

Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 1 of 63

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C REQUIREMENT

OF

Product Name: Bluetooth Headset

Brand Name: LT

Model Name: BTHS02C-MWH

Model Difference: N/A

FCC ID: **UQ3BTHS02X-XXX**

ER/2009/C0010 **Report No.:**

Issue Date: Dec. 22, 2009

FCC Rule Part: §15.247, Cat: DSS

Lucent Trans Electronics Co., Ltd. Prepared for:

9F-1, No. 16, Chien Pah Rd., Chung Ho,

Taipei, Taiwan

Prepared by: SGS Taiwan Ltd.

> **Electronics & Communication Laboratory** No. 134, Wu Kung Rd., Wuku Industrial

Zone, Taipei County, Taiwan





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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 2 of 63

VERIFICATION OF COMPLIANCE

Lucent Trans Electronics Co., Ltd. **Applicant:**

9F-1, No. 16, Chien Pah Rd., Chung Ho, Taipei, Taiwan

Equipment Under Test: Bluetooth Headset

Brand Name: LT

BTHS02C-MWH **Model No.:**

Model Difference: N/A

FCC ID: **UQ3BTHS02X-XXX**

ER/2009/C0010 File Number:

Dec. 09, 2009 ~ Dec. 22, 2009 Date of test:

Dec. 09, 2009 **Date of EUT Received:**

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:	Dec. 22, 2009	
	Sky Wang / Asst. Supervisor			
Prepared By:	Alex Hsieh	Date:	Dec. 22, 2009	
_	Alex Hsieh / Sr. Engineer			
Approved By:	Timent Su	Date:	Dec. 22, 2009	
_	Vincent Su / Manager			

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Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 3 of 63

Version

Version No.	Date	Description
00	Dec. 22, 2009	Initial creation of document

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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 4 of 63

Table of Contents

1.	GEN	ERAL INFORMATION	6
	1.1.	Related Submittal(s) / Grant (s)	
	1.2.	Test Methodology	
	1.3.	Test Facility	
	1.4.	Special Accessories	
	1.5.	Equipment Modifications.	
2.	SYST	TEM TEST CONFIGURATION	8
	2.1.	EUT Configuration	8
	2.2.	EUT Exercise	8
	2.3.	Test Procedure	8
	2.4.	Configuration of Tested System	9
3.	SUM	MARY OF TEST RESULTS	10
4.	DES	CRIPTION OF TEST MODES	10
5.	CON	DUCTED EMISSION TEST	1
	5.1.	Standard Applicable	11
	5.2.	EUT Setup	11
	5.3.	Measurement Procedure	11
	5.4.	Measurement Equipment Used:	12
	5.5.	Measurement Result	12
6.	PEA	K OUTPUT POWER MEASUREMENT	15
	6.1.	Standard Applicable	15
	6.2.	Measurement Equipment Used	15
	6.3.	.Test Set-up:	15
	6.4.	Measurement Procedure:	16
	6.5.	Measurement Result	16
7.	20dB	BAND WIDTH	21
	7.1.	Standard Applicable	21
	7.2.	Measurement Equipment Used	21
	7.3.	Test Set-up	21
	7.4.	Measurement Procedure:	21
	7.5.	Measurement Result:	22
8.	100K	Hz BANDWIDTH OF BAND EDGES MEASUREMENT	27
	8.1.	Standard Applicable	27

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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 5 of 63

	8.2.	Measurement Equipment Used	27
	8.3.	Test SET-UP:	28
	8.4.	Measurement Procedure	29
	8.5.	Field Strength Calculation	29
	8.6.	Measurement Result.	29
9.	SPUR	RIOUS RADIATED EMISSION TEST	38
	9.1.	Standard Applicable	38
	9.2.	Measurement Equipment Used:	38
	9.3.	Test SET-UP:	38
	9.4.	Measurement Procedure:	38
	9.5.	Field Strength Calculation	39
	9.6.	Measurement Result:	39
10.	FREC	QUENCY SEPARATION	52
	10.1.	Standard Applicable	52
	10.2.	Measurement Equipment Used:	52
	10.3.	Test Set-up:	52
	10.4.	Measurement Procedure:	52
	10.5.	Measurement Result:	52
11.	NUM	BER OF HOPPING FREQUENCY	54
	11.1.	Standard Applicable	54
	11.2.	Measurement Equipment Used:	54
	11.3.	Test Set-up:	54
	11.4.	Measurement Procedure:	54
	11.5.	Measurement Result:	54
12.	TIME	E OF OCCUPANCY (DWELL TIME)	56
	12.1.	Standard Applicable	56
	12.2.	Measurement Equipment Used:	56
	12.3.	Test Set-up:	56
	12.4.	Measurement Procedure:	56
	12.5.	Measurement Result.	57
13.	ANTI	ENNA REQUIREMENT	63
	13.1.	Standard Applicable	
	13.2	Antenna Connected Construction	63

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明,此報告結果僅對測試之樣品負責,同時此樣品僅保留の天。本報告未經本公司書面許可,不可部份複製。 This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Documents (www.sgs.com/terms_and_conditions.htm) and Terms and Conditions for Electronic Document for Electronic Document is to be treated as an original within the meaning of UCP 600 article 20b. The authenticity of this document may be verified at www.sgs.com/terms_and_conditions.htm) and Volument is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 6 of 63

1. GENERAL INFORMATION

General:				
Product Name:	Bluetooth Headset			
Brand Name:	LT			
Model Name:	BTHS02C-MWH			
Model Difference:	N/A			
USB Cable	One provide, M	Iodel No.: N/A		
	3.7 Vdc re-char	rgeable battery or 4.5 dc by AC/DC power adapter		
Power Supply	Adapter:	Model No.: IT-UL		
	Battery:	Model No.: HS01417		
Bluetooth:				
Bluetooth Version:		SK)		
Channel number:	79 channels			
Modulation type:	GFSK + $\pi/4$ DQ	OPSK + 8DPSK		
Transmit Power:	3.74 dBm			
Frequency Range:	2.402GHz – 2.4	480GHz		
Dwell Time:	<= 0.4s			
Operating Mode:	Point-to-Point			
Antenna Designation:	PIFA Antenna,	2.023 dBi.		

The EUT is compliance with Bluetooth 2.1 + EDR Standard.

This report applies for Bluetooth



Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 7 of 63

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

This submittal(s) (test report) is intended for FCC ID: <u>UQ3BTHS02X-XXX</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.

1.2. 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.

1.3. Test Facility

The measurement facilities used to collect the 3m Radiated Emission and AC power line conducted data are located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei Country, Taiwan which are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003. FCC Registration Number are: 990257 and 236194, Canada Registration Number: 4620A-1

The 10 m Open Area Test Sites located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No. 29, Pau-Tou-Tsuo Valley Chia-Pau Tsuen, Linkou Hsiang, Taipei county, which is constructed and calibrated to meet the CISPR 22/EN 55022 requirements. SGS Site No. 1(3 & 10 meters) and FCC Registration Number: 94644.

1.4. Special Accessories

Not available for this EUT intended for grant.

1.5. Equipment Modifications

Not available for this EUT intended for grant.

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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 8 of 63

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 and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna, according to the requirements in Section 8 and 13 and Subclause 8.3.1.2 of ANSI C63.4: 2003.

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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 9 of 63

2.4. Configuration of Tested System

Fig. 2-1 AC Power line and Radiated Emission Configuration

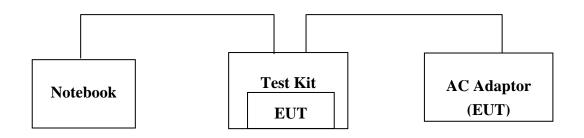


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1	Notebook PC	IBM	R61	L3A9050	Shielded	Un-shielded
2	Test Kit	N/A	EDGAR-II	N/A	Shielded	N/A
3	Test software	N/A	ISSC RF TRIM	N/A	N/A	N/A

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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 10 of 63

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
§15.247(d)	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
§15.203,	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.

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Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 11 of 63

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 120Vac/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.



Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 12 of 63

5.4. Measurement Equipment Used:

Conducted Emission Test Site						
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.	
TYPE		NUMBER	NUMBER	CAL.		
EMI Test Receiver	R&S	ESCS30	828985/004	09/16/2009	09/15/2010	
LISN	Rolf-Heine	NNB-2/16Z	99012	02/02/2009	02/01/2010	
LISN	FCC	FCC-LISN-50/250-25-2-01	04034	02/02/2009	02/01/2010	
Coaxial Cables	N/A	WK CE Cable	N/A	10/30/2009	10/29/2010	

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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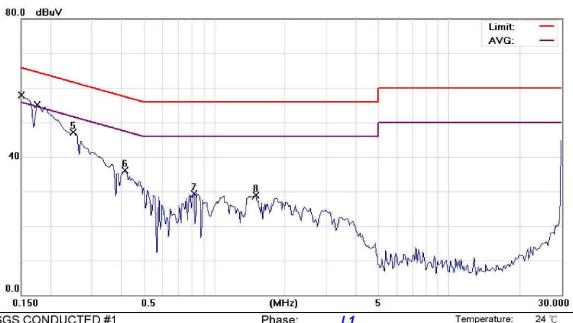


Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 13 of 63

AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	Bluetooth Mode			Test Date:	Dec. 22, 2009
Temperature:	23 °C	Humidity:	59 %	Test By:	Sky



Site SGS CONDUCTED #1

Limit: FCC Class B Conduction(QP)

EUT: Bluetooth Headset M/N: BTHS02C-MWH

Note: Charge mode

Phase:		L1	Temperature:		24 ℃
Power:	AC	120V/60Hz	Humidity:	56	%
Distance			Air Pressure:		hpa

No. Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1505	50.15	0.17	50.32	65.97	-15.65	QP	
2	0.1505	21.43	0.17	21.60	55.97	-34.37	AVG	
3	0.1748	47.33	0.15	47.48	64.73	-17.25	QP	
4	0.1748	33.66	0.15	33.81	54.73	-20.92	AVG	
5 *	0.2500	46.96	0.11	47.07	61.76	-14.69	peak	
6	0.4150	35.93	0.08	36.01	57.55	-21.54	peak	
7	0.8200	29.31	0.08	29.39	56.00	-26.61	peak	
8	1.5000	28.76	0.11	28.87	56.00	-27.13	peak	

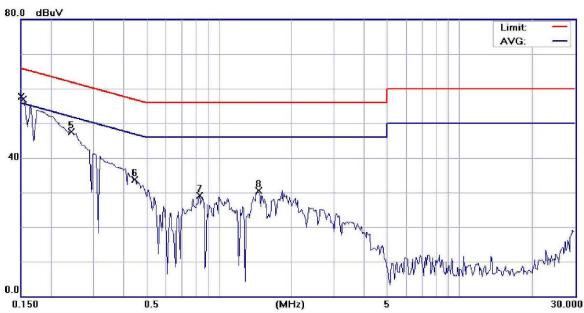
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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 14 of 63



Site SGS CONDUCTED #1

Limit: FCC Class B Conduction(QP)

EUT: Bluetooth Headset M/N: BTHS02C-MWH Note: Charge mode

Phase:		/V	remperature.		24	(
Power:	AC	120V/60Hz	Humidity:	56	%	
Distance:			Air Pressure:		hp	a

No. Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1504	50.24	0.19	50.43	65.98	-15.55	QP	
2	0.1504	22.51	0.19	22.70	55.98	-33.28	AVG	
3	0.1554	49.80	0.19	49.99	65.71	-15.72	QP	
4	0.1554	21.66	0.19	21.85	55.71	-33.86	AVG	
5 *	0.2429	47.28	0.13	47.41	62.00	-14.59	peak	
6	0.4468	33.50	0.11	33.61	56.93	-23.32	peak	
7	0.8300	29.02	0.11	29.13	56.00	-26.87	peak	
8	1.4600	30.29	0.13	30.42	56.00	-25.58	peak	

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Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 15 of 63

6. PEAK OUTPUT POWER MEASUREMENT

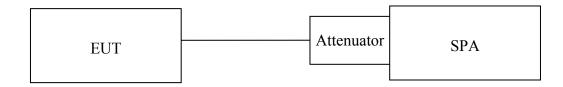
6.1. Standard Applicable

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 Equipment Used

Conducted Emission Test Site									
EQUIPMENT	EQUIPMENT MFR MODEL SERIAL								
TYPE		NUMBER	NUMBER	CAL.					
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/19/2008	04/18/2010				
Spectrum Analyzer	Agilent	E4440A	MY45304525	01/23/2008	01/22/2010				
DC Block	Agilent	BLK-18	155452	07/05/2009	07/04/2010				
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	01/05/2009	01/04/2010				
Attenuator	Mini-Circuit	BW-S6W5	001	07/05/2009	07/04/2010				
Attenuator	Mini-Circuit	BW-S10W5	001	07/05/2009	07/04/2010				
Attenuator	Mini-Circuit	BW-S20W5	001	07/05/2009	07/04/2010				
Splitter	Agilent	11636B	N/A	07/05/2009	07/04/2010				

6.3. .Test Set-up:



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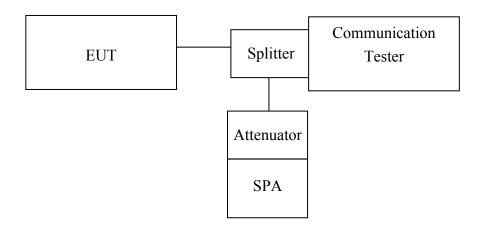
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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 16 of 63



6.4. 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. (Max peak function, RBW, VBW = 1MHz)
- 3. Record the max. reading.
- 4. Repeat above procedures until all frequency measured were complete.

6.5. Measurement Result

BDR mode:

Frequency (MHz)	Reading Power (dBm)	Cable Loss	Output Power (dBm)	Output Power (W)	Limit (W)
2402.00	2.94	0.00	2.94	0.00197	1
2441.00	3.48	0.00	3.48	0.00223	1
2480.00	3.74	0.00	3.74	0.00237	1

EDR mode:

Frequency (MHz)	Reading Power (dBm)	Cable Loss	Output Power (dBm)	Output Power (W)	Limit (W)
2402.00	2.57	0.00	2.57	0.00181	1
2441.00	3.11	0.00	3.11	0.00205	1
2480.00	3.43	0.00	3.43	0.00220	1

NOTE: offset: 0.2dB

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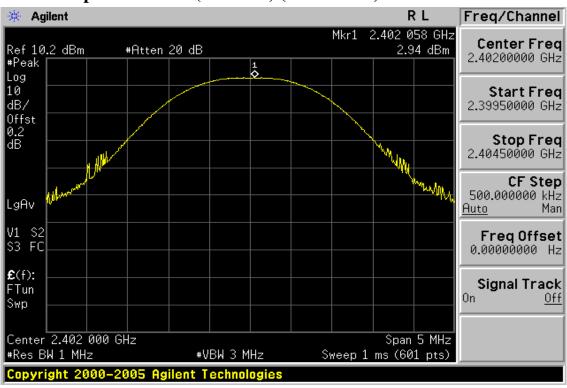
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Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 17 of 63

Peak Power Output Data Plot (CH Low) (BDR mode)



Peak Power Output Data Plot (CH Mid) (BDR mode)



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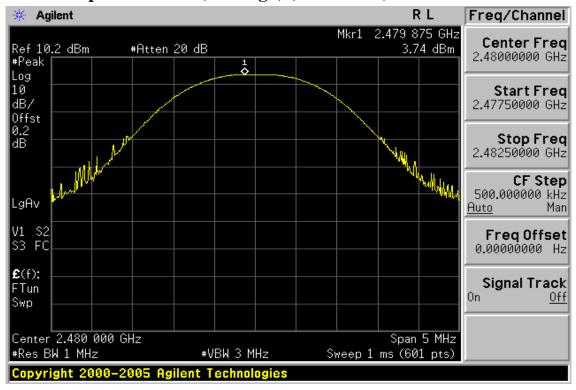
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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 18 of 63

Peak Power Output Data Plot (CH High) (BDR mode)



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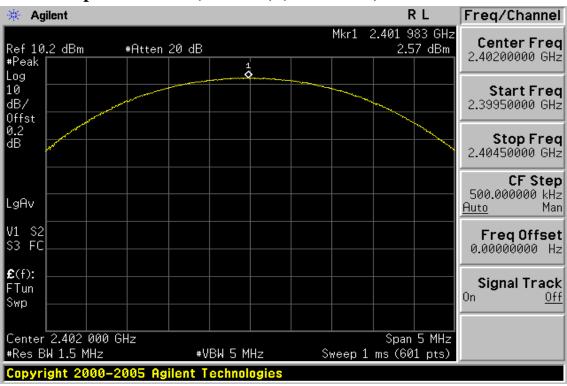
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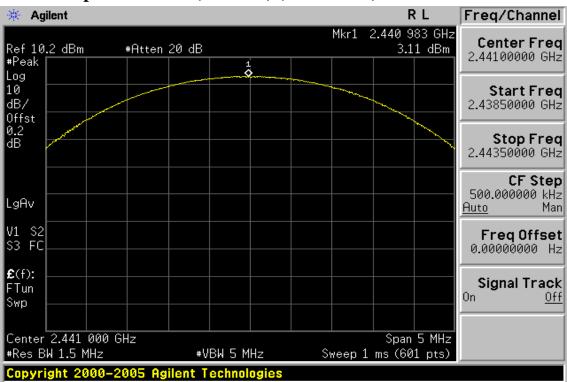
Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 19 of 63

Peak Power Output Data Plot (CH Low) (EDR mode)



Peak Power Output Data Plot (CH Mid) (EDR mode)



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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 20 of 63

Peak Power Output Data Plot (CH High) (EDR mode)



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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 21 of 63

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 Equipment Used

Refer to section 6.2 for details.

7.3. Test Set-up

Refer to section 6.3 for details.

7.4. 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.



Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 22 of 63

7.5. Measurement Result:

BDR mode:

СН	Bandwidth
	(kHz)
Lower	885.697
Mid	923.031
Higher	921.193

EDR mode:

СН	Bandwidth	2/3 Bandwidth
	(MHz)	(MHz)
Lower	1.259	0.839
Mid	1.260	0.840
Higher	1.259	0.839

Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 23 of 63

20dB Band Width Test Data CH-Low (BDR mode)



20dB Band Width Test Data CH-Mid (BDR mode)



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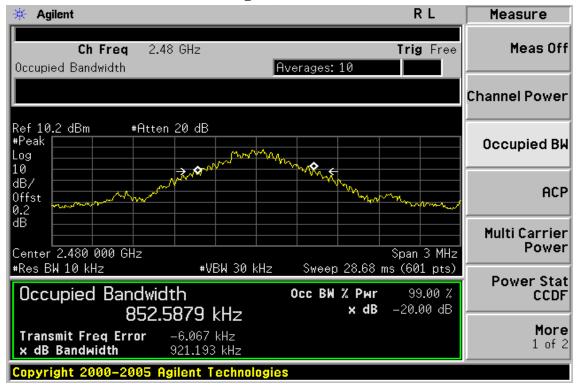
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Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 24 of 63

20dB Band Width Test Data CH-High (BDR mode)



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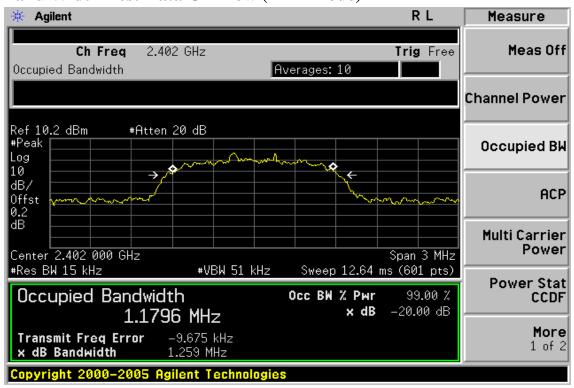
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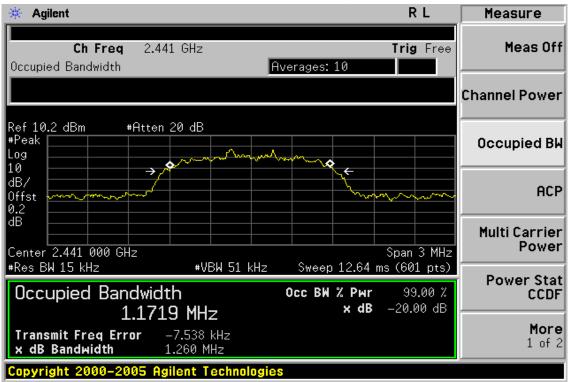
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Page: 25 of 63

20dB Band Width Test Data CH-Low (EDR mode)



20dB Band Width Test Data CH-Mid (EDR mode)



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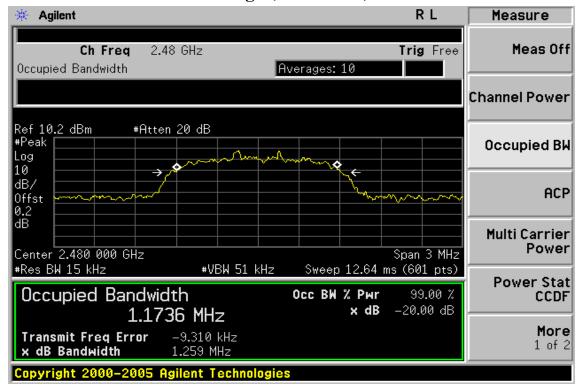
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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 26 of 63

20dB Band Width Test Data CH-High (EDR mode)



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Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 27 of 63

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 Equipment Used

8.2.1. Conducted Emission at antenna port:

Refer to section 6.2 for details.

8.2.2. Radiated emission:

	90	66 Chamber			
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Spectrum Analyzer	R&S	FSP 40	100034	02/12/2009	02/11/2010
Loop antenna	MESSTEC	FLA30	03/10086	07/08/2009	07/07/2011
Bilog Antenna	SCHWAZBECK	VULB9160	9160-3136	11/19/2009	11/18/2010
Horn antenna	SCHWAZBECK	BBHA 9120D	9120D-673	05/09/2008	05/08/2010
Pre-Amplifier	Agilent	8447D	1937A02834	11/28/2009	11/27/2010
Pre-Amplifier	Agilent	8449B	3008A01973	01/05/2009	01/04/2010
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	01/05/2009	01/04/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	01/05/2009	01/04/2010
3m Site	SGS	966 chamber	N/A	11/08/2009	11/09/2010



Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 28 of 63

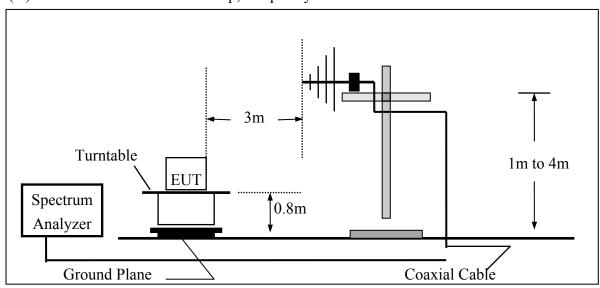
8.3. Test SET-UP:

8.3.1. Conducted Emission at antenna port:

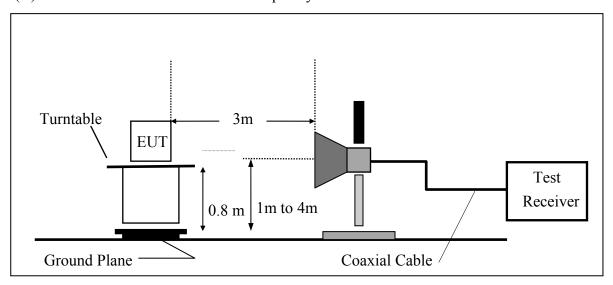
Refer to section 6.3 for details.

8.3.2. Radiated emission:

(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



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



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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 29 of 63

8.4. 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, 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.

8.5. 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	

8.6. Measurement Result

Note: Refer to next page spectrum analyzer data chart and tabular data sheets.

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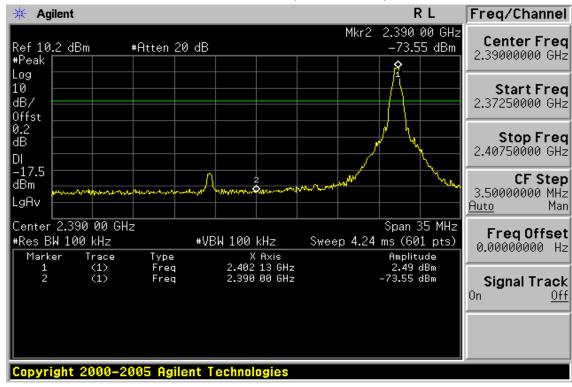
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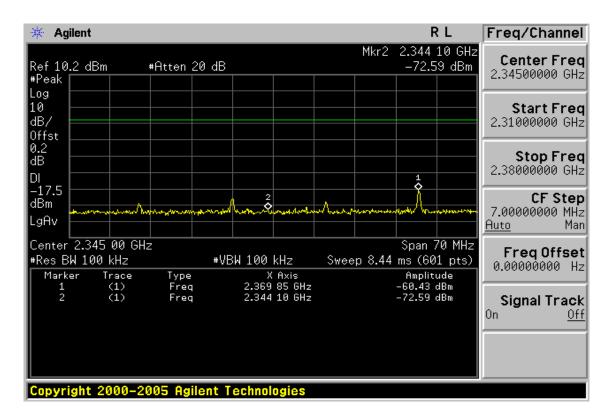


Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 30 of 63

Conducted Emission: Test Data CH-Low (BDR mode)





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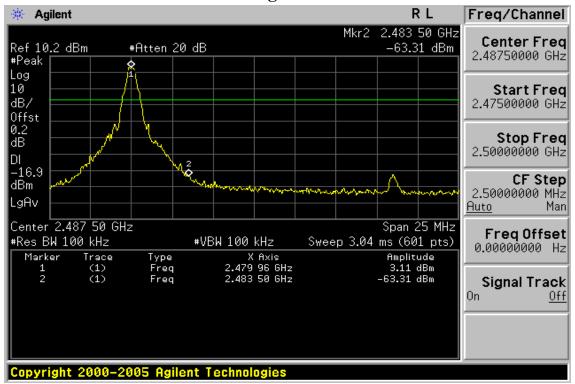
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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 31 of 63

Conducted Emission: Test Data CH-High



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Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 32 of 63

Radiated Emission: (BDR mode)

Operation Mode TX CH Low Test Date Dec. 22, 2009

Fundamental Frequency 2402 MHz Test By Sky Temperature 25 °C Pol Ver.

Humidity 65 %

(MHz) (dBuV) (dBuV) CF(dB) (dBuV/m) (dB

Operation Mode TX CH Low Test Date Dec. 22, 2009

Fundamental Frequency 2402 MHz Test By Sky Temperature 25 °C Pol Hor.

Humidity 65 %

Peak AVActual FS Peak \mathbf{AV} Reading Reading Ant./CL Peak \mathbf{AV} Limit Limit Margin Remark Freq. (dBuV) (dBuV) CF(dB) (dBuV/m) (dBuV/m) (dBuV/m) (dBuV/m)(MHz) (dB)2390.00 43.78 -1.39 33.64 54.00 74.00 -20.36Peak

Remark:

- (1) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (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.

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Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 33 of 63

Radiated Emission: (BDR mode)

Operation Mode TX CH High Test Date Dec. 22, 2009

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

Humidity 65 %

	Peak	\mathbf{AV}		A ctu	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	44.61		-0.92	43.69		74.00	54.00	-10.31	Peak
Operation	Mode	TX C	H High			Test	Date	Dec. 22, 2	009
Fundamen	tal Freque	ncy 2480	MHz			Test	By	Sky	
Temperatu	ire	25 ℃				Pol		Hor.	
Humidity		65 %							

	Peak	\mathbf{AV}		A ctu	al FS	Peak	\mathbf{AV}		
Freq.	Reading	Reading	Ant./CL	Peak	\mathbf{AV}	Limi t	Limit	Margin	Remark
(MHz)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
2483.56	43.62		-0.92	42.70		74.00	54.00	-11.30	Peak

Remark:

- (1) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (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.

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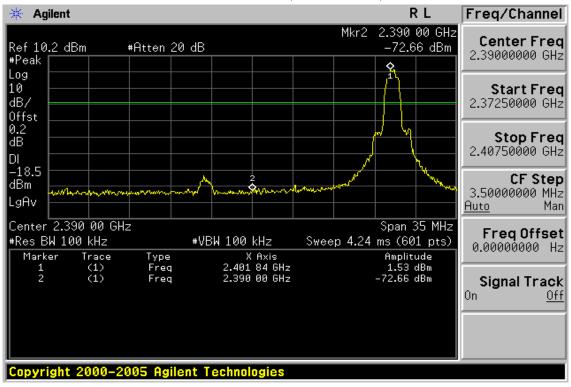
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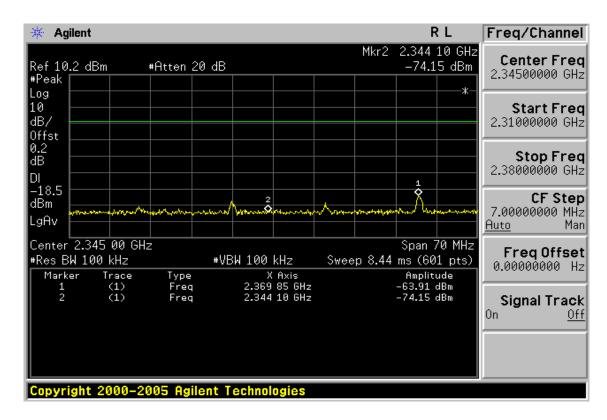


Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 34 of 63

Conducted Emission: Test Data CH-Low (EDR mode)





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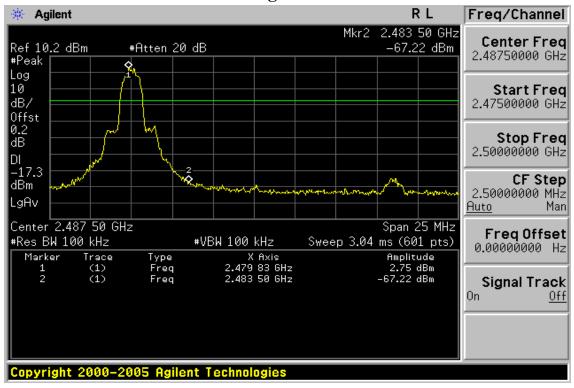
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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 35 of 63

Conducted Emission: Test Data CH-High



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Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 36 of 63

Radiated Emission: (EDR mode)

Operation Mode TX CH Low Test Date Dec. 22, 2009

Fundamental Frequency 2402 MHz Test By Sky Temperature 25 °C Pol Ver.

Humidity 65 %

(MHz) (dBuV) (dBuV) CF(dB) (dBuV/m) (dB

Operation Mode TX CH Low Test Date Dec. 22, 2009

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

Humidity 65 %

	Peak	\mathbf{AV}		A ctua	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)	
23 90 00	43 55		-1 39	33 64		7400	54 00	-2036	Peak

Remark:

- (1) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (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.

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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 37 of 63

Radiated Emission: (EDR mode)

TX CH High Operation Mode Dec. 22, 2009 Test Date

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

Humidity 65 %

	Peak	\mathbf{AV}		A ctu	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	44.24		-0.92	43.32		74.00	54.00	-10.68	Peak
Operation	Mode	TX C	H High			Test	Date	Dec. 22, 2	009
Fundamen	tal Freque	ncy 2480	MHz			Test	By	Sky	
Temperatu	ire	25 ℃				Pol		Hor.	
Humidity		65 %							

		Peak	\mathbf{AV}		A ctu	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)	
_	248356	43 75		-0.92	42. 83		7400	54 00	-1117	Peak

Remark:

- (1) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (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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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 38 of 63

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. Measurement Equipment Used:

9.2.1. Conducted Emission at antenna port:

Refer to section 6.2 for details.

9.2.2. Radiated emission:

Refer to section 7.2 for details.

9.3. Test **SET-UP**:

9.3.1. Conducted Emission at antenna port:

Refer to section 6.3 for details.

9.3.2. Radiated emission:

Refer to section 7.3 for details.

9.4. 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. When measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.
- 5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 6. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 7. Repeat above procedures until all frequency measured were complete.

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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 39 of 63

9.5. 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	

9.6. Measurement Result:

Note: Refer to next page spectrum analyzer data chart and tabular data sheets.

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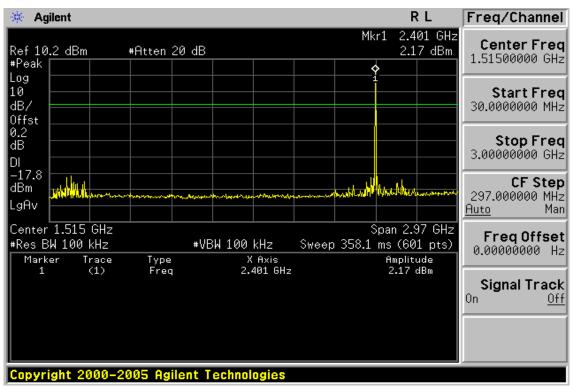
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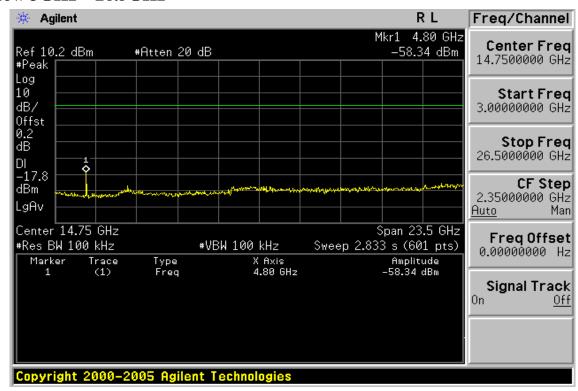
Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 40 of 63

Conducted Spurious Emission Measurement Result (BDR mode) Ch Low 30MHz – 3GHz



Ch Low 3GHz – 26.5GHz



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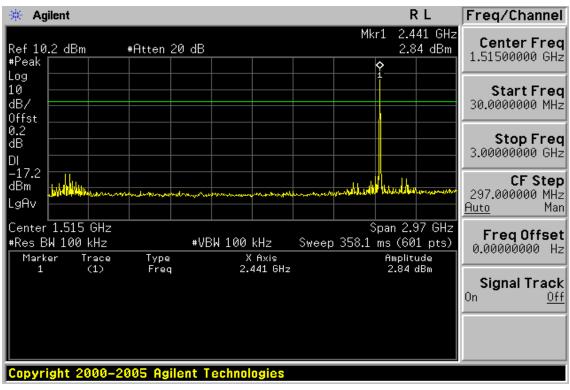
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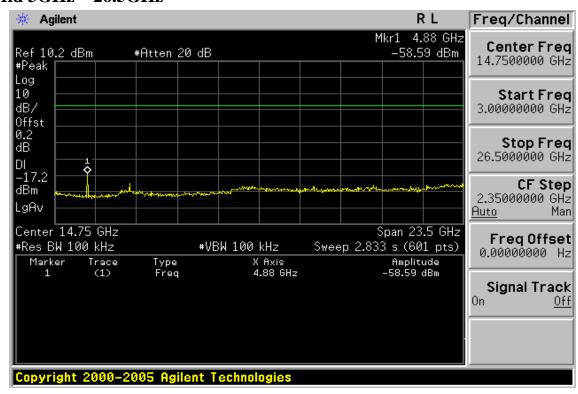
Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 41 of 63

Ch Mid 30MHz - 3GHz



Ch Mid 3GHz - 26.5GHz



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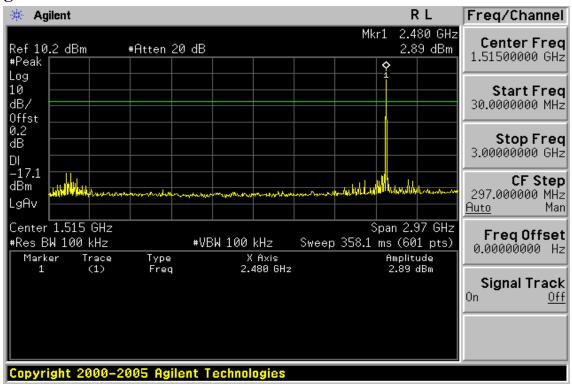
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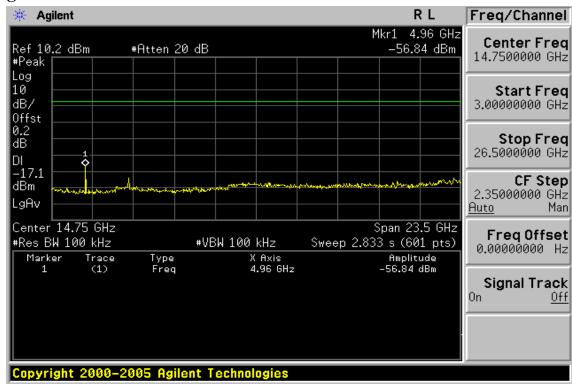
Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 42 of 63

Ch High 30MHz – 3GHz



Ch High 3GHz – 26.5GHz



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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 43 of 63

Radiated Spurious Emission Measurement Result (below 1GHz) (BDR mode)

Operation Mode TX CH Low Test Date Dec. 22, 2009

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

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)
164.83	V	Peak	38.98	-13.69	25.29	43.50	-18.21
232.73	V	Peak	44.39	-14.37	30.02	46.00	-15.98
300.63	V	Peak	40.94	-13.11	27.83	46.00	-18.17
366.59	V	Peak	39.17	-11.17	28.00	46.00	-18.00
528.58	V	Peak	34.43	-8.02	26.41	46.00	-19.59
623.64	V	Peak	34.42	-5.51	28.91	46.00	-17.09
240.49	Н	Peak	39.07	-14.11	24.96	46.00	-21.04
271.53	Н	Peak	39.93	-13.53	30.74	46.00	-15.26
300.63	Н	Peak	43.99	-13.11	30.88	46.00	-15.12
366.59	Н	Peak	38.43	-11.17	27.26	46.00	-18.74
431.58	Н	Peak	36.50	-9.09	31.28	46.00	-14.72
465.53 Remark:	Н	Peak	37.67	-8.55	29.12	46.00	-16.88

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

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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 44 of 63

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode TX CH Mid Dec. 22, 2009 Test Date

Fundamental Frequency 2441MHz Test By Sky Pol Ver./Hor. Temperature 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)
164.83	V	Peak	40.96	-13.69	27.27	43.50	-16.23
232.73	V	Peak	43.72	-14.37	29.35	46.00	-16.65
240.49	V	Peak	41.61	-14.11	27.50	46.00	-18.50
271.53	V	Peak	39.76	-13.53	31.13	46.00	-14.87
300.63	V	Peak	38.45	-13.11	25.34	46.00	-20.66
363.68	V	Peak	40.73	-11.27	31.32	46.00	-14.68
191.99	Н	Peak	36.71	-15.23	21.48	43.50	-22.02
240.49	Н	Peak	37.16	-14.11	23.05	46.00	-22.95
271.53	Н	Peak	38.74	-13.53	25.21	46.00	-20.79
288.99	Н	Peak	42.56	-13.23	29.33	46.00	-16.67
298.69	Н	Peak	41.52	-13.13	28.39	46.00	-17.61
453.89 Remark:	Н	Peak	38.45	-8.60	29.85	46.00	-16.15

- 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 Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.



Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 45 of 63

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode TX CH High Dec. 22, 2009 Test Date

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

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)
164.83	V	Peak	40.55	-13.69	26.86	43.50	-16.64
198.78	V	Peak	39.35	-15.56	23.79	43.50	-19.71
232.73	V	Peak	46.70	-14.37	32.33	46.00	-13.67
271.53	V	Peak	39.95	-13.53	26.42	46.00	-19.58
300.63	V	Peak	39.98	-13.11	26.87	46.00	-19.13
366.59	V	Peak	38.80	-11.17	27.63	46.00	-18.37
240.49	Н	Peak	38.15	-14.11	24.04	46.00	-21.96
288.99	Н	Peak	41.95	-13.23	28.72	46.00	-17.28
300.63	Н	Peak	41.53	-13.11	28.42	46.00	-17.58
453.89	Н	Peak	36.93	-8.60	28.33	46.00	-17.67
528.58	Н	Peak	34.88	-8.02	26.86	46.00	-19.14
604.24 Remark:	Н	Peak	32.81	-5.92	26.89	46.00	-19.11

- 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 Data of measurement within this frequency range shown " " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

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Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 46 of 63

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode TX CH Low Test Date Dec. 22, 2009

Fundamental Frequency 2402 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)
4804.0	35.26		6.04	41.30		74.00	54.00	-12.70
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) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- (4) Spectrum Peak Setting: 1GHz- 26GHz, RBW= 1MHz, VBW= 3MHz, Sweep time= 200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.

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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 47 of 63

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode TX CH Low Dec. 22, 2009 Test Date

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	36.25		6.04	42.29		74.00	54.00	-11.71
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) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.

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Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 48 of 63

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode TX CH Mid Test Date Dec. 22, 2009

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	35.68		6.17	41.85		74.00	54.00	-12.15
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) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.

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Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 49 of 63

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode TX CH Mid Test Date Dec. 22, 2009

Fundamental Frequency 2441 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)
4882.0	37.08		6.17	43.25		74.00	54.00	-10.75
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) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.

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Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 50 of 63

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode TX CH High Test Date Dec. 22, 2009

Fundamental Frequency 2480 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)
4960.0	36.90		6.36	43.26		74.00	54.00	-10.74
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) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.

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Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 51 of 63

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode TX CH High Test Date Dec. 22, 2009

Fundamental Frequency 2480 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)
4960.0	35.21		6.36	41.57		74.00	54.00	-12.43
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) Data of measurement within this frequency range shown "-" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- (4) Spectrum Peak Setting: 1GHz-26GHz, RBW=1MHz, VBW=3MHz, Sweep time=200 ms.
- (5) Spectrum AV Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time=200 ms.

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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 52 of 63

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 Equipment Used:

Refer to section 6.2 for details.

10.3. Test Set-up:

Refer to section 6.3 for details.

10.4. 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 3.0 MHz, Sweep = auto.
- 5. Max hold. Mark 3 Peaks of hopping channel and record the 3 peaks frequency.

10.5. Measurement Result:

Channel separation (MHz)	Limit	Result
1	>=25KHz or 2/3 times 20dB bandwidth	PASS

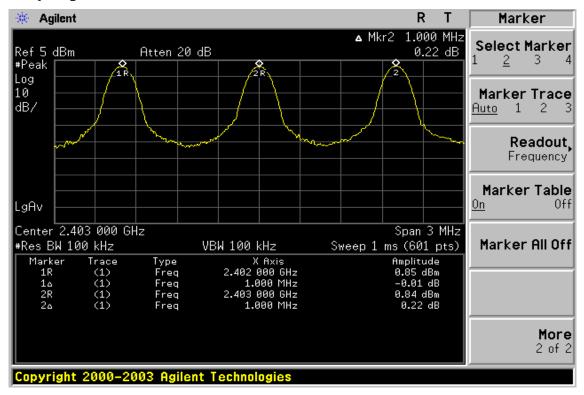
Note: Refer to next page for plots.

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Page: 53 of 63

Frequency Separation Test Data



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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 54 of 63

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 Equipment Used:

Refer to section 6.2 for details.

11.3. Test Set-up:

Refer to section 6.3 for details.

11.4. 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=430KHz, VBW=1MHz.
- 5. Max hold, view and count how many channel in the band.

11.5. Measurement Result:

Note: Refer to next page for plots.

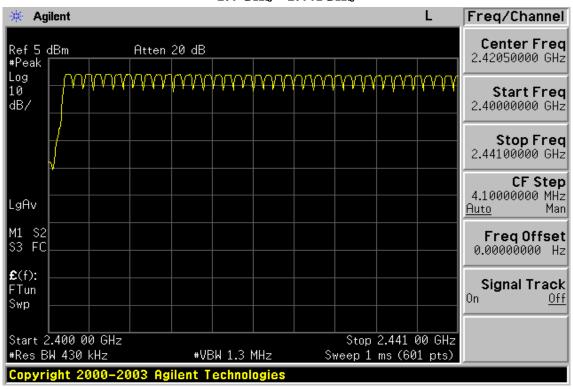


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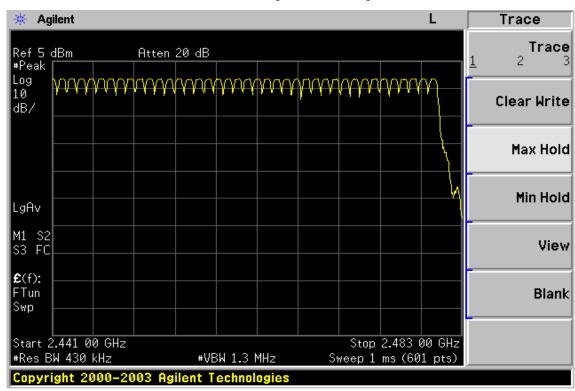
Page: 55 of 63

Channel Number

2.4 GHz - 2.441GHz



2.441 GHz - 2.4835GHz



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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 56 of 63

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 Equipment Used:

Refer to section 6.2 for details.

12.3. Test Set-up:

Refer to section 6.3 for details.

12.4. 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.



Report No.: ER/2009/C0010 Issue Date: Dec. 22, 2009

Page: 57 of 63

12.5. Measurement Result

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

CH Low: DH1 time slot = 0.417 (ms) * (1600/(2*79)) * 31.6 = 133.44 (ms)

DH3 time slot = 1.667 (ms) * (1600/(4*79)) * 31.6 = 266.72 (ms)

DH5 time slot = 2.925 (ms) * (1600/(6*79)) * 31.6 = 312.00 (ms)

CH Mid: DH1 time slot = 0.417 (ms) * (1600/(2*79)) * 31.6 = 133.44 (ms)

DH3 time slot = 1.667 (ms) * (1600/(4*79)) * 31.6 = 266.72 (ms)

DH5 time slot = 2.925 (ms) * (1600/(6*79)) * 31.6 = 312.00 (ms)

CH High: DH1 time slot = 0.417 (ms) * (1600/(2*79)) * 31.6 = 133.44 (ms)

DH3 time slot = 1.667 (ms) * (1600/(4*79)) * 31.6 = 266.72 (ms)

DH5 time slot = 2.925 (ms) * (1600/(6*79)) * 31.6 = 312.00 (ms)

Note: Refer to next page for plots.

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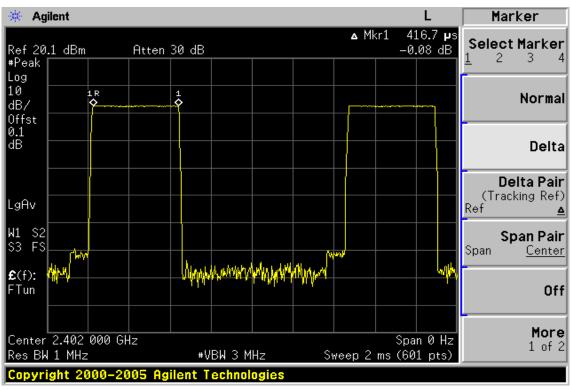
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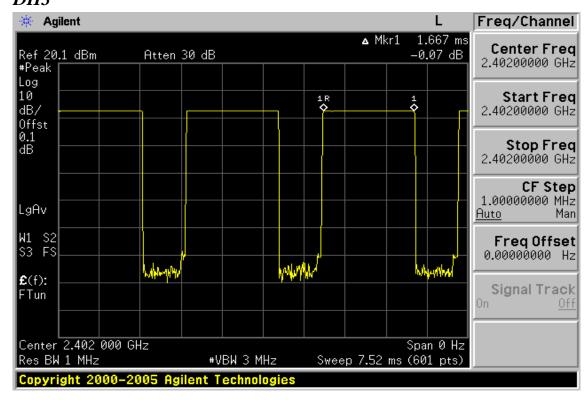
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Page: 58 of 63

CH-Low DH1



DH3



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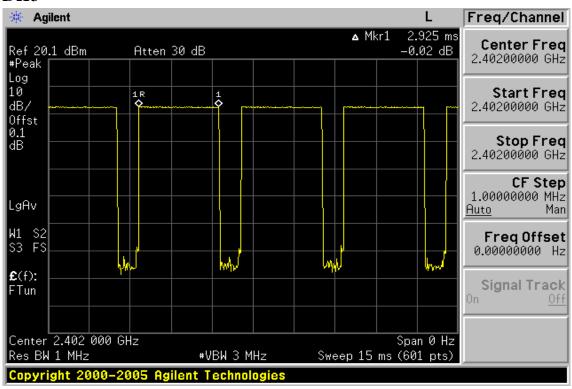
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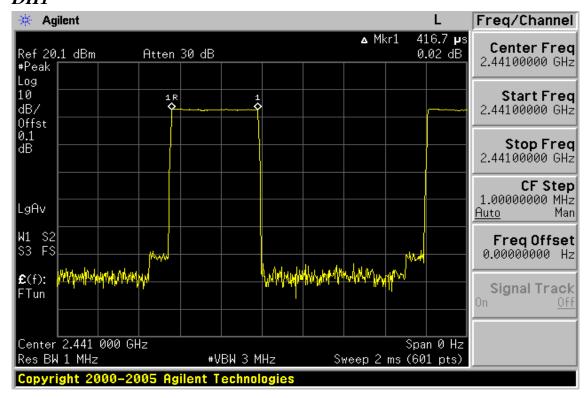
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DH5



CH-Mid

DH1



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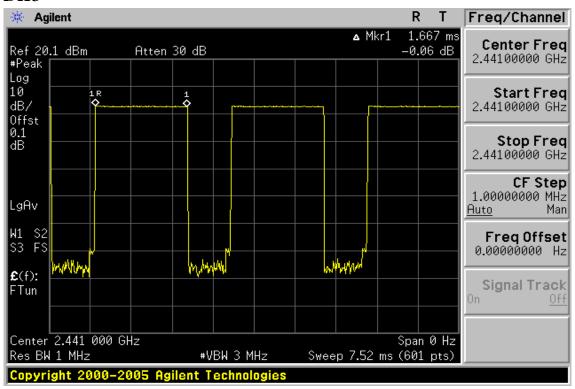
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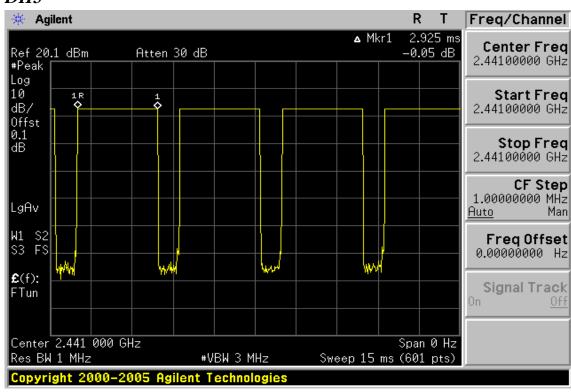
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Page: 60 of 63

DH3



DH5



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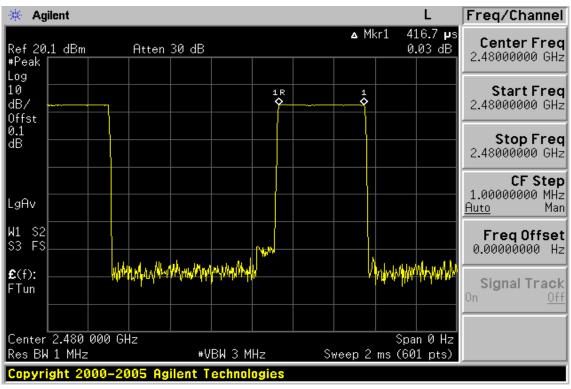
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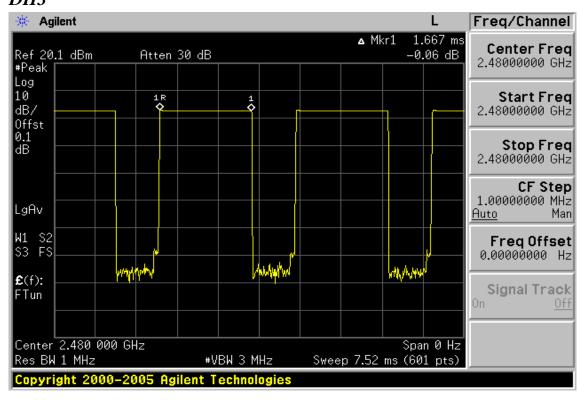
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Page: 61 of 63

CH-High DH1



DH3



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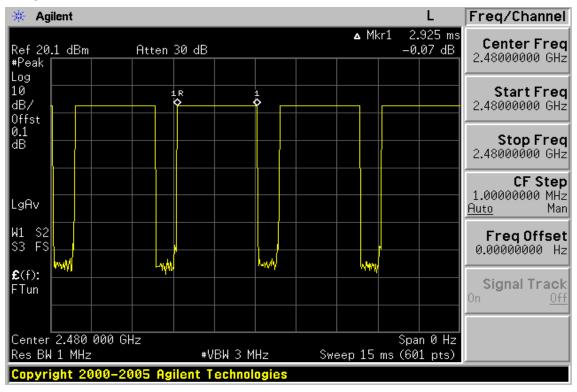
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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 62 of 63

DH5



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Report No.: ER/2009/C0010 **Issue Date: Dec. 22, 2009**

Page: 63 of 63

13. ANTENNA REQUIREMENT

13.1. 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.

13.2. Antenna Connected Construction

The directional gains of antenna used for transmitting is 2.023 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Please see EUT photo for details.