

TEST REPORT

Report No.: SHATBL2409002W01

Applicant: SHENZHEN AONI ELECTRONIC CO.,LTD

Product Name: 2K Battery Wi-Fi Smart Video Doorbell

Brand Name : Night Owl

Model Name : DB-DBH4-B

FCC ID : Z63-DB-DBH4-B

Test Standard : 47 CFR FCC Part 15, Subpart C (Section 15.247);

ANSI C63.10: 2013

Date of Test : 2024.08.9~2024.09.26

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(Chris Xu)

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(Guozheng Li)

Authorized Signatory :

(Terry Yang)

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REVISION HISTORY

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1	1 6 3	REVISION HISTORY	No.
Rev.	Issue Date	Revisions	Revised by
A0 2024.09.26		Initial Release	N/A

K3V



DECLARATION OF REPORT

- 1. The device has been tested by ATBL, and the test results show that the equipment under test (EUT) is in compliance with the requirements of 47 CFR 15.247. And it is applicable only to the tested sample identified in the report.
- 2. This report shall not be reproduced except in full, without the written approval of ATBL, this document only be altered or revised by ATBL, personal only, and shall be noted in the revision of the document.
- 3. The general information of EUT in this report is provided by the customer or manufacture, ATBL is only responsible for the test data but not for the information provided by the customer or manufacture.
- 4. The results in this report is only apply to the sample as tested under conditions. The customer or manufacturer is responsible for ensuring that the additional production units of this model have the same electrical and mechanical components.
- 5. In this report, '□' indicates that EUT does not support content after '□', and '☑' indicates that it supports content after '⊡'



SUMMARY OF TEST RESULT

Report Sectio n	Standard Section	Test Item	Judgmen t	Remark	
3.1 47 CFR 15.247(b)(3)		Maximum Peak Conducted Output Power	PASS	23	
3.2	E N	Duty Cycle	Report only	Z - Z	
2.2	47 CFR 15.247(a)(2)	6dB Bandwidth	PASS	//	
3.3	- F B	99% Bandwidth	Report only	5	
3.4 47 CFR 15.247(e)		47 CFR 15.247(e) Power Spectral Density		23	
3.5	47 CFR 15.247(d)	Conducted Band Edge	PASS	F- 1	
3.6	47 CFR 15.247(d)	Conducted Spurious Emission	PASS	- 1/2	
3.7	47 CFR 15.247(d)/15.209(a)/15.205 (a)	Radiated Spurious Emission and Restricted Band	PASS	3 ^V -	
3.8 47 CFR 15.207(a)		AC Power-Line Conducted Emission	PASS	8	
3.9	47 CFR 15.203	Antenna Requirements	PASS	- A	



1. GENERAL DESCRIPTION

1.1. Applicant

Name : SHENZHEN AONI ELECTRONIC CO.,LTD

Address : No.5,Bldg.,Honghui Industrial Park,2nd Liuxian Road,Xin'An streets, Bao'an District,

ShenZhen, China

1.2. Manufacturer

Name : SHENZHEN AONI ELECTRONIC CO.,LTD

Address : No.5,Bldg.,Honghui Industrial Park,2nd Liuxian Road,Xin'An streets, Bao'an District,

ShenZhen, China

1.3. Factory

Name : Aoni Intelligent Technology (Zhongshan) Co., LTD

Address : Floor 4,5,6,7,8,9, Building 2, NO. 138, Lefeng South Road, Lianfeng, Xiaolan Town,

Zhongshan City, Guangdong Province



1.4. General Information of EUT

	General Information						
Equipment Name	2K Battery Wi-Fi Smart Video Doorbell						
Brand Name	Night Owl						
Model Name	DB-DBH4-B						
Series Model	DB-DBH4-B,C-DB-H4DBCH,DB-H4DB,DB-DBH4-B-CN13						
Model Difference	There is no difference between themodels except the name. So all the test were performed on themodel DB-DBH4-B)						
Test sample(s) ID:	202408010004003						
Sample(s) Status:	Engineer sample						
Battery	Rated Voltage: 3.6V Charge Limit Voltage:4.2V Capacity: 2600mAh*2						
Hardware Version	V2.0						
Software Version	V1.0.56						
Connecting I/O Port(s)	Refer to the remark below.						

Remark:

The above information of EUT was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.



1.5. Equipment Specification

	E	Equipment Specifica	ation
Frequency Range	2412MHz - 2462MH	Z	20 F 20 10
Maximum AVG	☑802.11b:	16.234 dBm (0.042W)
Output Power To	☑802.11g:	11.656dBm (0.015W	()
Antenna	☑802.11n(HT)20:	11.488dBm (0.0 <mark>1</mark> 4W	/)
Type of Modulation	☑802.11b: DSSS (D	BPSK/DQPSK/CCK)	S F 33
	☑802.11g/n(HT): OF	FDM (BPSK/QPSK/16C	(AM/64QAM)
F 3	⊠siso	An <mark>te</mark> nna Type:	Shrapnel antenna
F		Antenna Gain:	3.28dBi
- 6	25	Antenna Number:	1 7 55
Antenna	□MIMO	Antenna Type:	
Information		Antenna Gain:	1
		Antenna Technology:	□Beamforming □CDD
		Division 10	Directional <mark>G</mark> ain:
	15	Directional Gain.	For PSD:



1.6. Modification of EUT

No modifications are made to the EUT during all test items.

1.7. Laboratory Information

Company :	Shanghai ATBL Technology Co., Ltd.
Address :	Building 8,No.160 Basheng Road, Waigaoqiao Free Trade Zone, Pudong New Area, Shanghai
Telephone :	+86(0)21-51298625

1.8. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

47 CFR Part 15 Subpart C §15.247

FCC KDB 558074 D01 15.247 Meas Guidance v05r02

ANSI C63.10-2013

Remark:

All test items were verified and recorded according to the standards and without any deviation during the test.



2. TEST CONFIGURATION OF EUT

2.1. Carrier Frequency Channel

Frequency Band	Channel	Frequency MHz	Channel	Frequency MHz
	01	2412	07	2442
	02	2417	08	2447
2400 - 2483.5	03	2422	09	2452
MHz	04	2427	10	2457
	05	2432	11	2462
	06	2437		13

Remark:

1. For 20 MHz Bandwidth: Low Channel: **CH 01_2412 MHz**; Middle Channel: **CH 06_2437 MHz**; High Channel: **CH 11_2462 MHz**.

2.2. Test Modes

Final test modes are considering the modulation and worse data rates as below table.

Summary Table of Test Modes							
Test Item	Mode	Data Rate	Channel				
	☑802.11b:	1 Mbps	Low, Middle, High				
For Conducted and Radiated Test	☑802.11g:	6 Mbps	Low, Middle, High				
	☑802.11n(HT)20:	MCS 0	Low, Middle, High				
	□802.11n(HT)40:	MCS 0	Low, Middle, High				
	□802.11ac(VHT)20:	MCS 0	Low, Middle, High				
	□802.11ac(VHT)40:	MCS 0	Low, Middle, High				
	□802.11ax(HE)20:	MCS 0	Low, Middle, High				
	□802.11ax(HE)40:	MCS 0	Low, Middle, High				
For AC Power-line Conducted Emission	802.11b:Low, High Channel	N. F. Co.	25 F				

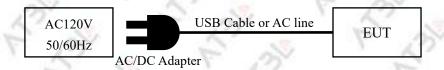
Remark:

1.All the test modes of Radiated Spurious Emission (RSE) were tested at the worst data rate; only the worse data shown in report.



2.3. Block Diagram of Test System

2.3.1. For AC Power-Line Conducted Emission



2.3.2. For Radiated Spurious Emission



2.3.3. For Conducted Test



2.4. Description of Support Units

NO. Unit		Unit Brand Model		Description
1	PC	Redmi	G36	for fixed frequency
2	Adapter	N/A	BS05A-0501000US	for AC Power-Line Conducted Emission
3	132	100		CO TO TO S

2.5. Test Software and Power Level

During the test, the channel and power control software provided by the customer is used to control the operation channel and output power level.

2.6. EUT Operating Conditions

For AC power-line conducted emission, the EUT was connected under the large package sizes transmission.

For radiated spurious emission and conducted test, the engineering test program was provided and make the EUT to continuous transmit/receive.



2.7. Equipment List

2.7.1. For AC Power-Line Conducted Emission

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date		
1	Test Receiver	ESPI	ESPI	101679	May.17.202 4	May.16.2025		
2	LISN	ENV216	ENV216	100300	May.17.202 4	May.16.2025		
3	LISN	ENV216	ENV216	100333	May.17.202 4	May.16.2025		
4	Thermometer	DeLi	N/A	N/A	N/A	N/A		
Test so	oftware	9	201	1 4	10	L.		
Name of Software:				FALA				
Versio	n of Software:	1234	EZ-E	EZ-EMC				

2.7.2. For Radiated Spurious Emission

Item	Test Equipment	Manufacturer	Model No	Serial No.	Calibration Date	Calibration Due Date	
1	Spectrum Analyzer	Keysight	N9020A	MY50200811	May.17.202 4	May.16.2025	
2	BiLog Antenna	SCHWARZB ECK	VULB 9168	01174	May.17.202 4	May.16.2025	
3	Broad-band Horn antenna	COM-POWE R	SCHWAF ZBECK	02334	May.17.202 4	May.16.2025	
4	Amplifier (25MHz-1GHz)	JPT	JPA-10M G32	1 21010100035 001	May.17.202 4	May.16.2025	
5	Amplifier (1-18GHz)	JPT	JPA0118 55-303A	The same of the sa	May.17.202 4	May.16.2025	
Test s	oftware		47	a le	123	0	
Name of Software:				LA	F 3		
Version	on of Software:	- No.	EM	EMC-RI(Ver.4A2.1)			



2.7.3. For Conducted Test

						100
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date
T	S <mark>pectrum</mark> Analyzer	Keysight	N9020A	MY5051013 6	July.09,2024	July.08,2025
2	Spectrum Analyzer	R&S	FSV40-N	101761	July.09,2024	July.08,2025
3	Vector signal generator	Agilent	N5182A	MY5014355 5	July.09,2024	July.08,2025
4	Analog signal generator	Keysight	N5173B	MY6040302 6	July.09,2024	July.08,2025
5	Power Sensor	Rediteq	RPR3006W	RPR6W-220 1002	July.09,2024	July.08,2025
6	Power meter	Anritsu	ML2496A	1935001	Sep.28,2024	Sep.27,2025
7	Power sensor	Anritsu	MA2411B	1911006	Sep.28,2024	Sep.27,2025
8	Power sensor	DARE	RPR3006W	16I00054SN 016	Sep.28,2024	Sep.27,2025
9	Power sensor	DARE	RPR3006W	RPR6W-200 1005	Sep.28,2024	Sep.27,2025
10	Power sensor	Rediteq	RPR3006W	RPR6W-220 1002	Sep.28,2024	Sep.27,2025
11	Power sensor	Rediteq	RPR3006W	RPR6W-220 1003	Sep.28,2024	Sep.27,2025
12	Power sensor	Keysight	U2021XA	MY5912000 4	Sep.28,2024	Sep.27,2025
13	Wideband radio communication tester	R&S	CMW500	101331	July.09,2024	Sep.27,2025
14	Thermometer	DeLi	DeLi	N/A	July.09,2024	Sep.27,2025
15	Constant temperature and humidity box	KSON	THS-B6C-1 50	9159K	Mar.28,2024	Mar.27,2025
Test S	oftware	25	0	N. T	25	
Name	of So <mark>ft</mark> ware:	WCS-WCN	. 4	7	F	25
100	n of Software:	23.09.07	P. 1	125	- Pro-	



2.8. Measurement Uncertainty

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

No.	Item	Uncertainty
1 👃	RF output power, conducted	±0.958dB
2	Conducted spurious emissions	±2.988dB
3	All emissions, radiated 9KHz-30MHz	±0.96dB
4	All emissions, radiated 30MHz-1GHz	±2.50dB
5	All emissions, radiated 1GHz-18GHz	±3.51dB
6	All emissions, radiated 18GHz-40GHz	±4.68dB
7	Occupied bandwidth	±23.20Hz
8	Power spectral density	±0.886dB



3. TEST RESULT

3.1. Maximum conducted output power

3.1.1. Limit

<u>47 CFR 15.247(b)(3)</u>: For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt.

<u>47 CFR 15.247(b)(4)</u>: If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

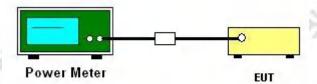
<u>47 CFR 15.247(c)(1)(i)</u>: Systems operating in the 2400–2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

3.1.2. Test Procedure

<u>ANSI C63.10-2013 clause 11.9.2.3.2 Method AVGPM</u>: Method AVGPM is a measurement using an RF average power meter, as follows:

measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Because the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

3.1.3. Test Setup



3.1.4. Test Result of Maximum Conducted Output Power

Please refer to the Appendix A1.



3.2. Duty Cycle

3.2.1. Limit

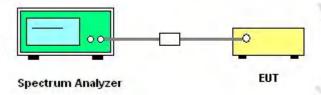
There is no limit requirement for Duty Cycle.

3.2.2. Test Procedure

<u>ANSI C63.10-2013 clause 11.6</u>: Measurements of duty cycle and transmission duration shall be performed using one of the following techniques:

- 1. A diode detector and an oscilloscope that together have a sufficiently short response time to permit accurate measurements of the ON and OFF times of the transmitted signal.
- 2. The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the ON and OFF times of the transmitted signal:
 - 1 Set the center frequency of the instrument to the center frequency of the transmission.
 - ② Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value.
 - ③ Set VBW ≥ RBW. Set detector = peak or average.
 - 4 The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if T \leq 16.7 μ s.)

3.2.3. Test Setup



3.2.4. Test Result of Duty Cycle

Please refer to the Appendix A2.



3.3. 6dB Bandwidth and 99% Bandwidth

3.3.1. Limit

<u>47 CFR 15.247(a)(2)</u>: Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

There is no limit requirement for 99% Bandwidth.

3.3.2. Test Procedure

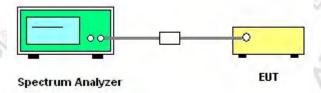
- 1. The testing of 6dB Bandwidth follows <u>ANSI C63.10-2013 clause 11.8.1</u>: The steps for the first option are as follows:
 - Set RBW = 100 kHz.
 - ② Set the VBW ≥ [3 × RBW].
 - 3 Detector = peak.
 - (4) Trace mode = max hold.
 - 5 Sweep = auto couple.
 - 6 Allow the trace to stabilize.
 - The maximum 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.
- 2. The testing of 99% Bandwidth follows <u>ANSI C63.10-2013 clause 6.9.3</u>: The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:
 - ① The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
 - ② The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.
 - ③ Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in ANSI C63.10-2013 clause 4.1.5.2.
 - (4) Step a) through step c) might require iteration to adjust within the specified range.
 - 5 Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
 - 6 Use the 99% power bandwidth function of the instrument (if available) and report the



measured bandwidth.

- The instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.
- ® The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

3.3.3. Test Setup



3.3.4. Test Result of 6dB Bandwidth and 99% Bandwidth

Please refer to the Appendix A3.



3.4. Power Spectral Density

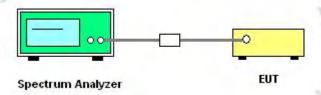
3.4.1. Limit

<u>47 CFR 15.247(e)</u>: For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

3.4.2. Test Procedure

- 1. Set analyzer center frequency to DTS channel center frequency.
- 2. Set the span to 1.5 times the DTS bandwidth.
- 3. Set the RBW to 3 kHz.
- Set the VBW ≥ [3 × RBW].
- 5. Detector =RMS.
- 6. Sweep time = auto couple.
- 7. Trace mode = averaging.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level within the RBW.

3.4.3. Test Setup



3.4.4. Test Result of Power Spectral Density

Please refer to the Appendix A4.



3.5. Conducted Band Edge

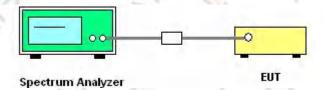
3.5.1. Limit

47 CFR 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

3.5.2. Test Procedure

- 1. The testing follows ANSI C63.10-2013 clause 11.13.
- 2. Set to the maximum power setting and enable the EUT transmit continuously.
- 3. Set RBW = 100 kHz, VBW=300 kHz, RMS Detector. Conducted Band Edge measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the 100 kHz bandwidth within the band that contains the highest level of the desired power when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.
 - 4. Measure and record the results in the test report.
- 5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.5.3. Test Setup



3.5.4. Test Result of Conducted Band Edge

Please refer to the Appendix A5.



3.6. Conducted Spurious Emission

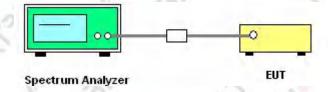
3.6.1. Limit

47 CFR 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

3.6.2. Test Procedure

- 1. The testing follows ANSI C63.10-2013 clause 7.8.8.
- The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.The path loss was compensated to the results for each measurement.
 - 3. Set to the maximum power setting and enable the EUT transmit continuously.
- 4. Set RBW = 100 kHz, VBW = 300kHz, scan up through 10th harmonic. All harmonics / spurs must be at least 30 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.
 - 5. Measure and record the results in the test report.
- The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.6.3. Test Setup



3.6.4. Test Result of Conducted Spurious Emission

Please refer to the Appendix A5.



3.7. Radiated Spurious Emission and Restricted Band

3.7.1. Limit

47 CFR 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

<u>47 CFR 15.205(a)</u>: Only spurious emissions are permitted in any of the frequency bands listed below:

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (MHz)
0.090-0.110	12.29-12.293	149.9-150.05	1660-1710	8.025-8.5
0.495-0.505	12.51975-12.52025	156.52475-156.52525	1718.8-1722.2	9.0-9.2
2.1735-2.1905	12.57675-12.57725	156.7-156.9	2200-2300	9.3-9.5
4.125-4.128	13.36-13.41	162.012 <mark>5-</mark> 167.17	2310-2390	10.6-12.7
4.17725-4.17775	16.42-16.423	167.72-173.2	2483.5-2500	13.25-13.4
4.20725-4.20775	16.69475-16. <mark>6</mark> 9525	240-285	2690-2900	14.47-14.5
6.215-6.218	16.80425-16.80475	322-335.4	3260-3267	15.35-16.2
6.26775-6.26825	25.5-25.67	399.9-410	3332-3339	17.7-21.4
6.31175-6.31225	37.5-38.25	608-614	3345.8-3358	22.01-23.12
8.291-8.294	73-74.6	960-1240	3600-4400	23.6-24.0
8.362-8.366	74.8-75.2	1300-1427	4500-5150	31.2-31.8
8.37625-8.38675	108-121.94	1435-1626.5	5350-5460	36.43-36.5
8.41425-8.41475	123-138	1645.5-1646.5	7250-7750	Above 38.6



<u>47 CFR 15.209(a)</u>: The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	2400 <mark>0/</mark> 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



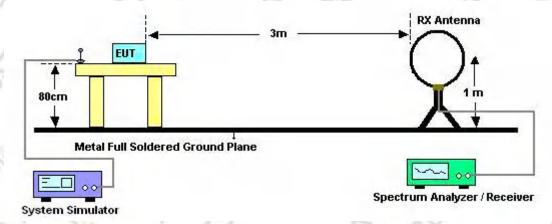
3.7.2. Test Procedure

- 1. The testing follows ANSI C63.10-2013 clause 11.11 & 11.12.
- 2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
- 3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
- 4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
 - 5. Corrected Reading: Antenna Factor + Cable Loss + Read Level Pre-amp Factor = Level.
- 6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
- 7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
 - 8. Use the following spectrum analyzer settings:
 - 1) Span shall wide enough to fully capture the emission being measured;
 - 2 When frequency < 1 GHz:
 - Set RBW=100 kHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold:
 - ③ When frequency ≥ 1 GHz:
 - Set RBW = 1 MHz; VBW = 3 MHz for peak measurement;
 - Set RBW = 1 MHz; VBW = 10 Hz, when duty cycle is no less than 98 percent or VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

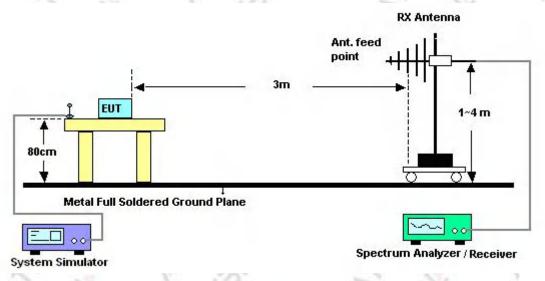


3.7.3. Test Setup

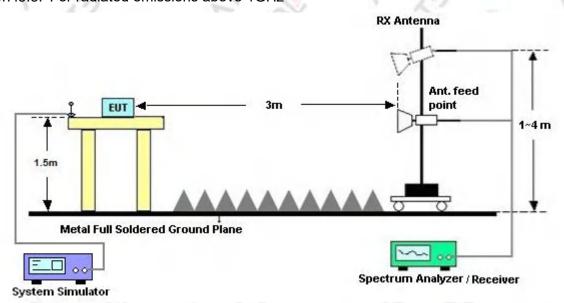
3.7.3.1. For radiated emissions below 30MHz



3.7.3.2. For radiated emissions from 30MHz to 1GHz



3.7.3.3. For radiated emissions above 1GHz





3.7.4. Test Result of Radiated Spurious Emission

For 9 kHz ~ 30 MHz

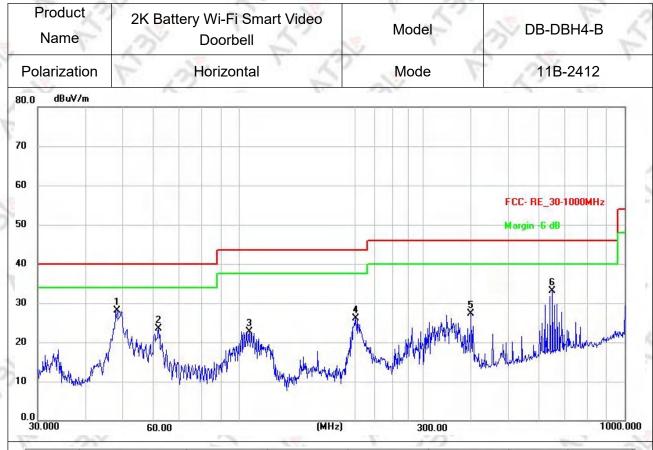
Note:

- 1.The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.
- 2.The all data rate modes had been test, but only worse test data was recorded in the test report.

Below 1GHz:

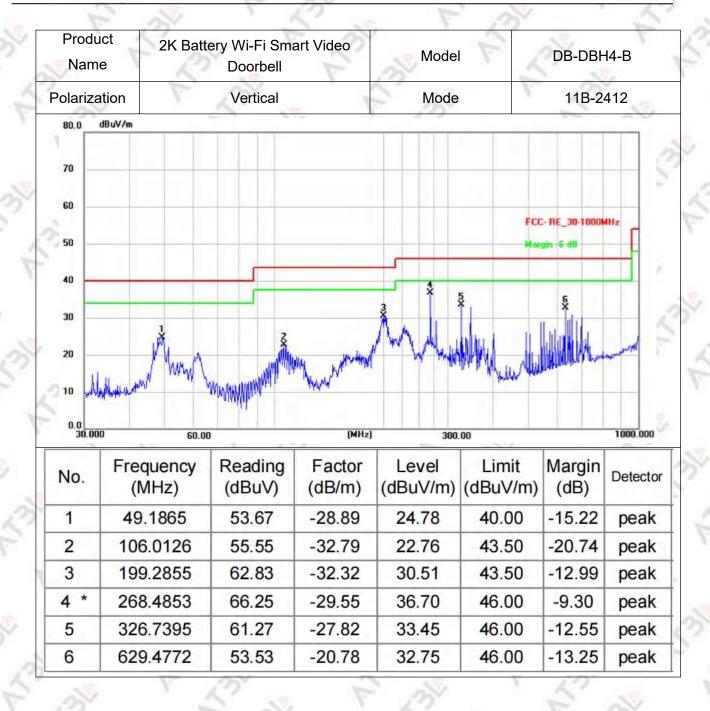
Note:

All modes have been tested, only worst case(802.11b-2412MHz)mode was recorded in the test report if no any others.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	48.1626	57.11	-28.93	28.18	40.00	-11.82	peak
2	61.7781	53.08	-29.64	23.44	40.00	-16.56	peak
3	106.0126	55.46	-32.79	22.67	43.50	-20.83	peak
4	200.6881	58.65	-32.49	26.16	43.50	-17.34	peak
5	399.0302	53.32	-26.08	27.24	46.00	-18.76	peak
6	649.6597	53.53	-20.52	33.01	46.00	-12.99	peak



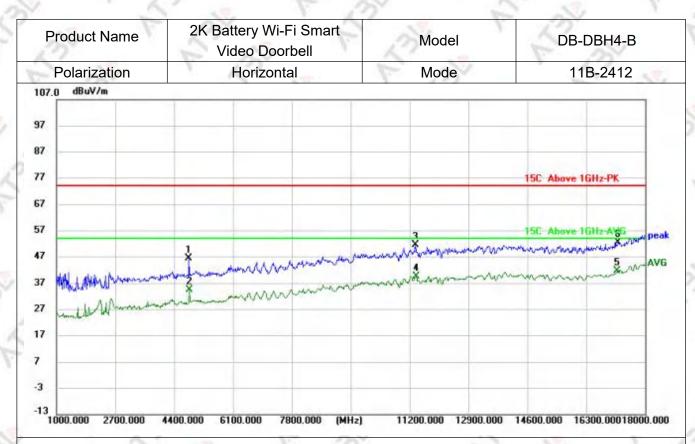




Above 1GHz:

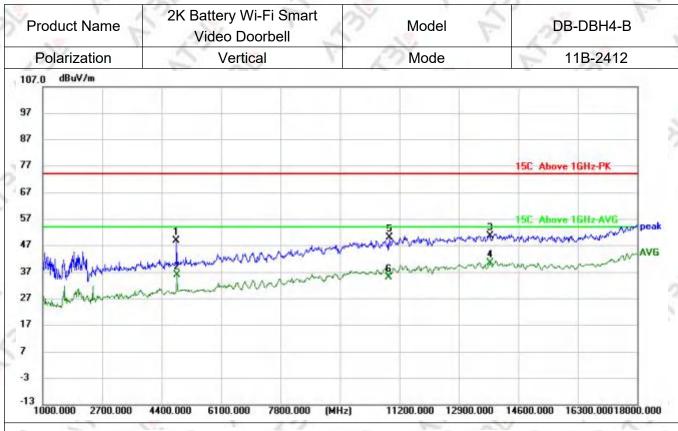
Note:

- 1. The all data rate modes had been test, but only worse test data was recorded in the test report.
- 2.In frequency ranges 18 ~25GHz no any other harmonic emissions detected which are tested to compliance with the limit. No recording in the test report. No any other emissions level which are attenuated less than 20dB below the limit. No recording in the test report.
- 3. We used the filter to test and the main frequency was filtered out.



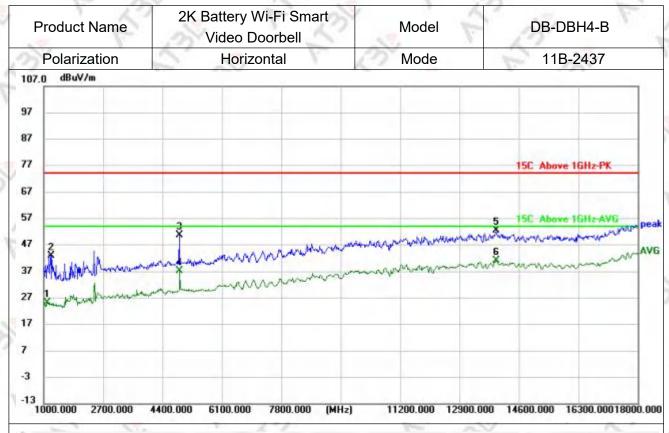
					And the second s		
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detecto
1	4825.000	53.34	-6.74	46.60	74.00	-27.40	peak
2	4842.000	41.10	-6.63	34.47	54.00	-19.53	AVG
3	11370.000	43.37	8.42	51.79	74.00	-22.21	peak
4	11387.000	31.29	8.44	39.73	54.00	-14.27	AVG
5 *	17201.000	27.07	14.64	41.71	54.00	-12.29	AVG
6	17218.000	37.80	14.75	52.55	74.00	-21.45	peak
0.3	No.		7.	0.18	1000		





No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detecto
1	4825.000	55.56	-6.74	48.82	74.00	-25.18	peak
2	4842.000	42.56	-6.63	35.93	54.00	-18.07	AVG
3	13784.000	39.63	11.06	50.69	74.00	-23.31	peak
4 *	13784.000	29.37	11.06	40.43	54.00	-13.57	AVG
5	10911.000	42.50	7.75	50.25	74.00	-23.75	peak
6	10894.000	27.47	7.74	35.21	54.00	-18.79	AVG





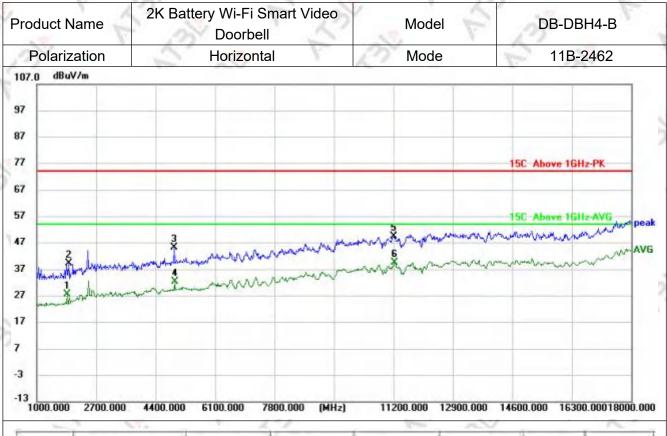
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1102.000	44.91	-19.61	25.30	54.00	-28.70	AVG
2	1204.000	62.12	-19.31	42.81	74.00	-31.19	peak
3	4876.000	57.12	-6.41	50.71	74.00	-23.29	peak
4	4893.000	43.47	-6.30	37.17	54.00	-16.83	AVG
5	13954.000	41.22	11.25	52.47	74.00	-21.53	peak
6 *	13954.000	29.83	11.25	41.08	54.00	-12.92	AVG





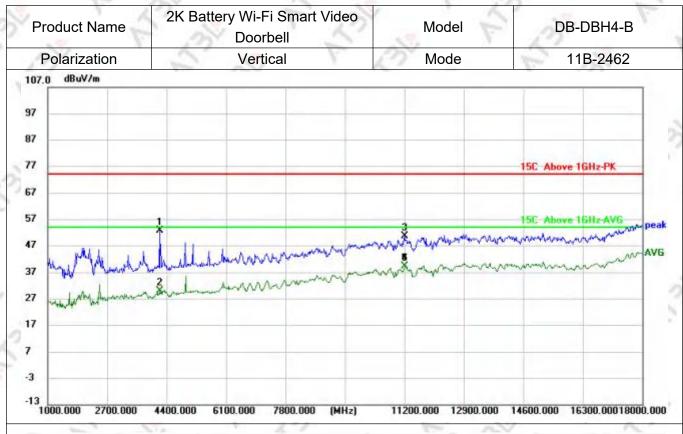
					20" (20%) "		
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detecto
1	4842.000	36.30	-6.63	29.67	54.00	-24.33	AVG
2	4876.000	55.19	-6.41	48.78	74.00	-25.22	peak
3 *	11268.000	30.82	8.27	39.09	54.00	-14.91	AVG
4	11353.000	42.01	8.39	50.40	74.00	-23.60	peak
5	11353.000	42.01	8.39	50.40	74.00	-23.60	peak
6	11353.000	42.01	8.39	50.40	74.00	-23.60	peak





No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1867.000	45.29	-17.75	27.54	54.00	-26.46	AVG
2	1918.000	56.98	-17.51	39.47	74.00	-34.53	peak
3	4927.000	51.47	-6.07	45.40	74.00	-28.60	peak
4	4944.000	38.40	-5.96	32.44	54.00	-21.56	AVG
5	11217.000	41.23	8.20	49.43	74.00	-24.57	peak
6 *	11234.000	31.29	8.23	39.52	54.00	-14.48	AVG





No.	Frequency	Reading	Factor	Level	Limit	Margin	Detector
1	(MHz) 4196.000	(dBuV) 61.27	(dB/m) -8.31	(dBuV/m)	(dBuV/m) 74.00	(dB) -21.04	peak
2	4213.000	38.36	-8.21	30.15	54.00	-23.85	AVG
3	11200.000	42.54	8.18	50.72	74.00	-23.28	peak
4 +	11217.000	31.29	8.20	39.49	54.00	-14.51	AVG
5 *	11217.000	31.29	8.20	39.49	54.00	-14.51	AVG
6 *	11217.000	31.29	8.20	39.49	54.00	-14.51	AVG



Product Name	2K Battery Wi-Fi Smart Vide Doorbell	o Model	DB-DBH4-B
Polarization	Horizontal	Mode	11g-2412
107.0 dBuV/m			
97			
37			
77			15C Above 1GHz-PK
67			
57		3	15C Above 16Hz-AVG
47	1	and a superior and the	with the same and the same of
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27 marchand	mun municipal and a second		
17			
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3			
-13			
1000.000 2700.000	4400.000 6100.000 7800.000 (MHz	11200.000 12900.000	14600.000 16300.00018000.00

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detecto
1	4825.000	51.08	-6.74	44.34	74.00	-29.66	peak
2	4842.000	41.24	-6.63	34.61	54.00	-19.39	AVG
3	13478.000	41.42	10.72	52.14	74.00	-21.86	peak
4 *	13495.000	29.93	10.74	40.67	54.00	-13.33	AVG
5	10333.000	42.38	6.73	49.11	74.00	-24.89	peak
6	10333.000	30.95	6.73	37.68	54.00	-16.32	AVG



Product Name Polarization		2K Bat	2K Battery Wi-Fi Smart Video Doorbell		Mod	Model		DB-DBH4-B		
		0	Vertical			Mode		11g-2 <mark>4</mark> 12		
07.0	g dBuV/m		7100		-				7	
17										
37										
37										
7							15C Above 1GHz-PK			
57										
57				_	3		15C Above	IGHz-AV6	pe	
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27		menthem	mm	mile me						
	mary Mariana de									
7										
3										
13										
	000.000 2700.000	4400.000 6	100.000 780	0.000 (MHz)	11200.000 1	2900.000	14600.000 1	6300.0001800	0.00	

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4825.000	51.22	-6.74	44.48	74.00	-29.52	peak
2	4842.000	42.17	-6.63	35.54	54.00	-18.46	AVG
3	12237.000	42.35	8.84	51.19	74.00	-22.81	peak
4 *	12271.000	31.29	8.87	40.16	54.00	-13.84	AVG
5	8667.000	42.94	3.30	46.24	74.00	-27.76	peak
6	8684.000	32.49	3.35	35.84	54.00	-18.16	AVG



Product Name	2K Battery Wi-Fi Smart Vio	deo Model	DB-DBH4-B	
Polarization	Horizontal	Mode	11g-2437	
07.0 dBuV/m	V. 525	18.00	1 22	
,				
			15C Above 1GHz-PK	
			15C Above 1GHz-AVG	
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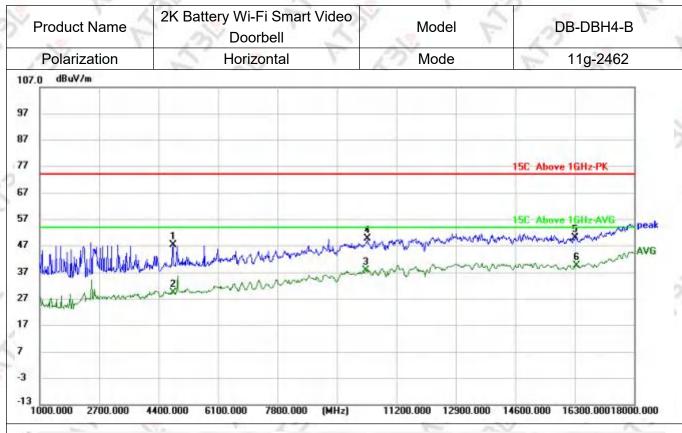
	A				7.70		
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4876.000	52.33	-6.41	45.92	74.00	-28.08	peak
2	4893.000	41.81	-6.30	35.51	54.00	-18.49	AVG
3	12186.000	40.63	8.81	49.44	74.00	-24.56	peak
4 *	12237.000	31.16	8.84	40.00	54.00	-14.00	AVG
5	8667.000	44.44	3.30	47.74	74.00	-26.26	peak
6	8684.000	32.45	3.35	35.80	54.00	-18.20	AVG



0	Vertic	2K Battery Wi-Fi Smart Video Doorbell		100	7.9	10		
	Vertic	:al	13	Mode		11g-24		
		-						
					15	iC Above 1	6Hz-PK	
					15	C Above 1	SHz-AVG	pea
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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4876.000	51.12	-6.41	44.71	74.00	-29.29	peak
2	4893.000	41.25	-6.30	34.95	54.00	-19.05	AVG
3	12254.000	42.01	8.85	50.86	74.00	-23.14	peak
4 *	12254.000	31.19	8.85	40.04	54.00	-13.96	AVG
5	8684.000	43.89	3.35	47.24	74.00	-26.76	peak
6	8701.000	32.68	3.40	36.08	54.00	-17.92	AVG





No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4808.000	54.23	-6.85	47.38	74.00	-26.62	peak
2	4825.000	36.23	-6.74	29,49	54.00	-24.51	AVG
3	10333.000	30.99	6.73	37.72	54.00	-16.28	AVG
4	10367.000	42.97	6.81	49.78	74.00	-24.22	peak
5	16317.000	37.95	12.14	50.09	74.00	-23.91	peak
6 *	16351.000	27.59	12.20	39.79	54.00	-14.21	AVG



Product Name	2K Battery Wi-Fi Smart Video Doorbell	Model	DB-DBH4-B
Polarization	Vertical	Mode	11g-2 <mark>4</mark> 62
07.0 dBuV/m			
7			
7			
7			15C Above 1GHz-PK
7			
7		5	15C Above 16Hz-AV6
7 May May be warmen	and the state of t	man born	15C Above 16Hz-AVG
7 May My My manus	make make a second		
1000.000 2700.000 440	00.000 6100.000 7800.000 (MHz)	11200.000 12900.000	14600.000 16300.00018000.00

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detecto
1	4927.000	52.01	-6.07	45.94	74.00	-28.06	peak
2	4944.000	42.09	-5.96	36.13	54.00	-17.87	AVG
3	6491.000	50.20	-1.92	48.28	74.00	-25.72	peak
4	6525.000	34.26	-1.81	32.45	54.00	-21.55	AVG
5	12815.000	42.09	9.63	51.72	74.00	-22.28	peak
6 *	12866.000	30.45	9.74	40.19	54.00	-13.81	AVG



Product Name	2K Battery Wi-Fi Doorb	The second second	Model	DB-DBH4	-В
Polarization	Horizontal		Mode	11n20-24	12
107.0 dBuV/m	per.		16.7	- I	27
07:0					
97					-
07					_
77				15C Above 1GHz-PK	
57					
7	3			5 15C Above 16Hz-AV	
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17					
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'					-
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13					

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1136.000	65.33	-19.51	45.82	74.00	-28.18	peak
2	1170.000	45.51	-19.40	26.11	54.00	-27.89	AVG
3	4825.000	61.12	-6.74	54.38	74.00	-19.62	peak
4	4825.000	37.56	-6.74	30.82	54.00	-23.18	AVG
5	13937.000	42.26	11.23	53.49	74.00	-20.51	peak
6 *	13954.000	29.88	11.25	41.13	54.00	-12.87	AVG





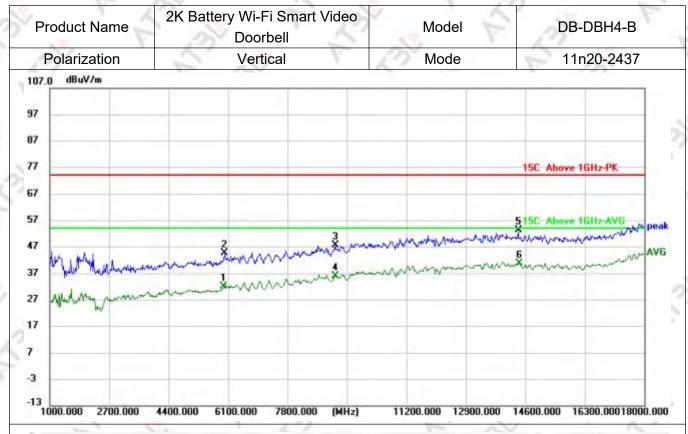
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4825.000	58.85	-6.74	52.11	74.00	-21.89	peak
2	4842.000	45.17	-6.63	38.54	54.00	-15.46	AVG
3	7256.000	43.99	0.32	44.31	74.00	-29.69	peak
4	7256.000	33.89	0.32	34.21	54.00	-19.79	AVG
5	13478.000	39.46	10.72	50.18	74.00	-23.82	peak
6 *	13495.000	29.59	10.74	40.33	54.00	-13.67	AVG
4.7		The same of the sa	7.6	4		17.0	750



Product Name	2K Battery Wi-Fi Smart Video Doorbell			Model	DE	B-DBH4-B
Polarization	0	Horizontal	V 2	Mode	1	1n20-2437
07.0 dBuV/m	100	.73				277
,						
					15C Above	16Hz-PK
		3			6 15C Above	1GHz-AVG
Markey Markey	J.	Induktur Innum	Manustral	mannen-	-\$www.	numa A'
3) (MHz) 1			

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detecto
1	4876.000	52.16	-6.41	45.75	74.00	-28.25	peak
2	4893.000	44.09	-6.30	37.79	54.00	-16.21	AVG
3	6338.000	34.84	-2.32	32.52	54.00	-21.48	AVG
4	6389.000	52.07	-2.18	49.89	74.00	-24.11	peak
5 *	13512.000	30.18	10.76	40.94	54.00	-13.06	AVG
6	13614.000	40.64	10.87	51.51	74.00	-22.49	peak





No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	5981.000	35.33	-3.31	32.02	54.00	-21.98	AVG
2	5998.000	48.08	-3.20	44.88	74.00	-29.12	peak
3	9160.000	43.44	4.40	47.84	74.00	-26.16	peak
4	9177.000	31.67	4.41	36.08	54.00	-17.92	AVG
5	14396.000	41.94	11.46	53.40	74.00	-20.60	peak
6 *	14430.000	29.27	11.47	40.74	54.00	-13.26	AVG



20-2462
tz-PK
Iz-AVG pea
married Mile
AVI
nave per

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4927.000	57.53	-6.07	51.46	74.00	-22.54	peak
2 *	4944.000	47.92	-5.96	41.96	54.00	-12.04	AVG
3	8208.000	42.78	2.22	45.00	74.00	-29.00	peak
4	8276.000	32.35	2.35	34.70	54.00	-19.30	AVG
5	13291.000	29.68	10.44	40.12	54.00	-13.88	AVG
6	13410.000	41.33	10.61	51.94	74.00	-22.06	peak

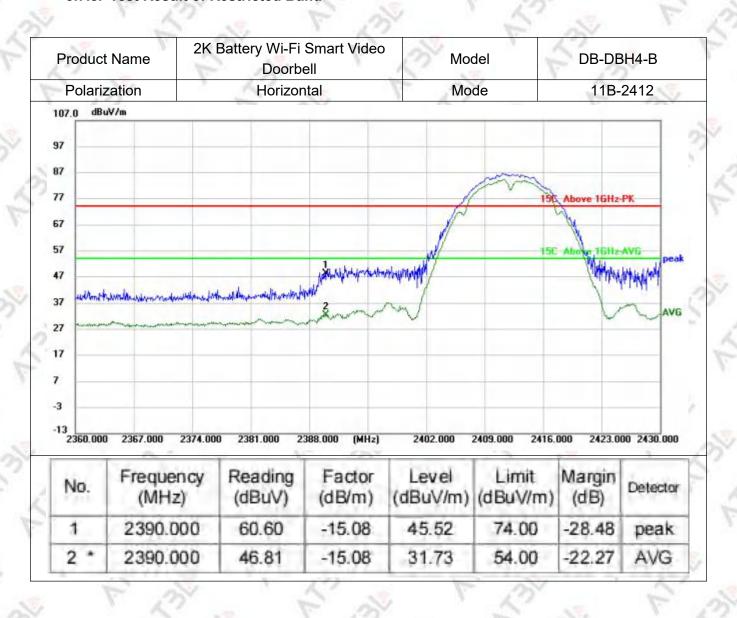


roduct Name	2K Battery Wi-Fi Smart V Doorbell	/ideo Model	DB-DBH4-B
Polarization	Vertical	Mode	11n20-2462
107.0 dBuV/m			
97			
87			
77			15C Above 16Hz-PK
67			
57	1	5	15C Above 16Hz-AV6
47	R MAN CANADATANA	majorman majorman de la companya de	AVE.
37 White Lablaman	and and a second	unaman warmen war	manne
27 Marchandinan	more hammen was a second		
17			
"			
7			
-3			
-13			

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4927.000	58.51	-6.07	52.44	74.00	-21.56	peak
2 *	4944.000	48.05	-5.96	42.09	54.00	-11.91	AVG
3	8701.000	33.04	3.40	36.44	54.00	-17.56	AVG
4	8718.000	43.79	3.45	47.24	74.00	-26.76	peak
5	13478.000	40.99	10.72	51.71	74.00	-22.29	peak
6	13495.000	30.12	10.74	40.86	54.00	-13.14	AVG



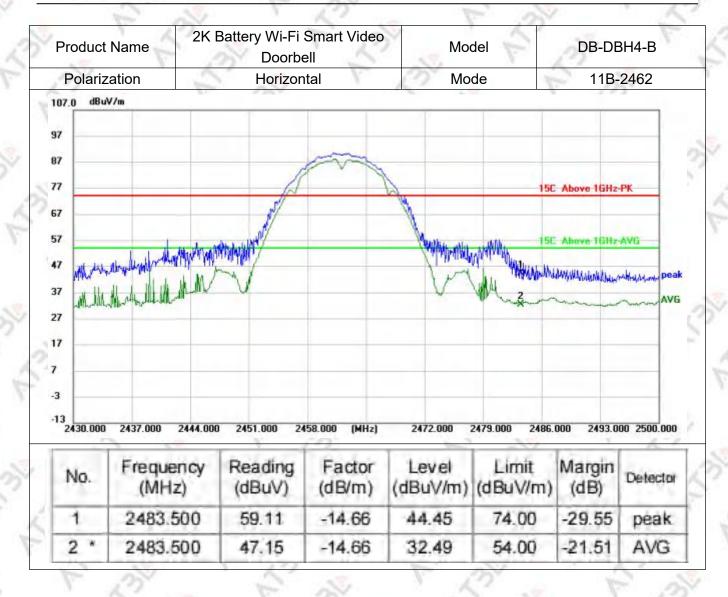
3.7.5. Test Result of Restricted Band





Product	Name 2K	2K Battery Wi-Fi Smart Video Doorbell		Mode	F	DB-DBH4-B	
Polariz	ation	Vertical			7	11B-	2412
107.0 dBu	W/m						
97							
87					The same		
77				1	150	Above 16Hz	-PK
67						W.	
57				M	150	Ahove 16Hz	-AVG
47			Maryhalman	- Mahalinghaha		John Marie	ATT WATER
			116			1	1 1 1 1 1 1
37 willmit	startification or admitted for a for	the state of the second	(Mark	n /		1	-
-	derrolle water maderial by made	the self-bear will the restrict	2	M			AVI
27	derila de la composition della	through the constitution of the constitution o	2				AVI
27	Association of the second	Americal design with the control of					AVI
27 17 7	Association of the second seco	Americal design would be a resident	M. Z.				AVI
27 17 7	Association of the second	Americal design with the control of					AVI
27 17 7			2 2 388.000 (MHz)	2402.000	2409.000 2416.	000 2423.0	AVI
27 17 7 -3 -13 2360.000	and the same of th		- Lucia	2402.000 Level	2409.000 2416. Limit	000 2423.0 Margin	00 2430.000
27 17 7 -3	2367.000 2374.00	00 2381.000 2	388.000 (MHz)		Limit	Margin	00 2430.000
27 17 7 -3 -13 2360.000	2367.000 2374.00 Frequency	00 2381.000 2 Reading	388.000 (MHz)	Level	Limit	Margin	00 2430.000







Product N	lame 2K	Battery Wi-Fi Video Doorbe	400	Mode	I P	DB-DE	3H4-B
Polariza	tion	Vertical		Mode	. 1	11B-	2462
97 87 77	//m	d			15	C Above 1GH:	≥-PK
57 47 37 27	handryfaliste til fil fil fil fil fil fil fil fil fil f	MANAMAN AND THE STREET OF THE		W MANAGER TO SERVICE AND ADDRESS OF THE PARTY OF THE PART	head of highly	C Above 16H:	AVG
7 -3 -13 2430.000	2437.000 2444.0 Frequency (MHz)	00 2451.000 2 Reading (dBuV)	Factor	Level (dBuV/m)	2479.000 2486 Limit (dBuV/m)	Margin	000 2500.000 Detector
1	2483.500	56.40	-14.66	41.74	74.00	-32.26	peak
2 *	2483.500	45.28	-14.66	30.62	54.00	-23.38	AVG



2390.000

51.30

Product I	Name 2K	2K Battery Wi-Fi Smart Video Doorbell Horizontal			del	DB-D	DBH4-B
Polariza	ation				de	11G-2412	
07.0 dBuV/m 7 7 7 7			The Market policy to the first	MINING TO THE PARTY OF THE PART		15C Above	1GHz-PK
7 7 7	an aller and a second	Marine and the State of the Sta	3 may market				Manyalasan
3	867.000 2374.000 Frequency	Reading	88.000 (MHz)	2402.000 Level	Limit	Margin	423.000 2430.0
1	(MHz) 2390.000	(dBuV) 62.46	(dB/m) -15.08	(dBuV/m) 47.38	(dBuV/m) 74.00	(dB) -26.62	peak

-15.08

36.22

54.00

-17.78

AVG

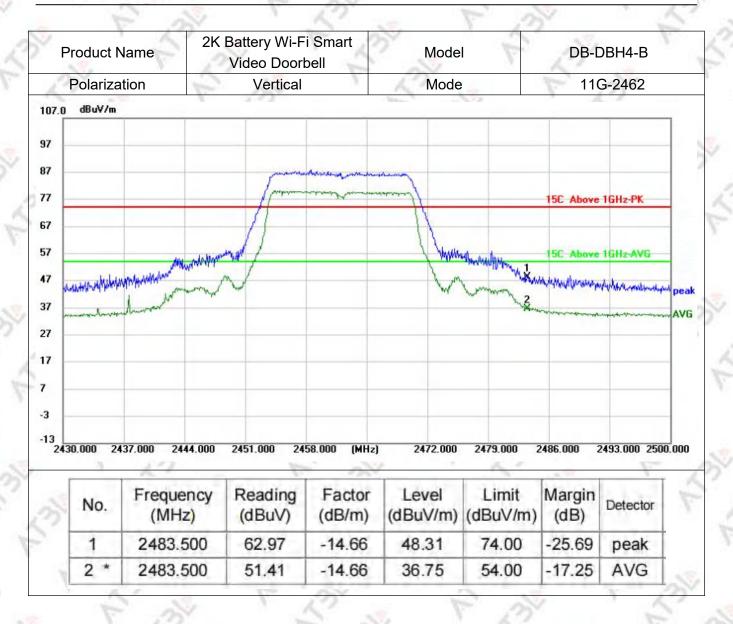


	Product N	lame	Battery Wi-F Video Doort	100	Mode	72	DB-DBH4-B		
10	Polariza	tion	Vertical	1	Mode		11G-2412		
107.0	dBuV/m		3-3		Section 1				
97									
87						which were and the said	merchany	_	
77					Som	habarennathala	15C Above	1GHz-PK	
67							1,	1	
57					I VANNA			Malhan	
				at the party of	(MV)****		15E Above	the described of	pea
47			and administration	My Mary	Many			Who so public soon	۸V
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37 27	and the second	and the consequently by a resident by the left	the state of the s	2 months of the Walter					
37 27 17	all and the state of the state	and the consequently beginning the second	in a second and a s	S. Carlot M. A. A.					
37 27 17 7	and the second s	and the control of th	the state of the s	S. Market M. A. A.					
37 27 17 7 -3									
37 27 17 7 -3		367.000 2374.000		88.000 (MHz		2409.000	2416.000	2423.000 2430.0	
37 27 17 7 -3		367.000 2374.000	2381.000 23	88.000 (MHz	2402.000	4	4.71		
37 27 17 7 -3		367.000 2374.000 Frequency	2381.000 23	88.000 (MHz	2402.000 Level	Limit	Margin		
37 27 17 7 -3	60.000 23	2374.000 Frequency (MHz)	2381.000 23 Reading (dBuV)	Factor (dB/m)	2402.000 Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	2423.000 2430.0 Detector	
37 27 17 7 -3	60.000 23	367.000 2374.000 Frequency	2381.000 23	88.000 (MHz	2402.000 Level	Limit	Margin	2423.000 2430.0	

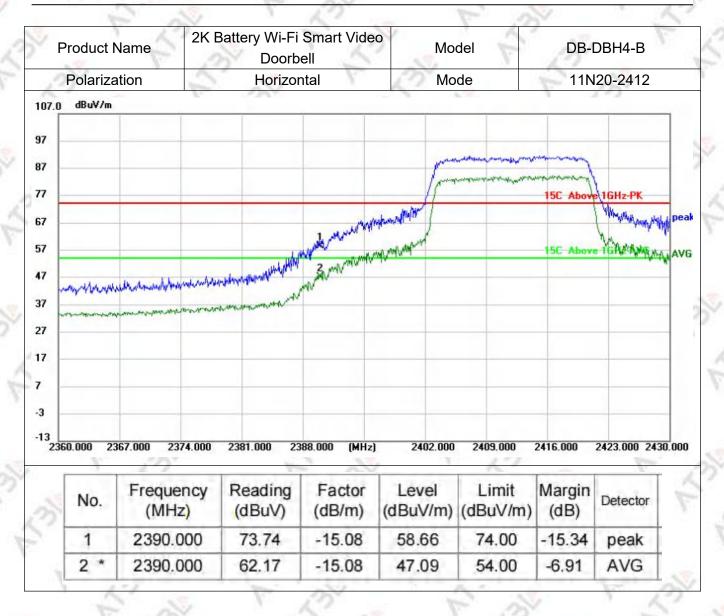


Product I	Name	2K B	attery Wi-Fi Doorbe	Smart Video ell	Мо	del	DB-D	DBH4-B	
Polariza	ation	0	Horizon	ntal	Мо	de	110	G-2462	
7.0 dBuV/m		7	2000		22.280	18.		- 3	
			mound	manical minutes					
			James						
					M. Mr.		15C Above	IGHz-PK	
Associate Shipping	Alle a	hampalan April			Middle	Harry Mary 1 1			
	A PARTY OF	and the fact of the state of	war		man water	March March	15C Above	IGHz-AVG	
Market distributed	Mary Mary					San	superphysical states	HWHWINHAUS-includes	pe
- manufacture	A CONTRACT						Moramore	-	AV
,									
,									
3	37.000 24	44.000	2451.000 245	8.000 (MHz)	2472.000	2479.000 2	486.000 24	493.000 2500	.00
No.	Freque (MH		Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	
1	2483.	500	74.44	-14.66	59.78	74.00	-14.22	peak	
2 *	2483.	500	61.06	-14.66	46.40	54.00	-7.60	AVG	











Product N	Name 2K	Battery Wi-F Video Doorl		Mode	1 6	DB-I	DBH4-B	V
Polariza	ition	Vertical	1	Mode		11N	20-2412	
07.0 dBuV/m 7 7 7 7			S. Mary Market	fra	mandan dan dan dan dan dan dan dan dan da		1GHz-PK	Д реа
2 Hearthanna	man mange de de la compansa de la co	hadden that well who had	Married Township	M. Maray			MANAM	AV
7 Mallahap	867.000 2374.000 Frequency (MHz)		Factor (dB/m)		Limit	Margin	2423.000 243	0.000
V	367.000 2374.000 Frequency	2381.000 23 Reading	88.000 (мн _г) Factor	2402.000 Level	Limit	Margin		0.000



Product N	Name	2K Batt	ery Wi-Fi Doorbe	Smart Video ell	19	Mode	el	DB-C	ВН4-В	
Polariza	ition	0	Horizon	ntal	13	Mode	Э	11N	20-2462	
7.0 dBuV/m	01	100	2000				0's	7 2	7	
			Institute de	was de la	many)					
	Willyware	Le Marchaghagh	الم		last last	June.	Mary May M	15C Above 1	GHz-AVG	
Ansiephylogia phylopy	man promption of promption of	Mary In a				h had	maken of any South	Janes Marie Company	ark arkensak maken Applekapeterinaak	pe A
3 2430.000 24	37.000 24	44.000 245	51.000 245	58.000 (MHz)	2472.0	000	2479.000 24	486.000 24	193.000 2500	.00
No.	Freque (MH		Reading (dBuV)	Factor (dB/m)	Leve (dBuV/	3-0	Limit dBuV/m)	Margin (dB)	Detector	
1	2483.	500	76.10	-14.66	61.44	4	74.00	-12.56	peak	
2 *	2483	500	62.86	-14 66	48 20	2	54.00	-5.80	AVG	



Product N	ame		Battery Wi-Fi Video Doorb	2	Mode	1 6	DB-D	ВН4-В	1
Polarizat	ion		Vertical	1.	Mode		11N:	20-2462	
07.0 dBuV/m		100	1000		22.30	. 70	3		_
7									
37									
			MANANA	shopmanyn	white				
77			A WALLAND	WWWWWW	MANAGANANA.		15C Above	1GHz-PK	-
7									
57	-,4 k	ALAHAN			T. Mary	Addad	15C Above	16Hz-AV6	
17 Amhladhaghaghaghaghaghaghaghaghaghaghaghaghagh	ULMANNY!	MALALA	To the second		W. L.	KULAN KANDANY	maked models	Mulhana	
Nieszynik a k.a.	A A A A A A A A A A A A A A A A A A A	WANTY	Arr .		M.,	WARMAN Z	A aka bith	41/41/maphaga	1
MANAMANA PAR	hopherh.					- heral	hellen her hard	white	WA
7									
3							-		-
13 2430.000 243	7.000 244	14.000	2451.000 245	8.000 (MHz)	2472.000	2479.000 2	2486.000	2493.000 250	00.0
2430.000 243	7.000 244	4.000	2431.000 243	10.000 (MH2)	2472.000	2475.000 2	2400.000	2433.000 230	JU. U
1,7	Freque	ncv	Reading	Factor	Level	Limit	Margin	13.7	1
No.	(MH		(dBuV)	(dB/m)	(dBuV/m)	the state of the s	(dB)	Detector	
1	2483.5		61.41	-14.66	46.75	74.00	-27.25	peak	+
			1111111				100000000000000000000000000000000000000		+
2 *	2483.5	UUC	52.06	-14.66	37.40	54.00	-16.60	AVG	



3.8. AC Power-Line Conducted Emission

3.8.1. Limit

<u>47 CFR 15.207(a)</u>: For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table:

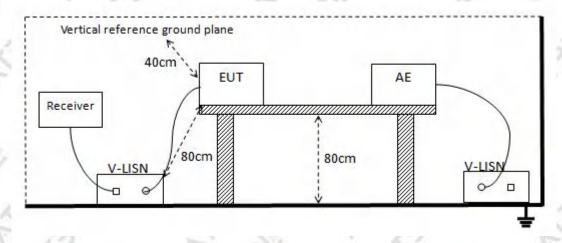
Frequency of emission (MHz)	Conducted limit (dBµV)					
Frequency of emission (Min2)	Quasi-peak	Average				
0.15-0.5	66 to 56*	56 to 46*				
0.5-5	56	46				
5-30	60	50				

^{*}Decreases with the logarithm of the frequency.

3.8.2. Test Procedure

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
 - 2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
 - 3. All the support units are connecting to the other LISN.
 - 4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
 - 5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
 - 6. Both sides of AC line were checked for maximum conducted interference.
 - 7. The frequency range from 150 kHz to 30 MHz was searched.
- 8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9 kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

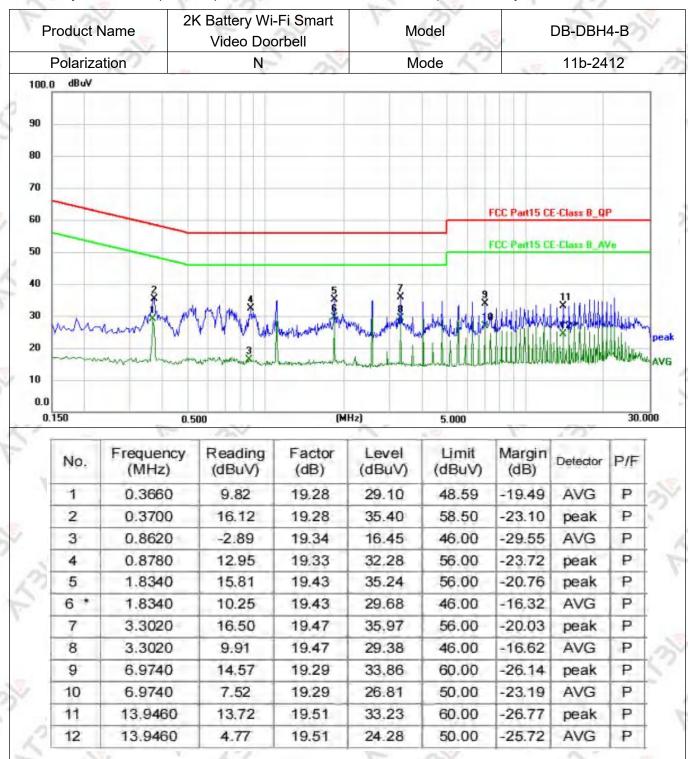
3.8.3. Test Setup





3.8.4. Test Result of AC Power-Line Conducted Emission

Note: only worst case (802.11b) mode was recorded in the test report if no any others





11

12

2.5660

4.7660

5.71

5.25

Product Name		2K Battery Wi-Fi Smart Video Doorbell		" all	Model		DB-DBH4-B		
Polariza	ation	No.	N.	M	ode	Line	11b-2412		
0.0 dBuV		2-7		Service .	200		14.1		
						FCC Part15 C	E-Class B_Q	P	
						FCC Part15 C	E-Class B_A	Ve	
	* 3	3	*	5 X	6 X		ululi	Ш	
mm	mundhum	work was the at	a description they	mil Maridonalina	Let Balanth	Montallide		MHALLAL	
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	- who have	and the second second second	n described to the second	manyhamb				Maldida	
			name and the	manhanda				Mark Street	
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0 0,150	0.50	none de la companya d	(M	Hz)	5.000			30.0	
the same of the sa	13		-	Ÿ	1 4	Maraia		A TOP A STATE OF THE STATE OF T	
the same of the sa	0.50 Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	5.000 Limit (dBuV)	Margin (dB)	Detector	A TOP A STATE OF THE STATE OF T	
0,150	Frequency	Reading	Factor	Level	Limit		Detector	30.0	
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	(dB)		30.0 P/F	
No.	Frequency (MHz) 0.3660	Reading (dBuV)	Factor (dB) 19.28	Level (dBuV) 31.06	Limit (dBuV) 58.59	(dB) -27.53	Detector	30.0 P/F	
No.	Frequency (MHz) 0.3660 0.5180	Reading (dBuV) 11.78 10.59	Factor (dB) 19.28 19.26	Level (dBuV) 31.06 29.85	Limit (dBuV) 58.59 56.00	(dB) -27.53 -26.15	Detector peak peak	30.0 P/F P	
No. 1 2 3	Frequency (MHz) 0.3660 0.5180 1.0980	Reading (dBuV) 11.78 10.59 12.65	Factor (dB) 19.28 19.26 19.27	Level (dBuV) 31.06 29.85 31.92	Limit (dBuV) 58.59 56.00 56.00	(dB) -27.53 -26.15 -24.08	Detector peak peak peak	30.0 P/F P P	
No. 1 2 3 4	Frequency (MHz) 0.3660 0.5180 1.0980 1.8340	Reading (dBuV) 11.78 10.59 12.65 11.61	Factor (dB) 19.28 19.26 19.27	Level (dBuV) 31.06 29.85 31.92 31.04	Limit (dBuV) 58.59 56.00 56.00	(dB) -27.53 -26.15 -24.08 -24.96	Detector peak peak peak peak	30.0 P/F P P	
No. 1 2 3 4 5	Frequency (MHz) 0.3660 0.5180 1.0980 1.8340 2.5660	Reading (dBuV) 11.78 10.59 12.65 11.61 12.52	Factor (dB) 19.28 19.26 19.27 19.43 19.47	Level (dBuV) 31.06 29.85 31.92 31.04 31.99	Limit (dBuV) 58.59 56.00 56.00 56.00	(dB) -27.53 -26.15 -24.08 -24.96 -24.01	Detector peak peak peak peak peak	30.0 P/F P P P	
No. 1 2 3 4 5	Frequency (MHz) 0.3660 0.5180 1.0980 1.8340 2.5660 4.7660	Reading (dBuV) 11.78 10.59 12.65 11.61 12.52 11.27	Factor (dB) 19.28 19.26 19.27 19.43 19.47	Level (dBuV) 31.06 29.85 31.92 31.04 31.99 30.70	Limit (dBuV) 58.59 56.00 56.00 56.00 56.00	(dB) -27.53 -26.15 -24.08 -24.96 -24.01 -25.30	Detector peak peak peak peak peak peak	30.0 P/F P P P	
No. 1 2 3 4 5 6 7	Frequency (MHz) 0.3660 0.5180 1.0980 1.8340 2.5660 4.7660 0.3660	Reading (dBuV) 11.78 10.59 12.65 11.61 12.52 11.27 5.13	Factor (dB) 19.28 19.26 19.27 19.43 19.47 19.43	Level (dBuV) 31.06 29.85 31.92 31.04 31.99 30.70 24.41	Limit (dBuV) 58.59 56.00 56.00 56.00 56.00 48.59	(dB) -27.53 -26.15 -24.08 -24.96 -24.01 -25.30 -24.18	Detector peak peak peak peak peak AVG	30.0 P/F P P P P	

25.18

24.68

46.00

46.00

19.47

19.43

AVG

AVG

-20.82

-21.32



3.9. Antenna Requirement

3.9.1. Standard Requirement

According to <u>47 CFR 15.203</u>, 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.

3.9.2. EUT Antenna

The antenna used for the EUT is Shrapnel antenna, which meets the antenna requirements.



4. Test Setup Photographs

Please refer to the Appendix F.



Appendix A of data

A1.Maximum conducted output power

Test Result

Conducted AVG output power

Mode	Channel	Ant. 0 (dBm)	Limit (dBm)	Result
1 1/2	1	15.318	≤30	PASS
IEEE 802.11b	6	16.234	≤30	PASS
2	11	16.197	≤30	PASS
20 V	1	10.769	≤30	PASS
IEEE 802.11g	6	10.645	≤30	PASS
22	11	11.656	≤30	PASS
200	11 23	10.924	≤30	PASS
IEEE 802.11n_20	6	11.297	≤30	PASS
F 2	11	11.488	≤30	PASS

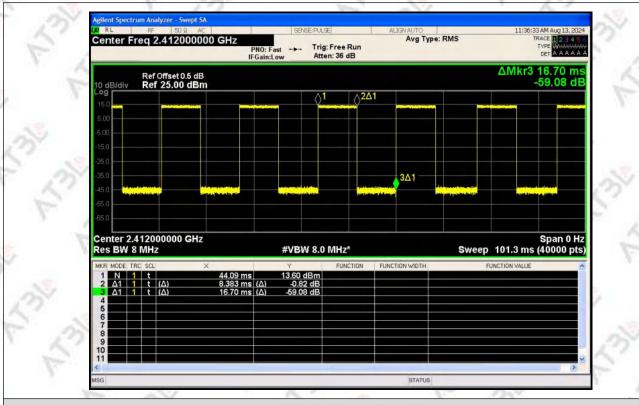


A2.Duty Cycle

Test Result

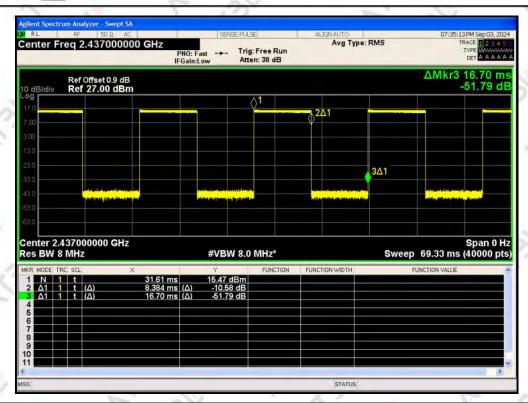
Mode	Data rates	Channel	Antenna	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)
IEEE	135	1	10.	8.383	16.700	50.20	0.5020	2.993
802.11b	1	6	V X	8.384	16.702	50.20	0.5020	2.993
002.11b	1 6	11	F	8.384	16.702	50.20	0.5020	2.993
- IEEE	I.	15	71	2.118	4.056	52.22	0.5222	2.8216
IEEE	6	6	0	2.033	4.046	50.25	0.5025	2.9886
802.11g	3	11	2	2.033	4.046	50.25	0.5025	2.9886
Year C	7	1	2	0.356	1.372	25.98	0.2598	5.8536
IEEE	MCS 0	6	1	0.356	1.372	25.98	0.2598	5.8536
802.11n_20	4	= 11	F	0.356	1.373	25.96	0.2596	5.857

Test Graphs

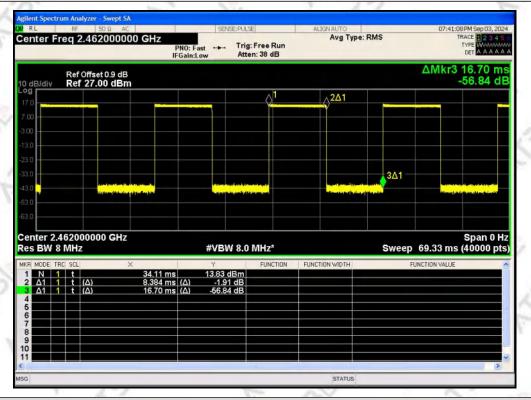


IEEE 802.11b_20MHz_Channel 1



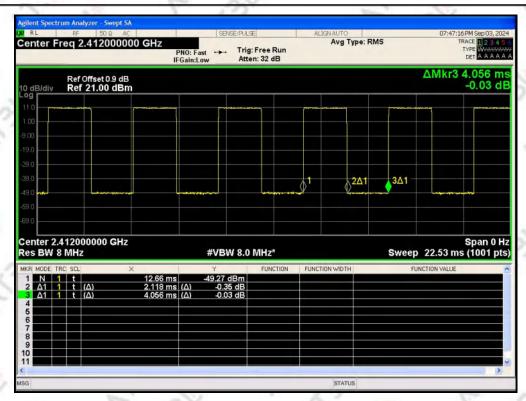


IEEE 802.11b_20MHz_Channel 6

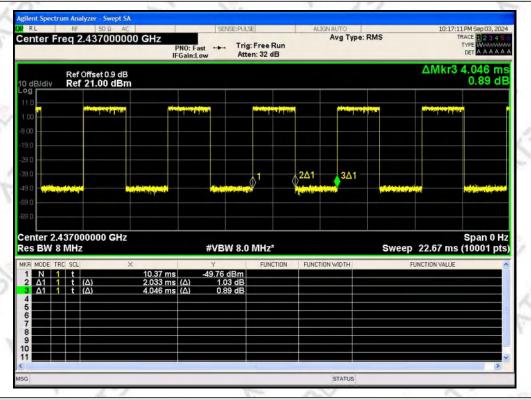


IEEE 802.11b_20MHz_Channel 11



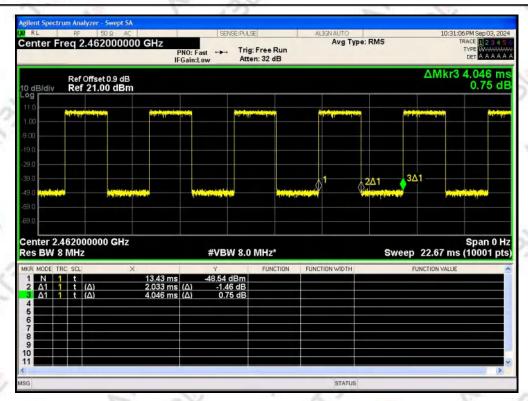


IEEE 802.11g_20MHz_Channel 1

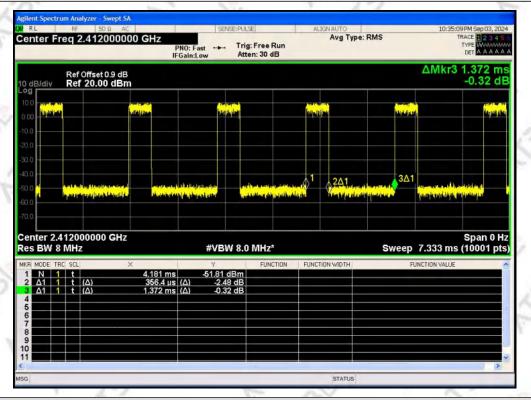


IEEE 802.11g_20MHz_Channel 6



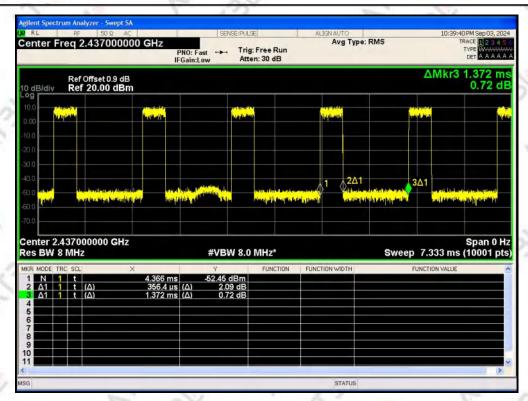


IEEE 802.11g_20MHz_Channel 11

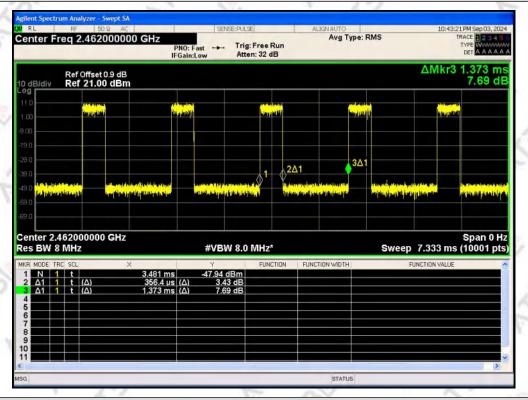


IEEE 802.11n_20MHz_Channel 1





IEEE 802.11n_20MHz_Channel 6



IEEE 802.11n_20MHz_Channel 11



A3.6dB Bandwidth and 99% Bandwidth

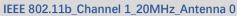
6dB Bandwidth

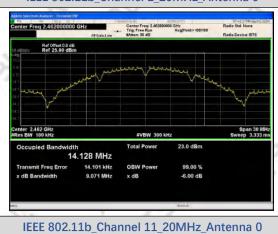
Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE	<i>(3</i>) 1	Pro-	2412	9.545	2.65	PASS
IEEE	6	W.	2437	9.532	23	PASS
802.11b	11		2462	9.071	21	PASS
IEEE	1	20	2412	16.32	13	PASS
	6	0	2437	16.3 <mark>6</mark>	≥0.5	PASS
802.11g	11	10	2462	16.34		PASS
TEEE S	1	F .0	2412	17.66	S. F.	PASS
IEEE 802.11n 20	6	0	2437	17.65		PASS
002.1111_20	11 🤻		2462	17.66	10	PASS

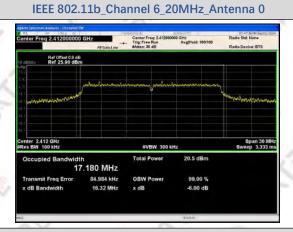
Test Graphs







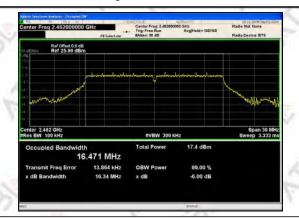




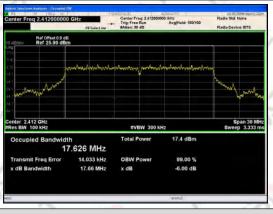
IEEE 802.11g_Channel 1_20MHz_Antenna 0







IEEE 802.11g_Channel 6_20MHz_Antenna 0

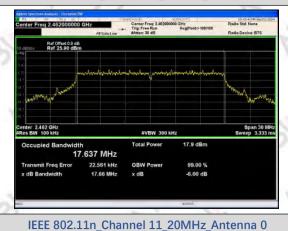


IEEE 802.11g_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 6_20MHz_Antenna 0

IEEE 802.11n_Channel 1_20MHz_Antenna 0



4.

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99% Bandwidth

Mode	Channel	Ant.	Center Frequency (MHz)	99% BW (MHz)
125	21	V 20	2412	15.301
IEEE 802.11b	6	Pro-	2437	14.188
1 13	11	450	2462	14.155
F 27	1	17	2412	17.540
IEEE 802.11g	6	0	2437	16.736
The state of	11	The sale	2462	16.711
2	2 2	1 62	2412	17.731
IEEE 802.11n_20	6	V 12	2437	17.777
1	T 11		2462	17.771

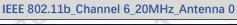
Test Graphs





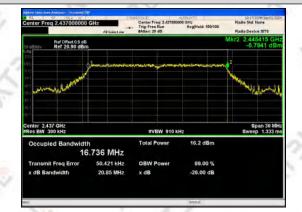
IEEE 802.11b_Channel 1_20MHz_Antenna 0



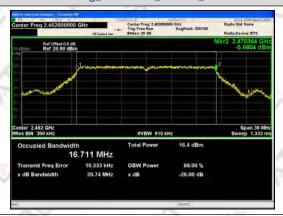




IEEE 802.11b_Channel 11_20MHz_Antenna 0



IEEE 802.11g_Channel 1_20MHz_Antenna 0

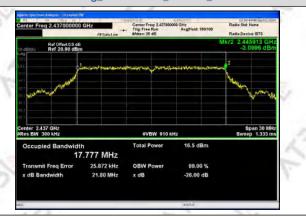




IEEE 802.11g_Channel 6_20MHz_Antenna 0



IEEE 802.11g_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 6_20MHz_Antenna 0

IEEE 802.11n_Channel 1_20MHz_Antenna 0



IEEE 802.11n_Channel 11_20MHz_Antenna 0

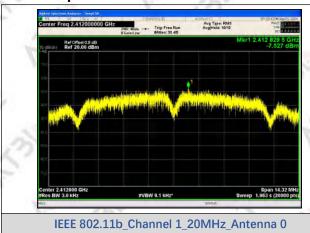


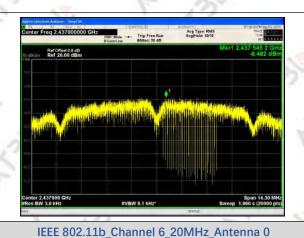
A4.Power Spectral Density

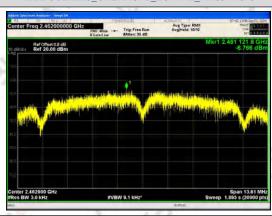
Test Result

Mode	Channel	PSD (dBm/3kHz) Ant. 0	Duty Cycle Factor (dB)	Test result PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
, 7,	1	-7.527	2.993	-4.534	N. 73	PASS
IEEE 802.11b	6	-8.482	2.993	-5.489	1	PASS
6	11	-6.766	2.993	-3.773	/	PASS
	1 1	-14.799	2.8216	-11.9774	17.	PASS
IEEE 802.11g	6	-15.466	2.9886	-12.4774	≤8	PASS
25	11	-15.594	2.9886	-12.6054	The Car	PASS
PIEEE	1	-17.480	5.8536	-11.6264	13	PASS
802.11n 20	6	-17.080	5.8536	-11.2264	F	PASS
002.1111_20	11	-16.645	5.857	-10.788	- P	PASS

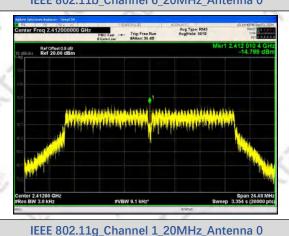
Test Graphs



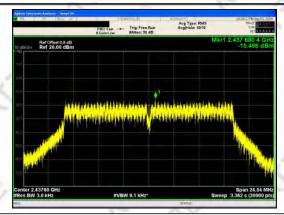


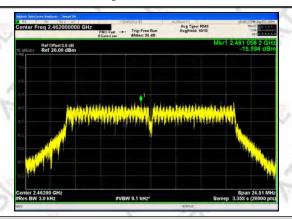


IEEE 802.11b_Channel 11_20MHz_Antenna 0



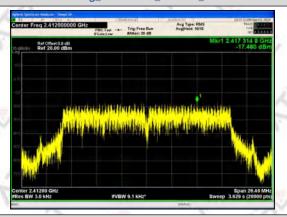


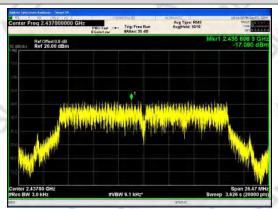




IEEE 802.11g_Channel 6_20MHz_Antenna 0

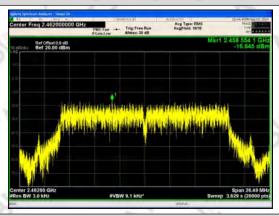






IEEE 802.11n_Channel 1_20MHz_Antenna 0

IEEE 802.11n_Channel 6_20MHz_Antenna 0



IEEE 802.11n_Channel 11_20MHz_Antenna 0



A5.Conducted Band Edge and Conducted Spurious Emission

Test Result

Mode	Channel	Ant.	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
1	135		2396.97	-23.917	-22.79	-1.127	PASS
	10	1	2400.00	-35.653	-22.79	-12.863	PASS
V	1 13		4827.40	-52.860	-22.79	-30.070	PASS
	100	23	7226.40	-52.484	-22.79	-29.694	PASS
254		^'	9652.80	-53.345	-22.79	-30.555	PASS
0	3	F 13	24938.8	-38.609	-22.79	-15.819	PASS
N).	Line	4872.31	-52.320	-22.74	-29.580	PASS
IEEE	2011	(4)	7313.12	-49.849	-22.74	-27.109	PASS
802.11b	0	7.	9750.20	-52.555	-22.74	-29.815	PASS
15	N 23	Y	24915.7	-37.821	-22.74	-15.081	PASS
	10	No	2483.50	-47.044	-22.19	-24.854	PASS
Vice	1	12	4940.35	-53.049	-22.19	-30.859	PASS
10	11	1	7381.79	-52.267	-22.19	-30.077	PASS
1.	200	10	9851.33	-52.649	-22.19	-30.459	PASS
	-	A.	24855.2	-39.209	-22.19	-17.019	PASS
7	13		52.50	-44.053	-30.47	-13.583	PASS
	E. 3	2	2398.66	-34.394	-30.47	-3.924	PASS
25	. 0	18	2400.00	-38.220	-30.47	-7.750	PASS
1	1 /	135	4830.50	-69.728	-30.47	-39.258	PASS
12		0	7234.50	-67.797	-30.47	-37.328	PASS
lin	201	1	9652.80	-69.375	-30.47	-38.905	PASS
ieee S	21	1.	4891.03	-52.940	-29.9	-23.040	PASS
IEEE	125		7316.25	-51.382	-29.9	-21.482	PASS
802.11g	6	No.	9756.44	-53.355	-29.9	-23.455	PASS
2	1 A	7 10	24892.6	-38.885	-29.9	-8.985	PASS
47	A.	125	2483.50	-42.518	-29.53	-12.988	PASS
25		5	4904.77	-52.270	-29.53	-22.740	PASS
100	11	N.	7387.41	-50.535	-29.53	-21.005	PASS
, y	0	- 3	9843.83	-52.268	-29.53	-22.738	PASS
	- 35		24850.8	-39.046	-29.53	-9.516	PASS
4	0	18	2398.27	-33.629	-29.95	-3.679	PASS
28	Y	35,	2400.00	-40.288	-29.95	-10.338	PASS
12		- 2	4812.40	-53.745	-29.95	-23.795	PASS
F	1 1	5	7237.60	-52.075	-29.95	-22.125	PASS
IEEE	250	1.	9646.60	-53.039	-29.95	-23.089	PASS
802.11n_20	25		24873.3	-38.946	-29.95	-8.996	PASS
	E AL	6	4885.42	-53.324	-29.63	-23.694	PASS
N.	6	100	7293.77	-50.527	-29.63	-20.897	PASS
/	1	125	9740.21	-53.170	-29.63	-23.540	PASS



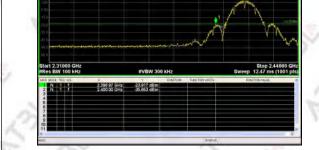
Report No.:SHATBL2409002W01

Avg Type: Log-Pur AvgHold: 100/100

-	2 7	, ,	24902.0	-38.429	-29.63	-8.799	PASS
V	1	400	2483.50	-48.306	-29.31	-18.996	PASS
1	L.	234	4916.00	-52.406	-29.31	-23.096	PASS
122	11	2 4	7388.66	-50.431	-29.31	-21.121	PASS
12 m	§. \	10	9848.83	-52.733	-29.31	-23.423	PASS
1 10		line.	24915.1	-37.776	-29.31	-8.466	PASS

Test Graphs





In-Band Reference Level
IEEE 802.11b_Channel 1_20MHz_Antenna 0

Out Of Band Emission

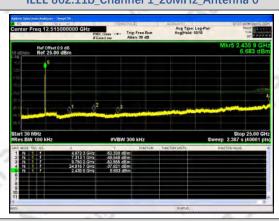
IEEE 802.11b_Channel 1_20MHz_Antenna 0





30.0 MHz - 25000.0 MHz IEEE 802.11b_Channel 1_20MHz_Antenna 0

In-Band Reference Level
IEEE 802.11b_Channel 6_20MHz_Antenna 0





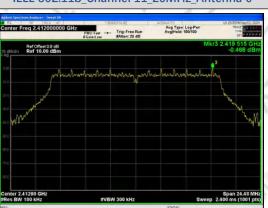
30.0 MHz - 25000.0 MHz IEEE 802.11b_Channel 6_20MHz_Antenna 0

In-Band Reference Level
IEEE 802.11b_Channel 11_20MHz_Antenna 0

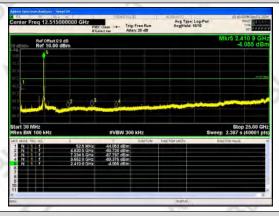




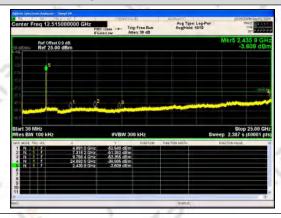
Out Of Band Emission
IEEE 802.11b_Channel 11_20MHz_Antenna 0

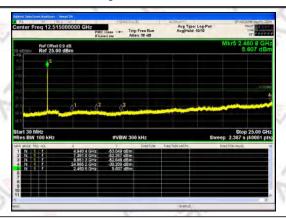


In-Band Reference Level
IEEE 802.11g_Channel 1_20MHz_Antenna 0



30.0 MHz - 25000.0 MHz IEEE 802.11g_Channel 1_20MHz_Antenna 0





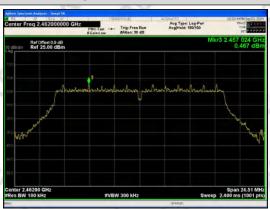
30.0 MHz - 25000.0 MHz IEEE 802.11b_Channel 11_20MHz_Antenna 0



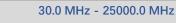
Out Of Band Emission
IEEE 802.11g_Channel 1_20MHz_Antenna 0



In-Band Reference Level
IEEE 802.11g_Channel 6_20MHz_Antenna 0







IEEE 802.11g_Channel 6_20MHz_Antenna 0



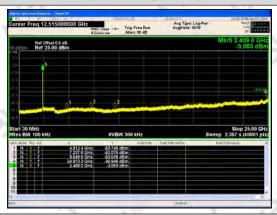
Out Of Band Emission

IEEE 802.11g_Channel 11_20MHz_Antenna 0



In-Band Reference Level

IEEE 802.11n_Channel 1_20MHz_Antenna 0

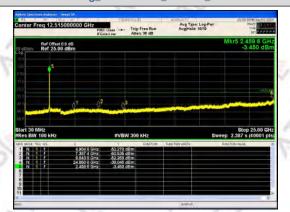


30.0 MHz - 25000.0 MHz

IEEE 802.11n_Channel 1_20MHz_Antenna 0

In-Band Reference Level

IEEE 802.11g_Channel 11_20MHz_Antenna 0



30.0 MHz - 25000.0 MHz

IEEE 802.11g_Channel 11_20MHz_Antenna 0



Out Of Band Emission

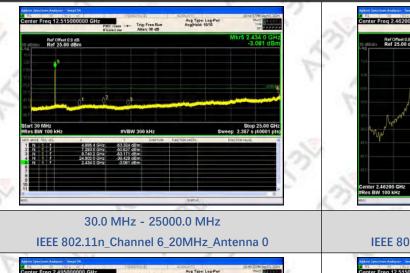
IEEE 802.11n_Channel 1_20MHz_Antenna 0



In-Band Reference Level

IEEE 802.11n_Channel 6_20MHz_Antenna 0

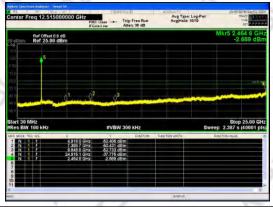






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In-Band Reference Level
IEEE 802.11n_Channel 11_20MHz_Antenna 0



Out Of Band Emission
IEEE 802.11n_Channel 11_20MHz_Antenna 0

30.0 MHz - 25000.0 MHz IEEE 802.11n_Channel 11_20MHz_Antenna 0

*****END OF THE REPORT***