

Report No: File reference No:	FCC 1605078-02 2016-05-26
Applicant:	Shenzhen Jingwah Information Technology Co., Ltd.
Product:	Tablet PC
Model No:	W116, M11, P1100
Trademark:	Polaroid
Test Standards:	FCC Part 15.247
Test result:	It is herewith confirmed and found to comply with the requirements set up by ANSI C63.10, FCC Part 15 Subpart C, Paragraph 15.247 regulations for the evaluation of electromagnetic compatibility
Approved By	
Jack Chung	

Jack Chung

Manager

Dated:

May 26, 2016

Results appearing herein relate only to the sample tested The technical reports is issued errors and omissions exempt and is subject to withdrawal at

# SHENZHEN TIMEWAY TESTING LABORATORIES

Room 512-519, 5/F., East Tower, Building 4, Anhua Industrial Zone, Futian District, Shenzhen, Guangdong, China Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com



# **Special Statement**:

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meets with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

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

# CNAS-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

# FCC-Registration No.: 899988

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.:899988.

# IC- Registration No.: IC5205A-02

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration No.: IC 5205A-02.

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Test Report Conclusion Content

1.0	General Details	4
1.1	Test Lab Details	4
1.2	Applicant Details	4
1.3	Description of EUT	4
1.4	Submitted Sample	5
1.5	Test Duration	5
1.6	Test Uncertainty	5
1.7	Test By	5
2.0	List of Measurement Equipment	6
3.0	Technical Details	7
3.1	Summary of Test Results	7
3.2	Test Standards	7
4.0	EUT Modification	7
5.0	Power Line Conducted Emission Test	8
5.1	Schematics of the Test	8
5.2	Test Method and Test Procedure	8
5.3	Configuration of the EUT	8
5.4	EUT Operating Condition	9
5.5	Conducted Emission Limit	9
5.6	Test Result	9
6.0	Radiated Emission test	14
6.1	Test Method and Test Procedure	14
6.2	Configuration of the EUT	14
6.3	EUT Operation Condition	14
6.4	Radiated Emission Limit	15
7.0	20dB Bandwidth	24
8.0	Maximum Output Power	36
9.0	Carrier Frequency Separation	39
10.0	Number of Hopping Channel	43
11.0	Time of Occupancy (Dwell Time)	47
12.0	Out of Band Measurement	60
13.0	Antenna Requirement	73
14.0	FCC ID Label	74
15.0	Photo of Test Setup and EUT View	75

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#### 1.0 General Details

#### 1.1 Test Lab Details Name : SHENZHEN TIMEWAY TESTING LABORATORIES. Address: Room 512-519,5/F., East Tower, Building 4, Anhua Industrial Zone, Futian District, Shenzhen, Guangdong China Telephone: (755) 83448688 Fax: (755) 83442996 Site on File with the Federal Communications Commission - United Sates Registration Number: 899988 For 3m & 10 m OATS Site Listed with Industry Canada of Ottawa, Canada Registration Number: IC: 5205A-02 For 3m & 10 m OATS

# 1.2 Applicant Details Applicant: Shenzhen Jingwah Information Technology Co., Ltd. Address: 4F, Bldg 4, Jinghua Square, No.1 Huafa North Road, Futian District, Shenzhen, China

Telephone: --Fax: --

# 1.3 Description of EUT

Product:	act: Tablet PC					
Manufacturer:	Shenzhen Jingwah Information Technology Co., Ltd.					
Address:	4F, Bldg 4, Jinghua Square, No.1 Huafa North Road, Futian District,					
	Shenzhen, China					
Brand Name:	Polaroid					
Model Number:	W116					
Additional Model Numb	per: M11, P1100					
Power Adapter	del No.: JHD-AP012U-050200BA					
	Input: 100-240V, 50/60Hz, 0.35A; Output: DC5V, 2000mA					
Type of Modulation	GFSK, JI/4DQPSK, 8DPSK for Bluetooth					
Frequency range	2402-2480MHz for Bluetooth					
Channel Spacing	1MHz for Bluetooth					
Frequency Selection	By software					
Channel Number	79 channel for Bluetooth					
Antenna:	Integral Antenna and the maximum Gain of this antenna is 1.6dBi;					

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- Submitted Sample: 2 Samples 1.4
- 1.5 Test Duration 2016-05-12 to 2016-05-25
- 1.6 Test Uncertainty Conducted Emissions Uncertainty =3.6dB Radiated Emissions Uncertainty =4.7dB
- Test Engineer 1.7

Terry lang

The sample tested by

Print Name: Terry Tang

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2.0 Test Equipments					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver R&S ESPI 3		ESPI 3	100379	2015-08-22	2016-08-21
TWO Line-V-NETW	R&S	EZH3-Z5	100294	2015-08-22	2016-08-21
TWO Line-V-NETW	R&S	EZH3-Z5	100253	2015-08-22	2016-08-21
Ultra Broadband ANT	R&S	HL562	100157	2015-08-23	2016-08-22
ESDV Test Receiver	R&S	ESDV	100008	2015-08-22	2016-08-21
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2015-08-22	2016-08-21
System Controller	СТ	SC100	-		
Printer	EPSON	РНОТО ЕХЗ	CFNH234850		
Computer	IBM	8434	1S8434KCE99BLXLO*	-	-
Loop Antenna	EMCO	6502	00042960	2015-08-23	2016-08-22
ESPI Test Receiver	R&S	ESI26	838786/013	2015-08-22	2016-08-21
3m OATS			N/A	2015-08-24	2016-08-23
Horn Antenna	R&S	BBHA 9170	BBHA9170265	2015-08-24	2016-08-23
Horn Antenna	R&S	BBHA 9120D	9120D-631	2015-08-24	2016-08-23
Power meter	Anritsu	ML2487A	6K00003613	2015-08-22	2016-08-21
Power sensor	Anritsu	MA2491A	32263	2015-08-22	2016-08-21
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2015-08-23	2016-08-21
LISN	AFJ	LS16C	10010947251	2015-08-22	2016-08-21
LISN (Three Phase)	Schwarebeck	NSLK 8126	8126453	2015-08-23	2016-08-22
9*6*6 Anechoic			N/A	2015-08-24	2016-08-23
EMI Test Receiver	RS	ESCS30	100139	2015-08-22	2016-08-21

					FCC DOC/
Name	Model No.	Serial No.	Manufacturer	Cable	ID
				Data cable of	
Monitor	P2450		SAMSUNG	1.5m length	FCC DOC
Passive Earphone					
Mouse	M-F105		L.SEletron		FCC DOC
TF					

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#### 3.0 **Technical Details**

#### 3.1 Summary of test results

The EUT has been tested according to the following specifications:							
Requirement	CFR 47 Section	Result	Notes				
Antenna Requirement	15.203, 15.247(b)(4)	PASS	Complies				
Maximum Peak Out Power	15.247 (b)(1), (4)	PASS	Complies				
Carrier Frequency Separation	15.247(a)(1)	PASS	Complies				
20dB Channel Bandwidth	15.247 (a)(1)	PASS	Complies				
Number of Hopping Channels	15.247(a)(iii), 15.247(b)(1)	PASS	Complies				
Time of Occupancy (Dwell Time)	15.247(a)(iii)	PASS	Complies				
Spurious Emission, Band Edge, and Restricted bands	15.247(d),15.205(a), 15.209 (a),15.109	PASS	Complies				
<b>Conducted Emissions</b>	15.207(a), 15.107	PASS	Complies				
<b>RF</b> Exposure	15.247(i), 1.1307(b)(1)	PASS	Complies				

#### 3.2 **Test Standards**

FCC Part 15 Subpart & Subpart C, Paragraph 15.247 and ANSI C63.4:2014 AND ANSI C63.10:2013

#### 4.0 **EUT Modification**

No modification by SHENZHEN TIMEWAY TESTING LABORATORIES

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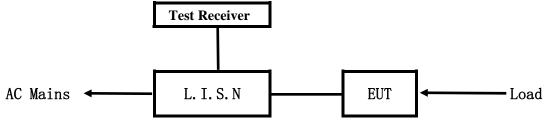
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adopt any other remedies which may be appropriate.



## 5. Power Line Conducted Emission Test

5.1 Schematics of the test

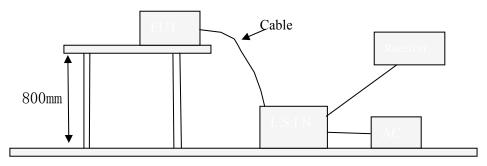


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2014. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 –2014. Test Voltage: 120V~60Hz

Block diagram of Test setup



5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.4-2014. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

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#### A. EUT

Device	Manufacturer	Model	FCC ID
Tablet PC	Shenzhen Jingwah Information	W116, M11, P1100	RBD-W116
	Technology Co., Ltd.	w 110, W11, F 1100	KDD-W110

#### В. Internal Device

Device	Manufacturer	Model	Rating

#### С. Accessory

Device	Manufacturer	Model	FCC ID/DOC	Rating
Power	Jihongda	JHD-AP012U-050200BA	VOC	Input: 100-240V, 50/60Hz,
Supply				0.35A; Output: DC5V,
				2000mA
Keyboard	DongShengTai	1160	VOC	Input: DC5V

#### 5.4 EUT Operating Condition

Operating condition is according to ANSI C63.4 -2014.

- Setup the EUT and simulators as shown on follow А
- В Enable AF signal and confirm EUT active to normal condition

#### 5.5 Power line conducted Emission Limit according to Paragraph 15.107, 15.207

Frequency	Class A Lim	its (dB µ V)	Class B Limits (dB µ V)		
(MHz)	MHz) Quasi-peak Level Average Level		Quasi-peak Level Average L		
$0.15 \sim 0.50$	79.0	66.0	66.0~56.0*	56.0~46.0*	
$0.50~\sim~5.00$	73.0	60.0	56.0	46.0	
$5.00 \sim 30.00$	73.0	60.0	60.0	50.0	

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

2. The tighter limit shall apply at the transition frequencies

#### 5.6 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

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A: Conducted Emission on Live Terminal (150kHz to 30MHz) **EUT Operating Environment** Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa **EUT set Condition: Keep Bluetooth Transmitting Equipment Level: Class B Results: PASS** Please refer to following diagram for individual

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0.0	150		0.5		(MHz)	5			30.000
0.1			Reading	Correct	Measure				30.000
No.	Mk.	Freq.	Level	Factor	ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1891	38.70	11.04	49.74	64.08	-14.34	QP	
2		0.1891	3.40	11.04	14.44	54.08	-39.64	AVG	
3		0.2540	35.00	11.11	46.11	61.63	-15.52	QP	
4		0.2540	1.80	11.11	12.91	51.63	-38.72	AVG	
5		0.3986	30.00	11.26	41.26	57.88	-16.62	QP	
6		0.3986	-1.50	11.26	9.76	47.88	-38.12	AVG	
7		0.7995	23.10	11.69	34.79	56.00	-21.21	QP	
8		0.7995	-8.00	11.69	3.69	46.00	-42.31	AVG	
9		1.4087	25.00	12.06	37.06	56.00	-18.94	QP	
10		1.4087	-5.00	12.06	7.06	46.00	-38.94	AVG	
11		23.5005	24.30	11.31	35.61	60.00	-24.39	QP	
12		23.5005	-5.10	11.31	6.21	50.00	-43.79	AVG	

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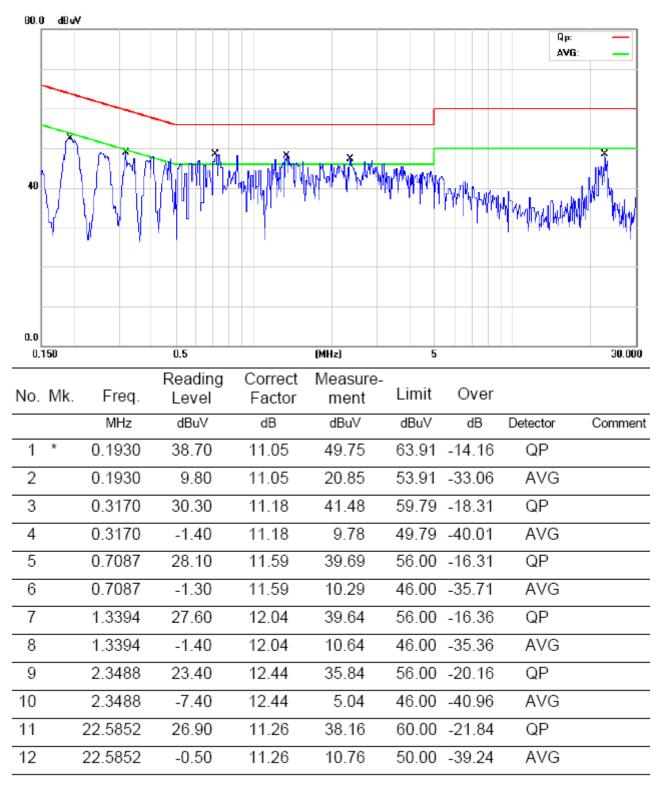


B: Conducted Emission on Neutral Terminal (150kHz to 30MHz) EUT Operating Environment Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa EUT set Condition: Keep Bluetooth Transmitting Equipment Level: Class B Results: Pass Please refer to following diagram for individual

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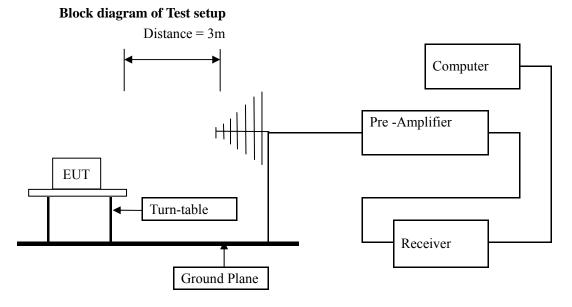
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## 6 Radiated Emission Test

#### 6.1 Test Method and test Procedure:

- (1) The EUT was tested according to ANSI C63.10–2013. The radiated test was performed at Timeway Laboratory. This site is on file with the FCC laboratory division, Registration No.899988
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10–2013.
- (3) The frequency spectrum from 30 MHz to 25GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz. For measurement above 1GHz, peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK detector. Measurements were made at 3 meters.
- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "**QP**" in the data table.
- (6) The antenna polarization : Vertical polarization and Horizontal polarization.



- 6.2 Configuration of The EUT Same as section 5.3 of this report
- 6.3 EUT Operating Condition

Same as section 5.4 of this report.

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# 6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

Frequencies in restricted band	are complied to limit on	Paragraph 15 209 and 15 109
riequencies in restricted band	are complied to milit of	1 al agi apil 15.207 allu 15.107

Frequency Range (MHz)	Distance (m)	Field strength (dB $\mu$ V/m)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note: 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

2. In the Above Table, the higher limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT

4. This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side,

and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.

5. All modulation have been tested ,GFSK was found as the worst case and only reported

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# **Test result** General Radiated Emission Data and Harmonics Radiated Emission Data

#### Radiated Emission In Horizontal/Vertical (30MHz----1000MHz)

EUT set Condition: Keep Bluetooth Transmitting

**Results:** 

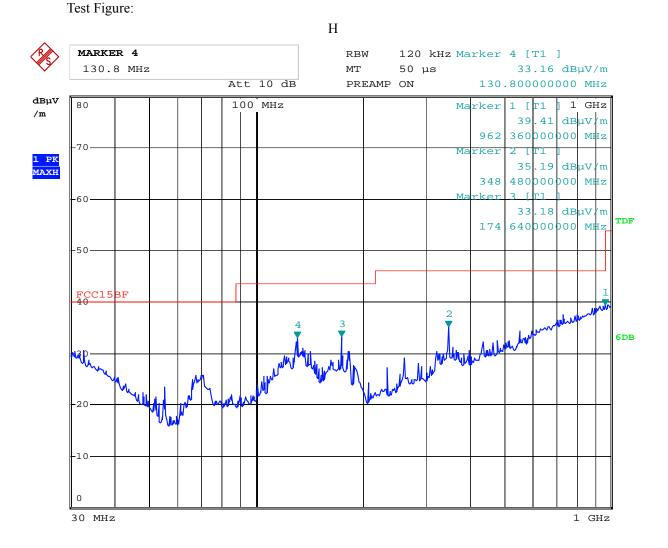
Pass

Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
130.800	33.16	Н	43.50
962.360	39.41	Н	46.00
348.480	35.19	Н	46.00
174.640	33.18	Н	43.50
130.000	32.43	V	43.50
949.080	40.10	V	46.00
553.720	39.44	V	46.00
30.160	36.28	V	40.00

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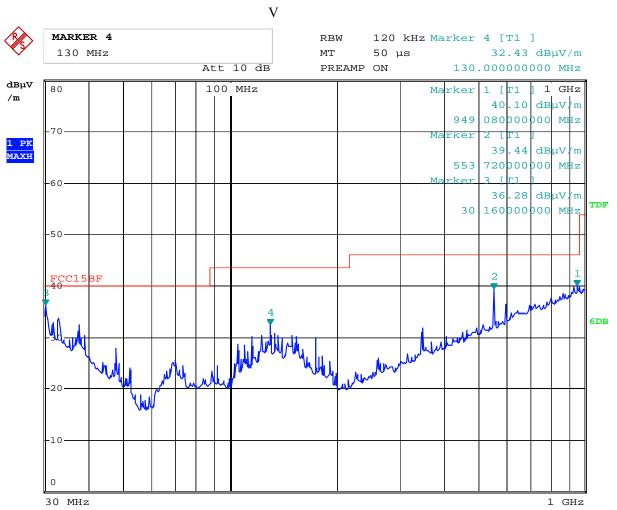


13.MAY.2016 11:10:54 Date:

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Test Figure:

13.MAY.2016 11:06:22 Date:

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Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
4804		Н	74(Peak)/ 54(AV)
4804		V	74(Peak)/ 54(AV)
7206		H/V	74(Peak)/ 54(AV)
9608		H/V	74(Peak)/ 54(AV)
12010		H/V	74(Peak)/ 54(AV)
14412		H/V	74(Peak)/ 54(AV)
16814		H/V	74(Peak)/ 54(AV)
19216		H/V	74(Peak)/ 54(AV)
21618		H/V	74(Peak)/ 54(AV)
24020		H/V	74(Peak)/ 54(AV)

## **Operation Mode: Transmitting under Low Channel (2402MHz)**

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

<b>Operation Mode:</b>	Transmitting g under	Middle Channel (2441MHz)
------------------------	----------------------	--------------------------

Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
4882		Н	74(Peak)/ 54(AV)
4882		V	74(Peak)/ 54(AV)
7323		H/V	74(Peak)/ 54(AV)
9764		H/V	74(Peak)/ 54(AV)
12205		H/V	74(Peak)/ 54(AV)
14646		H/V	74(Peak)/ 54(AV)
17087		H/V	74(Peak)/ 54(AV)
19528		H/V	74(Peak)/ 54(AV)
21969		H/V	74(Peak)/ 54(AV)
24410		H/V	74(Peak)/ 54(AV)

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

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Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)
4960		Н	74(Peak)/ 54(AV)
4960		V	74(Peak)/ 54(AV)
7440		H/V	74(Peak)/ 54(AV)
9920		H/V	74(Peak)/ 54(AV)
12400		H/V	74(Peak)/ 54(AV)
14880		H/V	74(Peak)/ 54(AV)
17360		H/V	74(Peak)/ 54(AV)
19840		H/V	74(Peak)/ 54(AV)
22320		H/V	74(Peak)/ 54(AV)
24800		H/V	74(Peak)/ 54(AV)

## **Operation Mode: Transmitting under High Channel (2480MHz)**

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

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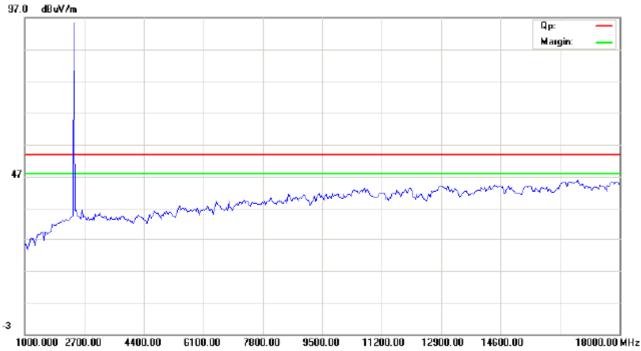
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adopt any other remedies which may be appropriate.

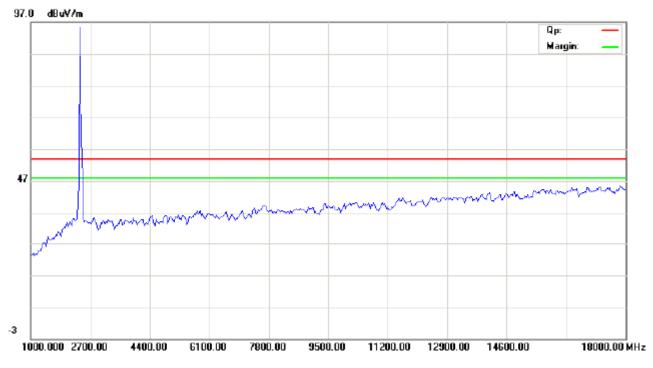


Please refer to the following test plots for details:

# Low Channel: Horizontal



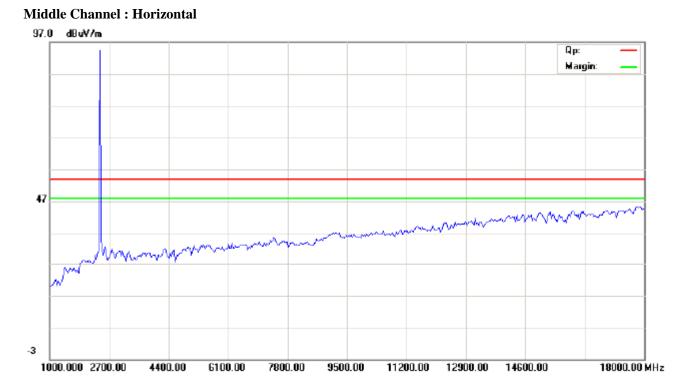
#### Low Channel : Vertical



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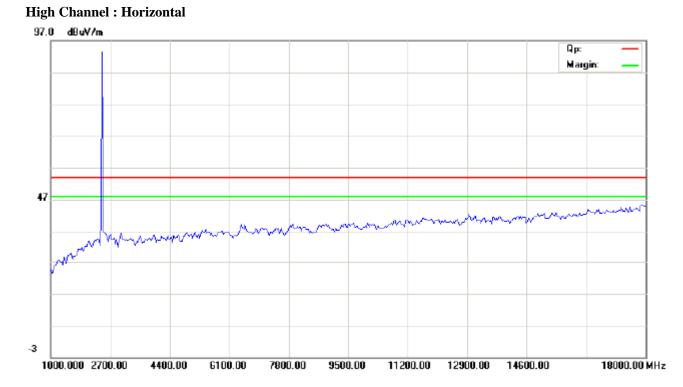
#### **Middle Channel : Vertical**

97.0 dBuV/m նթ։ Margin 47 -3 1000.000 2700.00 4400.00 6100.00 7800.00 9500.00 11200.00 12900.00 14600.00 18000.00 MHz

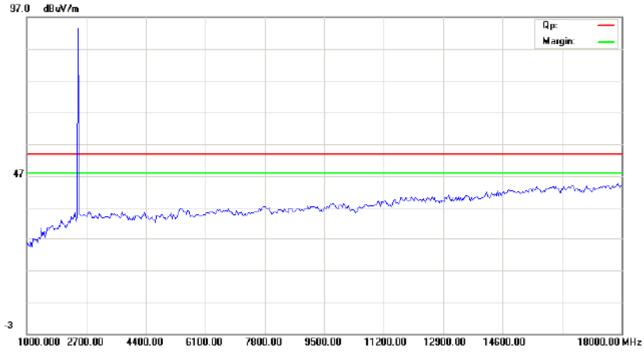
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#### **High Channel : Vertical**



Note: for the radiated emissions above 18G, it is the floor noise.

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# 7.0 20dB Bandwidth Measurement

## 7.1 Regulation

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.

# 7.2 Limits of 20dB Bandwidth Measurement

N/A

# 7.3 Test Procedure.

1. Check the calibration of the measuring instrument (spectrum analyzer) using either an internal calibrator or a known signal from an external generator.

2. Set the spectrum analyzer as follows: Span =3MHz, RBW =30 kHz, VBW=100 kHz, Sweep = auto Detector function = peak, Trace = max hold

3. Measure the highest amplitude appearing on spectral display and record the level to calculate results. 6. Repeat above procedures until all frequencies measured were complete.

# 7.4 Test Result

#### **Type of Modulation: GFSK**

EUT	Tablet PC		Model		W116, M11, P1100			
Mode	e	Keep Tra	nsmitting	itting Input Voltage			DC3.7V	
Tempera	ture	24 de	eg. C,	Hum	Humidity		56% RH	
Channel	Chai	nnel Frequency (MHz)		dB Bandwidth Maximum (kHz) (kHz		Pass/ Fail		
Low		2402	890	90			Pass	
Middle		2441	890	)			Pass	
High		2480	890	)			Pass	

The report refers only to the sample tested and does not apply to the bulk.

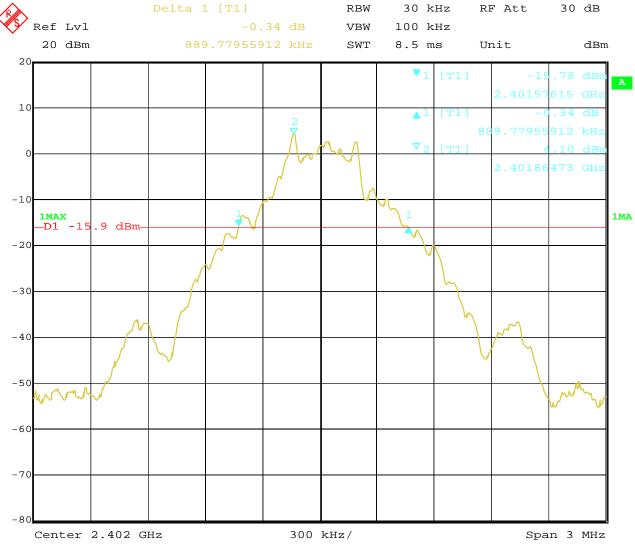
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# Test Figure:

#### 1. Condition: Low Channel





24.MAY.2016 15:21:14

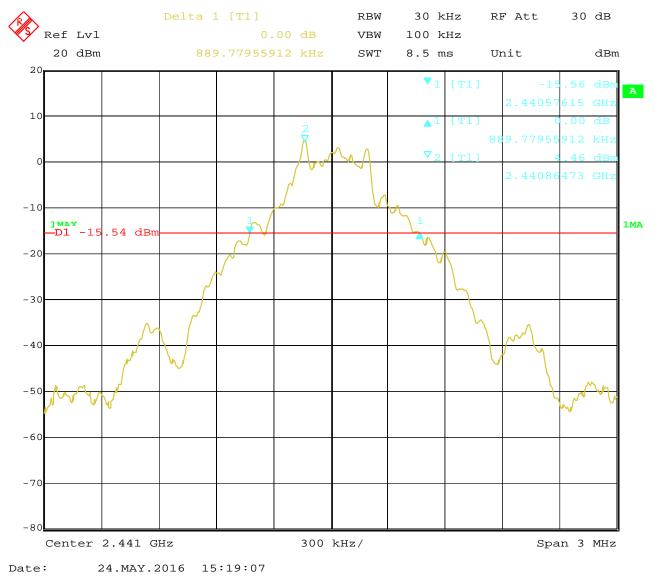
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Page 26 of 89

# 2. Condition: Middle Channel

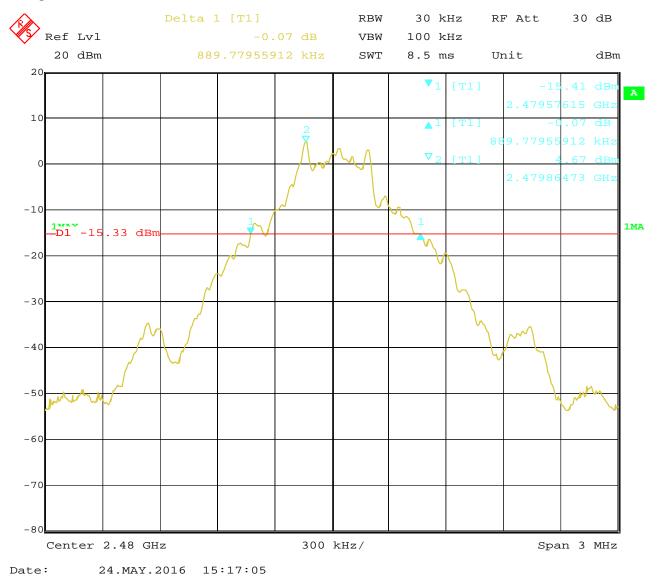


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#### 3. High Channel



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# **Test Result Type of Modulation:** Л/4DQPSK

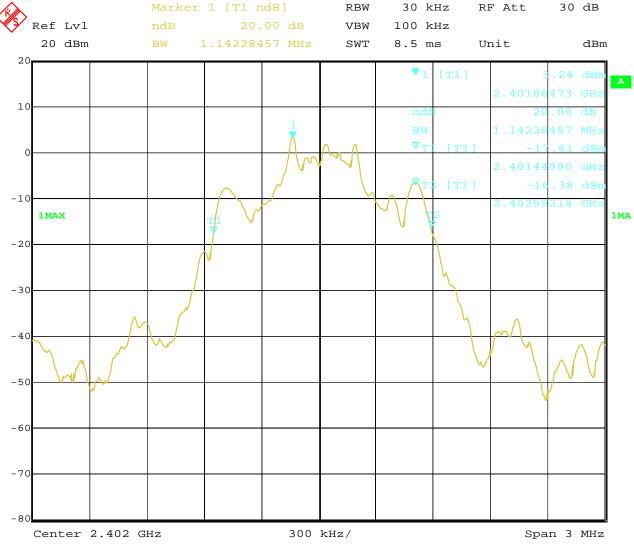
EUT		Tablet PC		Model		W116, M11, P1100		
Mode	;	Keep Tra	ransmitting Input Voltag		out Voltage		DC3.7V	
Tempera	ture	24 de	eg. C,	Humidit	Humidity		56% RH	
Channel	Cha	nnel Frequency (MHz)				num Limit kHz)	Pass/ Fail	
Low		2402	114	1142			Pass	
Middle		2441	114	2			Pass	
High		2480	114	2			Pass	

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## Test Figure:

#### 1. Condition: Low Channel





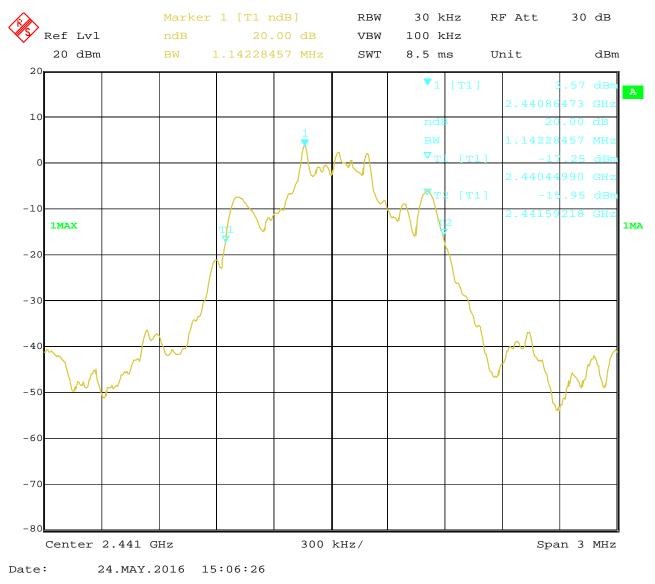
24.MAY.2016 15:04:24

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## 2. Condition: Middle Channel



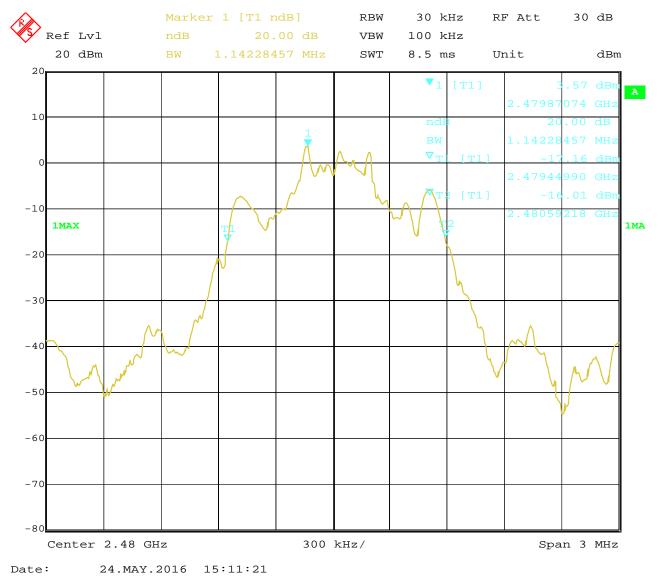
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## 3. High Channel



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# **Test Result Type of Modulation: 8DPSK**

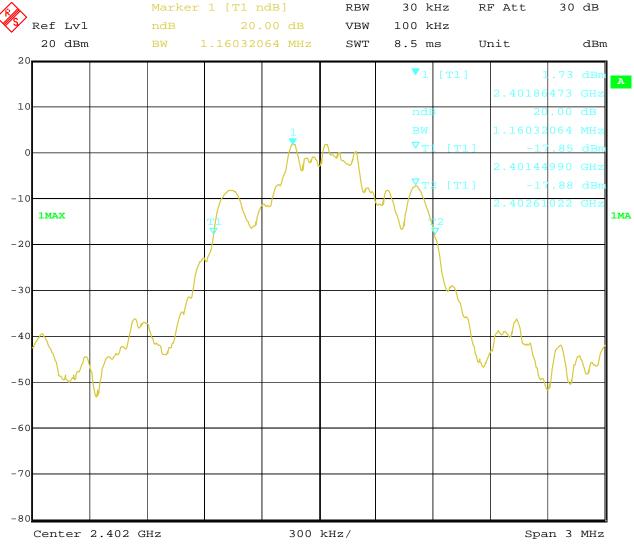
EUT		Table	Tablet PC		Model		5, M11, P1100		
Mode	e	Keep Tra	nsmitting Input Voltage		nsmitting Input Voltage DC3.7V		ng Input Voltage		DC3.7V
Tempera	ture	24 de	eg. C,	Humidity			56% RH		
Channel	Cha	nnel Frequency (MHz)	_ • • •	0dB Bandwidth M (kHz)		imum Limit (kHz)	Pass/ Fail		
Low		2402	1160		2402 1160			Pass	
Middle		2441	1166				Pass		
High		2480	11	160			Pass		

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## Test Figure:

#### 1. Condition: Low Channel





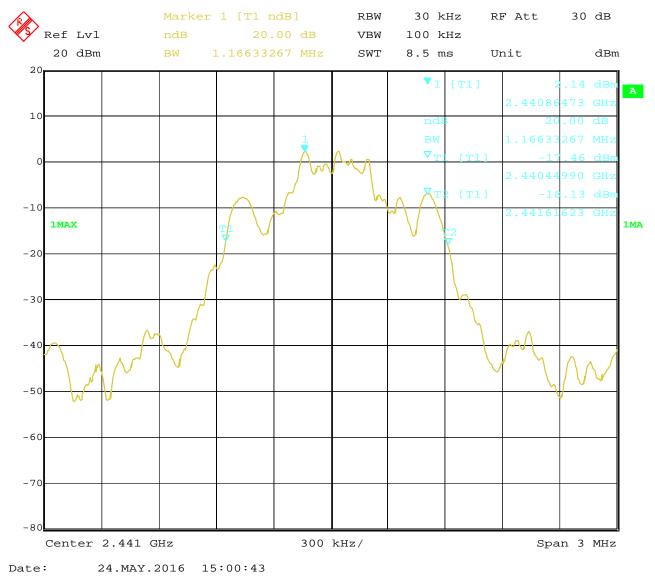
24.MAY.2016 15:02:51

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## 2. Condition: Middle Channel



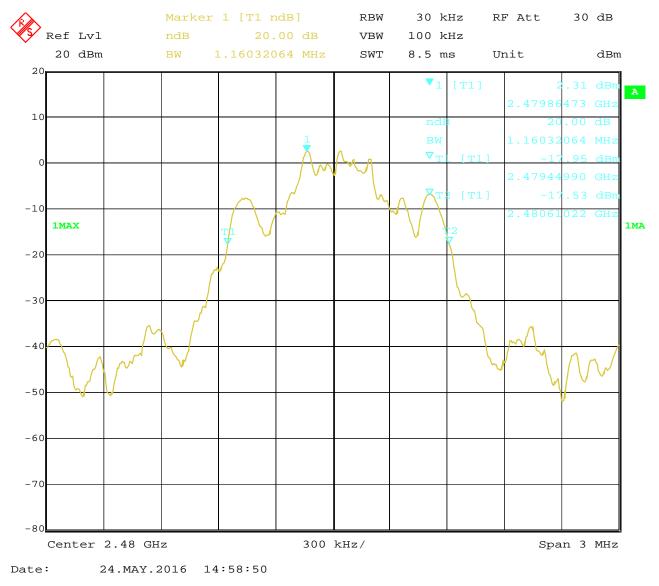
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#### 3. High Channel



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# 8. Maximum Output Power

#### 8.1 Regulation

According to §15.247(b)(1), 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 2400-2483.5MHz band:0.125 watts. According to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### 8.2 Limits of Maximum Output Power

The Maximum Output Power Measurement is 21dBm.

#### **8.3 Test Procedure**

1. Check the calibration of the measuring instrument (spectrum analyzer) using either an internal calibrator or a known signal from an external generator.

2. Set the spectrum analyzer as follows: Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel; RBW > the 20 dB bandwidth of the emission being measured; VBW = 10MHz, RBW=3MHz; Sweep = auto; Detector function = peak; Trace = max hold

3. Measure the highest amplitude appearing on spectral display and record the level to calculate results.

4. Repeat above procedures until all frequencies measured were complete.

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# **8.4Test Results Type of Modulation: GFSK**

EUT		Tablet PC		Model		W116, M11, P1100	
Mode		Keep Transmitting Input Voltage		ltage	DC3.7V		
Temperature	e	24 deg	deg. C, Humidity		56% RH		
Channel	Cł	nannel Frequency (MHz)	Max. Power Output (dBm)		Power Limit (dBm)		Pass/ Fail
Low		2402	6.19		21		Pass
Middle		2441	6.55		21		Pass
High		2480	6.55		21		Pass

Note: 1. the result basic equation calculation as follow:

Max. Power Output = Power Reading + Cable loss + Attenuator

2. The worse case was recorded

## **Type of Modulation:** Л/4DQPSK

EUT		Tablet PC		Model		W116, M11, P1100	
Mode		Keep Transmitting		Input Voltage		DC3.7V	
Temperature	e	24 deg	24 deg. C, Humidity		56% RH		
Channel	Cł	Channel Frequency Max. Power ( (MHz) (dBm)		Dutput	Peak Power Limit (dBm)		Pass/ Fail
Low		2402	5.49		21		Pass
Middle		2441	5.85		21		Pass
High		2480	5.98		2	21	Pass

Note: 1. the result basic equation calculation as follow:

Max. Power Output = Power Reading + Cable loss + Attenuator

2. The worse case was recorded

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## **Type of Modulation: 8DPSK**

EUT		Tablet PC		Model		W116, M11, P1100		
Mode		Keep Tran	Transmitting Input Voltage		DC3.7V			
Temperature	e	24 deg	g. C,	Humidi	ity		56% RH	
Channel	Cł	hannel Frequency (MHz)			Peak Power Limit (dBm)		Pass/ Fail	
Low		2402	5.38		21		Pass	
Middle		2441	5.76		21		Pass	
High		2480	5.93		2	.1	Pass	

Note: 1. the result basic equation calculation as follow:

Max. Power Output = Power Reading + Cable loss + Attenuator

2. The worse case was recorded

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adopt any other remedies which may be appropriate.



# 9. Carrier Frequency Separation

## 9.1 Regulation

According to §15.247(a)(1), frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB 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.

## 9.2 Limits of Carrier Frequency Separation

The Maximum Power Spectral Density Measurement is 25kHz or two-thirds of the 20dB bandwidth of the hopping Channel which is great.

## 9.3 Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.

2. Set the spectrum analyzer as follows: Span = wide enough to capture the peaks of two adjacent channels: Resolution (or IF) Bandwidth (RBW)  $\geq 1\%$  of the span; Video (or Average) Bandwidth (VBW)  $\geq RBW$ ; Sweep = auto; Detector function = peak; Trace = max hold

3. Measure the separation between the peaks of the adjacent channels using the marker-delta function.

4. Repeat above procedures until all frequencies measured were complete.

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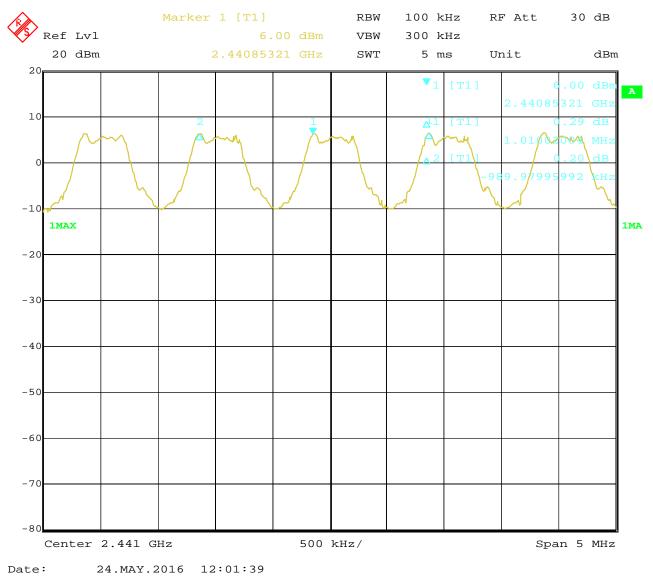


# 9.4Test Result

## **Type of Modulation: GFSK**

EUT	Tablet PC		Model	W116, M11, P1100	
Mode	Hopping On		Input Voltage	DC3.7V	
Temperature	24 deg. C,		Humidity	56% RH	
Carrier I	Carrier Frequency Separation		Limit		Pass/ Fail
1.010MHz		$\geq 2$	25 kHz or 2/3 of the 20	0 dB bandwidth	Pass

## **Test Plots**

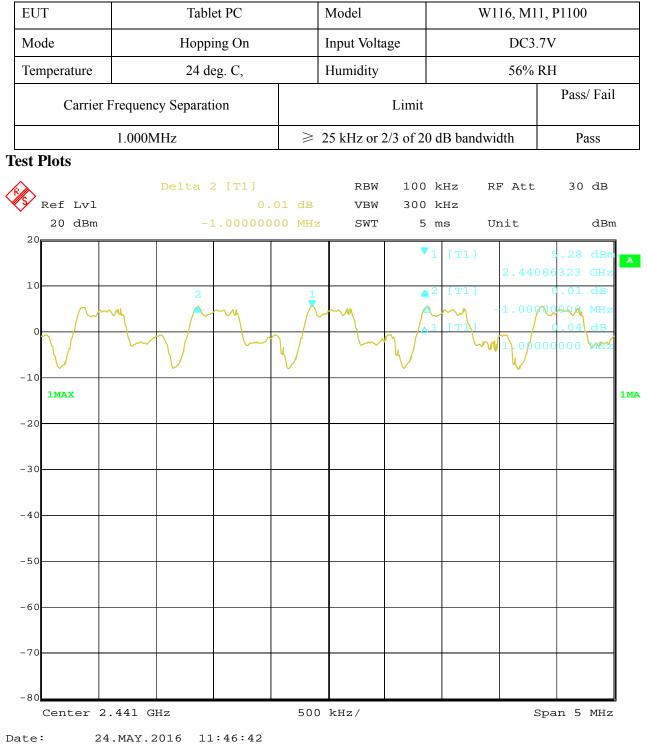


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## **Type of Modulation:** Л/4DQPSK



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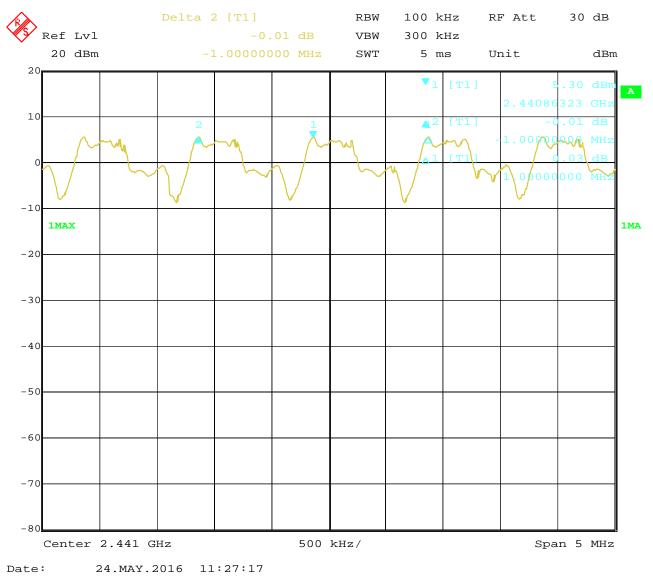
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# **Type of Modulation: 8DPSK**

EUT	Tablet PC	Model	W116, M11, P1100		
Mode	Hopping On	Input Voltage	DC3.7V		
Temperature	24 deg. C,		Humidity	56% RH	
Carrier Frequency Separation			Limit		Pass/ Fail
1.000MHz		$\geq 2$	5 kHz or 2/3 of 2	0 dB bandwidth	Pass

## **Test Plots**



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# **10. Number of Hopping Channels**

## 10.1 Regulation

According to §15.247(a)(1)(iii), frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. 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. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used. According to §15.247(b)(1), 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.

## **10.2 Limits of Number of Hopping Channels**

The frequency hopping systems in the 2400-2483.5MHz band shall use at least 15 channels.

## **10.3 Test Procedure**

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.

2. Set the spectrum analyzer as follows: Span = the frequency band of operation; RBW=100 kHz, VBW=300 kHz; Sweep = auto; Detector function = peak; Trace = max hold

3. Record the number of hopping channels.

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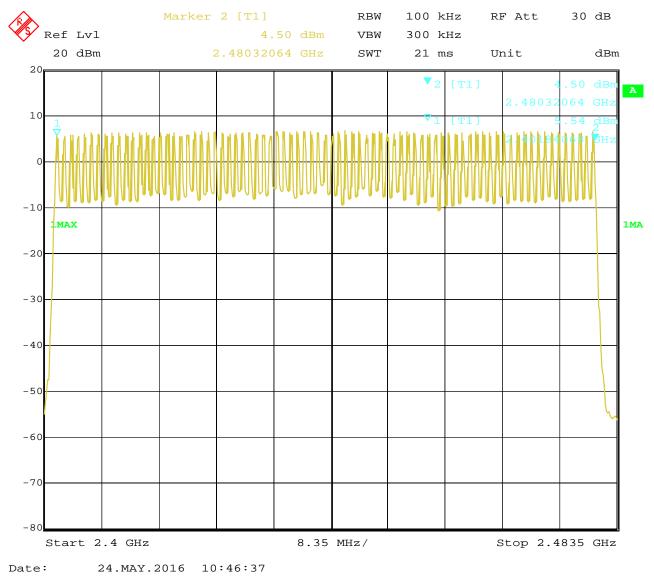
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# **10.4Test Result Type of Modulation: GFSK**

EUT	Tablet PC		Model	W	116, M11, P1100	
Mode	Hopping On		Input Voltage	DC3.7V		
Temperature		24 deg. C,	Humidity	56% RH		
Operating Frequency		Number of hop	ping channels	Limit	Pass/ Fail	
2402-2480MHz		79		≥15	Pass	

# **Test Plot**



The report refers only to the sample tested and does not apply to the bulk.

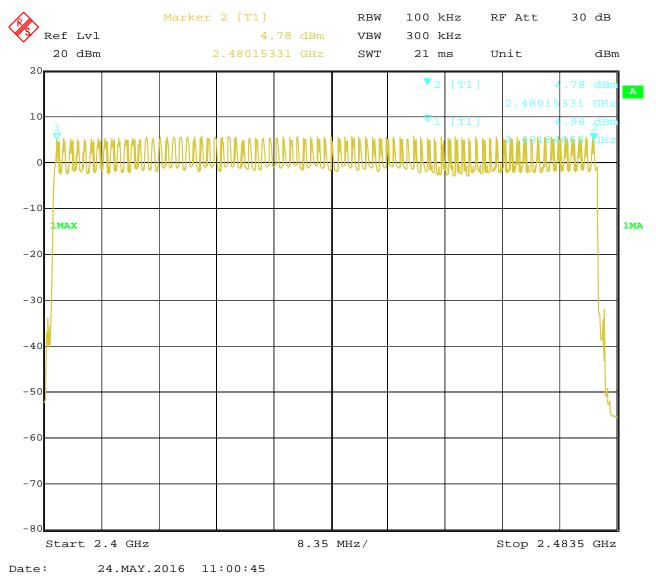
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## **Type of Modulation:** Л/4DQPSK

EUT	Tablet PC		Model		W116, M11, P1100	
Mode	Hopping On		Input Voltage		DC3.7V	
Temperature	24 deg. C,		Humidity		56% RH	
Operating Frequency		Number of hopp channels	oing	Liı	nit	Pass/ Fail
2402-2480MHz		79		≥15		Pass

## **Test Plot**



The report refers only to the sample tested and does not apply to the bulk.

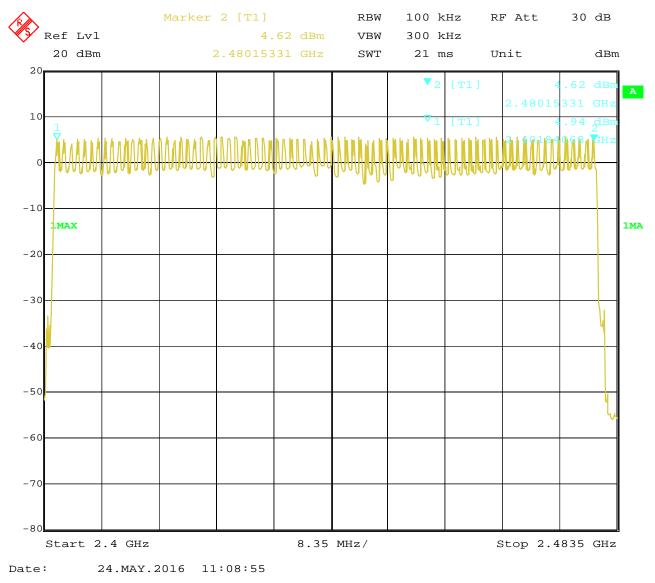
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### **Type of Modulation: 8DPSK**

EUT	Tablet PC		Model		W116, M11, P1100	
Mode	Hopping On		Input V	nput Voltage		DC3.7V
Temperature	24 deg. C,		Humidi	ity		56% RH
Operating Frequer	perating Frequency Channels		oing	Liı	nit	Pass/ Fail
2402-2480MHz		79		$\geq$	15	Pass

## **Test Plot**



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# 11. Time of Occupancy (Dwell Time)

## 11.1 Regulation

According to §15.247(a)(1)(iii), frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. 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. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

## 11.2 Limits of Carrier Frequency Separation

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

## **11.3 Test Procedure**

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.

2. Set the spectrum analyzer as follows: Span = zero span, centered on a hopping channel; RBW = 1 MHz; VBW

RBW; Sweep = as necessary to capture the entire dwell time per hopping channel; Detector function = peak; Trace = max hold

3. Measure the dwell time using the marker-delta function.

4. Repeat above procedures until all frequencies measured were complete.

5. Repeat this test for different modes of operation (e.g., data rate, modulation format, etc.), if applicable.

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## 11.4 Test Result Type of Modulation: GFSK

EUT	Tab	Tablet PC		W116	, M11, P1100
Mode	Кеер Ті	Keep Transmitting		I	DC3.7V
Temperatur	re 24 c	24 deg. C,		5	66% RH
Channel	Reading	Hoping	g Rate	Actual	Limit
DH5					
Middle	0.200ms	266.667	7 hop/s	0.0213s	0.4s
			DH3		
Middle	0.220ms	400 h	nop/s	0.0235s	0.4s
DH1					
Middle	0.240ms	800 h	nop/s	0.0256s	0.4s

Actual = Reading × (Hopping rate / Number of channels) × Test period, Test period = 0.4 [seconds / channel] × 79 [channel] = 31.6 [seconds] NOTE: The EUT makes worst case 1600 hops per second or 1 time slot has a length of  $625\mu$ s with 79 channels.

A DH5 Packet needs 5 time slot for transmitting and 1 time slot for receiving. Then the EUT makes worst case 266.667 hops per second with 79 channels.

A DH3 Packet needs 3 time slot for transmitting and 1 time slot for receiving. Then the EUT makes worst case 400 hops per second with 79 channels.

A DH1 Packet needs 1 time slot for transmitting and 1 time slot for receiving. Then the EUT makes worst case 800 hops per second with 79 channels.

The report refers only to the sample tested and does not apply to the bulk.

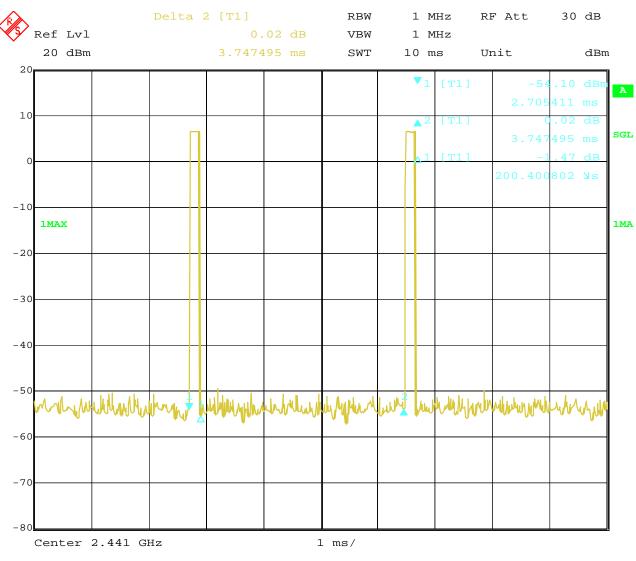
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Page 49 of 89

Test Plots: DH5 Middle Channel:



Date: 24.MAY.2016

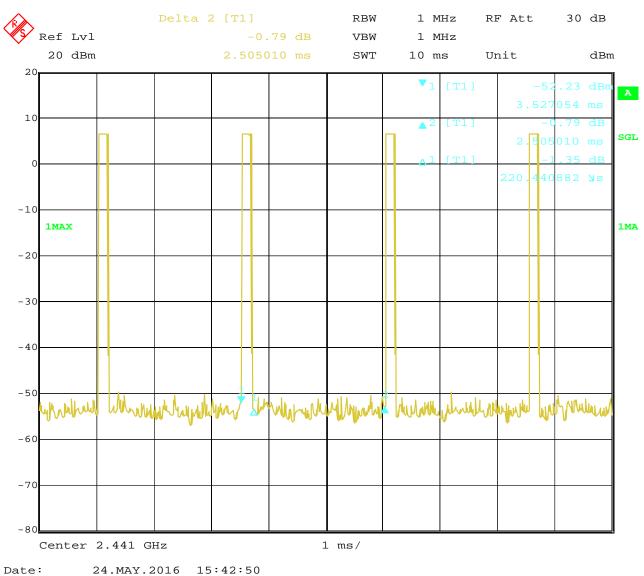
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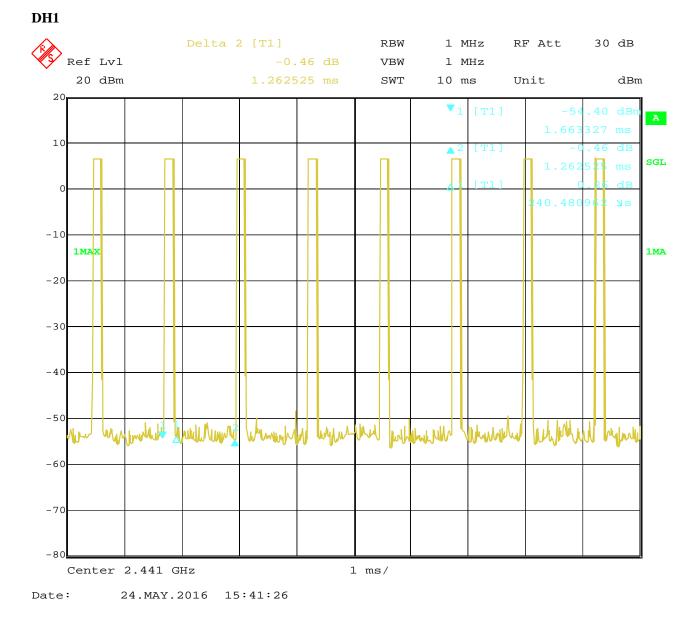
DH3

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# Test Result Type of Modulation: *Π*/4DQPSK

EUT	Tab	Tablet PC		W116	6, M11, P1100	
Mode	Keep Tr	Keep Transmitting		]	DC3.7V	
Temperatur	re 24 c	24 deg. C,			56% RH	
Channel	Reading	Hoping	g Rate	Actual	Limit	
	DH5					
Middle	0.220ms	266.667	7 hop/s	0.0235s	0.4s	
			DH3			
Middle	0.240ms	400 h	op/s	0.0256s	0.4s	
DH1						
Middle	0.220ms	800 h	op/s	0.0235s	0.4s	

Actual = Reading × (Hopping rate / Number of channels) × Test period, Test period = 0.4 [seconds / channel] × 79 [channel] = 31.6 [seconds] NOTE: The EUT makes worst case 1600 hops per second or 1 time slot has a length of  $625\mu$ s with 79 channels.

A DH5 Packet needs 5 time slot for transmitting and 1 time slot for receiving. Then the EUT makes worst case 266.667 hops per second with 79 channels.

A DH3 Packet needs 3 time slot for transmitting and 1 time slot for receiving. Then the EUT makes worst case 400 hops per second with 79 channels.

A DH1 Packet needs 1 time slot for transmitting and 1 time slot for receiving. Then the EUT makes worst case 800 hops per second with 79 channels.

The report refers only to the sample tested and does not apply to the bulk.

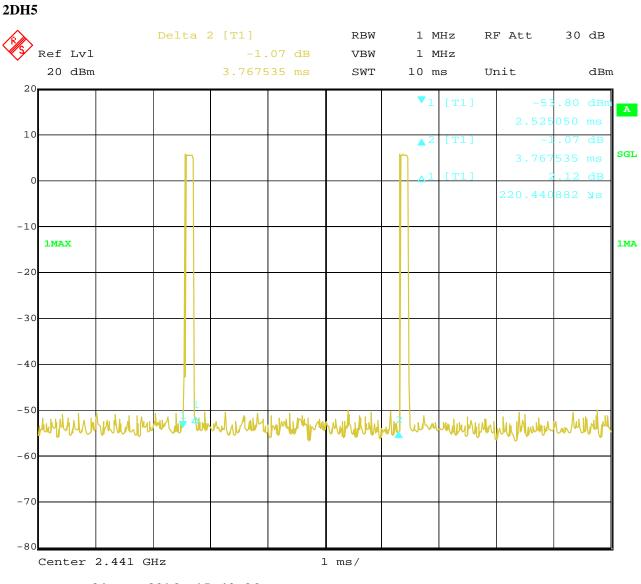
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Test Plots:



Page 53 of 89



Date:

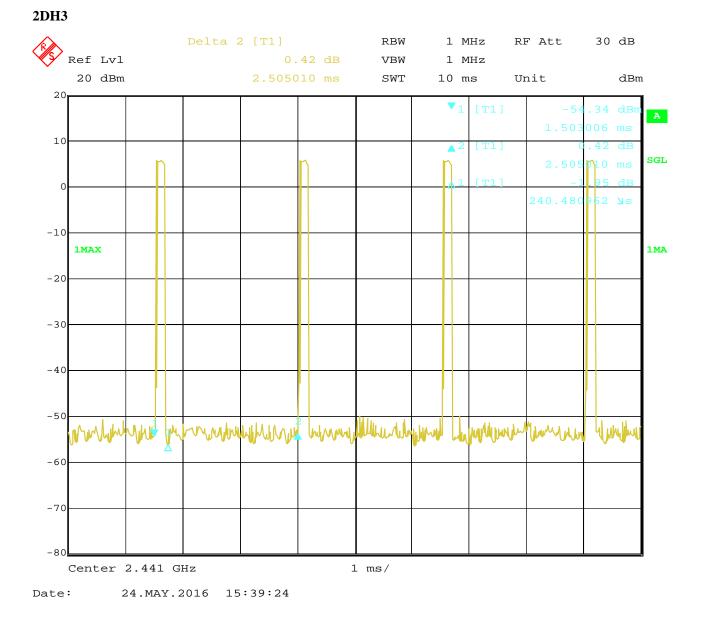
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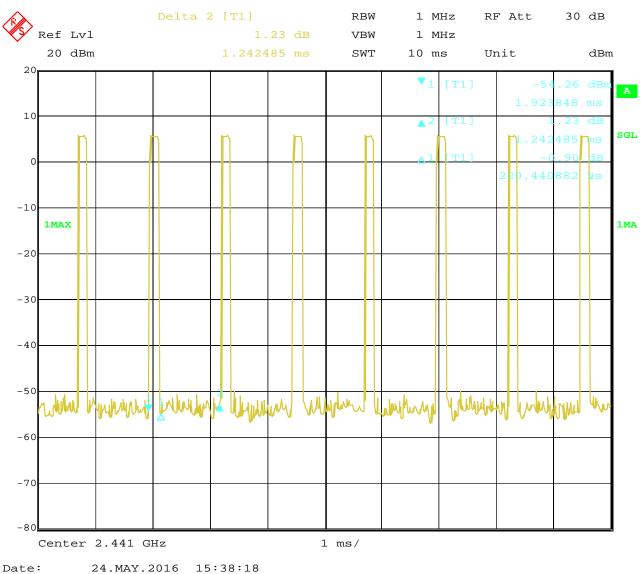
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Page 55 of 89



2DH1

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### Type of Modulation: 8DPSK

EUT	Tab	Tablet PC		W116	, M11, P1100	
Mode	Keep Tr	Keep Transmitting		]	DC3.7V	
Temperatur	re 24 c	24 deg. C,			56% RH	
Channel	Reading	Hoping	g Rate	Actual	Limit	
	DH5					
Middle	0.240ms	266.667	7 hop/s	0.0256s	0.4s	
			DH3			
Middle	0.200ms	400 h	op/s	0.0213s	0.4s	
DH1						
Middle	0.220ms	800 h	op/s	0.0235s	0.4s	

Actual = Reading × (Hopping rate / Number of channels) × Test period, Test period = 0.4 [seconds / channel] × 79 [channel] = 31.6 [seconds] NOTE: The EUT makes worst case 1600 hops per second or 1 time slot has a length of  $625\mu$ s with 79 channels.

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A DH1 Packet needs 1 time slot for transmitting and 1 time slot for receiving. Then the EUT makes worst case 800 hops per second with 79 channels.

The report refers only to the sample tested and does not apply to the bulk.

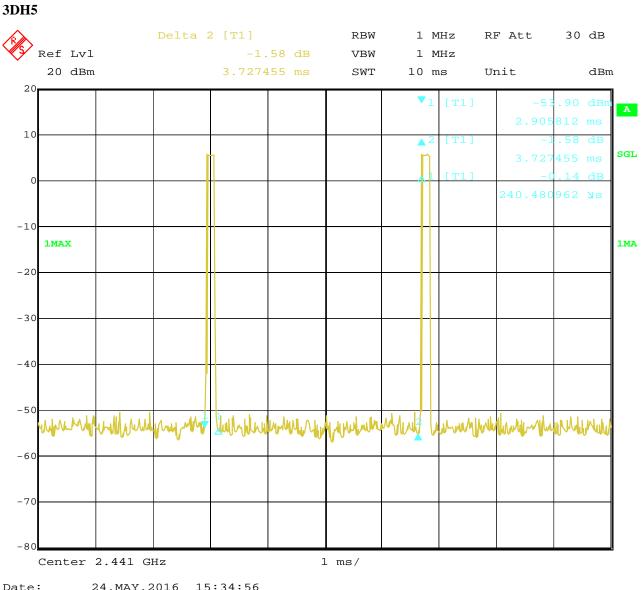
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Test Plots:



Page 57 of 89



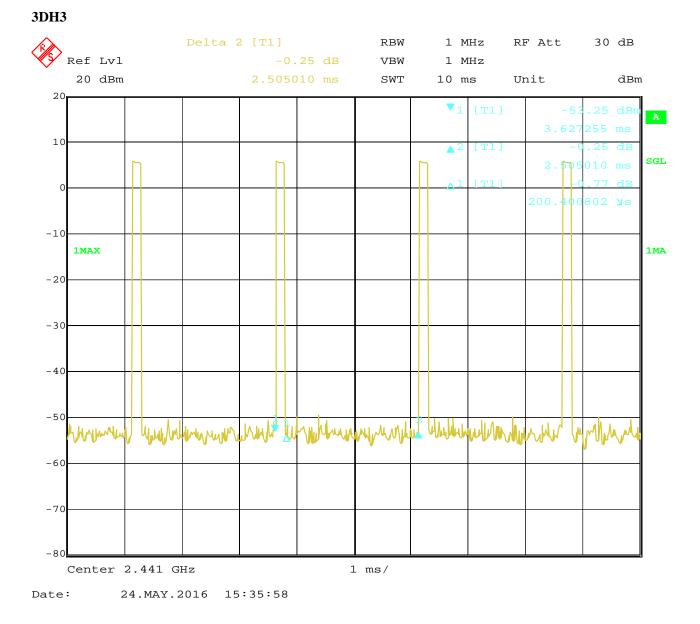
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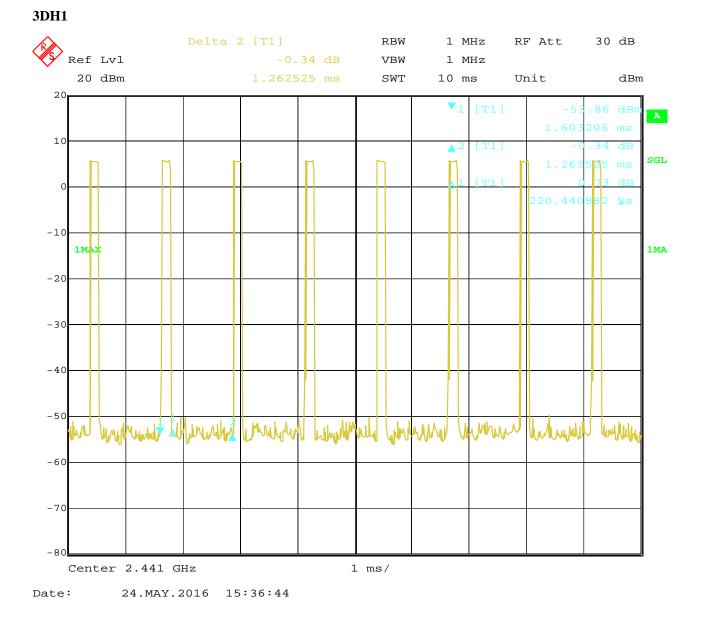
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Page 59 of 89



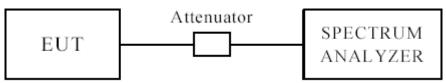
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# 12 Out of Band Measurement

12.1 Test Setup



## The restricted band requirement based on radiated emission test; please see the clause 6 for the test setup

## 12.2 Limits of Out of Band Emissions Measurement

- 1. Below –20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).
- 2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

## **12.3 Test Procedure**

For signals in the restricted bands above and below the 2.4-2.483GHz allocated band a measurement was made of radiated emission test. Peak values with RBW=VBW=1MHz and PK detector. For bandage test, the spectrum set as follows: RBW=100, VBW=300 kHz. A conducted measurement used

Note: 1. For band-edge measurement, the frequency from 30MHz-25GHz was tested. And It met the FCC rule.

2. This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.

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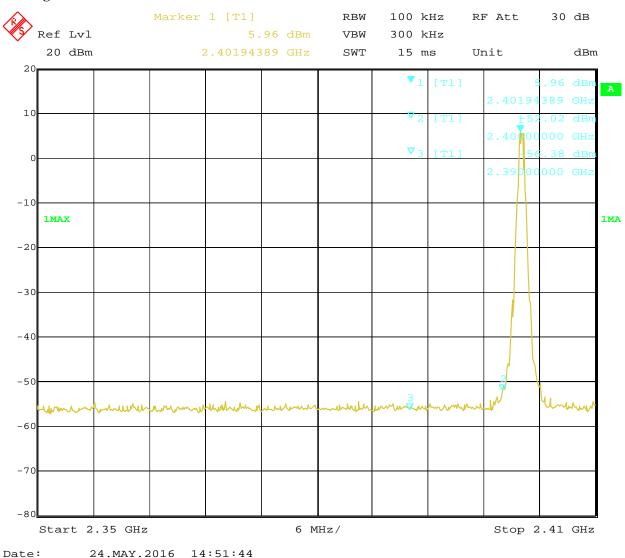


# **Type of Modulation: GFSK**

Out of Band Test Result 12.4

Product:		Tablet PC	Test Mode:	Low Channel
Mode	Kee	ping Transmitting	Input Voltage	DC3.7V
Temperature		24 deg. C	Humidity	56% RH
Test Result:		Pass		PK
The Max. FS in	PK (dBµV/m)	49.1		74(dBµV/m)
Restrict Band	$AV(dB\mu V/m)$	AV(dBµV/m)		54(dBµV/m)
2390MHz				
T				

**Test Figure:** 



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### **Type of Modulation: GFSK**

#### 12.4 Out of Band Test Result

Product:		Tablet PC		Test Mode:		High Chanı		nel
Mode	Kee	ping Transmitting		Input Vo	oltage		DC3.7V	·
Temperature		24 deg. C,		Humidity			56% RH	[
Test Result:		Pass		Detector			РК	
The Max. FS in	PK (dBµV/m)	44.9	44.9				$74(dB\mu V/m$	m)
Restrict Band	$AV(dB\mu V/m)$			Lim	it		54(dBµV/1	m)
2483.5MHz								
Test Figure: Ref Lv 20 dB	·l	er 1 [T1] 6.43 dBm 2.47991984 GHz	RBW VBW SWT	300 kH	Iz	'Att	30 dB dBm	1
20				<b>v</b> 1			4.2.1-	
				• 1	[T1]	e 2.47991	.43 dBm 984 GHz	A
10		Ň		₹2	[T1]	-56 2.48350	.47 dBm 000 GHz	
0								
-10								1MA
-20								
-30								
-40								
-50		<u>/</u>						
-60	manuburner	Murenhy	mm	hohmmahar	when when	Mumu	manel	
-70								
-80 Start	2.47 GHz	3 M	Hz/			Stop	2.5 GHz	ļ

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# **Type of Modulation: GFSK**

#### Out of Band Test Result 12.4

Product:		Tablet PC				Test Mode:			Hopping mode		ode
Mode		Hopping	; On			Inp	out Volt	age		DC3.7V	
Temperature		24 deg.	С,			ŀ	Iumidit	у		56% RH	
Test Result:		Pass				]	Detecto	r	РК		
The Max. FS in	PK (dBµV/m)		47.6						74(dBµV/m)		n)
Restrict Band	$AV(dB\mu V/m)$						Limit		4	54(dBµV/r	n)
2390MHz											
est Figure:											
	Marker 1			RBW		0 k		RF A	tt	30 dB	
Ref Lvl			30 dBm	VBW		0 ki		•.		15	
20 dBm 20	2.	4069939	99 GHZ	SWT	1	5 m	S	Unit		dBn	1
						<b>▼</b> 1	[T1]		5	.80 dBm	A
10						_		2.4	40699	399 GHz	
						₹2	[T1]	2	54 – 10 (أ) 10 4		
						<b>v</b> <sub>3</sub>	[T1]	2	±00000	1.79 dBn	
0								2.3	39000	COO GHz	
-10 1MAX										<u>.</u>	1M
-20											
-30											
-40											
-50											
monder	mannahman	Lunn	montame	um	Mand		mehren	mi	l		
-60											
-70											
- 80											
Start 2.3	5 GHz		6 M	Hz/				St	cop 2	.41 GHz	

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# **Type of Modulation: GFSK**

#### Out of Band Test Result 12.4

Product:		Tablet PC				Test Mo	de:	H	opping mo	ode
Mode		Hopping	g On		Iı	nput Volt	age		DC3.7V	
Temperature		24 deg	. C,			Humidity		56% RH		
Test Result:		Pass	3			Detecto	or		РК	
The Max. FS in	PK (dBµV/m)		43.6					7	4(dBµV/r	n)
Restrict Band	AV(dBµV/m)					Limit		5	4(dBµV/r	n)
2483.5MHz										
Cest Figure:										
R A	Marker 1	[T1]		RBW	100	kHz	RF A	tt	30 dB	
🛛 Ref Lvl			24 dBm	VBW	300					
20 dBm 20	2.	472885	77 GHz	SWT	7.5	ms	Unit		dBn	n
20					•	1 [T1]		6	.24 dBm	
							2.	47288	577 GHz	
10						2 [T1]		-56	.91 dBm	
		Μ					2.	48350	000 GHz	
0										
		4								1M
-20										
-30										
-40		ų.								-
-50		<u> </u>								
			hour	marin	mhhave	when	num	m	mertern	
-60										
-70										
-80							1			1

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## **Type of Modulation:** Л/4DQPSK

Out of Band Test Result 12.4

Product:		Tablet PC		Test Mode:	Low Channel
Mode	Keej	ping Transmitting		Input Voltage	DC3.7V
Femperature		24 deg. C		Humidity	56% RH
Test Result:		Pass		Detector	РК
The Max. FS in	PK (dBµV/m)	48.6			74(dBµV/m)
Restrict Band	$AV(dB\mu V/m)$			Limit	54(dBµV/m)
2390MHz					
<b>Fest Figure:</b>					
(A)	Marker				Att 30 dB
Ref Lvl		5.13 dBm		300 kHz	
20 dBm 20	1	2.40194389 GHz	SWT	15 ms Uni	t dBm
20				▼1 [T1]	5.13 dBm
				2	.40194389 GHz
10				▼2 [T1]	$1^{51.67}$ dBm
					.4000000 GHz
0				▼ <sub>3</sub> [T1]	- <u>56.09 dBm</u>
				2	.39000000 GHz
-10					
1MAX					1MA
-20					
-					
2.0					
-30					
					N M
-40					
-50					
unoline	unnunun	mohenene	monen	metinghemm	M ymmen
-60					
-70					
-80	2.35 GHz	6 M	Hz/		Stop 2.41 GHz

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## **Type of Modulation:** Л/4DQPSK

#### Out of Band Test Result 12.4

Product:		Tablet PC		Test Mo	le:	High (	Channel
Mode	Kee	ping Transmitting		Input Volt	age	DC3.7V	
Temperature		24 deg. C,		Humidi	ty	56%	6 RH
Test Result:		Pass		Detecto	or	РК	
The Max. FS in	PK (dBµV/m)	43.4				74(dE	βμV/m)
Restrict Band	AV(dBµV/m)					54(dE	βμV/m)
2483.5MHz							
Test Figure:					·		
	Marker	1 [T1]	RBW	100 kHz	RF A	Att 30	dB
Ref Lvl		5.57 dBm	VBW	300 kHz			
20 dBm	2	.47985972 GHz	SWT	7.5 ms	Unit	2	dBm
20				▼1 [T1	1	5.57	dBm
						47985972	A
10		1		▼2 [T1	]	-55.16	dBm
		M			2.	48350000	GHz
0		14					
		V					
-10							
1MAX							1.M
-20							
- 3 0							
	N	M.					
-40							
-50		V . 2					
whan	manulal	minun	meruller	Mullimmenel	mm	brund	Nam
-60							
-70							
-80							
Start 2.4	7 GHz	3 M	Hz/			Stop 2.5	GHz

24.MAY.2016 14:56:05 Date:

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# **Type of Modulation:** Л/4DQPSK

#### Out of Band Test Result 12.4

Product:	Tablet PC			Test Mode:	Hopping mode	
Mode		Hopping On		Input Voltage	DC3.7V	
Temperature		24 deg. C,		Humidity	56% RH	
Test Result:		Pass		Detector	PK	
The Max. FS in	PK (dBµV/m)	45.5	5		74(dBµV/m)	
Restrict Band	$AV(dB\mu V/m)$			Limit	54(dBµV/m)	
2390MHz						
est Figure:						
	Marker 1	[T1]		100 kHz RF	Att 30 dB	
Ref Lvl		5.10 dBm		300 kHz	-	
20 dBm 20	2.	41000000 GHz	SWT	15 ms Uni	t dBm	
20				▼1 [T1]	5.10 dBm	
1.0					41000000 GHz	
10				▼2 [T1]	-52.41 dBm	
				▼ <sub>3 [T1]</sub> 2.	4000000 GHZ	
0					39000000 GH2	
-10						
1MAX					1M	
-20						
-30						
-40					_ <mark>\</mark>	
-50					3	
harmann	munchandel	when when a	human	mother hand	Ŭ	
-60						
-70						
- / 0						
-80			IHz/		Stop 2.41 GHz	

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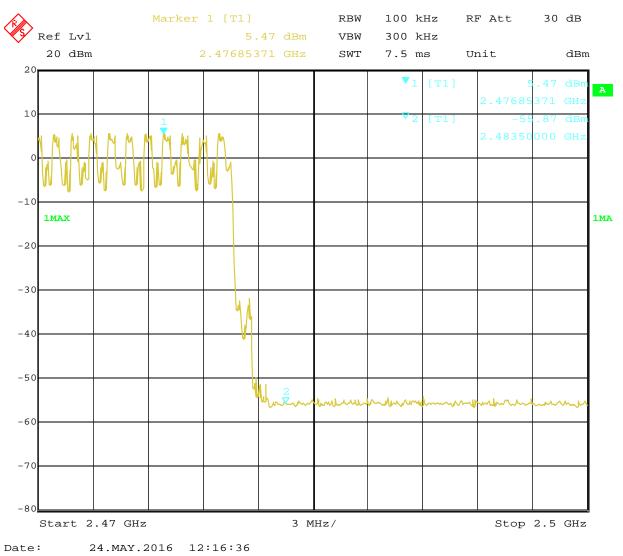


# **Type of Modulation:** Л/4DQPSK

#### Out of Band Test Result 12.4

Product:		Tablet PC	Test Mode:	Hopping mode
Mode		Hopping On	Input Voltage	DC3.7V
Temperature		24 deg. C,	Humidity	56% RH
Test Result:	Pass		Detector	РК
The Max. FS in	PK (dBµV/m)	43.1		74(dBµV/m)
Restrict Band	$AV(dB\mu V/m)$		Limit	54(dBµV/m)
2483.5MHz				

**Test Figure:** 



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## **Type of Modulation: 8DPSK**

### Out of Band Test Result 12.4

Product:	Tablet PC			Test Mode:	Lo	Low Channel	
Mode	Kee	ping Transmitting		Input Voltage	]	DC3.7V	
Temperature		24 deg. C		Humidity	4	56% RH	
Test Result:		Pass		Detector		РК	
The Max. FS in	PK ( $dB\mu V/m$ )	46.8			74	(dBµV/m)	
Restrict Band	$AV(dB\mu V/m)$			Limit	54	(dBµV/m)	
2390MHz							
Test Figure:							
<u>k</u>		1 [T1]	RBW		Att 3	0 dB	
Ref Lvl		5.13 dBm	VBW	300 kHz		-	
20 dBm 20	n	2.40194389 GHz	SWT	15 ms Un	it	dBm	
				▼1 [т1]	5.1	3 dBm	
10					2.4019438	9 GHz	
10				V2 [T1]	1 <sup>51.0</sup>		
				▼3 [T1]	2.400000 -55.8		
0					2.3900000		
-10						1.00	
1MAX						1MA	
-20							
- 3 0							
					N W		
-40							
-50					4		
		unuman muchant		with when here	m 142	Unim	
-60	h man have a second sec	with we have the			~ ~	4. WW	
					1		

Start 2.35 GHz 6 MHz/ Stop 2.41 GHz

Date: 24.MAY.2016 14:47:19

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### **Type of Modulation: 8DPSK**

#### 12.4 Out of Band Test Result

Product:		Tablet PC		Test M	Iode:	]	High Chan	nel
Mode	Kee	ping Transmitting		Input V	oltage		DC3.7V	<del>,</del>
Temperature		24 deg. C,		Hum	idity		56% RH	[
Test Result:		Pass		Detector		РК		
The Max. FS in	PK (dBµV/m)	44.1	44.1				$74(dB\mu V/m$	m)
Restrict Band	$AV(dB\mu V/m)$			Lin	nit		54(dBµV/1	m)
2483.5MHz								
Test Figure:								
		er 1 [T1]	RBW			Att	30 dB	
Ref Lv 20 dB		5.61 dBm 2.47985972 GHz	VBW SWT			it	dBm	
20 dB		2.47903972 Gn2	3W1	1	.5 011	.10	UBII	1
				▼1	[T1]	5	.61 dBm	A
10						2.47985		
10				▼ 2	[T1]	-54	000  GHz	
		M				2.40350	000 GHZ	
0								
		•						
-10								1MA
1MAX								IMA
-20								
-30								
-40								
- 5 0								
			unun					
	unamusher the	1	mul	Month		millen	mon	
- 6 0								
-70								
-80	2.47 GHz		IHz/			84.05	2 5 011-	ļ
			IUZ /			згор	2.5 GHz	
Date:	24.MAY.2016	14:57:59						

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# **Type of Modulation: 8DPSK**

#### Out of Band Test Result 12.4

Product:		Tablet PC			lode:	Hopping mode	
Mode		Hopping On		Input V	oltage	DC3.7V	
Temperature		24 deg. C,		Hum	dity	56% RH	
Test Result:		Pass		Dete	ctor	РК	
The Max. FS in	PK (dBµV/m)	45.3				$74(dB\mu V/m)$	
Restrict Band	$AV(dB\mu V/m)$			Lin	nit	$54(dB\mu V/m)$	
2390MHz							
est Figure:							
	Marker 1		RBW	100 kHz	RF At	t 30 dB	
Ref Lvl		4.95 dBm	VBW	300 kHz			
20 dBm 20	2.	40494990 GHz	SWT	15 ms	Unit	dBm	
				▼1 [т1	1	4.95 dBm	
10						0494990 GHz	
10				▼2 [T1		-51 <sub>1</sub> 61 dBm 000000000000000000000000000000000000	
				<b>∇</b> 3 [T1		- 85.70 dBm	
0					2.3	9000000 GHz	
-10 1MAX						1M	
-20							
- 3 0							
-40						J	
-50					- 2		
mmmull	monument	mmmmmlum	umun	un Zullan	man		
-60							
-70							
- 8 0							
Start 2.3	5 GHz	б М	Hz/		St	op 2.41 GHz	

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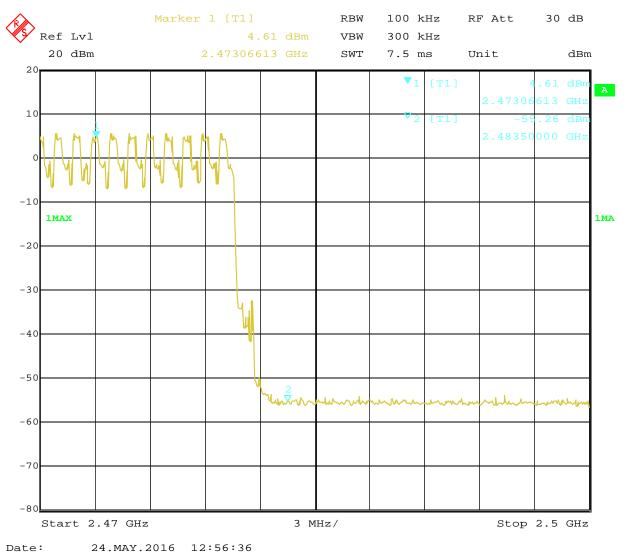


## **Type of Modulation: 8DPSK**

#### 12.4 Out of Band Test Result

Product:		Tablet PC	Test Mode:	Hopping mode	
Mode		Hopping On	Input Voltage	DC3.7V	
Temperature	24 deg. C,		Humidity	56% RH	
Test Result:	Pass		Detector	РК	
The Max. FS in	PK (dBµV/m)	43.7		74(dBµV/m)	
Restrict Band	AV(dBµV/m)		Limit	54(dBµV/m)	
2483.5MHz					

**Test Figure:** 



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# 13.0 Antenna Requirement

13.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitter antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the mount in dB that the directional gain of the antenna exceeds 6 dBi.

13.2 Antenna Connected constructions Integral antenna used. The maximum Gain of the antennas is 1.6dBi.

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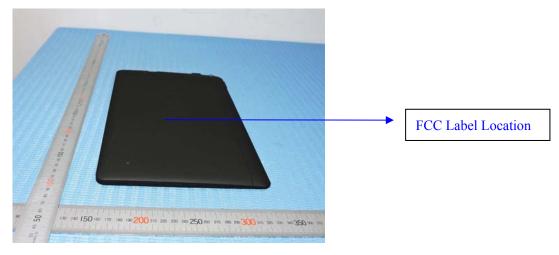
# 14.0 FCC ID Label

# FCC ID: RBD-W116

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

### Mark Location:



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#### 15.0 Photo of testing

Conducted Emission Test Setup:



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Radiated Emission Test Setup:





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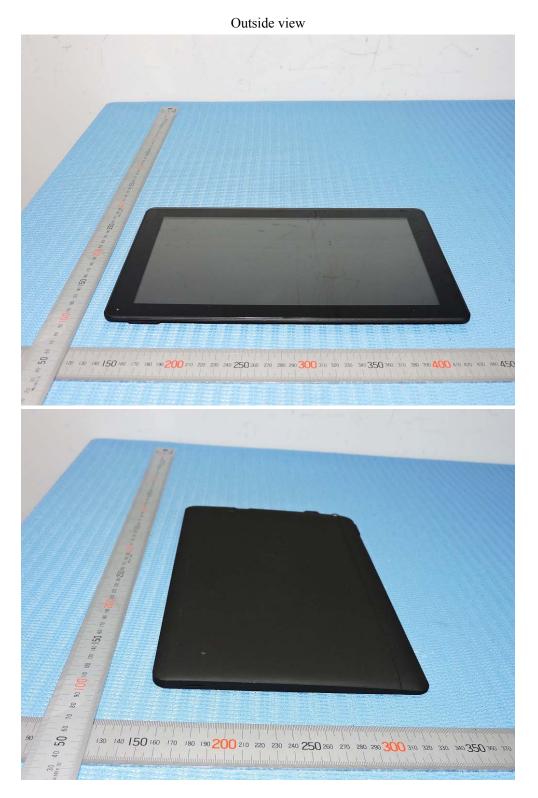
# **Photographs – EUT**

Outside view



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Page 79 of 89

Outside view



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Page 80 of 89

Accessory- Keyboard



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Accessory -Power Supply



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Accessory -Power Supply



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Inside view

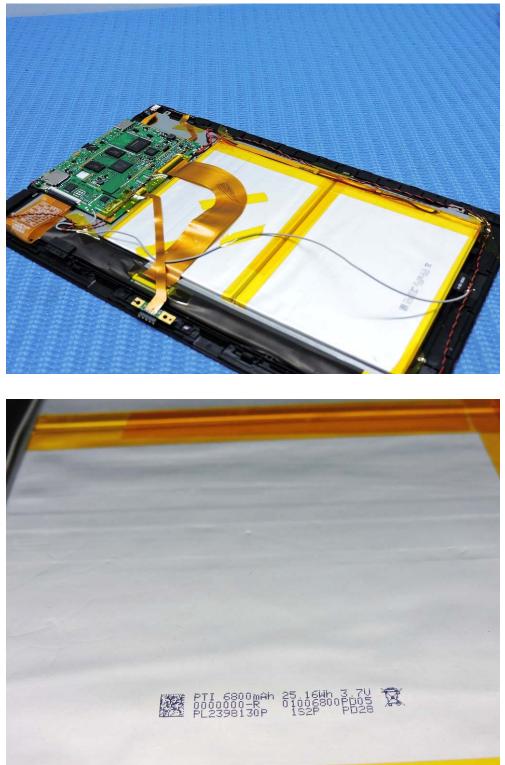


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Page 84 of 89

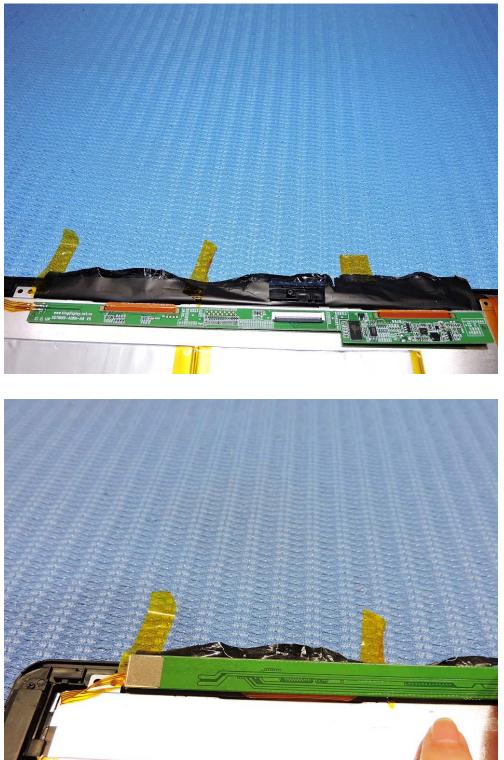
Inside view



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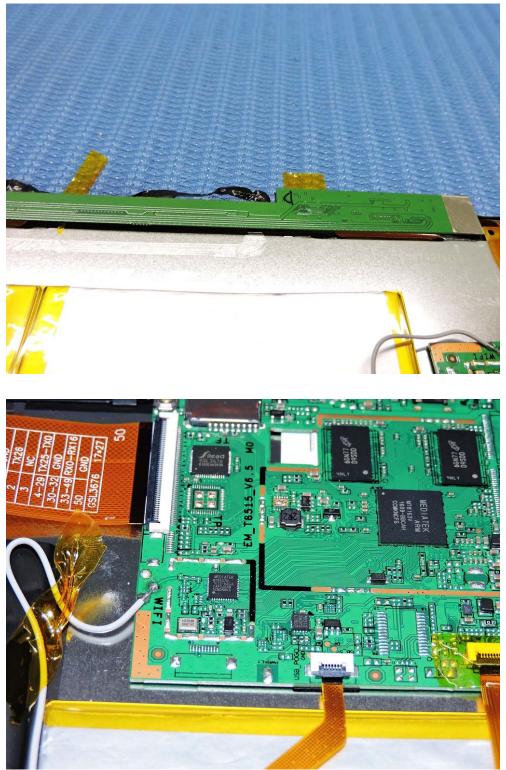


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Page 86 of 89

Inside view

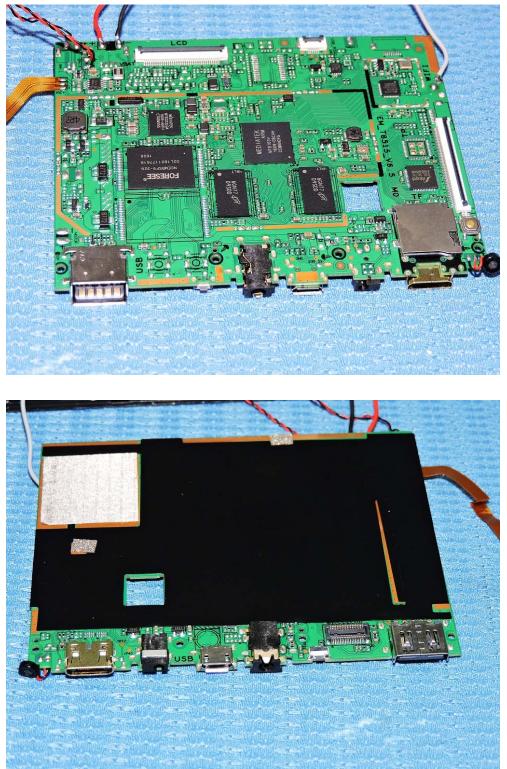


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Page 87 of 89

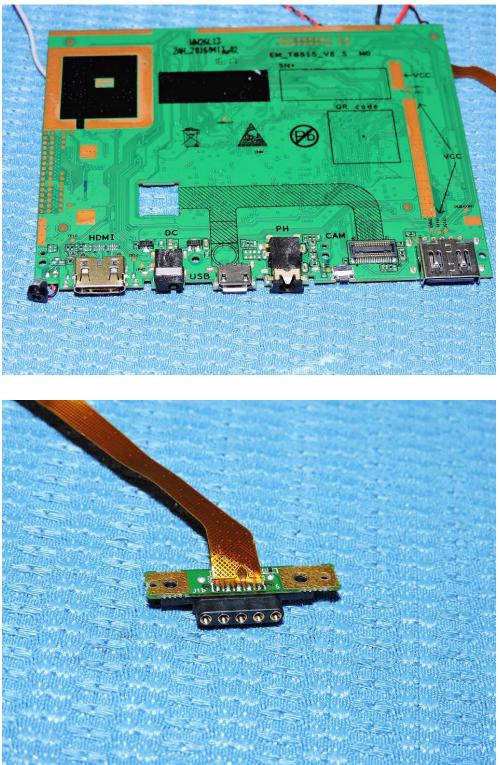
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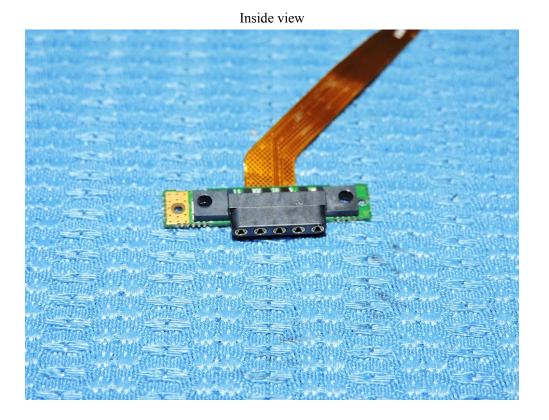


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End of the report

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