

Report No.: ER/2011/80010 Issue Date: Aug. 26, 2011

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ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C REQUIREMENT

OF

Product Name: 2.4GHz wireless mouse

Brand Name: N/A

Model No.: L007MR

Model Difference: N/A

FCC ID: P5A-CL0024

Report No.: ER/2011/80010

Issue Date: Aug. 26, 2011

FCC Rule Part: §15.249

Prepared for: **ARESON Technology Corp.**

11F, No.646, Sec.5, Chongsin Rd., San Chung

Dist., New Taipei City 241, Taiwan (R.O.C.)

SGS Taiwan Ltd. Prepared by:

Electronics & Communication Laboratory

No. 134, Wu Kung Rd., Wuku Industrial Zone,

Taipei County, Taiwan.



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VERIFICATION OF COMPLIANCE

Applicant: ARESON Technology Corp.

11F, No.646, Sec.5, Chongsin Rd., San Chung Dist., New Taipei City

241, Taiwan (R.O.C.).

Product Description: 2.4GHz wireless mouse

Brand Name: N/A

FCC ID: P5A -CL0024

Model No.: L007MR

N/A **Model Difference:**

File Number: ER/2011/80010

Date of test: Aug. 05, 2011 ~ Aug. 26, 2011

Date of EUT Received: Aug. 05, 2011

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd., Electronics & Communication Laboratory. 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 15.249.

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

Test By:	tur Su	Date:	Aug. 26, 2011	
Prepared By:	Eric Su / Asst. Supervisor Chemy Chem	Date:	Aug. 26, 2011	
Approved By:	Cherry Chen / Clerk Jim Chang / Supervisor	Date:	Aug. 26, 2011	

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Version

Version No.	Date	Description
00	Aug. 26, 2011	Initial creation of document

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GENERAL INFORMATION

1.1 Product Description

Product Name:	2.4GHz wireless mouse	
Brand Name:	N/A	
Model No.:	L007MR	
Model Difference:	N/A	
Hardware Version	Ver00	
Software Version	Version 105	
Operation Frequency:	2408~2474MHz	
Channel Number:	67 Channels	
Transmit Power:	99.71 dBuV/m	
Modulation Type:	GFSK	
Power Supply	DC 3Vdc from AAA battery *2	
Antenna Designation:	PCB Antenna, 0dBi	

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1.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: P5A -CL0024 filing to comply with Section 15.249 of the FCC Part 15, Subpart C Rules.

1.3 Test Methodology

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

1.4 Test Facility

The 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 is: 990257 and 236194, Canada Registration Number: 4620A-4.

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.

1.5 Special Accessories

Not available for this EUT intended for grant.

1.6 Equipment Modifications

Not available for this EUT intended for grant.

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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 Transmitter was operated in the engineering operating mode, the Tx frequency was fixed which was for the purpose of the measurements.

Test Procedure

2.3.1 Conducted Emissions

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

2.3.2 Radiated Emissions

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

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Limitation

(1) Conducted Emission

According to section 15.207(a) Conducted Emission Limits is as following.

Frequency	Conducted Limit (dBuV)		
(MHz)	Quasi-Peak	Average	
0.15 - 0.5	66 - 56	56 - 46	
0.5 - 5	56	46	
5 - 30	60	50	

(2) Radiated Emission 15.249(a)

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following.

Frequency (MHz)	Field strength of Fundamental			
, ,			2	
902 - 928	50 mV/m	500 uV/m	3	
	(94dBuV/m)	(54dBuV/m)		
2400 – 2483.5	50 mV/m	500 uV/m	3	
	(94dBuV/m) (54dBuV/m)			
5725 – 5875	50 mV/m 500 uV/m		3	
	(94dBuV/m) (54dBuV/m)			
24.0 – 24.25 GHz	250 mV/m	250 mV/m 2500 uV/m		
	(107.95dBuV/m)	(67.95dBuV/m)		

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(3) Radiated Emission15.249 (d)

Emission Radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in Section 15.209 as below, whichever is the lesser attenuation.

Frequency	Field strength	Distance (m)	Field strength at 3m
(MHz)	μV/m		dBμV/m
1.705-30	30	30	69.54
30-88	100	3	40
88-216	150	3	43.5
216-960	200	3	46
Above 960	500	3	54

(4) Radiated Emission 15.249(e)

For frequencies above 1000MHz, the above field strength limits are based on average limits. The peak filed strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20dB under any condition of modulation.

Remark: 1. Emission level in dBuV/m=20 log (uV/m)

- 2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
- 3. Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of ξ 15.205
- 4. Emission spurious frequency which appearing within the Restricted Bands specified in provision of ξ 15.205, then the general radiated emission limits in ξ 15.209 apply.

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Configuration of Tested System 2.5

Fig. 2-1 Configuration

EUT

Table 2-2 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	Notebook	DELL	D505	20995915456	Un-shielded	Un-shielded

Note: All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.

Grounding: Grounding was in accordance with the manufacturer's requirements and conditions for the intended use.

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Summary of Test Results

FCC Rules	Description Of Test	Result
§15.207	Conducted Emission	N/A
§15.249(a)(e)	Radiated Emission	Compliant
§15.249(d)	20dB band width Measurement	Compliant

Description of test modes

The EUT has been tested under operating condition. The EUT is staying in continuous transmitting mode.

Channel low (2408MHz) · mid (2441MHz) and high (2474MHz) with highest data rate are chosen for full testing.

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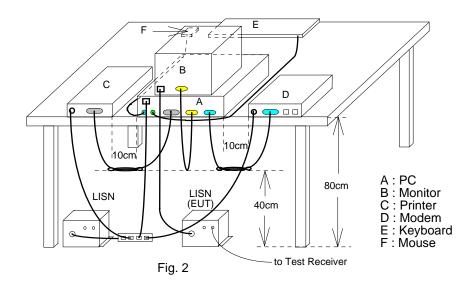
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Conducted Emissions Test

5.1 **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.

5.2 Test SET-UP (Block Diagram of Configuration)



5.3 **Measurement Equipment Used:**

Conducted Emission Test Site						
EQUIPMENT	EQUIPMENT MFR		SERIAL	LAST	CAL DUE.	
TYPE		NUMBER	NUMBER	CAL.		
EMI Test Receiver	R&S	ESCS30	828985/004	09/23/2010	09/22/2012	
LISN	Rolf-Heine	NNB-2/16Z	99012	03/31/2011	03/30/2012	
LISN	FCC	FCC-LISN-50/250-25-2-01	04034	03/31/2011	03/30/2012	
Coaxial Cables	N/A	WK CE Cable	N/A	11/28/2010	11/27/2011	

Measurement Result:

DC 3V powered by AAA battery*2

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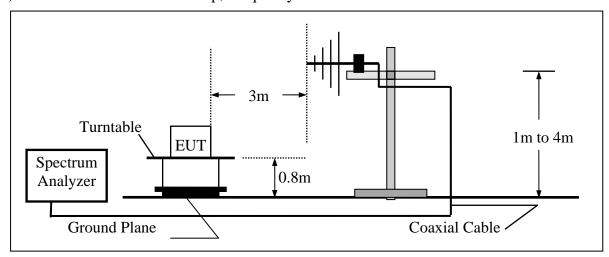
Radiated Emission Test

6.1 **Measurement Procedure**

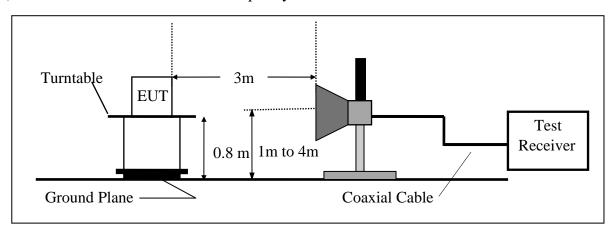
- The EUT was placed on a turntable that is 0.8m above ground plane.
- 2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 4. Repeat above procedures until all frequency measured were complete.

6.2 Test SET-UP (Block Diagram of Configuration)

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



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



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Measurement Equipment Used:

966 Chamber						
EQUIPMENT	EQUIPMENT MFR		SERIAL	LAST	CAL DUE.	
TYPE		NUMBER	NUMBER	CAL.		
Spectrum Analyzer	R&S	FSP 40	100034	03/30/2011	03/29/2012	
Bilog Antenna	SCHWAZBECK	VULB9160	3136	11/19/2010	11/18/2011	
Horn antenna	SCHWAZBECK	BBHA 9120D	309/320	01/22/2010	01/21/2012	
Pre-Amplifier	Agilent	8447D	1937A02834	11/28/2010	11/27/2011	
Pre-Amplifier	Agilent	8449B	3008A01973	01/05/2011	01/04/2012	
Radio Communication Analyzer	R & S	CMU200	102189	08/12/2010	08/11//2012	
DC Block	Agilent	BLK-18	155452	07/05/2011	07/04/2012	
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	01/05/2011	01/04/2012	
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	01/05/2011	01/04/2012	
3m Site	SGS	966 chamber	N/A	09/06/2010	09/05/2011	

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	

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6.5 **Measurement Result**

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode TX CH Low Test Date Aug. 24, 2011

Fundamental Frequency 2408MHz Test By Eric **Temperature** Pol Ver./Hor 24 °C

Humidity 61 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
53.28	V	Peak	30.03	-14.08	15.95	40.00	-24.05
99.84	V	Peak	33.21	-16.70	16.51	43.50	-26.99
143.49	V	Peak	30.40	-12.80	17.60	43.50	-25.90
191.99	V	Peak	30.33	-15.57	14.76	43.50	-28.74
239.52	V	Peak	29.79	-14.06	15.73	46.00	-30.27
451.95	V	Peak	30.60	-9.76	20.84	46.00	-25.16
117.30	Н	Peak	29.49	-14.83	14.66	43.50	-28.84
145.43	Н	Peak	29.80	-12.65	17.15	43.50	-26.35
167.74	Н	Peak	29.31	-12.73	16.58	43.50	-26.92
216.24	Н	Peak	31.23	-15.33	15.90	46.00	-30.10
239.52	Н	Peak	30.96	-14.06	16.90	46.00	-29.10
450.01	Н	Peak	31.15	-9.78	21.37	46.00	-24.63

Remark:

- 1 No further spurious emissions detected from the lowest internal frequency and 30MHz.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak / QP detector mode.
- 4 Measurement result 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.
- 5 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz, VBW=300KHz.

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Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode TX CH Mid Test Date Aug. 24, 2011

Fundamental Frequency 2441MHz Test By Eric Pol Ver./Hor **Temperature** 24 °C

Humidity 61 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
145.43	V	Peak	28.70	-12.65	16.05	43.50	-27.45
163.86	V	Peak	28.88	-12.35	16.53	43.50	-26.97
191.99	V	Peak	30.43	-15.57	14.86	43.50	-28.64
216.24	V	Peak	30.97	-15.33	15.64	46.00	-30.36
240.49	V	Peak	30.73	-14.06	16.67	46.00	-29.33
286.08	V	Peak	29.43	-12.81	16.62	46.00	-29.38
53.28	Н	Peak	29.93	-14.08	15.85	40.00	-24.15
99.84	Н	Peak	33.46	-16.70	16.76	43.50	-26.74
143.49	Н	Peak	30.08	-12.80	17.28	43.50	-26.22
216.24	Н	Peak	30.01	-15.33	14.68	46.00	-31.32
240.49	Н	Peak	29.65	-14.06	15.59	46.00	-30.41
393.75	Н	Peak	28.89	-11.00	17.89	46.00	-28.11

Remark:

- 1 No further spurious emissions detected from the lowest internal frequency and 30MHz.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak / QP detector mode.
- 4 Measurement result 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.
- 5 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz, VBW=300KHz.

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Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode TX CH High Test Date Aug. 24, 2011

Fundamental Frequency 2474MHz Test By Eric Pol Ver./Hor **Temperature** 24 °C

Humidity 61 %

Freq.	Ant.Pol.	Detector Mode	Reading	Factor	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
53.28	V	Peak	29.39	-14.08	15.31	40.00	-24.69
99.84	V	Peak	33.62	-16.70	16.92	43.50	-26.58
143.49	V	Peak	29.76	-12.80	16.96	43.50	-26.54
191.99	V	Peak	30.36	-15.57	14.79	43.50	-28.71
240.49	V	Peak	30.32	-14.06	16.26	46.00	-29.74
276.38	V	Peak	28.74	-13.06	15.68	46.00	-30.32
153.19	Н	Peak	29.43	-12.18	17.25	43.50	-26.25
216.24	Н	Peak	32.29	-15.33	16.96	46.00	-29.04
240.49	Н	Peak	30.36	-14.06	16.30	46.00	-29.70
252.13	Н	Peak	29.84	-13.84	16.00	46.00	-30.00
263.77	Н	Peak	30.01	-13.43	16.58	46.00	-29.42
286.08	Н	Peak	29.69	-12.81	16.88	46.00	-29.12

Remark:

- 1 No further spurious emissions detected from the lowest internal frequency and 30MHz.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak / QP detector mode.
- 4 Measurement result 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.
- 5 The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz, VBW=300KHz.

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode: TX CH Low Test Date: Aug. 24, 2011

Fundamental Frequency: 2408MHz Test By: Eric Pol: Vertical Temperature: 24 °C

60 % Humidity:

		Peak	\mathbf{AV}		Actual	Actual	Peak Limit	AV Limit		
Freq.	Ant.Pol.	Reading	Reading	Factor	Peak FS	AV FS	at 3m	at 3m	Margin	
(MHz)	H/V	(dBuV)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
2408.0	V	90.57	89.61	-0.98	89.59	88.63	114.00	94.00	-5.37	F
4816.0	V	34.04		5.19	39.23		74.00	54.00	-14.77	Н
7224.0	V						74.00	54.00		Н
9632.0	V						74.00	54.00		Н
12040.0	V						74.00	54.00		Н
14448.0	V						74.00	54.00		Н
16856.0	V						74.00	54.00		Н
19264.0	V						74.00	54.00		Н
21672.0	V						74.00	54.00		Н
24080.0	V						74.00	54.00		Н

Remark:

- 1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency
- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 "F" denotes fundamental frequency; "H" denotes harmonics frequency. "S" denotes spurious frequency.
- 4 Measurement of data 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.
- 5 Spectrum Peak mode IF bandwidth Setting: 1GHz-26GHz, RBW=1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 6 Spectrum AV mode if bandwidth Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time= 200 ms.

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode: TX CH Low Test Date: Aug. 24, 2011

Fundamental Frequency: 2408MHz Test By: Eric

Pol: Temperature: 24 °C Horizontal

Humidity: 60 %

		Peak	\mathbf{AV}		Actual	Actual	Peak Limit	AV Limit		
Freq.	Ant.Pol.	Reading	Reading	Factor	Peak FS	AV FS	at 3m	at 3m	Margin	
(MHz)	H/V	(dBuV)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
2408.0	Н	88.52	87.66	-0.98	87.54	86.68	114.00	94.00	-7.32	F
4816.0	Н	33.79		5.19	38.98		74.00	54.00	-15.02	Н
7224.0	Н						74.00	54.00		Н
9632.0	Н						74.00	54.00		Н
12040.0	Н						74.00	54.00		Н
14448.0	Н						74.00	54.00		Н
16856.0	Н						74.00	54.00		Н
19264.0	Н						74.00	54.00		Н
21672.0	Н						74.00	54.00		Н
24080.0	Н						74.00	54.00		Н

Remark:

- 1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental
- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 "F" denotes fundamental frequency; "H" denotes harmonics frequency. "S" denotes spurious frequency.
- 4 Measurement of data 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.
- 5 Spectrum Peak mode IF bandwidth Setting: 1GHz- 26GHz, RBW= 1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 6 Spectrum AV mode if bandwidth Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time= 200 ms.

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode: TX CH Mid Test Date: Aug. 24, 2011

Fundamental Frequency: 2441MHz Test By: Eric Pol: Temperature: 24 °C Vertical

Humidity: 60 %

		Peak	\mathbf{AV}		Actual	Actual	Peak Limit	AV Limit		
Freq.	Ant.Pol.	Reading	Reading	Factor	Peak FS	AV FS	at 3m	at 3m	Margin	
(MHz)	H/V	(dBuV)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
2441.0	V	88.68	88.35	-0.49	88.19	87.86	114.00	94.00	-6.14	F
4882.0	V	33.33		5.38	38.71		74.00	54.00	-15.29	Н
7323.0	V						74.00	54.00		Н
9764.0	V						74.00	54.00		Н
12205.0	V						74.00	54.00		Н
14646.0	V						74.00	54.00		Н
17087.0	V						74.00	54.00		Н
19528.0	V						74.00	54.00		Н
21969.0	V						74.00	54.00		Н
24410.0	V						74.00	54.00		Н

Remark:

- 1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency
- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 "F" denotes fundamental frequency; "H" denotes harmonics frequency. "S" denotes spurious frequency.
- 4 Measurement of data 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.
- 5 Spectrum Peak mode IF bandwidth Setting: 1GHz-26GHz, RBW=1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 6 Spectrum AV mode if bandwidth Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time= 200 ms.

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode: TX CH Mid Test Date: Aug. 24, 2011

Fundamental Frequency: 2441MHz Test By: Eric

Pol: Temperature: 24 °C Horizontal

Humidity: 60 %

		Peak	\mathbf{AV}		Actual	Actual	Peak Limit	AV Limit		
Freq.	Ant.Pol.	Reading	Reading	Factor	Peak FS	AV FS	at 3m	at 3m	Margin	
(MHz)	H/V	(dBuV)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
2441.0	Н	90.33	89.62	-0.49	99.71	89.13	114.00	94.00	-4.87	F
4882.0	Н	33.26		5.38	38.64		74.00	54.00	-15.36	Н
7323.0	Н						74.00	54.00		Н
9764.0	Н						74.00	54.00		Н
12205.0	H						74.00	54.00		Н
14646.0	H						74.00	54.00		Н
17087.0	H						74.00	54.00		Н
19528.0	H						74.00	54.00		Н
21969.0	Н						74.00	54.00		Н
24410.0	Н						74.00	54.00		Н

Remark:

- 1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency
- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 "F" denotes fundamental frequency; "H" denotes harmonics frequency. "S" denotes spurious frequency.
- 4 Measurement of data 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.
- 5 Spectrum Peak mode IF bandwidth Setting: 1GHz-26GHz, RBW=1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 6 Spectrum AV mode if bandwidth Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time= 200 ms.

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode: TX CH High Test Date: Aug. 24, 2011

Fundamental Frequency: 2474MHz Test By: Eric Pol: Temperature: 24 °C Vertical

Humidity: 60 %

		Peak	\mathbf{AV}		Actual	Actual	Peak Limit	AV Limit		
Freq.	Ant.Pol.	Reading	Reading	Factor	Peak FS	AV FS	at 3m	at 3m	Margin	
(MHz)	H/V	(dBuV)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
2474.0	V	88.57	87.74	-0.59	87.98	87.15	114.00	94.00	-6.85	F
4948.0	V	33.55		5.56	39.11		74.00	54.00	-14.89	Н
7422.0	V						74.00	54.00		Н
9896.0	V						74.00	54.00		Н
12370.0	V						74.00	54.00		Н
14844.0	V						74.00	54.00		Н
17318.0	V						74.00	54.00		Н
19792.0	V						74.00	54.00		Н
22266.0	V						74.00	54.00		Н
24740.0	V						74.00	54.00		Н

Remark:

- 1 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency
- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 "F" denotes fundamental frequency; "H" denotes harmonics frequency. "S" denotes spurious frequency.
- 4 Measurement of data 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.
- 5 Spectrum Peak mode IF bandwidth Setting: 1GHz-26GHz, RBW=1MHz, Sweep time= 200 ms., the VBW setting was 3 MHz.
- 6 Spectrum AV mode if bandwidth Setting: 1GHz-26GHz, RBW=1MHz, VBW=10Hz, Sweep time= 200 ms.

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Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode: TX CH High Test Date: Aug. 24, 2011

Fundamental Frequency: 2474MHz Test By: Eric

Pol: Temperature: 24 °C Horizontal

Humidity: 60 %

		Peak	\mathbf{AV}		Actual	Actual	Peak Limit	AV Limit		
Freq.	Ant.Pol.	Reading	Reading	Factor	Peak FS	AV FS	at 3m	at 3m	Margin	
(MHz)	H/V	(dBuV)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
2474.0	Н	88.16	87.36	-0.59	99.71	86.77	114.00	94.00	-7.23	F
4948.0	Н	32.81		5.56	38.37		74.00	54.00	-15.63	Н
7422.0	H						74.00	54.00		Н
9896.0	H						74.00	54.00		Н
12370.0	H						74.00	54.00		Н
14844.0	H						74.00	54.00		Н
17318.0	Н						74.00	54.00		Н
19792.0	Н						74.00	54.00		Н
22266.0	Н						74.00	54.00		Н
24740.0	Н						74.00	54.00		Н

Remark:

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- 2 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 3 "F" denotes fundamental frequency; "H" denotes harmonics frequency. "S" denotes spurious frequency.
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7. 20 dB Band Width Measurement

7.1 Measurement Procedure

- 1. The EUT was placed on a turn table which is 0.8m above ground plane.
- 2. Set ETU normal operating mode.
- 3. Set SPA Center Frequency = fundamental frequency, RBW = 100kHz, VBW = 300kHz, Span =1MHz.
- 4. Set SPA Max hold. Mark peak, -20dB.

7.2 Test SET-UP (Block Diagram of Configuration)

Same as 4.2 Radiated Emission Measurement.

7.3 Measurement Equipment Used:

Same as 4.2 Radiated Emission Measurement.

7.4 Measurement Results:

2408 Channel = 1.212MHz

2441 Channel = 1.260MHz

2474 Channel = 1.688MHz

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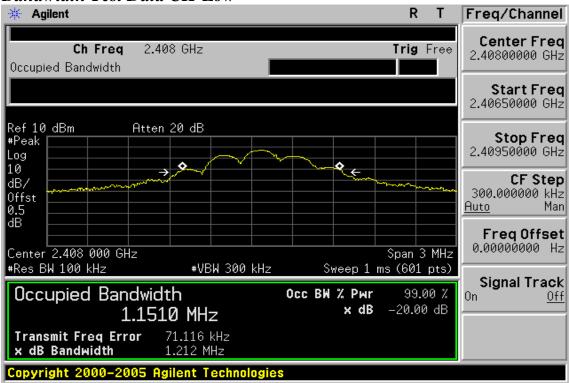
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20dB Bandwidth Test Data CH-Low



20dB Bandwidth Test Data CH-Mid



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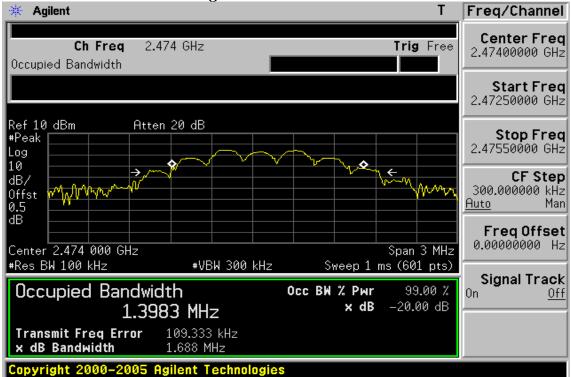
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20dB Bandwidth Test Data CH-High



~ End of Report ~

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