

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C REQUIREMENT OF

Product Name: GSM 850/1800/1900 mobile phone with BT

Brand Name: Alcatel

Model Name: K7Sa

Market Name: OT-C820a

FCC ID: RAD052

Report No.: ER/2006/C0001

Issue Date: Jan. 08, 2007

FCC Rule Part: §15.247

Prepared for T&A Mobile Phones

4/F, No.2966, Jinke Rd, Zhangjiang
High-Tech Park, Pudong Shanghai
201203.P.R.China

Prepared by: SGS Taiwan Ltd.

No. 134, Wu Kung Rd., Wuku Industrial
Zone, Taipei County, Taiwan.



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VERIFICATION OF COMPLIANCE

Applicant: T&A Mobile Phones
4/F, No.2966, Jinke Rd, Zhangjiang High-Tech Park, Pudong Shanghai
201203.P.R.China

Equipment Under Test: GSM 850/1800/1900 mobile phone with BT

Brand Name: Alcatel

FCC ID Number: RAD052

Model No.: K7Sa

Market name: OT-C820a

Model Difference: N/A

File Number: ER/2006/C0001

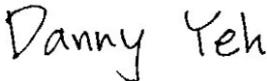
Date of test: Dec. 01, 2006 ~ Jan. 05, 2007

Date of EUT Received: Dec. 01, 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:		Date	Jan. 08, 2007
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	Danny Yeh / Engineer		
Prepared By:		Date	Jan. 08, 2007
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	Eva Kao / St. Engineer		
Approved By:		Date	Jan. 08, 2007
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	Vincent Su / Manager		

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Version

Version No.	Date
00	Dec. 29, 2006
01	Jan. 08, 2007
02	Jan. 22, 2007

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1. GENERAL INFORMATION

1.1. Product Description

Product	GSM 850/1800/1900 mobile phone with BT
Model Name	K7Sa
Market name:	OT-C820a
Model Difference:	N/A
Brand Name	Alcatel
Power Supply	3.7 Vdc re-chargeable battery, or 12Vdc car adaptor model: 3DS11023AAAA or Two 5Vdc by AC/DC power adapters, model S003FU0500040, S003FA0500040, Supplier: ALCATEL

GSM:

Frequency Range and Power	GSM 850: 824MHz –849MHz	33 dBm
	GSM 1900: 1850MHz –1910MHz	30 dBm
Type of Emission	300KGXW	
Software Version	N/A	
Hardware Version	N/A	
IMEI	011045000001778	

Bluetooth:

Frequency Range	2402 – 2480MHz
Channel number	79 channels
Rated Power	2.13 dBm
Modulation type	Frequency Hopping Spread Spectrum (FHSS)
Antenna Designation	Chip Antenna, -4.5 dBi

The EUT is compliance with Bluetooth Standard.

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

This submittal(s) (test report) is intended for **FCC ID: RAD052** 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.

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 placed on a 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 30 MHz using CISPR Quasi-Peak and Average detector mode.

2.3.2 Radiated Emissions

The EUT is placed on a 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.

2.4. Configuration of Tested System

Fig. 2-1 Configuration of Tested System (Fixed Channel)

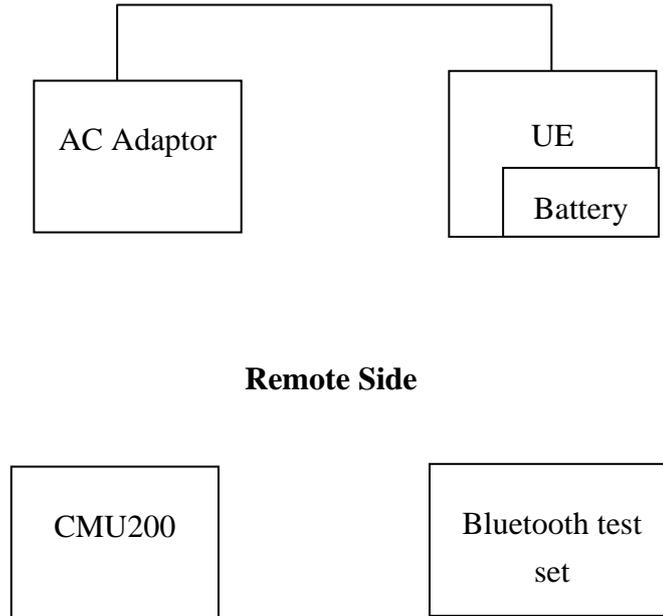


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1	Universal Radio Communication Tester	R&S	CMU200	102189	shielded	Un-shielded
2	Bluetooth test set	Anritsu	MT8852A	6K00001436	shielded	Un-shielded

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 Frequency Band Edges	Compliant
§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, §15.247(b)(4)(i)	Antenna Requirement	Compliant

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.

All test ware carried out for worst case adaptor: S003FU0500040

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 MHz	Limits dB(uV)	
	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

- 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.

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.

5.4. Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EMC Analyzer	HP	8594EM	3624A00203	09/02/2006	09/03/2007
EMI Test Receiver	R&S	ESCS30	828985/004	06/09/2006	06/10/2007
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	01/10/2006	01/09/2007
Coaxial Cables	FCC	FCC-LISN-50/250-25-2-01	04034	1/11/2006	01/10/2007

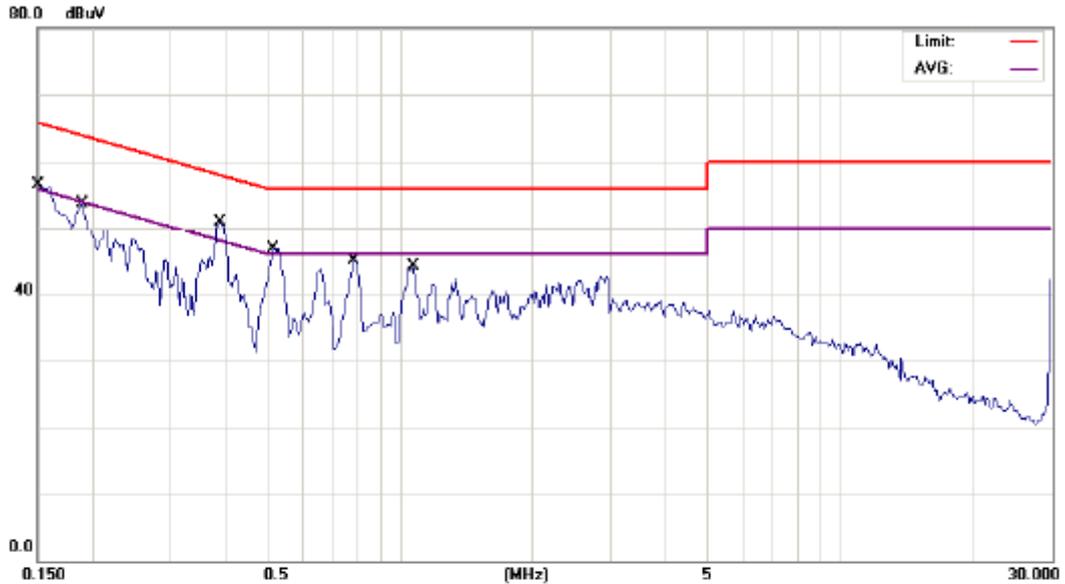
5.5. Measurement Result

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.

AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	GSM 850 +BT LINK		Test Date:	Dec. 05, 2006	
Temperature:	25 °C	Humidity:	62 %	Test By:	Denny
Adaptor:	S003FU0500040				

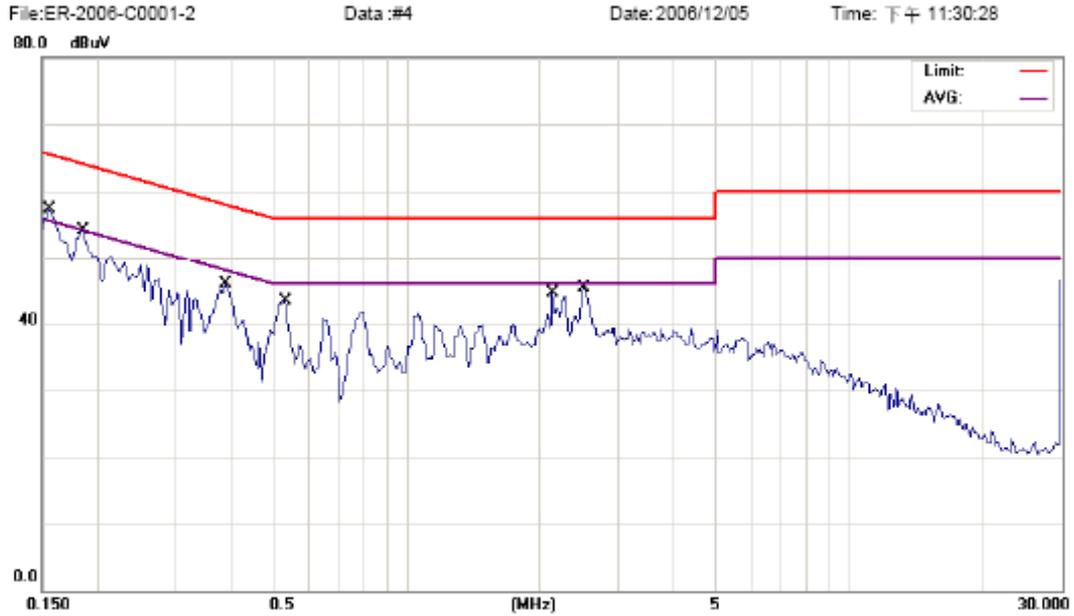
File:ER-2006-C0001-2 Data :#3 Date:2006/12/05 Time: 下午 11:22:01



Site SGS CONDUCTED #1 Phase: L1 Temperature: 25 °C
 Limit: CISPR22 Class B Conduction(QP) Power: AC 120V/60Hz Humidity: 62 %
 EUT: GSM 850/1800/1900 mobile phone Distance: Air Pressure: hpa
 M/N: k7sa
 Note: gsm850 link +bt

No.	Mk.	Freq.	Reading Level	Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1500	48.50	0.10	48.60	66.00	-17.40	QP	
2		0.1500	29.20	0.10	29.30	56.00	-26.70	AVG	
3		0.1900	41.00	0.12	41.12	64.04	-22.92	QP	
4		0.1900	20.00	0.12	20.12	54.04	-33.92	AVG	
5	*	0.3900	48.40	0.12	48.52	58.06	-9.54	QP	
6		0.3900	37.00	0.12	37.12	48.06	-10.94	AVG	
7		0.5150	43.00	0.12	43.12	56.00	-12.88	QP	
8		0.5150	34.00	0.12	34.12	46.00	-11.88	AVG	
9		0.7850	42.00	0.11	42.11	56.00	-13.89	QP	
10		0.7850	31.50	0.11	31.61	46.00	-14.39	AVG	
11		1.0700	41.00	0.11	41.11	56.00	-14.89	QP	
12		1.0700	29.00	0.11	29.11	46.00	-16.89	AVG	

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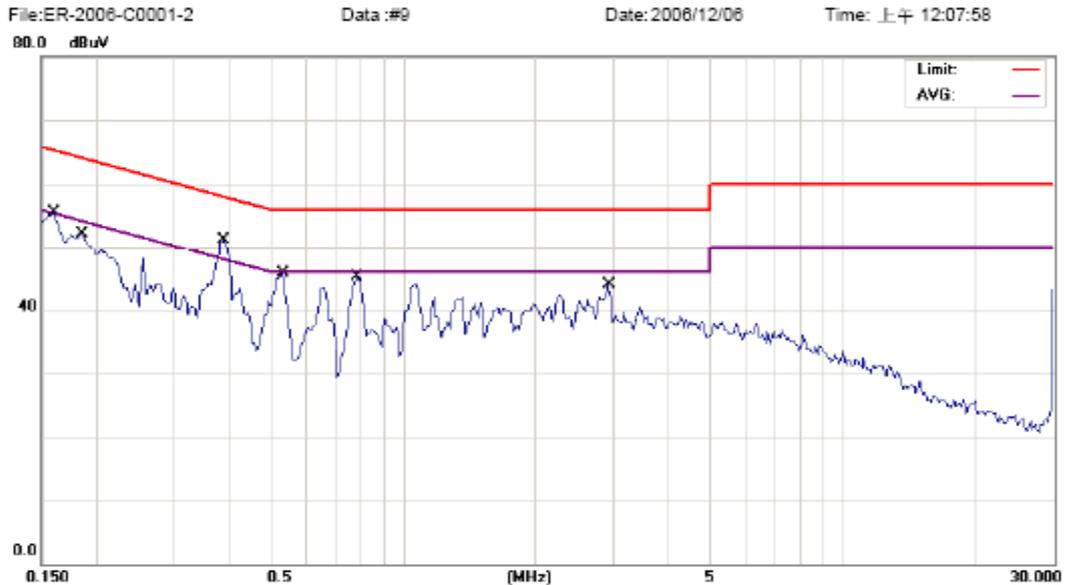
Site: SGS CONDUCTED #1 Phase: **N** Temperature: 25 °C
 Limit: CISPR22 Class B Conduction(QP) Power: AC 120V/60Hz Humidity: 62 %
 EUT: GSM 850/1800/1900 mobile phone Distance: Air Pressure: hpa
 M/N: k7sa
 Note: gsm850 link +bt

No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1550	46.00	0.10	46.10	65.73	-19.63	QP	
2		0.1550	32.50	0.10	32.60	55.73	-23.13	AVG	
3		0.1850	44.40	0.11	44.51	64.26	-19.75	QP	
4		0.1850	24.10	0.11	24.21	54.26	-30.05	AVG	
5		0.3900	43.50	0.12	43.62	58.06	-14.44	QP	
6		0.3900	33.00	0.12	33.12	48.06	-14.94	AVG	
7	*	0.5300	41.80	0.12	41.92	56.00	-14.08	QP	
8		0.5300	30.60	0.12	30.72	46.00	-15.28	AVG	
9		2.1350	36.90	0.15	37.05	56.00	-18.95	QP	
10		2.1350	24.70	0.15	24.85	46.00	-21.15	AVG	
11		2.5250	40.70	0.17	40.87	56.00	-15.13	QP	
12		2.5250	28.40	0.17	28.57	46.00	-17.43	AVG	

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AC POWER LINE CONDUCTED EMISSION TEST DATA

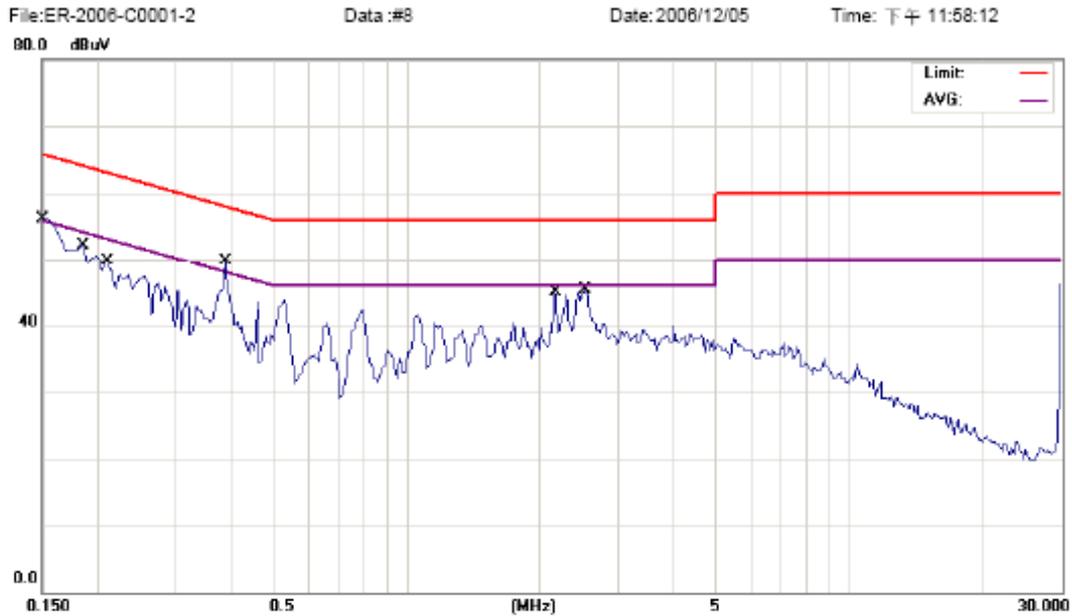
Operation Mode:	GSM 1900 +BT LINK		Test Date:	Dec. 05, 2006	
Temperature:	25 °C	Humidity:	62 %	Test By:	Denny
Adaptor:	S003FU0500040				



Site	SGS CONDUCTED #1	Phase:	L1	Temperature:	25 °C
Limit:	CISPR22 Class B Conduction(QP)	Power:	AC 120V/60Hz	Humidity:	62 %
EUT:	GSM 850/1800/1900 mobile phone	Distance:		Air Pressure:	hpa
M/N:	k7sa				
Note:	gsm1900 link +bt				

No.	Mk.	Freq.	Reading Level	Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1600	43.80	0.10	43.90	65.46	-21.56	QP	
2		0.1600	25.70	0.10	25.80	55.46	-29.66	AVG	
3		0.1850	41.80	0.11	41.91	64.26	-22.35	QP	
4		0.1850	21.00	0.11	21.11	54.26	-33.15	AVG	
5	*	0.3900	47.80	0.12	47.92	58.06	-10.14	QP	
6		0.3900	36.80	0.12	36.92	48.06	-11.14	AVG	
7		0.5300	42.30	0.12	42.42	56.00	-13.58	QP	
8		0.5300	32.30	0.12	32.42	46.00	-13.58	AVG	
9		0.7850	41.10	0.11	41.21	56.00	-14.79	QP	
10		0.7850	32.00	0.11	32.11	46.00	-13.89	AVG	
11		2.9450	38.20	0.20	38.40	56.00	-17.60	QP	
12		2.9450	26.20	0.20	26.40	46.00	-19.60	AVG	

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Site SGS CONDUCTED #1 Phase: **N** Temperature: 25 °C
 Limit: CISPR22 Class B Conduction(QP) Power: AC 120V/60Hz Humidity: 62 %
 EUT: GSM 850/1800/1900 mobile phone Distance: Air Pressure: hpa
 M/N: k7sa
 Note: gsm1900 link +bt

No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1500	47.00	0.10	47.10	66.00	-18.90	QP	
2		0.1500	32.90	0.10	33.00	56.00	-23.00	AVG	
3		0.1850	44.30	0.11	44.41	64.26	-19.85	QP	
4		0.1850	22.20	0.11	22.31	54.26	-31.95	AVG	
5		0.2100	43.90	0.12	44.02	63.21	-19.19	QP	
6		0.2100	26.50	0.12	26.62	53.21	-26.59	AVG	
7		0.3900	40.30	0.12	40.42	58.06	-17.64	QP	
8		0.3900	28.60	0.12	28.72	48.06	-19.34	AVG	
9		2.1650	38.00	0.15	38.15	56.00	-17.85	QP	
10		2.1650	24.90	0.15	25.05	46.00	-20.95	AVG	
11	*	2.5400	40.70	0.18	40.88	56.00	-15.12	QP	
12		2.5400	24.40	0.18	24.58	46.00	-21.42	AVG	

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AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	GSM 850 +BT LINK		Test Date:	Jan. 05, 2007	
Temperature:	25 °C	Humidity:	62 %	Test By:	Denny
Adaptor:	S003FA0500040				

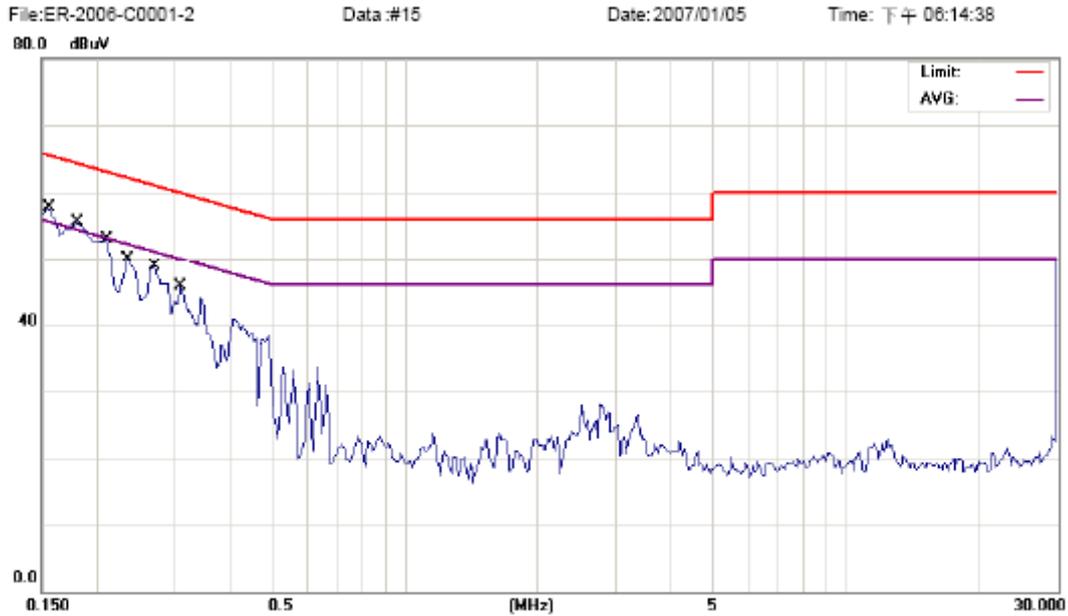
File:ER-2006-C0001-2 Data: #16 Date: 2007/01/05 Time: 下午 06:21:28



Site: SGS CONDUCTED #1	Phase: L1	Temperature: 25 °C
Limit: CISPR22 Class B Conduction(QP)	Power: AC 120V/60Hz	Humidity: 62 %
EUT: GSM 850/1800/1900 mobile phone	Distance:	Air Pressure: hpa
M/N: k7sa		
Note: gsm850 link +bt link (澳規)		

No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1550	43.07	0.46	43.53	65.73	-22.20	QP	
2		0.1550	16.94	0.46	17.40	55.73	-38.33	AVG	
3	*	0.1750	42.11	0.48	42.59	64.72	-22.13	QP	
4		0.1750	16.20	0.48	16.68	54.72	-38.04	AVG	
5		0.1850	39.89	0.50	40.39	64.26	-23.87	QP	
6		0.1850	13.93	0.50	14.43	54.26	-39.83	AVG	
7		0.2050	38.42	0.52	38.94	63.41	-24.47	QP	
8		0.2050	12.42	0.52	12.94	53.41	-40.47	AVG	
9		0.2200	35.38	0.53	35.91	62.82	-26.91	QP	
10		0.2200	8.60	0.53	9.13	52.82	-43.69	AVG	
11		0.2300	34.41	0.54	34.95	62.45	-27.50	QP	
12		0.2300	11.57	0.54	12.11	52.45	-40.34	AVG	

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Site: SGS CONDUCTED #1 Phase: N Temperature: 25 °C
 Limit: CISPR22 Class B Conduction(QP) Power: AC 120V/60Hz Humidity: 62 %
 EUT: GSM 850/1800/1900 mobile phone Distance: Air Pressure: hpa
 M/N: k7sa
 Note: gsm850 link +bt link (澳規)

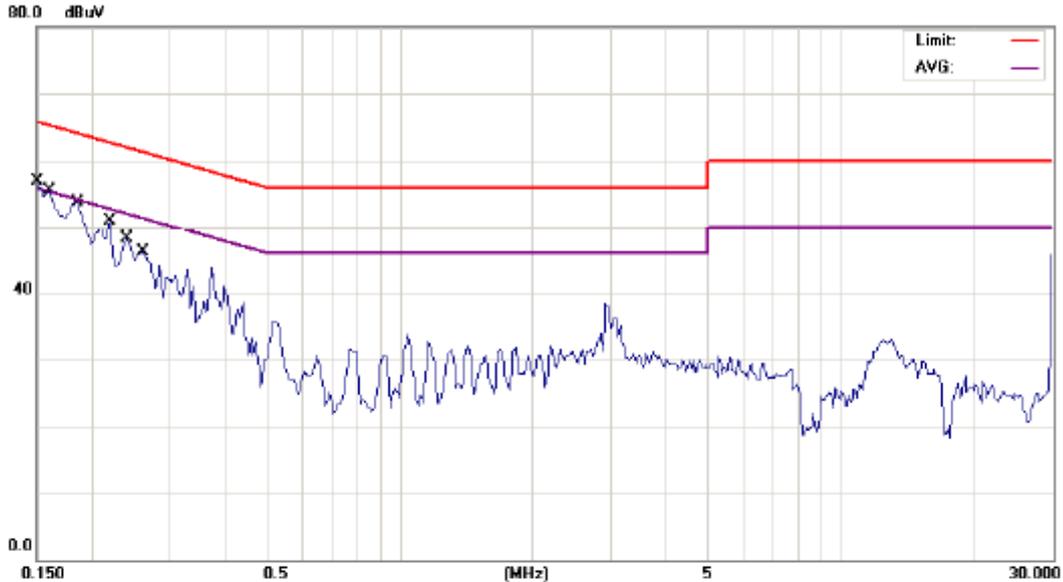
No.	Mk.	Freq. MHz	Reading Level dBµV	Factor dB	Measure- ment dBµV	Limit dBµV	Over dB	Detector	Comment
1	*	0.1550	45.33	0.46	45.79	65.73	-19.94	QP	
2		0.1550	19.25	0.46	19.71	55.73	-36.02	AVG	
3		0.1800	43.67	0.49	44.16	64.49	-20.33	QP	
4		0.1800	18.68	0.49	19.17	54.49	-35.32	AVG	
5		0.2100	38.12	0.53	38.65	63.21	-24.56	QP	
6		0.2100	11.97	0.53	12.50	53.21	-40.71	AVG	
7		0.2350	35.10	0.54	35.64	62.27	-26.63	QP	
8		0.2350	12.43	0.54	12.97	52.27	-39.30	AVG	
9		0.2700	32.09	0.56	32.65	61.12	-28.47	QP	
10		0.2700	10.75	0.56	11.31	51.12	-39.81	AVG	
11		0.3100	27.34	0.57	27.91	59.97	-32.06	QP	
12		0.3100	11.06	0.57	11.63	49.97	-38.34	AVG	

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AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	GSM 1900 +BT LINK		Test Date:	Jan. 05, 2007	
Temperature:	25 °C	Humidity:	62 %	Test By:	Denny
Adaptor:	S003FA0500040				

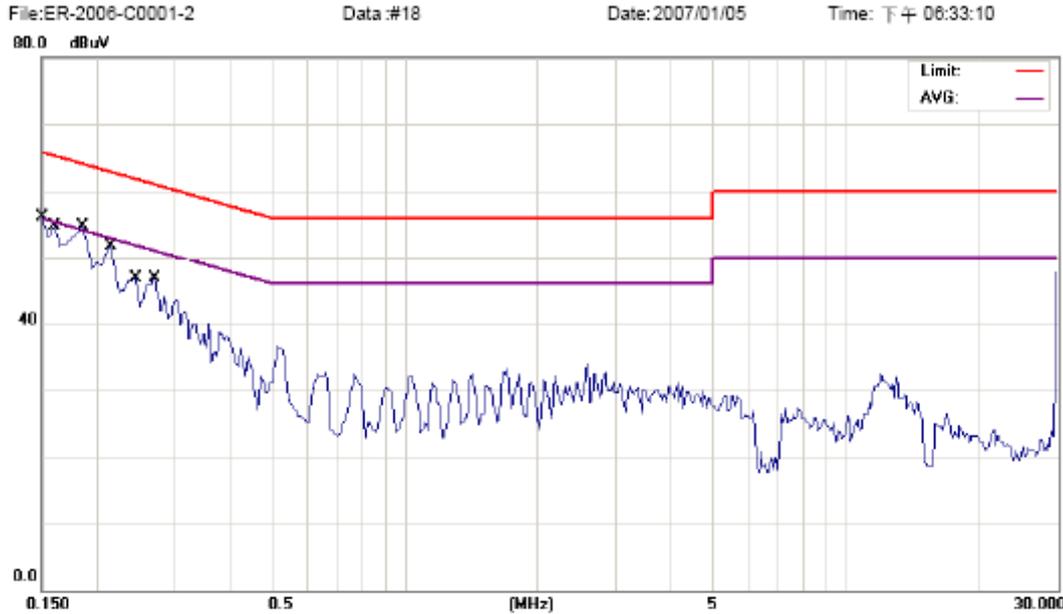
File:ER-2006-C0001-2 Data :#17 Date:2007/01/05 Time: 下午 06:26:25



Site: SGS CONDUCTED #1	Phase: L1	Temperature: 25 °C
Limit: CISPR22 Class B Conduction(QP)	Power: AC 120V/60Hz	Humidity: 62 %
EUT: GSM 850/1800/1900 mobile phone	Distance:	Air Pressure: hpa
M/N: k7sa		
Note: gsm 1900 link +bt link (澳規)		

No.	Mk.	Freq.	Reading Level	Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1	*	0.1500	46.77	0.45	47.22	66.00	-18.78	QP	
2		0.1500	30.04	0.45	30.49	56.00	-25.51	AVG	
3		0.1600	44.25	0.46	44.71	65.46	-20.75	QP	
4		0.1600	27.46	0.46	27.92	55.46	-27.54	AVG	
5		0.1850	42.88	0.50	43.38	64.26	-20.88	QP	
6		0.1850	21.56	0.50	22.06	54.26	-32.20	AVG	
7		0.2200	38.68	0.53	39.21	62.82	-23.61	QP	
8		0.2200	17.90	0.53	18.43	52.82	-34.39	AVG	
9		0.2400	39.21	0.54	39.75	62.10	-22.35	QP	
10		0.2400	25.00	0.54	25.54	52.10	-26.56	AVG	
11		0.2600	41.35	0.55	41.90	61.43	-19.53	QP	
12		0.2600	27.10	0.55	27.65	51.43	-23.78	AVG	

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Site: SGS CONDUCTED #1 Phase: **N** Temperature: 25 °C
 Limit: CISPR22 Class B Conduction(QP) Power: AC 120V/60Hz Humidity: 62 %
 EUT: GSM 850/1800/1900 mobile phone Distance: Air Pressure: hpa
 M/N: k7sa
 Note: gsm 1900 link +bt link (澳規)

No.	Mk.	Freq. MHz	Reading Level dBuV	Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1500	46.87	0.45	47.32	66.00	-18.68	QP	
2		0.1500	32.09	0.45	32.54	56.00	-23.46	AVG	
3		0.1600	43.91	0.46	44.37	65.46	-21.09	QP	
4		0.1600	29.35	0.46	29.81	55.46	-25.65	AVG	
5		0.1850	42.86	0.50	43.36	64.26	-20.90	QP	
6		0.1850	21.66	0.50	22.16	54.26	-32.10	AVG	
7		0.2150	40.02	0.53	40.55	63.01	-22.46	QP	
8		0.2150	19.38	0.53	19.91	53.01	-33.10	AVG	
9		0.2450	36.71	0.54	37.25	61.92	-24.67	QP	
10		0.2450	18.48	0.54	19.02	51.92	-32.90	AVG	
11		0.2700	34.94	0.56	35.50	61.12	-25.62	QP	
12		0.2700	19.64	0.56	20.20	51.12	-30.92	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	2.13	0.00	2.13	0.00163	1
2441.00	1.86	0.00	1.86	0.00153	1
2480.00	1.80	0.00	1.80	0.00151	1

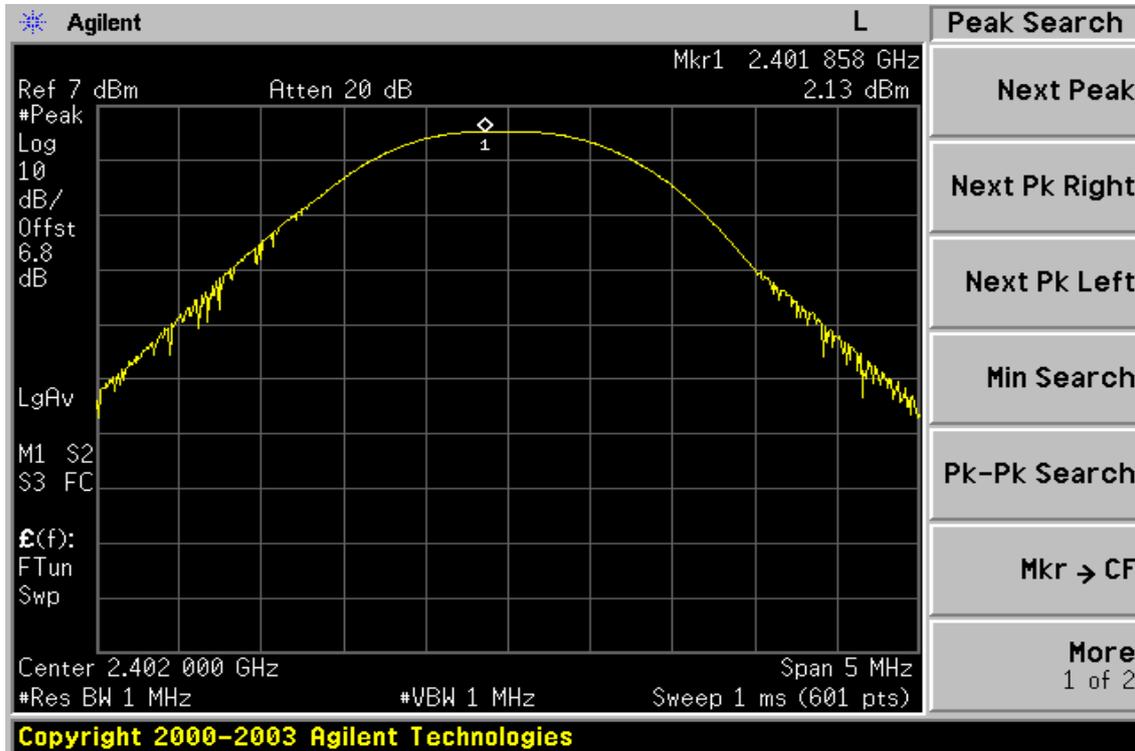
Note: This data was offset 6.8dB.

6.4. Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
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-Circuit	BW-S10W5	N/A	10/07/2006	10/06/2007
Attenuator	Mini-Circuit	BW-S6W5	N/A	10/07/2006	10/06/2007
Splitter	Agilent	Power Biviber	51818	01/05/2006	01/04/2007

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Peak Power Output Data Plot (CH Low)

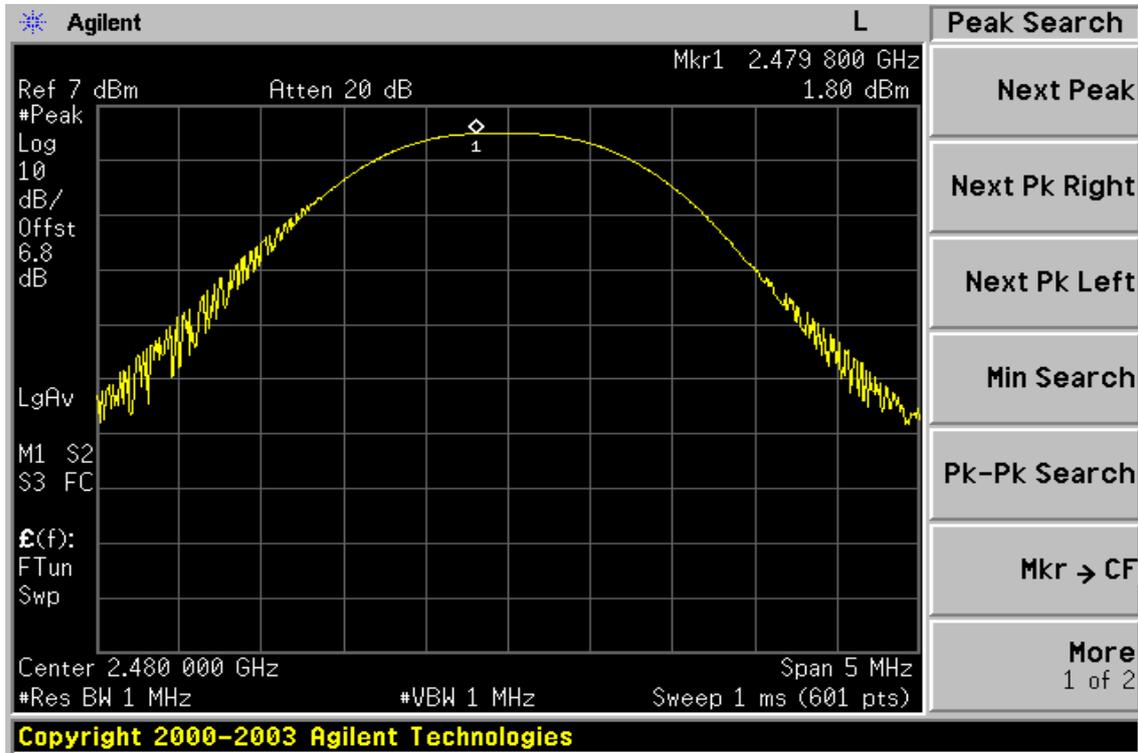


Peak Power Output Data Plot (CH Mid)



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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

CH	Bandwidth
	(kHz)
Lower	885.215
Mid	831.500
Higher	885.276

7.4. Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
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-Circuit	BW-S10W5	N/A	10/07/2006	10/06/2007
Attenuator	Mini-Circuit	BW-S6W5	N/A	10/07/2006	10/06/2007
Splitter	Agilent	Power Biviber	51818	01/05/2006	01/04/2007

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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 is 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

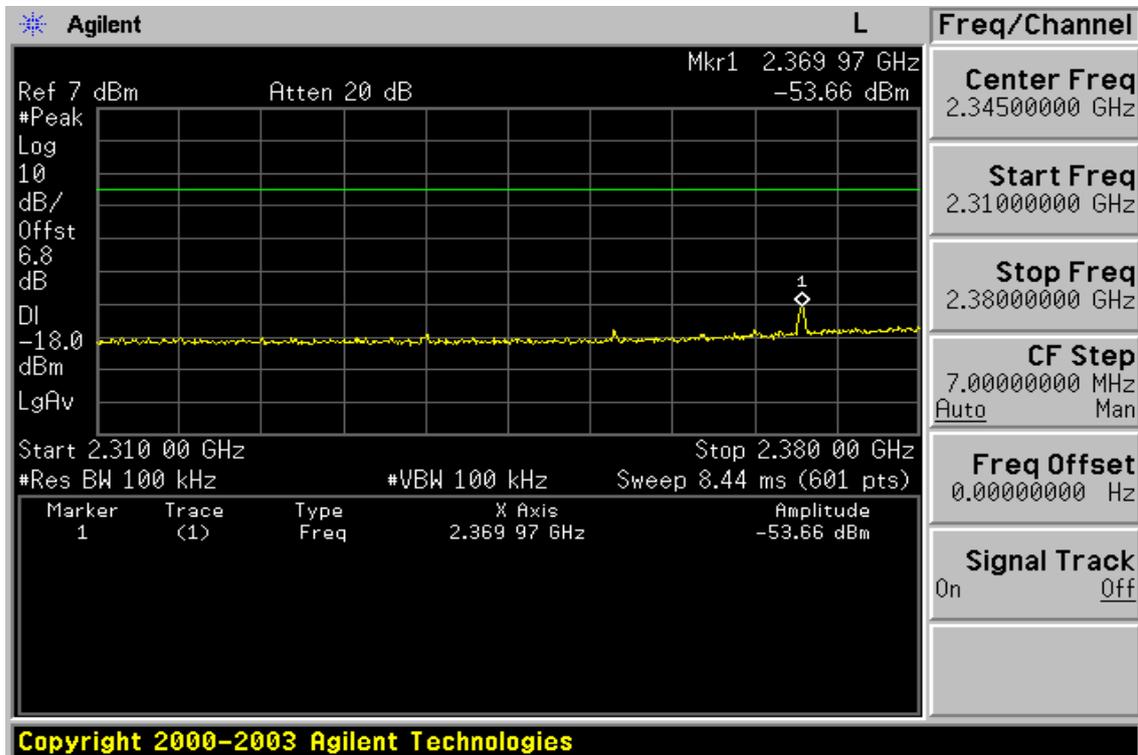
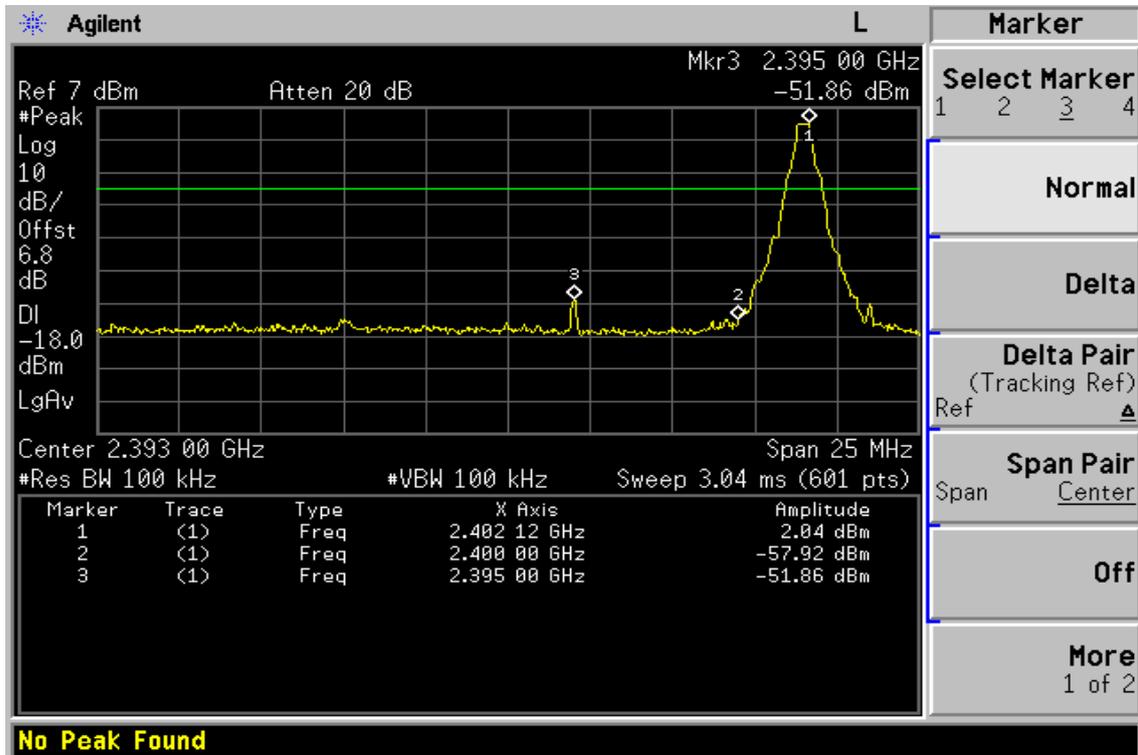
Refer to attach spectrum analyzer data chart.

8.4. Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
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-Circuit	BW-S10W5	N/A	10/07/2006	10/06/2007
Attenuator	Mini-Circuit	BW-S6W5	N/A	10/07/2006	10/06/2007
Splitter	Agilent	Power Biviber	51818	01/05/2006	01/04/2007

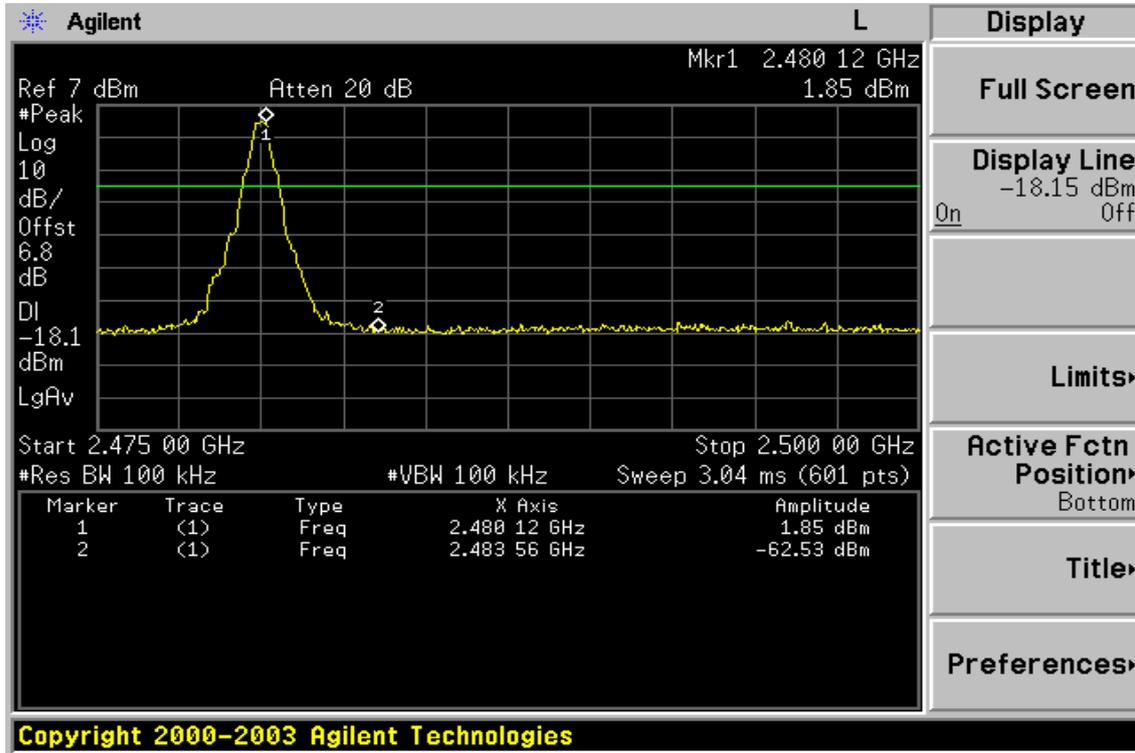
Note: Measurement Equipment for radiated emission refers to section 9.

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	Dec. 26, 2006
Fundamental Frequency	2402 MHz	Test By	Danny
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2369.97	35.20	---	-1.46	33.74	---	74.00	54.00	-20.26	Peak
2395.05	34.83	---	-1.36	33.47	---	74.00	54.00	-20.53	Peak

Operation Mode	TX CH Low	Test Date	Dec. 26, 2006
Fundamental Frequency	2402 MHz	Test By	Danny
Temperature	25 °C	Pol	Hor.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2369.97	39.26	---	-1.46	37.80	---	74.00	54.00	-16.20	Peak
2395.05	35.28	---	-1.36	33.92	---	74.00	54.00	-20.08	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 ◦
- (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.

Radiated Emission:

Operation Mode	TX CH High	Test Date	Dec. 26, 2006
Fundamental Frequency	2480 MHz	Test By	Danny
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2483.56	33.92	---	-0.92	33.00	---	74.00	54.00	-21.00	Peak

Operation Mode	TX CH High	Test Date	Dec. 26, 2006
Fundamental Frequency	2480 MHz	Test By	Danny
Temperature	25 °C	Pol	Hor.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2483.56	34.23	---	-0.92	33.31	---	74.00	54.00	-20.69	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 ◦
- (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.

Radiated Emission: (Co-Location BT H Plan CH Low / GSM 850 High)

Operation Mode	BT H Plan CH Low / GSM 850 High	Test Date	Dec. 26, 2006
Fundamental Frequency	2402 MHz / 848.80MHz	Test By	Danny
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2394.98	42.80	---	-1.36	41.44	---	74.00	54.00	-12.56	Peak

Operation Mode	BT H Plan CH Low / GSM 850 High	Test Date	Dec. 26, 2006
Fundamental Frequency	2402 MHz / 848.80MHz	Test By	Danny
Temperature	25 °C	Pol	Hor.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2394.98	41.78	---	-1.36	40.42	---	74.00	54.00	-13.58	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 ◦
- (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.

Radiated Emission: (Co-Location BT H Plan CH High / GSM 850 High)

Operation Mode	BT H Plan CH High / GSM 850 High	Test Date	Dec. 26, 2006
Fundamental Frequency	2480 MHz / 848.80MHz	Test By	Danny
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2483.56	33.46	---	-0.92	32.54	---	74.00	54.00	-21.46	Peak

Operation Mode	BT H Plan CH High / GSM 850 High	Test Date	Dec. 26, 2006
Fundamental Frequency	2480 MHz / 848.80MHz	Test By	Danny
Temperature	25 °C	Pol	Hor.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2483.56	34.53	---	-0.92	33.61	---	74.00	54.00	-20.39	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 °
- (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.

Radiated Emission: (Co-Location BT H Plan CH Low / GSM 1900 Low)

Operation Mode	BT H Plan CH Low / GSM 1900 Low	Test Date	Dec. 26, 2006
Fundamental Frequency	2402MHz / 1850.20MHz	Test By	Danny
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2394.98	42.67	---	-1.36	41.31	---	74.00	54.00	-12.69	Peak

Operation Mode	BT H Plan CH Low / GSM 1900 Low	Test Date	Dec. 26, 2006
Fundamental Frequency	2402MHz / 1850.20MHz	Test By	Danny
Temperature	25 °C	Pol	Hor.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2394.98	42.15	---	-1.36	40.79	---	74.00	54.00	-13.21	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 ◦
- (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.

Radiated Emission: (Co-Location BT H Plan CH High / GSM1900 Low)

Operation Mode	BT H Plan CH High / GSM 1900 Low	Test Date	Dec. 26, 2006
Fundamental Frequency	2480 MHz / 1850.20MHz	Test By	Danny
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2483.56	34.34	---	-0.92	33.42	---	74.00	54.00	-20.58	Peak

Operation Mode	BT H Plan CH High / GSM 1900 Low	Test Date	Dec. 26, 2006
Fundamental Frequency	2480 MHz / 1850.20MHz	Test By	Danny
Temperature	25 °C	Pol	Hor.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Ant./CL CF(dB)	Actual FS		Peak	AV	Margin (dB)	Remark
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
2483.56	34.75	---	-0.92	33.83	---	74.00	54.00	-20.17	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 ◦
- (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.

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

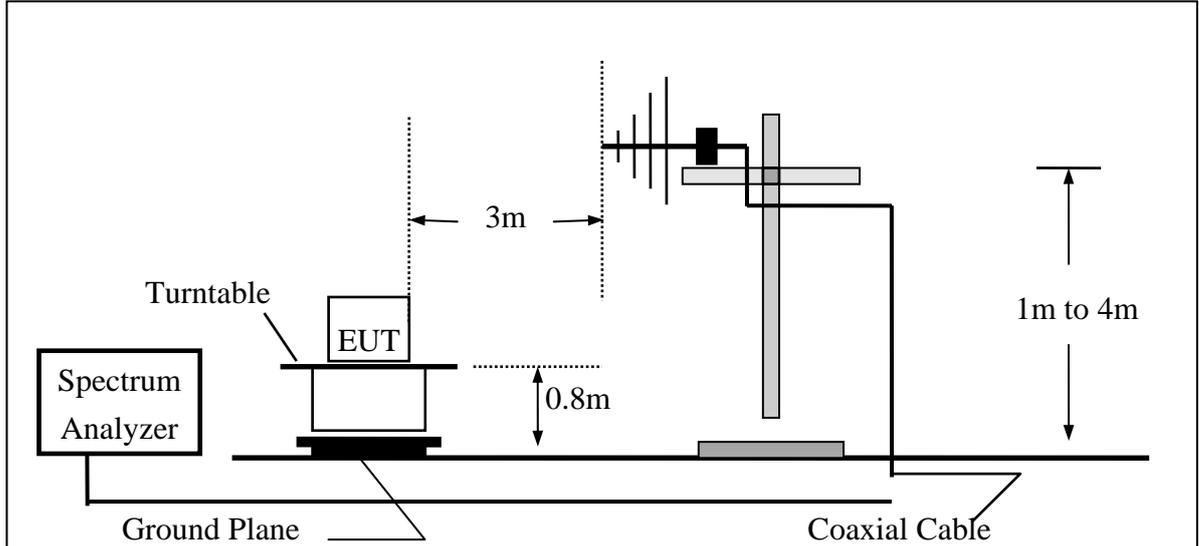
1. The radiated emission tests were performed in the 3 meter open-test site, using the setup in accordance with the ANSI C63.4-2003.
2. The EUT was put in the front of the test table. The peripherals was placed on the side of the host system. The rear of the EUT and peripherals were placed flushed with 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

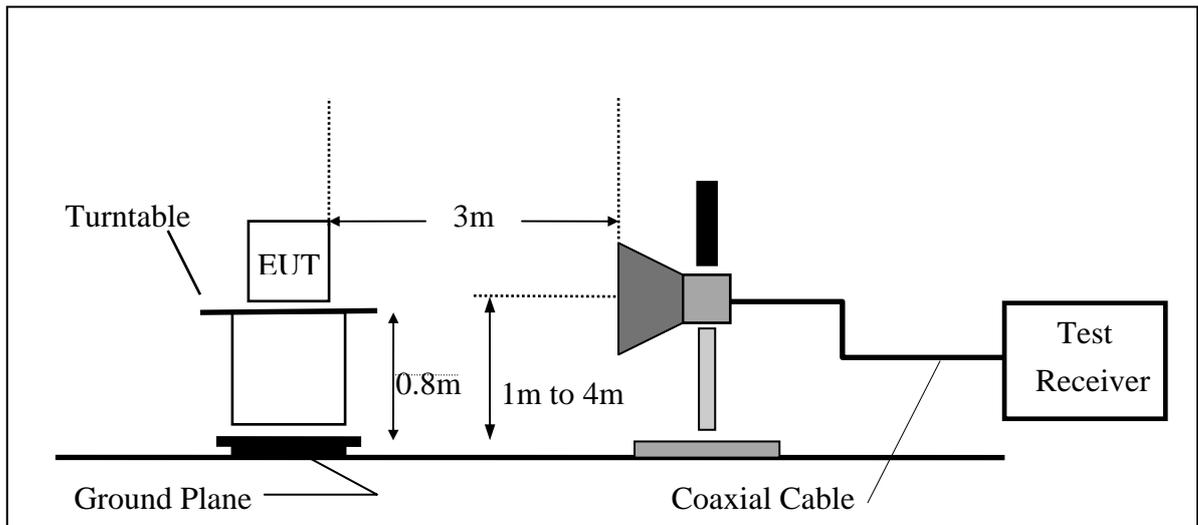
1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was 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.

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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9.5. Measurement Equipment Used:

966 Chamber					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	R&S	FSP 40	100034	05/27/2006	05/26/2007
Spectrum Analyzer	Agilent	E7405A	US41160416	08/27/2006	08/26/2007
Bilog Antenna	SCHWAZBECK	VULB9163	152	06/03/2006	06/02/2007
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	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	10/09/2006	10/08/2007
Low Loss Cable	HUBER+SUHNER	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:

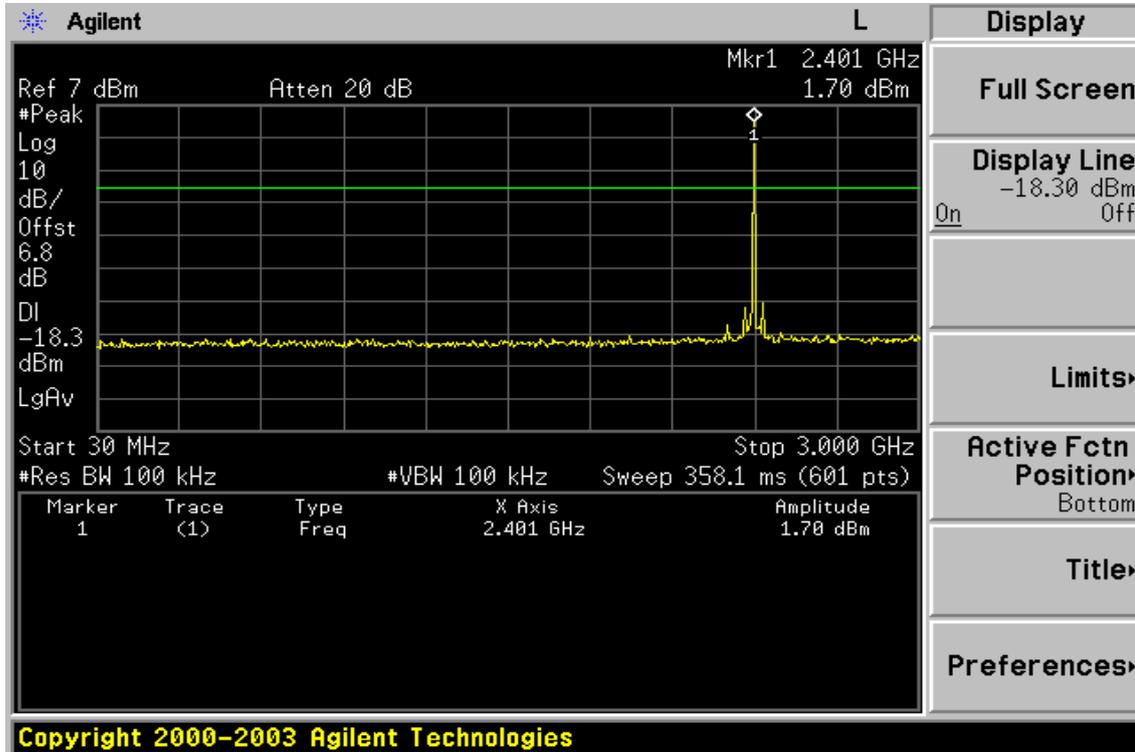
$$FS = RA + AF + CL - AG$$

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

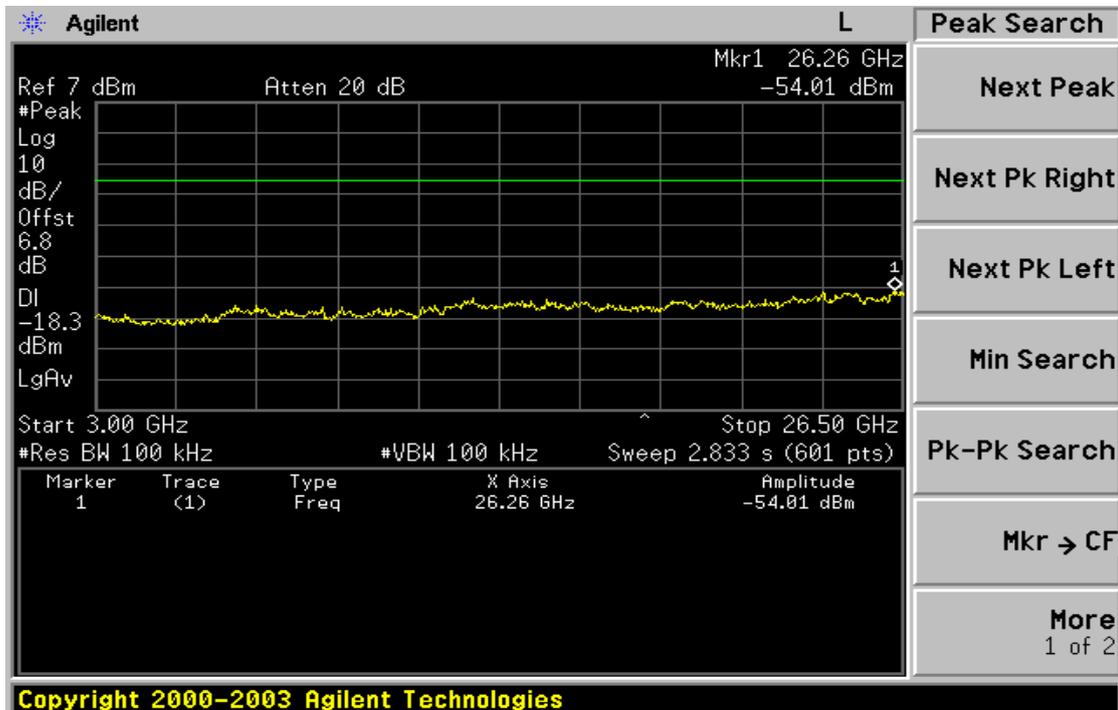
9.7. Measurement Result

Refer to attach tabular data sheets.

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

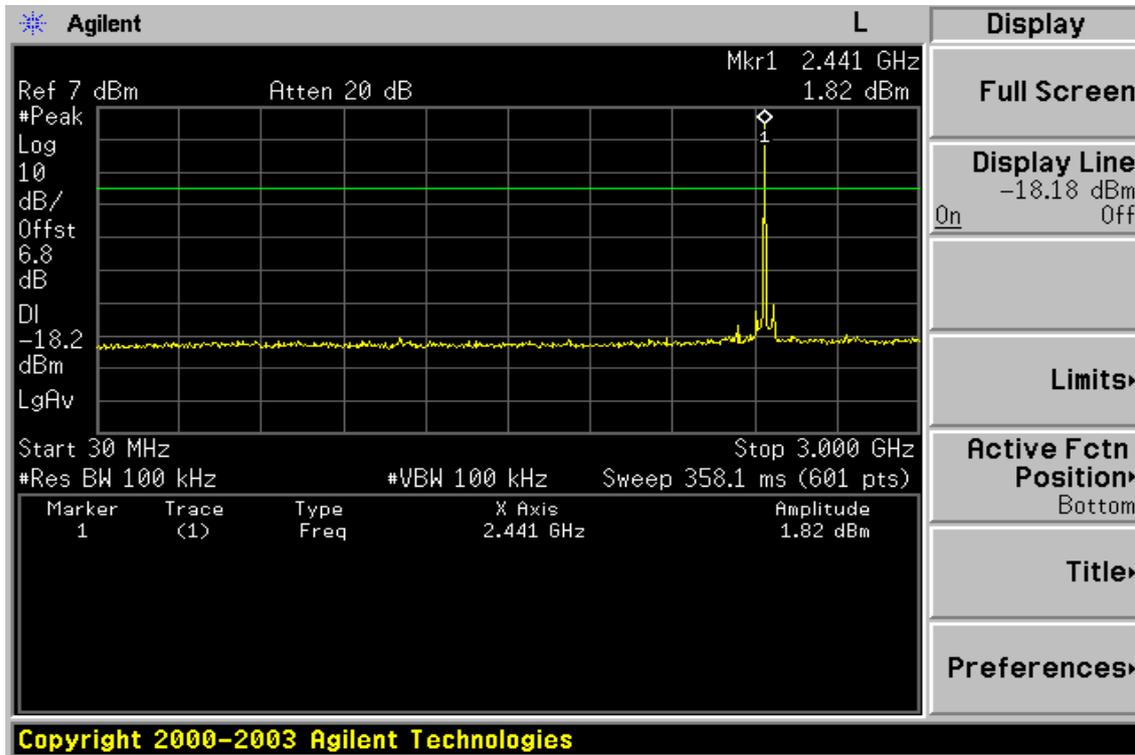


Ch Low 3GHz – 26.5GHz

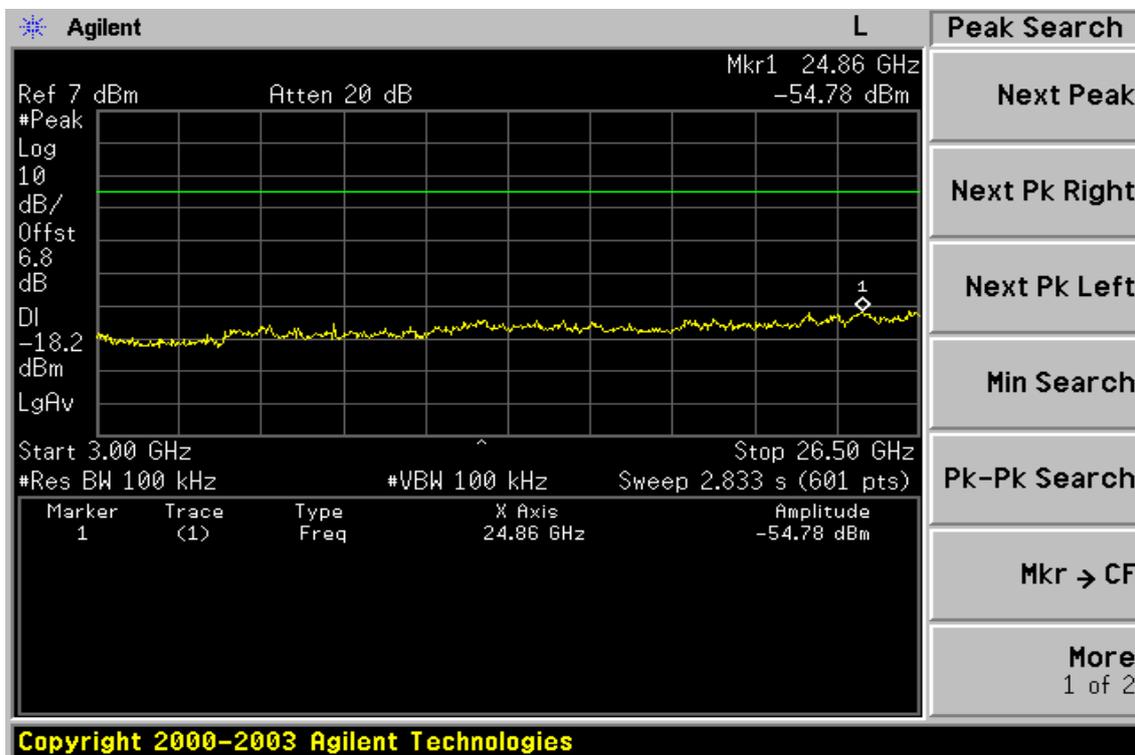


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Ch Mid 30MHz – 3GHz

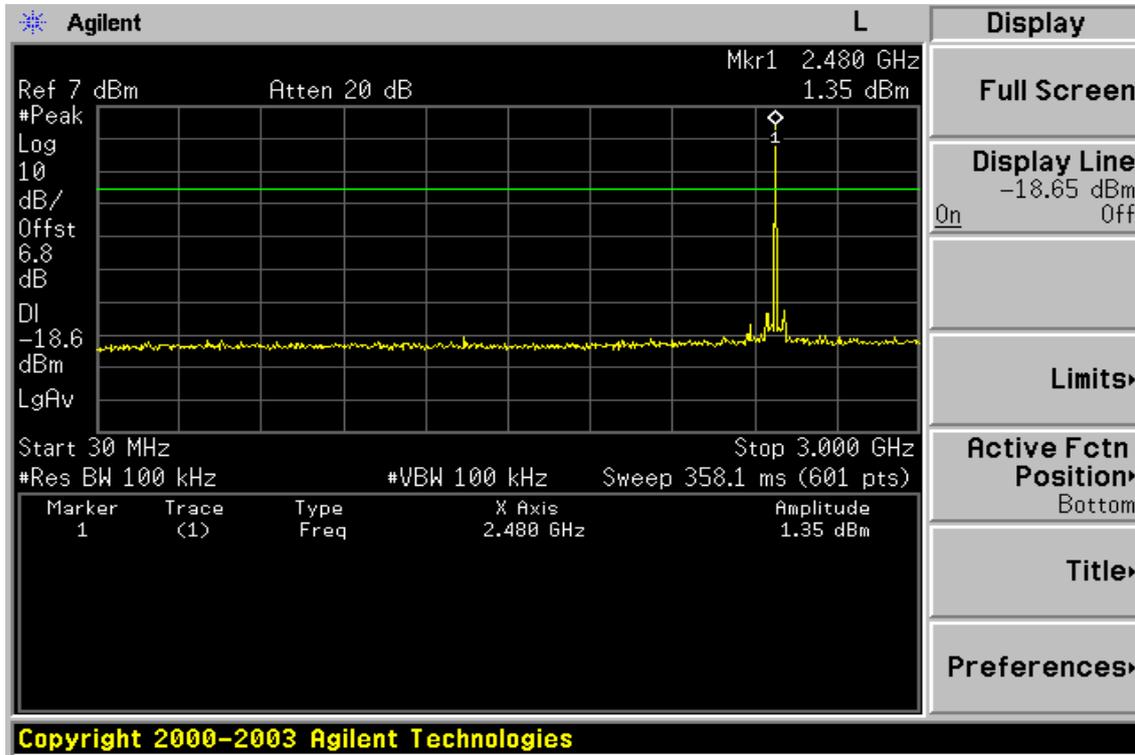


Ch Mid 3GHz – 26.5GHz

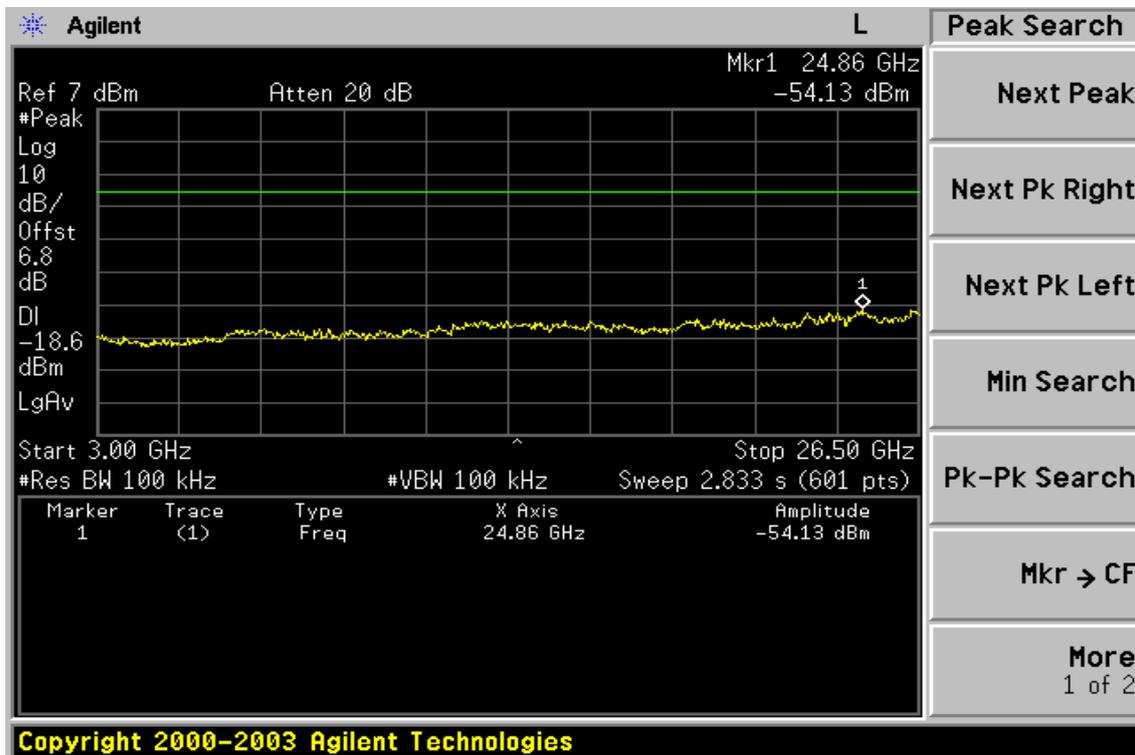


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Ch High 30MHz – 3GHz



Ch High 3GHz – 26.5GHz



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Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX CH Low	Test Date	Dec. 26, 2006
Fundamental Frequency	2402MHz	Test By	Danny
Temperature	25 °C	Pol	Ver./Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
41.64	V	Peak	44.50	-13.76	30.74	40.00	-9.26
101.78	V	Peak	48.51	-16.87	31.64	43.50	-11.86
53.28	H	Peak	43.57	-14.40	29.17	40.00	-10.83
101.78	H	Peak	40.53	-16.87	23.66	43.50	-19.84

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.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX CH Mid	Test Date	Dec. 26, 2006
Fundamental Frequency	2441MHz	Test By	Danny
Temperature	25 °C	Pol	Ver./Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
46.49	V	Peak	44.54	-13.87	30.67	40.00	-9.33
101.78	V	Peak	47.98	-16.87	31.11	43.50	-12.39
53.28	H	Peak	43.50	-14.40	29.10	40.00	-10.90
101.78	H	Peak	42.07	-16.87	25.20	43.50	-18.30

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.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX CH High	Test Date	Dec. 26, 2006
Fundamental Frequency	2480MHz	Test By	Danny
Temperature	25 °C	Pol	Ver./Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
41.64	V	Peak	43.82	-13.76	30.06	40.00	-9.94
101.78	V	Peak	48.36	-16.87	31.49	43.50	-12.01
61.04	H	Peak	40.54	-14.75	25.79	40.00	-14.21
104.69	H	Peak	39.45	-16.63	22.82	43.50	-20.68

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.

Radiated Spurious Emission Measurement Result (below 1GHz) (Co-Location mode)

Operation Mode	BT H Plan TX Low / GSM 850 High	Test Date	Dec. 26, 2006
Fundamental Frequency	2402MHz / 848.8MHz	Test By	Danny
Temperature	25 °C	Pol	Ver./Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
46.49	V	Peak	42.65	-13.87	28.78	40.00	-11.22
101.78	V	Peak	42.24	-16.87	25.37	43.50	-18.13
53.28	H	Peak	45.68	-14.40	31.28	40.00	-8.72
101.78	H	Peak	48.21	-16.87	31.34	43.50	-12.16

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.

Radiated Spurious Emission Measurement Result (below 1GHz) (Co-Location mode)

Operation Mode	BT H Plan TX Low / GSM 1900 Low	Test Date	Dec. 26, 2006
Fundamental Frequency	2402MHz / 1850.20MHz	Test By	Danny
Temperature	25 °C	Pol	Ver./Hor.
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
46.49	V	Peak	43.28	-13.87	29.41	40.00	-10.59
101.78	V	Peak	45.21	-16.87	28.34	43.50	-15.16
53.28	H	Peak	43.19	-14.40	28.79	40.00	-11.21
101.78	H	Peak	46.67	-16.87	29.80	43.50	-13.70

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.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	TX CH Low	Test Date	Dec. 26, 2006
Fundamental Frequency	2402 MHz	Test By	Danny
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak Reading	AV Reading	Ant./CL CF(dB)	Actual FS		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
	(dBuV)	(dBuV)		Peak (dBuV/m)	AV (dBuV/m)			
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	

Remark :

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

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	TX CH Low	Test Date	Dec. 26, 2006
Fundamental Frequency	2402 MHz	Test By	Danny
Temperature	25 °C	Pol	Hor.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Actual FS Ant./CL CF(dB)	Peak	AV	Peak Limit (dBuV/m)	AV	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)		Limit (dBuV/m)	
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	

Remark :

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

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	TX CH Mid	Test Date	Dec. 26, 2006
Fundamental Frequency	2441 MHz	Test By	Danny
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Actual FS Ant./CL CF(dB)	Peak	AV	Peak Limit (dBuV/m)	AV	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)		Limit (dBuV/m)	
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	

Remark :

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

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	TX CH Mid	Test Date	Dec. 26, 2006
Fundamental Frequency	2441 MHz	Test By	Danny
Temperature	25 °C	Pol	Hor.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Actual FS Ant./CL CF(dB)	Peak	AV	Peak Limit (dBuV/m)	AV	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Reading (dBuV/m)	Reading (dBuV/m)			
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	

Remark :

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

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	TX CH High	Test Date	Dec. 26, 2006
Fundamental Frequency	2480 MHz	Test By	Danny
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Actual FS Ant./CL CF(dB)	Peak	AV	Peak Limit (dBuV/m)	AV	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Reading (dBuV/m)	Reading (dBuV/m)			
4960.0	----					74.00	54.00	
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 °
- (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.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	TX CH High	Test Date	Dec. 26, 2006
Fundamental Frequency	2480 MHz	Test By	Danny
Temperature	25 °C	Pol	Hor.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Actual FS Ant./CL CF(dB)	Peak	AV	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
	Reading (dBuV)	Reading (dBuV)		Reading (dBuV/m)	Reading (dBuV/m)			
4960.0	----			74.00	54.00			
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 °
- (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) (Co-Location)

Operation Mode	BT H PLAN TX Low / GSM 850 High	Test Date	Dec. 26, 2006
Fundamental Frequency	2402MHz / 848.80MHz	Test By	Danny
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Actual FS Ant./CL CF(dB)	Peak	AV	Peak Limit (dBuV/m)	AV	Margin (dB)	Note
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)		Limit (dBuV/m)		
1442.5	44.56	---	-6.18	38.38	---	74.00	54.00	-15.62	Peak
2395.0	42.80	---	-1.36	41.44	---	74.00	54.00	-12.56	Peak
2552.5	51.06	---	-0.72	50.34	---	74.00	54.00	-3.66	Peak
3392.5	43.28	---	1.73	45.01	---	74.00	54.00	-8.99	Peak
4240.0	40.56	---	4.48	45.04	---	74.00	54.00	-8.96	Peak
4855.0	39.97	---	6.13	46.10	---	74.00	54.00	-7.90	Peak
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		

Remark :

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency ◦
- (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= 1MHz, 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) (Co-Location)

Operation Mode	BT H PLAN TX Low / GSM 850 High	Test Date	Dec. 26, 2006
Fundamental Frequency	2402MHz / 848.80MHz	Test By	Danny
Temperature	25 °C	Pol	Hor
Humidity	65 %		

Freq. (MHz)	Peak	AV	Actual FS Ant./CL CF(dB)	Peak	AV	Peak Limit (dBuV/m)	AV	Margin (dB)	Note
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)		Limit (dBuV/m)		
2395.0	41.78	---	-1.36	40.42	---	74.00	54.00	-13.58	Peak
2552.5	60.34	---	-0.72	59.62	---	74.00	54.00	5.62	Peak
3392.5	47.83	---	1.73	49.56	---	74.00	54.00	-4.44	Peak
4240.0	47.49	---	4.48	51.97	---	74.00	54.00	-2.03	Peak
4855.0	39.14	---	6.13	45.27	---	74.00	54.00	-8.73	Peak
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		

Remark :

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency ◦
- (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= 1MHz, 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) (Co-Location)

Operation Mode	BT H PLAN TX Low / GSM 1900 Low	Test Date	Dec. 26, 2006
Fundamental Frequency	2402MHz / 1850.20MHz	Test By	Danny
Temperature	25 °C	Pol	Ver.
Humidity	65 %		

Freq. (MHz)	Peak	AV	Actual FS CF(dB)	Peak	AV	Peak	AV	Margin (dB)	Note
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1000.0	48.28	---	-7.74	40.54	---	74.00	54.00	-13.46	Peak
1442.5	44.43	---	-6.18	38.25	---	74.00	54.00	-15.75	Peak
2395.0	42.67	---	-1.36	41.31	---	74.00	54.00	-12.69	Peak
3692.5	46.32	---	2.68	49.00	---	74.00	54.00	-5.00	Peak
4855.0	39.44	---	6.13	45.57	---	74.00	54.00	-8.43	Peak
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		

Remark :

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency ◦
- (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= 1MHz, Sweep time= 200 ms.
- (5) Spectrum AV Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz) (Co-Location)

Operation Mode	BT H PLAN TX Low / GSM 1900 Low	Test Date	Dec. 26, 2006
Fundamental Frequency	2402MHz / 1850.20MHz	Test By	Danny
Temperature	25 °C	Pol	Hor
Humidity	65 %		

Freq. (MHz)	Peak	AV	Actual FS Ant./CL CF(dB)	Peak	AV	Peak	AV	Margin (dB)	Note
	Reading (dBuV)	Reading (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)		
1000.0	49.45	---	-7.74	41.71	---	74.00	54.00	-12.29	Peak
1442.5	42.89	---	-6.18	36.71	---	74.00	54.00	-17.29	Peak
2395.0	42.15	---	-1.36	40.79	---	74.00	54.00	-13.21	Peak
3692.5	47.09	---	2.68	49.77	---	74.00	54.00	-4.23	Peak
4855.0	39.61	---	6.13	45.74	---	74.00	54.00	-8.26	Peak
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		

Remark :

- (1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency ◦
- (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= 1MHz, 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 $2/3 * 20\text{dB}$ 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

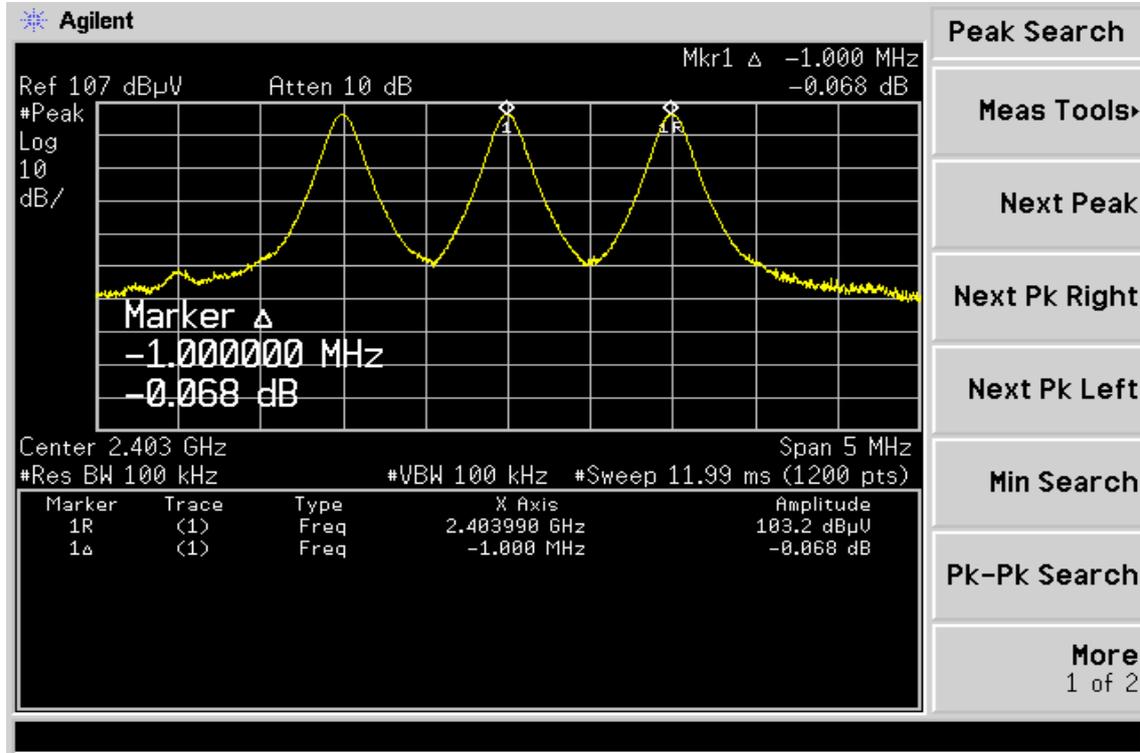
Channel separation	Limit	Result
MHz	kHz	
1	$\geq 25\text{KHz}$ or $2/3 * 20 \text{ dB bandwidth}$	PASS

10.4. Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
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-Circuit	BW-S10W5	N/A	10/07/2006	10/06/2007
Attenuator	Mini-Circuit	BW-S6W5	N/A	10/07/2006	10/06/2007
Splitter	Agilent	Power Biviber	51818	01/05/2006	01/04/2007

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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 hopping channel	Limit (CH)	Measurement result (CH)	Result
	15	79	Pass

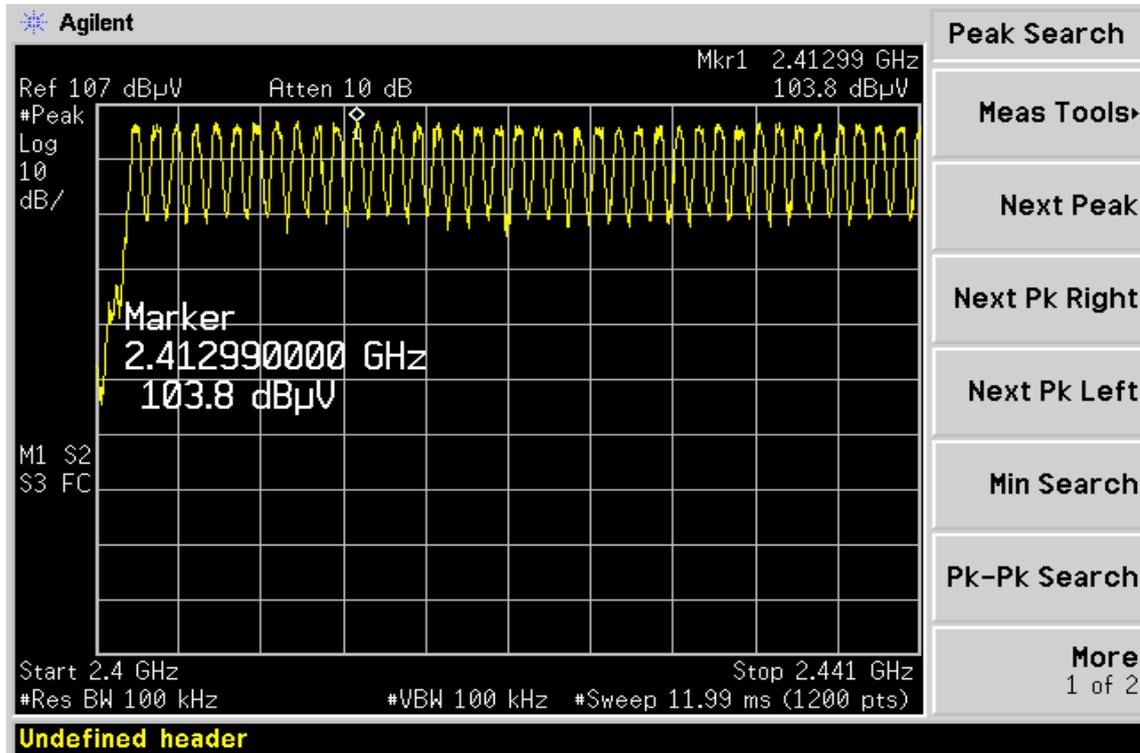
11.4. Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
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-Circuit	BW-S10W5	N/A	10/07/2006	10/06/2007
Attenuator	Mini-Circuit	BW-S6W5	N/A	10/07/2006	10/06/2007
Splitter	Agilent	Power Biviber	51818	01/05/2006	01/04/2007

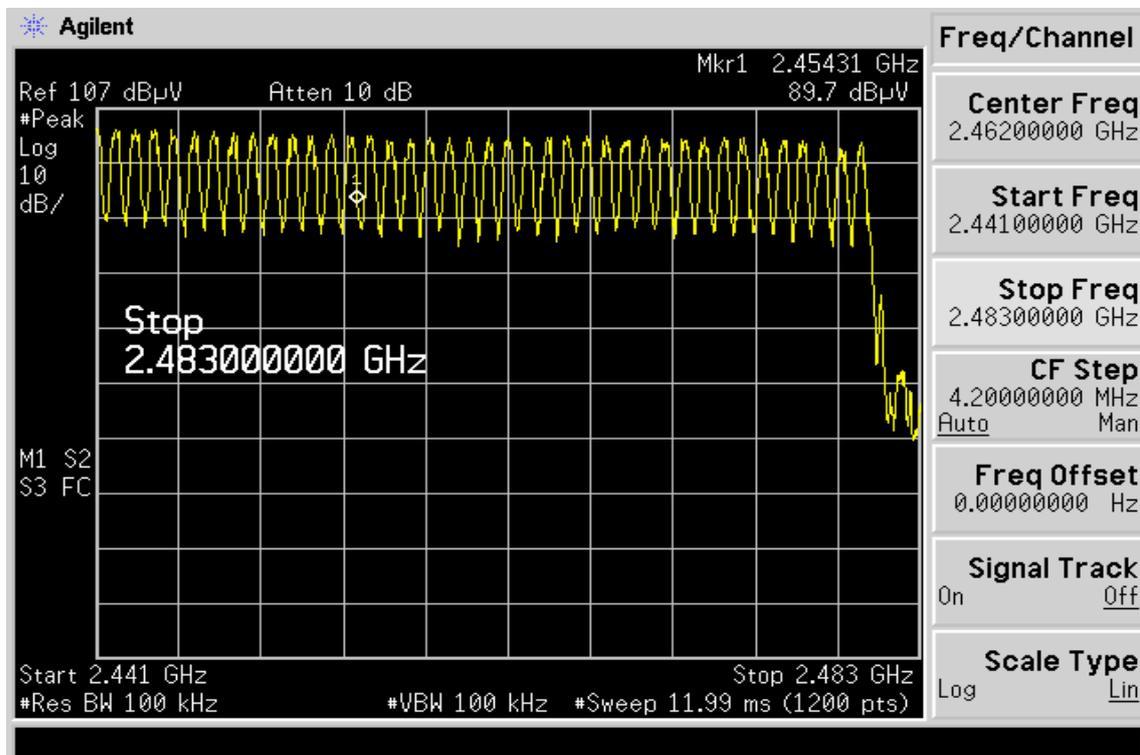
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Channel Number

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)

CH Low: 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 = 2.925 (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 = 378.9 (ms)

CH High: DH1 time slot = 0.416 (ms) * (1600/(1*79)) * 31.6 = 266.2 (ms)

DH3 time slot = 1.662 (ms) * (1600/(3*79)) * 31.6 = 354.6 (ms)

DH5 time slot = 2.906 (ms) * (1600/(5*79)) * 31.6 = 372.0 (ms)

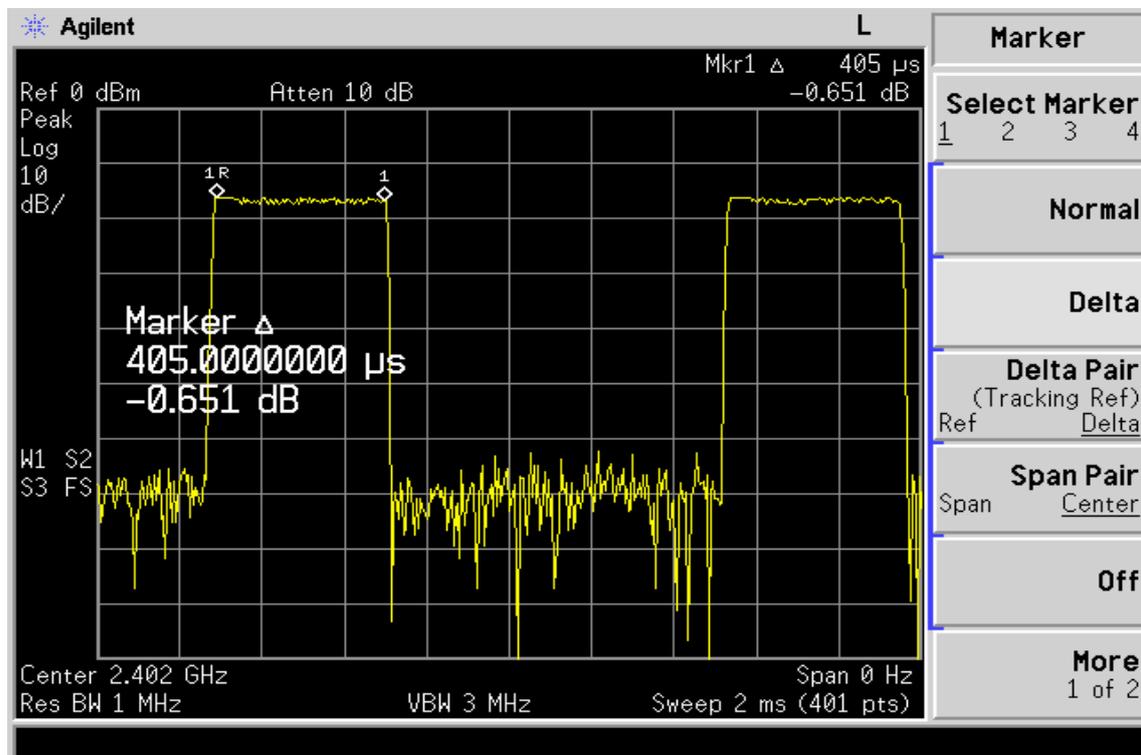
12.4. Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
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-Circuit	BW-S10W5	N/A	10/07/2006	10/06/2007
Attenuator	Mini-Circuit	BW-S6W5	N/A	10/07/2006	10/06/2007
Splitter	Agilent	Power Biviber	51818	01/05/2006	01/04/2007

Dwell Time Test Data

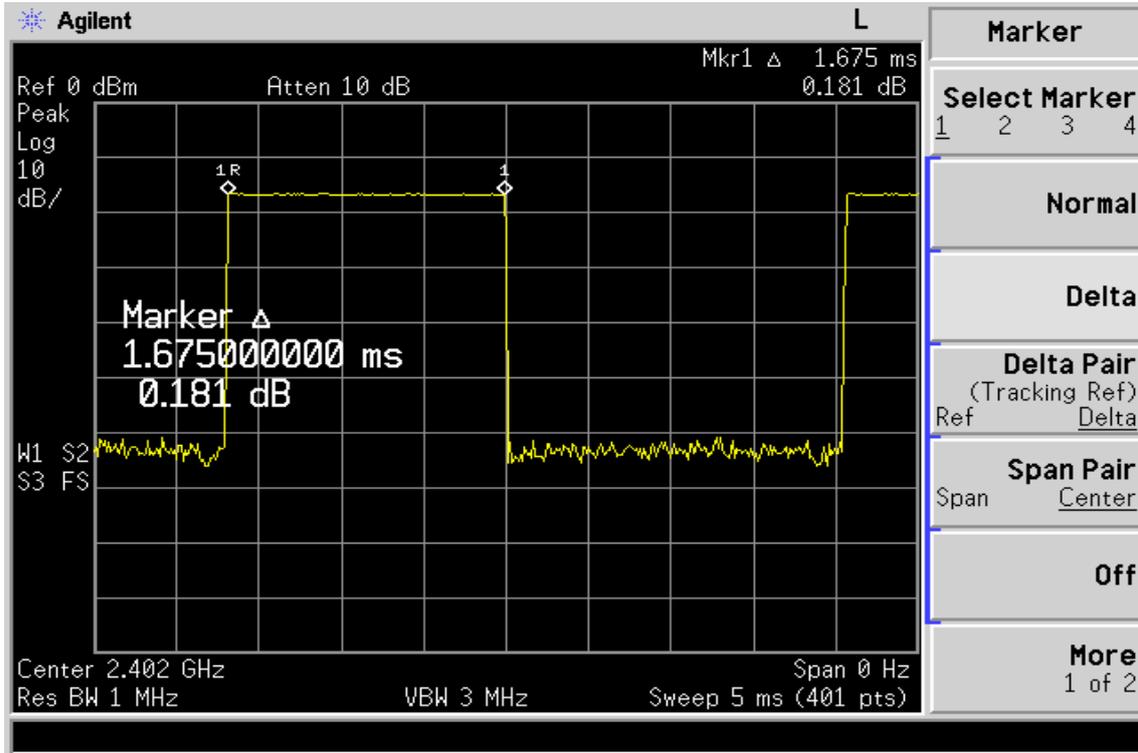
CH-Low

DH1

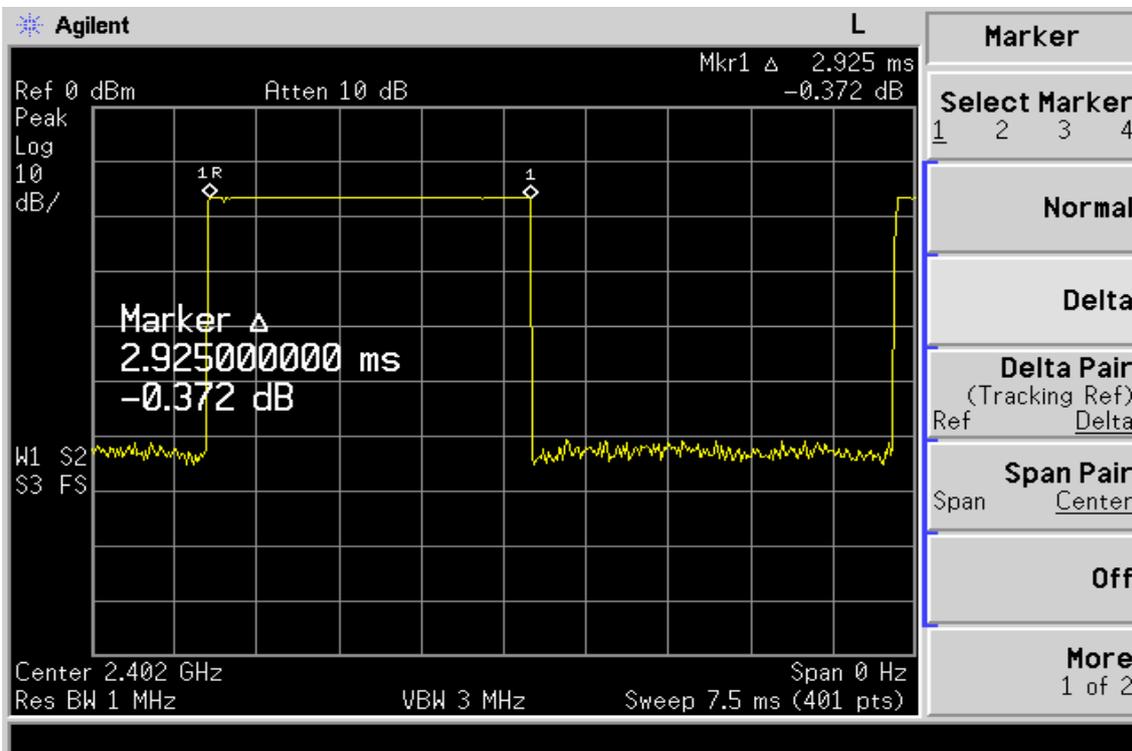


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DH3



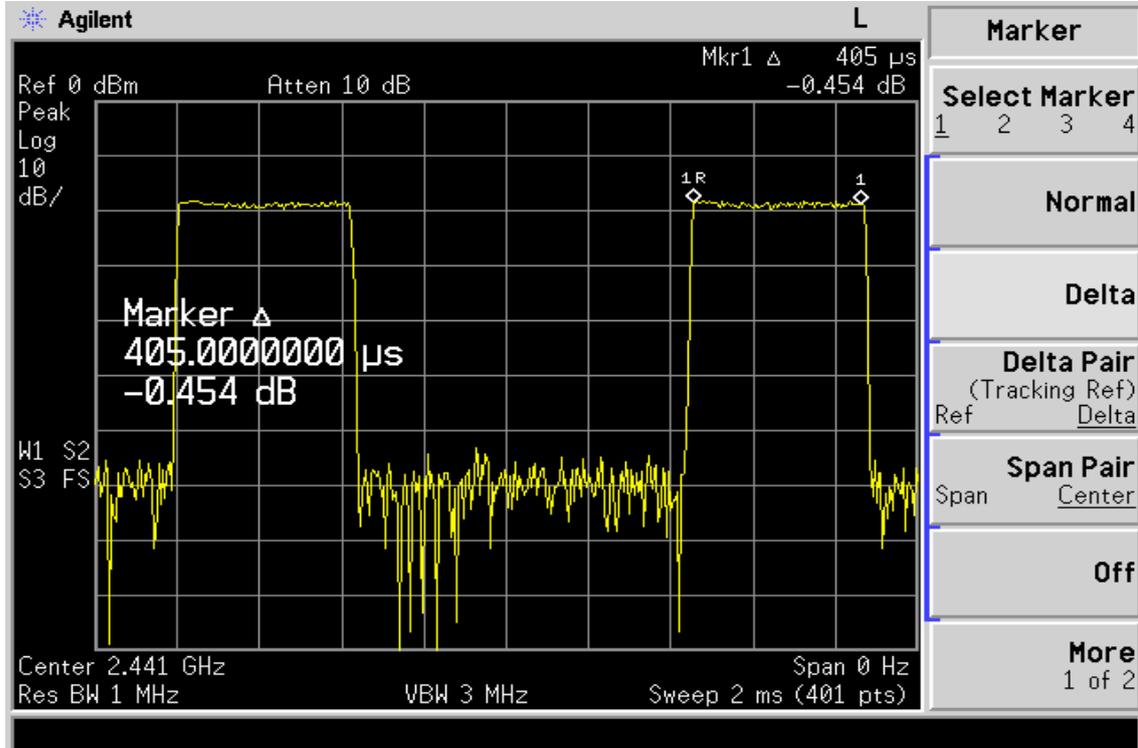
DH5



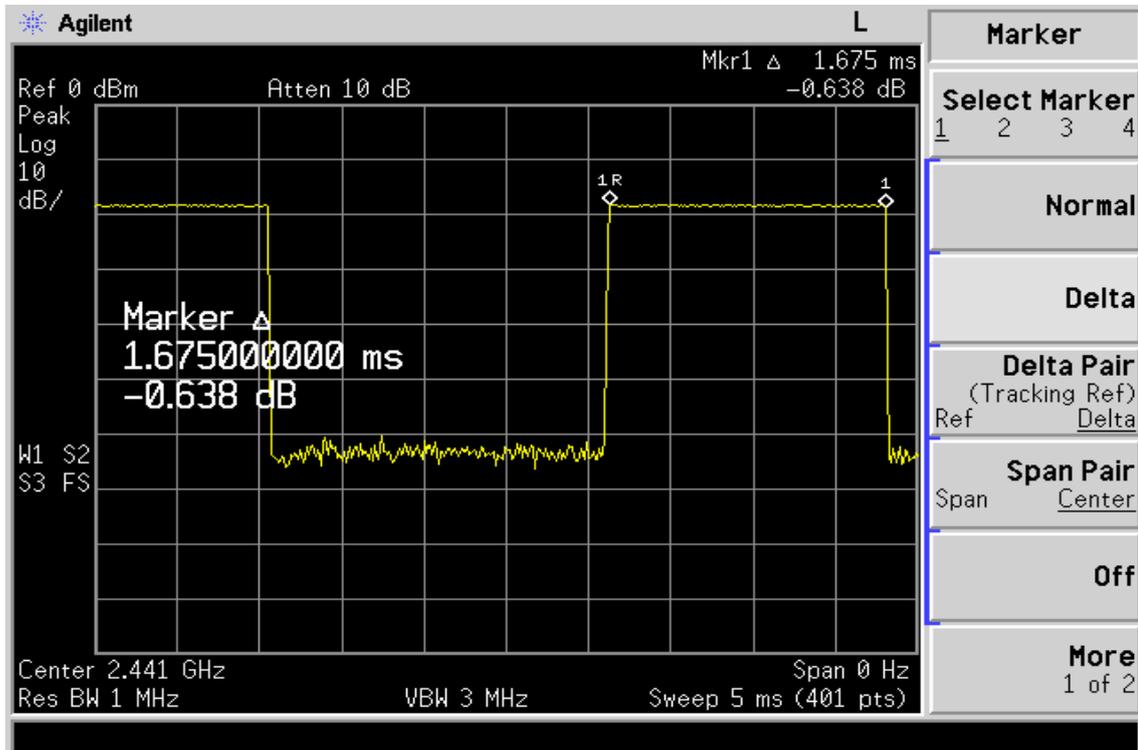
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CH-Mid

DH1

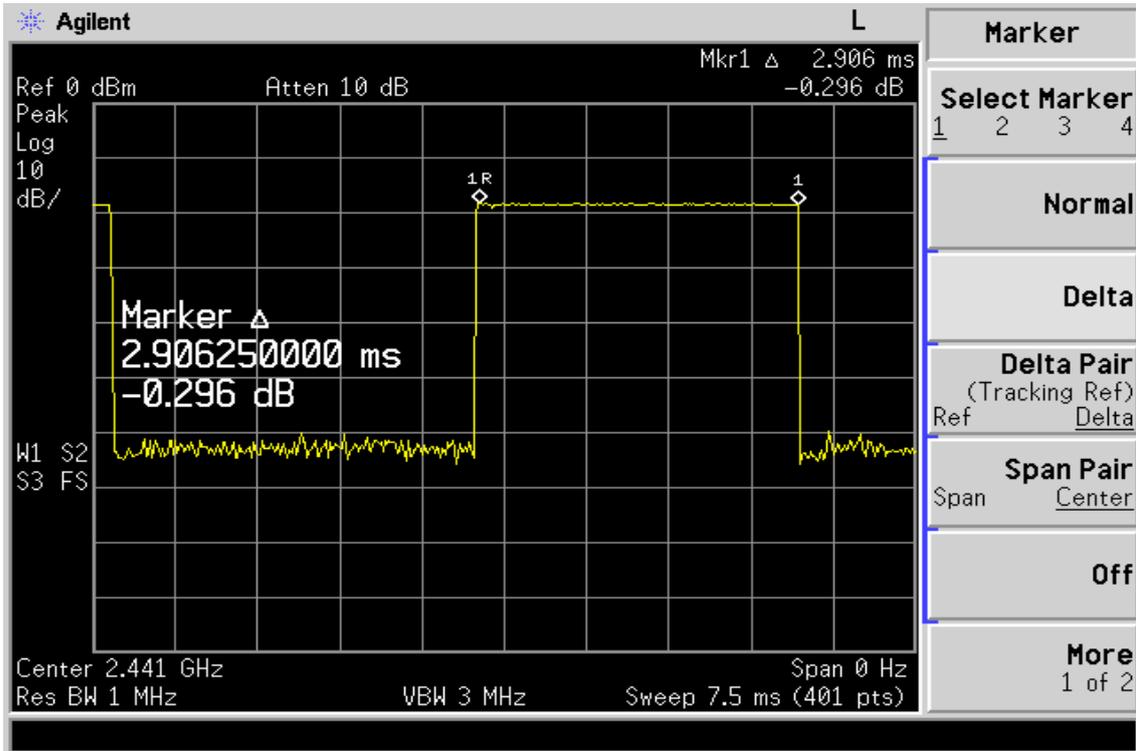


DH3



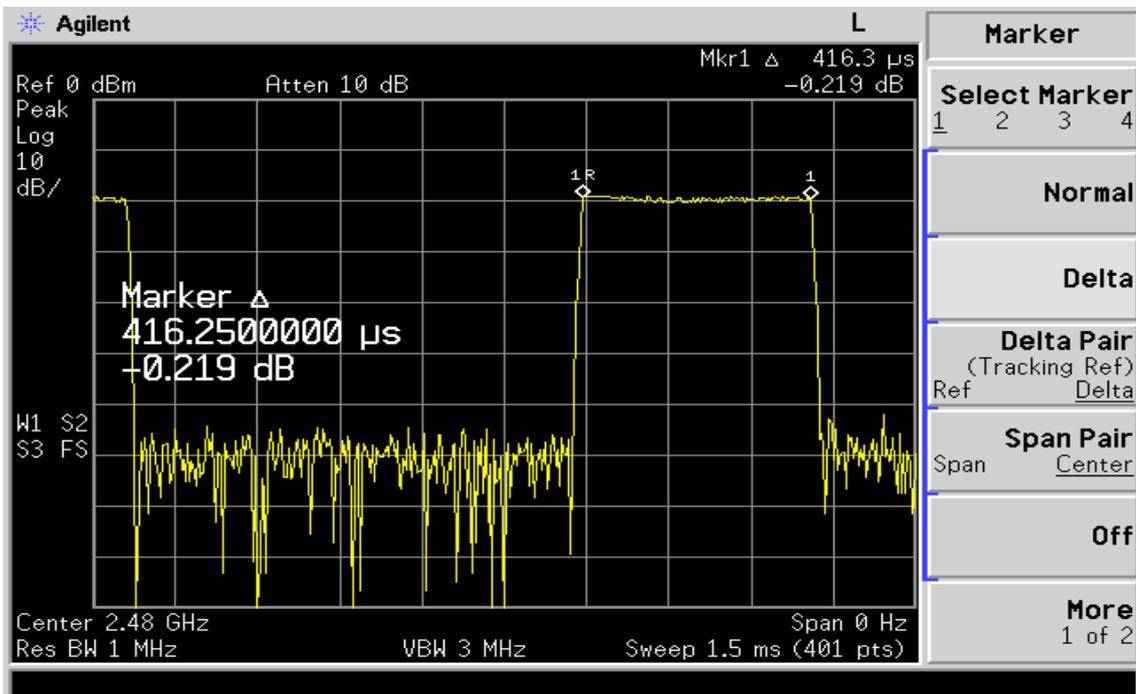
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DH5



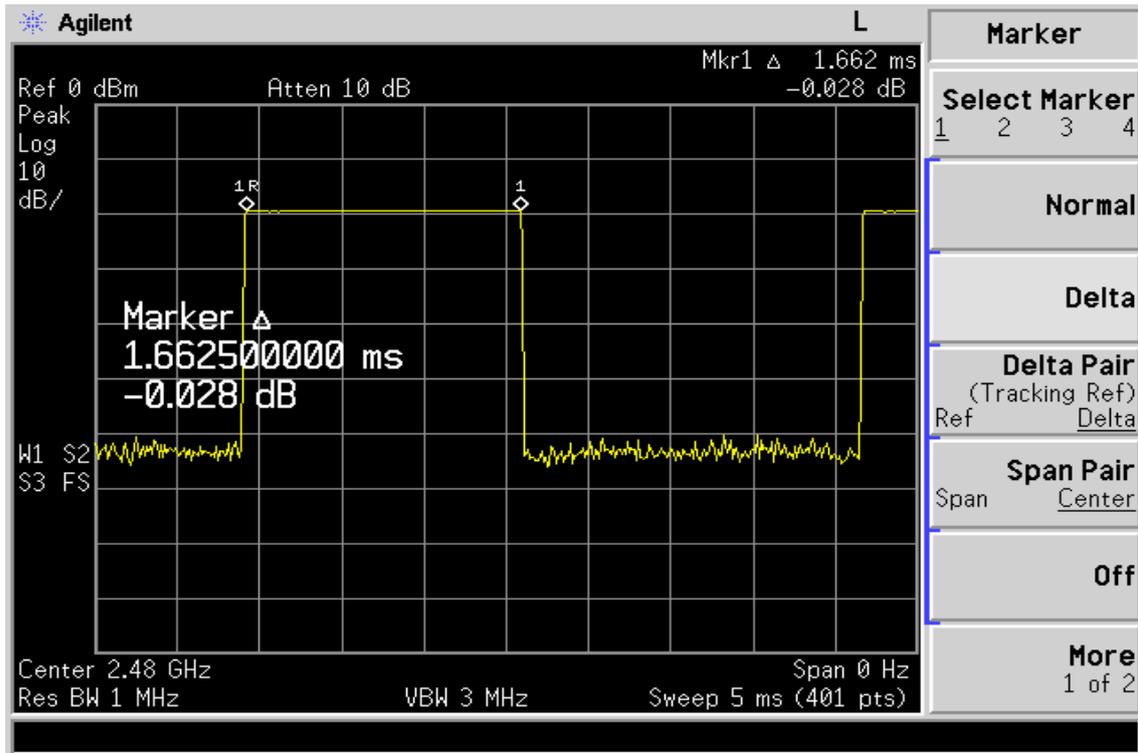
CH-High

DH1

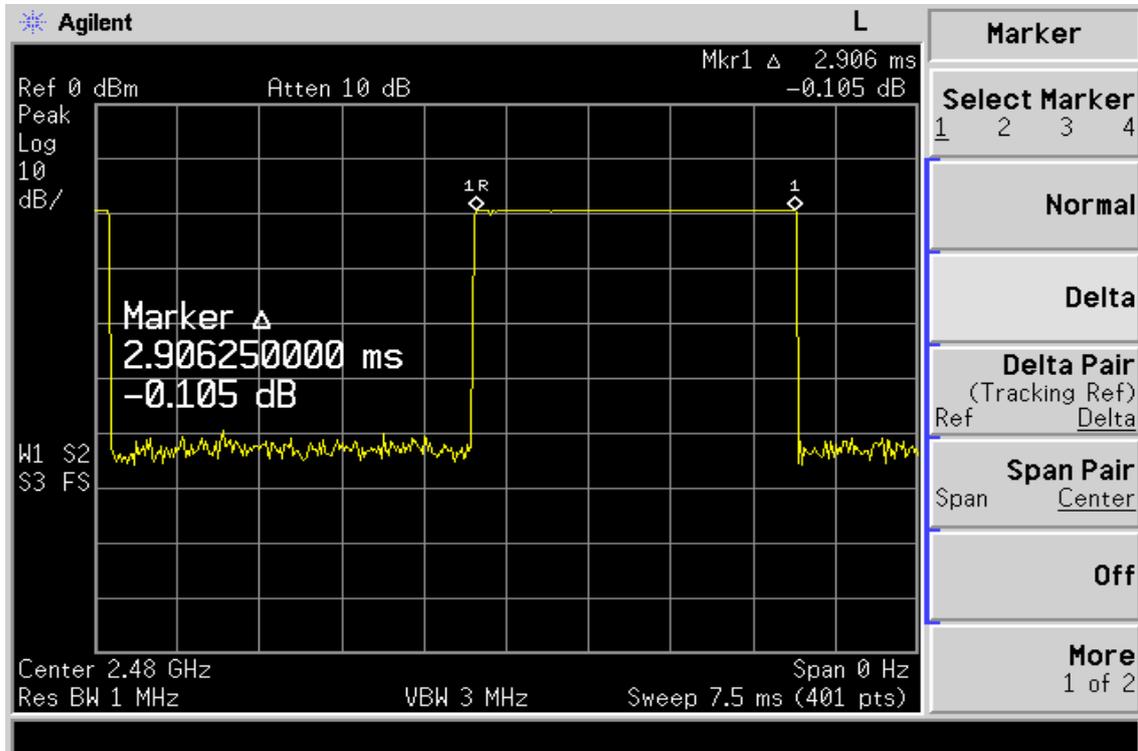


DH3

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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

CH	RF Power Density Reading (dBm)	Cable loss (dB)	RF Power Density Level (dBm)	Maximum Limit (dBm)
Low	-8.66	0.00	-8.66	8
Mid	-8.92	0.00	-8.92	8
High	-8.88	0.00	-8.88	8

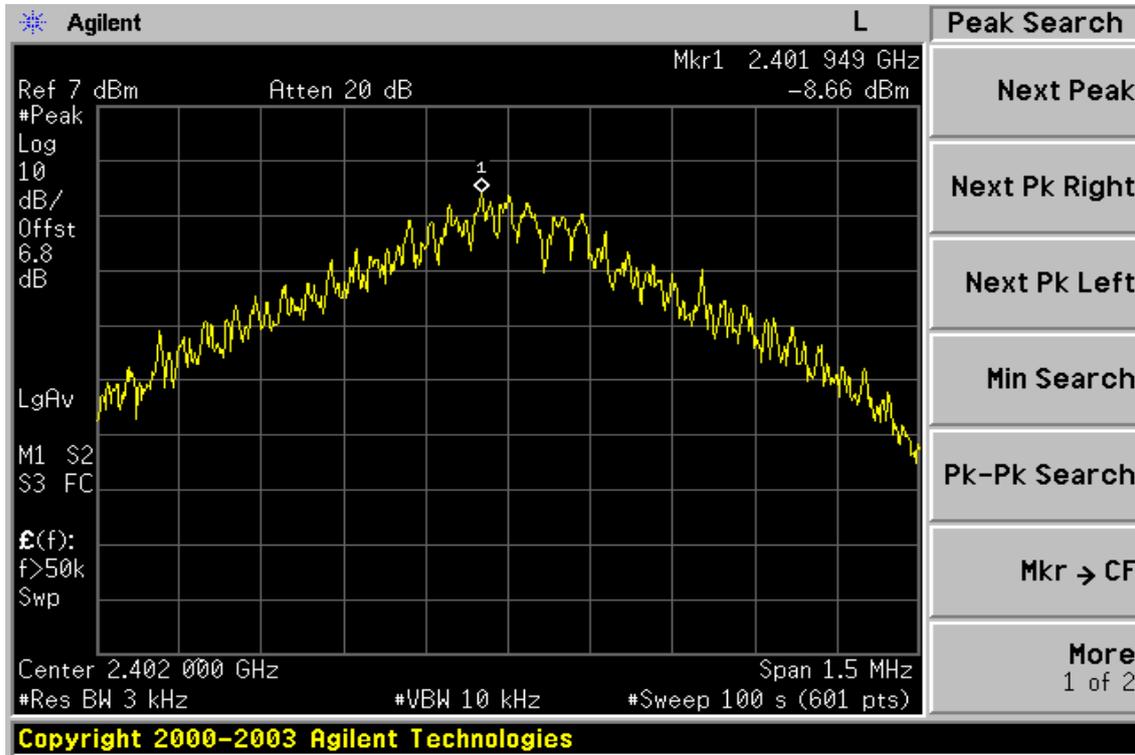
Note: This data was offset 6.8dB.

13.4. Measurement Equipment Used:

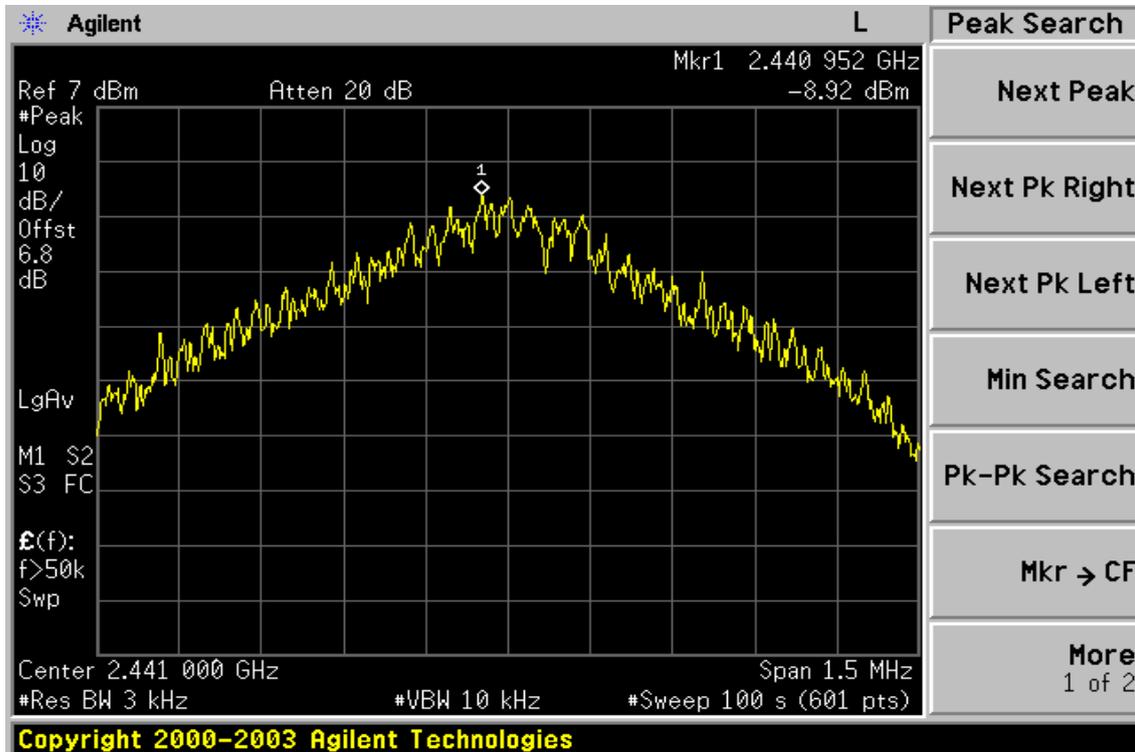
Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	03/29/2006	03/28/2007
Spectrum Analyzer	Agilent	7405A	US41160416	06/28/2006	06/29/2007
Spectrum Analyzer	R&S	FSP 40	100034	11/09/2006	11/10/2007
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circuit	BW-S10W5	N/A	10/07/2006	10/06/2007
Attenuator	Mini-Circuit	BW-S6W5	N/A	10/07/2006	10/06/2007
Splitter	Agilent	Power Biviber	51818	01/05/2006	01/04/2007

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Power Spectral Density Test Plot (CH-Low)

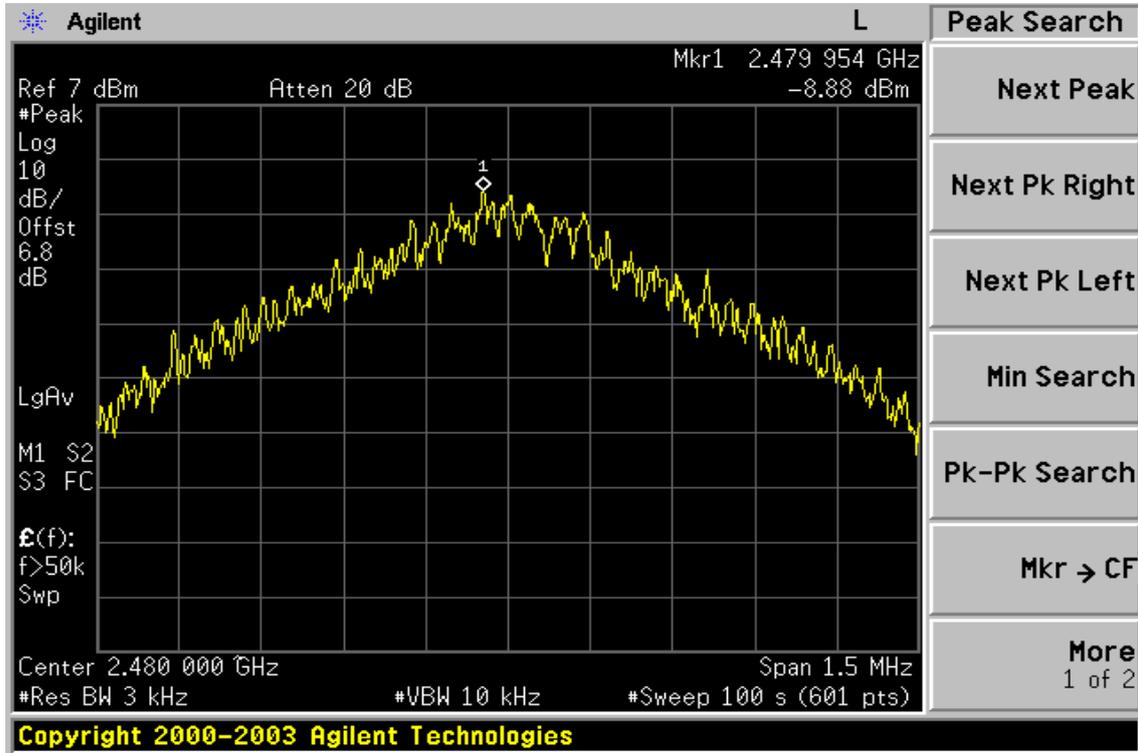


Power Spectral Density Test Plot (CH-Mid)



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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 is -4.5 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Please see EUT photo for details.