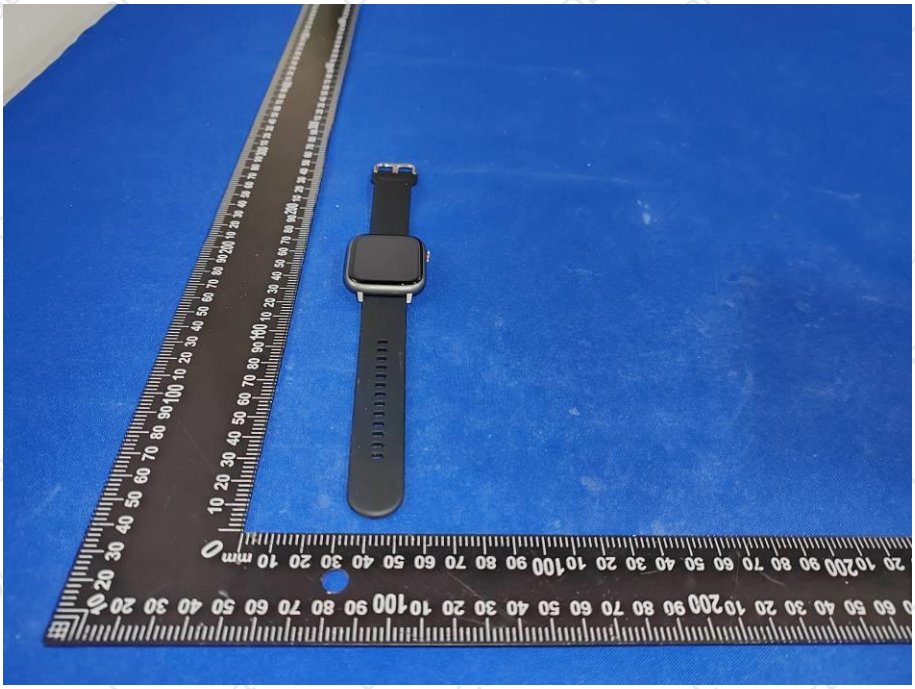




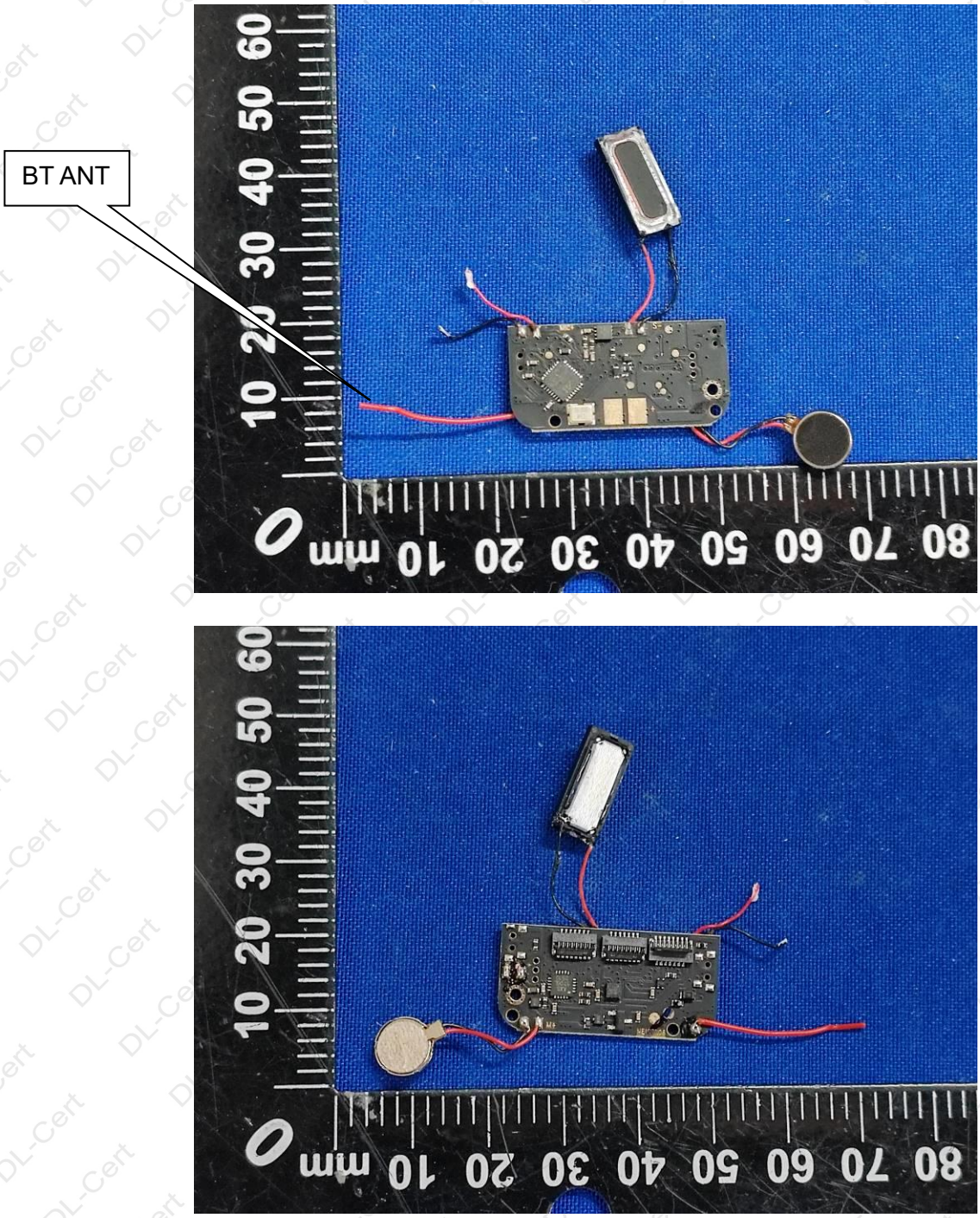


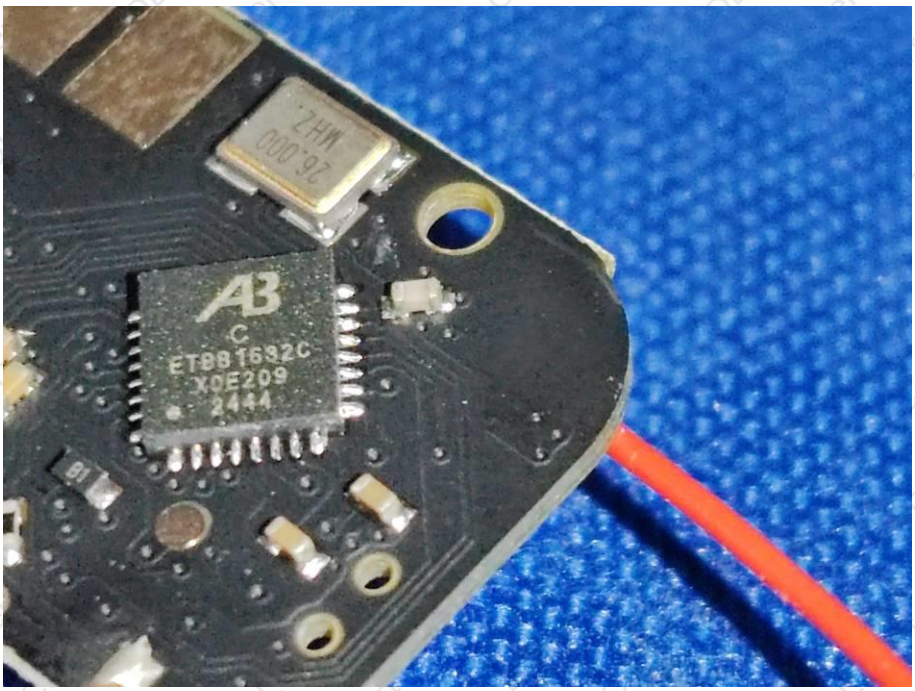


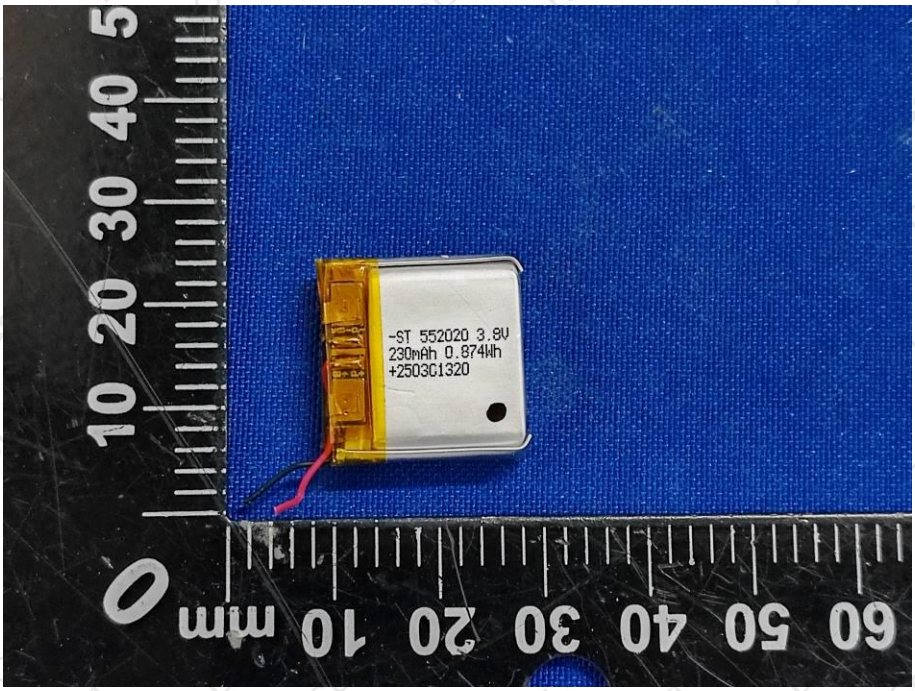







BT ANT





---END OF THE REPORT---