

# Shenzhen Toby Technology Co., Ltd.

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# **FCC Radio Test Report** FCC ID: 2AL64-WESTGATE

# **Original Grant**

TB-FCC153919 Report No.

**Applicant** Shenzhen qiuyu Electronic Co.,Ltd

**Equipment Under Test (EUT)** 

**EUT Name** Tablet PC

Model No. PTV-R78-3288

Series Model No. Westgate Owner Tablet

**Brand Name** Westgate Owner

**Receipt Date** 2017-05-12

**Test Date** 2017-05-13 to 2017-05-18

**Issue Date** 2017-05-19

**Standards** FCC Part 15: 2016, Subpart C(15.247)

**Test Method** ANSI C63.10: 2013

**Conclusions PASS** 

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

The EUT technically complies with the FCC requirements

**Test/Witness Engineer** 

Approved& Authorized

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

TB-RF-074-1.0

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# 1. General Information about EUT

#### 1.1 Client Information

**Applicant**: Shenzhen qiuyu Electronic Co.,Ltd

Address : 3F, E Building, Hongzhuyongqi Industrial Park, Lezhujiao village,

xixiang town, Bao' an District, Shenzhen, China

Manufacturer : Shenzhen qiuyu Electronic Co.,Ltd

Address : 3F, E Building, Hongzhuyongqi Industrial Park, Lezhujiao village,

xixiang town, Bao' an District, Shenzhen, China

# 1.2 General Description of EUT (Equipment Under Test)

EUT Name		Tablet PC			
Models No.		PTV-R78-3288, WESTGATE OWNER TABLET			
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name for commercial.			
ran B		Operation Frequency:	Bluetooth V4.0: 2402~2480 MHz		
		Number of Channel:	Bluetooth: 79 Channels see Note 2		
Product	1	Max Peak Output Power: Bluetooth: 1.505 dBm(GFSK)			
Description		Antenna Gain:	1.4 dBi Internal Antenna		
	0	Modulation Type:	GFSK 1Mbps(1 Mbps)		
			π /4-DQPSK(2 Mbps)		
			8-DPSK(3 Mbps)		
Power Supply	:	DC Voltage supplied by AC	C/DC Adapter		
		DC Voltage supplied by Li-ion battery			
Power Rating	:	AC/DC Adapter (K-T10050	02000U):		
MARIA		Input: AC 100~240V, 50/60Hz, 0.35A.			
		Output: DC 5V, 2.0A.			
DC 3.7V by 3500mAh Li-ion battery.			on battery.		
Connecting I/O Port(S)	:	Please refer to the User's Manual			

#### Note:

(1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

#### (2) Channel List:

Bluetooth Channel List						
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	
00	2402	27	2429	54	2456	
01	2403	28	2430	55	2457	



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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	2412	37	2439	64	2466
11	2413	38	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		(4)
26	2428	53	2455		

<sup>(3)</sup> The Antenna information about the equipment is provided by the applicant.

# 1.3 Block Diagram Showing the Configuration of System Tested

# Charging + TX Mode

Adapter	EUT		

#### TX Mode

	EUT			
		_		



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### 1.4 Description of Support Units

Equipment Information						
Name Model FCC ID/VOC Manufacturer Used "√"						
(1)	(40)	a Work		mills.		
Cable Information						
Number	Shielded Type	Ferrite Core	Length	Note		
Cable 1	YES	NO	1.0M	133		

## 1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For Conducted Test				
Final Test Mode Description				
Mode 1 Charging + TX Mode				

For Radiated Test			
Final Test Mode Description			
Mode 1	TX GFSK Mode		
Mode 2	TX Mode(GFSK) Channel 00/39/78		
Mode 3	TX Mode( π /4-DQPSK) Channel 00/39/78		
Mode 4	e 4 TX Mode(8-DPSK) Channel 00/39/78		
Mode 5	Hopping Mode(GFSK)		
Mode 6	Hopping Mode( л /4-DQPSK)		
Mode 7	Hopping Mode(8-DPSK)		

#### Note:

(1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate. We have pretested all the test modes above.

According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels, and the worst case data rate as follows:

TX Mode: GFSK (1 Mbps)

TX Mode: # /4-DQPSK (2 Mbps)
TX Mode: 8-DPSK (3Mbps)

(2) The EUT is considered a portable unit; it was pre-tested on the positioned of each 3 axis, X-plane, Y-plane and Z-plane. The worst case was found positioned on X-plane as the



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normal use. Therefore only the test data of this X-plane was used for radiated emission measurement test.

### 1.6 Description of Test Software Setting

During testing channel power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of Bluetooth mode.

Test Software Version	RTLBTAPP.exe			
Frequency	2402 MHz	2441MHz	2480 MHz	
GFSK	DEF	DEF	DEF	
π /4-DQPSK	DEF	DEF	DEF	
8-DPSK	DEF	DEF	DEF	

## 1.7 Measurement Uncertainty

The reported uncertainty of measurement  $y \pm U$ , where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

Test Item	Parameters	Expanded Uncertainty (U <sub>Lab</sub> )
Conducted Emission	Level Accuracy: 9kHz~150kHz 150kHz to 30MHz	±3.42 dB ±3.42 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	±4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	±4.40 dB
Radiated Emission	Level Accuracy: Above 1000MHz	±4.20 dB



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### 1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

#### **CNAS (L5813)**

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

#### FCC List No.: (811562)

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 811562.

#### IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.



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# 2. Test Summary

FCC Part 15 Subpart C(15.247)/ RSS 247 Issue 1								
Standard Section		<b>-</b>	1 1	D I				
FCC	IC	Test Item	Judgment	Remark				
15.203	9	Antenna Requirement	PASS	N/A				
15.207	RSS-GEN 7.2.2	Conducted Emission	PASS	N/A				
15.205	RSS-Gen 7.2.3	Restricted Bands	PASS	N/A				
15.247(a)(1)	RSS 247 5.1 (2)	Hopping Channel Separation	PASS	N/A				
15.247(a)(1)	RSS 247 5.1 (4)	Dwell Time	PASS	N/A				
15.247(b)(1)	RSS 247 5.4 (2)	Peak Output Power	PASS	N/A				
15.247(b)(1)	RSS 247 5.1 (4)	Number of Hopping Frequency	PASS	N/A				
15.247(d)	RSS 247 5.5	Band Edge	PASS	N/A				
15.247(c)& 15.209	RSS 247 5.5	Radiated Spurious Emission	PASS	N/A				
15.247(a)	RSS 247 5.1 (1)	99% Occupied Bandwidth & 20dB Bandwidth	PASS	99%OBW GFSK:847.1731kHz π/4-DQPSK: 1181.8kHz 8-DPSK: 1133.1KHz				

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# 3. Test Equipment

AC Main C	onducted Emiss	sion			
Description	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	ROHDE& SCHWARZ	ESCI	100321	Jul. 22, 2016	Jul. 21, 2017
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jul. 22, 2016	Jul. 21, 2017
L.I.S.N	Rohde & Schwarz	ENV216	101131	Jul. 22, 2016	Jul. 21, 2017
L.I.S.N	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jul. 22, 2016	Jul. 21, 2017
Description	Spurious Emiss  Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 22, 2016	Jul. 21, 2017
EMI Test Receiver	Rohde & Schwarz	ESPI	10PTV-R78-3288 0/007	Jul. 22, 2016	Jul. 21, 2017
Bilog Antenna	ETS-LINDGREN	3142E	PTV-R78-328817 537	Mar.25, 2017	Mar. 24, 2018
Horn Antenna	ETS-LINDGREN	3117	PTV-R78-328843 207	Mar.25, 2017	Mar. 24, 2018
Pre-amplifier	Sonoma	310N	185903	Mar.24, 2017	Mar. 23, 2018
Pre-amplifier	HP	8449B	3008A00849	Mar.24, 2017	Mar. 23, 2018
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar.24, 2017	Mar. 23, 2018
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A
Antenna C	onducted Emiss	sion			
Description	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 22, 2016	Jul. 21, 2017
Spectrum Analyzer	Rohde & Schwarz	ESPI	100321	Jul. 22, 2016	Jul. 21, 2017



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# 4. Conducted Emission Test

#### 4.1 Test Standard and Limit

4.1.1Test Standard FCC Part 15.207

#### 4.1.2 Test Limit

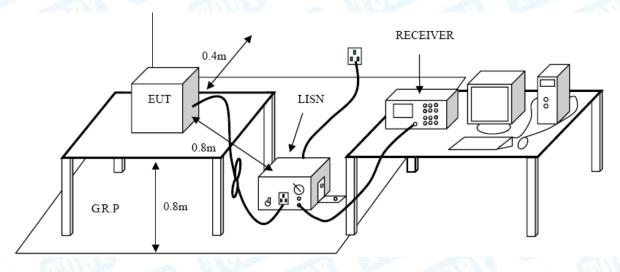
#### **Conducted Emission Test Limit**

Eroguanov	Maximum RF Line Voltage (dBμV)				
Frequency	Quasi-peak Level	Average Level			
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *			
500kHz~5MHz	56	46			
5MHz~30MHz	60	50			

#### Notes:

- (1) \*Decreasing linearly with logarithm of the frequency.
- (2) The lower limit shall apply at the transition frequencies.
- (3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

### 4.2 Test Setup



#### 4.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.



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I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

## 4.4 EUT Operating Mode

Please refer to the description of test mode.

#### 4.5 Test Data

Test data please refer the following pages.



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EUT:		Table	t PC	(1/1)	Model Nam	ie :	PTV-	R78-3288
Tempera	ature:	<b>25</b> ℃			Relative Hu		55%	PHILIP
Test Vol		AC 12	20V/60 Hz				134	
Termina	l:	Line	3	CHIL		1 1/1		THE REAL PROPERTY.
Test Mo	de:	USB	Charging Mo	ode	Carried States	3	A 5	Min
Remark		Only	worse case i	s reported	Frank		18	- 6
40 × × × × × × × × × × × × × × × × × × ×		0.5	Reading	(MHz)	Measure-	the white production of the second	QP: AVG:	peak AVG
No. IV		req. IHz	Level dBuV	Factor dB	ment dBuV	Limit dBuV	Over	Detector
1		499	13.26	9.92	23.18		-42.82	QP
2		499	6.65	9.92	16.57		-39.43	AVG
3	0.2	100	30.02	10.02	40.04	63.20	-23.16	QP
4	0.2	100	17.70	10.02	27.72	53.20	-25.48	AVG
5	0.2	940	5.60	10.02	15.62	60.41	-44.79	QP
6	0.2	940	2.67	10.02	12.69	50.41	-37.72	AVG
7	0.6	460	10.14	10.09	20.23	56.00	-35.77	QP
8	0.6	460	6.91	10.09	17.00	46.00	-29.00	AVG
9	1.3	700	24.55	10.06	34.61	56.00	-21.39	QP
10 *	1.3	700	14.71	10.06	24.77	46.00	-21.23	AVG
11	17.6	018	11.55	10.21	21.76	60.00	-38.24	QP
12	17.6	018	0.11	10.21	10.32	50.00	-39.68	AVG
Emissio	n Level=	Read	Level+ Cor	rect Factor				



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EUT:	Tablet PC		Model Name	e :	PTV-R	78-3288
Temperature:	25℃	0/1	Relative Hu	midity:	55%	
Test Voltage:	AC 120V/60 Hz	NB -	(IIII)		1	MAG
Terminal:	Neutral		M. Com	GT.	133	
Test Mode:	USB Charging M			1/7		TO S
Remark:	Only worse case	is reported	CIII 3	3	a V	
40 40 -10		May proper de la	of the state of th	grape ding dischools with the second	QP: AVG:	peak
0.150	0.5	(MHz)	5			30.000
No. Mk. Fro	Reading eq. Level	Correct Factor	Measure- ment	Limit	Over	
MI	Hz dBuV	dB	dBu∨	dBuV	dB	Detector
1 0.29	908 31.04	10.09	41.13	60.50	-19.37	QP
2 0.29	908 14.59	10.09	24.68	50.50	-25.82	AVG
3 0.65	540 19.30	10.02	29.32	56.00	-26.68	QP
4 0.65	540 13.40	10.02	23.42	46.00	-22.58	AVG
5 1.22	260 21.22	10.14	31.36	56.00	-24.64	QP
6 1.22	260 11.49	10.14	21.63	46.00	-24.37	AVG
7 4.40	059 20.18	10.06	30.24	56.00	-25.76	QP
8 4.40	059 8.64	10.06	18.70	46.00	-27.30	AVG
9 11.15	579 8.32	10.14	18.46	60.00	-41.54	QP
10 11.15	579 -0.60	10.14	9.54	50.00	-40.46	AVG
11 * 20.62	220 30.64	10.06	40.70	60.00	-19.30	QP
12 20.62	220 16.31	10.06	26.37	50.00	-23.63	AVG
Emission Level=	Read Level+ Cor	rect Factor				



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EUT:	Tablet PC	- C/I	Model Name :	PTV-F	R78-3288
Temperature:	25℃	ON P	Relative Humidity		CHILD
Test Voltage:	AC 240V/60 Hz				
Terminal:	Line			W.	
Test Mode:	USB Charging M	1ode		_ \	Millian
Remark:	Only worse case	is reported			6
90.0 dBuV				on.	
40			Caprodia Maria de Mar	QP: AVG:	peak
-10 0.150	0.5	(MHz)	5		30.000
No. Mk. F	Reading req. Level	Correct Factor	Measure- ment Limit	t Over	
	MHz dBuV	dB	dBu∀ dBu∀	/ dB	Detector
1 0.1	1859 27.27	9.99	37.26 64.2	1 -26.95	QP
2 0.1	1859 6.94	9.99	16.93 54.2°	1 -37.28	AVG
3 0.2	2459 11.58	10.02	21.60 61.89	9 -40.29	QP
4 0.2	2459 -1.88	10.02	8.14 51.89	9 -43.75	AVG
5 0.6	6700 15.69	10.10	25.79 56.00	0 -30.21	QP
6 0.6	5700 5.80	10.10	15.90 46.00	0 -30.10	AVG
7 2.1	1779 13.38	10.05	23.43 56.00	0 -32.57	QP
8 2.1	1779 3.68	10.05	13.73 46.00	0 -32.27	AVG
9 * 8.2	2418 26.59	10.10	36.69 60.00	0 -23.31	QP
10 8.2	2418 13.33	10.10	23.43 50.00	0 -26.57	AVG
11 17.1	1818 8.30	10.22	18.52 60.00	0 -41.48	QP
12 17.1	1818 -4.79	10.22	5.43 50.00	0 -44.57	AVG
Emission Level	= Read Level+ Co	orrect Factor			



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UT:		Table	et PC		Model Nar	ne :	PTV-F	78-3288
emp	erature:	25℃		EN BIN	Relative H	umidity:	55%	-11
est \	/oltage:	AC 2	40V/60 Hz	33	ETI/	Till I		HAIS
ermi	inal:	Neutr	ral			67	4:30	
est l	Mode:	USB	Charging N	Mode		a W		
Rema	ırk:	Only	worse case	e is reported	TO THE		0	MIL.
40	dBuv	12/1-1-2-14/1-14/1-14/1-14/1-14/1-14/1-1	The control of the co	Tradest and the state of the st	with the wife the second of th	MANAGER STA	QP: AVG:	A <sup>1</sup>
		0.5		(MHz)	5			30.000
0.150	Mk. Fre	eq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	30.000
0.150 No.	Mk. Fre	e <b>q</b> .	Level dBuV	Correct Factor	Measure- ment	dBuV	dB	Detector
0.150 No.	Mk. Fre	eq. Iz	dBuV 29.55	Correct Factor dB 10.10	Measure- ment dBuV 39.65	dBuV 61.89	dB -22.24	Detector
0.150 No.	Mk. Fre	eq. Iz .59	dBuV 29.55 12.07	Correct Factor dB 10.10	Measure- ment dBuV 39.65 22.17	dBuV 61.89 51.89	dB -22.24 -29.72	Detector QP AVG
0.150 No.	Mk. Fre	eq. Iz .59	dBuV 29.55	Correct Factor dB 10.10	Measure- ment dBuV 39.65	dBuV 61.89 51.89	dB -22.24	Detector
0.150 No.	Mk. Fre	eq. Hz 59 59	dBuV 29.55 12.07	Correct Factor dB 10.10	Measure- ment dBuV 39.65 22.17	dBuV 61.89 51.89 56.00	dB -22.24 -29.72	Detector QP AVG
0.150 No.	Mk. Fre	eq. Hz 59 59 20	dBuV 29.55 12.07 11.53	Correct Factor dB 10.10 10.10	Measure- ment dBuV 39.65 22.17 21.58	dBuV 61.89 51.89 56.00 46.00	dB -22.24 -29.72 -34.42	Detector QP AVG
No.	Mk. Fre	eq. dz 59 59 20 20	Level dBuV 29.55 12.07 11.53 1.73	Correct Factor dB 10.10 10.10 10.05	Measure- ment dBuV 39.65 22.17 21.58 11.78	dBuV 61.89 51.89 56.00 46.00 56.00	dB -22.24 -29.72 -34.42 -34.22	Detector QP AVG QP
0.150 No.	Mk. Fre	eq. dz 59 59 20 20 99	Level dBuV 29.55 12.07 11.53 1.73	Correct Factor dB 10.10 10.10 10.05 10.05	Measure- ment dBuV 39.65 22.17 21.58 11.78 27.45	dBuV 61.89 51.89 56.00 46.00 56.00	dB -22.24 -29.72 -34.42 -34.22 -28.55	Detector QP AVG QP AVG
No. 1 2 3 4 5 6	Mk. Fre	eq. dz 59 59 20 20 99	Level dBuV 29.55 12.07 11.53 1.73 17.31 6.12	Correct Factor  dB  10.10  10.10  10.05  10.05  10.14  10.14	Measure- ment dBuV 39.65 22.17 21.58 11.78 27.45 16.26	dBuV 61.89 51.89 56.00 46.00 56.00 56.00	dB -22.24 -29.72 -34.42 -34.22 -28.55 -29.74	Detector QP AVG QP AVG QP AVG
No. 1 2 3 4 5 6 7	Mk. Fre	eq.  1/2  59  59  20  20  99  00  00	Level dBuV 29.55 12.07 11.53 1.73 17.31 6.12 25.65	Correct Factor  dB  10.10  10.05  10.05  10.14  10.14  10.06	Measure- ment dBuV 39.65 22.17 21.58 11.78 27.45 16.26 35.71	dBuV 61.89 51.89 56.00 46.00 56.00 46.00	dB -22.24 -29.72 -34.42 -34.22 -28.55 -29.74 -20.29	Detector QP AVG QP AVG
No. 1 2 3 4 5 6 7 8	Mk. Free MH 0.24 0.24 0.76 0.76 1.20 * 3.37 3.37	eq.  1/z  59  59  20  20  99  00  00  38	Level dBuV 29.55 12.07 11.53 1.73 17.31 6.12 25.65 12.37	Correct Factor  dB  10.10  10.05  10.05  10.14  10.14  10.06  10.06	Measure- ment dBuV 39.65 22.17 21.58 11.78 27.45 16.26 35.71 22.43	dBuV 61.89 51.89 56.00 46.00 56.00 46.00 46.00 60.00	dB -22.24 -29.72 -34.42 -34.22 -28.55 -29.74 -20.29 -23.57	Detector QP AVG QP AVG QP AVG
No. 1 2 3 4 5 6 7 8 9	Mk. Free MH 0.24 0.24 0.76 0.76 1.20 1.20 * 3.37 3.37 10.01	eq	Level dBuV 29.55 12.07 11.53 1.73 17.31 6.12 25.65 12.37 11.25	Correct Factor  dB  10.10  10.10  10.05  10.05  10.14  10.06  10.06  10.16	Measure- ment dBuV 39.65 22.17 21.58 11.78 27.45 16.26 35.71 22.43 21.41	dBuV 61.89 51.89 56.00 46.00 56.00 46.00 60.00	dB -22.24 -29.72 -34.42 -34.22 -28.55 -29.74 -20.29 -23.57 -38.59	Detector QP AVG QP AVG QP AVG QP AVG



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# 5. Radiated Emission Test

## 5.1 Test Standard and Limit

5.1.1 Test Standard FCC Part 15.209

5.1.2 Test Limit

#### Radiated Emission Limit (9 kHz~1000MHz)

Frequency (MHz	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

## Radiated Emission Limit (Above 1000MHz)

Frequency	Class B (dBuV/m)(at 3m)			
(MHz)	Peak	Average		
Above 1000	74	54		

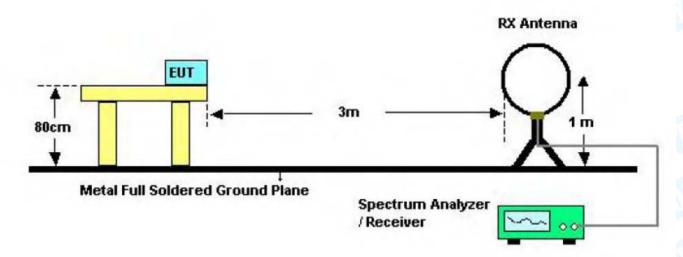
#### Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission Level (dBuV/m)=20log Emission Level (uV/m)

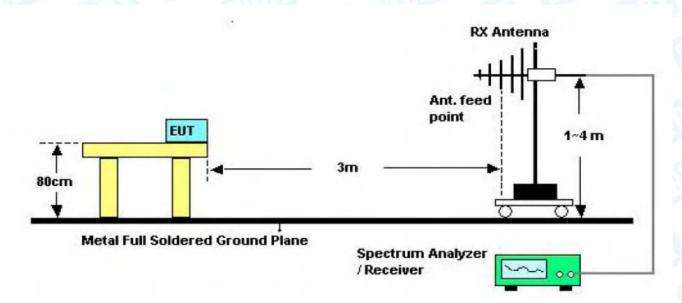


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# 5.2 Test Setup



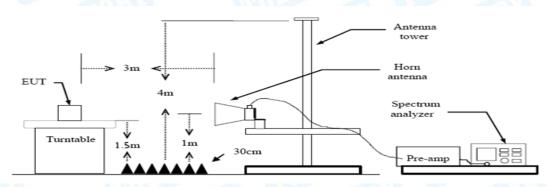
**Below 30MHz Test Setup** 



**Below 1000MHz Test Setup** 



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**Above 1GHz Test Setup** 

#### 5.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.

# 5.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power in TX mode.

#### 5.5 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

Test data please refer the following pages.



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#### 9KHz~30MHz

From 9KHz to 30MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB

below the permissible value has no need to be reported.

#### 30MHz~1GHz

EUT:	Tablet PC		Model Na	ime :	PTV-R7	78-3288
Temperature:	25℃		Relative H	umidity:	55%	
Test Voltage:	DC 3.7V			CHILD)		a 1
Ant. Pol.	Horizontal	A British	Time.	-	CIN'	33
Test Mode:	TX GFSK Mode	e 2402MHz	CHURCH	-	100	
Remark:	Only worse cas	se is reported	5	11/20		181
80.0 dBuV/m						
				(RF)FCC 15	C 3M Radiation	
					Margin -6	dB [
			5 X			
30		2 3	<b> </b>			
30	1 1	ŽΜ̈́νη	<i>y</i> v\√ \ <b>X</b> <sub>1</sub>	u Mu		ane of the same
John	med worth	~~~~	The same of the sa	A promotory	Mary Charles Harriston	Andrew
Mary Lab	Mary Milan	ed altraigate of the first				
and which the wall						
	60 70 80	(MHz)	300	400 50	0 600 700	1000.00
				400 50	0 600 700	1000.00
	Reading		Measure- ment	400 50 Limit	0 600 700 Over	1000.00
30.000 40 50 (	Reading q. Level	Correct Factor	Measure-			1000.00
No. Mk. Free	Reading q. Level z dBuV	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over	Detecto
No. Mk. Free MHz	Reading q. Level z dBuV 54 47.26	Correct Factor dB/m -22.65	Measure- ment dBuV/m 24.61	Limit dBuV/m 43.50	Over dB -18.89	Detecto peak
No. Mk. Free MHz 1 90.85	Reading Level dBuV 54 47.26	Correct Factor dB/m -22.65 -20.84	Measure- ment dBuV/m 24.61 29.54	Limit dBuV/m 43.50 43.50	Over dB -18.89 -13.96	Detecto peak peak
No. Mk. Free MHz 1 90.85 2 169.00 3 180.01	Reading Level dBuV 54 47.26 054 50.38	Correct Factor dB/m -22.65 -20.84 -20.26	Measure- ment dBuV/m 24.61 29.54 30.12	Limit dBuV/m 43.50 43.50 43.50	Over dB -18.89 -13.96 -13.38	Detector peak peak peak
No. Mk. Free MHz 1 90.85	Reading Level dBuV 54 47.26 054 50.38	Correct Factor dB/m -22.65 -20.84	Measure- ment dBuV/m 24.61 29.54	Limit dBuV/m 43.50 43.50	Over dB -18.89 -13.96	Detecto peak peak
No. Mk. Free MHz 1 90.85 2 169.00 3 180.01	Reading Level  dBuV  47.26  54 47.26  554 50.38  65 50.38	Correct Factor dB/m -22.65 -20.84 -20.26	Measure- ment dBuV/m 24.61 29.54 30.12	Limit dBuV/m 43.50 43.50 43.50	Over dB -18.89 -13.96 -13.38	Detector peak peak peak
No. Mk. Free MHz 1 90.85 2 169.00 3 180.01 4 263.81	Reading Level  dBuV  47.26  54 47.26  554 50.38  65 50.38  90 51.06  681 57.02	Correct Factor dB/m -22.65 -20.84 -20.26 -17.40	Measure- ment dBuV/m 24.61 29.54 30.12 33.66	Limit dBuV/m 43.50 43.50 43.50 46.00	Over  dB  -18.89  -13.96  -13.38  -12.34	Detector peak peak peak peak



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	Tablet	PC	a WW	Model N	ame:	PTV-R	78-3288
emperature:	<b>25</b> ℃		13	Relative Humidity:		55%	
est Voltage:	DC 3.7	V		4/16		6.63	
nt. Pol.	Vertica	1	WALL S		1 10		1
est Mode:	TX GF	SK Mode 24	402MHz	and i		a GIV	11/2
Remark:	Only w	orse case is	s reported	Charles	100	18 0	
80.0 dBuV/m			3 4	55		5C 3M Radiatio Margin -{	
30.000 40 50	60 70	80	(MHz)	300	400 50	0 600 700	1000.00
30.000 40 50	60 70 Freq.						
30.000 40 50 No. Mk.		80 Reading	(MHz)	300 Measure-	400 50	0 600 700	1000.000
30.000 40 50 No. Mk. F	req.	Reading Level	(MHz) Correct Factor	300 Measure- ment	400 50 Limit	0 600 700 Over	1000.000
No. Mk. F	Freq.	Reading Level dBuV	(MHz)  Correct Factor  dB/m	Measure- ment dBuV/m	400 50  Limit  dBuV/m	0 600 700 Over	1000.000
No. Mk. F	Freq. MHz	Reading Level dBuV 45.73	(MHz)  Correct Factor dB/m -14.15	Measure- ment dBuV/m 31.58	400 50  Limit  dBuV/m  40.00	Over dB -8.42	Detector peak
No. Mk. F	Freq. MHz 0000 4177	Reading Level dBuV 45.73 51.46	(MHz)  Correct Factor dB/m -14.15 -22.89	Measure- ment dBuV/m 31.58 28.57	400 50 Limit dBuV/m 40.00 40.00	Over dB -8.42	Detector peak peak
No. Mk. F  1 30. 2 87. 3 166 4 177	Treq. MHz 0000 4177 5.0680	Reading Level dBuV 45.73 51.46 56.06	(MHz)  Correct Factor  dB/m -14.15 -22.89 -20.66	300 Measure- ment dBuV/m 31.58 28.57 35.40	400 50  Limit  dBuV/m  40.00  40.00  43.50	Over  dB  -8.42  -11.43  -8.10	Detector peak peak



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## Above 1GHz(Only worse case is reported)

EUT:	Tablet PC	Model Name :	PTV-R78-3288
Temperature:	25℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		18.0
Ant. Pol.	Horizontal		
Test Mode:	TX GFSK Mode 2402MHz		LITTLE OF
Remark:	No report for the emission wh prescribed limit.	ich more than 10 dB bo	elow the

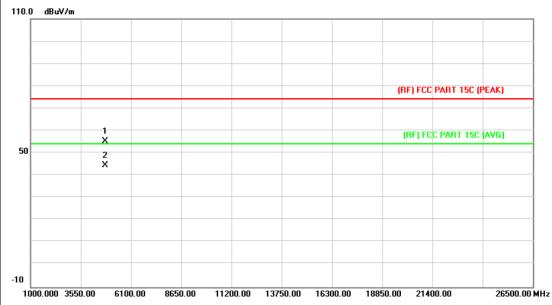


No	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4803.510	44.38	13.44	57.82	74.00	-16.18	peak
2	*	4806.570	32.18	13.46	45.64	54.00	-8.36	AVG



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EUT:	Tablet PC	Model Name :	PTV-R78-3288					
Temperature:	25℃	Relative Humidity:	55%					
Test Voltage:	est Voltage: DC 3.7V							
Ant. Pol.	Vertical							
Test Mode:	TX GFSK Mode 2402MHz		THE PARTY OF THE P					
Remark:	Remark: No report for the emission which more than 10 dB below the							
prescribed limit.								

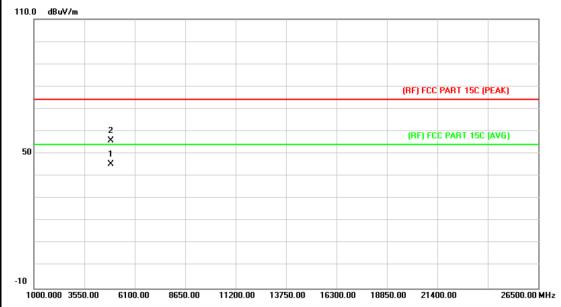


No.	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4804.270	41.84	13.44	55.28	74.00	-18.72	peak
2	*	4805.690	31.11	13.46	44.57	54.00	-9.43	AVG



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EUT:	Tablet PC	Model Name :	PTV-R78-3288					
Temperature:	25℃	Relative Humidity:	55%					
Test Voltage:	st Voltage: DC 3.7V							
Ant. Pol.	Horizontal							
Test Mode:	TX GFSK Mode 2441MHz		THE PARTY OF THE P					
Remark:	No report for the emission prescribed limit.	which more than 10 dE	3 below the					

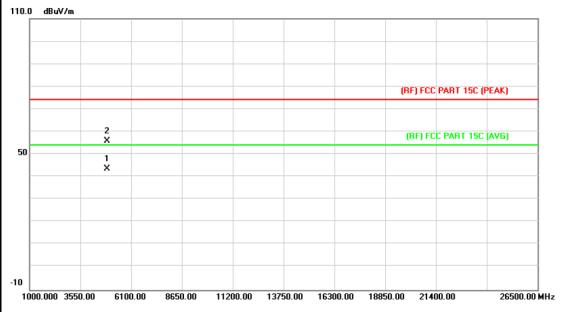


No	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4882.879	31.39	13.90	45.29	54.00	-8.71	AVG
2		4883.671	42.00	13.92	55.92	74.00	-18.08	peak



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EUT:	Tablet PC	Model Name :	PTV-R78-3288							
Temperature:	25℃	Relative Humidity:	55%							
Test Voltage:	DC 3.7V	DC 3.7V								
Ant. Pol.	Vertical	Vertical								
Test Mode:	TX GFSK Mode 2441MHz		THE PARTY OF THE P							
Remark: No report for the emission which more than 10 dB below the prescribed limit.										



No	o. Mk	. Freq.	_		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4880.297	29.74	13.89	43.63	54.00	-10.37	AVG
2		4881.692	42.05	13.90	55.95	74.00	-18.05	peak



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EUT:	Tablet PC	Model Name :	PTV-R78-3288				
Temperature:	Temperature: 25℃ Relative		55%				
Test Voltage: DC 3.7V							
Ant. Pol.	Horizontal						
Test Mode:	TX GFSK Mode 2480MHz		THE PARTY OF THE P				
Remark: No report for the emission which more than 10 dB below the prescribed limit.							

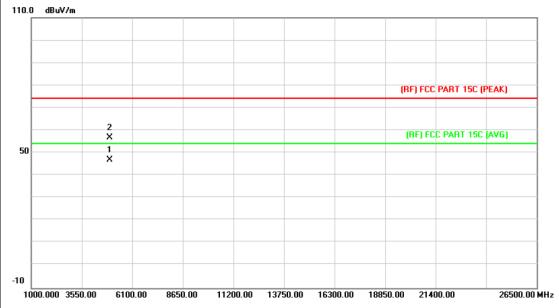


No.	Mk	. Freq.	_		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4959.280	30.49	14.36	44.85	54.00	-9.15	AVG
2		4961.277	41.91	14.38	56.29	74.00	-17.71	peak



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Tablet PC	Model Name :	PTV-R78-3288						
25℃	Relative Humidity:	55%						
Test Voltage: DC 3.7V								
Vertical								
TX GFSK Mode 2480MHz		- TILLE						
Remark: No report for the emission which more than 10 dB below the prescribed limit.								
	25°C DC 3.7V Vertical TX GFSK Mode 2480MHz No report for the emission w	25°C Relative Humidity:  DC 3.7V  Vertical  TX GFSK Mode 2480MHz  No report for the emission which more than 10 dB						

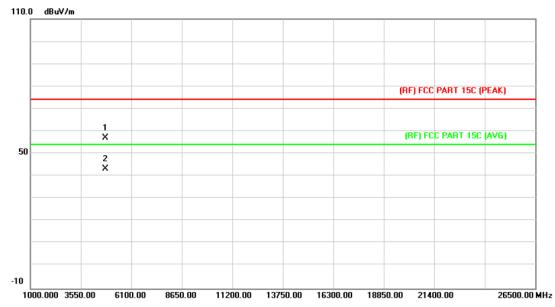


No	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4960.125	32.48	14.36	46.84	54.00	-7.16	AVG
2		4961.275	42.41	14.38	56.79	74.00	-17.21	peak



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EUT:	Tablet PC	Model Name :	PTV-R78-3288							
Temperature:	25℃	Relative Humidity:	55%							
Test Voltage:	DC 3.7V	DC 3.7V								
Ant. Pol.	Horizontal	Horizontal								
Test Mode:	TX π /4-DQPSK Mode 2402	2MHz	THU.							
Remark:	No report for the emission which more than 10 dB below the prescribed limit.									

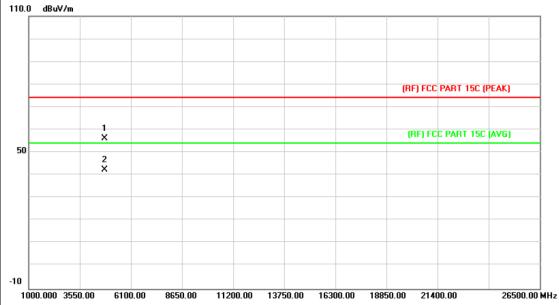


No.	Mk	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4802.547	43.55	13.43	56.98	74.00	-17.02	peak
2	*	4805.672	29.81	13.46	43.27	54.00	-10.73	AVG



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EUT:	Tablet PC	Model Name :	PTV-R78-3288			
Temperature:	25℃	Relative Humidity:	55%			
Test Voltage: DC 3.7V						
Ant. Pol.	Vertical					
Test Mode:	TX π /4-DQPSK Mode 240	)2MHz	THE PERSON NAMED IN			
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					

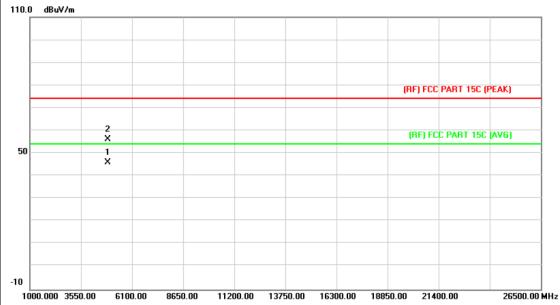


No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4803.761	42.83	13.44	56.27	74.00	-17.73	peak
2	*	4804.297	28.85	13.44	42.29	54.00	-11.71	AVG



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EUT:	Tablet PC	Model Name :	PTV-R78-3288					
Temperature:	25℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V							
Ant. Pol.	Horizontal							
Test Mode:	TX π /4-DQPSK Mode 2441	MHz	LINE TO SERVICE					
Remark:	emark: No report for the emission which more than 10 dB below the							
prescribed limit.								

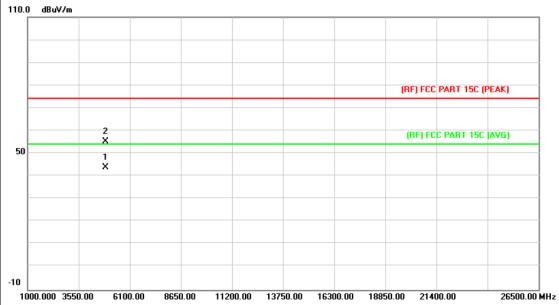


No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4881.790	32.07	13.90	45.97	54.00	-8.03	AVG
2		4883.215	42.23	13.91	56.14	74.00	-17.86	peak



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EUT:	Tablet PC	Model Name :	PTV-R78-3288						
Temperature:	25℃	Relative Humidity:	55%						
Test Voltage:	DC 3.7V	DC 3.7V							
Ant. Pol.	Vertical	Vertical							
Test Mode:	TX π /4-DQPSK Mode 2441	MHz	THE PARTY OF THE P						
Remark:	No report for the emission which more than 10 dB below the								
	prescribed limit.								

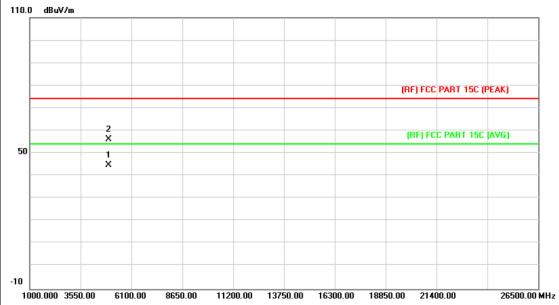


No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4882.715	29.97	13.90	43.87	54.00	-10.13	AVG
2		4883.687	41.37	13.92	55.29	74.00	-18.71	peak



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EUT:	Tablet PC	Model Name :	PTV-R78-3288				
Temperature:	25℃	Relative Humidity:	55%				
Test Voltage:	Test Voltage: DC 3.7V						
Ant. Pol.	Horizontal						
Test Mode:	TX π /4-DQPSK Mode 2480M	Hz	L. C. L.				
Remark:	No report for the emission wh prescribed limit.	ich more than 10 dB be	elow the				



No	0.	Mk.	Freq.			Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	,	*	4960.215	30.51	14.36	44.87	54.00	-9.13	AVG
2			4960.750	41.92	14.36	56.28	74.00	-17.72	peak



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EUT:	Tablet PC	Model Name :	PTV-R78-3288					
Temperature:	25℃	Relative Humidity:	55%					
Test Voltage:	tage: DC 3.7V							
Ant. Pol.	Vertical							
Test Mode:	TX π /4-DQPSK Mode 2480M	Hz	LINE TO SERVICE					
Remark: No report for the emission which more than 10 dB below the prescribed limit.								



No.	Mk	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4959.653	29.76	14.36	44.12	54.00	-9.88	AVG
2		4960.255	43.27	14.36	57.63	74.00	-16.37	peak



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EUT:	Tablet PC	Model Name :	PTV-R78-3288			
Temperature:	25℃	Relative Humidity:	55%			
Test Voltage: DC 3.7V						
Ant. Pol.	Horizontal					
Test Mode:	TX 8-DPSK Mode 2402MHz		THE PARTY OF THE P			
Remark:	No report for the emission w prescribed limit.	vhich more than 10 dB	below the			

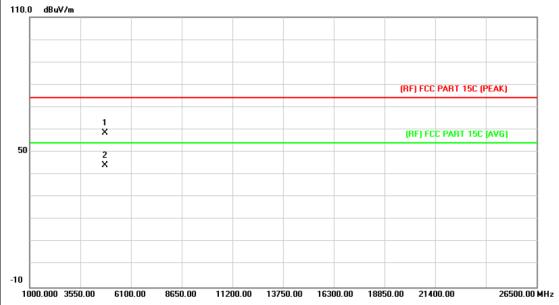


No	. Mk	c. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4803.120	30.13	13.44	43.57	54.00	-10.43	AVG
2		4805.000	43.71	13.44	57.15	74.00	-16.85	peak



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EUT:	Tablet PC Model Name :		PTV-R78-3288			
Temperature:	25℃	Relative Humidity:				
Test Voltage:	DC 3.7V					
Ant. Pol.	Vertical					
Test Mode:	TX 8-DPSK Mode 2402MI	Hz				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					

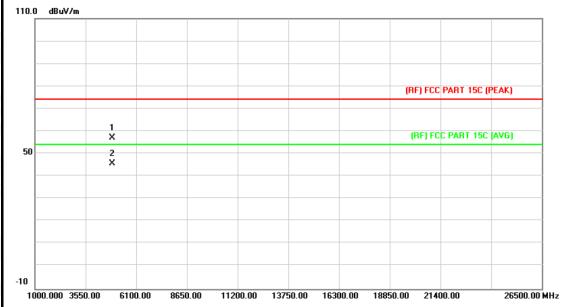


No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4802.672	45.19	13.43	58.62	74.00	-15.38	peak
2	*	4806.417	30.72	13.46	44.18	54.00	-9.82	AVG



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EUT:	Tablet PC	Model Name :	PTV-R78-3288			
Temperature:	25℃	<b>Relative Humidity:</b> 55%				
Test Voltage:	DC 3.7V					
Ant. Pol.	Horizontal					
Test Mode:	TX 8-DPSK Mode 2441MHz					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					

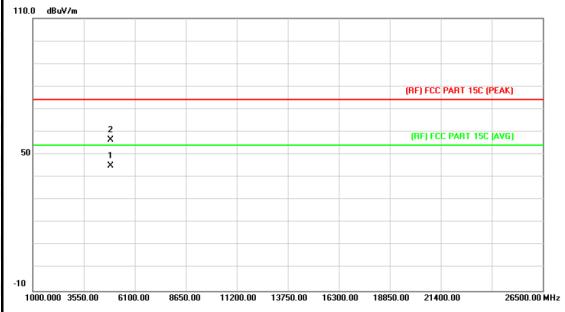


No.	Mk.	Freq.			Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4881.267	43.22	13.90	57.12	74.00	-16.88	peak
2	*	4882.123	31.77	13.90	45.67	54.00	-8.33	AVG



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EUT:	Tablet PC	Model Name :	PTV-R78-3288						
Temperature:	25℃	25℃ Relative Humidity: 55%							
Test Voltage:	DC 3.7V	DC 3.7V							
Ant. Pol.	Vertical								
Test Mode:	TX 8-DPSK Mode 2441MH	z	LINE TO SERVICE						
Remark:	No report for the emission which more than 10 dB below the prescribed limit.								

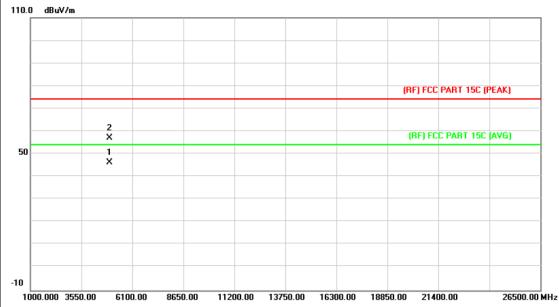


N	0.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4881.027	31.23	13.90	45.13	54.00	-8.87	AVG
2			4883.254	42.67	13.91	56.58	74.00	-17.42	peak



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EUT:	Tablet PC	Model Name :	PTV-R78-3288				
Temperature:	25°C Relative Humidity: 55%						
Test Voltage:	DC 3.7V						
Ant. Pol.	Horizontal						
Test Mode:	TX 8-DPSK Mode 2480MHz		LILL STREET				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						

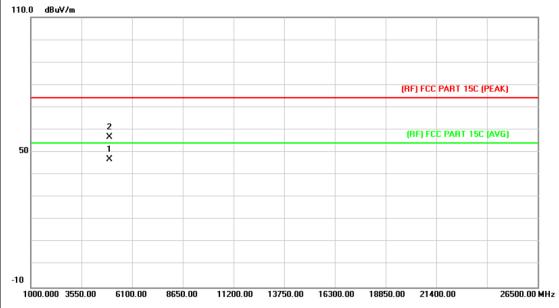


No.	Mk	Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4959.257	31.82	14.36	46.18	54.00	-7.82	AVG
2		4960.370	42.77	14.36	57.13	74.00	-16.87	peak



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EUT:	Tablet PC	Model Name :	PTV-R78-3288					
Temperature:	25℃ Relative Humidity: 55%							
Test Voltage:	DC 3.7V							
Ant. Pol.	Vertical							
Test Mode:	TX 8-DPSK Mode 2480MHz		LINE TO SERVICE					
Remark:	No report for the emission which more than 10 dB below the prescribed limit.							



No	o. <b>I</b>	Иk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*		4960.230	32.61	14.36	46.97	54.00	-7.03	AVG
2			4961.721	42.33	14.38	56.71	74.00	-17.29	peak



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# 6. Restricted Bands Requirement

### 6.1 Test Standard and Limit

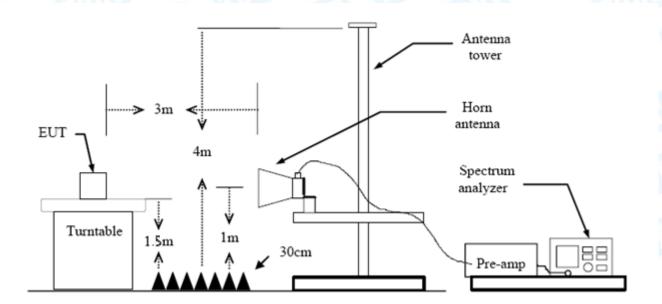
6.1.1 Test Standard FCC Part 15.209 FCC Part 15.205

6.1.2 Test Limit

Restricted Frequency	Class B (dE	BuV/m)(at 3m)
Band (MHz)	Peak	Average
2310 ~2390	74	54
2483.5 ~2500	74	54

Note: All restriction bands have been tested, only the worst case is reported.

# 6.2 Test Setup



## 6.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.



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(3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.

- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with AVG Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.

# 6.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

## 6.5 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

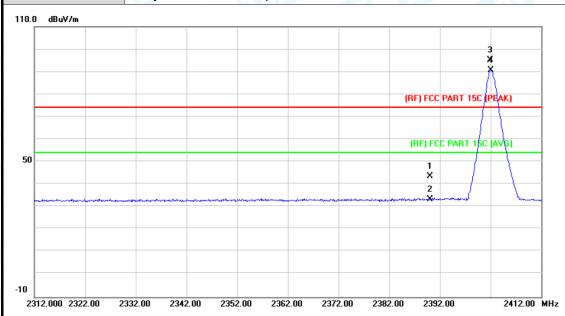
All restriction bands have been tested, only the worst case is reported.



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# (1) Radiation Test

EUT:	Tablet PC	Model Name:	PTV-R78-3288					
Temperature:	25℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V	DC 3.7V						
Ant. Pol.	Horizontal	COMP.	THE PARTY OF THE P					
Test Mode:	TX GFSK Mode 2402MHz							
Remark:	Only worse case is reported	The same						

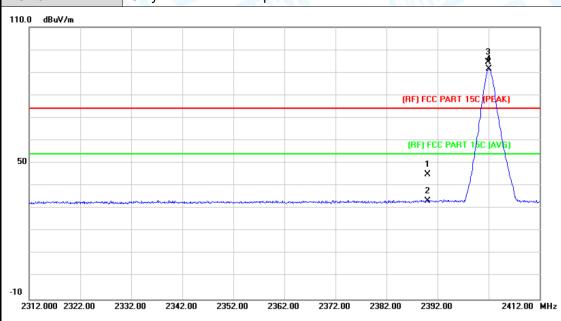


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	42.74	0.77	43.51	74.00	-30.49	peak
2		2390.000	32.65	0.77	33.42	54.00	-20.58	AVG
3	X	2401.900	94.44	0.82	95.26	Fundamental	Frequency	peak
4	*	2402.000	89.77	0.82	90.59	Fundamental I	requency	AVG



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Tablet PC	Model Name :	PTV-R78-3288					
25℃	Relative Humidity:	55%					
DC 3.7V	DC 3.7V						
Vertical							
TX GFSK Mode 2402MHz							
Only worse case is reported							
	25℃ DC 3.7V Vertical TX GFSK Mode 2402MHz	25°C Relative Humidity:  DC 3.7V  Vertical  TX GFSK Mode 2402MHz					

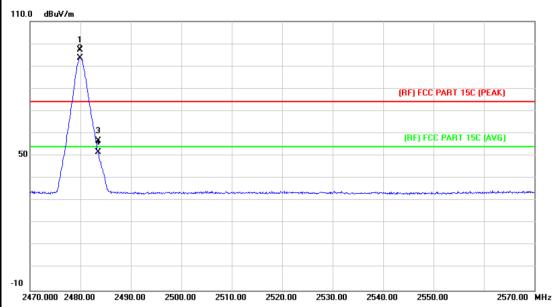


No.	Mk.	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	44.41	0.77	45.18	74.00	-28.82	peak
2		2390.000	32.69	0.77	33.46	54.00	-20.54	AVG
3	Χ	2401.900	93.76	0.82	94.58	Fundamental	I Frequency	peak
4	*	2402.100	90.64	0.82	91.46	Fundamental	I Frequency	AVG



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EUT:	Tablet PC	Model Name :	PTV-R78-3288					
Temperature:	25℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V	DC 3.7V						
Ant. Pol.	Horizontal		A FILM					
Test Mode:	TX GFSK Mode 2480 MHz	TX GFSK Mode 2480 MHz						
Remark:	Only worse case is reported	CITI'S	3 _ 6					

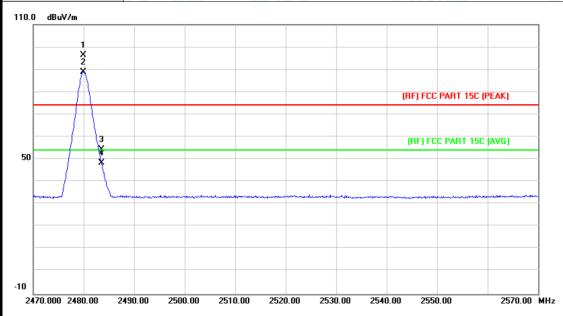


No.	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2479.900	96.13	1.15	97.28	Fundamental	Frequency	peak
2	*	2479.900	92.63	1.15	93.78	Fundamenta	Frequency	AVG
3		2483.500	55.57	1.17	56.74	74.00	-17.26	peak
4		2483.500	50.39	1.17	51.56	54.00	-2.44	AVG



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EUT:	Tablet PC	Model Name :	PTV-R78-3288
Temperature:	25℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Ant. Pol.	Vertical		
Test Mode:	TX GFSK Mode 2480 MHz		CIU
Remark:	Only worse case is reported	The state of the s	

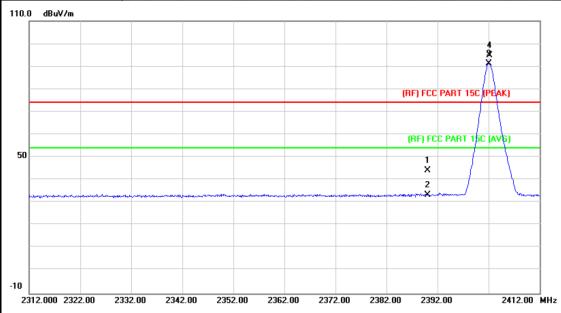


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2479.900	95.09	1.15	96.24	Fundamenta	al Frequency	peak
2	*	2479.900	87.70	1.15	88.85	Fundamenta	I Frequency	AVG
3		2483.500	53.09	1.17	54.26	74.00	-19.74	peak
4		2483.500	47.05	1.17	48.22	54.00	-5.78	AVG



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EUT:	Tablet PC	Model Name :	PTV-R78-3288					
Temperature:	25℃	Relative Humidity:	55%					
Test Voltage:	DC 3.7V	DC 3.7V						
Ant. Pol.	Horizontal							
Test Mode:	TX π /4-DQPSK Mode 2402	MHz	2 100					
Remark:	Only worse case is reported							
110.0 dBuV/m								

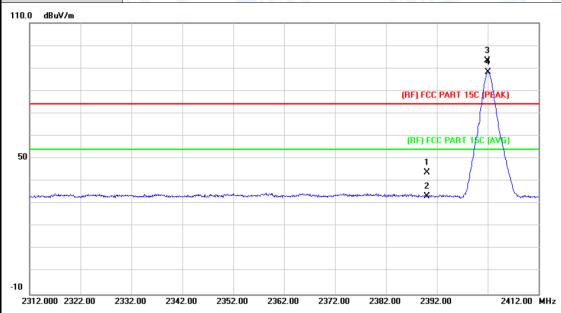


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	43.40	0.77	44.17	74.00	-29.83	peak
2		2390.000	32.70	0.77	33.47	54.00	-20.53	AVG
3	*	2402.000	90.46	0.82	91.28	Fundament	al Frequency	, AVG
4	X	2402.200	94.00	0.82	94.82	Fundament	al Frequency	peak



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EUT:	Tablet PC	Model Name :	PTV-R78-3288				
Temperature:	25℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V	DC 3.7V					
Ant. Pol.	Vertical						
Test Mode:	TX π /4-DQPSK Mode 2402M	lHz	1 Aller				
Remark:	Only worse case is reported						
1100 mW							

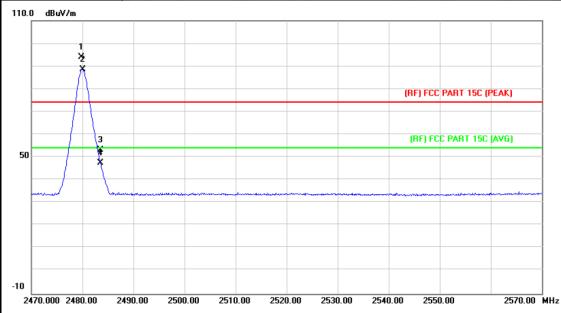


No.	Mk.	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	43.18	0.77	43.95	74.00	-30.05	peak
2		2390.000	32.66	0.77	33.43	54.00	-20.57	AVG
3	Χ	2401.900	92.39	0.82	93.21	Fundamen	ital Frequenc	<sub>sy</sub> beak
4	*	2402.100	87.49	0.82	88.31	Fundamen	tal Frequency	y AVG



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EUT:	Tablet PC	Model Name :	PTV-R78-3288				
Temperature:	25℃	Relative Humidity:	55%				
Test Voltage:	DC 3.7V						
Ant. Pol.	Horizontal						
Test Mode:	TX π /4-DQPSK Mode 2480MHz						
Remark:	Only worse case is reported						

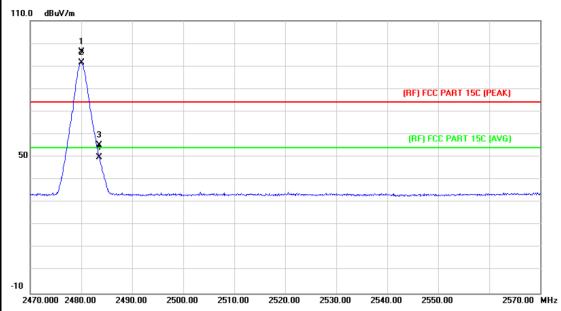


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2479.800	92.71	1.15	93.86	Fundament	al Frequency	peak
2	*	2480.000	87.51	1.15	88.66	Fundament	al Frequency	AVG
3		2483.500	52.09	1.17	53.26	74.00	-20.74	peak
4		2483.500	46.27	1.17	47.44	54.00	-6.56	AVG



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Tablet PC	Model Name :	PTV-R78-3288			
25℃	Relative Humidity: 5				
DC 3.7V					
Vertical					
TX π /4-DQPSK Mode 2480	MHz	3 130			
Only worse case is reported					
	25°C  DC 3.7V  Vertical  TX    TX    TX    TX    TX    TX	25°C Relative Humidity:  DC 3.7V  Vertical  ΤΧ π /4-DQPSK Mode 2480MHz			

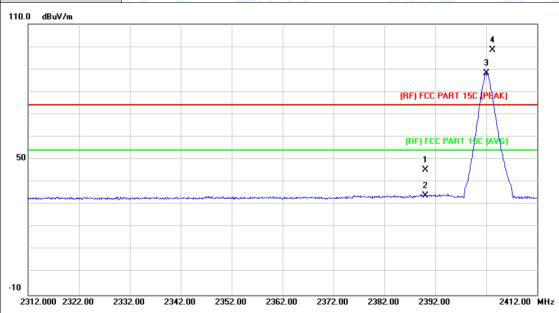


No.	. Mk.	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2480.000	95.09	1.15	96.24	Fundamenta	I Frequency	peak
2	*	2480.100	90.38	1.15	91.53	Fundamenta	I Frequency	AVG
3		2483.500	54.09	1.17	55.26	74.00	-18.74	peak
4		2483.500	48.73	1.17	49.90	54.00	-4.10	AVG



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EUT:	Tablet PC	Model Name :	PTV-R78-3288					
Temperature:	25℃	Relative Humidity:						
Test Voltage:	DC 3.7V	DC 3.7V						
Ant. Pol.	Horizontal							
Test Mode:	TX 8-DPSK Mode 2402MHz							
Remark:	Only worse case is reported							

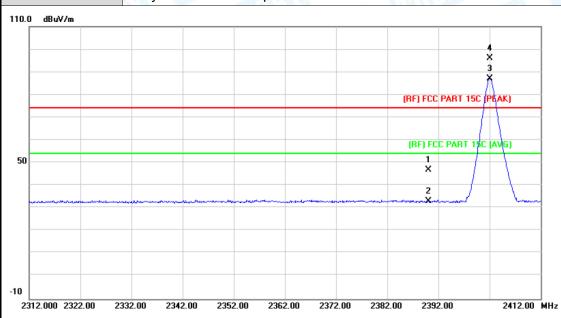


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	44.60	0.77	45.37	74.00	-28.63	peak
2		2390.000	33.19	0.77	33.96	54.00	-20.04	AVG
3	*	2402.100	87.30	0.82	88.12	Fundamenta	I Frequency	AVG
4	X	2403.268	97.65	0.82	98.47	Fundamenta	l Frequency	peak



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EUT:	Tablet PC	Model Name :	PTV-R78-3288			
Temperature:	25℃	Relative Humidity:	55%			
Test Voltage:	st Voltage: DC 3.7V					
Ant. Pol.	Vertical	Vertical				
Test Mode:	Test Mode: TX 8-DPSK Mode 2402MHz					
Remark: Only worse case is reported						

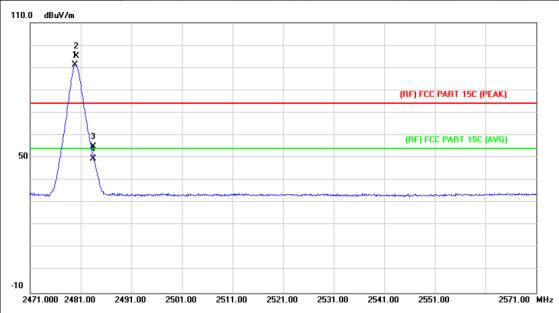


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	45.96	0.77	46.73	74.00	-27.27	peak
2		2390.000	32.31	0.77	33.08	74.00	-40.92	peak
3	X	2402.100	86.34	0.82	87.16	Fundamenta	al Frequency	peak
4	*	2402.100	95.31	0.82	96.13	Fundamenta	I Frequency	peak



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EUT:	Tablet PC	Model Name :	PTV-R78-3288			
Temperature:	25℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V					
Ant. Pol.	Horizontal	Horizontal				
Test Mode:	TX 8-DPSK Mode 2480MHz					
Remark: Only worse case is reported						

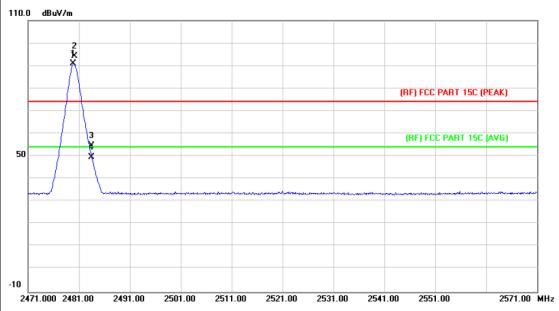


No.	Mk.	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2479.900	90.22	1.15	91.37	Fundamenta	al Frequency	AVG
2	X	2480.100	94.09	1.15	95.24	Fundamenta	I Frequency	peak
3		2483.500	53.77	1.17	54.94	74.00	-19.06	peak
4		2483.500	48.52	1.17	49.69	54.00	-4.31	AVG



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EUT:	Tablet PC	Model Name :	PTV-R78-3288		
Temperature:	25℃	Relative Humidity:	55%		
Test Voltage:	DC 3.7V				
Ant. Pol.	Vertical				
Test Mode:	TX 8-DPSK Mode 2480MHz				
Remark:	rk: Only worse case is reported				

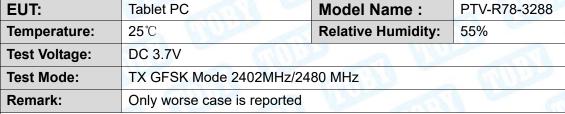


No.	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2479.900	89.78	1.15	90.93	Fundamenta	I Frequency	AVG
2	Χ	2480.100	93.23	1.15	94.38	Fundamental	Frequency	peak
3		2483.500	53.51	1.17	54.68	74.00	-19.32	peak
4		2483.500	48.25	1.17	49.42	54.00	-4.58	AVG

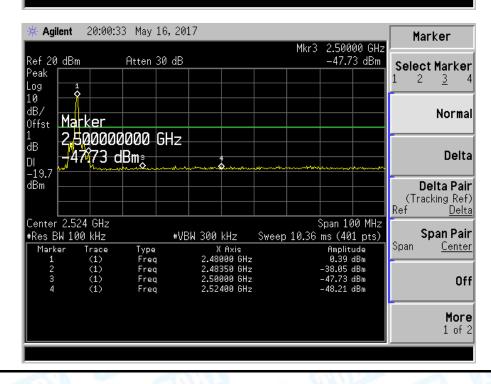


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## (2) Conducted Test

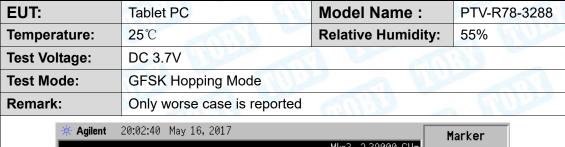




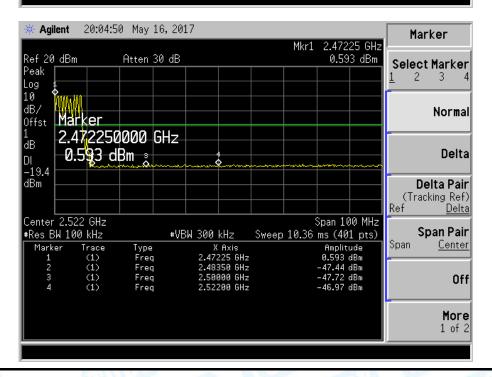




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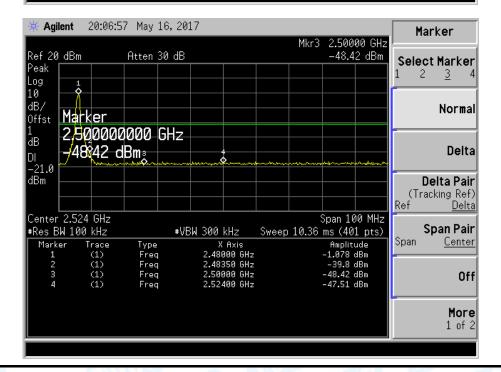




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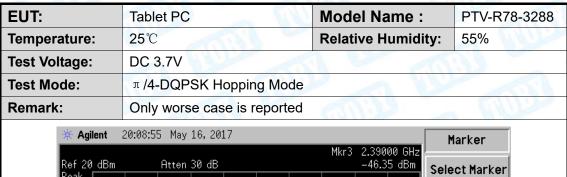




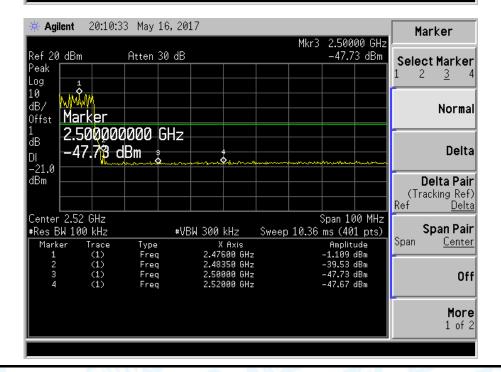




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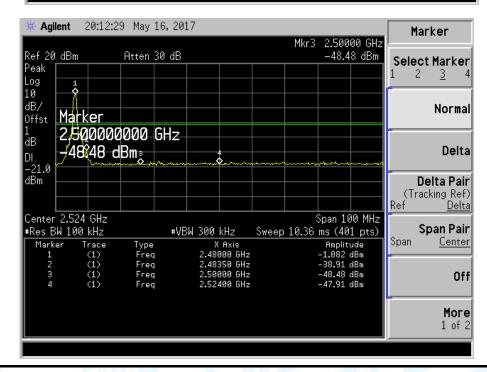




Report No.: TB-FCC153919 Page: 58 of 90

EUT:Tablet PCModel Name :PTV-R78-3288Temperature:25℃Relative Humidity:55%Test Voltage:DC 3.7VTest Mode:TX 8-DPSK Mode 2402MHz/2480 MHzRemark:Only worse case is reported

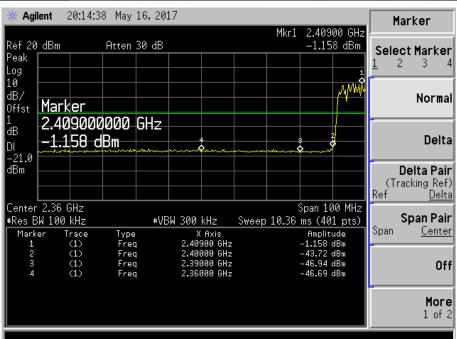


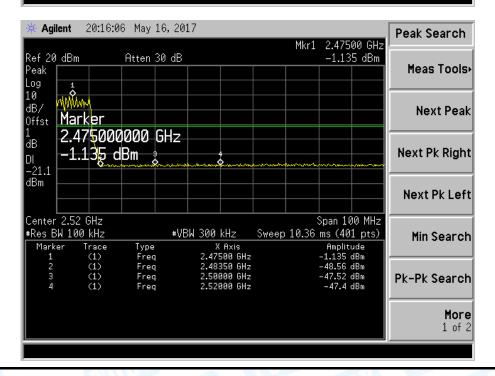




Report No.: TB-FCC153919 Page: 59 of 90

EUT:	Tablet PC	Model Name :	PTV-R78-3288		
Temperature:	25℃	Relative Humidity:	55%		
Test Voltage:	DC 3.7V				
Test Mode:	8-DPSK Hopping Mode				
Remark:	Only worse case is reported		LINE TO SERVICE		







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# 7. Number of Hopping Channel

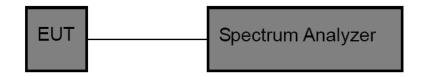
# 7.1 Test Standard and Limit

6.1.1 Test Standard FCC Part 15.247 (a)(1)

6.1.2 Test Limit

Section	Test Item	Limit
15.247	Number of Hopping Channel	>15

# 7.2 Test Setup



# 7.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting: RBW=100 KHz, VBW=100 KHz, Sweep time= Auto.

# 7.4 EUT Operating Condition

The EUT was set to the Hopping Mode by the Customer.

# 7.5 Test Data



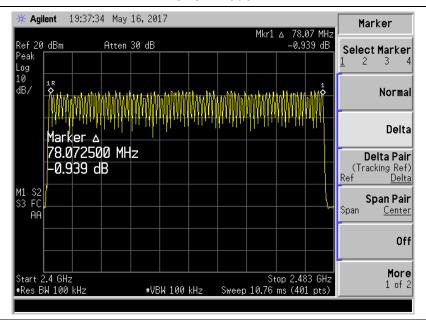
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EUT:	Tablet PC	Model Name :	PTV-R78-3288
Temperature:	25℃	Relative Humidity:	55%
Test Voltage:	DC 3 7V		1.3.3

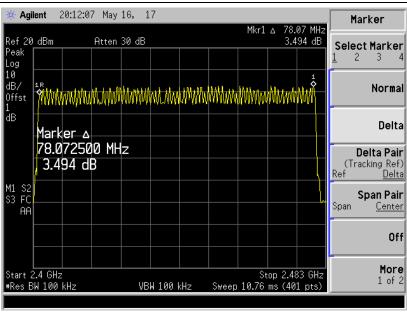
Test Mode: Hopping Mode

Frequency Range	Test Mode	Quantity of Hopping Channel	Limit	
	GFSK	79		
2402MHz~2480MHz	π /4-DQPSK	79	>15	
	8-DPSK	79		

#### **GFSK Mode**

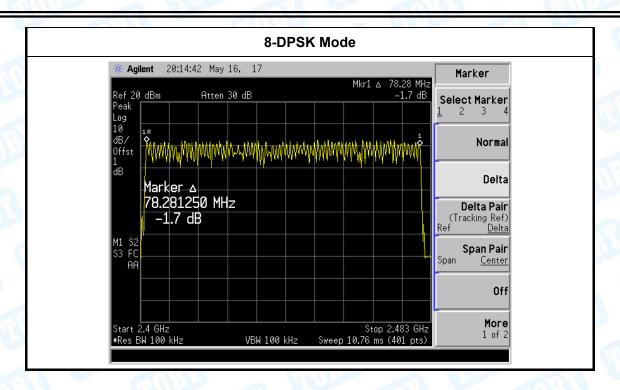


## $\pi$ /4-DQPSK Mode





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# 8. Average Time of Occupancy

### 8.1 Test Standard and Limit

8.1.1 Test Standard FCC Part 15.247 (a)(1)

8.1.2 Test Limit

Section	Test Item	Limit	
15.247(a)(1)/ RSS-210	Average Time of	0.4 sec	
Annex 8(A8.1d)	Occupancy		

# 8.2 Test Setup



### 8.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting: RBW=1MHz, VBW=1MHz.
- (3) Use video trigger with the trigger level set to enable triggering only on full pulses.
- (4) Sweep Time is more than once pulse time.
- (5) Set the center frequency on any frequency would be measure and set the frequency span to zero.
- (6) Measure the maximum time duration of one single pulse.
- (7) Set the EUT for packet transmitting.
- (8) Measure the maximum time duration of one single pulse.

# 8.4 EUT Operating Condition

The average time of occupancy on any channel within the Period can be calculated with formulas:

 $\{Total\ of\ Dwell\} = \{Pulse\ Time\} * (1600 / X) / \{Number\ of\ Hopping\ Frequency\} * \{Period\} = 0.4s * \{Number\ of\ Hopping\ Frequency\}$ 

Note: X=2 or 4 or 6 (1DH1=2, 1DH3=4, 1DH5=6. 2DH1=2, 2DH3=4, 2DH5=6. 3DH1=2,3DH3=4, 3DH5=6)

The lowest, middle and highest channels are selected to perform testing to record the dwell time of each occupation measured in this channel, which is called Pulse Time here.

The EUT was set to the Hopping Mode by the Customer.



1DH3

1DH5

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400

400

**PASS** 

**PASS** 

# 8.5 Test Data

EUT:		Tab	let PC	1:33	Mo	odel Name :	PTV-R	78-3288
Temperature:		25°	25℃		Relative Humidity:		55%	
Test Voltage:		DC	3.7V					
Test Mode:		Hop	oping Mode (C	SFSK)	(		A W	Was a
Test	Chan	nel	Pulse	Total of Dwe	ell	Period Time	Limit	Result
Mode	(MH	z)	Time (ms)	(ms)		(s)	(ms)	Result
1DH1	244	1	0.400	128.00		31.60	400	PASS

1DH1 Total of Dwell= Pulse Time\*(1600/2)\*31.6/79

1.660

2.910

2441

2441

1DH3 Total of Dwell= Pulse Time\*(1600/4)\*31.6/79

1DH5 Total of Dwell= Pulse Time\*(1600/6)\*31.6/79

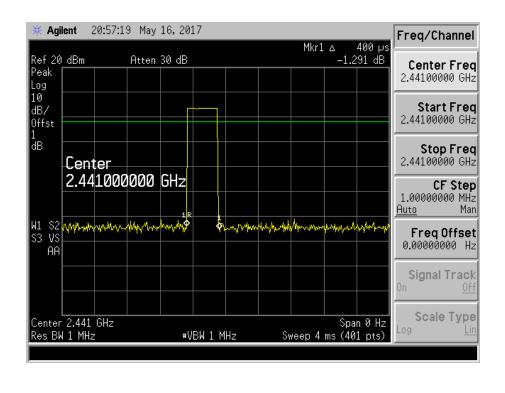
### **GFSK Hopping Mode 1DH1**

265.60

310.40

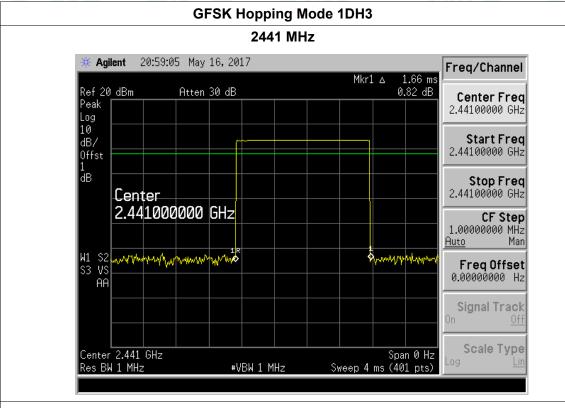
31.60

31.60

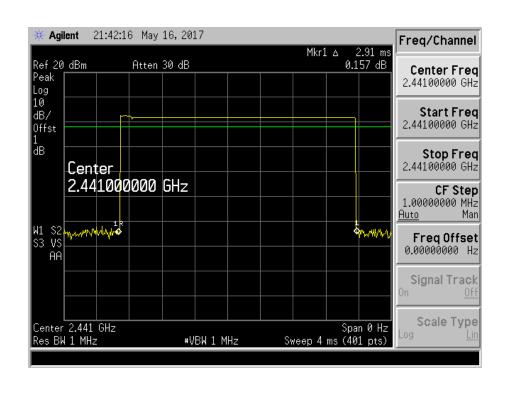




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# GFSK Hopping Mode 1DH5





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EUT:	Tablet PC	Model Name :	PTV-R78-3288
Temperature:	25℃	Relative Humidity:	55%
Test Voltage:	DC 3 7V		18.0

**Test Mode**: Hopping Mode ( π /4-DQPSK)

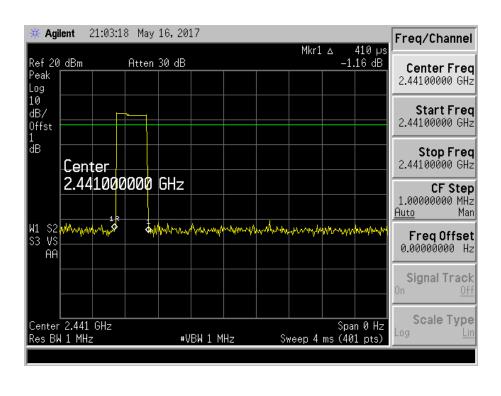
Test	Channel	Pulse	Total of Dwell	Period Time	Limit	Result
Mode	(MHz)	Time (ms)	(ms)	(s)	(ms)	Result
2DH1	2441	0.410	131.20	31.60	400	PASS
2DH3	2441	1.670	267.20	31.60	400	PASS
2DH5	2441	2.910	310.40	31.60	400	PASS

2DH1 Total of Dwell= Pulse Time\*(1600/2)\*31.6/79

2DH3 Total of Dwell= Pulse Time\*(1600/4)\*31.6/79

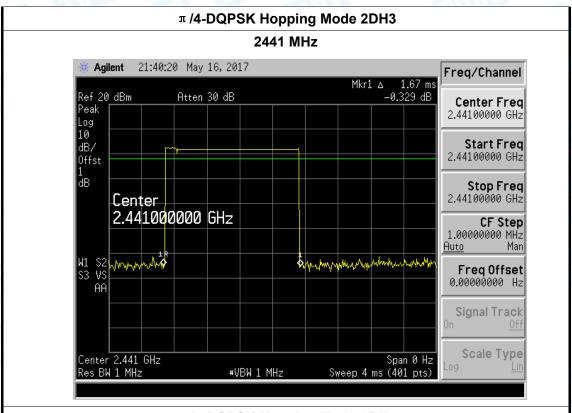
2DH5 Total of Dwell= Pulse Time\*(1600/6)\*31.6/79

## π /4-DQPSK Hopping Mode 2DH1

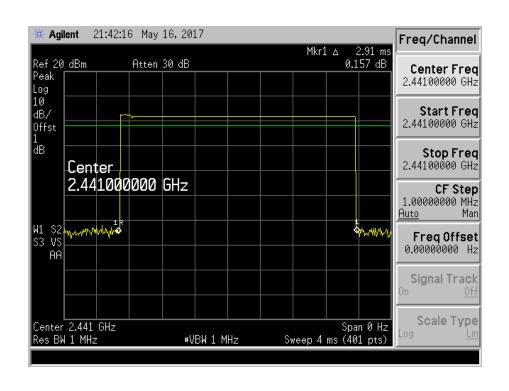




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## π /4-DQPSK Hopping Mode 2DH5





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EUT:	Tablet PC	Model Name :	PTV-R78-3288
Temperature:	25℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		A MILLIA

Test Mode: Hopping Mode (8-DQPSK)

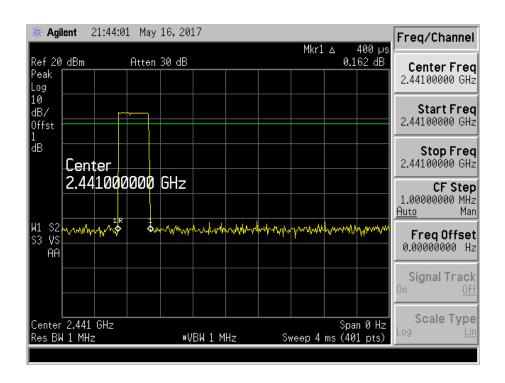
Test	Channel	Pulse	Total of Dwell	Period Time	Limit	Result
Mode	(MHz)	Time (ms)	(ms)	(s)	(ms)	Result
3DH1	2441	0.400	128.00	31.60	400	PASS
3DH3	2441	1.660	265.60	31.60	400	PASS
3DH5	2441	2.900	309.33	31.60	400	PASS

3DH1 Total of Dwell= Pulse Time\*(1600/2)\*31.6/79

3DH3 Total of Dwell= Pulse Time\*(1600/4)\*31.6/79

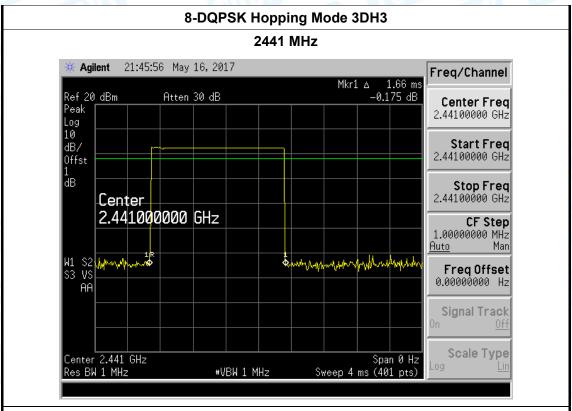
3DH5 Total of Dwell= Pulse Time\*(1600/6)\*31.6/79

## 8-DQPSK Hopping Mode 3DH1

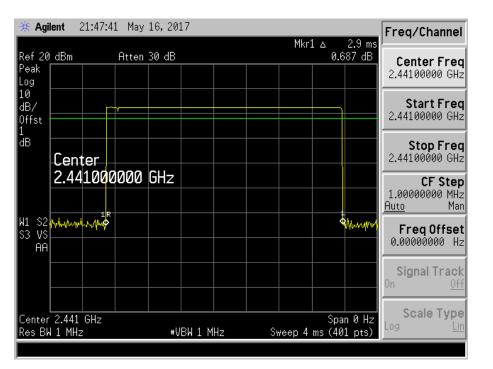




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### 8-DQPSK Hopping Mode 3DH5





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# 9. Channel Separation and Bandwidth Test

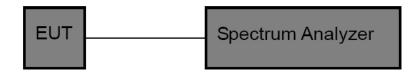
### 9.1 Test Standard and Limit

9.1.1 Test Standard FCC Part 15.247

9.1.2 Test Limit

Test Item	Limit	Frequency Range(MHz)
Bandwidth	<=1 MHz (20dB bandwidth)	2400~2483.5
Channel Separation	>25KHz or >two-thirds of the 20 dB bandwidth Which is greater	2400~2483.5

# 9.2 Test Setup



## 9.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting:

Channel Separation: RBW=100 kHz, VBW=100 kHz.

Bandwidth: RBW=30 kHz, VBW=100 kHz.

- (3) The bandwidth is measured at an amplitude level reduced 20dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst –case (i.e the widest) bandwidth.
  - (4) Measure the channel separation the spectrum analyzer was set to Resolution Bandwidth:30 kHz, and Video Bandwidth:100 kHz. Sweep Time set auto.

# 9.4 EUT Operating Condition

The EUT was set to the Hopping Mode for Channel Separation Test and continuously transmitting for the Bandwidth Test.

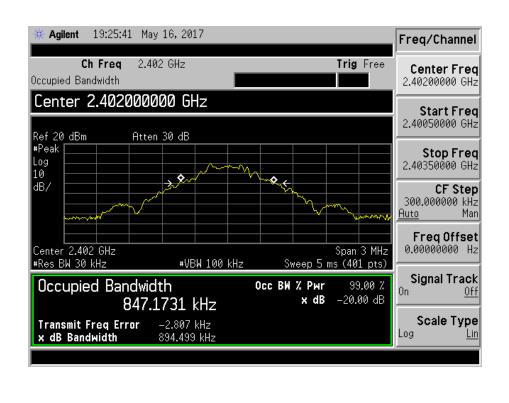


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# 9.5 Test Data

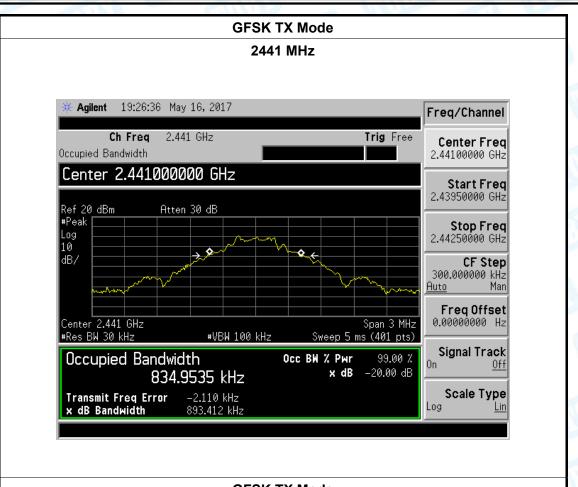
EUT: Tablet PC I		Model Name :	PTV-R78-3288	
Temperature: 25°C		Relative Humidity:	55%	
Test Voltage: DC		3.7V		
Test Mode: TX		Mode (GFSK)	CHILDREN .	2 Million
Channel frequency (MHz)		99% OBW (kHz)	20dB Bandwidth (kHz)	20dB Bandwidth *2/3 (kHz)
2402		847.1731	894.499	
2441		834.9535	893.412	

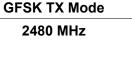
#### **GFSK TX Mode**

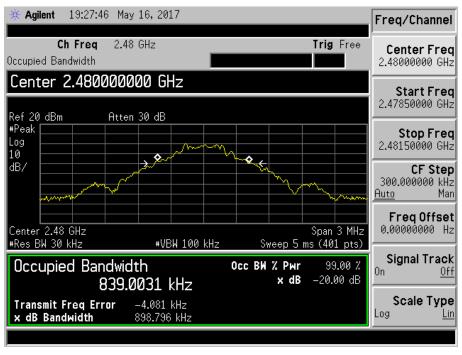




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2441

2480

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862.66

862.66

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EUT:	Tablet PC		Model Name :	PTV-R78-3288
Temperature:	25℃		Relative Humidity:	55%
Test Voltage:	DC	3.7V		
Test Mode:	TX	Mode (π/4-DQPSK)		
Channel freque			20dB Bandwidth (kHz)	20dB Bandwidth *2/3 (kHz)
2402		1170.1	1295	863.33

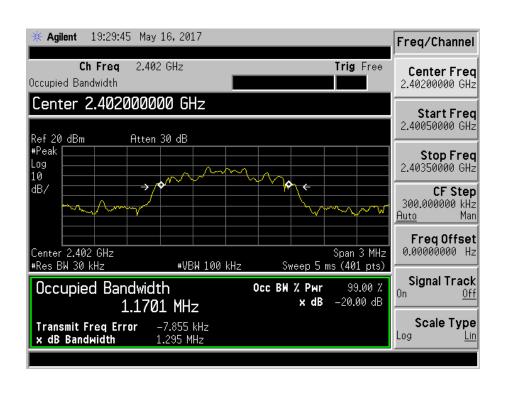
### π /4-DQPSK TX Mode

1294

1294

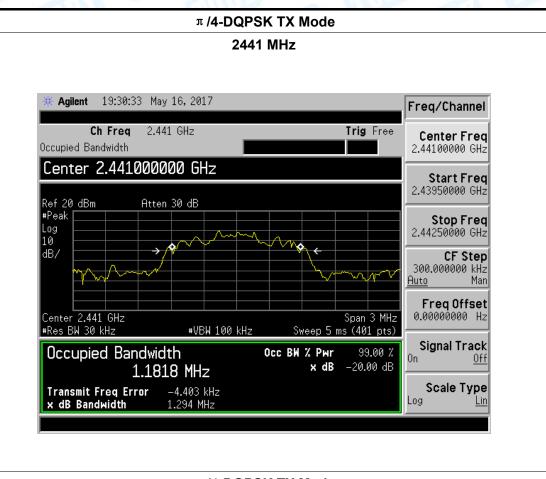
1181.8

1174.1

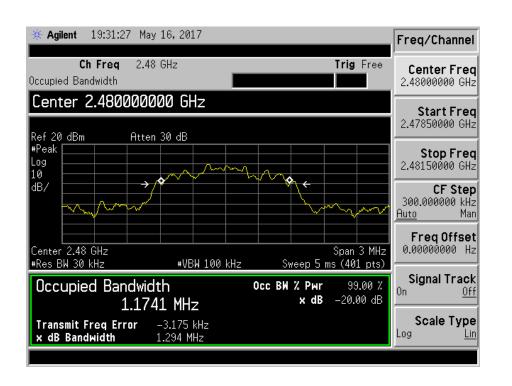




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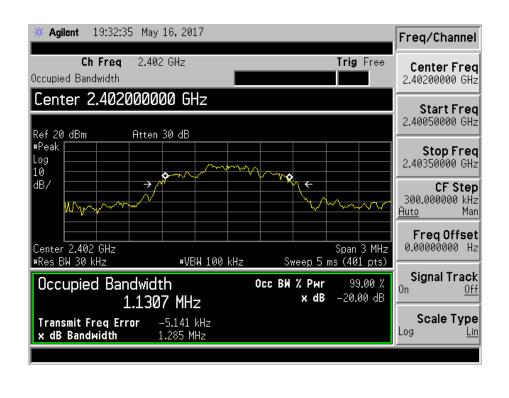




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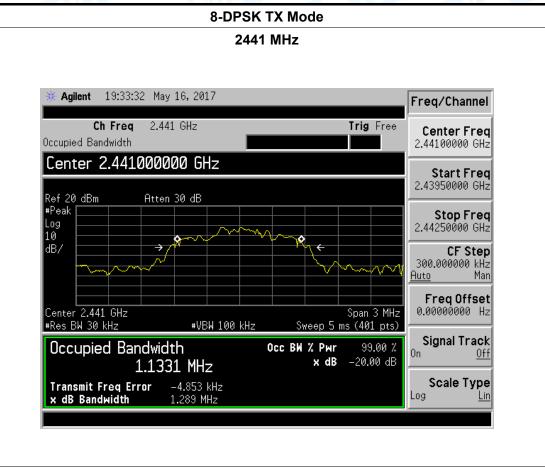
EUT:	Tablet PC	Model Name :	PTV-R78-3288
Temperature:	25℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Test Mode:	TX Mode (8-DPSK)		THE PARTY OF THE P
Channel frequer	99% OBW (kHz)	20dB Bandwidth (kHz)	20dB Bandwidth *2/3 (kHz)
2402	1130.7	1285	856.66
2441	1133.1	1289	859.33

### 8-DPSK TX Mode

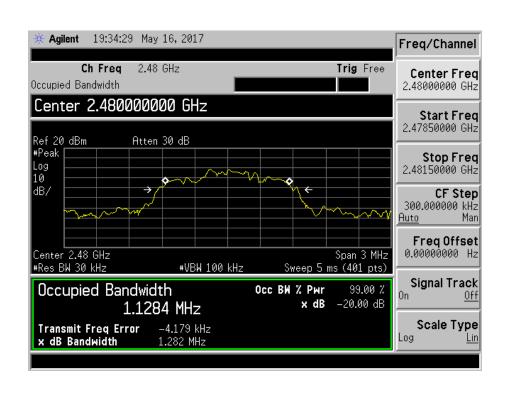




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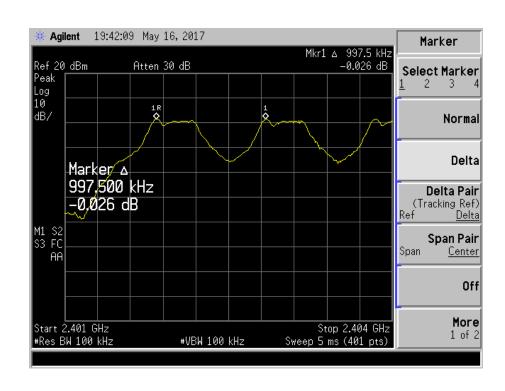
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EUT:	Tablet PC	Model Name :	PTV-R78-3288
Temperature:	25℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		

Test Mode: Hopping Mode (GFSK)

Channel frequency	Separation Read Value	Separation Limit
(MHz)	(kHz)	(kHz)
2402	997.5	894.499
2441	1005	893.412
2480	997.5	898.796

## **GFSK Hopping Mode**

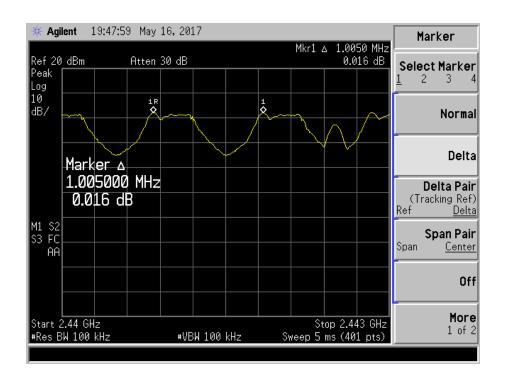




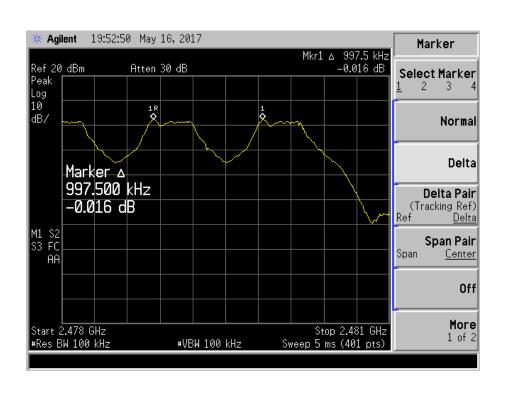
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# GFSK Hopping Mode

### 2441 MHz



# **GFSK Hopping Mode**



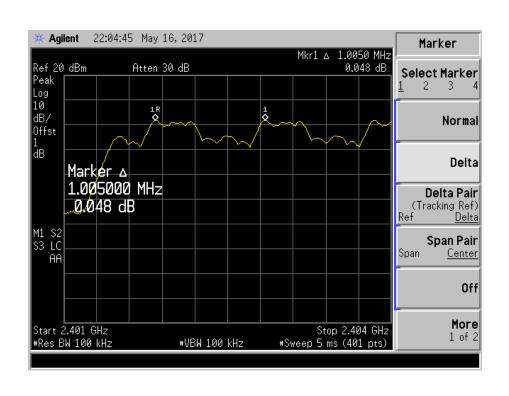


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EUT:	Tablet PC	Model Name :	PTV-R78-3288
Temperature:	25℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Test Mode:	Hopping Mode ( T./4-DOPS	K)	

rest mode.	1 lopping i	viode ( 374-DQI OIL)	
Channel frequency		Separation Read Value	Separation Limit
(MHz)		(kHz)	(kHz)
2402		1005	863.33
2441		997.5	862.66
2480		1005	862.66

# $\pi$ /4-DQPSK Hopping Mode

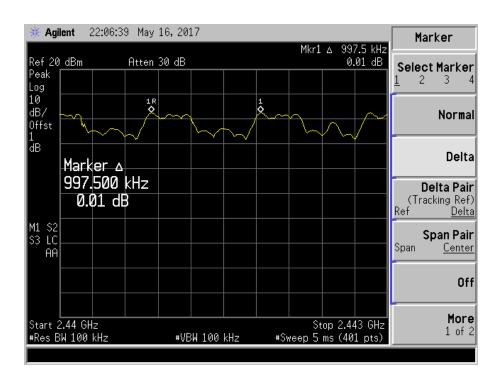




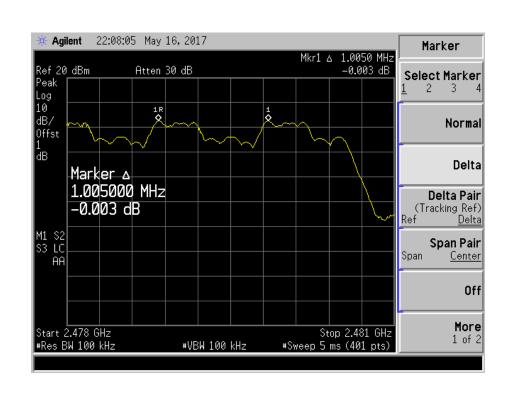
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# π /4-DQPSK Hopping Mode

### 2441 MHz



### π /4-DQPSK Hopping Mode





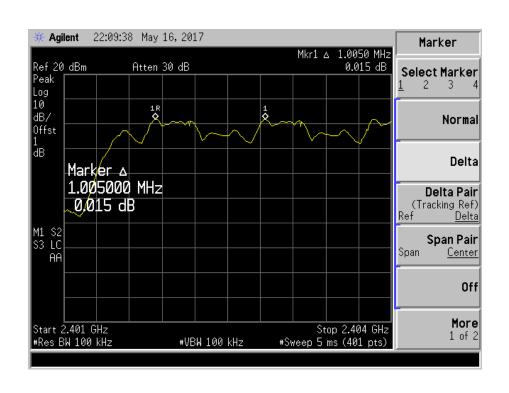
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EUT:	Tablet PC	Model Name :	PTV-R78-3288
Temperature:	25℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		

Test Mode: Hopping Mode (8-DPSK)

Channel frequency	Separation Read Value	Separation Limit
(MHz)	(kHz)	(kHz)
2402	1005	856.66
2441	997.5	859.33
2480	1012.5	854.66

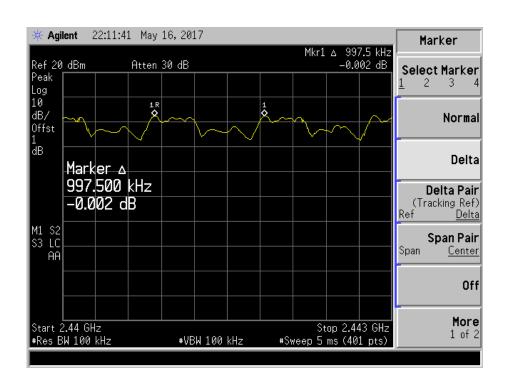
# 8-DPSK Hopping Mode



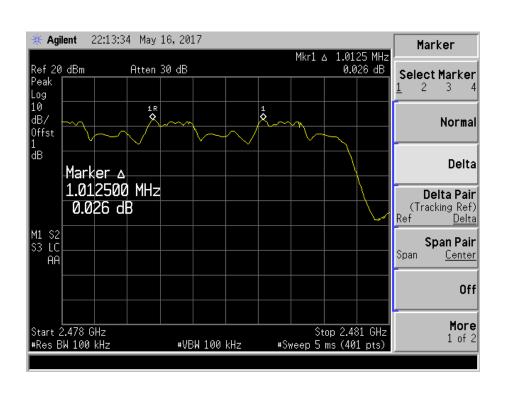


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# 8-DPSK Hopping Mode





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# 10. Peak Output Power Test

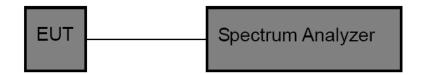
# 10.1 Test Standard and Limit

10.1.1 Test Standard FCC Part 15.247 (b) (1)

10.1.2 Test Limit

Test Item	Limit	Frequency Range(MHz)
Peak Output Power	Hopping Channels>75 Power<1W(30dBm)	2400~2483.5
	Other <125 mW(21dBm)	

# 10.2 Test Setup



## 10.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Spectrum Setting:

Peak Detector: RBW=1 MHz, VBW=3 MHz for bandwidth less than 1MHz. RBW=3 MHz, VBW=3 MHz for bandwidth more than 1MHz.

# 10.4 EUT Operating Condition

The EUT was set to continuously transmitting in the max power during the test.



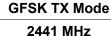
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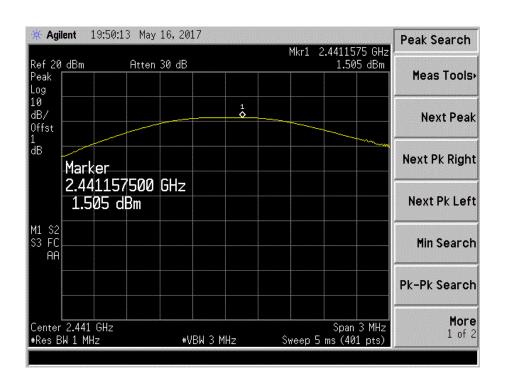
# 10.5 Test Data

UT:	Tablet PC 25℃		Model Na	me :	PTV-R78-3288		
mperature:			Relative Hu	Relative Humidity:			
est Voltage:	DC 3.7V	THE STATE OF		(all)	311	A PILLS	
est Mode:	TX Mode (	(GFSK)				13	
hannel frequen	cy (MHz)	Test	Result	(dBm)	L	.imit (dBm)	
2402			1.480	)			
2441			1.505	5	30		
2480			1.474	4			
	·	GF	SK TX	Mode			
* Agilent	19:49:46 May	16, 2017		WL 4 0 4004	Po	eak Search	
Ref 20 dBm Peak	19:49:46 May			Mkr1 2.40216	550 GHz 48 dBm	eak Search Meas Tools	
Ref 20 dBm Peak Log 10 dB/			1 0		50 GHz		
Ref 20 dBm Peak Log 10 dB/ Offst 1 dB	Atten :	30 dB	1 0		650 GHz 18 dBm	Meas Tools	
Ref 20 dBm Peak Log 10 dB/ Offst 1 dB Mari 2.40	Atten	30 dB	± ♦		150 GHz 18 dBm	Meas Tools	
Ref 20 dBm Peak Log 10 dB/ Offst 1 dB  Mar 2.46	Atten : ker 22165000	30 dB	1 💠		150 GHz 18 dBm	Meas Tools Next Peak ext Pk Right	
Ref 20 dBm Peak Log 10 dB/ Offst 1 dB Mar 2.40 1.	Atten : ker 22165000	30 dB	1 💠		18 dBm	Meas Tools Next Peak ext Pk Right Next Pk Left	

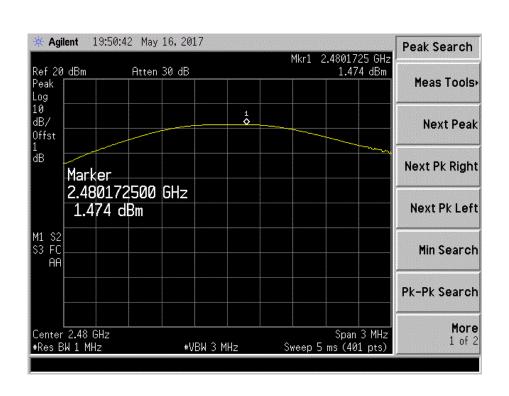


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### **GFSK TX Mode**

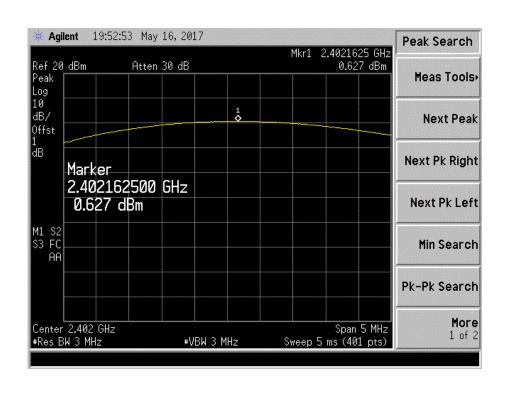




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EUT:	Tablet PC		Model Name :	PTV-R78-3288
Temperature:	25℃		Relative Humidity:	55%
Test Voltage:	DC 3.7V	N. C.		
Test Mode:	TX Mode	( π /4-DQPSK)		
Channel frequency (MHz) Test Result (dBm) Limit			imit (dBm)	
2402		0.627	•	
2441	1 0.654			21
2480		0.640	)	
		π /4-DOPSK T	TX Mode	

#### π/4-DQPSK TX Mode

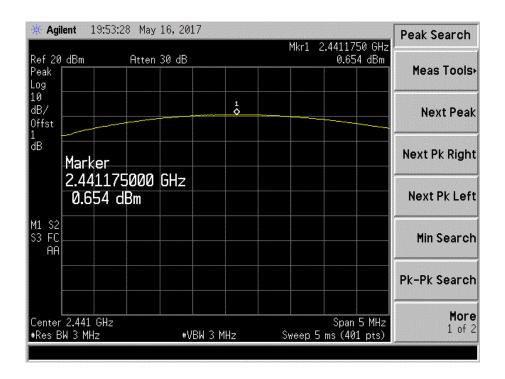




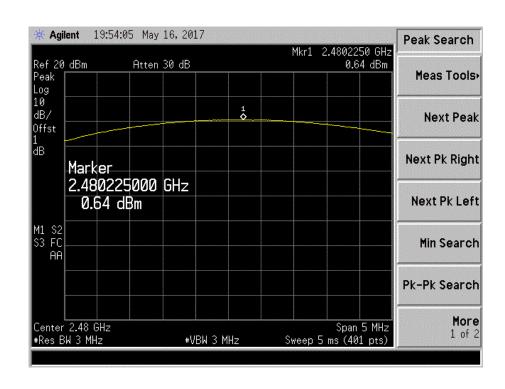
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#### 2441 MHz



### π/4-DQPSK TX Mode

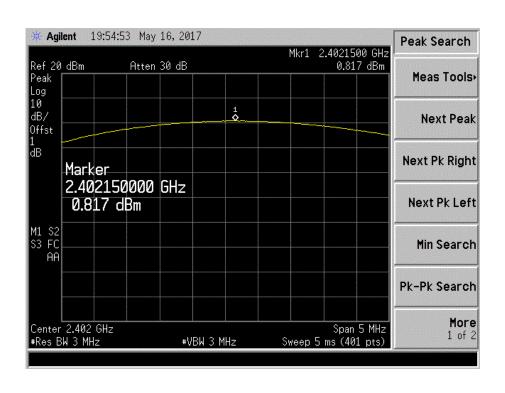




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EUT:	Tablet PC	200	Model Name :	PTV-R78-3288
Temperature:	25℃		Relative Humidity:	55%
Test Voltage:	DC 3.7V			33
Test Mode:	TX Mode	(8-DPSK)		
Channel frequen	cy (MHz)	Test Result (d	dBm) Lin	nit (dBm)
2402		0.817		
2441		0.910		21
2480		0.889		
		8-DPSK TX M	lode	

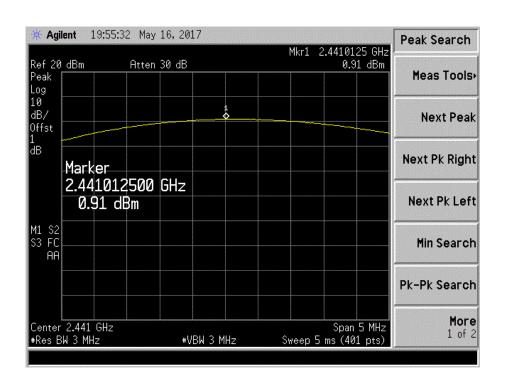
### 8-DPSK TX Mode



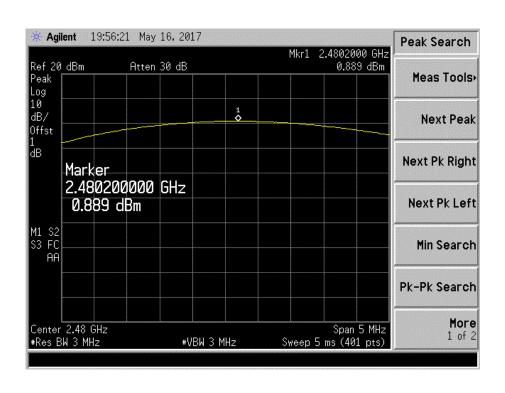


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#### 8-DPSK TX Mode





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# 11. Antenna Requirement

# 11.1 Standard Requirement

11.1.1 Standard FCC Part 15.203

## 11.1.2 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 shall be considered sufficient to comply with the provisions of this Section. 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.

## 11.2 Antenna Connected Construction

The directional gains of the antenna used for transmitting is 1.4 dBi, and the antenna connector is de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

## 11.3 Result

The EUT antenna is a FPC Antenna. It complies with the standard requirement.

Antenna Type	
	☐Permanent attached antenna
	⊠Unique connector antenna
	☐Professional installation antenna

----END OF REPORT----