



Radio Test Report

FCC ID: 2AF2R-57TX

Change II

Report No. : TBR-C-202403-0384-3
Applicant : Shenzhen Videotimes Technology Co.,Ltd
Equipment Under Test (EUT)
EUT Name : 2.4GHz Digital Wireless Video Baby Camera
Model No. : HB6256
HB6256-2, HB6256TX, BBM825, FK5363, FK5363-2, FK5363TX, BBM820, VT506, VT506-2, VT506TX, BBM823, BL9057, BL9057-2, BL9057TX, BBM828, BG1058, BG1058-2, BG1058TX, BBM832,
Series Model No. : HB6359, HB6359-2, HB6359TX, BBM836, VV6010, VV6010-2, VV6010TX, BBM838, JA2303, JA2303-2, JA2303TX, BBM821, HB6550TX, HB6250TX, HB6352TX, BL9052TX, FK5163TX, VT502TX, JA2216TX, CF6851TX
Brand Name : ----
Sample ID : 202403-0384-1#
Receipt Date : 2024-04-07
Test Date : 2024-04-07 to 2024-04-11
Issue Date : 2024-04-12
Standards : FCC Part 15, Subpart C 15.247
Test Method : ANSI C63.10: 2013
Conclusions : **PASS**

In the configuration tested, the EUT complied with the standards specified above,
The EUT technically complies with the FCC requirements

Tested By : *ZKN Zhou*
Reviewed By : *Henry Huang*
Approved By : *Ivan Su*



This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

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Revision History

Report No.	Version	Description	Issued Date
TBR-C-202403-0384-3	Rev.01	Initial issue of report	2024-04-12



1. General Information about EUT

1.1 Client Information

Applicant	:	Shenzhen Videotimes Technology Co.,Ltd
Address	:	Room 2106, Building 11, Tianan Yungu Phase II(Plot of Land 02-08) , Gangtou Community, Bantian Street, Longgang District, Shenzhen, Guangdong.China
Manufacturer	:	Shenzhen Videotimes Technology Co.,Ltd
Address	:	Room 2106, Building 11, Tianan Yungu Phase II(Plot of Land 02-08) , Gangtou Community, Bantian Street, Longgang District, Shenzhen, Guangdong.China

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	2.4GHz Digital Wireless Video Baby Camera	
Models No.	:	HB6256, HB6256-2, HB6256TX, BBM825, FK5363, FK5363-2, FK5363TX, BBM820, VT506, VT506-2, VT506TX, BBM823, BL9057, BL9057-2, BL9057TX, BBM828, BG1058, BG1058-2, BG1058TX, BBM832, HB6359, HB6359-2, HB6359TX, BBM836, VV6010, VV6010-2, VV6010TX, BBM838, JA2303, JA2303-2, JA2303TX, BBM821, HB6550TX, HB6250TX, HB6352TX, BL9052TX, FK5163TX, VT502TX, JA2216TX, CF6851TX	
Model Difference	:	All of these models are identical in the same PCB, layout and circuit, the only difference is different customer, different model name and appearance.	
Product Description	:	Operation Frequency:	2.4GHz:2412MHz~2469MHz
		Number of Channel:	58Channels See Note 2
		Antenna Gain:	2.5 dBi Dipole antenna
		Modulation Type:	GFSK
Power Rating	:	Adapter#1: K05S050100U Input:100-240V~50/60Hz,0.2A Output:5V1A Adapter#2: A318-050100W-US2 Input:100-240V~50/60Hz,0.2A Output:5V1A	
Software Version	:	1.0	
Hardware Version	:	1.1	
Remark: (1) The antenna gain provided by the applicant, the adapter and the verified for the RF conduction test provided by TOBY test lab. (2) The above antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.			

Note:

- (1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



(2) Channel List:

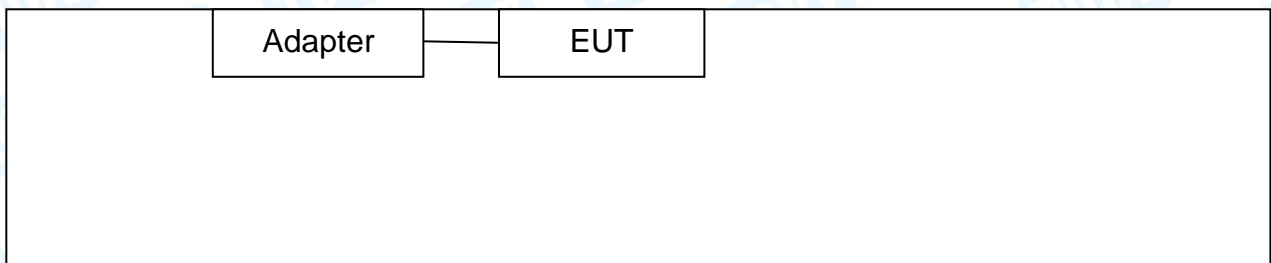
Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2412	20	2432	40	2452
01	2413	21	2433	41	2453
02	2414	22	2434	42	2454
03	2415	23	2435	43	2455
04	2416	24	2436	44	2456
05	2417	25	2437	45	2457
06	2418	26	2438	46	2458
07	2419	27	2439	47	2459
08	2420	28	2440	48	2460
09	2421	29	2441	49	2461
10	2422	30	2442	50	2462
11	2423	31	2443	51	2463
12	2424	32	2444	52	2464
13	2425	33	2445	53	2465
14	2426	34	2446	54	2466
15	2427	35	2447	55	2467
16	2428	36	2448	56	2468
17	2429	37	2449	57	2469
18	2430	38	2450		
19	2431	39	2451		

Note: Test frequencies are lowest channel: 2412MHz, middle channel: 2442MHz and highest channel: 2469MHz.

(3) The Antenna information about the equipment is provided by the applicant.

1.3 Block Diagram Showing the Configuration of System Tested

Adapter & TX Mode



1.4 Description of Support Units

The EUT has been tested as an independent unit.

1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For Conducted Test	
Final Test Mode	Description
Mode 1	Adapter#1+ TX Mode Channel 00
Mode 2	Adapter#2+ TX Mode Channel 00
For Radiated Test	
Final Test Mode	Description
Mode 1	Adapter#1+ TX Mode Channel 00
Mode 2	Adapter#2+ TX Mode Channel 00

Note:

- (1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate. We have pretested all the test modes above.
According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels, and the worst case data rate as follows:
TX Mode: GFSK
- (2) The EUT is considered a portable unit; it was pre-tested on the positioned of each 3 axis, X-plane, Y-plane and Z-plane. The worst case was found positioned on X-plane as the normal use. Therefore only the test data of this X-plane was used for radiated emission measurement test.



1.6 Description of Test Software Setting

During testing channel power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of Bluetooth mode.

Test Software Version	Adjust and control the corresponding transmission frequency through the EUT entity key.		
Frequency	2412 MHz	2442 MHz	2469 MHz
GFSK	Default	Default	Default

1.7 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

Test Item	Parameters	Expanded Uncertainty (U_{Lab})
Conducted Emission	Level Accuracy: 9kHz~150kHz 150kHz to 30MHz	± 3.50 dB ± 3.10 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	± 4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	± 4.20 dB
Radiated Emission	Level Accuracy: Above 1000MHz	± 4.20 dB



1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1/F., Building 6, Rundongsheng Industrial Zone, Longzhu, Xixiang, Bao'an District, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

A2LA Certificate No.: 4750.01

The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01.FCC Accredited Test Site Number: 854351. Designation Number: CN1223.

IC Registration No.: (11950A)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A. CAB identifier: CN0056.



2. Test Summary

Standard Section	Test Item	Test Sample(s)	Judgment	Remark
FCC				
FCC 15.207(a)	Conducted Emission	\	N/A	N/A
FCC 15.209 & 15.247(d)	Radiated Unwanted Emissions	202403-0384-1#	PASS	N/A
FCC 15.203	Antenna Requirement	\	N/A	N/A
FCC 15.247(a)	99% Occupied Bandwidth & 20dB Bandwidth	\	N/A	N/A
FCC 15.247(b)(1)	Peak Output Power	\	N/A	N/A
FCC 15.247(a)(1)	Carrier frequency separation	\	N/A	N/A
FCC 15.247(a)(1)	Time of occupancy	\	N/A	N/A
FCC 15.247(b)(1)	Number of Hopping Frequency	\	N/A	N/A
FCC 15.247(d)	Band Edge	\	N/A	N/A
FCC 15.207(a)	Conducted Unwanted Emissions	\	N/A	N/A
FCC 15.205	Emissions in Restricted Bands	\	N/A	N/A

Note:

(1) N/A is an abbreviation for Not Applicable.

(2) This report is Class II change report for the original equipment have changed, the transmitter module itself has not changed. More information about the test data please refer to the original test report.

(3) As there is no change regard RF transmitter portion and Antenna assembly, the change will not have effect on Radiated emission above 1GHz by judging for experience, thus testing is performed up to 1GHz only.

3. Test Software

Test Item	Test Software	Manufacturer	Version No.
Conducted Emission	EZ-EMC	EZ	CDI-03A2
Radiation Emission	EZ-EMC	EZ	FA-03A2RE
Radiation Emission	EZ-EMC	EZ	FA-03A2RE+
RF Conducted Measurement	MTS-8310	MWRfTest	V2.0.0.0
RF Test System	JS1120	Tonscend	V3.2.22



4. Test Equipment

Radiation Emission Test (B Site)					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	N9020A	MY49100060	Aug. 30, 2023	Aug. 29, 2024
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jun. 20, 2023	Jun. 19, 2024
EMI Test Receiver	Rohde & Schwarz	ESU-8	100472/008	Feb. 23, 2024	Feb.22, 2025
Bilog Antenna	SCHWARZBECK	VULB 9168	1225	Nov. 13, 2023	Nov. 12, 2025
Horn Antenna	SCHWARZBECK	BBHA 9120 D	2463	Jun. 26, 2022	Jun.25, 2024
Horn Antenna	SCHWARZBECK	BBHA 9170	1118	Feb. 27, 2024	Feb.26, 2026
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-059	Jun. 26, 2022	Jun.25, 2024
HF Amplifier	Tonscend	TAP9E6343	AP21C806117	Aug. 30, 2023	Aug. 29, 2024
HF Amplifier	Tonscend	TAP051845	AP21C806141	Aug. 30, 2023	Aug. 29, 2024
HF Amplifier	Tonscend	TAP0184050	AP21C806129	Aug. 30, 2023	Aug. 29, 2024



5. Radiated Emission Test

5.1 Test Standard and Limit

5.1.1 Test Standard

FCC Part 15.209 & FCC Part 15.247(d)

5.1.2 Test Limit

Radiated Emission Limit (9 kHz~1000MHz)

Frequency (MHz)	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Radiated Emission Limit (Above 1000MHz)

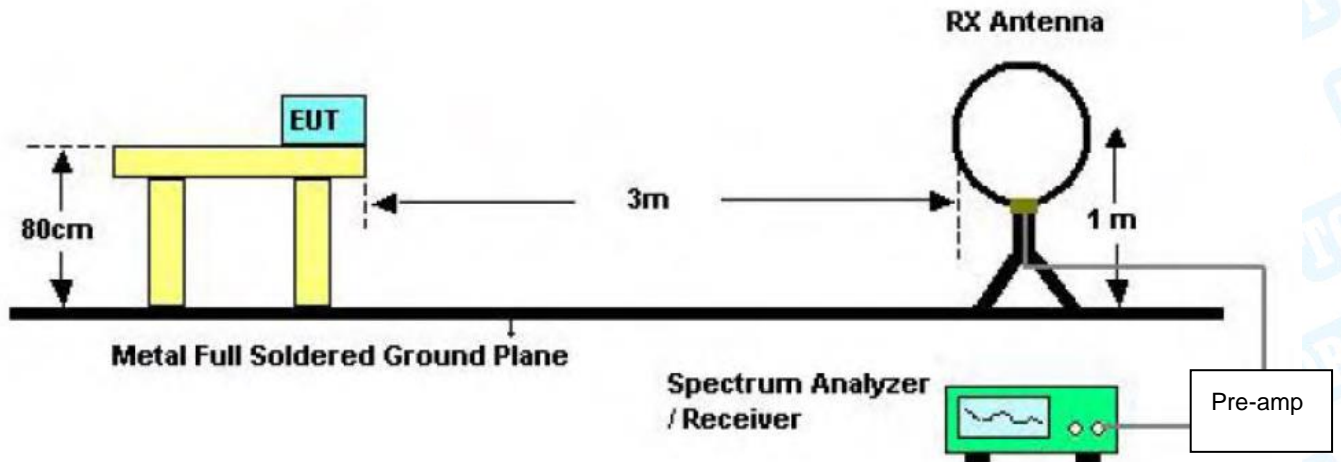
Frequency (MHz)	Distance Meters(at 3m)	
	Peak	Average
Above 1000	74	54

Note:

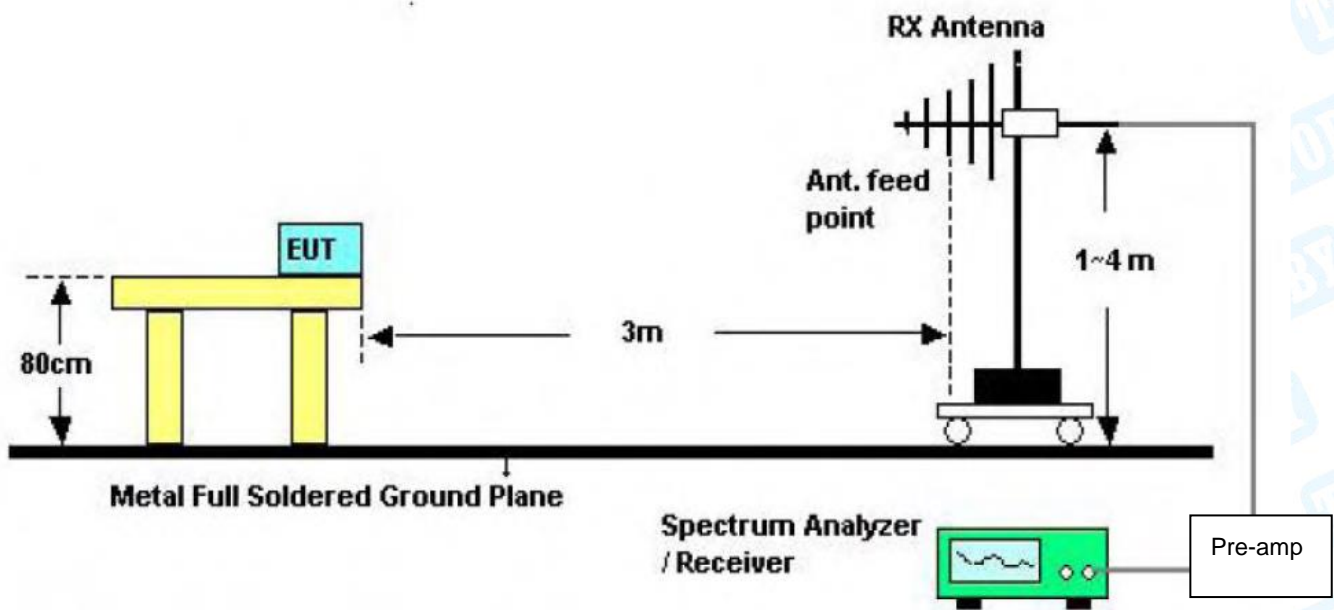
- (1) The tighter limit applies at the band edges.
- (2) Emission Level (dBuV/m)=20log Emission Level (uV/m)



5.2 Test Setup

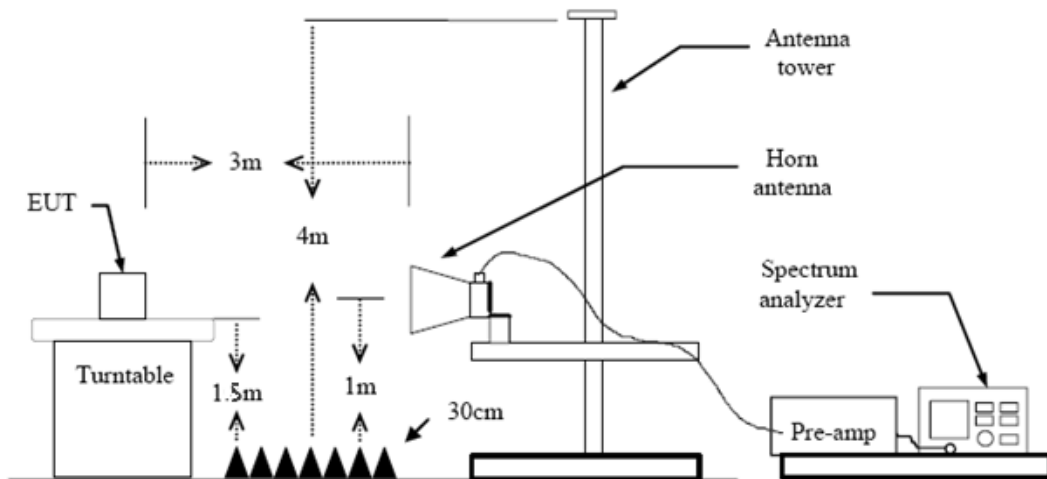


Below 30MHz Test Setup



Below 1000MHz Test Setup





Above 1GHz Test Setup

5.3 Test Procedure

- (1) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency Below 1GHz. The EUT was placed on a rotating 0.8m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.



5.4 Deviation From Test Standard

No deviation

5.5 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

5.6 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

Please refer to the Attachment A.



Attachment A-- Radiated Emission Test Data

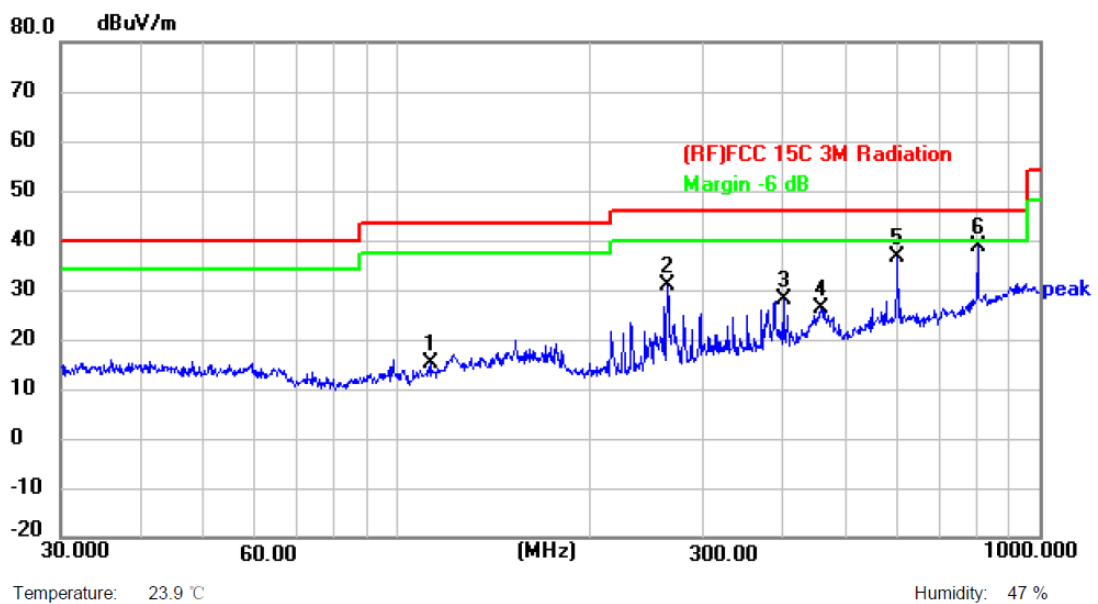
9KHz~30MHz

From 9KHz to 30MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

30MHz~1GHz

Test Voltage:	AC 120V/60HZ
Ant. Pol.	Horizontal
Test Mode:	Mode 1 Adapter1#
Remark:	Only worse case is reported

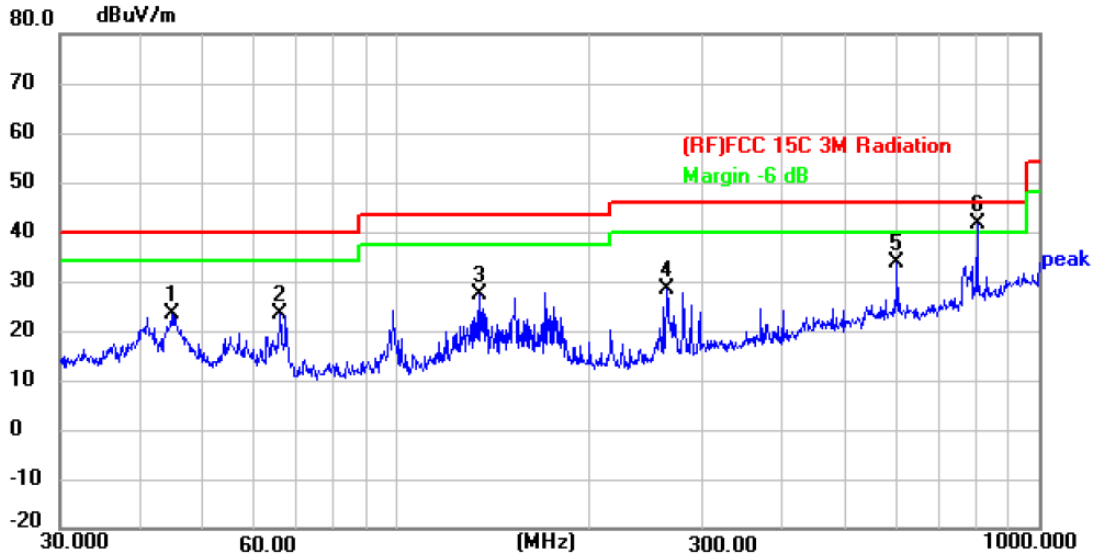


No.	Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	P/F
1	112.9196	39.11	-23.91	15.20	43.50	-28.30	peak	P
2	263.8190	53.75	-22.78	30.97	46.00	-15.03	peak	P
3	400.4318	47.84	-19.95	27.89	46.00	-18.11	peak	P
4	457.5073	43.40	-17.18	26.22	46.00	-19.78	peak	P
5	601.4265	50.30	-13.83	36.47	46.00	-9.53	peak	P
6 *	801.7863	48.68	-9.86	38.82	46.00	-7.18	peak	P

Emission Level= Read Level+ Correct Factor



Test Voltage:	AC 120V/60HZ
Ant. Pol.	Vertical
Test Mode:	Mode 1 Adapter1#
Remark:	Only worse case is reported



Temperature: 23.9 °C

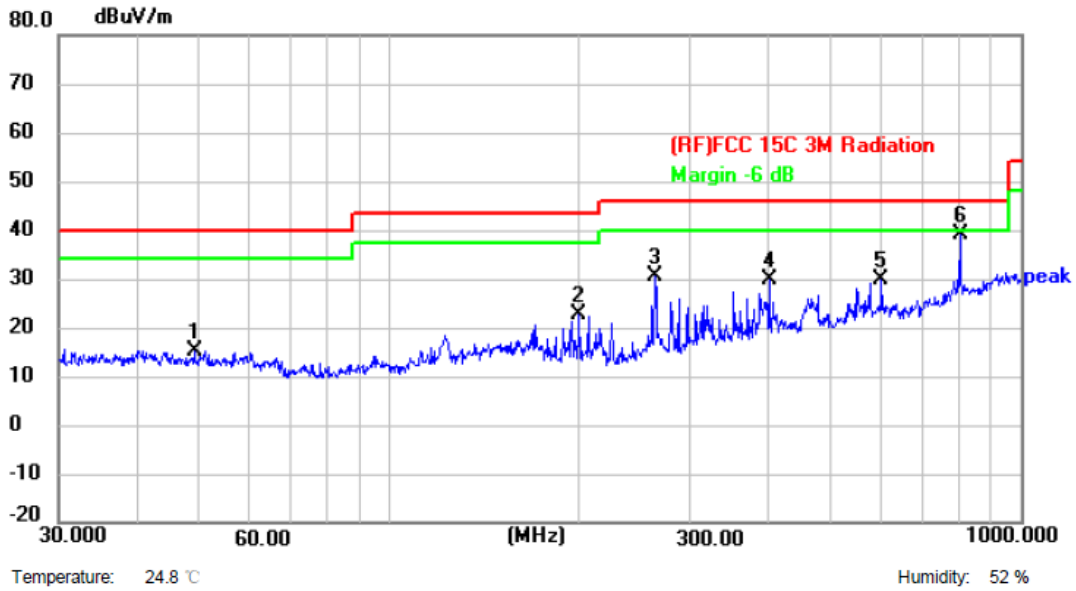
Humidity: 47 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	44.9006	47.02	-23.75	23.27	40.00	-16.73	peak	P
2	66.0342	48.50	-24.94	23.56	40.00	-16.44	peak	P
3	135.0319	49.84	-22.42	27.42	43.50	-16.08	peak	P
4	263.8190	51.27	-22.78	28.49	46.00	-17.51	peak	P
5	601.4265	47.45	-13.83	33.62	46.00	-12.38	peak	P
6 *	801.7863	51.63	-9.86	41.77	46.00	-4.23	peak	P

Emission Level= Read Level+ Correct Factor



Test Voltage:	AC 120V/60HZ
Ant. Pol.	Horizontal
Test Mode:	Mode 2 Adapter2#
Remark:	Only worse case is reported

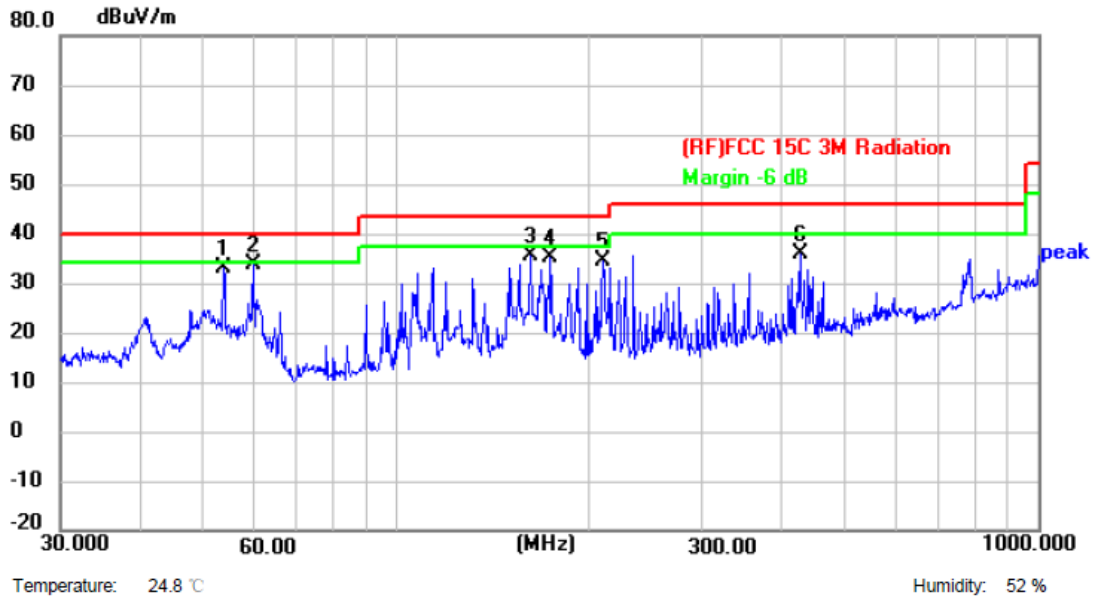


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	49.1865	39.99	-24.71	15.28	40.00	-24.72	peak	P
2	199.9855	47.29	-24.67	22.62	43.50	-20.88	peak	P
3	263.8190	53.24	-22.78	30.46	46.00	-15.54	peak	P
4	400.4318	49.87	-19.95	29.92	46.00	-16.08	peak	P
5	601.4265	43.76	-13.83	29.93	46.00	-16.07	peak	P
6 *	801.7863	48.84	-9.86	38.98	46.00	-7.02	peak	P

Emission Level= Read Level+ Correct Factor



Test Voltage:	AC 120V/60HZ
Ant. Pol.	Vertical
Test Mode:	Mode 2 Adapter2#
Remark:	Only worse case is reported



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	53.8818	57.52	-24.53	32.99	40.00	-7.01	peak	P
2 *	59.8588	58.06	-24.36	33.70	40.00	-6.30	peak	P
3	162.0414	57.49	-21.88	35.61	43.50	-7.89	peak	P
4	173.8135	58.14	-23.01	35.13	43.50	-8.37	peak	P
5	210.0482	58.47	-24.12	34.35	43.50	-9.15	peak	P
6	426.5210	53.92	-17.96	35.96	46.00	-10.04	peak	P

Emission Level= Read Level+ Correct Factor

----END OF THE REPORT----

