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DATE: Aug. 16, 2006

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ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C REQUIREMENT **FULL MODULE APPROVE**

OF

Product Name: Bluetooth Module

Brand Name: WT11-E

Model Name: WT11-E

FCC ID: QOQWT11E

Report No.: EF/2006/20016

Issue Date: Aug. 16, 2006

FCC Rule Part: §15.247

Prepared for: Bluegiga Technologies

Sinikalliontie 11, 02630 Espoo, FINLAND

Prepared by: SGS Taiwan Ltd.

No. 134, Wu Kung Rd., Wuku Industrial

Zone, Taipei County, Taiwan.





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VERIFICATION OF COMPLIANCE

Applicant: Bluegiga Technologies

Sinikalliontie 11, 02630 Espoo, FINLAND

Equipment Under Test: Bluetooth Module

Brand Name: WT11-E

FCC ID Number: QOQWT11E

Model No.: WT11-E

N/A **Model Difference:**

File Number: ER/2006/70001

Date of test: Mar. 12, 2006 ~ Aug. 15, 2006

Date of EUT Received: Mar. 12, 2006

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.247.

The test results of this report relate only to the tested sample identified in this report.

Test By:	Vanny Yeh	Date	Aug. 16, 2006	
	Danny Yeh			
Prepared By:	Eliser Chen	Date	Aug. 16, 2006	
	Elisa Chen			
Approved By:	Timent Su	Date	Aug. 16, 2006	
_	Vincent Su			

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1. GENERAL INFORMATION

1.1. Product Description

The Bluegiga Technologies, Model: WT11-E is a Bluetooth Class I EDR Module.

The EUT is compliance with Bluetooth Standard.

A major technical descriptions of EUT is described as following:

- A). Operation Frequency: 2402 2480Hz, 79 channels
- B). Rated output power: 13.47 dBm
- C). Modulation type: Frequency Hopping Spread Spectrum (FHSS)
- D). Antenna Designation:
 - 1. EAD MMTX-EA-79A Bluetooth 2.4 GHz SMA M, Dipole Antenna, 2 dBi
 - 2. GigAnt Titanis, Dipole Antenna, 4.4 dBi
 - 3. EAD MTX-BT-Blade, Dipole Antenna, 2 dBi
 - 4. EAD BT-Stubby, Dipole Antenna, 0 dBi
 - 5. ACX AT3216, Chip Antenna, 0.5 dBi
- E). Power Supply: 3.3Vdc

1.2. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: QOQWT11E filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at an antenna to EUT distance 3 meters.

1.4. Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located on the address of SGS Taiwan Ltd. No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei Country, Taiwan. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003 and CISPR 22/EN 55022 requirements. Site No. 1(3 &10 meters) Registration Number: 94644, Both OATS and Anechoic chamber (3 meters) was accredited by CNLA (0513).

1.5. Special Accessories

Not available for this EUT intended for grant.

1.6. Equipment Modifications

Not available for this EUT intended for grant.

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2. SYSTEM TEST CONFIGURATION

2.1. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2. EUT Exercise

The EUT (Transmitter) was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements.

2.3. Test Procedure

2.3.1 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the requirements in Section 7 and 13 of ANSI C63.4-2003. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and Average detector mode.

2.3.2 Radiated Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 8 and 13 of ANSI C63.4-2003.



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2.4. Configuration of Tested System

Fig. 2-1 Configuration of Tested System

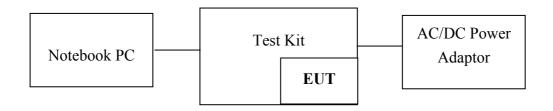


Table 5-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	FCC ID	Series No.	Data Cable	Power Cord
1.	BT Test Set	Anritsu	MT8852A	N/A	6K00001436	N/A	Un-shielding
2.	Notebook PC	Compaq	Presarlo 2100	N/A	CNF345Q1R	N/A	Un-shielding
3.	WT11 Evaluation Kit	Bluegiga	20050926	N/A	V1.0	N/A	Un-shielding
	AC/DC Power						
4.	Adaptor	Topward	3303A	N/A	715856	N/A	Un-shielding



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3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§15.207(a)	Conducted Emission	Compliant
§15.247(b)(1)	Peak Output Power	Compliant
§15.247(a)	20dB Bandwidth	Compliant
§15.247(c)	100 KHz Bandwidth Of Fre-	Compliant
	quency Band Edges	
§15.209(a) (f)	Spurious Emission	Compliant
§15.247(a)(1)	Frequency Separation	Compliant
§15.247(a)(1)(iii)	Number of hopping frequency	Compliant
§15.247(a)(1)(iii)	Time of Occupancy	Compliant
§15.247	Peak Power Density	Compliant
§15.203,	Antenna Requirement	Compliant
§15.247(b)(4)(i)		

4. DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

BT Test Set was used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Channel low (2402MHz) · mid (2441MHz) and high (2480MHz) with highest data rate are chosen for full testing.

Spurious emission for antenna 1, 2, 3 and 5 were chosen for final test and reported.

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5. CONDUCTED EMISSION TEST

5.1. Standard Applicable

According to §15.207. frequency within 150KHz to 30MHz shall not exceed the limit table as below.

Frequency range	Lin dB(nits uV)
MHz	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Note

5.2. EUT Setup

- 1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.4-2003.
- 2. The EUT was plug-in the AC/DC Power adapter. The host system was placed on the center of the back edge on the test table. The peripherals was placed on the side of the host PC system. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
- 3. The spacing between the peripherals was 10 centimeters.
- 4. External I/O cables were draped along the edge of the test table and bundle when necessary.
- 5. The host system was connected with 110Vac/60Hz power source.

5.3. Measurement Procedure

- 1. The EUT was placed on a table which is 0.8m above ground plane.
- 2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 3. Repeat above procedures until all frequency measured were complete.

^{1.} The lower limit shall apply at the transition frequencies

^{2.} The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.



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5.4. Measurement Equipment Used:

	Conduc	ted Emission T	est Site		
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
EMC Analyzer	НР	8594EM	3624A00203	09/02/2005	09/03/2006
EMI Test Receiver	R&S	ESCS30	828985/004	06/09/2006	06/10/2007
Transient Limiter	НР	11947A	3107A02062	09/02/2005	09/03/2006
LISN	Rolf-Heine	NNB-2/16Z	99012	12/31/2005	12/30/2006
LISN	Rolf-Heine	NNB-2/16Z	99013	12/24/2005	12/23/2006
Coaxial Cables	N/A	No. 3, 4	N/A	12/01/2005	12/01/2006

5.5. **Measurement Result**

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.



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AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	Operation Mode			Test Date:	Mar. 16, 2006
Temperature:	22 ℃	Humidity:	58 %	Test By:	Alex

FREQ	Q.P.	AVG	Q.P.	AVG	Q.P.	AVG	NOTE
MHz	Raw	Raw	Limit	Limit	Margin	Margin	
	dBuV	dBuV	dBuV	dBuV	dB	dB	
0.420	42.90	-	57.45	47.45	-14.55		L1
0.550	36.26	1	56.00	46.00	-19.74		L1
1.265	46.88	38.00	56.00	46.00	-9.12	-8.00	L1
1.395	48.84	40.71	56.00	46.00	-7.16	-5.29	L1
1.460	46.92	37.11	56.00	46.00	-9.08	-8.89	L1
1.655	45.14	-	56.00	46.00	-10.86		L1
0.290	35.83		60.52	50.52	-24.69		L2
0.420	47.68	40.85	57.45	47.45	-9.77	-6.60	L2
0.550	43.20	-	56.00	46.00	-12.80		L2
1.265	44.62		56.00	46.00	-11.38		L2
1.395	48.15	43.21	56.00	46.00	-7.85	-2.79	L2
1.525	46.96	43.62	56.00	46.00	-9.04	-2.38	L2

Remark:

- (1) Measuring frequencies from 0.15 MHz to 30MHz •
- (2) The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Qusia-Peak detector and Average detector.
- (3) "---" denotes the emission level was or more than 2dB below the Average limit, so no re-check anymore.
- (4) The IF bandwidth of SPA between 0.15MHz to 30MHz was 10KHz; The IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9KHz;
- (5) L1 = Line One (Hot side) / L2 = Line Two (Neutral side)

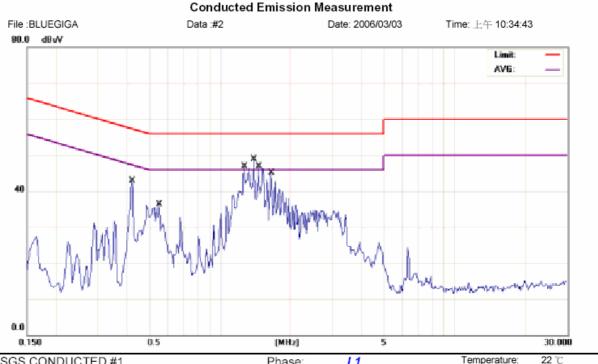


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Conducted Emission Test Plot



Phase:

Power:

Measure-

ment

dBuV

42.90

36.26

46.88

38.00

48.84

40.71

46.92

37.11

45.14

Factor

dΒ

0.85

0.85

0.60

0.60

0.61

0.61

0.61

0.61

0.63

Distance:

L1 AC 230V/50Hz

Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

Reading

Level

dBuV

42.05

35.41

46.28

37.40

48.23

40.10

46.31

36.50

44.51

EUT: Bluetooth class I EDR Module

M/N: WT11

Note:

No. Mk

1

2

3

4 5

6

7

8

9

PS/2 PORT

Freq.

MHz

0.4200

0.5500

1.2650

1.2650

1.3950

1.3950

1.4600

1.4600

1.6550

Limit	Over		
dBuV	dB	Detector	Comment
57.45	-14.55	QP	
56.00	-19.74	QP	
56.00	-9.12	QP	
46.00	-8.00	AVG	

Humidity:

Air Pressure:

58 %

hpa

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56.00

46.00

56.00

46.00

56.00

-7.16

-5.29

-9.08

-8.89

-10.86

QP

AVG

QP

AVG

QP



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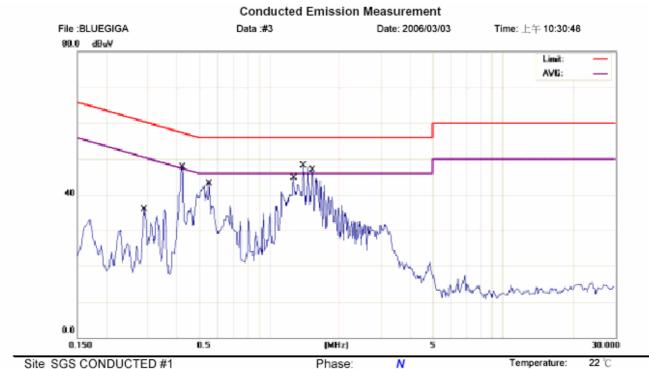
DATE: Aug. 16, 2006

Humidity:

Air Pressure:

58 %

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Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: Bluetooth class I EDR Module

M/N: WT11 Note:

PS/2 PORT

No. Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over			
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1	0.2900	35.04	0.79	35.83	60.52	-24.69	QP		
2	0.4200	46.83	0.85	47.68	57.45	-9.77	QP		
3	0.4200	40.00	0.85	40.85	47.45	-6.60	AVG		
4	0.5500	42.35	0.85	43.20	56.00	-12.80	QP		
5	1.2650	44.02	0.60	44.62	56.00	-11.38	QP		
6	1.3950	47.54	0.61	48.15	56.00	-7.85	QP		
7	1.3950	42.60	0.61	43.21	46.00	-2.79	AVG		
8	1.5250	46.34	0.62	46.96	56.00	-9.04	QP		
9 *	1.5250	43.00	0.62	43.62	46.00	-2.38	AVG		

Power:

Distance:

AC 230V/50Hz

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6. PEAK OUTPUT POWER MEASUREMENT

6.1. Standard Applicable

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 hopping channels, and all frequency hopping systems in the 5725-5850MHz band: 1Watt. For all other frequency hopping systems in the 2400 – 2483.5MHz band: 0.125 Watts.

6.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter or spectrum. (Channel power function, RBW, VBW = 1MHz)
- 3. Record the max. reading.
- 4. Repeat above procedures until all frequency measured were complete.

6.3. Measurement Result

СН	Frequency (MHz)	Reading Power dBm	Cable Loss	Output Power dBm	Output Power W	Limit (W)
LOW	2402.0	13.27	0.20	13.47	0.02223	1
MID	2441.0	12.50	0.20	12.70	0.01862	1
HIGH	2480.0	12.60	0.20	12.80	0.01905	1

6.4. Measurement Equipment Used:

EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Spectrum Analyzer	R&S	FSP 40	100034	05/27/2006	05/26/2007
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2005	08/27/2006
Spectrum Analyzer	Agilent	E4446A	MY43360126	01/22/2006	01/21/2007
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2005	10/06/2006



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Peak Power Output Data Plot (CH Low)



Peak Power Output Data Plot (CH Mid)



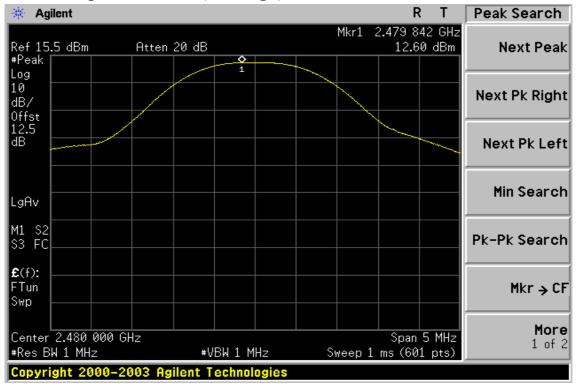


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Peak Power Output Data Plot (CH High)



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7. 20dB BAND WIDTH

7.1. Standard Applicable

For frequency hopping systems operating in the 2400MHz-2483.5 MHz no limit for 20dB bandwidth.

7.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set the spectrum analyzer as RBW=10KHz (1 % of Bandwidth.), Span= 3MHz, Sweep=auto
- 4. Mark the peak frequency and -20dB (upper and lower) frequency.
- 5. Repeat above procedures until all frequency measured were complete.

7.3. Measurement Result

СН	Bandwidth	2/3* Bandwidth
	(MHz)	(MHz)
Lower	1.212	0.808
Mid	1.212	0.808
Higher	1.208	0.805

7.4. Measurement Equipment Used:

EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Spectrum Analyzer	R&S	FSP 40	100034	05/27/2006	05/26/2007
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2005	08/27/2006
Spectrum Analyzer	Agilent	E4446A	MY43360126	01/22/2006	01/21/2007
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2005	10/06/2006

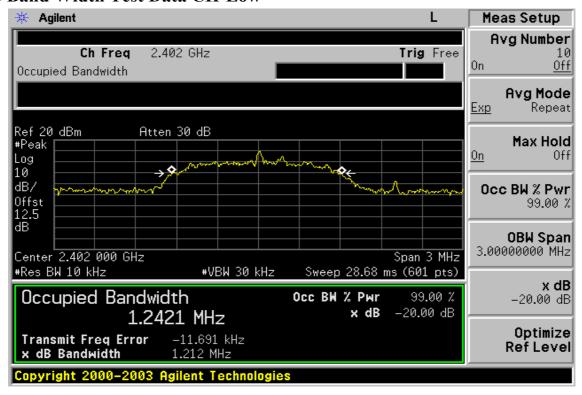


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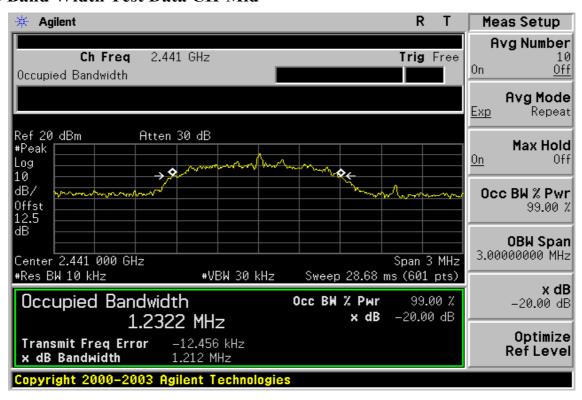
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20dB Band Width Test Data CH-Low



20dB Band Width Test Data CH-Mid



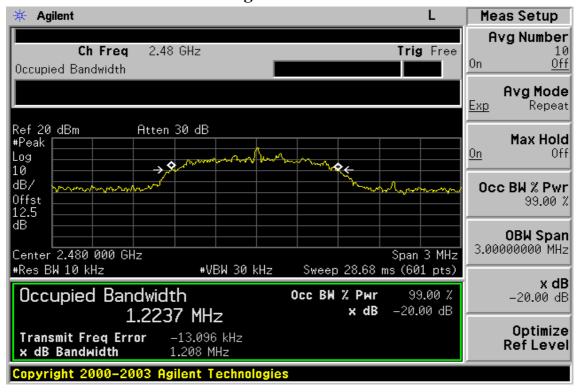


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20dB Band Width Test Data CH-High



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8. 100KHz BANDWIDTH OF BAND EDGES MEASUREMENT

8.1. Standard Applicable

According to §15.247(c), in any 100 KHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100KHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in 15.209(a).

8.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set center frequency of spectrum analyzer = operating frequency.
- 4. Set the spectrum analyzer as RBW, VBW=100KHz, Span=25MHz, Sweep = auto
- 5. Mark Peak, 2.390GHz and 2.4835GHz and record the max. level.
- 6. Repeat above procedures until all frequency measured were complete.
- 7. Radiated Emission refer to section 9.

8.3. Measurement Result

Refer to attach spectrum analyzer data chart.

8.4. Measurement Equipment Used:

EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Spectrum Analyzer	R&S	FSP 40	100034	05/27/2006	05/26/2007
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2005	08/26/2006
Spectrum Analyzer	Agilent	E4446A	MY43360126	01/22/2006	01/21/2007
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2005	10/06/2006

Note: Measurement Equipment for radiated emission refers to section 9.

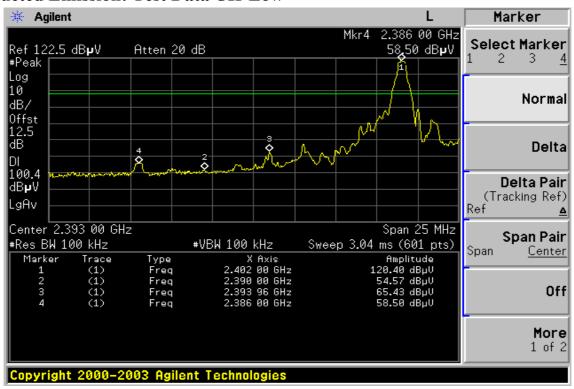


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Conducted Emission: Test Data CH-Low



Conducted Emission: Test Data CH-High





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Radiated Emission:

Operation ModeTX CH Low, Antenna 1Test DateAug. 15, 2006Fundamental Frequency2402 MHzTest ByJazzTemperature25 ℃PolVer.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	ıal FS	Peak	AV		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	Remark
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)) (dBuV/r	n)(dBuV/m	(dB)	
2386.0						74.00	54.00		Peak
2390.0						74.00	54.00		Peak
2394.0						74.00	54.00		Peak
Operation	Mode	TX	CH Low,	Antenna 1			Test Date	Aug. 15	, 2006
Fundamen	tal Freque	ncy 2402	2 MHz				Test By	Jazz	
Temperatu	ire	25 °(\mathbb{C}				Pol	Hor.	
Humidity		65 %	ó						

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}	
Freq.	Reading	Reading A	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin Remark
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)
2386.0						74.00	54.00	Peak
2390.0						74.00	54.00	Peak
2394.0						74.00	54.00	Peak

Remark:

- (1) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Emission:

Operation Mode TX CH High, Antenna 1 Test Date Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Ver.

Humidity 65 %

		Peak	\mathbf{AV}	Actu	al FS	Peak	\mathbf{AV}		
	Freq.	Reading	Reading Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	Remark
_	(MHz)	(dBuV)	(dBuV) CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
•	2483.5					74.00	54.00		Peak
	2484.0					74.00	54.00		Peak

Operation Mode TX CH High, Antenna 1 Test Date Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Hor.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	Remark
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
2483.5						74.00	54.00		Peak
2484.0						74.00	54.00		Peak

Remark:

- (1) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Emission:

Operation Mode TX CH Low, Antenna 2 Test Date Aug. 15, 2006 Fundamental Frequency 2402 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Ver. Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq. R	eading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	Remark
(MHz) (d	dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/n	n)(dBuV/m)	(dB)	
2386.0						74.00	54.00		Peak
2390.0						74.00	54.00		Peak
2394.0						74.00	54.00		Peak
Operation Mo	ode	TX	CH Low,	Antenna 2			Test Date	Aug. 15	, 2006
Fundamental	Freque	ncy 2402	2 MHz			,	Test By	Jazz	
Temperature		25 °(\mathcal{L}				Pol	Hor.	
Humidity		65 %	, 0						

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}	
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin Remark
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m) (dBuV/m)	(dBuV/m)	(dB)
2386.0						74.00	54.00	Peak
2390.0						74.00	54.00	Peak
2394.0						74.00	54.00	Peak

Remark:

- (1) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Emission:

Operation ModeTX CH High, Antenna 2Test DateAug. 15, 2006Fundamental Frequency2480 MHzTest ByJazzTemperature25 ℃PolVer.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	Remark
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)(dBuV/m)	(dB)	
2483.5						74.00	54.00		Peak
2484.0						74.00	54.00		Peak
Operation	Mode	TX	CH High,	Antenna 2		T	est Date	Aug. 15	, 2006
Fundamer	ntal Freque	ncy 2480	0 MHz			T	est By	Jazz	
Temperati	are	25 °C	C			P	ol	Hor.	
Humidity		65 %	6						

 \mathbf{AV} Peak **Actual FS** Peak AVReading Reading Ant./CL Peak Limit Limit Margin Remark Freq. AV(MHz) (dBuV) (dBuV) CF(dB) (dBuV/m) (dBuV/m) (dBuV/m) (dB) 2483.5 74.00 54.00 Peak 2484.0 74.00 54.00 Peak

Remark:

- (1) Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Emission:

Operation Mode TX CH Low, Antenna 3 Test Date Aug. 15, 2006 Fundamental Frequency 2402 MHz Temperature 25 $^{\circ}$ C Pol Ver. Humidity 65 %

	Peak	\mathbf{AV}	Actu	ual FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading Ant./	CL Peak	\mathbf{AV}	Limit	Limit	Margin	Remark
(MHz)	(dBuV)	(dBuV) CF(d	B) (dBuV/m) (dBuV/m) (dBuV/ı	n)(dBuV/m	(dB)	
2386.0					74.00	54.00		Peak
2390.0					74.00	54.00		Peak
2394.0					74.00	54.00		Peak
Operation	Mode	TX CH Lo	w, Antenna 3			Test Date	Aug. 15,	2006
Fundamen	ital Freque	ncy 2402 MHz				Test By	Jazz	
Temperatu	ıre	25 ℃				Pol	Hor.	
Humidity		65 %						

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading A	nt./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	Remark
(MHz)	(dBuV)	(dBuV) (CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	dBuV/m)	(dB)	
2386.0						74.00	54.00		Peak
2390.0						74.00	54.00		Peak
2394.0						74.00	54.00		Peak

Remark:

- (1) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Emission:

TX CH High, Antenna 3 Test Date Operation Mode Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 °C Pol Ver.

Humidity 65 %

		Peak	\mathbf{AV}	Actu	al FS	Peak	\mathbf{AV}		
	Freq.	Reading	Reading Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	Remark
	(MHz)	(dBuV)	(dBuV) CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
•	2483.5					74.00	54.00		Peak
	2484.0					74.00	54.00		Peak

Operation Mode TX CH High, Antenna 3 Test Date Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz 25 °C Temperature Pol Hor.

65 % Humidity

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading A	nt./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	Remark
(MHz)	(dBuV)	(dBuV) C	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)(dBuV/m)	(dB)	
2483.5						74.00	54.00		Peak
2484.0						74.00	54.00		Peak

Remark:

- (1) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Emission:

Operation Mode TX CH Low, Antenna 5 Test Date Aug. 15, 2006 Fundamental Frequency 2402 MHz Temperature 25 $^{\circ}$ C Pol Ver. Humidity 65 %

		Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
	Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	Remark
	(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/n	n)(dBuV/m)	(dB)	
	2386.0						74.00	54.00		Peak
	2390.0						74.00	54.00		Peak
(Operation	Mode	TX	CH Low,	Antenna 5		,	Test Date	Aug. 15	, 2006
]	Fundamen	ital Freque	ncy 2402	2 MHz			,	Test By	Jazz	
-	Temperatu	ıre	25 °(\mathbb{C}]	Pol	Hor.	

		Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
	Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	Remark
	(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m) (dBuV/m)	(dBuV/m)	(dB)	
•	2386.0						74.00	54.00		Peak
	2390.0						74.00	54.00		Peak

Remark:

Humidity

65 %

- (1) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Emission:

TX CH High, Antenna 5 Test Date Operation Mode Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 °C Pol Ver.

Humidity 65 %

		Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
	Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	Remark
	(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)(dBuV/m)	(dB)	
	2483.5						74.00	54.00		Peak
	2484.0						74.00	54.00		Peak
(Operation	Mode	TX (CH High,	Antenna 5		Τ	est Date	Aug. 15	, 2006
1	Fundamer	ntal Freque	ency 2480	MH ₂			Т	est Rv	I 277	

Fundamental Frequency 2480 MHz Jazz Test By 25 °C Temperature Hor. Pol

65 % Humidity

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	Remark
 (MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
2483.5						74.00	54.00		Peak
2484.0						74.00	54.00		Peak

Remark:

- (1) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (2) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (3) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (4) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.

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9. SPURIOUS RADIATED EMISSION TEST

9.1. Standard Applicable

According to §15.247(c), all other emissions outside these bands shall not exceed the general radiated emission limits specified in §15.209(a). And according to §15.33(a)(1), for an intentional radiator operates below 10GHz, the frequency range of measurements: to the tenth harmonic of the highest fundamental frequency or to 40GHz, whichever is lower.

9.2. EUT Setup

- 1. The radiated emission tests were performed in the 3 meter open-test site, using the setup in accordance with the ANSI C63.4-2003.
- 2. The EUT was put in the front of the test table. The peripherals was placed on the side of the host system. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
- 3. The spacing between the peripherals was 10 centimeters.
- 4. External I/O cables were draped along the edge of the test table and bundle when necessary.
- 5. The host PC system was connected with 110Vac/60Hz power source.

9.3. Measurement Procedure

- 1. The EUT was placed on a turn table which is 0.8m above ground plane.
- 2. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Repeat above procedures until all frequency measured were complete.

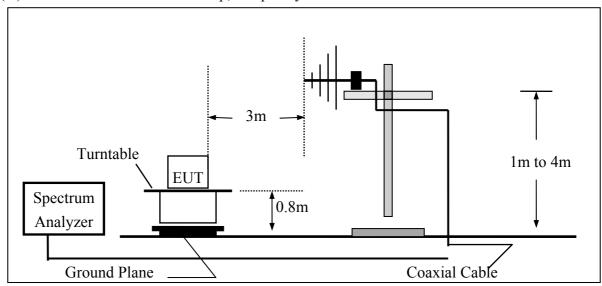
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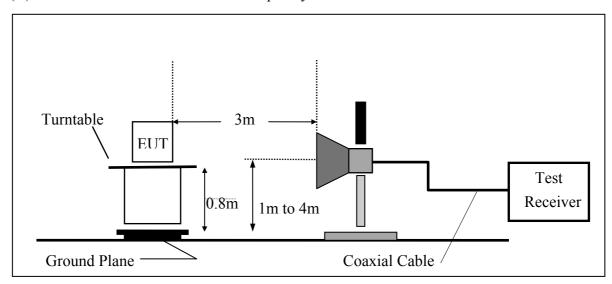
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9.4. Test SET-UP (Block Diagram of Configuration)

(A) Radiated Emission Test Set-Up, Frequency Below 1GHz



(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



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Measurement Equipment Used: 9.5.

	966 Chamber									
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.					
TYPE		NUMBER	NUMBER	CAL.						
Spectrum Analyzer	R&S	FSP 40	100034	05/27/2006	05/26/2007					
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2005	08/26/2006					
Bilog Antenna	SCHWAZBECK	VULB9163	152	06/03/2006	06/02/2007					
Horn antenna	Schwarzbeck	BBHA 9120D	309/320	08/16/2005	08/15/2006					
Horn antenna	Schwarzbeck	BBHA 9170	184/185	07/04/2006	07/03/2007					
Pre-Amplifier	HP	8447D	2944A09469	07/19/2006	07/18/2007					
Pre-Amplifier	HP	8494B	3008A00578	02/26/2006	02/25/2007					
Turn Table	HD	DT420	N/A	N.C.R	N.C.R					
Antenna Tower	HD	MA240-N	240/657	N.C.R	N.C.R					
Controller	HD	HD100	N/A	N.C.R	N.C.R					
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-10M	10m	10/09/2005	10/08/2006					
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	10/09/2005	10/08/2006					
Site NSA	SGS	966 chamber	N/A	11/17/2005	11/16/2006					

9.6. Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

9.7. Measurement Result

Refer to attach tabular data sheets.

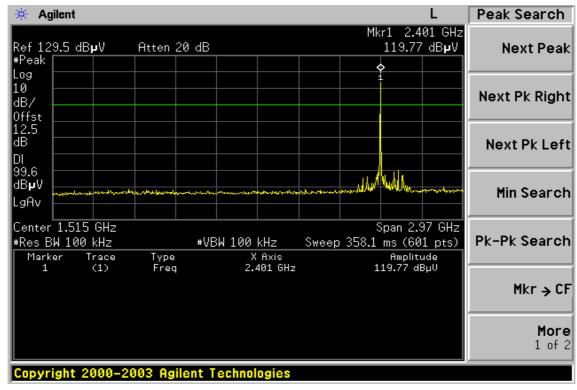


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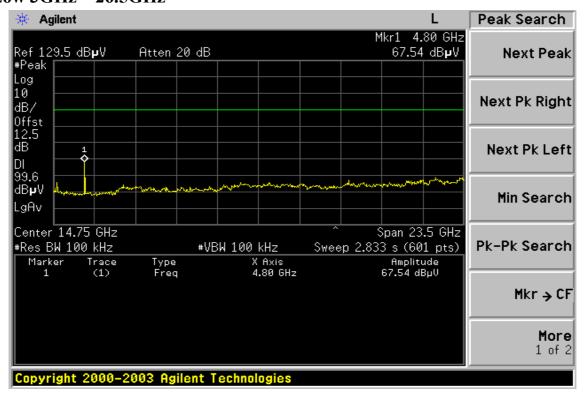
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Ch Low 30MHz - 3GHz



Ch Low 3GHz - 26.5GHz



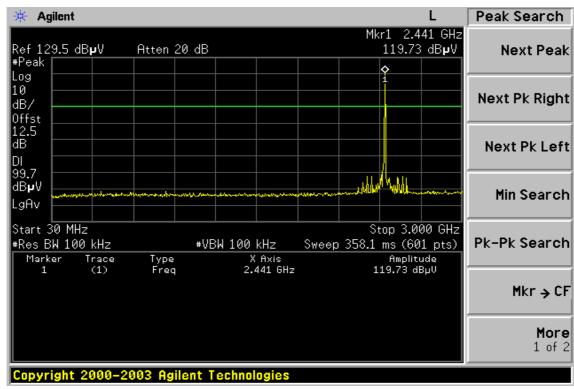


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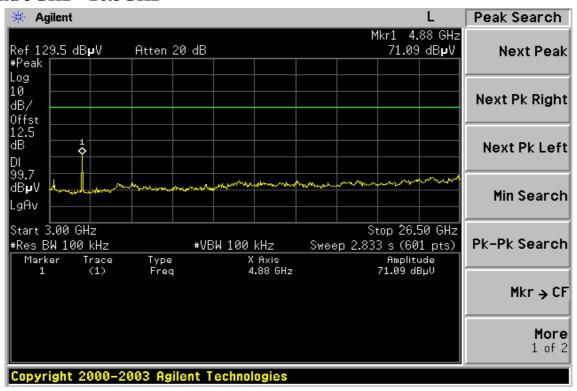
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Ch Mid 30MHz - 3GHz



Ch Mid 3GHz – 26.5GHz



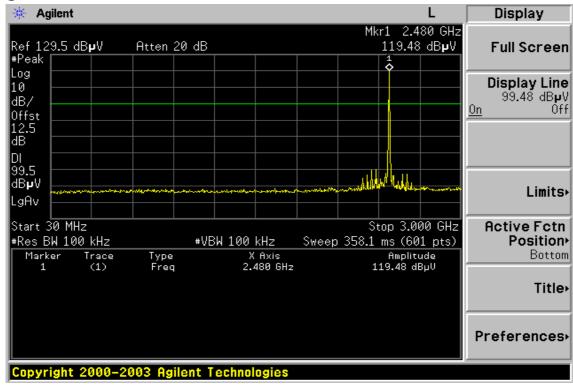


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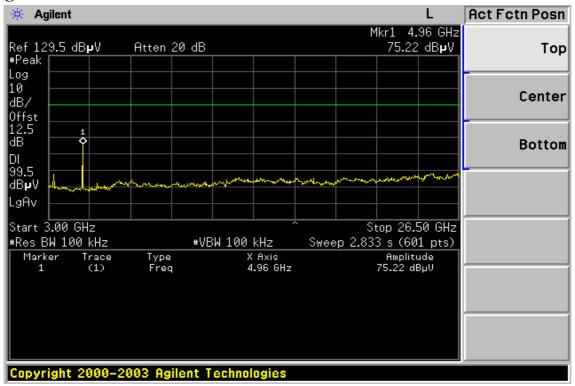
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Ch High 30MHz - 3GHz



Ch High 3GHz – 26.5GHz





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Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 1)

Operation Mode TX CH Low **Test Date** Aug. 15, 2006

Fundamental Frequency 2402MHz Test By Jazz Temperature 25 °C Pol Ver./Hor.

65 % Humidity

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
30.00	V	Peak	47.28	-15.29	31.99	40.00	-8.01
299.66	V	Peak	41.69	-13.41	28.28	46.00	-17.72
448.07	V	Peak	36.81	-9.81	27.00	46.00	-19.00
799.21	V	Peak	29.48	-3.53	25.95	46.00	-20.05
37.76	Н	Peak	49.87	-14.85	35.02	40.00	-4.98
299.66	Н	Peak	41.42	-13.41	28.01	46.00	-17.99
576.11	Н	Peak	39.06	-8.04	31.02	46.00	-14.98
750.71	Н	Peak	36.41	-4.44	31.97	46.00	-14.03

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 1)

Operation Mode TX CH Mid Test Date Aug. 15, 2006

Fundamental Frequency 2441MHz Test By Jazz Temperature 25 °C Pol Ver./Hor.

65 % Humidity

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
34.85	V	Peak	49.87	-15.09	34.78	40.00	-5.22
57.16	V	Peak	40.76	-14.89	25.87	40.00	-14.13
299.66	V	Peak	40.98	-13.41	27.57	46.00	-18.43
37.76	Н	Peak	49.86	-14.85	35.01	40.00	-4.99
57.16	Н	Peak	43.07	-14.89	28.18	40.00	-11.82
299.66	Н	Peak	42.58	-13.41	29.17	46.00	-16.83
622.67	Н	Peak	35.49	-7.12	28.37	46.00	-17.63

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 1)

Operation Mode TX CH High **Test Date** Aug. 15, 2006

Fundamental Frequency 2480MHz Test By Jazz Temperature 25 °C Pol Ver./Hor.

65 % Humidity

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
37.76	V	Peak	49.14	-14.85	34.29	40.00	-5.71
299.66	V	Peak	39.22	-13.41	25.81	46.00	-20.19
828.31	V	Peak	33.48	-3.12	30.36	46.00	-15.64
37.76	Н	Peak	49.54	-14.85	34.69	40.00	-5.31
57.16	Н	Peak	42.31	-14.89	27.42	40.00	-12.58
299.66	Н	Peak	41.37	-13.41	27.96	46.00	-18.04
622.67	Н	Peak	36.74	-7.12	29.62	46.00	-16.38

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 1)

Operation Mode TX CH Low Test Date Aug. 15, 2006

Fundamental Frequency 2402 MHz Test By Jazz Temperature $25 \,^{\circ}\text{C}$ Pol Ver.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m	(dBuV/m)(dBuV/m)	(dBuV/m)	(dB)	Remark
2397.5	54.30		-3.40	50.90		74.00	54.00	-3.10	Peak
3197.0	59.30	42.12	-1.64	57.66	40.48	74.00	54.00	-13.52	AV
4804.0	59.49	48.40	2.99	62.48	51.39	74.00	54.00	-2.61	AV
7206.0	47.58	36.99	9.27	56.85	46.26	74.00	54.00	-7.74	AV
9608.0									
12010.0	36.30		15.35	51.65		74.00	54.00	-2.35	Peak
14412.0									
16814.0									
19216.0									
21618.0									
24020.0									

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 1)

Operation ModeTX CH LowTest DateAug. 15, 2006Fundamental Frequency2402 MHzTest ByJazzTemperature25 ℃PolHor.

Humidity 65 %

	Peak	AV		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
3197.0	56.42	41.17	-1.64	54.78	39.53	74.00	54.00	-14.47	AV
4804.0	54.46	46.22	2.99	57.45	49.21	74.00	54.00	-4.79	AV
7206.0	48.36	38.60	9.27	57.63	47.87	74.00	54.00	-6.13	AV
9608.0	38.98		12.60	51.58		74.00	54.00	-2.42	Peak
12010.0	36.28		15.35	51.63		74.00	54.00	-2.37	Peak
14412.0						74.00	54.00		
16814.0						74.00	54.00		
19216.0						74.00	54.00		
21618.0						74.00	54.00		
24020.0						74.00	54.00		

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column °
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 1)

Operation Mode TX CH Mid Test Date Aug. 15, 2006

Fundamental Frequency 2441 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Ver.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m) (dBuV/m)	(dBuV/m)	(dB)	Remark
2436.5	52.83		-3.26	49.57		74.00	54.00	-4.43	Peak
3249.0	54.89	44.89	-1.55	53.34	43.34	74.00	54.00	-10.66	AV
4882.0	59.65	44.78	3.18	62.83	47.96	74.00	54.00	-6.04	AV
7323.0	49.05	36.86	9.46	58.51	46.32	74.00	54.00	-7.68	AV
9764.0	38.98		12.78	51.76		74.00	54.00	-2.24	Peak
12205.0	38.14		15.41	53.55		74.00	54.00	-0.45	Peak
14646.0						74.00	54.00		
17087.0						74.00	54.00		
19528.0						74.00	54.00		
21969.0						74.00	54.00		
24410.0						74.00	54.00		

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 1)

TX CH Mid **Test Date** Operation Mode Aug. 15, 2006 Fundamental Frequency 2441 MHz Test By Jazz

Temperature 25 °C Pol Hor.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
3249.0	52.92		-1.55	51.37		74.00	54.00	-2.63	Peak
4882.0	55.88	46.15	3.18	59.06	49.33	74.00	54.00	-4.67	AV
7323.0	42.50		9.46	51.96		74.00	54.00	-2.04	Peak
9764.0	39.95		12.78	52.73		74.00	54.00	-1.27	Peak
12205.0						74.00	54.00		
14646.0						74.00	54.00		
17087.0						74.00	54.00		
19528.0						74.00	54.00		
21969.0						74.00	54.00		
24410.0						74.00	54.00		

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 1)

TX CH High Test Date Operation Mode Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz **Temperature** 25 °C Pol Ver.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
3307.5	51.35		-1.45	49.90		74.00	54.00	-4.10	Peak
4960.0	61.25	43.56	3.40	64.65	46.96	74.00	54.00	-7.04	AV
7440.0	45.21	35.80	9.66	54.87	45.46	74.00	54.00	-8.54	AV
9920.0						74.00	54.00		
12400.0	41.80	34.68	15.53	57.33	50.21	74.00	54.00	-3.79	AV
14880.0						74.00	54.00		
17360.0						74.00	54.00		
19840.0						74.00	54.00		
22320.0						74.00	54.00		
24800.0						74.00	54.00		

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 1)

Operation Mode TX CH High Test Date Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Hor.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	AV		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
3307.5	47.23		-1.45	45.78		74.00	54.00	-8.22	Peak
4960.0	53.24	44.10	3.40	56.64	47.50	74.00	54.00	-6.50	AV
7440.0	40.64		9.66	50.30		74.00	54.00	-3.70	Peak
9920.0	37.12		12.98	50.10		74.00	54.00	-3.90	Peak
12400.0						74.00	54.00		
14880.0						74.00	54.00		
17360.0						74.00	54.00		
19840.0						74.00	54.00		
22320.0						74.00	54.00		
24800.0						74.00	54.00		

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 2)

Operation Mode TX CH Low **Test Date** Aug. 15, 2006

Fundamental Frequency 2402MHz Test By Jazz Temperature 25 °C Pol Ver./Hor.

65 % Humidity

	Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
_	(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
	37.76	V	Peak	50.21	-14.85	35.36	40.00	-4.64
	57.16	V	Peak	42.68	-14.89	27.79	40.00	-12.21
	299.66	V	Peak	42.10	-13.41	28.69	46.00	-17.31
	38.73	Н	Peak	49.13	-14.77	34.36	40.00	-5.64
	57.16	Н	Peak	42.19	-14.89	27.3	40.00	-12.70
	299.66	Н	Peak	46.10	-13.41	32.69	46.00	-13.31
	750.71	Н	Peak	37.56	-4.44	33.12	46.00	-12.88

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 2)

Operation Mode TX CH Mid Test Date Aug. 15, 2006

Fundamental Frequency 2441MHz Test By Jazz Temperature 25 °C Pol Ver./Hor.

65 % Humidity

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
37.76	V	Peak	49.95	-14.85	35.10	40.00	-4.90
57.16	V	Peak	42.73	-14.89	27.84	40.00	-12.16
299.66	V	Peak	41.57	-13.41	28.16	46.00	-17.84
37.76	Н	Peak	50.27	-14.85	35.42	40.00	-4.58
57.16	Н	Peak	43.05	-14.89	28.16	40.00	-11.84
299.66	Н	Peak	45.88	-13.41	32.47	46.00	-13.53
622.67	Н	Peak	38.67	-7.12	31.55	46.00	-14.45

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 2)

Operation Mode TX CH High **Test Date** Aug. 15, 2006

Fundamental Frequency 2480MHz Test By Jazz Temperature 25 °C Pol Ver./Hor.

65 % Humidity

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
37.76	V	Peak	50.71	-14.85	35.86	40.00	-4.14
57.16	V	Peak	42.75	-14.89	27.86	40.00	-12.14
299.66	V	Peak	41.77	-13.41	28.36	46.00	-17.64
37.76	Н	Peak	49.51	-14.85	34.66	40.00	-5.34
57.16	Н	Peak	41.70	-14.89	26.81	40.00	-13.19
299.66	Н	Peak	46.58	-13.41	33.17	46.00	-12.83
622.67	Н	Peak	37.95	-7.12	30.83	46.00	-15.17

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 2)

Operation Mode TX CH Low Test Date Aug. 15, 2006 Fundamental Frequency 2402 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Ver. Humidity 65 %

	Peak	\mathbf{AV}		Actu	ıal FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m	(dBuV/m	(dBuV/m)	(dBuV/m)	(dB)	Remark
2397.5	57.03	49.32	-3.40	53.63	45.92	74.00	54.00	-8.08	AV
3197.0	58.99	42.35	-1.64	57.35	40.71	74.00	54.00	-13.29	AV
4804.0	59.42	48.64	2.99	62.41	51.63	74.00	54.00	-2.37	AV
7206.0	49.45	37.65	2.99	52.44	40.64	74.00	54.00	-13.36	AV
9608.0									
12010.0									
14412.0									
16814.0									
19216.0									
21618.0									
24020.0									

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 2)

Operation Mode TX CH Low Test Date Aug. 15, 2006

Fundamental Frequency 2402 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Hor.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
3197.0	52.82		-1.64	51.18		74.00	54.00	-2.82	Peak
4804.0	53.59	46.53	2.99	56.58	49.52	74.00	54.00	-4.48	AV
7206.0	48.56	30.78	9.27	57.83	40.05	74.00	54.00	-13.95	AV
9608.0						74.00	54.00		
12010.0						74.00	54.00		
14412.0						74.00	54.00		
16814.0						74.00	54.00		
19216.0						74.00	54.00		
21618.0						74.00	54.00		
24020.0						74.00	54.00		

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 2)

Operation Mode TX CH Mid Test Date Aug. 15, 2006

Fundamental Frequency 2441 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Ver.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
3249.0	57.81	41.81	-1.55	56.26	40.26	74.00	54.00	-13.74	AV
4882.0	58.27	45.53	3.18	61.45	48.71	74.00	54.00	-5.29	AV
7323.0	53.85	39.04	9.46	63.31	48.50	74.00	54.00	-5.50	AV
9764.0	36.90		12.79	49.69		74.00	54.00	- 4.31	Peak
12205.0	37.63		15.41	53.04		74.00	54.00	-0.96	Peak
14646.0						74.00	54.00		
17087.0						74.00	54.00		
19528.0						74.00	54.00		
21969.0						74.00	54.00		
24410.0						74.00	54.00		

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 2)

Operation ModeTX CH MidTest DateAug. 15, 2006Fundamental Frequency2441 MHzTest ByJazzTemperature25 °CPolHor.

Humidity 65 %

	Peak	AV		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
3249.0	51.85		-1.55	50.30		74.00	54.00	-3.70	Peak
4882.0	52.51	46.16	3.18	55.69	49.34	74.00	54.00	-4.66	AV
7323.0	50.27	37.41	9.46	59.73	46.87	74.00	54.00	-7.13	AV
9764.0	44.81	36.55	12.78	57.59	49.33	74.00	54.00	-4.67	AV
12205.0	37.44		15.41	52.85		74.00	54.00	-1.15	Peak
14646.0						74.00	54.00		
17087.0						74.00	54.00		
19528.0						74.00	54.00		
21969.0						74.00	54.00		
24410.0						74.00	54.00		

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 2)

Operation Mode TX CH High Test Date Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Ver.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
3307.5	59.4	50.00	-1.45	57.91	48.55	74.00	54.00	-5.45	AV
4960.0	54.72	48.20	3.40	58.12	51.60	74.00	54.00	-2.40	AV
7440.0	49.15	40.89	9.66	58.81	50.55	74.00	54.00	-3.45	AV
9920.0	46.39	35.34	12.98	59.37		74.00	54.00	5.37	Peak
12400.0	44.83	34.05	15.53	60.36	49.58	74.00	54.00	-4.42	AV
14880.0						74.00	54.00		
17360.0						74.00	54.00		
19840.0						74.00	54.00		
22320.0						74.00	54.00		
24800.0						74.00	54.00		

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 2)

Operation Mode TX CH High Test Date Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Hor.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
4960.0	46.82	48.00	3.40	50.22	51.40	74.00	54.00	-2.60	AV
7440.0	56.37	40.33	9.66	66.03	49.99	74.00	54.00	-4.01	AV
9920.0	38.67		12.98	51.65		74.00	54.00	-2.35	Peak
12400.0	47.02	34.31	15.53	62.55	49.84	74.00	54.00	-4.16	AV
14880.0						74.00	54.00		
17360.0						74.00	54.00		
19840.0						74.00	54.00		
22320.0						74.00	54.00		
24800.0						74.00	54.00		

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 3)

Operation Mode TX CH Low **Test Date** Aug. 15, 2006

Fundamental Frequency 2402MHz Test By Jazz Temperature 25 °C Pol Ver./Hor.

65 % Humidity

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
30.00	V	Peak	44.23	-15.29	28.94	40.00	-11.06
297.72	V	Peak	40.08	-13.47	26.61	46.00	-19.39
799.21	V	Peak	33.35	-3.53	29.82	46.00	-16.18
30.00	Н	Peak	43.42	-15.29	28.13	40.00	-11.87
299.66	Н	Peak	48.88	-13.41	35.47	46.00	-10.53
622.67	Н	Peak	41.07	-7.12	33.95	46.00	-12.05

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 3)

Operation ModeTX CH MidTest DateAug. 15, 2006Fundamental Frequency2441MHzTest ByJazzTemperature25 °CPolVer./Hor.

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
30.00	V	Peak	43.20	-15.29	27.91	40.00	-12.09
299.66	V	Peak	43.08	-13.41	29.67	46.00	-16.33
813.76	V	Peak	39.93	-3.32	36.61	46.00	-9.39
299.66	Н	Peak	49.50	-13.41	36.09	46.00	-9.91
750.71	Н	Peak	39.09	-4.44	34.65	46.00	-11.35

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 3)

Operation Mode TX CH High **Test Date** Aug. 15, 2006

Fundamental Frequency 2480MHz Test By Jazz Temperature 25 °C Pol Ver./Hor.

65 % Humidity

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
30.00	V	Peak	41.87	-15.29	26.58	40.00	-13.42
299.66	V	Peak	43.86	-13.41	30.45	46.00	-15.55
597.45	V	Peak	33.61	-7.66	25.95	46.00	-20.05
35.82	Н	Peak	40.82	-15.01	25.81	40.00	-14.19
299.66	Н	Peak	46.22	-13.41	32.81	46.00	-13.19
576.11	Н	Peak	41.87	-8.04	33.83	46.00	-12.17

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 3)

Operation Mode TX CH Low Test Date Aug. 15, 2006 Fundamental Frequency 2402 MHz Test By Temperature 25 $^{\circ}$ C Pol Ver.

Humidity 65 %

	Peak	AV		Actu	al FS	Peak	\mathbf{AV}		
-		Reading		Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
2397.5	55.55		-3.40	52.15		74.00	54.00	-1.85	Peak
3197.0	55.03	40.82	-1.64	53.39	39.18	74.00	54.00	-14.82	AV
4804.0	59.27	47.37	2.99	62.26	50.36	74.00	54.00	-3.64	AV
7206.0	43.28		9.27	52.55		74.00	54.00	-1.45	Peak
9608.0	39.31		12.60	51.91		74.00	54.00	-2.09	Peak
12010.0	38.04	32.00	15.34	53.38	47.34	74.00	54.00	-6.66	AV
14412.0									
16814.0									
19216.0									
21618.0									
24020.0									

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 3)

Operation Mode TX CH Low Test Date Aug. 15, 2006

Fundamental Frequency 2402 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Hor.

Humidity 65 %

	Peak	AV		Actu	al FS	Peak	AV		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
3197.0	52.99		-1.64	51.35		74.00	54.00	-2.65	Peak
4804.0	54.84	47.15	2.99	57.83	50.14	74.00	54.00	-3.86	AV
7206.0	50.60	31.95	9.27	59.87	41.22	74.00	54.00	-12.78	AV
9608.0	37.42		12.60	50.02		74.00	54.00	-3.98	Peak
12010.0	36.68		15.34	52.02		74.00	54.00	-1.98	Peak
14412.0						74.00	54.00		
16814.0						74.00	54.00		
19216.0						74.00	54.00		
21618.0						74.00	54.00		
24020.0						74.00	54.00		

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 3)

Operation Mode TX CH Mid Test Date Aug. 15, 2006

Fundamental Frequency 2441 MHz Test By Temperature 25 $^{\circ}$ C Pol Ver.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
3249.0	51.89		-1.55	50.34		74.00	54.00	-3.66	Peak
4882.0	59.04	48.10	3.18	62.22	51.28	74.00	54.00	-2.72	AV
7323.0	52.44	38.15	9.46	61.90	47.61	74.00	54.00	-6.39	AV
9764.0	42.77	34.70	12.78	55.55	47.48	74.00	54.00	-6.52	AV
12205.0						74.00	54.00		
14646.0						74.00	54.00		
17087.0						74.00	54.00		
19528.0						74.00	54.00		
21969.0						74.00	54.00		
24410.0						74.00	54.00		

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 3)

TX CH Mid **Test Date** Operation Mode Aug. 15, 2006

Fundamental Frequency 2441 MHz Test By Jazz Temperature 25 °C Pol Hor.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
4882.0	54.30	46.55	3.18	57.48	49.73	74.00	54.00	-4.27	AV
7323.0	44.82	36.45	9.46	54.28	45.91	74.00	54.00	-8.09	AV
9764.0	40.48	34.00	12.78	53.26	46.78	74.00	54.00	-7.22	AV
12205.0						74.00	54.00		
14646.0						74.00	54.00		
17087.0						74.00	54.00		
19528.0						74.00	54.00		
21969.0						74.00	54.00		
24410.0						74.00	54.00		

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 3)

Operation Mode TX CH High Test Date Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Ver.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
3307.5	54.39	45.52	-1.45	52.94	44.07	74.00	54.00	-9.93	AV
4960.0	55.07	43.30	4.00	59.07	47.30	74.00	54.00	-6.70	AV
7440.0	46.23	37.52	9.66	55.89	47.18	74.00	54.00	-6.82	AV
9920.0	44.47	36.10	12.98	57.45	49.08	74.00	54.00	-4.92	AV
12400.0	46.54	36.33	15.52	62.06	51.85	74.00	54.00	-2.15	AV
14880.0						74.00	54.00		
17360.0						74.00	54.00		
19840.0						74.00	54.00		
22320.0						74.00	54.00		
24800.0						74.00	54.00		

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 3)

Operation Mode TX CH High Test Date Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Jazz Temperature 25 $^{\circ}$ C Pol Hor.

Humidity 65 %

	Peak	AV		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
4960.0	51.91	45.00	3.40	55.31	48.40	74.00	54.00	-5.60	AV
7440.0	45.46	38.20	9.66	55.12	47.86	74.00	54.00	-6.14	AV
9920.0	42.54	34.87	12.98	55.52	47.85	74.00	54.00	-6.15	AV
12400.0	43.22	35.47	15.52	58.74	50.99	74.00	54.00	-3.01	AV
14880.0						74.00	54.00		
17360.0						74.00	54.00		
19840.0						74.00	54.00		
22320.0						74.00	54.00		
24800.0						74.00	54.00		

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 5)

Operation Mode TX CH Low **Test Date** Aug. 15, 2006

Fundamental Frequency 2402MHz Test By Alex Temperature 25 °C Pol Ver./Hor.

65 % Humidity

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
35.82	V	Peak	40.23	-15.01	25.22	40.00	-14.78
57.16	V	Peak	43.92	-14.90	29.02	40.00	-10.98
93.05	V	Peak	40.55	-17.71	22.84	43.50	-20.66
152.22	V	Peak	31.59	-13.58	18.01	43.50	-25.49
161.92	V	Peak	35.56	-14.37	21.19	43.50	-22.31
907.85	V	Peak	41.22	-2.1	39.12	46.00	-6.88
35.82	Н	Peak	36.80	-15.01	21.79	40.00	-18.21
66.86	Н	Peak	44.27	-15.61	28.66	40.00	-11.34
73.65	Н	Peak	44.43	-17.25	27.18	40.00	-12.82
93.05	Н	Peak	37.81	-17.71	20.1	43.50	-23.40
118.27	Н	Peak	32.11	-15.67	16.44	43.50	-27.06

Remark:

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 5)

Operation Mode TX CH Mid Test Date Aug. 15, 2006

Fundamental Frequency 2441MHz Test By Alex Temperature 25 $^{\circ}$ C Pol Ver./Hor.

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
30.00	V	Peak	38.04	-15.29	22.75	40.00	-17.25
60.07	V	Peak	40.32	-14.76	25.56	40.00	-14.44
66.86	V	Peak	42.29	-15.61	26.68	40.00	-13.32
93.05	V	Peak	38.76	-17.71	21.05	43.50	-22.45
105.66	V	Peak	36.35	-16.74	19.61	43.50	-23.89
152.22	V	Peak	31.17	-13.58	17.59	43.50	-25.91
35.82	Н	Peak	36.22	-15.01	21.21	40.00	-18.79
45.52	Н	Peak	34.35	-14.59	19.76	40.00	-20.24
66.86	Н	Peak	38.29	-15.61	22.68	40.00	-17.32
73.65	Н	Peak	37.03	-17.25	19.78	40.00	-20.22
93.05	Н	Peak	35.21	-17.71	17.50	43.50	-26.00

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (below 1GHz) (Antenna 5)

Operation Mode TX CH High Test Date Aug. 15, 2006

Fundamental Frequency 2480MHz Test By Alex Temperature 25 $^{\circ}$ C Pol Ver./Hor.

Humidity 65 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
35.82	V	Peak	40.61	-15.01	25.6	40.00	-14.40
66.86	V	Peak	41.53	-15.61	25.92	40.00	-14.08
93.05	V	Peak	38.16	-17.71	20.45	43.50	-23.05
105.66	V	Peak	34.45	-16.74	17.71	43.50	-25.79
152.22	V	Peak	32.12	-13.58	18.54	43.50	-24.96
60.07	Н	Peak	35.73	-14.76	20.97	40.00	-19.03
66.86	Н	Peak	42.90	-15.61	27.29	40.00	-12.71
73.65	Н	Peak	43.92	-17.25	26.67	40.00	-13.33
122.15	Н	Peak	30.36	-15.34	15.02	43.50	-28.48
204.60	Н	Peak	31.44	-16.55	14.89	43.50	-28.61

- 1 Measuring frequencies from 30 MHz to the 1GHz •
- 2 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/QP detector mode.
- 3 Datas of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 5)

Operation ModeTX CH LowTest DateAug. 15, 2006Fundamental Frequency2402 MHzTest ByAlexTemperature25 ℃PolVer.

Humidity 65 %

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
4804.0	48.51		2.99	51.50		74.00	54.00	-2.50	Peak
7206.0									
9608.0									
12010.0									
14412.0									
16814.0									
19216.0									
21618.0									
24020.0									

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 5)

TX CH Low **Test Date** Operation Mode Aug. 15, 2006 Fundamental Frequency 2402 MHz Test By Alex Temperature 25 °C Pol Hor.

65 % Humidity

	Peak	\mathbf{AV}		Actua	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
4804.0	50.47		2.99	53.46		74.00	54.00	-0.54	Peak
7206.0						74.00	54.00		
9608.0						74.00	54.00		
12010.0						74.00	54.00		
14412.0						74.00	54.00		
16814.0						74.00	54.00		
19216.0						74.00	54.00		
21618.0						74.00	54.00		
24020.0						74.00	54.00		

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 5)

TX CH Mid **Test Date** Operation Mode Aug. 15, 2006

Fundamental Frequency 2441 MHz Test By Alex Temperature 25 °C Pol Ver.

Humidity 65 %

	Peak	\mathbf{AV}		Actua	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
4882.0	44.91		3.18	48.09		74.00	54.00	-5.91	Peak
7323.0						74.00	54.00		
9764.0						74.00	54.00		
12205.0						74.00	54.00		
14646.0						74.00	54.00		
17087.0						74.00	54.00		
19528.0						74.00	54.00		
21969.0						74.00	54.00		
24410.0						74.00	54.00		

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 5)

Operation ModeTX CH MidTest DateAug. 15, 2006Fundamental Frequency2441 MHzTest ByAlexTemperature25 ℃PolHor.

Humidity 65 %

	Peak	\mathbf{AV}		Actua	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
4882.0	49.72		3.18	52.90		74.00	54.00	-1.10	Peak
7323.0						74.00	54.00		
9764.0						74.00	54.00		
12205.0						74.00	54.00		
14646.0						74.00	54.00		
17087.0						74.00	54.00		
19528.0						74.00	54.00		
21969.0						74.00	54.00		
24410.0						74.00	54.00		

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 5)

Operation Mode TX CH High Test Date Aug. 15, 2006 Fundamental Frequency 2480 MHz Test By Alex

Temperature 25 °C Pol Ver.

Humidity 65 %

	Peak	AV		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
4960.0	47.76		3.40	51.16		74.00	54.00	-2.84	Peak
7440.0						74.00	54.00		
9920.0						74.00	54.00		
12400.0						74.00	54.00		
14880.0						74.00	54.00		
17360.0						74.00	54.00		
19840.0						74.00	54.00		
22320.0						74.00	54.00		
24800.0						74.00	54.00		

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Datas of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column \circ
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.



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Radiated Spurious Emission Measurement Result (above 1GHz) (Antenna 5)

TX CH High **Test Date** Operation Mode Aug. 15, 2006

Fundamental Frequency 2480 MHz Test By Alex Temperature 25 °C Pol Hor.

65 % Humidity

	Peak	\mathbf{AV}		Actu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limit	Limit	Margin	
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	Remark
4960.0	51.07	46.01	3.40	54.47	49.41	74.00	54.00	-4.59	AV
7440.0						74.00	54.00		
9920.0						74.00	54.00		
12400.0						74.00	54.00		
14880.0						74.00	54.00		
17360.0						74.00	54.00		
19840.0						74.00	54.00		
22320.0						74.00	54.00		
24800.0						74.00	54.00		

Remark:

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency o
- (2) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column o
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.

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10. FREQUENCY SEPARATION

10.1. Standard Applicable

According to §15.247(a)(1), Frequency hopping systems shall have hopping channel carrier frequencies separated by minimum of 25KHz or the 2/3*20dB bandwidth of the hopping channel, whichever is greater.

10.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set center frequency of spectrum analyzer = middle of hopping channel.
- 4. Set the spectrum analyzer as RBW, VBW=100KHz, Adjust Span to 5 MHz, Sweep = auto.
- 5. Max hold. Mark 3 Peaks of hopping channel and record the 3 peaks frequency.

10.3. Measurement Result

Channel separation	Limit	Result
MHz	kHz	
1	>=25KHz or 2/3* 20 dB bandwidth	PASS

10.4. Measurement Equipment Used:

EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Spectrum Analyzer	R&S	FSP 40	100034	05/27/2006	05/26/2007
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2005	08/26/2006
Spectrum Analyzer	Agilent	E4446A	MY43360126	01/22/2006	01/21/2007
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2005	10/06/2006

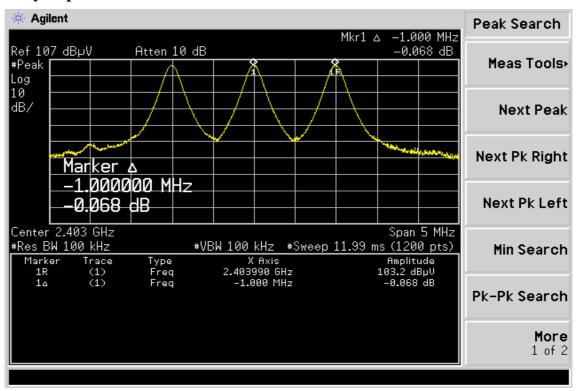


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Frequency Separation Test Data



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11. NUMBER OF HOPPING FREQUENCY

11.1. Standard Applicable

According to §15.247(a)(1)(iii), Frequency hopping systems operating in the 2400MHz-2483.5 MHz bands shall use at least 15 hopping frequencies.

11.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set spectrum analyzer Start=2400MHz, Stop = 2483.5MHz, Sweep = auto.
- 4. Set the spectrum analyzer as RBW, VBW=100KHz,
- 5. Max hold, view and count how many channel in the band.

11.3. Measurement Result

Total No of	Limit (CH)	Measurement result (CH)	Result
hopping channel	15	79	Pass

11.4. Measurement Equipment Used:

EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Spectrum Analyzer	R&S	FSP 40	100034	05/27/2006	05/26/2007
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2005	08/26/2006
Spectrum Analyzer	Agilent	E4446A	MY43360126	01/22/2006	01/21/2007
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2005	10/06/2006

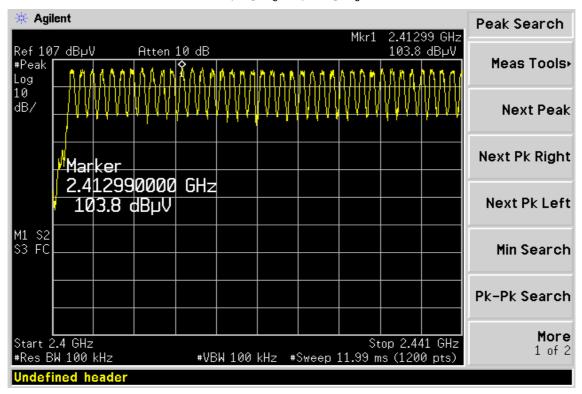


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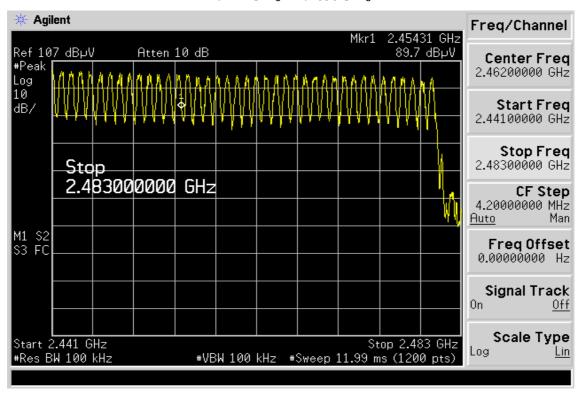
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2.4 GHz - 2.441 GHz



2.441 GHz - 2.4835GHz



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12. TIME OF OCCUPANCY (DWELL TIME)

12.1. Standard Applicable

According to §15.247(a)(1)(iii), Frequency hopping systems operating in the 2400MHz-2483.5 MHz. The average time of occupancy on any frequency shall not greater than 0.4 s within period of 0.4 seconds multiplied by the number of hopping channel employed.

12.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set center frequency of spectrum analyzer = operating frequency.
- 4. Set the spectrum analyzer as RBW, VBW=100KHz, Span = 0Hz, Adjust Sweep = 30s.
- 5. Repeat above procedures until all frequency measured were complete.

12.3. Measurement Result

A period time = 0.4 (ms) * 79 = 31.6 (s)

CH Low: DH1 time slot = 0.405 (ms) * (1600/(1*79)) * 31.6 = 259.1 (ms)

DH3 time slot = 1.675 (ms) * (1600/(3*79)) * 31.6 = 357.2 (ms)

DH5 time slot = 2.925 (ms) * (1600/(5*79)) * 31.6 = 374.3 (ms)

DH1 time slot = 0.405 (ms) * (1600/(1*79)) * 31.6 = 259.1 (ms) CH Mid:

DH3 time slot = 1.675 (ms) * (1600/(3*79)) * 31.6 = 357.2 (ms)

DH5 time slot = 2.906 (ms) * (1600/(5*79)) * 31.6 = 371.9 (ms)

CH High: DH1 time slot = 0.416 (ms) * (1600/(1*79)) * 31.6 = 266.1 (ms)

DH3 time slot = 1.662 (ms) * (1600/(3*79)) * 31.6 = 354.5 (ms)

DH5 time slot = 2.906 (ms) * (1600/(5*79)) * 31.6 = 371.9 (ms)



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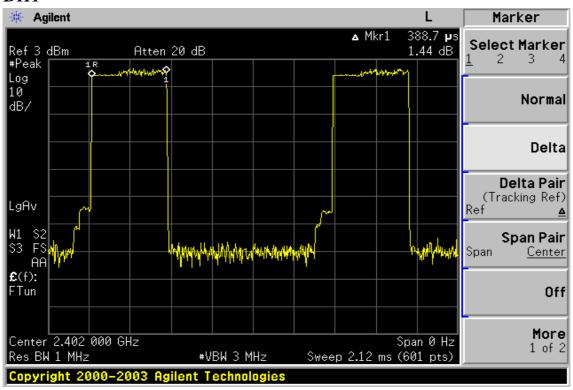
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12.4. Measurement Equipment Used:

EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Spectrum Analyzer	R&S	FSP 40	100034	05/27/2006	05/26/2007
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2005	08/27/2006
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2005	10/06/2006

Dwell Time Test Data CH-Low

DH1



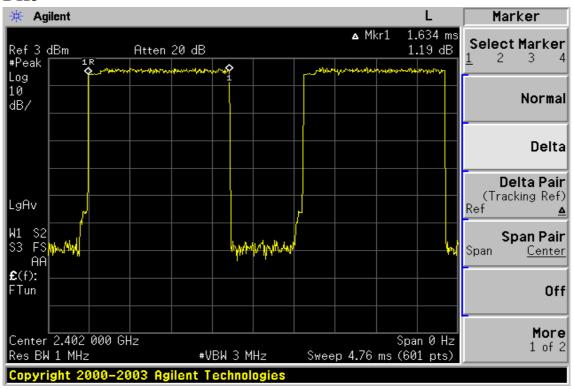


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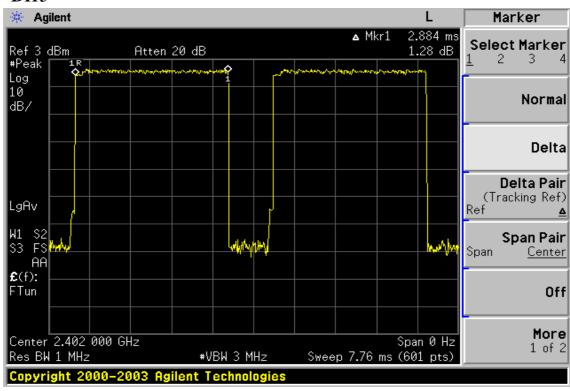
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DH3



DH₅



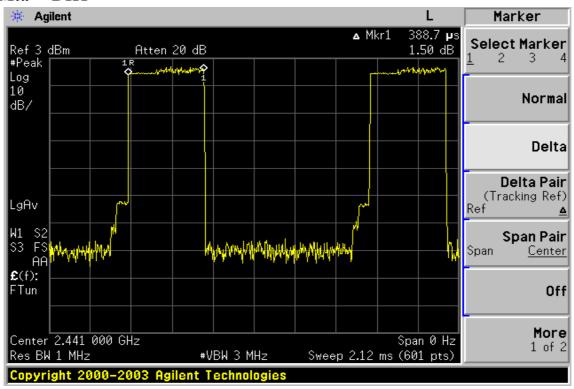


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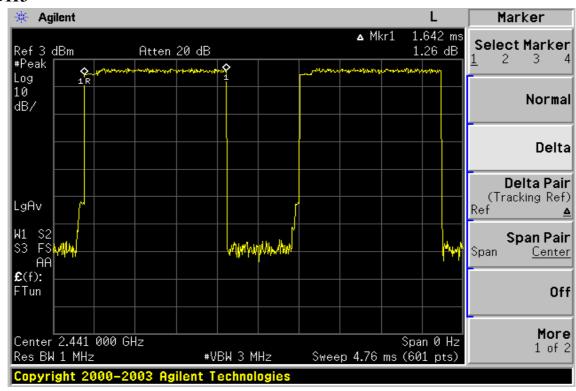
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CH-Mid DH1



DH3



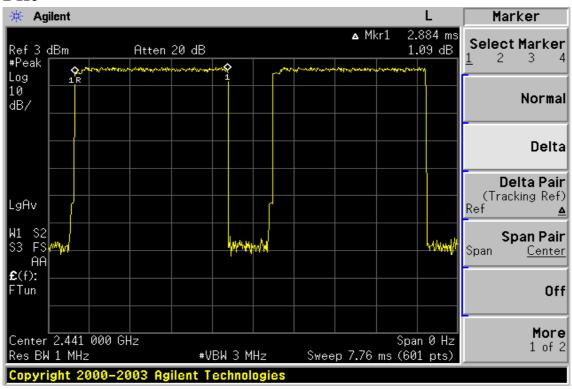


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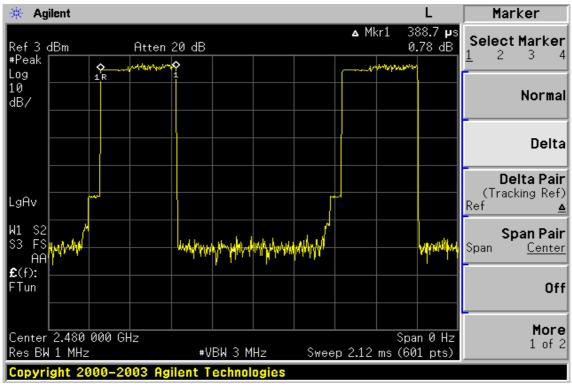
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DH5



CH-High

DH1



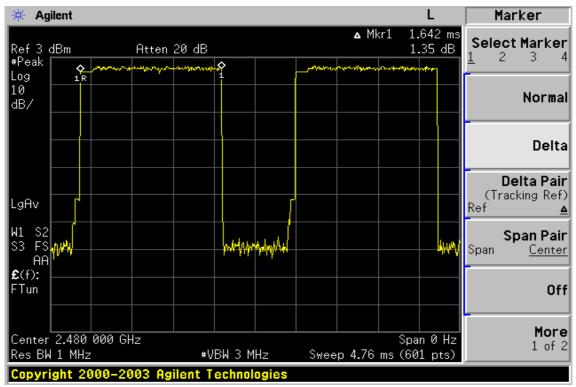


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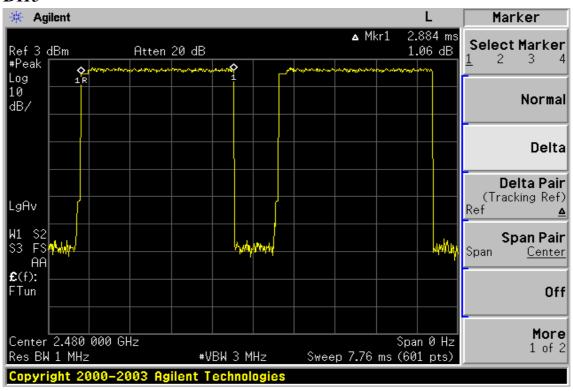
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DH3



DH₅



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13. Peak Power Spectral Density

13.1. Standard Applicable

According to §15.247(d), for direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3kHz band during any time interval of continuous transmission.

13.2. Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set the spectrum analyzer as RBW = 3KHz, VBW = 10KHz, Span = 1.5MHz, Sweep=100s
- 4. Record the max. reading.
- 5. Repeat above procedures until all frequency measured were complete.

13.3. Measurement Result

СН	RF Power Density	Cable loss	RF Power Density	Maximum Limit
СП	Reading (dBm)	(dB)	Level (dBm)	(dBm)
Low	3.63	0.20	3.83	8
Mid	3.77	0.20	3.97	8
High	3.48	0.20	3.68	8

13.4. Measurement Equipment Used:

EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Spectrum Analyzer	R&S	FSP 40	100034	05/27/2006	05/26/2007
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2005	08/26/2006
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2005	10/06/2006

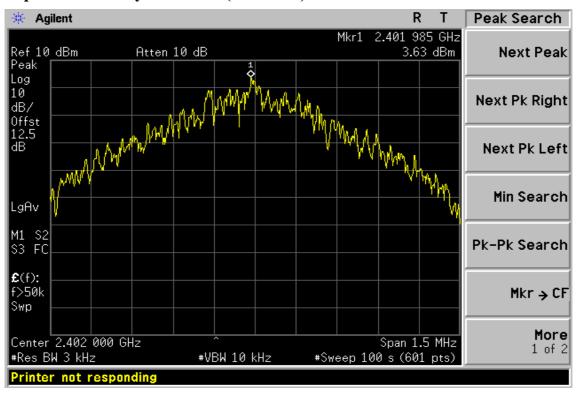


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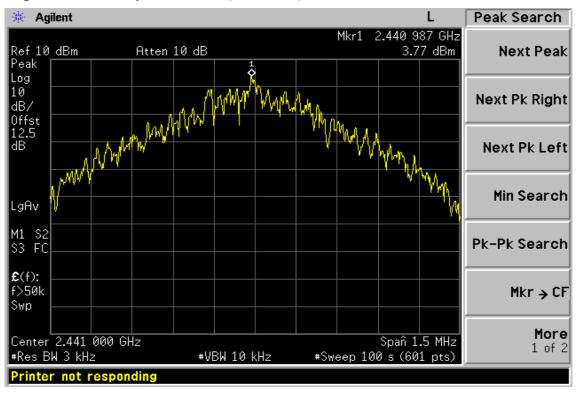
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Power Spectral Density Test Plot (CH-Low)



Power Spectral Density Test Plot (CH-Mid)



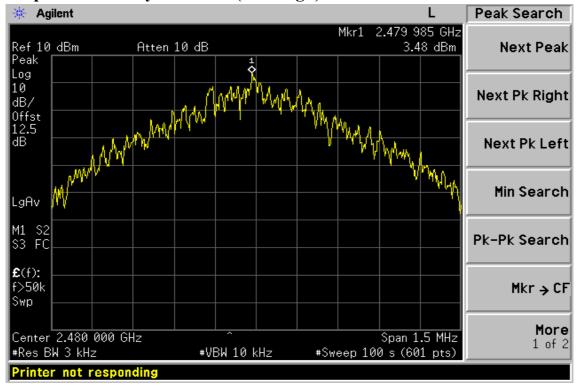


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Power Spectral Density Test Plot (CH-High)



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14. ANTENNA REQUIREMENT

14.1. Standard Applicable

For intentional device, according to §15.203, an intentional radiator shall be designed to ensure that no antenna other than furnished by the responsible party shall be used with the device.

And according to §15.247(4)(1), system operating in the 2400-2483.5MHz bands that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

14.2. Antenna Connected Construction

The directional gains of antenna used for transmitting as it shows in the following chart, and the antenna connector is designed with a detachable revised SMA or U.FL type connector and installation by OEM manufacturer no consideration of replacement by the end user. Please see antenna photos for detail.

Item no.		Model/Type	
	Model:	MMTX-EA-79A Bluetooth	
	Model.	2.4GHz SMA M	
Antenna1.	Manufacture:	EAD	
	Frequency Range:	2.4-2.5GHz	
	Antenna Gain:	2dBi	
	Model:	Titanis	
Antenna 2.	Manufacture:	GiaAnt	
Antenna 2.	Frequency Range:	2.4-2.5GHz	
	Manufacture: Frequency Range: Antenna Gain: Model: Manufacture: Frequency Range: Antenna Gain: Model: Manufacture: Frequency Range: Antenna Gain: Model: Model: Model: Manufacture:	4.4dBi	
	Model:	MTX-BT-Blade	
Antenna 3.	Manufacture:	EAD	
1 1110 1111 W U .	Frequency Range:	2.45GHz and 5.2GHz	
	Antenna Gain:	2dBi	
	Model:	BT-Stubby	
Antenna 4.	Manufacture:	EAD	
Antenna 4.	Frequency Range:	2.4GHz	
	Antenna Gain:	0dBi	
	Model:	AT3216	
Antenna 5.	Manufacture:	ACX	
Amenna 3.	Frequency Range:	2.4-2.5GHz	
	Antenna Gain:	0.5dBi	