

# Global United Technology Services Co., Ltd.

Report No.: GTS201803000219F02

# **FCC REPORT**

**AOC Applicant:** 

**Address of Applicant:** 14F-5, No. 258, Liancheng Rd., Zhonghe Dist., New Taipei City

23511, Taiwan

Manufacturer: **AOC** 

14F-5, No. 258, Liancheng Rd., Zhonghe Dist., New Taipei City Address of

23511, Taiwan Manufacturer:

**Equipment Under Test (EUT)** 

**Product Name:** Tablet PC

Model No.: A941 Trade Mark: **AOC** 

FCC ID: 2AEB5-A941

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart C Section 15.249

Date of sample receipt: March 19, 2018

Date of Test: March 20, 2018-April 08, 2018

April 08, 2018 Date of report issued:

Test Result: PASS \*

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

Authorized Signature:

Robinson Lo **Laboratory Manager** 

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.



## 2 Version

Version No.	Date	Description
00	April 08, 2018	Original

Prepared By:	Tizor Cha	Date:	April 08, 2018	
	Project Engineer			
Check By:	Andy w	Date:	April 08, 2018	
	Reviewer			



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# 4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
AC Power Line Conducted Emission	15.207	Pass
Field strength of the fundamental signal	15.249 (a)	Pass
Spurious emissions	15.249 (a) (d)/15.209	Pass
Band edge	15.249 (d)/15.205	Pass
20dB Occupied Bandwidth	15.215 (c)	Pass

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

Remark: Test according to ANSI C63.10: 2013 and ANSI C63.4: 2014.

# 4.1 Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes		
Radiated Emission	9kHz ~ 30MHz	± 4.34dB	(1)		
Radiated Emission	30MHz ~ 1000MHz	± 4.24dB	(1)		
Radiated Emission	1GHz ~ 26.5GHz	± 4.68dB	(1)		
AC Power Line Conducted Emission 0.15MHz ~ 30MHz ± 3.45dB (1)					
Note (1): The measurement unce	ertainty is for coverage factor of k	=2 and a level of confidence of 9	95%.		



# **5** General Information

# 5.1 General Description of EUT

•	
Product Name:	Tablet PC
Model No.:	A941
Serial No.:	2000377596056
Test sample(s) ID:	GTS201803000219-1
Sample(s) Status	Engineered sample
Hardware:	TH900-BT-V4.0
Software:	A941-2018
Operation Frequency:	2402MHz~2480MHz
Channel numbers:	40
Channel separation:	2MHz
Modulation type:	GFSK
Antenna Type:	FPC antenna
Antenna gain:	2.0 dBi(declare by Applicant)
Power supply:	Adapter:
	Model:JHD-AP013U-050200BA-A
	Input: AC 100-240V, 50/60Hz, 0.35A
	Output: DC 5V, 2000mA
	Or
	Battery: DC 3.7V, 4000mAh, 14.8Wh



Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2402MHz	11	2422MHz	21	2442MHz	31	2462MHz
2	2404MHz	12	2424MHz	22	2444MHz	32	2464MHz
•			. !	·	•		• !
9	2418MHz	19	2438MHz	29	2458MHz	39	2478MHz
10	2420MHz	20	2440MHz	30	2460MHz	40	2480MHz

## 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:

Channel	Frequency
The lowest channel	2402MHz
The middle channel	2440MHz
The Highest channel	2480MHz



## 5.2 Test mode

Transmitting mode Keep the EUT in continuously transmitting mode.

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.

## Per-test mode.

We have verified the construction and function in typical operation, The EUT was placed on three different polar directions; i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:

Axis	Х	Υ	Z
Field Strength(dBuV/m)	86.47	87.64	85.36

## 5.3 Description of Support Units

<del>_</del>			
Manufacturer	Description	Model	Serial Number
APPLE	PC	A1278	C1MN99ERDTY3

## 5.4 Test Facility

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

## • FCC —Registration No.: 381383

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fuly described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383, January 08, 2018.

## • Industry Canada (IC) —Registration No.: 9079A-2

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2, August 15, 2016

## 5.5 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: No. 301-309, 3/F., Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480 Fax: 0755-27798960

Telephone: +86 (0) 755 2779 8480 Fax: +86 (0) 755 2779 8960



## 5.6 Additional instructions

Software (Used for test) from client

Mode	The engineered command was supplied by manufacture, setting transmitting
	frequency and power level in CMD window.

Power level setup in software					
Test Software Name	CMD window				
Mode	Channel	Frequency (MHz)	Soft Set		
05014	CH01	2402			
GFSK	CH19	2440	TX level : default		
	CH40	2480			



# 6 Test Instruments list

Radi	iated Emission:					
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July 03 2015	July 02 2020
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June 28 2017	June 27 2018
4	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June 28 2017	June 27 2018
5	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June 28 2017	June 27 2018
6	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	June 28 2017	June 27 2018
7	Horn Antenna	ETS-LINDGREN	3160	GTS217	June 28 2017	June 27 2018
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
9	Coaxial Cable	GTS	N/A	GTS213	June 28 2017	June 27 2018
10	Coaxial Cable	GTS	N/A	GTS211	June 28 2017	June 27 2018
11	Coaxial cable	GTS	N/A	GTS210	June 28 2017	June 27 2018
12	Coaxial Cable	GTS	N/A	GTS212	June 28 2017	June 27 2018
13	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June 28 2017	June 27 2018
14	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	June 28 2017	June 27 2018
15	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 28 2017	June 27 2018
16	Band filter	Amindeon	82346	GTS219	June 28 2017	June 27 2018
17	Power Meter	Anritsu	ML2495A	GTS540	June 28 2017	June 27 2018
18	Power Sensor	Anritsu	MA2411B	GTS541	June 28 2017	June 27 2018
19	Loop Antenna	Zhinan	ZN30900A	GTS215	June. 28 2017	June. 27 2018

Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May.16 2014	May.15 2019
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June 28 2017	June 27 2018
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June 28 2017	June 27 2018
4	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	June 28 2017	June 27 2018
5	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Thermo meter	KTJ	TA328	GTS233	June 28 2017	June 27 2018

Gene	General used equipment:								
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date	Cal.Due date			
1	Barometer	ChangChun	DYM3	GTS257	June 28 2017	June 27 2018			



## 7 Test results and Measurement Data

## 7.1 Antenna requirement

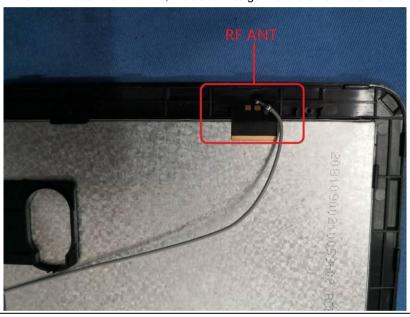
Standard requirement: FCC Part15 C Section 15.203

## 15.203 requirement:

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

#### **EUT Antenna:**

The antenna is FPC antenna, the best case gain of the antenna is 2.0 dBi





## 7.2 Conducted Emissions

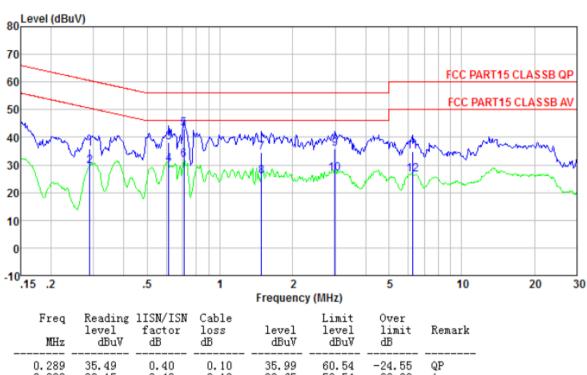
Test Requirement:	FCC Part15 C Section 15.207							
Test Method:	ANSI C63.10:2013							
Test Frequency Range:	150KHz to 30MHz							
Class / Severity:	Class B							
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto							
Limit:	- (111)	Limit (d	BuV)					
	Frequency range (MHz)	Quasi-peak	Average					
	0.15-0.5 66 to 56* 56 to 4							
	0.5-5	56	46					
	5-30	60	50					
	* Decreases with the logarithm	of the frequency.						
Test setup:	Reference Plane							
	AUX Filter AC power Equipment Under Test LISN: Line Impedence Stabilization Network Test table height=0.8m							
Test procedure:	<ol> <li>The EUT 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.</li> <li>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).</li> <li>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.</li> </ol>							
Test Instruments:	Refer to section 6.0 for details							
Test mode:	Refer to section 5.2 for details							
Test results:	Pass							

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#### Measurement data

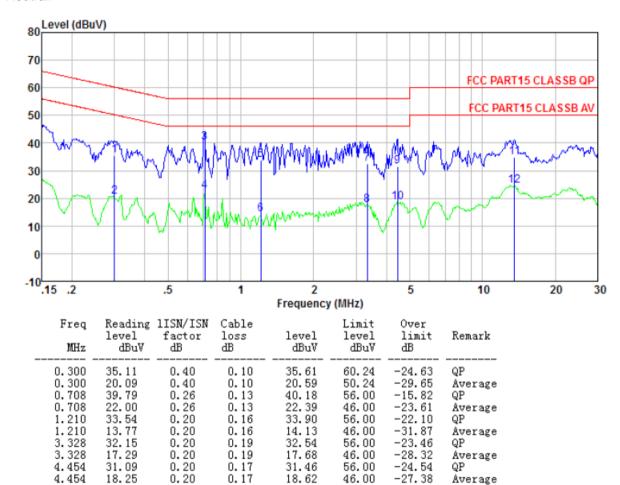
Line:



Freq MHz	Reading level dBuV	lISN/ISN factor dB	Cable loss dB	level dBuV	Limit level dBuV	Over limit dB	Remark
0.289	35.49	0.40	0.10	35.99	60.54	-24.55	QP
0.289	29.15	0.40	0.10	29.65	50.54	-20.89	Average
0.614	37.92	0.28	0.12	38.32	56.00	-17.68	QP
0.614	29.90	0.28	0.12	30.30	46.00	-15.70	Average
0.708	42.61	0.26	0.13	43.00	56.00	-13.00	QP
0.708	31.45	0.26	0.13	31.84	46.00	-14.16	Average
1.487	34.23	0.20	0.16	34.59	56.00	-21.41	QP
1.487	25.56	0.20	0.16	25.92	46.00	-20.08	Average
2.993	35.45	0.20	0.19	35.84	56.00	-20.16	QP
2.993	26.49	0.20	0.19	26.88	46.00	-19.12	Average
6.252	34.55	0.20	0.18	34.93	60.00	-25.07	QP
6.252	26.22	0.20	0.18	26.60	50.00	-23.40	Average



## Neutral:



## Notes:

13.551

13.551

34.39

23.98

1. An initial pre-scan was performed on the line and neutral lines with peak detector.

0.21

2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.

60.00

50.00

-25.20

-25.61

QP

Average

3. Final Level =Receiver Read level + LISN Factor + Cable Loss

0.20

4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

34.80

24.39

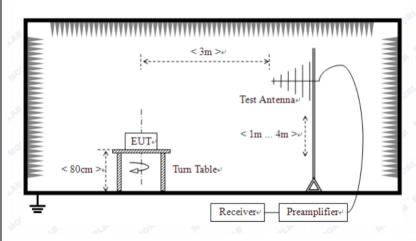
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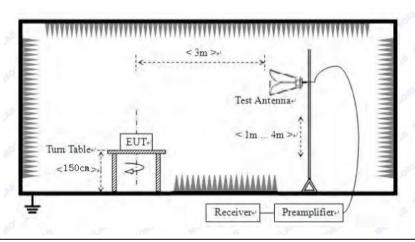
## 7.3 Radiated Emission Method

7.3	Test Deminerant	T	2	<u> </u>			
	Test Requirement:	FCC Part15 C S		9			
	Test Method:	ANSI C63.10:20					
	Test Frequency Range:	9kHz to 25GHz					
	Test site:	Measurement D	Distance: 3m				
	Receiver setup:	Frequency Detector		RBW	VBW	Remark	
		9kHz- 150kHz		200Hz	300Hz	PK /AV	
		150kHz- 30MHz	PK/AV/QF	9kHz	10kHz	PK/AV/QP	
		30MHz- 1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value	
		Above 4011	Peak	1MHz	3MHz	Peak Value	
		Above 1GHz	Peak	1MHz	10Hz	Average Value	
	Limit:	Freque	ency	Limit (dBuV	/m @3m)	Remark	
	(Field strength of the fundamental signal)	2400MHz-24	2400MHz-2483.5MHz			Average Value	
	Limit:	Freque	Frequency Limit (uV/m)				
	(Spurious Emissions)	0.009MHz-0.490MHz		2400/F(kHz) @300m		Quasi-peak Value	
	(Opanicus Emissiens)	0.490MHz-1	.705MHz	24000/F(kH	z) @30m	Quasi-peak Value	
		1.705MHz-30.0MHz		30 @3		Quasi-peak Value	
		30MHz-88MHz		100 @		Quasi-peak Value	
		88MHz-216MHz		150 @3m		Quasi-peak Value	
		216MHz-960MHz		200 @3m		Quasi-peak Value	
		960MHz-	-1GHz	500 @3m 500 @3m		Quasi-peak Value	
		Above 1	IGHz	5000 @		Average Value Peak Value	
	Limit: (band edge)	harmonics, sha	ll be attenuate to the genera	f the specified ed by at least I radiated em	frequency 50 dB belov	bands, except for v the level of the in Section 15.209,	
	Test setup:	Below 1GHz					
		Turntable EUT 0.8 m Test Receiver					





#### Above 1GHz



## Test Procedure:

- The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) 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.
- 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

## Measurement data:



# 7.3.1 Field Strength of The Fundamental Signal

## Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2402.00	88.24	27.58	5.39	34.01	87.20	114.00	-26.80	Vertical
2402.00	83.84	27.58	5.39	34.01	82.80	114.00	-31.20	Horizontal
2440.00	88.69	27.48	5.43	33.96	87.64	114.00	-26.36	Vertical
2440.00	82.91	27.48	5.43	33.96	81.86	114.00	-32.14	Horizontal
2480.00	88.19	27.52	5.47	33.92	87.26	114.00	-26.74	Vertical
2480.00	82.52	27.52	5.47	33.92	81.59	114.00	-32.41	Horizontal

## Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2402.00	78.91	27.58	5.39	34.01	77.87	94.00	-16.13	Vertical
2402.00	74.05	27.58	5.39	34.01	73.01	94.00	-20.99	Horizontal
2440.00	78.58	27.48	5.43	33.96	77.53	94.00	-16.47	Vertical
2440.00	72.26	27.48	5.43	33.96	71.21	94.00	-22.79	Horizontal
2480.00	77.53	27.52	5.47	33.92	76.60	94.00	-17.40	Vertical
2480.00	72.34	27.52	5.47	33.92	71.41	94.00	-22.59	Horizontal



## 7.3.2 Spurious emissions

## ■ Below 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), the test result no need to reported.

## ■ Below 1GHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
45.70	57.65	12.26	0.73	35.97	34.67	40.00	-5.33	Vertical
125.01	63.21	8.81	1.40	36.92	36.50	43.50	-7.00	Vertical
159.78	67.58	8.30	1.63	37.13	40.38	43.50	-3.12	Vertical
228.49	63.95	11.45	2.01	37.36	40.05	46.00	-5.95	Vertical
251.18	59.85	12.18	2.13	37.38	36.78	46.00	-9.22	Vertical
389.36	60.44	15.16	2.80	37.51	40.89	46.00	-5.11	Vertical
136.94	63.64	7.64	1.48	37.00	35.76	43.50	-7.74	Horizontal
160.35	67.48	8.31	1.63	37.14	40.28	43.50	-3.22	Horizontal
251.18	66.01	12.18	2.13	37.38	42.94	46.00	-3.06	Horizontal
297.22	62.26	13.53	2.35	37.42	40.72	46.00	-5.28	Horizontal
434.07	55.91	16.03	3.02	37.52	37.44	46.00	-8.56	Horizontal
801.79	51.90	21.40	4.46	37.62	40.14	46.00	-5.86	Horizontal



## ■ Above 1GHz

Test channel:	Lowest channel
---------------	----------------

#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4804.00	35.38	31.78	8.60	32.09	43.67	74.00	-30.33	Vertical
7206.00	30.55	36.15	11.65	32.00	46.35	74.00	-27.65	Vertical
9608.00	30.33	37.95	14.14	31.62	50.80	74.00	-23.20	Vertical
12010.00	*					74.00		Vertical
14412.00	*					74.00		Vertical
4804.00	39.28	31.78	8.60	32.09	47.57	74.00	-26.43	Horizontal
7206.00	32.14	36.15	11.65	32.00	47.94	74.00	-26.06	Horizontal
9608.00	29.57	37.95	14.14	31.62	50.04	74.00	-23.96	Horizontal
12010.00	*					74.00		Horizontal
14412.00	*					74.00		Horizontal

## Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4804.00	24.56	31.78	8.60	32.09	32.85	54.00	-21.15	Vertical
7206.00	19.46	36.15	11.65	32.00	35.26	54.00	-18.74	Vertical
9608.00	18.66	37.95	14.14	31.62	39.13	54.00	-14.87	Vertical
12010.00	*					54.00		Vertical
14412.00	*					54.00		Vertical
4804.00	28.57	31.78	8.60	32.09	36.86	54.00	-17.14	Horizontal
7206.00	21.50	36.15	11.65	32.00	37.30	54.00	-16.70	Horizontal
9608.00	18.23	37.95	14.14	31.62	38.70	54.00	-15.30	Horizontal
12010.00	*					54.00		Horizontal
14412.00	*					54.00		Horizontal

#### Remark:

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<sup>1.</sup> Final Level =Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor

<sup>2. &</sup>quot;\*", means this data is the too weak instrument of signal is unable to test.



Test channel	:			Mie	ddle			
Peak value:				<u> </u>				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4880.00	36.52	31.85	8.67	32.12	44.92	74.00	-29.08	Vertical
7320.00	31.31	36.37	11.72	31.89	47.51	74.00	-26.49	Vertical
9760.00	31.01	38.35	14.25	31.62	51.99	74.00	-22.01	Vertical
12200.00	*					74.00		Vertical
14640.00	*					74.00		Vertical
4880.00	40.65	31.85	8.67	32.12	49.05	74.00	-24.95	Horizontal
7320.00	33.00	36.37	11.72	31.89	49.20	74.00	-24.80	Horizontal
9760.00	30.35	38.35	14.25	31.62	51.33	74.00	-22.67	Horizontal
12200.00	*					74.00		Horizontal
14640.00	*					74.00		Horizontal
Average val	ue:							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4880.00	25.49	31.85	8.67	32.12	33.89	54.00	-20.11	Vertical
7320.00	20.09	36.37	11.72	31.89	36.29	54.00	-17.71	Vertical
9760.00	19.22	38.35	14.25	31.62	40.20	54.00	-13.80	Vertical
12200.00	*					54.00		Vertical
14640.00	*					54.00		Vertical
4880.00	29.63	31.85	8.67	32.12	38.03	54.00	-15.97	Horizontal
7320.00	22.21	36.37	11.72	31.89	38.41	54.00	-15.59	Horizontal
9760.00	18.88	38.35	14.25	31.62	39.86	54.00	-14.14	Horizontal
12200.00	*					54.00		Horizontal
14640.00	*					54.00		Horizontal

## Remark:

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<sup>1.</sup> Final Level =Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor

<sup>2. &</sup>quot;\*", means this data is the too weak instrument of signal is unable to test.



Test channel	Test channel: Highest								
Peak value:	Peak value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization	
4960.00	36.09	31.93	8.73	32.16	44.59	74.00	-29.41	Vertical	
7440.00	31.03	36.59	11.79	31.78	47.63	74.00	-26.37	Vertical	
9920.00	30.75	38.81	14.38	31.88	52.06	74.00	-21.94	Vertical	
12400.00	*					74.00		Vertical	
14880.00	*					74.00		Vertical	
4960.00	40.13	31.93	8.73	32.16	48.63	74.00	-25.37	Horizontal	
7440.00	32.67	36.59	11.79	31.78	49.27	74.00	-24.73	Horizontal	
9920.00	30.06	38.81	14.38	31.88	51.37	74.00	-22.63	Horizontal	
12400.00	*					74.00		Horizontal	
14880.00	*					74.00		Horizontal	
Average val	ue:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization	
4960.00	25.19	31.93	8.73	32.16	33.69	54.00	-20.31	Vertical	
7440.00	19.88	36.59	11.79	31.78	36.48	54.00	-17.52	Vertical	
9920.00	19.03	38.81	14.38	31.88	40.34	54.00	-13.66	Vertical	
12400.00	*					54.00		Vertical	
14880.00	*					54.00		Vertical	
4960.00	29.29	31.93	8.73	32.16	37.79	54.00	-16.21	Horizontal	
7440.00	21.98	36.59	11.79	31.78	38.58	54.00	-15.42	Horizontal	
9920.00	18.67	38.81	14.38	31.88	39.98	54.00	-14.02	Horizontal	
12400.00	*					54.00		Horizontal	
1	I	1	1	1	I	1	I	1	

## Remark:

14880.00

- 1. Final Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. "\*", means this data is the too weak instrument of signal is unable to test.
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Horizontal

54.00



## 7.3.3 Bandedge emissions

All of the restriction bands were tested, and only the data of worst case was exhibited.

Test channe	el: Lowest channel							
Peak value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	45.06	27.91	5.30	24.64	53.63	74.00	-20.37	Horizontal
2390.00	52.16	27.59	5.38	24.71	60.42	74.00	-13.58	Horizontal
2310.00	45.81	27.91	5.30	24.64	54.38	74.00	-19.62	Vertical
2390.00	53.43	27.59	5.38	24.71	61.69	74.00	-12.31	Vertical
Average value:								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	35.11	27.91	5.30	24.64	43.68	54.00	-10.32	Horizontal
2390.00	36.48	27.59	5.38	24.71	44.74	54.00	-9.26	Horizontal
2310.00	35.21	27.91	5.30	24.64	43.78	54.00	-10.22	Vertical
	37.34	27.59	5.38	24.71	45.60	54.00	-8.40	Vertical

Test channel:	Highest	channel

## Peak value:

Tour varao.								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	47.42	27.53	5.47	24.80	55.62	74.00	-18.38	Horizontal
2500.00	46.18	27.55	5.49	24.86	54.36	74.00	-19.64	Horizontal
2483.50	48.63	27.53	5.47	24.80	56.83	74.00	-17.17	Vertical
2500.00	47.38	27.55	5.49	24.86	55.56	74.00	-18.44	Vertical

#### Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	34.97	27.53	5.47	24.80	43.17	54.00	-10.83	Horizontal
2500.00	35.66	27.55	5.49	24.86	43.84	54.00	-10.16	Horizontal
2483.50	34.36	27.53	5.47	24.80	42.56	54.00	-11.44	Vertical
2500.00	35.76	27.55	5.49	24.86	43.94	54.00	-10.06	Vertical

#### Remark:

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<sup>1.</sup> Final Level = Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor



# 7.4 20dB Occupy Bandwidth

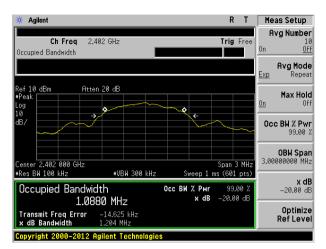
Test Requirement:	FCC Part15 C Section 15.249/15.215					
Test Method:	ANSI C63.10:2013					
Limit:	Operation Frequency range 2400MHz~2483.5MHz					
Test setup:	Spectrum Analyzer  E.U.T  Non-Conducted Table  Ground Reference Plane					
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	Pass					

## **Measurement Data**

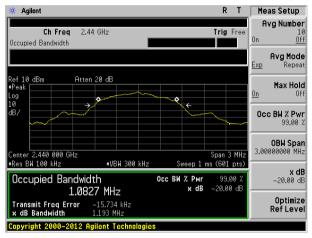
Test channel	20dB bandwidth(MHz)	Result
Lowest	1.204	Pass
Middle	1.193	Pass
Highest	1.191	Pass

Test plot as follows:

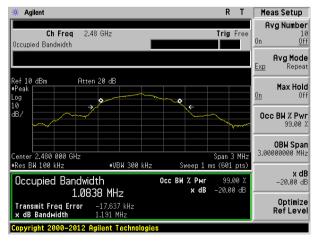




#### Lowest channel



#### Middle channel

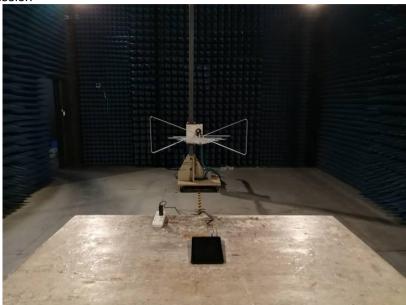


Highest channel



# 8 Test Setup Photo

Radiated Emission







Conducted Emission



# 9 EUT Constructional Details

Reference to the test report No.: GTS201803000219F01

-----End-----