Shenzhen Huatongwei International Inspection Co.,Ltd.
Huatongwei Building, keji'nan 12th Road, High-Tech Industrial Park, Nanshan District,
Shenzhen, Guangdong, China.
Phone:86-755-26715499 E-mail: cs@szhtw.com.cn Website:http://www.szhtw.com.cn

FCC REPORT

For FCC Part15F

Report No.....:	**CHTEW2203013401**	Report Verification:
Project No.....:	**SHT2109053801EW**	
FCC ID.....:	**2AUFI-EAGLEEYE-S01**	
Applicant.....:	**Wipelot Teknoloji Sanayi A.S**	
Address.....:	Tozkoparan Mah. Haldun Taner Sk. No:27B D:15 Merter, Gungoren / ISTANBUL / TURKEY	
Product Name.....:	**EagleEye Sense**	
Trade Mark.....:	EagleEye S01	
Model No.....:	EagleEye S01	
Listed Model(s).....:	-	
Standard.....:	**47 CFR FCC Part 15 Subpart F Section 15.519**	
Date of receipt of test sample.....:	Feb.22, 2022	
Date of testing.....:	Feb.23, 2022-Mar.23, 2022	
Date of issue.....:	Mar.24, 2022	
Result.....:	**Pass**	

Compiled by (position+printedname+signature)...:	File administrator Fanghui Zhu	Fanghui Zhu
Supervised by (position+printedname+signature)....:	Project Engineer David Chen	David Chen
Approved by (position+printedname+signature)....:	RF Manager Hans Hu	Hans Hu

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. Applicable Standards

The tests were performed according to following standards:

47 CFR FCC Part 15 Subpart F - Ultra-Wideband Operation
ANSI C63.10: 2013 – American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 393764 D01 UWB FAQ v02: Federal Communications Commission Office of Engineering and Technology Laboratory Division: ULTRA-WIDEBAND (UWB) DEVICES FREQUENTLY ASKED QUESTIONS

1.2. Report version information

Revision No.	Date of issue	Description
N/A	2022-03-23	Original

2. Test Description

Section	Test Item	Section in CFR 47	Result #1	Test Engineer
5.1	Transmission time	15.519(a)(1)	Pass	Xiaoqin Li
5.2	10 dB bandwidth	15.519(b)	Pass	Xiaoqin Li
5.3	Radiated emissions	15.519(c)	Pass	Pan Xie
5.4	Radiated emissions in the GPS bands	15.519(d)	Pass	Pan Xie
5.5	Maximum Peak Radiated Power(EIRP)	15.519(e)	Pass	Pan Xie

Note:
#1: The test result does not include measurement uncertainty value

3. SUMMARY

3.1. Client Information

Applicant:	Wipelot Teknoloji Sanayi A.S
Address:	Tozkoparan Mah. Haldun Taner Sk. No:27B D:15 Merter, Gungoren / ISTANBUL / TURKEY
Manufacturer:	Wipelot Teknoloji Sanayi A.S
Address:	Tozkoparan Mah. Haldun Taner Sk. No:27B D:15 Merter, Gungoren / ISTANBUL / TURKEY
Factory:	Wipelot Teknoloji Sanayi A.S
Address:	Tozkoparan Mah. Haldun Taner Sk. No:27B D:15 Merter, Gungoren / ISTANBUL / TURKEY

3.2. Product Description

Main unit information:	
Product Name:	EagleEye Sense
Trade Mark:	EagleEye S01
Model No.:	EagleEye S01
Listed Model(s):	-
Power supply:	5V DC from USB
Hardware version:	EagleEye Sense V1.2
Software version:	HAKO_Reader_JN5168_5100v0019.bin

3.3. Radio Specification Description

Operation Frequency:	UWB Channel 1 (3494.4 MHz) UWB Channel 3 (4492.8 MHz) UWB Channel 5 (6489.6 MHz)
Modulation type:	O-QPSK
Antenna type	SMD Chip Antenna
Antenna Gain[#1]	UWB Channel 1 → 2.0 dBi UWB Channel 3 → 2.1 dBi UWB Channel 5 → 0.8 dBi

Note:
#1: The antenna gain is provided by the applicant, and the applicant should be responsible for its authenticity, HTW lab has not verified the authenticity of its information.

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

UWB	
Channel	Frequency (MHz)
1	**3494.4**
3	4492.8
5	**6489.6**

4.2. Descriptions of Test mode

For RF test items
The EUT has been tested under typical operating condition. Testing was performed by configuring EUT to maximum output power status.

4.3. Test sample information

Test item	HTW sample no.
Conducted test items	Please refer to the description in the appendix report
Radiated test items	YPHT21090538002

Note:

Conducted test items: Transmission time, 10 dB bandwidth

Radiated test items: Radiated Emission, Radiated emissions in the GPS bands, Maximum Peak Radiated Power(EIRP)

4.4. 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	Equipment	Trade Name	Model No.	Other
1				
2				

4.5. Testing environmental condition

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

4.6. Statement of the measurement uncertainty

Test Items	MeasurementUncertainty
EIRP	0.65 dB
Radiated emission	<1GHz: 2.85dB >1GHz: 3.66dB
10 dB Bandwidth	<1GHz: 0.022ppm >1GHz: 0.64ppm

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

4.7. Equipments Used during the Test

Used	Test Equipment	Manufacturer	Equipment No.	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
●	Signal and spectrum Analyzer	R&S	HTWE0242	FSV40	100048	2021/09/13	2022/09/12
●	Signal & Spectrum Analyzer	R&S	HTWE0262	FSW26	103440	2021/09/13	2022/09/12
●	Spectrum Analyzer	Agilent	HTWE0286	N9020A	MY50510187	2021/09/13	2022/09/12
●	Radio communication tester	R&S	HTWE0287	CMW500	137688-Lv	2021/09/13	2022/09/12
●	Test software	Tonscend	N/A	JS1120	N/A	N/A	N/A

●	Radiated Spurious Emission						
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	2021/09/13	2022/09/12
●	Loop Antenna	R&S	HTWE0170	HFH2-Z2	100020	2021/04/06	2024/04/05
●	Broadband Horn Antenna	SCHWARZBECK	HTWE0103	BBHA9170	BBHA9170472	2020/04/27	2023/04/26
●	Ultra-Broadband Antenna	SCHWARZBECK	HTWE0123	VULB9163	538	2021/04/06	2024/04/05
●	Horn Antenna	SCHWARZBECK	HTWE0126	9120D	1011	2020/04/01	2023/03/31
●	Pre-amplifier	CD	HTWE0071	PAP-0102	12004	2021/11/05	2022/11/04
●	Broadband Preamplifier	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	2018/09/27	2022/09/26
●	EMI Test Software	Audix	N/A	E3	N/A	N/A	N/A

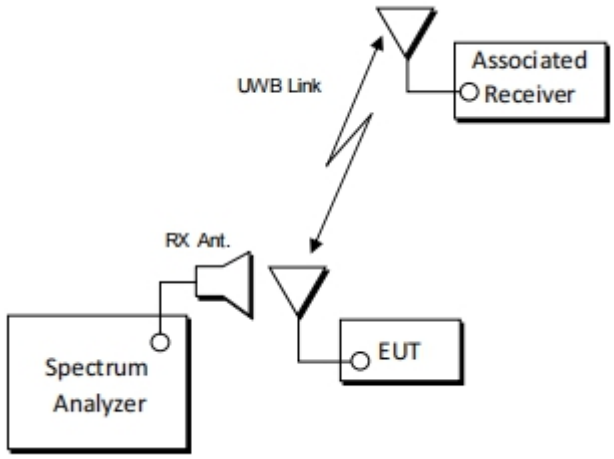
5. TEST CONDITIONS AND RESULTS

5.1. Transmission time

LIMIT

A UWB device operating under the provisions of this section shall transmit only when it is sending information to an associated receiver. The UWB intentional radiator shall cease transmission within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgment of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting.

TEST CONFIGURATION



TEST PROCEDURE

1. The EUT was connected to the spectrum analyzer and an associated receiver via the antenna.
2. Set EUT in maximum power output.
3. Spectrum analyzer setting as follow:

   Center Frequency= Carrier frequency, RBW=1MHz, VBW=3 MHz, Span=Zero Span Mode, Detector=Peak, Trace=Clrw, Sweep time shall be sufficient to compliance with the rule part.
4. Record the value of transmission time.

TEST MODE:

Please refer to the clause 4.2

TEST RESULTS

☒ **Passed** ☐ **Not Applicable**

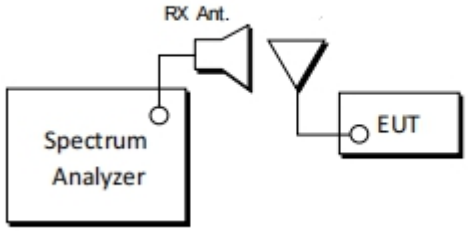
Refer to appendix A on the section 8 appendix report

5.2. 10 dB Bandwidth

LIMIT

⩾500MHz

TEST CONFIGURATION



TEST PROCEDURE

1. The EUT was connected to the spectrum analyzer via the antenna.
2. Set EUT in maximum power output.
3. Spectrum analyzer setting as follow:

   Center Frequency= Carrier frequency, RBW=1MHz, VBW=3 MHz, Span=1GHz, Detector=Peak, Trace=Max hold, Sweep=auto couple.
4. Record the value of 10dB bandwidth.

TEST MODE:

Please refer to the clause 4.2

TEST RESULTS

☒ **Passed** ☐ **Not Applicable**

Refer to appendix B on the section 8 appendix report

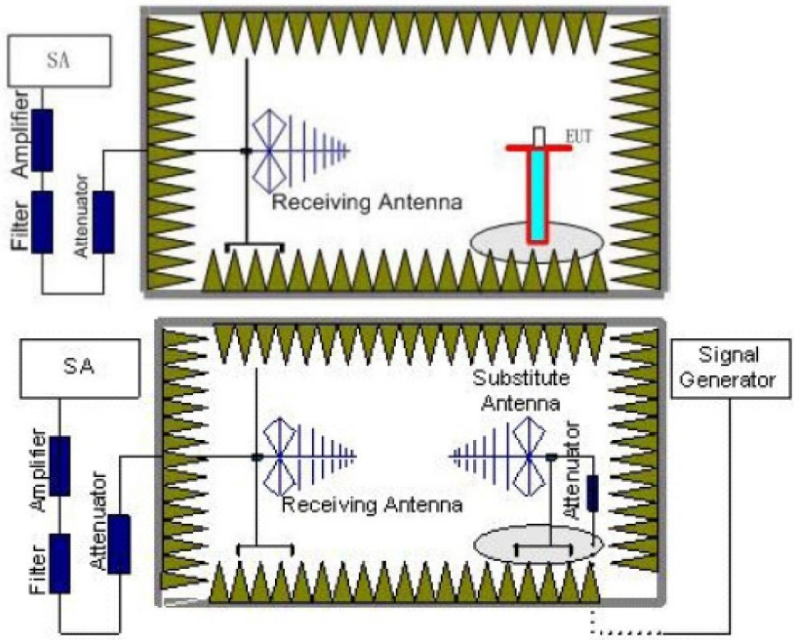
5.3. Radiated emissions

LIMIT

The radiated emissions at or below 960 MHz from a device operating under the provisions of this section shall not exceed the emission levels in § 15.209. The radiated emissions above 960 MHz from a device operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz:

Frequency [MHz]	EIRP [dBm]
960-1610	-75.3
1610-1990	-63.3
1990-3100	-61.3
3100-10600	-41.3
Above 10600	-61.3

TEST CONFIGURATION



TEST PROCEDURE

1. Place the EUT in the center of the turntable.
   a) For radiated emissions measurements performed at frequencies less than or equal to 1 GHz, the EUT shall be placed on a RF-transparent table at a nominal height of 80 cm above the reference ground plane
   b) For radiated measurements performed at frequencies above 1 GHz, the EUT shall be placed on an RF transparent table at a nominal height of 1.5 m above the ground plane.
2. Unless the EUT uses an integral antenna, the EUT shall be terminated with a non-radiating transmitter load. In cases where the EUT uses an adjustable antenna, the antenna shall be adjusted through typical positions and lengths to maximize emissions levels.
3. The EUT shall be tested while operating on the frequency per manufacturer specification. Set the transmitter to operate in continuous transmit mode.
4. Receiver or Spectrum set as follow:

   Below 960MHz, RBW=100kHz, VBW=300kHz, Detector=Peak, Sweep time=Auto

   Above 960MHz, RBW=1MHz, VBW=3MHz, Detector=RMS, Sweep time=Auto
5. Each emission under consideration shall be evaluated:

a) Raise and lower the measurement antenna from 1 m to 4 m, as necessary to enable detection of the maximum emission amplitude relative to measurement antenna height.

b) Rotate the EUT through 360° to determine the maximum emission level relative to the axial position.

c) Return the turntable to the azimuth where the highest emission amplitude level was observed.

d) Vary the measurement antenna height again through 1 m to 4 m again to find the height associated with the maximum emission amplitude.

e) Record the measured emission amplitude level and frequency

6. Repeat step 5 for each emission frequency with the measurement antenna oriented in both the horizontal and vertical polarizations to determine the orientation that gives the maximum emissions amplitude.

7. Set-up the substitution measurement with the reference point of the substitution antenna located as near as possible to where the center of the EUT radiating element was located during the initial EUT measurement.

8. Maintain the previous measurement instrument settings and test set-up, with the exception that the EUT is removed and replaced by the substitution antenna.

9. Connect a signal generator to the substitution antenna; locate the signal generator so as to minimize any potential influences on the measurement results. Set the signal generator to the frequency where emissions are detected, and set an output power level such that the radiated signal can be detected by the measurement instrument, with sufficient dynamic range relative to the noise floor.

10. For each emission that was detected and measured in the initial test

a) Vary the measurement antenna height between 1 m to 4 m to maximize the received (measured) signal amplitude.

b) Adjust the signal generator output power level until the amplitude detected by the measurement instrument equals the amplitude level of the emission previously measured directly in step 5 and step 6.

c) Record the output power level of the signal generator when equivalence is achieved in step b).

11. Repeat step 8 through step 10 with the measurement antenna oriented in the opposite polarization.

12. Calculate the emission power in dBm referenced to a half-wave dipole using the following equation:

Pe = Ps(dBm) − cable loss (dB) + antenna gain (dBd)

where

Pe = equivalent emission power in dBm

Ps = source (signal generator) power in dBm

NOTE—dBd refers to the measured antenna gain in decibels relative to a half-wave dipole.

13. Correct the antenna gain of the substitution antenna if necessary to reference the emission power to a half-wave dipole. When using measurement antennas with the gain specified in dBi, the equivalent dipole-referenced gain can be determined from:

gain (dBd) = gain (dBi) − 2.15 dB.

If necessary, the antenna gain can be calculated from calibrated antenna factor information

14. Provide the complete measurement results as a part of the test report.

TEST MODE:

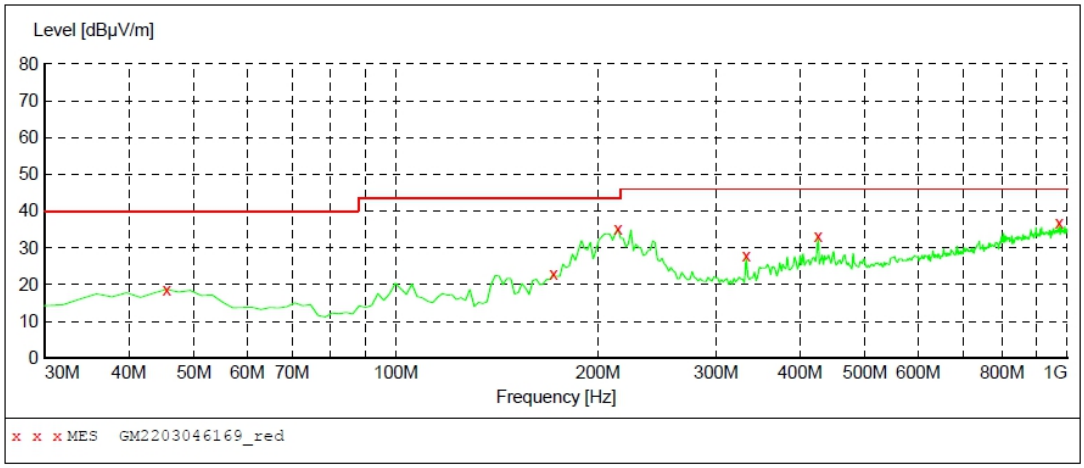
Please refer to the clause 4.2

TEST RESULTS

☒ **Passed** ☐ **Not Applicable**

TEST DATA FOR 30MHz-960MHz

Polarization:	Horizontal

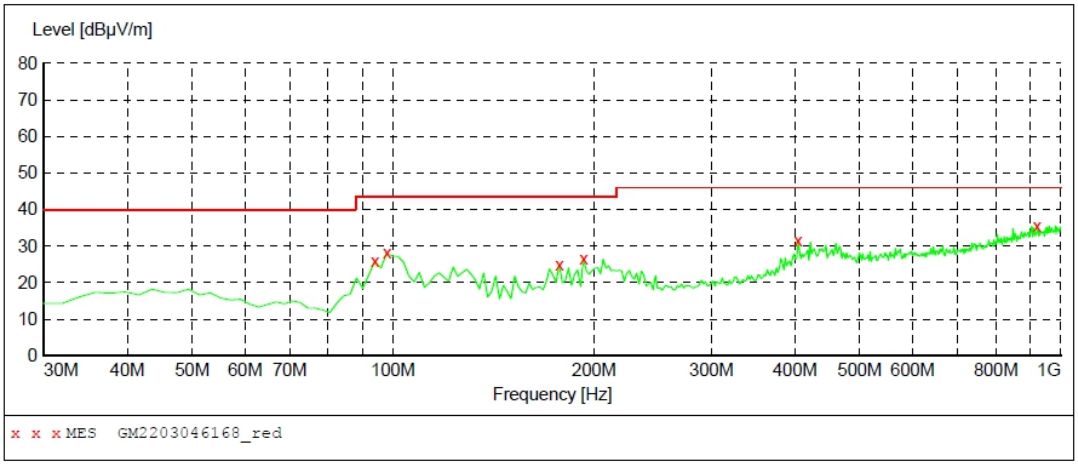


MEASUREMENT RESULT: "GM2203046169_red"

3/4/2022 11:24PM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
45.520000	18.70	-9.4	40.0	21.3	QP	100.0	153.00	HORIZONTAL
171.620000	22.90	-13.0	43.5	20.6	QP	100.0	0.00	HORIZONTAL
214.300000	35.30	-10.1	43.5	8.2	QP	100.0	193.00	HORIZONTAL
332.640000	27.90	-6.2	46.0	18.1	QP	100.0	340.00	HORIZONTAL
425.760000	33.10	-3.6	46.0	12.9	QP	100.0	91.00	HORIZONTAL
972.840000	36.90	8.0	46.0	9.1	QP	100.0	232.00	HORIZONTAL

Polarization:	Vertical



MEASUREMENT RESULT: "GM2203046168_red"

3/4/2022 11:21PM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
94.020000	25.90	-12.1	43.5	17.6	QP	100.0	173.00	VERTICAL
97.900000	28.10	-11.2	43.5	15.4	QP	100.0	35.00	VERTICAL
177.440000	25.00	-12.5	43.5	18.5	QP	100.0	236.00	VERTICAL
192.960000	26.70	-11.0	43.5	16.8	QP	100.0	236.00	VERTICAL
404.420000	31.60	-4.1	46.0	14.4	QP	100.0	160.00	VERTICAL
922.400000	35.50	7.2	46.0	10.5	QP	100.0	150.00	VERTICAL

Remark:
Transd=Cable lose+ Antenna factor- Pre-amplifier; Margin=Limit –Level

TEST DATA FOR Above 960MHz

UWB								Test channel: Channel 1	
Frequency (MHz)	Read Level (dBm)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBm/MHz)	Limit Line (dBm/MHz)	Margin Limit (dB)	Test value	Detector
1138.626	-81.4	35.18	3.77	36.85	-79.3	-75.3	-4	Vertical	Avg
1737.384	-78.89	36.33	4.67	37.34	-75.23	-63.3	-11.93	Vertical	Avg
2207.058	-79.26	41.64	5.32	37.55	-69.85	-61.3	-8.55	Vertical	Avg
4996.69	-86.18	44.5	8.81	34.81	-67.68	-41.3	-26.38	Vertical	Avg
11994.38	-97.98	52.96	12.93	32.35	-64.44	-61.3	-3.14	Vertical	Avg
1254.268	-84.1	36.85	3.96	36.62	-79.91	-75.3	-4.61	Horizontal	Avg
1777.646	-79.19	36.64	4.72	37.2	-75.03	-63.3	-11.73	Horizontal	Avg
2223.977	-79.29	40.83	5.34	37.49	-70.61	-61.3	-9.31	Horizontal	Avg
4501.492	-80.73	43.2	8.01	35.8	-65.32	-41.3	-24.02	Horizontal	Avg
10916.26	-98.53	52.71	12.52	32.28	-65.58	-61.3	-4.28	Horizontal	Avg
UWB								Test channel: Channel 3	
Frequency (MHz)	Read Level (dBm)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBm/MHz)	Limit Line (dBm/m)	Margin Limit (dB)	Test value	Detector
1173.943	-82.54	36.15	3.83	36.71	-79.27	-75.3	-3.97	Vertical	Avg
1737.384	-78.85	36.33	4.67	37.34	-75.19	-63.3	-11.89	Vertical	Avg
2207.058	-79.33	41.64	5.32	37.55	-69.92	-61.3	-8.62	Vertical	Avg
5462.297	-79.75	44.04	9.35	32.55	-58.91	-41.3	-17.61	Vertical	Avg
10888.51	-97.54	52.69	12.52	32.37	-64.7	-61.3	-3.4	Vertical	Avg
1273.572	-83.19	36.9	3.99	36.63	-78.93	-75.3	-3.63	Horizontal	Avg
1814.218	-79.7	36.9	4.78	37.09	-75.11	-63.3	-11.81	Horizontal	Avg
2223.977	-79.44	40.83	5.34	37.49	-70.76	-61.3	-9.46	Horizontal	Avg
6251.257	-79.96	45.55	9.72	34.01	-58.7	-41.3	-17.4	Horizontal	Avg
10916.26	-97.53	52.71	12.52	32.28	-64.58	-61.3	-3.28	Horizontal	Avg
UWB								Test channel: Channel 5	
Frequency (MHz)	Read Level (dBm)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBm/MHz)	Limit Line (dBm/m)	Margin Limit (dB)	Test value	Detector
1755.164	-79.01	36.37	4.69	37.34	-75.29	-63.3	-11.99	Vertical	Avg
2207.058	-79.52	41.64	5.32	37.55	-70.11	-61.3	-8.81	Vertical	Avg
3625.669	-79.59	42.54	6.94	37.02	-67.13	-41.3	-25.83	Vertical	Avg
5574.673	-77.34	43.93	9.41	33.11	-57.11	-41.3	-15.81	Vertical	Avg
1755.164	-79.01	36.37	4.69	37.34	-75.29	-63.3	-11.99	Vertical	Avg
1216.534	-83.84	36.77	3.9	36.76	-79.93	-75.3	-4.63	Horizontal	Avg
1851.542	-80.01	37.36	4.83	37.2	-75.02	-63.3	-11.72	Horizontal	Avg
2201.447	-79.41	40.96	5.31	37.57	-70.71	-61.3	-9.41	Horizontal	Avg
4809.499	-79.53	43.68	8.47	34.12	-61.5	-41.3	-20.2	Horizontal	Avg
10916.26	-98.55	52.71	12.52	32.28	-65.6	-61.3	-4.3	Horizontal	Avg

Remark:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *Measuring frequencies from 960 MHz to 40GHz.*

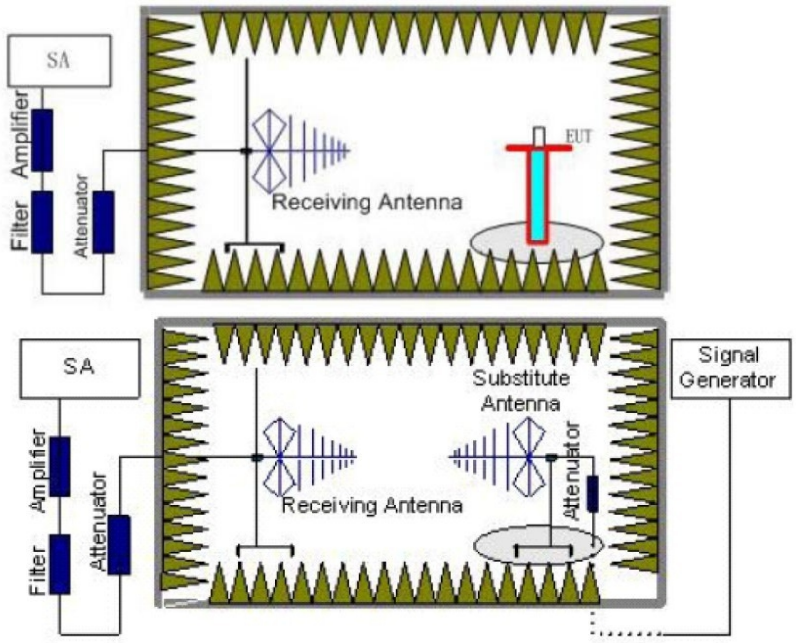
5.4. Radiated emissions in the GPS bands

LIMIT

In addition to the radiated emission limits specified in the table in paragraph (c) of this section, UWB transmitters operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of no less than 1 kHz:

Frequency [MHz]	EIRP [dBm]
1164-1240	-85.3
1559-1610	-85.3

TEST CONFIGURATION



TEST PROCEDURE

1. Place the EUT in the center of the turntable.
   a) For radiated emissions measurements performed at frequencies less than or equal to 1 GHz, the EUT shall be placed on a RF-transparent table at a nominal height of 80 cm above the reference ground plane
   b) For radiated measurements performed at frequencies above 1 GHz, the EUT shall be placed on an RF transparent table at a nominal height of 1.5 m above the ground plane.
2. Unless the EUT uses an integral antenna, the EUT shall be terminated with a non-radiating transmitter load. In cases where the EUT uses an adjustable antenna, the antenna shall be adjusted through typical positions and lengths to maximize emissions levels.
3. The EUT shall be tested while operating on the frequency per manufacturer specification. Set the transmitter to operate in continuous transmit mode.
4. Receiver or Spectrum set as follow:

   RBW=1kHz, VBW=3kHz, Detector=RMS, Sweep time=Auto
5. Each emission under consideration shall be evaluated:
   a) Raise and lower the measurement antenna from 1 m to 4 m, as necessary to enable detection of the maximum emission amplitude relative to measurement antenna height.
   b) Rotate the EUT through 360° to determine the maximum emission level relative to the axial position.
   c) Return the turntable to the azimuth where the highest emission amplitude level was observed.

d) Vary the measurement antenna height again through 1 m to 4 m again to find the height associated with the maximum emission amplitude.

e) Record the measured emission amplitude level and frequency

6. Repeat step 5 for each emission frequency with the measurement antenna oriented in both the horizontal and vertical polarizations to determine the orientation that gives the maximum emissions amplitude.

7. Set-up the substitution measurement with the reference point of the substitution antenna located as near as possible to where the center of the EUT radiating element was located during the initial EUT measurement.

8. Maintain the previous measurement instrument settings and test set-up, with the exception that the EUT is removed and replaced by the substitution antenna.

9. Connect a signal generator to the substitution antenna; locate the signal generator so as to minimize any potential influences on the measurement results. Set the signal generator to the frequency where emissions are detected, and set an output power level such that the radiated signal can be detected by the measurement instrument, with sufficient dynamic range relative to the noise floor.

10. For each emission that was detected and measured in the initial test

a) Vary the measurement antenna height between 1 m to 4 m to maximize the received (measured) signal amplitude.

b) Adjust the signal generator output power level until the amplitude detected by the measurement instrument equals the amplitude level of the emission previously measured directly in step 5 and step 6.

c) Record the output power level of the signal generator when equivalence is achieved in step b).

11. Repeat step 8 through step 10 with the measurement antenna oriented in the opposite polarization.

12. Calculate the emission power in dBm referenced to a half-wave dipole using the following equation:

Pe = Ps(dBm) − cable loss (dB) + antenna gain (dBd)

where

Pe = equivalent emission power in dBm

Ps = source (signal generator) power in dBm

NOTE—dBd refers to the measured antenna gain in decibels relative to a half-wave dipole.

13. Correct the antenna gain of the substitution antenna if necessary to reference the emission power to a half-wave dipole. When using measurement antennas with the gain specified in dBi, the equivalent dipole-referenced gain can be determined from:

gain (dBd) = gain (dBi) − 2.15 dB.

If necessary, the antenna gain can be calculated from calibrated antenna factor information

14. Provide the complete measurement results as a part of the test report.

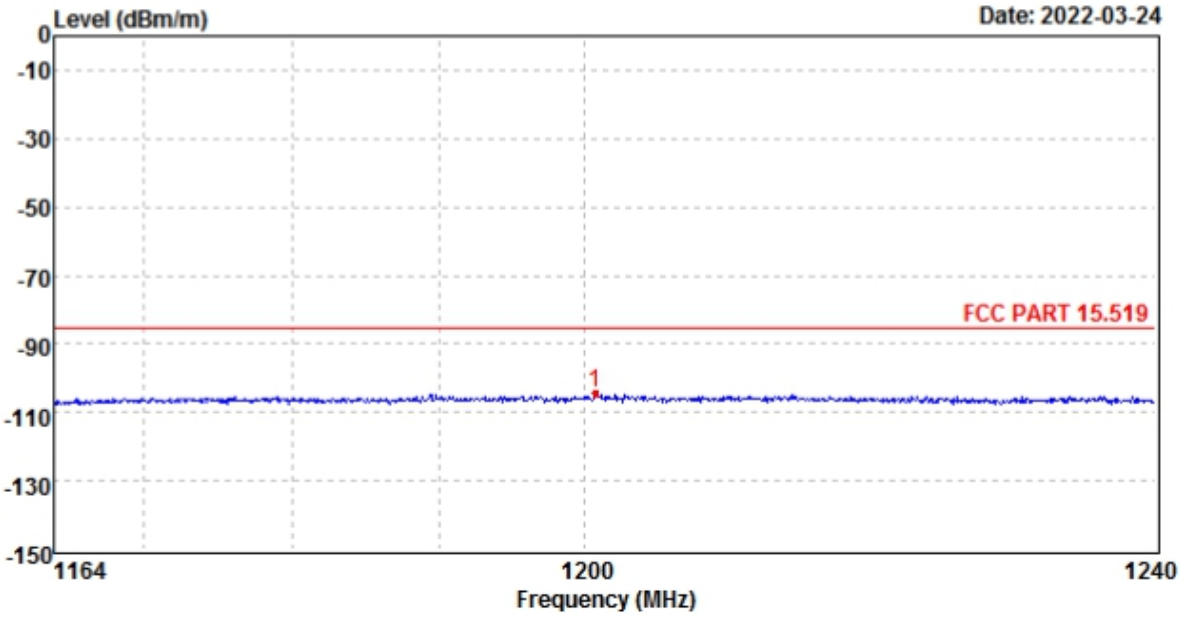
TEST MODE:

Please refer to the clause 4.2

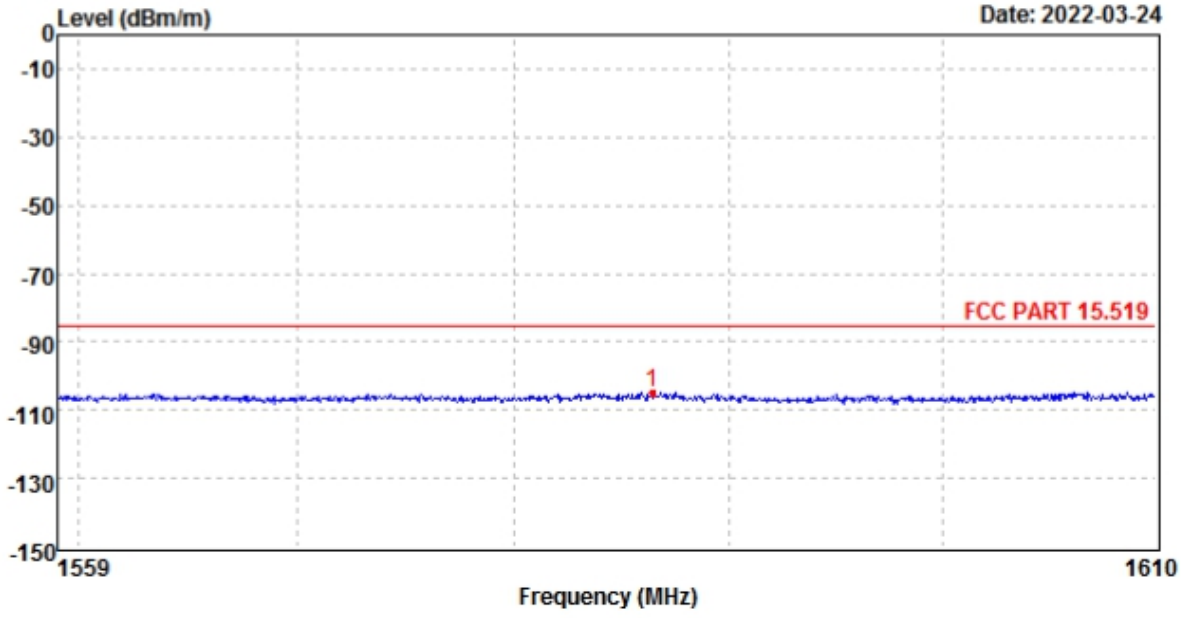
TEST RESULTS

☒ **Passed** ☐ **Not Applicable**

UWB			
Test channel:	Channel 1	Polarization:	Horizontal

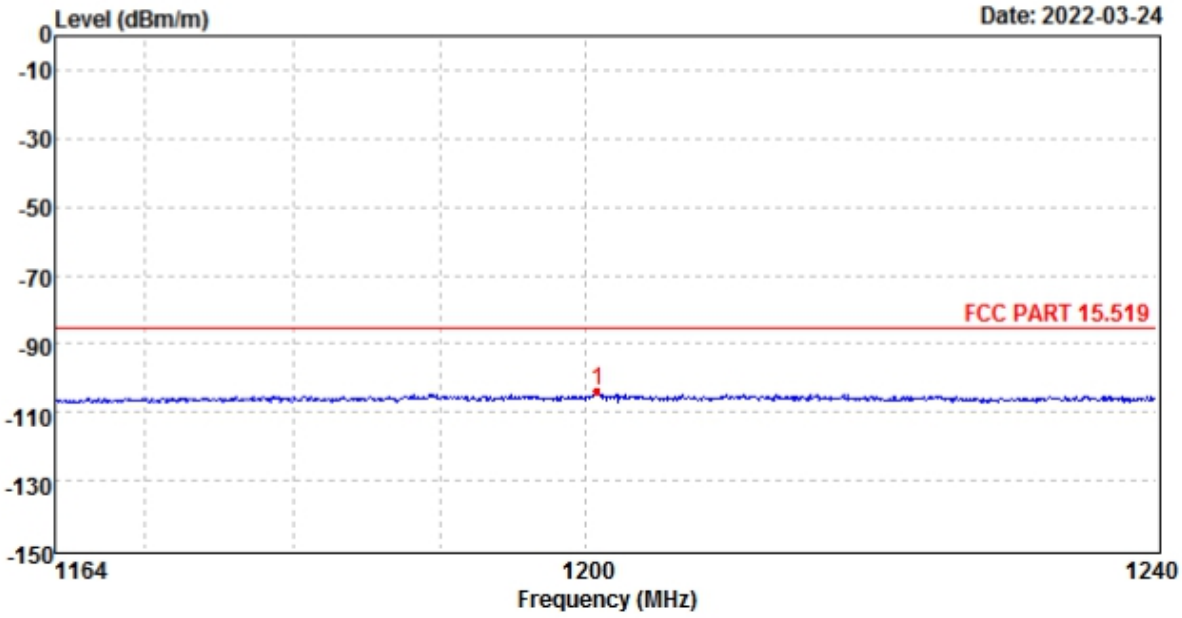


Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	1200.79	-108.43	36.73	3.87	36.72	-104.55	-85.30	-19.25	Average

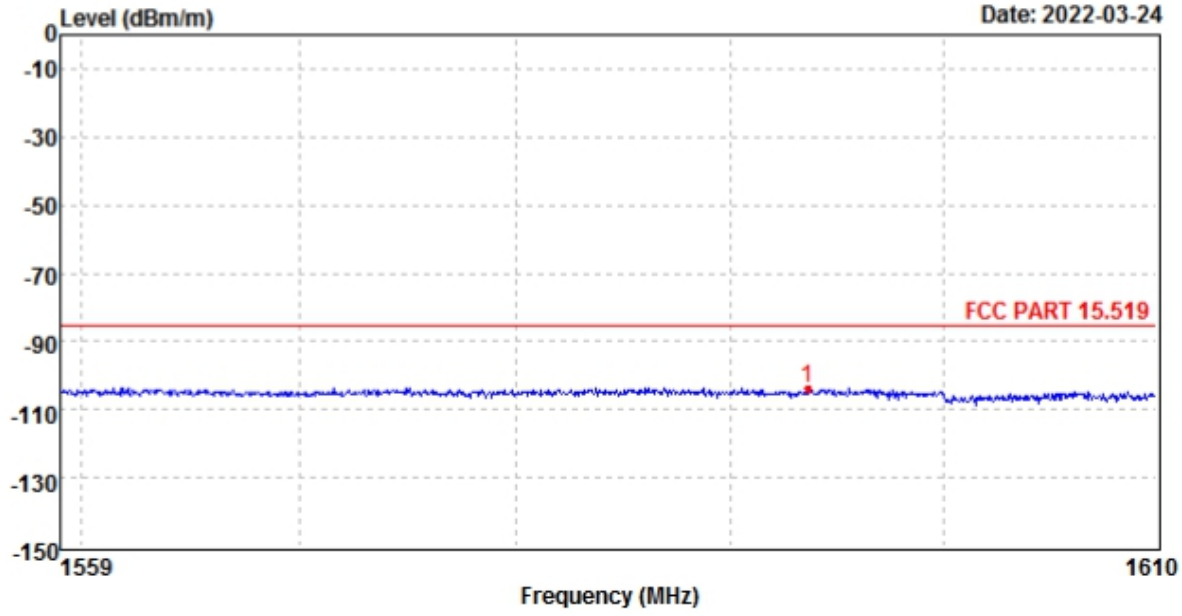


Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	1586.44	-108.24	36.04	4.45	37.10	-104.85	-85.30	-19.55	Average

Test channel:	Channel 1	Polarization:	Vertical

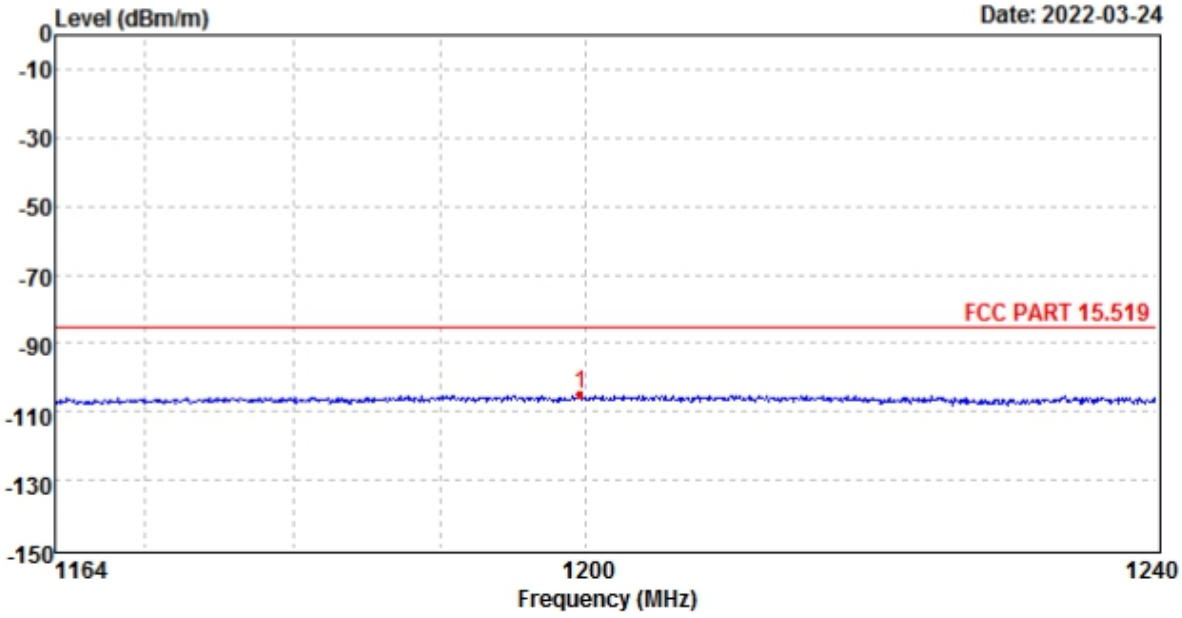


Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	1200.87	-107.92	36.84	3.87	36.72	-103.93	-85.30	-18.63	Average

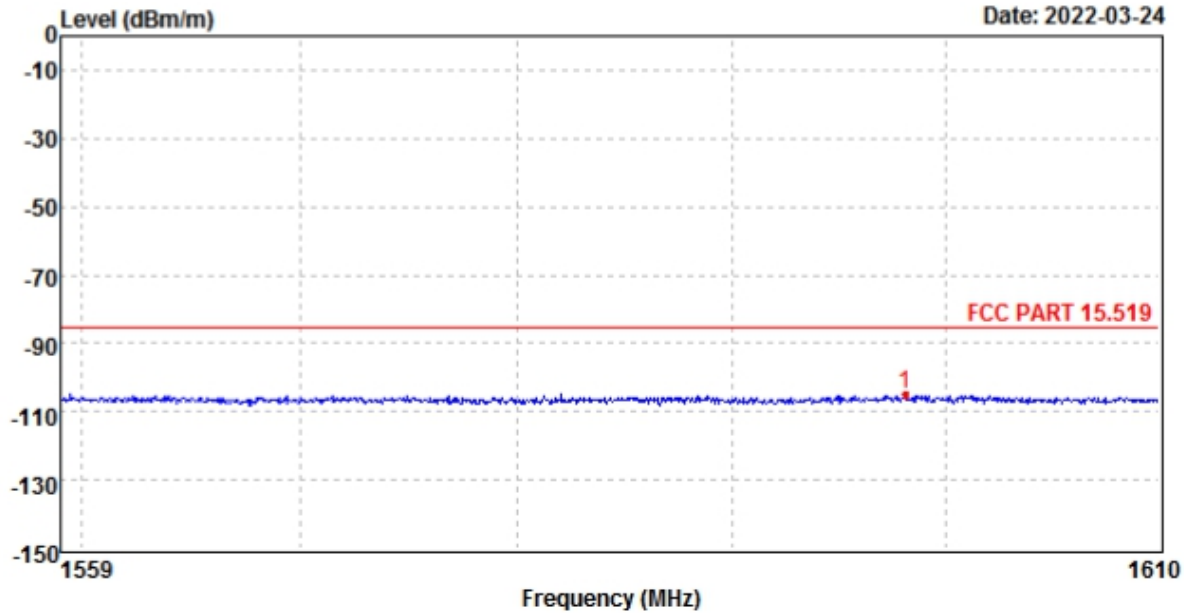


Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	1593.60	-108.60	37.76	4.46	37.14	-103.52	-85.30	-18.22	Average

Test channel:	Channel 3	Polarization:	Horizontal

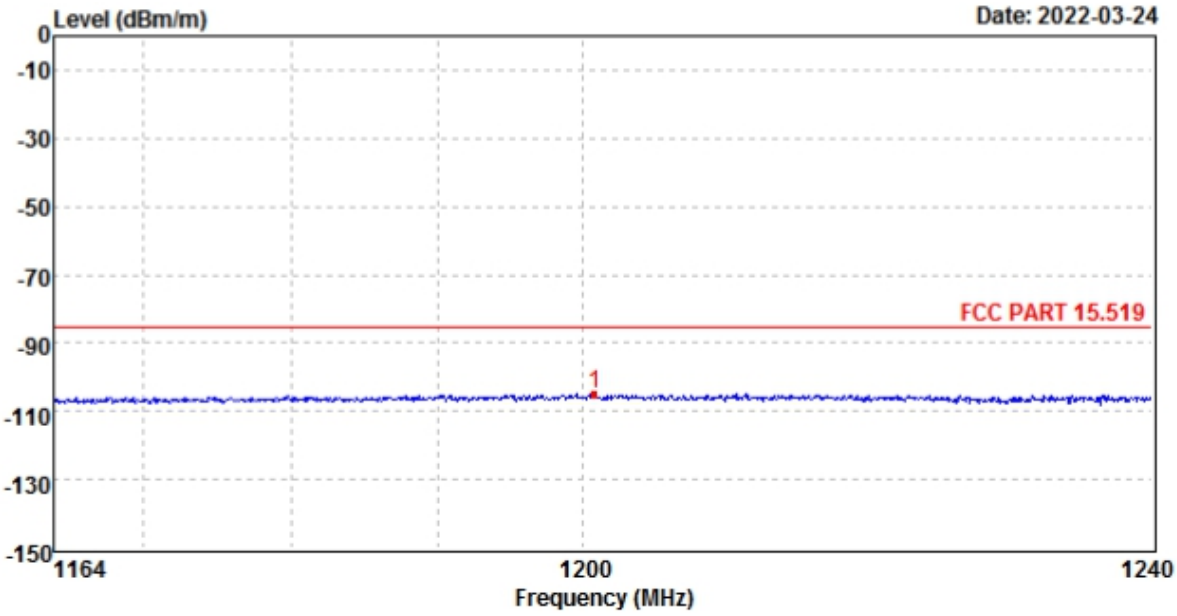


Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	1199.65	-108.85	36.72	3.87	36.71	-104.97	-85.30	-19.67	Average

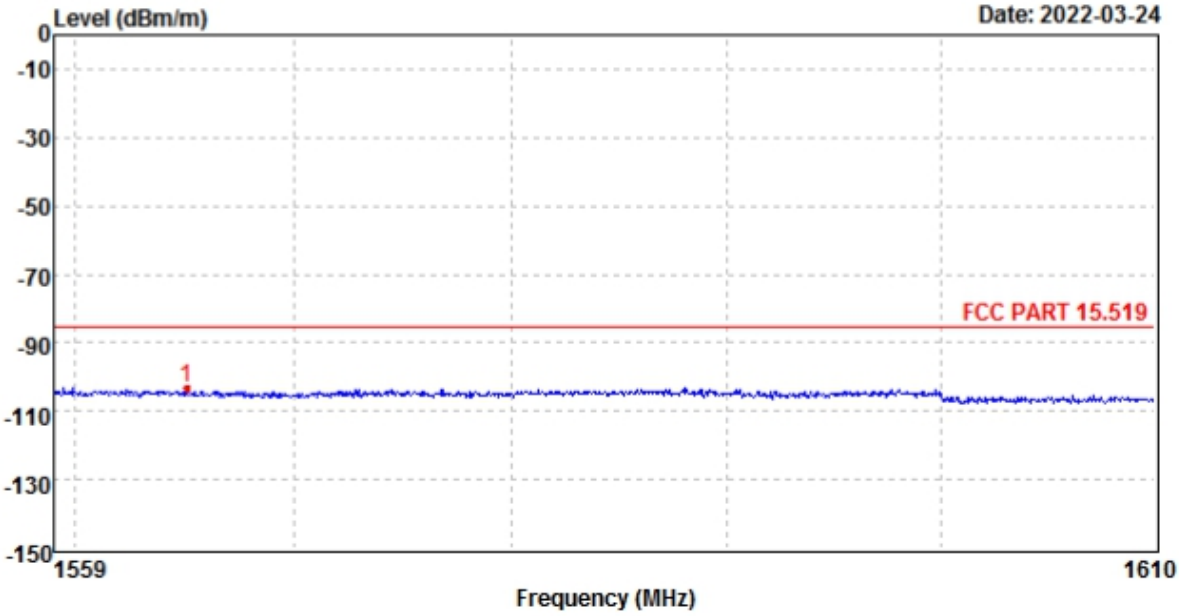


Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	1598.07	-107.94	35.97	4.47	37.17	-104.67	-85.30	-19.37	Average

Test channel:	Channel 3	Polarization:	Vertical

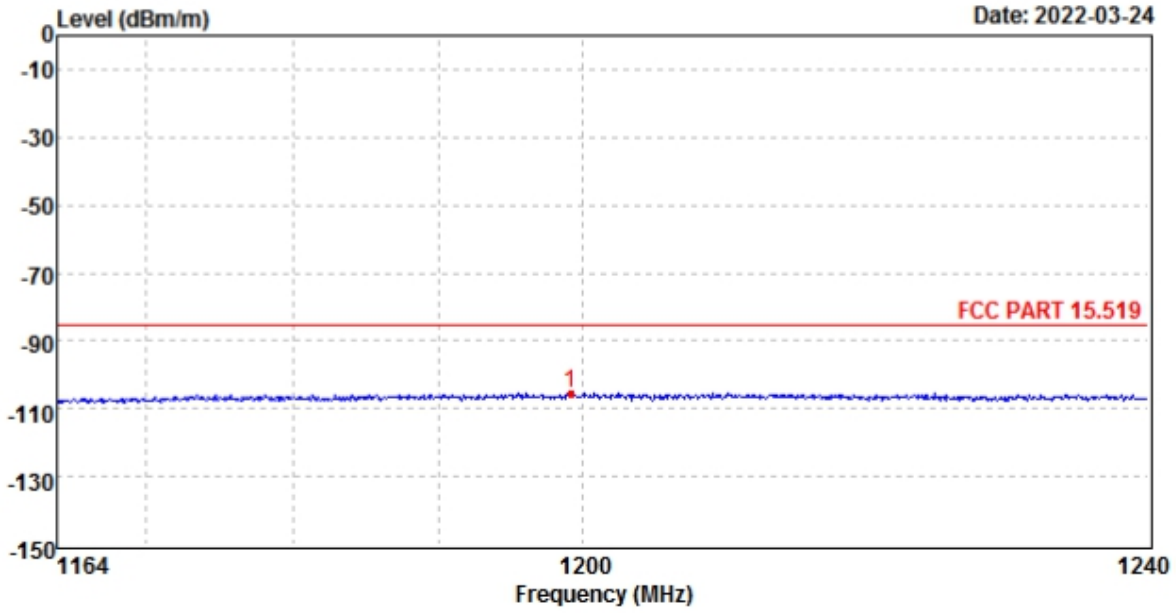


Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	1200.87	-108.71	36.84	3.87	36.72	-104.72	-85.30	-19.42	Average

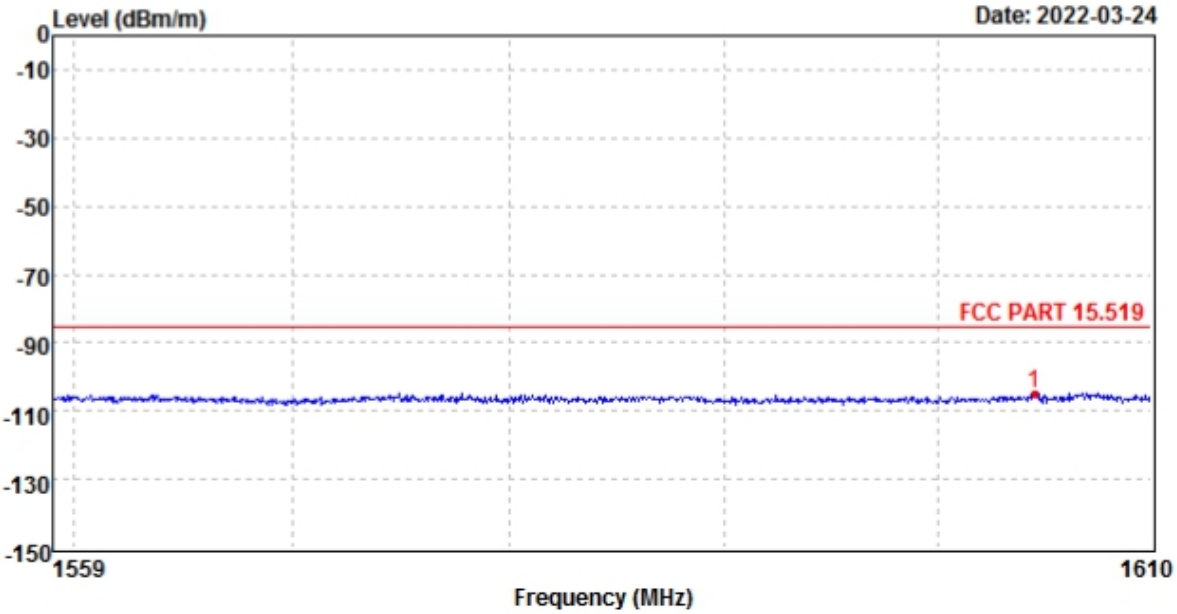


Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	1565.08	-108.48	37.76	4.42	36.96	-103.26	-85.30	-17.96	Average

Test channel:	Channel 5	Polarization:	Horizontal

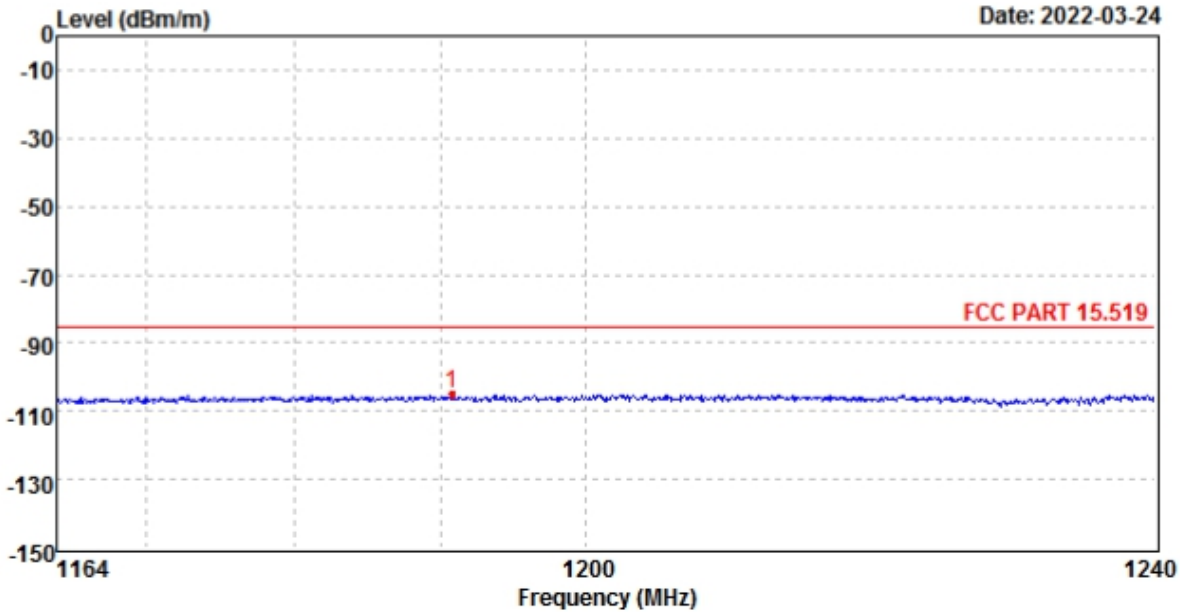


Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	1199.20	-109.14	36.71	3.87	36.71	-105.27	-85.30	-19.97	Average

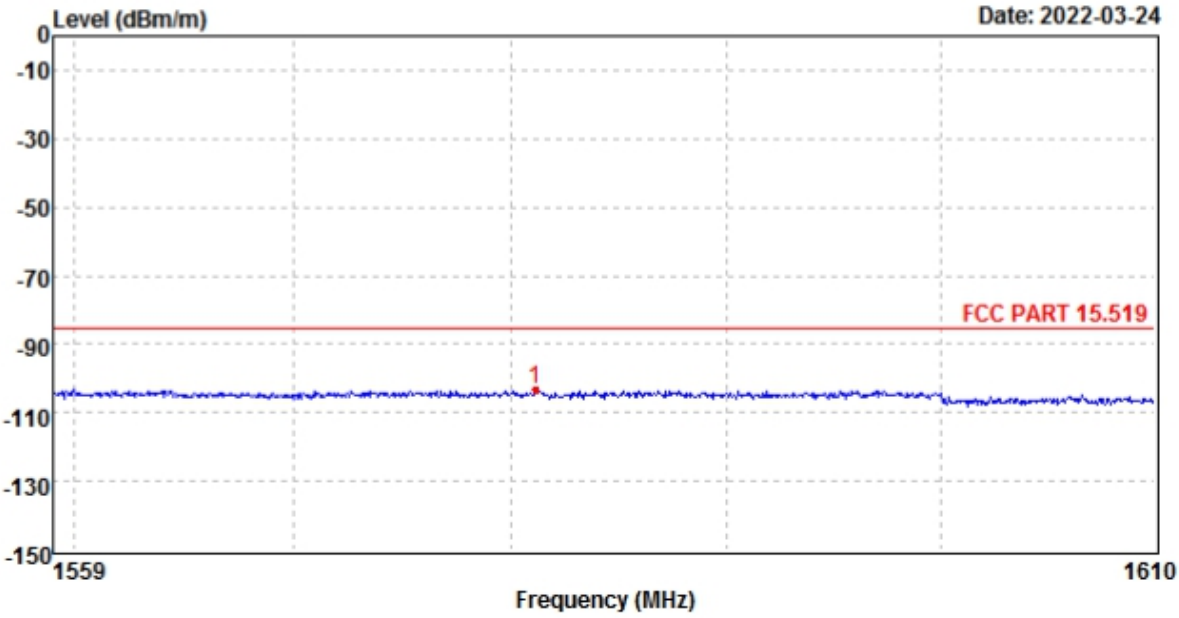


Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	1604.52	-107.86	35.98	4.48	37.19	-104.59	-85.30	-19.29	Average

Test channel:	Channel 5	Polarization:	Vertical



Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	1190.81	-108.60	36.60	3.85	36.69	-104.84	-85.30	-19.54	Average



Mark	Frequency MHz	Reading dBm	Antenna dB	Cable dB	Preamp dB	Level dBm	Limit dBm	Over limit	Remark
1	1581.14	-108.53	37.76	4.44	37.06	-103.39	-85.30	-18.09	Average

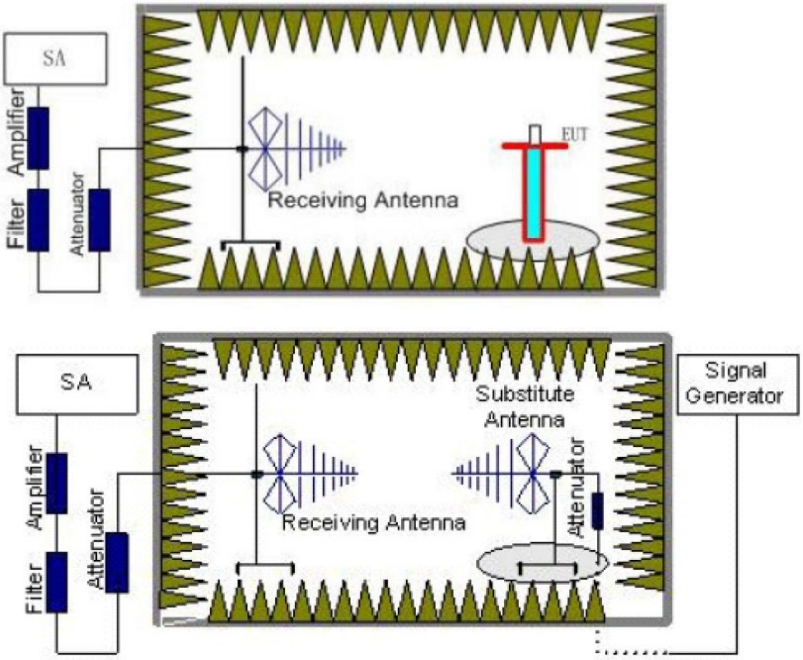
Remark:
1. Remark"---" means that the emission level is too low to be measured
2. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

5.5. Maximum Peak Radiated Power(EIRP)

LIMIT

There is a limit on the peak level of the emissions contained within a 50 MHz bandwidth centered on the frequency at which the highest radiated emission occurs, f_M. That limit is 0 dBm EIRP. It is acceptable to employ a different resolution bandwidth, and a correspondingly different peak emission limit, following the procedures described in § 15.521.

TEST CONFIGURATION



TEST PROCEDURE

1. Place the EUT in the center of the turntable.
   a) For radiated emissions measurements performed at frequencies less than or equal to 1 GHz, the EUT shall be placed on a RF-transparent table at a nominal height of 80 cm above the reference ground plane
   b) For radiated measurements performed at frequencies above 1 GHz, the EUT shall be placed on an RF transparent table at a nominal height of 1.5 m above the ground plane.
2. Unless the EUT uses an integral antenna, the EUT shall be terminated with a non-radiating transmitter load. In cases where the EUT uses an adjustable antenna, the antenna shall be adjusted through typical positions and lengths to maximize emissions levels.
3. The EUT shall be tested while operating on the frequency per manufacturer specification. Set the transmitter to operate in continuous transmit mode.
4. Receiver or Spectrum set as follow:

   RBW=3MHz, VBW=10MHz, Detector=Peck, Sweep time=Auto
5. Each emission under consideration shall be evaluated:
   a) Raise and lower the measurement antenna from 1 m to 4 m, as necessary to enable detection of the maximum emission amplitude relative to measurement antenna height.
   b) Rotate the EUT through 360° to determine the maximum emission level relative to the axial position.
   c) Return the turntable to the azimuth where the highest emission amplitude level was observed.
   d) Vary the measurement antenna height again through 1 m to 4 m again to find the height associated with the maximum emission amplitude.
   e) Record the measured emission amplitude level and frequency

6. Repeat step 5 for each emission frequency with the measurement antenna oriented in both the horizontal and vertical polarizations to determine the orientation that gives the maximum emissions amplitude.
7. Set-up the substitution measurement with the reference point of the substitution antenna located as near as possible to where the center of the EUT radiating element was located during the initial EUT measurement.
8. Maintain the previous measurement instrument settings and test set-up, with the exception that the EUT is removed and replaced by the substitution antenna.
9. Connect a signal generator to the substitution antenna; locate the signal generator so as to minimize any potential influences on the measurement results. Set the signal generator to the frequency where emissions are detected, and set an output power level such that the radiated signal can be detected by the measurement instrument, with sufficient dynamic range relative to the noise floor.
10. For each emission that was detected and measured in the initial test
    a) Vary the measurement antenna height between 1 m to 4 m to maximize the received (measured) signal amplitude.
    b) Adjust the signal generator output power level until the amplitude detected by the measurement instrument equals the amplitude level of the emission previously measured directly in step 5 and step 6.
    c) Record the output power level of the signal generator when equivalence is achieved in step b).
11. Repeat step 8 through step 10 with the measurement antenna oriented in the opposite polarization.
12. Calculate the emission power in dBm referenced to a half-wave dipole using the following equation:

    Pe = Ps(dBm) − cable loss (dB) + antenna gain (dBd)

    where

    Pe = equivalent emission power in dBm

    Ps = source (signal generator) power in dBm

    NOTE—dBd refers to the measured antenna gain in decibels relative to a half-wave dipole.
13. Correct the antenna gain of the substitution antenna if necessary to reference the emission power to a half-wave dipole. When using measurement antennas with the gain specified in dBi, the equivalent dipole-referenced gain can be determined from:

    gain (dBd) = gain (dBi) − 2.15 dB.

    If necessary, the antenna gain can be calculated from calibrated antenna factor information
14. Provide the complete measurement results as a part of the test report.

TEST MODE:

Please refer to the clause 4.2

TEST RESULTS

☒ **Passed** ☐ **Not Applicable**

Frequency(MHz)	Channel	Peak EIRP (dBm/50MHz)	Peak EIRP Limit (dBm/50MHz)	Verdict
3494.4	1	-5.32	0	PASS
4492.8	3	-5.83	0	PASS
6489.6	5	-3.97	0	PASS

6. TEST SETUP PHOTOS OF THE EUT

Refer to the test report No.: CHTEW22030134

7. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

Refer to the test report No.: CHTEW22030134

8. APPENDIX REPORT

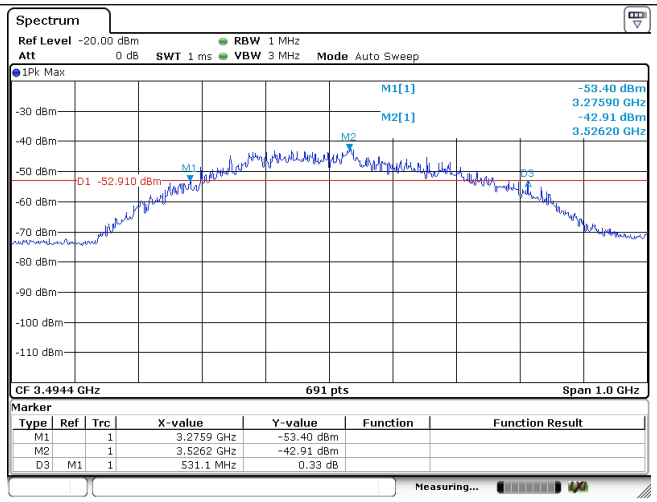
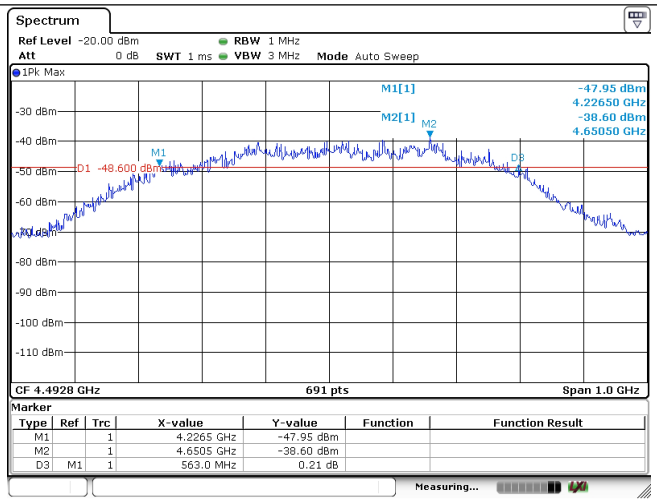
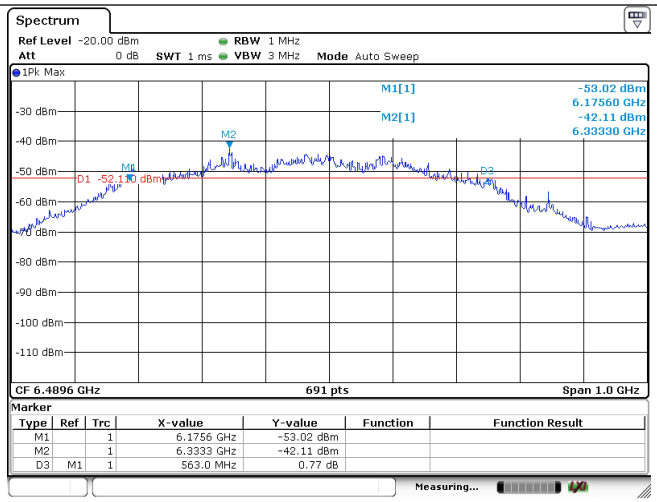
APPENDIX REPORT

Project No.	SHT2109053802EW		
Test sample No.	YPHT21090538003	Model No.	EagleEye Sense
Start test date	2022-03-03	Finish date	2022-03-10
Temperature	24.3℃	Humidity	36%
Test Engineer	Hailey Chen	Auditor	Xiaodong Zhao

Appendix clause	Test item	Result
A	10dB bandwidth	PASS
B	Transmission time	PASS

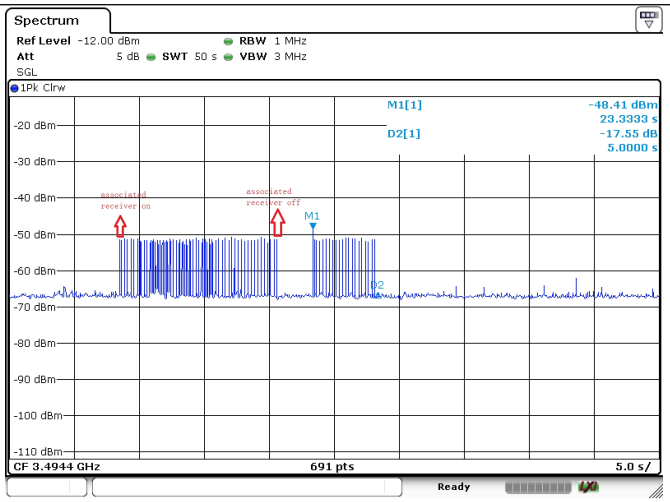
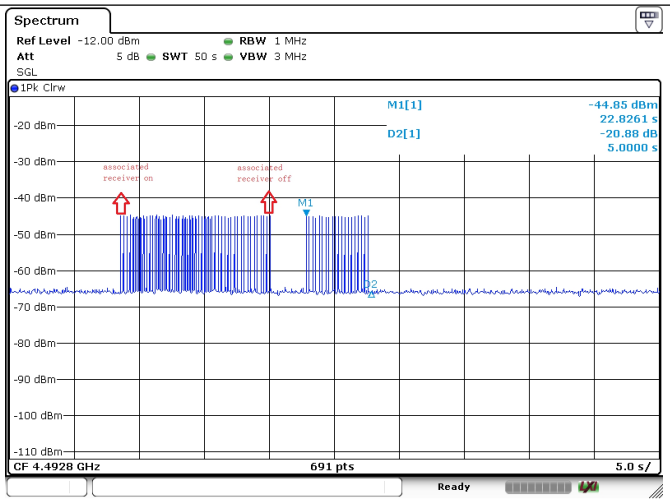
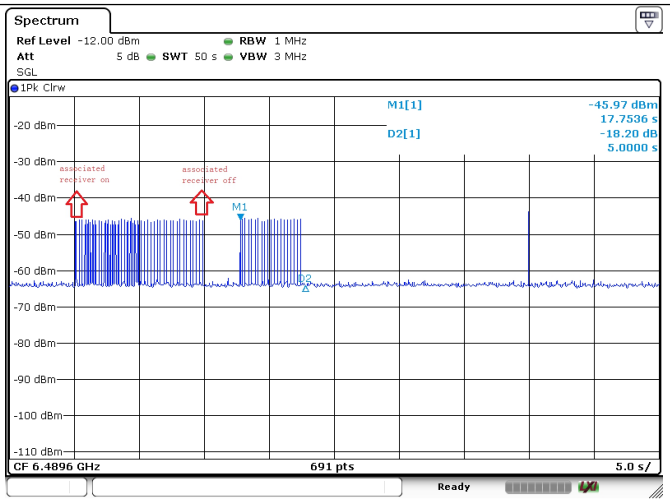
Appendix A：10dB bandwidth

Channel	10dB Bandwidth (MHz)	Limit (MHz)	f_L(MHz)	Limit (MHz)	f_H(MHz)	Limit (MHz)	Result
01	531.1	≥500	3275.9	≥3100	3807.0	≤10600	Pass
03	563.0		4226.5	≥3100	4789.5	≤10600	
05	563.0		6175.6	≥3100	6738.6	≤10600	

CH01	 Date: 3.MAR.2022 09:27:58
CH03	 Date: 3.MAR.2022 08:52:33
CH05	 Date: 2.MAR.2022 16:50:38

Appendix B：Transmission time

Channel	Transmission time(s)	Limit (s)	Result
01	5	⩽10	Pass
03	5		
05	5		

CH01	 Date: 10.MAR.2022 16:39:12
CH03	 Date: 10.MAR.2022 17:00:21
CH05	 Date: 10.MAR.2022 17:09:38

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