

FCC COMPLIANCE TEST REPORT

Technical Statement of Conformity in accordance with FCC Part 15 Subpart C

The Product

Equipment Under Test **Model Number Product Series Report Number Issue Date**

Bluetooth Dongle : BT-523 : BT-523-EFJ : HA201041-RA : 03-Feb-2021

is produced by

Mobility Sound Technology LTD.

5F, No.100, Jian 1st Road, ZhongHe Dist., New Taipei City #23585, Taiwan



NO.15-1, CWEISHUH KENG, CWEIPIN VILLAGE, LINKOU DIST, NEW TAIPEI CITY, TAIWAN, R. O. C.

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FCC Designation No. : TW1071, TW1163 TAF Accreditation No.: 1163 IC assigned Code : 11226A-2 ISED CAB identifier: TW1163

Caution :

This report sets forth our findings solely with respect to the test sample. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment. Please note that the measurement uncertainty are provided for informational purpose only and are not used in determining the Pass/Fail results.

This test report shall not be reproduced written approval of HongAn TECHNOLOGY EMC Laboratory.

The relevant information of the content of this test report is provided by the customer. For the correctness, appropriateness or completeness of the information provided by the customer, if there is any doubt or error, which will affect the validity of the results of this test report, the laboratory will not be liable Related responsibilities.

Report Version : V00

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Release control Record

Report Version	Description	Issued Date
V00	Original release.	03-Feb-2021

Test Result Certification

Applicant	: Mobility Sound Technology LTD.
Address of Applicant	5F, No.100, Jian 1 st Road, ZhongHe Dist., New Taipei City
Address of Applicant	#23585, Taiwan
Manufacturer	: Mobility Sound Technology LTD.
Address of Manufacturer	5F, No.100, Jian 1 st Road, ZhongHe Dist., New Taipei City
	#23585, Taiwan
Trade Name	: MobilitySound
Equipment Under Test	: Bluetooth Dongle
Model Number	: BT-523
Product Series	: BT-523-EFJ
FCC ID	: XTS-BT-523
Filing Type	: Certification
Sample Received Date	: 10-Dec-2020
Test Standard	:

FCC Part 15 Subpart C §15.249

Deviations from standard test methods & any other specifications : NONE

Remark:

- 1. This report details the results of the test carried out on one sample.
- 2. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in both ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.203, 15.207, 15.209, 15.249.
- 3. This report applies to the above sample only and shall not be reproduced in part without written approval of HongAn Technology Co., Ltd.
- Test Location: HongAn Technology Co., Ltd., No.15-1 Cweishuh Keng, Cweipin Village, Linkou Dist., New Taipei City, Taiwan, R.O.C. FCC Designation No.: TW1071, TW1163.

Andrew Lin Tested by:

2021-01-25

Andrew Lin / ENG. Dept. Staff

Basan Hsieh

Date: 2021-02-03

Approved by:

Eason Hsieh / Section Manager

Summary of Test Result

	Test Item	Applicable Standard	Test Result	
1	Antenna Requirement	FCC part 15 subpart C §203	Compliance	
2	Conducted Emission	FCC part 15 subpart C §207	N/A	
3	Restricted Band of	ECC part 15 subpart C \$205	Compliance	
3	Operation	FCC part 15 subpart C §205	Compliance	
4	Radiated Emission	FCC part 15 subpart C §209	Compliance	
5	Field Strength	FCC part 15 subpart C §249(a)	Compliance	
6	Out of Band Emission	FCC part 15 subpart C §249(d)	Compliance	
7	20dB Bandwidth	FCC part 15 subpart C §215(c)	Compliance	

General Description

1.1. Description of EUT

Equipment Under Test	:	Bluetoot	Bluetooth Dongle						
Model Number of EUT	:	BT-523	3T-523						
Product Series	:	BT-523-I	3T-523-EFJ						
Power Supply	:	Input: D	C 5 V						
Frequency Range	:	2402~24	80 MHz						
Number of Channels	:	BR+EDF BLE:40 (
		BR+EDF	R:						
		00	2402	20	2422	40	2442	60	2462
		01	2403	21	2423	41	2443	61	2463
		02	2404	22	2424	42	2444	62	2464
		03	2405	23	2425	43	2445	63	2465
		04	2406	24	2426	44	2446	64	2466
		05	2407	25	2427	45	2447	65	2467
		06	2408	26	2428	46	2448	66	2468
		07	2409	27	2429	47	2449	67	2469
		08	2410	28	2430	48	2450	68	2470
		09	2411	29	2431	49	2451	69	2471
		10	2412	30	2432	50	2452	70	2472
		11	2413	31	2433	51	2453	71	2473
Carrier Frequency of Each Channel	:	12	2414	32	2434	52	2454	72	2474
Each Channel		13	2415	33	2435	53	2455	73	2475
		14	2416	34	2436	54	2456	74	2476
		15	2417	35	2437	55	2457	75	2477
		16	2418	36	2438	56	2458	76	2478
		17	2419	37	2439	57	2459	77	2479
		18	2420	38	2440	58	2460	78	2480
		19	2421	39	2441	59	2461	-	-
		BLE:							
		00	2402	10	2422	20	2442	30	2462
		01	2404	11	2424	21	2444	31	2464
		02	2406	12	2426	22	2446	32	2466
		03	2408	13	2428	23	2448	33	2468
		04	2410	14	2430	24	2450	34	2470



		05	2412	15	2432	25	2452	35	2472
		06	2414	16	2434	26	2454	36	2474
		07	2416	17	2436	27	2456	37	2476
		08	2418	18	2438	28	2458	38	2478
		09	2420	19	2440	29	2460	39	2480
Antenna Specification	:	Chip Ant	enna/ Ga	ain: 1.5 c	dBi				
		FHSS BR : GFSK							
Modulation Technique	: EDR : π/4-DQPSK, 8-DPSK DTS BLE : GFSK								
Transmit Data Rate	:	BR : 1Mbps							
Specification	:	Dimensions : 7 cm (L) X 4 cm (W) X 3 cm (H) Weight : 25 g Intended Function : The EUT is a Bluetooth Dongle. Product Variance : N/A.							

1.2. Test Instruments

Instrument	Manufacturer	Model	Model Serial Number		Next Cel Dete	
Name	Mode	Number	Serial Number	Last Cal. Date	Next Cal. Date	
Spectrum Analyzer	R&S	FSV 40	101296	08-Apr-2020	07-Apr-2021	
ESCI 7 EMI Test Receiver	R&S	ESCI 7	100931	07-Aug-2020	06-Aug-2021	
Pre-Amplifier	Schaffner	CPA9231A	0405	17-Dec-2020	16-Dec-2021	
Pre-Amplifier	EMCI	EMC051845SE	980692	03-Dec-2020	02-Dec-2021	
Pre-Amplifier	EMCI	EMC184045SE	980699	22-Apr-2020	21-Apr-2021	
Bilog Antenna	TESEQ	CBL6111D	47016	24-Jul-2020	23-Jul-2021	
Horn Antenna	EMCO	3115	9912-5992	20-May-2020	19-May-2021	
Horn Antenna	Com-Power	AH-840	101042	22-May-2020	21-May-2021	
Cable	HongAn	8D-FB	HA2-10MSite	21-Aug-2020	20-Aug-2021	
Cable	EMCI	EMC104-SM-N M-1000	191104	03-Dec-2020	02-Dec-2021	
Cable	EMCI	EMC104-SM-N M-8000	191103	03-Dec-2020	02-Dec-2021	
Cable	EMCI	EMC102-KM-K M-1000	200301	22-Apr-2020	21-Apr-2021	
Cable	EMCI	EMC102-KM-K M-8000	200213	22-Apr-2020	21-Apr-2021	
LISN	EMCO	3810/2NM	9702-1819	17-Jul-2020	16-Jul-2021	
LISN	SCHWARZ BECK	NSLK 8127	01021	11-Sep-2020	10-Sep-2021	
Cable	HongAn	RG 223/U	HA2-CE	21-Aug-2020	20-Aug-2021	
Software	Audix	e3 (Ver:6.101006a)	N/A	N/A	N/A	

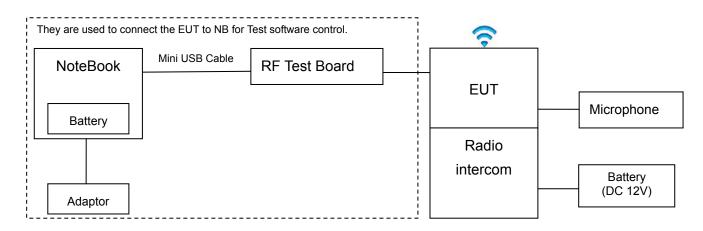
* The test equipments used are calibrated and can be traced to National ITRI and International Standards.

1.3. Auxiliary Equipments

1.3.1.	Provided by HongAn	Technology Co.,	Ltd. for Test.
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No.	Equipment	Model No.	Serial No.	EMC	Brand	Power Cord
NO.	Equipment	WOUEI NO.	Senai No.	Approved	Branu	Power Colu
01	NoteBook	X542U	HBN0CV11S7834 65	"CE Mark,	X542U	Adapter to Notebook Inptut : AC 100-240V~50/60Hz 1.6A Output : 19V 3.42A Non-shielded, Un-detachable, 2.2m, W/O Core
1.3.	2. Provided by f	the Manufacturer				
No	Fauinment	Model No.	Serial No.	EMC	Brand	Specification
No.	Equipment	Model No.	Serial No.	Approved	Brano	Specification
01	BT Test Board	USB-SPI	N/A	N/A	CSR	Non-shielded, Detachable0.2m, w/o core
02	Micro Phone	N/A	N/A	N/A	N/A	Non-Shielded; Detachable, 0.6m w/o core
03	Radio Intercom	HT 1000	N/A	N/A	MOTOROLA	Non-shielded, Detachable0.4m, w/o core
02	Mini USB Cable	N/A	N/A	N/A	N/A	Non-Shielded; Detachable, 1m w/o core

1.4. EUT SETUP



Note: Main Test Sample: BT-523

1.5. Identifying the Final Test Mode

1.5.1. BR+EDR

Mode 1: BR(1Mbps) 2402 MHz TX Mode 2: BR(1Mbps) 2441 MHz TX Mode 3: BR(1Mbps) 2480 MHz TX Mode 4: EDR(2Mbps) 2402 MHz TX Mode 5: EDR(2Mbps) 2441 MHz TX Mode 6: EDR(2Mbps) 2480 MHz TX Mode 7: EDR(3Mbps) 2402 MHz TX Mode 8: EDR(3Mbps) 2441 MHz TX Mode 9: EDR(3Mbps) 2480 MHz TX Note:

- 1. After pre-test, we identified that the Test Mode 1 was most likely to produce the maximum transmitting power and cause maximum disturbance. Therefore, the Final Assessment was performed for the worst case.
- 2. The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements. During the tests, there was no Test Software has been used.
- 3. Channel Low (2402 MHz), Mid (2441 MHz) and High (2480 MHz) were chosen for full testing.
- 4. According to its specifications, the EUT must comply with the requirements of the Section 15.203, 15.207, 15.209 and 15.249 under the FCC Rules Part 15 Subpart C.
- 5. Test Software: Blue Test3 V-2-6-8-1467; RF parameter setting : BR · EDR: Channel 00 , 39 , 78 / Data Rate : 1,2,3 Mbps / TX POWER : 50.

1.5.2 BLE

Mode 10: 2402 MHz TX

Mode 11: 2442 MHz TX

Mode 12: 2480 MHz TX

Note:

- 1. After pre-test, we identified that the Test Mode 11 was most likely to produce the maximum transmitting power and cause maximum disturbance. Therefore, the Final Assessment was performed for the worst case.
- 2. The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.
- 3. Channel Low (2402 MHz), Mid (2442 MHz) and High (2480 MHz) were chosen for full testing.
- 4. According to its specifications, the EUT must comply with the requirements of the Section 15.203, 15.207, 15.209 and 15.249 under the FCC Rules Part 15 Subpart C.
- 5. Test Software: Blue Test3 V-2-6-8-1467; RF parameter setting : Channel 00 , 20 , 39 / Data Rate : 1 Mbps / TX POWER : 50.

1.6. Final Test Mode

1.6.1 BR+EDR

Conducted Emission: N/A.

Radiated Emission (30~1000 MHz): Mode1.

Radiated Emission (1~26.5GHz): All Modes.

1.6.2 BLE

Conducted Emission: N/A. Radiated Emission (30~1000 MHz): Mode11. Radiated Emission (1~26.5GHz): All Modes.

1.7. Condition of Power Supply

DC 5V through Radio intercom

1.8. EUT Configuration

- 1. Setup the EUT as shown in Sec.1.4 Block Diagram.
- 2. Turn on the power of all equipments.
- 3. Activate the selected Final Test Mode.

1.9. Test Methodology

The tests documented in this report were performed in accordance with ANSI C63.10 (2013) and FCC CFR 47 15.203, 15.207, 15.209 and 15.249.

1.10. General Test Procedures

Conducted Emissions

The EUT is set according to the requirements in Section 6.2 of ANSI C63.10 (2013).

Radiated Emissions

The EUT is set according to the requirements in Section 6.3 of ANSI C63.10 (2013).

1.11. Modification

N/A

the frequency bands listed below:

1.12. FCC Part 15.205 restricted bands of operations

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of

the nequency band			
MHz	MHz	MHz	GHz
0.090-0.110 16.42-16.423		399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37635-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

² Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

2. Power line Conducted Emission Measurement

2.1. Test Instruments

Refer to Sec. 1.2 Test Instruments.

2.2. Test Arrangement and Procedure

- 1. The EUT was placed on a table, which is 0.8m above ground plane.
- 2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 3. Repeat above procedures until all frequency measured were complete.

2.3. Limit (§ 15.207)

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

	Limits (dBuV)		
Frequency (MHz)	Q.P. (Quasi-Peak)	A.V. (Average)	
0.15 to 0.50	66 to 56	56 to 46	
0.50 to 5.0	56	46	
5.0 to 30	60	50	

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

2.4. Test Result

N/A

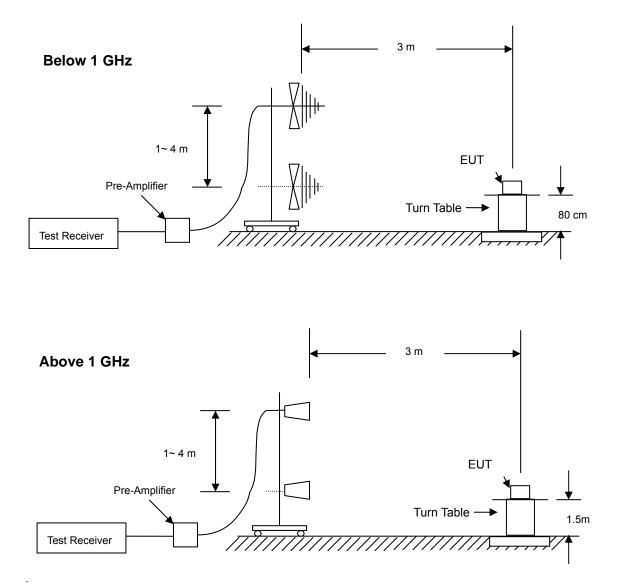
The EUT applies a Radio intercom's Battery for its power supply.

3. Radiated Emission Test

3.1. Test Instruments

Refer to Sec. 1.2 Test Instruments.

3.2. Test Arrangement and Procedure



- 1. The EUT is placed on a turntable, which is 0.8 m (below 1GHz) and 1.5m (above 1GHz) above ground plane.
- 2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
- 4. Maxium procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Set the spectrum analyzer. Refer to each test results for detail setting up.

7. Repeat above procedures until the meausreemnts for all frequencies are complete.

3.3. Limit of Field Strength of Fundamental (§ 15.249)

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency	Field strength of fundamental	Field strength of harmonics
(MHz)	(microvolts/ meter)	(meters)
902-928	50	500
2400-2483.5	50	500
5725-5875	50	500
24000-24250	250	2500

Note:

- 1. Field strength limits are specified at a distance of 3 meters.
- For frequencies above 1000 MHz, the field strength limits in above table are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

3.4. Limit of Spurious Emission (§ 15.209)

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is lesser attenuation.

Frequency	Field strength	Measurement distance
(MHz)	(microvolts/ meter)	(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

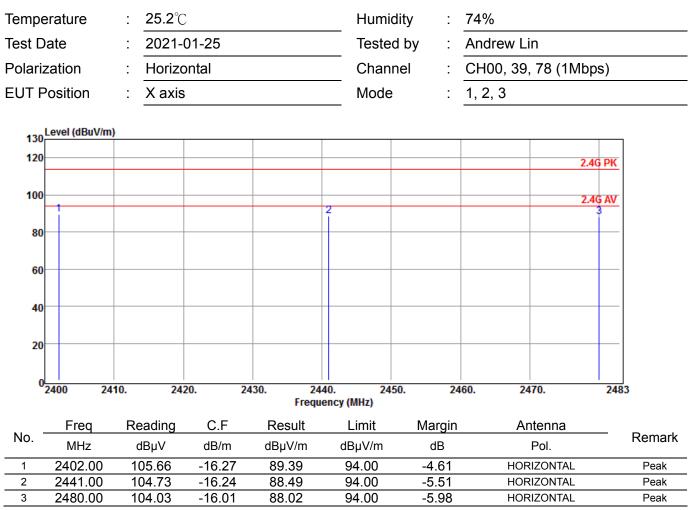
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g.§§ 15.231 and 15.241.

3.5. Test Result

Compliance

The final test data are shown on the following page(s).

The 9kHz-30MHz spurious emission is under limit 20dB more.

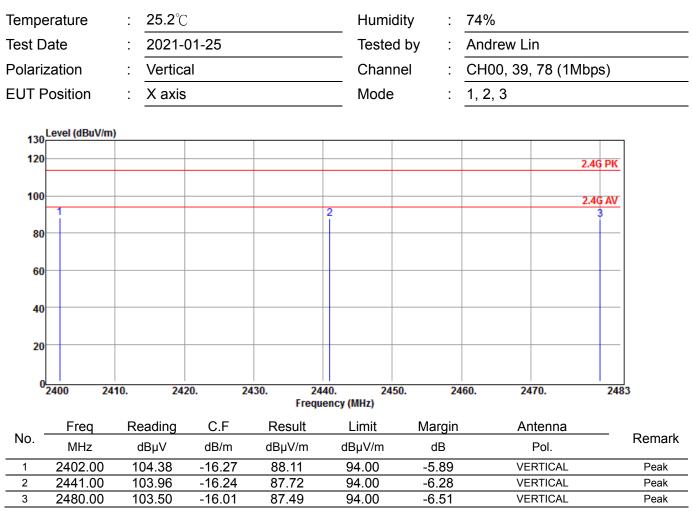


Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

Note 2. Margin = Result - Limit ; Result = Reading + C.F $_{\circ}$

Remark :

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:

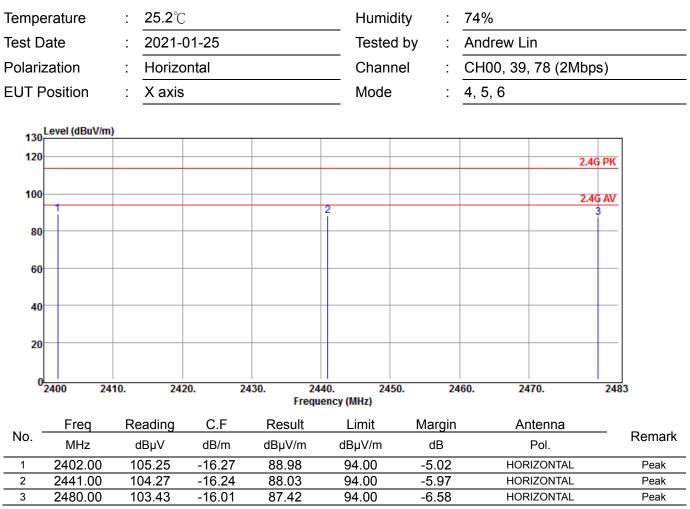


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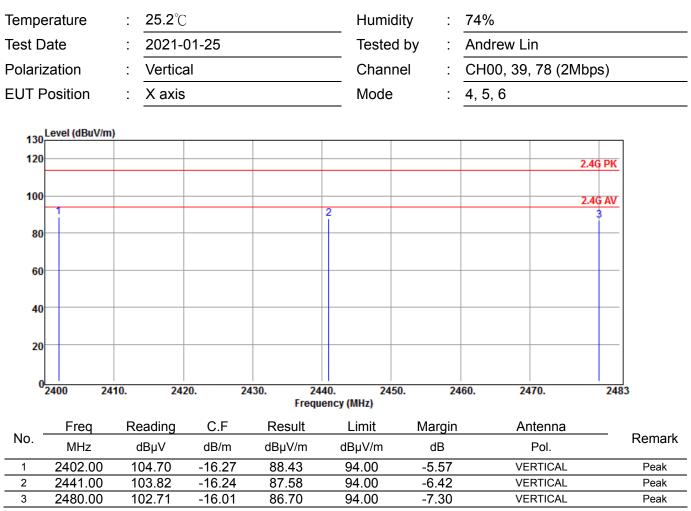


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- 5. Spectrum setting:

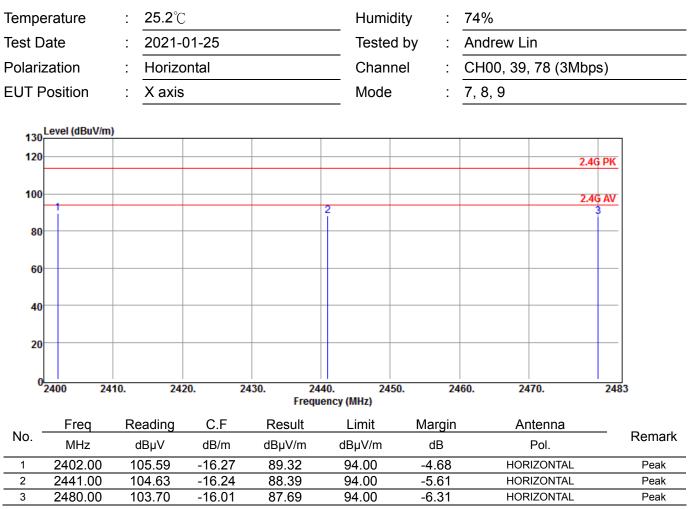


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- 5. Spectrum setting:

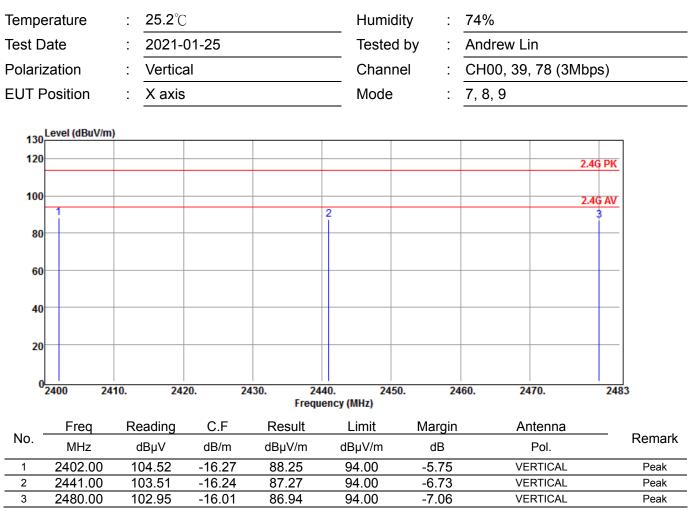


Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

Note 2. Margin = Result - Limit ; Result = Reading + C.F $_{\circ}$

Remark :

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:

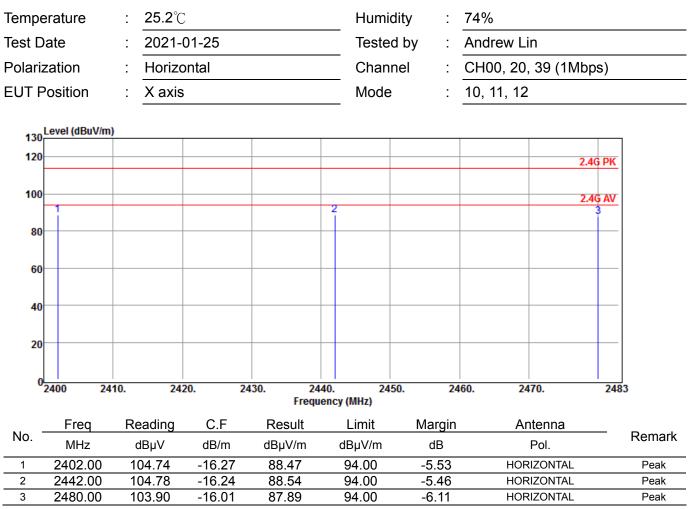


Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

Note 2. Margin = Result - Limit ; Result = Reading + C.F $_{\circ}$

Remark :

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:

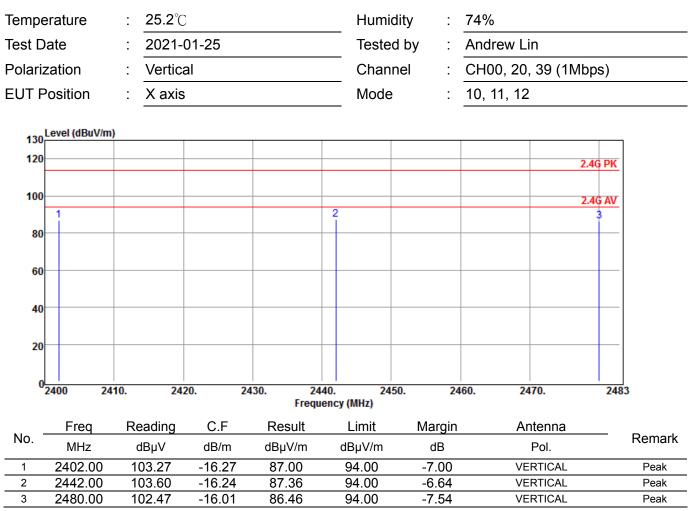


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- 5. Spectrum setting:

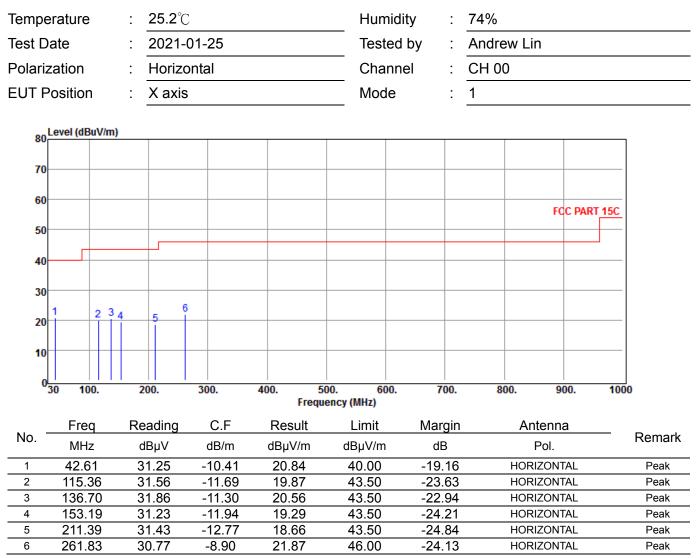


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Note 2. Margin = Result - Limit ; Result = Reading + C.F $_{\circ}$

Remark :

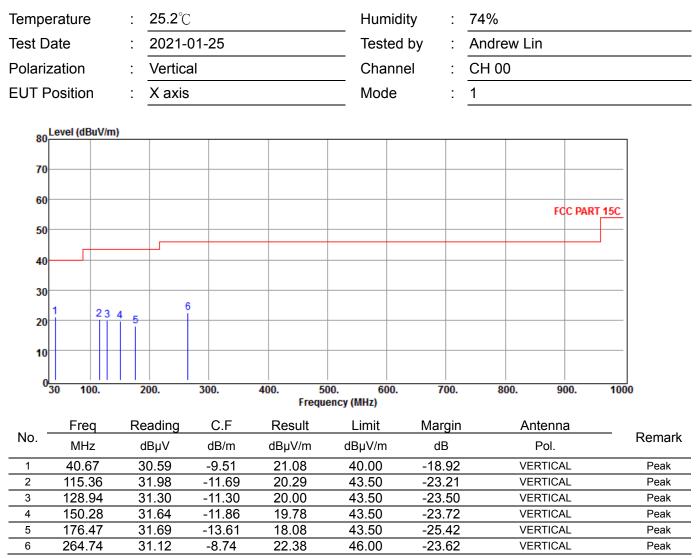
- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:



Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

Note 2. Margin = Result - Limit ; Result = Reading + C.F .

- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. All readings are Peak values. None of the peak value reading exceeds the Q.P. limit. Hence, Q.P. reading was not measured.
- 5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.



Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain -

Note 2. Margin = Result - Limit ; Result = Reading + C.F .

Remark :

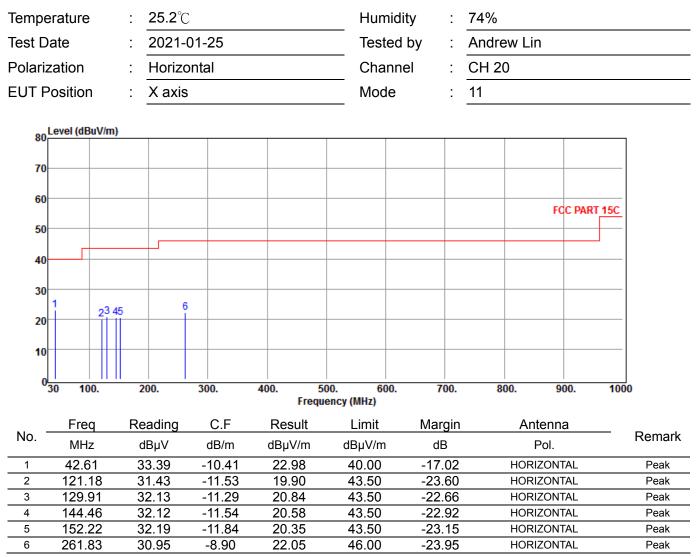
Measuring frequencies from 30 MHz to 1 GHz.

Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode.

Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.

All readings are Peak values. None of the peak value reading exceeds the Q.P. limit. Hence, Q.P. reading was not measured.

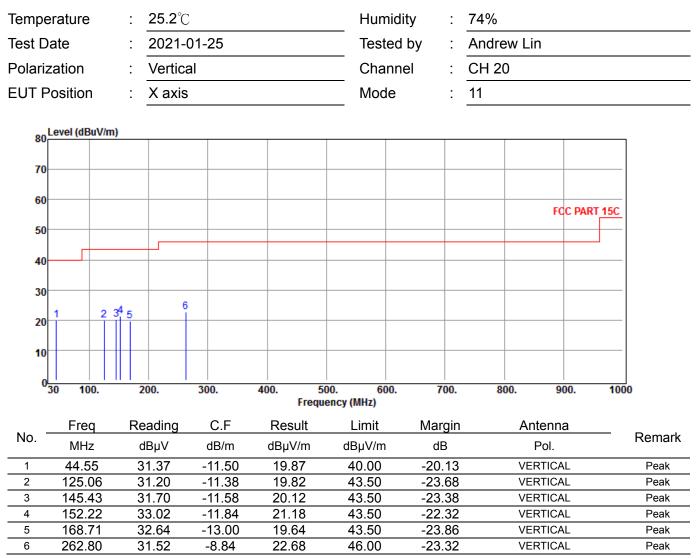
The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.



Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

Note 2. Margin = Result - Limit ; Result = Reading + C.F .

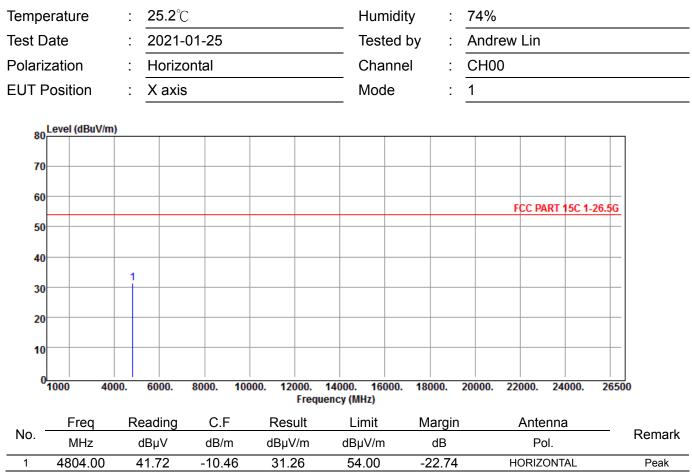
- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode.
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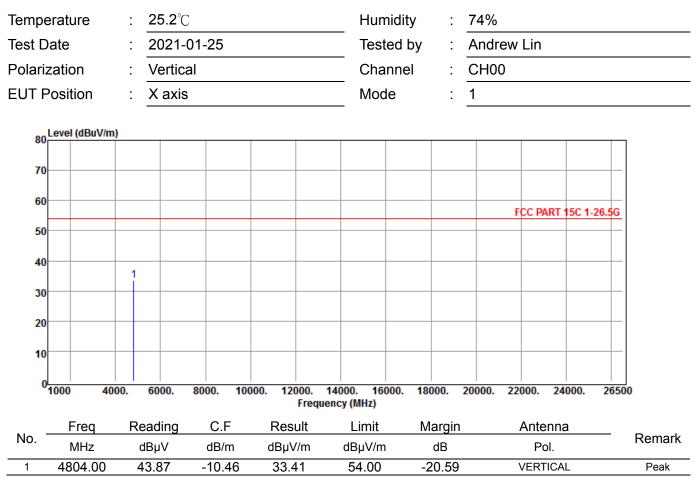
- 1. Measuring frequencies from 30 MHz to 1 GHz.
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- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.



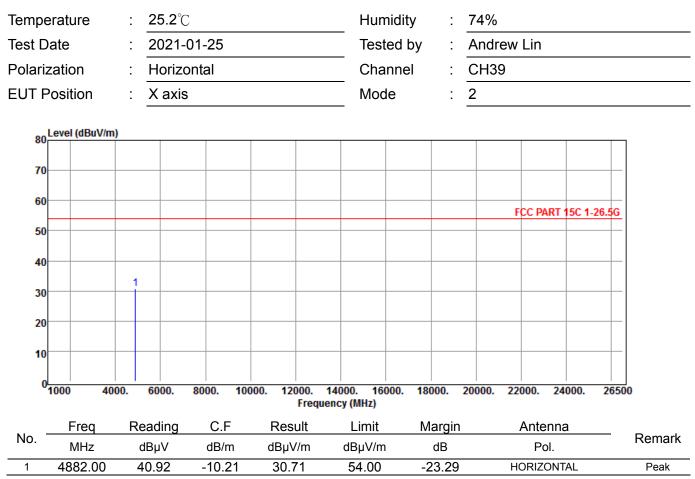
Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

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5. Spectrum setting:



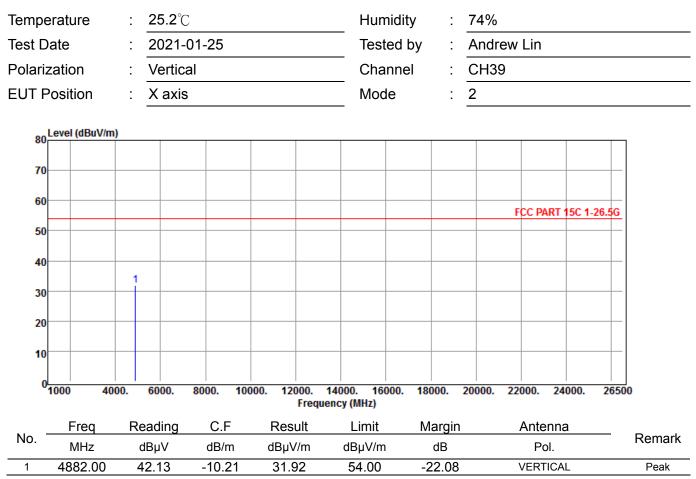
Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

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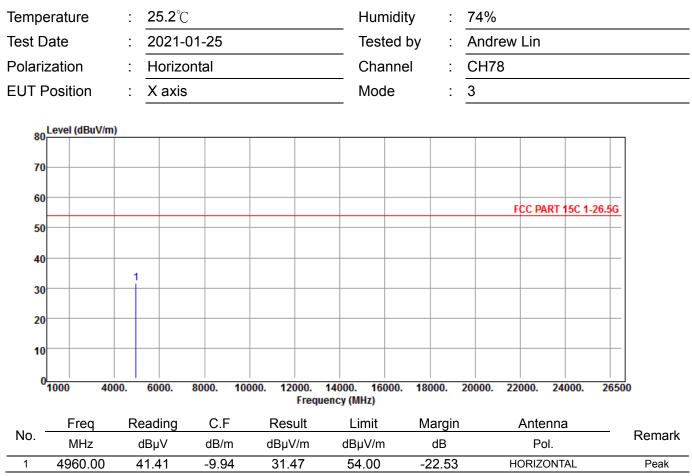
Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

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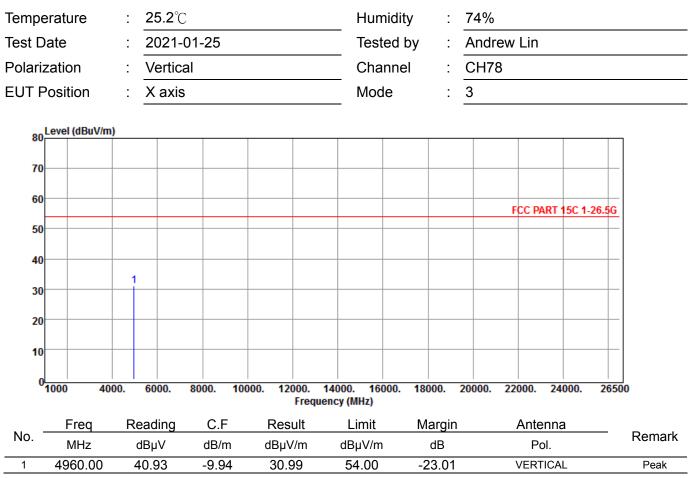
5. Spectrum setting:



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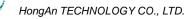
- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
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- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

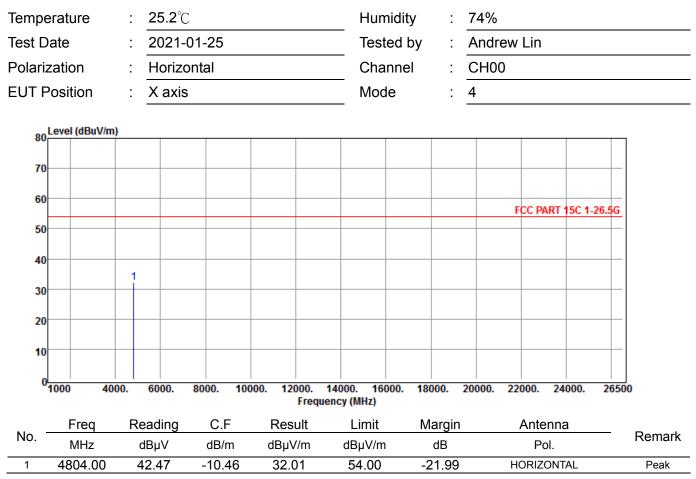


Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain ·

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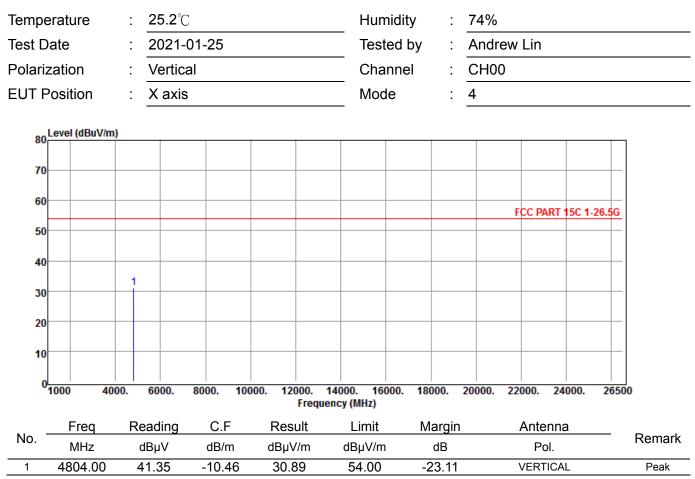




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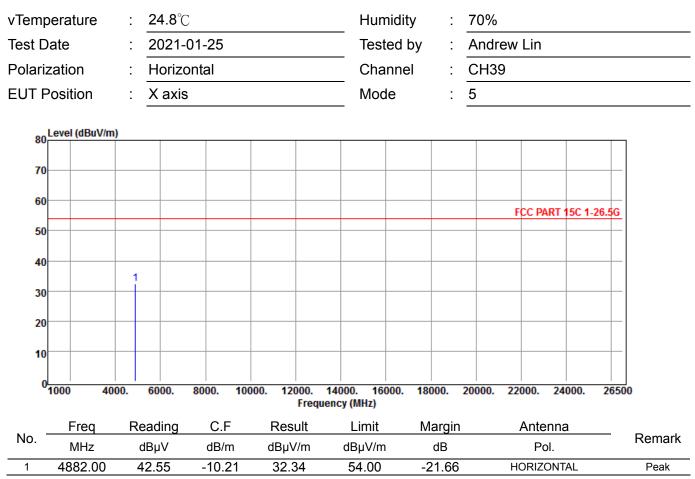
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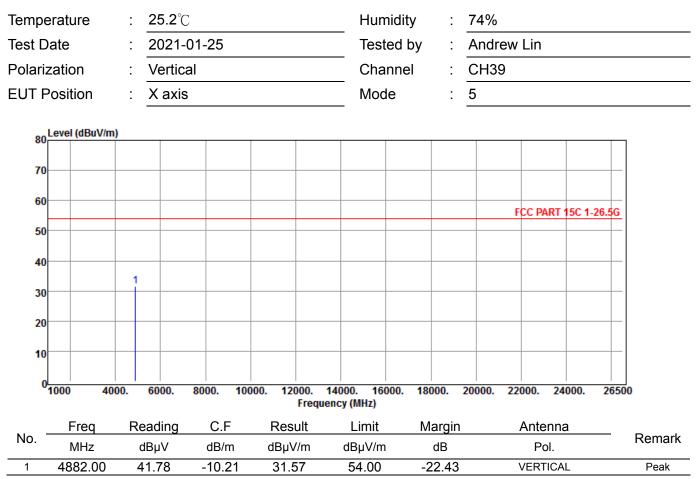
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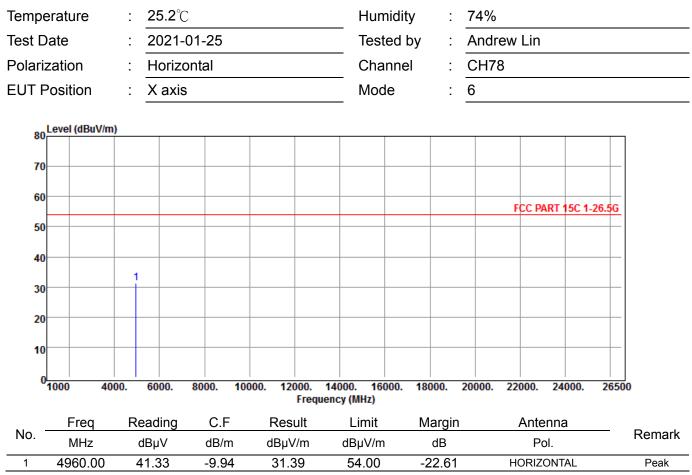
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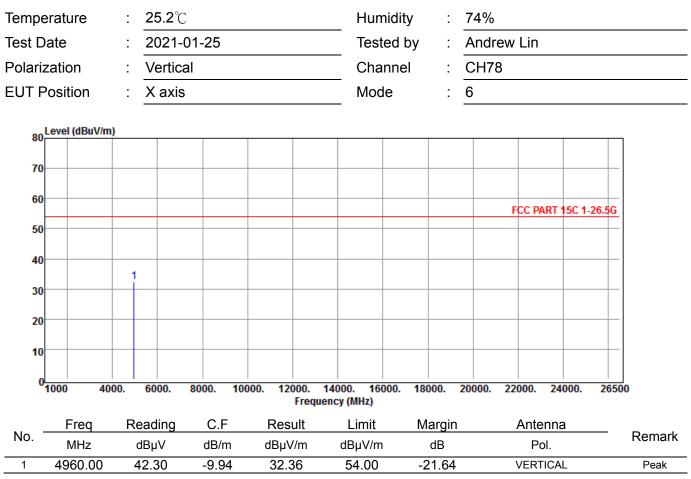
5. Spectrum setting:



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Note 2. Margin = Result - Limit ; Result = Reading + C.F .

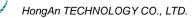
- 6. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
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- 8. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 9. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 10. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

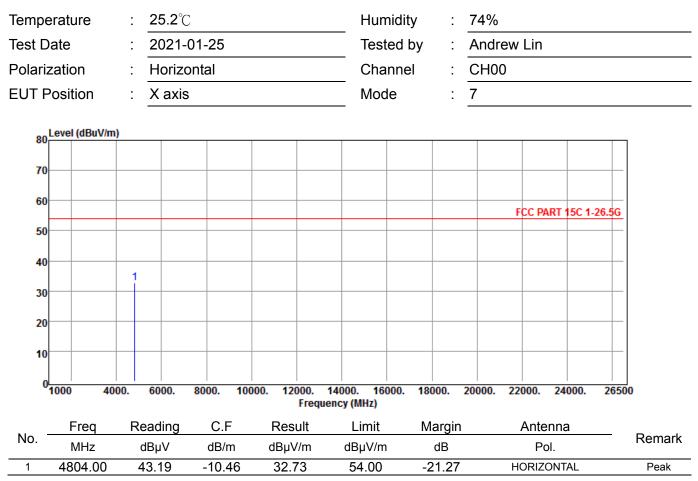


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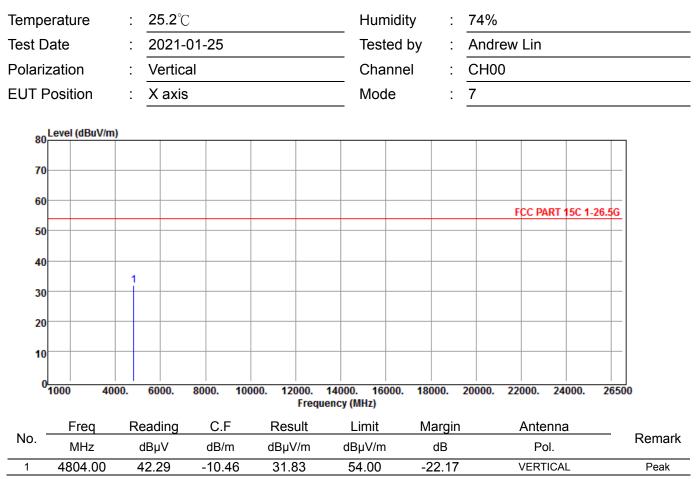




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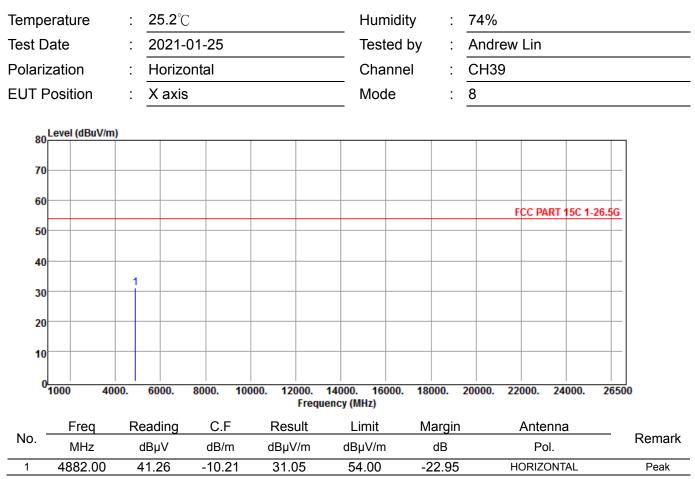
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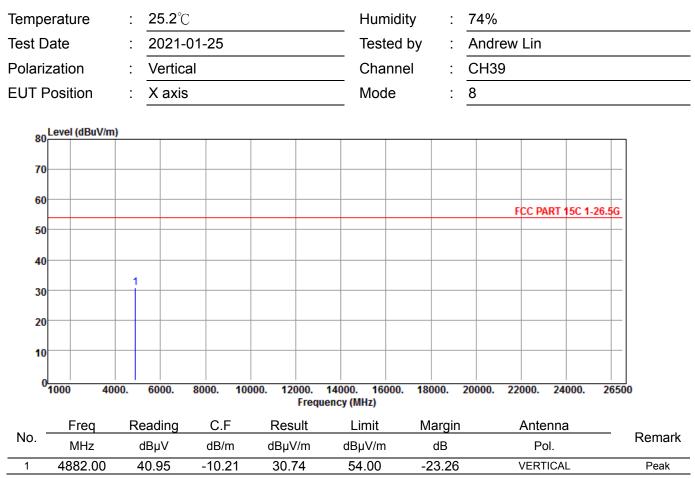
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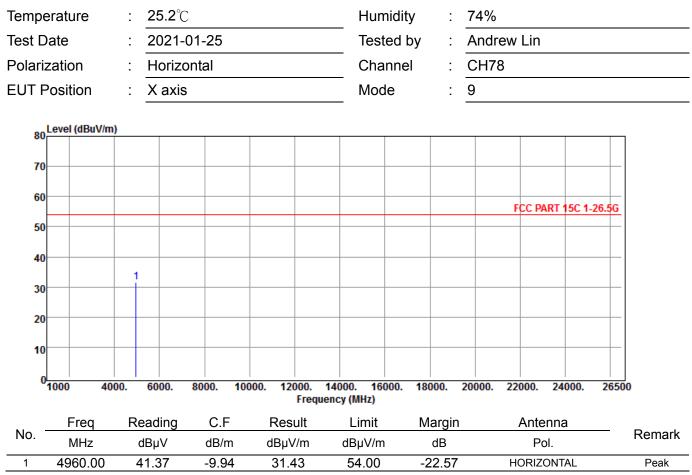
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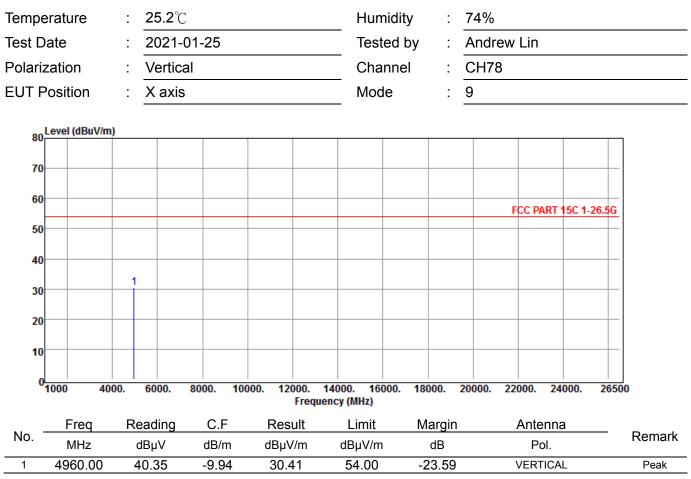
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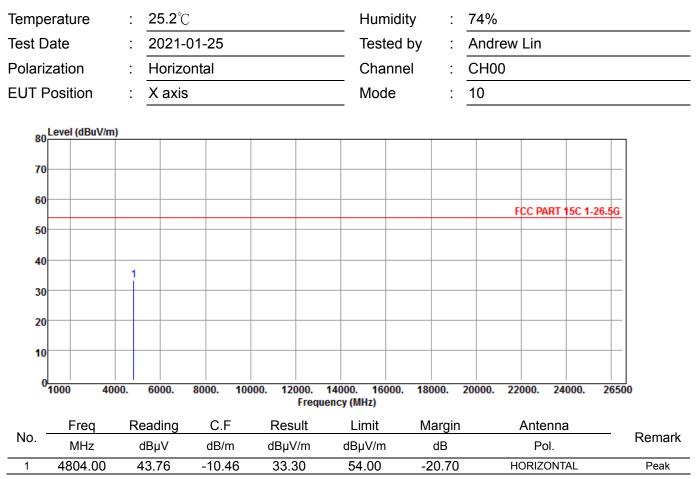
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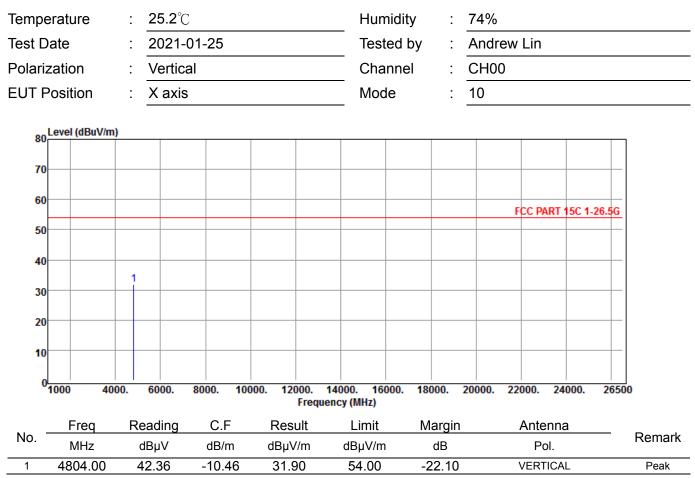
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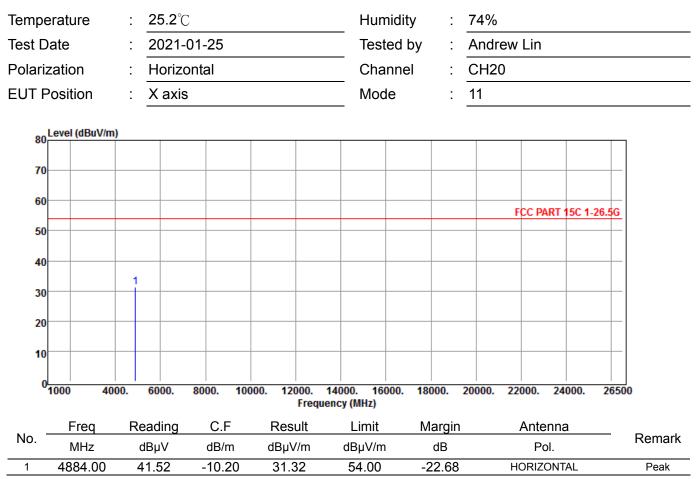
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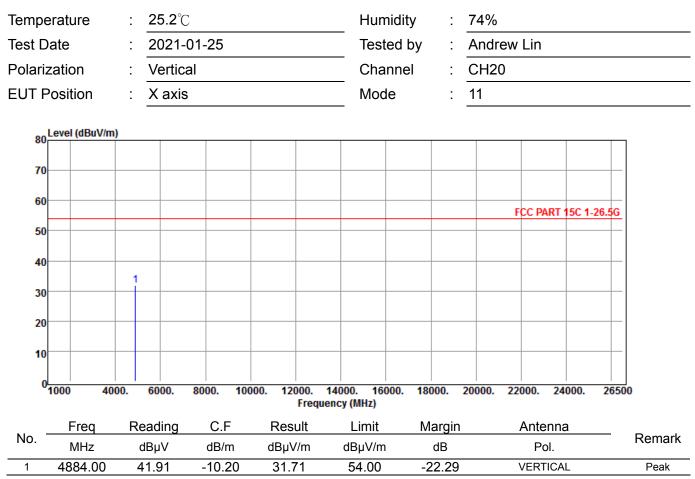
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- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.

5. Spectrum setting:



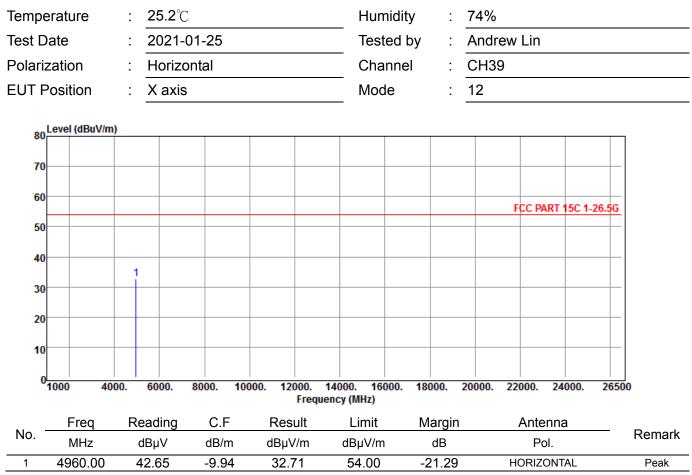
Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

Note 2. Margin = Result - Limit ; Result = Reading + C.F .

Remark :

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
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- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.

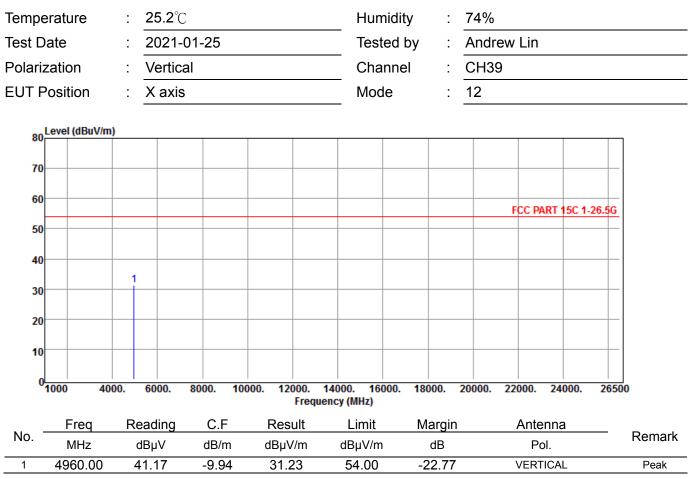
5. Spectrum setting:



Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

Note 2. Margin = Result - Limit ; Result = Reading + C.F .

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
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- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.



Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain ·

Note 2. Margin = Result - Limit ; Result = Reading + C.F .

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
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- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

4. Out of Band Emission Test

4.1. Test Instruments

Refer to Sec. 1.2 Test Instruments.

4.2. Test Arrangement and Procedure

Refer to Sec. 3.2.

4.3. Limit of Field Strength of Fundamental (§ 15.249(d))

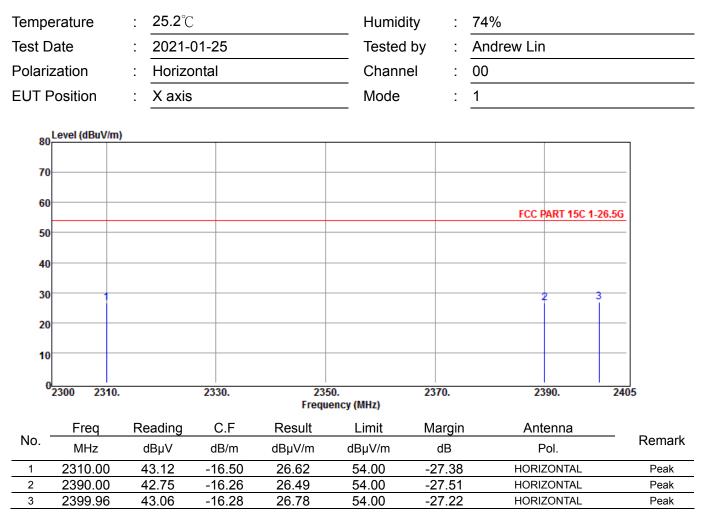
Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.

4.4. Test Result

Compliance

The final test data are shown on the following page(s).

Band-Edge Test Data (Lower Edge)

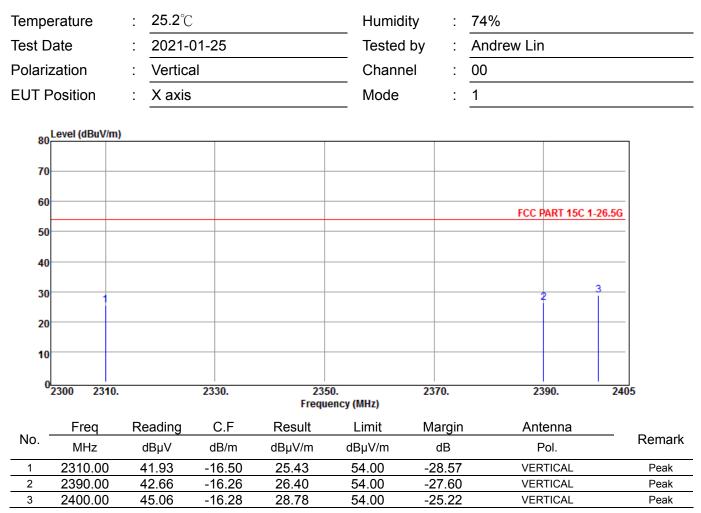


Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain ·

Note 2. Margin = Result - Limit ; Result = Reading + C.F $_{\circ}$

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
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- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Band-Edge Test Data (Lower Edge)



Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain ·

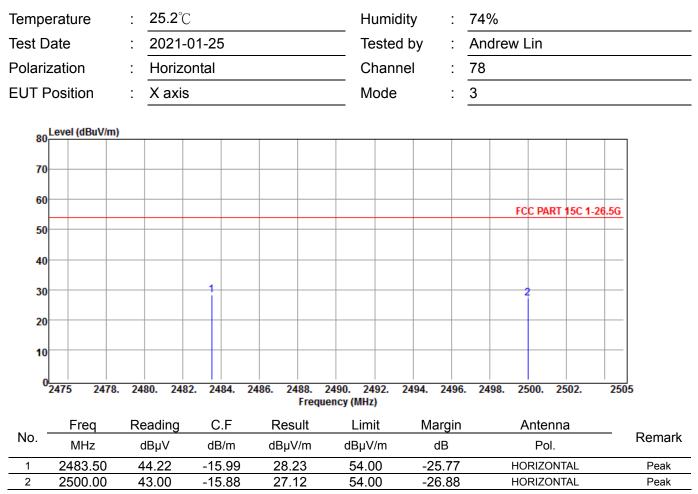
Note 2. Margin = Result - Limit ; Result = Reading + C.F $_{\circ}$

Remark :

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
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- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.

5. Spectrum setting:

Band-Edge Test Data (Upper Edge)

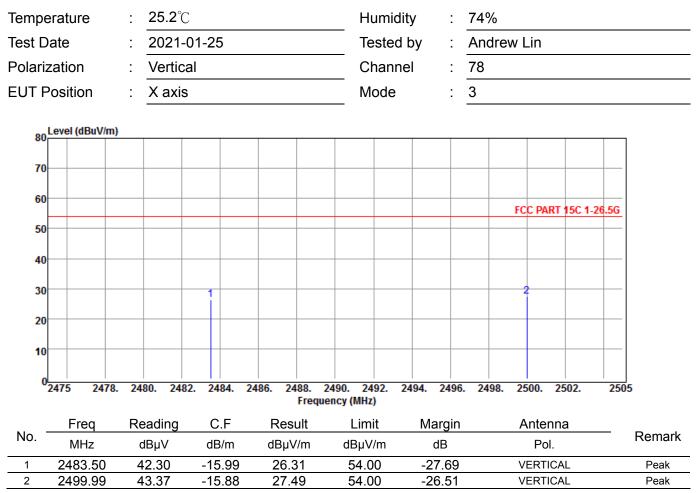


Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

Note 2. Margin = Result - Limit ; Result = Reading + C.F .

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
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- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10^{th} harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Band-Edge Test Data (Upper Edge)

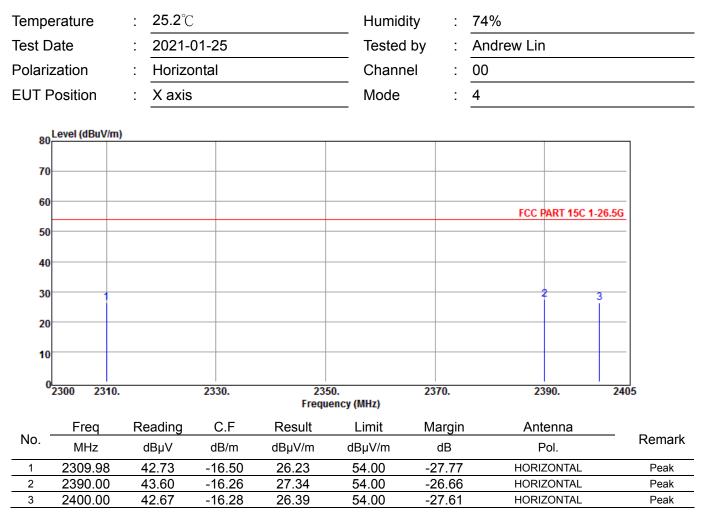


Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

Note 2. Margin = Result - Limit ; Result = Reading + C.F .

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- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10^{th} harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Band-Edge Test Data (Lower Edge)

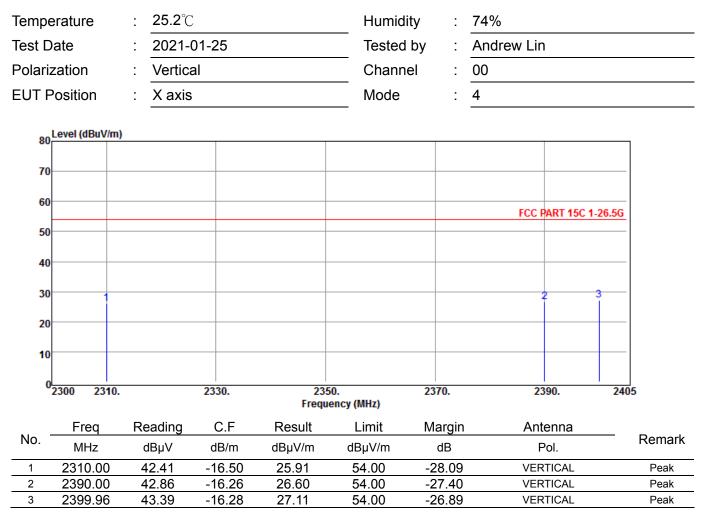


Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain ·

Note 2. Margin = Result - Limit ; Result = Reading + C.F .

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
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- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Band-Edge Test Data (Lower Edge)



Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain ·

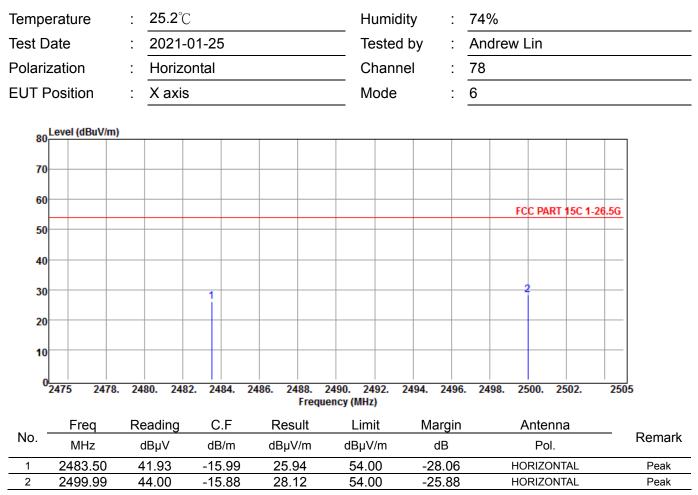
Note 2. Margin = Result - Limit ; Result = Reading + C.F $_{\circ}$

Remark :

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
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- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.

5. Spectrum setting:

Band-Edge Test Data (Upper Edge)

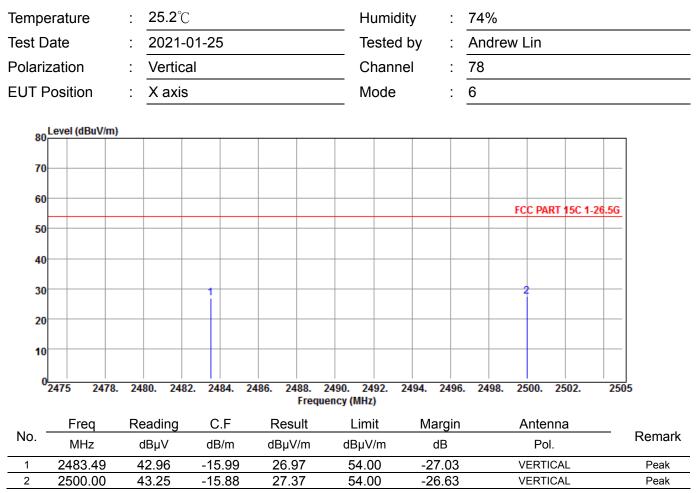


Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain ·

Note 2. Margin = Result - Limit ; Result = Reading + C.F .

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
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- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Band-Edge Test Data (Upper Edge)



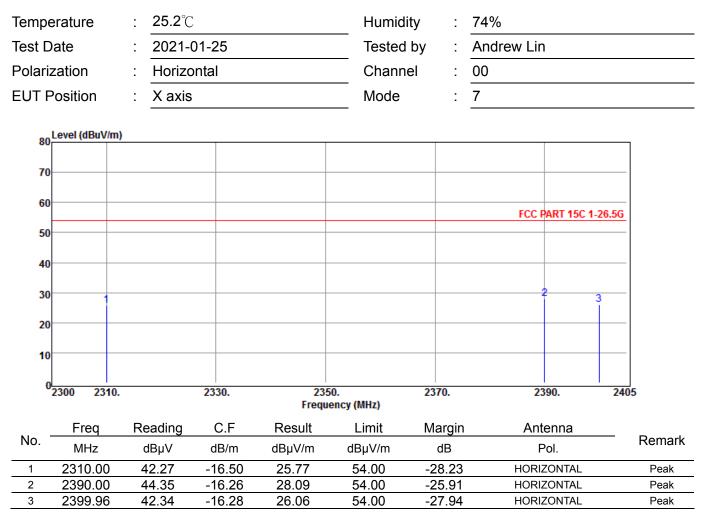
Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

Note 2. Margin = Result - Limit ; Result = Reading + C.F .

Remark :

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- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:

Band-Edge Test Data (Lower Edge)

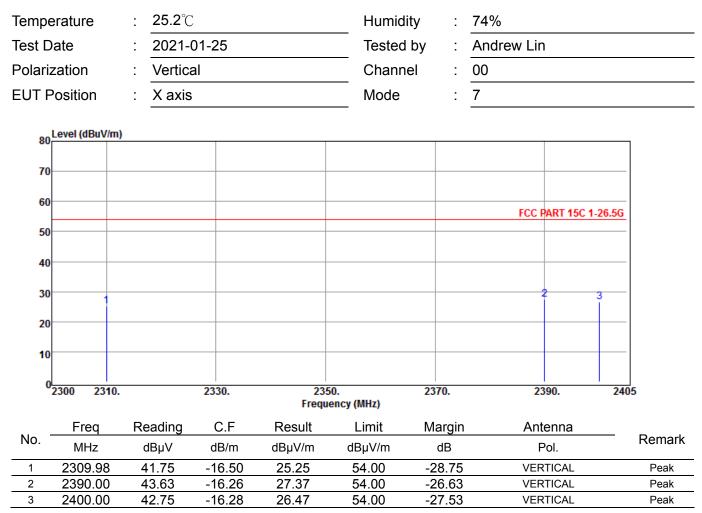


Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain ·

Note 2. Margin = Result - Limit ; Result = Reading + C.F .

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- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Band-Edge Test Data (Lower Edge)

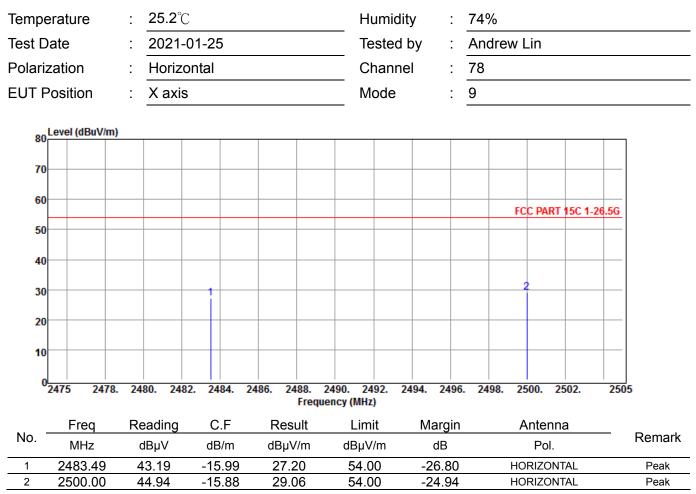


Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain ·

Note 2. Margin = Result - Limit ; Result = Reading + C.F $_{\circ}$

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- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10^{th} harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Band-Edge Test Data (Upper Edge)

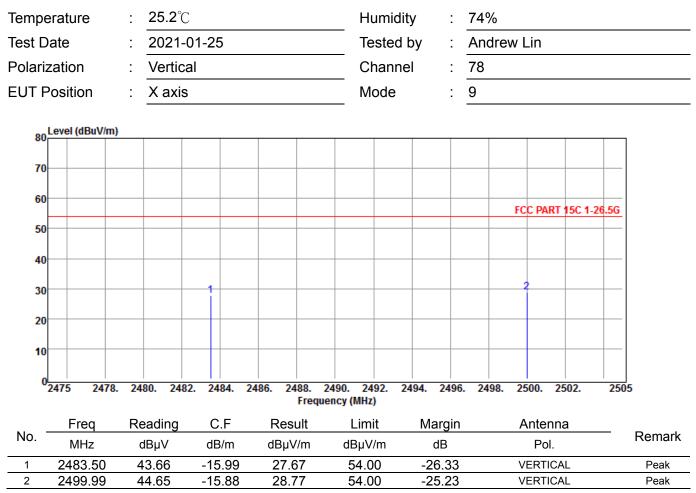


Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

Note 2. Margin = Result - Limit ; Result = Reading + C.F .

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
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- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Band-Edge Test Data (Upper Edge)



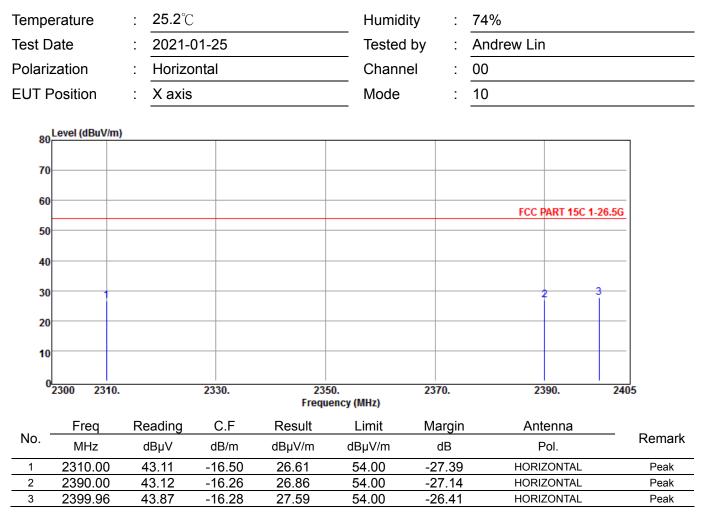
Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

Note 2. Margin = Result - Limit ; Result = Reading + C.F .

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- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:

Band-Edge Test Data (Lower Edge)

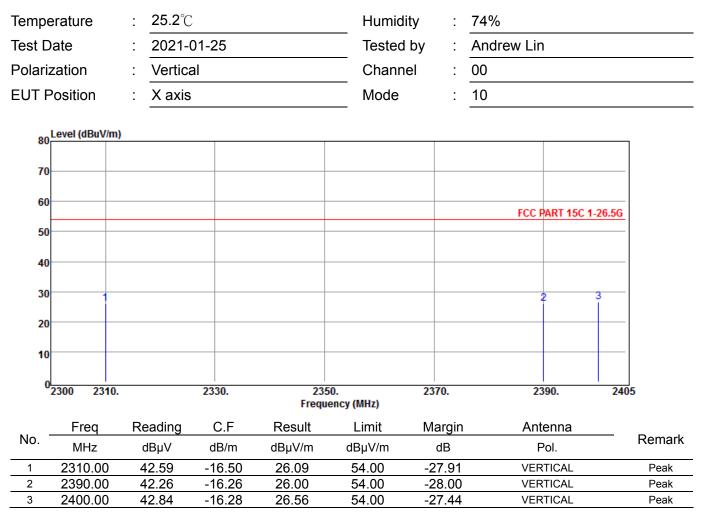


Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain ·

Note 2. Margin = Result - Limit ; Result = Reading + C.F .

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 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Band-Edge Test Data (Lower Edge)



Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain ·

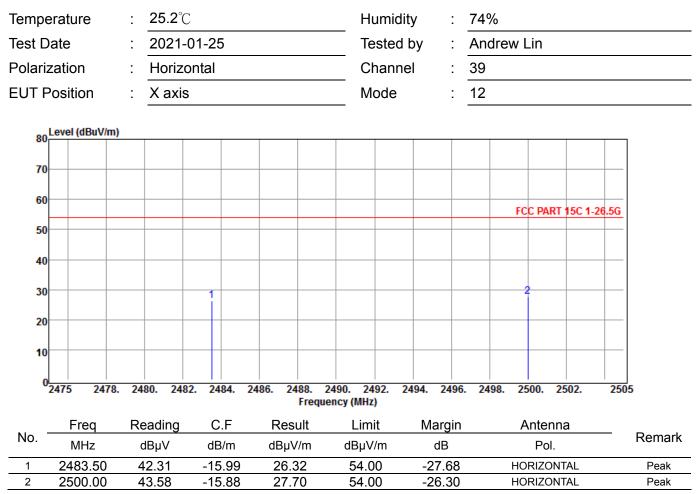
Note 2. Margin = Result - Limit ; Result = Reading + C.F $_{\circ}$

Remark :

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5. Spectrum setting:

Band-Edge Test Data (Upper Edge)

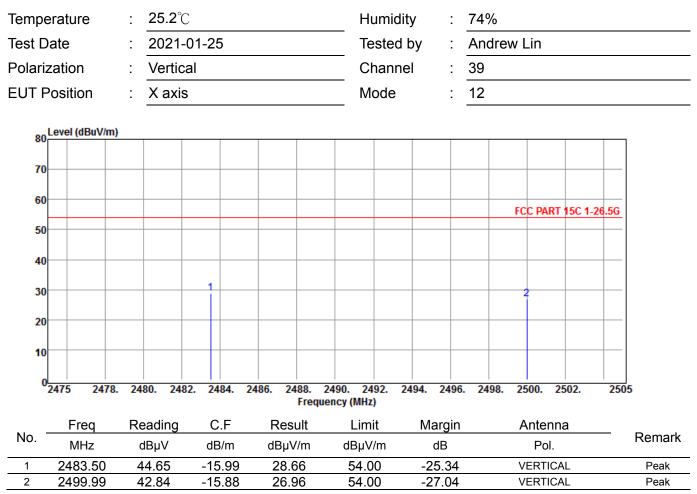


Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

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 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Band-Edge Test Data (Upper Edge)



Note 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .

Note 2. Margin = Result - Limit ; Result = Reading + C.F .

Remark :

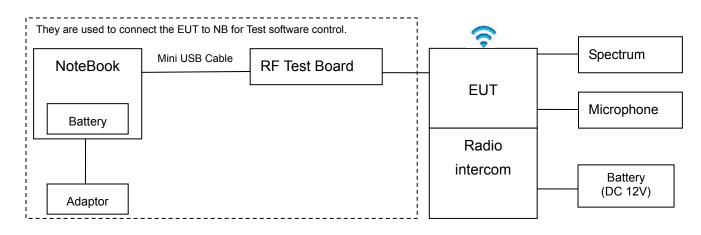
- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
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- 5. Spectrum setting:

5. 20 dB Bandwidth

5.1. Test Instruments

Refer to Sec. 1.2 Test Instruments.

5.2. Test Arrangement and Procedure



- 1. The transmitter output was connected to a spectrum analyzer (through an attenuator, if it's necessary).
- 2. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300kHz VBW. Measured the -20 dB bandwidth and plotted the graph.

5.3. Limit

None; For report purpose only.

5.4. Test Result

No non-compliance noted.

The final test data are shown on the following page(s).

HongAn TECHNOLOGY CO., LTD	HongAn	TECHNOL	.OGY	CO.,	LTD
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:

:

Temperature
Test Date

Test Mode

25.2 ℃	
2021-01-25	
1	

: 74%

:

Humidity

Tested by

Channel

Andrew Lin

: 00

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Ref Level	10 00 dem	-	RBW 100 kHz			
Att	30 dB			Mode Auto FFT		
1Pk Max	30 QD	3WI 10.9 µ3 🖝	1011 300 KHZ	MOUE AUTOFFI		
				M1[1]		-15.93 dBr
						2.40211290 GH
0 dBm				ndB		20.00 d
				Bw		1.107100000 MH
-10 dBm				M1 Q factor		2169.
				<u> </u>		
-20 dBm						
-30 dBm		1 I			2	
		X			V I	
-40 dBm						
-50 dBm	1					
-60 dBm						
70 40-						
-70 dBm						
-80 dBm						
-00 0611						
CF 2.402 G	Hz		691 p	ts		Span 3.0 MHz
Marker						
Type Ref		Stimulus	Response	Function	Fur	nction Result
M1	1	2.4021129 GHz	-15.93 dBm			1,1071 MHz
T1 T2	1	2.4013965 GHz 2.4025036 GHz	-35.78 dBm			20.00 dB 2169.8
12		2.4025030 GHZ	-35.78 dBm	i Qiactor		2109.8
				Mea	asuring 🚺	4 /0

HongAn TECHNOLOGY CO., LTD.

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Channel : 39

Spect	rum												
Ref Le	vel 1	.0.00 dBm			RBW	100 kHz							
Att		30 dB	SWT 18.	9 µs 👄	VBW	300 kHz	Mode	Auto	FFT				
😑 1Pk Ma	ах												
								M1	[1]				16.07 dBm
0 dBm—												2.441	11290 GHz
								ndE				1 1071	20.00 dB 00000 MHz
-10 dBm	ι 						M1		actor			1.1071	2205.0
						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~							
-20 dBm	+-י												
					-			~	and the second se				
-30 dBm	דרי		1	1 m					1	2			
-40 dBm			1	Y I						5			
-40 UBII	1												
-50 dBm	1	Harrison of											
	1		Т								~		
-60 dBm	-											~	
-70 dBm	+-י												
-80 dBm	די												
GF 2.441 GHz 691 pts Span 3.0 MHz													
Marker													
Туре	Ref		Stimulu		F	Response		uncti			Fund	ction Result	
M1		1	2.44111			-16.07 dB		ndB d				1	.1071 MHz
T1 T2		1	2.44039			-35.97 dB -35.92 dB		0 fa	ndB actor				20.00 dB 2205.0
<u> </u>			2115	55 612	1	55.72 UD							
									Mea	asurir	1g 📕	•••••	• ///

HongAn TECHNOLOGY CO., LTD.
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Test	Mode
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a

Spectr	um												
Ref Lev	vel 1	0.00 dBm			RBW	/ 100 kHz							
Att		30 dB	SWT 18.9	) µs 👄	VBW	/ 300 kHz	Mod	e Aut	o FFT				
😑 1Pk Ma	эx												]
								M	1[1]			10-	18.66 dBm
0.40.0												2.480	11290 GHz
0 dBm—								n	B				20.00 dB
10 40								B				1.1114	00000 MHz
-10 dBm							M1	Q	factor				2231.5
- OO dBaa							X						
-20 dBm							2000	/					
00 d0					$\checkmark$			~					
-30 dBm			т	/	0			2		T2			
40 - 10			X							Y			
-40 dBm										~	9		
EQ dom													
-50 dBm		$\sim$									1 2	~	
CITY OF LES	~												
-60 dBm													
70 40													
-70 dBm													
-80 dBm													
-60 UBIII													
CF 2.48	B GHz	:				691	pts					Spa	n 3.0 MHz
Marker													
Туре	Ref	Trc	Stimulus	5		Response		Func	tion		Fun	ction Result	: 1
M1		1	2.480112	29 GHz		-18.66 dB	3m	ndB	down			1	.1114 MHz
T1		1	2.479387			-38.64 dE			ndB				20.00 dB
T2		1	2.480499	93 GHz		-38.60 dE	3m	Q	factor				2231.5
									Me	asurir	ng 🚺		1

Channel

: 78

HongAn TECHNOLOGY CO., LTD	HongAn	TECHNOL	.OGY	CO.,	LTD
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:

:

Temperature	¢
Test Date	

Test Mode

<b>25.2</b> ℃	
2021-01-25	
4	

: 74%

Humidity

Tested by

Channel

: Andrew Lin

: 00

Spectru	m																	₽)
Ref Leve	l 10.00 0	dBm				RBW	100	kHz									`	
Att	30	)dB 😫	SWT :	18.9 µ	us 😑	VBW	300	kHz	Mode	Auto	) FFT							
😑 1Pk Max																		٦
										MJ	L[1]						17.97 dB	
0 dBm															2	2.401	95660 GH	
o abiii										nd							20.00 c	
-10 dBm—										BV					1.3	36320	00000 MH	
								M1			factor				I	1	1761	.9
-20 dBm—	_						~											_
				-		~		22		-								
-30 dBm—	_			A							103	7					-	-
			T1									1	T2					
-40 dBm—			_										1					-
			1															
-50 dBm-		~	3											~		-		-
-60 dBm—																		-1
																		1
-70 dBm—																		1
-80 dBm—																		
-80 uBili—																		
CF 2.402 GHz 691 pts Span 3.0 MHz																		
Marker																		
	ef Trc		Stimu					onse		unct		Function Result						
M1	1		2.401			_		.97 dB		ndB	down	1.3632 MH						
T1	1		2.401					.79 dB		~ ~	ndB						20.00 dE	네
T2	1		2.402	26252	GHZ		-37	.88 dB	m	Qf	actor						1761.9	
[											Mea	asuri	ng			<b>, 1</b> X	1	///

Test	Mode	

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Channel : 39

Spect	rum											
Ref Le	vel :	10.00 de	3m		RBW	100 kHz						
Att		30	dB SWT	18.9 µs 👄	VBW	300 kHz	Mode	Auto FFT				
😑 1Pk M	ax											
								M1[1]			-17.98 dBm	
0 dBm—										2.440	094790 GHz	
								ndB Bw		1.0710	20.00 dB 200000 MHz	
-10 dBm	n					0.04		Q factor		1.3719	1779.2	
						M1		QIUCCOI	1	1	1113.2	
-20 dBm	∩—+					$\sim$	-					
-30 dBm	n-+-								100			
			T1 Y						VI2			
-40 dBm												
-59 dBm										_		
-36 ubii		1944	37						200 A	$\sim$	S 90 S	
-60 dBm	h											
	·											
-70 dBm	n-+-											
-80 dBm	n-+-										+	
CF 2.441 GHz 691 pts Span 3.0 MHz												
Marker												
Туре	Ref	Trc	Stin	Stimulus Response Function Function Result							t	
M1		1		109479 GHz		-17.98 dB		ndB down	1.3719 MHz			
T1		1		02533 GHz		-38.07 dB		ndB			20.00 dB	
T2		1	2.44	16252 GHz		-37.93 dB	sm	Q factor			1779.2	
(		][]						Me	asuring 🔳		<b>a</b> //	

HongAn TECHNOLOGY CO., LTD.
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Test	Mode
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Spect	rum														
Ref Le	vel 1	.0.00 dBm			RBW	100 kHz									
Att		30 dB	SWT 18.9				Mode	e Auto	) FFT						
●1Pk M	ax														
	1							MI	[1]					-20	).81 dBm
													2.4		660 GHz
0 dBm-								nd	в						20.00 dB
								Br	1				1.37	1900	000 MHz
-10 dBn	n-+-							Q	actor						1807.6
						M1									
-20 dBn	n-+-				2		~								
				~	-	100			-						
-30 dBn	n-+-		1	<u></u>					0						
			T1/							V	2				
-40 dBn	n-+-		7								<del>ए</del>				
											1				
-50 dBn		~ ~	1								~	~			~~~~
													$\sim$	- 1-	C. Destances
-60 dBn	n-+-													_	
-70 dBn	n-+-														
-80 dBn	n-+-														
CF 2.4	0 CU-	,				691	nte							nan '	3.0 MHz
Marker	_	<u>-</u>				091	prs							pan .	3.0 14112
-	-	1 - 1		- 1	-		1			1		_			
Type	Ref		Stimulus			esponse		Funct				Func	tion Res		710 1411
M1 T1		1	2.479956			-20.81 dB -40.67 dB		nuB	down ndB						719 MHz 20.00 dB
T2		1	2.48062			-40.76 dB		O f	actor					2	1807.6
			2.70002.			-10, no ub		Q 1			_				1007.0
l		Л							Me	asurir	ıg			LXI -	//

Channel

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HongAn TECHNOLOGY CO., LTD
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Temperature	¢
Test Date	

Test Mode

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Humidity

Tested by

Channel

: Andrew Lin

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Spect	rum	)										
Ref Le	vel 1	0.00 dBm			RBW	100 kHz						
Att		30 dB	SWT 18.	9 µs 👄	VBW	300 kHz	Mode	Auto FFT				
⊖1Pk M	ax											)
								M1[1]				17.86 dBm
0 dBm-											2.401	78290 GHz
0 0.0111								ndB Bw			1 00 10	20.00 dB
-10 dBm	)							Q factor			1.3849	00000 MHz 1734.2
						M1					1	1734.2
-20 dBm	ν <b>⊢</b> −					$\wedge$						
				~	_		~		$\sim$			
-30 dBm	י—			( *					1			
			TI						$\sim$	<b>T</b> ²		
-40 dBm	2											
										1		
50 dBr		~								$\sim$		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
-60 dBm	<u> </u>											
-70 dBm												
-70 UBII												
-80 dBm												
00 001	·											
CF 2.4	02 GH	lz				691	pts				Spa	n 3.0 MHz
Marker												]
Туре	Ref		Stimulu		F	Response		unction		Fund	ction Result	
M1		1	2.40178			-17.86 dB		ndB down			1	.3849 MHz
T1 T2		1	2.40125			-37.86 dB		ndB Q factor				20.00 dB 1734.2
			2.70204	23 GHZ		-37.90 UE						
L		Л						Me	easuri	ng 🔳	••••	

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Spectr	um								
Ref Lev	el 10.00 d	lBm	•	<b>RBW</b> 100 kHz					
Att	30	dB SWT	18.9 µs 👄	<b>VBW</b> 300 kHz	Mode Au	to FFT			
😑 1Pk Ma	X								
					N	11[1]			18.10 dBm 78290 GHz
0 dBm—						dB		1 0000	20.00 dB
-10 dBm-						) factor		1,3893	00000 MHz 1756.9
-20 dBm-			_	M1					
-30 dBm-			$\bigwedge$						
-40 dBm-		T1 Y					T2 V		
-59 dBm-								_	$\sim$
-36 0511							~		199 <b>0</b> 9
-60 dBm-									
-70 dBm-									
-80 dBm-									
CF 2.44	1 GHz			691	pts			Spa	n 3.0 MHz
Marker									
	Ref Trc		ulus	Response		ction	Fur	nction Result	
M1	1		07829 GHz	-18.10 de		3 down		1	.3893 MHz
T1 T2	1		02533 GHz 16425 GHz	-38.19 de -38.28 de		ndB factor			20.00 dB 1756.9
		2.11	10120 012		····· \ \	~			
l	Л					) Me	asuring 🔳		

Channel

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Test	Mode
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Spect	rum														
Ref Le	vel 1	0.00 dBm			RBW	100 kHz									
Att		30 dB	SWT 18.9	9 µs 👄 '	vвw	300 kHz	Мос	le Aut	o FFT						
⊖1Pk M	ax														$\neg$
								M	1[1]				2.4	-20.65 d	
0 dBm-								n	B					20.00	100 C
-10 dBn	h							B					1.38	0600000 M	
						M1		Q	Tactor	. I		1		1 1/5	10.3
-20 dBn	n						~	×							_
-30 dBn	n-			~				~							_
-40 dBn	•		T1							7	72 R				
-50 dBn	n										1				
~~~	1000	~~~~										1	$\sim$		~
-60 dBn	°+				+										\neg
-70 dBn	∩				_										
-80 dBn	n														
CF 2.4	8 GHz	2				691	pts						S	pan 3.0 M	Hz
Marker															
Туре	Ref	Trc	Stimulu	s	F	Response		Funct	tion		F	unc	tion Res	ult	
M1		1	2.47995	22 GHz		-20.65 dB	m	ndB	down					1.3806 M	IHz
T1		1	2.47925			-40.67 dB	m		ndB					20.00	
T2		1	2.48063	82 GHz		-40.50 dB	m	Q	factor					1796	.3
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Channel

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Temperature	è
Test Date	

Test Mode

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Humidity

Tested by

Channel

Andrew Lin

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Spectrum										
Ref Level 1	10.00 dBm			/ 100 kHz						
Att	30 dB	SWT 18.9	µs 👄 VBW	/ 300 kHz	Mode	e Auto FFT				
∋1Pk Max										
						M1[1]			1	16.30 dBn
0.40									2.401	94790 GH
0 dBm						ndB				20.00 di
						BW			1.1809	00000 MH
-10 dBm				M1		Q factor				2034.
				_						
-20 dBm					~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					
			1							
-30 dBm		TI	2				T2			
		A					Y			
-40 dBm-+										
	\frown							-	\sim	
-50 dBm-+	$+ \gamma$	\checkmark					~	~		
-	/	24							-	
-60 dBm										~
-70 dBm-+										
-80 dBm										
CF 2.402 GH	lz			691	pts				Spa	n 3.0 MHz
Marker										
Type Ref	Trc	Stimulus		Response		Function		Func	tion Result	
M1	1	2.4019479		-16.30 dB		ndB down			1	.1809 MHz
T1	1	2.4013705		-36.45 dB		ndB				20.00 dB
T2	1	2.4025514	4 GHz	-36.05 dB	m	Q factor				2034.0
	Υ					Mea	asuring			1
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HongAn TECHNOLOGY CO., LTD).
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Spectr	um														₽
Ref Lev	el 1	0.00 dBr	n	— F	RBW 100) kHz									
Att		30 d					Mode .	Auto	FFT						
●1Pk Ma	X														
								M1	[1]					-15.98	dBm
													2.44	19566	
0 dBm—								nd	в					20.	00 dB
								BW	1				1.189	600000) MHz
-10 dBm						M1		Qf	actor					2	052.8
							\sim								
-20 dBm					-		1		- 1						
-30 dBm									h						
-30 UBIII			TI							V2					
-40 dBm										X					
-+0 ubiii											5				
-50 dBm		\sim	\sim								1.	-			
oo abiii	1										\sim		7		
-60 dBm	~		_										<u></u>	m	~
-70 dBm	_														
-80 dBm	_													_	
05.0.44	2 (1)	-				601	nte						6.		NAL 1-1
CF 2.442 GHz 691 pts Span 3.0 MHz															
Marker	Ref	Tun	Otinaulu	- 1	Darr		1 =	inct	ion I				ion Resu	1+	1
Type M1	Ker	1	2.44195			onse 5.98 dBr			down		F	unci	ion kesu	1.1896	MH2
T1		1	2.44135			5.98 dBr 5.01 dBr		ab i	ndB					20.0	
T2		1	2.4425			5.94 dBr		Q f	actor						52.8
		1										111		¥1	
									mea	asuri	iy				11

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Spectrum

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						(*
Ref Level	10.00 dBn	n 😑	RBW 100 kHz			
Att	30 dB	в SWT 18.9 µs 👄	VBW 300 kHz 🛛 N	Mode Auto FFT		
●1Pk Max						
				M1[1]		-18.59 dBn
						2.47996090 GH
0 dBm				ndB		20.00 dE
				Bw		1.193900000 MH
-10 dBm			M1	Q factor		2077.3
-20 dBm						
0.0 - 10						
-30 dBm		TI		~	T2	
10 10-1		T I I I I I I I I I I I I I I I I I I I			Y	
-40 dBm					N.	
-50 dBm	\sim					\sim
-50 dBm	1					
-60 dBm						1 mm
-ou ubiii-						
-70 dBm						
-70 ubiii						
-80 dBm						
-00 00111						
CF 2.48 GH	z		691 pt	ts		Span 3.0 MHz
Marker						
Type Ref	Trc	Stimulus	Response	Function	Fund	ction Result
M1	1	2.4799609 GHz	-18.59 dBm			1.1939 MHz
T1	1	2.4793531 GHz	-38.63 dBm			20.00 dB
T2	1	2.480547 GHz	-38.43 dBm	Q factor		2077.2
				Mea	asuring 🔳	

6. Antenna requirement

6.1. Limit (§ 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 uniue coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

6.2. Test Result

Compliance.

The EUT applies a Chip Ceramic antenna.

-----End Of Test Report------