

Report No: File reference No:	FCC 1607067-02 2016-07-20
Applicant:	Shenzhen Jingwah Information Technology Co., Ltd.
Product:	Tablet PC
Model No:	W909GA, 981, 916
Trademark:	N/A
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	

Approve

Jack Chung

Jack Chung

Manager

Dated:

July 20, 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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### 1.0 General Details

#### 1.1 Test Lab Details SHENZHEN TIMEWAY TESTING LABORATORIES. Name : 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:	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:	N/A			
Model Number:	W909GA			
Additional Model Number	er: 981, 916			
Power Adapter	Model No.: DNS-050200E			
	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	v software			
Channel Number	channel for Bluetooth			
Antenna:	Integral Antenna and the maximum Gain of this antenna is 2.0dBi;			

Submitted Sample: 2 Samples 1.4

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- 1.5 Test Duration 2016-07-08 to 2016-07-19
- 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	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	PHOTO EX3	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

2.1

Auxiliary Equipment

Name	Model No.	Rating	Manufacturer	FCC ID/DOC
Passive				
Earphone				

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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				
Conducted Emissions	15.207(a), 15.107	PASS	Complies				
RF 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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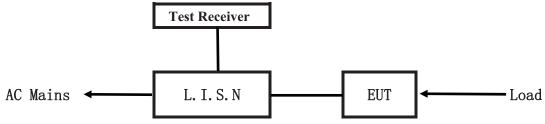
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#### 5. **Power Line Conducted Emission Test**

5.1 Schematics of the test

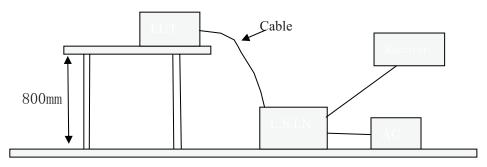


EUT: Equipment Under Test

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	W909GA, 981, 916	RBD-W909GA	
	Technology Co., Ltd.	w 9090A, 981, 910		

#### B. Internal Device

Device	Manufacturer	Model	Rating

#### С. Peripherals

Device	Manufacturer	Model	FCC ID/DOC	Cable

#### 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)	Quasi-peak Level Average Level		Quasi-peak Level	Average Level	
$0.15 \sim 0.50$	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	

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

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.

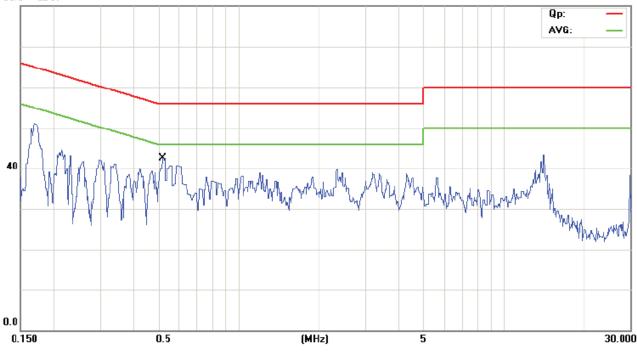
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A: Conducted Emission on Live Terminal (150kHz to 30MHz) EUT Operating Environment Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa EUT set Condition: Keep Bluetooth Transmitting Equipment Level: Class B Results: PASS Please refer to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





No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1 *	0.5181	25.80	11.39	37.19	56.00	-18.81	QP	
2	0.5181	3.20	11.39	14.59	46.00	-31.41	AVG	

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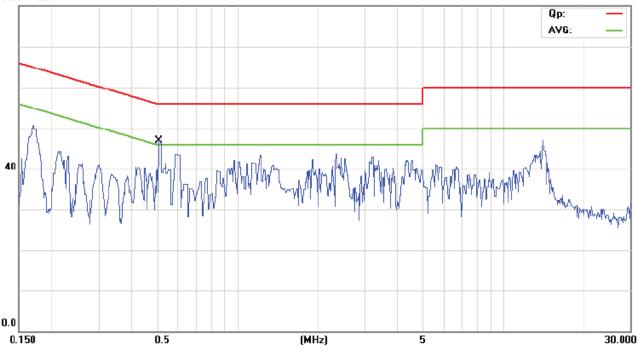
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B: Conducted Emission on Neutral Terminal (150kHz to 30MHz) EUT Operating Environment Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa EUT set Condition: Keep Bluetooth Transmitting Equipment Level: Class B Results: Pass Please refer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





No. Mk.	Freq.	Reading Level		Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV.	dBuV.	dB	Detector	Comment
1 *	0.5096	31.10	11.38	42.48	56.00	-13.52	QP	
2	0.5096	13.90	11.38	25.28	46.00	-20.72	AVG	

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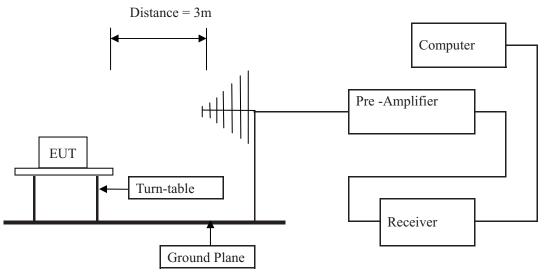


### 6 Radiated Emission Test

#### 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.

#### Block diagram of Test setup



- 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:

Examples in restricted hand	are complied to limit on	Devegraph 15 200 and 15 100
Frequencies in restricted band	are complied to milit on	raragraph 15.209 and 15.109

	•	
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

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

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)

Keep Bluetooth Transmitting EUT set Condition:

**Results:** 

Pass

Frequency (MHz)	Level@3m (dB µ V/m)	Antenna Polarity	Limit@3m (dB µ V/m)	
192.760	30.68	Н	43.50	
262.720	31.74	Н	46.00	
143.840	29.35	Н	43.50	
178.360	27.18	Н	43.50	
262.840	38.26	V	46.00	
95.720	30.71	V	43.50	
193.320	32.54	V	43.50	
155.120	35.46	V	43.50	

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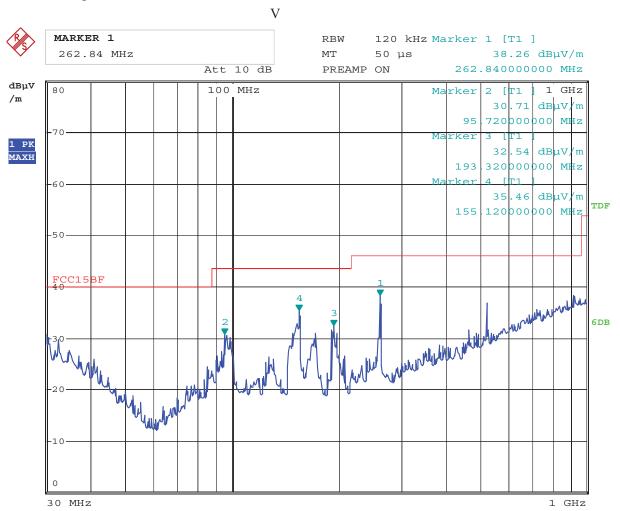
Η MARKER 3 RBW 120 kHz Marker 3 [T1 ] 192.76 MHz МT 50 µs 30.68 dBµV/m Att 10 dB PREAMP ON 192.76000000 MHz dBµV 80 100 MHz Marker 1 [T1 1 GHz /m 31.74 dBµV/m 262 72000000 M Iz 1 PK MAXH 29 35 dB uV m 143 840000000 M Iz 60 27 18 dB ιV m TDF 178 36000000 M Iz 50 FCC15BF Hundred working with all when M 6DB II. - White Market Marc MAL W 4L 10 0 30 MHz 1 GHz

Test Figure:

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Test Figure:

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_	U	, , ,		
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

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

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

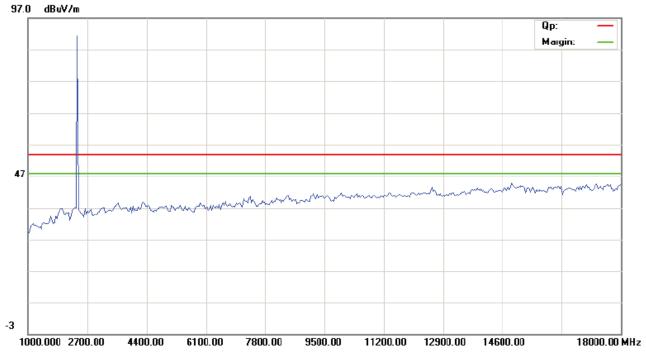
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adopt any other remedies which may be appropriate.



Please refer to the following test plots for details:

## Low Channel: Horizontal



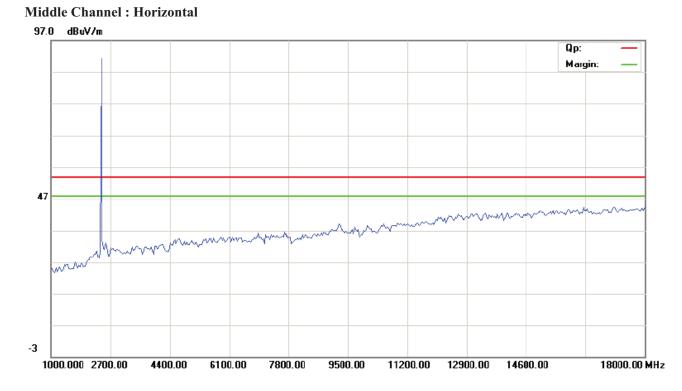
#### Low Channel : Vertical

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

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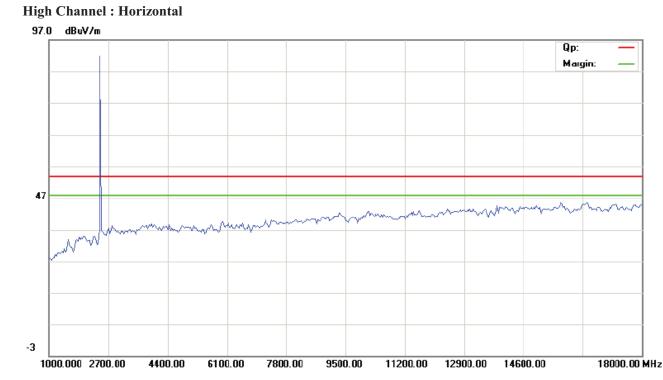
#### **Middle Channel : Vertical**

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

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

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

#### 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

|--|

EUT		Tablet PC		Model		W909GA							
Mode	9	Keep Tra	nsmitting Input Voltage		nsmitting Input Voltage		Ismitting Input Voltage		itting Input Voltage		smitting Input Voltage		DC3.7V
Tempera	ture	24 de	eg. C, Humidity 56% RH		Humidity		56% RH						
Channel	Chai	nnel Frequency (MHz)		lB Bandwidth Maximum (kHz) (kHz		Pass/ Fail							
Low		2402	884				Pass						
Middle		2441	884	4			Pass						
High		2480	890	)			Pass						

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

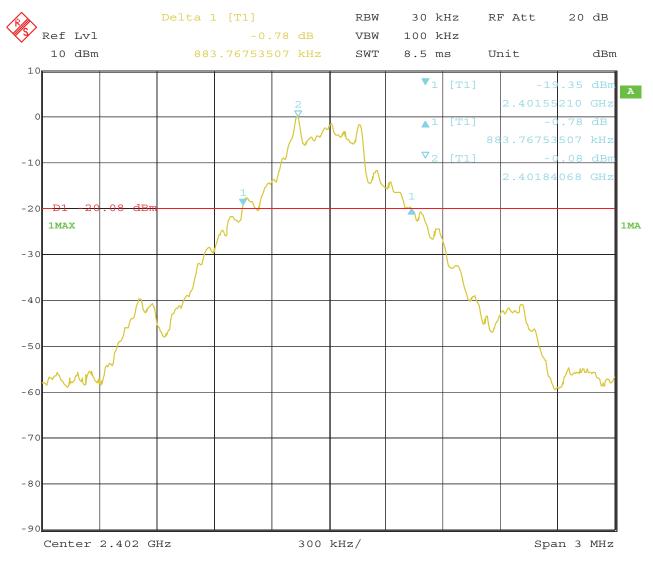
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### Test Figure:

#### 1. Condition: Low Channel

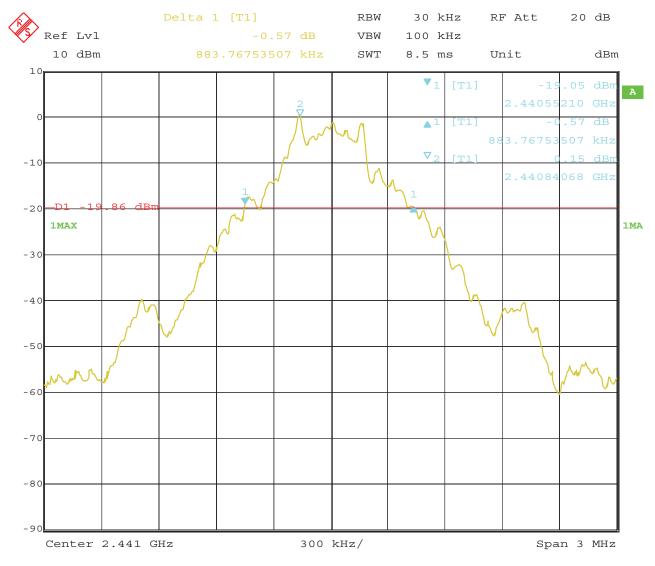


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### 2. Condition: Middle Channel



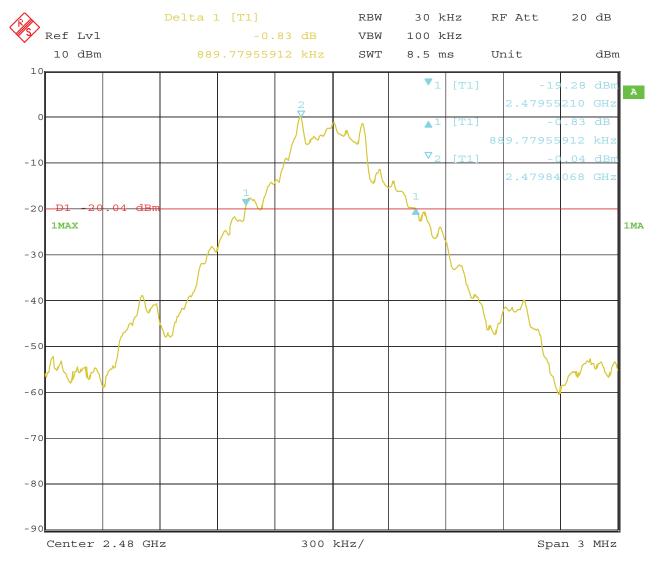
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#### 3. High Channel



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## **Test Result Type of Modulation:** $\pi/4DQPSK$

EUT		Tabl	Tablet PC		Model		W909GA	
Mode	;	Keep Tra	insmitting	ting Input Voltage		Ismitting Input Voltage DC3.7V		DC3.7V
Temperat	ture	24 de	eg. C,	Humidity		y 56% RH		
Channel	Cha	nnel Frequency (MHz)	20 dB Bandwidth (kHz)		Maximum Limit (kHz)		Pass/ Fail	
Low		2402	113	1136			Pass	
Middle		2441	114	-2			Pass	
High		2480	113	6			Pass	

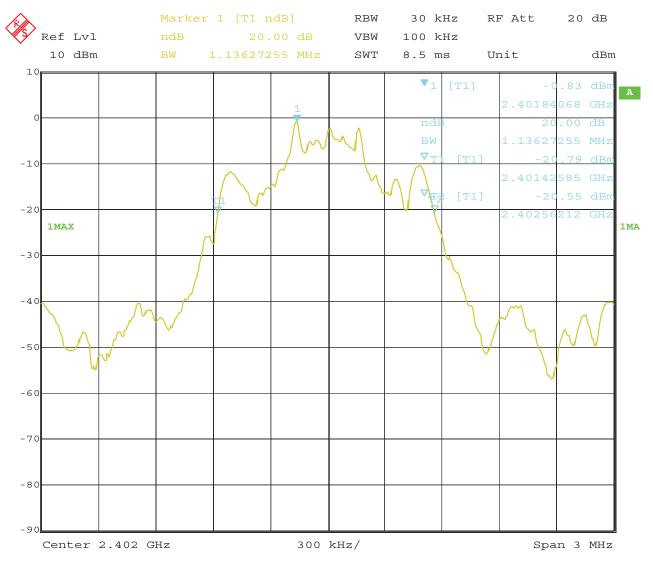
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### Test Figure:

### 1. Condition: Low Channel



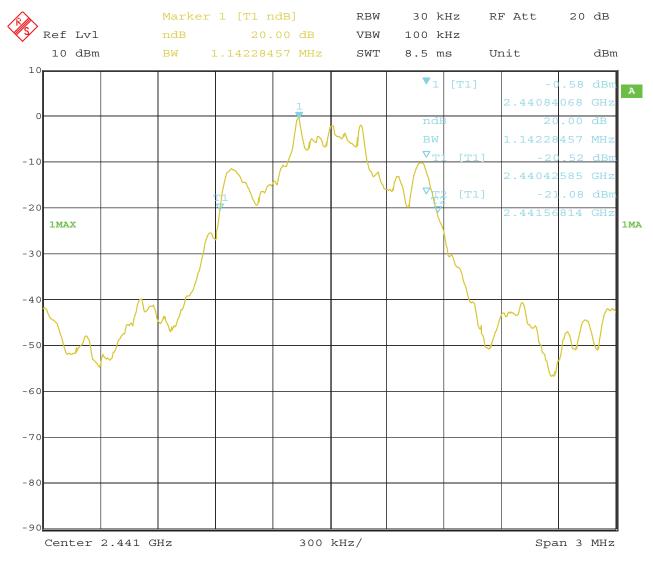
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## 2. Condition: Middle Channel



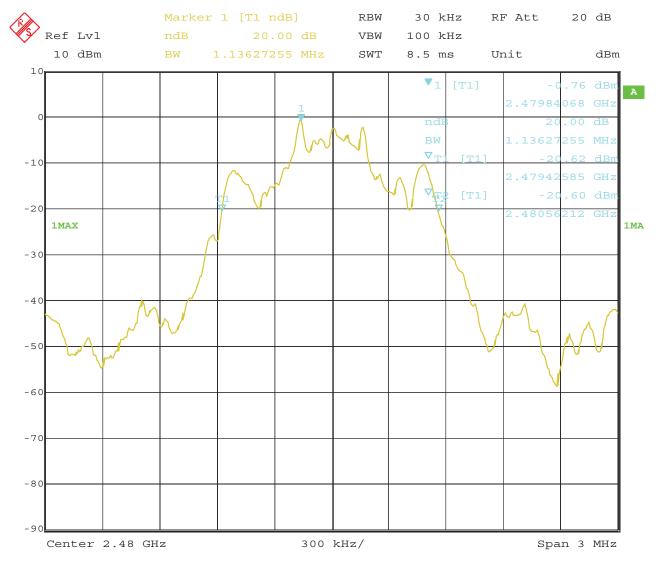
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#### 3. High Channel



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

EUT		Table	et PC Model		Tablet PCModelW9		W909GA	
Mode	è	Keep Tra	nsmitting Input Voltage		s Input Voltage		DC3.7V	
Tempera	ture	24 de	eg. C,	Humidity	Humidity		56% RH	
Channel	Cha	nnel Frequency (MHz)		20dB Bandwidth M (kHz)		imum Limit (kHz)	Pass/ Fail	
Low		2402	1166				Pass	
Middle		2441	1166				Pass	
High		2480	1166				Pass	

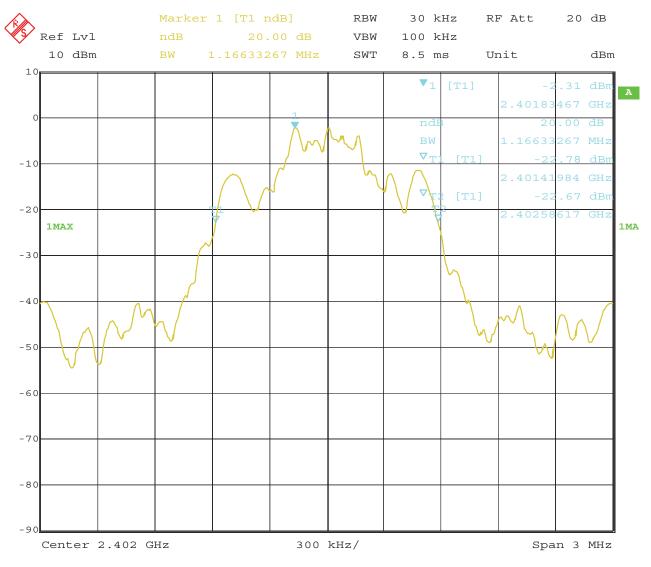
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#### Test Figure:

### 1. Condition: Low Channel

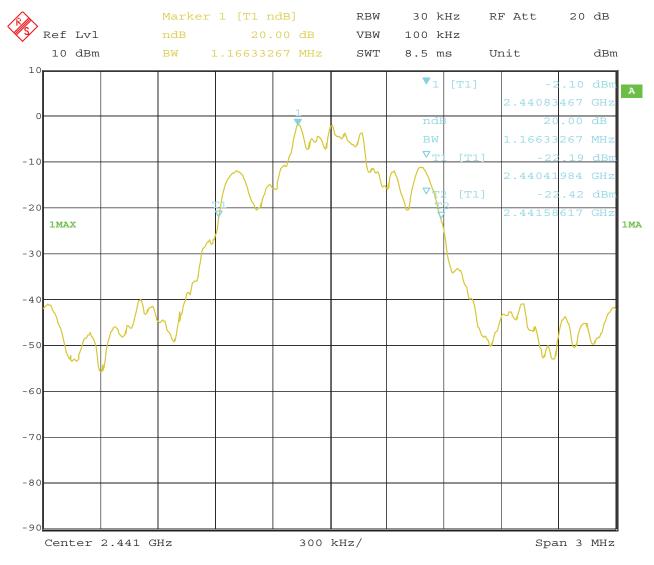


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## 2. Condition: Middle Channel



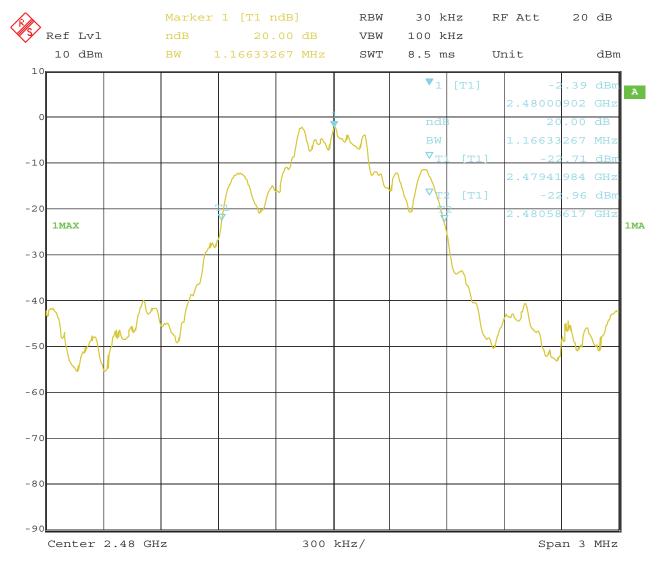
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#### 3. High Channel



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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 30dBm.

#### **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			W909GA
Mode		Keep Tran	smitting	nitting Input Voltage		DC3.7V	
Temperature	e	24 deg	5. C,	Humidity	ý	56% RH	
Channel	Cł	nannel Frequency (MHz)	Max. Power (dBm)	-	Power Limit (dBm)		Pass/ Fail
Low		2402	2.49	2.49		30	Pass
Middle		2441	2.60			30	Pass
High		2480	2.48		30		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:** $\pi/4DOPSK$

EUT		Tablet PC			Model		W909GA				
Mode	K	Keep Transmitting			Input Voltage		DC3.7V				
Temperature	e	24 deg. C,			Humidity		56% RH				
Channel	Channel Frec (MHz)		Max. Power ( (dBm)	Dutput		wer Limit Bm)	Pass/ Fail				
Low	2402	2402 1.73			30		Pass				
Middle	2441	2441 1.59			30		Pass				
High	2480	2480 1.85			30		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.



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

EUT		Table	Model		W909GA		
Mode		Keep Tran	Input Voltage		DC3.7V		
Temperature		24 deg	Humidity		56% RH		
Channel	Cł	nannel Frequency (MHz)	Max. Power C (dBm)	Jutput	Peak Power Limit (dBm)		Pass/ Fail
Low		2402	1.42		30		Pass
Middle		2441	1.38		30		Pass
High		2480	1.71		30		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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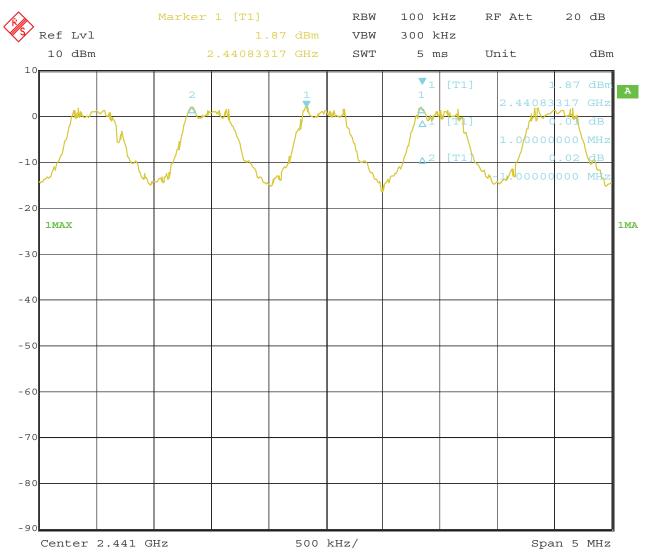


## 9.4Test Result

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

EUT	Tablet PC		Model W9		9GA
Mode	Hopping On		Input Voltage	DC3.7V	
Temperature	24 deg. C,		Humidity	56%	RH
Carrier Frequency Separation			Limit		Pass/ Fail
1000MHz		$\geq 2$	25  kHz or $2/3  of the  2$	0 dB bandwidth	Pass

## **Test Plots**



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

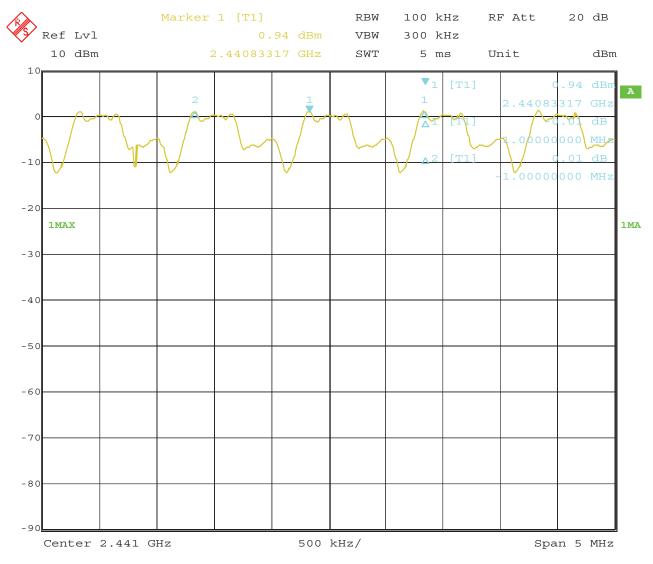
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## **Type of Modulation:** Л/4DQPSK

EUT	Tablet PC1		Model	W909	ØGA	
Mode	Hopping On		Input Voltage	DC3.7V		
Temperature	24 deg. C,		Humidity	56% RH		
Carrier Frequency Separation			Limit		Pass/ Fail	
1000MHz		$\geq$	25 kHz or 2/3 of 2	0 dB bandwidth	Pass	

#### **Test Plots**



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

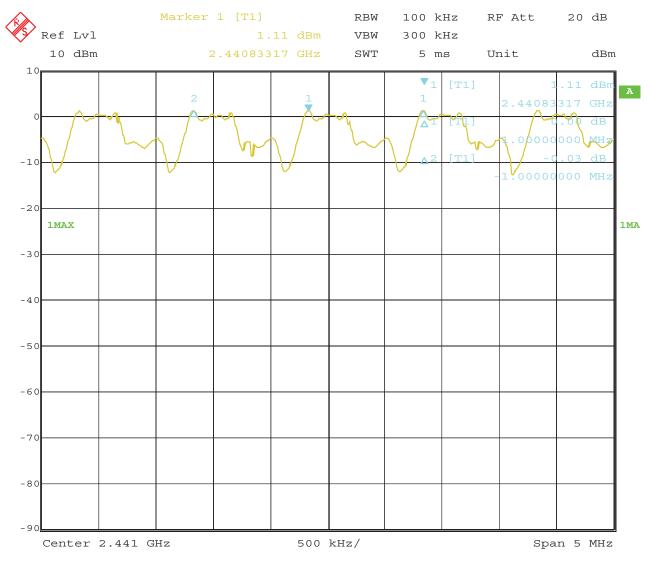
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#### **Type of Modulation: 8DPSK**

EUT	Tablet PC	Model	W909	ØGA		
Mode	Hopping On	Input Voltage	DC3.7V			
Temperature	24 deg. C,		Humidity	56% RH		
Carrier Frequency Separation			Limit		Pass/ Fail	
1000MHz		≥ 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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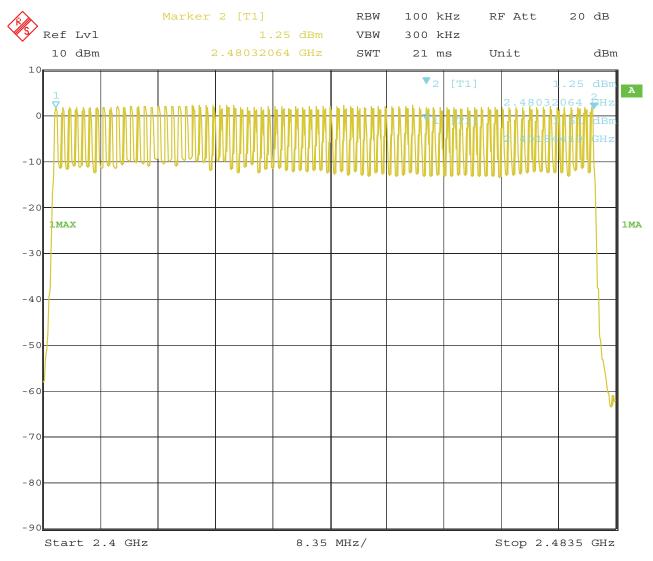
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# **10.4Test Result Type of Modulation: GFSK**

EUT	Tablet PC		Model	W909GA		
Mode	Hopping On		Input Voltage	DC3.7V		
Temperature		24 deg. C,	Humidity	56% RH		
Operating Frequency		Number of hopp	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.

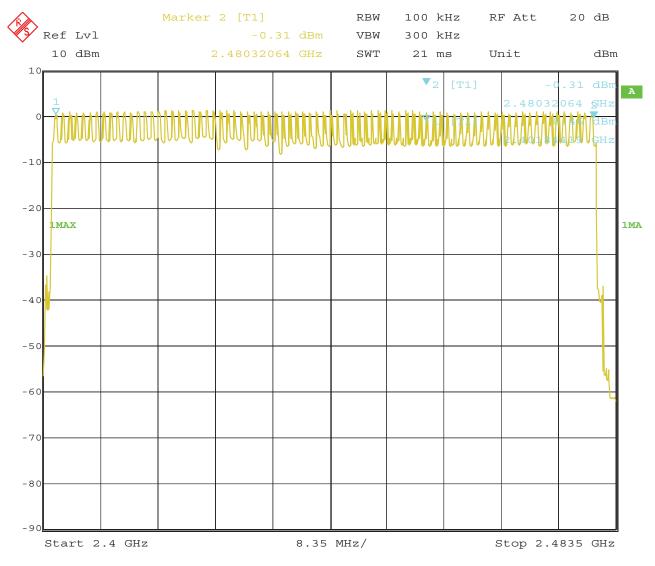
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## **Type of Modulation:** Л/4DQPSK

EUT	Tablet PC		Model		W909GA	
Mode	Hopping On		Input V	oltage		DC3.7V
Temperature	24 deg. C,		Humidity			56% RH
Operating Frequer	Number of hopp channels		oing	Liı	nit	Pass/ Fail
2402-2480MHz	79			2	15	Pass

### **Test Plot**



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

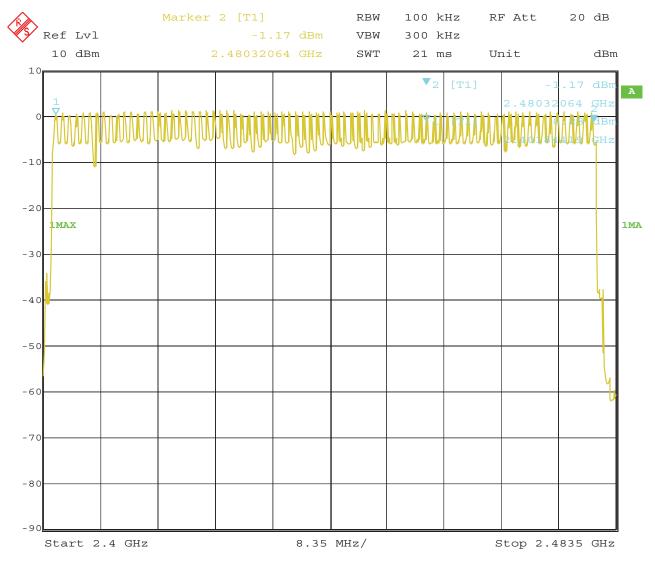
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#### **Type of Modulation: 8DPSK**

EUT	Tablet PC		Model		W909GA	
Mode	Hopping On		Input V	oltage		DC3.7V
Temperature	24 deg. C,		Humidi	ity	56% RH	
Operating Frequer	Frequency Number of chann		oing	Liı	nit	Pass/ Fail
2402-2480MHz	79			2	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		W	909GA
Mode	Кеер Ті	ansmitting	Input Voltage	D	C3.7V
Temperature	e 24 c	leg. C,	Humidity	56	5% RH
Channel	Reading	Hopin	Hoping Rate		Limit
			DH5		
Middle	0.261ms	266.66	7 hop/s	0.0278s	0.4s
			DH3		
Middle	0.240ms	4001	400 hop/s		0.4s
DH1					
Middle	0.200ms	8001	800 hop/s		0.4s

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

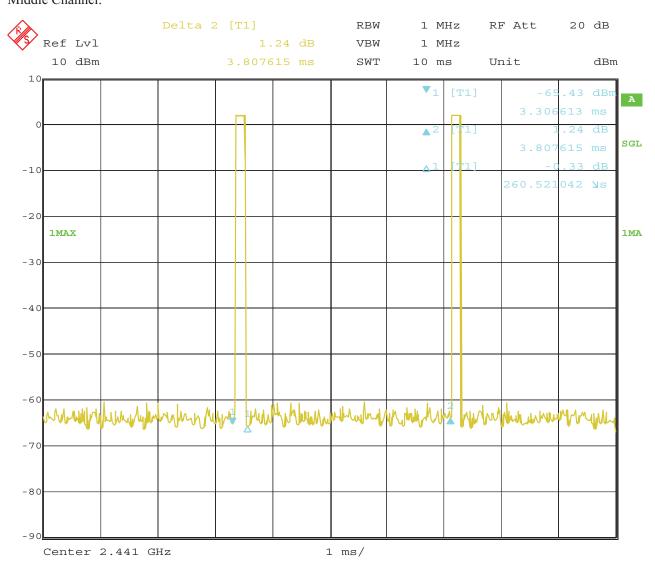
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Test Plots: DH5 Middle Channel:

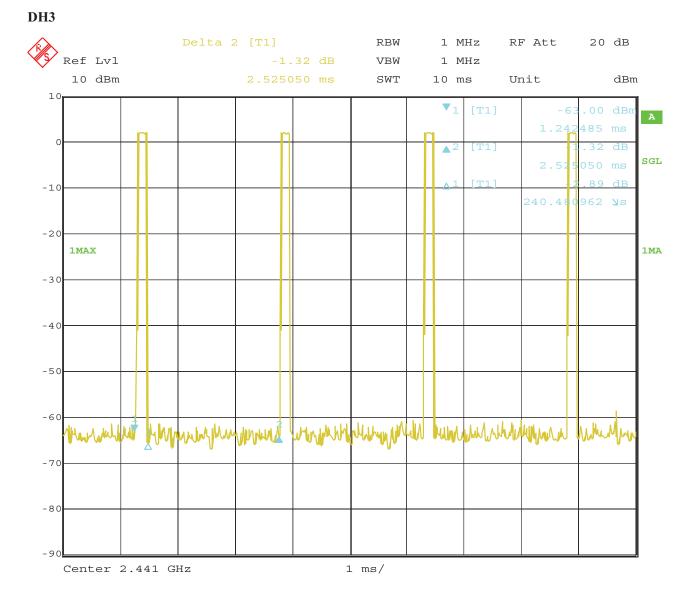


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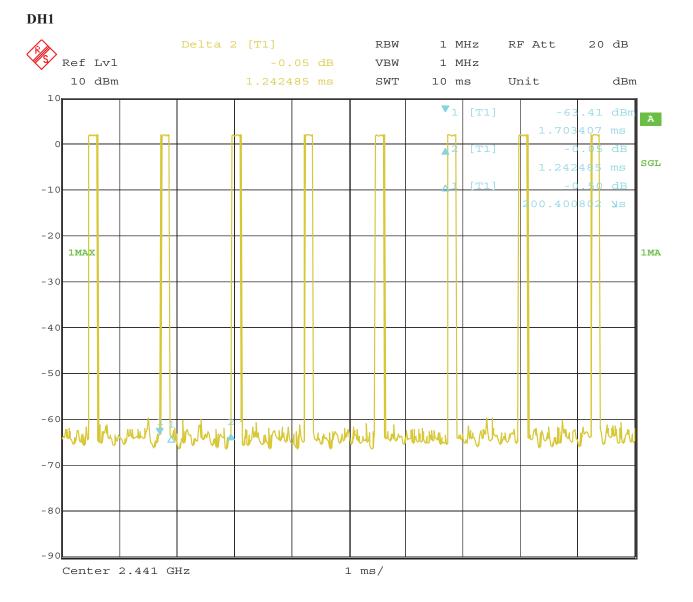


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## **Test Result Type of Modulation:** Л/4DQPSK

EUT	Tab	Tablet PC		W	909GA	
Mode	Keep Tr	Keep Transmitting		DC3.7V		
Temperature	24 d	leg. C,	Humidity	56	5% RH	
Channel	Reading	Hoping	Hoping Rate		Limit	
			DH5			
Middle	0.240ms	266.66	7 hop/s	0.0256s	0.4s	
			DH3			
Middle	0.220ms	400 hop/s		0.0352s	0.4s	
	DH1					
Middle	0.220ms	800 h	nop/s	0.0704s	0.4s	

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

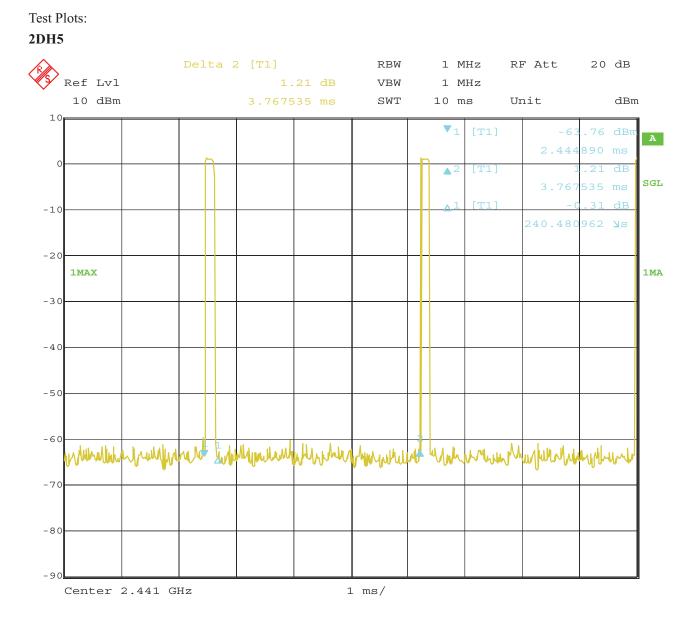
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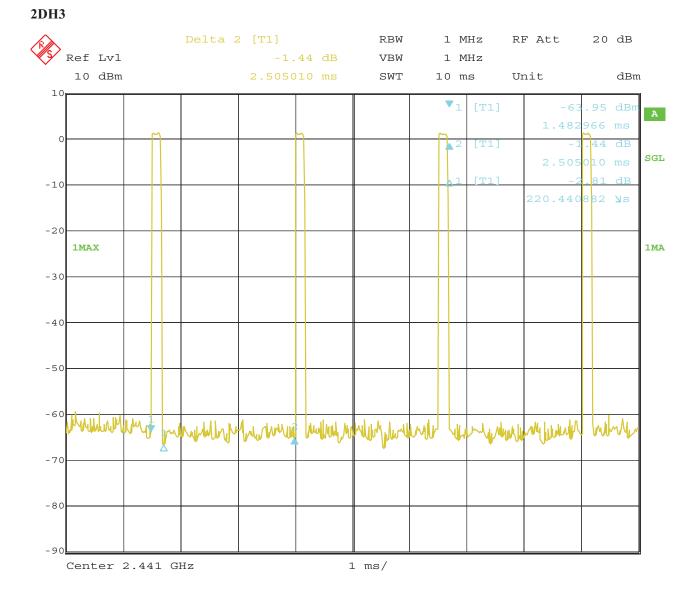


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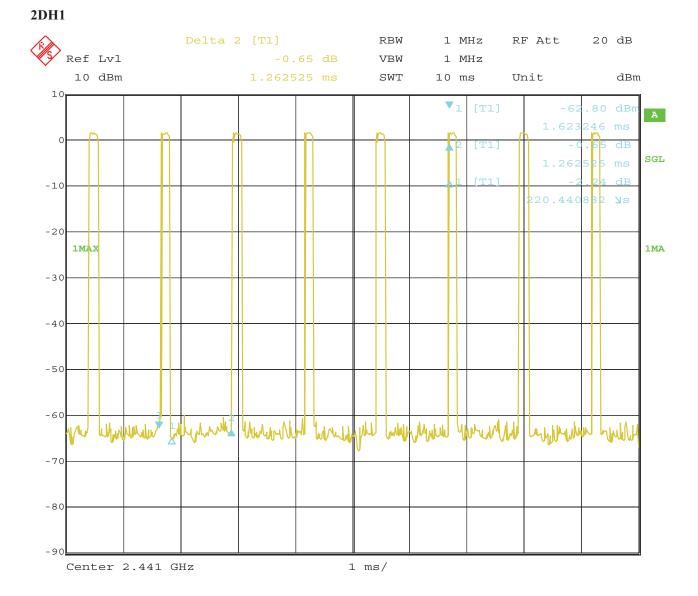


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EUT	Tab	let PC	Model	V	V909GA
Mode	Keep Tr	ansmitting	Input Voltage	I	DC3.7V
Temperatur	e 24 d	eg. C,	Humidity	4	56% RH
Channel	Reading	Hoping	g Rate	Actual	Limit
			DH5		
Middle	0.220ms	266.66	7 hop/s	0.0235s	0.4s
			DH3		
Middle	0.220ms	400 h	nop/s	0.0352s	0.4s
	DH1				
Middle	0.220ms	800 h	nop/s	0.0704s	0.4s

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

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

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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.

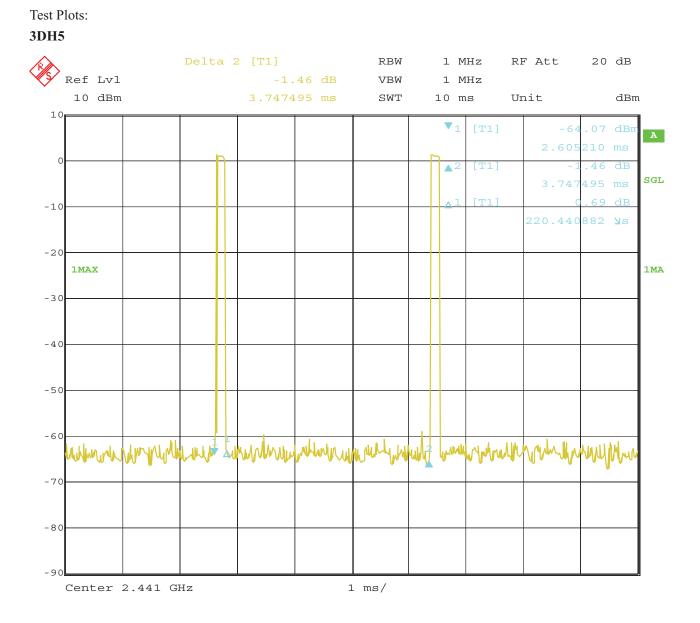
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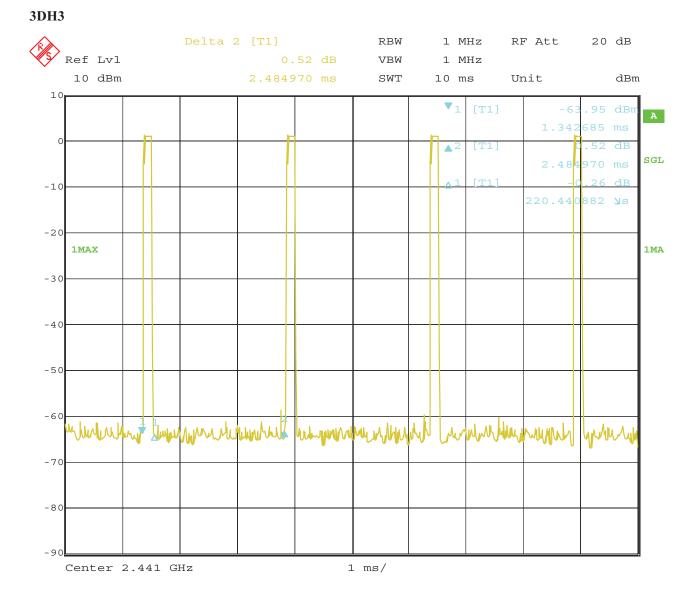


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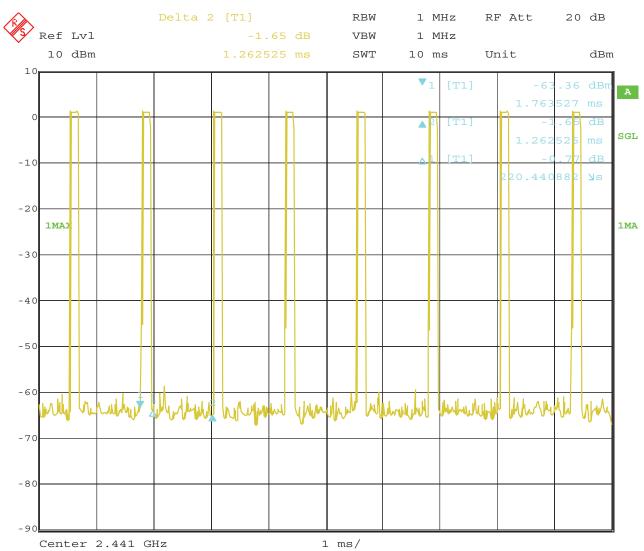


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**3DH1** 

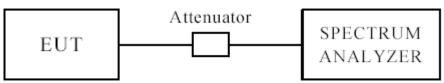
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# 12 Out of Band Measurement

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.

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.
Horizontal and Vertical Polarity were invested and only worse case was recorded.

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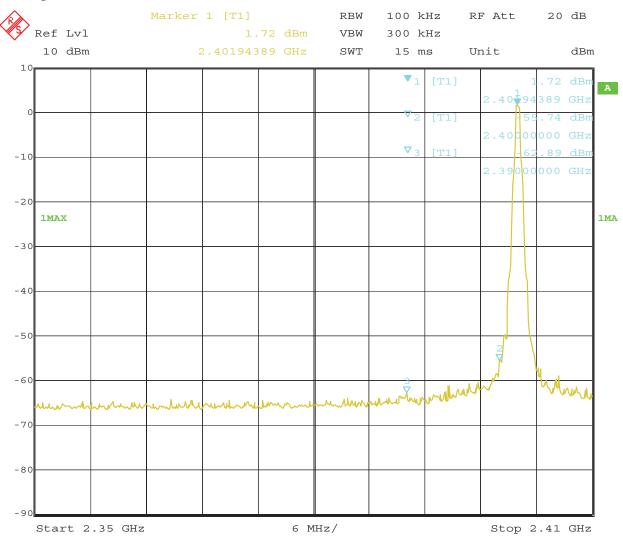


## **Type of Modulation: GFSK**

#### 12.4 Out of Band Test Result

	Tablet PC	Test Mode:	Low Channel
Keep	oing Transmitting	Input Voltage	DC3.7V
24 deg. C		Humidity	56% RH
	Pass		PK
PK (dBµV/m)	45.6		$74(dB\mu V/m)$
AV(dBµV/m)		Limit	54(dBµV/m)
	PK (dBµV/m)	Keeping Transmitting   24 deg. C   Pass   PK (dBµV/m) 45.6	Keeping Transmitting Input Voltage   24 deg. C Humidity   Pass Detector   PK (dBµV/m) 45.6

**Test Figure:** 



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## **Type of Modulation: GFSK**

#### 12.4 Out of Band Test Result

Product:		Tablet PC			Test Mode:		High Chan	
Mode	Ke	eping Transmitting		Input Volta	ige		DC3.7V	7
Temperature		24 deg. C,		Humidit	у	56% RH		ł
Test Result:		Pass Detector PK		Detector PK		Pass Detector I		
The Max. FS in	PK (dBµV/m)	42.3					74(dBµV/	'm)
Restrict Band	AV(dBµV/m)			Limit			54(dBµV/	'm)
2483.5MHz								
<b>Fest Figure:</b>								
		er 1 [T1]	RBW		RI	F Att	20 dB	
Ref L <sup>.</sup> 10 dl		1.93 dBm 2.47985972 GHz	VBW SWT		T T+	nit	dBn	0
10		2.47965972 Gnz	SWI		01	110		71
		1		▼1 [T	1]	1	.93 dBm	A
0		<u> </u>					972 GHz	
				<b>⊽</b> 2 [T	1]		.64 dBm 000 GHz	1
-10						2.10000	000 GIIZ	
-10								
-20								1MA
- 3 0								-
-40								-
- 5 0	_	- <del>/</del> -//						-
-60	h hall hall		. <u>A</u> k- A					-
han	Unnut www	- WV	Mun	hundhan	n	menter	mann	4
- 7 0				hunthhun				-
- 8 0								
-90	2.47 GHz	i 	Hz/	1. I		Stop	2.5 GHz	±1

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## **Type of Modulation: GFSK**

#### 12.4 Out of Band Test Result

Product:		Tablet PC		Test Mode:	Hopping mode
Mode		Hopping On		Input Voltag	11 0
Temperature		24 deg. C,	Humidity	56% RH	
Test Result:		Pass		Detector	РК
The Max. FS in	PK (dBµV/m)	44.2			74(dBµV/m)
Restrict Band	$AV(dB\mu V/m)$			Limit	$54(dB\mu V/m)$
2390MHz				Linnt	54(αDμ v/m)
Test Figure:				<u> </u>	
\$	Marker 1	[T1]	RBW 1	100 kHz RI	FAtt 20 dB
Ref Lvl		1.61 dBm	VBW 3	300 kHz	
10 dBm	2.	40891784 GHz	SWT	15 ms Ur	nit dBm
10				▼1 [T1]	1.61 dBm
					2.40891784 GHz
0				▼2 [T1]	
					2.4000000000000000000000000000000000000
-10				▼ <sub>3 [T1]</sub>	<u>-68.36 dBm</u>
					2.3900000000000000
-20					
1MAX					1MA
- 3 0					
-40					
5.0					
- 50					
					7
- 6 0				Norman Marina	J.
montallen	man for and	and many menters	mm	Martin Martin	
- 70					
- 8 0					
-90					
Start 2.3	5 GHz	6 MH	Iz/		Stop 2.41 GHz

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

#### 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)	42.4		74(dBµV/m)
Restrict Band	AV(dBµV/m)		Limit	54(dBµV/m)
2483.5MHz				
Fest Figure:		·		
Ŕ	Marker 1	[T1] RBW	100 kHz RF 2	Att 20 dB
🛛 Ref Lvl		1.62 dBm VBW	300 kHz	
10 dBm	2.	47282565 GHz SWT	7.5 ms Unit	t dBm
10			▼1 [T1]	1.62 dBm
			2.	47282565 GHz
0			₹2 [T1]	-61.02 dBm
			2.	48350000 GHz
-10				
-20				
1MAX				111
- 3 0				
-40				
- 50				
		V		
6.0		2		
- 6 0		Walland and a		
		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	When all when he have been a set of the second seco	holunawhenen
-70				
- 8 0				<b>  </b>
-90				

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# **Type of Modulation:** Л/4DQPSK

#### Out of Band Test Result 12.4

Product:		Tablet PC		Test Mode:	Low Channel
Mode	Keeping Transmitting Input Voltage		DC3.7V		
Temperature		24 deg. CHumidityPassDetector		Humidity	56% RH
Test Result:				РК	
The Max. FS in	PK (dBµV/m)	45.1			74(dBµV/m)
Restrict Band	AV(dBµV/m)			Limit	54(dBµV/m)
2390MHz					
Test Figure:					
Ŕ	Marker	1 [T1]	RBW 2	100 kHz RF	Att 20 dB
Ref Lvl		1.01 dBm	VBW 3	300 kHz	
10 dBm	1	2.40194389 GHz	SWT	15 ms Uni	.t dBm
10				▼1 [T1]	1.01 dBm
					.40 <sup>1</sup> 94389 GHz
0				▼2 [T1]	-55.24 dBm
					.4000000 GHz
-10				▼ <sub>3</sub> [T1]	- <mark>62.65 dBm</mark>
				2	.3900000 GHz
-20					
1MAX					1MA
-30					
30					1 0
					N N
- 4 0					
- 5 0					2
					<b>∛</b> M
- 6 0					- William
Munul	mannumment	mmmula	menonina	M. M. Marken M.	w which
-70					
- 8 0					
- 0 0					
-90	2.35 GHz	6 MHz	/		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:		High Channel	
Mode	Kee	ping Transmitting		Input Volt	age	I	DC3.7V
Temperature		24 deg. C,		Humidi	ty	5	6% RH
Test Result:		Pass		Detecto	or		РК
The Max. FS in	PK (dBµV/m)	43.3				74(	(dBµV/m)
Restrict Band	AV(dBµV/m)			Limit		54(	(dBµV/m)
2483.5MHz							
est Figure:							
	Marker	1 [T1]	RBW	100 kHz	RF A	Att	20 dB
🛛 Ref Lvl		1.12 dBm	VBW	300 kHz			
10 dBm	2	.47985972 GHz	SWT	7.5 ms	Unit	E	dBm
10				▼1 [T1]	1	1	12 dBm
		1		± (±±.		479859	
0		- <u>h</u>		▼2 [T1]			15 dBm
		14			2.	483500	00 GHz
-10							
2.0							
-20 1MAX							11
- 3 0							
	1						
-40							
	V	V					
- 5 0							
6.0	V	2					
-60	Mulan	www.	marcul	Mande			
			V ·		munur	arman	mm
- 70							
- 8 0							
-90							

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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 Vol	tage	DC3.7V	
Temperature		24 deg. C,		Humidi	ty	56% RH	
Test Result:		Pass		Detecto	or	РК	
The Max. FS in	PK (dBµV/m)	44.1				$74(dB\mu V/m)$	
Restrict Band	AV(dBµV/m)			Limit		$54(dB\mu V/m)$	
2390MHz							
Fest Figure:				_			
R A	Marker 1	[T1]	RBW 1	00 kHz	RF Att	20 dB	
🛿 Ref Lvl		0.69 dBm	VBW 3	00 kHz			
10 dBm	2.	40795591 GHz	SWT	15 ms	Unit	dBm	
10				▼1 [T1]		C.69 dBm	
					2.40	795591 GHz	
0				▼2 [T1]		196.B2 dEm	
				▼ <sub>3</sub> [T1]	2.40		
-10				▼ <sub>3 [T1]</sub>	2 20	-65.04 dBm	
					2.35	000000 GH2	
-20							
1MAX						1112	
- 3 0							
-40							
- 50							
- 50					2		
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-70							
- 8 0							
- 90							

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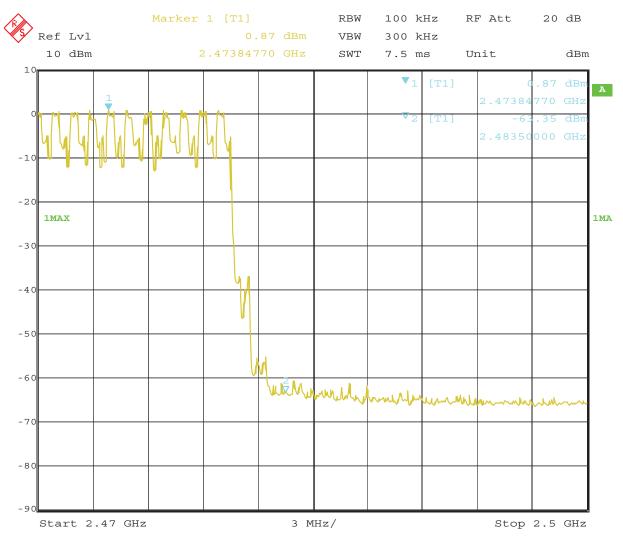


# Type of Modulation: Л/4DQPSK

#### **12.4** Out of Band Test Result

Product:	Tablet PC		Test Mode:	Hopping mode
Mode	Hopping On I		Input Voltage	DC3.7V
Temperature	24 deg. C, 1		Humidity	56% RH
Test Result:	Pass		Detector	РК
The Max. FS in	PK (dBµV/m)	42.9		74(dBµV/m)
Restrict Band	AV(dBµV/m)		Limit	54(dBµV/m)
2483.5MHz				

### **Test Figure:**



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**Type of Modulation: 8DPSK** 

12.4	Out of Band Test Result
14.7	Out of Dana Test Result

Product:		Tablet PC	Test Mode:	Low Channel	
Mode	Keeping Transmitting Input			DC3.7V	
Femperature		24 deg. C	Humidity	56% RH	
Fest Result:		Pass	Detector	РК	
The Max. FS in	PK (dBµV/m)	45.9		74(dBµV/m)	
Restrict Band	AV(dBµV/m)		Limit	54(dBµV/m)	
2390MHz					
Fest Figure:					
Ŕ	Marker	1 [T1] R	3W 100 kHz RF	'Att 20 dB	
Ref Lvl		0.93 dBm V	BW 300 kHz		
10 dBm	ι :	2.40194389 GHz S	NT 15 ms Un	it dBm	
10			▼1 [T1]	C.93 dBm	
				2.40 <sup>1</sup> 94389 GHz	
0			▼2 [T1]	-55.28 dBm	
				2.40 <mark>000000 GHz</mark>	
-10			▼ <sub>3 [T1]</sub>	- <u>64.01 dBm</u>	
				2.39000000 GHz	
-20					
1MAX				1MA	
-30					
-40				V V	
10					
-50				2	
				N L	
- 6 0			3	tu hunun	
nonthin	ummunum	under marcharder	unun Milling Mult	· vwy	
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## **Type of Modulation: 8DPSK**

#### 12.4 Out of Band Test Result

Product:		Tablet PC		Test Mode:	High Channel	
Mode	Kee	eping Transmitting		Input Voltage	DC3.7V	
Temperature		24 deg. C,		Humidity	56% RH	
Test Result:		Pass	Pass		РК	
The Max. FS in	PK (dBµV/m)	43.0			74(dBµV/m)	
Restrict Band	AV(dBµV/m)			Limit	54(dBµV/m)	
2483.5MHz						
<b>Test Figure:</b>						
		er 1 [T1]	RBW		RF Att 20 dB	
Ref L <sup>.</sup> 10 dl		1.11 dBm 2.47985972 GHz	VBW SWT		Unit dBm	
10		2.47505572 GHZ	JWI			
		1		▼1 [T1]	1.11 dBm A	
0		<b>X</b>		▼2 [T1]	2.47985972 GHz -61.22 dBm	
					2.48350000 GHz	
-10						
-20						
1MAX					1MA	
- 3 0						
-30						
- 4 0						
- 5 0		1				
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man			10. AA A.W	a marken with	when we we have a	
- 7 0					+	
- 8 0					+	
-90						
	2.47 GHz	3 N	MHz/	<u> </u>	Stop 2.5 GHz	

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

#### 12.4 Out of Band Test Result

Product:		Tablet PC		Test M	ode:	Hopping mod	le
Mode		Hopping On				DC3.7V	
Temperature		24 deg. C,		Input Voltage Humidity		56% RH	
Test Result:		Pass		Detec		РК	
The Max. FS in	PK (dBµV/m)	44.3				74(dBµV/m)	)
Restrict Band	AV(dBµV/m)			Lim	it	54(dBµV/m)	
2390MHz	· · /					,	
Test Figure:							
<b>R</b>	Marker 1	[T1]	RBW	100 kHz	RF At	t 20 dB	
Ref Lvl		0.62 dBm	VBW	300 kHz			
10 dBm	2.4	40591182 GHz	SWT	15 ms	Unit	dBm	
10				▼1 [T1]	]	0.62 dBm	A
					2.4	0591182 GHz	A
0				▼2 [T1]	]	4 5 8 . 2 8 dism	
				<b>∇</b> 3 [T1]	2.4	I * *0 (() * ♥ (  1] *	
-10				▼ <sub>3</sub> [T1]		9000000 GHz	
					2.5	20000000 GHZ	
-20							
1MAX						1	1MA
- 3 0							
-40							
- 5 0							
- 60					7		
-00			<b>k</b>	migniliand	allow		
monum	multim	when when the here		WITH HOUR			
-70							
- 8 0							
-90		6 M				op 2.41 GHz	

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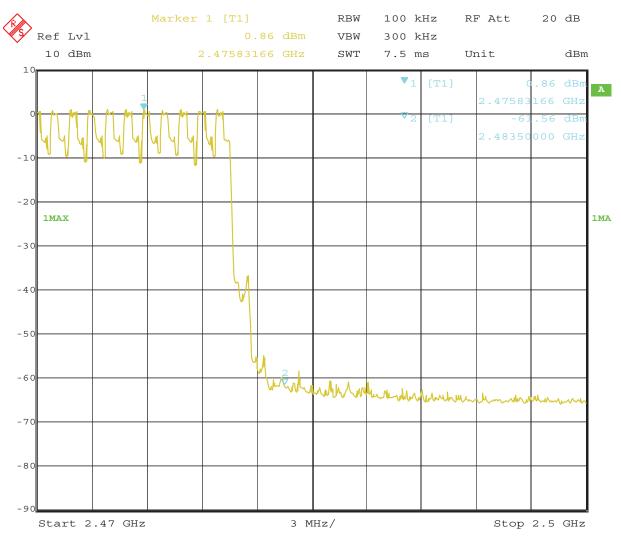


#### **Type of Modulation: 8DPSK**

#### 12.4 Out of Band Test Result

Product:	Tablet PC		Test Mode:	Hopping mode
Mode	Hopping On I:		Input Voltage	DC3.7V
Temperature	24 deg. C, I		Humidity	56% RH
Test Result:	Pass		Detector	РК
The Max. FS in	PK (dBµV/m)	42.8		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 2.0dBi.

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#### 14.0 FCC ID/IC Label

## FCC ID: RBD-W909GA

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:



FCC ID Label 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



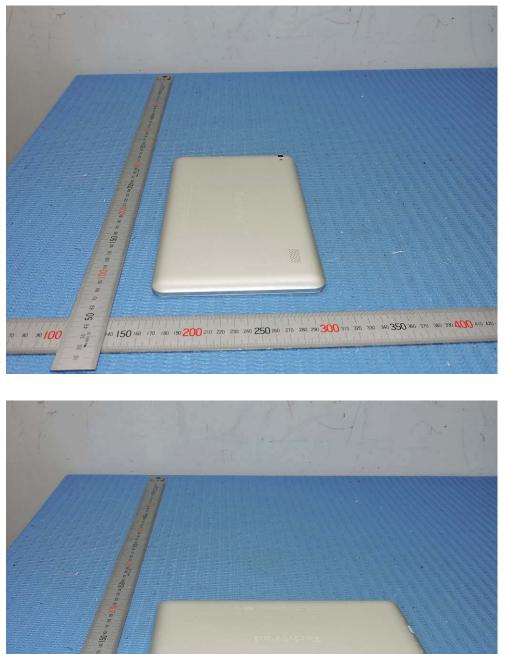


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Outside view



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140 150 160

40.50 E

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240 250 260 270

340 350 380 3TO



Outside view



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Outside view



50 90 100 110 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 35

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Outside view



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Inside view



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Inside view



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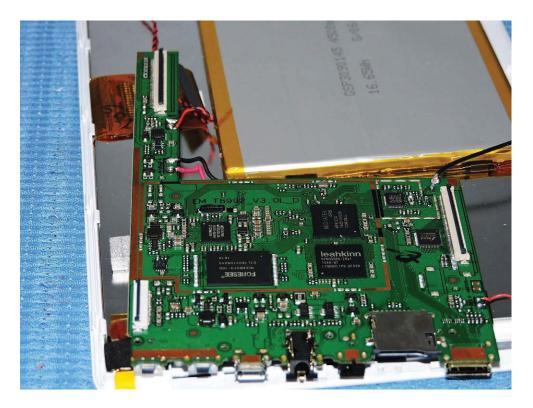
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Inside view



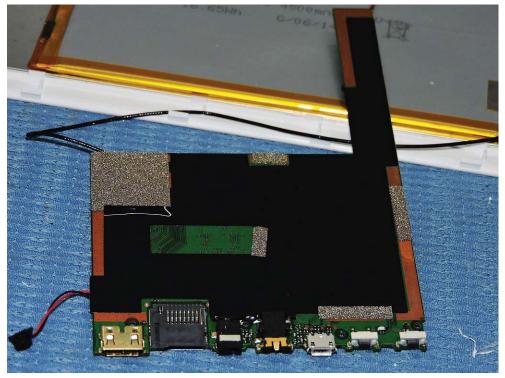


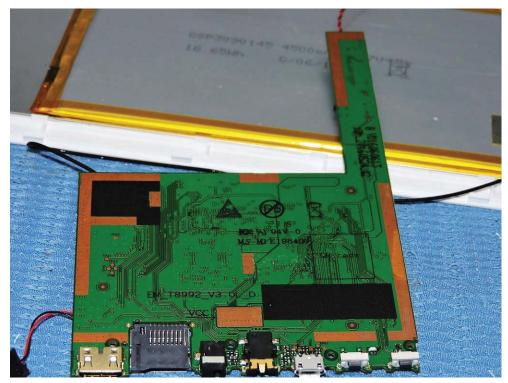
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Inside view





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