

TEST REPORT

Applicant Name & Address	:	Guangzhou Rayer Acoustic Technology Co., Ltd 520, 192 Kezhu Road, Guangzhou Science Park, Guangzhou, Guangdong, China
Sample Description		
Product	:	Wireless Wifi Speaker System
FCC ID	:	2AHKA-WM32-X61002
Models No.	:	WM32, WH32C, MD43259, X61002
Electrical Rating	:	For Wi-Fi Speaker:
-		Input: 15V, 1.2A
		For Switching Adapter with model no. PS30D150K1200UD:
		Input: 100-240V~, 50/60Hz, 800mA
		Output: 15V, 1200mA
		For Lithium-ion Battery package with model no. ICR 18650*3S1P: 11.1V,
		2200mAh
Date Received	:	04 February 2016
Date Test Conducted	:	04 February 2016 – 26 February 2016
Test standards	:	47 CFR PART 15 Subpart C: 2014 section 15.247
Test Result	:	Pass
Conclusion	:	The submitted samples complied with the above rules/standards.
Remark	:	None.

Prepared and Checked By:

)anvel. He

Daniel He Project Engineer Intertek Guangzhou

Approved By:

p, len Signature

Helen Ma Team Leader Intertek Guangzhou <u>29 February 2016</u>Date

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Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD Guangzhou, China Tel / Fax: 86-20-8213 9688/86-20-3205 7538



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1.0 **Summary of Test**

TEST	TEST REQUIREMENT	TEST METHOD	RESULT	
	FCC PART 15 C	FCC PART 15 C		
Antenna Requirement	section 15.247 (c) and Section 15.203	section 15.247 (c) and Section 15.203	PASS	
6 dB Bandwidth	FCC PART 15 C	ANSI C63.10: Clause	PASS	
(DTS bandwidth)	section 15.247 (a)(2)	11.8	1 ASS	
Maximum Peak Conducted	FCC PART 15 C	ANSI C63.10: Clause	PASS	
Output Power	section 15.247(b)(3)	11.9.1.2	TASS	
Peak Power Spectral	FCC PART 15 C	ANSI C63.10: Clause	PASS	
Density	section 15.247(e)	11.10.2	IASS	
	FCC PART 15 C		PASS	
Out of Band Conducted Emissions	section 15.209	ANSI C63.10: Clause 11.11		
	&15.247(d)			
	FCC PART 15 C		N/A	
Out of Band Radiated Emission	section 15.209	ANSI C63.10: Clause 11.11, 6.4, 6.5 and 6.6		
	&15.247(d)	, ,		
	FCC PART 15 C			
Radiated Emissions in Restricted Bands	section 15.209	ANSI C63.10: Clause 11.12.1, 6.4, 6.5 and 6.6	PASS	
	&15.247(d)	, ,		
	FCC PART 15 C			
Band Edges Measurement	section 15.247 (d)	ANSI C63.10: Clause 11.11 and 11.13	PASS	
	&15.205			
Conducted Emissions at	FCC PART 15 C	ANSI C63.10: Clause	PASS	
Mains Terminals	section 15.207	6.2	17100	
Remark:				

N/A: not applicable. Refer to the relative section for the details. EUT: In this whole report EUT means Equipment Under Test.

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

RF: In this whole report RF means Radio Frequency.

ANSI C63.10: the detail version is ANSI C63.10:2013 in the whole report.



Remark:

1. Measurement uncertainty:

Test items		uncertainty
Radiated	Below 1GHz	4.87dB
Emission	Above 1GHz	4.79dB
Conducted En Mains Termin	nissions at als	2.58dB

2. Model difference: The electronic parts are the same for all models, the differences lie in the model name and outlook, select model WM32 to perform all the tests.



2.0 General Description

2.1 Product Description

4.1	I Touuci Description			
	Operating Frequency	2412 MHz to 2462 MHz for 802.11b/g/n(HT20)		
	Operating r requercy	2422 MHz to 2452 MHz for 802.11n(HT40)		
		802.11b: DSSS(CCK/QPSK/BPSK)		
	Type of Modulation:	802.11g: OFDM(BPSK/QPSK/16QAM/64QAM)		
		802.11n: MIMO OFDM (BPSK/QPSK/16QAM/64QAM)		
		802.11b :1/2/5.5/11 Mbps		
	Transmit Data Rate:	802.11g :6/9/12/18/24/36/48/54 Mbps		
	Transmit Data Rac.	802.11n(HT20): 6.5/13/19.5/26/39/52/58.5/65 Mbps/72.2Mbps 802.11n(HT40): 150Mbps		
	Number of Channels	11 Channels for 802.11b/g/n(HT20)		
		7 Channels for 802.11n(HT40)		
	Channel Separation:	5 MHz		
	Antenna Type	The wire antenna that uses a unique coupling to the intentional radiator		
	Antenna gain:	2 dBi		
	Function:	Speaker with WIFI function to transmit and receive audio signal.		
	EUT Power Supply:	For Wi-Fi Speaker:		
		Input: 15V, 1.2A		
		For Switching Adapter with model no. PS30D150K1200UD:		
		Input: 100-240V~, 50/60Hz, 800mA Output: 15V , 1200mA		
		-		
		For Lithium-ion Battery package with model no. ICR 18650*3S1P: 11.1V, 2200mAh		
L				



EUT channels and frequencies list:

For 802.11b/g/n(HT20): test frequencies are lowest channel 1: 2412 MHz, middle channel 7: 2437 MHz and highest channel 11: 2462 MHz.

For 802.11n(HT40): test frequencies are lowest channel 3: 2422 MHz, middle channel 6: 2437 MHz and highest channel 9: 2452 MHz

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	7	2442
2	2417	8	2447
3	2422	9	2452
4	2427	10	2457
5	2432	11	2462
6	2437	/	/

2.2 Related Submittal(s) Grants

This is an application for certification of:

DTS- Part 15 Digital Transmission Systems (WIFI transmitter portion)

Remaining portions are subject to the following procedures:

- 1. Receiver portion of WIFI: exempt from technical requirement of this Part.
- 2. The speaker without WIFI connection function: FCC VOC requirement..

2.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10:2009. Radiated emission measurement was performed in semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans and final tests were performed in the semi-anechoic chamber to determine the worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise.

2.4 Test Facility

All of the tests are performed at:

Intertek Testing Services Shenzhen Ltd. Guangzhou Branch. located at Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD Guangzhou, 510663, China. This test facility and site measurement data have been fully placed on file with the FCC, test firm registration number is 549654.



3.0 System Test Configuration

3.1 Justification

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. During testing, AC power line was manipulated to produce worst case emissions. It was powered by AC 120V/60Hz supply.

The signal is maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The resolution is 1 MHz or greater for frequencies above 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

For an intentional radiator, the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to at least the frequency shown in the following table:

Lowest frequency generated in the device	Upper frequency range of measurement
9 kHz to below 10 GHz	10th harmonic of highest fundamental frequency or to 40 GHz, whichever is lower.
At or above 10 GHz to below 30 GHz	5th harmonic of highest fundamental frequency or to 100 GHz, whichever is lower.
At or above 30 GHz	5th harmonic of highest fundamental frequency or to 200 GHz, whichever is lower, unless otherwise specified.

Frequency range of radiated emission measurements

Number of fundamental frequencies to be tested in EUT transmit band

		T (' ' C	
Frequency range in which	Number of	Location in frequency	
device operates	frequencies	range of operation	
1 MHz or less	1	Middle	
1 MHz to 10 MHz	2	1 near top and 1 near	
	2	bottom	
More then 10 MHz	2	1 near top, 1 near middle	
More than 10 MHz	3	and 1 near bottom	

3.2 EUT Exercising Software

The test was performed under "FC Tool V1.0.04" which was provided by manufacture.

3.3 Special Accessories



No special accessories used.

3.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered.

Uncertainty and Compliance – Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

3.5 Equipment Modification

Any modifications installed previous to testing by TOP Electric Appliances Industrial Ltd. will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Intertek Testing Services Shenzhen Ltd. Guangzhou Branch.

3.6 Support Equipment List and Description

This product was tested with corresponding accessories as below:

Description	Manufacturer	Model No.	SN/Certificate NO
NoteBook	Lenovo	T430	CCHNGZHL0009
Fix board		MUZO_BOX_A31	V03
Reticle			

Remark: after EUT was fixed the frequency, all support equipments were removed out of the Chamber before test.



4.0 Measurement Results

4.1 Antenna Requirement:

Standard requirement

15.203 requirement:

For intentional device. According to 15.203 an intentional radiator shall be designed to Ensure that no antenna other than that furnished by the responsible party shall be used with the device.

15.247(c) (1)(i) requirement:

(i) Systems operating in the 2400-2483.5 MHz bands 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.

EUT Antenna

The antenna is an integral antenna and no consideration of replacement. The best case gain of the antenna is 2 dBi.



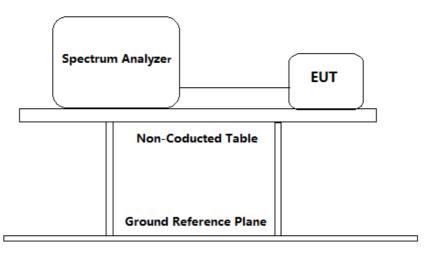


4.2 6 dB Bandwidth (DTS bandwidth):

Test Requirement:FCC Part 15 C section 15.247(a)(2)Systems using digital modulation techniques may operate in
the 902-928 MHz, 2400-2483.5MHz, and 5725-5850 MHz
bands. The minimum 6 dB bandwidth shall be at least 500 kHz.Test Method:ANSI C63.10: Clause 11.8Test Status:Pre-Scan has been conducted to determine the worst-case mode
from all possible combinations between available modulations,
data rates and antenna ports (if EUT with antenna diversity
architecture). Following channel(s) was (were) selected for the
final test as listed below.

Pre-test the EUT in AC mode and B/O mode, find worse case in AC mode.

Test Configuration:



Test Procedure:

- 1. Remove the antenna from the EUT and then connect a low attention attenuation RF cable (attenuator + cable loss =11.0 dB) from the antenna port to the spectrum.
- 2. Set the spectrum analyzer:
 - a) Set RBW = 100 kHz For B model, RBW = 300 kHz For G and N20 model, RBW = 1MHz For N40 model
 - b) Set the VBW $\geq [3 \times RBW]$
 - c) Detector = peak.
 - d) Trace mode = max hold.
 - e) Sweep = auto couple
 - f) Allow the trace to stabilize.

g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are

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attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

- h) Span=2*BW~5*BW
- 3. Repeat until all the test status is investigated.
- 4. Report the worst case.

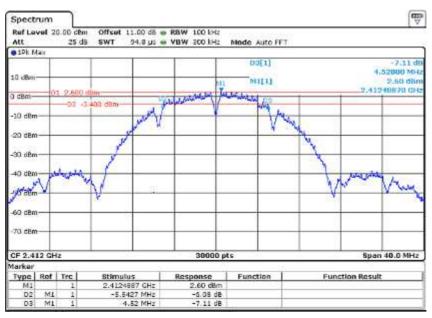
Channel No.	Frequency (MHz)	Mode	Data Rate	Measured 6dB bandwidth (MHz)	Limit	Result
1	2412		11 Mbps	10.063		Pass
6	2437	802.11b	11 Mbps	10.032		Pass
11	2462		11 Mbps	9.511		Pass
1	2412		54 Mbps	16.142		Pass
6	2437	802.11g	54 Mbps	16.340		Pass
11	2462	-	54 Mbps	16.255	>500KHz	Pass
1	2412	802.11n	72.2 Mbps	17.104	<u>-</u> 300 M 12	Pass
6	2437	(HT20)	72.2 Mbps	17.330		Pass
11	2462	(11120)	72.2 Mbps	17.210		Pass
3	2422	802.11n	150 Mbps	34.869		Pass
6	2437	(HT40)	150 Mbps	34.749		Pass
9	2452	(11140)	150 Mbps	34.992		Pass

Test result: The unit does meet the FCC requirements.

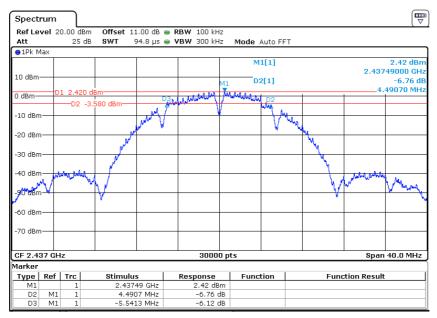


Result plot as follows:

802.11b mode with 11Mbps data rate Channel 1: 2.412GHz:

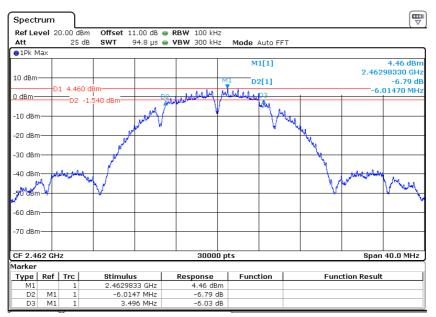


Channel 6: 2.437GHz:

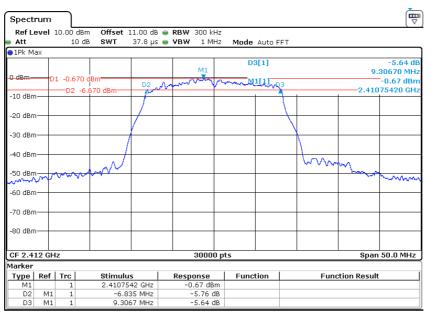




Channel 11: 2.462GHz

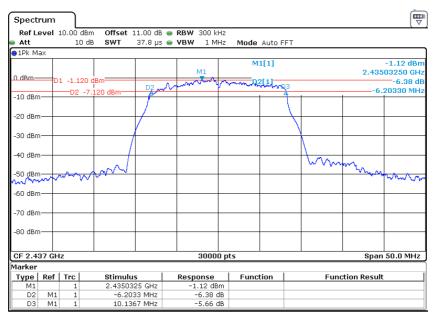


802.11g mode with 54Mbps data rate Channel 1: 2.412GHz:

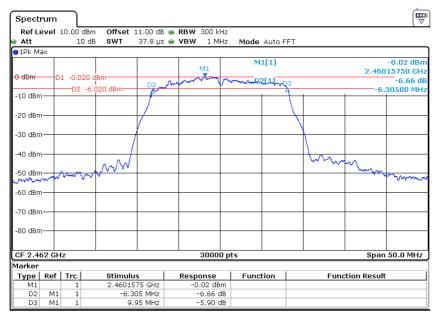




Channel 6: 2.437GHz:



Channel 11: 2.462GHz:

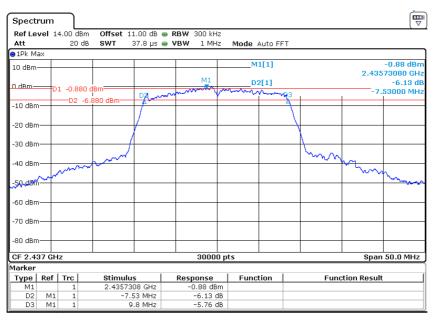




(The second seco Spectrum Offset 11.00 dB ● RBW 300 kHz SWT 37.8 µs ● VBW 1 MHz Ref Level 14.00 dBm 20 dB Att Mode Auto FFT ⊖1Pk Max -0.05 dBm 2.41130750 GHa M1[1] 10 dBm-M -6.26 df -8.04860 MH D2[1] -0.050 d o de N -D2 -6.050 dBm DЯ -10 dBr -20 dB -30 dBn m -40 dBm m -56. dB -60 dBr -70 dBr -80 dBm CF 2.412 GHz 30000 pts Span 50.0 MHz Marker Stimulus 2.4113075 GHz -8.0486 MHz 9.055 MHz Response -0.05 dBm -6.26 dB -6.32 dB Type Ref Trc Function Function Result Μ1 1 M1 D2 D3 M1

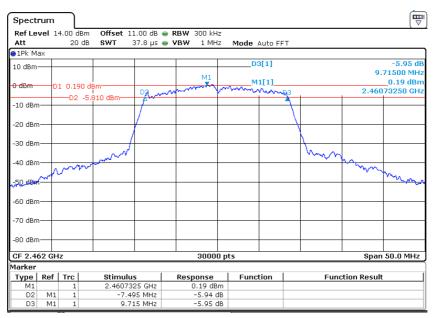
802.11n(HT20) mode with 72.2Mbps data rate Channel 1: 2.412GHz:

Channel 6: 2.437GHz:



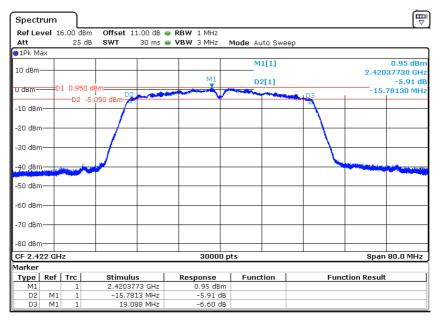


Channel 11: 2.462GHz:



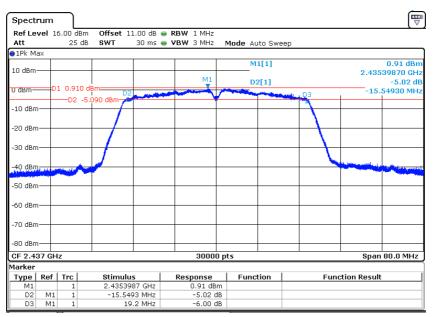
802.11n(HT40) mode with 150Mbps data rate

Channel 3: 2.422GHz:

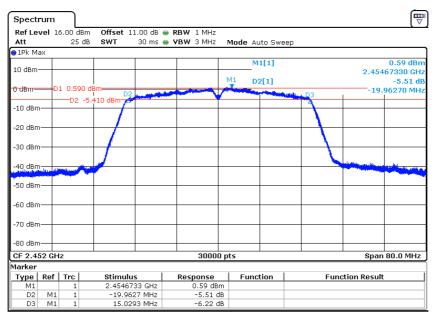




Channel 6: 2.437GHz:



Channel 9: 2.452GHz:

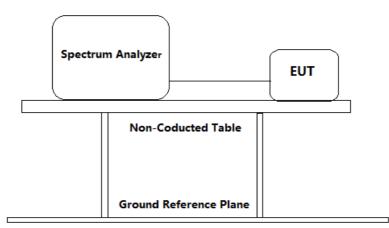




4.3 Maximum Peak Conducted Output Power

Test Requirement:	FCC Part 15 C section 15.247 (b)(3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. Except as shown in paragraph (c) of this section, 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 in paragraphs (b) (1), (b) (2), and (b) (3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
Test Method: Test Status:	ANSI C63.10: Clause 11.9.1.2(Integrated band power method) Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below. Pre-test the EUT in AC mode and B/O mode, find worse case in AC mode.

Test Configuration:





Test Procedure:

- 1. Remove the antenna from the EUT and then connect a low attention attenuation RF cable (attenuator + cable loss =11.0 dB) from the antenna port to the spectrum.
- 2. Set the spectrum analyzer:
 - a) Set the RBW = 1 MHz.
 - b) Set the VBW $\geq [3 \times RBW]$.
 - c) Set the span $\geq [1.5 \times \text{DTS bandwidth}]$.
 - d) Detector = peak.
 - e) Sweep time = auto couple.
 - f) Trace mode = max hold.
 - g) Allow trace to fully stabilize.
 - h) Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges.
- 3. Repeat until all the test status is investigated.
- 4. Report the worst case.



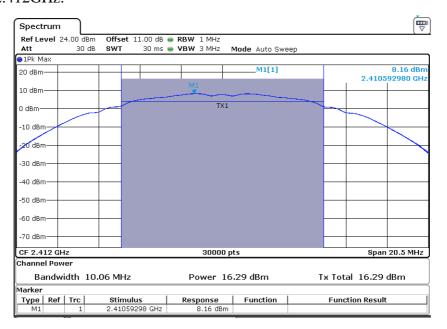
,	Test result:					
Channel No.	Frequency (MHz)	Mode	Data Rate	Measured Channel Power (dBm)	Limit	Result
1	2412		11 Mbps	16.29		Pass
6	2437	802.11b	11 Mbps	16.20		Pass
11	2462		11 Mbps	16.92		Pass
1	2412		54 Mbps	14.28		Pass
6	2437	802.11g	54 Mbps	14.46		Pass
11	2462		54 Mbps	15.03	1W	Pass
1	2412	802.11n	72.2 Mbps	13.34	(30dBm)	Pass
6	2437	(HT20)	72.2 Mbps	13.30		Pass
11	2462	(11120)	72.2 Mbps	14.11		Pass
3	2422	802.11n	150 Mbps	12.77		Pass
6	2437	(HT40)	150 Mbps	12.30		Pass
9	2452	(111 10)	150 Mbps	12.46		Pass

Remark: Level = Read Level +Attenuator +Cable Loss The unit does meet the FCC requirements.

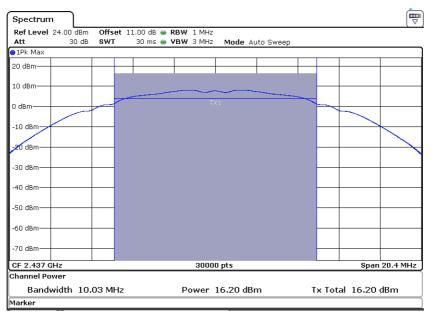


Result plot as follows:

802.11b mode with 11Mbps data rate Channel 1: 2.412GHz:

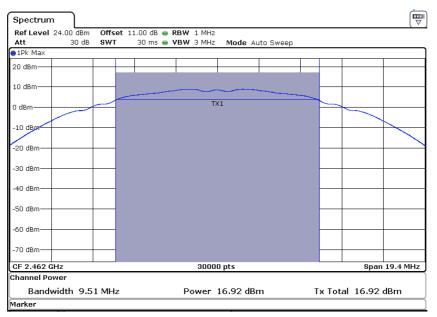


Channel 6: 2.437GHz:

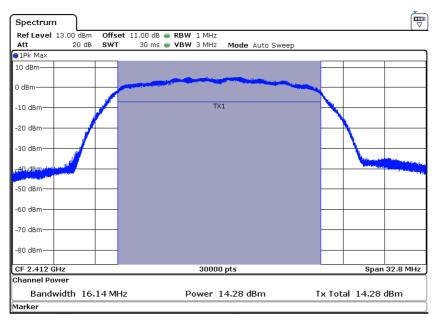




Channel 11: 2.462GHz:

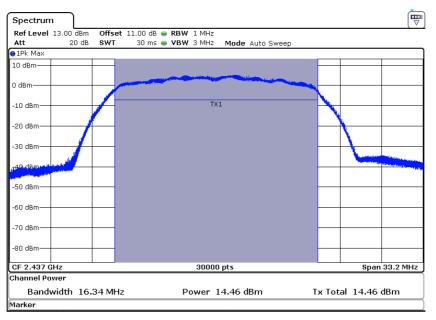


802.11g mode with 54Mbps data rate Channel 1: 2.412GHz:

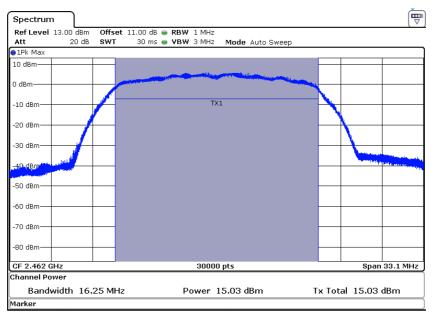




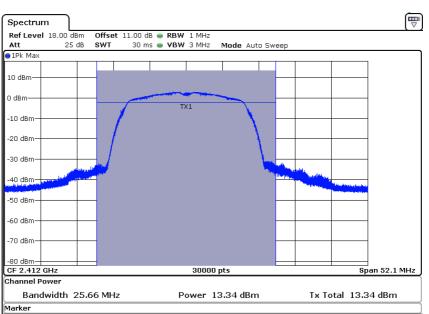
Channel 6: 2.437GHz:



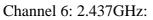
Channel 11: 2.462GHz:

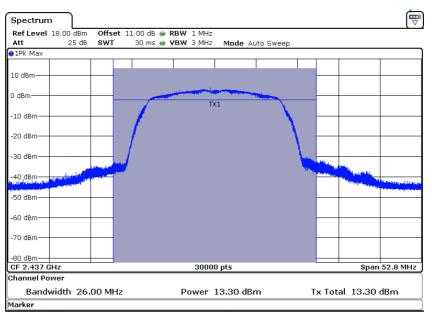






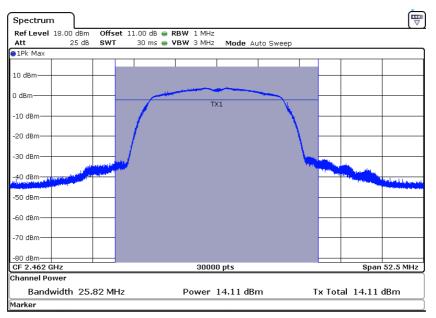
802.11n(HT20) mode with 72.2Mbps data rate Channel 1: 2.412GHz:



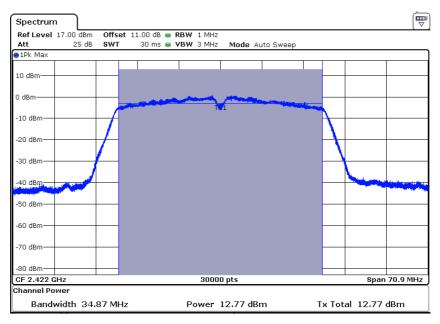




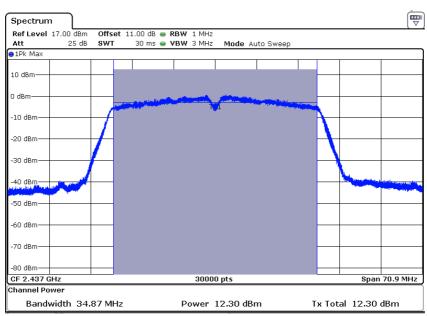
Channel 11: 2.462GHz:



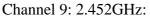
802.11n(HT40) mode with 150Mbps data rate Channel 3: 2.422GHz:

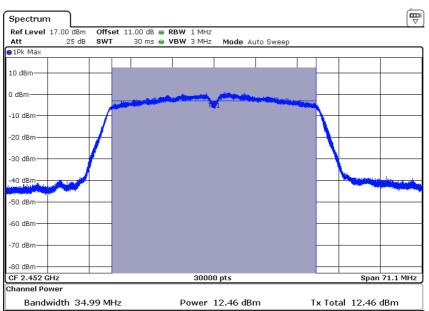






Channel 6: 2.437GHz:

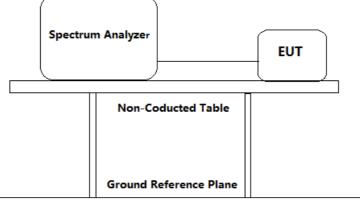






4.4 Peak Power Spectral Density

Test Requirement:	FCC Part 15 C section 15.247
	(e) 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.
	This power spectral density shall be determined in accordance
	with the provisions of paragraph (b) of this section. The same
	method of determining the conducted output power shall be used
	to determine the power spectral density.
Test Method:	ANSI C63.10: Clause 11.10.2
Test Status:	Pre-Scan has been conducted to determine the worst-case mode
	from all possible combinations between available modulations,
	data rates and antenna ports (if EUT with antenna diversity
	architecture). Following channel(s) was (were) selected for the
	final test as listed below.
	Pre-test the EUT in AC mode and B/O mode, find worse case in
	AC mode.
Test Configuration:	
(
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Test Procedure:

- 1. Remove the antenna from the EUT and then connect a low attention attenuation RF cable (attenuator +Cable Loss =11.0 dB) from the antenna port to the spectrum analyzer or power meter.
- 2. Set the spectrum analyzer:
 - a) Set analyzer center frequency to DTS channel center frequency.
 - b) Set the span= $1.5 \times DTS$ bandwidth.
 - c) Set the RBW to 3 kHz \leq RBW \leq 100 kHz.
 - d) Set the VBW $\geq [3 \times RBW]$.
 - e) Detector = peak.
 - f) Sweep time = auto couple.
 - g) Trace mode = max hold.
 - h) Allow trace to fully stabilize.
 - i) Use the peak marker function to determine the maximum amplitude level within the RBW.
 - j) If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.
- 3. Measure the Power Spectral Density of the test frequency with special test status.
- 4. Repeat until all the test status is investigated.
- 5. Report the worst case.



Channel	Englander av			Measured Peak		
Channel	Frequency	Mode	Data Rate	Power Spectral	Limit	Result
No.	(MHz)			Density		
				(dBm/3KHz)		
1	2412	802.11b	11 Mbps	1.30	8dBm/	Pass
6	2437		11 Mbps	1.20		Pass
11	2462		11 Mbps	2.07		Pass
1	2412	802.11g	54 Mbps	-18.71		Pass
6	2437		54 Mbps	-19.01		Pass
11	2462		54 Mbps	-17.82		Pass
1	2412	802.11n (HT20)	72.2 Mbps	-17.47	3 кHz	Pass
6	2437		72.2 Mbps	-17.07		Pass
11	2462		72.2 Mbps	-17.02		Pass
3	2422	802.11n (HT40)	150 Mbps	-21.84		Pass
6	2437		150 Mbps	-22.33		Pass
9	2452		150 Mbps	-21.92]	Pass

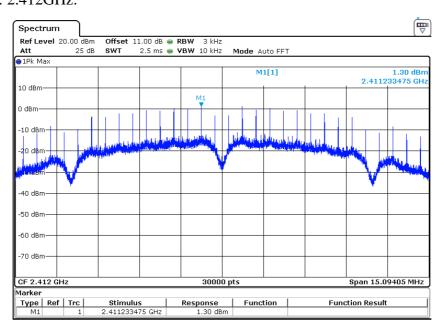
Test result: Level = Read Level + Attenuator + Cable Loss.

The unit does meet the FCC requirements.

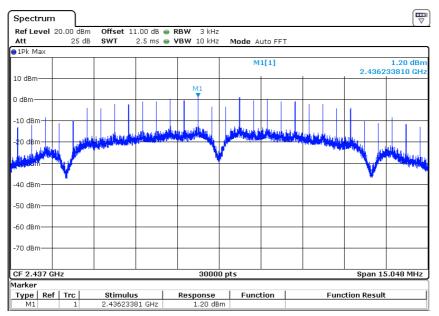


Result plot as follows:

802.11b mode with 11Mbps data rate Channel 1: 2.412GHz:



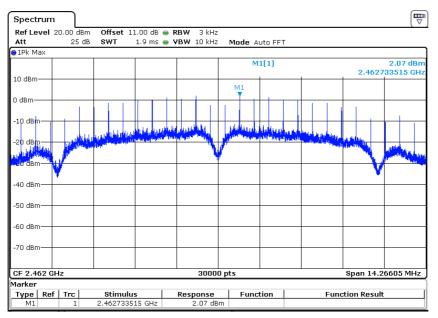
Channel 6: 2.437GHz:





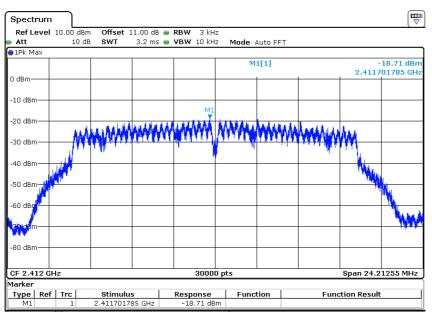
Report No.: 160204001GZU-002 Issued: 2016-02-29

Channel 11: 2.462GHz:

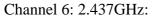


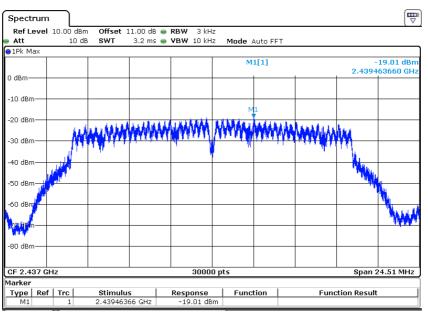
802.11g mode with 54Mbps data rate

Channel 1: 2.412GHz:

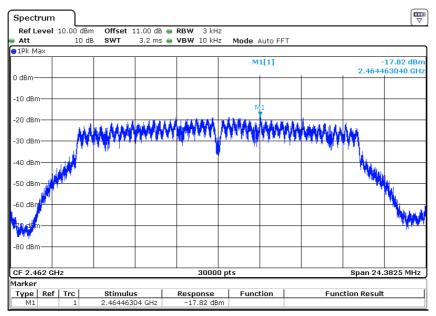




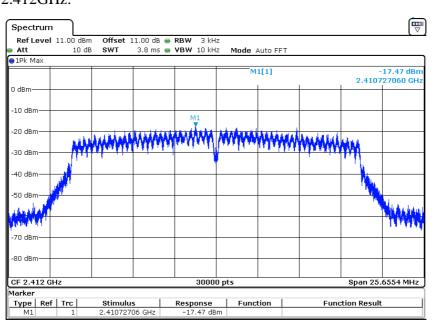




Channel 11: 2.462GHz:

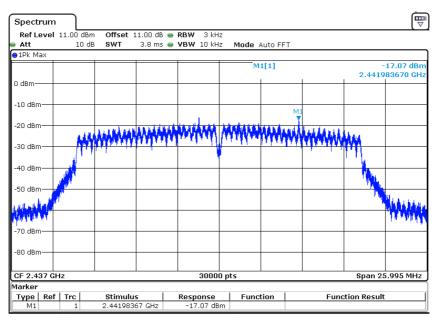




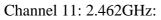


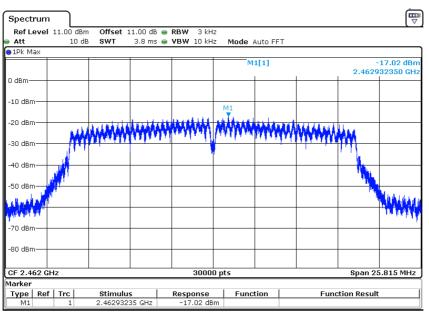
802.11n(HT20) mode with 72.2Mbps data rate Channel 1: 2.412GHz:

Channel 6: 2.437GHz:



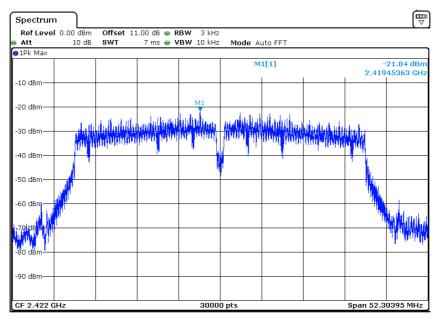






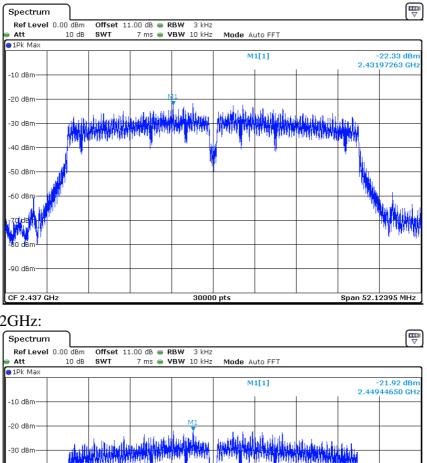
802.11n(HT40) mode with 150Mbps data rate

Channel 3: 2.422GHz:

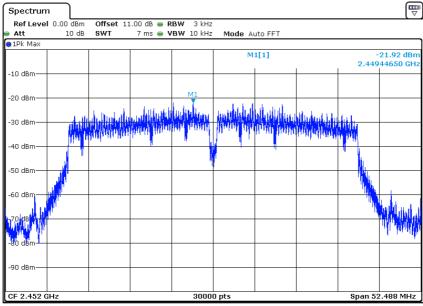




Channel 6: 2.437GHz:



Channel 9: 2.452GHz:

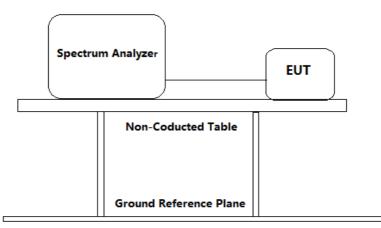




4.5 Out of Band Conducted Emissions

Test Requirement:	FCC Part 15 C section 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.
Test Method:	ANSI C63.10: Clause 11.11
Test Status:	 Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below. Pre-test the EUT in AC mode and B/O mode, find worse case in AC mode.
Test Configuration:	

Test Configuration:



Test Procedure:

- 1. Remove the antenna from the EUT and then connect a low RF cable (Attenuator +Cable Loss =11.0dB) from the antenna port to the spectrum analyzer or power meter.
- 2. Establish a reference level by using the following procedure:

a) Set instrument center frequency to DTS channel center frequency.

- b) Set the span to $\geq 1.5 \times \text{DTS}$ bandwidth.
- c) Set the RBW = 100 kHz.
- d) Set the VBW $\geq [3 \times RBW]$.
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.



h) Allow trace to fully stabilize.

i) Use the peak marker function to determine the maximum PSD level.

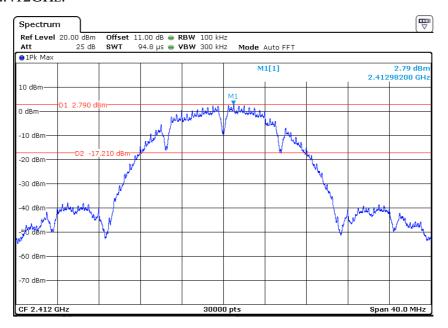
Note that the channel found to contain the maximum PSD level can be used to establish the reference level

- 3. Emission level measurement
 - a) Set the center frequency and span to encompass frequency range to be measured.
 - b) Set the RBW = 100 kHz.
 - c) Set the VBW $\geq [3 \times RBW]$.
 - d) Detector = peak.
 - e) Sweep time = auto couple.
 - f) Trace mode = max hold.
 - g) Allow trace to fully stabilize.
 - h) Use the peak marker function to determine the maximum amplitude level.
- 4. Measure the Conducted unwanted Emissions of the test frequency with special test status.
- 5. Repeat until all the test status is investigated.
- 6. Report the worst case.



Result plot as follows:

802.11b mode with 11Mbps data rate Channel 1: 2.412GHz:

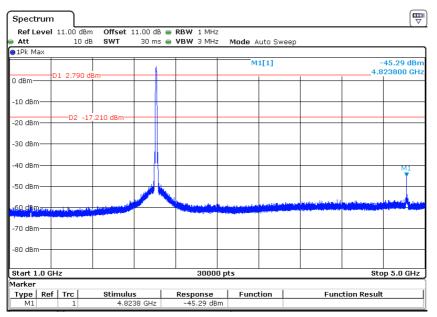


30 MHz to 1GHz:

Ref Level	20.00 dBm		1.00 dB 👄	RBW 1 MHz					
Att	25 dB	SWT	30 ms 😑	VBW 3 MHz	Mode Aut	o Sweep			
●1Pk Max	1		1	T T					
					M1	[1]			44.67 dBn .8110 MH;
10 dBm									10110.111
	D1 2.790 di	 8m							
0 dBm									
-10 dBm									
-10 aBm—									
-20 dBm	D2 -17	.210 dBm							
-30 dBm									
-40 dBm—							MI		
بقيط أتجيبه بالارتباط	فليقتر ويقرم بالمرابية ويمار	an e dhaalan aathaan	and the stand of the	والمار ويوارق والمحاوين الم	بالمكتبة ومعدها والا	to provide the other	the loss of the last	a dia makana ang ang ang ang ang ang ang ang ang	
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-60 dBm									
-00 ubm									
-70 dBm									
Start 30.0	MHz		1	30000 ;	ots			Sto	p 1.0 GHz
Aarker				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					



1GHz to 5GHz:

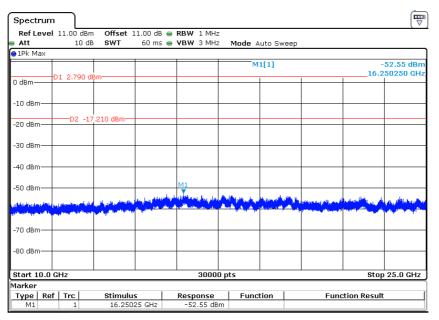


5GHz to 10GHz:

Spectrun	n								
	1 11.00 dBm			RBW 1 MH;					
Att	10 dB	SWT	30 ms	VBW 3 MH;	Z Mode A	uto Sw	eep		
⊖1Pk Max					<u> </u>				55.00.10
					M	1[1]			55.22 dBm
0 dBm	D1 2.790 dE	3m-		_				015	10000 0112
-10 dBm									
	00 17	.210 dBm							
-20 dBm—	02 -17	.210 UBIII							
-30 dBm—									
-40 dBm—									
-50 dBm			M	11					
فأطبط ليترادين	and the could	- delandrander and	ويتعاديه ويترا	X.					
alive angle growthe	The difference		مر المحمود حكوري		Allen ingen fregerik i de		والمعادة إرام ومتحاط أوسياسا	and a second large second	in a constant for the second sec
-70 dBm—									
-80 dBm									
Start 5.0 (GHz			3000	0 pts			Stop	10.0 GHz
Marker	- 1 - 1]
Type Re M1	f Trc	Stimulus	58 GHz	Response -55.22 dB	Func	tion	Fund	tion Result	<u> </u>
	1	6.918	58 GHZ	-55.22 dB	ini				

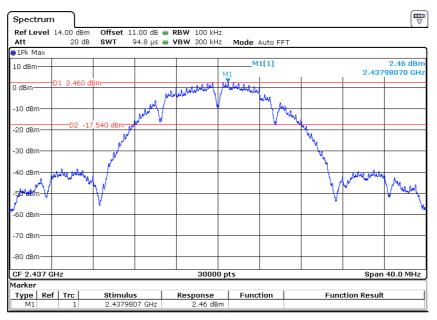


10GHz to 25GHz:



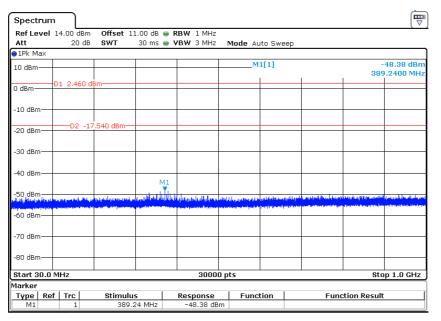
802.11b mode with 11Mbps data rate

Channel 6: 2.437GHz:

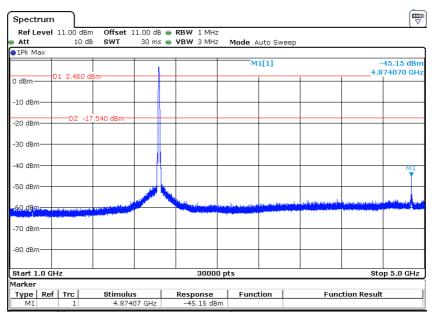




30 MHz to 1GHz:

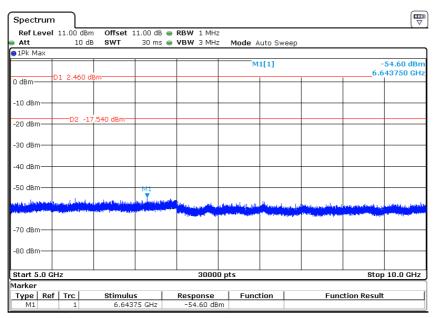


1GHz to 5GHz:





5GHz to 10GHz:

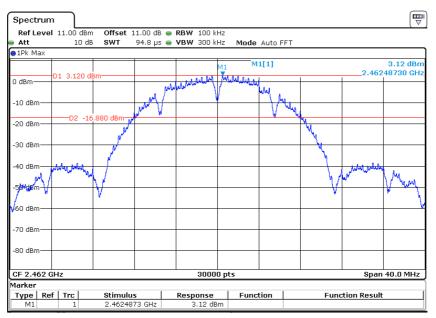


10GHz to 25GHz:

Spectrur	n								
	el 11.00 dBm			🔵 RBW 1 MH					
Att	10 dB	SWT	60 ms	👄 VBW З МН	z Mode A	uto Sweep)		
⊖1Pk Max									
					M	1[1]			52.27 dBm 22250 GHz
0 dBm	-D1 2.460 dE	3m						10.3	22230 GH2
o abiii									
-10 dBm—									
10 0.0									
-20 dBm-	D2 -17	.540 dBm							
-30 dBm—									
-40 dBm—									
-50 dBm				M1					
		ويعقدونان وأقل والدون	الداغانية والع	والمرجع والمطلح الأور المرجع	والقريق المحالية	والتقريق فيتعريك	الارتباعي المراجع	على المعلمة والم	ويطلق بالمطلوريان
	a share a shere		and the state of the	A part between the part	And A A	Property Sector		<u>م محمود م</u>	
	and an erest								
-70 dBm—									
-80 dBm—							+		
Start 10.0) GHz			3000	10 pts			Stop	25.0 GHz
Marker					•				
	ef Trc	Stimulus	5	Response	Func	tion	Fund	tion Result	
M1	1	16.322	25 GHz	-52.27 d	Bm				



Channel 11: 2.462GHz:

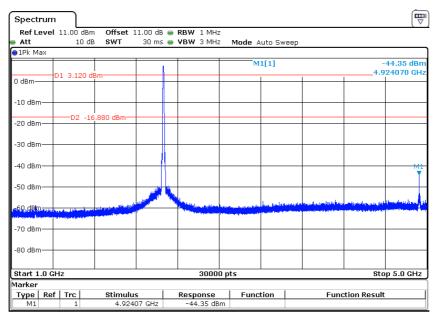


30 MHz to 1GHz:

Spectrur	n								
	el 11.00 dBm			BRBW 1 MHz					
Att	10 dB	SWT	30 ms (VBW 3 MHz	Mode A	uto Sw	еер		
⊜1Pk Max			-						
					M	1[1]			-48.44 dBn 7.5350 MH;
0 dBm	D1 3.120 di	3m						37.	7.3330 MH.
0 00111									
-10 dBm—									L
-20 dBm	D2 -16	.880 dBm-							
-30 dBm—								-	
-40 dBm—									
			M1						
-50 dBm—			- Juliu	dil dida ata a c					
		LL LL COMM	ال للل ال		link.				
-60 dBm		and the second se	The second second	and the state of the state of the	a selection of the second	antini (di ba	and the second		
-70 dBm									
-70 ubm									
-80 dBm									
Start 30.0	I MHz			30000	Ints		1	Str	p 1.0 GHz
darker				00000	. 1.2				7p 110 GH2
Type Re	ef Trc	Stimulu	is	Response	Func	tion	Fun	ction Result	t
M1	1	377.5	35 MHz	-48.44 dBr	n				



1GHz to 5GHz:

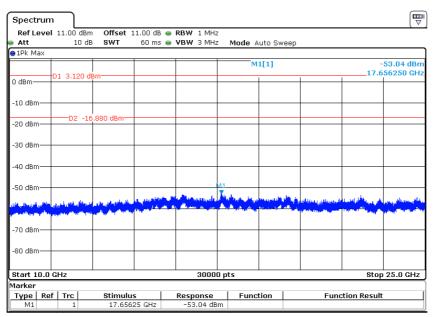


5GHz to 10GHz:

Spectru	m								
Ref Lev Att	el 11.00 dBm 10 dE			 RBW 1 МН VBW 3 МН 		uto Swe	ер		
●1Pk Max									
	-D1 3.120 d	Bm			М	1[1]			-54.93 dBm -38580 GHz
0 dBm	01 0.120 0								
-10 dBm—									
-20 dBm—	D2 -16	5.880 dBm							
-30 dBm—				_					
-40 dBm—									
-50 dBm 📊	1								
(The state of the state	فيعطونها وريس أريأ	and a second by a broad of a	all should be a start	an a	والمحرب والقافر أفضاهم	and a strength of the state	Linden and annual	والمعادية والمعاد	a falle i jak asialad
Adding and and a second	and the second s	and a line of the second second		Contract Surgers & Street,		and the state of the party of t	and the first second second second	All substantial second	and he was provided in
-70 dBm—									
-80 dBm—							_		
Start 5.0	GHz			3000	0 pts			Stop	10.0 GHz
Marker								· · ·	
Type R M1	ef Trc	Stimulu:	s	Response -54.93 di	Func	tion	Fund	ction Result	
	1 -1	5, 150,		51.55 4	an 1				

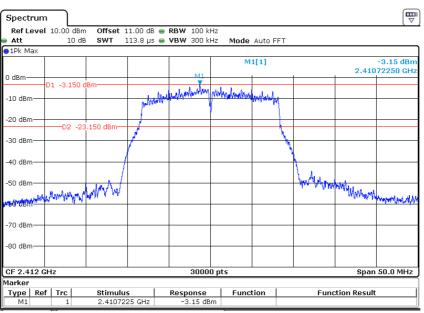


10GHz to 25GHz:



802.11g mode with 54Mbps data rate

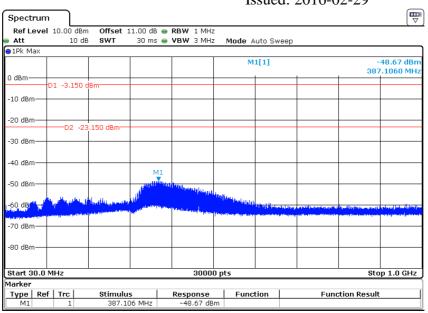
Channel 1: 2.412GHz:



30 MHz to 1GHz:

Intertek

Report No.: 160204001GZU-002 Issued: 2016-02-29



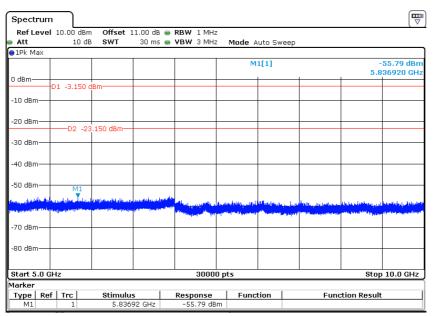
1GHz to 5GHz:

Spectrur	n								
Ref Leve Att	10.00 dBm 10 dB	Offset SWT		 RBW 1 МН VBW 3 МН 		uto Sweep			
●1Pk Max									
			1		м	1[1]			54.62 dBm 20330 GHz
0 dBm	-D1 -3.150 dE	3m							
-10 dBm—									
-20 dBm—	D2 -23.	150 dBm							
-30 dBm—									
-40 dBm—									
-50 dBm—									M1
-60.d8m				Contraction of the second	data bite a sure dia te		a second second second		and a state
-70 dBm—									
-80 dBm									
Start 1.0 (GHz			300	00 pts			Sto	p 5.0 GHz
Marker									
Type Re M1	ef Trc	Stimulu 4.820	s 33 GHz	Response -54.62 d		tion	Fund	tion Result	

FCC ID: 2AHKA-WM32-X61002



5GHz to 10GHz:

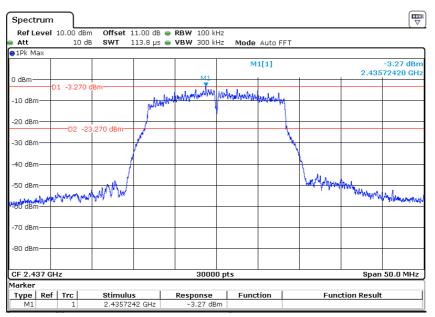


10GHz to 25GHz:

Spect	rum										
	evel :	10.00 dBr			RBW 1						
Att		10 d	B SWT	60 ms	VBW 3	MHz	Mode A	uto Sweep.			
😑 1Pk Ma	ах										
							М	1[1]			53.39 dBm 12750 GHz
0 dBm—		1 -3.150	dBm								
-10 dBm	-										
-20 dBm	ı——		3.150 dBm								
-30 dBm	1-		5.150 dBm								
-40 dBm	-					_					
-50 dBm					M1	L.	n .				
d. India ca	والدر أنطقت	فرحا والمرادات	فبعذ التعريطين وعريات	thur hat the	THE REPORT	ali juli le de		hills and a filled in a fi	الحراف أكثر والمكاملات	معلى وبالطلاق ومعه	a Marada and a Mara
An for the fi	1.00	all the second second	an and a share and a second	Ango Allan San				The second s	and the second strategy of the second strateg	http://www.	and the state of the
-70 dBm	<u>ا</u>										
-80 dBm	-										
Start 1						0000 pt				Oton	25.0 GHz
	0.0 G	HZ			3	0000 pi	.5			stop	23.0 GHZ
Marker Type	Ref	Trc	Stimulu	s	Respo	nse	Func	tion	Fund	tion Result	1
M1		1	16.312	75 GHz		9 dBm					



Channel 6: 2.437GHz:

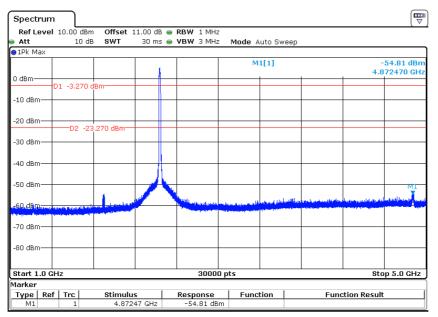


30 MHz to 1GHz:

•	rum									[₩
	evel	10.00 dBr			RBW 1 MHz					
Att		10 d	B SWT	30 ms 👄	VBW 3 MHz	Mode A	uto Swee	p		
∎1Pk M	ax									
						M	1[1]			49.11 dBr
0 dBm-								-	387	7.5580 MH
o abiii	D	1 -3.270	dBm							
-10 dBn										
-10 080	-									
-20 dBn										
-20 UBII			3.270 dBm-							
00 JD-			1							
-30 dBn										
-40 dBn										
				M1						
-50 dBn	+-י			Juni linin	in the bally of					
	L.,	dia a		1.10	ter Brigheddau dau dau	the later of the				
-60 dBr	17	an de ante	and ^{the following the second s}	(1991)		. namp	AND DOUGH	بالمراجعة فتقليه والمراجع	المرالية بطحا أليمير فررقاء	المعجا أجارع فأماعه بال
an an hydri ffi	a an an	day (out the particular in the second second	The second se	And the second s	haanna dalayna, ann	and have represented and	and president statements	a sectorely on a protocol	port to extend to be the
-70 dBn	η — [-		-	-						
-80 dBn	י—⊢									
Start 3	0.0 M	LI-3			30000	nte		1	Pt c	p 1.0 GHz
	0.0 14	пг			30000	prs			ธแ	лр 1.0 GHZ
1arker Type	Ref	Trc	Stimulu		Response	Func	tion		tion Result	-



1GHz to 5GHz:

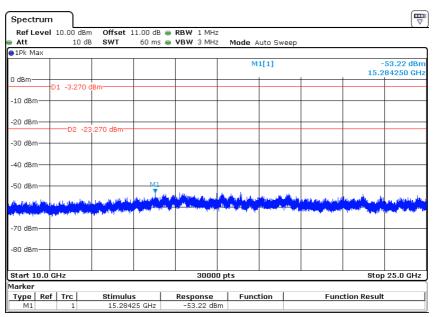


5GHz to 10GHz:

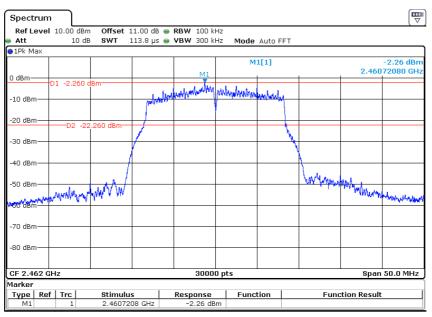
Spectr	um											
	evel	10.00 dB				3W 1 MH:						
Att		10 d	B SWT	30 ms	- VI	3W 3 MH:	Z Mode A	uto Sw	еер			
⊖1Pk Ma	эх		-									
							M	1[1]				55.88 dBm
0 dBm—											6.9	01580 GHz
	— D	1 -3.270	dBm		_							
-10 dBm												
10 0.011	·											
-20 dBm												
-20 0011	·		3.270 dBm-									
-30 dBm												
-30 ubm												
10.10												
-40 dBm												
-50 dBm					M1							
والأليمين وعروري	alle de la	أفلار فقيرون في	وريبه مناه بالعللية فتربيه وأرده	وسيد بلغ دراع	<u>, Ta</u>	. die				ومريا للمحرب المالية		Inc
ala a antosti	a di na di na	and the little	http://www.com.org.com.org.com	and the second second	-pm]]	unggyll, bu	Playing as a selection of the second s	1. November 1.	n fritting.	n an an an an Anna an A		International Action of the International Action
	ľ	1.1				Contraction of the	and the second of the second of the		and the second se	The second second		a a filiada a constante
-70 dBm												
-80 dBm			+									
Start 5	0.04	7				3000	0 nts				Stor	10.0 GHz
Marker	.o an	۷				3000	0 pt3				atup	, 10.0 GHZ
	Ref	Trc	Stimulu	c	D		Func	tion		Fund	tion Result	
Type M1	кет	1		s 58 GHz		esponse -55.88 dB		uun		Func	cion Result	
1411	_	1	0.901	JU GHZ		55.00 UE						



10GHz to 25GHz:

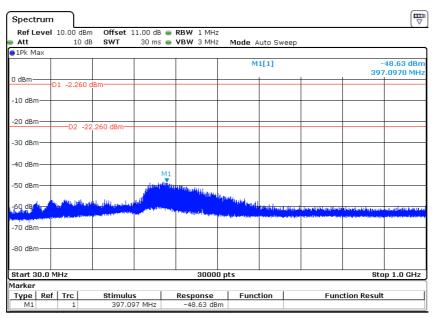


Channel 11:2.462 GHz:





30 MHz to 1GHz:

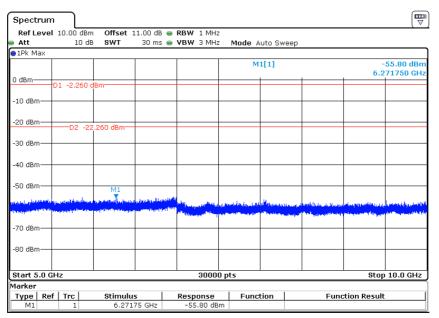


1GHz to 5GHz:

Spectru	n									
Ref Leve	el 10.00 dBm	Offset	11.00 dB	😑 R	BW 1 MHz					
🛢 Att	10 dB	SWT	30 ms	• V	BW 3 MHz	Mode A	uto Sw	еер		
●1Pk Max										
			1			М	1[1]			53.84 dBm 24470 GHz
0 dBm	-D1 -2.260 d	Bm							1	
-10 dBm—	2.200 0									
-20 dBm—	D2 -22	.260 dBm								
-30 dBm—										
-40 dBm—										
-50 dBm—										M1
-60 dBm					and the second s		Lifeth Second Add	Little-milled a poster a buller de	te estatut a service estatut. Alexandre estatut a service estatut a s	
-70 dBm—										
-80 dBm—										
Start 1.0	GHz		1		30000) pts	I		Sto	p 5.0 GHz
Marker										
Type R M1	ef Trc	Stimulu 4.924	IS	F	Response -53.84 dBr	Func n	tion	Fur	iction Result	
		1152	arre		22.01 001					



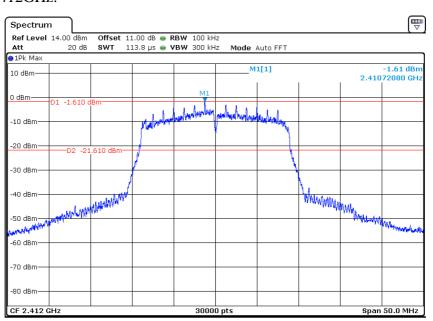
5GHz to 10GHz:



10GHz to 25GHz:

Spectrum										
Ref Level	10.00 dBm	Offset	11.00 dB	■ RBW 1 M	Hz					
Att	10 dB	SWT	60 ms	😑 VBW З М	Hz Mo	de Auto Sv	veep			
●1Pk Max										
						M1[1]				53.25 dBn 30250 GH:
0 dBm	D1 -2.260 d	Bm								
-10 dBm										
-20 dBm	D2 -22	260 dBm								
-30 dBm										
-40 dBm							_			
-50 dBm				MI	u dhudh				ال السادي	مر بر مانی ر
أطلق والمقار والمعالي	والمالطي واللور إماريان	والمعالمين بالمرومين.			يديد في	na provinsi Sulta atta and		dilling places (if		
Section of the sectio		a the set of a		- I - '				1.6	in history	1
-70 dBm										
-80 dBm										
Start 10.0	GHz			300	00 pts				Stop	25.0 GHz
Marker										
Type Ref M1	f Trc 1	Stimulu 16.330	s 25 GHz	Response -53.25 (Function		Fund	tion Result	





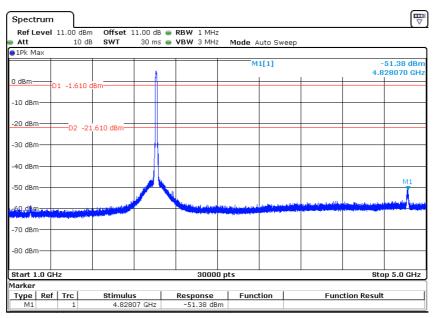
802.11n(HT20) mode with 72.2Mbps data rate Channel 1: 2.412GHz:

30 MHz to 1GHz:

Spectrum								
	Bm Offset 11 dB SWT	00 dB 👄 RI 30 ms 👄 V		Mode Au	ito Sweep			
● 1Pk Max 10 dBm				M	1[1]			47.60 dBm .7870 MHz
0 dBm	10 dBm							
-10 dBm								
-20 dBm	-21.610 dBm							
-30 dBm								
-40 dBm		M1						
-50 dBm	Difference in the location of			Lind Rock Level	مرور المراجع التي من التي من المراجع المراجع المراجع المراجع المراجع المراجع التي من التي من التي من التي من ا المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع المراجع التي من التي من التي من التي من	an ya ana ang bandana ang sa ang s	مريحين و دو ارد و در ارد ارد ارد مريحين و دو ارد ارد ارد و در و دو ارد و در دو در و دو ارد ارد و دو ارد و دو ارد و	
-60 dBm								
-70 dBm								
-80 dBm Start 30.0 MHz			3000) nts			Sto	p 1.0 GHz



1GHz to 5GHz:

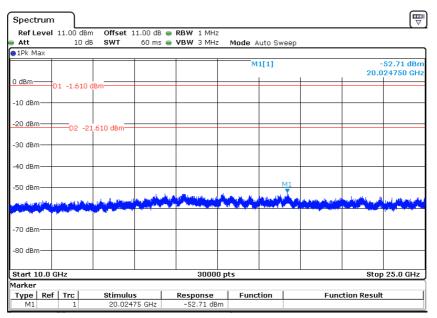


5GHz to 10GHz:

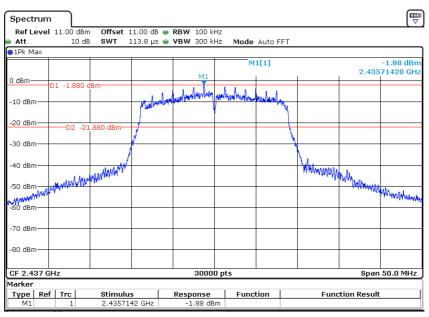
Spectrum	, J								E
	11.00 dBm			🔵 RBW 1 MH					
Att	10 dB	SWT	30 ms	VBW 3 MH	lz Mode A	auto Swe	эөр		
⊜1Pk Max									
					M	1[1]			55.57 dBn 91920 GH
0 dBm	D1 -1.610 dB						_		
-10 dBm									
-20 dBm									
20 00111	D2 -21.6	510 dBm							
-30 dBm									
-40 dBm									
-50 dBm									
- SO GBIII		M1		1 Million					
	All and the second s	and the logic sector	Contraction of the second s		استرين المتعط بطول م	ويواد المالية الرائية	والمقرع وبالجو ألفظ والمحدو	forth and the same	alle dille databal
	·						and the second second	and second	
-70 dBm									
-80 dBm									
00 0.011									
Start 5.0 G	Hz			3000	0 pts	L		Stop	0 10.0 GHz
larker									
Type Ref		Stimulu		Response		tion	Fun	ction Result	
M1	1	6.291	92 GHz	-55.57 d	Bm				



10GHz to 25GHz:

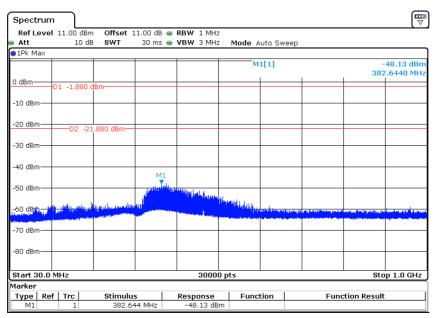


Channel 6: 2.437GHz:

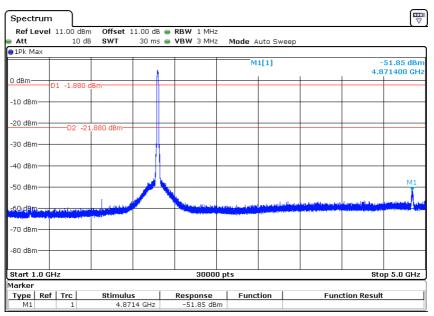




30 MHz to 1GHz:

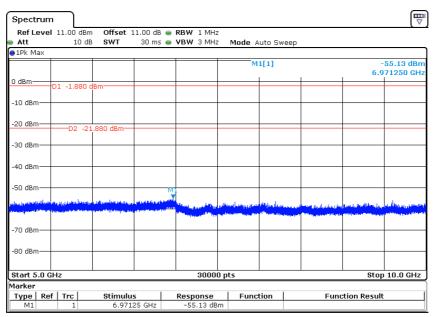


1GHz to 5GHz:





5GHz to 10GHz:

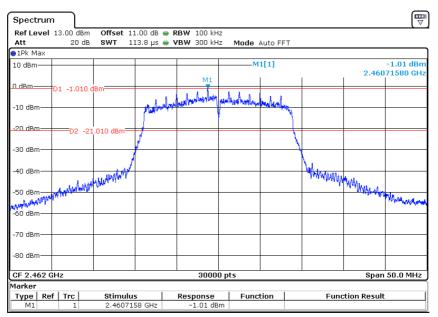


10GHz to 25GHz:

Spectrur	n								
	l 11.00 dBm			e RBW 1 MH					
Att	10 dB	SWT	60 ms	😑 VBW З МН	z Mode A	uto Swee	0		
⊜1Pk Max									
					M	1[1]			51.92 dBn 95750 GH
0 dBm	D1 -1.880 c	Bm							
	100000								
-10 dBm—							-		
-20 dBm—	D2 -21	.880 dBm					_		
-30 dBm—				-					
-40 dBm—									
				M1					
-50 dBm—				T.	1		-		
لعادل بالمريكين	المطاقل فبالمراب	اسط والصحي والحق وعادر					فكمع وأحالن يتعاوه طاراتك	A SUPPLICATION AND A SUPPLICATION OF	المحادثين والعرياني
بالاستريكي ومراجع	a succession of the second	and house	1				the second s	A DESCRIPTION OF THE OWNER OF THE	Contraction of the local data
-70 dBm—									
00 40									
-80 dBm—									
Start 10.0	GHz			3000	0 pts			Stop	25.0 GHz
larker	-1 1								
	ef Trc	Stimulu		Response	Func	tion	Fund	tion Result	
M1	1	16.295	75 GHz	-51.92 dE	sm				



Channel 11:2.462 GHz:

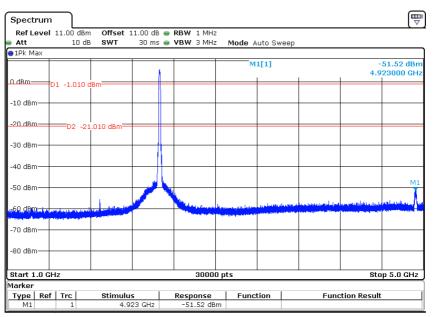


30 MHz to 1GHz:

Spectrun	n								
	13.00 dBm			RBW 1 MHz					
Att	20 dB	SWT	30 ms 👄	VBW 3 MHz	Mode Au	ito Swee	эр		
●1Pk Max									
10 dBm					M	1[1]			-47.15 dBm L.3410 MHz
0 dBm	D1 -1.010 c	Bm							
-10 dBm—									
-20 dBm	D2 -21	.010 dBm							
-30 dBm									
-40 dBm									
			M1	K 1					
-50 dBm	and the second second	ويتماط والطبر لطبن	a present de la constante de la	and the second particular	المسمح معمد الم	Junantine		Alternative States and a sub-out	
-60 dBm—				and Mindows and Added to Bay Market and					
-70 dBm—									
-80 dBm									
Start 30.0 MHz 30000 pts Stop 1.0 GHz									
Marker									<u> </u>
Type Re		Stimulu		Response	Func	tion	Fun	ction Result	:
M1	1	391.34	+1 MHz	-47.15 dB	m				



1GHz to 5GHz:

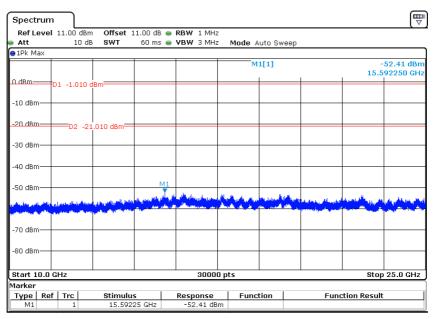


5GHz to 10GHz:

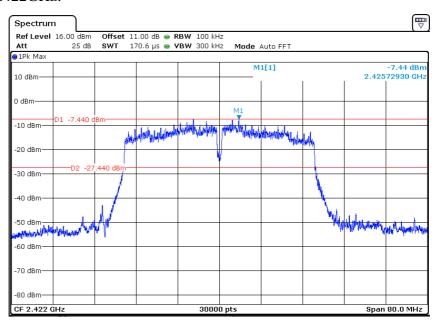
Spectrun	'n								
Ref Leve	11.00 dBm	Offset :	1.00 dB	RBW 1 MH:	2				
Att 🗧	10 dB	SWT	80 ms	👄 VBW З МН:	Mode A	uto Swee	D		
⊖1Pk Max									
					м	1[1]			53.03 dBm 81670 GHz
0 dBm	D1 -1.010 de	3m 							
-10 dBm—									
-20 dBm	D2 -21.	010 dBm							
-30 dBm									
-40 dBm							_		
-50 dBm						MI			
مراجلا المقاطر والمقرب	والمراجع والمراجع والم	in an in the second	والمعاون والقرا	مالا حاصيص بل الملا		Without		والألفنان طائده وعادرهم	sphere should
and the second	and the stand of the stand	مكافئة والمحاقي	all shales the	Contraction of the Contraction o				C. Selection 1	
-70 dBm									
-80 dBm									
Start 5.0 C	Start 5.0 GHz 30000 pts Stop 25.0 GHz								
Marker									
Type Re M1	f Trc 1	Stimulu 17.681		Response -53.03 dB	Func	tion	Fund	tion Result	
		11.001		55.65 GE					



10GHz to 25GHz:

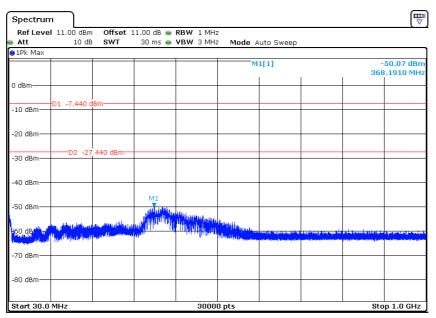


802.11n(HT40) mode with 150Mbps data rate Channel 3: 2.422GHz:





30 MHz to 1GHz:

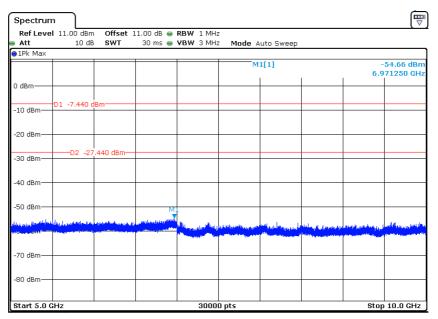


1GHz to 5GHz:

Spectru	m								[₩
	el 11.00 dBm			RBW 1 MHz					
Att	10 dB	SWT	30 ms 👄	VBW 3 MHz	Mode A	uto Sweep			
1Pk Max									
					M	1[1]			59.27 dBr 03530 GH
) dBm——			<u>k</u>						
	D1 -7,440 di	Bm							
-10 dBm—									
-20 dBm—									
	D2 -27.	440 dBm-							
-30 dBm—									
-40 dBm—			+						
-50 dBm—							MI		
60 dBm	the last state of the	بالمحاصلين وا			an an tra taith	and the second second	a su de de la finite en dit	and protoform the	or the ball of the
-70 dBm—									
-80 dBm—									
Start 1.0	GHz			30000	pts			Str	p 5.0 GHz



5GHz to 10GHz:

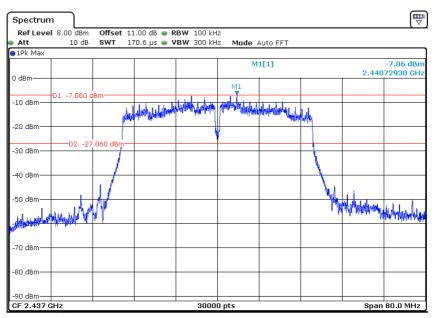


10GHz to 25GHz:

ו 1 11 00 dBm	Offset	11.00 dB 👄	RBW 1 MHz	,				L.
10 dB	SWT				uto Sweep			
				М	1[1]			-52.68 dBr 252250 GH
D1 -7.440 d	Bm							
D2 -27.	.440 dBm—							
			M1					
ر در در ارزایانی را در این را در آن در این را در این					ndina ani ani a	ار استار المراجعة الم مريح المراجع المراجعة الم		
	10 dB		10 dB SWT 60 ms	10 dB SWT 60 ms • VBW 3 MHz	10 dB SWT 60 ms VBW 3 MHz Mode A	10 dB SWT 60 ms • VBW 3 MHz Mode Auto Sweep M1[1] D1 -7.440 dBm D2 -27,440 dBm M1 M1	10 dB SWT 60 ms VBW 3 MHz Mode Auto Sweep M1[1]	10 dB SWT 60 ms VBW 3 MHz Mode Auto Sweep M1[1] 16.2 D1 -7.440 dBm 10 10



Channel 6: 2.437GHz:

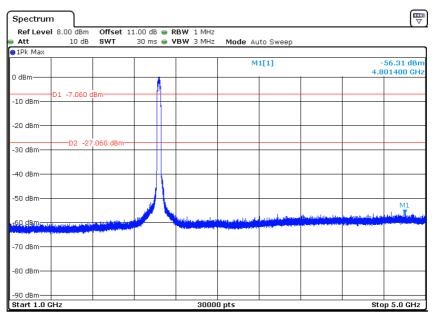


30 MHz to 1GHz:

Spectrum									√
Ref Level	8.00 dBm 10 dB	Offset 1: SWT	1.00 dB 👄 R 30 ms 👄 V		Mada A	ito Sweep			
1Pk Max	10 08	0111	30 IIIS 🛑 🖣		MOUE AU	ito sweep			
IFK MdA					м	1[1]			50.38 dBn
0 dBm						1	1	382	2.1910 MH:
	D1 -7.060 c	D m							
-10 dBm	DI -7.000 C	DIII							
-20 dBm									
	0007	.060 dBm							
-30 dBm		.000 0611							
-40 dBm									
			M1						
-50 dBm				^{an} imitation.					
		and the first of the second	L. J. L. L.	in the second					
60 dBr 🚽	Lage Hage Heat	anne mannair		and the second sec	in the state	A local of the stands	a distants and the state of the		and the second second
and the second second second	n _{place} rin Alban Miller	and a state of the	141 C	A starting and a starting of the	1 and the second	and the state of the late	and the second second	a management	proposition (the prob
-70 dBm									
-80 dBm									
-90 dBm									
Start 30.0	MHz			3000	D pts			Sto	p 1.0 GHz



1GHz to 5GHz:

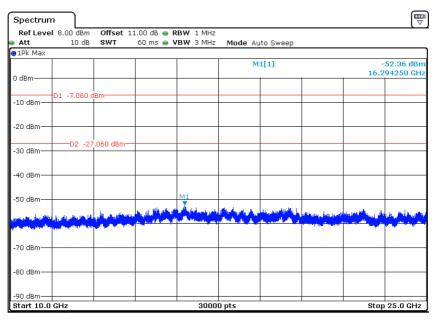


5GHz to 10GHz:

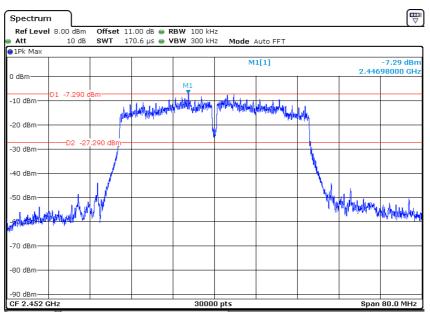
Spectrum									
Ref Level	8.00 dBm		1.00 dB 😑 R						(*
Att 1Pk Max	10 dB	SWT	30 ms 👄 V	BW 3 MHz	Mode Au	ito Sweep			
					м	M1[1] -54.79 6.859750			
-10 dBm	D1 -7.060 d	lBm							
-20 dBm									
-30 dBm		.060 dBm							
-40 dBm									
-50 dBm			M1						
alles Londball An	terre balance bottle balance	ويلاو بالإيطار العالي	and the office of the state of	^{un} trational de la	a na tha ha shi an sha na sha an s	and a share a local of	and the second sector	inid order	olampial, and have
				and the second second second	and the Solid Street and S	and the second sec	Statigate statistics	Contraction of the second second	den den an deletter
-70 dBm									
-80 dBm									
-90 dBm									
Start 5.0 G	Hz			3000	D pts			Stop	10.0 GHz



10GHz to 25GHz:

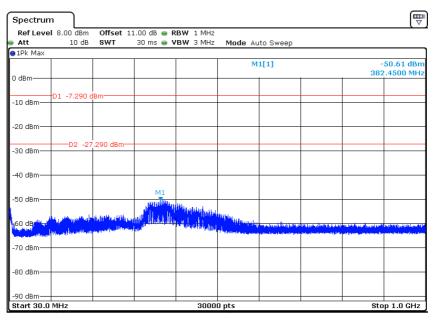


Channel 9: 2.452 GHz:





30 MHz to 1GHz:

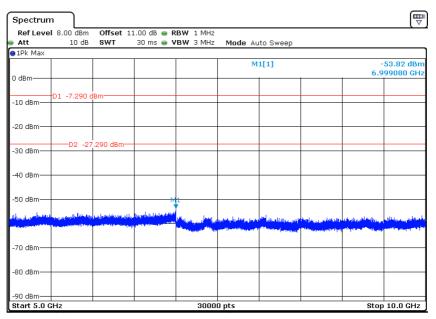


1GHz to 5GHz:

Spectrum Ref Level	• 8.00 dBm	Offset 1	1 00 dB	- R	BW 1 MHz					(V
Att	10 dB	SWT			BW 3 MHz	Mode Au	ito Sweep			
1Pk Max										
						м	1[1]			59.98 dBn
0 dBm									4.6	32730 GH
	D1 -7.290 c	Bro		A						
-10 dBm	01 -7.2900									
-20 dBm										
	D2 -27	.290 dBm								
-30 dBm										
-40 dBm										
-50 dBm										
-50 dbiii										
-60 dBm	l date.	1	1.10		a hologo and a second	المعارية والالاستانات ا	المعط الأسليم وعماليس	العلام والمحمودة	والمقادر والمعرفين	Alderine di tri
a a tradición de la compañía de la c		and a second of the second of	Part of the second s		¹ State (1999) and the state of the state	debra punto a punto de	al in the mark the set	and the particular party	and the second	
-70 dBm										
-80 dBm										
-90 dBm										



5GHz to 10GHz:



10GHz to 25GHz:

Spectrun	n								⊞ ∀
Ref Leve Att	8.00 dBm 10 dB	Offset 11 SWT	00 dB 👄 R 60 ms 👄 V		Mode Au	ito Sweep			
●1Pk Max					м	1[1]			52.83 dBm
0 dBm								17.6	93250 GHz
-10 dBm—	D1 -7.290 c	18m							
-20 dBm—									
-30 dBm	D2 -27	.290 dBm							
-40 dBm—									
-50 dBm—				h	M1				
مالار رامزوان رادر مالار رامزوان رادر الارز	بالبطير أمريكالدرية وسيعتم حريم رجي		ing physical shift of	and the second		hela (saith a leannail) na _{bh} annailte an annailte annai	i della secola della della National della d		میالار ودانارا اور مارد بیالار بیده میکرد.
-70 dBm—									
-80 dBm									
-90 dBm									
Start 10.0	GHz			3000	0 pts			Stop	25.0 GHz



4.6 Out of Band Radiated Emissions

For out of band radiated emissions into Non-Restricted Frequency Bands were performed at a 3m separation distance to determine whether these emissions complied with the 20dB attenuation requirement.

[×] Not required, since all emissions are more than 20dB below fundamental

[] See attached data sheet



4.7 Radiated Emissions in Restricted Bands

Test Requirement:	FCC Part 15 C section 15.247
	(d) In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).
Test Method:	ANSI C63.10: Clause 11.12.1, 6.4, 6.5 and 6.6
Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below. Pre-test the EUT in AC mode and B/O mode, find worse case in
Test site:	AC mode. Measurement Distance: 3m (Semi-Anechoic Chamber)
Limit:	
Linnt.	40.0 dB μ V/m between 30MHz & 88MHz;
	43.5 dB μ V/m between 88MHz & 216MHz;
	46.0 dB μ V/m between 216MHz & 960MHz;
	54.0 dB μ V/m above 960MHz.
Detector:	For Peak and Quasi-Peak value: RBW =
	1 MHz for $f \ge 1$ GHz,
	200 Hz for 9 kHz to 150 kHz
	9 kHz for 150 kHz to 30 MHz
	120 kHz for 30 MHz to 1GHz VBW ≥ RBW
	Sweep = auto
	Detector function = peak for $f \ge 1$ GHz, QP for $f < 1$ GHz Trace = max hold
	For AV value: RBW = 1 MHz for $f \ge 1$ GHz, 100 kHz for $f < 1$ GHz VBW=10 Hz Sweep = auto Trace = max hold



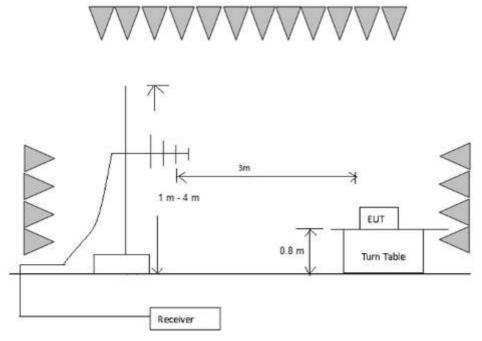
Section 15.205 Restricted bands of operation.

(a) Except as shown in paragraph (d) of this section. Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
$\begin{array}{c} 0.090 - 0.110 \\ {}^{1}0.495 - 0.505 \\ 2.1735 - 2.1905 \\ 4.125 - 4.128 \\ 4.17725 - 4.17775 \\ 4.20725 - 4.20775 \\ 6.215 - 6.218 \\ 6.26775 - 6.26825 \\ 6.31175 - 6.31225 \\ 8.291 - 8.294 \\ 8.362 - 8.366 \\ 8.37625 - 8.38675 \\ 8.41425 - 8.41475 \\ 12.29 - 12.293 \\ 12.51975 - 12.52025 \\ 12.57675 - 12.57725 \\ 13.36 - 13.41 \end{array}$	$\begin{array}{c} 16.42 - 16.423 \\ 16.69475 - \\ 16.69525 \\ 16.80425 - \\ 16.80475 \\ 25.5 - 25.67 \\ 37.5 - 38.25 \\ 73 - 74.6 \\ 74.8 - 75.2 \\ 108 - 121.94 \\ 123 - 138 \\ 149.9 - 150.05 \\ 156.52475 - \\ 156.52525 \\ 156.7 - 156.9 \\ 162.0125 - 167.17 \\ 167.72 - 173.2 \\ 240 - 285 \\ 322 - 335.4 \end{array}$	$\begin{array}{r} 399.9 - 410 \\ 608 - 614 \\ 960 - 1240 \\ 1300 - 1427 \\ 1435 - 1626.5 \\ 1645.5 - 1646.5 \\ 1660 - 1710 \\ 1718.8 - 1722.2 \\ 2200 - 2300 \\ 2310 - 2390 \\ 2483.5 - 2500 \\ 2655 - 2900 \\ 3260 - 3267 \\ 3332 - 3339 \\ 3345.8 - 3358 \\ 3600 - 4400 \end{array}$	$\begin{array}{c} 4.5 - 5.15 \\ 5.35 - 5.46 \\ 7.25 - 7.75 \\ 8.025 - 8.5 \\ 9.0 - 9.2 \\ 9.3 - 9.5 \\ 10.6 - 12.7 \\ 13.25 - 13.4 \\ 14.47 - 14.5 \\ 15.35 - 16.2 \\ 17.7 - 21.4 \\ 22.01 - 23.12 \\ 23.6 - 24.0 \\ 31.2 - 31.8 \\ 36.43 - 36.5 \end{array}$

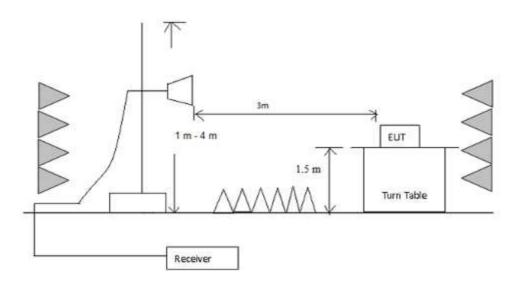


Test Configuration:1) 30 MHz to 1 GHz emissions:



2) 1 GHz to 40 GHz emissions:







Test Procedure:

Test site with RF absorbing material covering the ground plane that met the site validation criterion called out in CISPR 16-1-4:2007 was used to perform radiated emission test above 1 GHz.

The receiver was scanned from 9 kHz to 25 GHz. When an emission was found, the table was rotated to produce the maximum signal strength. An initial pre-scan was performed for in peak detection mode using the receiver. The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes. For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. The worst case emissions were reported.



802.11b mode with 11Mbps data rate

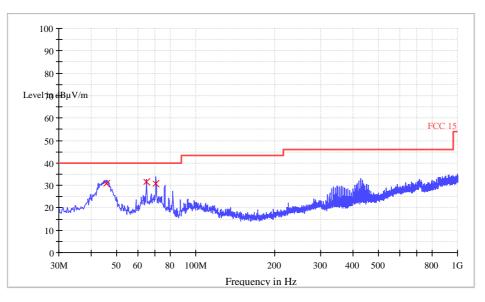
9 kHz~30 MHz Field Strength of Unwanted Emissions for Quasi-Peak Measurement The measurements with active loop antenna were greater than 20dB below the limit, so the test data were not recorded in the test report.

Test at Channel 1 (2.412 GHz) in transmitting status.

30 MHz~1 GHz Spurious Emissions .Quasi-Peak Measurement.

Vertical:

Level ($dB\mu V/m$)

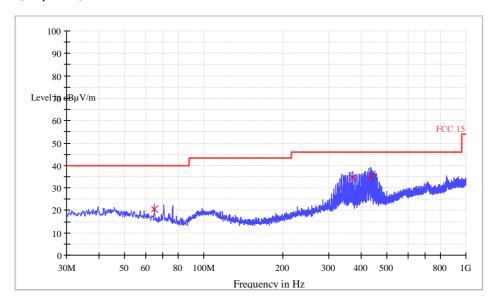


	Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
	45.560000	30.7	120.000	V	13.9	9.3	40.0
Ī	64.840000	31.4	120.000	V	10.4	8.6	40.0
	70.400000	30.7	120.000	V	8.6	9.3	40.0



Horizontal:

Level ($dB\mu V/m$)



Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
64.840000	20.6	120.000	Н	10.4	19.4	40.0
369.960000	34.6	120.000	Н	16.1	11.4	46.0
432.240000	35.0	120.000	Н	17.5	11.0	46.0



PK Measurement: PK PK Correction PK Reading Emission Frequency factors Antenna Limit Level (MHz) (dB/m)Level polarization $(dB\mu V/m)$ (dBµV) $(dB\mu V/m)$ 2390.0 57.52 -12.9 74 44.62 V V *2400.0 63.52 -12.8 50.72 74 74 V 4824.0 43.78 -8.8 34.98 V 7236.0 41.09 -6.1 34.99 74 -12.9 2390.0 61.17 74 Η 48.27 *2400.0 66.65 -12.8 74 Η 53.85 4824.0 43.20 -8.8 74 Η 34.41 7236.0 42.70 -6.1 36.60 74 Η

1~25 GHz Radiated Emissions.

AV Measurement:

Frequency (MHz)	AV Reading Level (dBμV)	Correction factors (dB/m)	AV Emission Level (dBµV/m)	AV Limit (dBµV/m)	Antenna polarization
2390.0	/	-12.9	/	54	V
*2400.0	/	-12.8	/	54	V
4824.0	/	-8.8	/	54	V
7236.0	/	-6.1	/	54	V
2390.0	/	-12.9	/	54	Н
*2400.0	/	-12.8	/	54	Н
4824.0	/	-8.8	/	54	Н
7236.0	/	-6.1	/	54	Н

Remark:

Harmonic Emissions was tested with filter (Product name: MICRO-TRONICS, model name: BRM50702), other radiated emissions were found below the reference noise level When Peak emission level was below AV limit, the AV emission level did not be recorded.

* Band Edges Emission was tested without filter.

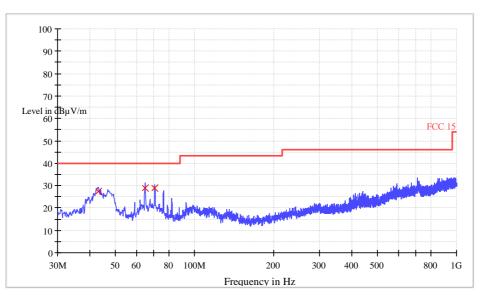


Test at Channel 6 (2.437 GHz) in transmitting status

30 MHz~1 GHz Radiated Emissions .Quasi-Peak Measurement

Vertical:

Level ($dB\mu V/m$)

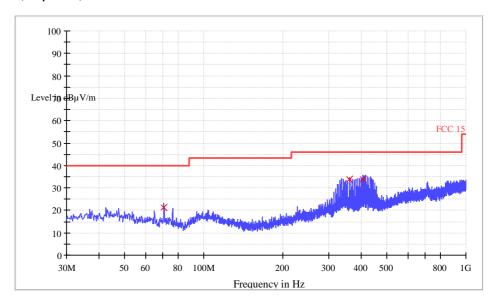


Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
43.080000	27.4	120.000	V	13.7	12.6	40.0
64.840000	29.0	120.000	۷	10.4	11.0	40.0
70.400000	29.0	120.000	V	8.6	11.0	40.0



Horizontal:

Level ($dB\mu V/m$)



Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
70.400000	21.5	120.000	Н	8.6	18.5	40.0
358.920000	33.8	120.000	н	16.0	12.2	46.0
403.760000	34.0	120.000	Н	17.5	12.0	46.0



PK Measurement: PK РК Correction PK Reading Emission Frequency factors Antenna Limit Level (MHz) (dB/m)Level polarization $(dB\mu V/m)$ (dBµV) $(dB\mu V/m)$ 2390.0 54.52 -12.9 74 41.62 V V 2483.5 54.94 -12.6 42.34 74 74 43.49 34.89 V 4874.0 -8.6 74 V 7311.0 41.91 -6.0 35.91 2390.0 55.24 -12.9 42.34 74 Η 2483.5 56.45 -12.6 43.85 74 Η 4874.0 74 Η 43.24 -8.6 34.64 7311.0 40.82 -6.0 34.82 74 Η

1~25 GHz Radiated Emissions.

AV Measurement:

Frequency (MHz)	AV Reading Level (dBµV)	Correction factors (dB/m)	AV Emission Level (dBµV/m)	AV Limit (dBµV/m)	Antenna polarization
2390.0	/	-12.9	/	54	V
2483.5	/	-12.6	/	54	V
4874.0	/	-8.6	/	54	V
7311.0	/	-6.0	/	54	V
2390.0	/	-12.9	/	54	Н
2483.5	/	-12.6	/	54	Н
4874.0	/	-8.6	/	54	Н
7311.0	/	-6.0	/	54	Н

Remark:

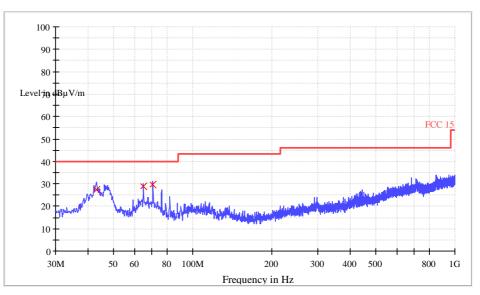
Harmonic Emissions was tested with filter (Product name: MICRO-TRONICS, model name: BRM50702), other radiated emissions were found below the reference noise level When Peak emission level was below AV limit, the AV emission level did not be recorded.



Test at Channel 11 (2.462 GHz) in transmitting status

30 MHz~1 GHz Radiated Emissions .Quasi-Peak Measurement Vertical:

 $Level \; (dB\mu V/m)$

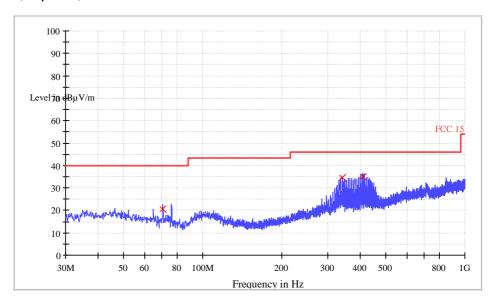


Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
43.080000	27.5	120.000	v	13.7	12.5	40.0
64.840000	29.0	120.000	V	10.4	11.0	40.0
70.400000	29.5	120.000	۷	8.6	10.5	40.0



Horizontal:

Level ($dB\mu V/m$)



Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
70.400000	20.4	120.000	Н	8.6	19.6	40.0
341.560000	34.5	120.000	н	15.8	11.5	46.0
409.200000	34.9	120.000	Н	17.5	11.1	46.0



Frequency (MHz)	PK Reading Level (dBμV)	Correction factors (dB/m)	PK Emission Level (dBµV/m)	PK Limit (dBµV/m)	Antenna polarization		
*2483.5	63.80	-12.6	51.20	74	V		
2500.0	55.40	-12.6	42.80	74	V		
4924.0	43.88	-8.9	34.98	74	V		
7386.0	40.99	-6.0	34.99	74	V		
*2483.5	66.46	-12.6	53.86	74	Н		
2500.0	58.54	-12.6	45.94	74	Н		
4924.0	45.16	-8.9	36.26	74	Н		
7386.0	41.14	-6.0	35.14	74	Н		

1~25 GHz Radiated Emissions. Peak & Average Measurement **PK Measurement:**

AV Measurement:

Frequency (MHz)	AV Reading Level (dBµV)	Correction factors (dB/m)	AV Emission Level (dBµV/m)	AV Limit (dBµV/m)	Antenna polarization
*2483.5	/	-12.6	/	54	V
2500.0	/	-12.6	/	54	V
4924.0	/	-8.9	/	54	V
7386.0	/	-6.0	/	54	V
*2483.5	/	-12.6	/	54	Н
2500.0	/	-12.6	/	54	Н
4924.0	/	-8.9	/	54	Н
7386.0	/	-6.0	/	54	Н

Remark:

Harmonic Emissions was tested with filter (Product name: MICRO-TRONICS, model name: BRM50702), other radiated emissions were found below the reference noise level When Peak emission level was below AV limit, the AV emission level did not be recorded. * Band Edges Emission was tested without filter.

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Loss –Preamplifier Factor.

As shown in Section, for frequencies above 1000 MHz. the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

No any other emissions level which are attenuated less than 20dB below the limit.



802.11g mode with 54Mbps data rate

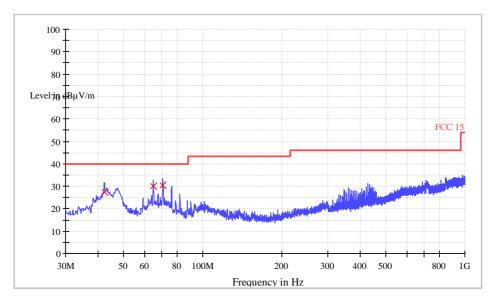
9 kHz~30 MHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement The measurements with active loop antenna were greater than 20dB below the limit, so the test data were not recorded in the test report.

Test at Channel 1 (2.412 GHz) in transmitting status

30 MHz~1 Radiated Emissions .Quasi-Peak Measurement

Vertical:

Level ($dB\mu V/m$)

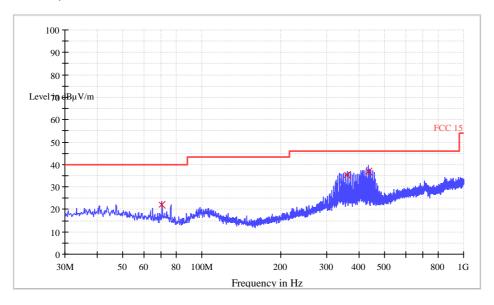


Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
42.200000	27.4	120.000	v	13.6	12.6	40.0
64.840000	29.9	120.000	v	10.4	10.1	40.0
70.400000	30.5	120.000	V	8.6	9.5	40.0



Horizontal:

Level (dBµV/m)



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Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)			
70.560000	21.9	120.000	Н	8.5	18.1	40.0			
358.640000	35.3	120.000	Н	16.0	10.7	46.0			
431.960000	36.7	120.000	Н	17.5	9.3	46.0			



Frequency (MHz)	PK Reading Level (dBμV)	Correction factors (dB/m)	PK Emission Level (dBµV/m)	PK Limit (dBµV/m)	Antenna polarization			
2390.0	56.28	-12.9	43.38	74	V			
*2400.0	60.55	-12.8	47.75	74	V			
4824.0	43.07	-8.8	34.27	74	V			
7236.0	40.78	-6.1	34.68	74	V			
2390.0	58.32	-12.9	45.42	74	Н			
*2400.0	62.29	-12.8	49.49	74	Н			
4824.0	43.11	-8.8	34.31	74	Н			
7236.0	41.79	-6.1	35.69	74	Н			

1~25 GHz Radiated Emissions. Peak & Average Measurement **PK Measurement:**

AV Measurement:

Frequency (MHz)	AV Reading Level (dBμV)	Correction factors (dB/m)	AV Emission Level (dBµV/m)	AV Limit (dBµV/m)	Antenna polarization
2390.0	/	-12.9	/	54	V
*2400.0	/	-12.8	/	54	V
4824.0	/	-8.8	/	54	V
7236.0	/	-6.1	/	54	V
2390.0	/	-12.9	/	54	Н
*2400.0	/	-12.8	/	54	Н
4824.0	/	-8.8	/	54	Н
7236.0	/	-6.1	/	54	Н

Remark:

Harmonic Emissions was tested with filter (Product name: MICRO-TRONICS, model name: BRM50702), other radiated emissions were found below the reference noise level When Peak emission level was below AV limit, the AV emission level did not be recorded.

* Band Edges Emission was tested without filter.

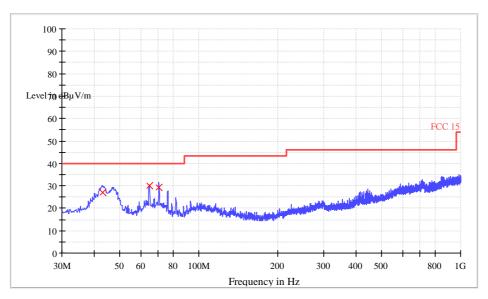


Test at Channel 6 (2.437GHz) in transmitting status

30 MHz~1 GHz Radiated Emissions .Quasi-Peak Measurement

Vertical:

Level (dBµV/m)

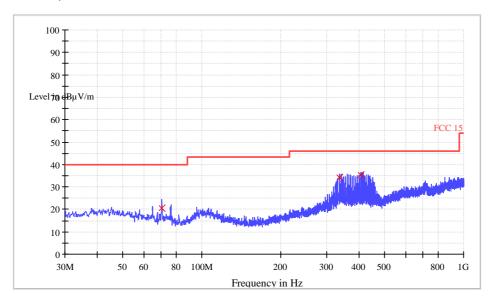


Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
42.920000	27.2	120.000	V	13.7	12.8	40.0
64.840000	29.9	120.000	V	10.4	10.1	40.0
70.400000	29.3	120.000	۷	8.6	10.7	40.0



Horizontal:

Level (dBµV/m)



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Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)			
70.280000	20.5	120.000	Н	8.6	19.6	40.0			
336.000000	34.3	120.000	Н	15.8	11.7	46.0			
403.600000	35.3	120.000	Н	17.4	10.7	46.0			



1~25 GHz Radiated Emissions. Peak & Average Measurement

PK Measurement:

Frequency (MHz)	PK Reading Level (dBμV)	Correction factors (dB/m)	PK Emission Level (dBµV/m)	PK Limit (dBµV/m)	Antenna polarization
2390.0	53.24	-12.9	40.34	74	V
2483.5	54.27	-12.6	41.67	74	V
4874.0	42.72	-8.6	34.12	74	V
7311.0	40.35	-6.0	34.35	74	V
2390.0	53.94	-12.9	41.04	74	Н
2483.5	54.56	-12.6	41.96	74	Н
4874.0	43.02	-8.6	34.42	74	Н
7311.0	40.98	-6.0	34.98	74	Н

AV Measurement:

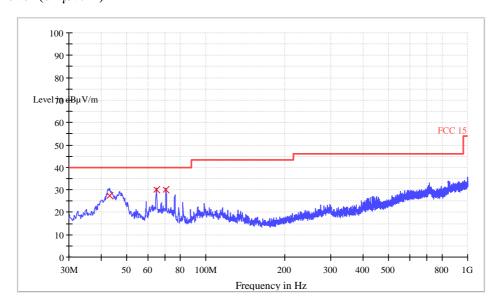
Frequency (MHz)	AV Reading Level (dBμV)	Correction factors (dB/m)	AV Emission Level (dBµV/m)	AV Limit (dBµV/m)	Antenna polarization
2390.0	/	-12.9	/	54	V
2483.5	/	-12.6	/	54	V
4874.0	/	-8.6	/	54	V
7311.0	/	-6.0	/	54	V
2390.0	/	-12.9	/	54	Н
2483.5	/	-12.6	/	54	Н
4874.0	/	-8.6	/	54	Н
7311.0	/	-6.0	/	54	Н

Remark:

Harmonic Emissions was tested with filter (Product name: MICRO-TRONICS, model name: BRM50702), other radiated emissions were found below the reference noise level When Peak emission level was below AV limit, the AV emission level did not be recorded.



Test at Channel 11 (2.462 GHz) in transmitting status 30 MHz~1 GHz Radiated Emissions .Quasi-Peak Measurement **Vertical:** Level (dBμV/m)

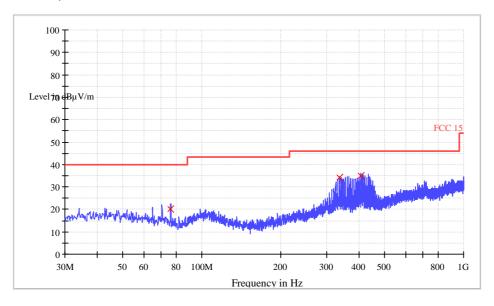


Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
42.920000	27.5	120.000	v	13.7	12.5	40.0
64.840000	29.9	120.000	V	10.4	10.1	40.0
70.400000	29.9	120.000	V	8.6	10.1	40.0



Horizontal:

Level (dBµV/m)



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Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)			
76.000000	20.3	120.000	Н	7.8	19.7	40.0			
336.000000	34.4	120.000	Н	15.8	11.6	46.0			
403.760000	35.0	120.000	Н	17.5	11.0	46.0			



1~25 GHz Radiated Emissions. Peak & Average Measurement

PK Measurement:

Frequency (MHz)	PK Reading Level (dBμV)	Correction factors (dB/m)	PK Emission Level (dBµV/m)	PK Limit (dBµV/m)	Antenna polarization
*2483.5	63.34	-12.6	50.74	74	V
2500.0	55.20	-12.6	42.60	74	V
4924.0	43.43	-8.9	34.53	74	V
7386.0	38.89	-6.0	32.89	74	V
*2483.5	63.19	-12.6	50.59	74	Н
2500.0	55.80	-12.6	43.20	74	Н
4924.0	44.25	-8.9	35.35	74	Н
7386.0	40.49	-6.0	34.49	74	Н

AV Measurement:

Frequency (MHz)	AV Reading Level (dBμV)	Correction factors (dB/m)	AV Emission Level (dBµV/m)	AV Limit (dBµV/m)	Antenna polarization
*2483.5	/	-12.9	/	54	V
2500.0	/	-12.6	/	54	V
4924.0	/	-8.9	/	54	V
7386.0	/	-6.0	/	54	V
*2483.5	/	-12.9	/	54	Н
2500.0	/	-12.6	/	54	Н
4924.0	/	-8.9	/	54	Н
7386.0	/	-6.0	/	54	Н

Remark:

Harmonic Emissions was tested with filter (Product name: MICRO-TRONICS, model name: BRM50702), other radiated emissions were found below the reference noise level When Peak emission level was below AV limit, the AV emission level did not be recorded.

* Band Edges Emission was tested without filter.

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor -Preamplifier Factor.

No any other emissions level which are attenuated less than 20dB below the limit.



802.11n (HT20) mode with 72.2Mbps data rate

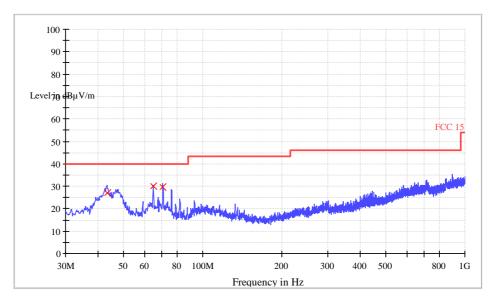
9 kHz~30 MHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement The measurements with active loop antenna were greater than 20dB below the limit, so the test data were not recorded in the test report.

Test at Channel 1 (2.412 GHz) in transmitting status

30 MHz~1 GHz Radiated Emissions .Quasi-Peak Measurement

Vertical:

Level ($dB\mu V/m$)



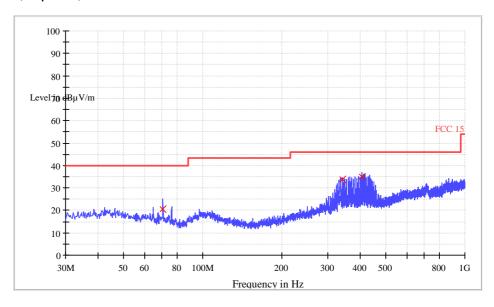
Quasi-peak measurement

Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
43.240000	27.1	120.000	V	13.7	13.0	40.0
64.840000	29.9	120.000	V	10.4	10.1	40.0
70.400000	29.8	120.000	V	8.6	10.2	40.0



Horizontal:

Level (dBµV/m)



 F							
Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)	
70.400000	20.4	120.000	н	8.6	19.6	40.0	
341.720000	34.0	120.000	Н	15.8	12.0	46.0	
404.040000	35.0	120.000	Н	17.5	11.0	46.0	



Frequency (MHz)	PK Reading Level (dBμV)	Correction factors (dB/m)	PK Emission Level (dBµV/m)	PK Limit (dBµV/m)	Antenna polarization			
2390.0	55.87	-12.9	42.97	74	V			
*2400.0	61.69	-12.8	48.89	74	V			
4824.0	42.05	-8.8	33.25	74	V			
7236.0	39.88	-6.1	33.78	74	V			
2390.0	56.86	-12.9	43.96	74	Н			
*2400.0	62.17	-12.8	49.37	74	Н			
4824.0	42.59	-8.8	33.79	74	Н			
7236.0	40.62	-6.1	34.52	74	Н			

1~25 GHz Radiated Emissions. Peak & Average Measurement **PK Measurement:**

AV Measurement:

Frequency (MHz)	AV Reading Level (dBμV)	Correction factors (dB/m)	AV Emission Level (dBµV/m)	AV Limit (dBµV/m)	Antenna polarization
2390.0	/	-12.9	/	54	V
*2400.0	/	-12.8	/	54	V
4824.0	/	-8.8	/	54	V
7236.0	/	-6.1	/	54	V
2390.0	/	-12.9	/	54	Н
*2400.0	/	-12.8	/	54	Н
4824.0	/	-8.8	/	54	Н
7236.0	/	-6.1	/	54	Н

Remark:

Harmonic Emissions was tested with filter (Product name: MICRO-TRONICS, model name: BRM50702), other radiated emissions were found below the reference noise level When Peak emission level was below AV limit, the AV emission level did not be recorded.

* Band Edges Emission was tested without filter.

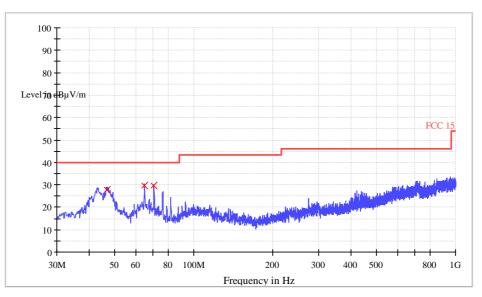


Test at Channel 6 (2.437 GHz) in transmitting status

30 MHz~1 GHz Radiated Emissions .Quasi-Peak Measurement

Vertical:

Level (dB μ V/m)

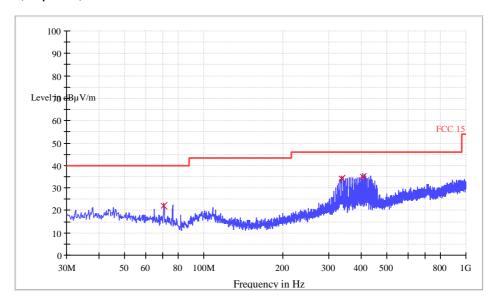


Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
43.240000	27.1	120.000	v	13.7	13.0	40.0
64.840000	29.9	120.000	V	10.4	10.1	40.0
70.400000	29.8	120.000	V	8.6	10.2	40.0



Horizontal:

Level ($dB\mu V/m$)



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Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)		
70.560000	22.0	120.000	н	8.5	18.0	40.0		
336.000000	34.3	120.000	н	15.8	11.7	46.0		
403.760000	35.1	120.000	Н	17.5	11.0	46.0		



1~25 GHz Radiated Emissions. Peak & Average Measurement

PK Measurement:

Frequency (MHz)	PK Reading Level (dBμV)	Correction factors (dB/m)	PK Emission Level (dBµV/m)	PK Limit (dBµV/m)	Antenna polarization
2390.0	53.11	-12.9	40.21	74	V
2483.5	54.12	-12.6	41.52	74	V
4874.0	42.94	-8.6	34.34	74	V
7311.0	40.33	-6.0	34.33	74	V
2390.0	53.92	-12.9	41.02	74	Н
2483.5	54.47	-12.6	41.87	74	Н
4874.0	42.99	-8.6	34.39	74	Н
7311.0	40.74	-6.0	34.74	74	Н

AV Measurement:

Frequency (MHz)	AV Reading Level (dBμV)	Correction factors (dB/m)	AV Emission Level (dBµV/m)	AV Limit (dBµV/m)	Antenna polarization
2390.0	/	-12.9	/	54	V
2483.5	/	-12.6	/	54	V
4874.0	/	-8.6	/	54	V
7311.0	/	-6.0	/	54	V
2390.0	/	-12.9	/	54	Н
2483.5	/	-12.6	/	54	Н
4874.0	/	-8.6	/	54	Н
7311.0	/	-6.0	/	54	Н

Remark:

Harmonic Emissions was tested with filter (Product name: MICRO-TRONICS, model name: BRM50702), other radiated emissions were found below the reference noise level When Peak emission level was below AV limit, the AV emission level did not be recorded.

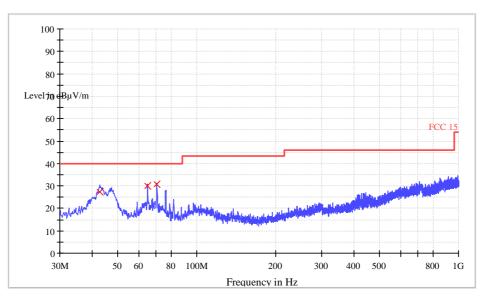


Test at Channel 11 (2.462 GHz) in transmitting status

30 MHz~1 GHz Radiated Emissions .Quasi-Peak Measurement

Vertical:

Level (dBµV/m)

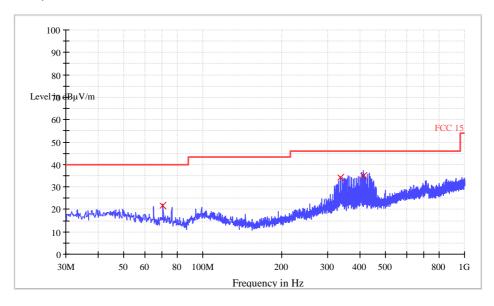


	Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
1	42.640000	27.3	120.000	V	13.7	12.7	40.0
ſ	64.840000	29.9	120.000	V	10.4	10.1	40.0
	70.280000	31.0	120.000	V	8.6	9.0	40.0



Horizontal:

Level (dBµV/m)



•	Pour moustrement								
	Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)		
	70.560000	21.8	120.000	Н	8.5	18.2	40.0		
	336.000000	34.4	120.000	Н	15.8	11.6	46.0		
	409.480000	34.9	120.000	Н	17.5	11.1	46.0		



Frequency (MHz)	PK Reading Level (dBμV)	Correction factors (dB/m)	PK Emission Level (dBµV/m)	PK Limit (dBµV/m)	Antenna polarization
*2483.5	62.81	-12.6	50.21	74	V
2500.0	54.94	-12.6	42.34	74	V
4924.0	43.55	-8.9	34.65	74	V
7386.0	38.79	-6.0	32.79	74	V
*2483.5	62.98	-12.6	50.38	74	Н
2500.0	55.27	-12.6	42.67	74	Н
4924.0	44.18	-8.9	35.28	74	Н
7386.0	40.45	-6.0	34.45	74	Н

1~25 GHz Radiated Emissions. Peak & Average Measurement **PK Measurement:**

AV Measurement:

Frequency (MHz)	AV Reading Level (dBμV)	Correction factors (dB/m)	AV Emission Level (dBµV/m)	AV Limit (dBµV/m)	Antenna polarization
*2483.5	/	-12.9	/	54	V
2500.0	/	-12.6	/	54	V
4924.0	/	-8.9	/	54	V
7386.0	/	-6.0	/	54	V
*2483.5	/	-12.9	/	54	Н
2500.0	/	-12.6	/	54	Н
4924.0	/	-8.9	/	54	Н
7386.0	/	-6.0	/	54	Н

Remark:

Harmonic Emissions was tested with filter (Product name: MICRO-TRONICS, model name: BRM50702), other radiated emissions were found below the reference noise level When Peak emission level was below AV limit, the AV emission level did not be recorded. * Band Edges Emission was tested without filter.

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Loss –Preamplifier Factor.

As shown in Section, for frequencies above 1000 MHz. the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

No any other emissions level which are attenuated less than 20dB below the limit.



802.11n (HT40) mode with 150Mbps data rate

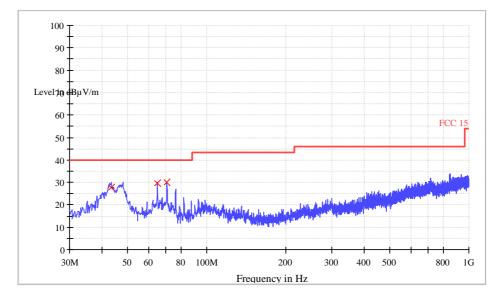
9 kHz~30 MHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement The measurements with active loop antenna were greater than 20dB below the limit, so the test data were not recorded in the test report.

Test at Channel 3 (2.422 GHz) in transmitting status

30 MHz~1 GHz Radiated Emissions .Quasi-Peak Measurement

Vertical:

Level ($dB\mu V/m$)

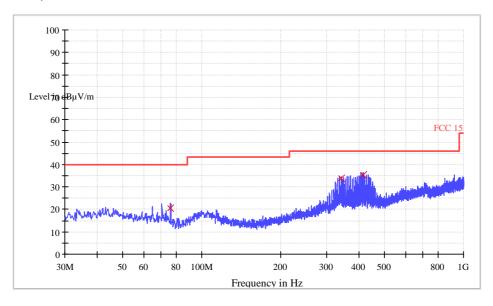


Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
43.360000	27.7	120.000	v	13.7	12.3	40.0
64.840000	29.8	120.000	V	10.4	10.2	40.0
70.560000	30.2	120.000	V	8.5	9.8	40.0



Horizontal:

Level (dBµV/m)



Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)		
75.840000	20.7	120.000	н	7.8	19.3	40.0		
341.720000	34.0	120.000	Н	15.8	12.0	46.0		
414.920000	35.2	120.000	Н	17.6	10.8	46.0		



1~25 GHz Radiated Emissions. Peak & Average Measurement

Frequency (MHz)	PK Reading Level (dBμV)	Correction factors (dB/m)	PK Emission Level (dBµV/m)	PK Limit (dBµV/m)	Antenna polarization
2390.0	55.79	-12.9	42.89	74	V
*2400.0	61.43	-12.8	48.63	74	V
4844.0	42.01	-8.8	33.21	74	V
7266.0	39.84	-6.1	33.74	74	V
2390.0	56.22	-12.9	43.32	74	Н
*2400.0	62.01	-12.8	49.21	74	Н
4844.0	42.56	-8.8	33.76	74	Н
7266.0	40.52	-6.1	34.42	74	Н

PK Measurement:

AV Measurement:

Frequency (MHz)	AV Reading Level (dBμV)	Correction factors (dB/m)	AV Emission Level (dBµV/m)	AV Limit (dBµV/m)	Antenna polarization
2390.0	/	-12.9	/	54	V
*2400.0	/	-12.8	/	54	V
4824.0	/	-8.8	/	54	V
7236.0	/	-6.1	/	54	V
2390.0	/	-12.9	/	54	Н
*2400.0	/	-12.8	/	54	Н
4824.0	/	-8.8	/	54	Н
7236.0	/	-6.1	/	54	Н

Remark:

Harmonic Emissions was tested with filter (Product name: MICRO-TRONICS, model name: BRM50702), other radiated emissions were found below the reference noise level When Peak emission level was below AV limit, the AV emission level did not be recorded.

* Band Edges Emission was tested without filter.

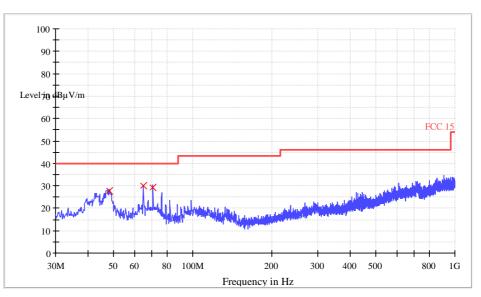


Test at Channel 6 (2.437 GHz) in transmitting status

30 MHz~1 GHz Radiated Emissions .Quasi-Peak Measurement

Vertical:

Level ($dB\mu V/m$)

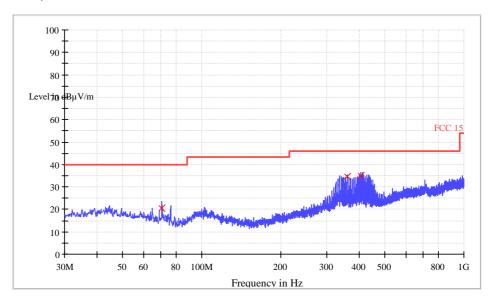


Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
47.920000	27.8	120.000	v	13.4	12.2	40.0
64.840000	29.9	120.000	V	10.4	10.1	40.0
70.560000	29.2	120.000	v	8.5	10.8	40.0



Horizontal:

Level ($dB\mu V/m$)



Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)		
70.400000	20.4	120.000	н	8.6	19.6	40.0		
358.640000	34.4	120.000	Н	16.0	11.6	46.0		
403.760000	35.1	120.000	Н	17.5	10.9	46.0		



1~25 GHz Radiated Emissions. Peak & Average Measurement

PK Measurement:

Frequency (MHz)	PK Reading Level (dBμV)	Correction factors (dB/m)	PK Emission Level (dBµV/m)	PK Limit (dBµV/m)	Antenna polarization
2390.0	53.09	-12.9	40.19	74	V
2483.5	54.17	-12.6	41.57	74	V
4874.0	42.84	-8.6	34.24	74	V
7311.0	40.15	-6.0	34.15	74	V
2390.0	53.69	-12.9	40.79	74	Н
2483.5	54.18	-12.6	41.58	74	Н
4874.0	42.83	-8.6	34.23	74	Н
7311.0	40.45	-6.0	34.45	74	Н

AV Measurement:

Frequency (MHz)	AV Reading Level (dBμV)	Correction factors (dB/m)	AV Emission Level (dBµV/m)	AV Limit (dBµV/m)	Antenna polarization
2390.0	/	-12.9	/	54	V
2483.5	/	-12.6	/	54	V
4874.0	/	-8.6	/	54	V
7311.0	/	-6.0	/	54	V
2390.0	/	-12.9	/	54	Н
2483.5	/	-12.6	/	54	Н
4874.0	/	-8.6	/	54	Н
7311.0	/	-6.0	/	54	Н

Remark:

Harmonic Emissions was tested with filter (Product name: MICRO-TRONICS, model name: BRM50702), other radiated emissions were found below the reference noise level When Peak emission level was below AV limit, the AV emission level did not be recorded.

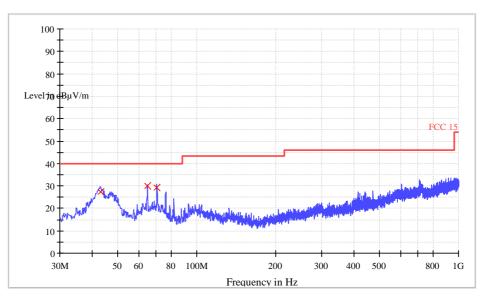


Test at Channel 11 (2.452 GHz) in transmitting status

30 MHz~1 GHz Radiated Emissions .Quasi-Peak Measurement

Vertical:

Level (dBµV/m)

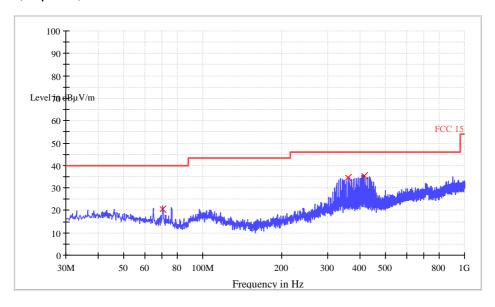


Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
43.080000	27.4	120.000	V	13.7	12.6	40.0
64.840000	29.9	120.000	V	10.4	10.1	40.0
70.400000	29.3	120.000	V	8.6	10.7	40.0



Horizontal:

Level ($dB\mu V/m$)



Frequency (MHz)	Quasi Peak (dBµV/ m)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
70.400000	20.4	120.000	Н	8.6	19.6	40.0
358.640000	34.5	120.000	Н	16.0	11.5	46.0
414.920000	35.5	120.000	Н	17.6	10.5	46.0



1~25 GHz Radiated Emissions. Peak & Average Measurement

PK Measurement:

Frequency (MHz)	PK Reading Level (dBμV)	Correction factors (dB/m)	PK Emission Level (dBµV/m)	PK Limit (dBµV/m)	Antenna polarization
*2483.5	62.39	-12.6	49.79	74	V
2500.0	54.72	-12.6	42.12	74	V
4904.0	43.48	-8.9	34.58	74	V
7356.0	38.74	-6.0	32.74	74	V
*2483.5	62.62	-12.6	50.02	74	Н
2500.0	54.94	-12.6	42.34	74	Н
4904.0	44.17	-8.9	35.27	74	Н
7356.0	40.34	-6.0	34.34	74	Н

AV Measurement:

Frequency (MHz)	AV Reading Level (dBμV)	Correction factors (dB/m)	AV Emission Level (dBµV/m)	AV Limit (dBµV/m)	Antenna polarization
*2483.5	/	-12.9	/	54	V
2500.0	/	-12.6	/	54	V
4904.0	/	-8.9	/	54	V
7356.0	/	-6.0	/	54	V
*2483.5	/	-12.9	/	54	Н
2500.0	/	-12.6	/	54	Н
4904.0	/	-8.9	/	54	Н
7356.0	/	-6.0	/	54	Н

Remark:

Harmonic Emissions was tested with filter (Product name: MICRO-TRONICS, model name: BRM50702), other radiated emissions were found below the reference noise level

When Peak emission level was below AV limit, the AV emission level did not be recorded.

* Band Edges Emission was tested without filter.

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Loss – Preamplifier Factor.

As shown in Section, for frequencies above 1000 MHz. the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

No any other emissions level which are attenuated less than 20dB below the limit.



4.8 Band Edges Requirement

o Danu Euges Requi	cincin			
Test Requirement:	FCC Part 15 C section 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.			
Frequency Band: 2400 MHz to 2483.5 MHz				
Test Method:	ANSI C63.10: Clause 11.11 and 11.13			
Test Status:	 Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below. Pre-test the EUT in AC mode and B/O mode, find worse case in AC mode. 			
Test Configuration:	For Band Edges Emission in Radiated mode, Please refer to clause 4.7			
	EUT			

Spectrum Analyzer EUT
EUT
Ground Reference Plane

Test Procedure:For Band Edges Emission in Radiated mode, Please refer to clause4.7

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

a) Set instrument center frequency to the frequency of the emission to be measured (must be within 2 MHz of the authorized band edge).

b) Set the center frequency and span to encompass frequency range to be measured.

- c) RBW = 100 kHz.
- d) VBW $\geq [3 \times RBW]$.
- e) Detector = peak.

FCC ID: 2AHKA-WM32-X61002



f) Sweep time = auto.

g) Trace mode = max hold.

h) Allow sweep to continue until the trace stabilizes (required measurement time may increase for low-duty-cycle applications).

i) For radiated Band-edge emissions within a restricted band and within 2 MHz of an authorized band edge, integration method is considered.

- 2. Repeat until all the test status is investigated.
- 3. Report the worst case.



Test result with plots as follows:

For conduct mode:

The band edges was measured and recorded Result:

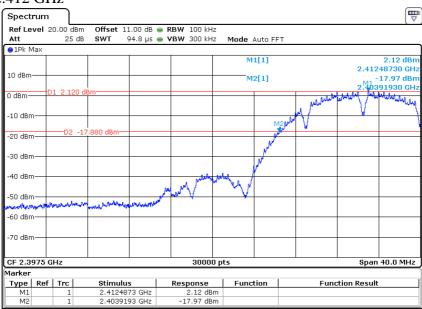
The Lower Edges attenuated more than 20dB.

The Upper Edges attenuated more than 20dB.

Result plots as follows:

802.11b mode with 11 Mbps data rate

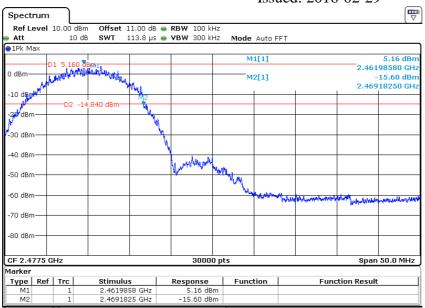
Channel1: 2.412 GHz



Channel 11: 2.462 GHz

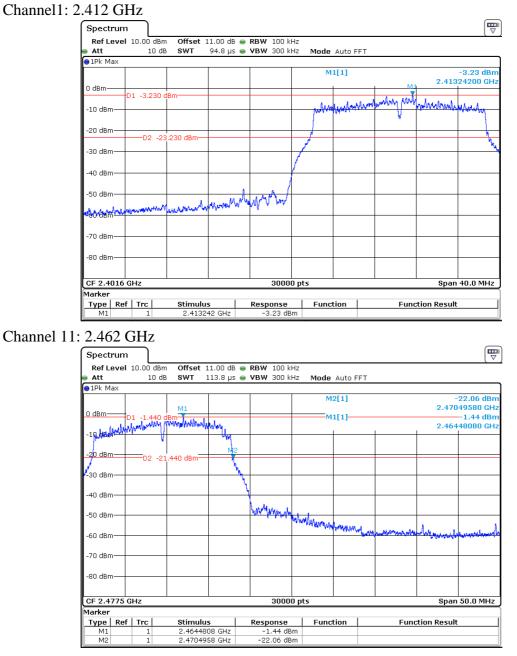
Intertek

Report No.: 160204001GZU-002 Issued: 2016-02-29





802.11g mode with 54 Mbps data rate





Channel1: 2.412 GHz Spectrum Ref Level 14.00 dBm Offset 11.00 dB 👄 RBW 100 kHz Att 20 dB SWT 113.8 µs 👄 **VBW** 300 kHz Mode Auto FFT ●1Pk Ma M1[1] -2.16 dBr 10 dBm 2.41448080 GH -22.34 dBn M2[1] M 2.40282080 GH 0 dBm Industry water D1 -2.160 alah -10 dBm -20 dBm -D2 -22.160 dBm -30 dBm Jandon with the with a well with -40 dBm -50 dBm Mah -60 dBr -70 dBm -80 dBrr Span 50.0 MHz CF 2.399 GHz 30000 pts Channel 11: 2.462 GHz □ Spectrum Offset 11.00 dB ● RBW 100 kHz SWT 113.8 µs ● VBW 300 kHz Ref Level 13.00 dBm Mode Auto FFT Att 20 dB ●1Pk Max M2[1] -22.24 dBn 10 dBm 2.47116420 GH -2.04 dBr 2.45948580 GHz M1[1] M1 0 dBrr L -2.040 dBm -10 d -<mark>2</mark>0 dBm -22.040 dBm 30 dBm Mather Mather -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm Span 50.0 MHz 30000 pts CF 2.477 GHz Marker Type | Ref | Trc | Response Function Function Result Stimulus 2.4594858 GHz 2.4711642 GHz -2.04 dBm -22.24 dBm M2

802.11n(HT20) mode with 72.2Mbps data rate



Channel 3: 2.422 GHz ₿ Spectrum Offset 11.00 dB ● RBW 100 kHz SWT 170.6 µs ● VBW 300 kHz Ref Level 16.00 dBm Mode Auto FFT Att 25 dB 1Pk Max M1[1] -7.86 dBn 10 dBm 2.41948400 GH 0 dBm M1 philospulialiandurthalian Million and within the strength of the state -10 dBm -20 dBm 360 d -30 dBm -40 dBm -50 dBm الاستقادانية المحصيلين What I العبال -60 dBm -70 dBm -80 dBm CF 2.4016 GHz 30000 pts Span 80.0 MHz Channel 9: 2.452 GHz ₿ Spectrum Ref Level 16.00 dBm Offset 11.00 dB ● RBW 100 kHz Att 25 dB SWT 170.6 μs ● VBW 300 kHz Mode Auto FFT ⊖1Pk Ma≻ M1[1] -6.69 dBn 2.44948400 GH 10 dBm M2[1] -27.66 dBn 2.47040400 GHz 0 dBm M1 -6.690 -6.690 dBmaprila dalati a vilataria dala vilati -10 dBm -30 dBm 40 dBm Whenty -50 dBm A HANNAL . A fin 4 -60 dBm -70 dBm -80 dBm 30000 pts Span 80.0 MHz CF 2.472 GHz

802.11n(HT40) mode with 150Mbps data rate



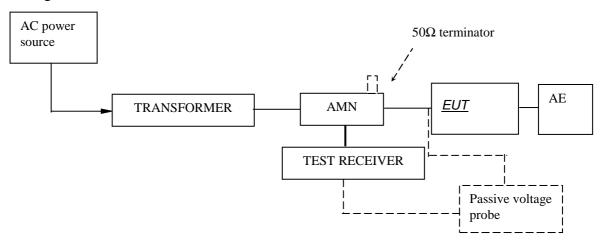
For Radiated mode :

Please refer Clause 4.7 Radiated Emissions in Restricted Bands of this test report for more details. The resultant field strength in band edges meet the general radiated emission limit in section 15.209, which does not exceed 74 dBµV/m (Peak Limit) and 54dBµV/m (Average Limit).



4.9 Conducted Emission Test

Test Configuration:



Test Setup and Procedure

Test was performed according to ANSI C63.10 Clause 6.2. The EUT was set to achieve the maximum emission level. The mains terminal disturbance voltage was measured with the EUT in a shielded room. The EUT was connected to AC power source through an Artificial Mains Network which provides a 50 Ω linear impedance Artificial hand is used if appropriate (for handheld apparatus). The load/control terminal disturbance voltage was measured with passive voltage probe if appropriate.

The table-top EUT was placed on a 0.8m high non-metallic table above earthed ground plane (Ground Reference Plane). And for floor standing EUT, was placed on a 0.1m high non-metallic supported on GRP. The EUT keeps a distance of at least 0.8m from any other of the metallic surface. The Artificial Mains Network is situated at a distance of 0.8m from the EUT.

During the test, mains lead of EUT excess 0.8m was folded back and forth parallel to the lead so as to form a horizontal bundle with a length between 0.3m and 0.4m.

The bandwidth of test receiver was set at 9 kHz. The frequency range from 150 kHz to 30MHz was checked.



Test Data

At main terminal: Pass

Tested Wire: Live

Operation Mode: transmitting mode

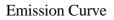
EDIT PEAK LIST (Final Measurement Results)					
Trace1:	FCC15QP				
Trace2:	FCC15AV				
Trace3:					
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB		
1 Quasi Peak	338 kHz	49.78 Ll	-9.46		
2 Average	346 kHz	41.90 L1	-7.15		
2 Average	370 kHz	38.17 L1	-10.33		

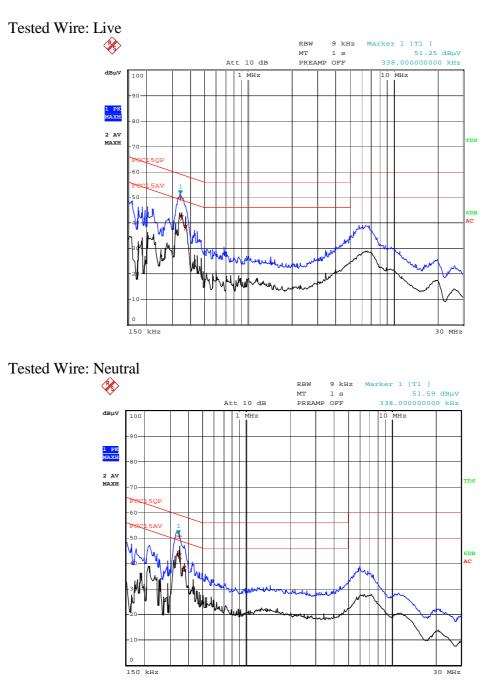
Tested Wire: Neutral

Operation Mode: transmitting mode

EDIT	F PEAK LIST (Final	Measurement 1	Results)
Tracel:	FCC15QP		
Trace2:	FCC15AV		
Trace3:			
TRACE	FREQUENCY	LEVEL $dB\mu V$	DELTA LIMIT dB
1 Quasi Peak	342 kHz	50.77 Ll	-8.38
2 Average	346 kHz	43.04 Ll	-6.01
2 Average	374 kHz	37.86 Ll	-10.55
Trace3: TRACE 1 Quasi Peak 2 Average	FREQUENCY 342 kHz 346 kHz	50.77 L1 43.04 L1	-8.38 -6.01









5.0 Test Equipment List

Radiated Emission

Equipment No.	Equipment	Model	Manufacturer	Cal. Due date (YYYY-MM-DD)	Calibration Interval
EM030-01	01 3m Semi-Anechoic Chamber		ETS •LINDGREN		
EM030-02	Control room for 3m Semi- Anechoic Chamber	$4 \times 4 \times 3 \text{ m}^3$	ETS·LINDGREN	2016-04-02	1Y
EM031-02	EMI Test Receiver (9 kHz~7 GHz)	R&S ESR7	R&S	2016-06-03	1Y
EM031-03	Signal and Spectrum Analyzer (10 Hz~40 GHz)	R&S FSV40	R&S	2016-06-03	1Y
EM011-04	Loop antenna (9 kHz-30 MHz)	HFH2-Z2	R&S	2016-05-25	1Y
EM061-03	TRILOG Super Broadband test Antenna (30 MHz-1.5 GHz)	VULB 9161	SCHWARZBECK	2016-05-25	1Y
EM033-02	Bouble-Ridged Waveguide Horn Antenna (800 MHz-18 GHz)	R&S HF907	R&S	2016-05-25	1Y
EM033-03	High Frequency Antenna & preamplifier (18 GHz~26.5 GHz)	R&S SCU- 26	R&S	2016-05-25	1 Y
EM033-04	High Frequency Antenna & preamplifier (26 GHz-40 GHz)	R&S SCU- 40	R&S	2016-05-25	1 Y
EM031-02-01	Coaxial cable(9 kHz-1 GHz)	/	R&S	2016-06-03	1Y
EM033-02-02	Coaxial cable(1 GHz-18 GHz)	/	R&S	2016-06-09	
EM033-04-02 Coaxial cable (18~40) GHz		/	R&S	2016-06-09	
EM022-03 2.45 GHz Filter		BRM 50702	Micro-Tronics	2016-05-06	1Y

Conducted emission at the mains terminals test

Equipment No.	Equipment	Model	Manufacturer	Cal.Due date	Calibration Interval
EM080-05	EMI receiver	ESCI	R&S	2016-08-04	1Y
EM006-05	LISN	ENV216	R&S	2016-09-12	1Y
EM006-06	LISN	ENV216	R&S	2016-09-12	1Y
EM006-06-01	Coaxial cable	/	R&S	2016-04-12	1Y
EM004-04	EMC shield Room	8m×3m×3m	Zhongyu	2016-08-04	1Y