

# FCC TEST REPORT

Test report On Behalf of Shenzhen Zidoo Technology Co., Ltd. For White Noise Generator Model No.: A6, A6S, A7,A8 FCC ID: 2AGN7-A6

Prepared for : Shenzhen Zidoo Technology Co., Ltd. Room 12 D, Block A CENTRAL GREAT SEARCHINGS, Xixiang Avenue, BaoAn District,Shenzhen, Guangdong, P.R.C. 518100

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 Date of Test:
 Jun. 12, 2017 ~ Jun. 15, 2017

 Date of Report:
 Jun. 16, 2017

 Report Number:
 HK170606088-E



# TEST RESULT CERTIFICATION

Applicant's name:	Shenzhen Zidoo Technology Co., Ltd.
Address: Manufacture's Name:	Room 12 D, Block A CENTRAL GREAT SEARCHINGS, Xixiang Avenue, BaoAn District,Shenzhen, Guangdong, P.R.C. 518100 Shenzhen Zidoo Technology Co., Ltd.
Address: Product description	Room 12 D, Block A CENTRAL GREAT SEARCHINGS, Xixiang Avenue, BaoAn District,Shenzhen, Guangdong, P.R.C. 518100
Trade Mark:	zidoo
Product name:	White Noise Generator
Model and/or type reference :	A6, A6S, A7,A8
Standards	FCC Rules and Regulations Part 15 Subpart C Section 15.249 ANSI C63.10: 2013

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Date of Test	
Date (s) of performance of tests:	Jun. 12, 2017 ~ Jun. 15, 2017
Date of Issue	Jun. 16, 2017
Test Result	Pass

Testing Engineer : Zin Xie

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(Eric Xie)

Technical Manager

Dota Qin

(Dora Qin)

Authorized Signatory :

(Kait Chen)



Table of Contents	Page
1. TEST SUMMARY	4
2 . GENERAL INFORMATION	5
2.1 GENERAL DESCRIPTION OF EUT	5
2.2 Operation of EUT during testing	6
2.3 DESCRIPTION OF TEST SETUP	6
2.4 MEASUREMENT INSTRUMENTS LIST	7
3. CONDUCTED EMISSIONS TEST	8
3.1 Conducted Power Line Emission Limit	8
3.2 Test Setup	8
3.3 Test Procedure	8
3.4 Test Result	8
4 RADIATED EMISSION TEST	11
4.1 Radiation Limit	11
4.2 Test Setup	11
4.3 Test Procedure	12
4.4 Test Result	12
5 BAND EDGE	18
5.1 Limits	18
5.2 Test Procedure	18
5.3 Test Result	18
6 OCCUPIED BANDWIDTH MEASUREMENT	20
6.1 Test Setup	20
6.2 Test Procedure	20
6.3 Measurement Equipment Used	20
6.4 Test Result	20
7 ANTENNA REQUIREMENT	22
8 PHOTOGRAPH OF TEST	23
8.1 Radiated Emission	23
8.2 Conducted Emission	24



# **1. TEST SUMMARY**

## 1.1 TEST PROCEDURES AND RESULTS

DESCRIPTION OF TEST	RESULT
CONDUCTED EMISSIONS TEST	COMPLIANT
RADIATED EMISSION TEST	COMPLIANT
BAND EDGE	COMPLIANT
OCCUPIED BANDWIDTH MEASUREMENT	COMPLIANT
ANTENNA REQUIREMENT	COMPLIANT

## 1.2 TEST FACILITY

Test Firm	: QTC Certification & Testing Co., Ltd.
	Certificated by FCC, Registration No.: 588523
Address	2nd Floor,B1 Building,Fengyeyuan Industrial Plant, Liuxian 2st. Road,
	Xin'an Street, Bao'an District, Shenzhen, China

## 1.3 MEASUREMENT UNCERTAINTY

=	2.23dB, k=2
=	3.08dB, k=2
=	4.42dB, k=2
=	4.06dB, k=2
	= =



# 2. GENERAL INFORMATION

# 2.1 GENERAL DESCRIPTION OF EUT

Equipment	White Noise Generator				
Model Name	A6				
Serial Model	A6S, A7,A8				
Model Difference	All model's the function, software and electric circuit are the same, only with a product color and model named different. Test sample model: A6.				
FCC ID	2AGN7-A6				
Antenna Type	PCB Antenna				
Antenna Gain	0 dBi				
BT Operation frequency	2402-2480MHz				
Number of Channels	79CH				
Modulation Type	GFSK				
Power Source	N/A				
	DC5V from adapter				
Power Rating	Adapter Model:HJ-AD18-050300				
	Input:100-240vac, 50/60hz,0.7A				
	Output:DC5V 3A				



## 2.1.1 Carrier Frequency of Channels

Channel List								
Channel	Frequency	Channel	Frequency	Channel	Frequency			
	(MHz)		(MHz)		(MHz)			
00	2402	27	27 2429 54		2456			
01	2403	28	2430	55	2457			
02	2404	29	2431	56	2458			
03	2405	30	2432	57	2459			
04	2406	31	2433	58	2460			
05	2407	32	2434	59	2461			
06	2408	33	2435	60	2462			
07	2409	34	2436	61	2463			
08	2410	35	2437	62	2464			
09	2411	36	2438	63	2465			
10	10 2412		2439	64	2466			
11	11 2413		2440	65	2467			
12	2414	39	2441	66	2468			
13	2415	40	2442	67	2469			
14	2416	41	2443	68	2470			
15	2417	42	2444	69	2471			
16	2418	43	2445	70	2472			
17	2419	44	2446	71	2473			
18	2420	45	2447	72	2474			
19	2421	46	2448	73	2475			
20	2422	47	2449	74	2476			
21	2423	48	2450	75	2477			
22	2424	49	2451	76	2478			
23	2425	50	2452	77	2479			
24	2426	51	2453	78	2480			
25	2427	52	2454					
26	2428	53	2455					

2.2 Operation of EUT during testing

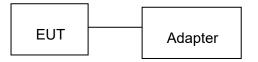
Operating Mode

The mode is used: **Transmitting mode** Low Channel: 2402MHz Middle Channel: 2441MHz

High Channel: 2480MHz

## 2.3 DESCRIPTION OF TEST SETUP

Operation of EUT during Radiation and conducted testing:





## 2.4 MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	Feb. 17, 2018
2.	LISN	SchwarzBeck	NSLK 8126	8126377	Feb. 18, 2017	Feb. 17, 2018
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Feb. 18, 2017	1 Year
4.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
5.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	Feb. 17, 2018
6.	Trilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Feb. 18, 2017	Feb. 17, 2018
7.	Pre-amplifier	Compliance Direction	PAP-0203	22008	Feb. 18, 2017	Feb. 17, 2018
8.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
9.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	Feb. 17, 2018
10.	LISN	SchwarzBeck	NSLK 8126	8126377	Feb. 18, 2017	Feb. 17, 2018
11.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Feb. 18, 2017	Feb. 17, 2018
12.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
13.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	Feb. 17, 2018
14.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	Feb. 17, 2018
15.	LISN	SchwarzBeck	NSLK 8126	8126377	Feb. 18, 2017	Feb. 17, 2018
16.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Feb. 18, 2017	Feb. 17, 2018
17.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
18.	Power Meter	R&S	NRVD	SEL0069	Feb. 18, 2017	Feb. 17, 2018
19.	Power Sensor	R&S	URV5-Z2	SEL0071	Feb. 18, 2017	Feb. 17, 2018
20.	Power Sensor	R&S	URV5-Z2	SEL0072	Feb. 18, 2017	Feb. 17, 2018
21.	Software EMC32	R&S	EMC32-S	SEL0082	N/A	N/A
22.	Log-periodic Antenna	Amplifier Reasearch	APT1.580	SEL0073	Feb. 18, 2017	Feb. 17, 2018
23.	Loop Antenna	Schwarz beck	FMZB 1516	9773	Feb. 18, 2017	Feb. 17, 2018
24.	Broadband Antenna	Schwarz beck	VULB9163	9163-333	Feb. 18, 2017	Feb. 17, 2018
25.	Horn Antenna	ETS	3117	00086197	Feb. 18, 2017	Feb. 17, 2018
26.	Horn Antenna	Schwarzbeck	BBHA9170	BBHA91705 82	Feb. 18, 2017	Feb. 17, 2018
27.	Antenna Tripod	Amplifier Reasearch	TP1000A	SEL0074	Feb. 18, 2017	Feb. 17, 2018
28.	High Gain Horn Antenna	Amplifier Reasearch	AT4002A	SEL0075	Feb. 18, 2017	Feb. 17, 2018
29.	Spectrum analyzer	Agilent	N9020A	MY49911004 8	Feb. 18, 2017	Feb. 17, 2018
30.	Spectrum analyzer	Agilent	E4407B	MY46184326	Feb. 18, 2017	Feb. 17, 2018
31.	Spectrum analyzer	R&S	FSP30	836079/035	Feb. 18, 2017	Feb. 17, 2018

# 3. CONDUCTED EMISSIONS TEST

#### 3.1 Conducted Power Line Emission Limit

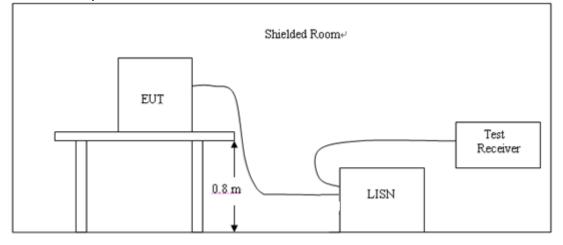
For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following

Eroguopov	IV	Maximum RF Line Voltage (dBµV)						
Frequency (MHz)	CLA	SS A	CLASS B					
(11112)	Q.P.	Ave.	Q.P.	Ave.				
0.15 - 0.50	79	66	66-56*	56-46*				
0.50 - 5.00	73	60	56	46				
5.00 - 30.0	73	60	60	50				

\* Decreasing linearly with the logarithm of the frequency

For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

#### 3.2 Test Setup



#### 3.3 Test Procedure

- 1, The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.1 meters is used and is placed on the ground plane as per ANSI C63.10.
- 2, Support equipment, if needed, was placed as per ANSI C63.10.
- 3, All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4, If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5, All support equipments received AC power from a second LISN, if any.
- 6, The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7, Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

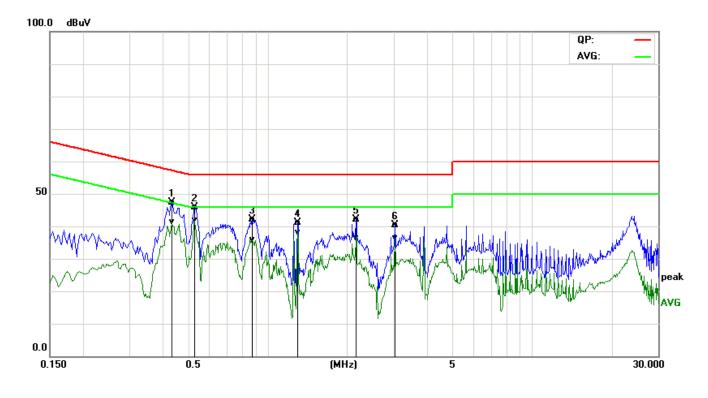
#### 3.4 Test Result

PASS

All the test modes completed for test. The worst case of Conducted Emission is CH 2402; the test data of this mode was reported.

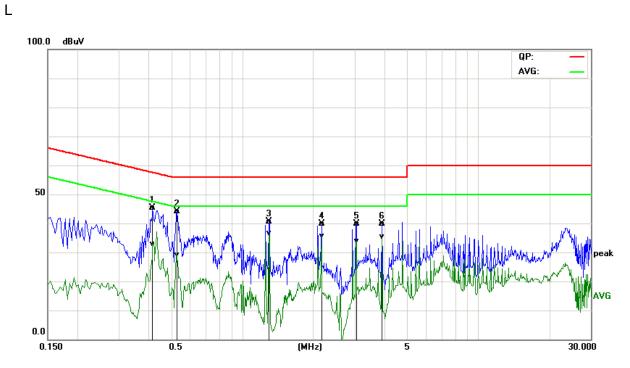


Ν



No.	Frequency	QuasiPeak 	Average	Correction	QuasiPeak	Average	QuasiPeak	Average	QuasiPeak	Average	Remark
		reading	reading	factor	result	result	limit	limit	margin	margin	
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.4340	47.22	41.24	0.09	47.31	41.33	57.18	47.18	-9.87	-5.85	Pass
2*	0.5299	45.91	41.74	0.09	46.00	41.83	56.00	46.00	-10.00	-4.17	Pass
3	0.8740	41.90	35.70	0.11	42.01	35.81	56.00	46.00	-13.99	-10.19	Pass
4	1.3020	41.13	37.96	0.10	41.23	38.06	56.00	46.00	-14.77	-7.94	Pass
5	2.1660	41.95	36.15	0.15	42.10	36.30	56.00	46.00	-13.90	-9.70	Pass
6	3.0340	40.27	36.25	0.21	40.48	36.46	56.00	46.00	-15.52	-9.54	Pass





No.	Frequency	QuasiPeak reading	<b>Average</b> reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
		reading	reading	lactor	result	result	mmu	mmt	margin	margin	
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.4180	45.28	32.77	0.09	45.37	32.86	57.49	47.49	-12.12	-14.63	Pass
2	0.5299	44.10	29.15	0.09	44.19	29.24	56.00	46.00	-11.81	-16.76	Pass
3*	1.3020	40.63	36.54	0.10	40.73	36.64	56.00	46.00	-15.27	-9.36	Pass
4	2.1700	39.65	35.38	0.15	39.80	35.53	56.00	46.00	-16.20	-10.47	Pass
5	3.0420	39.54	33.77	0.22	39.76	33.99	56.00	46.00	-16.24	-12.01	Pass
6	3.9100	39.69	35.19	0.25	39.94	35.44	56.00	46.00	-16.06	-10.56	Pass



# **4 RADIATED EMISSION TEST**

#### 4.1 Radiation Limit

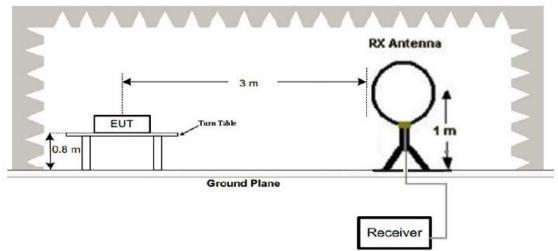
For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance (Meters)	Radiated (dBµV/m)	Radiated (µV/m)
30-88	3	40	100
88-216	3	43.5	150
216-960	3	46	200
Above 960	3	54	500

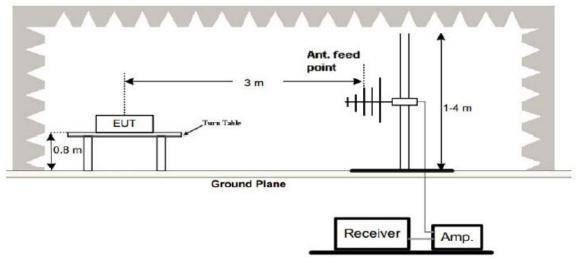
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

## 4.2 Test Setup

(1) Radiated Emission Test-Up Frequency Below 30MHz

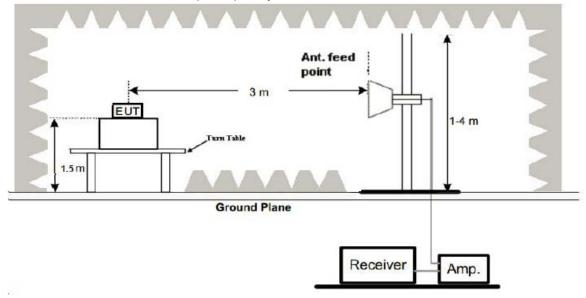


## (2) Radiated Emission Test-Up Frequency 30MHz~1GHz





(3) Radiated Emission Test-Up Frequency Above 1GHz



- 4.3 Test Procedure
  - 1. Below 1GHz measurement the EUT is placed on turntable which is 0.1m above ground plane. And above 1GHz measurement EUT was placed on low permittivity and low tangent turn table which is 1.5m above ground plane.
  - 2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
  - 3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
  - 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
  - 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
  - 6. Repeat above procedures until the measurements for all frequencies are complete.
  - 7. The test frequency range from 9KHz to 25GHz per FCC PART 15.33(a).

Note:

For battery operated equipment, the equipment tests shall be performed using a new battery.

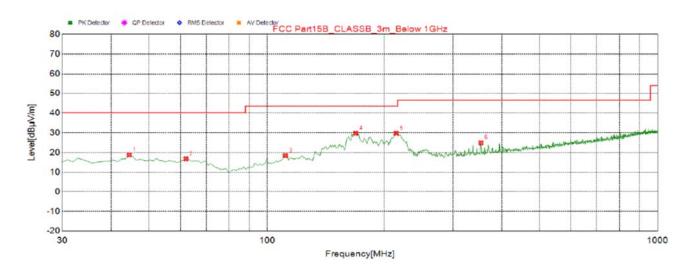
#### 4.4 Test Result

PASS

All the test modes completed for test. The worst case of Radiated Emission is CH 2402; the test data of this mode was reported.



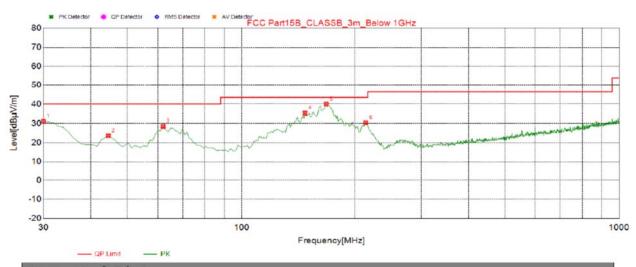
#### Below 1GHz Test Results: Antenna polarity: H



	- QP Limit	— РК							
Suspected List									
NO.	Freq. [MHz]	Result Level [dBµV]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle[°]	Polarity	
1	44.550	18.89	-13.98	40.00	21.11	100	334	Horizontal	
2	62.010	16.89	-16.16	40.00	23.11	100	33	Horizontal	
3	111.48	18.55	-16.25	43.50	24.95	100	89	Horizontal	
4	168.71	29.81	-18.15	43.50	13.69	100	128	Horizontal	
5	214.30	29.84	-14.99	43.50	13.66	100	114	Horizontal	
6	353.01	25.06	-11.34	46.50	21.44	100	54	Horizontal	



#### Antenna polarity: V



NO.	Freq.	Result Level [dBuV]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle[°]	Polarity
1	30.000	31.18	-16.22	40.00	8.82	100	152	Vertical
2	44.550	23.78	-13.98	40.00	16.22	100	12	Vertical
3	62.010	28.54	-16.16	40.00	11.46	100	192	Vertical
4	147.37	35.29	-19.20	43.50	8.21	100	201	Vertical
5	167.74	40.02	-18.20	43.50	3.48	100	337	Vertical
6	213.33	30.46	-15.02	43.50	13.04	100	209	Vertical

#### Remark:

(1) Measuring frequencies from 9 KHz to the 1 GHz, Radiated emission test from 9KHz to 30MHz was verified, and no any emission was found except system noise floor.

(2) \* denotes emission frequency which appearing within the Restricted Bands specified in

provision of 15.205, then the general radiated emission limits in 15.209 apply.

(3) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.



Above 1 GHz Test Results:

CH Low (2402MHz) Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	_			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type			
2402	112.24	-5.84	106.4	114	-7.6	peak			
2402	82.16	-5.84	76.32	94	-17.68	AVG			
4804	59.21	-3.64	55.57	74	-18.43	peak			
4804	42.17	-3.64	38.53	54	-15.47	AVG			
7206	54.82	-0.95	53.87	74	-20.13	peak			
7206	41.24	-0.95	40.29	54	-13.71	AVG			
Remark: Facto	or = Antenna Fac	ctor + Cable Lo	ss – Pre-amplifier						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin				
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type			
2402	111.29	-5.84	105.45	114	-8.55	peak			
2402	83.17	-5.84	77.33	94	-16.67	AVG			
4804	52.11	-3.64	48.47	74	-25.53	peak			
4804	43.65	-3.64	40.01	54	-13.99	AVG			
7206	54.27	-0.95	53.32	74	-20.68	peak			
7206	37.37	-0.95	36.42	54	-17.58	AVG			
Remark: Facto	or = Antenna Fac	tor + Cable Lo	ss – Pre-amplifier						



CH Middle (2441MHz) Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin				
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type			
2441	108.26	-5.71	102.55	114	-11.45	peak			
2441	85.13	-5.71	79.42	94	-14.58	AVG			
4882	56.65	-3.51	53.14	74	-20.86	peak			
4882	44.23	-3.51	40.72	54	-13.28	AVG			
7323	53.19	-0.82	52.37	74	-21.63	peak			
7323	36.38	-0.82	35.56	54	-18.44	AVG			
Remark: Facto	or = Antenna Fac	tor + Cable Lo	oss – Pre-amplifier						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2441	106.22	-5.71	100.51	114	-13.49	peak
2441	83.33	-5.71	77.62	94	-16.38	AVG
4882	55.29	-3.51	51.78	74	-22.22	peak
4882	46.24	-3.51	42.73	54	-11.27	AVG
7323	52.19	-0.82	51.37	74	-22.63	peak
7323	37.08	-0.82	36.26	54	-17.74	AVG
Remark: Facto	or = Antenna Fac	tor + Cable Lo	oss – Pre-amplifier			



## CH High (2480MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре			
2480	106.08	-5.65	100.43	114	-13.57	peak			
2480	82.25	-5.65	76.6	94	-17.4	AVG			
4960	56.19	-3.43	52.76	74	-21.24	peak			
4960	44.27	-3.43	40.84	54	-13.16	AVG			
7440	54.07	-0.75	53.32	74	-20.68	peak			
7440	36.92	-0.75	36.17	54	-17.83	AVG			
Remark: Facto	or = Antenna Fac	tor + Cable Lo	oss – Pre-amplifier		-				

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2480	105.34	-5.65	99.69	114	-14.31	peak
2480	81.24	-5.65	75.59	94	-18.41	AVG
4960	53.19	-3.43	49.76	74	-24.24	peak
4960	42.18	-3.43	38.75	54	-15.25	AVG
7440	53.97	-0.75	53.22	74	-20.78	peak
7440	38.35	-0.75	37.6	54	-16.4	AVG

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

#### Remark:

(1) Measuring frequencies from 1 GHz to the 25 GHz  $_{\circ}$ 

(2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.

(3) \* denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.

(4) 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.

(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.

(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.



## 5 BAND EDGE

#### 5.1 Limits

FCC PART 15.249(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

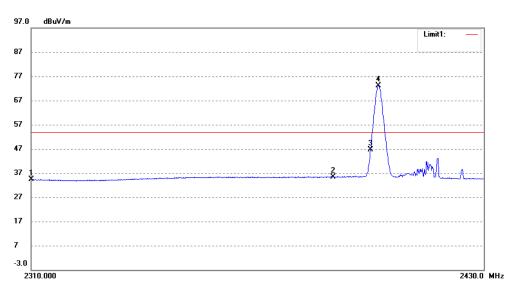
#### 5.2 Test Procedure

The band edge compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW to 100KHz and VBM to 300KHz to measure the peak field strength and set RBW to 1MHz and VBW to 10Hz to measure the average radiated field strength. The conducted RF band edge was measured by using a spectrum analyzer. Set span wide enough to capture the highest in-band emission and the emission at the band edge. Set RBW to 100 KHz and VBW to 300 KHz, to measure the conducted peak band edge.

#### 5.3 Test Result

#### PASS

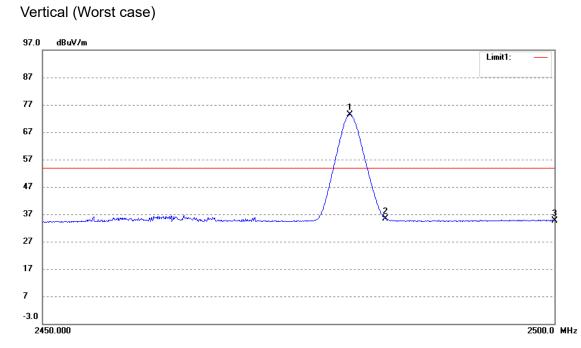
Radiated Band Edge Test: Operation Mode: TX CH Low (2402MHz) Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.00	35.41	-1.00	34.41	54.00	-19.59	Average Detector
	2310.00	48.89	-1.00	47.89	74.00	-26.11	Peak Detector
2	2390.00	36.28	-0.88	35.40	54.00	-18.60	Average Detector
	2390.00	48.00	-0.88	47.12	74.00	-26.88	Peak Detector
3	2400.00	47.56	-0.86	46.70	54.00	-7.30	Average Detector
	2400.00	52.22	-0.86	51.36	74.00	-22.64	Peak Detector
4	2402.04	74.02	-0.86	73.16	/	/	Average Detector
	2402.04	73.86	-0.86	73.00	/	/	Peak Detector



# Operation Mode: TX CH High (2480MHz)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2480.00	74.05	-0.73	73.32	/	/	Average Detector
	2480.00	74.77	-0.73	74.04	/	/	Peak Detector
2	2483.50	36.16	-0.73	35.43	54.00	-18.57	Average Detector
	2483.50	47.81	-0.73	47.08	74.00	-26.92	Peak Detector
3	2500.00	35.42	-0.70	34.72	54.00	-19.28	Average Detector
	2500.00	48.14	-0.70	47.44	74.00	-26.56	Peak Detector



## 6 OCCUPIED BANDWIDTH MEASUREMENT

6.1 Test Setup

Same as Radiated Emission Measurement

- 6.2 Test Procedure
  - 1. The EUT was placed on a turn table which is 0.8m above ground plane.
  - 2. Set EUT as normal operation.
  - 3. Based on FCC Part15 C Section 15.249(a): RBW= 100KHz. VBW= 300 KHz, Span=3MHz.
  - 4. The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector.

#### 6.3 Measurement Equipment Used

Same as Radiated Emission Measurement

#### 6.4 Test Result

#### PASS

Frequency	20dB Bandwidth (MHz)	Result
2402 MHz	3.083	PASS
2441 MHz	2.314	PASS
2480 MHz	2.400	PASS

#### CH: 2402MHz





#### CH: 2441MHz

* Agilent	Meas Setup
Ch Freq 2.441 GHz Trig Free Occupied Bandwidth	Avg Number 10 On <u>Off</u>
Center 2.441000000 GHz	Avg Mode
Ref 0 dBm Atten 10 dB	<u>Exp</u> Repeat
#Peak	Max Hold On Off
	<u>On</u> 0tt
	0cc BW % Pwr 99.00 %
	OBW Span
Center 2.441 GHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)	10.0000000 MHz
Оссирied Bandwidth Осс вм % Рыг 99.00 % 2.2570 MHz × dB -20.00 dB	<b>x dB</b> -20.00 dB
Transmit Freq Error 52.755 kHz x dB Bandwidth 2.314 MHz	Optimize Ref Level

## CH: 2480MHz

* Agilent	Meas Setup
Ch Freq 2.48 GHz Trig Free Occupied Bandwidth	Avg Number 10
Center 2.480000000 GHz	On Off Avg Mode
Ref 0 dBm Atten 10 dB #Peak	Exp Repeat
	Max Hold On Off
	Occ BW % Pwr 99.00 %
Center 2.48 GHz Span 10 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)	<b>OBW Span</b> 10.0000000 MHz
Occupied Bandwidth         Осс ВМ % Рыг         99.00 %           2.3603 MHz         × dB         -20.00 dB	<b>x dB</b> -20.00 dB
Transmit Freq Error 72.789 kHz x dB Bandwidth 2.400 MHz	Optimize Ref Level



# 7 ANTENNA REQUIREMENT

#### **Standard Applicable**

For intentional device, according to FCC 47 CFR Section 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. And according to FCC 47 CFR Section 15.249, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

#### Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

#### Antenna Connected Construction

The antenna used in this product is a PCB Antenna, The directional gains of antenna used for transmitting is 0dBi.

#### **ANTENNA**

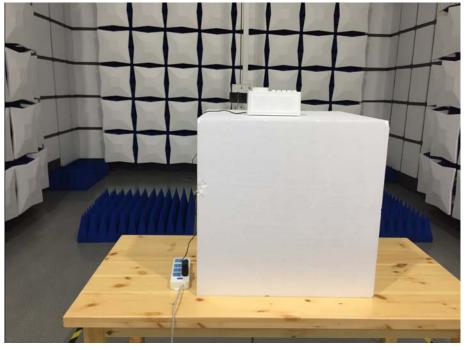




# 8 PHOTOGRAPH OF TEST

# 8.1 Radiated Emission







# 8.2 Conducted Emission

