



TEST Report

Applicant: Shenzhen Youchangshumadianzi Youxiangongsi

Address of Applicant: Xixiangjiedao Shuikulu Zhongxi ECOguoji 316-318
ShenzhenShi Baoanqu Guangdong 518000

Manufacturer : Shenzhen Youchangshumadianzi Youxiangongsi

Address of Manufacturer : Xixiangjiedao Shuikulu Zhongxi ECOguoji 316-318
ShenzhenShi Baoanqu Guangdong 518000

Equipment Under Test (EUT)

Product Name: android screen

Model No.: KS-H908Q

Series model: KS-927QH, KS-922Q, KS-920Q, KS-918Q, KS-919Q,
KS-908Q, KS-925H, KS-908QH, KS-924QH, KS-H925Q,
KS-923Q,KS-907Q,KS-906Q,KS-905Q, KS-H920Q,
UB-B940, UB-B945, UB-B950, UB-6901, UB-7901, UB-8901

Trade Mark: Koason, Ugode

FCC ID: 2A4LBKS-H908Q

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247

Date of sample receipt: Feb.08,2022

Date of Test: Feb.08,2022- Feb.22,2022

Date of report issued: Feb.22,2022

Test Result : PASS *

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



Report No.: HTT202202263F03

1. Version

Version No.	Date	Description
00	Feb.22,2022	Original

Tested/ Prepared By Ervin Xu Date: Feb.22,2022
Project Engineer

Check By: Bruce Zhu Date: Feb.22,2022
Reviewer

Approved By : Kevin Yang Date: Feb.22,2022
Authorized Signature



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3. Test Summary

Test Item	Section	Result
Antenna requirement	FCC part 15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	FCC part 15.207	N/A
Conducted Peak Output Power	FCC part 15.247 (b)(3)	Pass
Channel Bandwidth	FCC part 15.247 (a)(2)	Pass
Power Spectral Density	FCC part 15.247 (e)	Pass
Band Edge	FCC part 15.247(d)	Pass
Spurious Emission	FCC part 15.205/15.209	Pass

Remark: Test according to ANSI C63.10:2013 and RSS-Gen

Pass: The EUT complies with the essential requirements in the standard.

Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	3.45 dB	(1)
Radiated Emission	1~6GHz	3.54 dB	(1)
Conducted Disturbance	0.15~30MHz	2.66 dB	(1)

Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.



4. General Information

4.1. General Description of EUT

Product Name:	android screen
Model No.:	KS-H908Q
Series model:	KS-927QH, KS-922Q, KS-920Q, KS-918Q, KS-919Q, KS-908Q, KS-925H, KS-908QH, KS-924QH, KS-H925Q, KS-923Q, KS-907Q, KS-906Q, KS-905Q, KS-H920Q, UB-B940, UB-B945, UB-B950, UB-6901, UB-7901, UB-8901
Model Difference	All the model are the same circuit and RF module, except the model name colour and display size.
Channel numbers:	802.11b/802.11g /802.11n(HT20): 11 802.11n(HT40):7
Channel separation:	5MHz
Modulation technology:	802.11b: Direct Sequence Spread Spectrum (DSSS) 802.11g/802.11n(H20)/802.11n(HT40): Orthogonal Frequency Division Multiplexing (OFDM)
Antenna Type:	FPCB Antenna
Antenna gain:	1.0dBi
Power supply:	DC 12V From External Circuit
Adapter Information (auxiliary test equipment supplied by test Lab)	N/A



Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Test channel	Frequency (MHz)	
	802.11b/802.11g/802.11n(HT20)	802.11n(HT40)
Lowest channel	2412MHz	2422MHz
Middle channel	2437MHz	2437MHz
Highest channel	2462MHz	2452MHz



4.2. Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode
<i>Remark: During the test, the dutycycle >98%, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.</i>	

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Pre-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)
Data rate	1Mbps	6Mbps	6.5Mbps	13Mbps

4.3. Description of Support Units

None.

4.4. Deviation from Standards

None.

4.5. Abnormalities from Standard Conditions

None.

4.6. Test Facility

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

FCC-Registration No.: 779513 Designation Number: CN1319

Shenzhen HTT Technology Co.,Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA-Lab Cert. No.: 6435.01

Shenzhen HTT Technology Co.,Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

4.7. Test Location

All tests were performed at:

Shenzhen HTT Technology Co.,Ltd.

1F, Building B, Huafeng International Robotics Industrial Park, Hangcheng Road,Nanchang Community, Xixiang Street, Bao'an District, Shenzhen, Guangdong, China

Tel: 0755-23595200

Fax: 0755-23595201

4.8. Additional Instructions

Test Software	Special AT test command provided by manufacturer to Keep the EUT in continuously transmitting mode and hopping mode
Power level setup	Default

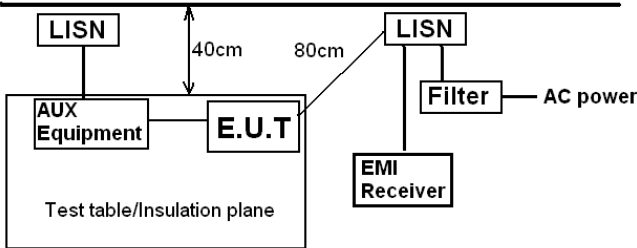


5. Test Instruments list

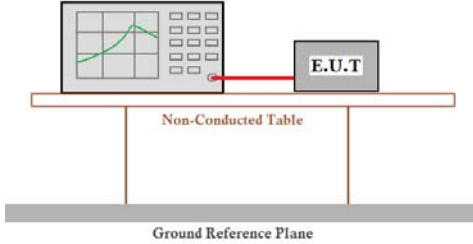
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	Shenzhen C.R.T technology co., LTD	9*6*6	HTT-E028	Aug. 10 2020	Aug. 09 2024
2	Control Room	Shenzhen C.R.T technology co., LTD	4.8*3.5*3.0	HTT-E030	Aug. 10 2020	Aug. 09 2024
3	EMI Test Receiver	Rohde&Schwar	ESCI7	HTT-E022	May 21 2021	May 20 2022
4	Spectrum Analyzer	Rohde&Schwar	FSP	HTT-E037	May 21 2021	May 20 2022
5	Coaxial Cable	ZDecl	ZT26-NJ-NJ-0.6M	HTT-E018	May 21 2021	May 20 2022
6	Coaxial Cable	ZDecl	ZT26-NJ-SMAJ-2M	HTT-E019	May 21 2021	May 20 2022
7	Coaxial Cable	ZDecl	ZT26-NJ-SMAJ-0.6M	HTT-E020	May 21 2021	May 20 2022
8	Coaxial Cable	ZDecl	ZT26-NJ-SMAJ-8.5M	HTT-E021	May 21 2021	May 20 2022
9	Composite logarithmic antenna	Schwarzbeck	VULB 9168	HTT-E017	Aug. 22 2021	Aug. 21 2022
10	Horn Antenna	Schwarzbeck	BBHA9120D	HTT-E016	Aug. 22 2021	Aug. 21 2022
11	Loop Antenna	Zhinan	ZN30900C	HTT-E039	Aug. 22 2021	Aug. 21 2022
12	Horn Antenna	Beijing Hangwei Dayang	OBH100400	HTT-E040	Aug. 22 2021	Aug. 21 2022
13	low frequency Amplifier	Sonoma Instrument	310	HTT-E015	May 21 2021	May 20 2022
14	high-frequency Amplifier	HP	8449B	HTT-E014	May 21 2021	May 20 2022
15	Variable frequency power supply	Shenzhen Anbiao Instrument Co., Ltd	ANB-10VA	HTT-082	May 21 2021	May 20 2022
16	EMI Test Receiver	Rohde & Schwarz	ESCS30	HTT-E004	May 21 2021	May 20 2022
17	Artificial Mains	Rohde & Schwarz	ESH3-Z5	HTT-E006	May 21 2021	May 20 2022
18	Artificial Mains	Rohde & Schwarz	ENV-216	HTT-E038	May 21 2021	May 20 2022
19	Cable Line	Robinson	Z302S-NJ-BNCJ-1.5M	HTT-E001	May 21 2021	May 20 2022
20	Attenuator	Robinson	6810.17A	HTT-E007	May 21 2021	May 20 2022
21	Variable frequency power supply	Shenzhen Yanghong Electric Co., Ltd	YF-650 (5KVA)	HTT-E032	May 21 2021	May 20 2022
22	Control Room	Shenzhen C.R.T technology co., LTD	8*4*3.5	HTT-E029	May 21 2021	May 20 2022
23	DC power supply	Agilent	E3632A	HTT-E023	May 21 2021	May 20 2022
24	EMI Test Receiver	Agilent	N9020A	HTT-E024	May 21 2021	May 20 2022
25	Analog signal generator	Agilent	N5181A	HTT-E025	May 21 2021	May 20 2022
26	Vector signal generator	Agilent	N5182A	HTT-E026	May 21 2021	May 20 2022
27	Power sensor	Keysight	U2021XA	HTT-E027	May 21 2021	May 20 2022
28	Temperature and humidity meter	Shenzhen Anbiao Instrument Co., Ltd	TH10R	HTT-074	May 21 2021	May 20 2022

6. Test results and Measurement Data

6.1. Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207						
Test Method:	ANSI C63.10:2013						
Test Frequency Range:	150KHz to 30MHz						
Class / Severity:	Class B						
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto						
Limit:	Frequency range (MHz)		Limit (dBuV)				
			Quasi-peak		Average		
	0.15-0.5		66 to 56*		56 to 46*		
	0.5-5		56		46		
	5-30		60		50		
* Decreases with the logarithm of the frequency.							
Test setup:	Reference Plane  Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m						
Test procedure:	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement.						
Test Instruments:	Refer to section 6.0 for details						
Test mode:	Refer to section 5.2 for details						
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar	
Test voltage:	AC 120V, 60Hz						
Test results:	N/A						

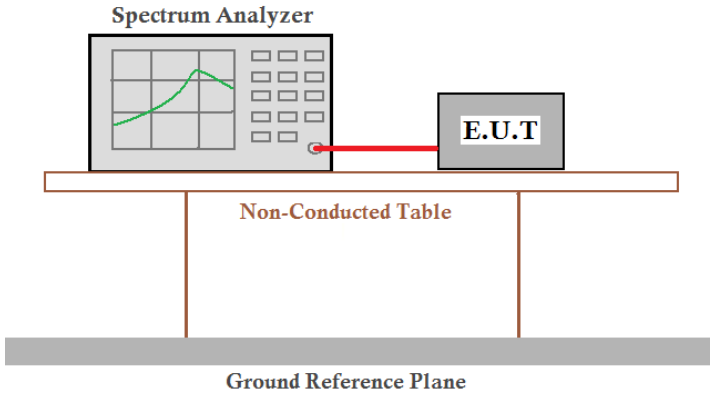
6.2. Conducted Peak Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)					
Test Method:	KDB558074 D01 15.247 Meas Guidance v05r02					
Limit:	30dBm					
Test setup:	Power sensor and Spectrum analyzer  Non-Conducted Table Ground Reference Plane					
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	Pass					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar

Measurement Data

Test CH	Peak Output Power (dBm)				Limit(dBm)	Result
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)		
Lowest	15.87	15.24	14.77	13.02	30.00	Pass
Middle	15.64	15.02	14.25	13.01		
Highest	15.43	15.16	14.16	12.88		

6.3. Channel Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)					
Test Method:	KDB558074 D01 15.247 Meas Guidance v05r02					
Limit:	>500KHz					
Test setup:						
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	Pass					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar

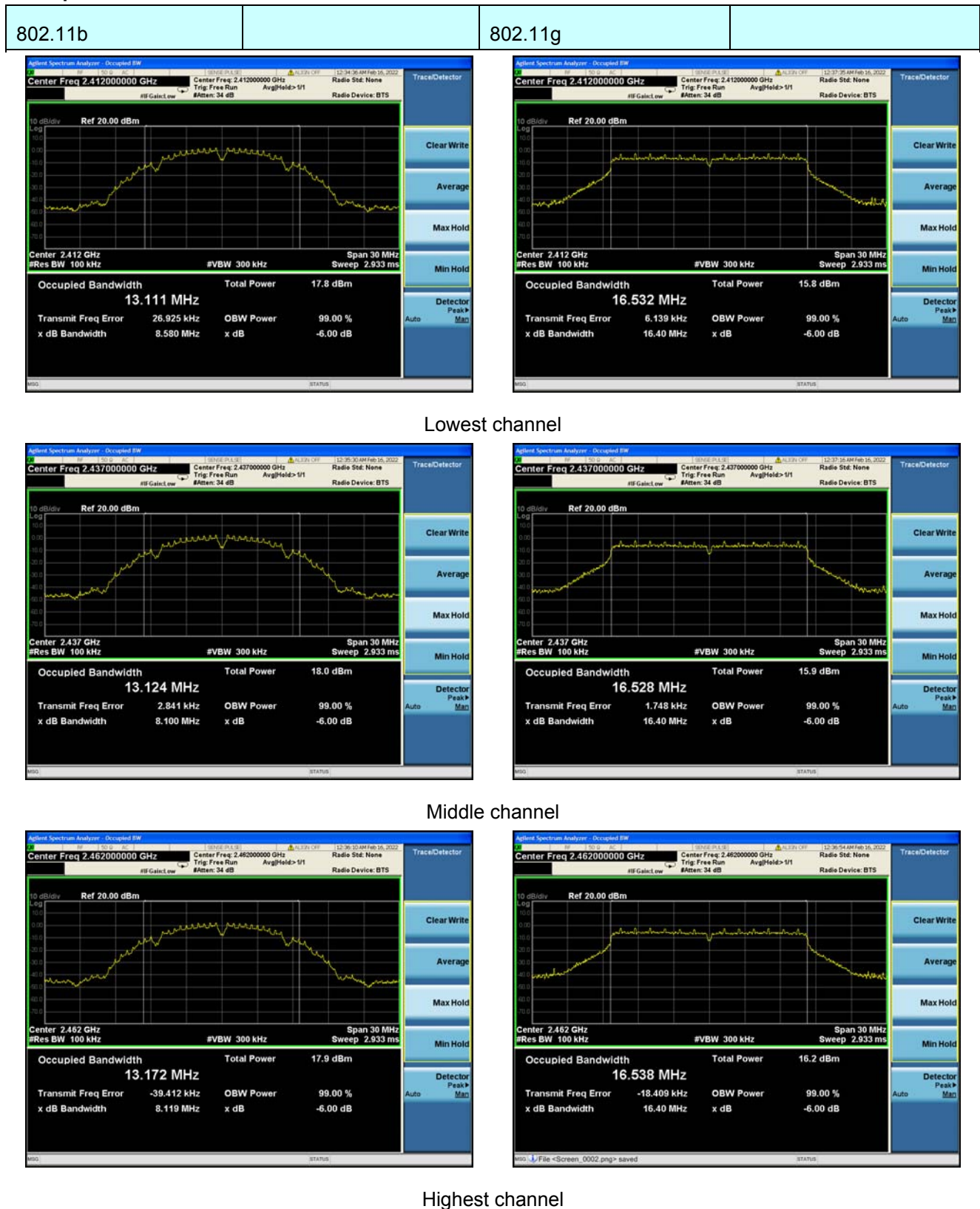
Measurement Data

Test CH	Channel Bandwidth (MHz)				Limit(KHz)	Result
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)		
Lowest	8.580	16.40	17.60	36.04	>500	Pass
Middle	8.100	16.40	17.61	35.78		
Highest	8.119	16.40	17.60	35.81		



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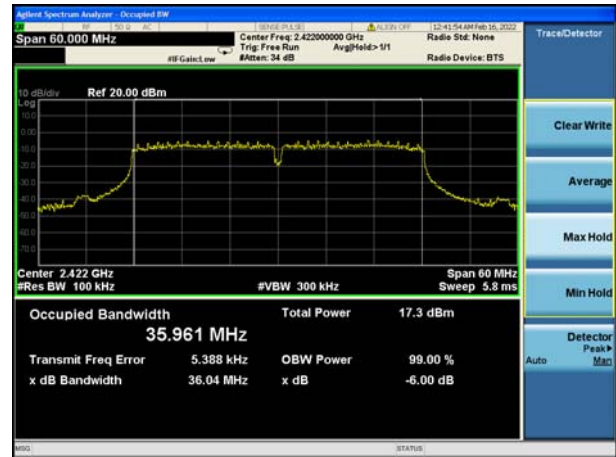
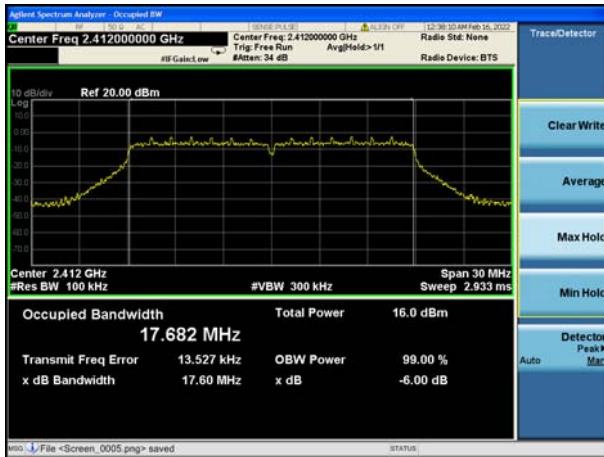
Test plot as follows:





802.11n(HT20)

802.11n(HT40)



Lowest channel

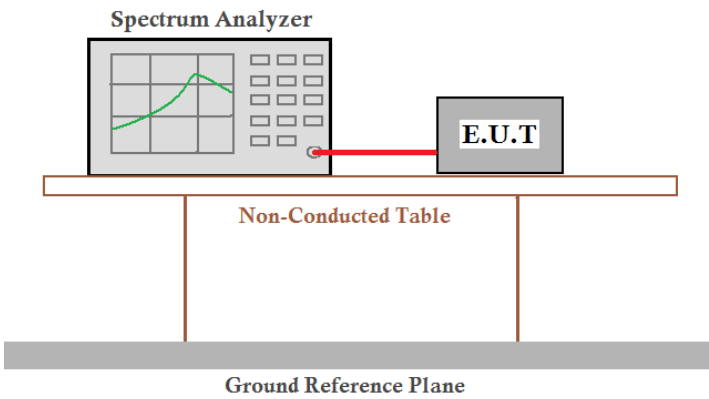


Middle channel



Highest channel

6.4. Power Spectral Density

Test Requirement:	FCC Part15 C Section 15.247 (e)					
Test Method:	KDB558074 D01 15.247 Meas Guidance v05r02					
Limit:	8dBm/3kHz					
Test setup:						
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	Pass					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar

Measurement Data

Test CH	Power Spectral Density (dBm/3kHz)				Limit (dBm/3kHz)	Result
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)		
Lowest	-11.381	-17.315	-17.045	-19.849	8.00	Pass
Middle	-12.342	-15.822	-15.359	-19.202		
Highest	-11.614	-16.084	-17.195	-20.247		

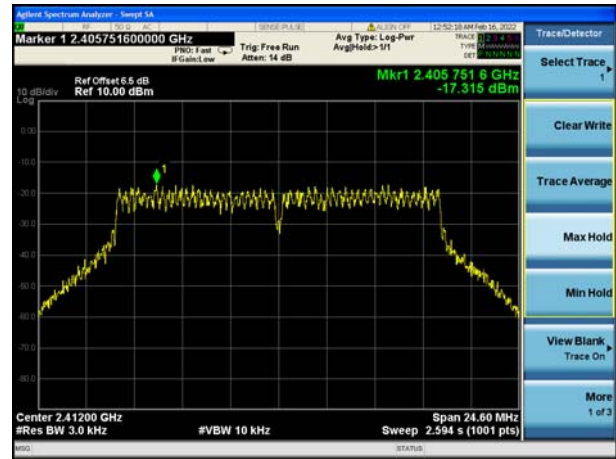
Remark: We have tested all mode at high, middle and low channel, and recorded worst case at middle



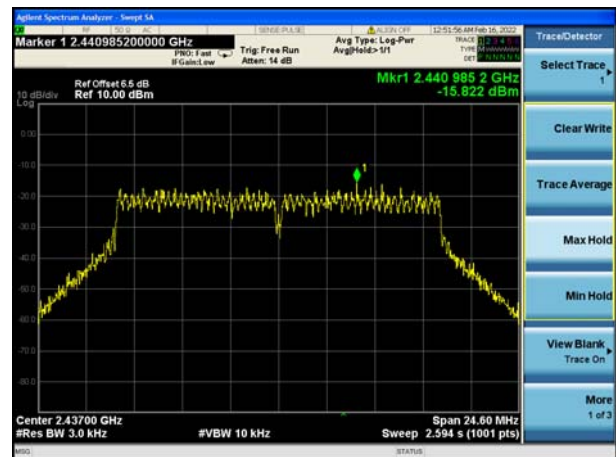
Report No.: HTT202202263F03

Test plot as follows:

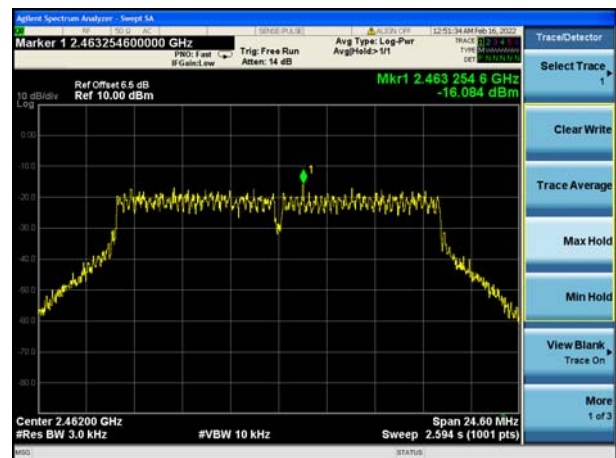
802.11b		802.11g	
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Lowest channel



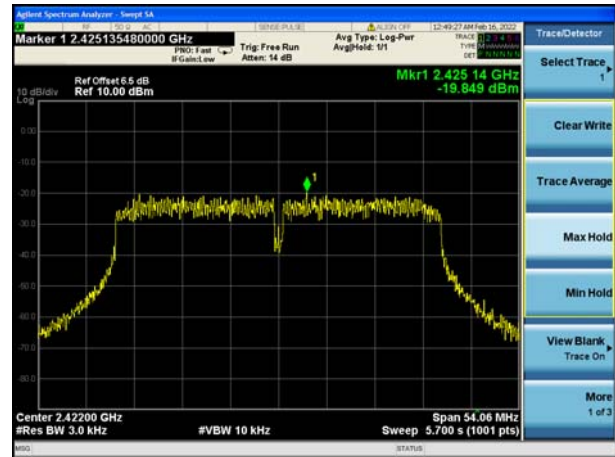
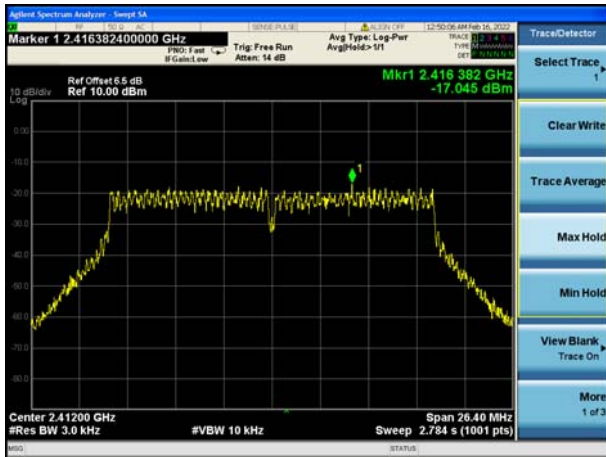
Middle channel



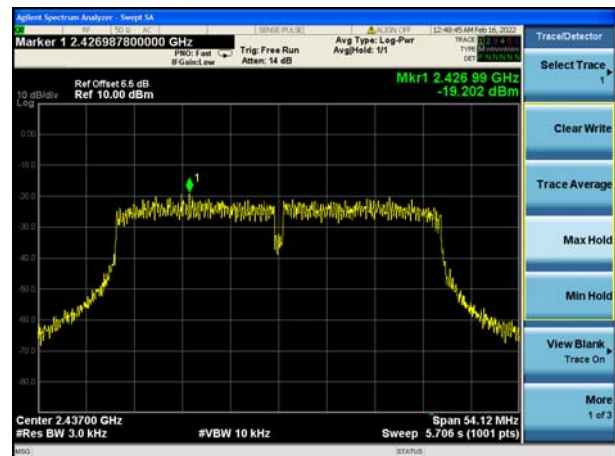
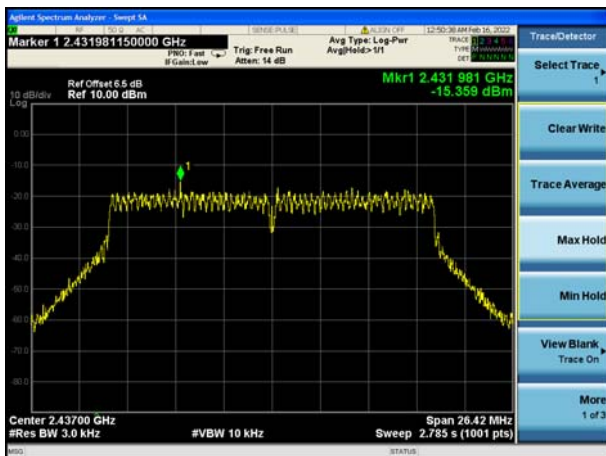
Highest channel



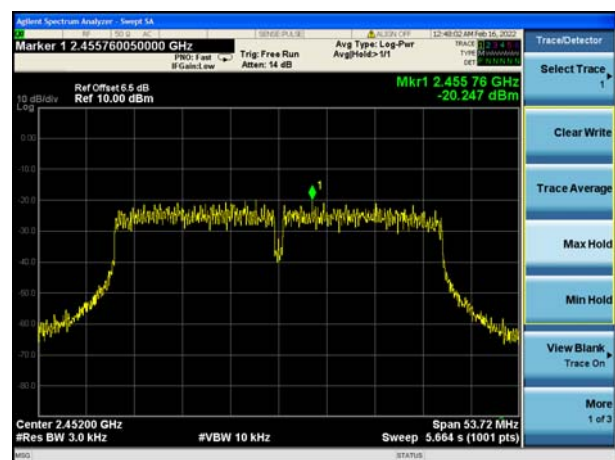
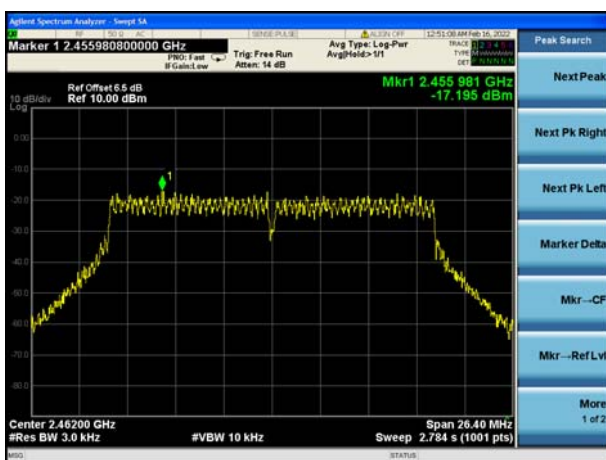
802.11n(HT20)	802.11n(HT40)
---------------	---------------



Lowest channel



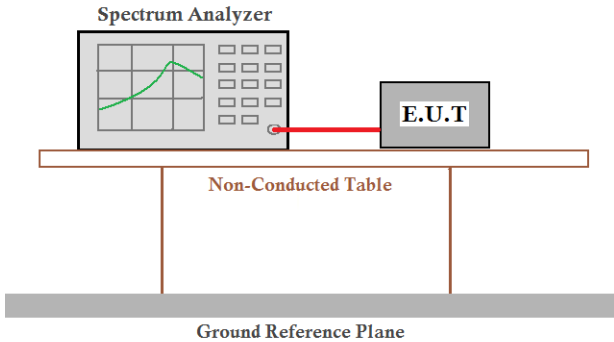
Middle channel



Highest channel

6.5. Band Edge

6.5.1. Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)					
Test Method:	KDB558074 D01 15.247 Meas Guidance v05r02					
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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.					
Test setup:	 The diagram illustrates the test setup for conducted emission measurement. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table, which is supported by a Ground Reference Plane.					
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	Pass					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar



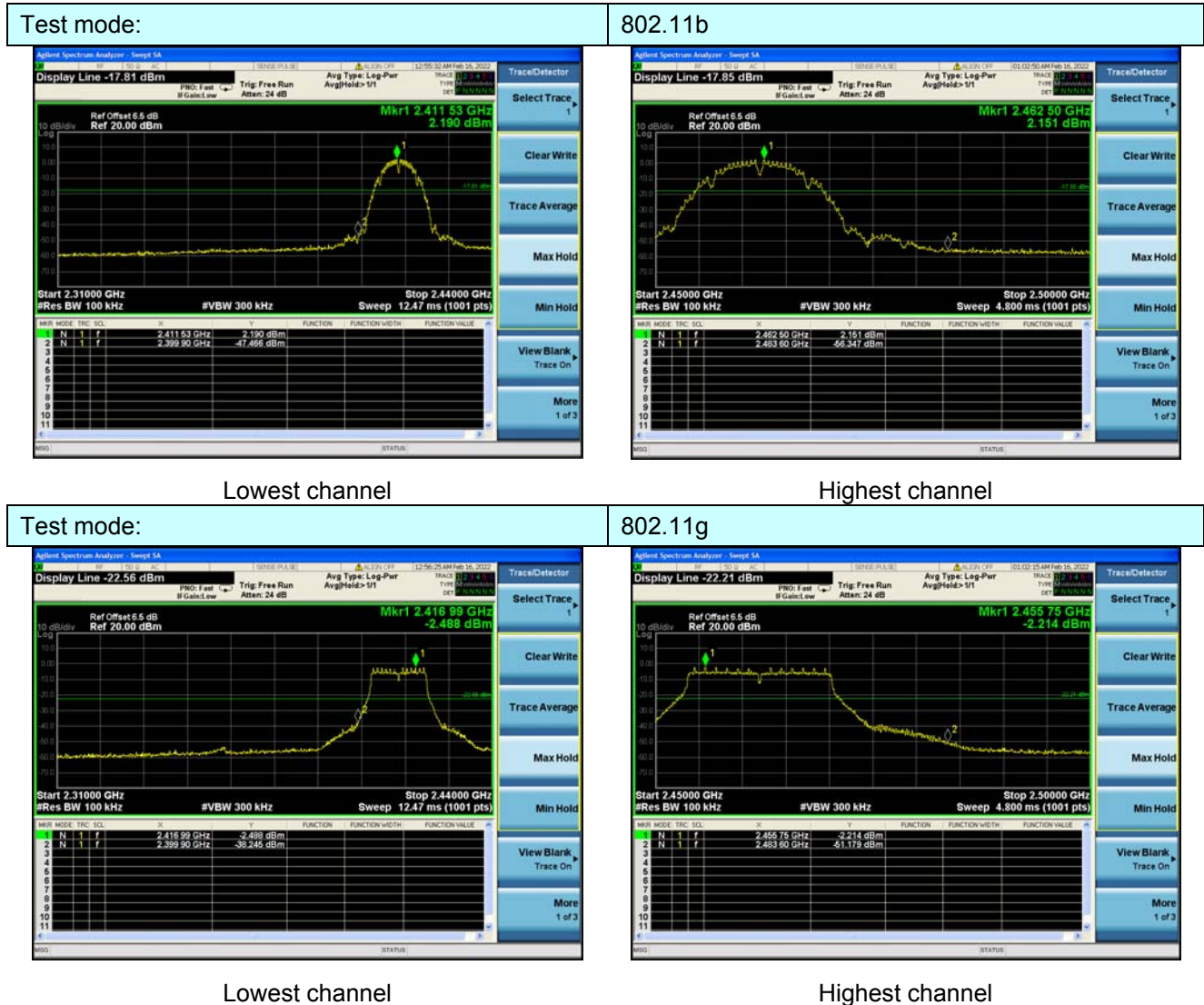
Report No.: HTT202202263F03

Frequency Band	Delta Peak to band emission (dBc)	>Limit (dBc)	Result
802.11b			
2400	49.66	20	Pass
2483.5	58.50	20	Pass
802.11g			
2400	35.76	20	Pass
2483.5	48.97	20	Pass
802.11n(HT20)			
2400	34.87	20	Pass
2483.5	46.15	20	Pass
802.11n(HT40)			
2400	33.99	20	Pass
2483.5	42.16	20	Pass



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Test plot as follows:

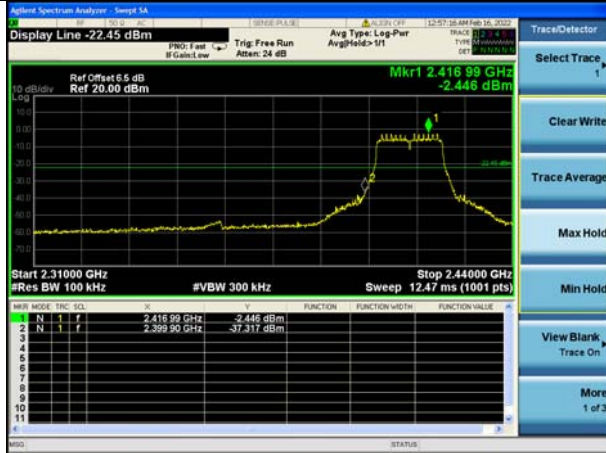




Report No.: HTT202202263F03

Test mode:

802.11n(HT20)



Lowest channel



Highest channel

Test mode:

802.11n(HT40)

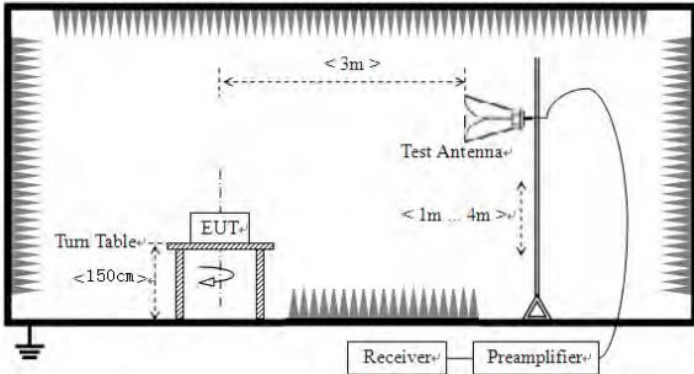


Lowest channel



Highest channel

6.5.2. Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205					
Test Method:	ANSI C63.10: 2013					
Test Frequency Range:	All of the restrict bands were tested, only the worst band's (2310MHz to 2500MHz) data was showed.					
Test site:	Measurement Distance: 3m					
Receiver setup:	Frequency	Detector	RBW	VBW	Remark	
	Above 1GHz	Peak	1MHz	3MHz	Peak Value	
		Peak	1MHz	10Hz	Average Value	
Limit:	Frequency		Limit (dBuV/m @3m)		Remark	
	Above 1GHz		54.00		Average Value	
			74.00		Peak Value	
Test setup:						
Test Procedure:	1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.					
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	Pass					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar



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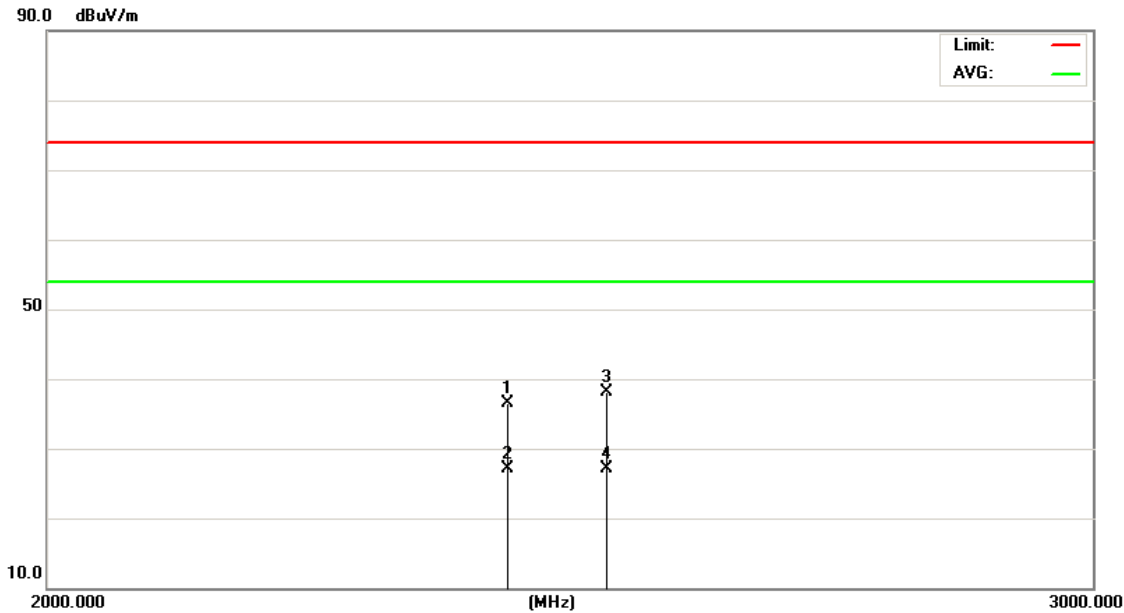
Measurement Data

Remark: During the test, pre-scan the 802.11b/802.11g/802.11n (H20)/802.11n (H40) modulation, and found the 802.11b modulation which it is worse case.

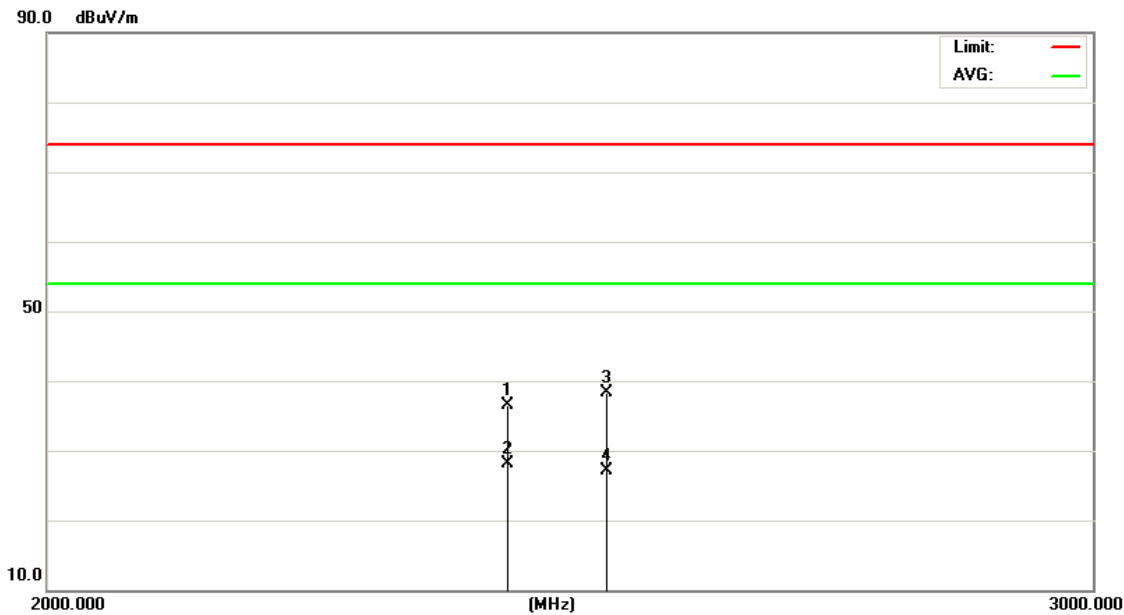
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant/CF CF(dB)	Act		Limit		Note
		Peak (dBuv)	AV (dBuv)		Peak (dBuv/m)	AV (dBuv/m)	Peak (dBuv/m)	AV (dBuv/m)	
2390.00	H	42.57	32.38	-5.79	36.78	26.59	74.00	54.00	CH01
2390.00	V	42.98	34.06	-5.79	37.19	28.27	74.00	54.00	CH01
2483.50	H	43.11	32.18	-4.98	38.13	27.20	74.00	54.00	CH11
2483.50	V	43.39	32.06	-4.98	38.41	27.08	74.00	54.00	CH11



Horizontal

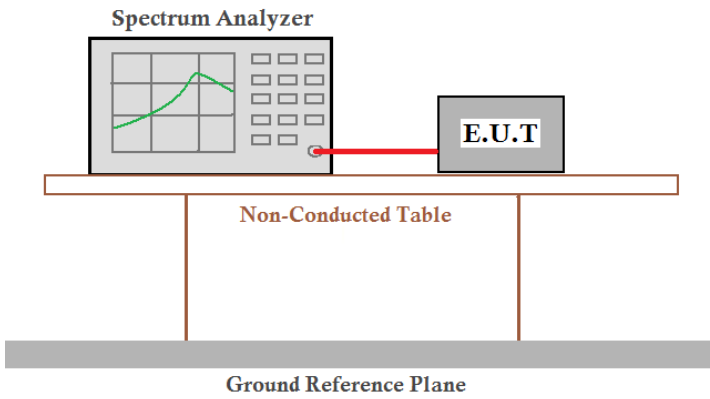


Vertical



6.6. Spurious Emission

6.6.1. Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)					
Test Method:	KDB558074 D01 15.247 Meas Guidance v05r02					
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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.					
Test setup:	 The diagram illustrates the test setup for conducted emission measurement. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table, which is supported by a Ground Reference Plane.					
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	Pass					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar



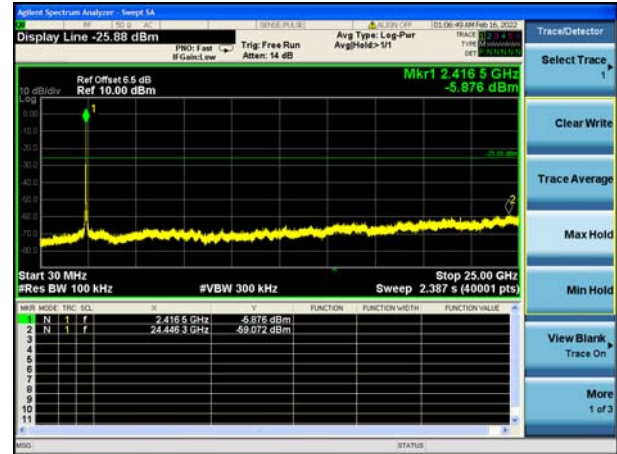
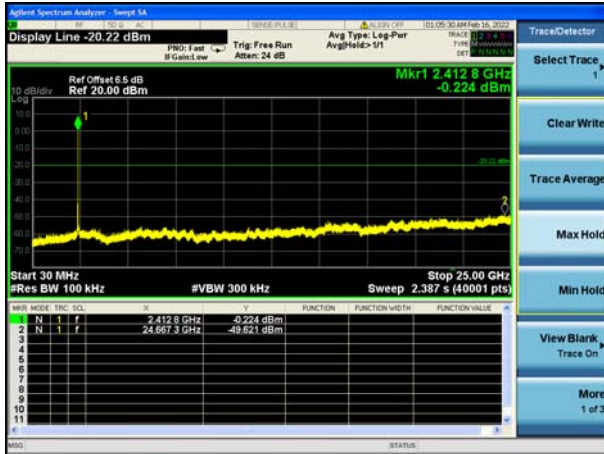
Report No.: HTT202202263F03

Measurement Data:

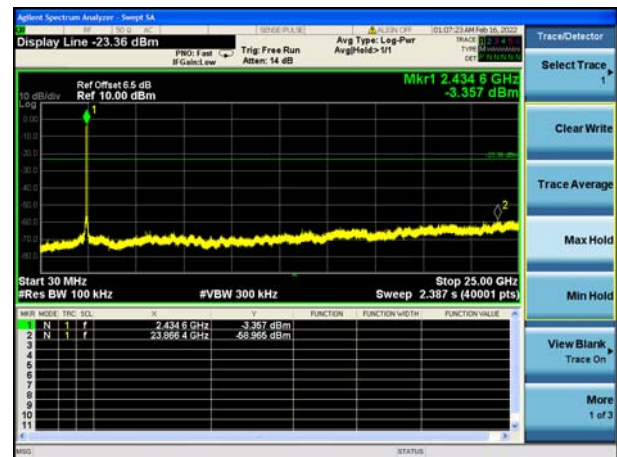
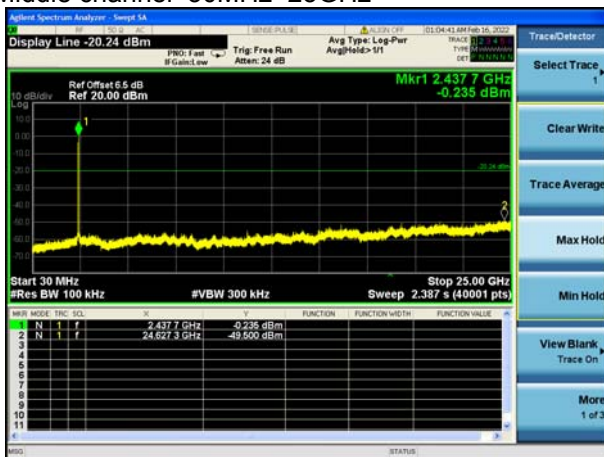
802.11b

802.11g

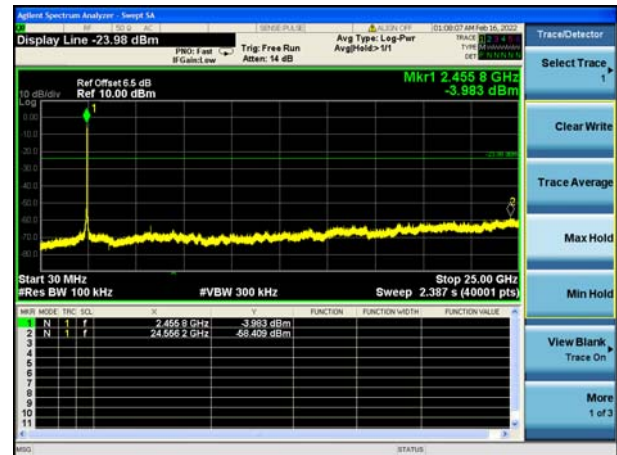
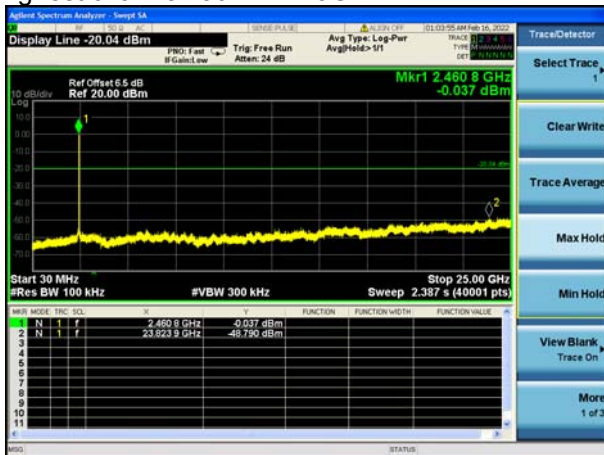
Lowest channel 30MHz~25GHz

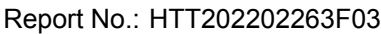


Middle channel 30MHz~25GHz



Highest channel 30MHz~25GHz





802.11n(HT40)

Agilent Spectrum Analyzer - Jumps SA

Display Line -25.42 dBm

PRO: 1 test
IF Gain: low

Trig: Free Run
Atten: 14 dB

Avs Type: Log-Per
Avg/Res: 101

RES 11:53 AM Feb 16, 2022

Trace 1: 2.416 GHz
Type: Freq
DET: Peak

Ref Offset 6.5 dB
Ref 10.00 dBm

Mkr1 2.416 GHz
-5.421 dBm

10 dB/div

Log

Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 2.387 s (40001 pts)
Stop 25.00 GHz

MARK	MODE	FREQ	SQL	W	V	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
2	N	1	f		2.416 GHz	-5.421 dBm		
3	N	1	f		24.473.1 GHz	-58.207 dBm		
4								
5								
6								
7								
8								
9								
10								
11								

Trace/Selector

Select Trace 1

Clear Write

Trace Average

Max Hold

Min Hold

View Blank

Trace On

More 1 of 3

MSG STATUS

The screenshot displays a Vector Signal Analyzer (VSA) interface. At the top, the title bar reads "Vector Spectrum Analyzer - Image SA". Below it, the main display area shows a spectral plot with a yellow trace. The plot has a logarithmic frequency axis from 10 dB/Hz to 10.0 dB and a linear amplitude axis from 0.0 to 10.0 dB. A prominent peak is labeled "1" and "Mkr1 2.438 4 GHz -5.199 dBm". The plot also shows a noise floor around -10.0 dB. The top status bar displays "Display Line -25.20 dBm", "PBD: Fast", "Trig: Free Run", "Avg Type: Log-Pwr", and "Res BW 100 kHz". The bottom status bar shows "Start 30 MHz", "Stop 25.00 GHz", and "Sweep 2.387 s (40001 pts)". On the right side, there is a "Trace/Detector" panel with buttons for "Select Trace", "Clear Write", "Trace Average", "Max Hold", "Min Hold", "View Blank", "Trace On", and "More".

Vector Spectrum Analyzer - Image SA
 Display Line -25.20 dBm
 PBD: Fast Trig: Free Run Avg Type: Log-Pwr Res BW 100 kHz
 Mkr1 2.438 4 GHz -5.199 dBm
 Start 30 MHz Stop 25.00 GHz
 #Res BW 100 kHz #VBW 300 kHz Sweep 2.387 s (40001 pts)

Trace	Function	Function Width	Function Value
1	N 1 f	2.438 4 GHz	-5.199 dBm
2	N 1 f	24.536 8 GHz	-6.197 dBm

Trace/Detector
 Select Trace
 Clear Write
 Trace Average
 Max Hold
 Min Hold
 View Blank
 Trace On
 More
 1 of 3

Vector Signal Analyzer - Sample SA

Display Line -26.49 dBm

PBD: Fast Trig: Free Run Avg Type: Log-Pwr

Res BW 100 kHz

Start 30 MHz Stop 25.00 GHz

Res BW 100 kHz VBW 300 kHz Sweep 2.387 s (40001 pts)

Mkr1 2.443 4 GHz -6.494 dBm

10 dB/dBm

0.0

-10.0

-20.0

-30.0

-40.0

-50.0

-60.0

-70.0

-80.0

-90.0

-100.0

2.443 4 GHz

2.4536 8 GHz

2.46396 8 GHz

2.47432 8 GHz

2.48468 8 GHz

2.49504 8 GHz

2.50540 8 GHz

2.51576 8 GHz

2.52612 8 GHz

2.53648 8 GHz

2.54684 8 GHz

2.55720 8 GHz

2.56756 8 GHz

2.57792 8 GHz

2.58828 8 GHz

2.59864 8 GHz

2.60900 8 GHz

2.61936 8 GHz

2.62972 8 GHz

2.64008 8 GHz

2.65044 8 GHz

2.66080 8 GHz

2.67116 8 GHz

2.68152 8 GHz

2.69188 8 GHz

2.70224 8 GHz

2.71260 8 GHz

2.72296 8 GHz

2.73332 8 GHz

2.74368 8 GHz

2.75404 8 GHz

2.76440 8 GHz

2.77476 8 GHz

2.78512 8 GHz

2.79548 8 GHz

2.80584 8 GHz

2.81620 8 GHz

2.82656 8 GHz

2.83692 8 GHz

2.84728 8 GHz

2.85764 8 GHz

2.86800 8 GHz

2.87836 8 GHz

2.88872 8 GHz

2.89908 8 GHz

2.90944 8 GHz

2.91980 8 GHz

2.93016 8 GHz

2.94052 8 GHz

2.95088 8 GHz

2.96124 8 GHz

2.97160 8 GHz

2.98196 8 GHz

2.99232 8 GHz

3.00268 8 GHz

3.01304 8 GHz

3.02340 8 GHz

3.03376 8 GHz

3.04412 8 GHz

3.05448 8 GHz

3.06484 8 GHz

3.07520 8 GHz

3.08556 8 GHz

3.09592 8 GHz

3.10628 8 GHz

3.11664 8 GHz

3.12700 8 GHz

3.13736 8 GHz

3.14772 8 GHz

3.15808 8 GHz

3.16844 8 GHz

3.17880 8 GHz

3.18916 8 GHz

3.19952 8 GHz

3.20988 8 GHz

3.22024 8 GHz

3.23060 8 GHz

3.24096 8 GHz

3.25132 8 GHz

3.26168 8 GHz

3.27204 8 GHz

3.28240 8 GHz

3.29276 8 GHz

3.30312 8 GHz

3.31348 8 GHz

3.32384 8 GHz

3.33420 8 GHz

3.34456 8 GHz

3.35492 8 GHz

3.36528 8 GHz

3.37564 8 GHz

3.38600 8 GHz

3.39636 8 GHz

3.40672 8 GHz

3.41708 8 GHz

3.42744 8 GHz

3.43780 8 GHz

3.44816 8 GHz

3.45852 8 GHz

3.46888 8 GHz

3.47924 8 GHz

3.48960 8 GHz

3.50000 8 GHz

3.51036 8 GHz

3.52072 8 GHz

3.53108 8 GHz

3.54144 8 GHz

3.55180 8 GHz

3.56216 8 GHz

3.57252 8 GHz

3.58288 8 GHz

3.59324 8 GHz

3.60360 8 GHz

3.61396 8 GHz

3.62432 8 GHz

3.63468 8 GHz

3.64504 8 GHz

3.65540 8 GHz

3.66576 8 GHz

3.67612 8 GHz

3.68648 8 GHz

3.69684 8 GHz

3.70720 8 GHz

3.71756 8 GHz

3.72792 8 GHz

3.73828 8 GHz

3.74864 8 GHz

3.75900 8 GHz

3.76936 8 GHz

3.77972 8 GHz

3.79008 8 GHz

3.80044 8 GHz

3.81080 8 GHz

3.82116 8 GHz

3.83152 8 GHz

3.84188 8 GHz

3.85224 8 GHz

3.86260 8 GHz

3.87296 8 GHz

3.88332 8 GHz

3.89368 8 GHz

3.90404 8 GHz

3.91440 8 GHz

3.92476 8 GHz

3.93512 8 GHz

3.94548 8 GHz

3.95584 8 GHz

3.96620 8 GHz

3.97656 8 GHz

3.98692 8 GHz

3.99728 8 GHz

4.00764 8 GHz

4.01800 8 GHz

4.02836 8 GHz

4.03872 8 GHz

4.04908 8 GHz

4.05944 8 GHz

4.06980 8 GHz

4.08016 8 GHz

4.09052 8 GHz

4.10088 8 GHz

4.11124 8 GHz

4.12160 8 GHz

4.13196 8 GHz

4.14232 8 GHz

4.15268 8 GHz

4.16304 8 GHz

4.17340 8 GHz

4.18376 8 GHz

4.19412 8 GHz

4.20448 8 GHz

4.21484 8 GHz

4.22520 8 GHz

4.23556 8 GHz

4.24592 8 GHz

4.25628 8 GHz

4.26664 8 GHz

4.27700 8 GHz

4.28736 8 GHz

4.29772 8 GHz

4.30808 8 GHz

4.31844 8 GHz

4.32880 8 GHz

4.33916 8 GHz

4.34952 8 GHz

4.35988 8 GHz

4.37024 8 GHz

4.38060 8 GHz

4.39096 8 GHz

4.40132 8 GHz

4.41168 8 GHz

4.42204 8 GHz

4.43240 8 GHz

4.44276 8 GHz

4.45312 8 GHz

4.46348 8 GHz

4.47384 8 GHz

4.48420 8 GHz

4.49456 8 GHz

4.50492 8 GHz

4.51528 8 GHz

4.52564 8 GHz

4.53600 8 GHz

4.54636 8 GHz

4.55672 8 GHz

4.56708 8 GHz

4.57744 8 GHz

4.58780 8 GHz

4.59816 8 GHz

4.60852 8 GHz

4.61888 8 GHz

4.62924 8 GHz

4.63960 8 GHz

4.64996 8 GHz

4.66032 8 GHz

4.67068 8 GHz

4.68104 8 GHz

4.69140 8 GHz

4.70176 8 GHz

4.71212 8 GHz

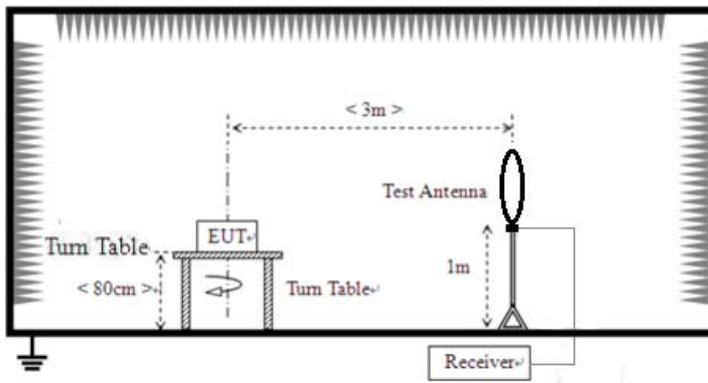
4.72248 8 GHz

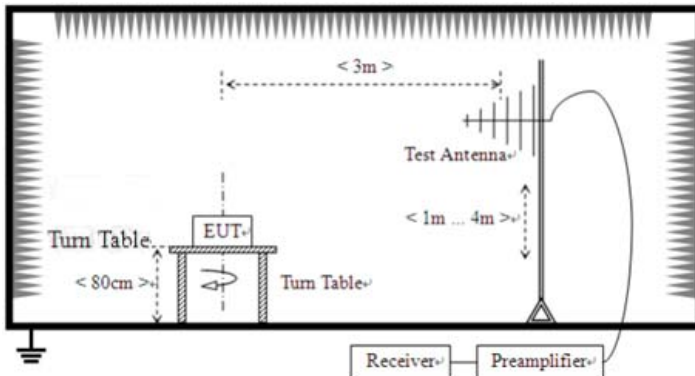
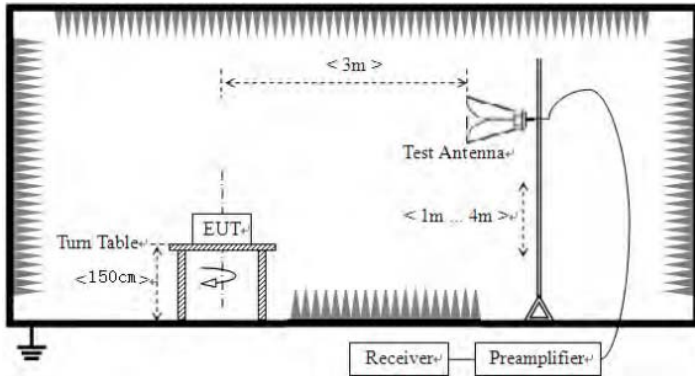
4.73284 8 GHz

4.74320 8 GHz

4.75356

6.6.2. Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	9kHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
	150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average
Limit:	Frequency	Limit (uV/m)	Value	Measurement Distance	
	0.009MHz-0.490MHz	2400/F(KHz)	QP	300m	
	0.490MHz-1.705MHz	24000/F(KHz)	QP	30m	
	1.705MHz-30MHz	30	QP	30m	
	30MHz-88MHz	100	QP	3m	
	88MHz-216MHz	150	QP		
	216MHz-960MHz	200	QP		
	960MHz-1GHz	500	QP		
	Above 1GHz	500	Average		
		5000	Peak		
Test setup:	For radiated emissions from 9kHz to 30MHz				
					

	For radiated emissions from 30MHz to1GHz  For radiated emissions above 1GHz 						
Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8m for below 1G and 1.5m for above 1G) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.						
Test Instruments:	Refer to section 6.0 for details						
Test mode:	Refer to section 5.2 for details						
Test environment:	<table><tr><td>Temp.:</td><td>25 °C</td><td>Humid.:</td><td>52%</td><td>Press.:</td><td>1012mbar</td></tr></table>	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar		



Report No.: HTT202202263F03

Test voltage:	AC 120V, 60Hz
Test results:	Pass

Remarks:

1.Only the worst case Main Antenna test data.

2.Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

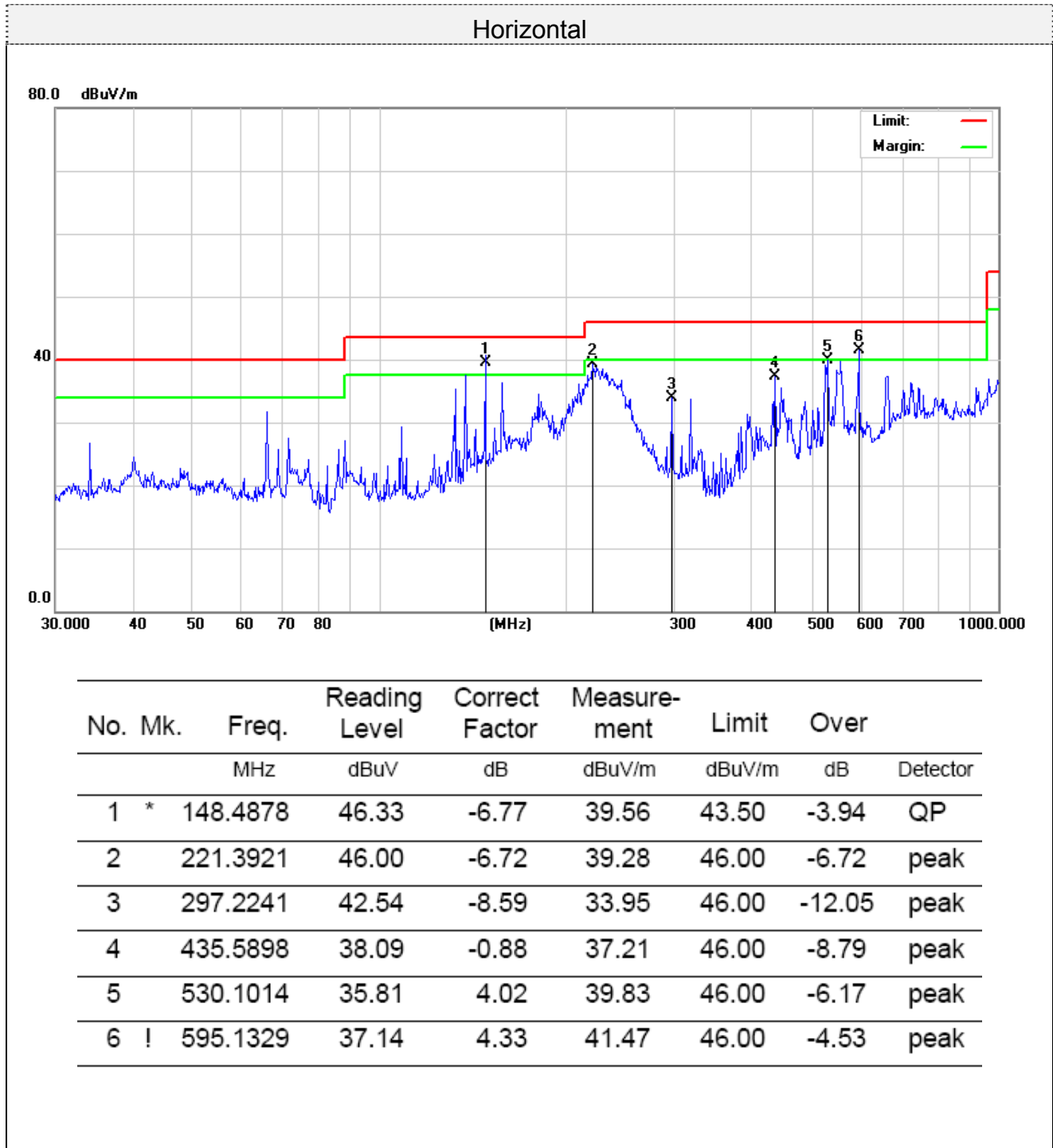
Measurement data:

■ **9kHz~30MHz**

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

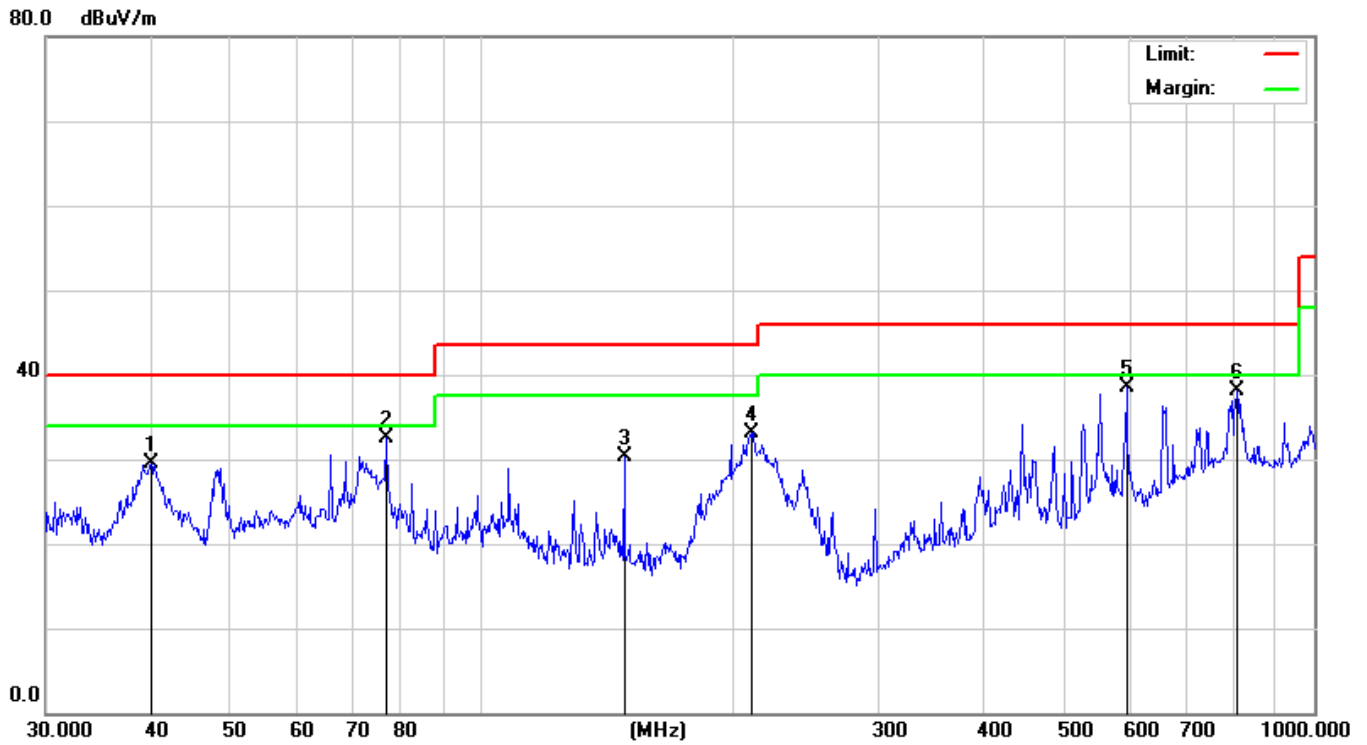
Below 1GHz

Pre-scan all test modes, found worst case at 802.11b 2437MHz, and so only show the test result of 802.11b 2437MHz





Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		40.1347	33.69	-4.20	29.49	40.00	-10.51	peak
2	*	76.7808	43.22	-10.64	32.58	40.00	-7.42	peak
3		148.4410	37.88	-7.51	30.37	43.50	-13.13	peak
4		210.7860	37.10	-3.97	33.13	43.50	-10.37	peak
5		595.1329	35.69	2.75	38.44	46.00	-7.56	peak
6		807.4291	30.51	7.54	38.05	46.00	-7.95	peak



■ Above 1GHz

Note: During the test, pre-scan the 802.11b/802.11g/802.11n (H20)/802.11n (H40) modulation, and found the 802.11b modulation which it is worse case.

802.11b:Lowest

Horizontal:

Frequency	Meter Reading	Antenna Factor	Cable Loss	Preamplifier Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	50.66	31.40	8.18	31.50	58.74	74.00	-15.26	peak
4824	32.21	31.40	8.18	31.50	40.29	54.00	-13.71	AVG
7236	43.02	35.80	10.83	31.40	58.25	74.00	-15.75	peak
7236	27.42	35.80	10.83	31.40	42.65	54.00	-11.35	AVG
---	---			---	---	---	---	---
---	---			---	---	---	---	---

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Antenna Factor	Cable Loss	Preamplifier Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	49.88	31.40	8.18	31.50	57.96	74.00	-16.04	peak
4824	34.16	31.40	8.18	31.50	42.24	54.00	-11.76	AVG
7236	42.88	35.80	10.83	31.40	58.11	74.00	-15.89	peak
7236	28.51	35.80	10.83	31.40	43.74	54.00	-10.26	AVG
---	---			---	---	---	---	---
---	---			---	---	---	---	---

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



802.11b:Middle

Horizontal:

Frequency	Meter Reading	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	50.12	31.40	9.17	32.10	58.59	74.00	-15.41	peak
4874	35.05	31.40	9.17	32.10	43.52	54.00	-10.48	AVG
7311	42.27	35.80	10.83	31.40	57.50	74.00	-16.50	peak
7311	28.16	35.80	10.83	31.40	43.39	54.00	-10.61	AVG
---	---			---	---	---	---	---
---	---			---	---	---	---	---

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Meter Reading	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	49.66	31.40	9.17	32.10	58.13	74.00	-15.87	peak
4874	34.25	31.40	9.17	32.10	42.72	54.00	-11.28	AVG
7311	42.78	35.80	10.83	31.40	58.01	74.00	-15.99	peak
7311	27.78	35.80	10.83	31.40	43.01	54.00	-10.99	AVG
---	---			---	---	---	---	---
---	---			---	---	---	---	---

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.



802.11b: Highest

Horizontal:

Frequency	Meter Reading	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	49.77	31.40	9.17	32.10	58.24	74	-15.76	peak
4924	33.21	31.40	9.17	32.10	41.68	54	-12.32	AVG
7386	42.28	35.80	10.83	31.40	57.51	74	-16.49	peak
7386	27.49	35.80	10.83	31.40	42.72	54	-11.28	AVG
---	---			---	---	---	---	---
---	---			---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.								

Vertical:

Frequency	Meter Reading	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB/m)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	48.59	31.40	9.17	32.10	57.06	74	-16.94	peak
4924	33.64	31.40	9.17	32.10	42.11	54	-11.89	AVG
7386	42.98	35.80	10.83	31.40	58.21	74	-15.79	peak
7386	27.85	35.80	10.83	31.40	43.08	54	-10.92	AVG
---	---			---	---	---	---	---
---	---			---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.								

Remark:

- (1) Data of measurement within this frequency range shown “---” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed.



7. Test Setup Photo

Reference to the **appendix I** for details.

8. EUT Constructional Details

Reference to the **appendix II** for details.

-----End-----