



Report No.: FCC 1810047-01 File reference No.: 2018-12-15

Applicant: Korex Technology Co.,Ltd.

Product: Smart Heater

Model No.: AX-WF269

Trademark: Korex

Test Standards: FCC Part 15.247

Test result:

It is herewith confirmed and found to comply with the

requirements set up by ANSI C63.10, FCC Part 15.247 for the

evaluation of electromagnetic compatibility

Approved By

Jack Chung

Jack Chung

Manager

Dated: December 15,2018

Results appearing herein relate only to the sample tested

The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TESTING LABORATORIES

Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China

Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com

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Special Statement:

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAL. This approval result is accepted by MRA of APLAC.

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

CNAL-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

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Test Report Conclusion

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1.0 General Details

1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.

Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le

Village, Nanshan District, Shenzhen, China

Telephone: (755) 83448688 Fax: (755) 83442996

1.2 Applicant Details

Applicant: Korex Technology Co.,Ltd.

Address: RM515,Floor 5, Block B1 Building 9,ShenZhenWan Technology Ecological Park, NO.3609

BaiShi Road, NanShan District, ShenZhen China.

Telephone: 0755-82048655 Fax: 0755-82048309

1.3 Description of EUT

Product: Smart Heater

Manufacturer: Korex Technology Co.,Ltd.

Address: RM515,Floor 5, Block B1 Building 9,ShenZhenWan Technology Ecological

Park, NO.3609 BaiShi Road, NanShan District, ShenZhen China.

Brand Name: Korex

Model Number: AX-WF269

Hardware Version: 1.0.0 Software Version 1.0.0

Additional Model Number: N/A

Type of Modulation IEEE 802.11b : DSSS (CCK, QPSK, DBPSK)

IEEE 802.11g/n (HT20) : OFDM(64QAM, 16QAM, QPSK, BPSK)

Frequency range IEEE 802.11b/g/n (HT20) : 2412-2462MHz

Channel Spacing 5MHz for IEEE 802.11b/g/n HT20 Air Data Rate IEEE 802.11b : 11, 5.5, 2, 1 Mbps

IEEE 802.11g: 54, 48,36, 24, 18, 12, 9, 6 Mbps

IEEE 802.11n HT20: mcs0-mcs9

Frequency Selection By software

Channel Number IEEE 802.11b/g/n (HT20): 11 Channels

Antenna: Integral Antenna and the maximum Gain of this antenna is 2.0dBi;

1.4 Submitted Sample: 2 Samples

1.5 Test Duration

2018-12-11-2018-12-15

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1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB Radiated Emissions below 1GHz Uncertainty =4.7dB Radiated Emissions above 1GHz Uncertainty =6.0dB Conducted Power Uncertainty =6.0dB Occupied Channel Bandwidth Uncertainty =5%

1.7 Test Engineer

Terry Tang The sample tested by

Print Name: Terry Tang

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2.0 Test Equipment					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	R&S	ESPI 3	100379	2018-06-22	2019-06-21
TWO Line-V-NETW	R&S	EZH3-Z5	100294	2018-06-22	2019-06-21
TWO Line-V-NETW	R&S	EZH3-Z5	100253	2018-06-22	2019-06-21
Ultra Broadband ANT	R&S	HL562	100157	2018-06-18	2019-06-17
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2018-06-22	2019-06-21
Loop Antenna	EMCO	6507	00078608	2018-06-25	2019-06-24
Spectrum	R&S	FSIQ26	100292	2018-06-22	2019-06-21
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2018-06-25	2019-06-24
Horn Antenna	R&S	BBHA 9120D	9120D-631	2018-08-24	2019-08-23
Power meter	Anritsu	ML2487A	6K00003613	2018-08-22	2019-08-21
Power sensor	Anritsu	MA2491A	32263	2018-08-22	2019-08-21
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2018-07-04	2019-07-03
9*6*6 Anechoic			N/A	2018-02-07	2021-02-06
EMI Test Receiver	RS	ESVB	826156/011	2018-06-22	2019-06-21
EMI Test Receiver	RS	ESH3	860904/006	2018-06-22	2019-06-21
Spectrum	HP/Agilent	ESA-L1500A	US37451154	2018-06-22	2019-06-21
Spectrum	HP/Agilent	E4407B	MY50441392	2018-03-27	2019-03-26
Spectrum	RS	FSP	1164.4391.38	2018-01-20	2019-01-19
RF Cable	Zhengdi	ZT26-NJ-NJ-8 M/FA		2018-05-24	2019-05-23
RF Cable	Zhengdi	7m		2018-03-17	2019-03-16
RF Switch	EM	EMSW18	060391	2018-06-22	2019-06-21
Pre-Amplifier	Schwarebeck	BBV9743	#218	2018-06-22	2019-06-21
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2018-08-05	2019-08-04

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3. DESCRIPTION OF TEST MODES

IEEE 802.11b, 802.11g, 802.11n (HT20) mode

The EUT had been tested under operating condition. There are three channels have been tested as following:

Channel	Frequency (MHz)
Low	2412
Middle	2437
High	2462

IEEE 802.11b mode: 1Mbps data rate (worst case) was chosen for full testing. IEEE 802.11g mode: 6Mbps data rate (worst case) was chosen for full testing. IEEE 802.11n (HT20) mode: mcs0 (worst case) were chosen for full testing, Dutycycle>98%.

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3.0 **Technical Details**

3.1 **Summary of test results**

The EUT has been tested ac	ccording to the following speci	meations:	
Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.107 & 15.207	Conducted Emission Test	PASS	Complies
FCC Part 15 Subpart C	Spectrum bandwidth of a Orthogonal Frequency Division Multiplex System	PASS	Complies
Paragraph 15.247(a)(2) Limit	Limit: 6dB bandwidth>500kHz	11155	
FCC Part 15, Paragraph 15.247(b)	Maximum peak output power Limit: max. 30dBm	PASS	Complies
FCC Part 15, Paragraph 15.109,15.205 & 15.209	Transmitter Radiated Emission Limit: Table 15.209	PASS	Complies
FCC Part 15, Paragraph 15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Complies
FCC Part 15, Paragraph 15.247(d)	Out of Band Emission and Restricted Band Radiation Limit: 20dB less than peak value of fundamental frequency Restricted band limit: Table 15.209	PASS	Complies

3.2 **Test Standards**

FCC Part 15 Subpart & Subpart C, Paragraph 15.247

EUT Modification 4.0

No modification by SHENZHEN TIMEWAY TESTING LABORATORIES.

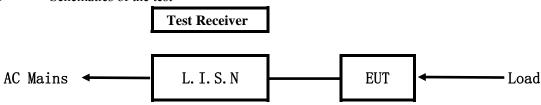
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5.0 Power Line Conducted Emission Test

5.1 Schematics of the test

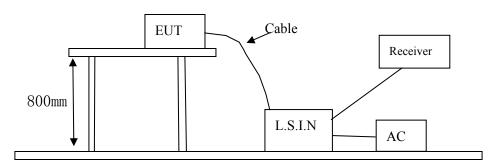


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2013. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.10-2013.

Test Voltage: 120V~, 60Hz Block diagram of Test setup



5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.10-2013. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

A. EUT

Device	Manufacturer	Model	FCC ID	
Smart Heater	Korex Technology Co.,Ltd.	AX-WF269	2AH6O-WF269	

B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC	
N/A				

C. Peripherals

Device	Manufacturer	Model	FCC ID/DOC	Cable
				-

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5.4 EUT Operating Condition

Operating condition is according to ANSI C63.10-2013.

- A Setup the EUT and simulators as shown on follow
- B Enable AF signal and confirm EUT active to normal condition

5.5 Power line conducted Emission Limit according to Paragraph 15.207 and 15.107

	0 0 1								
	Frequency	Class A Lim	its (dB µ V)	Class B Limits (dB µ V)					
(MHz)		Quasi-peak Level	Average Level	Quasi-peak Level	Average Level				
	$0.15 \sim 0.50$	79.0	66.0	66.0~56.0*	56.0~46.0*				
	$0.50 \sim 5 00$	73.0	60.0	56.0	46.0				
	$5.00 \sim 30.00$	73.0	60.0	60.0	50.0				

Notes:

- 1. *Decreasing linearly with logarithm of frequency.
- 2. The tighter limit shall apply at the transition frequencies

5.6 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

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A: Conducted Emission on Live Terminal (150kHz to 30MHz)

EUT Operating Environment

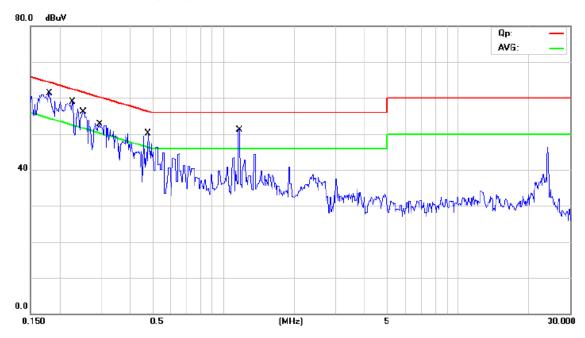
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Keep WIFI Transmitting

Equipment Level: Class B

Results: PASS

Please refer to following diagram for individual



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1 *	0.1797	51.36	9.88	61.24	64.50	-3.26	QP	
2	0.1797	35.41	9.88	45.29	54.50	-9.21	AVG	
3	0.2270	49.05	9.94	58.99	62.56	-3.57	QP	
4	0.2270	32.22	9.94	42.16	52.56	-10.40	AVG	
5	0.2522	46.16	9.97	56.13	61.68	-5.55	QP	
6	0.2522	31.15	9.97	41.12	51.68	-10.56	AVG	
7	0.2987	41.76	10.03	51.79	60.28	-8.49	QP	
8	0.2987	26.62	10.03	36.65	50.28	-13.63	AVG	
9	0.4763	39.89	10.25	50.14	56.40	-6.26	QP	
10	0.4763	25.19	10.25	35.44	46.40	-10.96	AVG	
11	1.1637	40.27	10.90	51.17	56.00	-4.83	QP	
12	1.1637	26.31	10.90	37.21	46.00	-8.79	AVG	

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B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

EUT Operating Environment

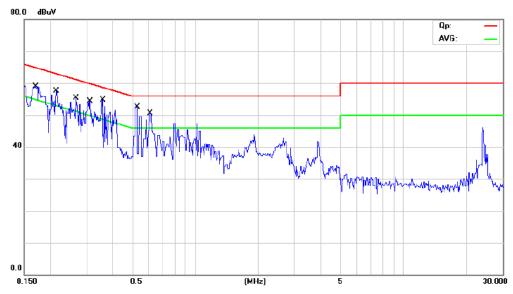
Humidity: 65%RH Atmospheric Pressure: 101 KPa Temperature: 26°C

EUT set Condition: Keep WIFI Transmitting

Equipment Level: Class B

Results: Pass

Please refer to following diagram for individual



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1692	48.67	9.86	58.53	65.00	-6.47	QP	
2	0.1692	31.59	9.86	41.45	55.00	-13.55	AVG	
3	0.2663	45.38	9.98	55.36	61.23	-5.87	QP	
4	0.2663	30.31	9.98	40.29	51.23	-10.94	AVG	
5	0.2147	47.66	9.92	57.58	63.02	-5.44	QP	
6	0.2147	30.18	9.92	40.10	53.02	-12.92	AVG	
7	0.3101	44.32	10.04	54.36	59.97	-5.61	QP	
8	0.3101	28.37	10.04	38.41	49.97	-11.56	AVG	
9	0.3565	44.59	10.10	54.69	58.81	-4.12	QP	
10	0.3565	27.64	10.10	37.74	48.81	-11.07	AVG	
11 *	0.5224	42.20	10.30	52.50	56.00	-3.50	QP	
12	0.5224	25.19	10.30	35.49	46.00	-10.51	AVG	
13	0.6124	40.00	10.42	50.42	56.00	-5.58	QP	
14	0.6124	24.54	10.42	34.96	46.00	-11.04	AVG	

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6 Radiated Emission Test

- 6.1 Test Method and test Procedure:
- (1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2013.
- (3) The frequency spectrum from 30 MHz to 25 GHz was investigated. All readings from 30 MHz to 1 GHz are Quasi-peak values with a resolution bandwidth of 120 kHz. For measurement above 1GHz, peak values with RBW=1MHz VBW=3MHz and PK detector. AV value with RBW=1MHz, VBW=3MHz and RMS detector. Measurements were made at 3 meters.
- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "**OP**" in the data table.
- (6) The antenna polarization: Vertical polarization and Horizontal polarization.

Block diagram of Test setup Distance = 3m Computer Pre – Amplifier EUT Turn-table Receiver

- 6.2 Configuration of The EUT
 Same as section 5.3 of this report
- 6.3 EUT Operating Condition
 Same as section 5.4 of this report.

The report refers only to the sample tested and does not apply to the bulk.

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6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

Frequencies in restricted band are complied to limit on Paragraph 15.209 and 15.109

Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note:

- 1. RF Voltage $(dBuV) = 20 \log RF \text{ Voltage } (uV)$
- 2. In the Above Table, the higher limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT

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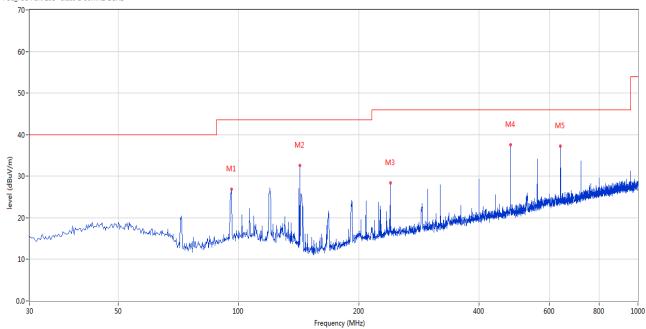
Test result General Radiated Emission Data and Harmonics Radiated Emission Data

Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Transmitting

Results: Pass





No.	Frequency	Results	Factor (dB)	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)		(dBuV/m)	(dB)		(o)	(cm)		
1	95.944	26.89	-14.16	43.5	-16.61	Peak	284.00	200	Н	Pass
2	142.249	32.57	-17.31	43.5	-10.93	Peak	224.00	100	Н	Pass
3	239.953	28.34	-12.33	46.0	-17.66	Peak	80.00	100	Н	Pass
4	479.968	37.56	-7.40	46.0	-8.44	Peak	26.00	200	Н	Pass
5	639.978	37.28	-4.77	46.0	-8.72	Peak	360.00	200	Н	Pass

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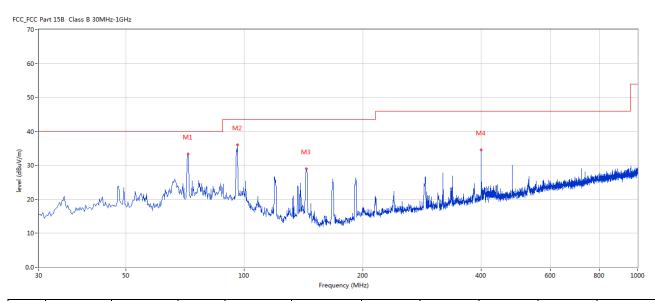


Test result General Radiated Emission Data and Harmonics Radiated Emission Data

Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: **Keep Transmitting**

Results: Pass



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	71.942	33.36	-16.53	40.0	-6.64	Peak	360.00	200	V	Pass
2	95.944	36.06	-14.16	43.5	-7.44	Peak	111.00	100	٧	Pass
3	143.947	29.01	-17.10	43.5	-14.49	Peak	24.00	100	V	Pass
4	399.963	34.52	-8.57	46.0	-11.48	Peak	198.00	100	V	Pass

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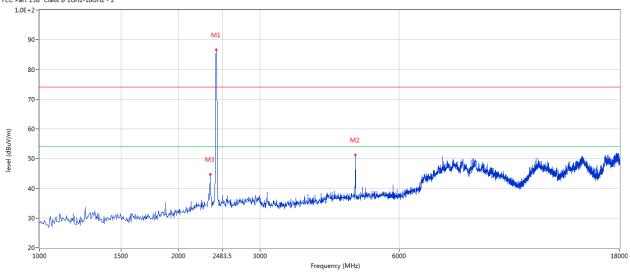
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Please refer to the following test plots for details:

CH01 for 11b at 1Mbps: Horizontal





No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2410.647	86.67	-3.57	74.0	12.67	Peak	0.00	100	Н	N/A
2	4824.044	51.30	3.14	74.0	-22.70	Peak	0.00	100	Н	Pass
3	2342.664	44.76	-3.35	74.0	-29.24	Peak	0.00	100	Н	Pass

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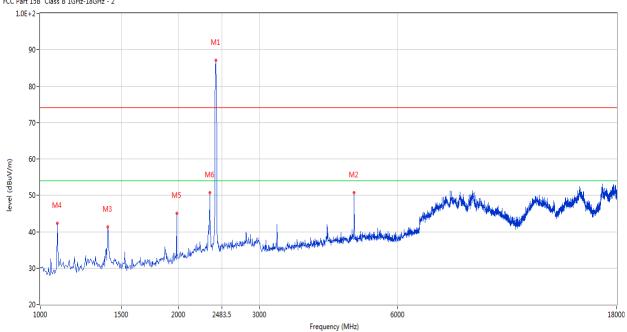
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CH01 for 11b at 1Mbps: Vertical

FCC Part 15B Class B 1GHz-18GHz - 2



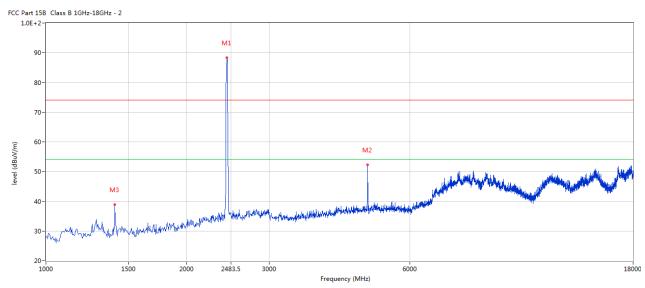
No.	Frequency	Results	Factor (dB)	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)		(dBuV/m)	(dB)		(o)	(cm)		
1	2410.647	87.14	-3.57	74.0	13.14	Peak	202.00	100	V	N/A
2	4824.044	50.76	3.14	74.0	-23.24	Peak	212.00	100	V	Pass
3	1403.649	41.31	-8.17	74.0	-32.69	Peak	182.00	100	V	Pass
4	1089.228	42.30	-9.71	74.0	-31.70	Peak	49.00	100	V	Pass
5	1981.505	45.10	-5.26	74.0	-28.90	Peak	110.00	100	V	Pass
6	2338.415	50.71	-3.34	74.0	-23.29	Peak	143.00	100	V	Pass

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CH06 for 11b at 1Mbps: Vertical



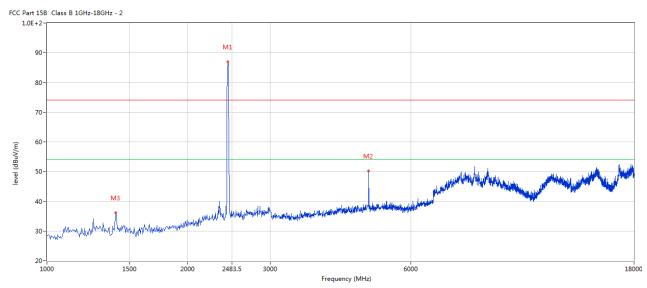
No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2436.141	88.24	-3.57	74.0	14.24	Peak	0.00	100	V	N/A
2	4875.031	52.34	3.19	74.0	-21.66	Peak	12.00	100	V	Pass
3	1373.907	28.89	-8.18	74.0	-45.11	Peak	29.00	100	V	Pass

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CH06 for 11b at 1Mbps: Horizontal



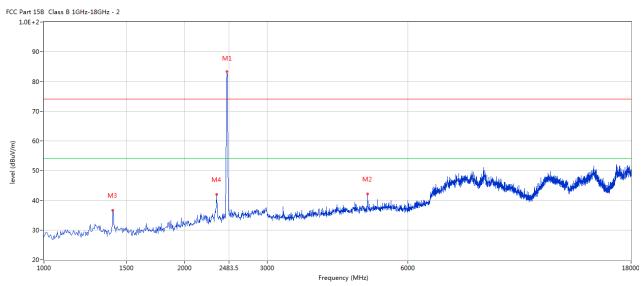
No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2436.141	87.01	-3.57	74.0	13.01	Peak	39.00	100	Н	N/A
2	4875.031	50.19	3.19	74.0	-23.81	Peak	39.00	100	Н	Pass
3	1373.907	28.83	-8.18	74.0	-45.17	Peak	29.00	100	Н	Pass

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CH11 for 11b at 1Mbps: Vertical



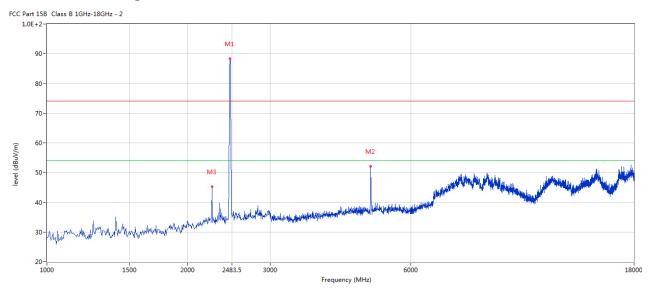
No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2461.635	83.30	-3.57	74.0	9.30	Peak	5.00	100	V	N/A
2	4921.770	42.18	3.27	74.0	-31.82	Peak	0.00	100	V	Pass
3	1386.653	28.69	-8.18	74.0	-45.31	Peak	21.00	100	V	Pass
4	2338.415	41.97	-3.34	74.0	-32.03	Peak	21.00	100	V	Pass

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CH11 for 11b at 1Mbps: Horizontal



No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2461.635	88.32	-3.57	74.0	14.32	Peak	345.00	100	Н	N/A
2	4921.770	52.09	3.27	74.0	-21.91	Peak	345.00	100	Н	Pass
3	2253.437	45.24	-3.22	74.0	-28.76	Peak	345.00	100	Н	Pass

Note: 1. Result Level = Reading + Factor

- 2. Factor= AF + Cable Loss- Preamp
- 3. Margin = Result– Limit
- 4. For radiated Emissions from 18-25GHz, it is only the floor noise.

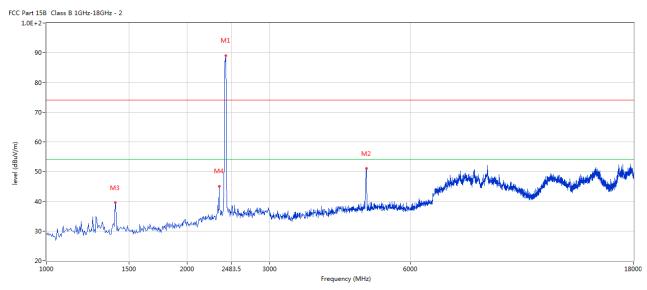
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Please refer to the following test plots for details:

CH01 for 11g at 6Mbps: Horizontal



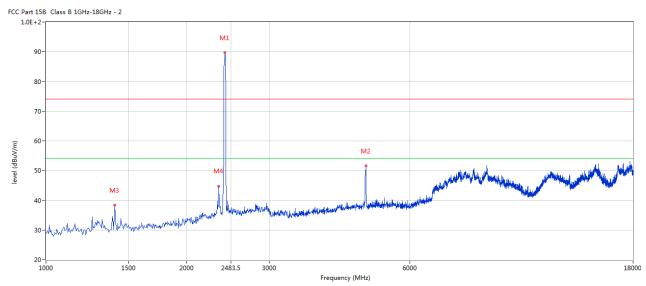
No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2419.145	89.09	-3.57	74.0	15.09	Peak	308.00	100	Н	N/A
2	4828.293	51.08	3.15	74.0	-22.92	Peak	308.00	100	Н	Pass
3	1344.164	30.09	-8.21	74.0	-43.91	Peak	328.00	100	Н	Pass
4	2338.415	45.11	-3.34	74.0	-28.89	Peak	355.00	100	Н	Pass

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CH01 for 11g at 6Mbps: Vertical



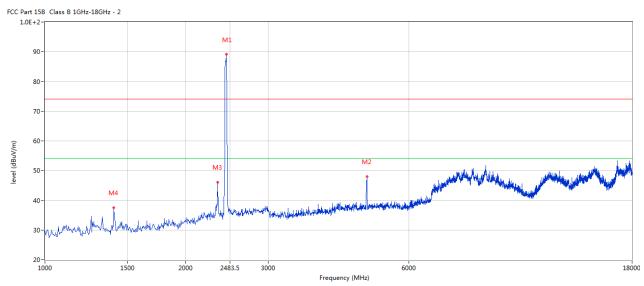
No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2414.896	89.77	-3.57	74.0	15.77	Peak	158.00	100	V	N/A
2	4828.293	51.60	3.15	74.0	-22.40	Peak	132.00	100	V	Pass
3	1365.409	29.46	-8.19	74.0	-44.54	Peak	112.00	100	V	Pass
4	2338.415	44.74	-3.34	74.0	-29.26	Peak	158.00	100	V	Pass

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CH06 for 11g at 6Mbps: Vertical



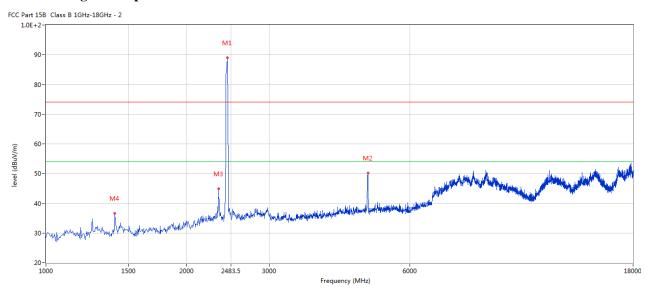
No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2444.639	89.18	-3.57	74.0	15.18	Peak	39.00	100	V	N/A
2	4879.280	48.03	3.20	74.0	-25.97	Peak	55.00	100	V	Pass
3	2338.415	46.09	-3.34	74.0	-27.91	Peak	0.00	100	V	Pass
4	1344.164	29.49	-8.21	74.0	-44.51	Peak	39.00	100	V	Pass

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CH06 for 11g at 6Mbps: Horizontal



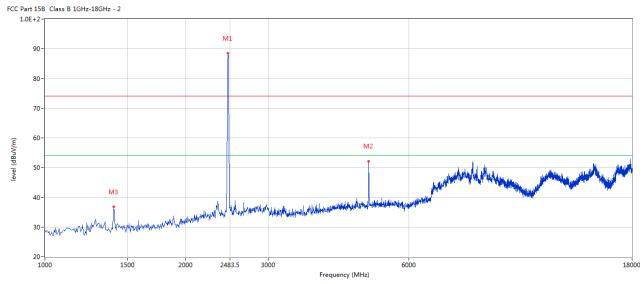
No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2440.390	89.07	-3.57	74.0	15.07	Peak	38.00	100	Н	N/A
2	4879.280	50.22	3.20	74.0	-23.78	Peak	38.00	100	Н	Pass
3	2338.415	44.95	-3.34	74.0	-29.05	Peak	0.00	100	Н	Pass
4	1378.155	29.55	-8.18	74.0	-44.45	Peak	38.00	100	Н	Pass

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CH11 for 11g at 6Mbps: Vertical



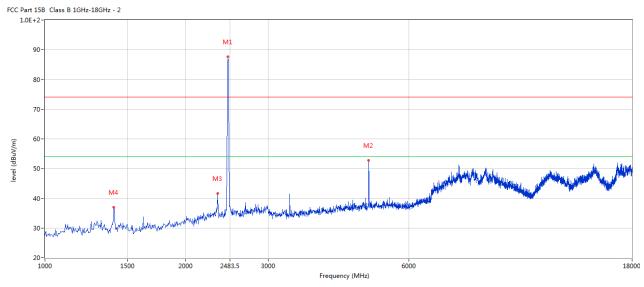
No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2461.635	88.47	-3.57	74.0	14.47	Peak	345.00	100	V	N/A
2	4921.770	52.17	3.27	74.0	-21.83	Peak	345.00	100	V	Pass
3	1390.902	29.53	-8.17	74.0	-44.47	Peak	355.00	100	V	Pass

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CH11 for 11g at 6Mbps: Horizontal



No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2461.635	87.63	-3.57	74.0	13.63	Peak	32.00	100	Н	N/A
2	4921.770	52.82	3.27	74.0	-21.18	Peak	32.00	100	Н	Pass
3	2338.415	41.63	-3.34	74.0	-32.37	Peak	0.00	100	Н	Pass
4	1403.649	37.00	-8.17	74.0	-37.00	Peak	12.00	100	Н	Pass

Note: 1. Result Level = Reading + Factor

- 2. Factor= AF + Cable Loss- Preamp
- 3. Margin = Result– Limit
- 4. For radiated Emissions from 18-25GHz, it is only the floor noise.

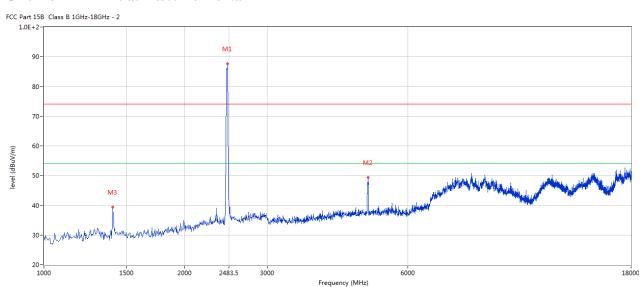
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Please refer to the following test plots for details:

CH01 for 11n HT20 at mcs0: Horizontal



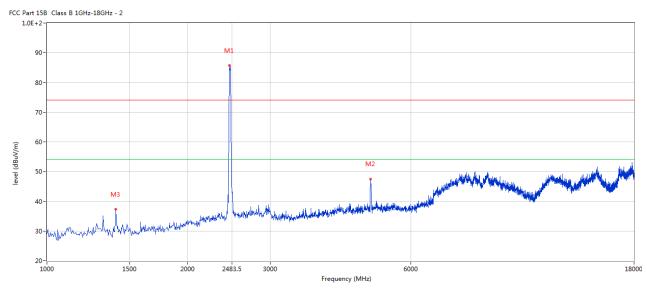
No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2470.132	87.56	-3.57	74.0	13.56	Peak	314.00	100	Н	N/A
2	4934.516	49.32	3.30	74.0	-24.68	Peak	314.00	100	Н	Pass
3	1369.658	29.10	-8.19	74.0	-44.90	Peak	331.00	100	Н	Pass

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CH01 for 11n HT20 at mcs0: Vertical



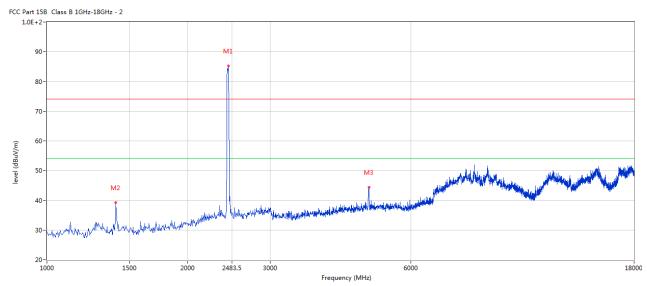
No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2457.386	85.68	-3.57	74.0	11.68	Peak	12.00	100	V	N/A
2	4921.770	47.55	3.27	74.0	-26.45	Peak	12.00	100	V	Pass
3	1382.404	28.06	-8.18	74.0	-45.94	Peak	12.00	100	V	Pass

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CH06 for 11n HT20 at mcs0: Vertical



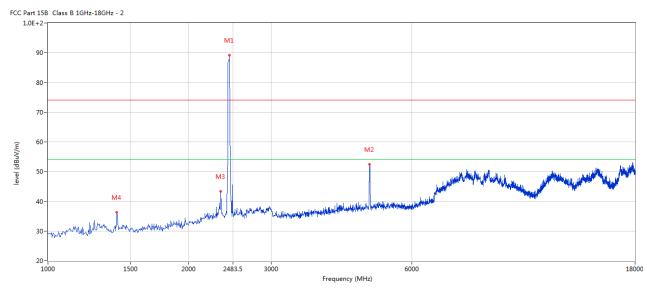
No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2440.390	85.18	-3.57	74.0	11.18	Peak	360.00	100	V	N/A
2	1382.404	28.46	-8.18	74.0	-45.54	Peak	360.00	100	V	Pass
3	4879.280	44.39	3.20	74.0	-29.61	Peak	360.00	100	V	Pass

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CH06 for 11n HT20 at mcs0: Horizontal



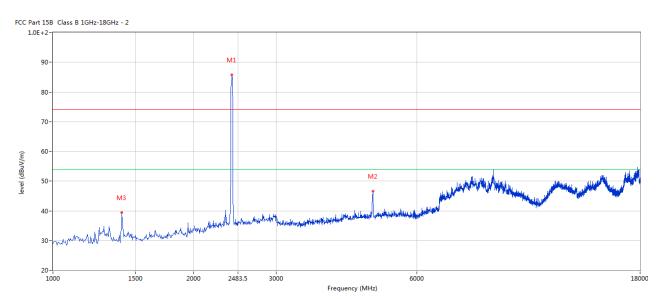
No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2444.639	89.24	-3.57	74.0	15.24	Peak	152.00	100	Н	N/A
2	4870.782	52.45	3.19	74.0	-21.55	Peak	152.00	100	Н	Pass
3	2342.664	43.43	-3.35	74.0	-30.57	Peak	169.00	100	Н	Pass
4	1403.649	36.33	-8.17	74.0	-37.67	Peak	22.00	100	Н	Pass

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CH11 for 11n HT20 at mcs0: Vertical



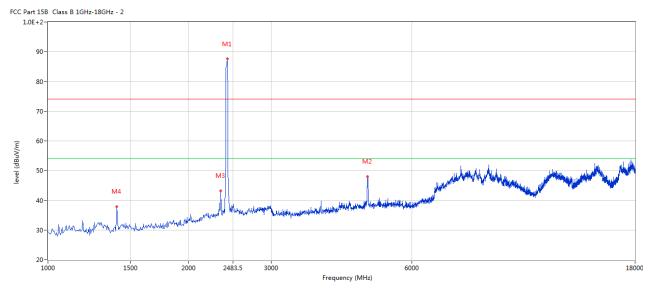
No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2414.896	85.76	-3.57	74.0	11.76	Peak	139.00	100	V	N/A
2	4828.293	46.63	3.15	74.0	-27.37	Peak	139.00	100	V	Pass
3	1382.404	29.85	-8.18	74.0	-44.15	Peak	0.00	100	V	Pass

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CH11 for 11n HT20 at mcs0: Horizontal



No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	2419.145	87.65	-3.57	74.0	13.65	Peak	188.00	100	Н	N/A
2	4824.044	48.06	3.14	74.0	-25.94	Peak	232.00	100	Н	Pass
3	2338.415	43.19	-3.34	74.0	-30.81	Peak	139.00	100	Н	Pass
4	1403.649	37.93	-8.17	74.0	-36.07	Peak	222.00	100	Н	Pass

Note: 1. Result Level = Reading + Factor

- 2. Factor= AF + Cable Loss- Preamp
- 3. Margin = Result– Limit
- 4. For radiated Emissions from 18-25GHz, it is only the floor noise.

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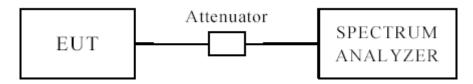
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7.0 6dB Bandwidth Measurement

7.1 Test Setup



7.2 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is >500 kHz

7.3 Test Procedure

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

7.4 Test Result

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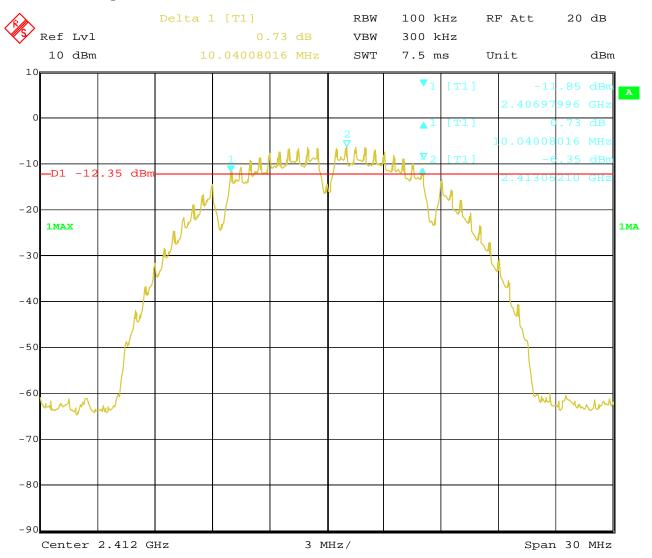
6dB Occupied Bandwidth

EUT		Sm	art Heater		Model		AX-WF269	
Mode		8	302.11b		Input Voltage		120V~	
Temperature		24 deg. C,			Humidity		56% RH	
Channel	Channel Frequency (MHz)		Data Transfer Rate (Mbps)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)		Pass/ Fail
1		2412	1	10.04		0.5		Pass
6		2437	1	10.04		0.5		Pass
11		2462	1	10	.04		0.5	Pass
1		2412	11	9.	80		0.5	Pass
6		2437		9.80		0.5		Pass
11	2462		11	9.	80	0.5		Pass

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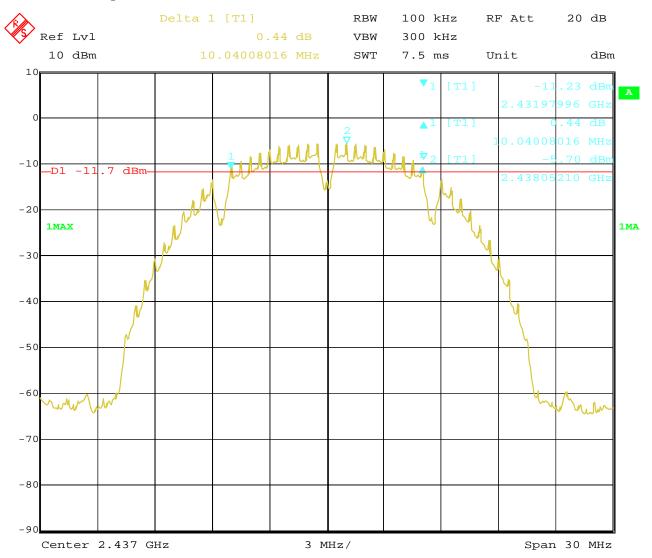




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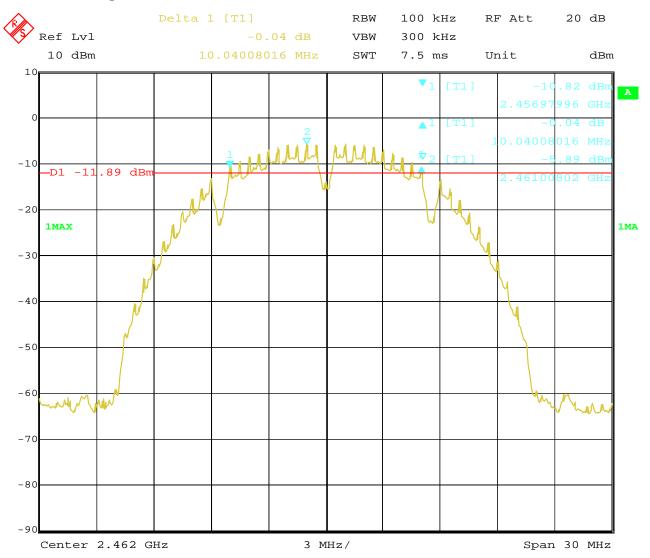




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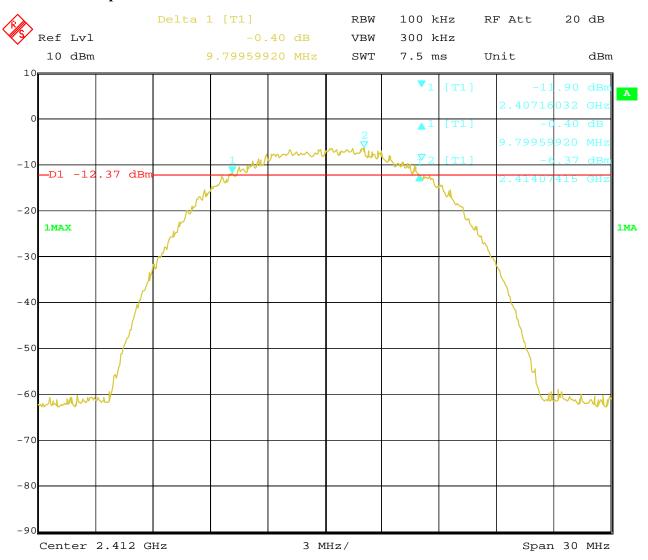




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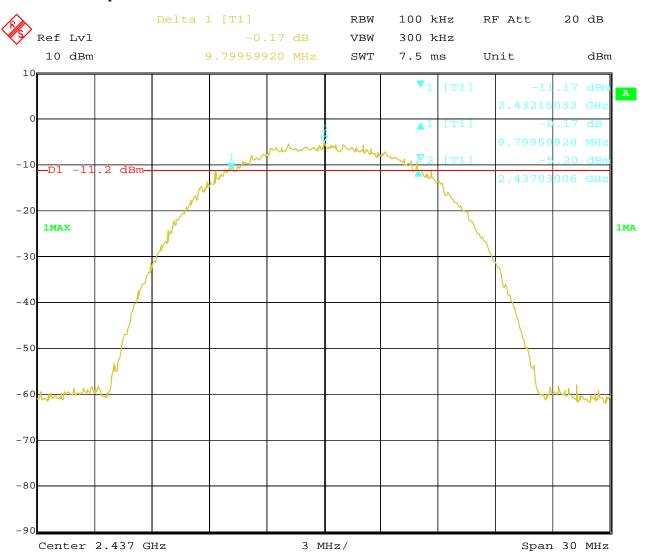




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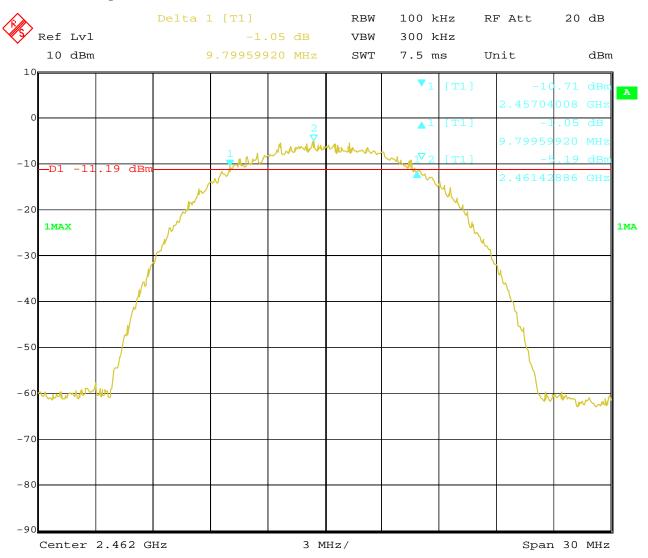




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6dB Occupied Bandwidth

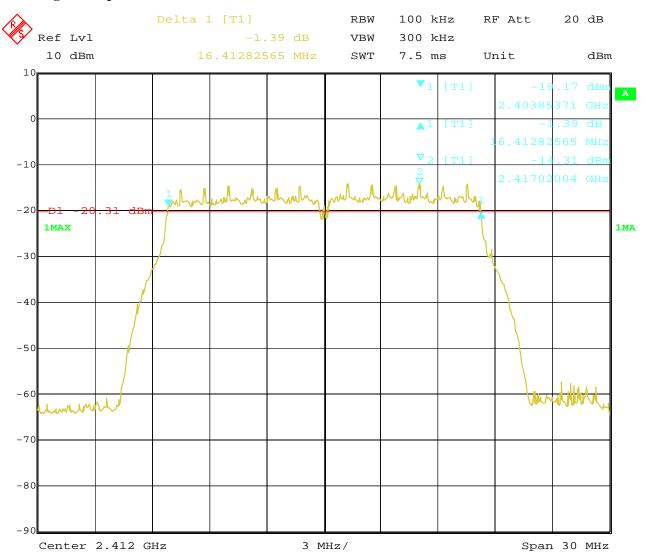
EUT		Smart Heater Model			AX-WF269			
Mode		8	302.11g		Input Voltage		age 120V~	
Temperat	ure	24	4 deg. C,		Humidity		5	6% RH
Channel		el Frequency (MHz)	Data Transfer Rate (Mbps)		andwidth Hz)		num Limit MHz)	Pass/ Fail
1		2412	6	16	5.41		0.5	Pass
6		2437	6	16	5.41		0.5	Pass
11		2462	6	16	5.41		0.5	Pass

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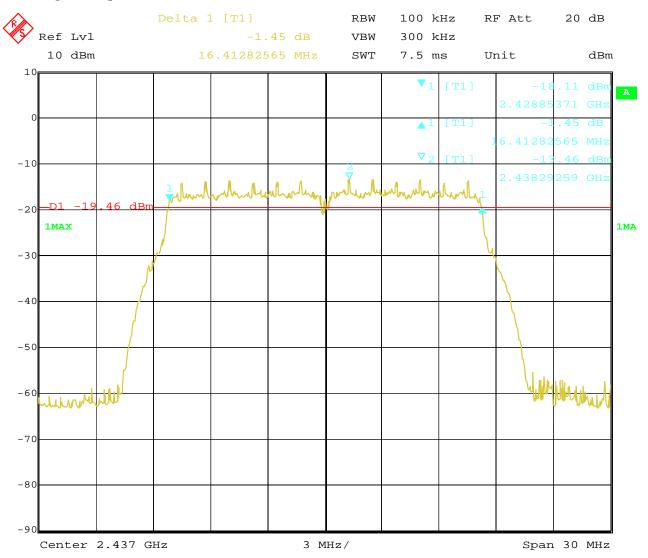
Test Plots:



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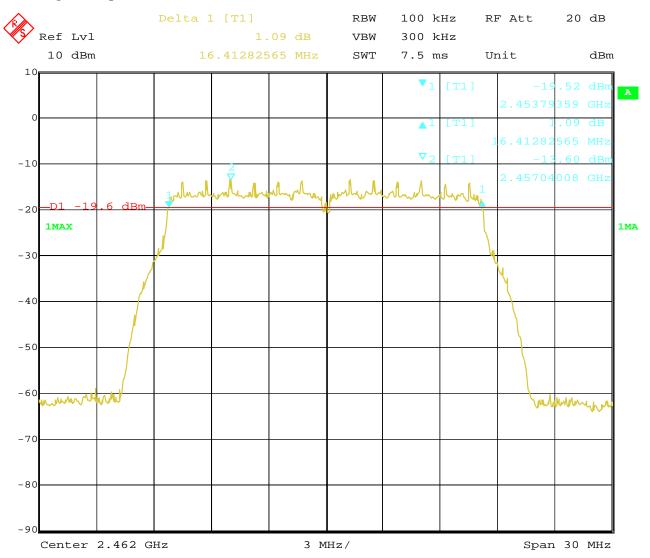




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6dB Occupied Bandwidth

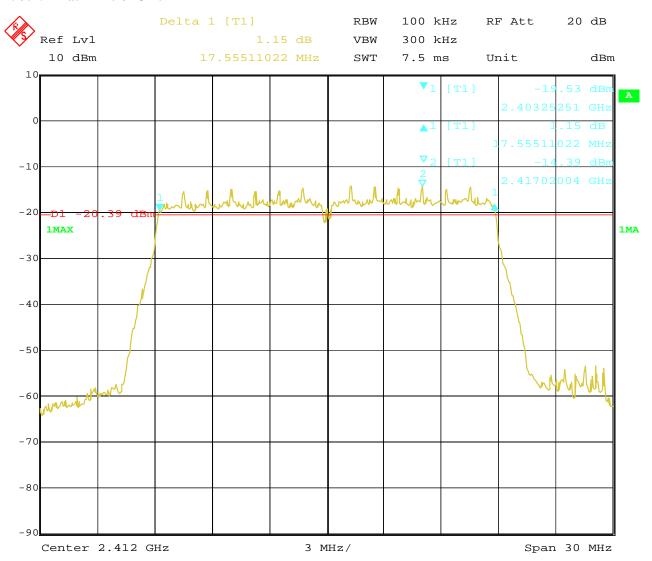
EUT		Sm	art Heater		Model		AX-WF269	
Mode	802.11n HT20 Input Voltage		age 120V~		0V~			
Temperat	ure	24 deg. C,			Humidity 569		56%	6 RH
Channel		el Frequency (MHz)	Data Transfer Rate (Mbps)		ndwidth Hz)		num Limit MHz)	Pass/ Fail
1		2412	mcs0	17	.56		0.5	Pass
6		2437	mcs0	17	.56		0.5	Pass
11		2462	mcs0	17	.56		0.5	Pass

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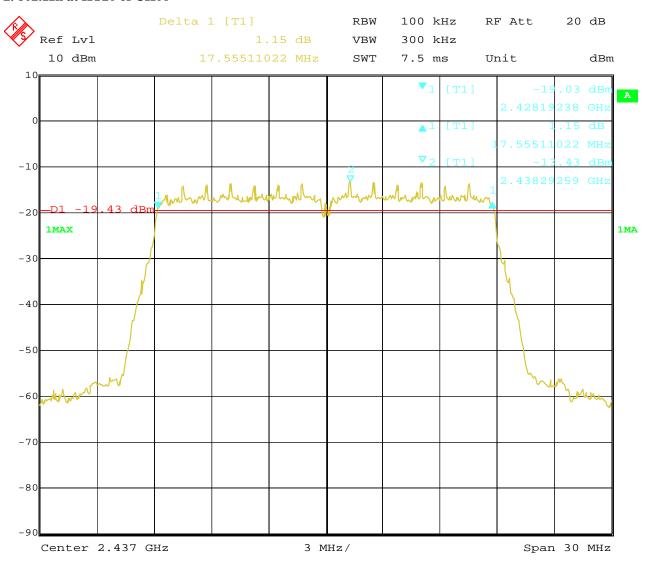
Test Plots:



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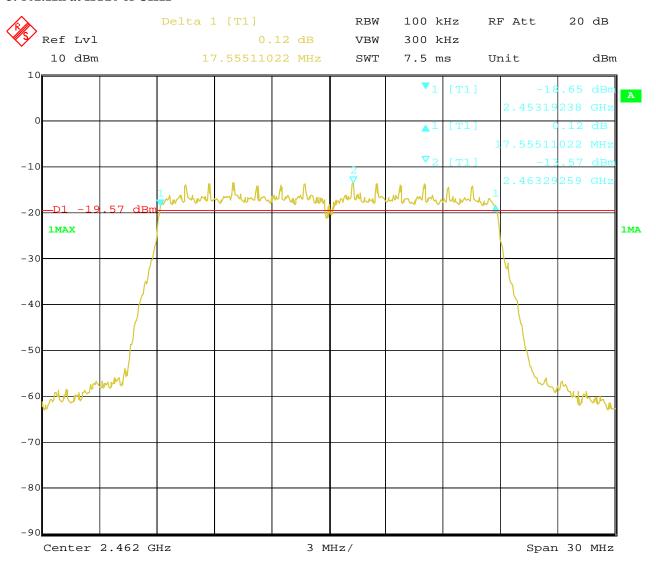




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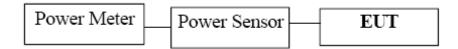
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8. Maximum Output Power

8.1 Test Setup



8.2 Limits of Maximum Output Power

The Maximum Output Power Measurement is 30dBm.

8.3 Test Procedure

The RF power output was measured with a Power meter connected to the RF Antenna connector (conducted measurement) while EUT was operating in transmit mode at the appropriate centre frequency.

Note: the Peak power was measured

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8.4Test Results

EUT		Smart H	Heater Mo		odel		AX-WF269		
Mode	Mode 802.1		1b	Input Voltage		120V~			
Temperat	ure	24 deg	g. C,	Humidity		Humidity 56%		56% RH	
Channel	Channel Frequency (MHz)		Max. Power Output (dBm)		Power Limit (dBm)		Pass/ Fail		
		()	Peak		(92)				
1		2412	8.61		30)	Pass		
6		2437	9.65	9.65)	Pass		
11		2462	9.62	•	30)	Pass		

Note: 1. At finial test to get the worst-case emission at 1Mbps for CH01, CH06 and CH11

2. The result basic equation calculation as follow:

Max. Power Output = Power Reading + Cable loss + Attenuator

3. The worse case was recorded

EUT	Smart H		Ieater N		odel	AX-WF269	
Mode	Mode 802.1		1g	Input Voltage		120V~	
Temperat	ure	24 deg	g. C,	Hur	nidity	y 56% RH	
Channel	Channel Frequency		Max. Power Output (dBm)		Power Limit		Pass/ Fail
		(MHz)	Peak		(dBm)		
1		2412	5.57		30)	Pass
6		2437	6.69		30		Pass
11		2462	6.66	30)	Pass

Note: 1. At finial test to get the worst-case emission at 6Mbps for CH01, CH06 and CH11

2. The result basic equation calculation as follow:

Max. Power Output = Power Reading + Cable loss + Attenuator

3. The worse case was recorded

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EUT		Smart H	Heater Mo		odel		AX-WF269
Mode	e 802.11n (HT20) Input Volt		Voltage		120V~		
Temperati	ure	24 deg	g. C,	Humidity			56% RH
Channel	Cha	annel Frequency (MHz)	Max. Power (dBm) Peak	Output	Power Limit (dBm)		Pass/ Fail
1		2412	5.62		30)	Pass
6		2437	6.72		30		Pass
11		2462	6.63		30		Pass

Note: 1. At finial test to get the worst-case emission at mcs0 of 11n HT20 for CH01, CH06 and CH11

2. The result basic equation calculation as follow:

Max. Power Output = Power Reading + Cable loss + Attenuator

3. The worse case was recorded

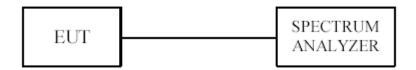
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9. Power Spectral Density Measurement

9.1 Test Setup



9.2 Limits of Power Spectral Density Measurement

The Maximum Power Spectral Density Measurement is 8dBm.

9.3 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 = 10 kHz.
- 3. Set the VBW \geq 30 kHz.
- 4. Set the span to 1.5 times the DTS channel bandwidth.
- 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 amplitude level.
- 10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.
- 11. The resulting peak PSD level must be ≤ 8 dBm.

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9.4Test Result

EUT	Smart H		leater Mo		odel		AX-WF269
Mode	Mode 802.11b 111		1Mbps Input V		out Voltage		120V~
Temperat	ure	24 deg	g. C,	Hur	nidity		56% RH
Channel	Cha	Channel Frequency Final RF Power Maximum (MHz) Level (dBm) (dBm)			Pass/ Fail		
			11Mbps	S			
1		2412	-14.81		8		Pass
6		2437 -15.29			8		Pass
11		2462	-15.13	8			Pass

EUT	Smart H		Heater Mo		odel .		AX-WF269
Mode	Mode 802.11b 1Mbps		1Mbps	Input Voltage		120V~	
Temperat	ure	24 deg	g. C,	Hur	midity 56% RF		56% RH
Channel	Cha	annel Frequency	Final RF Power		Maximum Limit		Pass/ Fail
Chamici		(MHz)	Level in (dl	3m)	Bm) (dBm)		
			1Mbps	}			
1		2412	-14.48		8	•	Pass
6		2437	-15.08		8	•	Pass
11		2462	-15.11		8		Pass

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EUT	EUT Smart H		Heater Mo		odel		AX-WF269
Mode	Mode 802.11g 6		6Mbps Input		ıt Voltage		120V~
Temperat	ure	24 deg	g. C,	Humidity			56% RH
Channel	Channel Frequency		Final RF Power		Maximum Limit		Pass/ Fail
Chamici		(MHz)	Level in (dBm)		(dBm)		
			6Mbps				
1		2412	-21.34		8		Pass
6		2437	-18.78		8		Pass
11		2462	-19.40		8		Pass

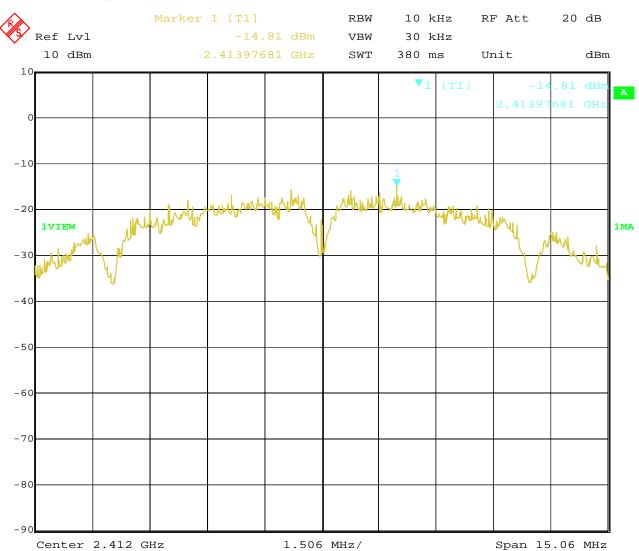
EUT	EUT Smart H		Heater Mo		odel		AX-WF269
Mode 802.11n HT		Γ20 mcs0 Input		ut Voltage		120V~	
Temperat	ure	24 deg	g. C, Humie		Humidity		56% RH
Channel	Channel Frequency		Final RF Power		Maximum Limit		Pass/ Fail
Chamilei		(MHz)	Level (dBm)		(dBm)		
			HT20				
1		2412	-23.50		8		Pass
6		2437	-22.76		8		Pass
11		2462	-21.18	8		Pass	

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9.5 Photo of Power Spectral Density Measurement



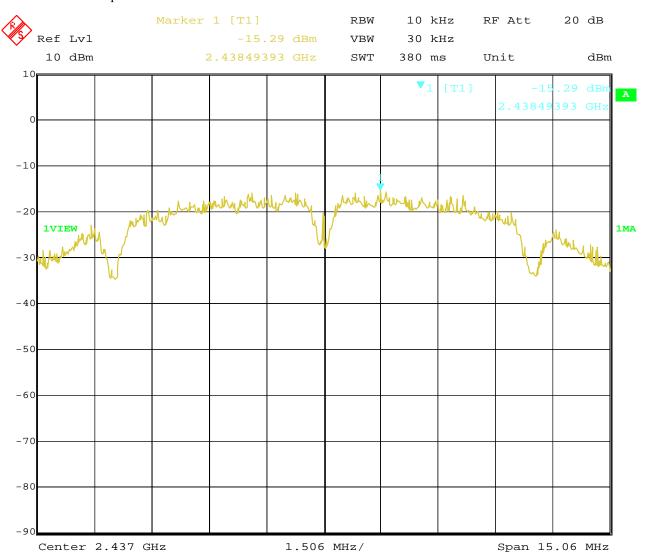
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2. 802.11b at 11Mbps at CH06

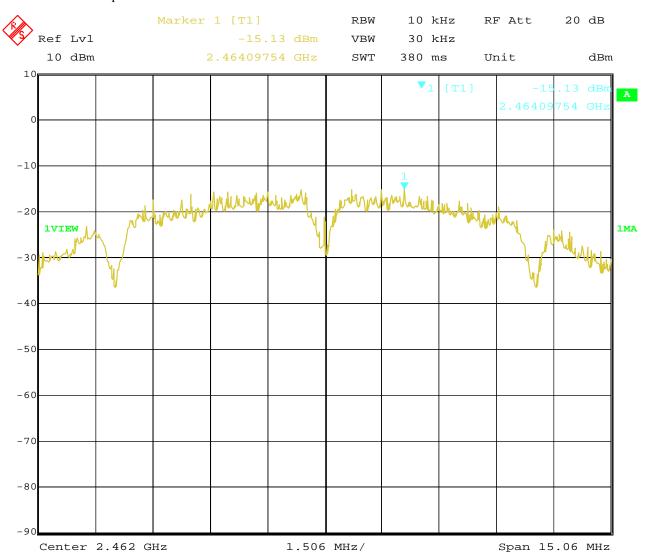


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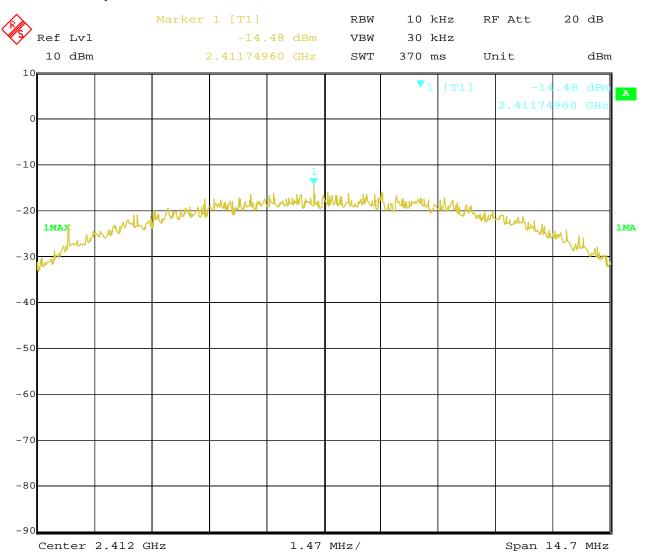




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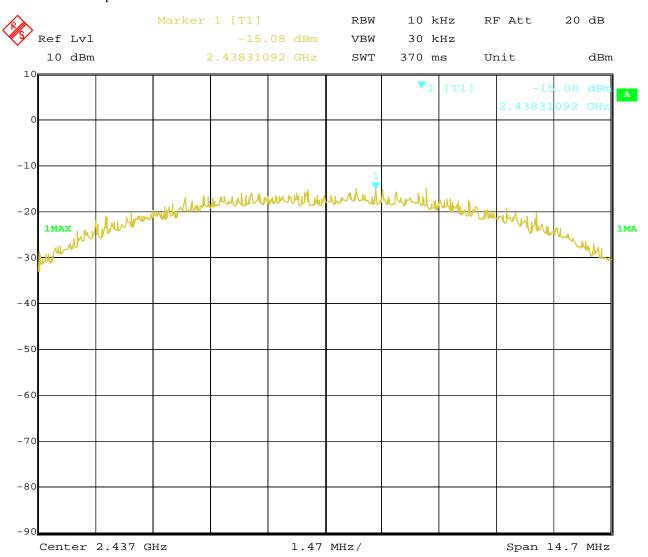




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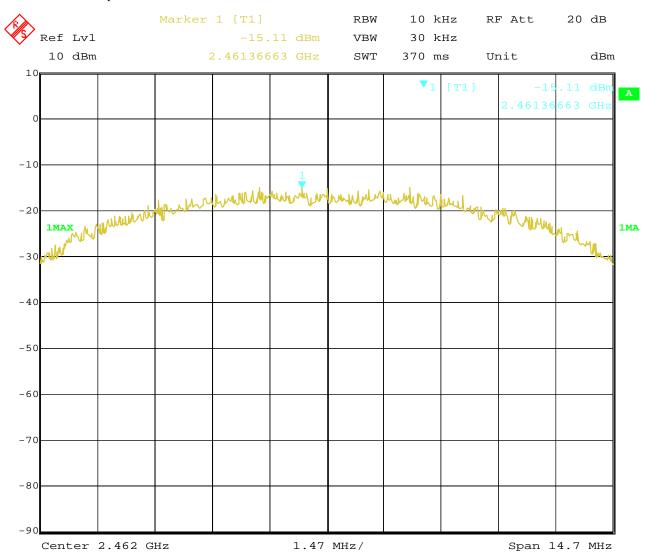




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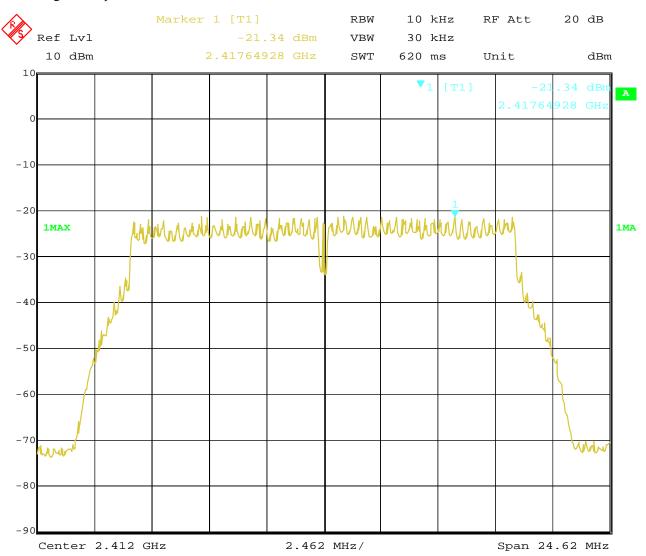




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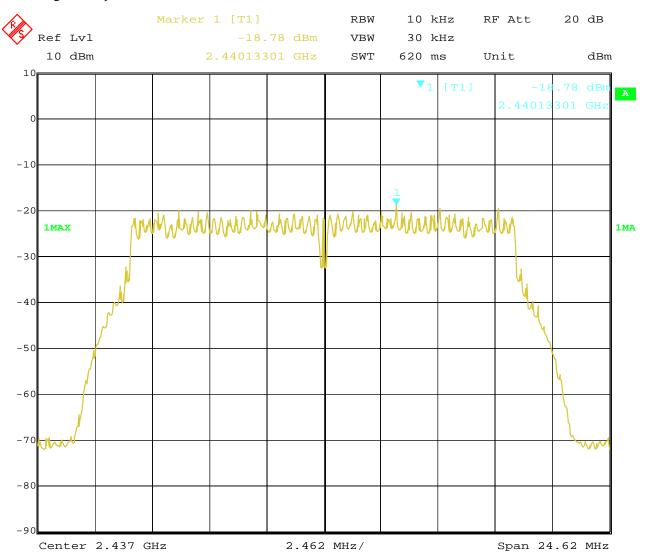




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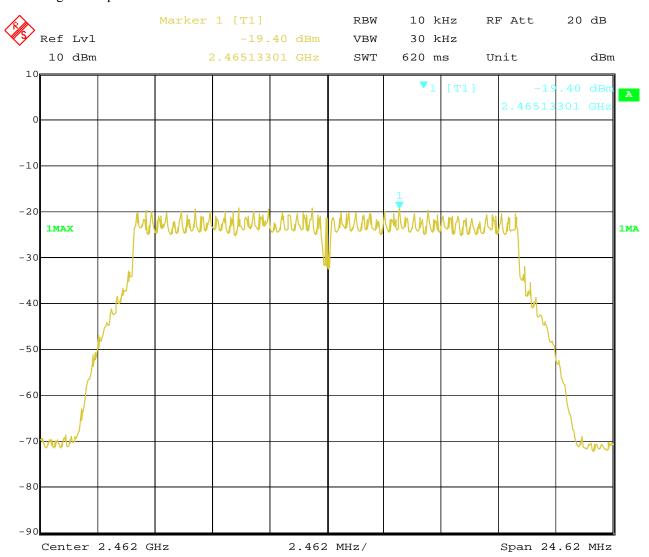


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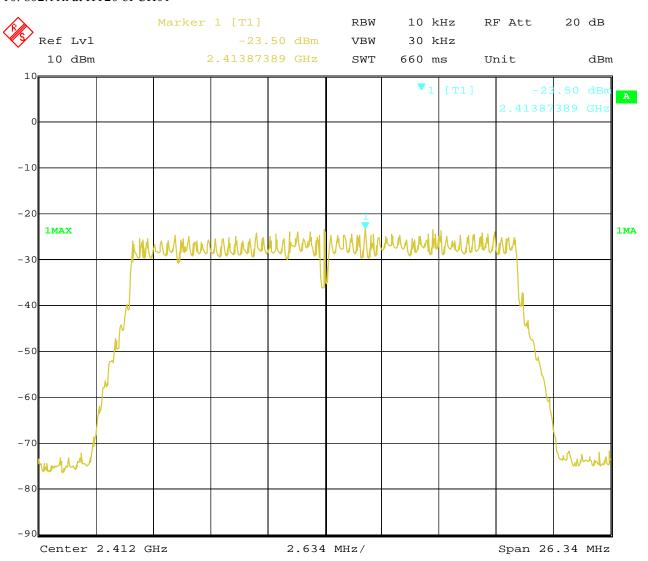




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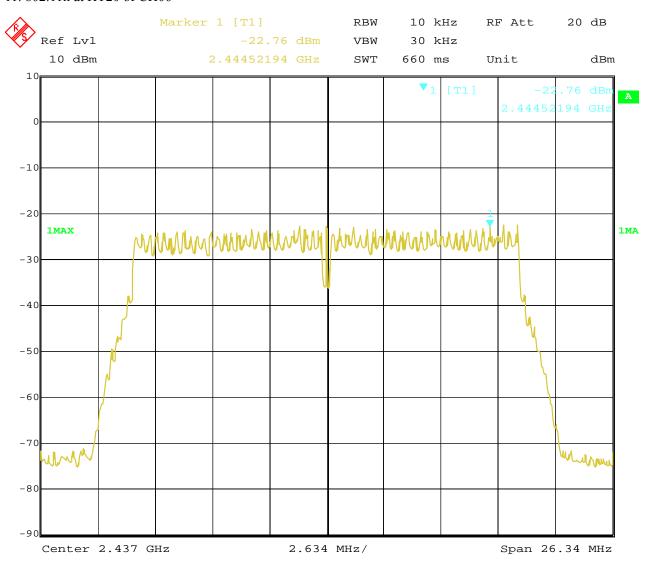




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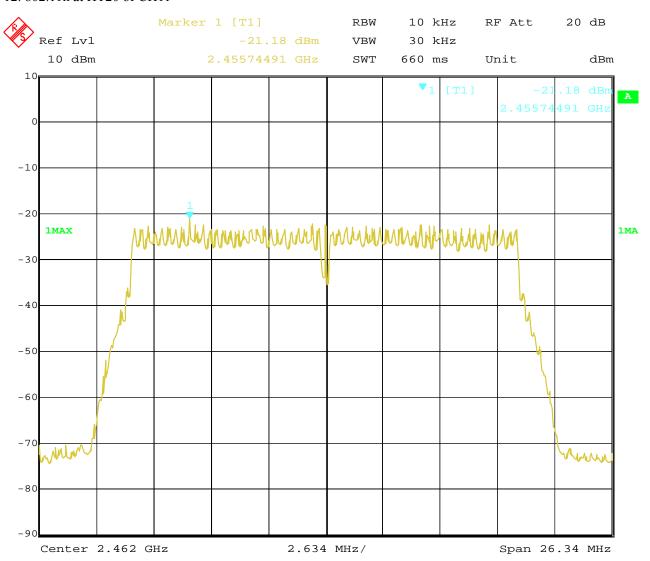
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12. 802.11n at HT20 of CH11

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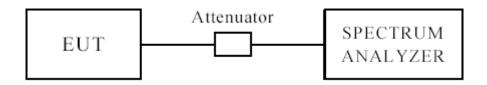


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10 Out of Band Measurement 10.1 Test Setup for band edge



The restricted band requirement based on radiated emission test; please see the clause 6 for the test setup

10.2 Limits of Out of Band Emissions Measurement

- 1. Below –20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).
- 2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

10.3 Test Procedure

For signals in the restricted bands above and below the 2.4-2.483GHz allocated band a measurement was made of radiated emission test.(Peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=3MHz and RMS detector)

For bandage test, the spectrum set as follows: RBW=100kHz, VBW=300 kHz. A conducted measurement used ,PK detector.

10.4 Test Result

Please see next pages

Note: 1. this is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), after pre-test. It was found that the worse radiated emission was get at the lying position. the worse case was recorded

2. For band-edge measurement, the frequency from 30MHz-25GHz was tested. And It met the FCC rule.

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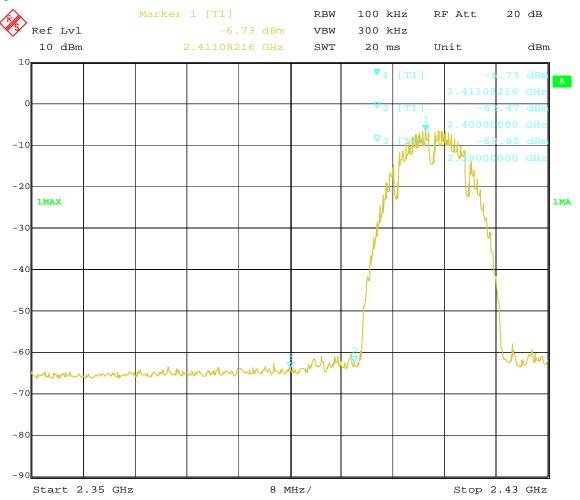


For 802.11b mode

CH01 at 1Mbps

10.4 Band-edge Measurement

EUT	Smart Heater	Model	AX-WF269
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK



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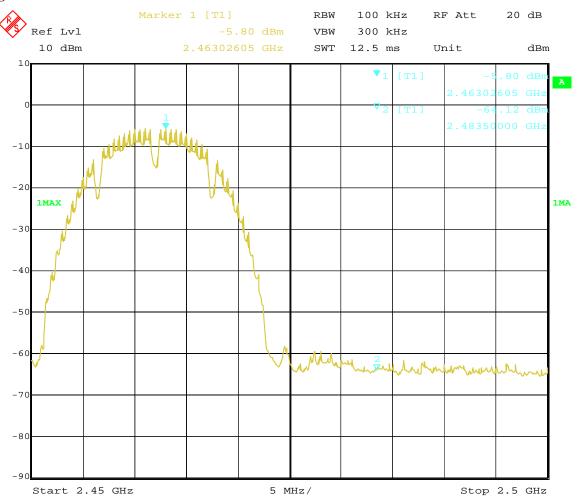
Date: 2018-12-15



CH11 at 1Mbps

10.4 Band-edge Measurement

EUT	Smart Heater	Model	AX-WF269
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK



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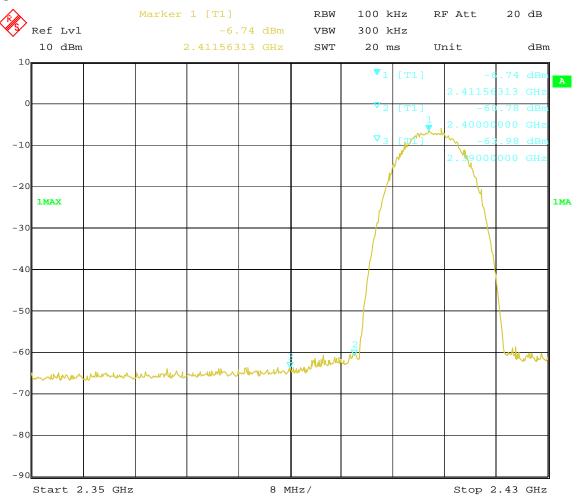


For 802.11b mode

CH01 at 11Mbps

Band-edge Measurement 10.4

EUT	Smart Heater	Model	AX-WF269
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK



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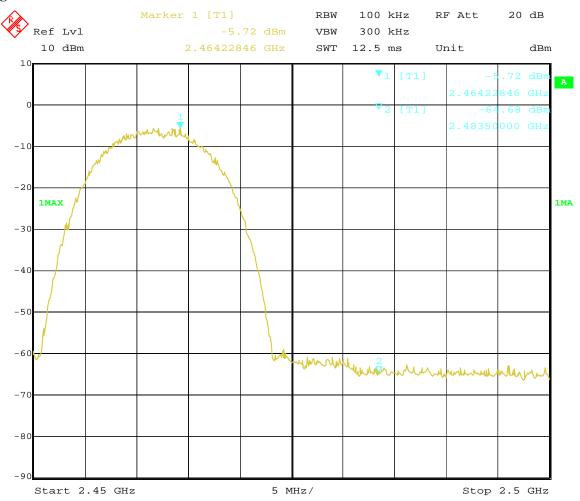
Date: 2018-12-15



CH11 at 11Mbps

10.4 Band-edge Measurement

EUT	Smart Heater	Model	AX-WF269
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK



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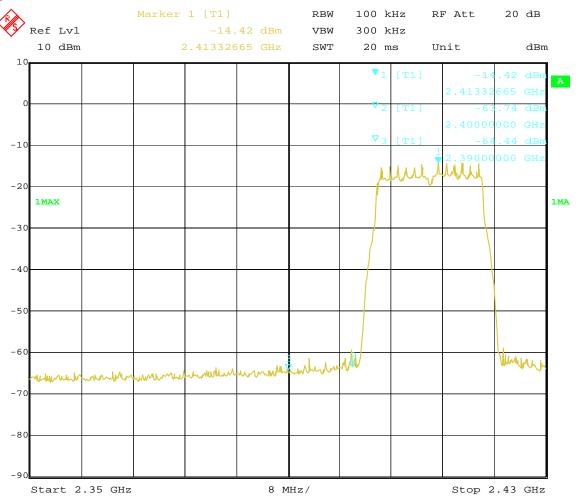


For 802.11g mode

CH01 at 6Mbps

10.4 Band-edge Measurement

EUT	Smart Heater	Model	AX-WF269
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK



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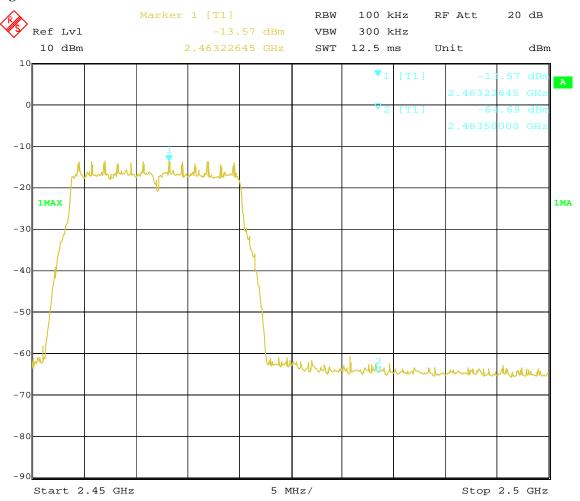
Date: 2018-12-15



CH11 at 6Mbps

10.4 Band-edge Measurement

EUT	Smart Heater	Model	AX-WF269
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK



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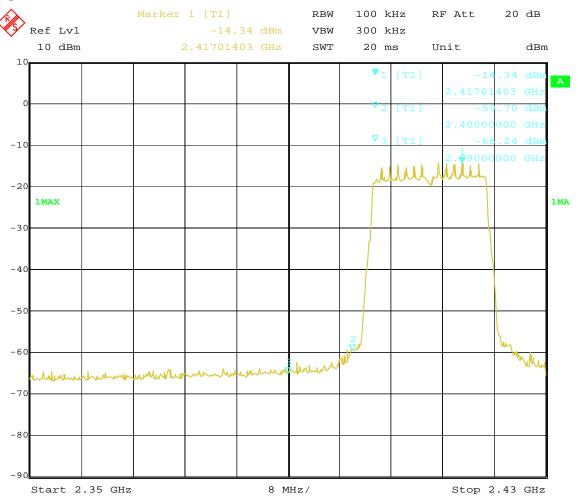


For 802.11n (HT20) mode

CH01 at mcs0

10.4 Band-edge Measurement

EUT	Smart Heater	Model	AX-WF269
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK



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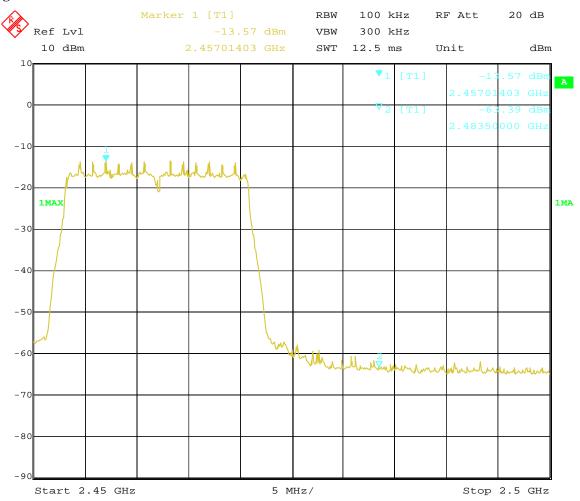
Date: 2018-12-15



CH11 at mcs0

10.4 Band-edge Measurement

EUT	Smart Heater	Model	AX-WF269
Mode	Keeping Transmitting	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK



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10.5 Restricted band Measurement

EUT	Smart Heater		Model	AX-WF269	
Mode	Keeping	Transmitting	Input Voltage	120V~	
Temperature	24	deg. C,	Humidity	56% RH	
Test Result:		Pass	Detector	PK	
802.11b mode, Low Channel, Horizontal					
2390	PK (dBµV/m)	50.67	T ::4	$74(dB\mu V/m)$	
	AV (dBμV/m)		Limit	54(dBμV/m)	
802.11b mode, Vertical					
2390	PK (dBµV/m)	46.89	Limit	74(dBμV/m)	
	AV (dBμV/m)		Limit	$54(dB\mu V/m)$	

10.5 Restricted band Measurement

10.5 Restricted	bana measaremen	•				
EUT	Smart Heater		Model	AX-WF269		
Mode	Keeping	Transmitting	Input Voltage	120V~		
Temperature	24	deg. C,	Humidity	56% RH		
Test Result:		Pass		PK		
802.11b mode, High Channel, Horizontal						
2483.5	PK (dBμV/m)	53.32	T 100 14	$74(dB\mu V/m)$		
	AV (dBμV/m)	31.51	Limit	$54(dB\mu V/m)$		
802.11b mode, High Channel, Vertical						
2483.5	PK (dBμV/m)	50.66	Limit	74(dBµV/m)		
	AV (dBμV/m)			$54(dB\mu V/m)$		

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10.5 Restricted band Measurement

EUT	Smart Heater		Model	AX-WF269			
Mode	Keeping	Transmitting	Input Voltage	120V~			
Temperature	24	deg. C,	Humidity	56% RH			
Test Result:		Pass	Detector	PK			
802.11g mode, Low Channel, Horizontal							
2390	PK (dBµV/m)	52.36	T ::4	$74(dB\mu V/m)$			
	AV (dBμV/m)	30.07	Limit	54(dBμV/m)			
	802.11g mode, Vertical						
2390	PK (dBμV/m)	48.92	Limit	$74(dB\mu V/m)$			
	AV (dBμV/m)		Limit	$54(dB\mu V/m)$			

10.5 Restricted band Measurement

EUT	Smart Heater		Model	AX-WF269		
Mode	Keeping	g Transmitting	Input Voltage	120V~		
Temperature	24	deg. C,	Humidity	56% RH		
Test Result:		Pass	Detector	PK		
802.11g mode, High Channel, Horizontal						
2483.5	PK (dBµV/m)	54.86	T ::4	74(dBμV/m)		
	AV (dBμV/m)	31.22	Limit	54(dBμV/m)		
802.11g mode, High Channel, Vertical						
2483.5	PK (dBμV/m)	52.16	T ::4	74(dBμV/m)		
	AV (dBμV/m)	30.25	Limit	54(dBμV/m)		

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10.5 Restricted band Measurement

EUT	Smart Heater		Model	AX-WF269	
Mode	Keeping	g Transmitting	Input Voltage	120V~	
Temperature	24	deg. C,	Humidity	56% RH	
Test Result:		Pass	Detector	PK	
802.11n HT20 mode, Low Channel, Horizontal					
2390	PK (dBμV/m)	52.80	.	$74(dB\mu V/m)$	
	AV (dBμV/m)	30.69	Limit	54(dBµV/m)	
802.11n HT20 mode, Low Channel, Vertical					
2390	PK (dBμV/m)	49.33	Limit	74(dBµV/m)	
	AV (dBμV/m)		Limit	$54(dB\mu V/m)$	

10.5 Restricted band Measurement

EUT	Smart Heater		Model	AX-WF269	
Mode	Keeping	g Transmitting	Input Voltage	120V~	
Temperature	24	deg. C,	Humidity	56% RH	
Test Result:		Pass	Detector	PK	
802.11n HT20 mode, High Channel, Horizontal					
2483.5	PK (dBµV/m)	55.60	T ::4	$74(dB\mu V/m)$	
	AV (dBμV/m)	32.06	Limit	$54(dB\mu V/m)$	
802.11n HT20 mode, High Channel, Vertical					
2483.5	PK (dBμV/m)	52.95	T ::4	74(dBμV/m)	
	AV (dBμV/m)	30.77	Limit	$54(dB\mu V/m)$	