

# FCC PART 15C TEST REPORT FOR CERTIFICATION On Behalf of

BYD Precision Manufacture Co., Ltd.

Tablet PC

Model Number: WT7-C

Brand Name	Model No.
TOSHIBA	WT7-C

FCC ID: ZW9-PDW0E

Prepared for: BYD Precision Manufacture Co., Ltd.

No.3001, Baohe Road, Baolong Industrial, Longgang,

Shenzhen, P. R., China

Prepared By: Audix Technology (Shenzhen) Co., Ltd.

No. 6, Ke Feng Rd., 52 Block, Shenzhen Science & Industrial Park, Nantou, Shenzhen, Guangdong, China

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Report Number : ACS-F14218

Date of Test : Apr.06~Jul.01, 2014

Date of Report : Jul.21, 2014



#### FCC ID:ZW9-PDW0E

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FCC ID: ZW9-PDW0E

#### TEST REPORT CERTIFICATION

Applicant : BYD Precision Manufacture Co., Ltd.

Manufacturer : TOSHIBA CORPORATION

EUT Description : Tablet PC

FCC ID : ZW9-PDW0E

(A) MODEL NO.& : Brand Name Model No.
BRAND NAME TOSHIBA WT7-C

(B) SERIAL NO. : N/A

(C) POWER SUPPLY: 100-240V, 50-60Hz

(D) TEST VOLTAGE: DC 5V From Adapter Input AC 120V/60Hz

Tested for comply with:

FCC Rules and Regulations Part 15 Subpart C: 2013

Test procedure used: ANSI C63.10:2009

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. to confirm comply with all the FCC Part 15 Subpart C requirements. The test results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these tests. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC and IC requirements. This report contains data that are not covered by the NVLAP accreditation.

This Report is made under FCC Part 2.1075. No modifications were required during testing to bring this product into compliance.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test: Apr.06~Jul.01, 2014 Report of date: Jul.21, 2014

Prepared by: Johna L.

Selina Liu / Supervisod X

Audix Technology (Shenzhen) Co., Ltd. Assistant Manager

EMC部門報告専用章

Stamp only for EMC Dept. Report

Signature: David 7 ln 7,2

Approved & Authorized Signer:

David Jin / Manager

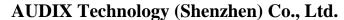


## 1. SUMMARY OF STANDARDS AND RESULTS

## 1.1.Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION					
Description of Test Item	Standard	Results			
Power Line Conducted Emission Test	FCC Part 15: 15.207 ANSI C63.10 :2009	PASS			
Radiated Emission Test	FCC Part 15: 15.209 FCC Part 15: 15.247(d) ANSI C63.10 :2009	PASS			
Conducted Spurious Emissions	FCC Part 15: 15.247(a)(1) ANSI C63.10 :2009	PASS			
Carrier Frequency Separation Test	FCC Part 15: 15.247(a)(1) ANSI C63.10 :2009	PASS			
20dB Bandwidth Test	FCC Part 15: 15.215 ANSI C63.10 :2009	PASS			
Number Of Hopping Frequency Test	FCC Part 15: 15.247(a)(1)(iii) ANSI C63.10:2009	PASS			
Dwell Time Test	FCC Part 15: 15.247(a)(1)(iii) ANSI C63.10 :2009	PASS			
Maximum Peak Output Power Test	FCC Part 15: 15.247(b)(1)\ ANSI C63.10 :2009	PASS			
Band Edge Compliance Test	FCC Part 15: 15.247(d) ANSI C63.10 :2009	PASS			





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#### 2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Product Name : Tablet PC

Model Number& Brand Name

Brand Name	Model No.
TOSHIBA	WT7-C

FCC ID : ZW9-PDW0E

Radio Bluetooth V3.0+EDR; IEEE 802.11b/g/n

Bluetooth V4.0

IEEE 802.11b: 2412MHz—2462MHz IEEE 802.11g: 2412MHz—2462MHz

Operation Frequency : IEEE802.11nHT20: 2412MHz—2462MHz

IEEE802.11nHT40: 2422MHz—2452MHz

Bluetooth: 2402-2480MHz

IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels,

IEEE 802.11n HT40: 7 Channels

Channel Number : Bluetooth V3.0+EDR:79

Bluetooth V4.0: 40

IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK)

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

Modulation Technology : IEEE 802.11n HT20/ HT40: OFDM (64QAM, 16QAM,

' QPSK,BPSK)

Bluetooth V3.0+EDR: GFSK, /4DQPSK, 8DPSK

Bluetooth V4.0: GFSK

Antenna Assembly Gain: IFA, 2.68dBi PK Gain

Applicant : BYD Precision Manufacture Co., Ltd.

No.3001, Baohe Road, Baolong Industrial, Longgang, Shenzhen,

P. R., China

Manufacturer : TOSHIBA CORPORATION

1-1, Shibaura 1-Chome, Minato-ku, Tokyo, Japan

Power Adapter : Manufacturer: Meic Model No.: MN-A208-L120

USB Cable : Shielded, Detachable, 900mm

Date of Test : Apr.06~Jul.01, 2014

Date of Receipt : Apr.04, 2014

Sample Type : Prototype production



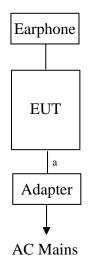
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2.2. Tested Supporting System Details

No.	Description	ACS No.	Manufacturer	Model	Serial Number	Approved type
1	1. Headphone	ACS-EMC-EP01	OVANN	OV880V	N/A	□FCC ID □BSMI ID
1.	•	Cable: Shielded, Und	letachabled, 4.	Om		

## 2.3. Block Diagram of connection between EUT and simulators



a: USB Cable

(EUT: Tablet PC)



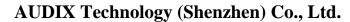
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#### 2.4. Test information

The test software "bluesuite.exe" was used to control EUT work in Continuous TX mode, and select test channel.

Tested mode, channel, and data rate information							
Mode	Mode data rate (Mbps) Channel Frequence (MHz)						
Tx Mode	1	Low :CH 0	2402				
GFSK	1	Middle: CH39	2441				
modulation	1	High: CH78	2480				
Tx Mode	3	Low:CH 0	2402				
8-DPSK	3	Middle: CH39	2441				
modulation	3	High: CH78	2480				

Note:  $\pi/4DQPSK$  modulation is same type modulation with 8-DPSK, and according exploratory test, 8-DPSK will have worse emissions, so the final test were only performed with GFSK and 8-DPSK modulation.





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2.5. Test Facility Site Description

Audix Technology (Shenzhen) Co., Ltd.

No. 6, Ke Feng Rd., 52 Block, Shenzhen Science & Industrial Park, Nantou, Shenzhen, Name of Firm

Guangdong, China

Certificated by FCC, USA

Registration Number: 90454 3m Anechoic Chamber

Valid Date: Feb.22, 2015

Certificated by FCC, USA

Registration Number: 794232 3m & 10m Anechoic Chamber

Valid Date: Oct.31, 2015

Certificated by Industry Canada Registration Number: IC 5183A-1 EMC Lab.

Valid Date: May.14, 2017

Certificated by DAkkS, Germany

Registration No: D-PL-12151-01-00

Valid Date: Dec.15, 2016

Accredited by NVLAP, USA

NVLAP Code: 200372-0 Valid Date: Mar.31, 2015

2.6. Measurement Uncertainty (95% confidence levels, k=2)

Test Item	Uncertainty			
Uncertainty for Conduction emission test in No. 1 Conduction	3.10dB (150KHz to 30MHz)			
	3.22 dB(30~200MHz, Polarize: H)			
Uncertainty for Radiation Emission test	3.23 dB(30~200MHz, Polarize: V)			
in 3m chamber	3.49 dB(200M~1GHz, Polarize: H)			
	3.39 dB(200M~1GHz, Polarize: V)			
Uncertainty for Radiation Emission test in	4.97 dB (1~6GHz, Distance: 3m)			
3m chamber (1GHz-18GHz)	4.99 dB (6~18GHz, Distance: 3m)			
Uncertainty for Radiated Spurious	3.57 dB			
Emission test in RF chamber	3.37 dD			
Uncertainty for Conduction Spurious	2.00 dB			
emission test	2.00 db			
Uncertainty for Output power test	0.73 dB			
Uncertainty for Bandwidth test	83 kHz			
Uncertainty for DC power test	0.038 %			
Uncertainty for test site temperature and	0.6			
humidity	3%			

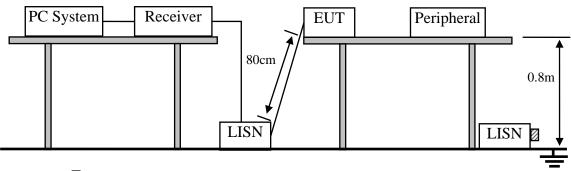


## 3. POWER LINE CONDUCTED EMISSION MEASUREMENT

3.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	1# Shielding Room	AUDIX	N/A	N/A	Apr.17,14	1 Year
2.	Test Receiver	Rohde & Schwarz	ESHS10	838693/001	Oct.31, 13	1 Year
3.	L.I.S.N.#1	Rohde & Schwarz	ESH2-Z5	100429	Jan.22, 14	1 Year
4.	L.I.S.N.#3	Kyoritsu	KNW-242C	8-1920-1	Apr. 28,14	1 Year
5.	Terminator	Hubersuhner	$50\Omega$	No. 1	Apr. 28,14	1 Year
6.	Terminator	Hubersuhner	50Ω	No. 2	Apr. 28,14	1 Year
7.	RF Cable	Hubersuhner	RG58	0100.6954.20#	Jan.22, 14	1Year
8.	Coaxial Switch	Anritsu	MP59B	6200298346	Apr. 28,14	1 Year
9.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	101838	Jan.22, 14	1 Year

## 3.2. Block Diagram of Test Setup



 $\square$  :50 $\Omega$  Terminator

#### 3.3. Power Line Conducted Emission Test Limits

	Maximum RF Line Voltage			
Frequency	Quasi-Peak Level	Average Level		
	$dB(\mu V)$	$dB(\mu V)$		
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*		
500kHz ~ 5MHz	56	46		
5MHz ~ 30MHz	60	50		

Notes: 1. \* Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

#### 3.4. Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

#### 3.4.1. Tablet PC (EUT)

Model Number : WT7-C Serial Number : N/A



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#### 3.5. Operating Condition of EUT

- 3.5.1. Setup the EUT and simulator as shown as Section 3.2.
- 3.5.2. Turn on the power of all equipment.
- 3.5.3. Let the EUT work in test mode (TX Mode) and measure it.

#### 3.6. Test Procedure

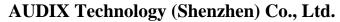
The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). this provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4-2009 on conducted Emission test.

The bandwidth of test receiver (R&S TEST RECEIVER ESHS10) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked. The test result are reported on Section 3.7

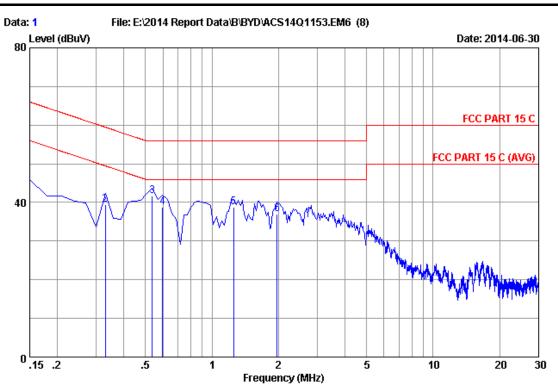
#### 3.7. Conducted Emission at Mains Terminals Test Results

PASS. (All emissions not reported below are too low against the prescribed limits.)





ID:ZW9-PDW0E page 3-1



Site no :1#conduction Data No :1

Dis./Ant. :2014 ESH2-Z5 LINE Limit :FCC PART 15 C

Env./Ins. :24.3\*C/42% Engineer :Kevin\_Hu

EUT : Tablet PC

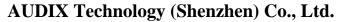
Power Rating :DC 5V From Adapter Input AC 120V/60Hz

Test Mode :TX Mode(BT) M/N:WT7-C

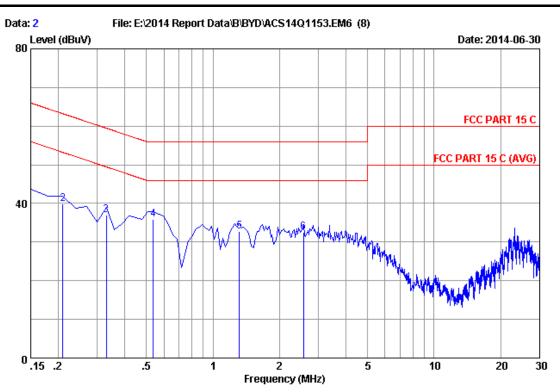
		LISN	Cable		Emissior	1		
No	Freq	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dB)	
1	0.15000	0.12	9.87	32.92	42.91	66.00	23.09	QP
2	0.32910	0.14	9.88	29.38	39.40	59.47	20.07	QP
3	0.53805	0.15	9.88	31.55	41.58	56.00	14.42	QP
4	0.59775	0.16	9.89	28.82	38.87	56.00	17.13	QP
5	1.254	0.18	9.90	28.63	38.71	56.00	17.29	QP
6	1.971	0.19	9.91	27.00	37.10	56.00	18.90	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit) +Reading.

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



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Site no :1#conduction Data No :2

Dis./Ant. :2014 ESH2-Z5 NEUTRAL

Limit :FCC PART 15 C

Env./Ins. :24.3\*C/42% Engineer :Kevin\_Hu

EUT : Tablet PC

Power Rating :DC 5V From Adapter Input AC 120V/60Hz

Test Mode :TX Mode(BT) M/N:WT7-C

		LISN	Cable		Emissior	1		
No	Freq	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dB)	
1	0.15000	0.13	9.87	31.66	41.66	66.00	24.34	QP
2	0.20970	0.13	9.88	29.88	39.89	63.22	23.33	QP
3	0.32910	0.14	9.88	27.02	37.04	59.47	22.43	QP
4	0.53805	0.15	9.88	25.89	35.92	56.00	20.08	QP
5	1.314	0.18	9.90	22.71	32.79	56.00	23.21	QP
6	2.568	0.22	9.92	22.29	32.43	56.00	23.57	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit) +Reading.

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



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## 4. RADIATED EMISSION MEASUREMENT

## 4.1.Test Equipment

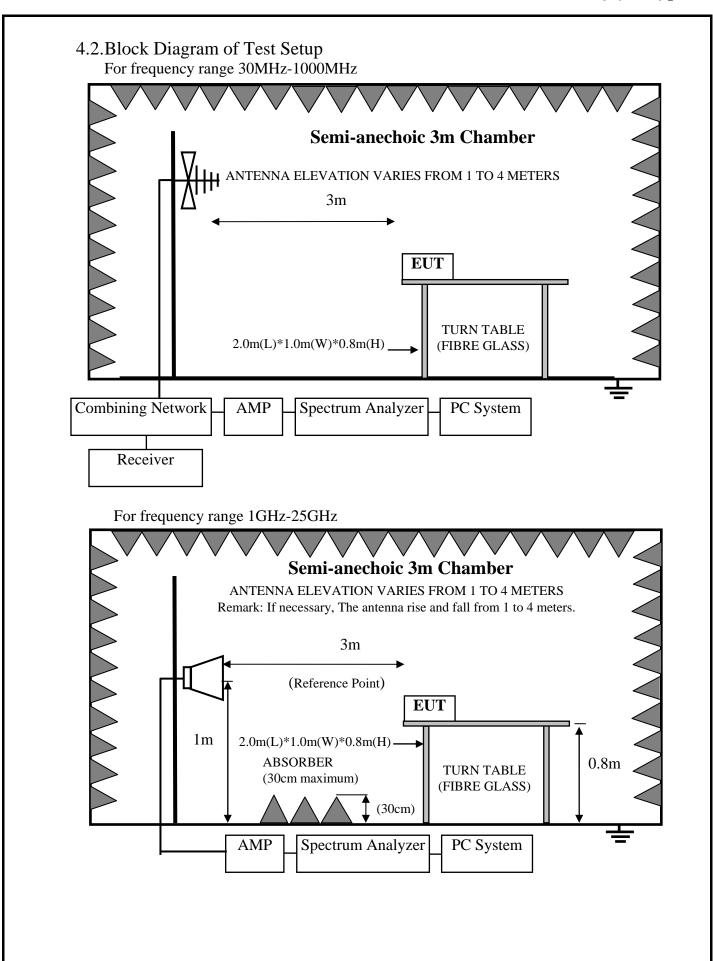
Frequency rang: 30~1000MHz

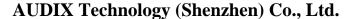
	Trequency ru	11g. 50 1000WIIIZ				
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber	AUDIX	N/A	N/A	Nov.24, 13	1 Year
2.	EMI Spectrum	Agilent	E4407B	MY41440292	Apr. 28,14	1 Year
3.	Test Receiver	Rohde & Schwarz	ESVS10	834468/011	Apr. 28,14	1 Year
4.	Amplifier	HP	8447D	2648A04738	Apr. 28,14	1 Year
5.	Bilog Antenna	Schaffner	CBL6111C	35375	Apr. 08,14	1 Year
6.	RF Cable	MIYAZAKI	CFD400-NL	3# Chamber No.1	Apr. 28,14	1 Year
7.	Coaxial Switch	Anritsu	MP59B	6200313662	Apr. 28,14	1 Year

Frequency rang: above 1000MHz

	11	0				
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer Agilent		E4446A	US44300459	Apr. 28,14	1 Year
2	Horn Antenna	EMCO	3115	9607-4877	Aug.27, 13	1 Year
3	Amplifier	Agilent	8449B	3008A02495	Apr. 28,14	1 Year
4	RF Cable	Hubersuhner	SUCOFLEX106	77977/6	Apr. 28,14	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX106	28616/2	Apr. 28,14	1 Year
6	Horn Antenna	EMCO	3116	00060089	Aug.27, 13	1 Year









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#### 4.3. Radiated Emission Limit Standard: FCC 15.209

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMIT			
MHz	Meters	μV/m	dB(μV)/m		
30 ~ 88	3	100	40.0		
88 ~ 216	3	150	43.5		
216 ~ 960	3	200	46.0		
960 ~ 1000	3	500	54.0		
Above 1000MHz	3	$74.0  \mathrm{dB}(\mu \mathrm{V})$	/)/m (Peak)		
		54.0 dB(µV)/m (Average			

Remark: (1) Emission level  $dB\mu V = 20 \log Emission level \mu V/m$ 

- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.
- (4) The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

#### 4.4.EUT Configuration on Test

The following equipment are installed on Radiated Emission Test to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

4.4.1. Tablet PC (EUT)

Model Number : WT7-C Serial Number : N/A

#### 4.5. Operating Condition of EUT

- 4.5.1. Setup the EUT and simulator as shown as Section 4.2.
- 4.5.2. Turned on the power of all equipment.
- 4.5.3. Let EUT work in Tx mode.

#### 4.6.Test Procedure

The EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on Test. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.10-2009 on radiated emission Test.

This test was performed with EUT in X, Y, Z position, and the worse case was found when EUT in X position as the test photo indicated.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.



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The bandwidth of the Spectrum's RBW is set at 1MHz and VBW is set at 3MHz for peak emissions measurement above 1GHz

This device is pulse Modulated, a duty cycle factor was used to calculated average level based measured peak level.

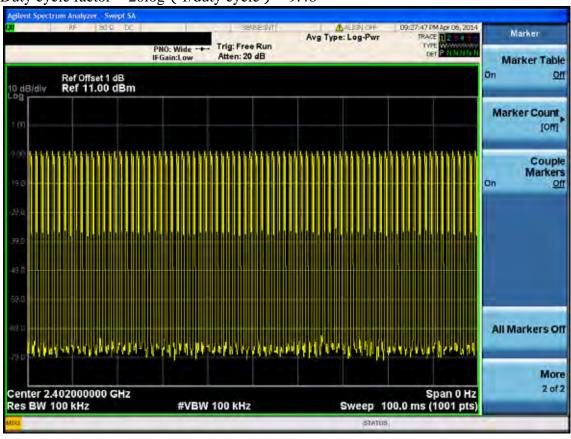
The frequency range from 30MHz to 10th harmonic (25GHz) are checked. and no any emissions were found from 18GHz to 25 GHz, So the radiated emissions from 18GHz to 25GHz were not record.

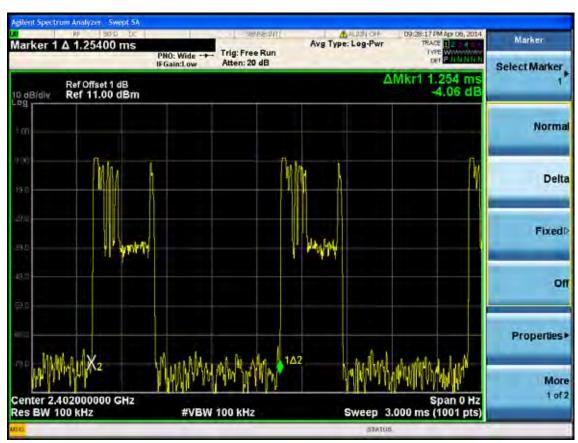
## 4.7.Radiated Emission Test Results **PASS.**

All the emissions from 30MHz to 25GHz were comply with the 15.209 Limit. Note: The duty cycle factor for calculate average level is 9.48dB, and average limit is 20dB below peak limit, so if peak measured level comply with average limit, the average level was deemed to comply with average limit.

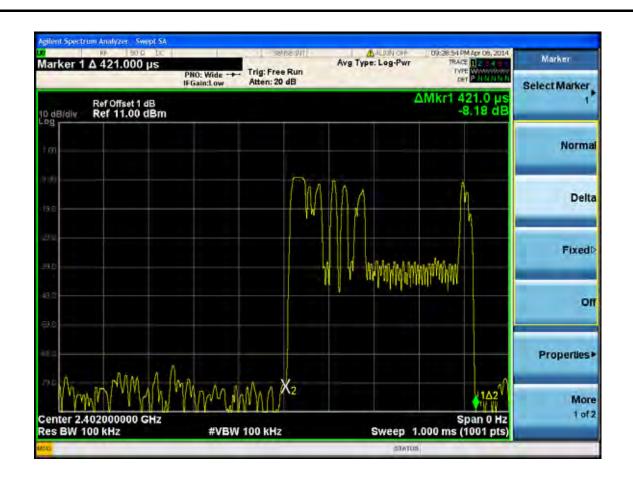


Duty cycle: 0.421ms /1.254ms \*100% = 33.57% Duty cycle factor = 20log ( 1/duty cycle ) = 9.48



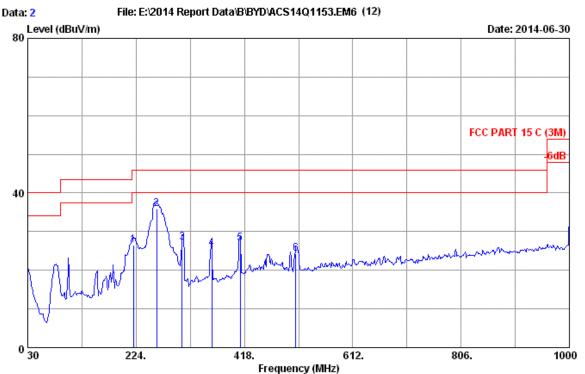


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Site no. : 3m Chamber Data no. : 2

Dis. / Ant. : 3m 2013 CBL6112D 35375 Ant. pol. : HORIZONTAL

Limit : FCC PART 15 C (3M)

Env. / Ins. : 24\*C/34% Engineer : Kevin\_Hu

EUT : Tablet PC

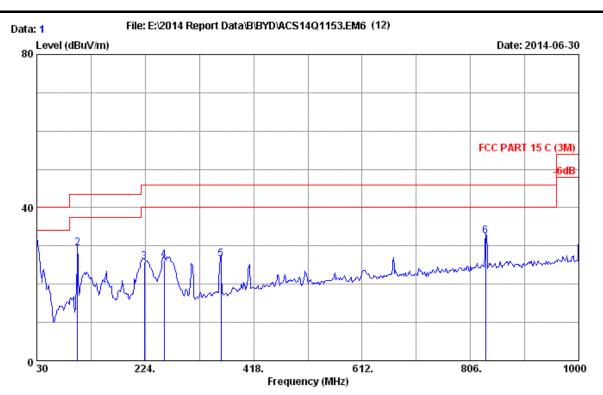
Power rating : DC 5V From Adapter Input AC 120V/60Hz

Test Mode : Tx Mode(BT) M/N: WT7-C

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	219.15	10.50	1.86	14.14	26.50	46.00	19.50	QP
2	260.86	14.00	2.02	19.94	35.96	46.00	10.04	QP
3	306.45	14.13	2.19	10.90	27.22	46.00	18.78	QP
4	359.80	15.70	2.34	7.67	25.71	46.00	20.29	QP
5	410.24	17.11	2.49	7.29	26.89	46.00	19.11	QP
6	510.15	18.20	2.78	3.33	24.31	46.00	21.69	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

page 4-8



: 3m Chamber Site no.

Data no. : 1 Ant. pol. : VERTICAL Dis. / Ant. : 3m 2013 CBL6112D 35375

: FCC PART 15 C (3M) Limit

Env. / Ins. : 24\*C/34% Engineer : Kevin Hu

: Tablet PC

Power rating : DC 5V From Adapter Input AC 120V/60Hz

Test Mode : Tx Mode(BT) M/N: WT7-C

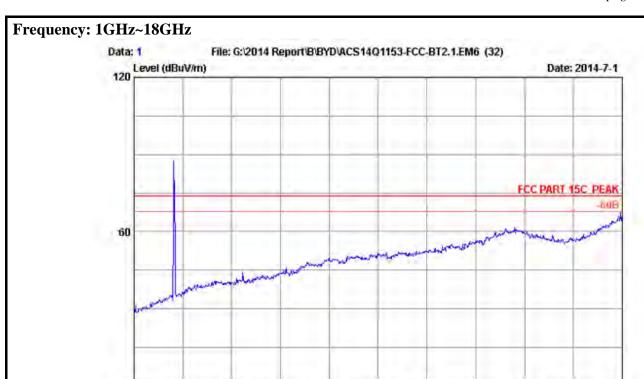
No. Freq. Factor Loss Reading Level Limits Margin Remark (MHz) (dB/m) (dB) (dBuV) (dBuV/m) (dBuV/m) (dB)	
1 30.00 20.10 0.83 9.96 30.89 40.00 9.11 QP	
2 102.75 11.61 1.42 16.29 29.32 43.50 14.18 QP	
3 222.06 10.70 1.87 13.24 25.81 46.00 20.19 QP	
4 257.95 13.80 2.01 10.42 26.23 46.00 19.77 QP	
5 359.80 15.70 2.34 8.58 26.62 46.00 19.38 QP	
6 833.16 21.06 3.71 7.73 32.50 46.00 13.50 QP	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

14600.

18000

page 4-9



Site no. : 3m Chember Data no. : 1
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL

7800.

Frequency (MHz)

11200.

Limit : FCC PART 15C PEAK

4400.

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

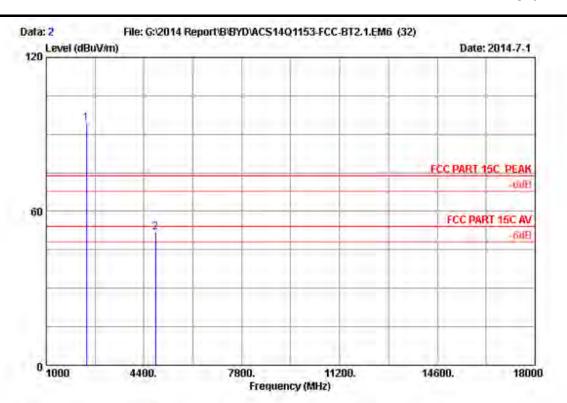
Power Rating : DC 5V From Adapter Input AC 120V/60Hz

Test Node : GFSK 2402MHz Tx

M/N : UT7-C

1000

page 4-10



Site no. : 3m Chamber Data no. : 2 Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

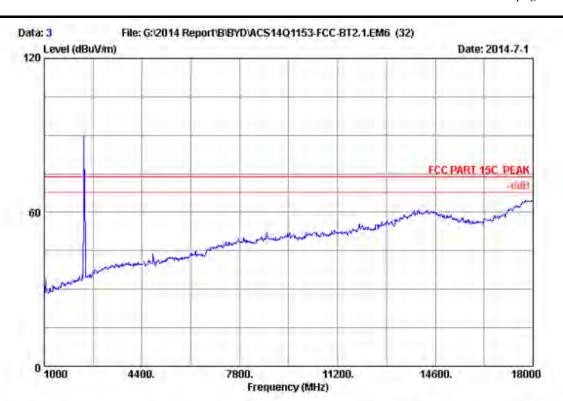
Test Mode : GFSK 2402MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission	T		
No.	Freq. (MHz)	Factor (dB/m)	Loss (dB)	factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	U	Remark
1	2402.000	28.18	5.80	35.70	95.87	94.15	74.00	-20.15	Peak
2	4804.000	32.85	8.56	35.70	45.96	51.67	74.00	22.33	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor

page 4-11



Site no. : 3m Chamber Data no. : 3 Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

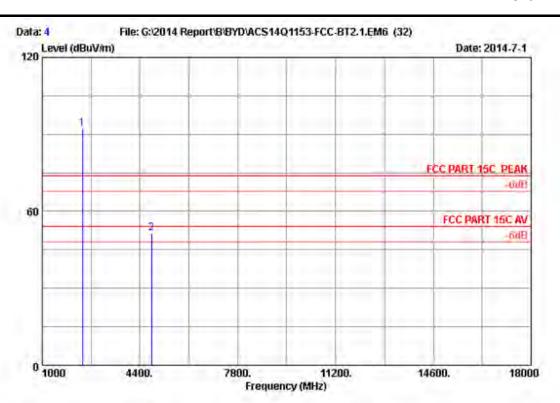
Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

Test Node : GFSK 2402MHz Tx

page 4-12



Site no. : 3m Chamber Data no. : 4
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

Test Mode : GFSK 2402MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission			
No.	Freq. (MHz)	Factor (dE/m)	Loss (dB)	factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	F 110	Remark
1	2402.000	28,18	5,80	35.70	93.87	92.15	74.00	-18.15	Peak
	4804.000	32.85	8.56	35.70	45.75	51.46	74.00	22.54	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor

page 4-13



Site no. : 3m Chamber Data no. : 7
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

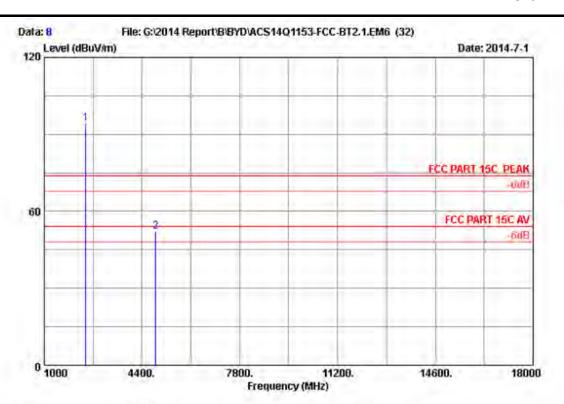
Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

Test Mode : GFSK 2441MHz Tx

page 4-14



Site no. : 3m Chamber Data no. : 8
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

Test Mode : GFSK 2441MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission	/		
No.	Freq. (MHz)	Factor (dB/m)	Loss (dB)	factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.000	28.27	5.86	35.70	95.86	94.29	74.00	-20.29	Peak
2	4882.000	32.99	8.64	35.70	46.09	52.02	74.00	21.98	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor

page 4-15



Site no. : 3m Chamber Data no. : 9
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

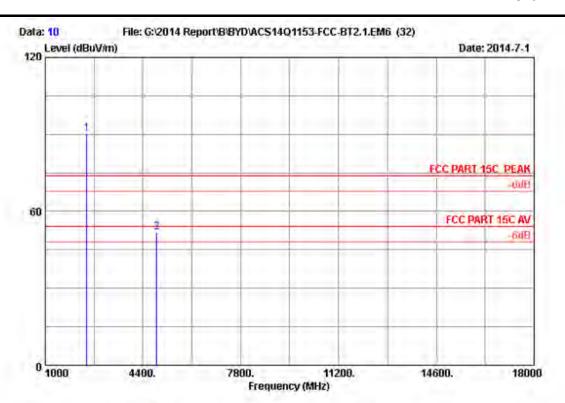
Env. / Ins. : 24\*C/56% Engineer : Kevin Hu

EUT ; Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

Test Mode : GFSK 2441MHz Tx

page 4-16



Site no. : 3m Chamber Data no. : 10 Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

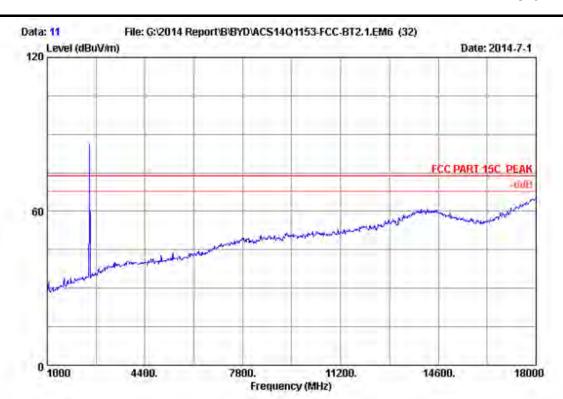
Test Mode : GFSK 2441MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission			
No.	Freq.	Factor (dB/m)	Loss (dB)	factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.000	28.27	5.86	35.70	91.86	90.29	74.00	-16.29	Peak
2	4882.000	32.99	8.64	35.70	45.96	51.89	74.00	22.11	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor

page 4-17



Site no. : 3m Chamber Data no. : 11 Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

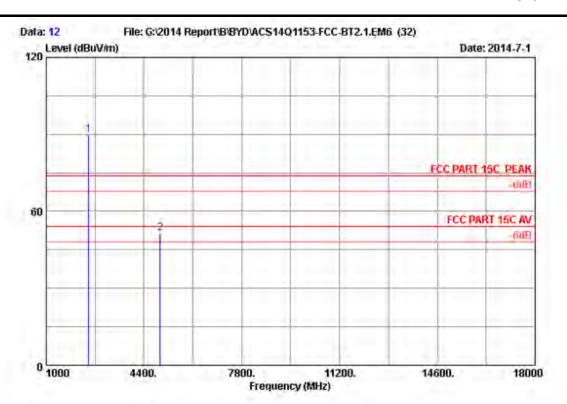
Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

Test Mode : GFSK 2480MHz Tx

page 4-18



Site no. : 3m Chamber Data no. : 12 Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

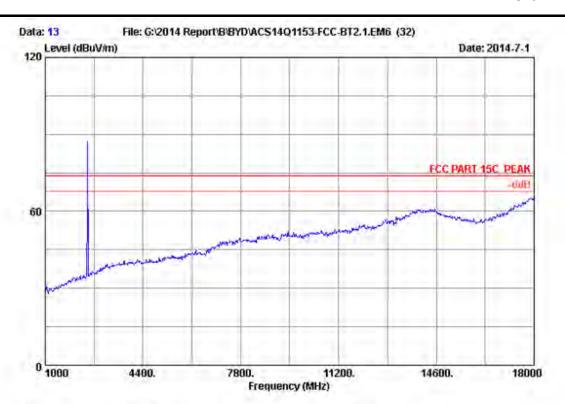
Test Mode : GFSK 2480MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission	T		
No.	Freq.	Factor (dE/m)	Loss (dB)	factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	0 - 1 - 1	Remark
1	2480.000	28.36	5.91	35.70	91.45	90.02	74.00	-16.02	Peak
2	4960.000	33.13	8.72	35.70	45.16	51.31	74.00	22.69	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor

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Site no. : 3m Chamber Data no. : 13
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

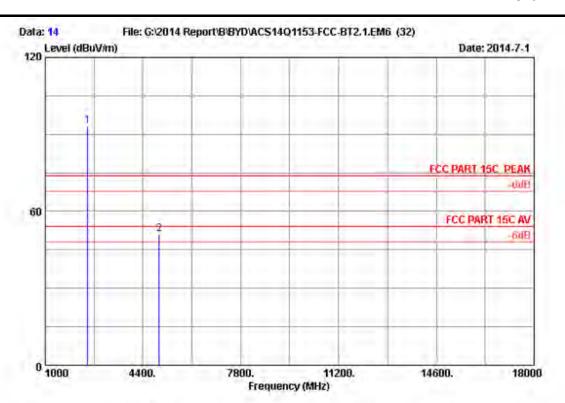
Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

Test Mode : GFSK 2480MHz Tx

page 4-20



Site no. : 3m Chamber Data no. : 14
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

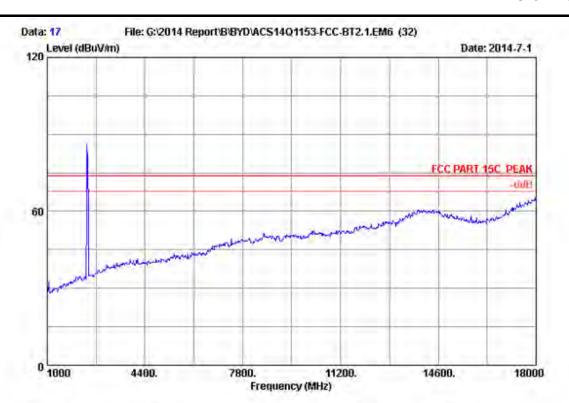
Test Mode : GFSK 2480MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission	V		
No.	Freq. (MHz)	Factor (dB/m)	Loss (dB)	factor (dB)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Remark
1	2480.000	28.36	5.91	35.70	94.56	93.13	74.00	-19.13	Peak
2	4960.000	33.13	8.72	35.70	44.85	51.00	74.00	23.00	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor

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Site no. : 3m Chamber Data no. : 17
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

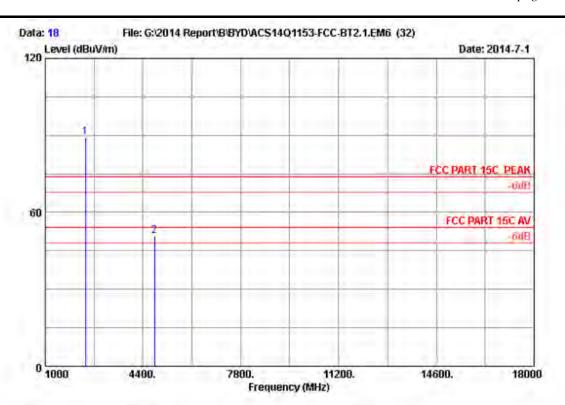
Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Pating : DC 5V From Adapter Input AC 120V/60Hz

Test Mode : 8-DPSK 2402MHz Tx

page 4-22



Site no. : 3m Chamber Data no. : 18
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

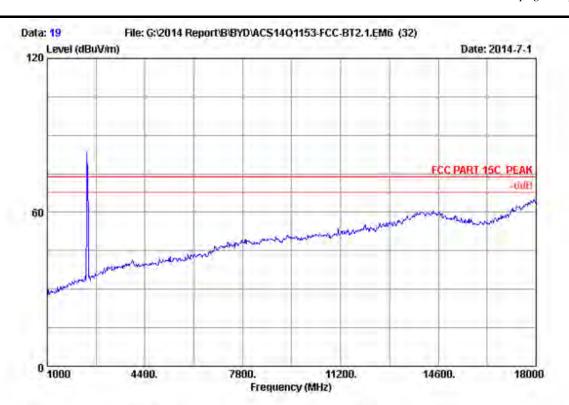
Test Mode : 8-DPSK 2402MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission	/		
No.	Freq. (MHz)	Factor (dE/m)	Loss (dB)	factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2402.000	28.18	5.80	35.70	91.04	89.32	74.00	-15.32	Peak
2	4804.000	32.85	8.56	35.70	45.26	50.97	74.00	23.03	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor

page 4-23



Site no. : 3m Chamber Data no. : 19
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

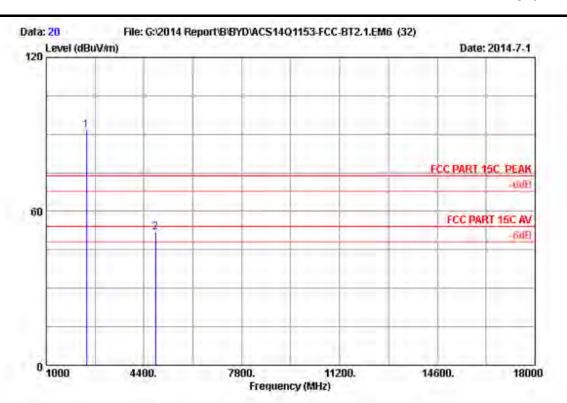
Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Pating : DC 5V From Adapter Input AC 120V/60Hz

Test Mode : 8-DPSK 2402MHz Tx

page 4-24



Site no. : 3m Chamber Data no. : 20
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

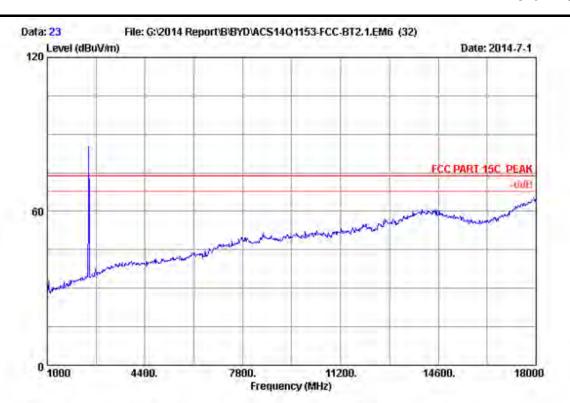
Test Mode : 8-DPSK 2402MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission	V		
No.	Freq.	Factor (dB/m)	Loss (dB)	factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		Remark
1	2402.000	28.18	5.80	35.70	93.42	91.70	74.00	-17.70	Peak
2	4804.000	32.85	8.56	35.70	46.15	51.86	74.00	22.14	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor

page 4-25



Site no. : 3m Chamber Data no. : 23 Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

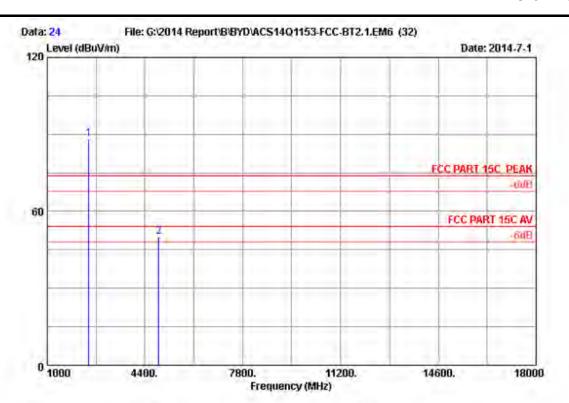
EUT : Tablet PC

Power Pating : DC 5V From Adapter Input AC 120V/60Hz

Test Mode : 8-DPSK 2441MHz Tx

M/N : WT7-C

page 4-26



Site no. : 3m Chamber Data no. : 24
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Pating : DC 5V From Adapter Input AC 120V/60Hz

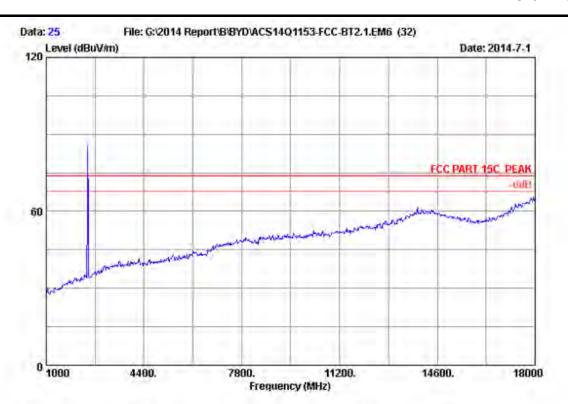
Test Mode : 8-DPSK 2441MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission			
No.	Freq.	Factor (dB/m)	Loss (dB)	factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2441.000	28.27	5.86	35.70	89.75	88.18	74.00	-14.18	Peak
2	4882,000	32.99	8.64	35.70	44.16	50.09	74.00	23.91	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor

page 4-27



Site no. : 3m Chamber Data no. : 25
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

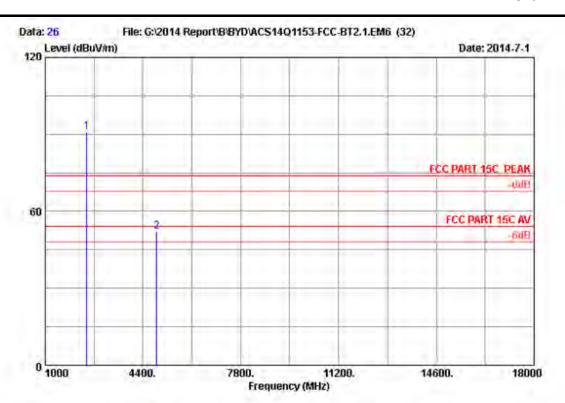
EUT : Tablet PC

Power Pating : DC 5V From Adapter Input AC 120V/60Hz

Test Mode : 8-DPSK 2441MHz Tx

M/N : WT7-C

page 4-28



Site no. : 3m Chamber Data no. : 26
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

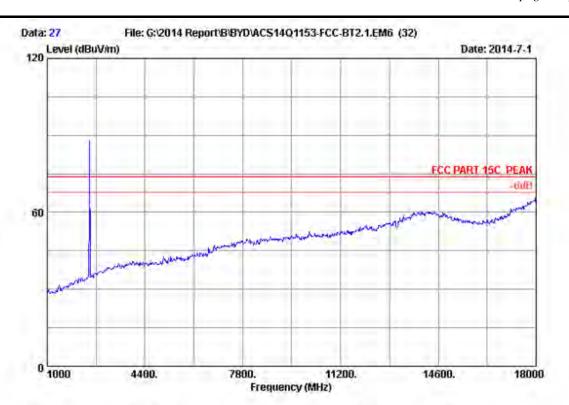
Test Mode : 8-DPSK 2441MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission	V		
No.	Freq. (MHz)	Factor (dE/m)	Loss (dB)	factor (dB)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Remark
1	2441.000	28.27	5.86	35.70	92.45	90.88	74.00	-16.88	Peak
2	4882.000	32.99	8.64	35.70	46.15	52.08	74.00	21.92	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor

page 4-29



Site no. : 3m Chamber Data no. : 27
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

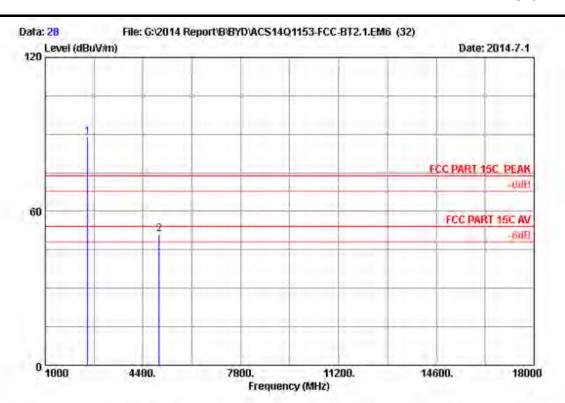
EUT : Tablet PC

Power Fating : DC 5V From Adapter Input AC 120V/60Hz

Test Mode : 8-DPSK 2480MHz Tx

M/N : WT7-C

page 4-30



Site no. : 3m Chamber Data no. : 28
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

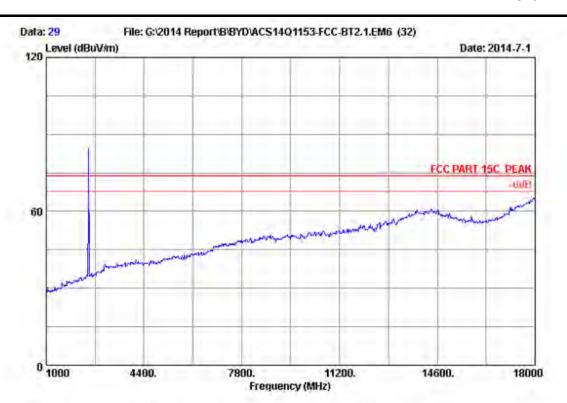
Test Mode : 8-DPSK 2480MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission	T		
No.	Freq.	Factor (dE/m)	Loss (dB)	factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	U	Remark
1	2480.000	28.36	5.91	35.70	90.45	89.02	74.00	-15.02	Peak
2	4960.000	33.13	8.72	35.70	45.13	51.28	74.00	22.72	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp Factor

page 4-31



Site no. : 3m Chamber Data no. : 29
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

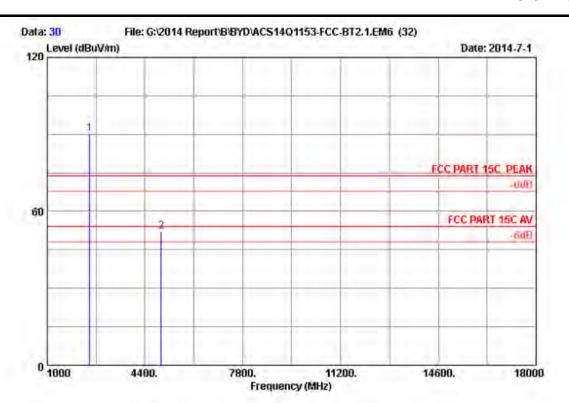
EUT : Tablet PC

Power Pating : DC 5V From Adapter Input AC 120V/60Hz

Test Mode : 8-DPSK 2480MHz Tx

M/N : WT7-C

page 4-32



Site no. : 3m Chamber Data no. : 30
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

Test Mode : 8-DPSK 2480MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission	/		
No.	Freq. (MHz)	Factor (dE/m)	Loss (dB)	factor (dB)	Reading (dBuV)	Level (dBuV/m)		Margin (dB)	Remark
2555									
1	2480.000	28.36	5.91	35.70	91.56	90.13	74.00	-16.13	Peak
2	4960.000	33.13	8.72	35.70	46.07	52.22	74.00	21.78	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp Factor



### 5. CONDUCTED SPURIOUS EMISSIONS

#### 5.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	N9030A	MY51380221	Oct.31, 13	1Year
2.	Attenuator	Agilent	8491B	MY39262165	May.08,13	1 Year
3.	RF Cable	Hubersuhner	SUCOFLEX102	28618/2	May.08,13	1Year

#### 5.2.Limit

In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.

#### 5.3.Test Procedure

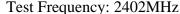
The transmitter output was connected to a spectrum analyzer, The resolution bandwidth is set to 100 kHz, The video bandwidth is set to 300 kHz and measure all the emissions detected.

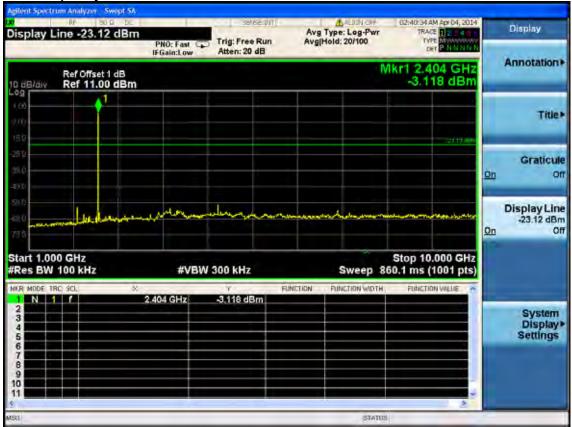
#### 5.4.Test result

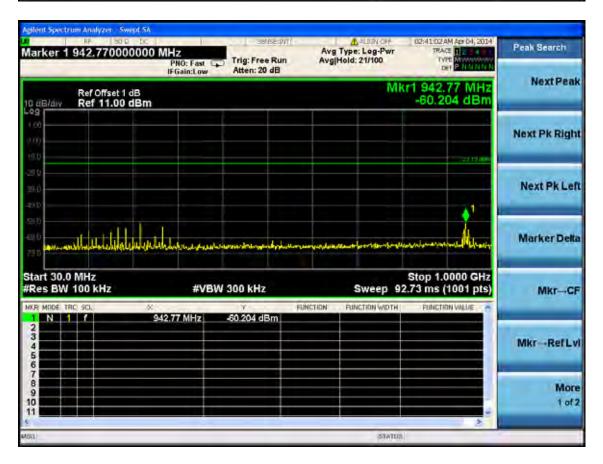
PASS (The testing data was attached in the next pages.)



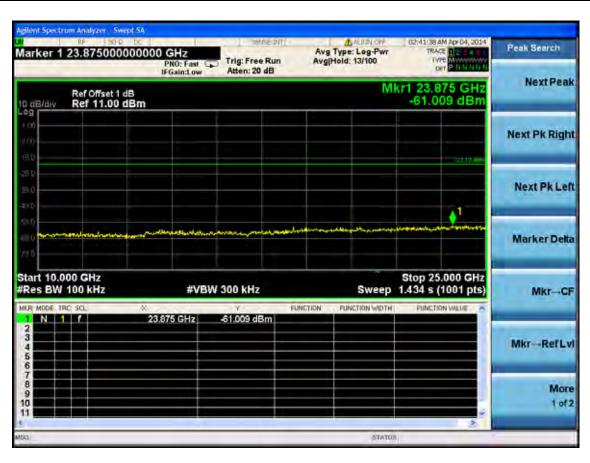
#### **GFSK**

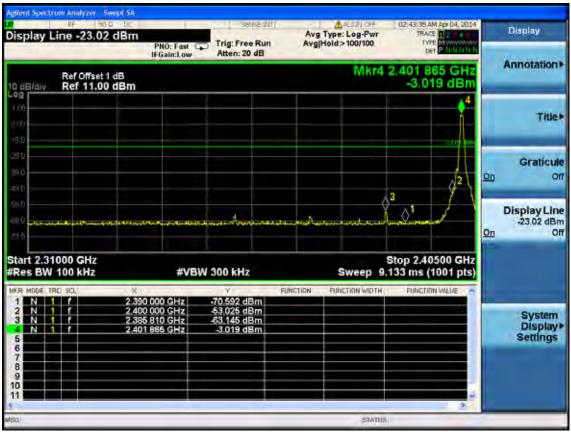




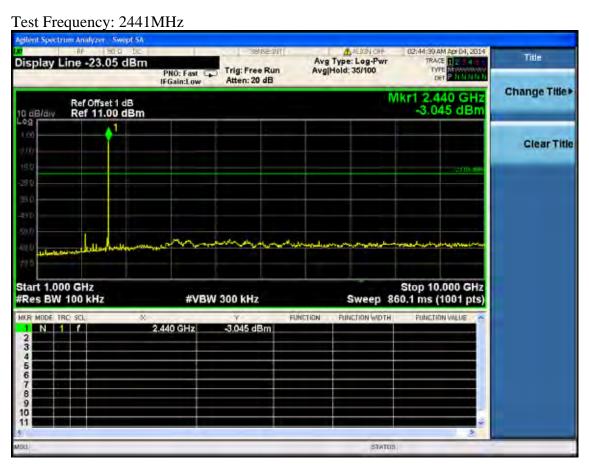


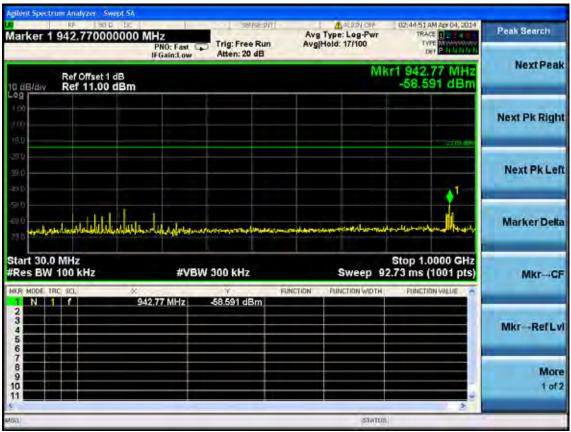




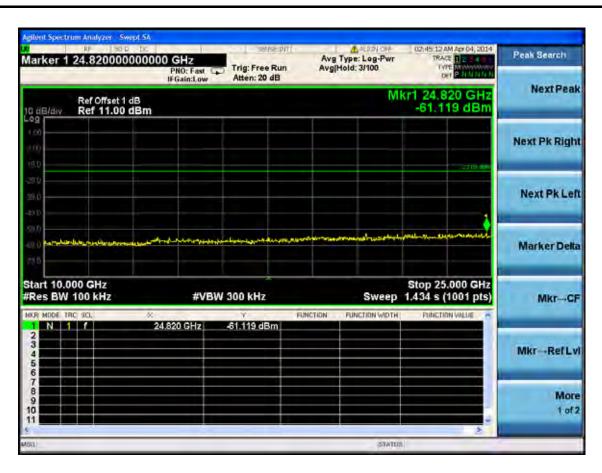




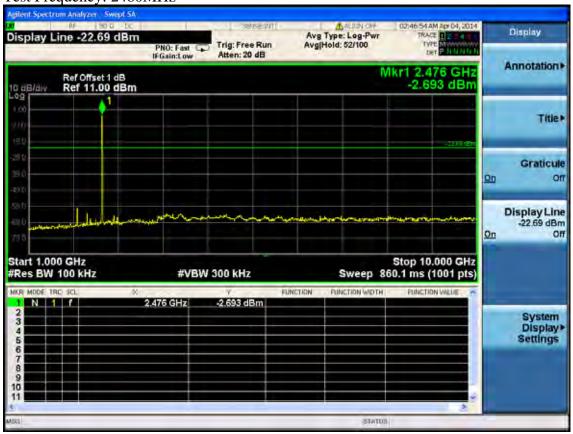




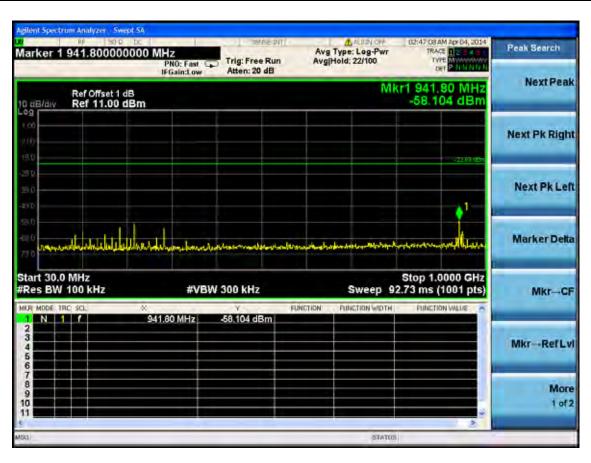


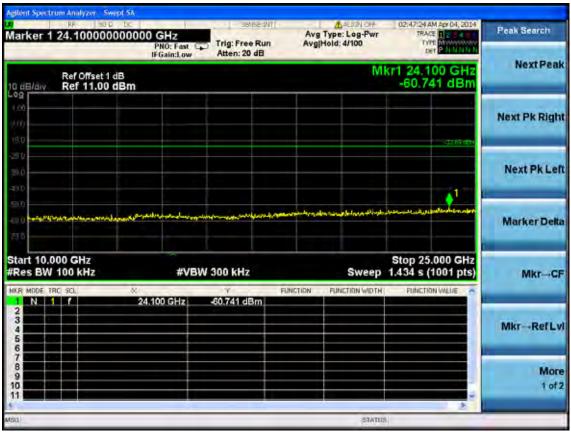




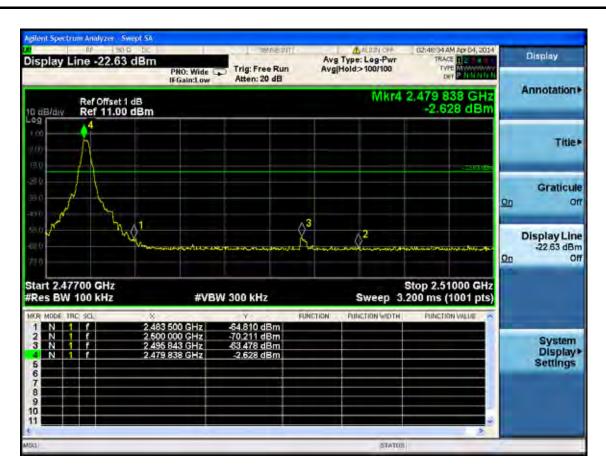






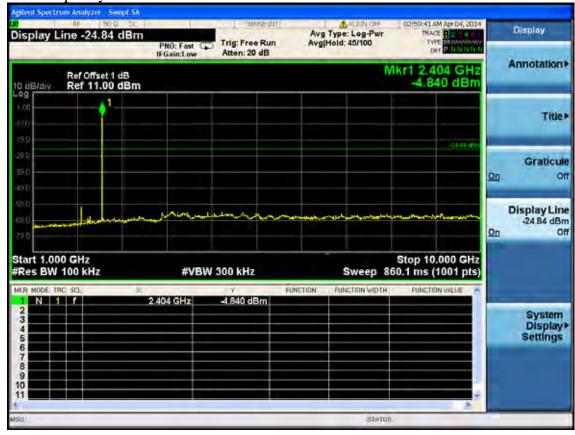




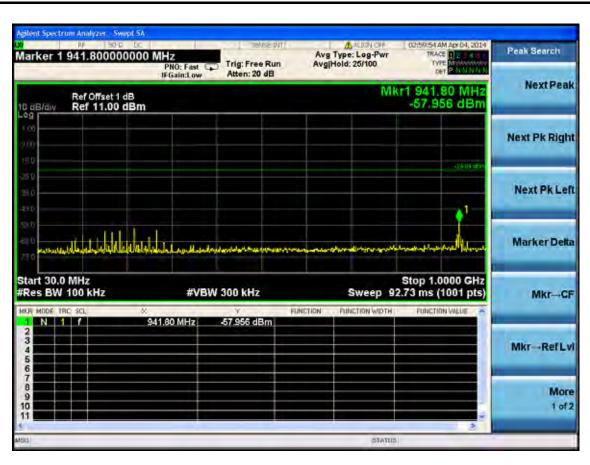


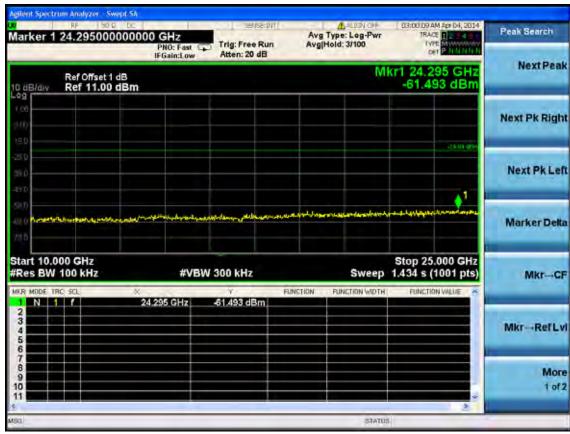
#### 8-DPSK

Test Frequency: 2402MHz

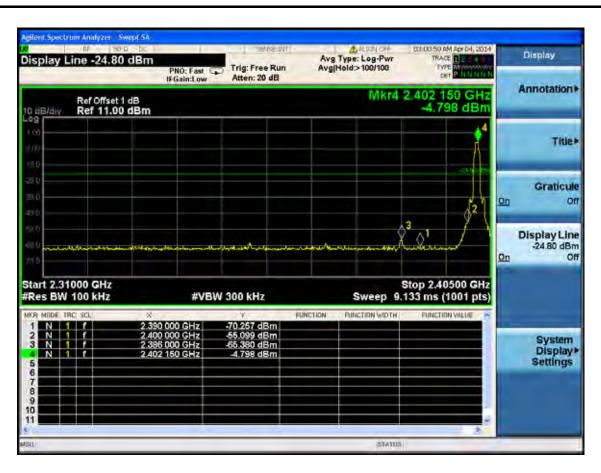


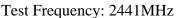


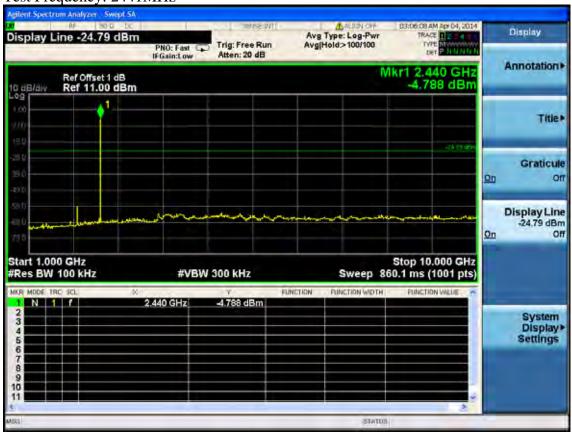




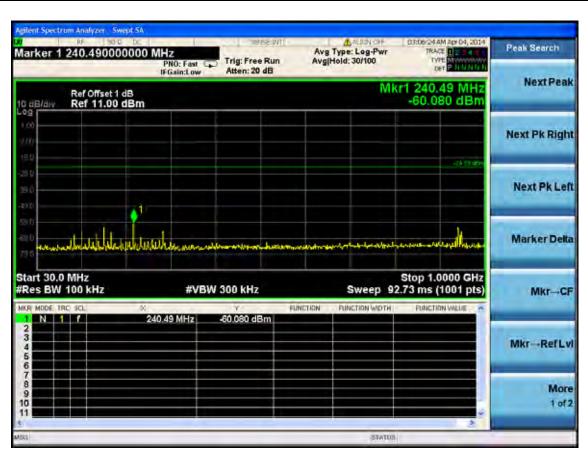


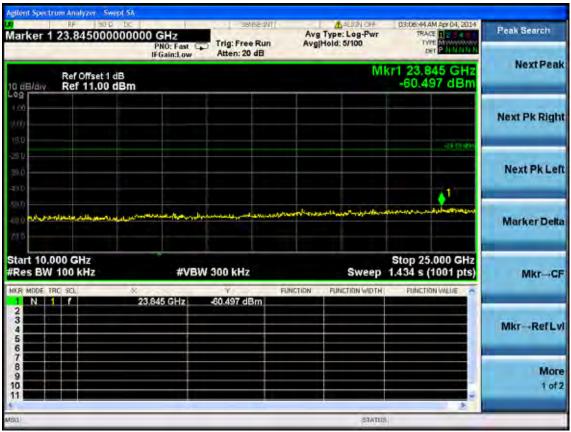




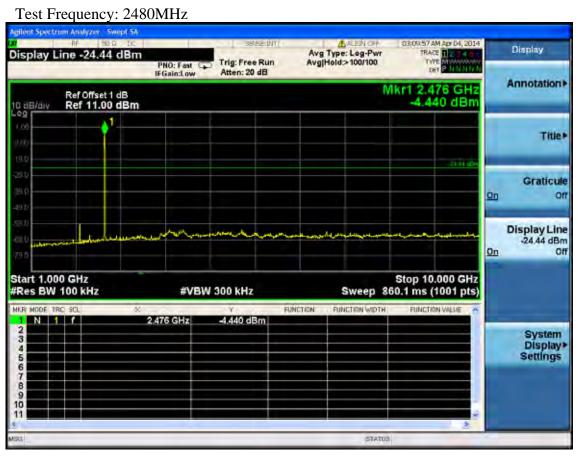


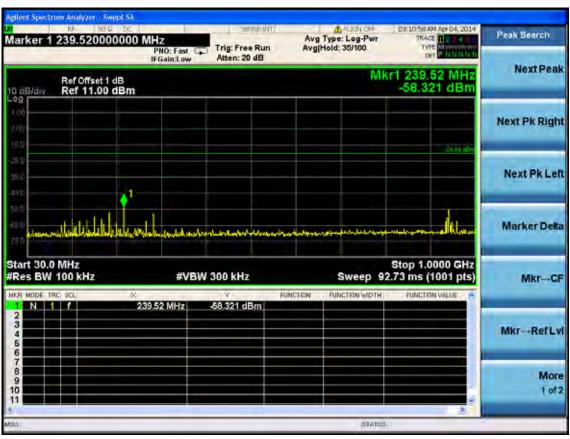




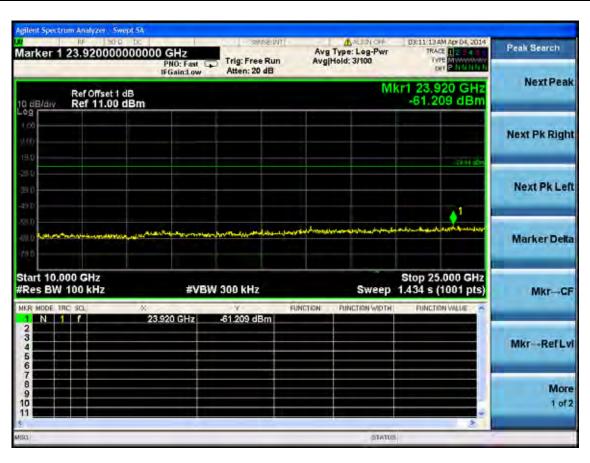


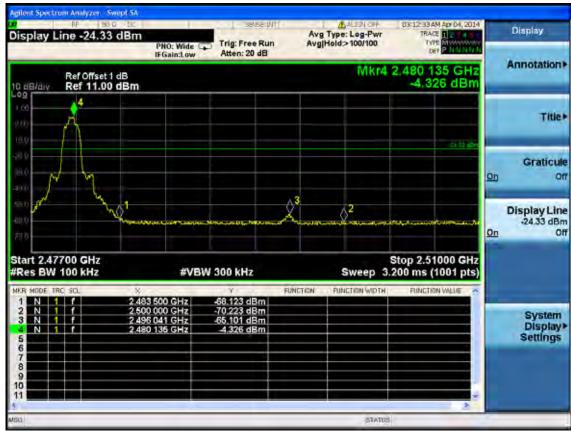












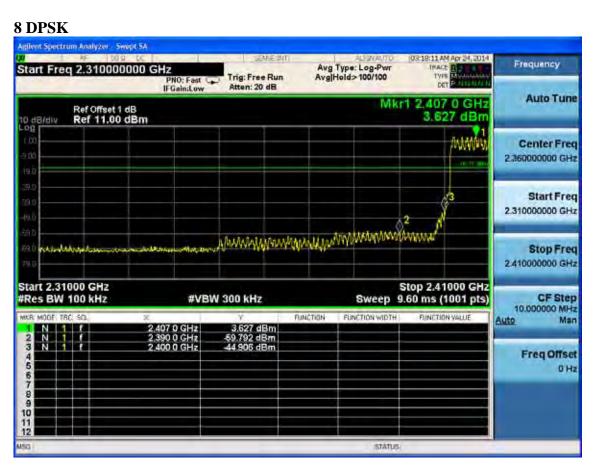


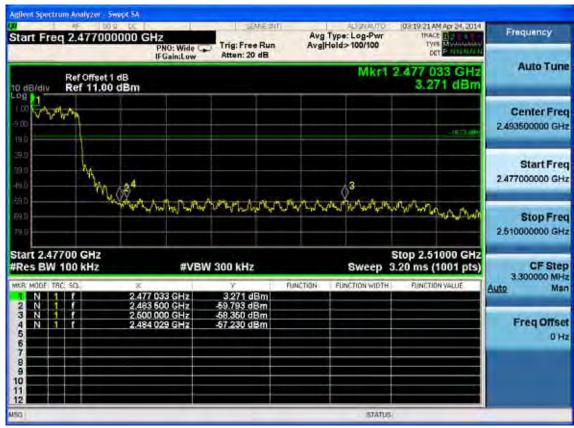
# **Hopping on** GFSK













### 6. CARRIER FREQUENCY SEPARATION TEST

### 6.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	N9030A	MY51380221	Oct.31, 13	1Year

#### 6.2.Limit

Frequency hopping systems shall have hopping channel carrier frequency separated by a minimum of 25kHz or the 20dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

#### 6.3. Test Results.

EUT: Tablet PC		
M/N:WT7-C		
Test date: 2014-04-06	Pressure: 101.4±1.0 kpa	Humidity: 52.7±3.0%
Tested by: Kevin_Hu	Test site: RF site	Temperature:21.7±0.6

Test Mode	Channel separation	Conclusion
8-DPSK	1.0MHz	PASS
GFSK	1.0MHz	PASS







### 7. 20 DB BANDWIDTH TEST

#### 7.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	N9030A	MY51380221	Oct.31, 13	1Year

#### 7.2.Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

#### 7.3.Test Results

EUT: Tablet PC					
M/N:WT7-C					
Test date: 2014-04-06	Pressure:101.4±1.0 kpa	Humidity: 52.7±3.0%			
Tested by: Kevin_Hu	Test site: RF site	Temperature:21.7±0.6			

Cable lo	oss: 1 dB	Attenuator loss: 20 dB						
Test Mode	CH (MHz)	20dB bandwidth ( KHz )	Limit (KHz)					
	2402	684.5	N/A					
GFSK	2441	711.0	N/A					
	2480	716.2	N/A					
	2402	1210	N/A					
8-DPSK	2441	1211	N/A					
	2480	1211	N/A					
Conclusion: P.	Conclusion: PASS							



#### **GFSK**

Test Frequency: 2402MHz



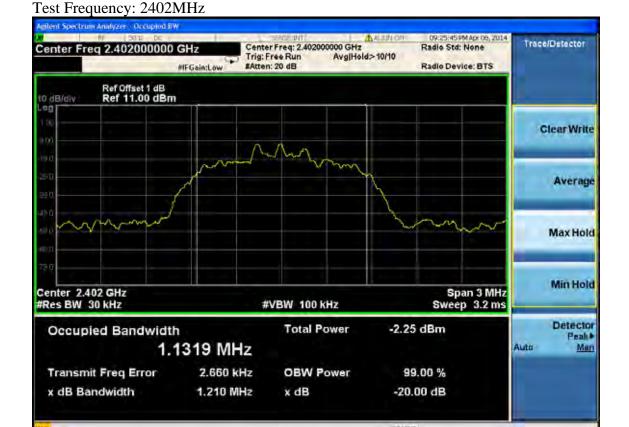
#### Test Frequency: 2441MHz



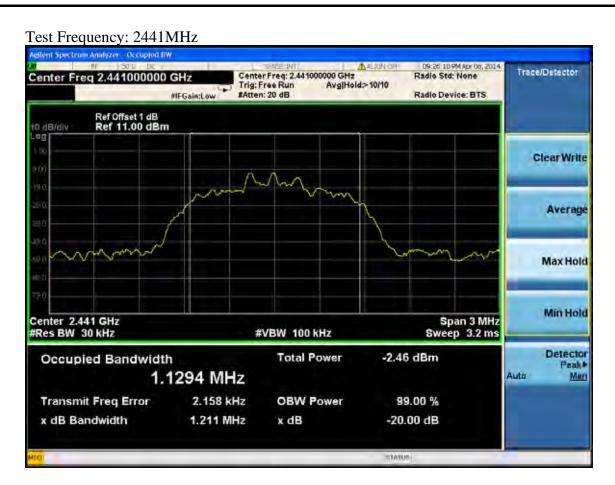


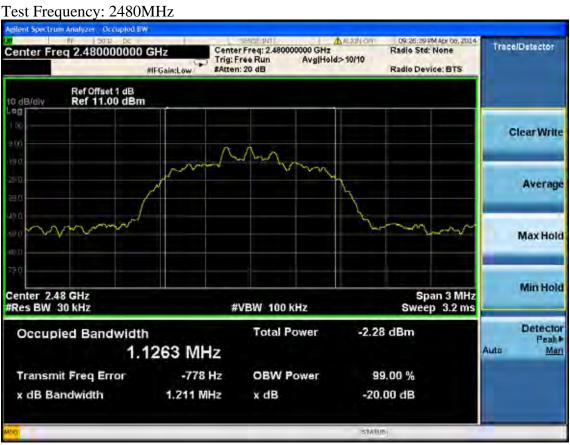


#### 8-DPSK











## 8. NUMBER OF HOPPING FREQUENCY TEST

## 8.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	N9030A	MY51380221	Oct.31, 13	1Year

#### 8.2.Limit

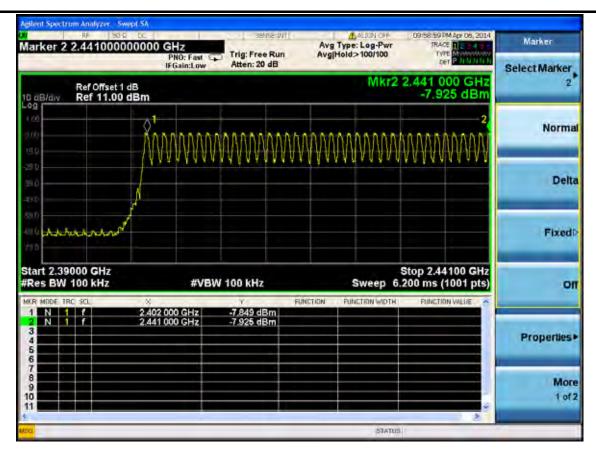
Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels

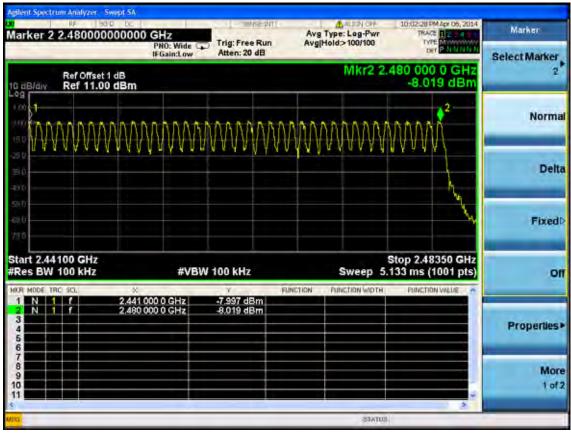
#### 8.3.Test Results

EUT: Tablet PC					
M/N:WT7-C					
Test date: 2014-04-06	Pressure: 101.4±1.0 kpa	Humidity: 52.7±3.0%			
Tested by: Kevin_Hu	Test site: RF site	Temperature:21.7±0.6			

Test Mode	Number of channel	Limit	Conclusion
8-DPSK	79	>=15	PASS
GFSK	79	>=15	PASS









### 9. DWELL TIME

### 9.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	N9030A	MY51380221	Oct.31, 13	1Year

#### 9.2.Limit

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

#### 9.3.Test Results

EUT: Tablet PC					
M/N:WT7-C					
Test date: 2014-04-06	Pressure: 101.4±1.0 kpa	Humidity: 52.7±3.0%			
Tested by: Kevin_Hu	Test site: RF site	Temperature:21.7±0.6			

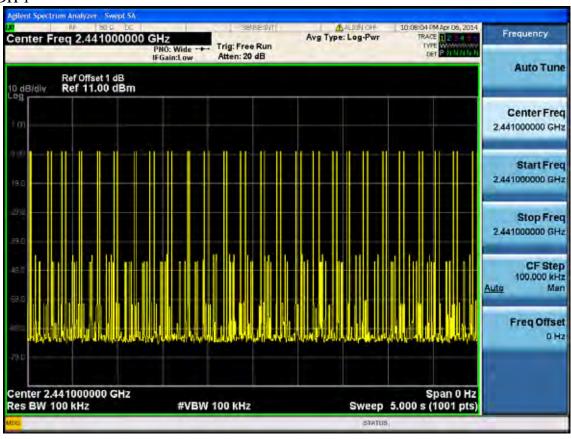
Mode		dwell time	Limit	Conclusion
GFSK	DH1	51hops/5s*0.4*79chanels*0.424ms =136.66ms	<400ms	PASS
	DH3	25hops/5s*0.4*79chanels*1.695ms =267.81ms	<400ms	PASS
	DH5	21hops/5s*0.4*79chanels*2.950ms=391.52ms	<400ms	PASS
8-DPSK	DH1	52hops/5s*0.4*79chanels*0.430ms =141.31ms	<400ms	PASS
	DH3	20hops/5s*0.4*79chanels*1.689ms =213.49ms	<400ms	PASS
	DH5	20hops/5s*0.4*79chanels*2.940ms =371.616ms	<400ms	PASS

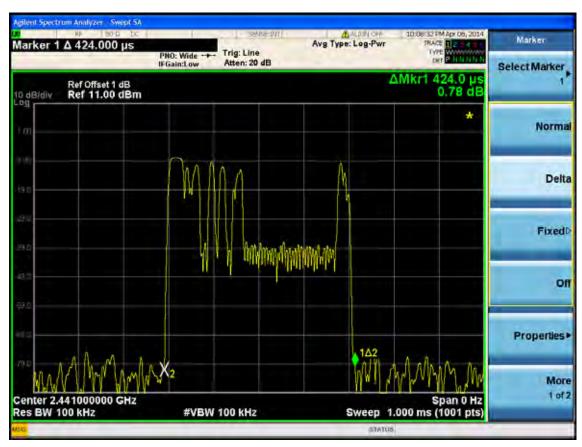
Note: All the lower levels were signal from receiver's, and should not considered in here.



#### **Test Mode: GFSK**

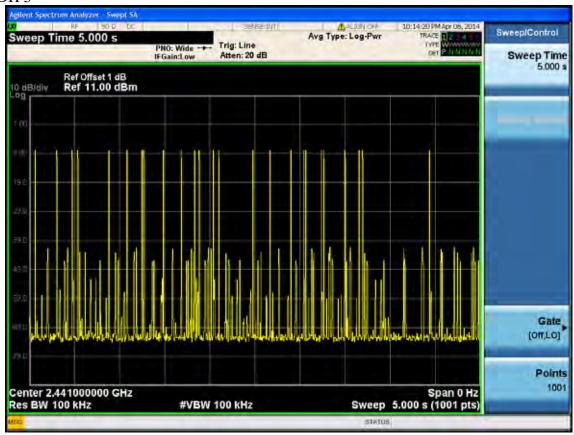
DH 1

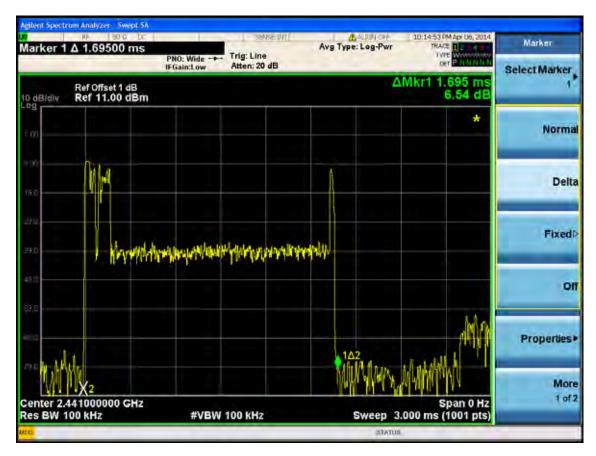






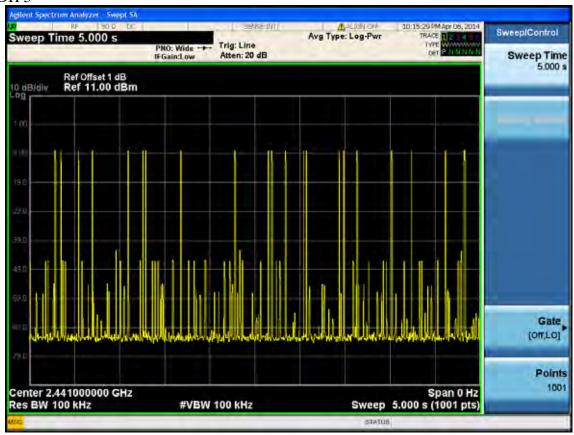


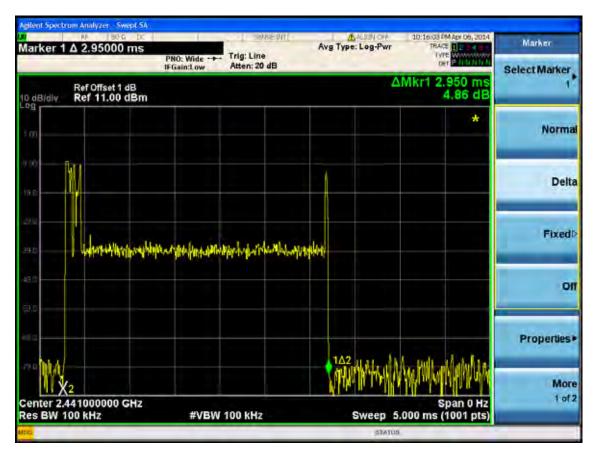






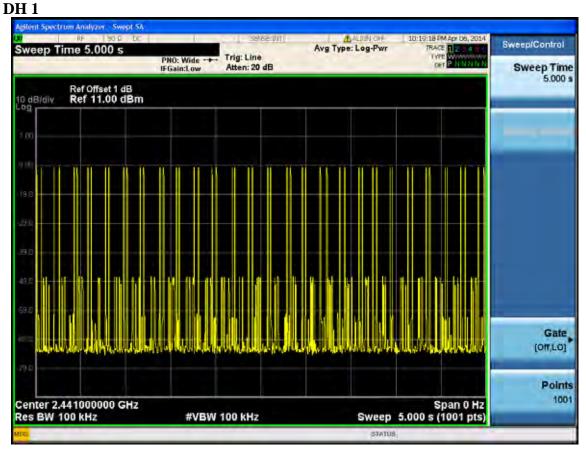
DH 5

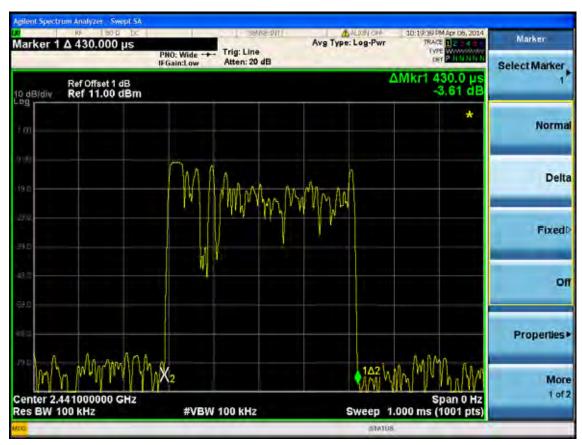






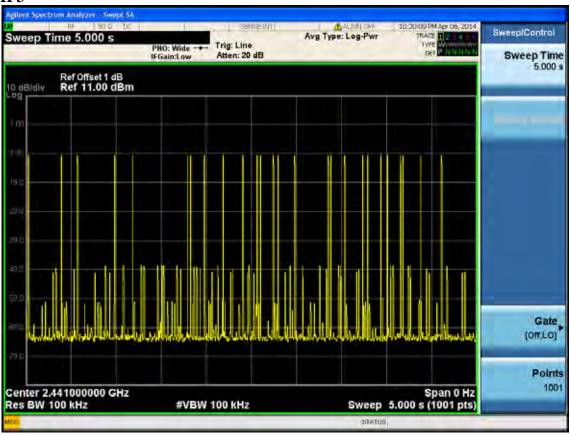
## Test Mode: 8-DPSK

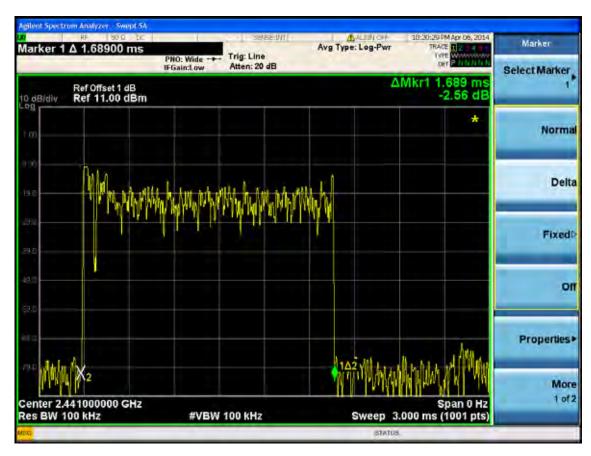






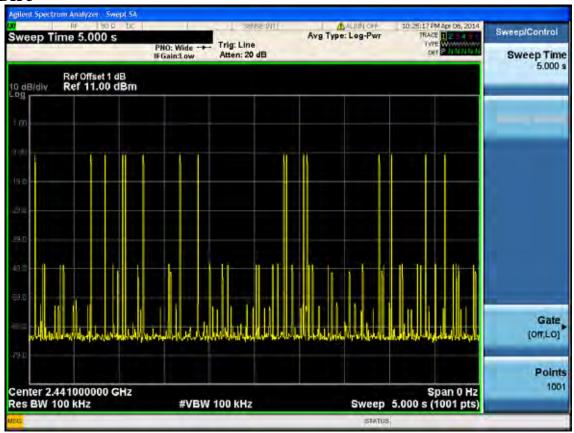
#### DH 3

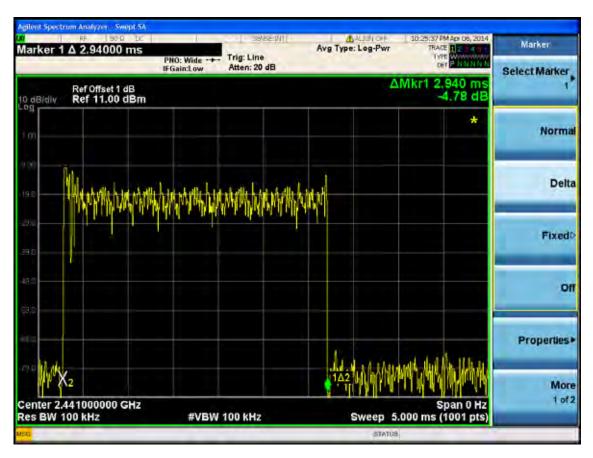






#### DH 5







## 10.MAXIMUM PEAK OUTPUT POWER TEST

## 10.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.
						Interval
1.	Spectrum Analyzer	Agilent	N9030A	MY51380221	Oct.31, 13	1Year
2.	Amp	HP	8449B	3008A08495	May.08, 13	1 Year
3.	Antenna	EMCO	3115	9607-4877	May.08, 13	1Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May.08, 13	1 Year
5.	Power Meter	Anritsu	ML2487A	6K00002472	May.08, 13	1Year
6.	Power Sensor	Anritsu	MA2491A	033005	May.08, 13	1Year

### 10.2.Limit

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

#### 10.3.Test Procedure

Connected the EUT's antenna port to Power Sensor, and use power meter to test peak output power Directly.

#### 10.4.Test Results

EUT: Tablet Po	С			
M/N:WT7-C				
Test date: 2014	1-04-06	Pressur	e: 101.4±1.0 kpa	Humidity: 52.7±3.0%
Tested by: Kev	rin_Hu	Test sit	e: RF site	Temperature:21.7±0.6
Cab	ole loss: 1 dB		Attenua	tor loss: 20 dB
Test Mode	CH (MHz)		Peak output Power ( dBm )	Limit (dBm)
	2402		5.317	30
GFSK	2441		5.280	30
	2480		5.106	30
	2402		4.640	30
8-DPSK	2441		4.706	30
	2480		4.308	30
Conclusion: PA	ASS			



#### 11.BAND EDGE COMPLIANCE TEST

### 11.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	Apr. 28,14	1 Year
2.	Amp	HP	8449B	3008A02495	Apr. 28,14	1 Year
3.	Horn Antenna	ETS	3115	9510-4580	Jun. 06, 14	1 Year
4.	HF Cable	Hubersuhner	Sucoflex104	274094/4	Apr. 28,14	1 Year
5	RF Cable	Hubersuhner	Sucoflex102	28610/2	Apr. 28,14	1 Year

#### 11.2.Limit

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

#### 11.3.Test Produce

For upper band emissions that are up to two bandwidths(2MHz) away (2483.5MHz to 2485.5MHz) from the band-edge use below produce:

- 1. Choose a spectrum analyzer span that encompasses both the peak of the fundamental emission and the band-edge emission under investigation. Set the analyzer RBW to 100KHz and with a video bandwidth 300KHz. Record the peak levels of the fundamental emission and the relevant band-edge emission, Observe the stored trace and measure the amplitude delta between the peak of the fundamental and the peak of the band-edge emission. This is not a field strength measurement, it is only a relative measurement to determine the amount by which the emission drops at the band edge relative to the highest fundamental emission level.
- 2. Subtract the delta measured in step (1) from the maximum field strengths measured in clause 4. The resultant field strengths are then used to determine band-edge compliance as required by Section 15.205

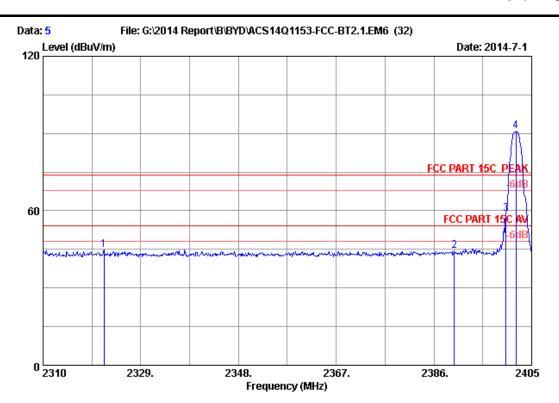
For emissions above two bandwidths away from the band-edge use below produce:

- 1. The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.
- 2. The turntable was 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 emission.
- 4. Set the spectrum analyzer in the following setting in order to capture the lower and upperband-edges of the emission:
  - (a) PEAK: RBW=1MHz; VBW=3MHz, PK detector, Sweep=AUTO
  - (b) This is pulse Modulation device a duty cycle factor was used to calculate average level based measured peak level.

### 11.4.Test Results Pass (The testing data was attached in the next pages.)

Note: If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.

page 11-2



Site no. : 3m Chamber Data no. : 5
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

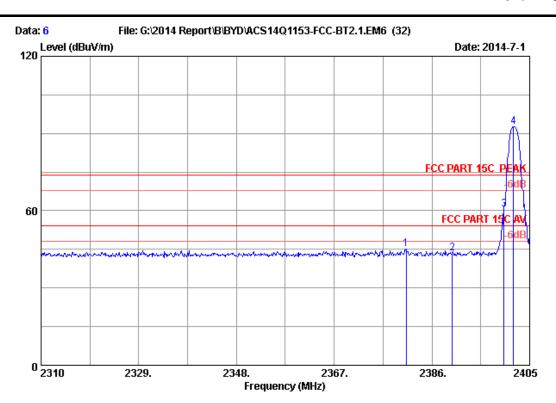
Test Mode : GFSK 2402MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission			
No.	Freq.	Factor	Loss	factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2321.875	28.01	5.68	35.70	46.91	44.90	74.00	29.10	Peak
2	2390.000	28.16	5.78	35.70	46.13	44.37	74.00	29.63	Peak
3	2400.000	28.18	5.80	35.70	60.50	58.78	74.00	15.22	Peak
4	2401.960	28.18	5.80	35.70	92.53	90.81	74.00	-16.81	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor

page 11-3



Site no. : 3m Chamber Data no. : 6
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

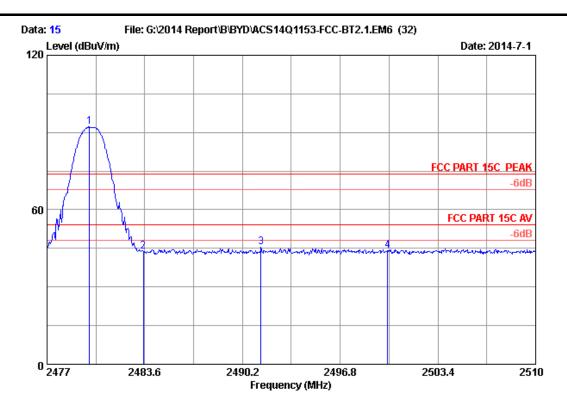
Test Mode : GFSK 2402MHz Tx

M/N : WT7-C

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits	_	Remark
1	2380.965	28.14	5.77	35.70	46.81	45.02	74.00	28.98	Peak
2	2390.000	28.16	5.78	35.70	45.18	43.42	74.00	30.58	Peak
3	2400.000	28.18	5.80	35.70	62.19	60.47	74.00	13.53	Peak
4	2401.865	28.18	5.80	35.70	94.44	92.72	74.00	-18.72	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor

page 11-4



Site no. : 3m Chamber Data no. : 15
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

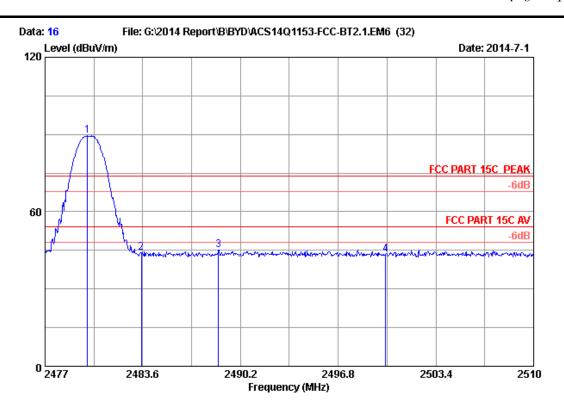
Test Mode : GFSK 2480MHz Tx

M/N : WT7-C

	No.	Freq.	Ant. Factor	Cable Loss	AMP factor	Reading	Emission Level	Limits	Margin	Remark
-		(MHz)	(dB/m)	(dB) 	(dB)	(dBuV)	(dBuV/m)	(dBuV/m) 	(dB)	
	1	2479.871	28.36	5.91	35.70	93.56	92.13	74.00	-18.13	Peak
	2	2483.500	28.36	5.92	35.70	45.23	43.81	74.00	30.19	Peak
	3	2491.454	28.38	5.93	35.70	46.86	45.47	74.00	28.53	Peak
	4	2500.000	28.40	5.94	35.70	45.63	44.27	74.00	29.73	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor

page 11-5



Site no. : 3m Chamber Data no. : 16
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

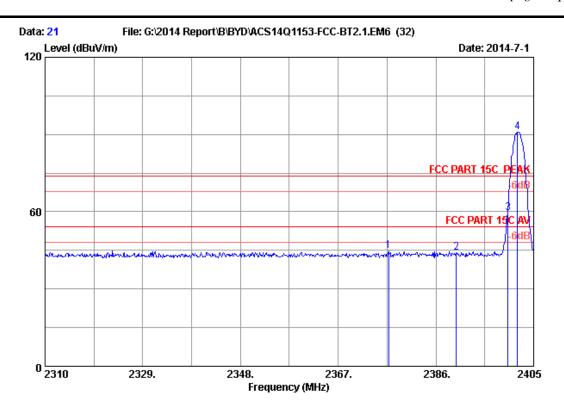
Test Mode : GFSK 2480MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission			
No.	Freq.	Factor	Loss	factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2479.871	28.36	5.91	35.70	90.89	89.46	74.00	-15.46	Peak
2	2483.500	28.36	5.92	35.70	45.42	44.00	74.00	30.00	Peak
3	2488.715	28.38	5.93	35.70	46.61	45.22	74.00	28.78	Peak
4	2500.000	28.40	5.94	35.70	44.73	43.37	74.00	30.63	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  $-{\rm Amp}$  Factor

page 11-6



Site no. : 3m Chamber Data no. : 21
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

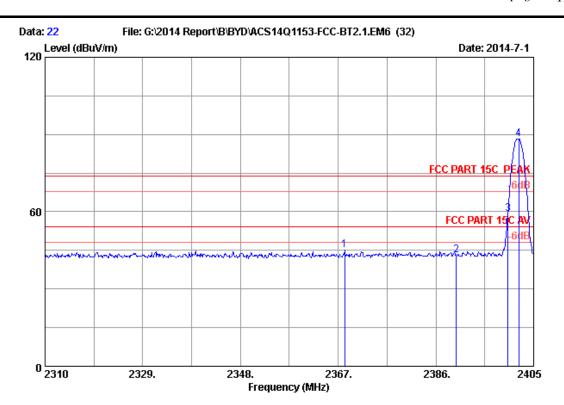
Test Mode : 8-DPSK 2402MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission			
No.	Freq.	Factor	Loss	factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2376.785	28.13	5.76	35.70	46.51	44.70	74.00	29.30	Peak
2	2390.000	28.16	5.78	35.70	46.05	44.29	74.00	29.71	Peak
3	2400.000	28.18	5.80	35.70	61.21	59.49	74.00	14.51	Peak
4	2401.865	28.18	5.80	35.70	92.56	90.84	74.00	-16.84	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor

page 11-7



Site no. : 3m Chamber Data no. : 22
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

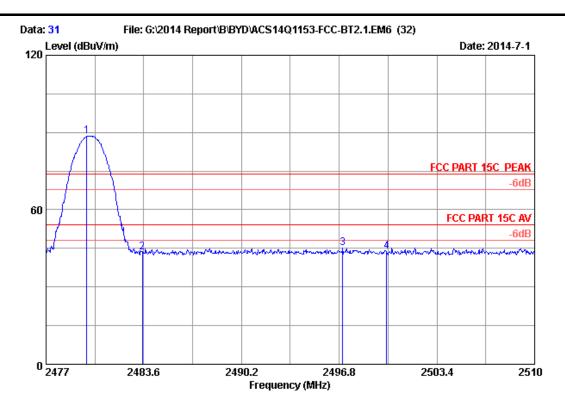
Test Mode : 8-DPSK 2402MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission			
No.	Freq.	Factor	Loss	factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2368.235	28.11	5.75	35.70	46.88	45.04	74.00	28.96	Peak
2	2390.000	28.16	5.78	35.70	44.77	43.01	74.00	30.99	Peak
3	2400.000	28.18	5.80	35.70	60.92	59.20	74.00	14.80	Peak
4	2402.150	28.18	5.80	35.70	90.12	88.40	74.00	-14.40	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor

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Site no. : 3m Chamber Data no. : 31
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

Power Rating : DC 5V From Adapter Input AC 120V/60Hz

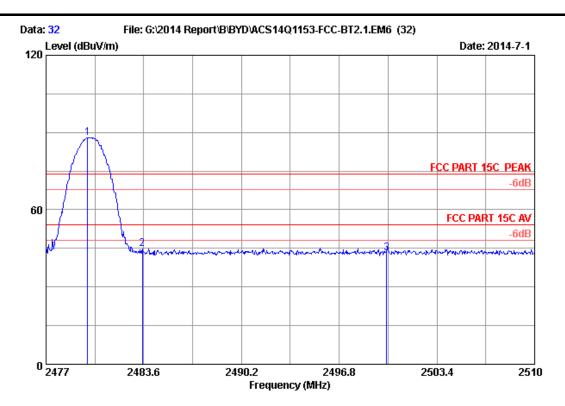
Test Mode : 8-DPSK 2480MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission			
No.	Freq.	Factor	Loss	factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2479.739	28.36	5.91	35.70	90.05	88.62	74.00	-14.62	Peak
2	2483.500	28.36	5.92	35.70	44.96	43.54	74.00	30.46	Peak
3	2497.031	28.39	5.94	35.70	46.58	45.21	74.00	28.79	Peak
4	2500.000	28.40	5.94	35.70	45.10	43.74	74.00	30.26	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor

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Site no. : 3m Chamber Data no. : 32
Dis. / Ant. : 3m 2013 3115 (4580) Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : 24\*C/56% Engineer : Kevin\_Hu

EUT : Tablet PC

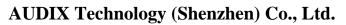
Power Rating : DC 5V From Adapter Input AC 120V/60Hz

Test Mode : 8-DPSK 2480MHz Tx

M/N : WT7-C

		Ant.	Cable	AMP		Emission			
No.	Freq.	Factor	Loss	factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2479.805	28.36	5.91	35.70	89.32	87.89	74.00	-13.89	Peak
2	2483.500	28.36	5.92	35.70	46.25	44.83	74.00	29.17	Peak
3	2500.000	28.40	5.94	35.70	44.42	43.06	74.00	30.94	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
-Amp Factor





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[NONE]		