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TEST REPORT

Report No. ..... :	**CHTEW22030037**	Report Verification:
Project No.....:	**SHT2202013111EW**	
FCC ID ..... :	**YY3-NX41P-UHF**	
Applicant's name ..... :	**Handheld Group AB**	
Address.....:	Strandgatan 40 531 30 Lidköping Sweden	
Test item description ..... :	**UHF module**	
Trade Mark .....:	handheld	
Model/Type reference.....:	NX41-P-PG-UHF	
Listed Model(s) .....:	-	
Standard ..... :	**FCC CFR Title 47 Part 15 Subpart C Section 15.247**	
Date of receipt of test sample.....:	Feb.23, 2022	
Date of testing.....:	Feb.23, 2022- Mar.04, 2022	
Date of issue.....:	Mar.07, 2022	
Result..... .....:	**PASS**	

Compiled by (Position+Printed name+Signature):	File administrator Fanghui Zhu	Fanghui Zhu
Supervised by (Position+Printed name+Signature):	Project Engineer Cheng Xiao	ChengXiao
Approved by (Position+Printed name+Signature):	RF Manager Hans Hu	HansHu

Testing Laboratory Name ..... :	**Shenzhen Huatongwei International Inspection Co., Ltd.**
Address.....:	1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

Contents

1. TEST STANDARDS AND REPORT VERSION

1.1. Test Standards

The tests were performed according to following standards:

– FCC Rules Part 15.247: Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

– ANSI C63.10:2013: American National Standard for Testing Unlicensed Wireless Devices

– KDB 558074 D01 15.247 Meas Guidance v05r02: Guidance for Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating under Section 15.247 of The FCC Rules

1.2. Report version

Revision No.	Date of issue	Description
N/A	2022-03-07	Original

2. TEST DESCRIPTION

Report clause	Test Items	Standard Requirement	Result
5.1	Antenna Requirement	15.203/15.247 (c)	PASS
5.2	AC Conducted Emission	15.207	PASS
5.3	Peak Output Power	15.247 (b)(1)	PASS
5.4	20 dB Bandwidth	15.247 (a)(1)	PASS
5.5	99% Occupied Bandwidth	-	PASS*1
5.6	Carrier Frequency Separation	15.247 (a)(1)	PASS
5.7	Hopping Channel Number	15.247 (a)(1)	PASS
5.8	Dwell Time	15.247 (a)(1)	PASS
5.9	Duty Cycle Correction Factor	-	PASS*1
5.10	Pseudorandom Frequency Hopping Sequence	15.247(b)(4)	PASS
5.11	Conducted Band Edge and Spurious Emission	15.247(d)/15.205	PASS
5.12	Radiated Band Edge Emission	15.205/15.209	PASS
5.13	Radiated Spurious Emission	15.247(d)/15.205/15.209	PASS

Note:

– The measurement uncertainty is not included in the test result.

– *1: No requirement on standard, only report these test data.

3. SUMMARY

3.1. Client Information

Applicant:	Handheld Group AB
Address:	Strandgatan 40 531 30 Lidköping Sweden
Manufacturer:	Handheld Group AB
Address:	Strandgatan 40 531 30 Lidköping Sweden

3.2. Product Description

Name of EUT:	UHF module
Trade Mark:	handheld
Model No.:	NX41-P-PG-UHF
Listed Model(s):	-
Power supply:	DC 3.6V from battery
Hardware version:	4.0.4
Software version:	1.5.3

3.3. Radio Specification Description

Support function*2:	RFID
Modulation:	FSK
Operation frequency:	902MHz~928MHz
Channel number:	50
Channel separation:	500KHz
Antenna type:	PCB antenna
Antenna gain:	4.8dBi

Note:

*2: only show the RF function associated with this report.

3.4. Testing Laboratory Information

Laboratory Name	Shenzhen Huatongwei International Inspection Co., Ltd.	
Laboratory Location	1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China	
Connect information:	Tel: 86-755-26715499 E-mail: cs@szhtw.com.cn http://www.szhtw.com.cn	
Qualifications	Type	Accreditation Number
	FCC	762235

4. TEST CONFIGURATION

4.1. Test frequency list

According to section 15.31(m), regards to the operating frequency range over 10 MHz, must select three channels which were tested. The Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, please see the below blue front.

Channel	Frequency (MHz)
CH-L	**902.75**
⋮	
CH-M	**915.25**
⋮	
CH-H	**927.25**

4.2. Test mode

For RF test items
The engineering test program was provided and enabled to make EUT continuous transmit
For AC power line conducted emissions:
The engineering test program was provided and enabled to make EUT continuous transmit
For Radiated suprious emissions test item:
The engineering test program was provided and enabled to make EUT continuous transmit. The EUT in each of three orthogonal axis emissions had been tested ,but only the worst case (X axis) data Recorded in the report.

4.3. Support unit used in test configuration and system

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The following peripheral devices and interface cables were connected during the measurement:

Whether support unit is used?					
✓ No					
Item	Equipement	Trade Name	Model No.	FCC ID	Power cord
1	-	-	-	-	-
2	-	-	-	-	-

4.4. Testing environmental condition

Type	Requirement	Actual
Temperature:	15~35°C	25°C
Relative Humidity:	25~75%	50%
Air Pressure:	860~1060mbar	1000mbar

4.5. Measurement uncertainty

Test Item	Measurement Uncertainty
AC Conducted Emission (150kHz~30MHz)	3.00 dB
Radiated Emission (30MHz~1000MHz	4.36 dB
Radiated Emissions (1GHz~25GHz)	5.10 dB
Peak Output Power	0.77dB
Power Spectral Density	0.77dB
Conducted Spurious Emission	0.77dB
6dB Bandwidth	70Hz for <1GHz 130Hz for >1GHz

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

4.6. Equipment Used during the Test

● Conducted Emission							
Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Shielded Room	Albatross projects	HTWE0114	N/A	N/A	2021/9/13	2022/9/12
●	EMI Test Receiver	R&S	HTWE0111	ESCI	101247	2021/9/13	2022/9/12
●	Artificial Mains	SCHWARZBECK	HTWE0113	NNLK 8121	573	2021/9/13	2022/9/12
●	Pulse Limiter	R&S	HTWE0033	ESH3-Z2	100499	2021/9/13	2022/9/12
●	RF Connection Cable	HUBER+SUHNER	HTWE0113-02	ENVIROFLEX_142	EF-NM-BNCM-2M	2021/9/13	2022/9/12
●	Test Software	R&S	N/A	ES-K1	N/A	N/A	N/A

● Radiated emission-6th test site							
Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Semi-Anechoic Chamber	Albatross projects	HTWE0127	SAC-3m-02	C11121	2018/09/30	2022/09/29
●	EMI Test Receiver	R&S	HTWE0099	ESCI	100900	2021/9/14	2022/9/13
●	Loop Antenna	R&S	HTWE0170	HFH2-Z2	100020	2021/04/06	2022/04/05
●	Ultra-Broadband Antenna	SCHWARZBECK	HTWE0123	VULB9163	538	2021/04/06	2022/04/05
●	Pre-Amplifer	SCHWARZBECK	HTWE0295	BBV 9742	N/A	2021/11/5	2022/11/4
●	RF Connection Cable	HUBER+SUHNER	HTWE0062-01	N/A	N/A	2022/02/25	2023/02/24
●	RF Connection Cable	HUBER+SUHNER	HTWE0062-02	SUCOFLEX104	501184/4	2022/02/25	2023/02/24
●	Test Software	R&S	N/A	ES-K1	N/A	N/A	N/A

● Radiated emission-7th test site							
Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Semi-Anechoic Chamber	Albatross projects	HTWE0122	SAC-3m-01	N/A	2018/09/27	2022/09/26
●	Spectrum Analyzer	R&S	HTWE0098	FSP40	100597	2021/9/13	2022/9/12
●	Horn Antenna	SCHWARZBECK	HTWE0126	9120D	1011	2020/04/01	2023/03/31
●	Broadband Horn Antenna	SCHWARZBECK	HTWE0103	BBHA9170	BBHA9170472	2020/4/27	2023/4/27
●	Pre-amplifier	CD	HTWE0071	PAP-0102	12004	2021/11/5	2022/11/4
●	Broadband Pre-amplifier	SCHWARZBECK	HTWE0201	BBV 9718	9718-248	2022/02/28	2023/02/27
●	RF Connection Cable	HUBER+SUHNER	HTWE0120-01	6m 18GHz S Serisa	N/A	2022/02/25	2023/02/24
●	RF Connection Cable	HUBER+SUHNER	HTWE0120-02	6m 3GHz RG Serisa	N/A	2022/02/25	2023/02/24
●	RF Connection Cable	HUBER+SUHNER	HTWE0120-03	6m 3GHz RG Serisa	N/A	2022/02/25	2023/02/24
●	RF Connection Cable	HUBER+SUHNER	HTWE0120-04	6m 3GHz RG Serisa	N/A	2022/02/25	2023/02/24
●	RF Connection Cable	HUBER+SUHNER	HTWE0121-01	6m 18GHz S Serisa	N/A	N/A	N/A
●	Test Software	Audix	N/A	E3	N/A	2022/02/28	2023/02/27

●	RF Conducted Method					
Used	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Signal and spectrum Analyzer	R&S	FSV40	100048	2021/9/13	2022/9/12
●	Spectrum Analyzer	Agilent	N9020A	MY50510187	2021/9/13	2022/9/12
●	Power Meter	Anritsu	ML249A	N/A	2021/9/13	2022/9/12
○	Radio communication tester	R&S	CMW500	137688-Lv	2021/9/13	2022/9/12

5. TEST CONDITIONS AND RESULTS

5.1. Antenna Requirement

Requirement

FCC CFR Title 47 Part 15 Subpart C Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

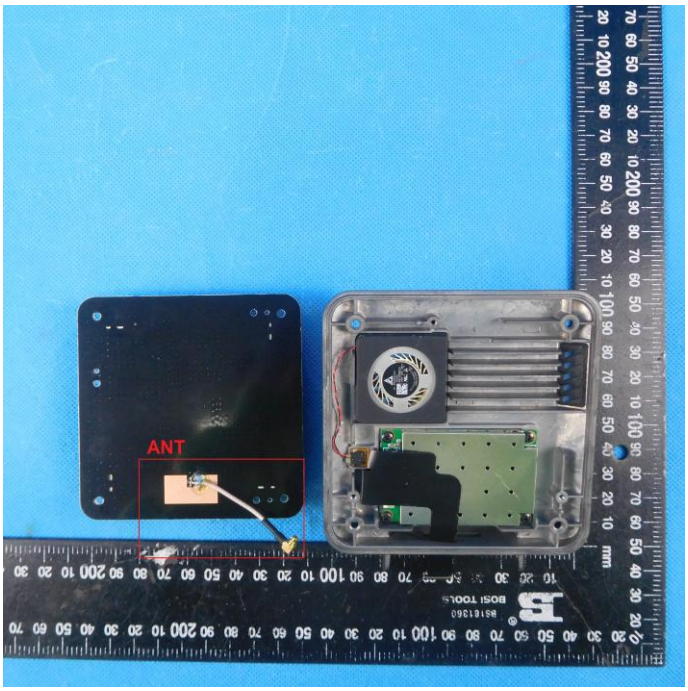
FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i):

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

TEST RESULT

☒ **Passed** ☐ **Not Applicable**

The antenna type PCB antenna, the directional gain of the antenna less than 6 dBi, please refer to the below antenna photo.



5.2. AC Conducted Emission

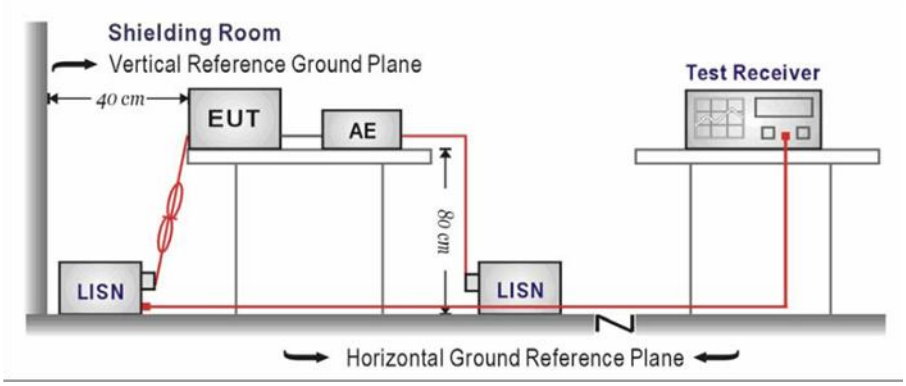
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.207

Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST CONFIGURATION



TEST PROCEDURE

1. The EUT was setup according to ANSI C63.10 requirements.
2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
3. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment.
4. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
5. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
6. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
7. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
8. During the above scans, the emissions were maximized by cable manipulation.

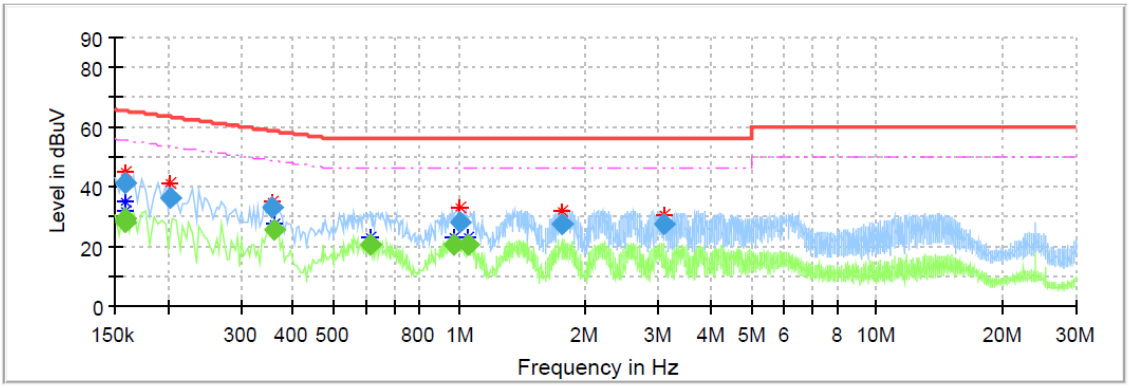
TEST MODE:

Please refer to the clause 4.2

TEST RESULT

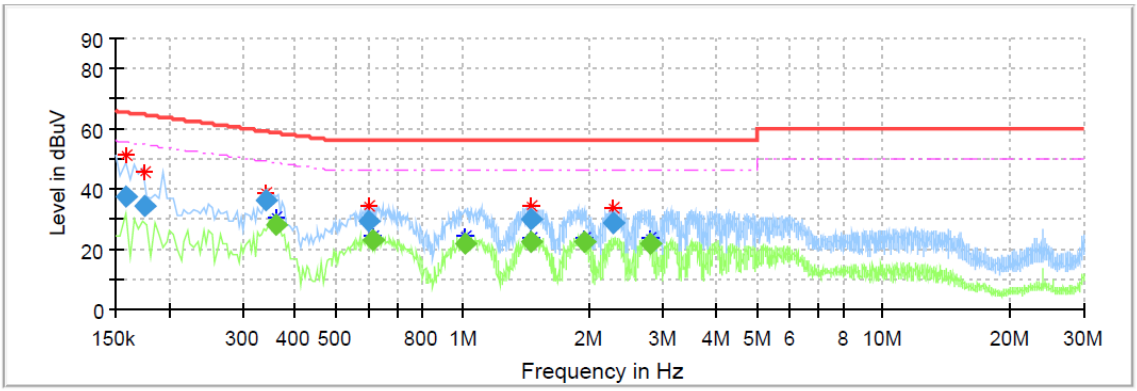
☒ **Passed** ☐ **Not Applicable**

Test Line:	L



Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Corr. (dB)
0.158000	---	29.19	55.57	26.38	L1	10.1
0.158000	41.54	---	65.57	24.02	L1	10.1
0.159500	---	28.24	55.49	27.25	L1	10.1
0.203500	36.24	---	63.47	27.22	L1	10.1
0.355500	33.08	---	58.83	25.75	L1	10.1
0.359500	---	25.64	48.74	23.10	L1	10.1
0.611500	---	20.41	46.00	25.59	L1	10.1
0.975500	---	20.39	46.00	25.61	L1	10.1
1.003500	27.87	---	56.00	28.13	L1	10.1
1.047500	---	20.36	46.00	25.64	L1	10.1
1.767500	27.63	---	56.00	28.37	L1	10.1
3.083500	27.39	---	56.00	28.61	L1	10.2

Test Line:	N



Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Corr. (dB)
0.158000	37.52	---	65.57	28.05	N	10.1
0.175500	34.33	---	64.70	30.36	N	10.1
0.339500	36.12	---	59.22	23.09	N	10.1
0.359500	---	27.84	48.74	20.90	N	10.1
0.595500	29.67	---	56.00	26.33	N	10.1
0.611500	---	23.04	46.00	22.96	N	10.1
1.019500	---	22.16	46.00	23.84	N	10.1
1.455500	29.82	---	56.00	26.18	N	10.1
1.459500	---	22.28	46.00	23.72	N	10.1
1.948500	---	22.40	46.00	23.60	N	10.1
2.279500	28.95	---	56.00	27.05	N	10.1
2.803500	---	22.02	46.00	23.98	N	10.1

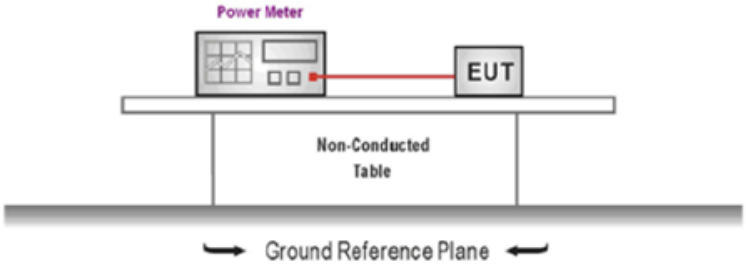
5.3. Peak Output Power

LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(1):

For frequency hopping systems operating in the 902-928 MHz band: 1 watt for systems employing at least 50 hopping channels; and, 0.25 watts for systems employing less than 50 hopping channels, but at least 25 hopping channels, as permitted under paragraph (a)(1)(i) of this section.

TEST CONFIGURATION



TEST PROCEDURE

1. TThe transmitter output was connected to the spectrum analyzer through an attenuator, the pathloss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. Use the following spectrum analyzer settings:
   Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel
   RBW≥ the 20 dB bandwidth of the emission being measured, VBW≥RBW
   Sweep = auto, Detector function = peak, Trace = max hold
4. Measure and record the results in the test report.

TEST MODE:

Please refer to the clause 4.2

TEST RESULT

☒ **Passed** ☐ **Not Applicable**

TEST Data

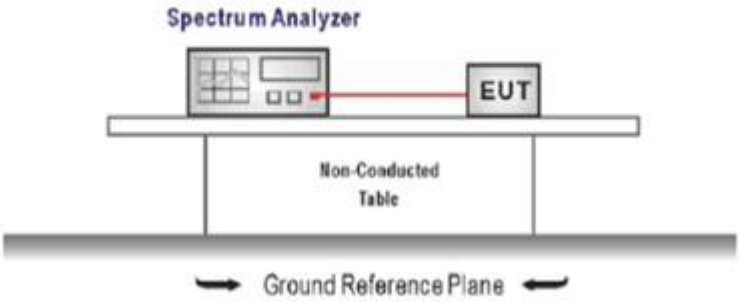
Please refer to appendix A on the appendix report

5.4. 20 dB Bandwidth

LIMIT

The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz

TEST CONFIGURATION



TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. Use the following spectrum analyzer settings:
   Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel
   RBW ≥ 1% of the 20 dB bandwidth, VBW ≥ RBW
   Sweep = auto, Detector function = peak, Trace = max hold
1. Measure and record the results in the test report.

TEST MODE:

Please refer to the clause 4.2

TEST RESULT

☒ **Passed** ☐ **Not Applicable**

TEST Data

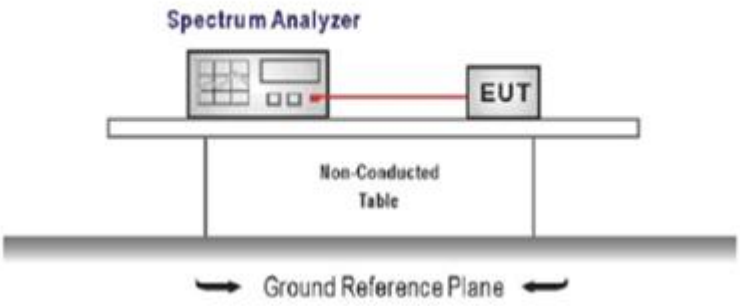
Please refer to appendix B on the appendix report

5.5. 99% Occupied Bandwidth

LIMIT

N/A

TEST CONFIGURATION



TEST PROCEDURE

1. Connect the antenna port(s) to the spectrum analyzer input.
2. Configure the spectrum analyzer as shown below (enter all losses between the transmitter output andthe spectrum analyzer).
   Center Frequency =channel center frequency
   Span≥1.5 x OBW
   RBW = 1%~5%OBW
   VBW ≥ 3 × RBW
   Sweep time= auto couple
   Detector = Peak
   Trace mode = max hold
3. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter waveform on the spectrum analyzer.

TEST MODE:

Please refer to the clause 4.2

TEST RESULT

☒ **Passed** ☐ **Not Applicable**

TEST Data

Please refer to appendix C on the appendix report

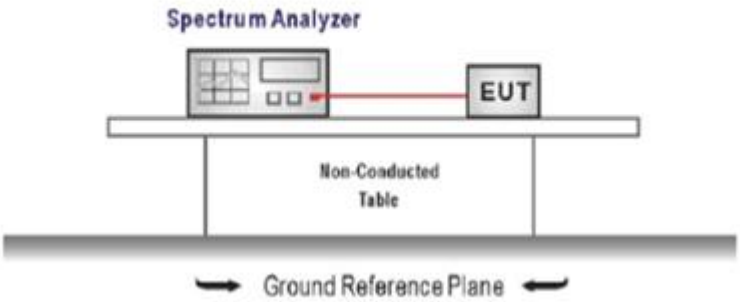
5.6. Carrier Frequencies Separation

LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a):

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

TEST CONFIGURATION



TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. Use the following spectrum analyzer settings:
   Span = wide enough to capture the peaks of two adjacent channels
   RBW ≥ 1% of the span, VBW ≥ RBW
   Sweep = auto, Detector function = peak, Trace = max hold

Measure and record the results in the test report.

TEST MODE:

Please refer to the clause 4.2

TEST RESULT

☒ **Passed** ☐ **Not Applicable**

TEST Data

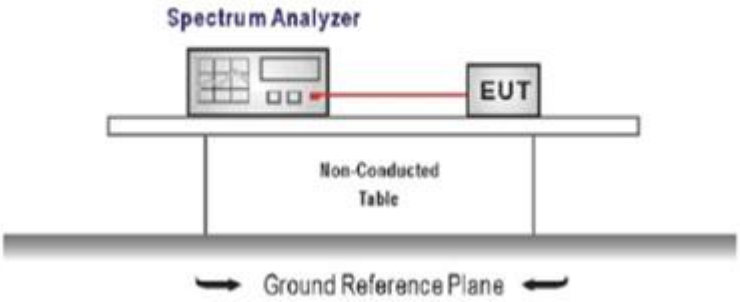
Please refer to appendix D on the appendix report

5.7. Hopping Channel Number

LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(1):
For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period.

TEST CONFIGURATION



TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. Use the following spectrum analyzer settings:
   Span = the frequency band of operation
   RBW ≥ 1% of the span, VBW ≥ RBW
   Sweep = auto, Detector function = peak, Trace = max hold
4. Measure and record the results in the test report.

TEST MODE:

Please refer to the clause 4.2

TEST Data

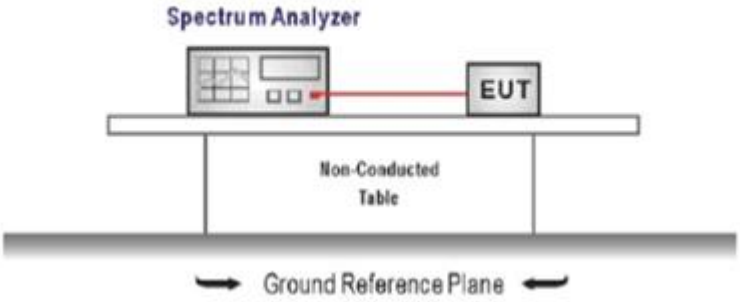
Please refer to appendix E on the appendix report

5.8. Dwell Time

LIMIT

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period..

TEST CONFIGURATION



TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. Use the following spectrum analyzer settings:
   Span = zero span, centered on a hopping channel, RBW= 1 MHz, VBW ≥ RBW
   Sweep = as necessary to capture the entire dwell time per hopping channel,
   Detector function = peak, Trace = max hold
4. Measure and record the results in the test report.

TEST MODE:

Please refer to the clause 4.2

TEST RESULT

☒ **Passed** ☐ **Not Applicable**

TEST Data

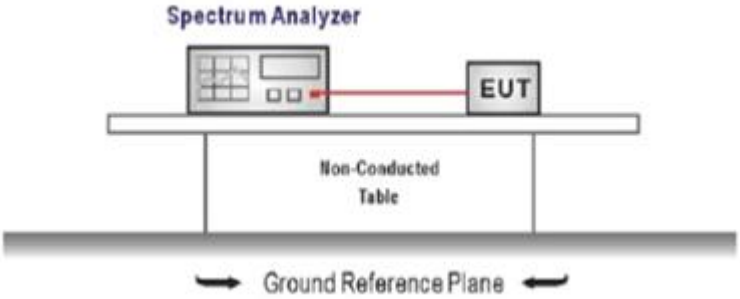
Please refer to appendix F on the appendix report

5.9. Duty Cycle Correction Factor (DCCF)

LIMIT

N/A

TEST CONFIGURATION



TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. Use the following spectrum analyzer settings:
   Span = zero span, centered on a hopping channel, RBW= 1 MHz, VBW ≥ RBW
   Sweep = as necessary to capture the entire dwell time per hopping channel,
   Detector function = peak, Trigger mode
4. Measure and record the duty cycle data

TEST MODE:

Please refer to the clause 4.2

TEST Data

Please refer to appendix G on the appendix report

5.10. Pseudorandom Frequency Hopping Sequence

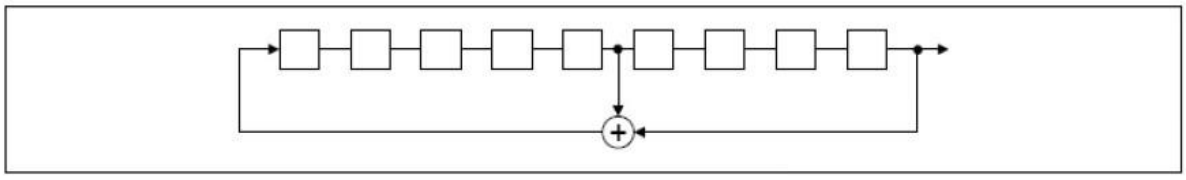
LIMIT

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz

TEST RESULTS

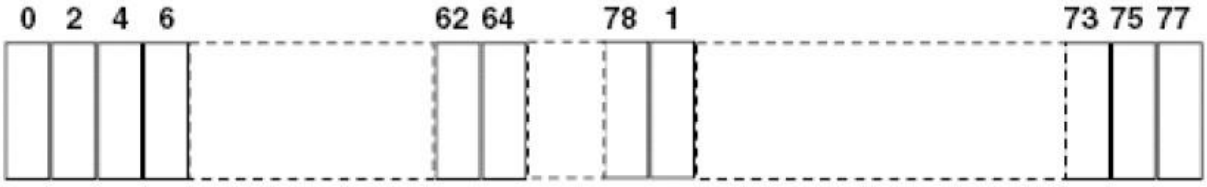
The pseudorandom frequency hopping sequence may be generated in a nice-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage.And the result is fed back to the input of the friststage.The sequence begins with the frist one of 9 consecutive ones,forexample:the shift register is initialized with nine ones.

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



Linear Feedback Shift Register for Generation of the PRBS sequence

An explame of pseudorandom frequency hopping sequence as follows:



Each frequency used equally one the average by each transmitter.

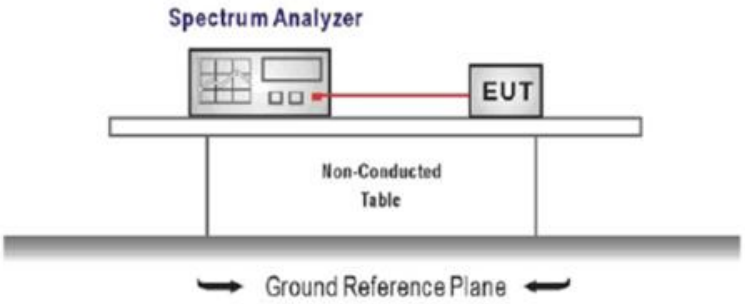
The system receiver have input bandwidths that match the hopping channel bandwidths of their corresponding transmitter and shift frequencies in synchronization with the transmitted signals.

5.11. Conducted Band edge and Spurious Emission

LIMIT

FCC CFR Title 47 Part 15 Subpart C Section15.247 (d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

TEST CONFIGURATION



TEST PROCEDURE

1. Connect the antenna port(s) to the spectrum analyzer input.
2. Emission level measurement
   Set the center frequency and span to encompass frequency range to be measured
   RBW = 100 kHz, VBW ≥ 3 x RBW
   Detector = peak, Sweep time = auto couple, Trace mode = max hold
   Allow trace to fully stabilize
   Use the peak marker function to determine the maximum amplitude level.
3. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter waveform on the spectrum analyzer.
4. Ensure that the amplitude of all unwanted emission outside of the authorized frequency band excluding restricted frequency bands) are attenuated by at least the minimum requirements specified (at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz). Report the three highest emission relative to the limit.

TEST MODE:

Please refer to the clause 4.2

TEST RESULT

☒ **Passed** ☐ **Not Applicable**

TEST Data

Please refer to appendix H on the appendix report

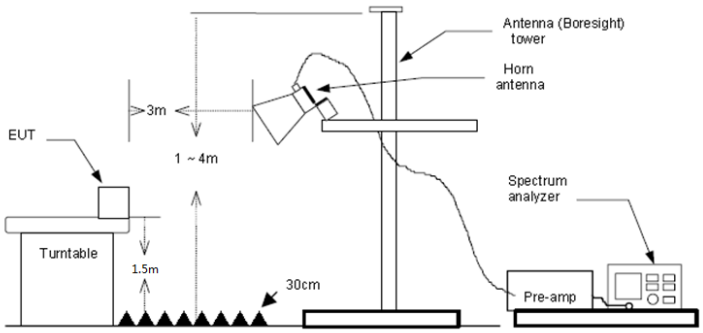
5.12. Radiated Band edge Emission

LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d):

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

TEST CONFIGURATION



TEST PROCEDURE

1. The EUT was setup and tested according to ANSI C63.10 .
2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT waspositioned such that the distance from antenna to the EUT was 3 meters.
4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. Thisis repeated for both horizontal and vertical polarization of the antenna. In order to find themaximum emission, all of the interface cables were manipulated according to ANSI C63.10 on radiated measurement.
5. Use the following spectrum analyzer settings:
   a) Span shall wide enough to fully capture the emission being measured
   b) Set RBW=100kHz for <1GHz, VBW=3*RBW, Sweep time=auto, Detector=peak, Trace=max hold
   c) Set RBW=1MHz, VBW=3MHz for >1GHz, Sweep time=auto, Detector=peak, Trace=max hold for Peak measurement

      For average measurement: use duty cycle correction factor method (DCCF)

      Averager level = Peak level + DCCF

TEST MODE:

Please refer to the clause 4.2

TEST RESULT

☒ **Passed** ☐ **Not Applicable**

Note:

1) Level= Reading + Factor; Factor =Antenna Factor+ Cable Loss- Preamp Factor
2) Over Limit = Level– Limit

Test channel:	CH-L	Polarity	Horizontal

Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	902.00	19.88	22.90	10.87	0.00	53.65	98.67	-45.02	Peak
2	902.74	84.89	22.91	10.87	0.00	118.67	98.67	20.00	Peak

Test channel:	CH-L	Polarity	Vertical

Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	902.00	15.27	22.90	10.87	0.00	49.04	94.07	-45.03	Peak
2	902.74	80.29	22.91	10.87	0.00	114.07	94.07	20.00	Peak

Test channel:	CH-H	Polarity	Horizontal

Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	927.26	84.34	22.95	10.94	0.00	118.23	98.23	20.00	Peak
2	928.00	21.38	22.96	10.94	0.00	55.28	98.23	-42.95	Peak

Test channel:	CH-H	Polarity	Vertical

Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	927.26	81.35	22.95	10.94	0.00	115.24	95.24	20.00	Peak
2	928.00	19.12	22.96	10.94	0.00	53.02	95.24	-42.22	Peak

5.13. Radiated Spurious Emission

LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.209

Frequency	Limit (dBuV/m)	Value
0.009 MHz ~0.49 MHz	2400/F(kHz) @300m	Quasi-peak
0.49 MHz ~ 1.705 MHz	24000/F(kHz) @30m	Quasi-peak
1.705 MHz ~30 MHz	30 @30m	Quasi-peak

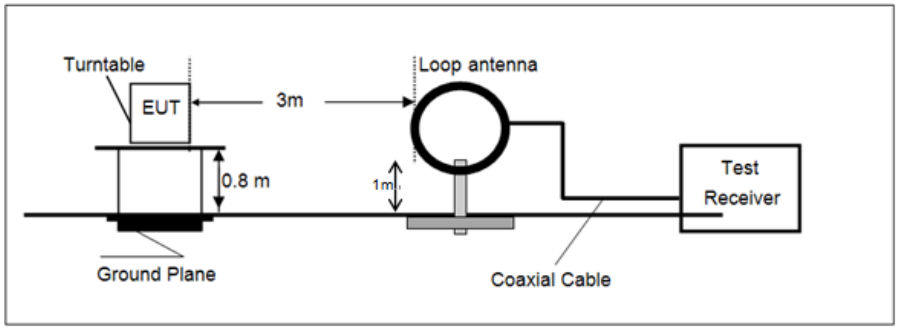
Note: Limit dBuV/m @3m = Limit dBuV/m @300m + 40*log(300/3)= Limit dBuV/m @300m +80,

Limit dBuV/m @3m = Limit dBuV/m @30m +40*log(30/3)= Limit dBuV/m @30m + 40.

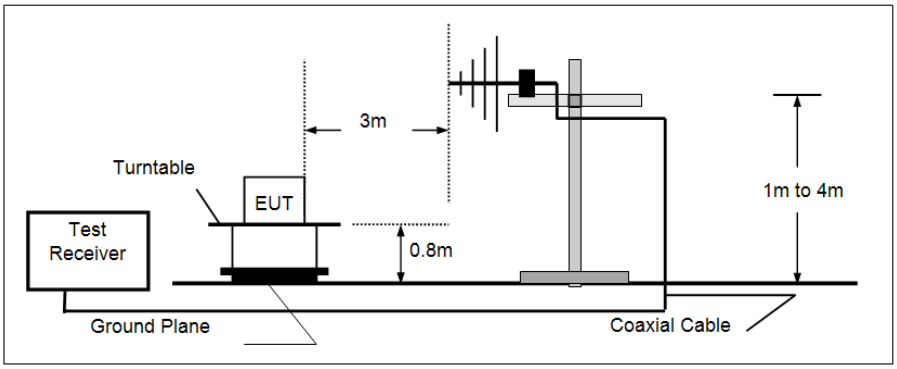
Frequency	Limit (dBuV/m @3m)	Value
30MHz~88MHz	40.00	Quasi-peak
88MHz~216MHz	43.50	Quasi-peak
216MHz~960MHz	46.00	Quasi-peak
960MHz~1GHz	54.00	Quasi-peak
Above 1GHz	54.00	Average
	74.00	Peak

TEST CONFIGURATION

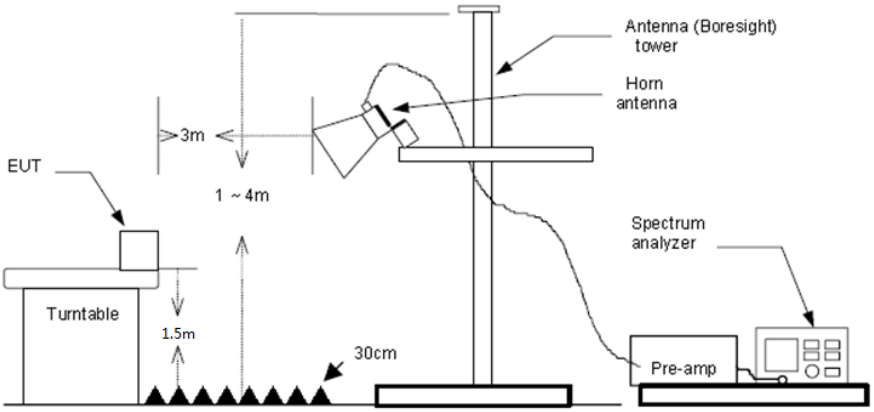
- 9 kHz ~ 30 MHz



- 30 MHz ~ 1 GHz



- Above 1 GHz



TEST PROCEDURE

1. The EUT was setup and tested according to ANSI C63.10 .
2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
5. Set to the maximum power setting and enable the EUT transmit continuously.
6. Use the following spectrum analyzer settings
   a) Span shall wide enough to fully capture the emission being measured;
   b) Below 1 GHz:

      RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold;

      If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
   c) Set RBW=1MHz, VBW=3MHz for >1GHz, Sweep time=auto, Detector=peak, Trace=max hold for Peak measurement

      For average measurement: use duty cycle correction factor method (DCCF)

      Averager level = Peak level + DCCF

TEST MODE:

Please refer to the clause 4.2

TEST RESULT

☒ **Passed** ☐ **Not Applicable**

Note:

1) Level= Reading + Factor/Transd; Factor/Transd =Antenna Factor+ Cable Loss- Preamp Factor
2) Over Limit = Level– Limit
3) Average measurement was not performed if peak level is lower than average limit(54 dBuV/m) for above 1GHz.

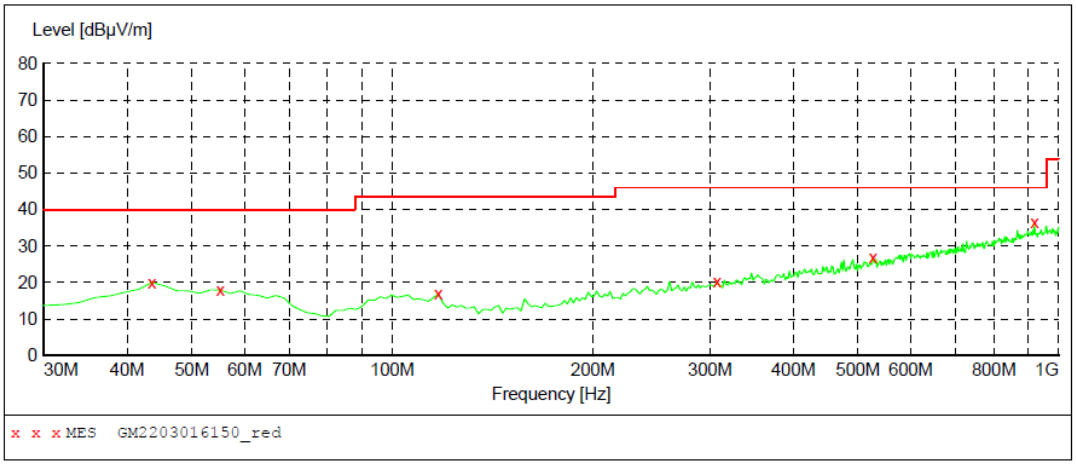
TEST DATA FOR 9 kHz ~ 30 MHz

The EUT was pre-scanned this frequency band, found the radiated level 20dB lower than the limit, so don't show data on this report.

TEST DATA FOR 30 MHz ~ 1000 MHz

Have pre-scan all test channel, found CH-L which it was worst case, so only show the worst case's data on this report.

Polarization:	Horizontal

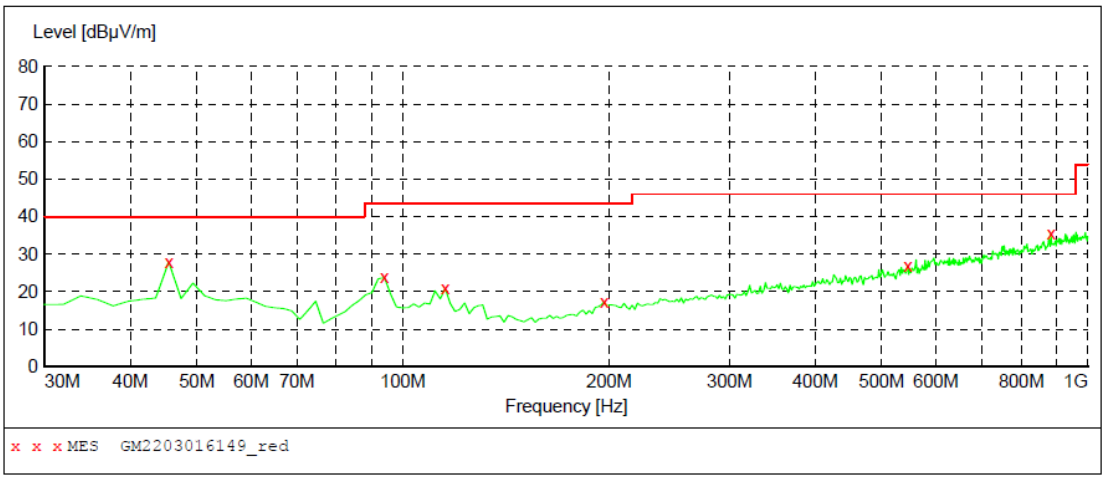


MEASUREMENT RESULT: "GM2203016150_red"

3/2/2022 12:37AM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
43.580000	20.00	-9.2	40.0	20.0	QP	100.0	266.00	HORIZONTAL
55.220000	17.90	-9.2	40.0	22.1	QP	100.0	148.00	HORIZONTAL
117.300000	16.90	-12.2	43.5	26.6	QP	100.0	239.00	HORIZONTAL
307.420000	20.30	-7.2	46.0	25.7	QP	100.0	148.00	HORIZONTAL
526.640000	26.80	-1.3	46.0	19.2	QP	100.0	44.00	HORIZONTAL
920.460000	36.40	7.2	46.0	9.6	QP	100.0	6.00	HORIZONTAL

Polarization:	Vertical



MEASUREMENT RESULT: "GM2203016149_red"

3/2/2022 12:34AM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
45.520000	27.90	-8.9	40.0	12.1	QP	100.0	255.00	VERTICAL
94.020000	23.80	-11.7	43.5	19.7	QP	100.0	0.00	VERTICAL
115.360000	20.80	-11.8	43.5	22.7	QP	100.0	322.00	VERTICAL
196.840000	17.30	-9.9	43.5	26.2	QP	100.0	140.00	VERTICAL
546.040000	26.90	-0.9	46.0	19.1	QP	100.0	305.00	VERTICAL
883.600000	35.60	6.4	46.0	10.4	QP	100.0	255.00	VERTICAL

TEST DATA FOR 1 GHz ~ 25 GHz

Test channel	CH-L	Polarity	Horizontal

Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1054.91	63.74	25.22	3.62	36.98	55.60	74.00	-18.40	Peak
2	1805.01	66.16	25.42	4.76	37.08	59.26	74.00	-14.74	Peak
3	2705.54	49.78	28.02	5.88	37.16	46.52	74.00	-27.48	Peak
4	7376.08	36.18	36.55	10.20	34.04	48.89	74.00	-25.11	Peak

Frequency (MHz)	Peak Level (dBuV/m)	DCCF (dB)	Average Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Remark
1054.91	55.60	-33.98	21.62	54	-32.38	Horizontal	Average
1805.01	59.26	-33.98	25.28	54	-28.72	Horizontal	Average

Test channel	CH-L	Polarity	Vertical

Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1007.67	62.73	25.28	3.54	37.06	54.49	74.00	-19.51	Peak
2	1805.01	64.17	25.42	4.76	37.08	57.27	74.00	-16.73	Peak
3	2346.10	47.98	27.82	5.47	37.52	43.75	74.00	-30.25	Peak
4	4908.44	42.54	31.42	8.72	35.22	47.46	74.00	-26.54	Peak

Frequency (MHz)	Peak Level (dBuV/m)	DCCF (dB)	Average Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Remark
1007.67	54.49	-33.98	20.51	54	-33.49	Vertical	Average
1805.01	57.27	-33.98	23.29	54	-30.71	Vertical	Average

Test channel	CH-M	Polarity	Horizontal

Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1007.67	64.55	25.28	3.54	37.06	56.31	74.00	-17.69	Peak
2	1828.13	73.86	25.51	4.79	37.07	67.09	74.00	-6.91	Peak
3	2740.20	57.90	28.16	5.92	37.25	54.73	74.00	-19.27	Peak
4	5164.81	37.32	31.91	8.96	35.44	42.75	74.00	-31.25	Peak

Frequency (MHz)	Peak Level (dBuV/m)	DCCF (dB)	Average Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Remark
1007.67	56.31	-33.98	22.33	54	-31.67	Horizontal	Average
1828.13	67.09	-33.98	33.11	54	-20.89	Horizontal	Average
2740.20	54.73	-33.98	20.75	54	-33.25		

Test channel	CH-M	Polarity	Vertical

Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1010.23	63.92	25.28	3.55	37.06	55.69	74.00	-18.31	Peak
2	1828.13	67.55	25.51	4.79	37.07	60.78	74.00	-13.22	Peak
3	2740.20	46.03	28.16	5.92	37.25	42.86	74.00	-31.14	Peak
4	8022.46	34.36	37.14	10.95	33.31	49.14	74.00	-24.86	Peak

Frequency (MHz)	Peak Level (dBuV/m)	DCCF (dB)	Average Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Remark
1010.23	55.69	-33.98	21.71	54	-32.29	Vertical	Average
1828.13	60.78	-33.98	26.8	54	-27.2	Vertical	Average

Test channel	CH-H	Polarity	Horizontal

Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1054.91	63.39	25.22	3.62	36.98	55.25	74.00	-18.75	Peak
2	1851.54	75.60	25.61	4.83	37.00	69.04	74.00	-4.96	Peak
3	2782.37	61.76	28.33	6.01	37.22	58.88	74.00	-15.12	Peak
4	4641.12	40.89	31.18	8.16	36.01	44.22	74.00	-29.78	Peak

Frequency (MHz)	Peak Level (dBuV/m)	DCCF (dB)	Average Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Remark
1054.91	56.31	-33.98	22.33	54	-31.67	Horizontal	Average
1851.54	67.09	-33.98	33.11	54	-20.89	Horizontal	Average
2782.37	54.73	-33.98	20.75	54	-33.25	Horizontal	Average

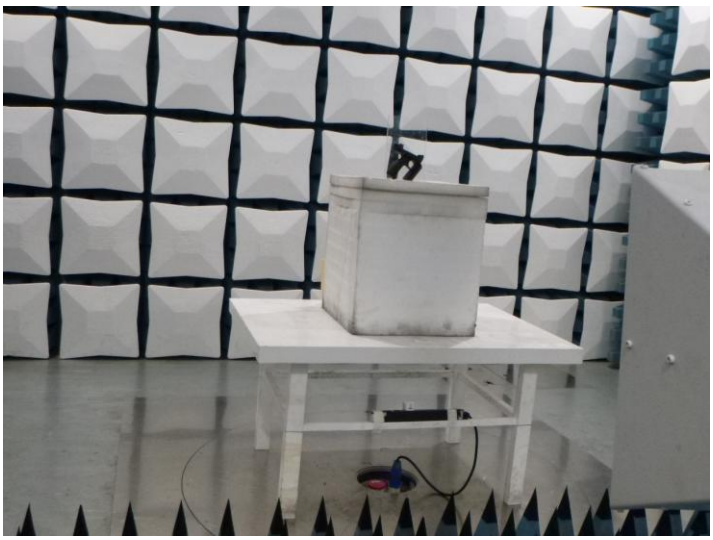
Test channel	CH-H	Polarity	Vertical

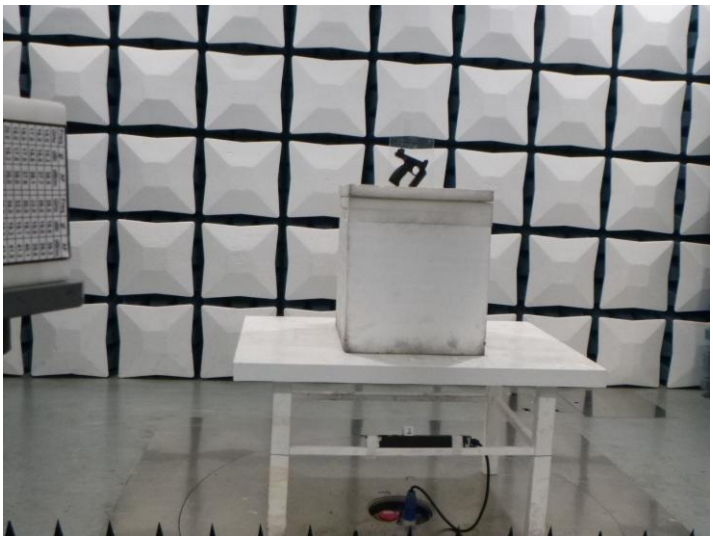
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1007.67	63.43	25.28	3.54	37.06	55.19	74.00	-18.81	Peak
2	1851.54	74.74	25.61	4.83	37.00	68.18	74.00	-5.82	Peak
3	2782.37	55.86	28.33	6.01	37.22	52.98	74.00	-21.02	Peak
4	3367.66	45.28	28.47	6.66	36.92	43.49	74.00	-30.51	Peak

Frequency (MHz)	Peak Level (dBuV/m)	DCCF (dB)	Average Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Remark
1007.67	55.19	-33.98	21.21	54	-32.79	Vertical	Average
1851.54	68.18	-33.98	34.2	54	-19.8	Vertical	Average

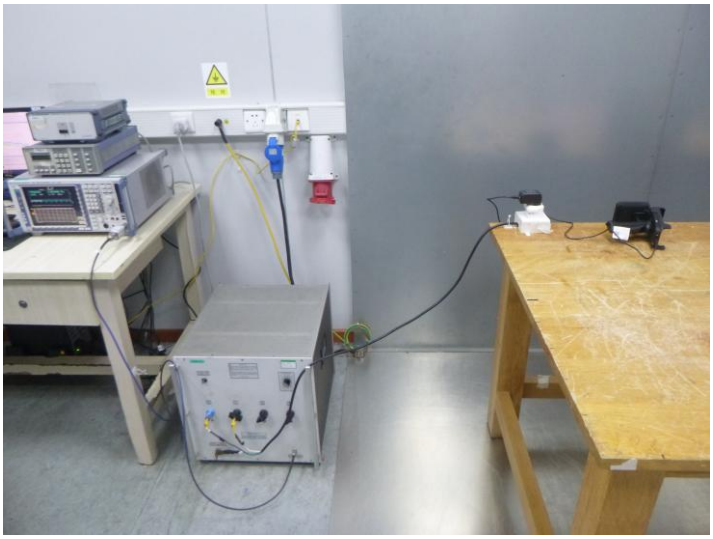
6. TEST SETUP PHOTOS

Radiated Emission



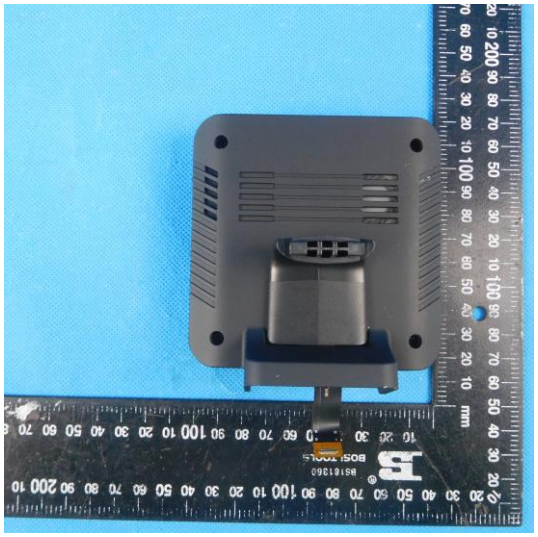


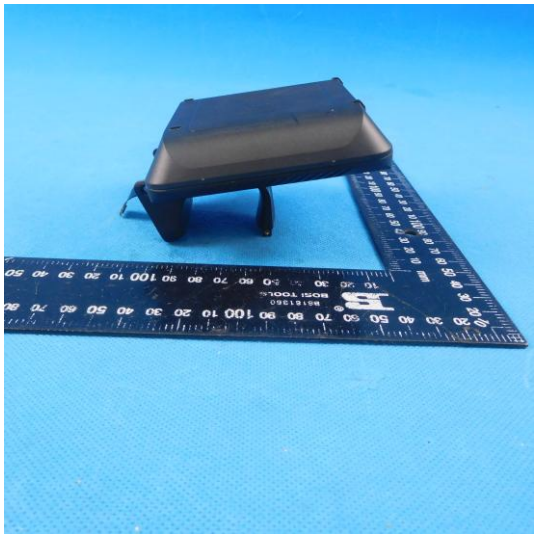
AC Conducted Emission

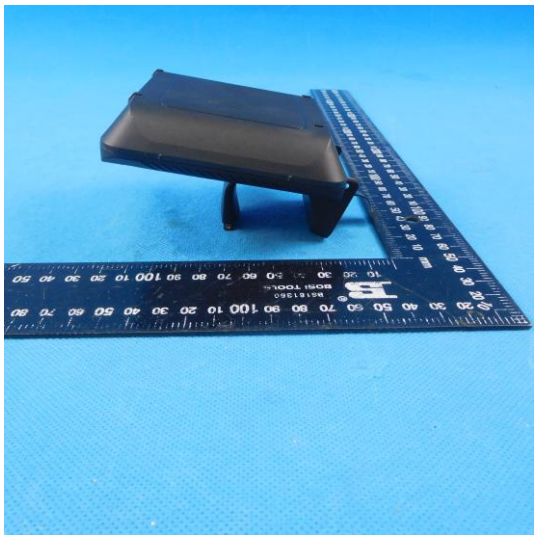


7. EXTERANAL AND INTERNAL PHOTOS

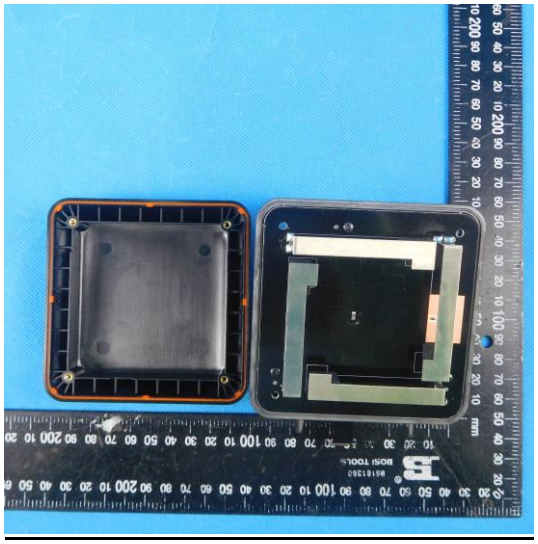
EXTERANAL PHOTOS

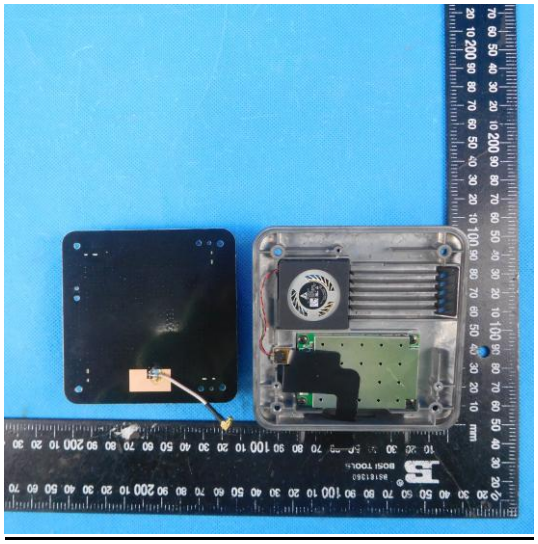


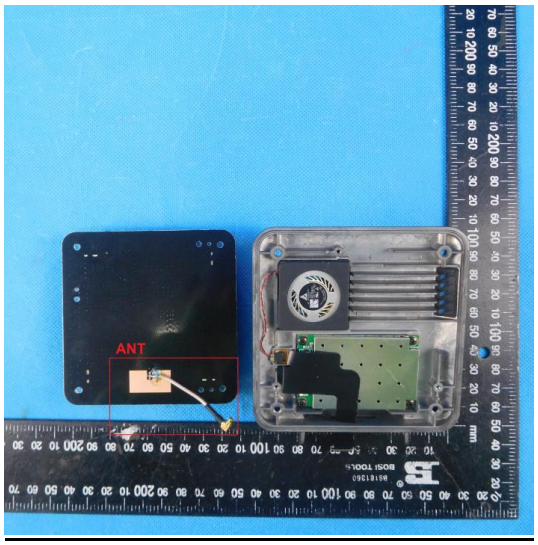


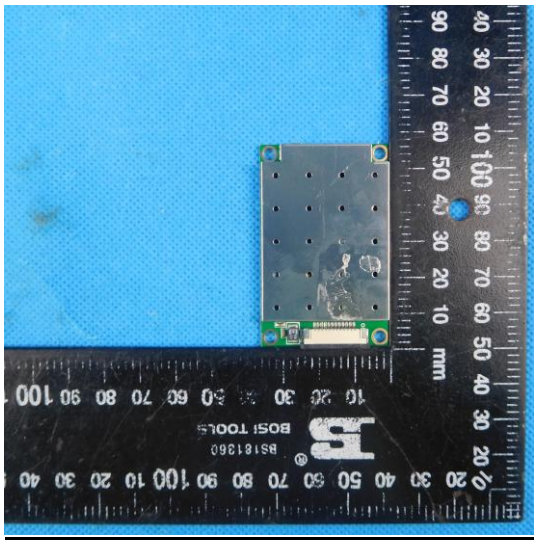


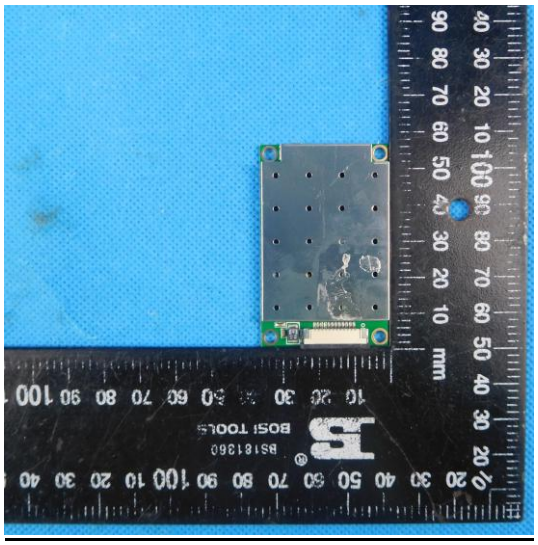
INTERNAL PHOTOS

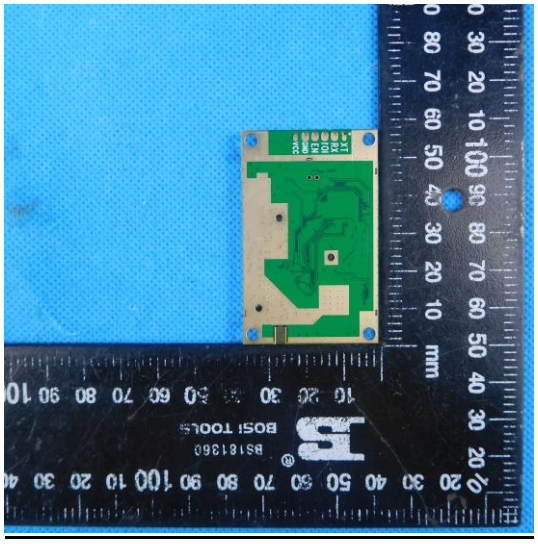


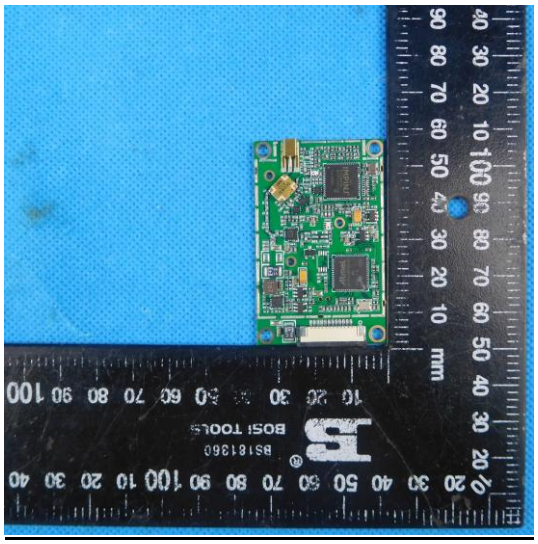


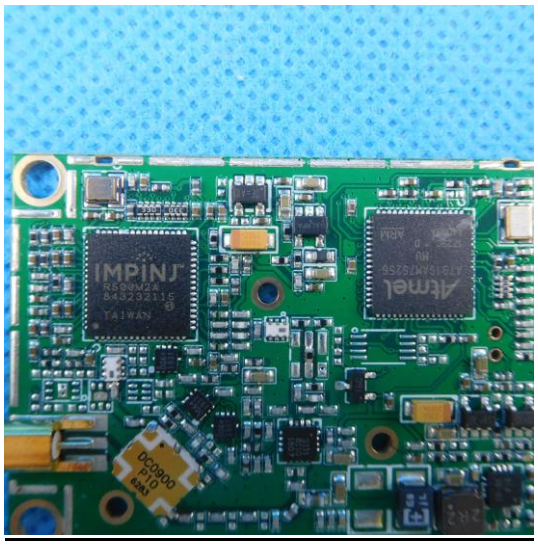












8. APPENDIX REPORT

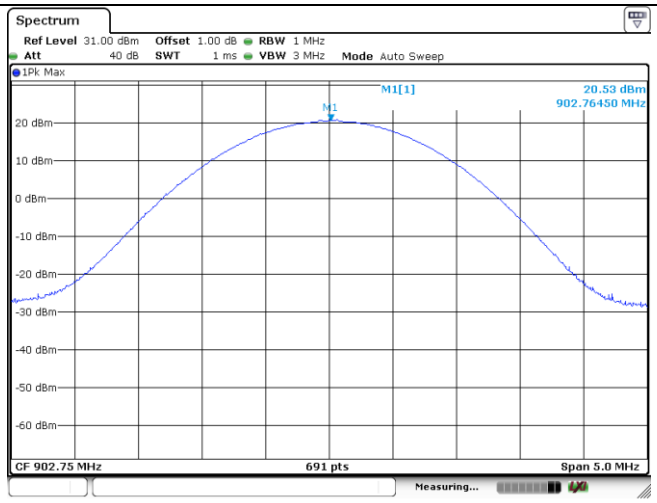
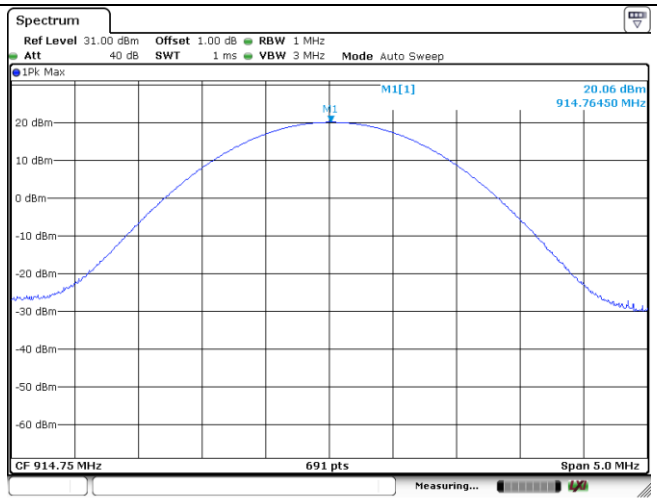
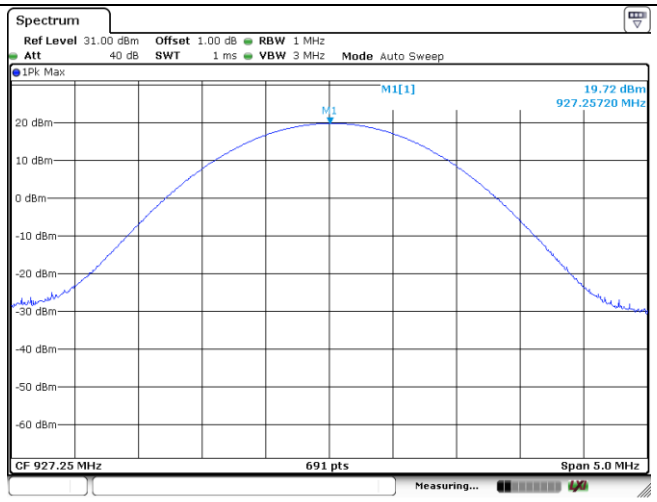
APPENDIX REPORT

Project No.	SHT2202013111EW		
Test sample No.	YPHT22020131024	Model No.	NX41-P-PG-UHF
Start test date	2022-02-28	Finish date	2022-03-03
Temperature	25.4℃	Humidity	51%
Test Engineer	Xiaoqin Li	Auditor	Xiaodong Zhao

Appendix clause	Test item	Result
A	Peak Output Power	PASS
B	20 dB Bandwidth	PASS
C	99% Occupied Bandwidth	PASS
D	Carrier Frequencies Separation	PASS
E	Hopping Channel Number	PASS
F	Dwell Time	PASS
G	Duty Cycle Correction Factor (DCCF)	PASS
H	Band edge and Spurious Emissions(coducted)	PASS

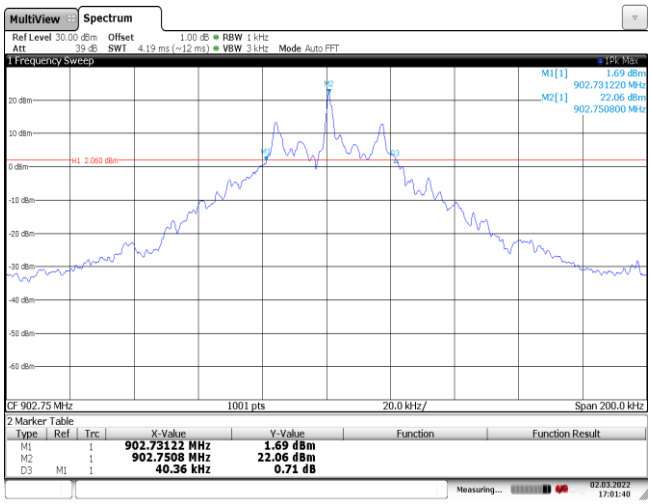
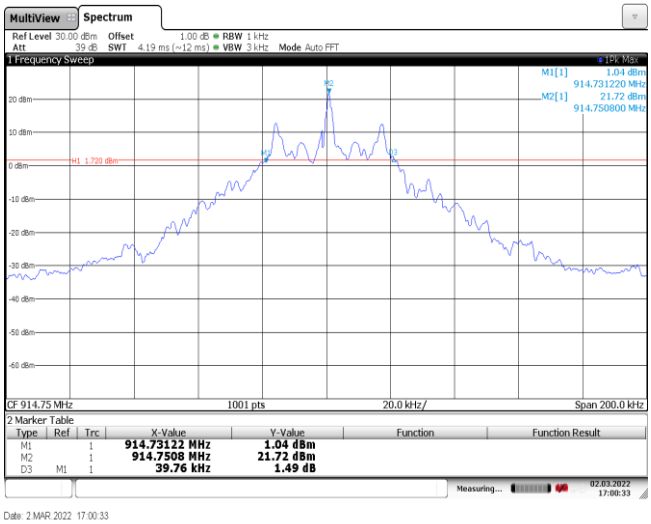
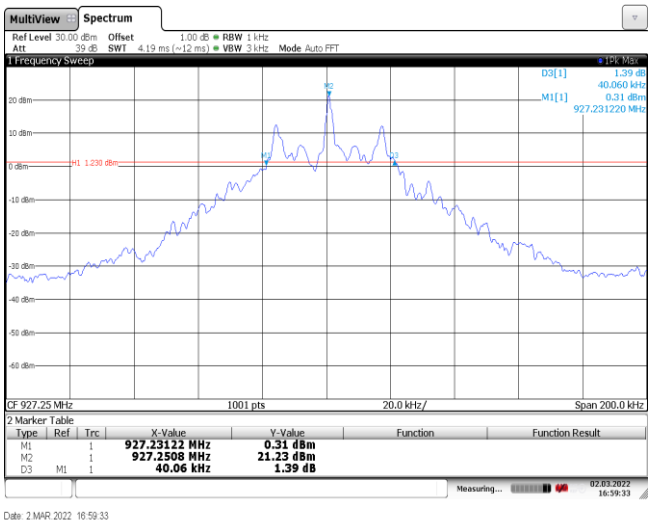
Appendix A：Peak Output Power

Channel	Peak Output power (dBm)	Average Output power (dBm)	Limit (dBm)	Result
CH-L	20.53	20.36	≤ 30.00	Pass
CH-M	20.06	19.88		
CH-H	19.72	19.63		

CH_L	 Spectrum Ref Level 31.00 dBm Offset 1.00 dB RBW 1 MHz Att 40 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep 1Pk Max M1[1] 20.53 dBm 902.76450 MHz M1 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm CF 902.75 MHz 691 pts Span 5.0 MHz Measuring... Date: 1.MAR.2022 13:41:28
CH_M	 Spectrum Ref Level 31.00 dBm Offset 1.00 dB RBW 1 MHz Att 40 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep 1Pk Max M1[1] 20.06 dBm 914.76450 MHz M1 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm CF 914.75 MHz 691 pts Span 5.0 MHz Measuring... Date: 1.MAR.2022 13:42:43
CH_H	 Spectrum Ref Level 31.00 dBm Offset 1.00 dB RBW 1 MHz Att 40 dB SWT 1 ms VBW 3 MHz Mode Auto Sweep 1Pk Max M1[1] 19.72 dBm 927.25720 MHz M1 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm CF 927.25 MHz 691 pts Span 5.0 MHz Measuring... Date: 1.MAR.2022 13:43:29

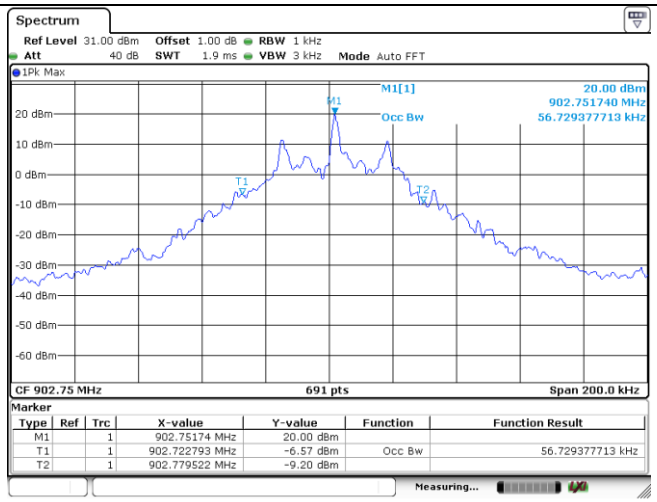
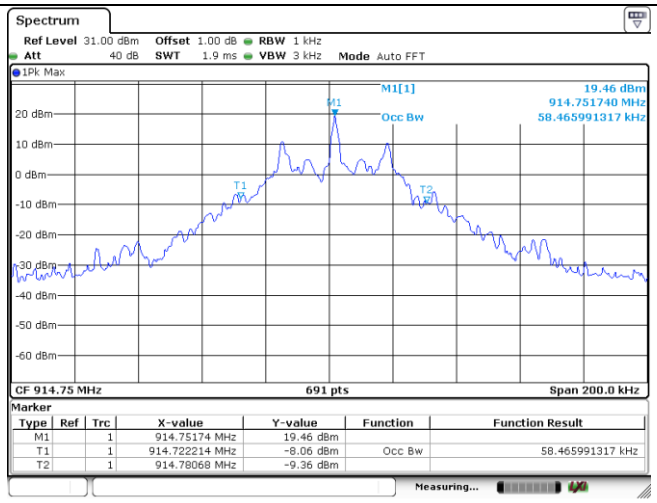
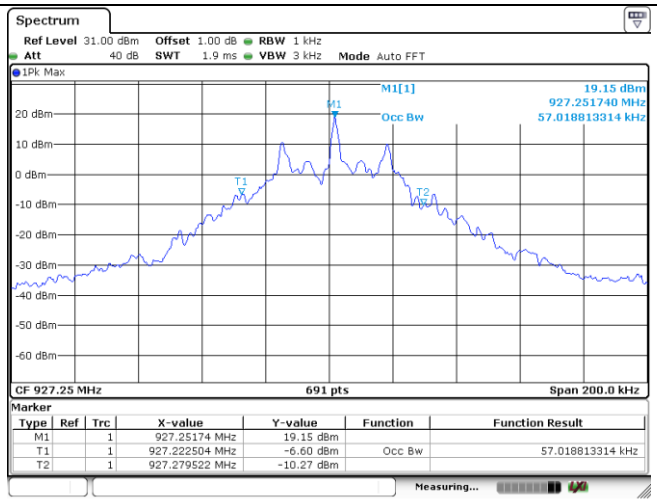
Appendix B : 20 dB Bandwidth

Channel	20 dB Bandwidth (kHz)	Limit (kHz)	Result
CH-L	40.36	≤500	Pass
CH-M	39.76		
CH-H	40.06		

CH-L	 MultiView Spectrum Ref Level 30.00 dBm Offset 1.00 dB RBW 1 kHz Att 39 dB SWT 4.19 ms (~12 ms) VBW 3 kHz Mode Auto FFT 1 Frequency Sweep 1Pk Max M1[1] 1.69 dBm 902.731220 MHz M2[1] 22.06 dBm 902.750800 MHz H1 2.060 dBm CF 902.75 MHz 1001 pts 20.0 kHz/ Span 200.0 kHz 2 Marker Table Type Ref Trc X-Value Y-Value Function Function Result M1 1 902.731220 MHz 1.69 dBm M2 1 902.750800 MHz 22.06 dBm D3 M1 1 40.360 kHz 0.71 dB Measuring... 02.03.2022 17:01:40 Date: 2.MAR.2022 17:01:40
CH-M	 MultiView Spectrum Ref Level 30.00 dBm Offset 1.00 dB RBW 1 kHz Att 39 dB SWT 4.19 ms (~12 ms) VBW 3 kHz Mode Auto FFT 1 Frequency Sweep 1Pk Max M1[1] 1.04 dBm 914.731220 MHz M2[1] 21.72 dBm 914.750800 MHz H1 1.720 dBm CF 914.75 MHz 1001 pts 20.0 kHz/ Span 200.0 kHz 2 Marker Table Type Ref Trc X-Value Y-Value Function Function Result M1 1 914.731220 MHz 1.04 dBm M2 1 914.750800 MHz 21.72 dBm D3 M1 1 39.760 kHz 1.49 dB Measuring... 02.03.2022 17:00:33 Date: 2.MAR.2022 17:00:33
CH-H	 MultiView Spectrum Ref Level 30.00 dBm Offset 1.00 dB RBW 1 kHz Att 39 dB SWT 4.19 ms (~12 ms) VBW 3 kHz Mode Auto FFT 1 Frequency Sweep 1Pk Max D3[1] 1.39 dB 40.060 kHz M1[1] 0.31 dBm 927.231220 MHz H1 1.230 dBm CF 927.25 MHz 1001 pts 20.0 kHz/ Span 200.0 kHz 2 Marker Table Type Ref Trc X-Value Y-Value Function Function Result M1 1 927.231220 MHz 0.31 dBm M2 1 927.250800 MHz 21.23 dBm D3 M1 1 40.060 kHz 1.39 dB Measuring... 02.03.2022 16:59:33 Date: 2.MAR.2022 16:59:33

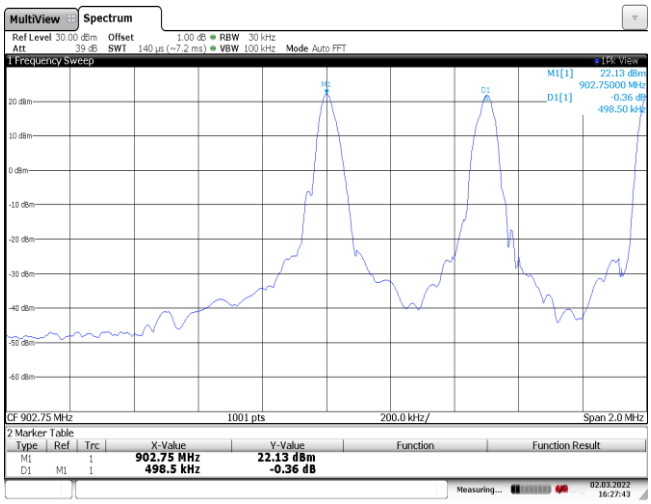
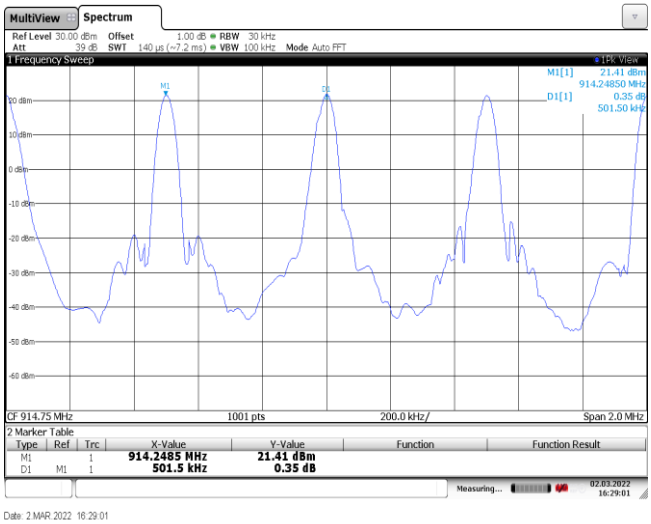
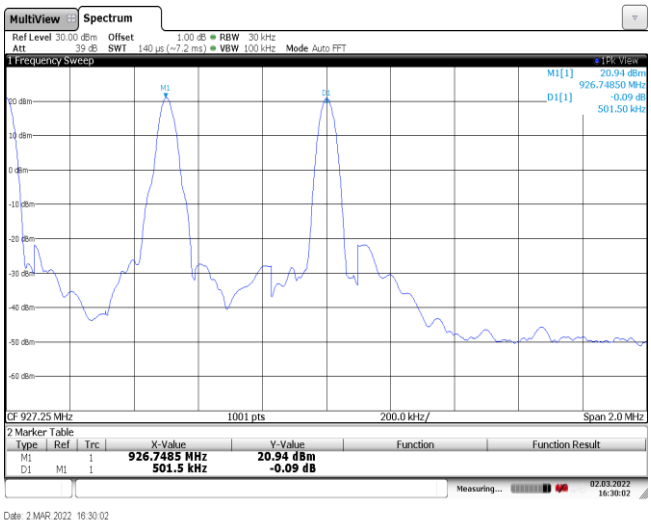
Appendix C：99% Occupied Bandwidth

Channel	99% Occupied Bandwidth (MHz)	Limit (MHz)	Result
CH-L	0.06	-	Pass
CH-M	0.06		
CH-H	0.06		

CH_L	 Spectrum Ref Level 31.00 dBm Offset 1.00 dB RBW 1 kHz Att 40 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT 1Pk Max M1[1] 20.00 dBm 902.751740 MHz Occ Bw 56.729377713 kHz CF 902.75 MHz 691 pts Span 200.0 kHz Marker Type Ref Trc X-value Y-value Function Function Result M1 1 902.75174 MHz 20.00 dBm T1 1 902.722793 MHz -6.57 dBm Occ Bw 56.729377713 kHz T2 1 902.779522 MHz -9.20 dBm Measuring... Date: 1.MAR.2022 14:03:16
CH_M	 Spectrum Ref Level 31.00 dBm Offset 1.00 dB RBW 1 kHz Att 40 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT 1Pk Max M1[1] 19.46 dBm 914.751740 MHz Occ Bw 58.465991317 kHz CF 914.75 MHz 691 pts Span 200.0 kHz Marker Type Ref Trc X-value Y-value Function Function Result M1 1 914.75174 MHz 19.46 dBm T1 1 914.722214 MHz -8.06 dBm Occ Bw 58.465991317 kHz T2 1 914.78068 MHz -9.36 dBm Measuring... Date: 1.MAR.2022 13:56:44
CH_H	 Spectrum Ref Level 31.00 dBm Offset 1.00 dB RBW 1 kHz Att 40 dB SWT 1.9 ms VBW 3 kHz Mode Auto FFT 1Pk Max M1[1] 19.15 dBm 927.251740 MHz Occ Bw 57.018813314 kHz CF 927.25 MHz 691 pts Span 200.0 kHz Marker Type Ref Trc X-value Y-value Function Function Result M1 1 927.25174 MHz 19.15 dBm T1 1 927.222504 MHz -6.60 dBm Occ Bw 57.018813314 kHz T2 1 927.279522 MHz -10.27 dBm Measuring... Date: 1.MAR.2022 13:57:25

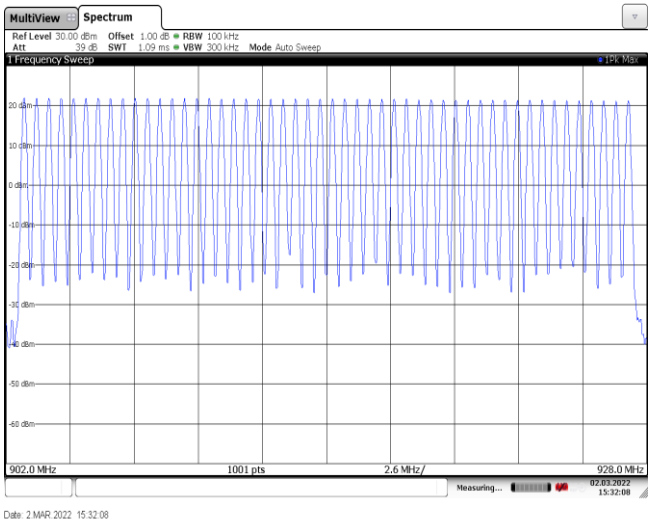
Appendix D：Carrier Frequencies Separation

Channel	Carrier Frequencies Separation (kHz)	Limit (kHz) *	Result
CH-L	498.50	≥40.36	Pass
CH-M	501.50	≥39.76	Pass
CH-H	501.50	≥40.06	Pass

CH-L	 MultiView Spectrum Ref Level 30.00 dBm Offset 1.00 dB RBW 30 kHz Att 39 dB SWT 140 µs (~7.2 ms) VBW 100 kHz Mode Auto FFT 1 Frequency Sweep 1Pk View M1[1] 22.13 dBm 902.75000 MHz D1[1] -0.36 dB 498.50 kHz CF 902.75 MHz 1001 pts 200.0 kHz/ Span 2.0 MHz 2 Marker Table Type Ref Trc X-Value Y-Value Function Function Result M1 1 902.75 MHz 22.13 dBm D1 M1 1 498.5 kHz -0.36 dB Measuring... 02.03.2022 16:27:43 Date: 2.MAR.2022 16:27:43
CH-M	 MultiView Spectrum Ref Level 30.00 dBm Offset 1.00 dB RBW 30 kHz Att 39 dB SWT 140 µs (~7.2 ms) VBW 100 kHz Mode Auto FFT 1 Frequency Sweep 1Pk View M1[1] 21.41 dBm 914.24850 MHz D1[1] 0.35 dB 501.50 kHz CF 914.75 MHz 1001 pts 200.0 kHz/ Span 2.0 MHz 2 Marker Table Type Ref Trc X-Value Y-Value Function Function Result M1 1 914.2485 MHz 21.41 dBm D1 M1 1 501.5 kHz 0.35 dB Measuring... 02.03.2022 16:29:01 Date: 2.MAR.2022 16:29:01
CH-H	 MultiView Spectrum Ref Level 30.00 dBm Offset 1.00 dB RBW 30 kHz Att 39 dB SWT 140 µs (~7.2 ms) VBW 100 kHz Mode Auto FFT 1 Frequency Sweep 1Pk View M1[1] 20.94 dBm 926.74850 MHz D1[1] -0.09 dB 501.50 kHz CF 927.25 MHz 1001 pts 200.0 kHz/ Span 2.0 MHz 2 Marker Table Type Ref Trc X-Value Y-Value Function Function Result M1 1 926.7485 MHz 20.94 dBm D1 M1 1 501.5 kHz -0.09 dB Measuring... 02.03.2022 16:30:02 Date: 2.MAR.2022 16:30:02

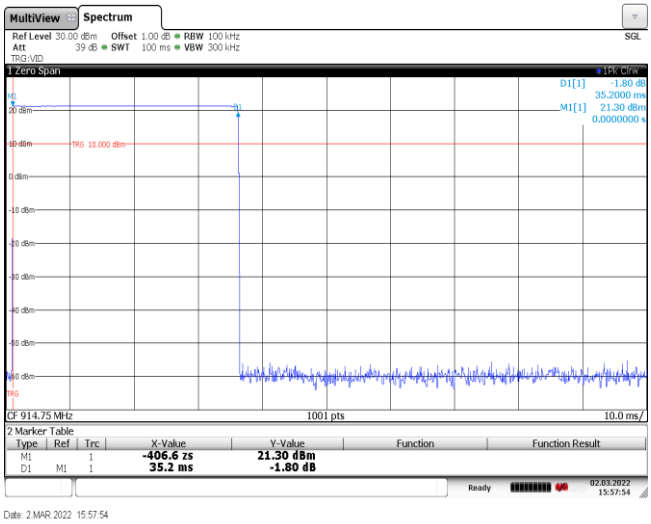
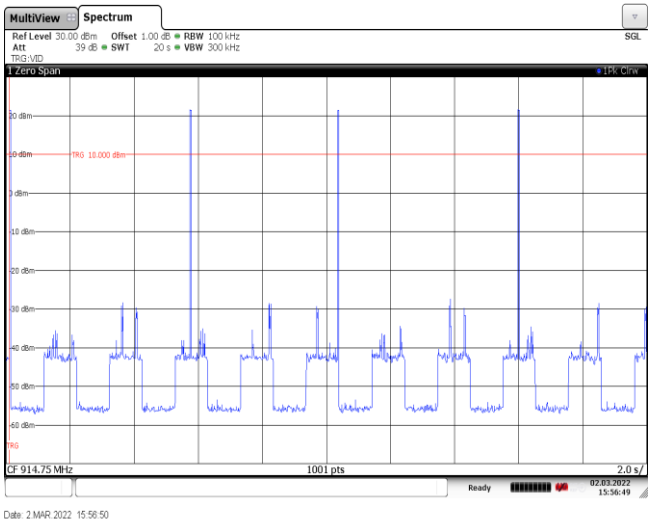
Appendix E：Hopping Channel Number

Channel number	Limit	Result
50	≥50	Pass



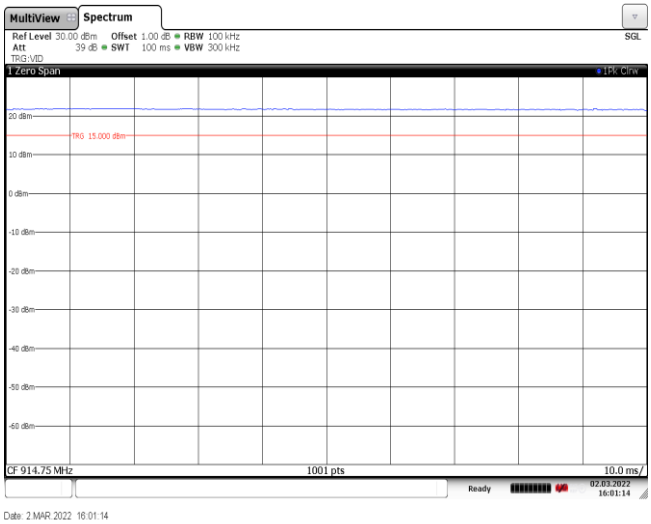
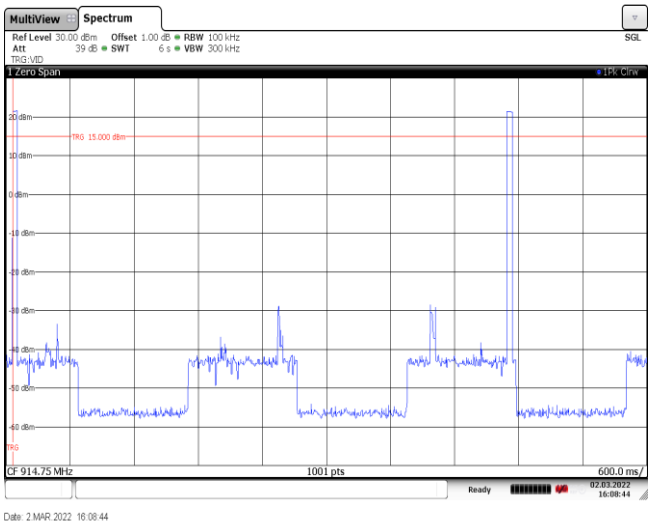
Appendix F：Dwell Time

Packet	Burst Width [ms]	Total Hops[hop*ch]	Dwell time (Second)	Limit (Second)	Result
CH-M	35.20	4	0.14	≤ 0.40	Pass

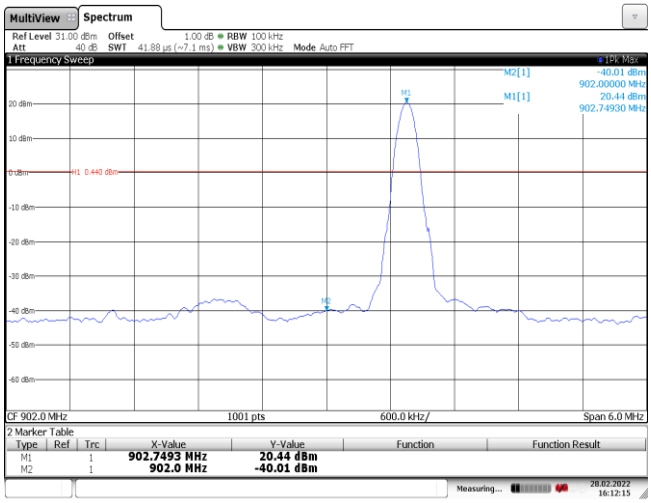
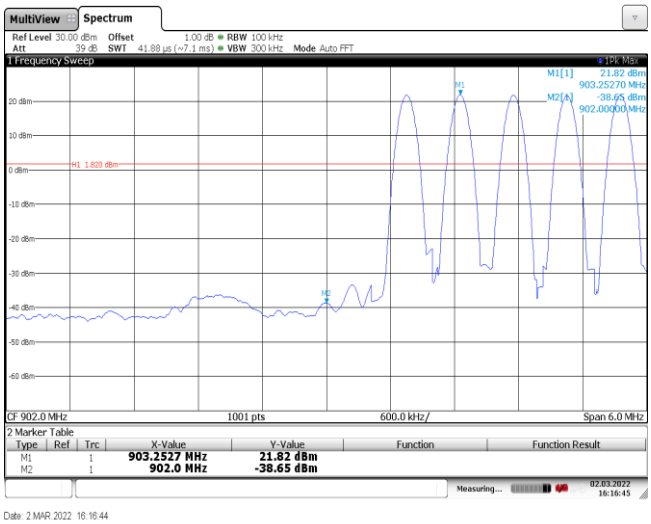
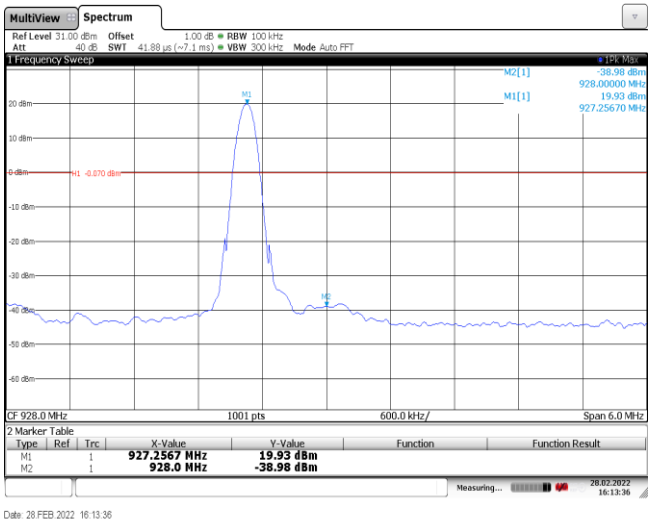
CH-M Burst width	
CH-M Burst number	

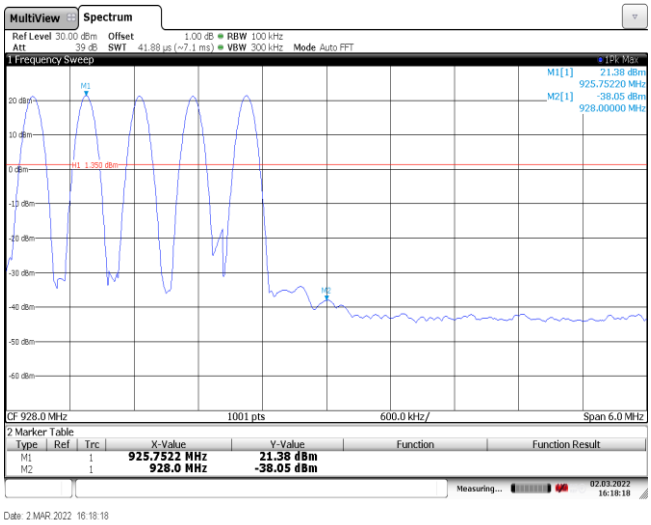
Appendix G：Duty Cycle Correction Factor (DCCF)

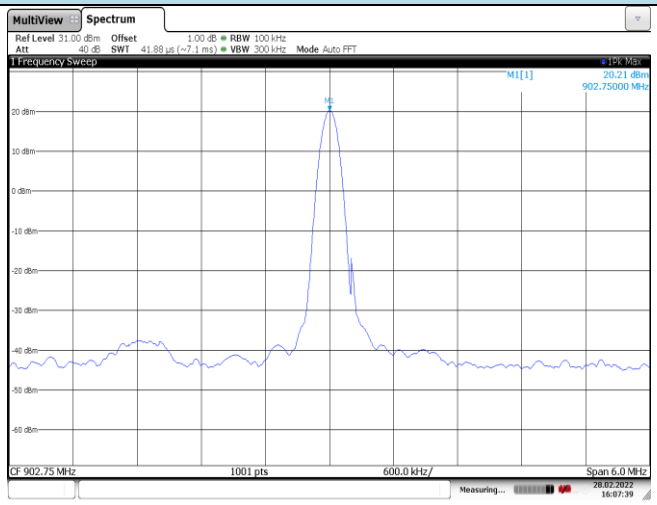
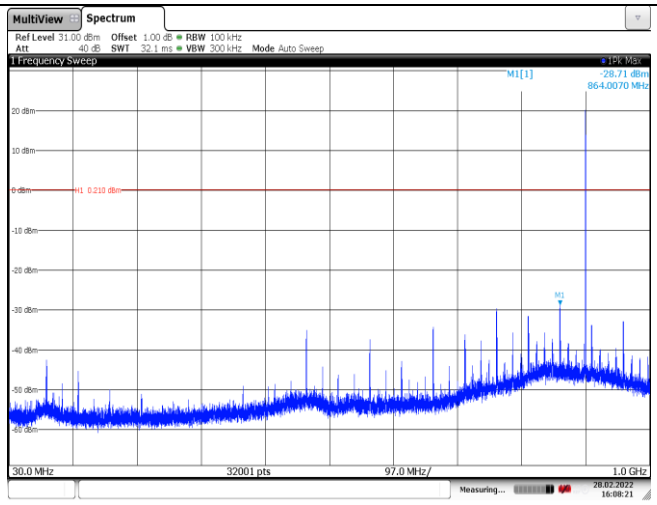
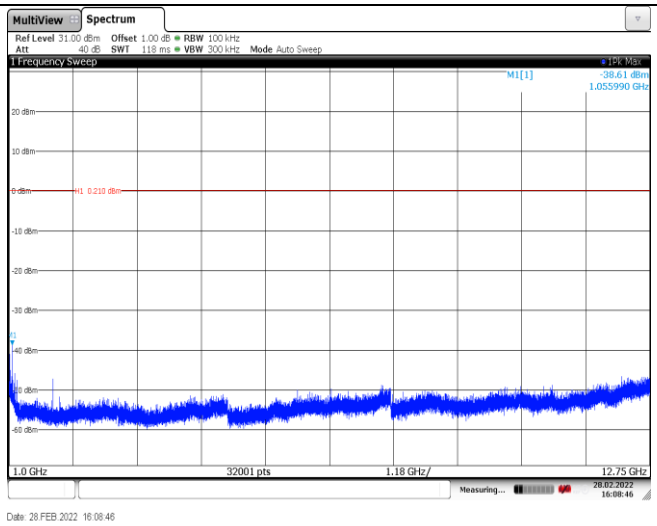
DCCF Calculate Formula				
DCCF=20 * Log(duty cycle) = 20 * Log($T_{on\ time}$ / T_{period})				
Test Frequency （MHz）	$T_{on\ time}$ for single burst [ms]	T_{period} [ms]	Burst Quantity	DCCF [dB]
914.75	1.00	100	2	-33.98

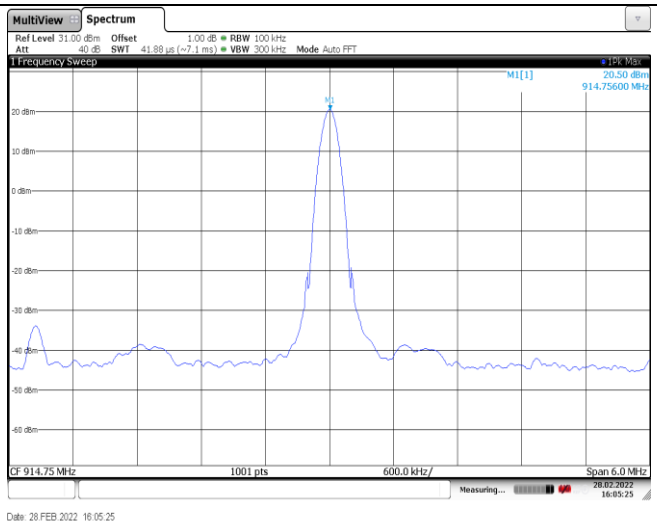
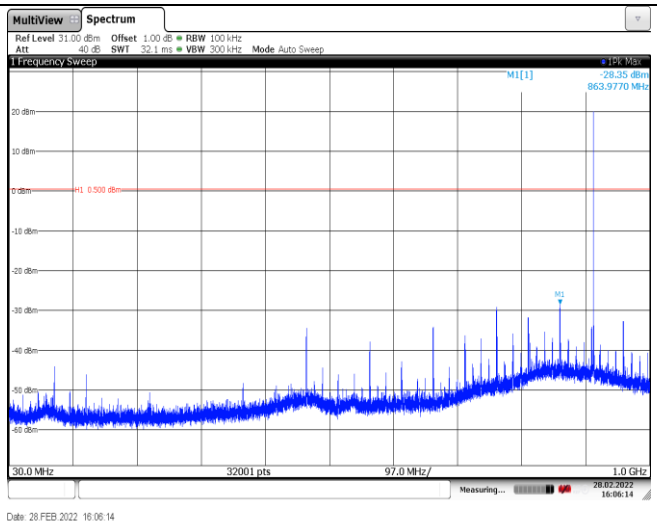
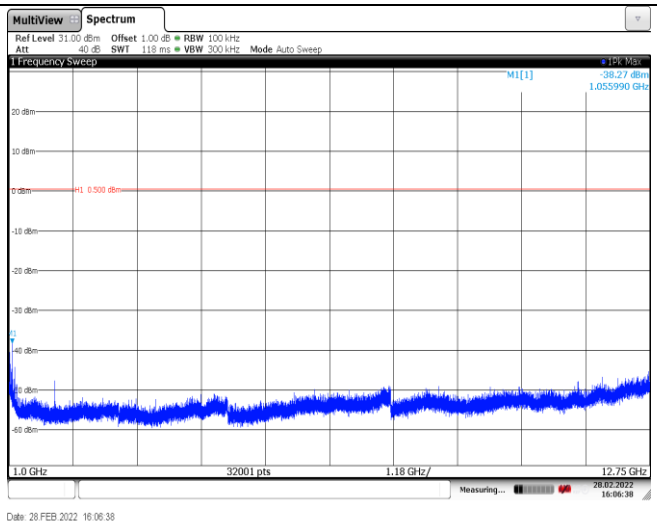
Burst Quantity	
$T_{on\ time}$ for single burst	

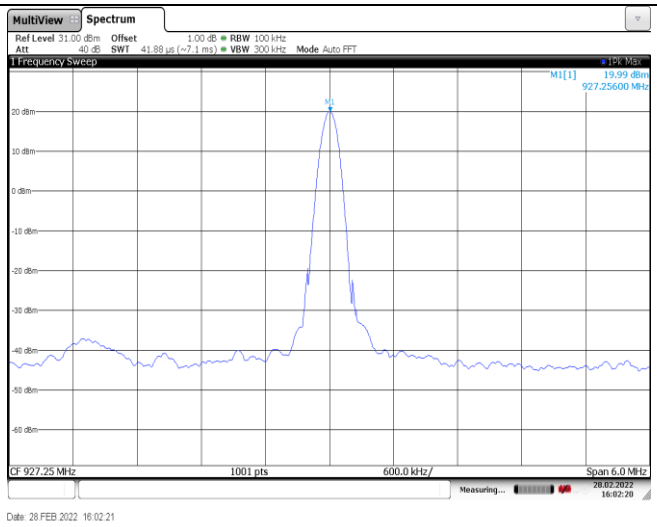
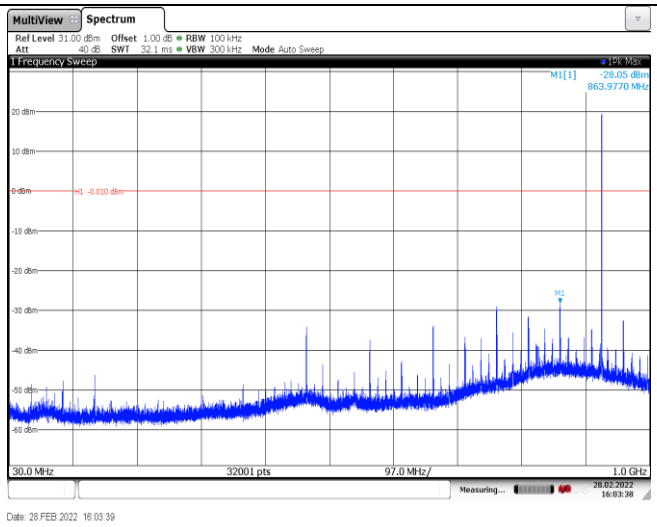
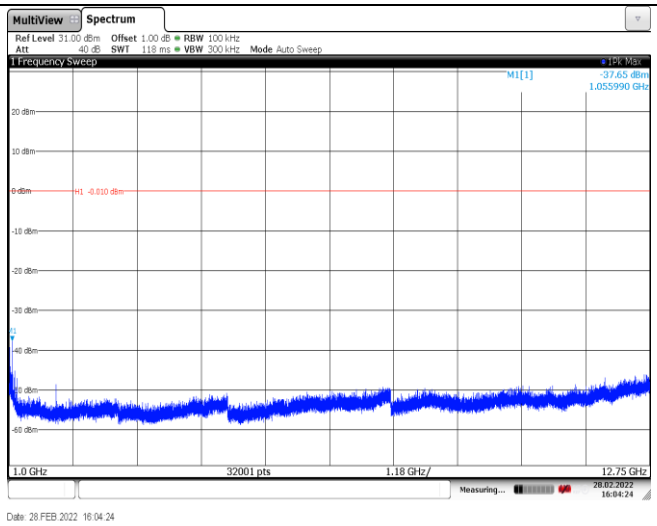
Appendix H：Band edge and Spurious Emissions (conducted)

Test Item:	Band edge
CH-L No hopping mode	
CH-L Hopping mode	
CH-H No hopping mode	

CH-H Hopping mode	

Test Item:	Spurious Emission
CH_L Reference level	
CH_L 30MHz~1000MHz	
CH_L 1GHz~26GHz	

CH_M Reference level	
CH_M 30MHz~1000MHz	
CH_M 1GHz~26GHz	

CH_H Reference level	
CH_H 30MHz~1000MHz	
CH_H 1GHz~26GHz	

--------End of Report--------