

Report No.: EH/2007/50014 **Issue Date: Jun. 29, 2007**

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ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C REQUIREMENT

OF

Product Name: 3.5G PDA phone

Brand / Marketing

Name:

i-mateTM

Model Name: Ultimate 6150

FCC ID: **PJO9001**

Report No.: EH/2007/50014

Issue Date: Jun. 29, 2007

FCC Rule Part: §15.247

Prepared for ARIMA COMMUNICATIONS CORP.

No.16, Lane 658, Ying Tao Road, Yingko,

Taipei Hsien, Taiwan, R.O.C.

Prepared by: SGS Taiwan Ltd.

No. 134, Wu Kung Rd., Wuku Industrial

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VERIFICATION OF COMPLIANCE

Applicant: ARIMA COMMUNICATIONS CORP.

No.16, Lane 658, Ying Tao Road, Yingko,

Taipei Hsien, Taiwan, R.O.C.

Equipment Under Test: 3.5G PDA phone

Brand / Marketing Name: i-mateTM

FCC ID Number: PJO9001

Model No.: Ultimate 6150

Model Difference: N/A

File Number: EH/2007/50014

Date of test: May 28, 2007 ~Jun. 21, 2007

Date of EUT Received: May 28, 2007

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:	Sky Wang	Date	Jun. 29, 2007	
	Sky Wang / Sr. Engineer			
Prepared By:	Ena Poro	Date	Jun. 29, 2007	
Approved By:	Eva Kao / Sr. Engineer	Date	Jun. 29, 2007	
	Vincent Su / Manager			

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1. GENERAL INFORMATION

1.1. Product Description

Product Name:	3.5G PDA phone		
Brand / Marketing Name:	i-mate TM		
Model Name:	Ultimate 6150		
Model Difference:	N/A		
Simple Hands-Free (SHF):	: Mode No.: N/A, Supplier: N/A		
Data Cable (USB):	1 cable, model: N/A		
TV out cable	1 cable, model: N/A		
	3.7 Vdc re-chargeable battery or 5Vdc by AC/DC power adapter		
Power Supply	Battery Model:	i-mate™ Ultimate, Supplier: Welldone	
	Adapter Model:	PSAA05A-050, Supplier: PHIHONG	

GSM and WCDMA:

	GSM/GPRS 850	824 MHz– 849MHz	33 dBm
Cellular Phone Standards Frequency Range and	GSM/GPRS 1900	1850MHz – 1910MHz	30 dBm
Power Power	WCDMA Band II 1850MHz – 1910MHz		24 dBm
	WCDMA Band V	824 MHz– 849MHz	24 dBm
Type of Emission	GSM: 300KGXW WCDMA: 4M20F9W		
IMEI	355686010006408		
Software Version 9001_RIL_FTA_V03			
Hardware Version	EP2		

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WLAN:

Frequency Range	2412 – 2462 MHz
Channel number	11 channels
Rated Power	802.11 b: 13.83 dBm 802.11 g: 11.60 dBm
Modulation Technology	DSSS, OFDM
Modulation type	CCK, DQPSK, DBPSK for DSSS 64QAM. 16QAM, QPSK, BPSK for OFDM
Transition Rate:	802.11 b: 1/2/5.5/11/54 Mbps; 802.11 g: 6/9/12/18/24/36/48/54 Mbps
Antenna Designation	PIFA Antenna, -3.79 dBi.
Type of Emission	16M6M7D

The EUT is compliance with IEEE 802.11 b/g Standard.

Bluetooth:

Frequency Range	2402 – 2480MHz
Channel number	79 channels
Rated Power	2.52 dBm (Peak)
Modulation type	Frequency Hopping Spread Spectrum (FHSS)(FGSK)
Antenna Designation	PIFA Antenna, -3.94 dBi
Type of Emission	933KF1D

The EUT is compliance with Bluetooth Standard.

This test report applies for Bluetooth.



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

This submittal(s) (test report) is intended for FCC ID: <u>PJO9001</u> filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules. The composite system (digital device) is compliance with Subpart B is authorized under a Doc procedure.

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 TAF (0513). Canada Registration Number: 4620A-1

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.

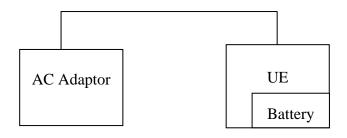


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2.4. Configuration of Tested System

Fig. 2-1 Configuration of Tested System



Remote Side

Bluetooth test set

Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
2	Bluetooth test set	Anritsu	MT8852A	6K00001436	shielded	Un-shielded

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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	No Limit
§15.247I	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.

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

Channel Low, Mid and High with highest rated data rate were chosen for full testing.

The field strength of spurious radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for Bluetooth Transmitter for channel Low, Mid and High the worst case H mode was reported.

The field strength of co-located spurious radiation emission was measured as worst case of EUT at H position at Bluetooth with GSM 850 at channel high and GSM 1900 at channel Low mode was 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	Limits dB(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.

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^{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:

Conducted Emission Test Site										
EQUIPMENT MFR		MODEL	SERIAL	LAST	CAL DUE.					
TYPE		NUMBER	NUMBER	CAL.						
EMC Analyzer	HP	8594EM	3624A00203	09/02/2006	09/03/2007					
EMI Test Receiver	R&S	ESCS30	828985/004	06/09/2007	06/10/2008					
Transient Limiter	HP	11947A	3107A02062	09/02/2006	09/03/2007					
LISN	Rolf-Heine	NNB-2/16Z	99012	12/31/2006	12/30/2007					
LISN	Rolf-Heine	NNB-2/16Z	99013	01/10/2007	01/09/2008					
Coaxial Cables	FCC	FCC-LISN-50/250-25-2-01	04034	01/11/2007	01/10/2008					

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.

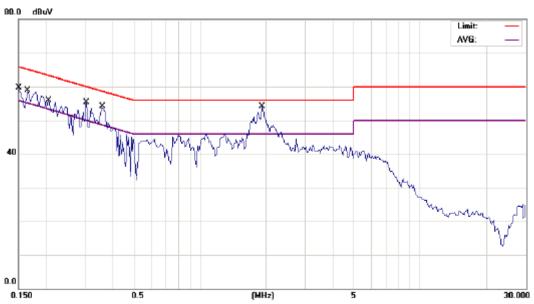


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AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	BT Operation Mo	ode		Test Date:	Jun. 07, 2007
Temperature:	25 ℃	Humidity:	62 %	Test By:	Sky
Adaptor:					



Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: i-mate

M/N: mlt 6150

Note: bluetooth operation

Phase.	L1	i emperature.		20 (
Power:	AC 120V/60Hz	Humidity:	62	%
Distance:		Air Pressure:		hpa

No. Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1500	48.04	0.00	48.04	66.00	-17.96	QP	
2	0.1500	21.60	0.00	21.60	56.00	-34.40	AVG	
3	0.1650	47.03	0.01	47.04	65.21	-18.17	QP	
4	0.1650	26.56	0.01	26.57	55.21	-28.64	AVG	
5	0.2050	44.77	0.02	44.79	63.41	-18.62	QP	
6	0.2050	25.53	0.02	25.55	53.41	-27.86	AVG	
7	0.3050	41.43	0.02	41.45	60.11	-18.66	QP	
8	0.3050	31.58	0.02	31.60	50.11	-18.51	AVG	
9 *	0.3600	52.08	0.02	52.10	58.73	-6.63	QP	
10	0.3600	40.24	0.02	40.26	48.73	-8.47	AVG	
11	1.9100	45.87	0.04	45.91	56.00	-10.09	QP	
12	1.9100	35.26	0.04	35.30	46.00	-10.70	AVG	

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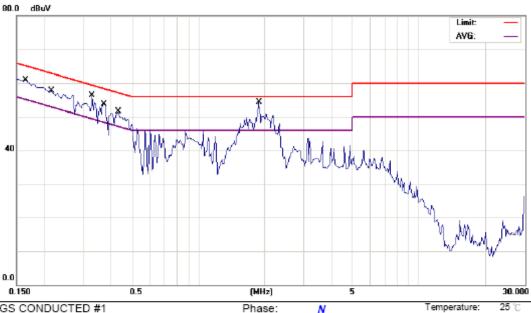


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Humidity:

Air Pressure:



Power:

Distance:

AC 120V/60Hz

Site SGS CONDUCTED #1

Limit: CISPR22 Class B Conduction(QP)

EUT: i-mate M/N: mlt-6150

Note: bluetooth operation

No.	Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		0.1650	49.37	0.01	49.38	65.21	-15.83	QP		
2		0.1650	31.94	0.01	31.95	55.21	-23.26	AVG		
3		0.2150	45.29	0.02	45.31	63.01	-17.70	QP		
4		0.2150	24.22	0.02	24.24	53.01	-28.77	AVG		
5		0.3300	48.11	0.02	48.13	59.45	-11.32	QP		
6		0.3300	39.10	0.02	39.12	49.45	-10.33	AVG		
7		0.3750	46.71	0.02	46.73	58.39	-11.66	QP		
8	*	0.3750	38.19	0.02	38.21	48.39	-10.18	AVG		
9		0.4350	42.00	0.02	42.02	57.16	-15.14	QP		
10		0.4350	34.02	0.02	34.04	47.16	-13.12	AVG		
11		1.8800	40.04	0.04	40.08	56.00	-15.92	QP		
12		1.8800	34.71	0.04	34.75	46.00	-11.25	AVG		

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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

Frequency (MHz)	Reading Power (dBm)	Cable Loss	Output Power (dBm)	Output Power (W)	Limit (W)
2402.00	2.52	0.00	2.52	0.00179	1
2441.00	1.74	0.00	1.74	0.00149	1
2480.00	2.07	0.00	2.07	0.00161	1

*Note: Offset 7.5dB

6.4. Measurement Equipment Used:

	Conducted Emission Test Site										
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.						
TYPE		NUMBER	NUMBER	CAL.							
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/27/2008						
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2006	06/29/2007						
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2006	11/10/2007						
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A						
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2006	10/06/2007						
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2006	10/06/2007						
Splitter	Agilent	Power Biviber	51818	01/05/2007	01/04/2008						

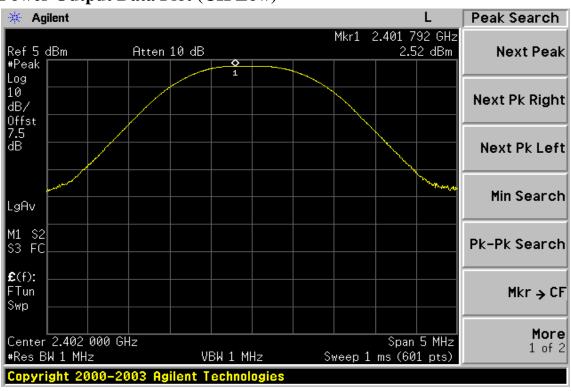
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Peak Power Output Data Plot (CH Low)



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 (kHz)
Lower	931.860
Mid	932.591
Higher	931.122

7.4. Measurement Equipment Used:

7.4. Measurement Equipment Oscu.										
Conducted Emission Test Site										
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.					
TYPE		NUMBER	NUMBER	CAL.						
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/27/2008					
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2006	06/29/2007					
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2006	11/10/2007					
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A					
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2006	10/06/2007					
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2006	10/06/2007					
Splitter	Agilent	Power Biviber	51818	01/05/2007	01/04/2008					

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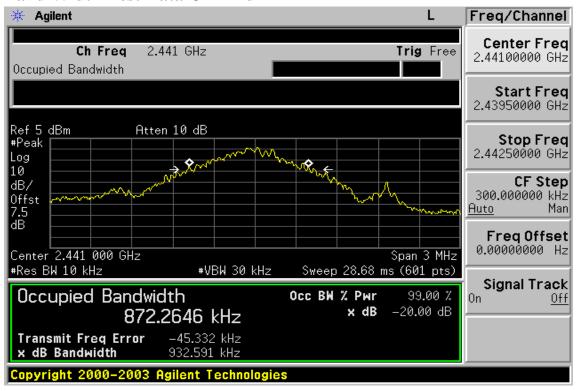
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20dB Band Width Test Data CH-Low



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:

	Conducted Emission Test Site										
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.						
ТҮРЕ		NUMBER	NUMBER	CAL.							
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/27/2008						
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2006	06/29/2007						
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2006	11/10/2007						
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A						
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2006	10/06/2007						
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2006	10/06/2007						
Splitter	Agilent	Power Biviber	51818	01/05/2007	01/04/2008						

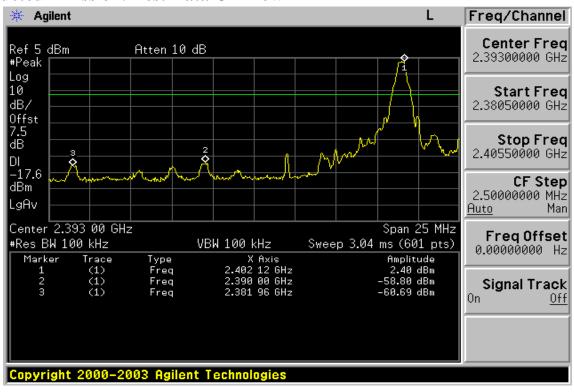
Note: Measurement Equipment for radiated emission refers to section 9.

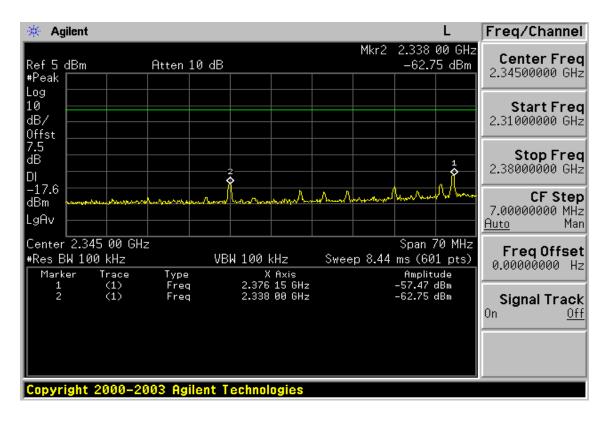


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Conducted Emission: Test Data CH-Low





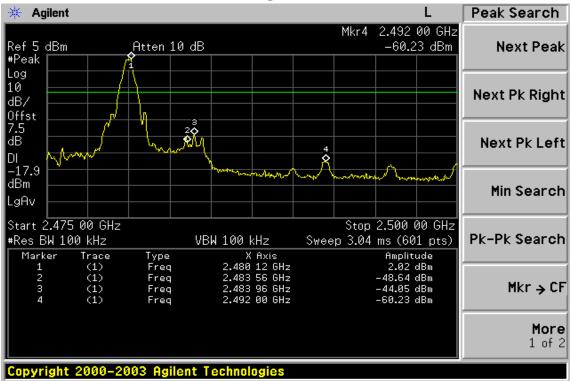
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Conducted Emission: Test Data CH-High





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Radiated Emission:

Operation Mode TX CH Low **Test Date** Jun. 21, 2007

Fundamental Frequency 2402 MHz Test By Sky $25~^{\circ}\mathrm{C}$ Temperature 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/n	n) (dB)	
2376.15	34.91		-1.46	33.45		74.00	54.00	-20.55	Peak
2381.96	34.03		-1.46	32.57		74.00	54.00	-21.43	Peak
2390.00	33.41		-1.39	32.02		74.00	54.00	-21.98	Peak
Operation	Mode	TX C	CH Low			Test	t Date	Jun. 21, 20	007
Fundamen	tal Freque	ncy 2402	MHz			Test	t By	Sky	
Temperatu	ire	25 ℃				Pol		Hor.	
Humidity		65 %							

	Peak	AV		Actual FS		Peak	AV		
Freq.	Reading	Reading	Ant./CL	Peak	AV	Limit	Limit	Margin	Remark
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
2376.15	34.47		-1.46	33.01		74.00	54.00	-20.99	Peak
2381.96	34.14		-1.46	32.68		74.00	54.00	-21.32	Peak
2390.00	34.24		-1.39	32.85		74.00	54.00	-21.15	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 High Test Date Jun. 21, 2007

Fundamental Frequency 2480 MHz Test By Sky Temperature 25 $^{\circ}$ C Pol Ver. Humidity 65 $^{\circ}$

	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/n	(dB)		
2483.56	33.72		-0.92	32.80		74.00	54.00	-21.20	Peak	
2483.96	33.53		-0.92	32.61		74.00	54.00	-21.39	Peak	
2492.00	33.93		-0.84	33.09		74.00	54.00	-20.91	Peak	
Operation	Mode	TX C	CH High			Test	t Date	Jun. 21, 20	007	
Fundamental Frequency		ncy 2480	MHz			Test	Test By		Sky	
Temperature		25 ℃				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)	
2483.56	34.08		-0.92	33.16		74.00	54.00	-20.84	Peak
2483.96	34.14		-0.92	33.22		74.00	54.00	-20.78	Peak
2492.00	34.70		-0.84	33.86		74.00	54.00	-20.14	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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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.

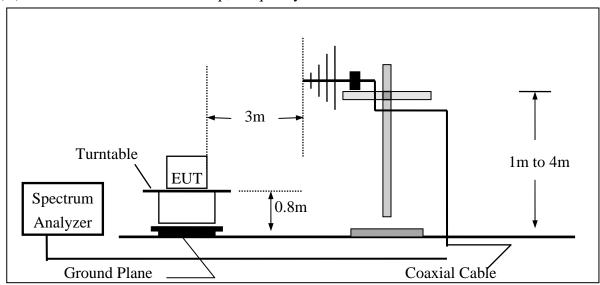


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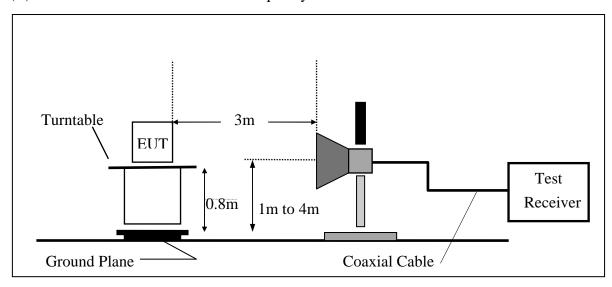
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9.4. Test SET-UP (Block Diagram of Configuration)

(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:

966 Chamber									
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.				
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/27/2008				
Spectrum Analyzer	R&S	FSP 40	100034	05/27/2007	05/26/2008				
Spectrum Analyzer	Agilent	E7405A	US41160416	06/28/2006	06/29/2007				
Bilog Antenna	SCHWAZBECK	VULB9160	3224	11/14/2006	11/13/2007				
Horn antenna	Schwarzbeck	BBHA 9120D	309/320	08/16/2006	08/15/2007				
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	НР	8494B	3008A00578	02/26/2007	02/25/2008				
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	10/09/2006	10/08/2007				
Low Loss Cable HUBER+SUHNE		SUCOFLEX 104PEA-3M	3m	10/09/2006	10/08/2007				
Site NSA	SGS	966 chamber	N/A	11/17/2006	11/16/2007				

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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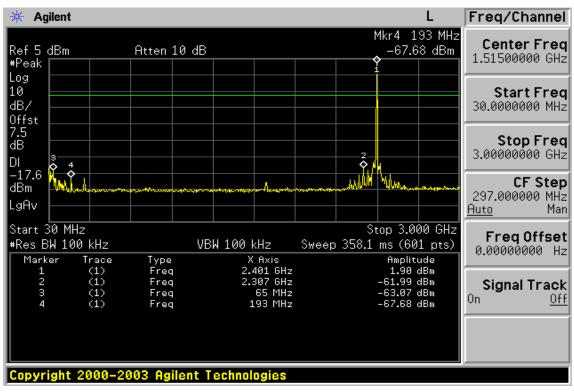
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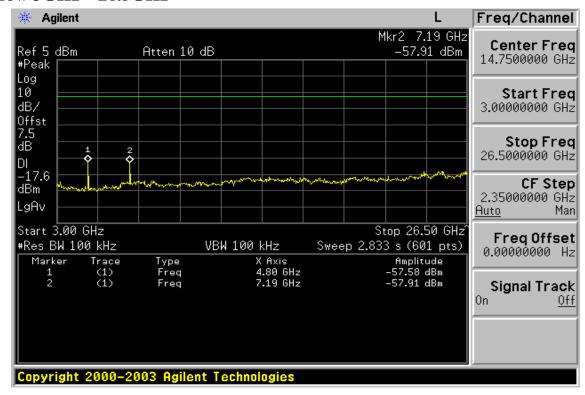
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Conducted Spurious Emission Measurement Result Ch Low 30MHz – 3GHz



Ch Low 3GHz - 26.5GHz



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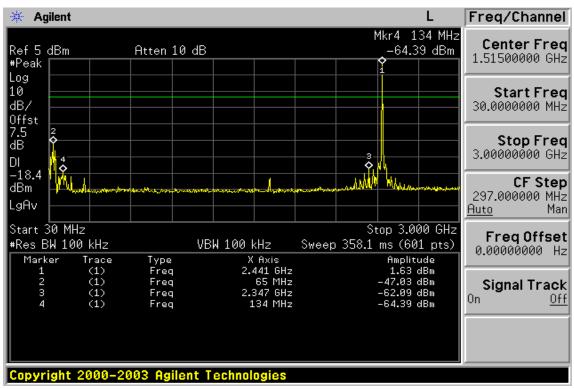
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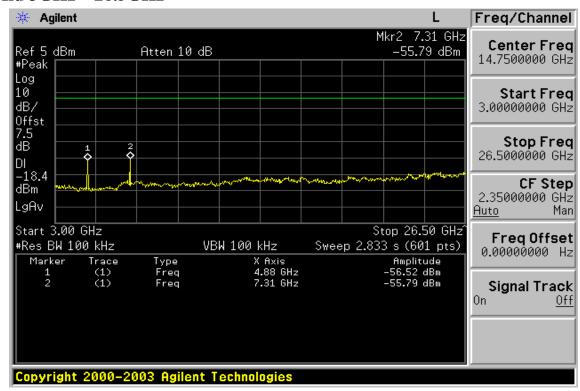
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Ch Mid 30MHz – 3GHz



Ch Mid 3GHz – 26.5GHz



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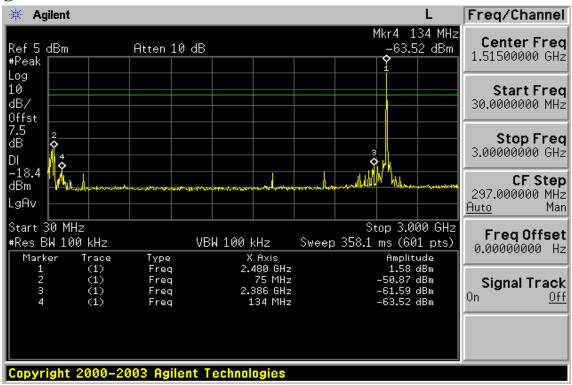
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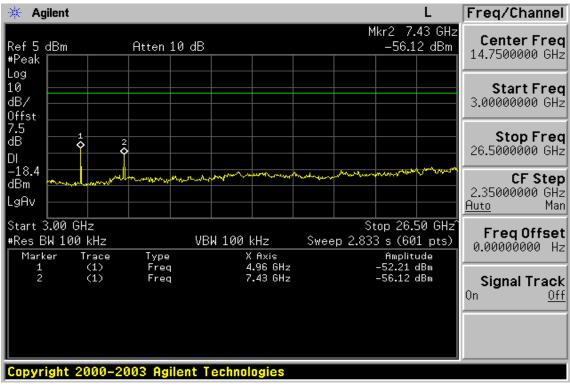
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Ch High 30MHz - 3GHz



Ch High 3GHz – 26.5GHz



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Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode TX CH Low Test Date Jun. 21, 2007

Fundamental Frequency 2402MHz Test By Sky

Temperature Pol Ver./Hor. 25 °C

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)
31.94	V	Peak	50.86	-14.82	36.04	40.00	-3.96
75.59	V	Peak	47.86	-17.13	30.73	40.00	-9.27
96.93	V	Peak	44.19	-17.16	27.03	43.50	-16.47
119.24	V	Peak	39.23	-15.32	23.91	43.50	-19.59
30.00	Н	Peak	48.75	-14.97	33.78	40.00	-6.22
65.89	Н	Peak	45.09	-15.09	30.00	40.00	-10.00
90.14	Н	Peak	39.16	-17.62	21.54	43.50	-21.96
169.68	Н	Peak	34.19	-13.97	20.22	43.50	-23.28

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)

Operation Mode TX CH Mid Test Date Jun. 21, 2007

Fundamental Frequency 2441MHz Test By Sky

Temperature Pol Ver./Hor. 25 °C

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)
31.94	V	Peak	51.63	-14.82	36.81	40.00	-3.19
56.19	V	Peak	42.76	-14.63	28.13	40.00	-11.87
96.93	V	Peak	43.81	-17.16	26.65	43.50	-16.85
158.04	V	Peak	38.71	-13.28	25.43	43.50	-18.07
269.59	V	Peak	37.08	-13.55	23.53	46.00	-22.47
30.00	Н	Peak	48.96	-14.97	33.99	40.00	-6.01
65.89	Н	Peak	45.11	-15.09	30.02	40.00	-9.98
114.39	Н	Peak	45.65	-15.87	29.78	43.50	-13.72
126.03	Н	Peak	40.63	-14.78	25.85	43.50	-17.65

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)

Operation Mode TX CH High **Test Date** Jun. 21, 2007

Fundamental Frequency 2480MHz Test By Sky

Temperature Pol Ver./Hor. 25 °C

Humidity 65 %

Freq.		Detector		_			
(MHz)	Ant.Pol. H/V	Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
31.94	V	Peak	51.77	-14.82	36.95	40.00	-3.05
65.89	V	Peak	43.03	-15.09	27.94	40.00	-12.06
96.93	V	Peak	43.64	-17.16	26.48	43.50	-17.02
179.38	V	Peak	34.48	-14.49	19.99	43.50	-23.51
31.94	Н	Peak	48.80	-14.82	33.98	40.00	-6.02
65.89	Н	Peak	44.45	-15.09	29.36	40.00	-10.64
82.38	Н	Peak	49.66	-17.93	31.73	40.00	-8.27
126.03	Н	Peak	36.72	-14.78	21.94	43.50	-21.56

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 (above 1GHz)

Operation Mode TX CH Low Test Date Jun. 21, 2007

Fundamental Frequency 2402 MHz Test By Sky 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)
4804.0						74.00	54.00	
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 \circ
- (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 °
- (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)

Operation Mode TX CH Low Test Date Jun. 21, 2007

Fundamental Frequency 2402 MHz Test By Sky 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)
4804.0						74.00	54.00	
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 \circ
- (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.
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- (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)

Operation Mode TX CH Mid Test Date Jun. 21, 2007

Fundamental Frequency 2441 MHz Test By Sky 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)
4882.0						74.00	54.00	
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 \circ
- (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)

Operation Mode TX CH Mid Test Date Jun. 21, 2007

Fundamental Frequency 2441 MHz Test By Sky 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)
4882.0	37.48		6.17	43.65		74.00	54.00	-10.35
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 \circ
- (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)

Operation Mode TX CH High Test Date Jun. 21, 2007

Fundamental Frequency 2480 MHz Test By Sky 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)
4960.0	35.44		6.36	41.80		74.00	54.00	-12.20
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	

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency \circ
- (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)

Operation Mode TX CH High Test Date Jun. 21, 2007

Fundamental Frequency 2480 MHz Test By Sky 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)
4960.0	37.46		6.36	43.82		74.00	54.00	-10.18
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	

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency \circ
- (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.
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- (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:

Conducted Emission Test Site							
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.		
TYPE		NUMBER	NUMBER	CAL.			
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/27/2008		
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2006	06/29/2007		
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2006	11/10/2007		
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A		
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2006	10/06/2007		
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2006	10/06/2007		
Splitter	Agilent	Power Biviber	51818	01/05/2007	01/04/2008		

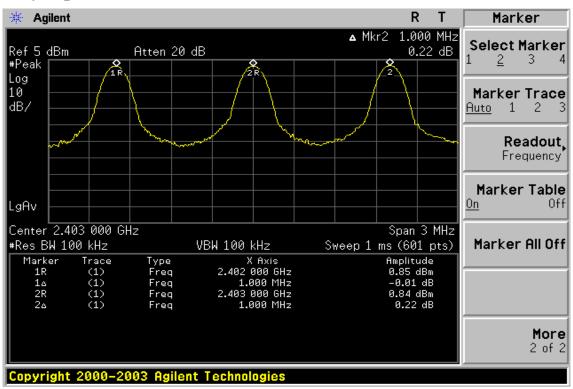
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Frequency Separation Test Data



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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:

	Conducted Emission Test Site							
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.			
TYPE		NUMBER	NUMBER	CAL.				
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2006	06/29/2007			
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2006	11/10/2007			
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A			
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2006	10/06/2007			
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2006	10/06/2007			
Splitter	Agilent	Power Biviber	51818	01/05/2007	01/04/2008			

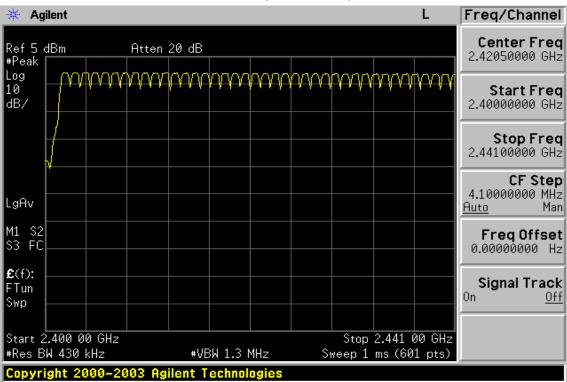


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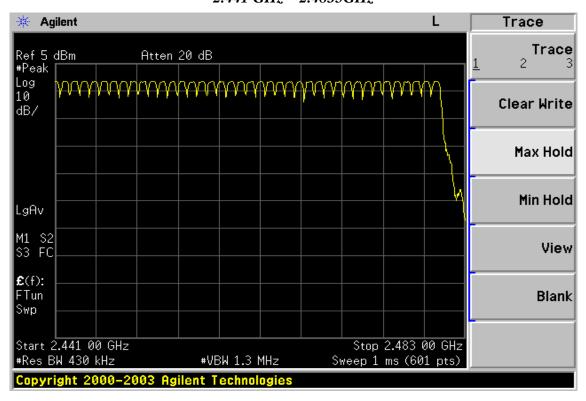
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Channel Number

2.4 GHz - 2.441GHz



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)

DH1 time slot = 0.405 (ms) * (1600/(1*79)) * 31.6 = 259.2 (ms) CH Low:

DH3 time slot = 1.675 (ms) * (1600/(3*79)) * 31.6 = 357.3 (ms)

DH5 time slot = 2.925 (ms) * (1600/(5*79)) * 31.6 = 374.4 (ms)

CH Mid: DH1 time slot = 0.405 (ms) * (1600/(1*79)) * 31.6 = 259.2 (ms)

DH3 time slot = 1.675 (ms) * (1600/(3*79)) * 31.6 = 357.3 (ms)

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

CH High: DH1 time slot = 0.405 (ms) * (1600/(1*79)) * 31.6 = 259.2 (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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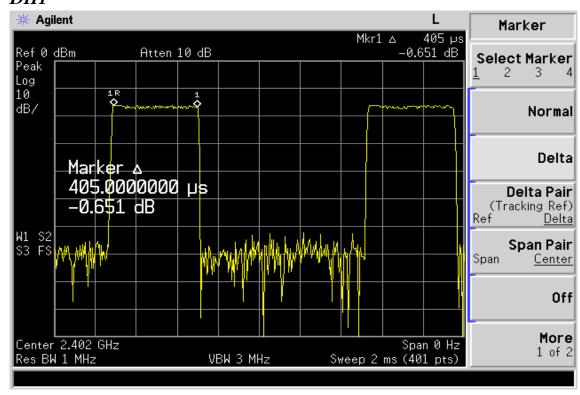
12.4. Measurement Equipment Used:

	Conducted Emission Test Site							
EQUIPMENT	CNT MFR MODEL		SERIAL	LAST	CAL DUE.			
TYPE		NUMBER	NUMBER	CAL.				
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/27/2008			
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2006	06/29/2007			
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2006	11/10/2007			
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A			
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2006	10/06/2007			
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2006	10/06/2007			
Splitter	Agilent	Power Biviber	51818	01/05/2007	01/04/2008			

Dwell Time Test Data

CH-Low

DH1



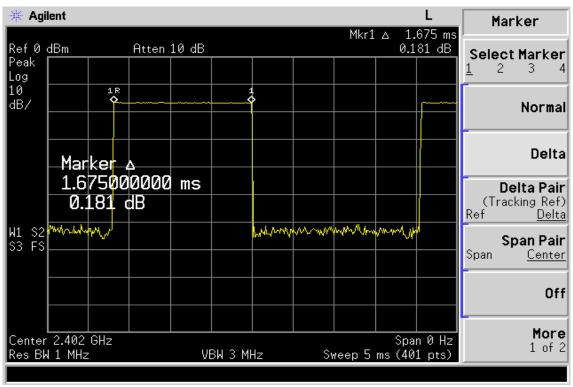
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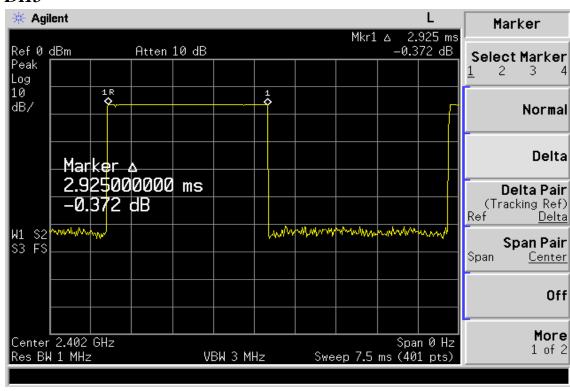
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DH3



DH5



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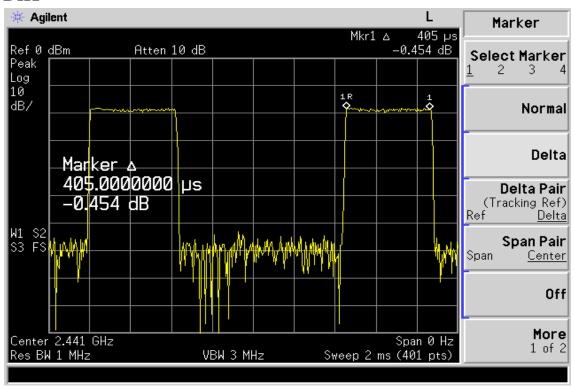


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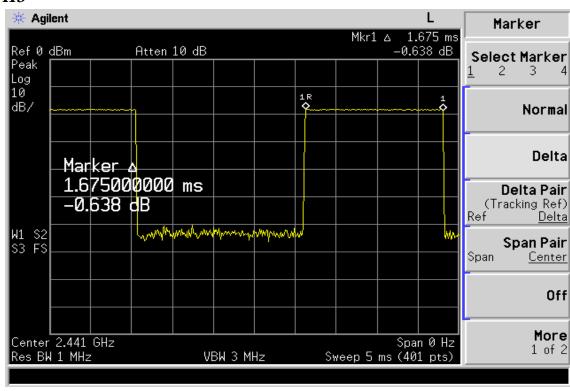
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CH-Mid

DH1



DH3



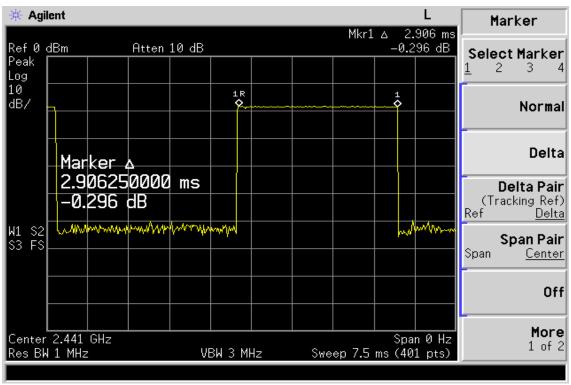
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DH5



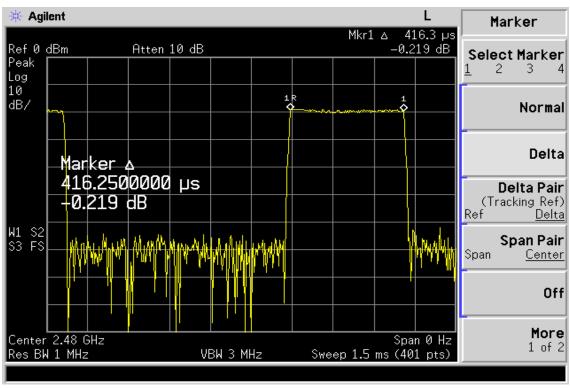


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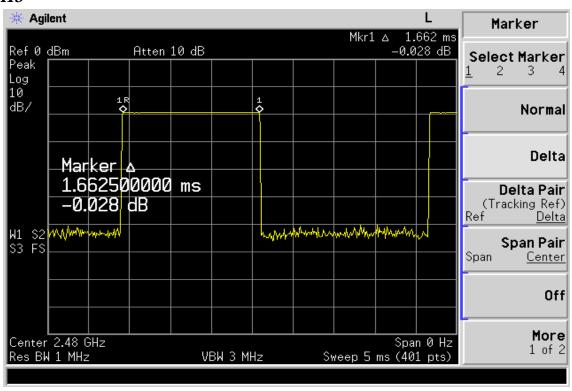
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CH-High

DH1



DH3



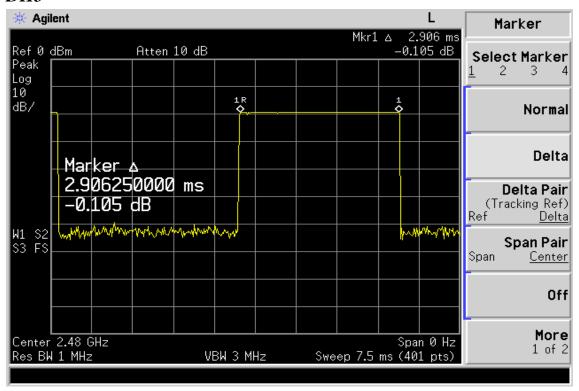
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DH5





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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 = 300KHz, 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
	Reading (dBm)	(dB)	Level (dBm)	(dBm)
Low	-9.14	0.00	-9.14	8
Mid	-9.80	0.00	-9.80	8
High	-9.50	0.00	-9.50	8

*Note: Offset 7.5dB

13.4. Measurement Equipment Used:

13.4. Wieusurement Equipment Oscu.					
Conducted Emission Test Site					
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/27/2007	04/27/2008
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2006	06/29/2007
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2006	11/10/2007
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circult	BW-S10W5	N/A	10/07/2006	10/06/2007
Attenuator	Mini-Circult	BW-S6W5	N/A	10/07/2006	10/06/2007
Splitter	Agilent	Power Biviber	51818	01/05/2007	01/04/2008

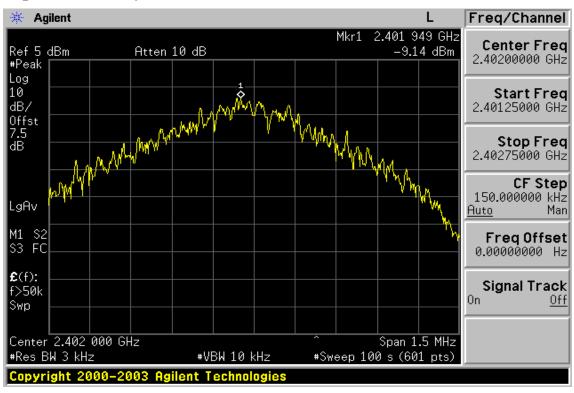
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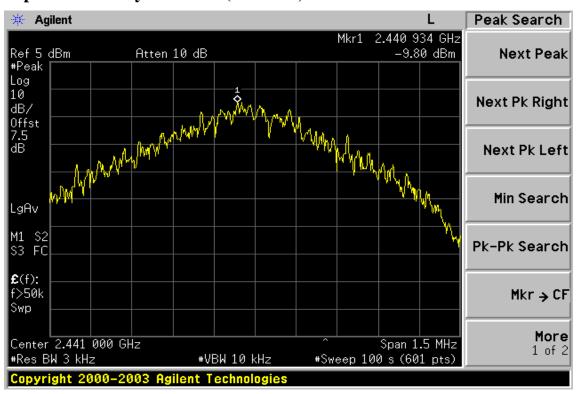
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Power Spectral Density Test Plot (CH-Low)



Power Spectral Density Test Plot (CH-Mid)



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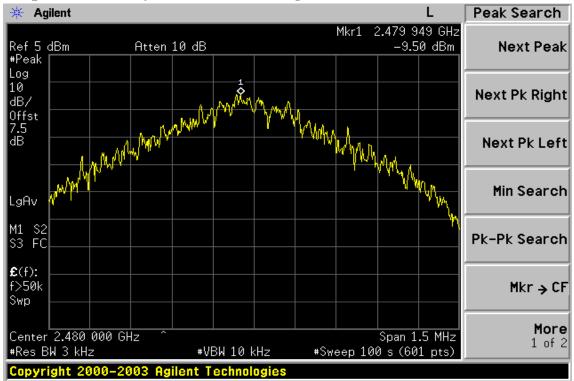
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Power Spectral Density Test Plot (CH-High)





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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 is -3.94 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Please see EUT photo for details.