

RF TEST REPORT

FCC ID: 2BCFYHT-6766BE

Test Report No.....: RF250516013-02-003

Product(s) Name.....: Wireless Home Gateway

Model(s).....: HT-6766BE, HT-6766BDM

Trade Mark.....: HEIGHTS

Applicant.....: Heights Telecom T LTD

Address.....: Ha-Sakhlav 6, Irus, 7680900, Israel

Receipt Date.....: 2025.06.24

Test Date.....: 2025.06.24~2025.07.29

Issued Date.....: 2025.09.12

Standards.....: 47 CFR FCC Part 15, Subpart C(Section 15.247);
ANSI C63.10:2013

Testing Laboratory.....: Shenzhen Haiyun Standard Technical Co., Ltd.

Prepared By:	Checked By:	Approved By:	
Albert Fan	Black Ding	Tim Zhang	
<i>Albert Fan</i>	<i>Black Ding</i>	<i>Tim Zhang</i>	

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History of this test report

Amendment Report Issue Date: 2025.09.12

☐ No additional attachment

☒ Additional attachments were issued following record

Attachment No.	Issue Date	Description
RF250516013-01-005	2025.09.01	Original report
RF250516013-02-003	2025.09.12	Change model, the structure remains unchanged, the hardware is removed from the 6G part (chip, shield, antenna, etc.), and the two heat sinks on the back are removed and power supply based on the original report. Therefore, The AC power Line Conducted Emission and Radiated Emission were tested with reference to the original report, while the rest remained unchanged.

1. General Information

1.1 Applicant

Heights Telecom T LTD

Ha-Sakhlav 6, Irus, 7680900, Israel

1.2 Manufacturer

Heights Telecom Switzerland SA

Boulevard Georges-Favon, 43 1204–Geneva Switzerland

1.3 Basic Description of Equipment Under Test

Test sample no.	POC250516013-S002, POC250516013-S003
Equipment Name	Wireless Home Gateway
Test Model	HT-6766BE, HT-6766BDM
Model difference	Model HT-6766BEM is complete form, Shipped with 3A adapter. Model HT-6766BDM makes change based on Model HT-6766BEM , the structure remains unchanged, the hardware is removed from the 6G part (chip, shield, antenna, etc.), and the two heat sinks on the back are removed, Shipped with 2.5Aadapter. Model HT-6766BE makes change based on Model HT-6766BEM , the structure remains unchanged, the hardware is removed from the 6G part (chip. Shield, antenna, etc.), and the two heat sinks on the back are removed. Change 2 PHYs from 10G to 2.5G. Shipped with 2.5A adapter
Trade Mark	HEIGHTS
Power Supply	DC 12V from adapter
Adapter information	Model: SOY-1200250US-459 Input: 100-240V~, 50/60Hz, 0.9A Max Output: 12V==2.5A
Operate temperature	0°C-40°C
Operation Frequency	2402 MHz ~ 2480 MHz
Modulation Type	GFSK
Bit Rate of Transmitter	1Mbps, 2Mbps
Max. Output Power	9.37 dBm (0.0087W)
Antenna gain	Ant1: 3.67dBi, Ant2: 3.81dBi
Antenna type	PCB Antenna
Antenna type	0°C-40°C

Note:

- 1 For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	20	2442
01	2404	21	2444
02	2406	22	2446
03	2408	23	2448
04	2410	24	2450
05	2412	25	2452
06	2414	26	2454
07	2416	27	2456
08	2418	28	2458
09	2420	29	2460
10	2422	30	2462
11	2424	31	2464
12	2426	32	2466
13	2428	33	2468
14	2430	34	2470
15	2432	35	2472
16	2434	36	2474
17	2436	37	2476
18	2438	38	2478
19	2440	39	2480

2. Summary of Test Results

2.1 Summary of Test Items

47 CFR FCC Part 15, Subpart C (Section 15.247)			
Test item	FCC Clause	Results	Remarks
AC Power Conducted Emission	15.207	Pass	Meet the requirement of the limit
Radiated Emission	15.205(a)/ 15.209(a)	Pass	Meet the requirement of the limit
Conducted Spurious Emission	15.247(d)	Note2	Meet the requirement of the limit
Bandwidth	15.247(a)(2)	Note2	Meet the requirement of the limit
Maximum Output Power	15.247(b)(3)	Note2	Meet the requirement of the limit
Power Spectral Density	15.247(e)	Note2	Meet the requirement of the limit
Antenna Requirements	15.203	Compliance	Note1
Note: 1. The EUT has 2 PCB Antennas arrangement which was permanently attached.. 2. For test data, please refer to the report RF250516013-01-005.			

2.2 Application of Standard

47 CFR FCC Part 15, Subpart C (Section 15.247)

KDB 558074 D01 15.247 Meas Guidance v05r02

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10:2013

2.3 Test Instruments

No.	Name of Equipment	Manufacturer	Model Number	Serial Number	Inventory No.	Last Calibration	Due Calibration
Radiated Emission							
1	Test receiver	Rohde&Schwarz	ESU	100184	JLE011	2025/3/1	2026/2/28
2	Log periodic antenna	Schwarzbeck	VULB 9168	1151	JLE012	2025/4/12	2026/4/11
3	Low frequency amplifier	/	LNA 0920N	2014	JLE023	2025/3/1	2026/2/28
4	High frequency amplifier	Schwarzbeck	BBV 9718	9718-284	JLE024	2025/3/1	2026/2/28
5	Horn Antenna	SCHWARZBECK	BBHA 9120 D	02670	JLE028	2025/4/12	2026/4/11
6	Temp&Humidity Recorder	Meideshi	JR900	/	JLE021	2025/4/15	2026/4/14
7	Horn Antenna	SCHWARZBECK	BBHA 9170	9170#685	JLE029	2024/7/15	2027/7/14
8	Loop Antenna	SCHWARZBECK	FMZB1519B	00029	JLE030	2024/7/15	2027/7/14
9	Broadband preamplifier	Schwarzbeck	BBV9721	9721-019	JLE025	2025/3/1	2026/2/28
10	Test software	Farad Technology Co., Ltd	EZ-EMC Ver.TW-03A2				
Conducted Emission							
1	LISN	Rohde&Schwarz	ENV216	100075	JLE002	2025/3/1	2026/2/28
2	ISN	Schwarzbeck	CATE 5 8158	#171	JLE003	2025/2/21	2026/2/20
3	ISN	Schwarzbeck	CAT 3 8158	00187	JLE032	2025/2/21	2026/2/20
4	Test receiver	Rohde&Schwarz	ESCI	100718	JLE010	2025/3/1	2026/2/28
5	Pulse limiter	Rohde&Schwarz	ESH3-Z2	102299	JLE047	2025/3/1	2026/2/28
6	Temp&Humidity Recorder	Meideshi	JR900	/	JLE020	2025/4/15	2026/4/14
7	Test software	Farad Technology Co., Ltd	EZ-EMC Ver.TW-03A2				
RF Conducted Emissions							
1	MXA Signal Analyzer	Keysight	N9021B	MY60080169	JLE050	2025/3/1	2026/2/28
2	RF Control Unit	dsusoft	JS0806-2	21G8060449	JLE053	2025/3/1	2026/2/28
3	power supply unit	dsusoft	JS0806-4ADC	N/A	JLE055	2025/3/1	2026/2/28
4	VXG Signal Generator	Keysight	M9384B	MY61270787	JLE051	2025/6/10	2026/6/09
5	EXG Analog Signal Generator	Keysight	N5173B	MY59101282	JLE052	2025/3/1	2026/2/28
6	Wideband Radio Communication Tester	Rohde&Schwarz	CMW500	1201.0002K5 0-116064-Dt	JLE054	2025/3/1	2026/2/28
7	Test software	dsusoft	JS1120-3 Ver.3.2.22.0				

2.4 Test Mode

Please refer to report RF250516013-01-005 details of test Mode.

2.5 Test Condition

Applicable to	Environmental conditions	Input Power	Tested by
AC Power Conducted Emission	23.8-24.6°C, 52-55% RH	AC 120V/60Hz	Keith Huang
Radiated Emission	23.9-24.3°C, 50-59% RH	AC 120V/60Hz	Lemon He

Note: Adapter supply voltage AC 120V/60Hz.

The applicant declare the operating environment of EUT as below:

Normal conditions: 12V DC, 0~45°C

2.6 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Uncertainty	
Parameter	Uncertainty
Occupied Channel Bandwidth	$\pm 102\text{kHz}$
RF power conducted	$\pm 0.243\text{dB}$
Power Spectral Density	$\pm 0.743\text{dB}$
Conducted Spurious Emission	$\pm 1.328\text{dB}$
Conducted emission(9kHz~30MHz) AC main	$\pm 2.68\text{dB}$
Radiated emission(9kHz~30MHz)	$\pm 3.50\text{dB}$
Radiated emission (30MHz~1GHz)	$\pm 4.20\text{dB}$
Radiated emission (1GHz~18GHz)	$\pm 5.10\text{dB}$
Radiated emission (18GHz~40GHz)	$\pm 5.26\text{dB}$

2.7 Test Location

Company:	Shenzhen Haiyun Standard Technical Co., Ltd.
Address:	No. 110-113, 115, 116, Block B, Jinyuan Business Building, Bao'an District, Shenzhen, China
CNAS Registration Number:	CNAS L18252
CAB identifier	CN0145
A2LA Certificate Number	6823.01
Telephone:	0755-26024411

2.8 Description of Support Units

No.	Equipment	Model	Manufacturer	Series No
1	PC	M4500T	Thinkpad	M032004854IT
2	Notebook	L450	Think	/
3	Notebook	L450	Think	/

2.9 Deviation from Standards

None

3. Test Procedure And Results

3.1 AC Power Line Conducted Emission

3.1.1 Limit

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μ V)	Average Level dB(μ V)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

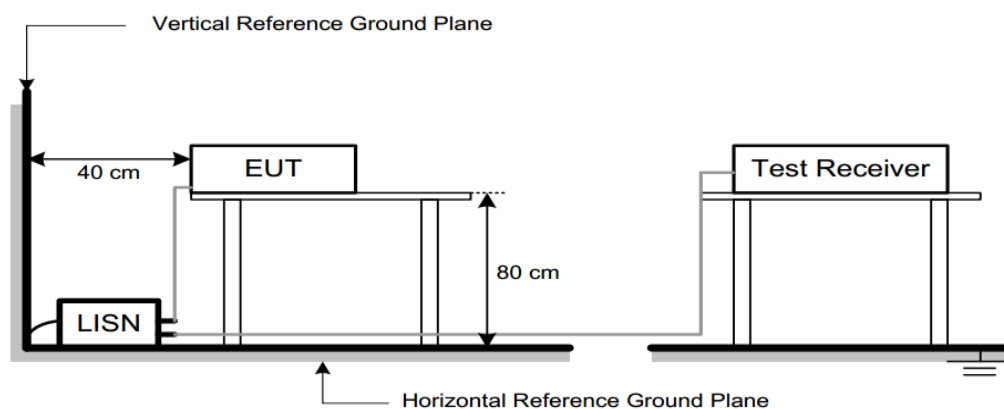
3.1.2 Test Procedure

Test Method	
☒ Conducted Measurement	☐ Radiated Measurement
Test Channels	
☐ Lowest, Middle and Highest Channel	☐ Lowest and Highest Channel
Environmental conditions	
☒ Normal	☐ Normal and Extreme

Note: ● : Test ○ : No Test

- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

3.1.3 Test Setup



3.1.4 Test Result

Note:

1. Correct Factor = LISN Factor + Cable Loss + Pulse Limiter Factor, the value was added to Original Receiver Reading by the software automatically.
2. Measurement = Reading + Correct Factor.
3. Over = Measurement – Limit

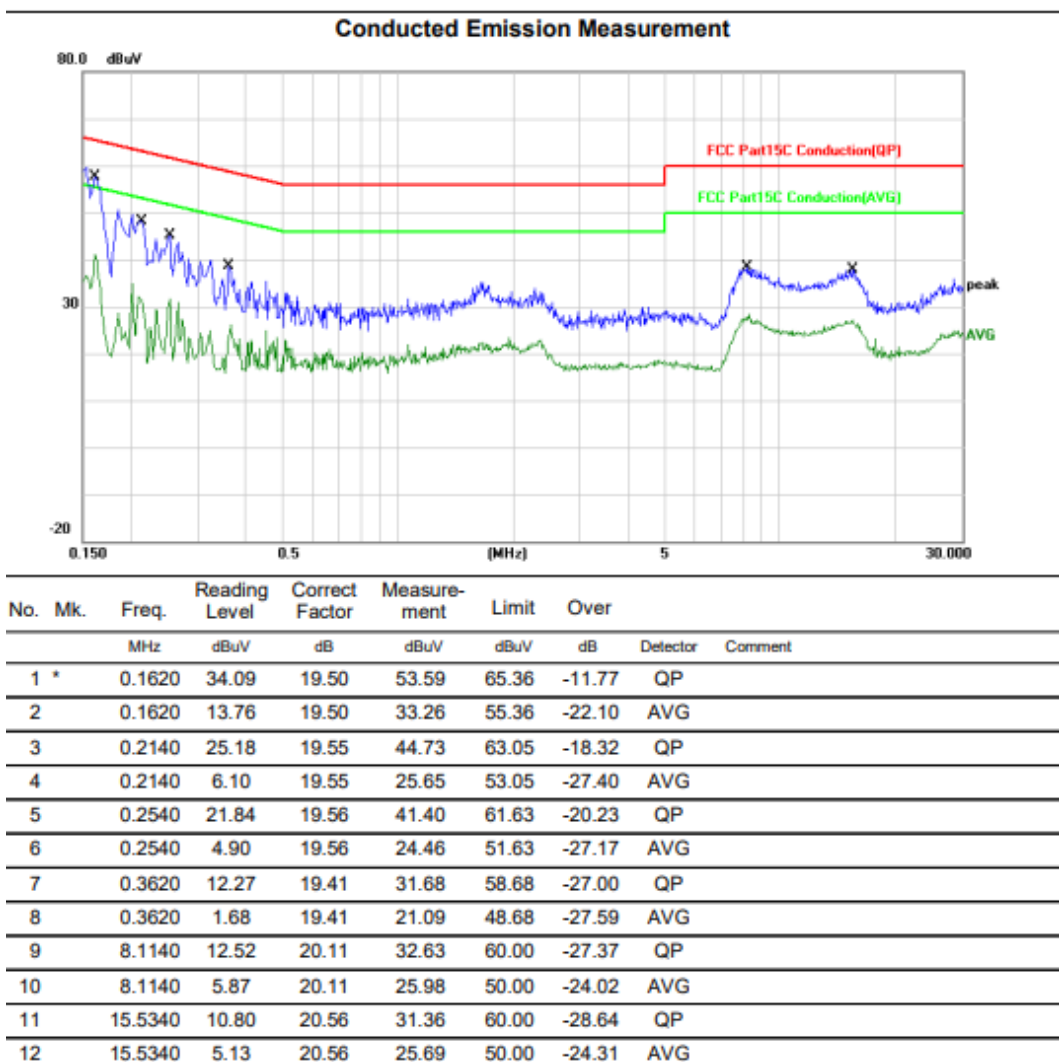
We only recorded the data of the worst mode. Please see the following:

HT-6766BE

150kHz~30MHz

Worst Case Operating Mode: TX Mode_2Mbps Channel 00

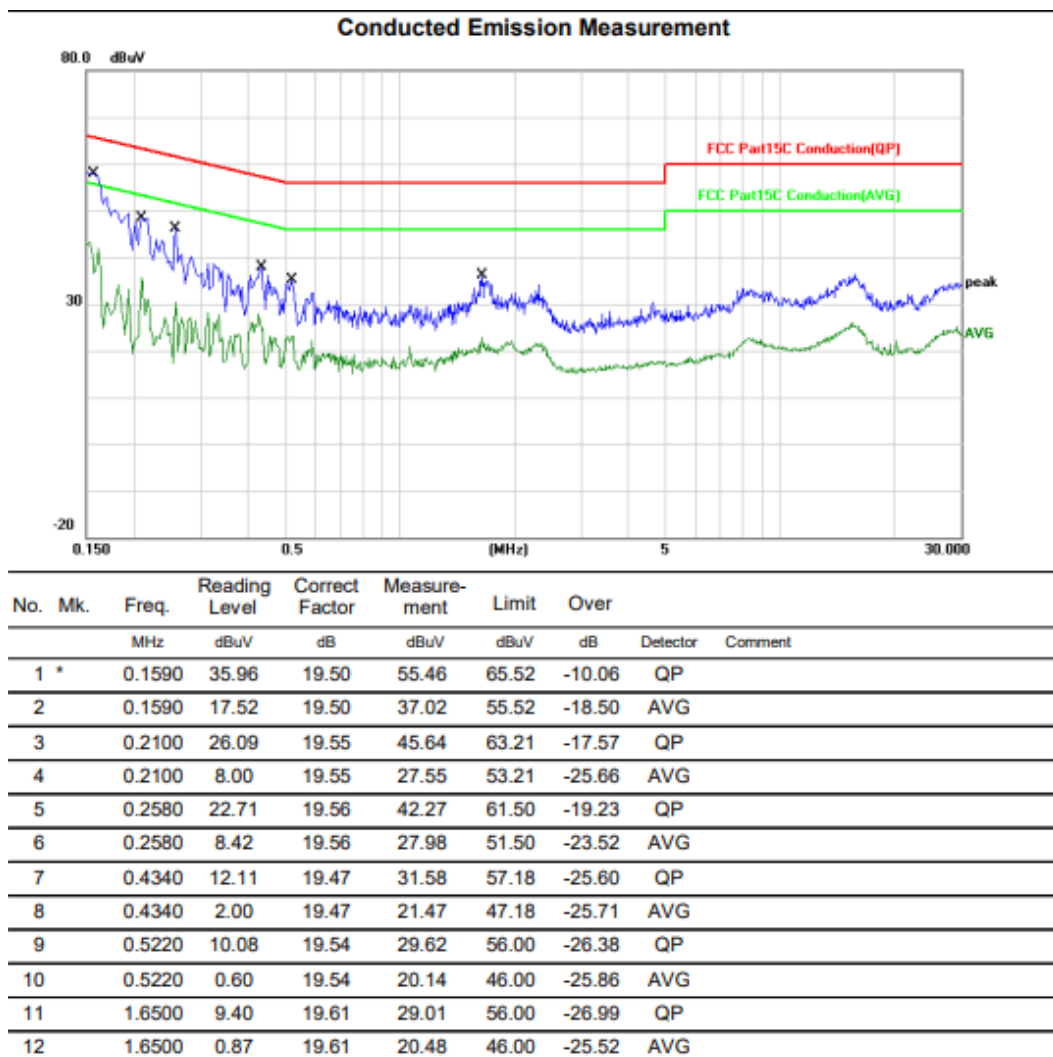
Line



150kHz~30MHz

Worst Case Operating Mode: TX Mode_2Mbps Channel 00

Neutral

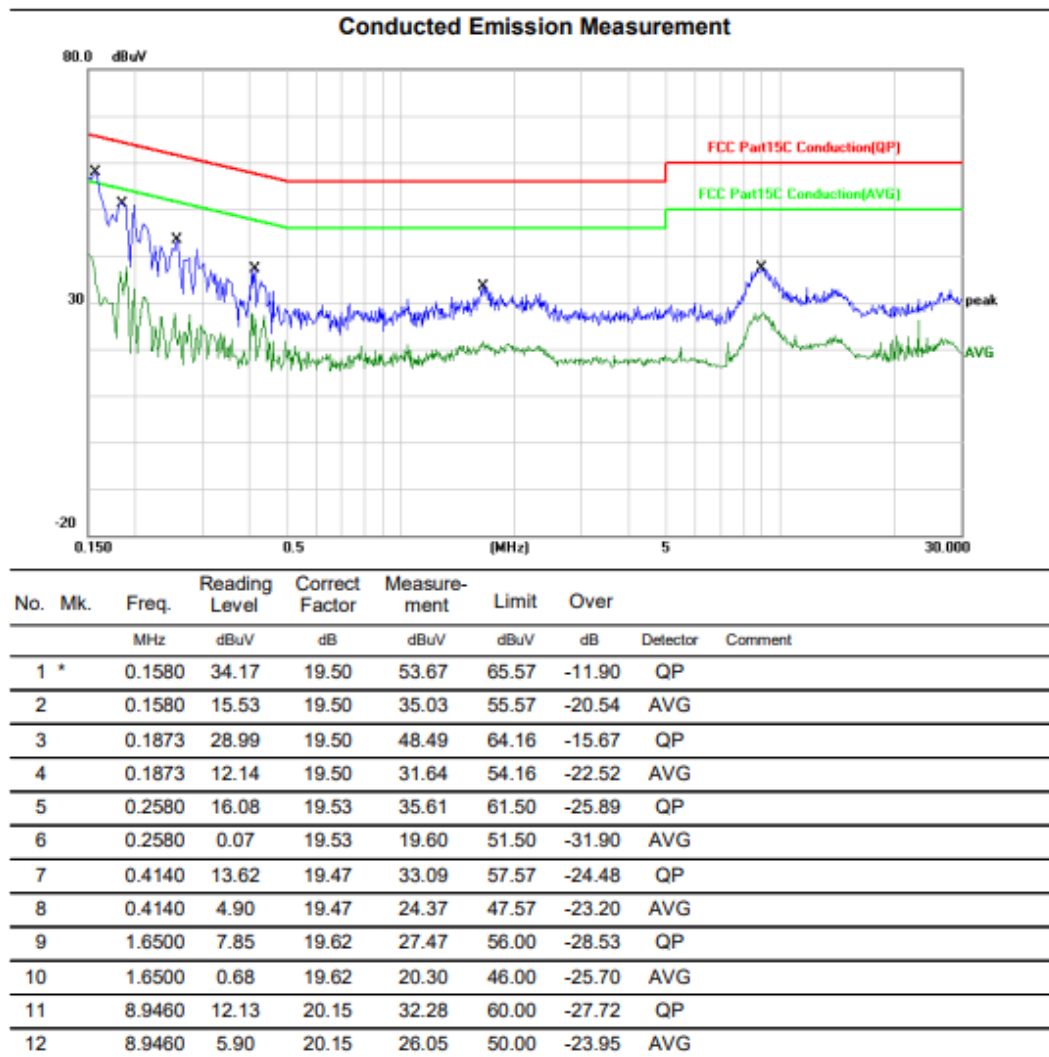


HT-6766BDM

150kHz~30MHz

Worst Case Operating Mode: TX Mode_2Mbps Channel 00

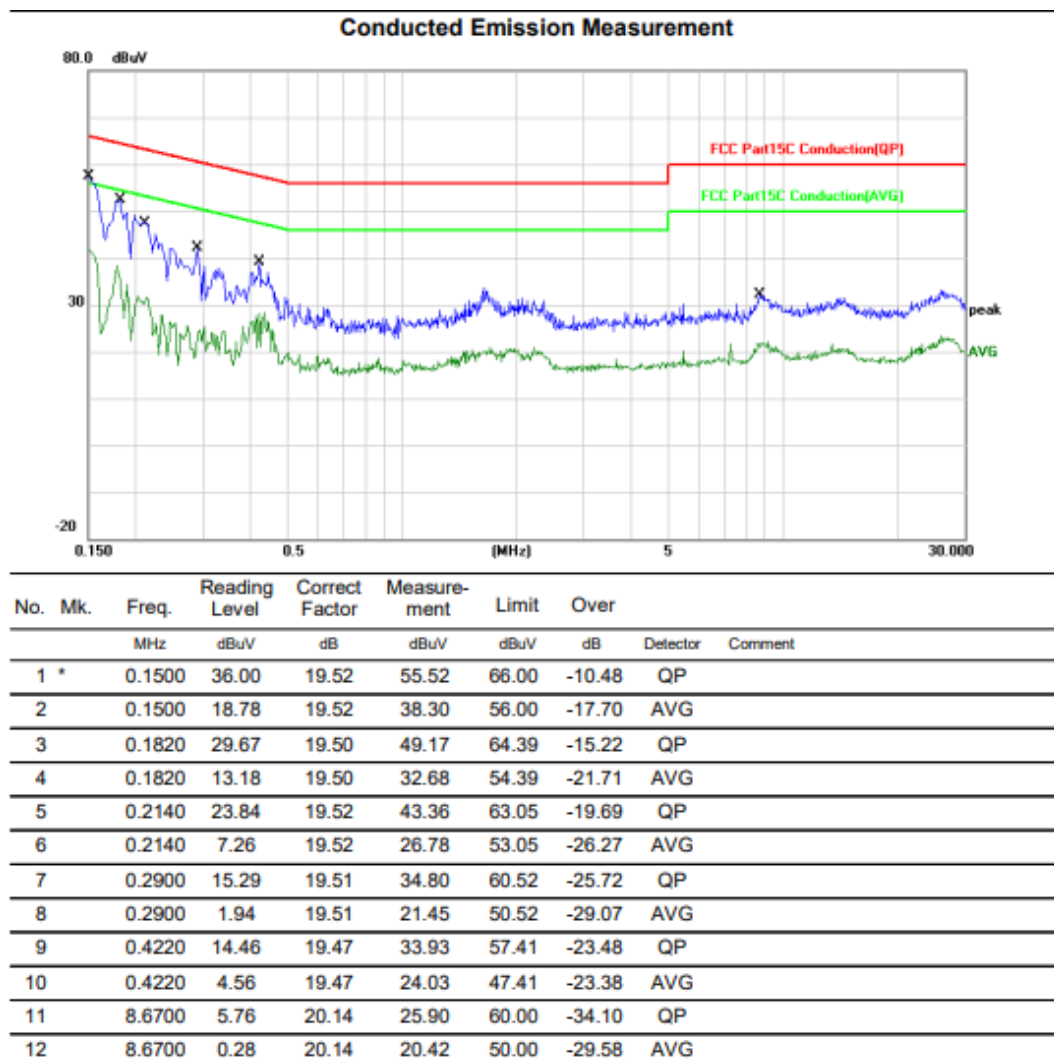
Line



150kHz~30MHz

Worst Case Operating Mode: TX Mode_2Mbps Channel 00

Neutral



3.2 Radiated Emission and Band Edge

3.2.1 Limit

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

Frequency (MHz)	Distance Meters(m)	Field Strength Limit	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
0.009 – 0.49	300	2400/F(kHz)	-
0.490 – 1.705	30	24000/F(kHz)	-
1.705 – 30	30	30	-
30~88	3	100	40.0
88~216	3	150	43.5
216~960	3	200	46.0
960~1000	3	500	54.0
Above 1000	3	74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average)	

Note: (1) Emission level $\text{dB}\mu\text{V} = 20 \log$ Emission level $\mu\text{V}/\text{m}$

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

3.2.2 Test Procedure

Test Method	
☐ Conducted Measurement	☒ Radiated Measurement
Test Channels	
☒ Lowest, Middle and Highest Channel	☐ Lowest and Highest Channel
Environmental conditions	
☒ Normal	☐ Normal and Extreme

Note: ☒ : Test ☐ : No Test

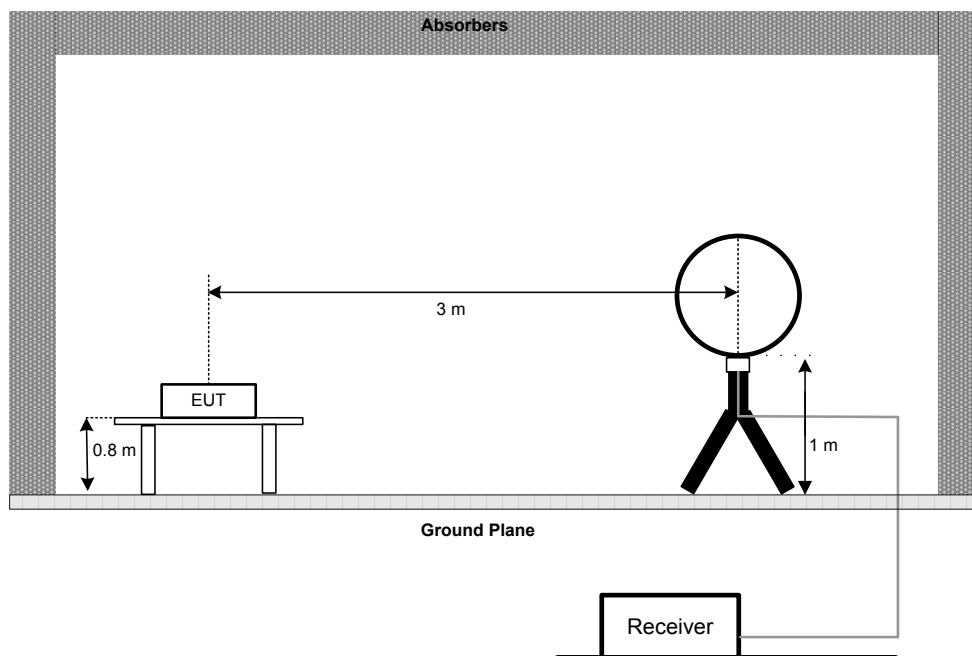
- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- The measuring distance of 3 m or 1.5m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of

the antenna are set to make the measurement.

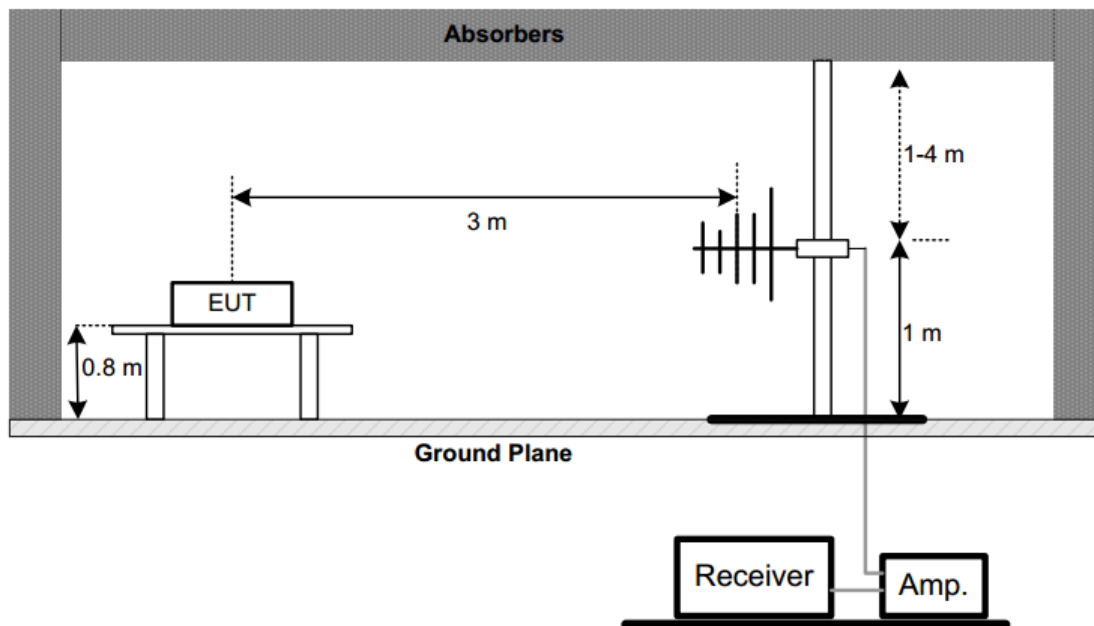
- d) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e) The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- f) The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g) All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1 GHz)
- h) All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1 GHz)
- i) For the actual test configuration, please refer to the related Item -EUT Test Photos.

3.2.3 Test Setup

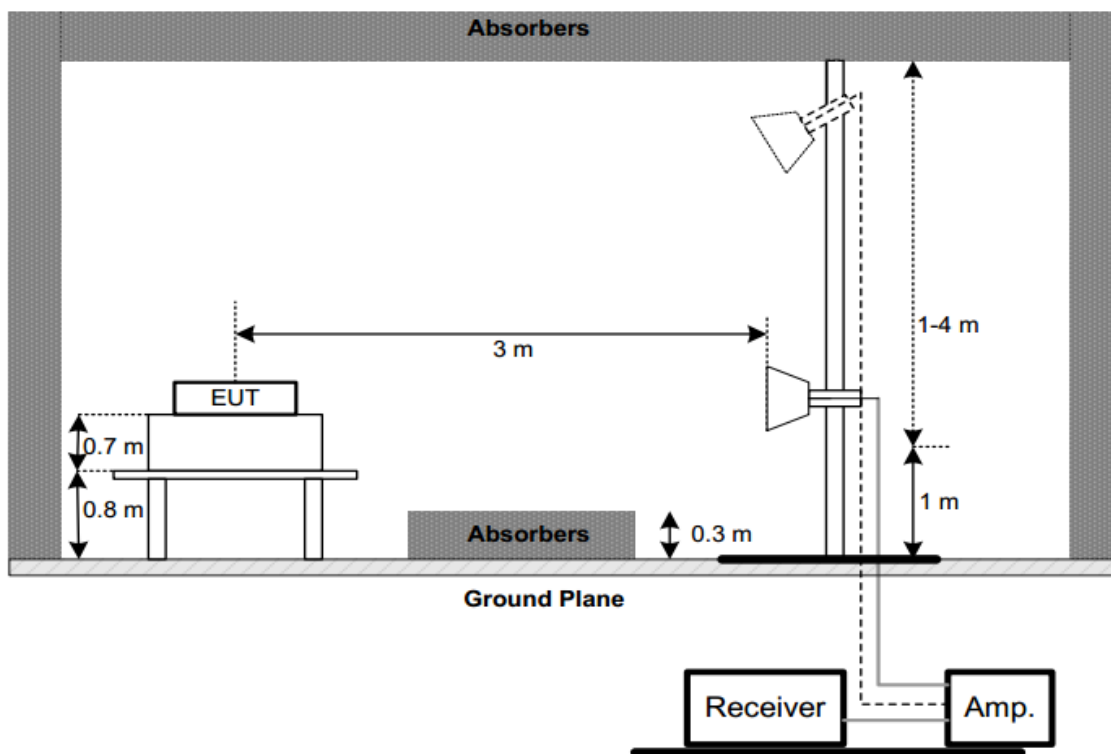
(A) Radiated Emission Test Set-Up Frequency Below 30MHz



(B) Radiated Emission Test Set-Up Frequency 30 MHz-1000 MHz



(C) Radiated Emission Test Set-Up Frequency Above 1 GHz



3.2.4 Test Result

1) Radiated emission: 9kHz-30MHz

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not recorded in this report.

2) Radiated emission: 30MHz-1GHz

Note:

1. Measurement = Reading + Correct Factor.
2. Over = Measurement – Limit

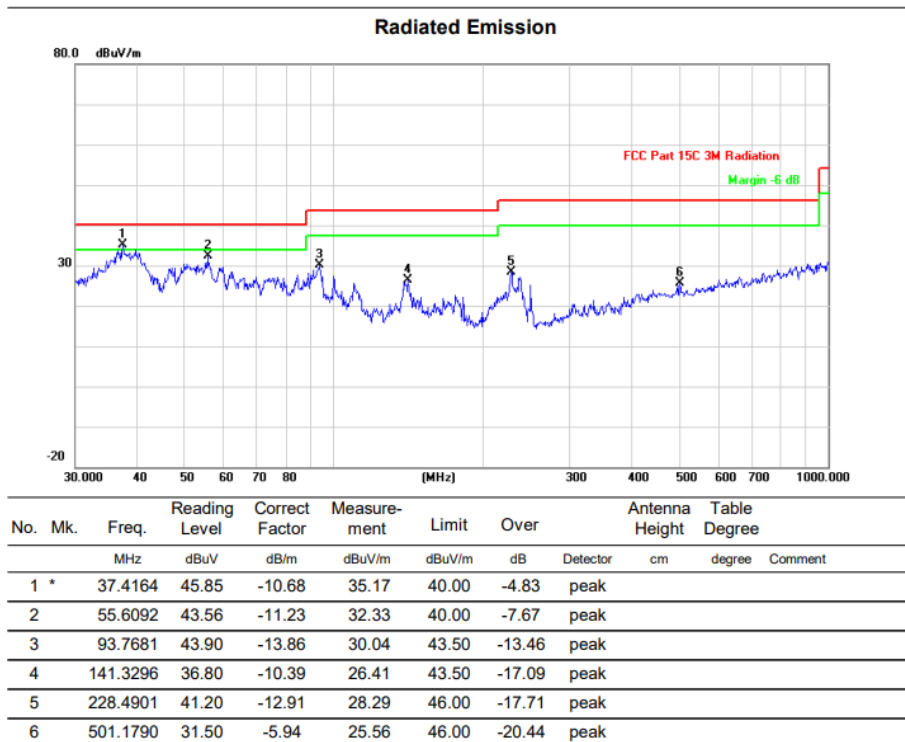
We only recorded the data of the worst mode. Please see the following:

HT-6766BE

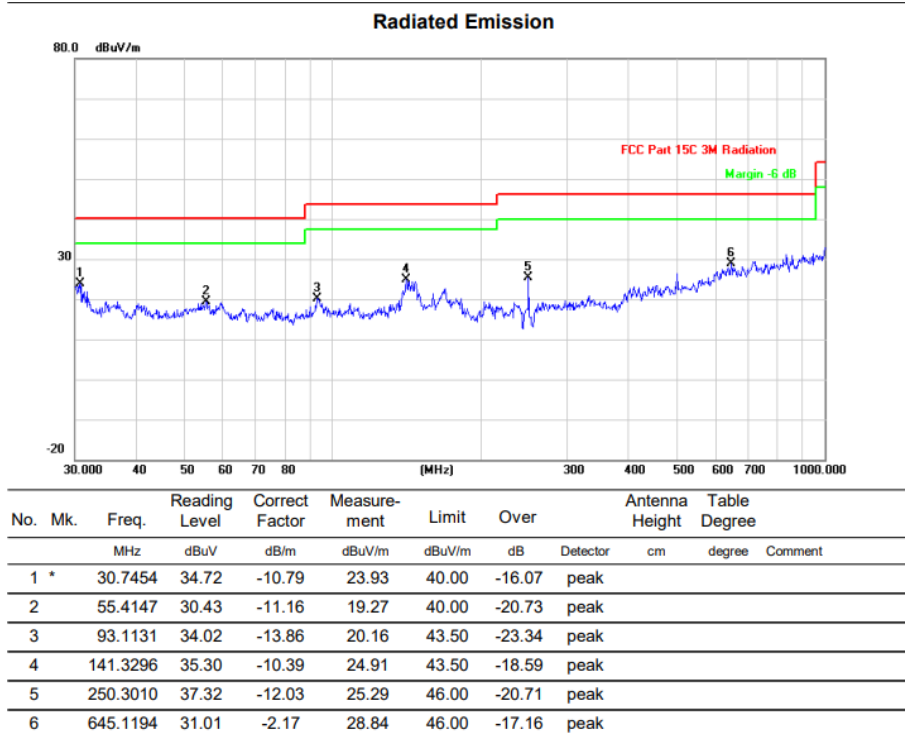
Below 1GHz (30MHz~1GHz)

Worst Case Operating Mode: TX Mode_2Mbps Channel 00

VERTICAL



HORIZONTAL

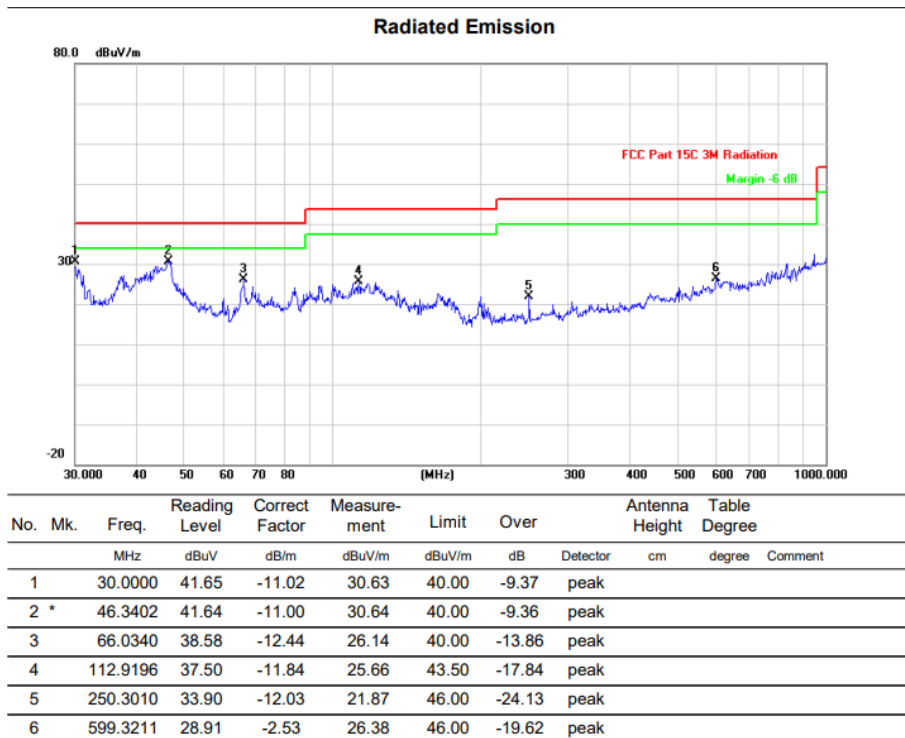


HT-6766BDM

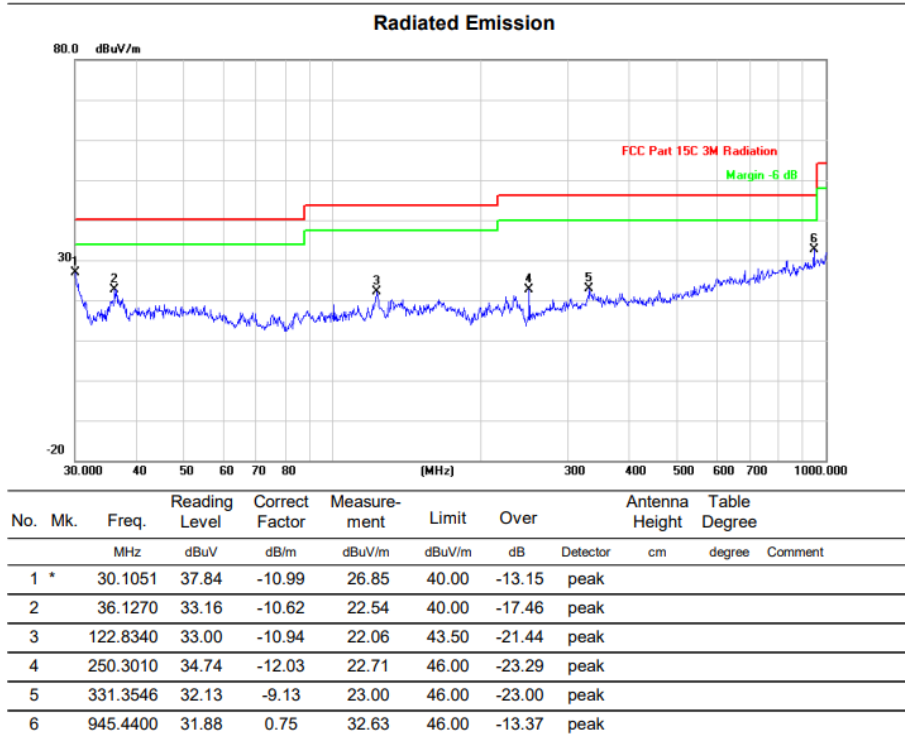
Below 1GHz (30MHz~1GHz)

Worst Case Operating Mode: TX Mode_2Mbps Channel 00

VERTICAL



HORIZONTAL



3) Radiated emission: Above 1GHz

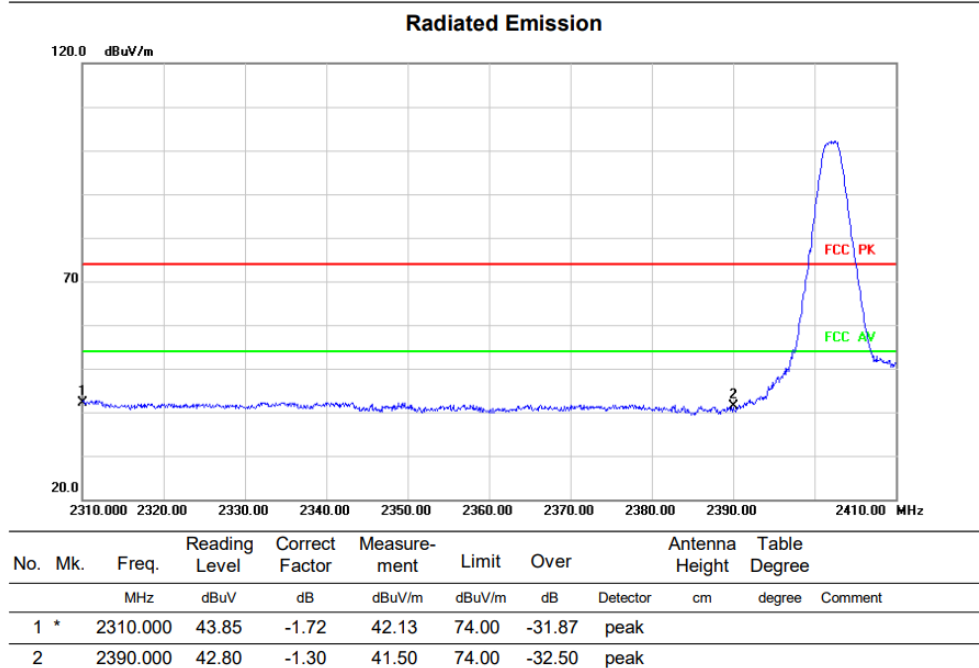
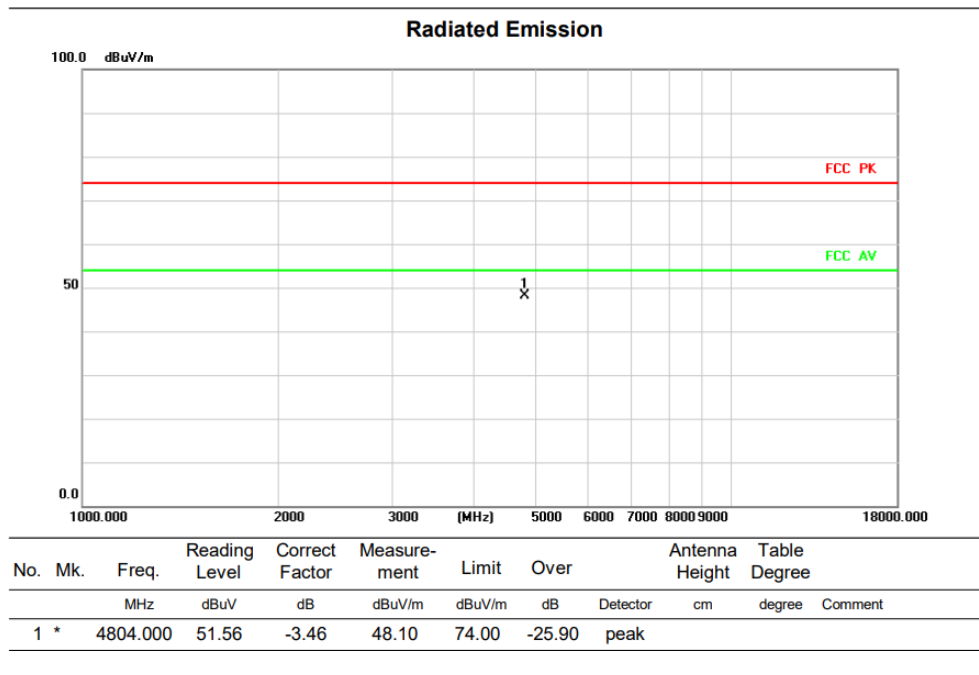
Note:

1. Measurement = Reading + Correct Factor.
2. Over = Measurement – Limit

We only recorded the data of the worst mode. Please see the following:

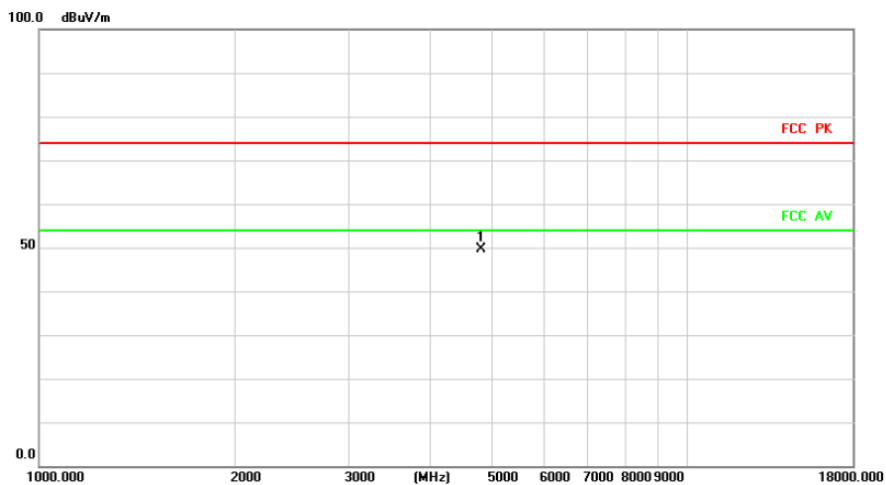
Above 1GHz (1GHz~18GHz)	Test mode: TX Mode_2Mbps	Test Channel:00
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VERTICAL



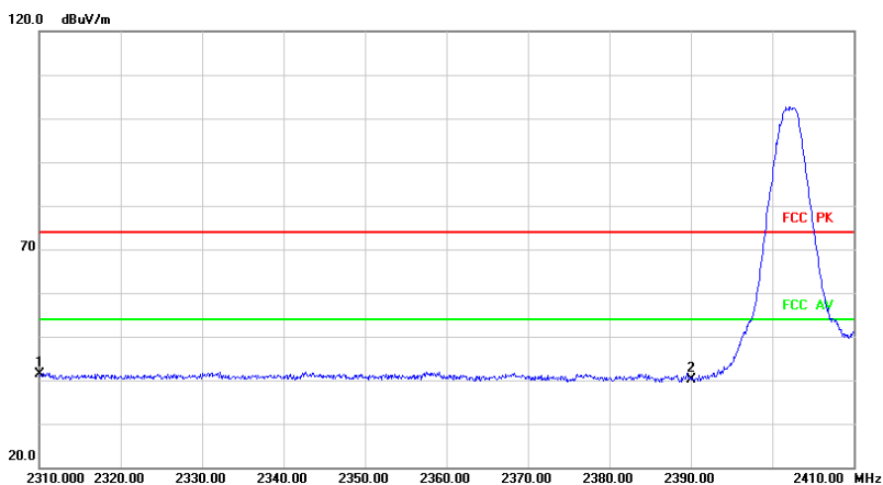
HORIZONTAL

Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1	*	4804.000	53.08	-3.46	49.62	74.00	-24.38	peak	

Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1	*	2310.000	43.18	-1.72	41.46	74.00	-32.54	peak	
2		2390.000	41.40	-1.30	40.10	74.00	-33.90	peak	

Statement

1. The report is invalid without the official seal or special seal of Shenzhen Haiyun Standard Technical Co., Ltd. (hereinafter referred to as the unit).
2. The report is invalid without the signature of the approver.
3. The report is invalid if altered arbitrarily.
4. The report shall not be partially copied without the written approval of the unit.
5. The reported test results are only valid for the tested samples.
6. If there is any objection to the test report, it shall be submitted to the test unit within 15 days from the date of receiving the report, and the overdue shall not be accepted.

Shenzhen Haiyun Standard Technical Co., Ltd.

Address: Room 110, 111, 112, 113, 115, 116, Block B, Jinyuan Business Building, No. 302, Xixiang Avenue, Labor Community, Xixiang Street, Baoan District, Shenzhen, China

Tel: 0755-26024411

Email: service@hy-lab.cn

End of Test Report