Shenzhen CTL Testing Technology Co., Ltd.
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TEST REPORT

FCC PART 15 SUBPART E 15.407

Report Reference No. ..... : **CTL2408152111-WF01**

Compiled by: (position+printed name+signature)	Happy Guo (File administrators)	
Tested by: (position+printed name+signature)	James Yu (Test Engineer)	
Approved by: (position+printed name+signature)	Ivan Xie (Manager)	

Product Name ..... :	Audio and video wireless extender
Model/Type reference ..... :	LY-HE30W
List Model(s)..... :	LY-HE30W-A,LY-HE30W-B,LY-HE30W-C,LY-HE30W-D
Trade Mark..... :	N/A
FCC ID..... :	**2BKN6-RXHE30W**
Applicant's name ..... :	**Shenzhen Laiyu Technology Co., Ltd.**
Address of applicant ..... :	505, Building 0100029, Xiawei Industrial Zone, Zhangxi Community, Guanhu Street, Longhua District, Shenzhen Cit
Test Firm..... :	**Shenzhen CTL Testing Technology Co., Ltd.**
Address of Test Firm ..... :	Floor 1-A, Baisha Technology Park, No.3011, Shahexi Road, Nanshan District, Shenzhen, China 518055
Test specification..... :	
Standard ..... :	**47 CFR FCC Part 15 Subpart E 15.407**
TRF Originator ..... :	Shenzhen CTL Testing Technology Co., Ltd.
Master TRF..... :	Dated 2011-01
Date of receipt of test item ..... :	Aug.26, 2024
Date of Test Date..... :	Aug.26, 2024-Sep.18, 2024
Date of Issue ..... :	Sep.25, 2024
Result..... :	**Pass**

TEST REPORT

Test Report No. :	CTL2408152111-WF01	Sep.25, 2024 Date of issue

Equipment under Test	:	Audio and video wireless extender
Sample No	:	CTL2408152111
Model /Type	:	LY-HE30W
Listed Models	:	LY-HE30W-A,LY-HE30W-B,LY-HE30W-C, LY-HE30W-D
Applicant	:	**Shenzhen Laiyu Technology Co., Ltd.**
Address	:	505, Building 0100029, Xiawei Industrial Zone, Zhangxi Community, Guanhu Street, Longhua District, Shenzhen Cit
Manufacturer	:	**Shenzhen Laiyu Technology Co., Ltd.**
Address	:	505, Building 0100029, Xiawei Industrial Zone, Zhangxi Community, Guanhu Street, Longhua District, Shenzhen Cit

Test result	**Pass ***

* In the configuration tested, the EUT complied with the standards specified page 5.

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the issuing testing laboratory.

** Modified History **

Revisions	Description	Issued Data	Report No.	Remark
Version 1.0	Initial Test Report Release	2024-09-25	CTL2408152111-WF01	Tracy Qi

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1. SUMMARY

1.1. TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 15 Subpart E—Unlicensed National Information Infrastructure Devices

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

KDB789033 D02: General UNII Test Procedures New Rules v02r01

1.2. Test Description

FCC Requirement		
FCC Part 15.207	AC Power Conducted Emission	PASS
FCC Part 15.407(a)	Emission Bandwidth(26dBm Bandwidth)	PASS
FCC Part 15.407(e)	Minimum Emission Bandwidth(6dBm Bandwidth)	PASS
FCC Part 15.407(a)	Maximum Conducted Output Power	PASS
FCC Part 15.407(a)	Peak Power Spectral Density	PASS
FCC Part 15.407(g)	Frequency Stability	PASS
FCC Part 15.407(b)	Undesirable emission	PASS
FCC Part 15.407(b)/15.205/15.209	Radiated Emissions	PASS
FCC Part 15.203/15.247(b)	Antenna Requirement	PASS

Remark: See the CTL2408152111-WF02 DFS report for DFS test items and contents

1.3. Test Facility

1.3.1 Address of the test laboratory

Shenzhen CTL Testing Technology Co.,Ltd.
Floor 1-A, Baisha Technology Park, No. 3011, Shahexi Road, Nanshan, Shenzhen 518055 China

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010 SVSWR requirement for radiated emission above 1GHz.

1.3.2 Laboratory accreditation

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L7497

Shenzhen CTL Testing Technology Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2017 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No. 4343.01

Shenzhen CTL Testing Technology Co., Ltd, EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

IC Registration No.: 9618B

CAB identifier: CN0041

The 3m alternate test site of Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements with Registration No.: 9618B.

FCC-Registration No.: 399832

Designation No.: CN1216

Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 399832.

1.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the Shenzhen CTL Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for CTL laboratory is reported:

Test	Measurement Uncertainty	Notes
Transmitter power conducted	±0.57 dB	(1)
Transmitter power Radiated	±2.20 dB	(1)
Conducted spurious emission 9KHz-40 GHz	±2.20 dB	(1)
Occupied Bandwidth	±0.01ppm	(1)
Radiated Emission9KHz~30MHz	±3.66dB	(1)
Radiated Emission 30~1000MHz	±4.08dB	(1)
Radiated Emission Above 1GHz	±4.32dB	(1)
Conducted Disturbance0.15~30MHz	±3.20dB	(1)
20dB Emission Bandwidth	±1.9%	(1)
Carrier Frequency Separation	±1.9%	(1)
Maximum Power Spectral Density Level	±0.98 dB	(1)
Number of Hopping Channel	±1.9%	(1)
Time of Occupancy	±0.11%	(1)
Max Peak Conducted Output Power	±0.98 dB	(1)
Band-edge Spurious Emission	±1.21dB	(1)
Conducted RF Spurious Emission	9kHz-7GHz:±1.09dB 7GHz-26.5GHz: ±3.27dB	(1)

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

1.5. EUT configuration

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

- ● - supplied by the manufacturer
- ○ - supplied by the lab

○	Notebook computer	Manufacturer :	Huawei Technologies Co Ltd
		Model No. :	KPL-W00
○	HUAWEI SuperCharge	Manufacturer :	Huawei Technologies Co Ltd.
		Model No. :	HW-200200CP1

2. GENERAL INFORMATION

2.1. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature:	25°C
Relative Humidity:	55 %
Air Pressure:	101 kPa

2.2. General Description of EUT

Product Name:	Audio and video wireless extender
Model/Type reference:	LY-HE30W
Power supply:	DC 5V
5G Wi-Fi :	
Supported type:	20MHz system
	802.11a 802.11n
Operation frequency:	5180-5240MHz 5260-5320MHz 5500-5700MHz 5745-5825MHz
Modulation:	OFDM
Channel number:	24
Channel separation:	20MHz
Antenna type:	PCB Antenna
Antenna gain:	2.0dBi
MIMO:	Not Supported
TPC:	Not Supported

Note1: For more details, please refer to the user's manual of the EUT.
Note2: Antenna gain provided by the applicant.

2.3. Description of Test Modes and Test Frequency

The Applicant provides communication tools software to control the EUT for staying in continuous transmitting (Duty Cycle more than 98%) and receiving mode for testing.

All test performed at the low, middle and high of operational frequency range of each mode.

Operation Frequency List Wi-Fi on 5G Band：

Operating band	20MHz	
	Channel	Frequency (MHz)
U-NII 1 (5150MHz-5250MHz)	36	5180
	40	5200
	44	5220
	48	5240
U-NII 2A (5120MHz-5350MHz)	52	5260
	56	5280
	60	5300
	64	5320
U-NII 2C (5470MHz-5725MHz)	100	5500
	104	5520
	108	5540
	112	5560
	116	5580
	132	5660
	136	5680
	140	5700
U-NII 3 (5725MHz-5850MHz)	149	5745
	153	5765
	157	5785
	161	5805
	165	5825

Note:

1. “--“Means no channel(s) available any more.
2. The line display in grey is those Channels/Frequencies select to test in this report for each operation mode.

Data Rate Used:

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate
Maximum Conducted Output Power Power Spectral Density Emission Bandwidth(26dBm Bandwidth) Minimum Emission Bandwidth(6dBm Bandwidth) Undesirable emission Frequency Stability	11a/OFDM	6 Mbps
	11n(20MHz), /OFDM	7.2 Mbps

2.4. Equipments Used during the Test

Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
EMI Test Receiver		ROHDE & SCHWARZ	ESCI	1166.5950.03	2024/04/30	2025/04/29
LISN		ROHDE & SCHWARZ	ESH2-Z5	860014/010	2024/04/30	2025/04/29
Limitator		ROHDE & SCHWARZ	ESH3-Z2	100408	2024/04/30	2025/04/29
Software:						
Name of Software:				Version:		
ES-K1				V1.71		

Radiated Emissions and Band Edge					
Test Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date
Active Loop Antenna	Da Ze	ZN30900A	/	2024/04/30	2025/04/29
Double cone logarithmic antenna	Schwarzbeck	VULB 9168	824	2023/02/13	2026/02/12
Horn Antenna	Sunol Sciences Corp.	DRH-118	A062013	2021/12/23	2024/12/22
Horn Antenna	Ocean Microwave	OBH100400	26999002	2021/12/22	2024/12/21
Amplifier	MRT Technology(Suzhou)Co., Ltd	MRT-AP01M06	S-001	2024/04/30	2025/04/29
Amplifier	Agilent	8449B	3008A02306	2024/04/30	2025/04/29
Amplifier	Brief&Smart	LNA-4018	2104197	2024/05/03	2025/05/02
EMI Test Receiver	ROHDE & SCHWARZ	ESCI	1166.5950.03	2024/04/30	2025/04/29
Spectrum Analyzer	RS	FSP	1164.4391.38	2024/05/03	2025/05/02
Test software					
Name of Software			Version		
EZ_EMC(Below 1GHz)			V1.1.4.2		
EZ_EMC(Above 1GHz)			V1.1.4.2		

Maximum Peak Output Power & 20dB Bandwidth & Frequency Separation & Number of hopping frequency & Dwell Time & Out-of-band Emissions					
Test Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date
Spectrum Analyzer	Keysight	N9020A	MY53420874	2024/05/01	2025/04/30
Temperature/Humidity Meter	Ji Yu	MC501	/	2024/05/04	2025/05/03
Test Software					

Name of Software	Version
TST-PASS	V2.0

2.5. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended to comply with Section 15.407 of the FCC Part 15, Subpart E Rules.

2.6. Modifications

No modifications were implemented to meet testing criteria.

3. TEST CONDITIONS AND RESULTS

3.1. Conducted Emissions Test

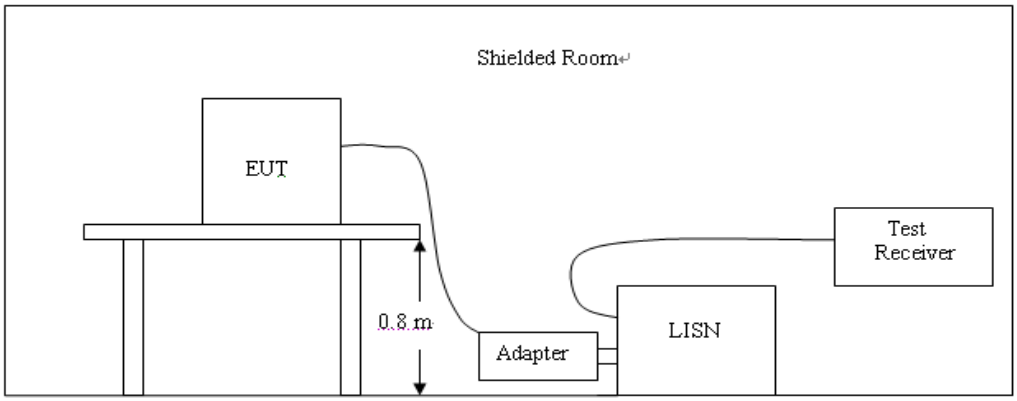
LIMIT

According to FCC CFR Title 47 Part 15 Subpart C Section 15.207, AC Power Line Conducted Emissions Limits for Licence-Exempt Radio Apparatus as below:

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

* Decreases with the logarithm of the frequency.

TEST CONFIGURATION



TEST PROCEDURE

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a Laser Projector op system; a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10:2013.
2. Support equipment, if needed, was placed as per ANSI C63.10:2013.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10:2013.
4. The adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5. All support equipments received AC power from a second LISN, if any.
6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.

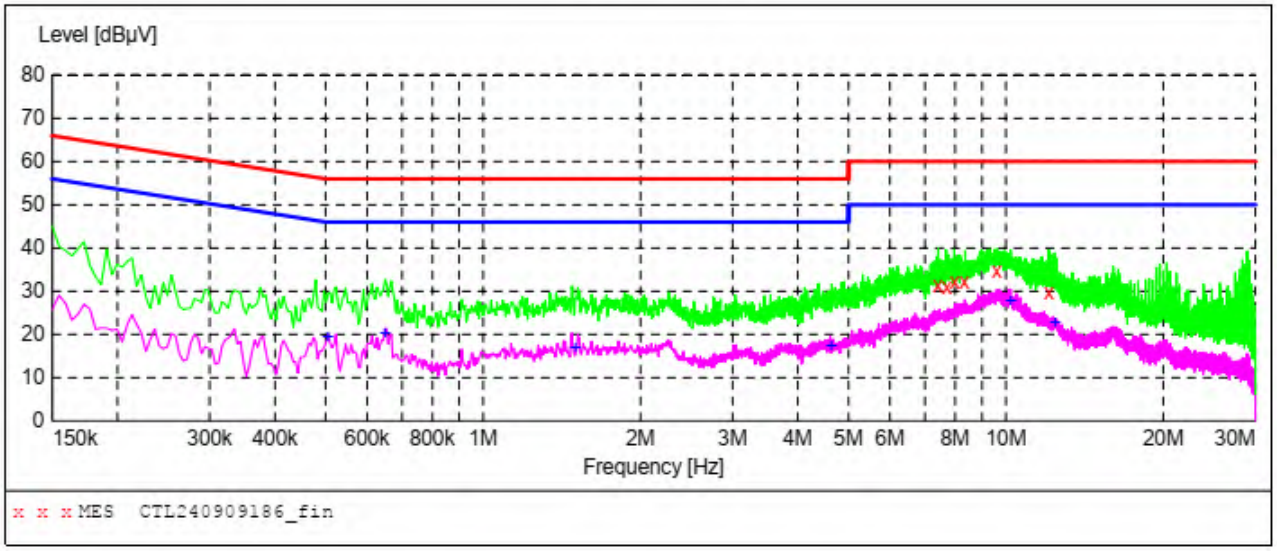
TEST RESULTS

Remark: 802.11a / 802.11n (HT20) all have been tested, only worse case is reported

Test Mode	802.11n 5180MHz	Line:	L

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "CTL240909186_fin"

9/9/2024 5:57PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
7.413000	31.30	10.4	60	28.7	QP	L1	GND
7.714500	30.90	10.4	60	29.1	QP	L1	GND
7.984500	32.00	10.4	60	28.0	QP	L1	GND
8.322000	32.00	10.5	60	28.0	QP	L1	GND
9.609000	34.80	10.6	60	25.2	QP	L1	GND
12.070500	29.80	10.9	60	30.2	QP	L1	GND

MEASUREMENT RESULT: "CTL240909186_fin2"

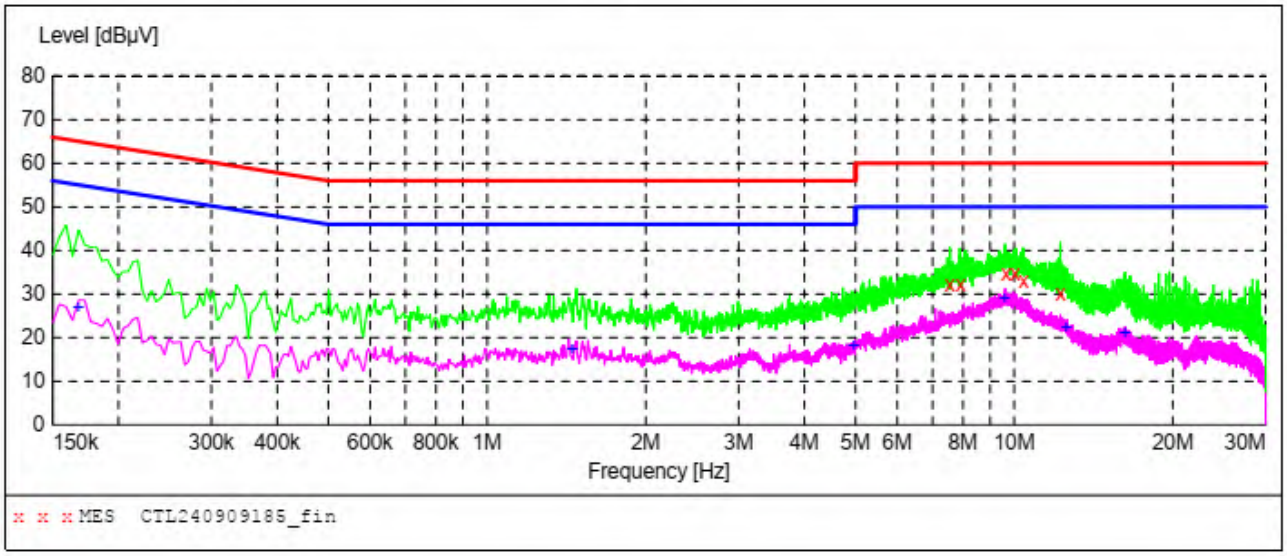
9/9/2024 5:57PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.505500	19.30	10.0	46	26.7	AV	L1	GND
0.649500	20.30	10.0	46	25.7	AV	L1	GND
1.504500	16.90	10.1	46	29.1	AV	L1	GND
4.636500	17.20	10.1	46	28.8	AV	L1	GND
10.234500	27.70	10.7	50	22.3	AV	L1	GND
12.448500	22.70	10.9	50	27.3	AV	L1	GND

Test Mode	802.11n 5180MHz	Line:	N

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "CTL240909185_fin"

9/9/2024 5:54PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
7.557000	32.00	10.4	60	28.0	QP	N	GND
7.908000	32.20	10.4	60	27.8	QP	N	GND
9.658500	34.60	10.6	60	25.4	QP	N	GND
10.050000	34.60	10.7	60	25.4	QP	N	GND
10.419000	33.20	10.7	60	26.8	QP	N	GND
12.228000	30.10	10.9	60	29.9	QP	N	GND

MEASUREMENT RESULT: "CTL240909185_fin2"

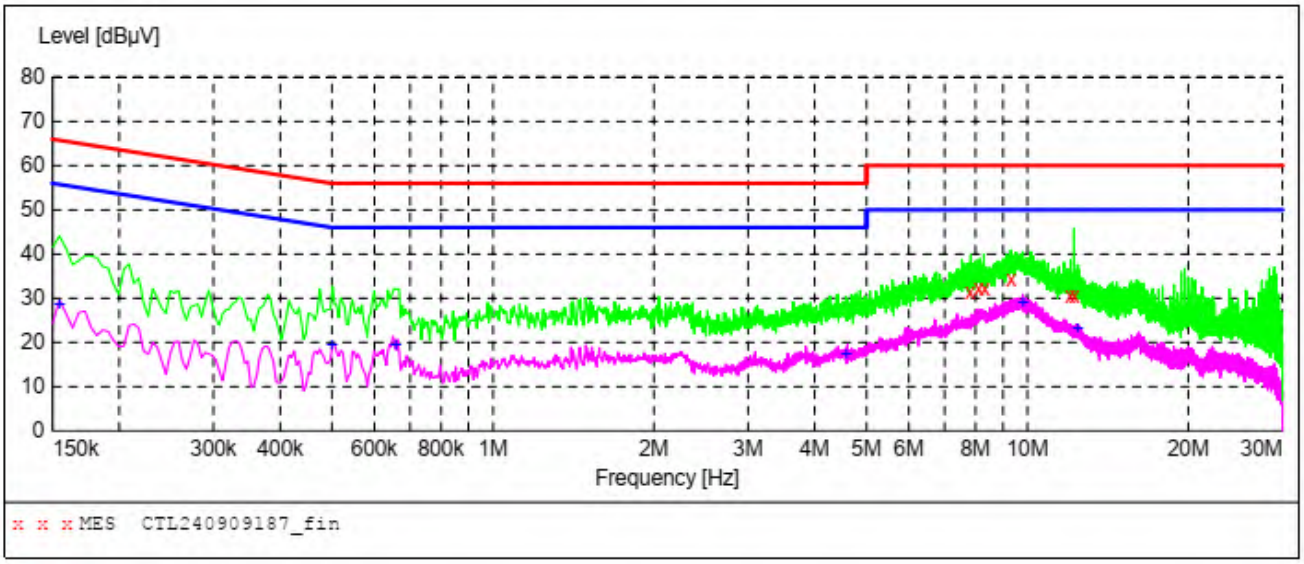
9/9/2024 5:54PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.168000	26.70	10.0	55	28.4	AV	N	GND
1.450500	17.10	10.1	46	28.9	AV	N	GND
4.969500	18.10	10.1	46	27.9	AV	N	GND
9.604500	28.70	10.6	50	21.3	AV	N	GND
12.574500	22.00	10.9	50	28.0	AV	N	GND
16.233000	20.80	11.2	50	29.2	AV	N	GND

Test Mode	802.11n 5260MHz	Line:	L

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "CTL240909187_fin"

9/9/2024 6:01PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
7.813500	31.20	10.4	60	28.8	QP	L1	GND
8.115000	32.30	10.5	60	27.7	QP	L1	GND
8.331000	32.10	10.5	60	27.9	QP	L1	GND
9.321000	34.30	10.6	60	25.7	QP	L1	GND
12.034500	30.50	10.9	60	29.5	QP	L1	GND
12.255000	30.50	10.9	60	29.5	QP	L1	GND

MEASUREMENT RESULT: "CTL240909187_fin2"

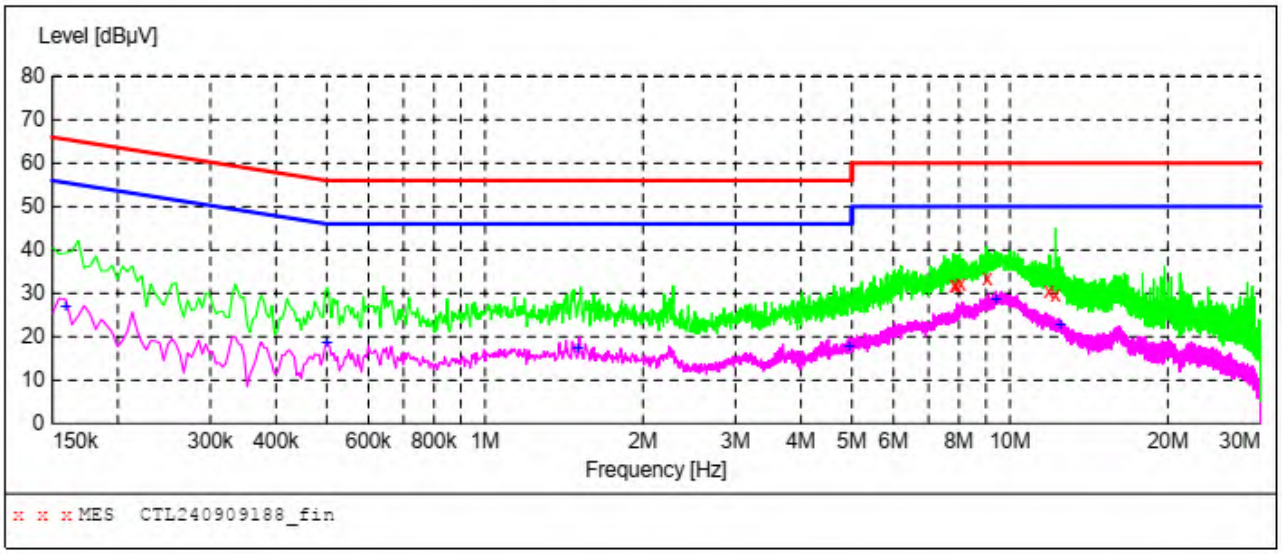
9/9/2024 6:01PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.154500	28.40	10.0	56	27.4	AV	L1	GND
0.501000	19.10	10.0	46	26.9	AV	L1	GND
0.658500	19.40	10.0	46	26.6	AV	L1	GND
4.591500	17.40	10.1	46	28.6	AV	L1	GND
9.816000	28.80	10.6	50	21.2	AV	L1	GND
12.448500	22.80	10.9	50	27.2	AV	L1	GND

Test Mode	802.11n 5260MHz	Line:	N

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "CTL240909188_fin"

9/9/2024 6:04PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
7.822500	31.60	10.4	60	28.4	QP	N	GND
7.899000	31.80	10.4	60	28.2	QP	N	GND
8.061000	32.10	10.4	60	27.9	QP	N	GND
9.046500	33.40	10.6	60	26.6	QP	N	GND
11.877000	30.40	10.9	60	29.6	QP	N	GND
12.210000	29.50	10.9	60	30.5	QP	N	GND

MEASUREMENT RESULT: "CTL240909188_fin2"

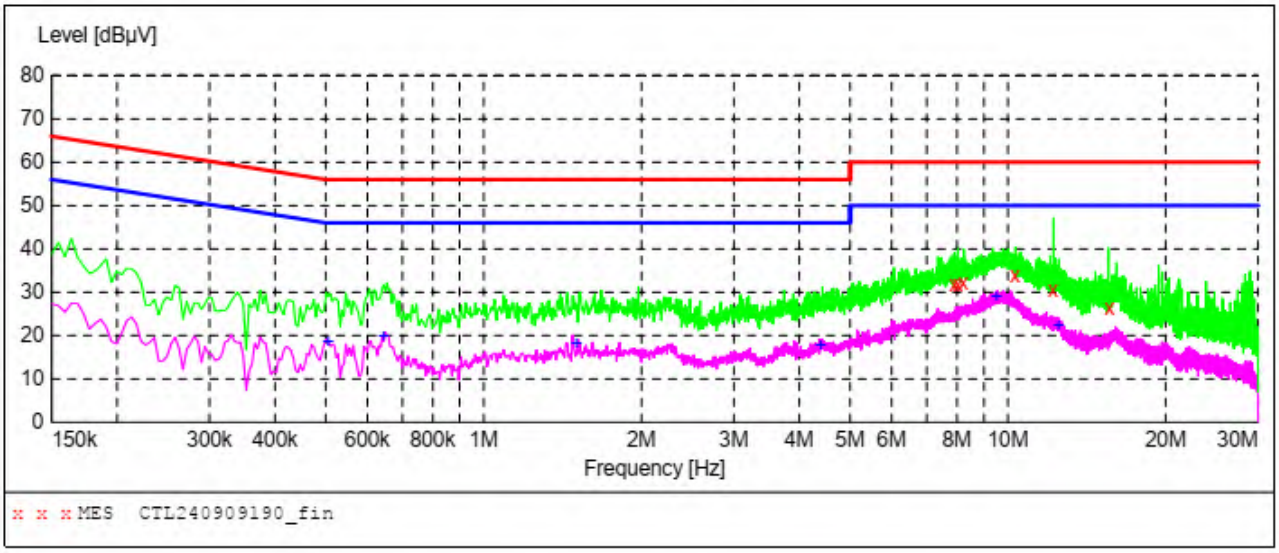
9/9/2024 6:04PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.159000	26.80	10.0	56	28.7	AV	N	GND
0.501000	18.40	10.0	46	27.6	AV	N	GND
1.504500	17.10	10.1	46	28.9	AV	N	GND
4.947000	17.80	10.1	46	28.2	AV	N	GND
9.420000	28.30	10.6	50	21.7	AV	N	GND
12.493500	22.70	10.9	50	27.3	AV	N	GND

Test Mode	802.11n 5500MHz	Line:	L

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "CTL240909190_fin"

9/9/2024 6:10PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
7.894500	31.80	10.4	60	28.2	QP	L1	GND
8.020500	31.70	10.4	60	28.3	QP	L1	GND
8.205000	32.30	10.5	60	27.7	QP	L1	GND
10.320000	33.70	10.7	60	26.3	QP	L1	GND
12.178500	30.40	10.9	60	29.6	QP	L1	GND
15.598500	26.30	11.2	60	33.7	QP	L1	GND

MEASUREMENT RESULT: "CTL240909190_fin2"

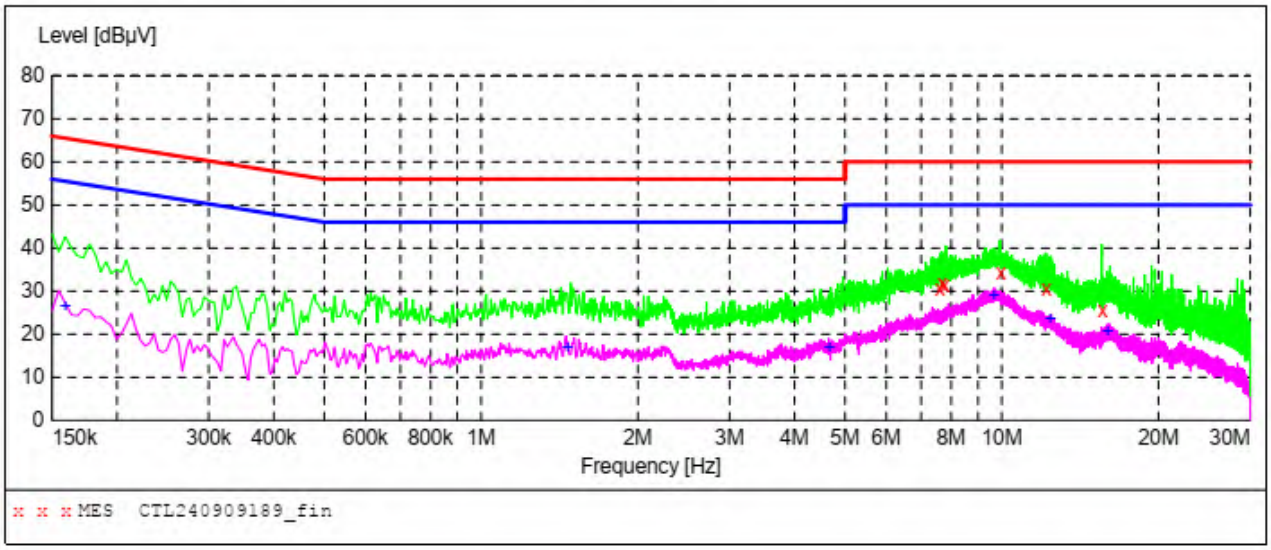
9/9/2024 6:10PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.505500	18.50	10.0	46	27.5	AV	L1	GND
0.645000	19.80	10.0	46	26.2	AV	L1	GND
1.504500	18.00	10.1	46	28.0	AV	L1	GND
4.393500	17.50	10.1	46	28.5	AV	L1	GND
9.523500	28.70	10.6	50	21.3	AV	L1	GND
12.484500	22.30	10.9	50	27.7	AV	L1	GND

Test Mode	802.11n 5500MHz	Line:	N

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "CTL240909189_fin"

9/9/2024 6:07PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
7.606500	30.70	10.4	60	29.3	QP	N	GND
7.687500	31.90	10.4	60	28.1	QP	N	GND
7.773000	31.50	10.4	60	28.5	QP	N	GND
9.964500	34.30	10.6	60	25.7	QP	N	GND
12.165000	30.40	10.9	60	29.6	QP	N	GND
15.603000	25.70	11.2	60	34.3	QP	N	GND

MEASUREMENT RESULT: "CTL240909189_fin2"

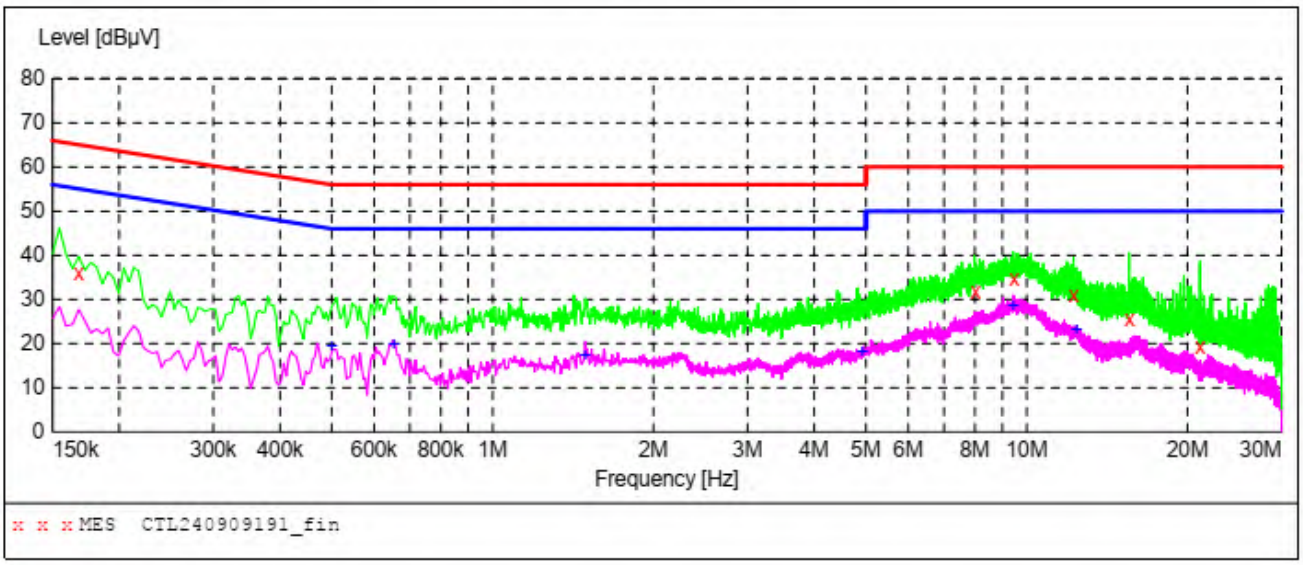
9/9/2024 6:07PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.159000	26.40	10.0	56	29.1	AV	N	GND
1.468500	16.70	10.1	46	29.3	AV	N	GND
4.677000	16.60	10.1	46	29.4	AV	N	GND
9.667500	28.90	10.6	50	21.1	AV	N	GND
12.399000	23.40	10.9	50	26.6	AV	N	GND
15.967500	20.70	11.2	50	29.3	AV	N	GND

Test Mode	802.11n 5745MHz	Line:	L

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "CTL240909191_fin"

9/9/2024 6:13PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.168000	36.00	10.0	65	29.1	QP	L1	GND
8.025000	31.90	10.4	60	28.1	QP	L1	GND
9.469500	34.50	10.6	60	25.5	QP	L1	GND
12.241500	31.00	10.9	60	29.0	QP	L1	GND
15.567000	25.60	11.2	60	34.4	QP	L1	GND
21.133500	19.30	11.0	60	40.7	QP	L1	GND

MEASUREMENT RESULT: "CTL240909191_fin2"

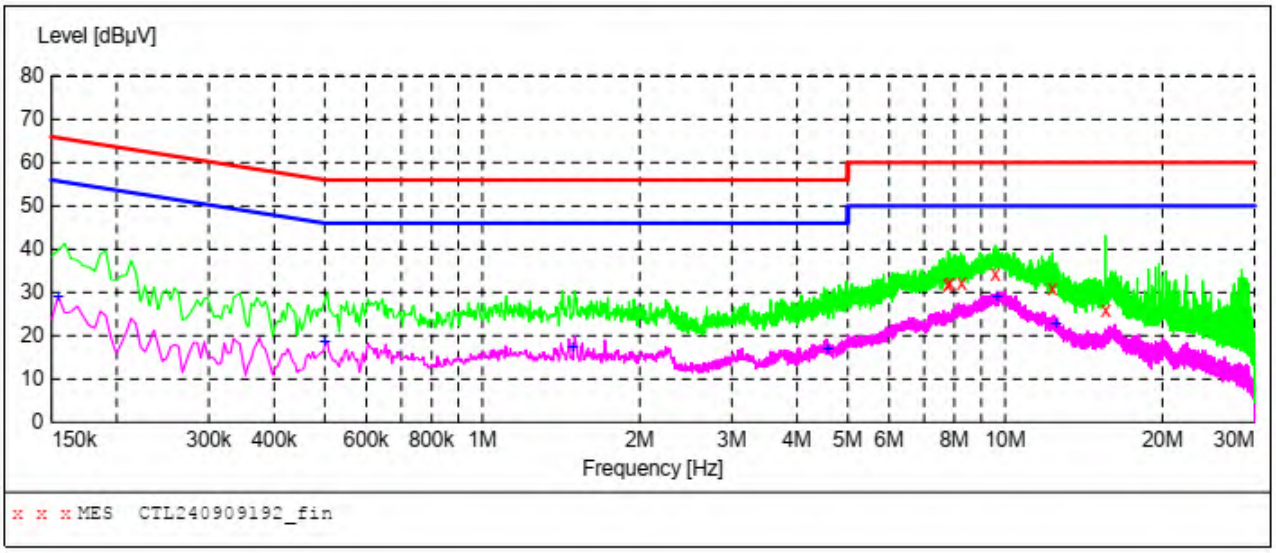
9/9/2024 6:13PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.501000	19.20	10.0	46	26.8	AV	L1	GND
0.654000	19.90	10.0	46	26.1	AV	L1	GND
1.491000	17.10	10.1	46	28.9	AV	L1	GND
4.929000	17.90	10.1	46	28.1	AV	L1	GND
9.438000	28.50	10.6	50	21.5	AV	L1	GND
12.394500	22.80	10.9	50	27.2	AV	L1	GND

Test Mode	802.11n 5745MHz	Line:	N

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "CTL240909192_fin"

9/9/2024 6:16PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
7.764000	31.70	10.4	60	28.3	QP	N	GND
7.840500	32.20	10.4	60	27.8	QP	N	GND
8.245500	32.40	10.5	60	27.6	QP	N	GND
9.573000	34.40	10.6	60	25.6	QP	N	GND
12.304500	30.90	10.9	60	29.1	QP	N	GND
15.585000	25.90	11.2	60	34.1	QP	N	GND

MEASUREMENT RESULT: "CTL240909192_fin2"

9/9/2024 6:16PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.154500	28.90	10.0	56	26.9	AV	N	GND
0.501000	18.60	10.0	46	27.4	AV	N	GND
1.491000	17.00	10.1	46	29.0	AV	N	GND
4.587000	16.60	10.1	46	29.4	AV	N	GND
9.672000	28.90	10.6	50	21.1	AV	N	GND
12.538500	22.70	10.9	50	27.3	AV	N	GND

Remark: Level(dBuV)=Reading(dBuV)＋Transd.(dB)
Margin=Limit(dBuV)- Level(dBuV)

3.2. Radiated Emissions

Limit

The maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(4) For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Undesirable emission limits

Requirement	Limit(EIRP)	Limit (Field strength at 3m) Note1
15.407(b)(1)	PK:-27(dBm/MHz)	PK:68.2(dBμV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)		

Note1: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts)

(5) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209

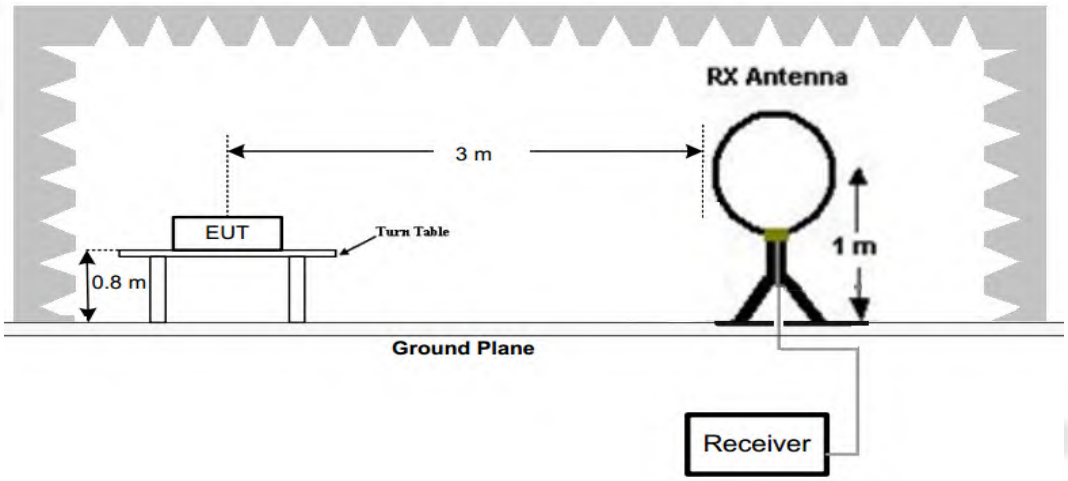
(6)In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a)

Radiated emission limits

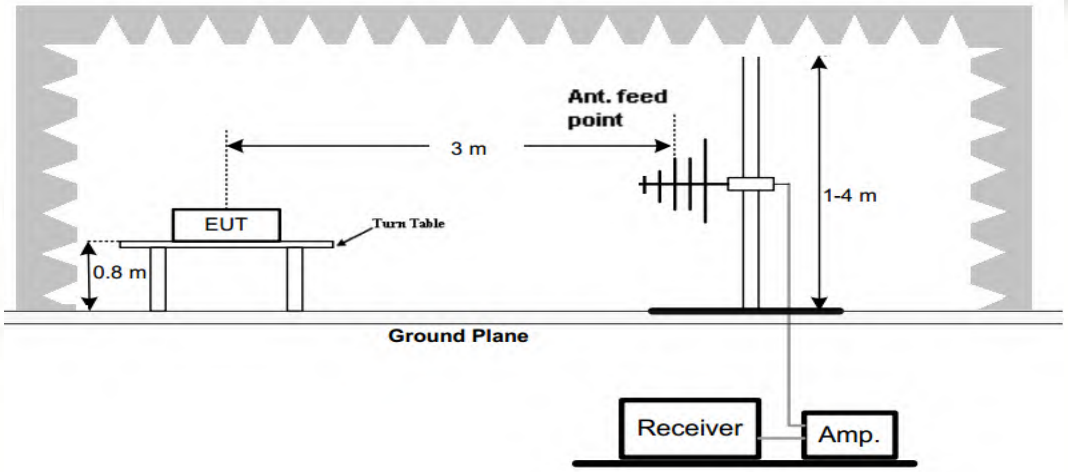
Frequency (MHz)	Distance (Meters)	Radiated (dBμV/m)	Radiated (μV/m)
0.009-0.49	3	20log(2400/F(KHz))+40log(300/3)	2400/F(KHz)
0.49-1.705	3	20log(24000/F(KHz))+ 40log(30/3)	24000/F(KHz)
1.705-30	3	20log(30)+ 40log(30/3)	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

TEST CONFIGURATION

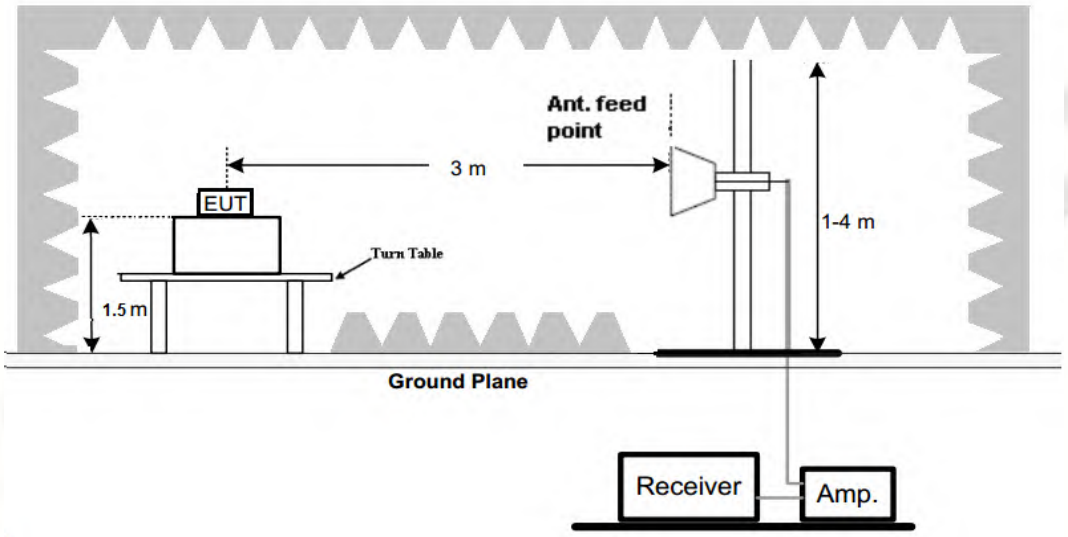
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



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



(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



Test Procedure

1. Below 1GHz measurement the EUT is placed on a turntable which is 0.8m above ground plane, and above 1GHz measurement EUT was placed on a low permittivity and low loss tangent turn table which is 1.5m above ground plane.
2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0℃ to 360℃ to acquire the highest emissions from EUT
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.
5. Radiated emission test frequency band from 9KHz to 40GHz.
6. The distance between test antenna and EUT as following table states:

Test Frequency range	Test Antenna Type	Test Distance
9KHz-30MHz	Active Loop Antenna	3
30MHz-1GHz	Bilog Antenna	3
1GHz-18GHz	Horn Antenna	3
18GHz-25GHz	Horn Anternna	1

7. Setting test receiver/spectrum as following table states:

Test Frequency range	Test Receiver/Spectrum Setting	Detector
9KHz-150KHz	RBW=200Hz/VBW=3KHz,Sweep time=Auto	QP
150KHz-30MHz	RBW=9KHz/VBW=100KHz,Sweep time=Auto	QP
30MHz-1GHz	RBW=120KHz/VBW=1000KHz,Sweep time=Auto	QP
1GHz-40GHz	Peak Value: RBW=1MHz/VBW=3MHz, Sweep time=Auto Average Value: RBW=1MHz/VBW=10Hz, Sweep time=Auto	Peak

TEST RESULTS

Remark:
1. This test was performed with EUT in X, Y, Z position and the worse case was found when EUT in X position.
2. All modes U-NII 1,U-NII 2A,U-NII 2C,U-NII 3 All modulations 802.11a / 802.11n (HT20) have been tested have been tested for below 1GHz test, only the worst case 802.11n (HT20) low channel of U-NII 1 band was recorded.
3. All modes U-NII 1,U-NII 2A,U-NII 2C,U-NII 3 All modulations 802.11a / 802.11n (HT20) have been tested for above 1GHz test, only the worst case 802.11n (HT20) was recorded.
4. Radiated emission test from 9 KHz to 10th harmonic of fundamental was verified, and no emission found except system noise floor in 9 KHz to 30MHz and not recorded in this report.

For 30MHz-1GHz

Wi-Fi	802.11n 5180MHz	Horizontal

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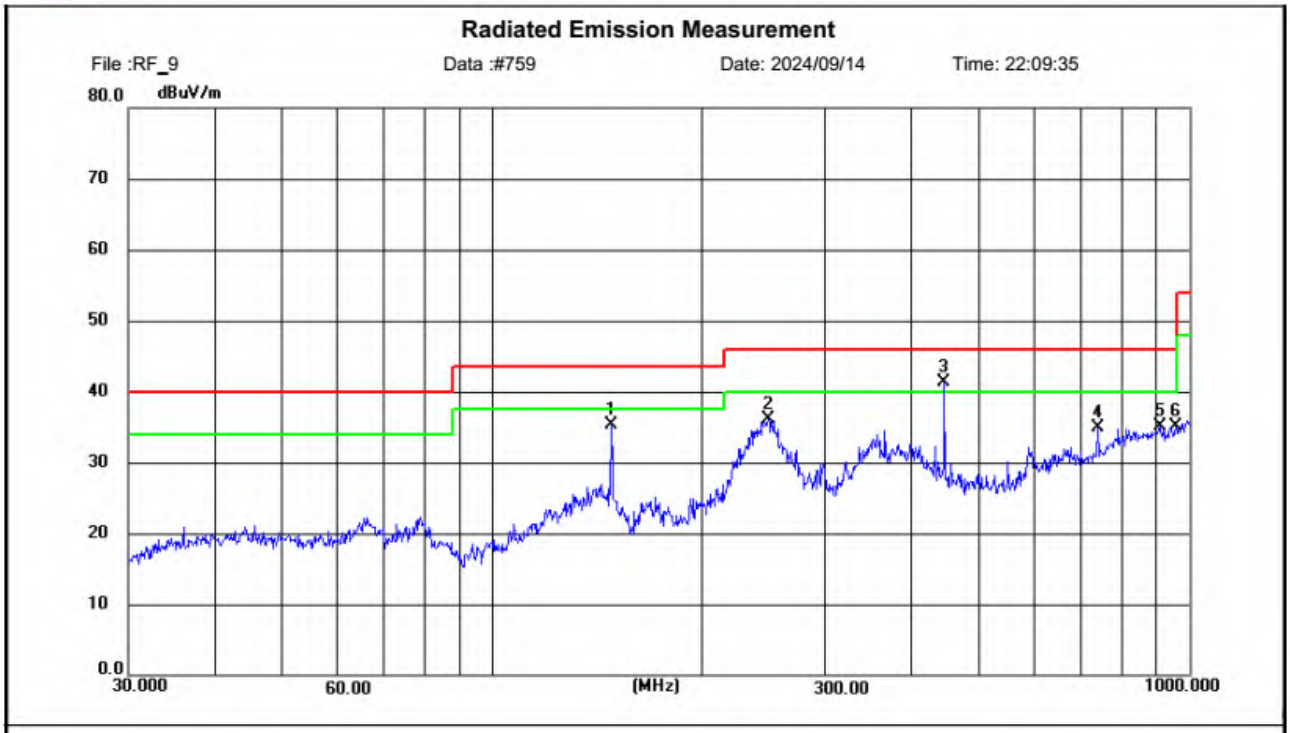

Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_30-1000MHz
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5180MHz
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	148.3760	21.13	14.21	35.34	43.50	8.16	peak	100	350	P	
2	248.8790	22.32	13.81	36.13	46.00	9.87	peak	100	226	P	
3	445.2415	22.48	18.86	41.34	46.00	4.66	peak	100	81	P	
4	741.9334	9.92	24.93	34.85	46.00	11.15	peak	100	19	P	
5	908.0731	7.28	27.88	35.16	46.00	10.84	peak	100	60	P	
6	957.9541	6.64	28.39	35.03	46.00	10.97	peak	100	70	P	

Wi-Fi	802.11n 5180MHz	Vertical

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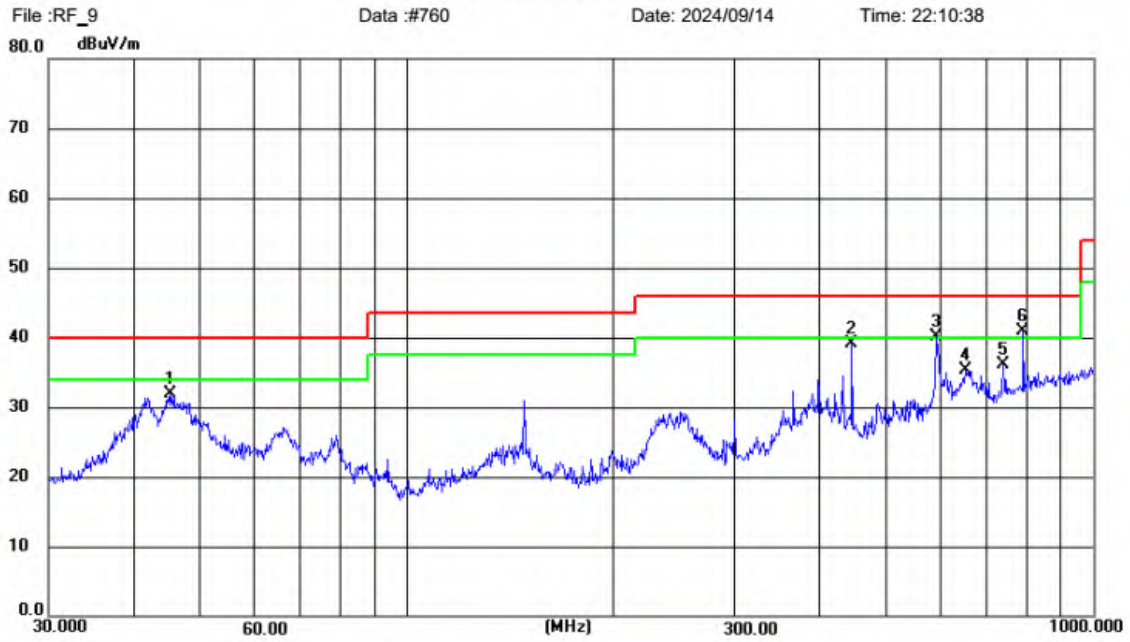
Radiated Emission Measurement



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_30-1000MHz
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5180MHz
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	45.3356	17.08	14.88	31.96	40.00	8.04	peak	100	155	P	
2	445.2416	20.18	18.86	39.04	46.00	6.96	peak	100	82	P	
3	592.7898	17.94	22.18	40.12	46.00	5.88	peak	100	30	P	
4	654.2318	12.02	23.29	35.31	46.00	10.69	peak	100	144	P	
5	741.9334	11.15	24.93	36.08	46.00	9.92	peak	100	269	P	
6	792.0062	14.41	26.45	40.86	46.00	5.14	peak	100	269	P	

Wi-Fi	802.11n 5260MHz	Horizontal

Shenzhen CTL Testing Technology Co., Ltd
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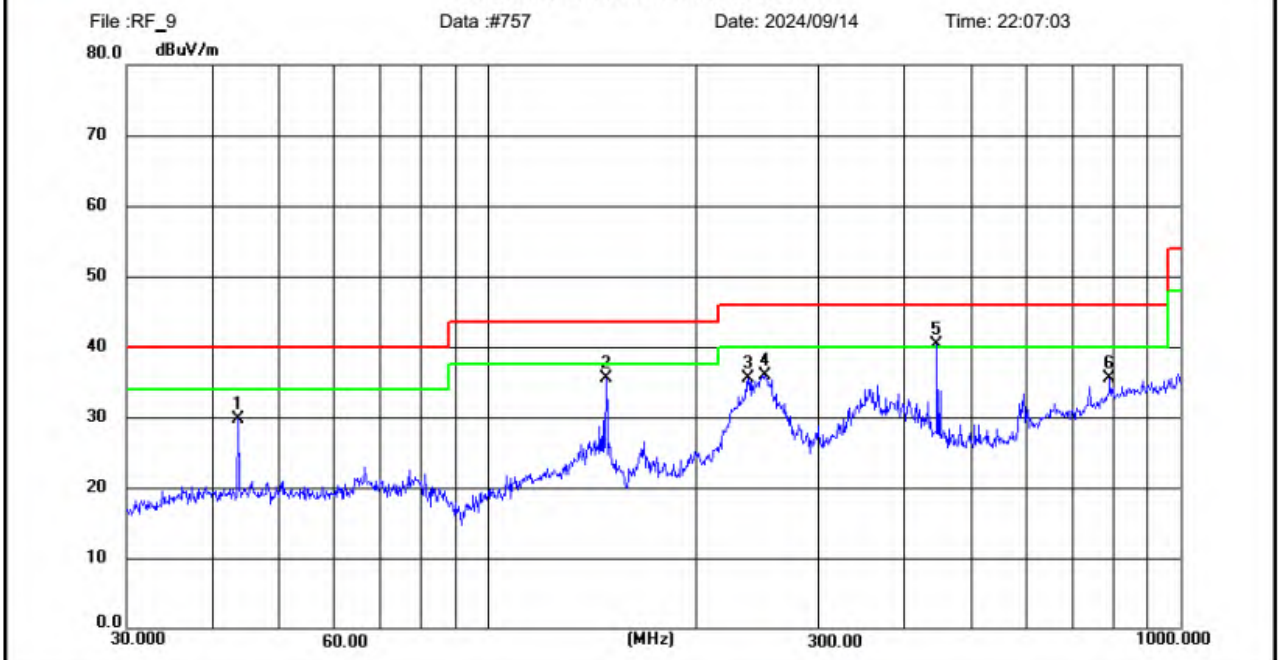
Radiated Emission Measurement



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_30-1000MHz
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5260MHz
Note: Shenzhen Laiyu Technology Co., Ltd.

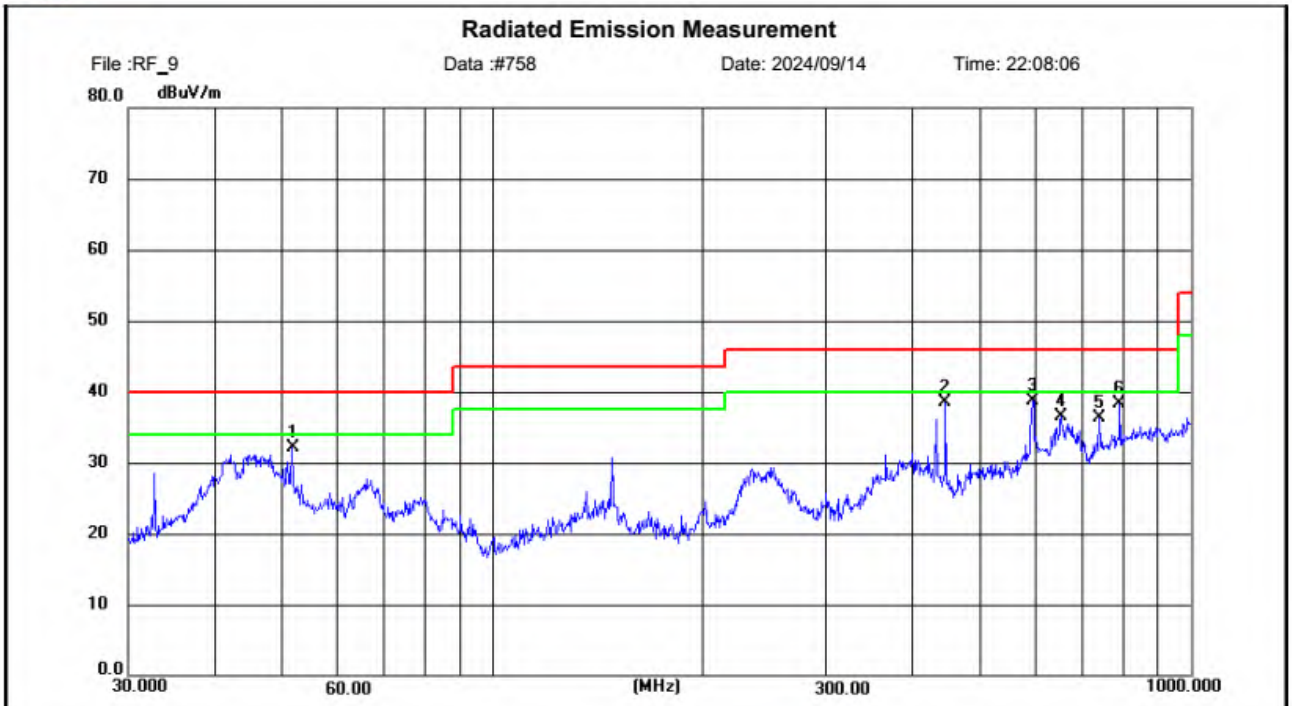
Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	43.6202	14.82	14.84	29.66	40.00	10.34	peak	100	187	P	
2	148.3760	21.37	14.21	35.58	43.50	7.92	peak	100	342	P	
3	238.2057	21.65	13.79	35.44	46.00	10.56	peak	100	218	P	
4	251.9522	22.18	13.73	35.91	46.00	10.09	peak	100	218	P	
5	445.2415	21.51	18.86	40.37	46.00	5.63	peak	100	83	P	
6	791.6589	9.09	26.43	35.52	46.00	10.48	peak	100	135	P	

Wi-Fi	802.11n 5260MHz	Vertical

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_30-1000MHz
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5260MHz
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	51.6616	17.41	14.68	32.09	40.00	7.91	peak	100	102	P	
2	445.2416	19.62	18.86	38.48	46.00	7.52	peak	100	1	P	
3	593.8300	16.54	22.23	38.77	46.00	7.23	peak	100	133	P	
4	651.9417	13.28	23.28	36.56	46.00	9.44	peak	100	133	P	
5	741.9334	11.42	24.93	36.35	46.00	9.65	peak	100	257	P	
6	792.0062	11.92	26.45	38.37	46.00	7.63	peak	100	164	P	

Wi-Fi	802.11n 5500MHz	Horizontal

Shenzhen CTL Testing Technology Co., Ltd
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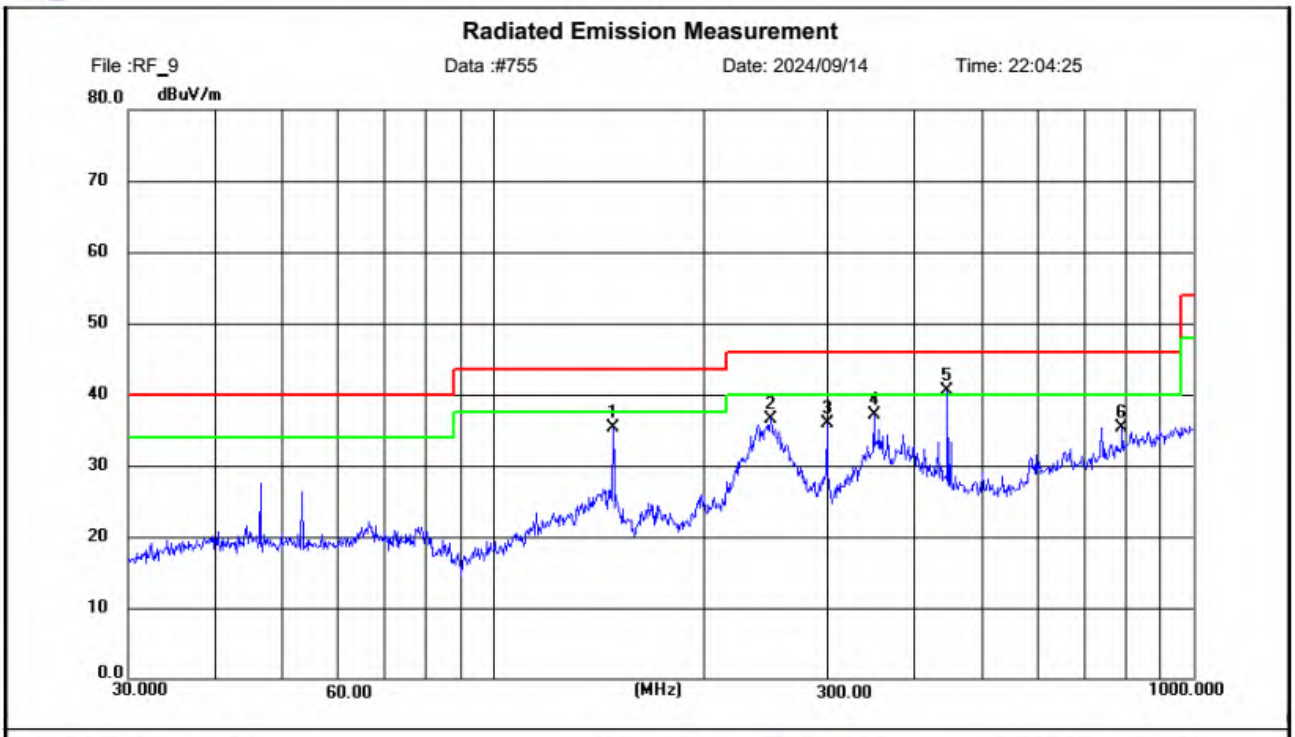

Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_30-1000MHz
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5500MHz
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	148.3760	21.05	14.21	35.26	43.50	8.24	peak	100	351	P	
2	248.6608	22.78	13.82	36.60	46.00	9.40	peak	100	226	P	
3	299.9725	20.91	15.09	36.00	46.00	10.00	peak	100	309	P	
4	350.0162	20.55	16.46	37.01	46.00	8.99	peak	100	258	P	
5	445.2415	21.73	18.86	40.59	46.00	5.41	peak	100	206	P	
6	792.0061	8.95	26.45	35.40	46.00	10.60	peak	100	299	P	

Wi-Fi	802.11n 5500MHz	Vertical

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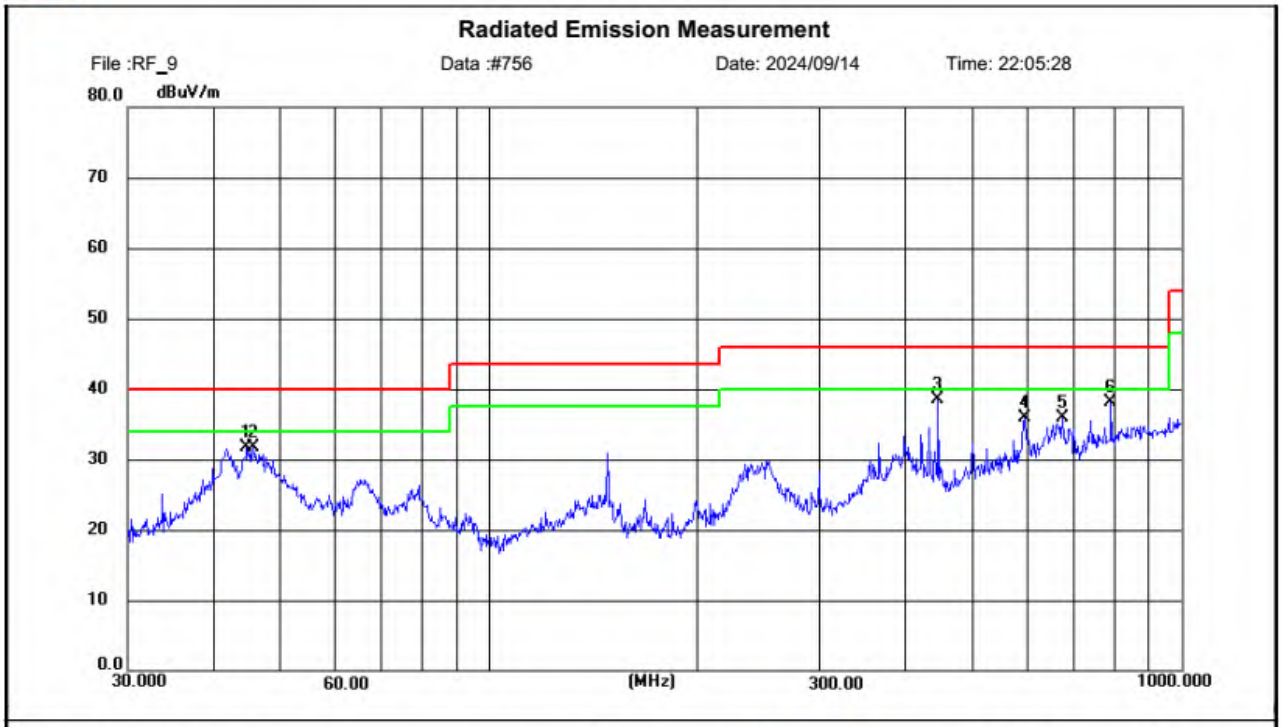

Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_30-1000MHz
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5500MHz
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	44.6455	16.70	14.91	31.61	40.00	8.39	peak	100	39	P	
2	45.6548	16.95	14.84	31.79	40.00	8.21	peak	100	173	P	
3	445.2416	19.55	18.86	38.41	46.00	7.59	peak	100	351	P	
4	593.8300	13.63	22.23	35.86	46.00	10.14	peak	100	39	P	
5	674.3207	12.53	23.34	35.87	46.00	10.13	peak	100	351	P	
6	792.0062	11.67	26.45	38.12	46.00	7.88	peak	100	277	P	

Wi-Fi	802.11n 5745MHz	Horizontal

Shenzhen CTL Testing Technology Co., Ltd
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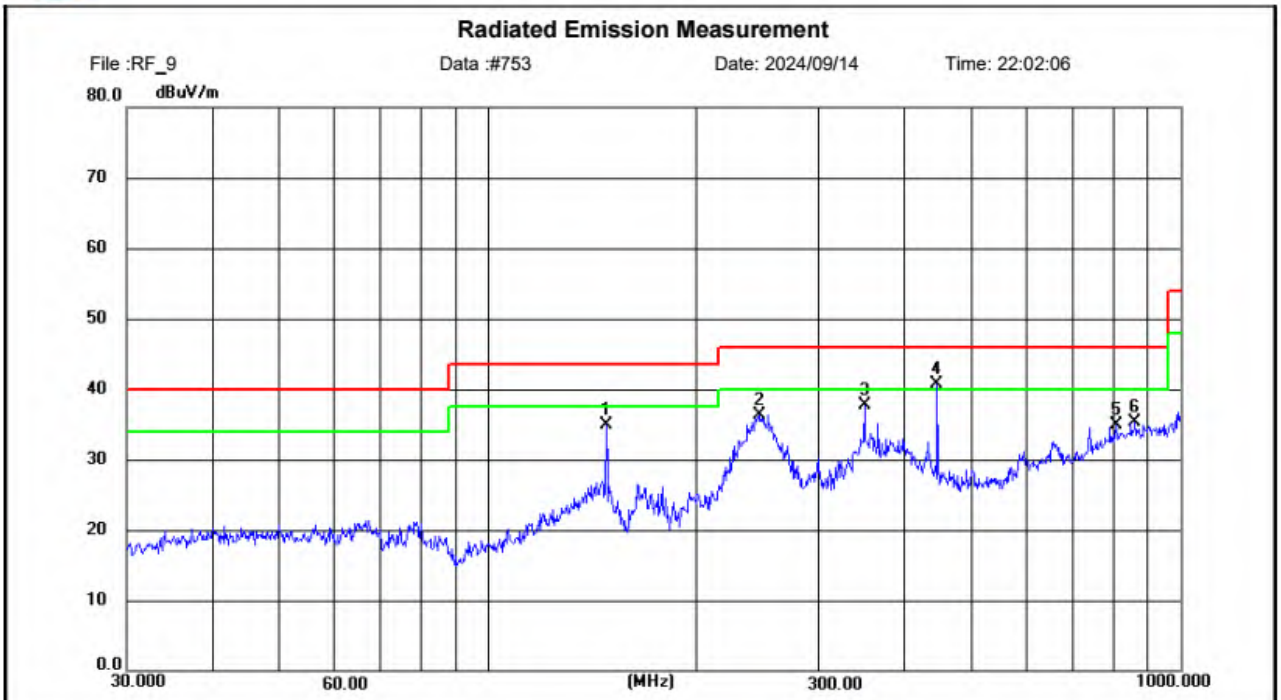

Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_30-1000MHz
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5745MHz
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	148.3760	20.73	14.21	34.94	43.50	8.56	peak	100	360	P	
2	246.0587	22.33	13.92	36.25	46.00	9.75	peak	100	228	P	
3	350.0162	21.34	16.46	37.80	46.00	8.20	peak	100	310	P	
4	445.2415	21.81	18.86	40.67	46.00	5.33	peak	100	93	P	
5	808.1372	8.20	26.80	35.00	46.00	11.00	peak	100	124	P	
6	860.0351	7.83	27.46	35.29	46.00	10.71	peak	100	62	P	

Wi-Fi	802.11n 5745MHz	Vertical

Shenzhen CTL Testing Technology Co., Ltd
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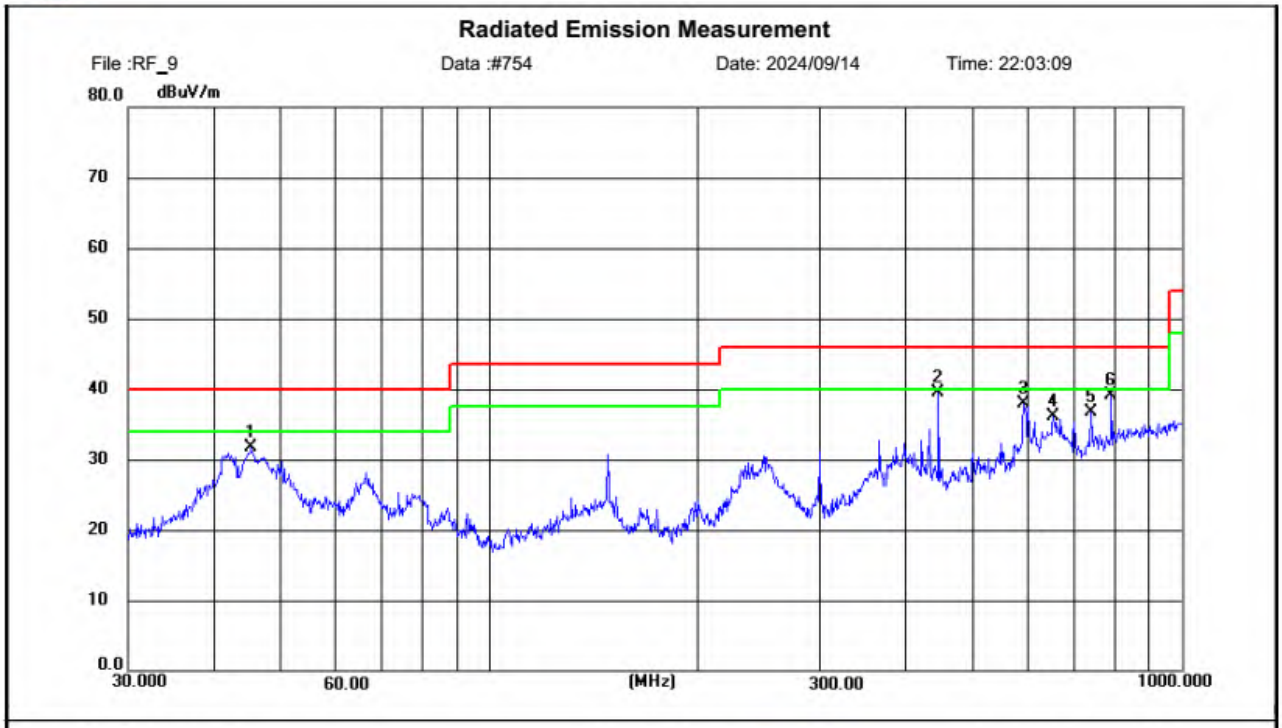

Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_30-1000MHz
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5745MHz
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	45.2960	16.86	14.88	31.74	40.00	8.26	peak	100	49	P	
2	445.2416	20.68	18.86	39.54	46.00	6.46	peak	100	0	P	
3	592.7898	15.76	22.18	37.94	46.00	8.06	peak	100	28	P	
4	651.9417	12.78	23.28	36.06	46.00	9.94	peak	100	277	P	
5	741.9334	11.87	24.93	36.80	46.00	9.20	peak	100	267	P	
6	791.6591	12.63	26.43	39.06	46.00	6.94	peak	100	173	P	

For 1GHz to 40GHz

Note: 1. All 802.11a / 802.11n (HT20) modes have been tested for above 1GHz test, only the worst case 802.11n (HT20) was recorded.

NII 1 & 802.11n (HT20) Mode (above 1GHz)

Horizontal	Channel 36

Shenzhen CTL Testing Technology Co., Ltd
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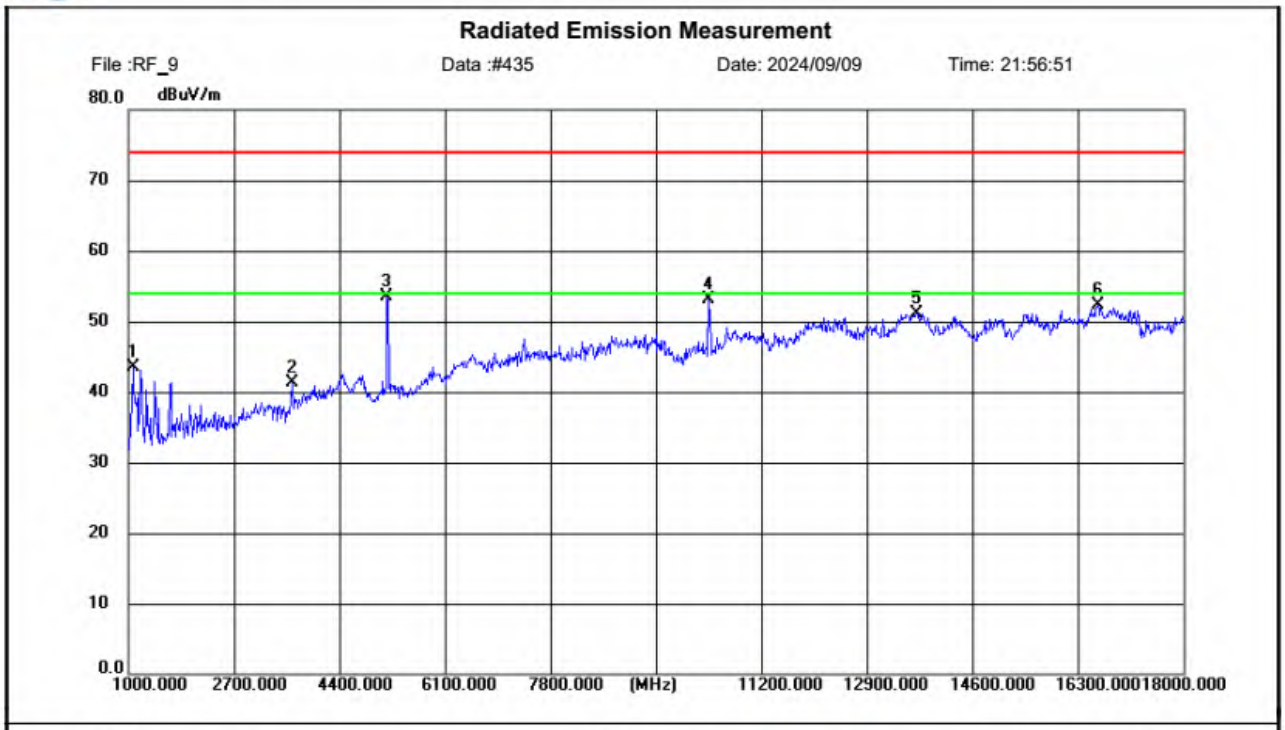


Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5180MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

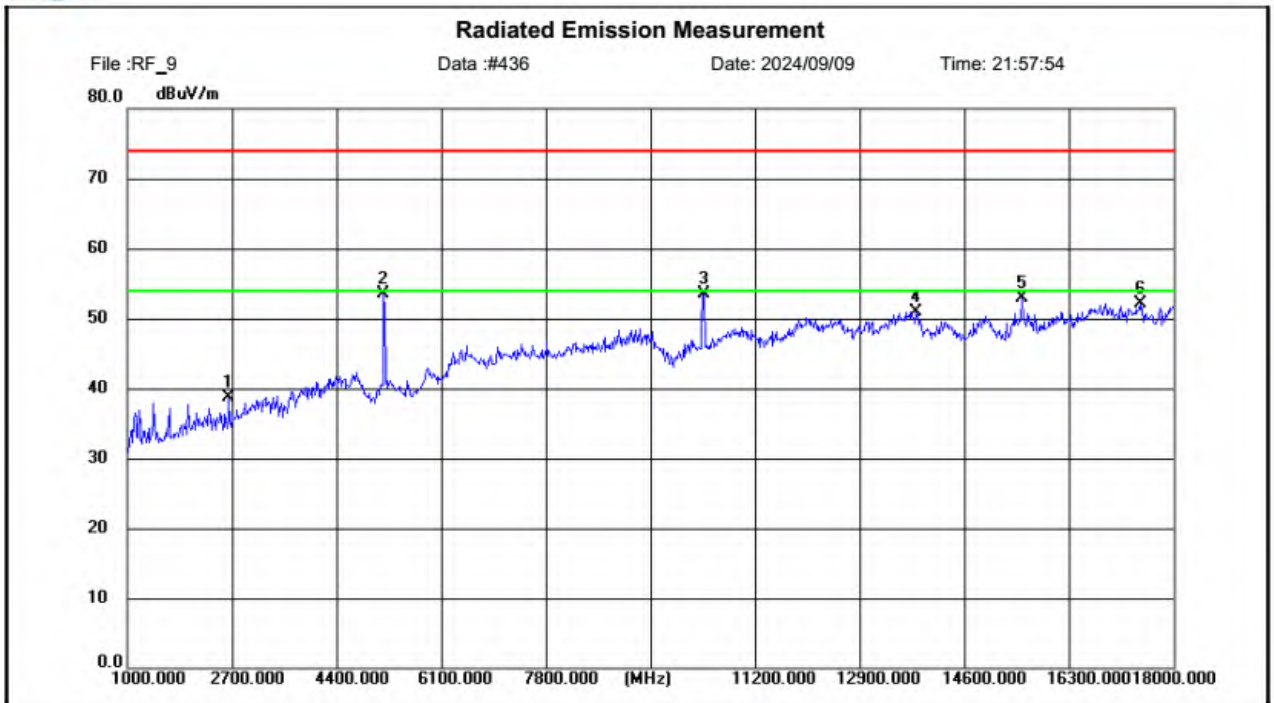
Polarization: ***Horizontal***
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1082.875	66.92	-23.34	43.58	74.00	30.42	peak	150	22	P	
2	3641.375	53.01	-11.63	41.38	74.00	32.62	peak	150	216	P	
3	5177.750	61.27	-7.80	53.47	74.00	20.53	peak	150	256	P	
4	10362.750	53.04	0.02	53.06	74.00	20.94	peak	150	236	P	
5	13699.000	47.28	3.90	51.18	74.00	22.82	peak	150	2	P	
6	16623.000	45.96	6.32	52.28	74.00	21.72	peak	150	93	P	

Vertical	Channel 36

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5180MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

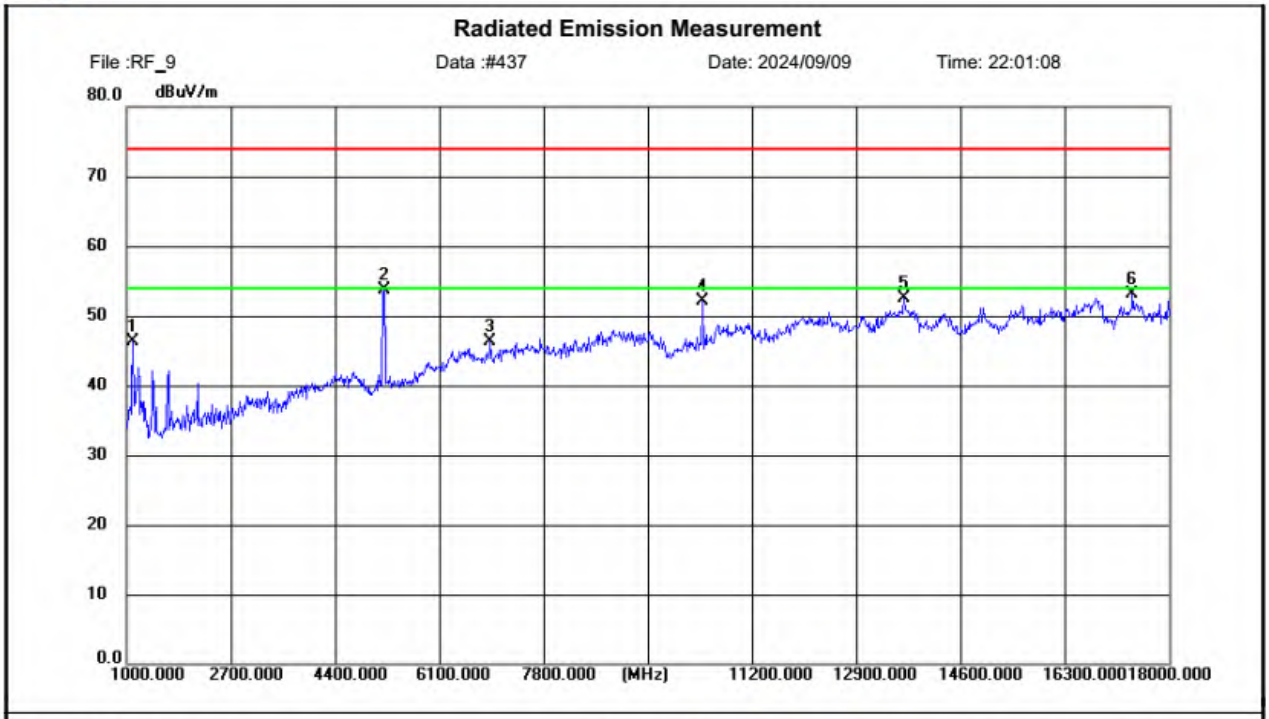
Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	2661.750	54.43	-15.73	38.70	74.00	35.30	peak	150	338	P	
2	5179.875	61.33	-7.80	53.53	74.00	20.47	peak	150	94	P	
3	10367.000	53.42	0.02	53.44	74.00	20.56	peak	150	125	P	
4	13820.125	47.26	3.73	50.99	74.00	23.01	peak	150	94	P	
5	15545.625	48.95	3.89	52.84	74.00	21.16	peak	150	135	P	
6	17470.875	43.10	9.04	52.14	74.00	21.86	peak	150	155	P	

Horizontal	Channel 40

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5200MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

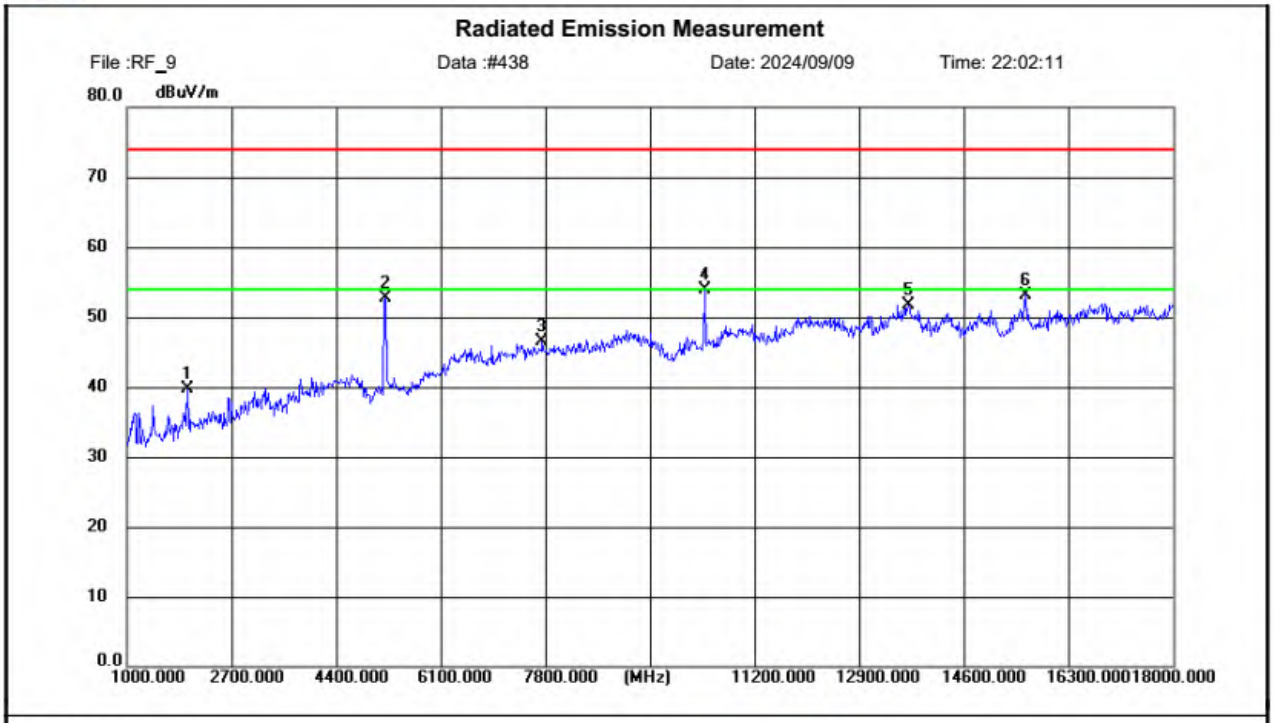
Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1110.500	69.47	-23.22	46.25	74.00	27.75	peak	150	32	P	
2	5199.000	61.45	-7.81	53.64	74.00	20.36	peak	150	255	P	
3	6933.000	50.24	-3.97	46.27	74.00	27.73	peak	150	124	P	
4	10403.125	52.05	-0.03	52.02	74.00	21.98	peak	150	235	P	
5	13690.500	48.69	3.90	52.59	74.00	21.41	peak	150	22	P	
6	17417.750	44.32	8.83	53.15	74.00	20.85	peak	150	113	P	

Vertical	Channel 40

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5200MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

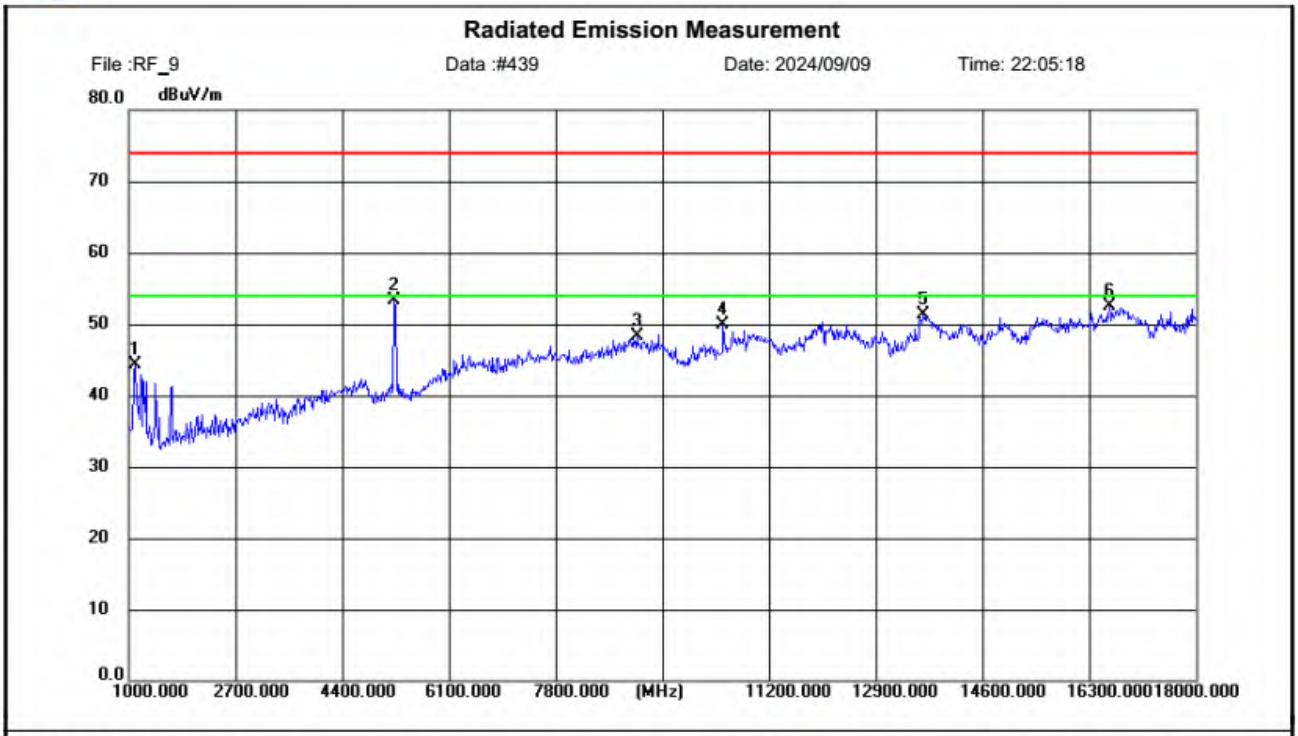
Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1994.500	58.54	-18.84	39.70	74.00	34.30	peak	150	358	P	
2	5201.125	60.58	-7.82	52.76	74.00	21.24	peak	150	328	P	
3	7759.625	49.29	-2.88	46.41	74.00	27.59	peak	150	75	P	
4	10398.875	53.85	-0.01	53.84	74.00	20.16	peak	150	126	P	
5	13703.250	47.79	3.90	51.69	74.00	22.31	peak	150	298	P	
6	15603.000	49.26	3.94	53.20	74.00	20.80	peak	150	176	P	

Horizontal	Channel 48

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5240MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Horizontal*
Power:
Distance: 3m

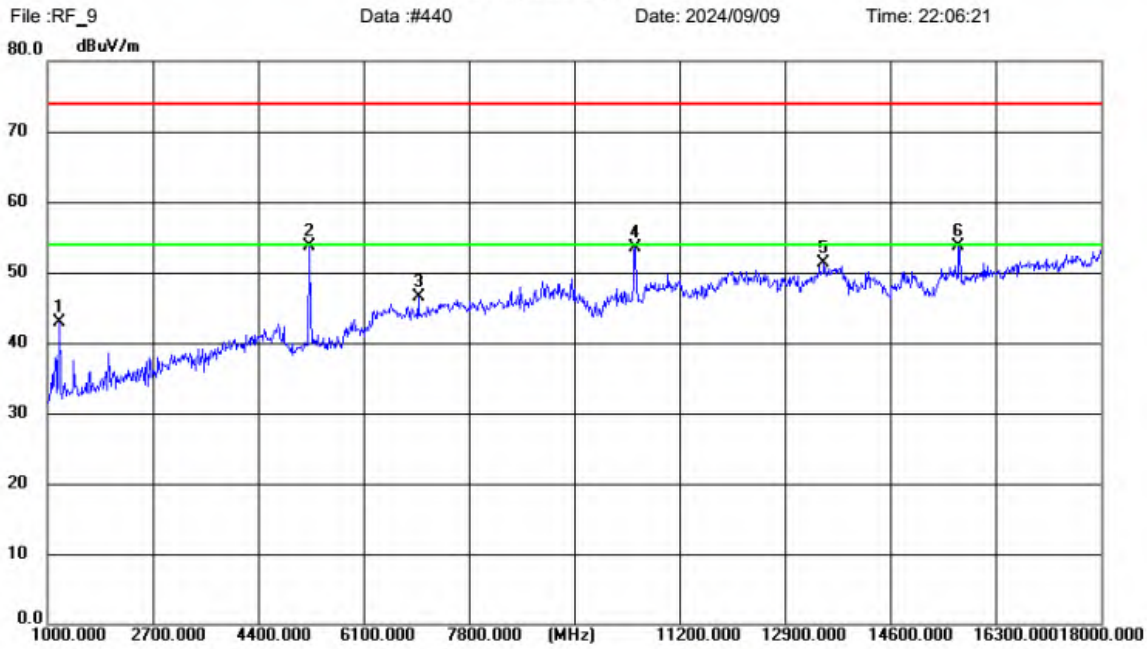
Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1108.375	67.45	-23.22	44.23	74.00	29.77	peak	150	22	P	
2	5230.875	61.01	-7.78	53.23	74.00	20.77	peak	150	32	P	
3	9094.125	48.43	-0.19	48.24	74.00	25.76	peak	150	175	P	
4	10479.625	50.10	-0.12	49.98	74.00	24.02	peak	150	277	P	
5	13679.875	47.31	3.92	51.23	74.00	22.77	peak	150	22	P	
6	16629.375	46.14	6.35	52.49	74.00	21.51	peak	150	103	P	

Vertical	Channel 48

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194

Radiated Emission Measurement



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5240MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Vertical*
Power:
Distance: 3m

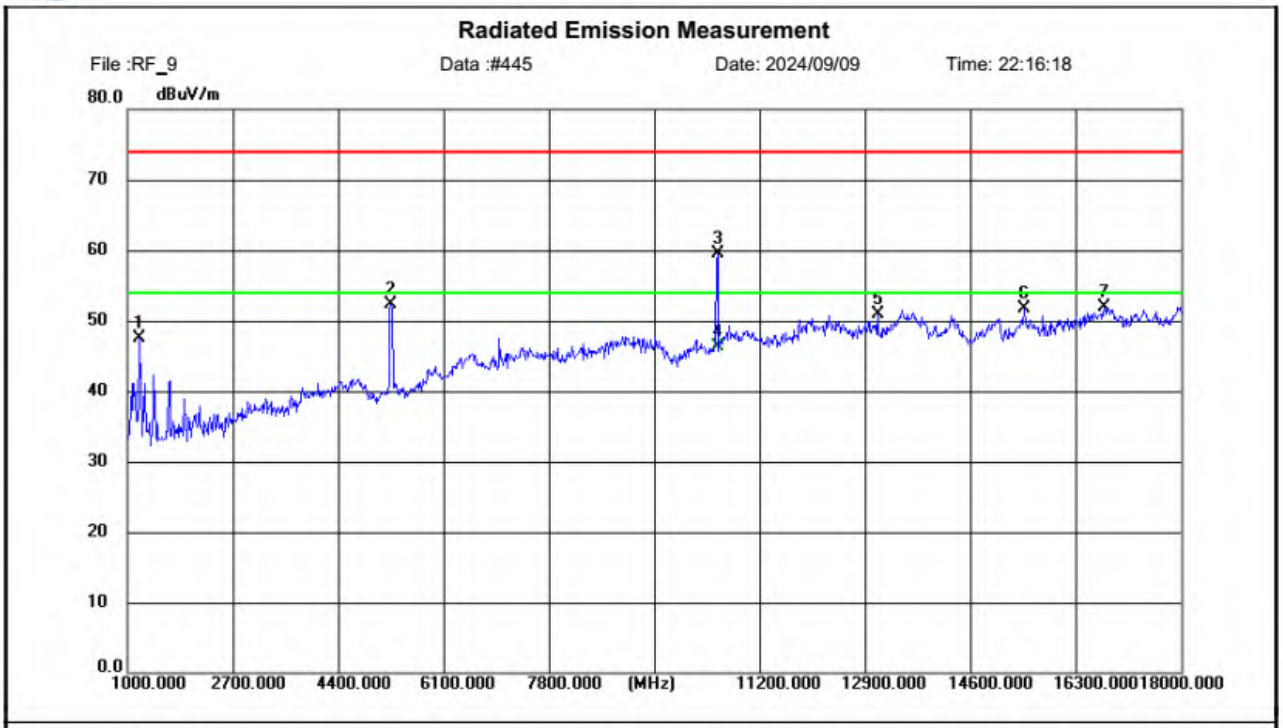
Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1197.625	65.79	-22.89	42.90	74.00	31.10	peak	150	186	P	
2	5230.875	61.46	-7.78	53.68	74.00	20.32	peak	150	115	P	
3	6986.125	50.48	-3.95	46.53	74.00	27.47	peak	150	115	P	
4	10486.000	53.71	-0.13	53.58	74.00	20.42	peak	150	155	P	
5	13533.250	47.29	3.94	51.23	74.00	22.77	peak	150	247	P	
6	15719.875	49.71	4.06	53.77	74.00	20.23	peak	150	115	P	

U-NII 2A & 802.11n (HT20) Mode (above 1GHz)

Horizontal	Channel 52

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5260MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

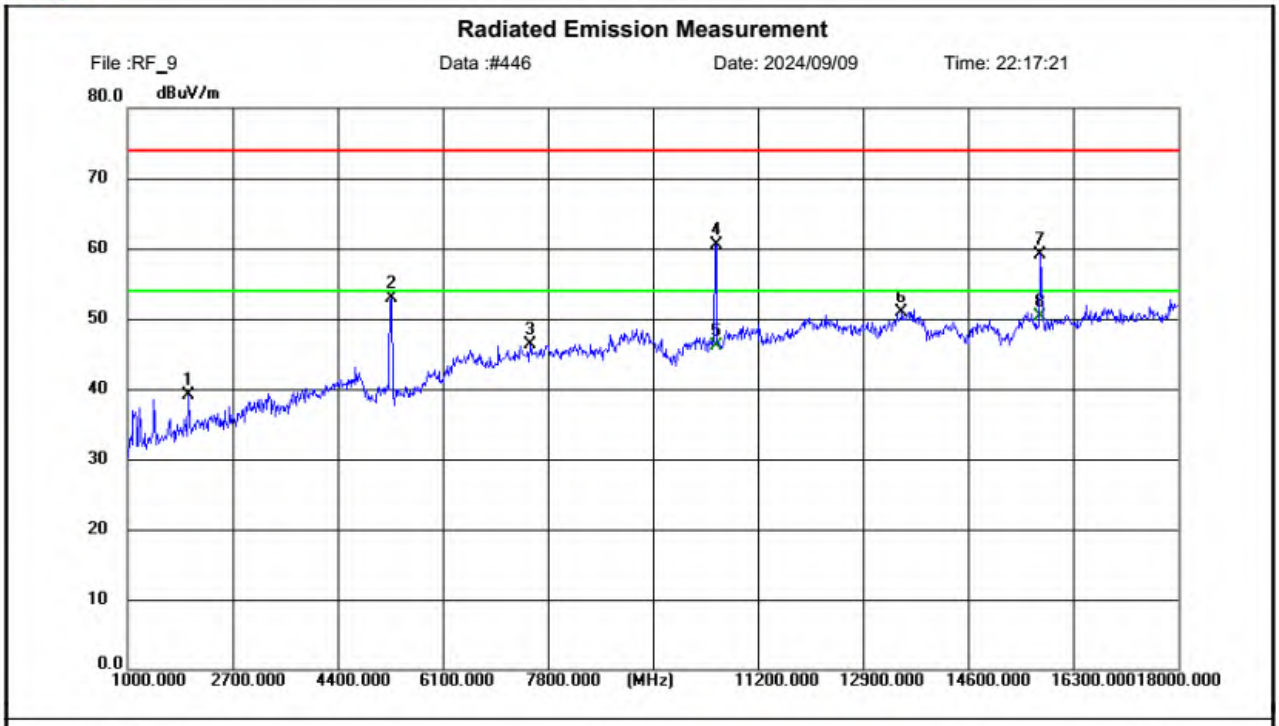
Polarization: ***Horizontal***
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1197.625	70.32	-22.89	47.43	74.00	26.57	peak	150	234	P	
2	5258.500	59.97	-7.76	52.21	74.00	21.79	peak	150	92	P	
3	10522.125	59.68	-0.11	59.57	74.00	14.43	peak	150	244	P	
4	10522.237	46.38	-0.11	46.27	54.00	7.73	AVG	150	360	P	
5	13104.000	48.44	2.48	50.92	74.00	23.08	peak	150	62	P	
6	15473.375	47.84	3.84	51.68	74.00	22.32	peak	150	112	P	
7	16769.625	45.42	6.54	51.96	74.00	22.04	peak	150	32	P	

Vertical	Channel 52

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5260MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Vertical*
Power:
Distance: 3m

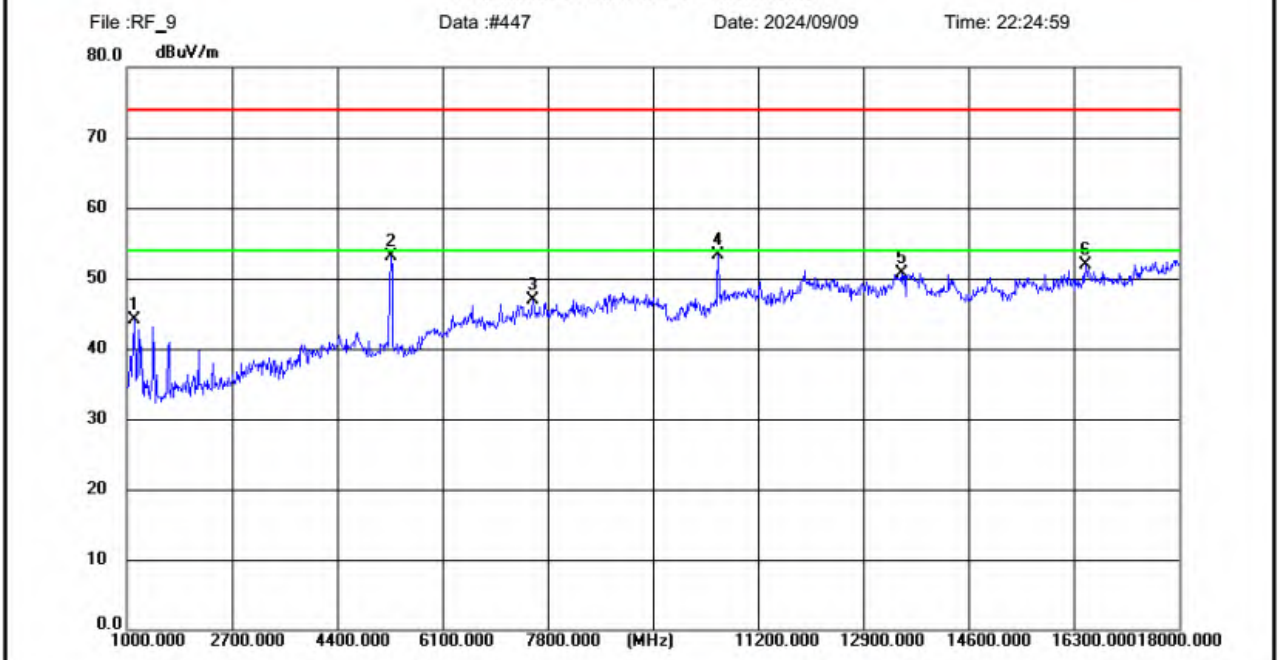
Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1992.375	58.04	-18.85	39.19	74.00	34.81	peak	150	3	P	
2	5267.000	60.74	-7.77	52.97	74.00	21.03	peak	150	115	P	
3	7515.250	48.98	-2.72	46.26	74.00	27.74	peak	150	34	P	
4	10520.000	60.80	-0.31	60.49	74.00	13.51	peak	150	115	P	
5	10524.319	46.50	-0.35	46.15	54.00	7.85	AVG	150	360	P	
6	13529.000	46.87	3.94	50.81	74.00	23.19	peak	150	277	P	
7	15779.375	55.03	4.17	59.20	74.00	14.80	peak	150	155	P	
8	15784.319	46.06	4.17	50.23	54.00	3.77	AVG	150	0	P	

Horizontal	Channel 56

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194

Radiated Emission Measurement



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5280MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

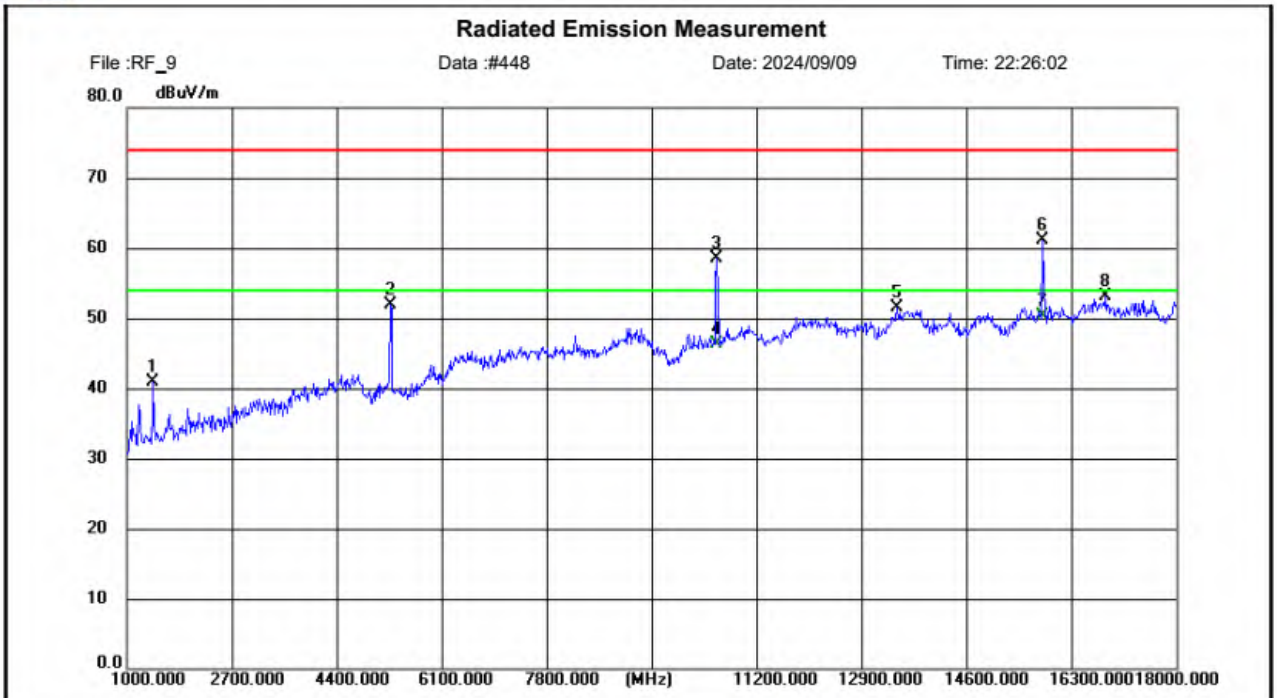
Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1123.250	67.37	-23.18	44.19	74.00	29.81	peak	150	32	P	
2	5277.625	60.95	-7.78	53.17	74.00	20.83	peak	150	104	P	
3	7576.875	49.72	-2.77	46.95	74.00	27.05	peak	150	83	P	
4	10560.375	53.41	-0.04	53.37	74.00	20.63	peak	150	238	P	
5	13541.750	46.85	3.94	50.79	74.00	23.21	peak	150	104	P	
6	16487.000	45.70	6.14	51.84	74.00	22.16	peak	150	278	P	

Vertical	Channel 56

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5280MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

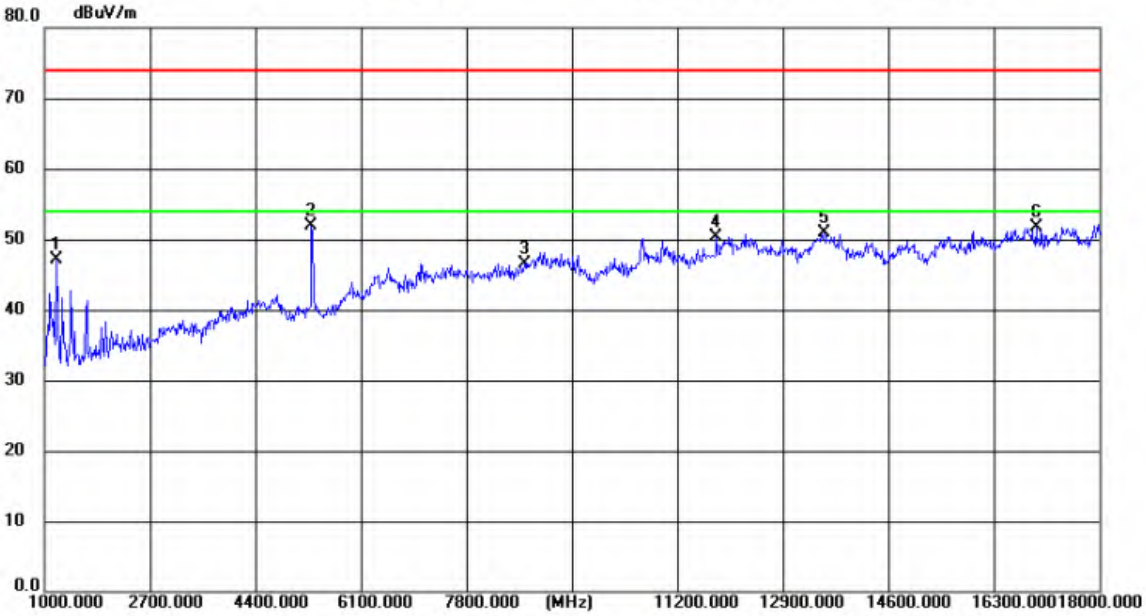
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1439.875	62.74	-21.93	40.81	74.00	33.19	peak	150	247	P	
2	5277.625	59.59	-7.78	51.81	74.00	22.19	peak	150	184	P	
3	10560.375	59.16	-0.64	58.52	74.00	15.48	peak	150	133	P	
4	10561.490	47.02	-0.65	46.37	54.00	7.63	AVG	150	360	P	
5	13480.125	47.71	3.85	51.56	74.00	22.44	peak	150	82	P	
6	15845.250	56.68	4.33	61.01	74.00	12.99	peak	150	164	P	
7	15846.720	45.95	4.34	50.29	54.00	3.71	AVG	150	0	P	
8	16873.750	46.55	6.64	53.19	74.00	20.81	peak	150	133	P	

Horizontal	Channel 64

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194

Radiated Emission Measurement

File :RF_9 Data :#449 Date: 2024/09/09 Time: 22:30:00



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5320MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Horizontal*
Power:
Distance: 3m

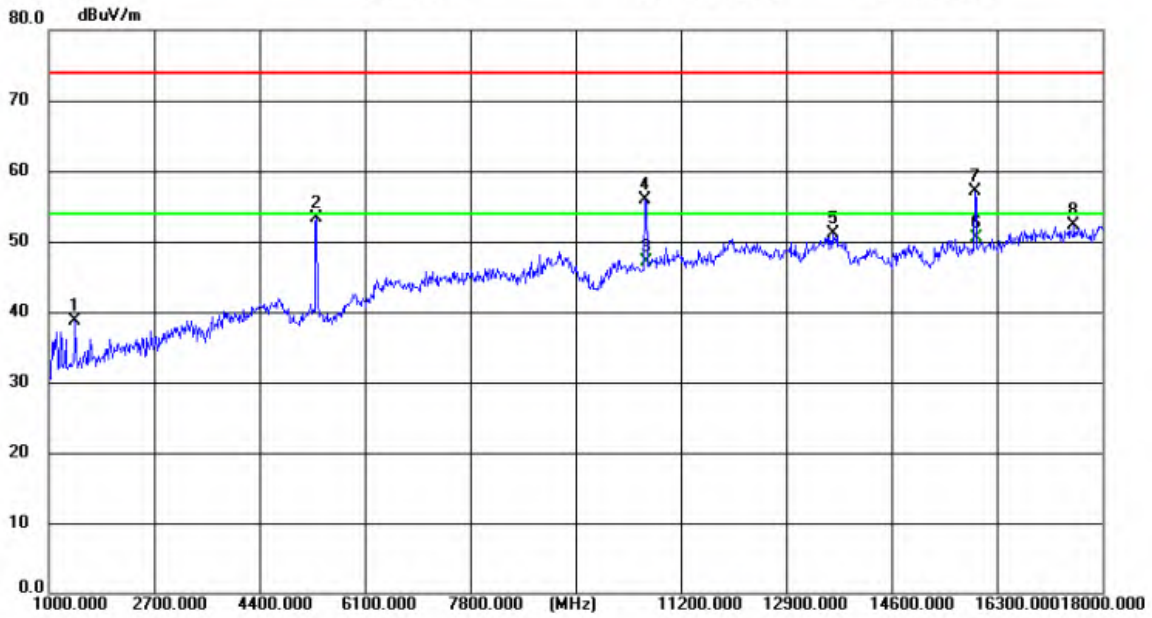
Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1195.500	69.91	-22.89	47.02	74.00	26.98	peak	150	238	P	
2	5315.875	59.61	-7.78	51.83	74.00	22.17	peak	150	32	P	
3	8735.000	47.54	-1.09	46.45	74.00	27.55	peak	150	289	P	
4	11831.125	48.61	1.71	50.32	74.00	23.68	peak	150	83	P	
5	13577.875	46.87	3.96	50.83	74.00	23.17	peak	150	319	P	
6	16990.625	44.95	6.75	51.70	74.00	22.30	peak	150	2	P	

Vertical	Channel 64

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194

Radiated Emission Measurement



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5320MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Vertical*
Power:
Distance: 3m

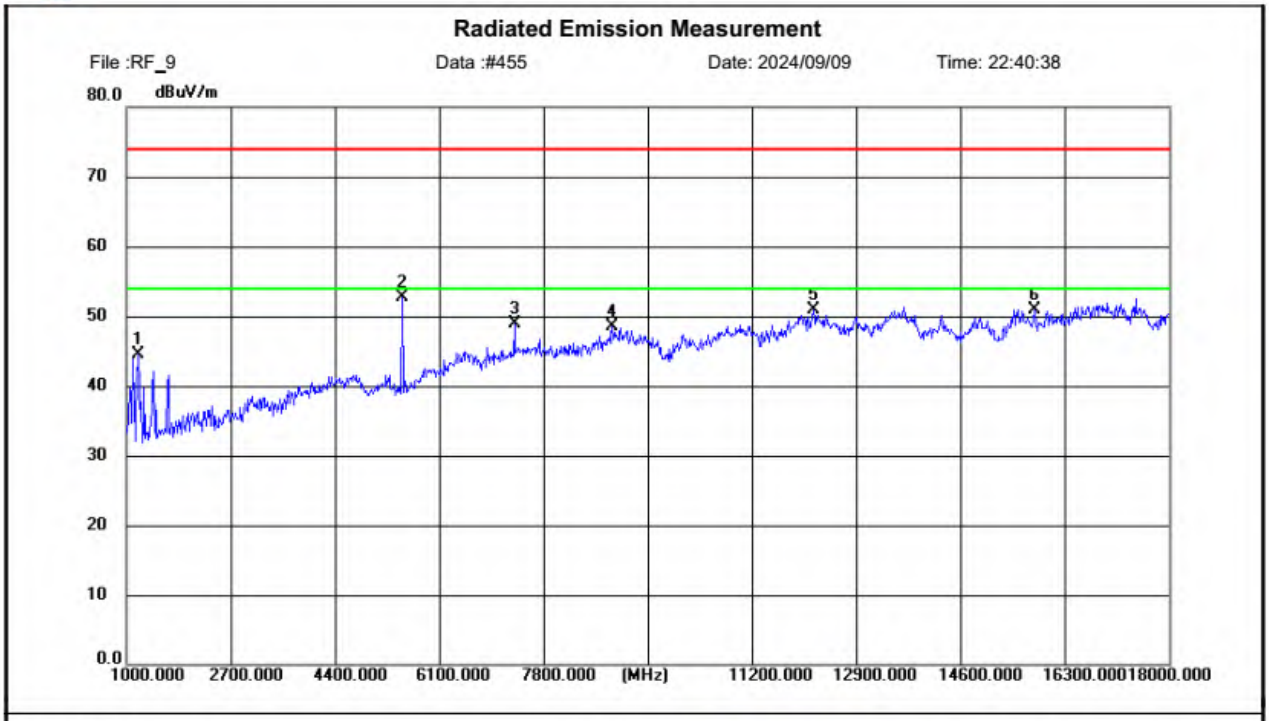
Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1439.875	60.58	-21.93	38.65	74.00	35.35	peak	150	257	P	
2	5318.000	60.99	-7.77	53.22	74.00	20.78	peak	150	10	P	
3	10634.589	47.55	-0.54	47.01	54.00	6.99	AVG	150	0	P	
4	10634.750	56.50	-0.54	55.96	74.00	18.04	peak	150	102	P	
5	13648.000	47.16	3.93	51.09	74.00	22.91	peak	150	246	P	
6	15952.176	45.85	4.64	50.49	54.00	3.51	AVG	150	360	P	
7	15953.625	52.38	4.64	57.02	74.00	16.98	peak	150	143	P	
8	17543.125	43.14	9.13	52.27	74.00	21.73	peak	150	0	P	

U-NII 2C & 802.11n (HT20) Mode (above 1GHz)

Horizontal	Channel 100

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5500MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Horizontal*
Power:
Distance: 3m

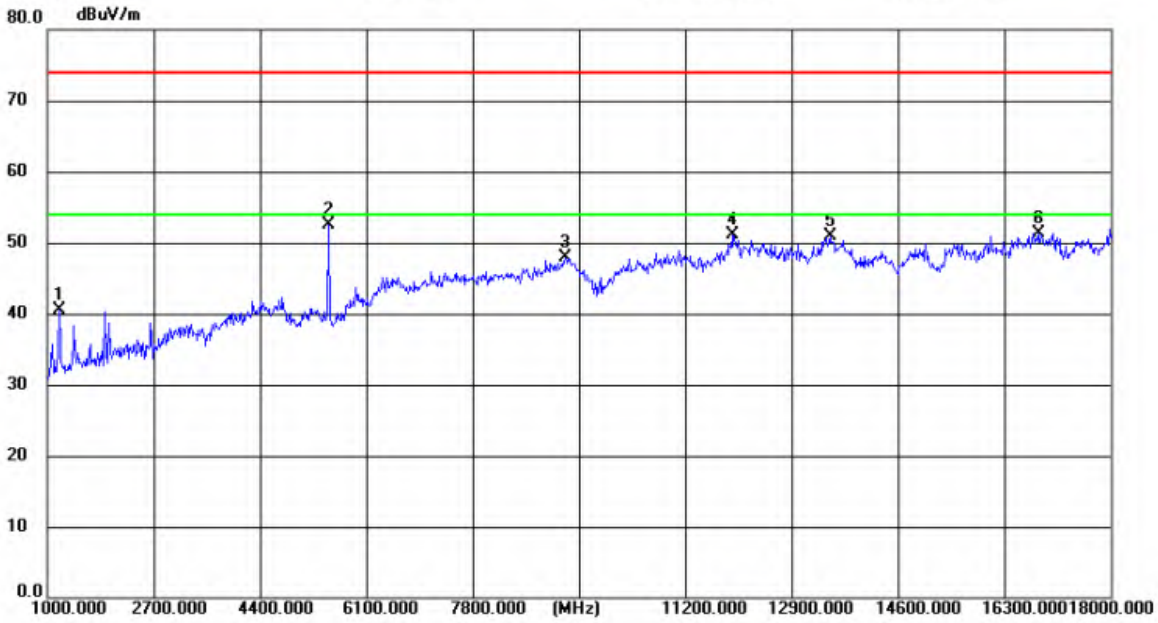
Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1189.125	67.37	-22.92	44.45	74.00	29.55	peak	150	268	P	
2	5505.000	60.51	-7.72	52.79	74.00	21.21	peak	150	63	P	
3	7332.500	51.76	-2.94	48.82	74.00	25.18	peak	150	104	P	
4	8930.500	49.01	-0.46	48.55	74.00	25.45	peak	150	63	P	
5	12213.625	48.77	2.21	50.98	74.00	23.02	peak	150	83	P	
6	15813.375	46.75	4.24	50.99	74.00	23.01	peak	150	268	P	

Vertical	Channel 100

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194

Radiated Emission Measurement



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5500MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

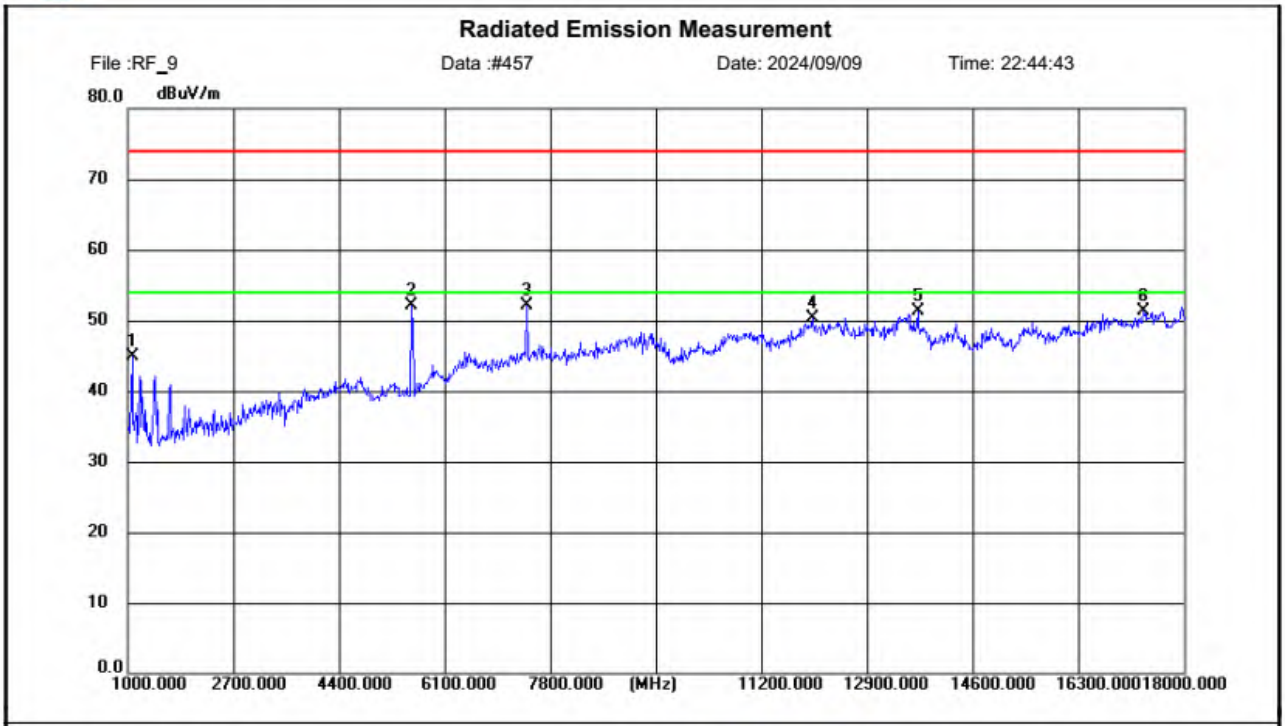
Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1197.625	63.48	-22.89	40.59	74.00	33.41	peak	150	338	P	
2	5500.750	60.28	-7.75	52.53	74.00	21.47	peak	150	82	P	
3	9291.750	47.72	0.11	47.83	74.00	26.17	peak	150	31	P	
4	11952.250	49.05	2.05	51.10	74.00	22.90	peak	150	41	P	
5	13512.000	46.92	3.94	50.86	74.00	23.14	peak	150	267	P	
6	16863.125	44.75	6.63	51.38	74.00	22.62	peak	150	308	P	

Horizontal	Channel 120

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5580MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1078.625	68.27	-23.36	44.91	74.00	29.09	peak	150	32	P	
2	5570.875	59.57	-7.41	52.16	74.00	21.84	peak	150	84	P	
3	7440.875	54.99	-2.81	52.18	74.00	21.82	peak	150	84	P	
4	12028.750	48.13	2.20	50.33	74.00	23.67	peak	150	64	P	
5	13716.000	47.51	3.87	51.38	74.00	22.62	peak	150	53	P	
6	17362.500	42.79	8.54	51.33	74.00	22.67	peak	150	2	P	

Vertical	Channel 120

Shenzhen CTL Testing Technology Co., Ltd
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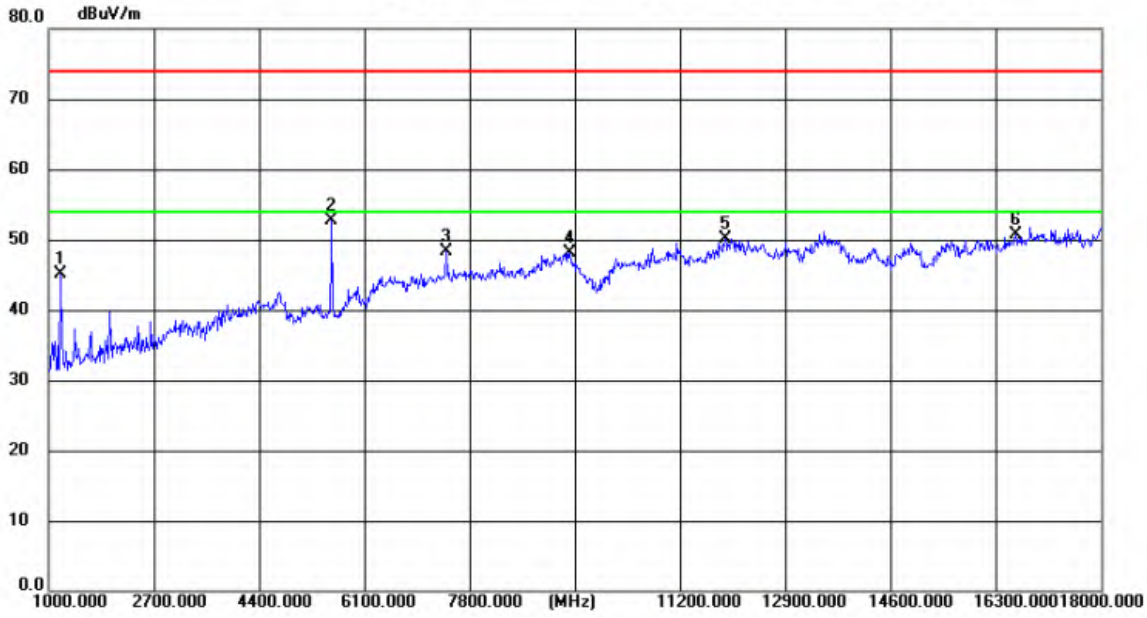
Radiated Emission Measurement

File :RF_9 Data :#458 Date: 2024/09/09 Time: 22:45:47



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5580MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

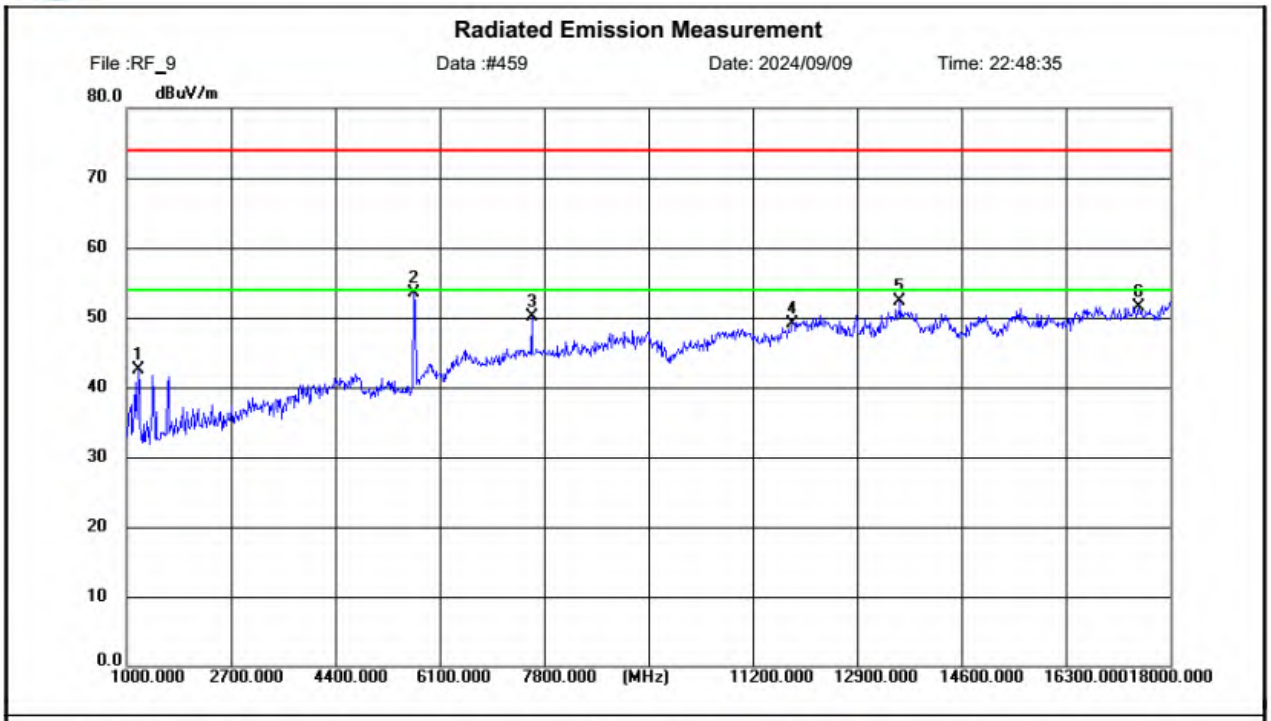
Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1197.625	67.91	-22.89	45.02	74.00	28.98	peak	150	277	P	
2	5581.500	60.14	-7.38	52.76	74.00	21.24	peak	150	287	P	
3	7440.875	51.12	-2.81	48.31	74.00	25.69	peak	150	236	P	
4	9425.625	47.91	0.24	48.15	74.00	25.85	peak	150	308	P	
5	11931.000	48.18	1.98	50.16	74.00	23.84	peak	150	215	P	
6	16623.000	44.40	6.32	50.72	74.00	23.28	peak	150	226	P	

Horizontal	Channel 140

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5700MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Horizontal*
Power:
Distance: 3m

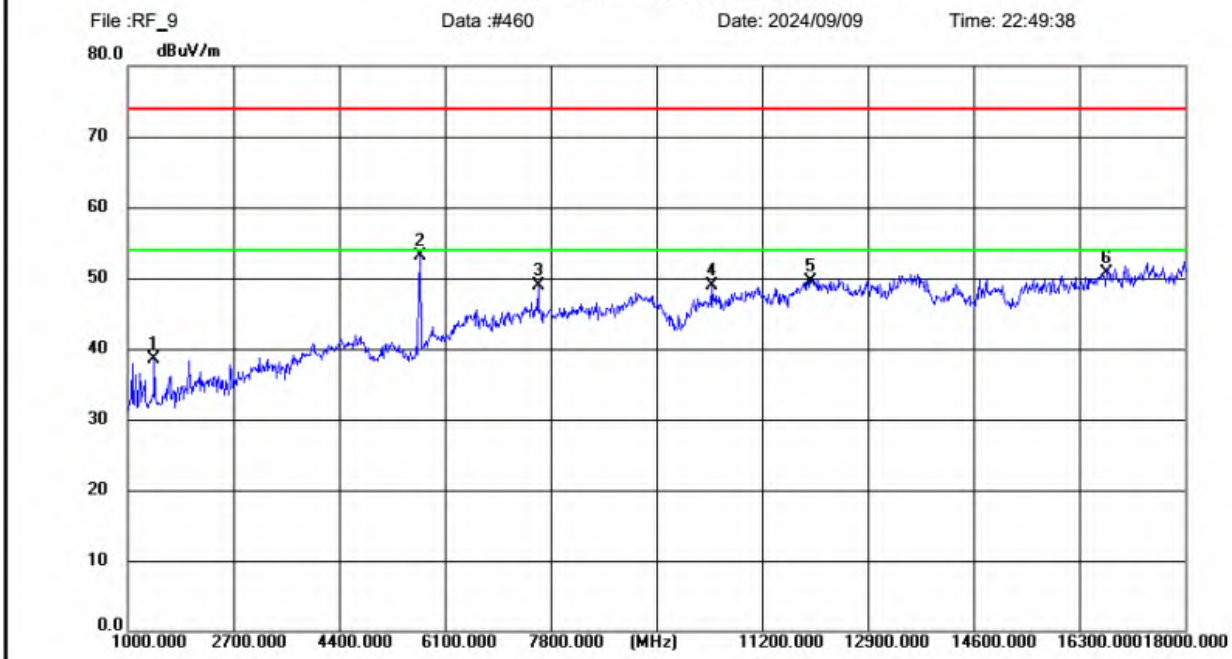
Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1201.875	65.29	-22.87	42.42	74.00	31.58	peak	150	330	P	
2	5689.875	60.38	-6.82	53.56	74.00	20.44	peak	150	248	P	
3	7600.250	52.89	-2.81	50.08	74.00	23.92	peak	150	104	P	
4	11854.500	47.39	1.76	49.15	74.00	24.85	peak	150	238	P	
5	13609.750	48.38	3.96	52.34	74.00	21.66	peak	150	319	P	
6	17498.500	42.43	9.16	51.59	74.00	22.41	peak	150	309	P	

Vertical	Channel 140

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194

Radiated Emission Measurement



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5700MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Vertical*
Power:
Distance: 3m

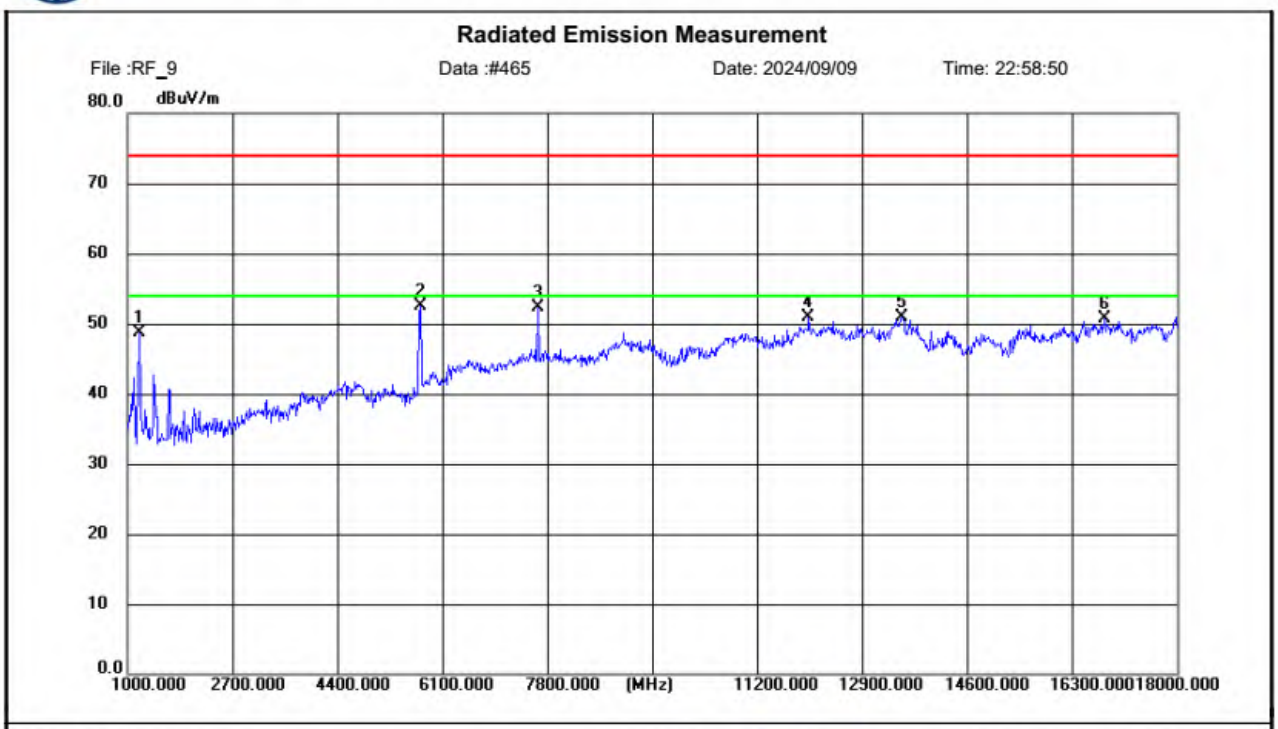
Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1439.875	60.34	-21.93	38.41	74.00	35.59	peak	150	185	P	
2	5709.000	59.94	-6.74	53.20	74.00	20.80	peak	150	123	P	
3	7600.250	51.69	-2.81	48.88	74.00	25.12	peak	150	205	P	
4	10398.875	48.87	-0.01	48.86	74.00	25.14	peak	150	318	P	
5	11996.875	47.31	2.20	49.51	74.00	24.49	peak	150	31	P	
6	16746.250	44.25	6.52	50.77	74.00	23.23	peak	150	215	P	

U-NII 3 & 802.11n (HT20) Mode (above 1GHz)

Horizontal	Channel 149

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5745MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

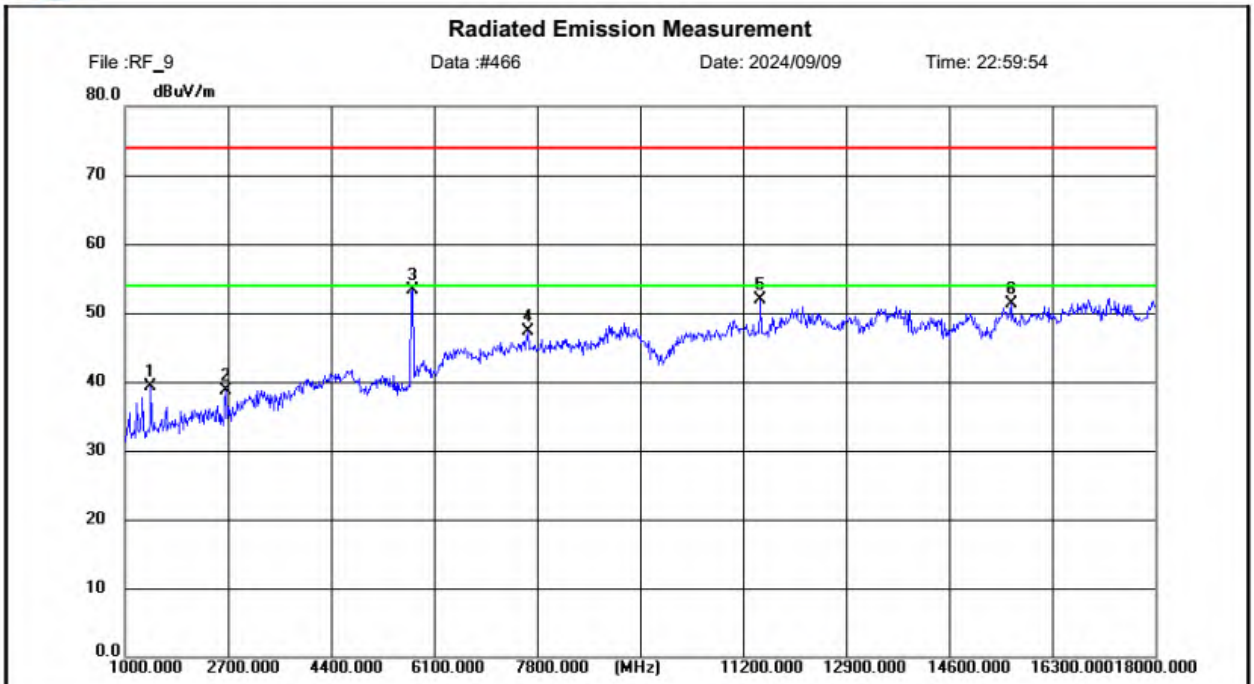
Polarization: ***Horizontal***
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1199.750	71.54	-22.88	48.66	74.00	25.34	peak	150	22	P	
2	5747.250	59.04	-6.61	52.43	74.00	21.57	peak	150	350	P	
3	7659.750	55.20	-2.98	52.22	74.00	21.78	peak	150	93	P	
4	12045.750	48.76	2.19	50.95	74.00	23.05	peak	150	104	P	
5	13550.250	47.05	3.95	51.00	74.00	23.00	peak	150	196	P	
6	16831.250	44.19	6.60	50.79	74.00	23.21	peak	150	350	P	

Vertical	Channel 149

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5745MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

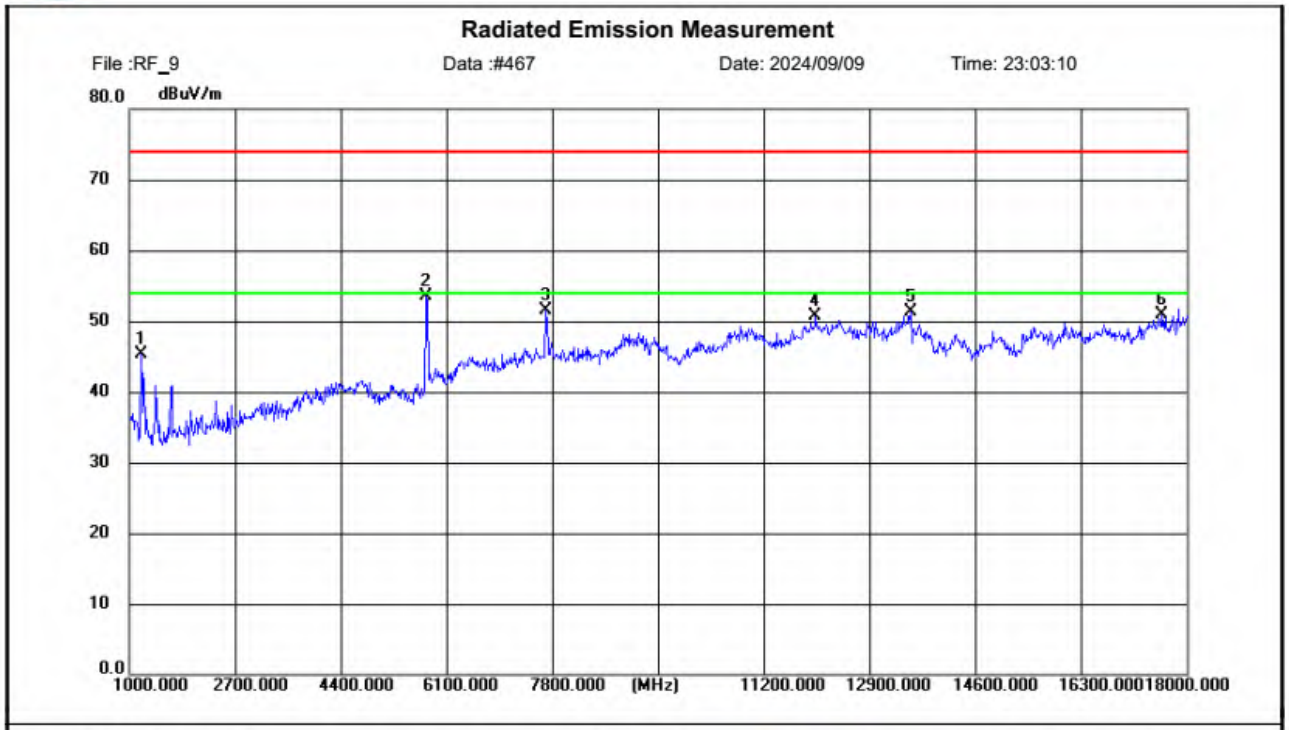
Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1439.875	61.30	-21.93	39.37	74.00	34.63	peak	150	226	P	
2	2666.000	54.45	-15.70	38.75	74.00	35.25	peak	150	349	P	
3	5747.250	60.00	-6.61	53.39	74.00	20.61	peak	150	83	P	
4	7659.750	50.23	-2.98	47.25	74.00	26.75	peak	150	83	P	
5	11491.125	50.98	0.83	51.81	74.00	22.19	peak	150	358	P	
6	15624.250	47.29	3.97	51.26	74.00	22.74	peak	150	277	P	

Horizontal	Channel 157

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5785MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

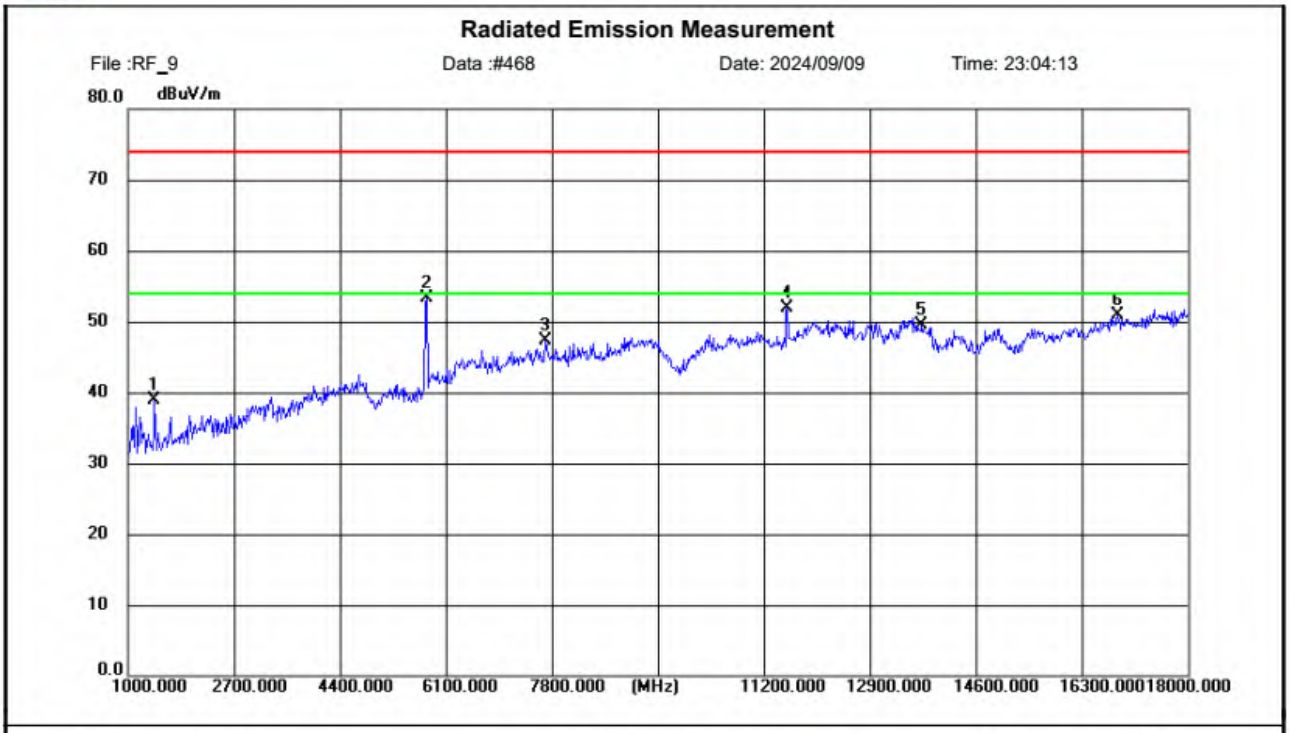
Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1199.750	68.16	-22.88	45.28	74.00	28.72	peak	150	197	P	
2	5781.250	60.02	-6.55	53.47	74.00	20.53	peak	150	104	P	
3	7712.875	54.31	-2.89	51.42	74.00	22.58	peak	150	93	P	
4	12045.750	48.61	2.19	50.80	74.00	23.20	peak	150	207	P	
5	13571.500	47.27	3.95	51.22	74.00	22.78	peak	150	310	P	
6	17609.000	41.76	9.11	50.87	74.00	23.13	peak	150	187	P	

Vertical	Channel 157

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5785MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

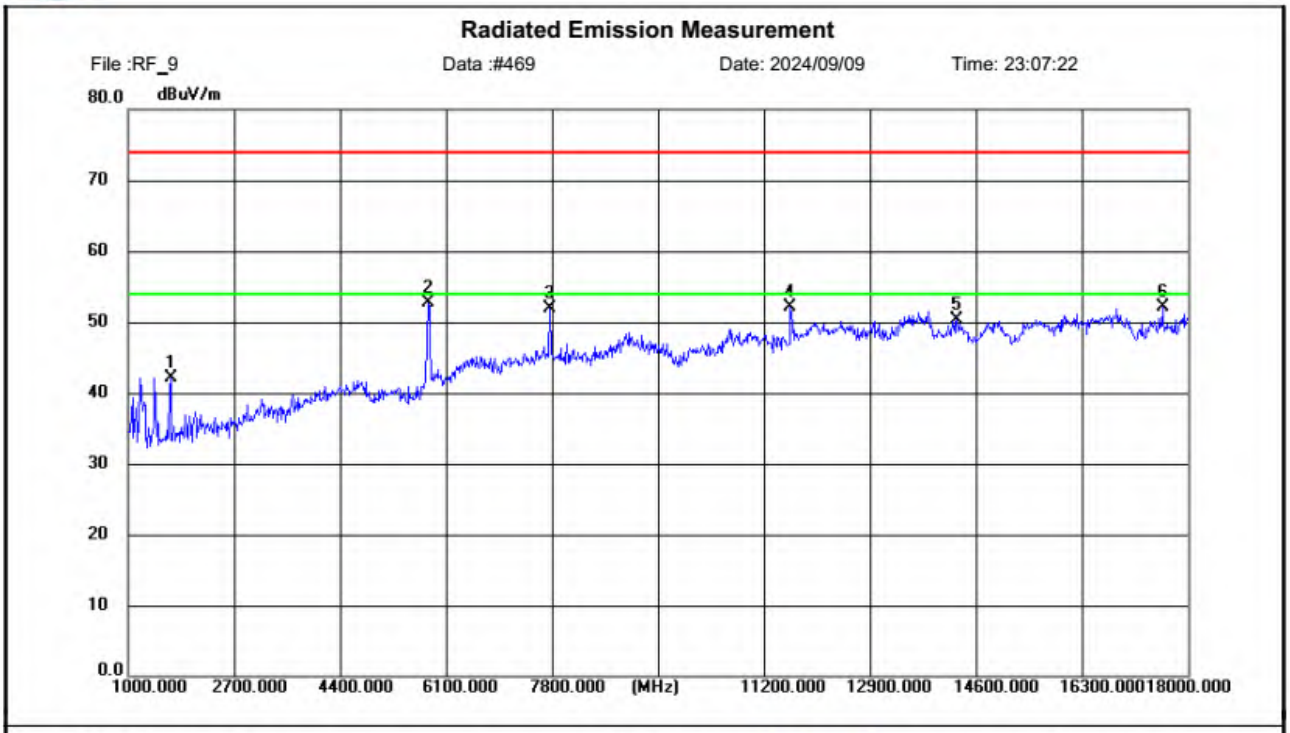
Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1439.875	60.77	-21.93	38.84	74.00	35.16	peak	150	226	P	
2	5794.000	59.76	-6.54	53.22	74.00	20.78	peak	150	123	P	
3	7712.875	50.29	-2.89	47.40	74.00	26.60	peak	150	154	P	
4	11576.125	50.98	1.01	51.99	74.00	22.01	peak	150	216	P	
5	13735.125	45.65	3.83	49.48	74.00	24.52	peak	150	308	P	
6	16888.625	44.18	6.66	50.84	74.00	23.16	peak	150	102	P	

Horizontal	Channel 165

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5825MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

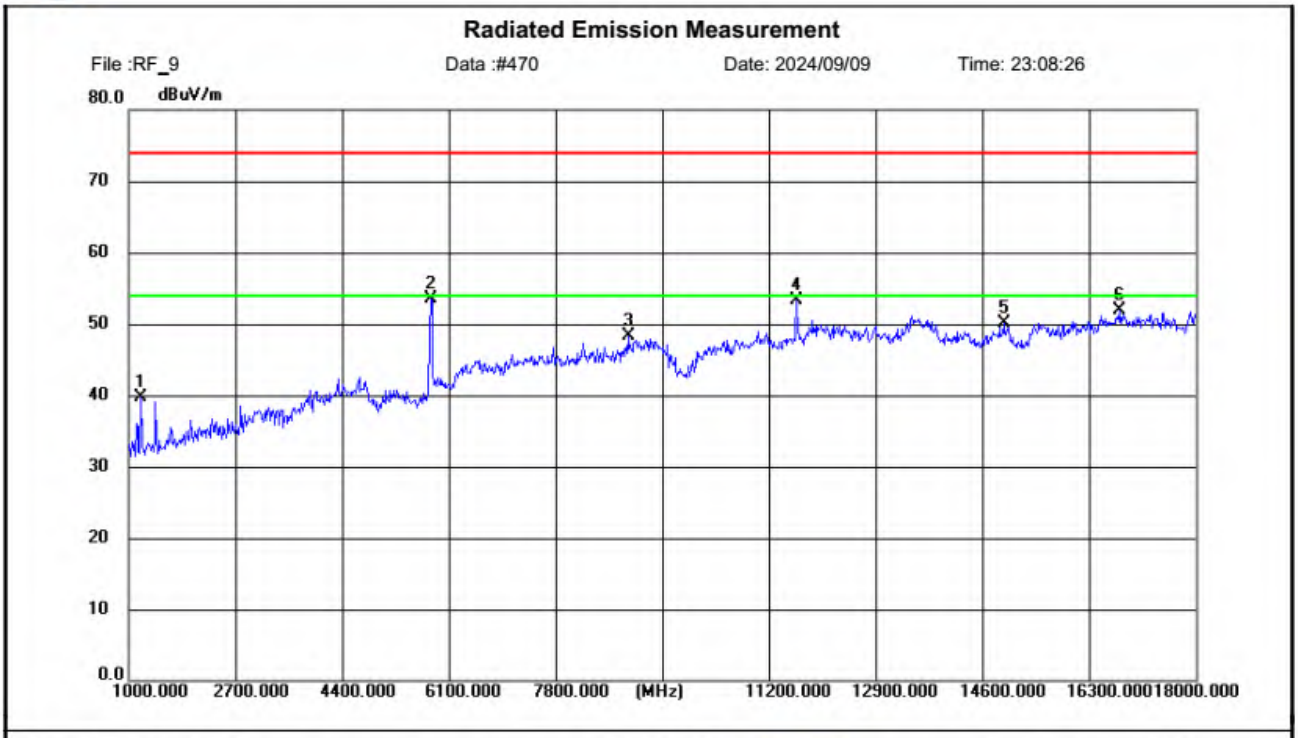
Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1680.000	62.81	-20.65	42.16	74.00	31.84	peak	150	175	P	
2	5825.875	59.05	-6.44	52.61	74.00	21.39	peak	150	104	P	
3	7766.000	54.76	-2.88	51.88	74.00	22.12	peak	150	104	P	
4	11639.875	50.82	1.20	52.02	74.00	21.98	peak	150	63	P	
5	14302.500	47.43	2.80	50.23	74.00	23.77	peak	150	83	P	
6	17606.875	43.03	9.10	52.13	74.00	21.87	peak	150	268	P	

Vertical	Channel 165

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 RE-Class C_Above 1GHz_PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5825MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1201.875	62.62	-22.87	39.75	74.00	34.25	peak	150	277	P	
2	5823.750	60.03	-6.44	53.59	74.00	20.41	peak	150	113	P	
3	8966.625	48.58	-0.36	48.22	74.00	25.78	peak	150	144	P	
4	11646.250	52.15	1.23	53.38	74.00	20.62	peak	150	267	P	
5	14944.250	46.93	3.24	50.17	74.00	23.83	peak	150	165	P	
6	16793.000	45.26	6.57	51.83	74.00	22.17	peak	150	113	P	

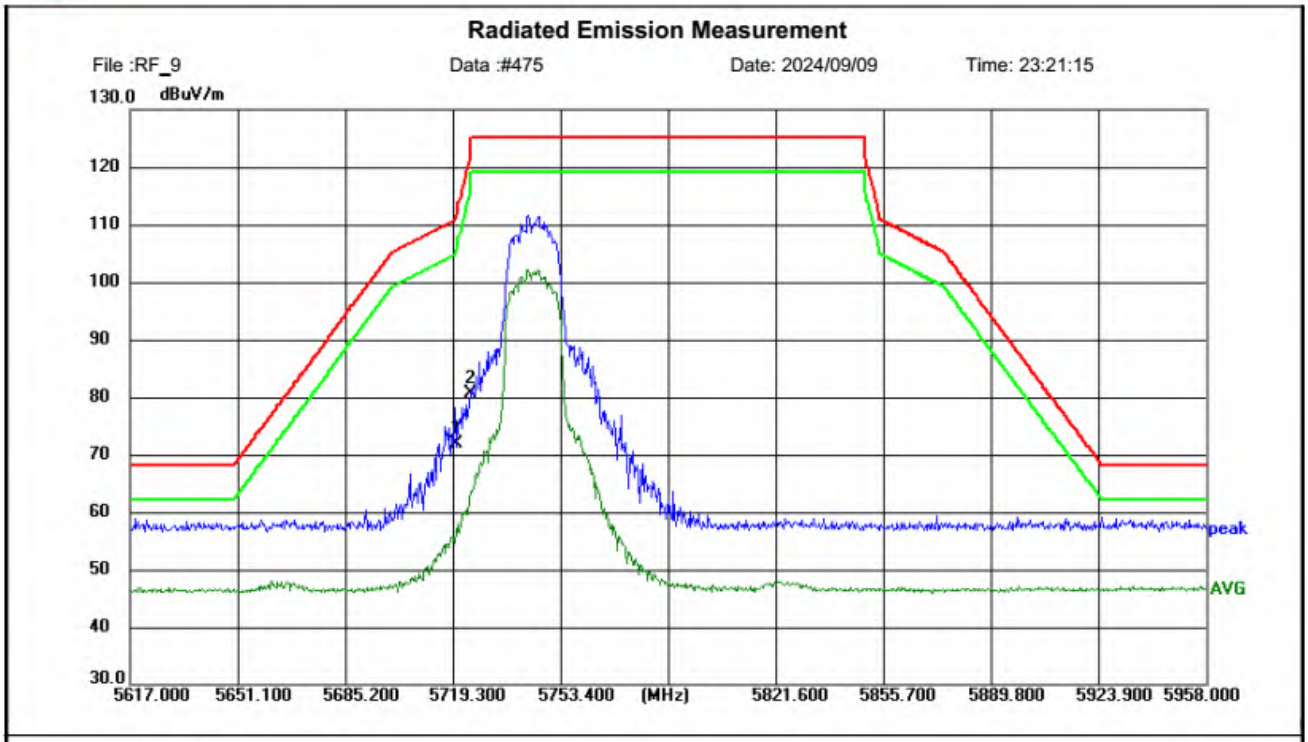
REMARKS:

1. Emission level (dBuV/m) =Raw Value (dBuV)+Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
3. Margin value = Limit value- Emission level.
4. RBW1MHz VBW3MHz Peak detector is for PK value; RBW 1MHz VBW10Hz Peak detector is for AV value.
5. Worst case data at 6Mbps at IEEE 802.11a; MCS0 at IEEE 802.11n HT20,;
6. 18GHz-40GHz not recorded for no spurious point have a margin of less than 6 dB with respect to the limits.

Band Edge Test Plots

5745MHz 802.11n (HT20)

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 Band edge (U-NII-3) PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5745MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5720.000	52.29	19.65	71.94	110.80	38.86	peak	150	138	P	
2	5725.000	61.02	19.65	80.67	122.20	41.53	peak	150	138	P	

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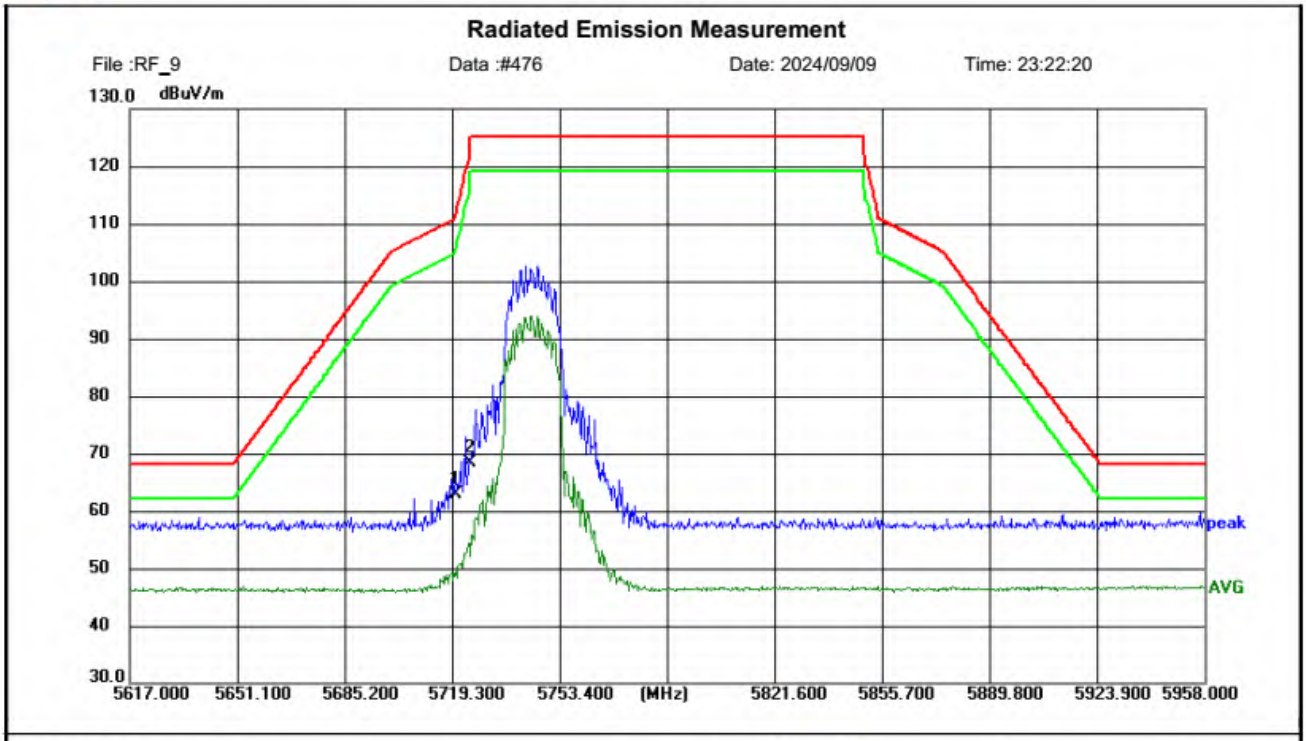


Site LAB Chamber 2
Limit: FCC Part15 Band edge (U-NII-3) PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5745MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Vertical*
Power:
Distance: 3m

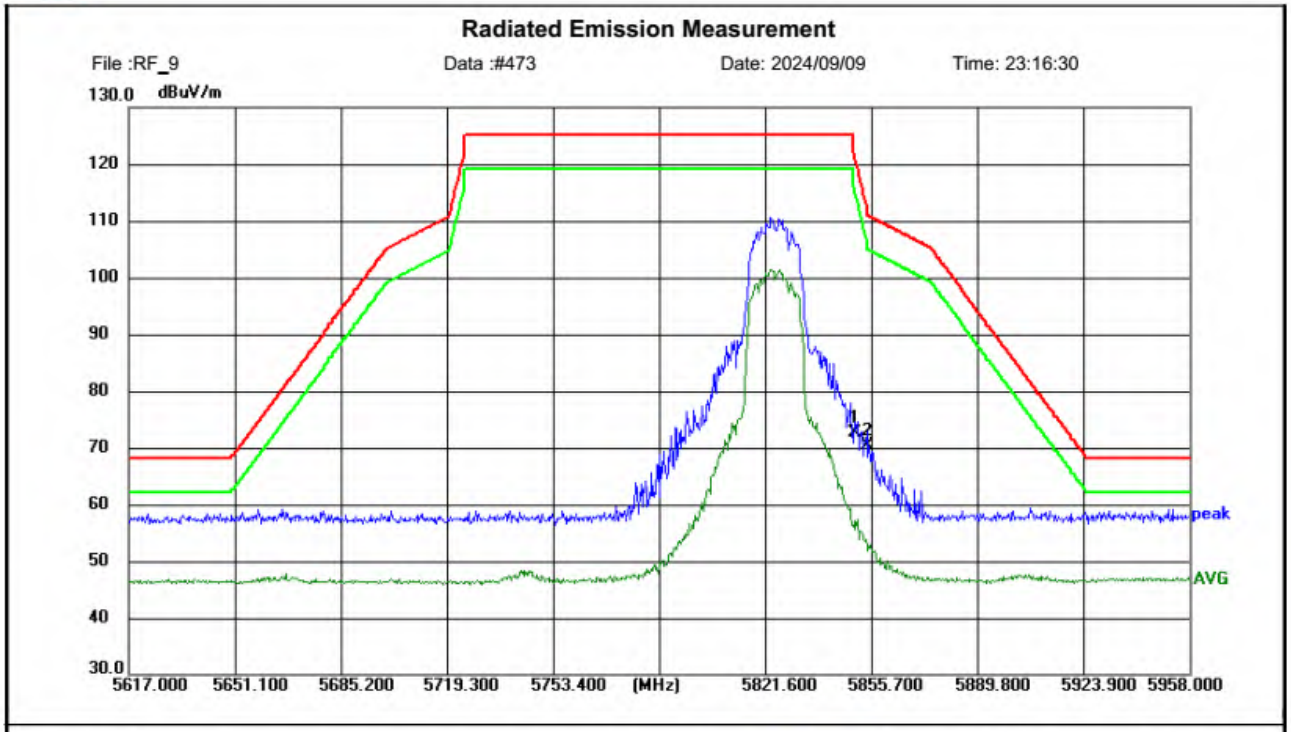
Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5720.000	43.29	19.65	62.94	110.80	47.86	peak	150	313	P	
2	5725.000	48.62	19.65	68.27	122.20	53.93	peak	150	221	P	

Band Edge Test Plots

5825MHz 802.11n (HT20)

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



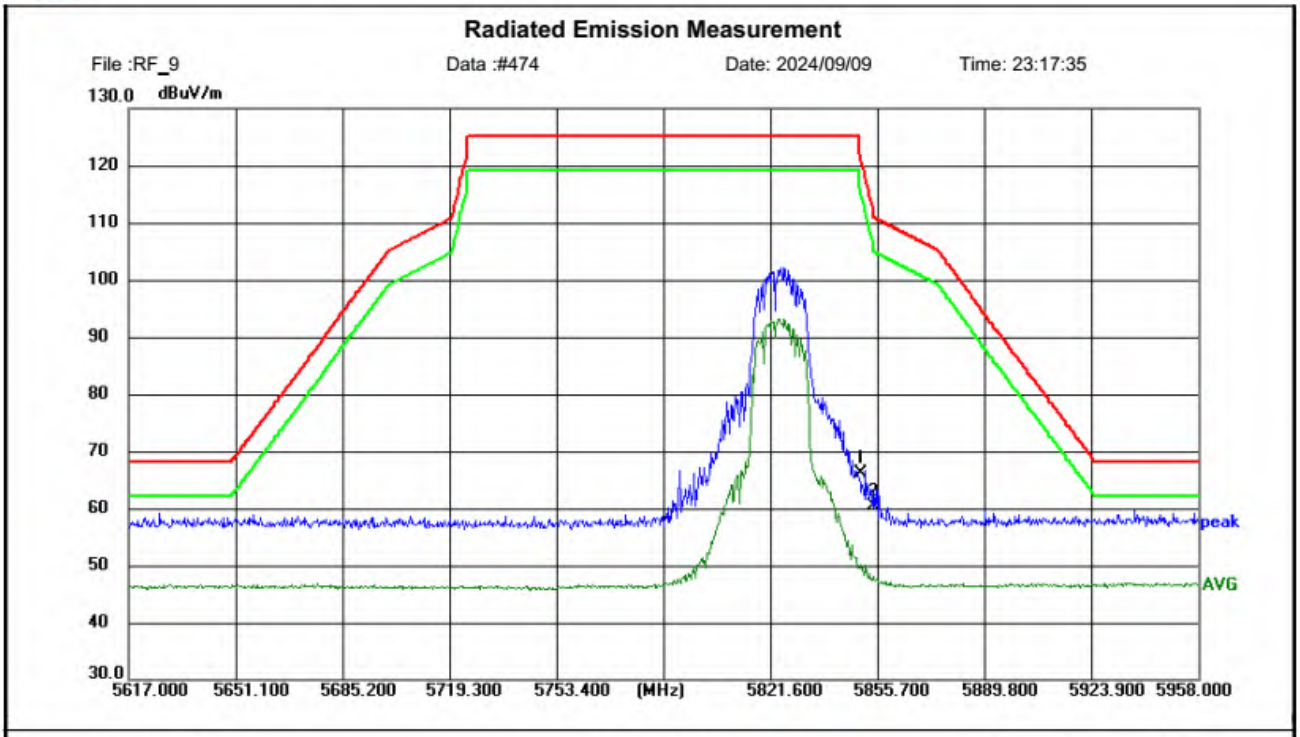
Site LAB Chamber 2
Limit: FCC Part15 Band edge (U-NII-3) PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5825MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5850.000	52.94	19.80	72.74	122.20	49.46	peak	150	138	P	
2	5855.000	50.44	19.84	70.28	110.80	40.52	peak	150	230	P	

Shenzhen CTL Testing Technology Co., Ltd
Tel: +86-755-89486194



Site LAB Chamber 2
Limit: FCC Part15 Band edge (U-NII-3) PK
EUT:
M/N: LY-HE30W
Mode: WIFI5G 5825MHz TX
Note: Shenzhen Laiyu Technology Co., Ltd.

Polarization: *Vertical*
Power:
Distance: 3m

Temperature: 25(C)
Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	5850.000	46.26	19.80	66.06	122.20	56.14	peak	150	343	P	
2	5855.000	40.47	19.84	60.31	110.80	50.49	peak	150	221	P	

3.3. Maximum Conducted Average Output Power

Limit

FCC requirement:
For the band 5.15-5.25 GHz.
(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6dBi.

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

(iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250mW provided the maximum antenna gain does not exceed 6dBi.

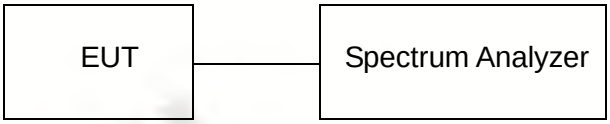
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250mW or 11dBm + 10log B, where B is the 26 dB emission bandwidth in megahertz.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W

Test Procedure

Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum.

Test Configuration



Test Results

Raw data reference to Section 2 CTL2408152111-WF_5G_BAND_1_Appendix.
Raw data reference to Section 2 CTL2408152111-WF_5G_BAND_2A_Appendix.
Raw data reference to Section 2 CTL2408152111-WF_5G_BAND_2C_Appendix.
Raw data reference to Section 2 CTL2408152111-WF_5G_BAND_3_Appendix.

3.4. Power Spectral Density

Limit

FCC requirement:
For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15 - 5.25 GHz, the maximum power spectral density shall not exceed 17dBm in any 1 MHz band.note1

(ii) For an indoor access point operating in the band 5.15 - 5.25 GHz, the maximum power spectral density shall not exceed 17dBm in any 1 MHz band.note1

(iii) For fixed point-to-point access points operating in the band 5.15 - 5.25 GHz, transmitters that employ a directional antenna gain greater than 23dBi, a 1 dB reduction in maximum power spectral density is required for each 1 dB of antenna gain in excess of 23dBi.

(iv) For mobile and portable client devices in the 5.15 - 5.25 GHz band, the maximum power spectral density shall not exceed 11dBm in any 1 MHz band. note1

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands

The maximum power spectral density shall not exceed 11dBm in any 1 megahertz band.

IC requirement:

For the band 5.15-5.25 GHz.

The e.i.r.p. spectral density shall not exceed 10dBm in any 1.0 MHz band.

Frequency band 5250-5350 MHz

The power spectral density shall not exceed 11dBm in any 1.0 MHz band

Frequency bands 5470-5600 MHz and 5650-5725 MHz

The power spectral density shall not exceed 11dBm in any 1.0 MHz band.

For the band 5.725 - 5.85 GHz

The maximum power spectral density shall not exceed 30dBm in any 500 kHz band. note1, note2

Note1: If transmitting antennas of directional gain greater than 6dBi are used, the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Note2: Fixed point - to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information.

Test Procedure

1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
2. Set the RBW = 1MHz for U-NII 1, U-NII 2A, U-NII C band and 510KHz for U-NII 3 band.
3. Set the VBW ≥ 3× RBW.
4. Set the span to encompass the entire EBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum power level.

Test Configuration

Test Results

Raw data reference to Section 3 CTL2408152111-WF_5G_BAND_1_Appendix.
Raw data reference to Section 3 CTL2408152111-WF_5G_BAND_2A_Appendix.
Raw data reference to Section 3 CTL2408152111-WF_5G_BAND_2C_Appendix.
Raw data reference to Section 3 CTL2408152111-WF_5G_BAND_3_Appendix.

3.5. Emission Bandwidth (26dBm Bandwidth)

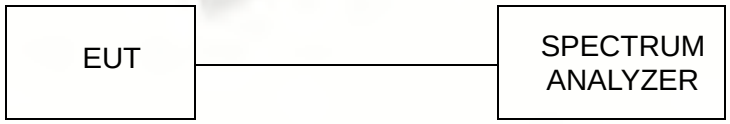
Limit

N/A

Test Procedure

1. Set resolution bandwidth (RBW) = approximately 1 % of the EBW.
2. Set the video bandwidth (VBW) > RBW.
3. Detector = Peak.
4. Trace mode = Max hold.
5. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW / EBW ratio is approximately 1 %.

Test Configuration



Test Results

Raw data reference to Section 1 CTL2408152111-WF_5G_BAND_1_Appendix.
Raw data reference to Section 1 CTL2408152111-WF_5G_BAND_2A_Appendix.
Raw data reference to Section 1 CTL2408152111-WF_5G_BAND_2C_Appendix.
Raw data reference to Section 1 CTL2408152111-WF_5G_BAND_3_Appendix.

3.6. Minimum Emission Bandwidth (6dBm Bandwidth)

Limit

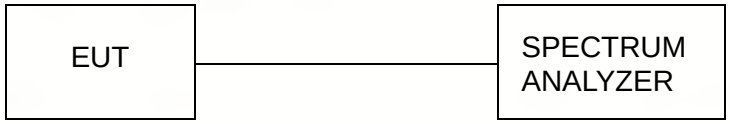
Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 kHz for the band

5.725-5.85 GHz

Test Procedure

1. Set resolution bandwidth (RBW) = 100 kHz
2. Set the video bandwidth 3 x RBW.
3. Detector = Peak.
4. Trace mode = Max hold.
5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Test Configuration



Test Results

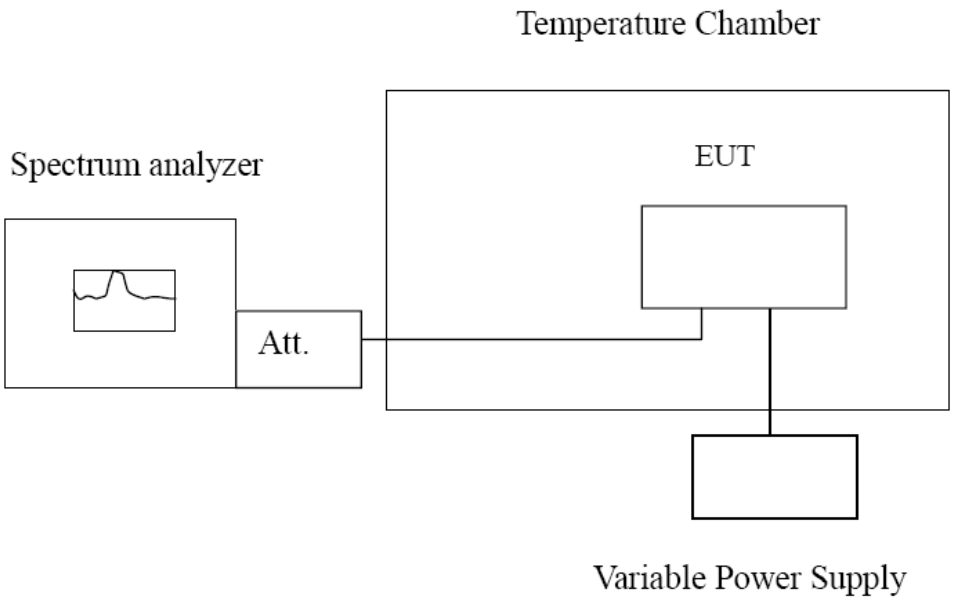
Raw data reference to Section 1 CTL2408152111-WF_5G_BAND_1_Appendix.
Raw data reference to Section 1 CTL2408152111-WF_5G_BAND_2A_Appendix.
Raw data reference to Section 1 CTL2408152111-WF_5G_BAND_2C_Appendix.
Raw data reference to Section 1 CTL2408152111-WF_5G_BAND_3_Appendix.

3.7. Frequency Stability

LIMIT

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

TEST CONFIGURATION



TEST PROCEDURE

Frequency Stability under Temperature Variations:
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20℃ operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30℃. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10℃ increased per stage until the highest temperature of +50℃ reached.

Frequency Stability under Voltage Variations:
Set chamber temperature to 20℃. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.
Reduce the input voltage to specify extreme voltage variation (±15%) and endpoint, record the maximum frequency change.

TEST RESULTS

Raw data reference to Section 4 CTL2408152111-WF_5G_BAND_1_Appendix.
Raw data reference to Section 4 CTL2408152111-WF_5G_BAND_2A_Appendix.
Raw data reference to Section 4 CTL2408152111-WF_5G_BAND_2C_Appendix.
Raw data reference to Section 4 CTL2408152111-WF_5G_BAND_3_Appendix.

3.8. Antenna Requirement

Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203:

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

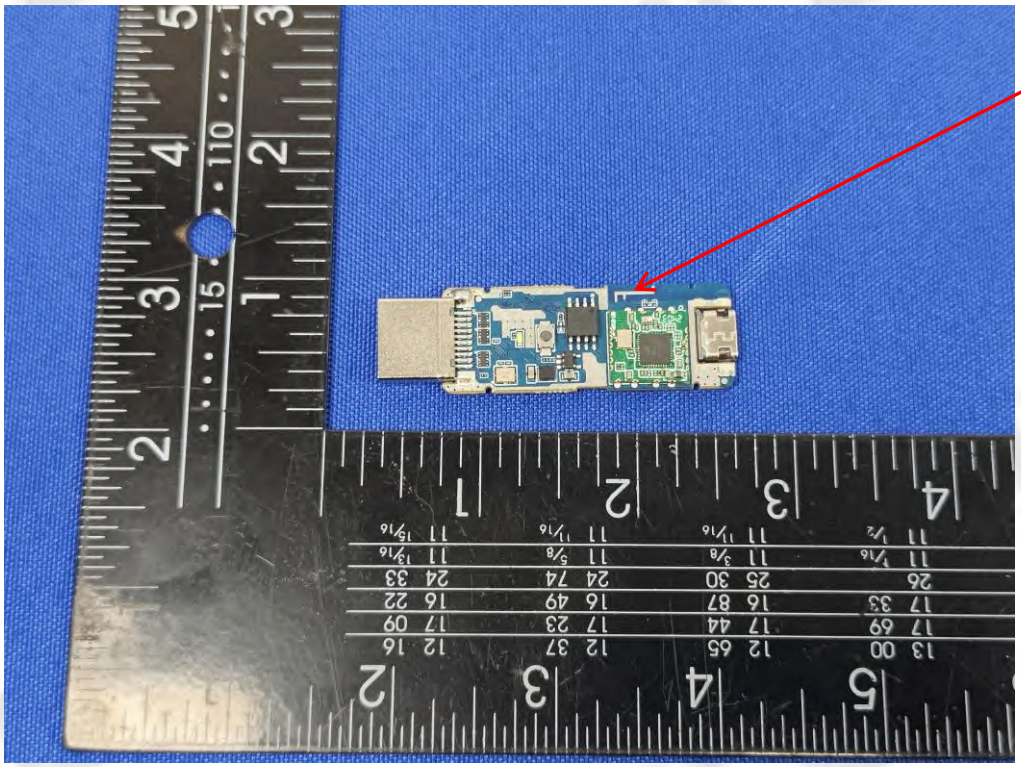
And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Refer to statement below for compliance

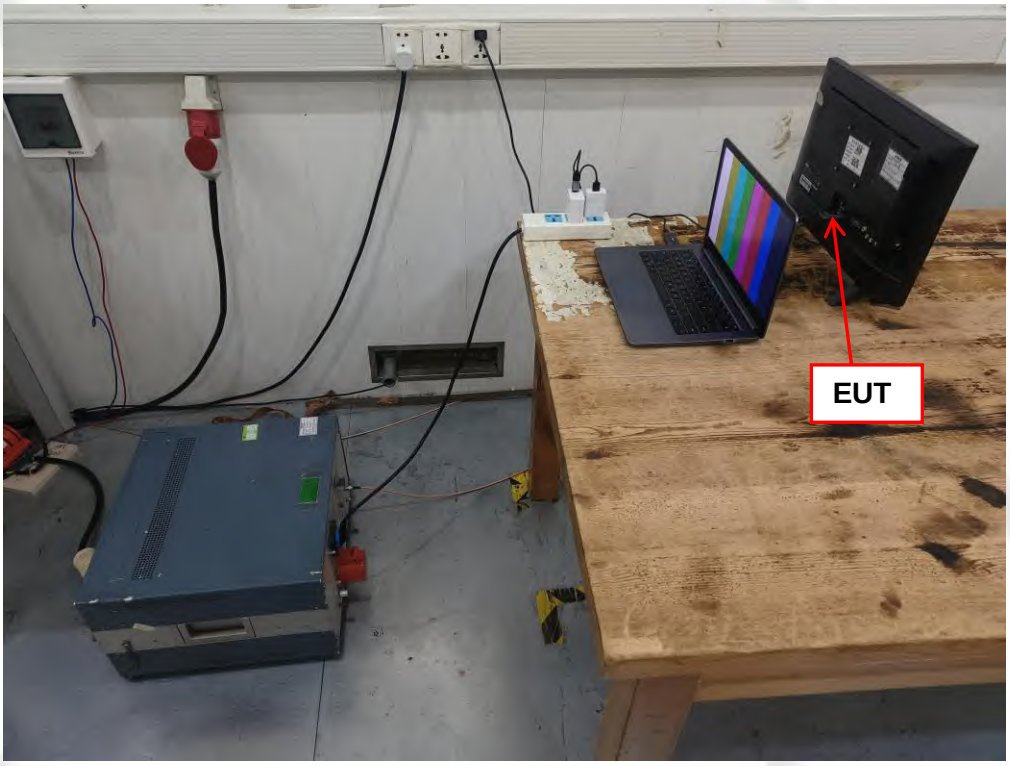
The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

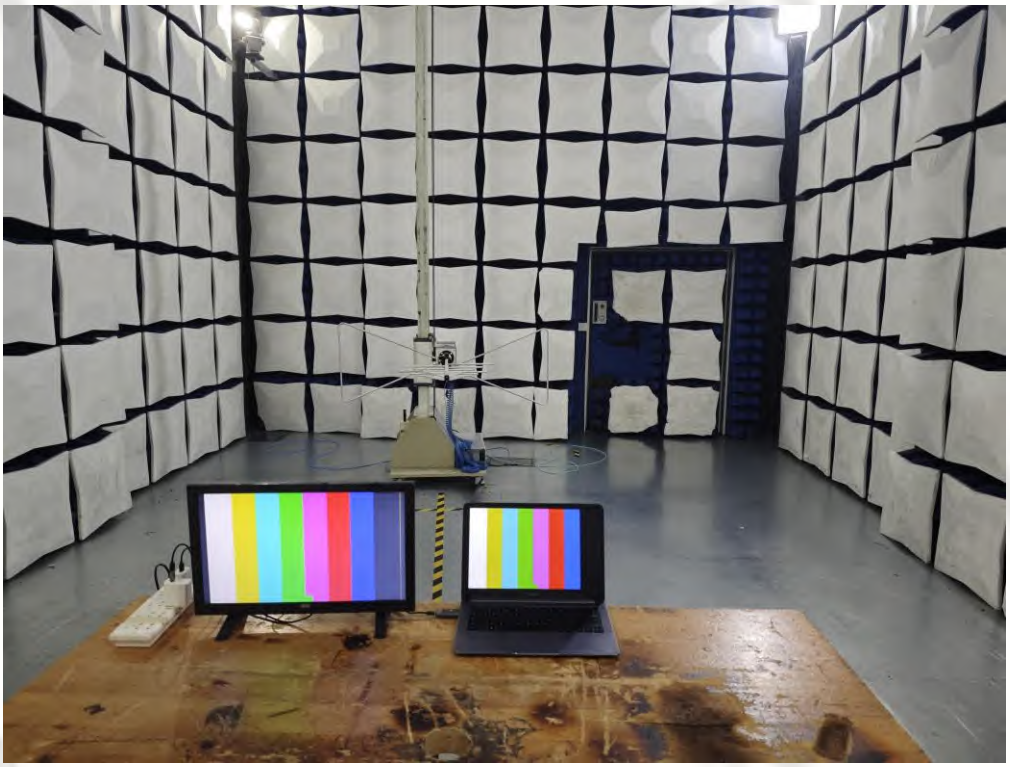
Antenna Connected Construction

The maximum gain of 5G_Wi-Fi Antenna was 2dBi.



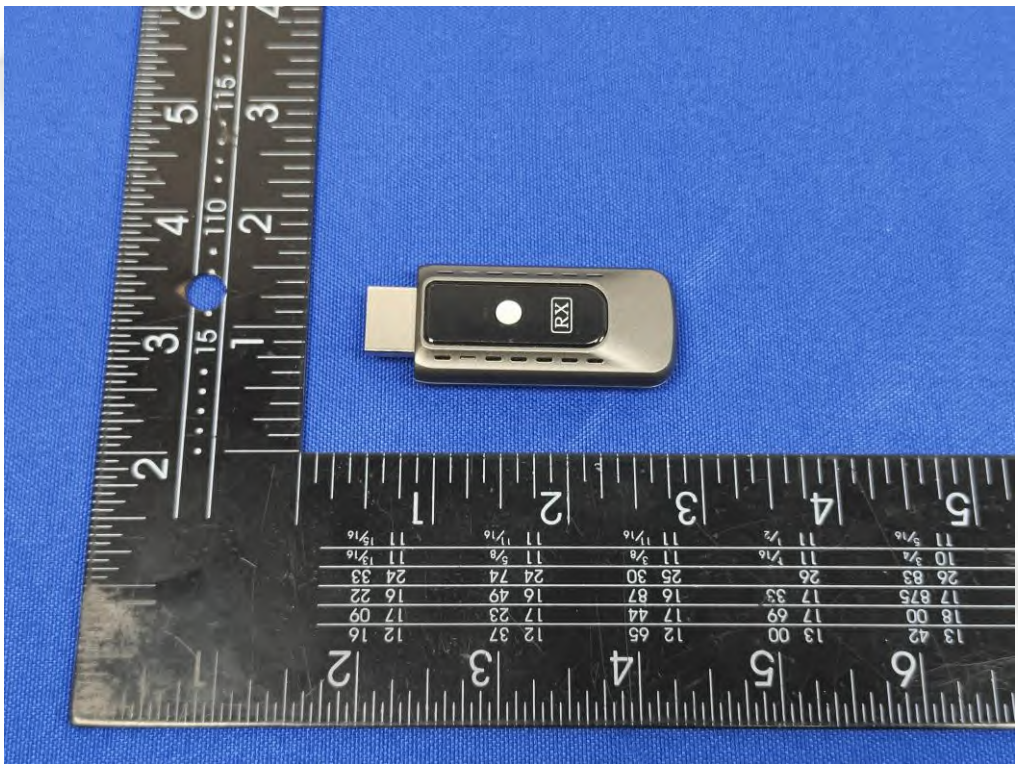
4. Test Setup Photos of the EUT

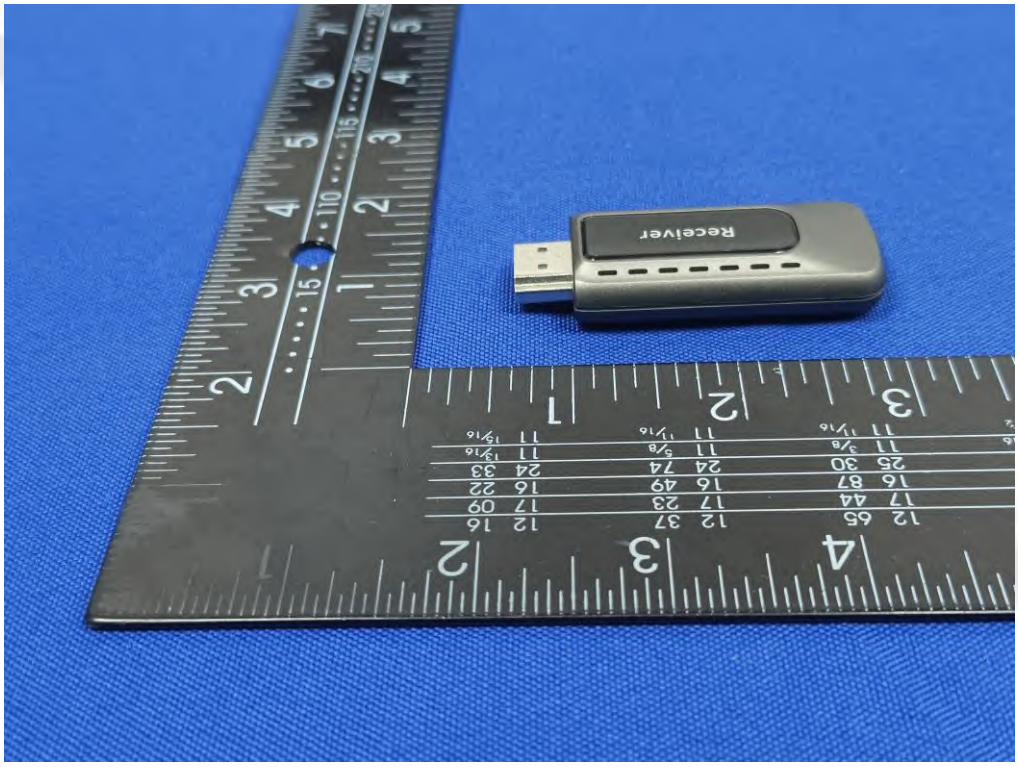


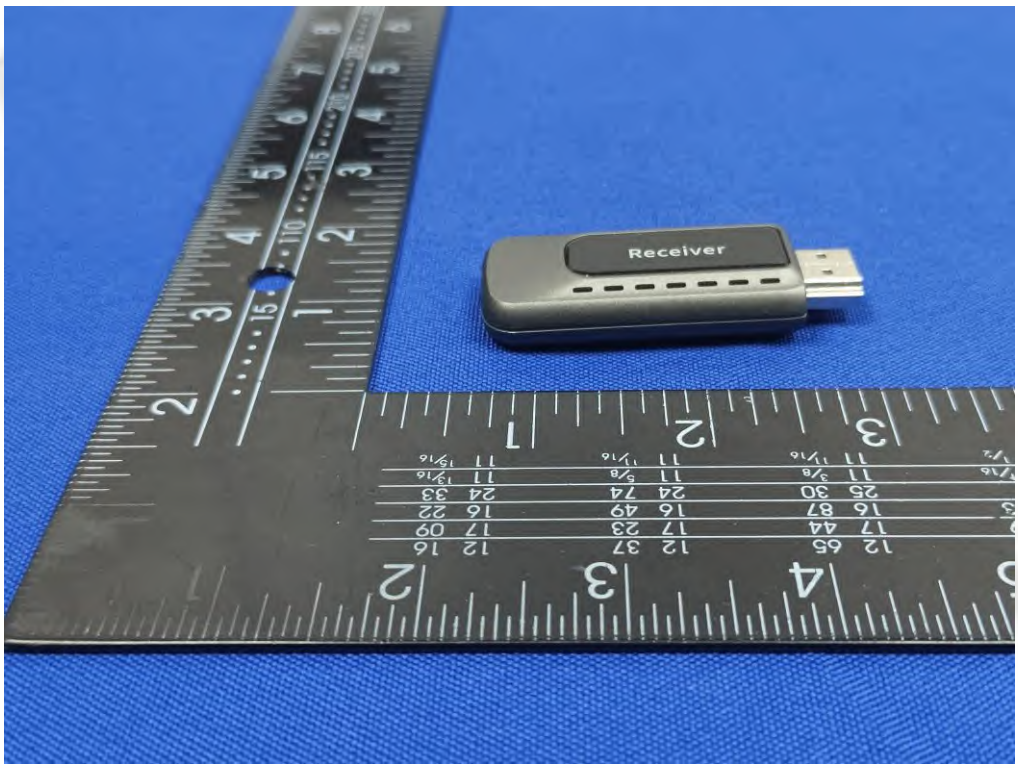


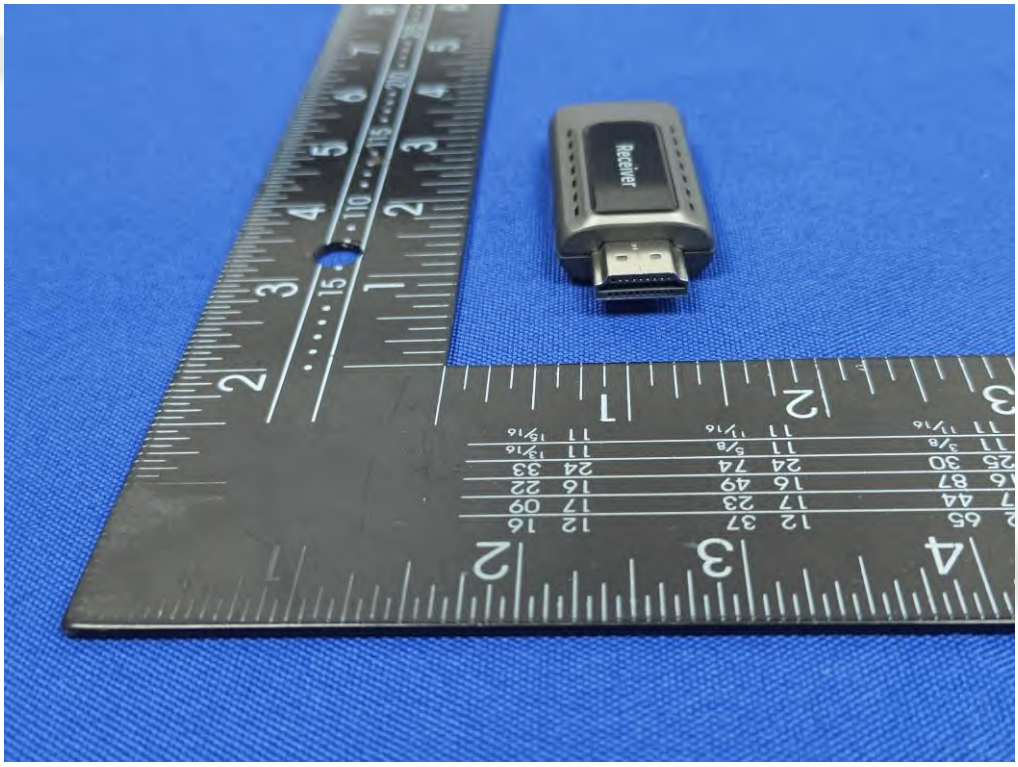
5. Photos of the EUT

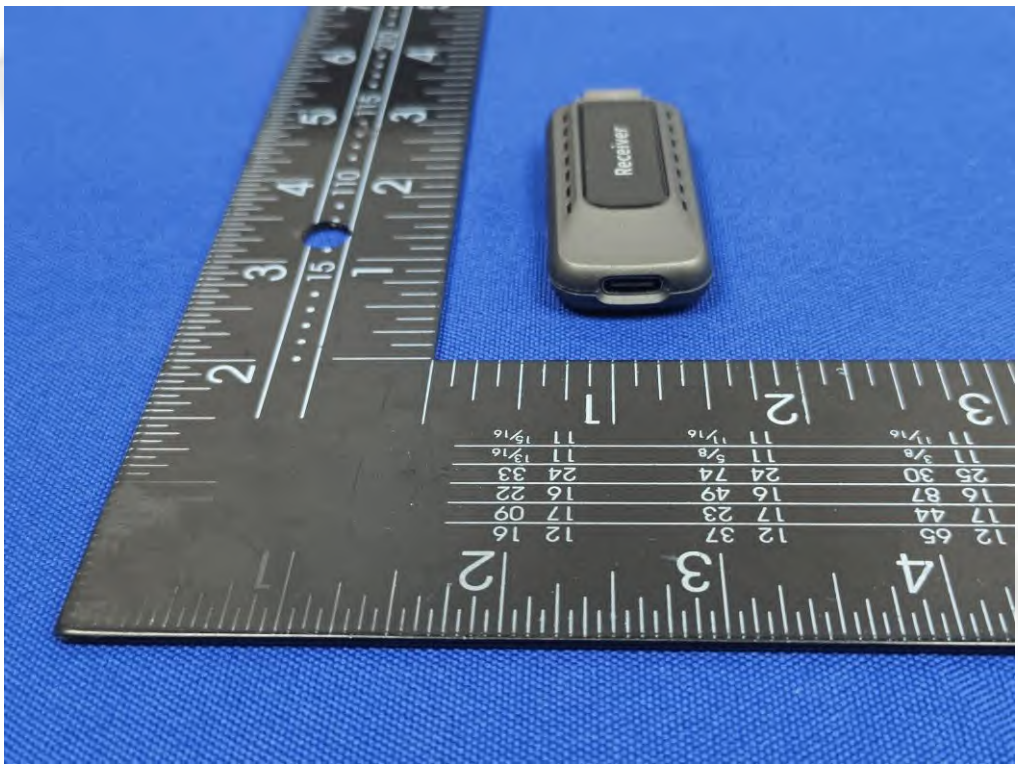
External Photos of EUT


RX

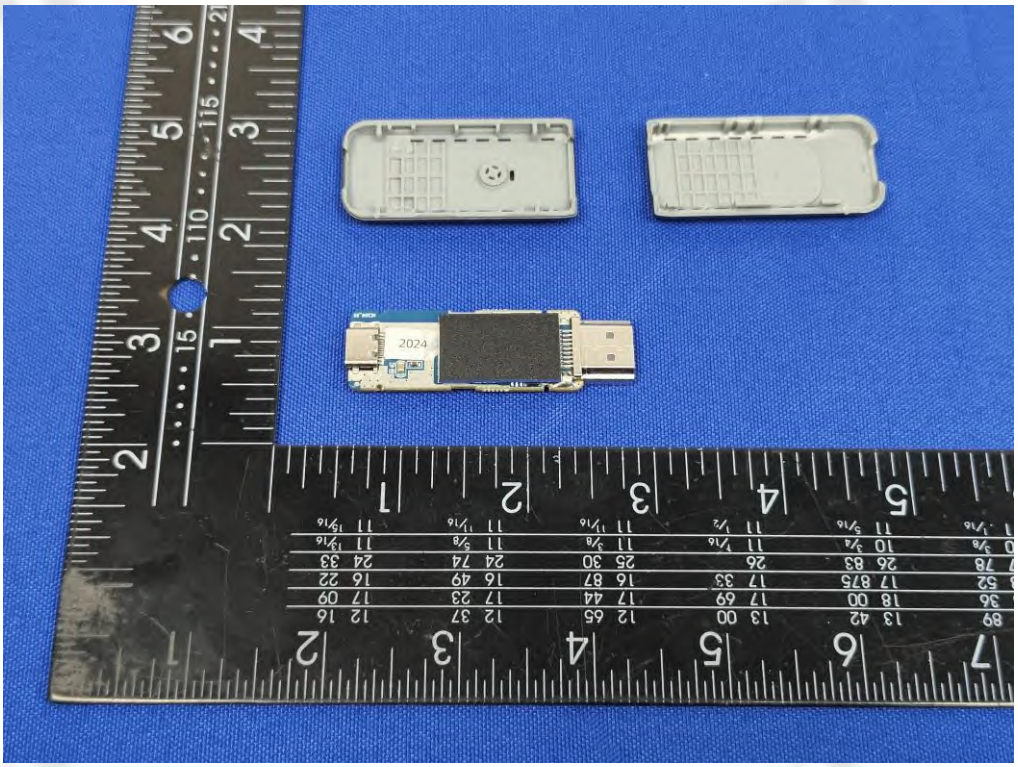

Receiver

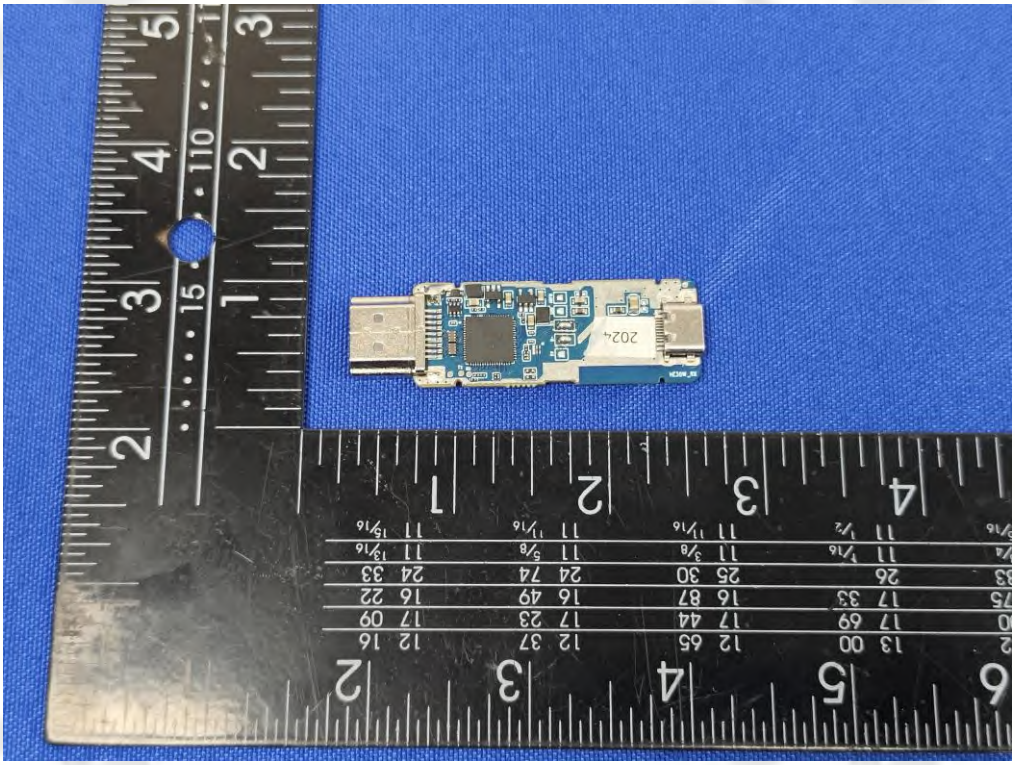

Receiver

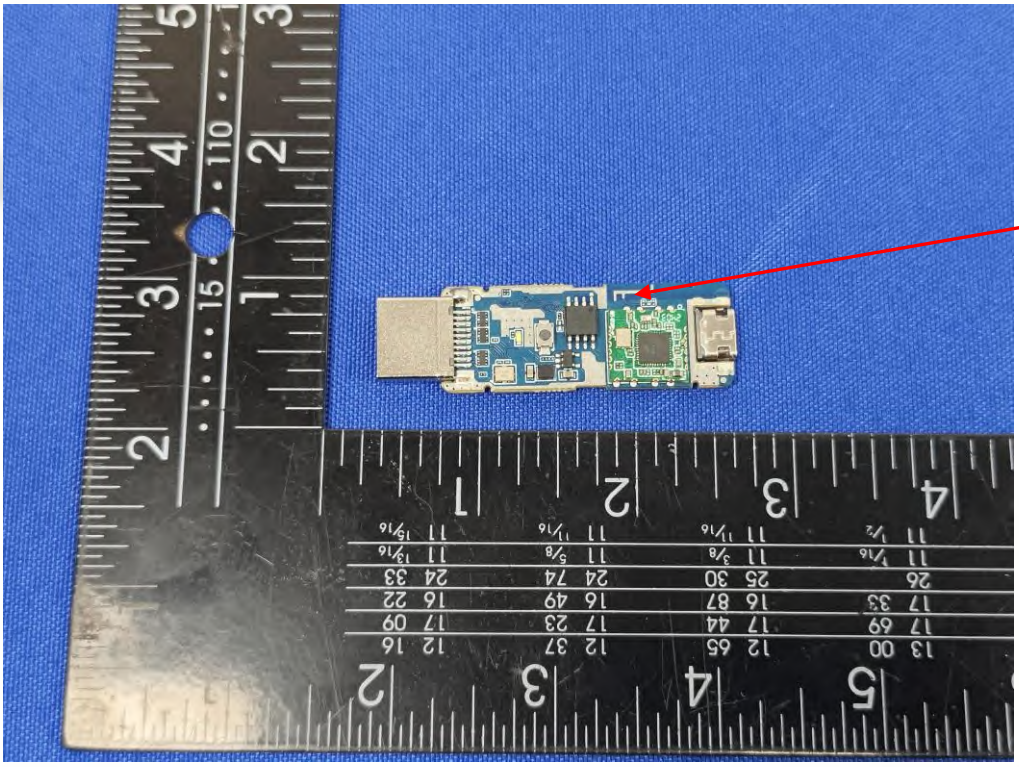

Receiver


Receiver

Internal Photos of EUT






Antenna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********** End of Report **********