ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C REQUIREMENT AND INDUSTRY CANADA RSS-210

OF

Product Name:	**Scala-rider TeamSet Driver**
Brand Name:	**Cardo**
Model Name:	**Scala-rider TeamSet Driver**
Model Difference:	**N/A**
IC:	**4668A-ER06**
FCC ID:	**Q95ER06**
Report No.:	**EF/2008/80006**
Issue Date:	**Aug. 14, 2008**
Rule Part:	**FCC Part 15C:2005, §15.249,**
	RSS-210 issue 7:2007, Annex 2.9
Prepared for:	**Cardo System Inc.**
	100 High Tower St., Pittsburghm PA15205, USA
Prepared by:	**SGS Taiwan Ltd.**
	Electronics & Communication Laboratory
	No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei County, Taiwan.

Testing Laboratory
0513

VERIFICATION OF COMPLIANCE

Applicant:	Cardo System Inc. 100 High Tower St., Pittsburghm PA15205, USA
Product Name:	Scala-rider TeamSet Driver
Brand Name:	Cardo
IC:	4668A-ER06
FCC ID:	Q95ER06
Model No.:	Scala-rider TeamSet Driver
Model Difference:	N/A
File Number:	EF/2008/80007
Date of test:	Aug. 01, 2008 ~ Aug. 11, 2008
Date of EUT Received:	Aug. 01, 2008

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 15C:2005, §15.249 and RSS-210 issue 7: 2007 Annex 2.9.
The test results of this report relate only to the tested sample identified in this report.

Test By:		***Date***	Aug. 14, 2008
	Bondi Liu / Engineer		
Prepared By:		***Date***	Aug. 14, 2008
	Eva Kao / Asst. Supervisor		
Approved By:		***Date***	Aug. 14, 2008
	Vincent Su / Manager		

Version

Version No.	Date	Description
00	Aug. 14, 2008	Initial creation of document

Table of Contents

1. GENERAL INFORMATION

1.1 Product Description

Product Name:	Scala-rider TeamSet Driver
Brand Name:	Cardo
Model Name:	Scala-rider TeamSet Driver
Model Difference:	N/A
Hardware Version:	1
Software Version:	1
Simple Hands-Free (SHF):	1
Data Cable (USB):	N/A
Power Supply	3.7Vdc re-chargeable battery or 5Vdc form AC adapter, model: KSCFB0900030W1US

Bluetooth:

Bluetooth Version	☐ V1.1 (GFSK) ☐ V1.2 (GFSK) ☒ V2.0 (GFSK) ☐ V2.0 + EDR (GFSK + π /4DQPSK + 8DPSK) ☐ V2.1 + EDR (GFSK + π /4DQPSK + 8DPSK)
Frequency Range	2402 – 2480MHz
Channel number	79 channels max.
Rated Power	3.99 dBm (Peak)
Modulation type	Frequency Hopping Spread Spectrum
Antenna Designation	Micro-Strip Antenna / 0dBi.
Type of Emission	882KF1D

The EUT is compliance with Bluetooth Standard.

Others

Operating Frequency	2402MHz
Transmit Power	<10mW
Modulation Technique	GFSK
Channel Numbers	1 channel
Channel Separation	N/A
Operating Mode	Point-to-Point

This report is applies for 2402MHz Transmitter.

1.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID: Q95ER06** filing to comply with Section 15.249 of the FCC Part 15C, Subpart C Rules. And **IC: 4668A-ER06** filing to comply with Industry Canada RSS-210 issue 7: 2007 Annex 2.9.

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. 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. 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.

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

2.3 Test Procedure

2.3.1Conducted 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.

2.3.2Radiated 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.

2.4 Configuration of Tested System

Fig. 2-1 Configuration of TX

Table 2-2 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	FCC ID	Series No.	Data Cable	Power Cord
1.	N/A						

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.

3. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§15.207(a)/ RSS-Gen §7.2.2	AC Power Line Conducted Emission	Compliant
§15.249(a) RSS-210 issue 7,§A2.9(1)(2)	Field Strength Measurement	Compliant
§15.247(c) RSS-210 issue 7, §A2.9(1)(2)	TX/RX Spurious Emission	Compliant
RSS-Gen §4.4.1	99% Power Bandwidth	Compliant

4. DESCRIPTION OF TEST MODES

The EUT has been tested under engineering testing condition.

EUT is staying in continuous transmitting mode is programmed.

Channel (2402MHz) with 1kHz audio source was chosen for full testing.

The TX 2402MHz is not simultaneous with BT.

5. CONDUCTED EMISSION TEST

5.1. Standard Applicable

According to §15.207 and RSS-Gen §7.2.2, frequency range 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 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 AC/DC Power adaptor of EUT was plug-in LISN. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
3. The LISN 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:

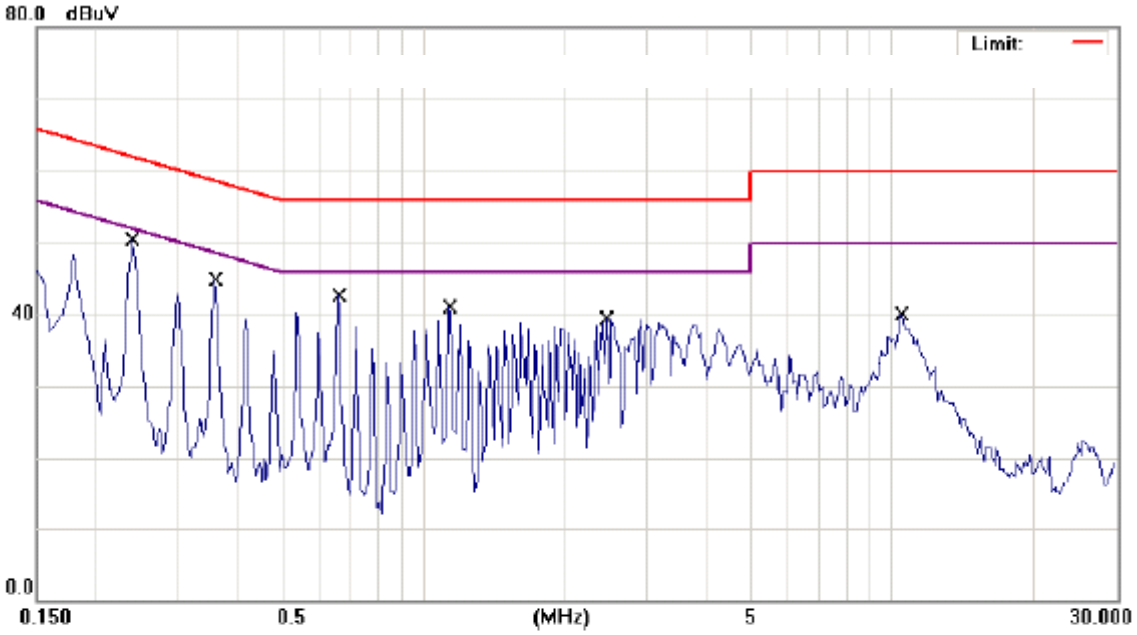
Conducted Emission Test Site					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
EMI Test Receiver	R&S	ESCS30	828985/004	09/15/2007	09/14/2008
LISN	Rolf-Heine	NNB-2/16Z	99012	02/18/2008	02/17/2009
LISN	FCC	FCC-LISN-50/250-25-2-01	04034	02/18/2008	02/17/2009
Coaxial Cables	N/A	WK CE Cable	N/A	10/30/2007	10/29/2008

5.5. Measurement Result

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

AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	Charger mode			Test Date:	Aug. 11, 2008
Temperature:	25 ℃	Humidity:	62%	Test By:	Bondi

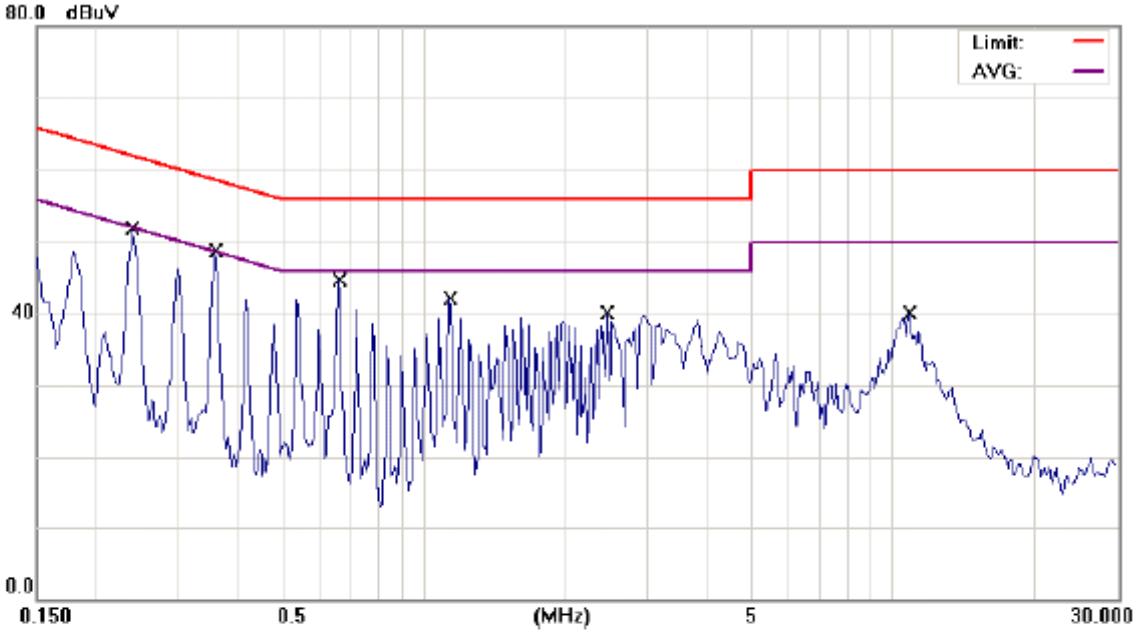


Site SGS CONDUCTED #1
Limit: CISPR22 Class B Conduction(QP)
EUT: scala-rider TeamSet Driver
M/N: scala-rider TeamSet Driver
Note: Charger mode

Phase: L1
Power: AC 120V/60Hz
Distance:

Temperature: 25 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.2400	50.30	0.15	50.45	62.10	-11.65	QP	
2		0.2400	39.00	0.15	39.15	52.10	-12.95	AVG	
3		0.3600	44.76	0.10	44.86	58.73	-13.87	QP	
4		0.6600	42.71	0.05	42.76	56.00	-13.24	QP	
5		1.1400	41.11	0.04	41.15	56.00	-14.85	QP	
6		2.4700	39.42	0.04	39.46	56.00	-16.54	QP	
7		10.4750	40.09	0.10	40.19	60.00	-19.81	QP	



Site SGS CONDUCTED #1
Limit: CISPR22 Class B Conduction(QP)
EUT: scala-rider TeamSet Driver
M/N: scala-rider TeamSet Driver
Note: Charger mode

Phase: *N*
Power: AC 120V/60Hz
Distance:

Temperature: 25 ℃
Humidity: 62 %
Air Pressure: hpa

No.	Mk.	Freq.	Reading Level	Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2400	51.83	0.13	51.96	62.10	-10.14	QP	
2		0.2400	41.00	0.13	41.13	52.10	-10.97	AVG	
3	*	0.3600	48.70	0.09	48.79	58.73	-9.94	QP	
4		0.3600	35.00	0.09	35.09	48.73	-13.64	AVG	
5		0.6600	44.69	0.04	44.73	56.00	-11.27	QP	
6		1.1400	42.05	0.03	42.08	56.00	-13.92	QP	
7		2.4700	40.05	0.03	40.08	56.00	-15.92	QP	
8		10.8250	39.98	0.20	40.18	60.00	-19.82	QP	

6. FIELD STRENGTH TEST

6.1 Standard Applicable

(1) Radiated Emission 15.249(a) and According to RSS-210 issue 7,§A2.9(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	Field strength of Harmonics	Distance (m)
902 - 928	50 mV/m (94dBuV/m)	500 uV/m (54dBuV/m)	3
2400 – 2483.5	50 mV/m (94dBuV/m)	500 uV/m (54dBuV/m)	3
5725 – 5875	50 mV/m (94dBuV/m)	500 uV/m (54dBuV/m)	3
24.0 – 24.25 GHz	250 mV/m (107.95dBuV/m)	2500 uV/m (67.95dBuV/m)	3

(2) Radiated Emission15.249 (d) and RSS-210 issue 7,§A2.9(b)

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 (MHz)	Field strength μV/m	Distance (m)	Field strength at 3m 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

(3) 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 ξ15.205, then the general radiated emission limits in ξ 15.209 apply.

6.2 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 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.

6.3 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 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.

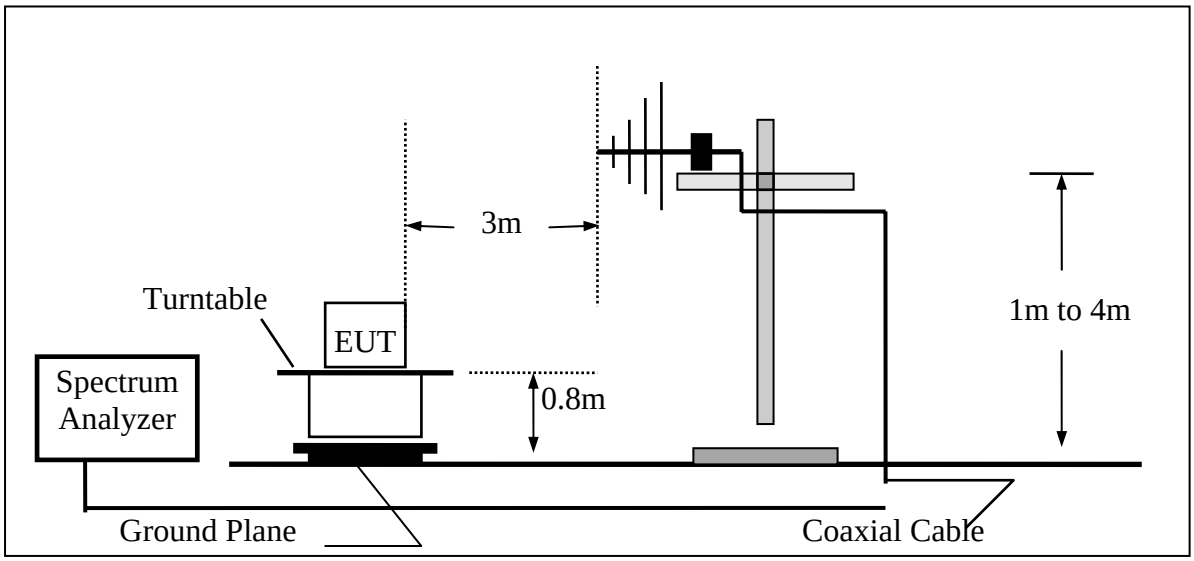
5 Maximum procedure was performed on the six highest emissions to ensure EUT compliance.

6 And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

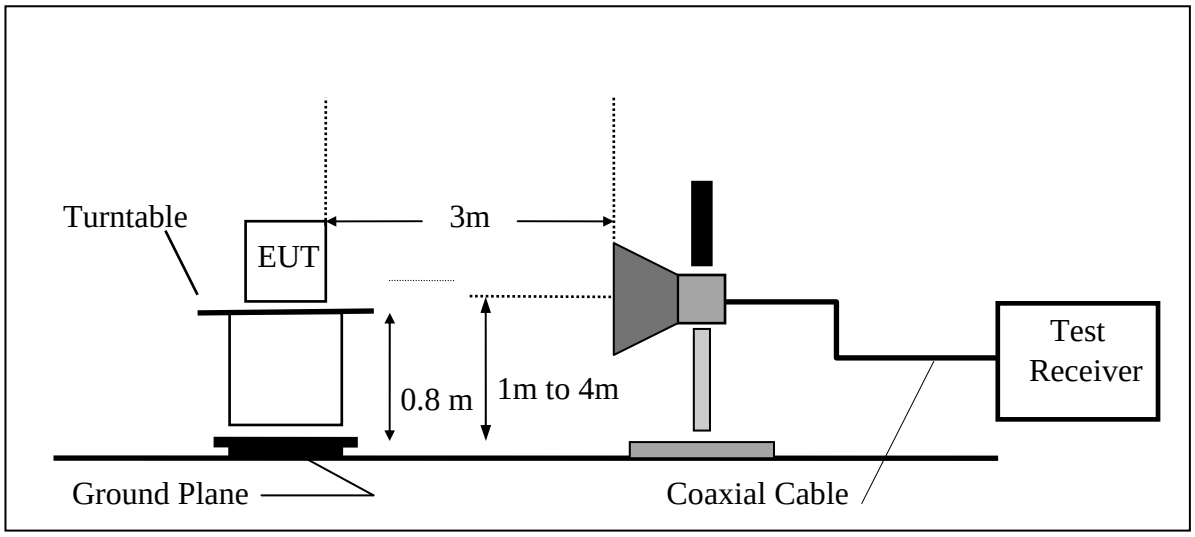
7 Repeat above procedures until all frequency measured were complete.

7.1 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



7.2 Measurement Equipment Used:

966 Chamber					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Spectrum Analyzer	R&S	FSP 40	100034	02/22/2008	02/21/2009
Spectrum Analyzer	Agilent	E7405A	US41160416	07/04/2007	07/03/2009
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/19/2008	04/18/2010
Bilog Antenna	SCHWAZBECK	VULB9160	9160-3158	11/29/2007	11/28/2008
Horn antenna	Schwarzbeck	BBHA 9120D	9120D-673	05/09/2008	05/10/2010
Horn antenna	Schwarzbeck	BBHA 9170	184/185	12/31/2007	12/30/2008
Pre-Amplifier	HP	8447F	3113A06892	01/05/2008	01/04/2009
Pre-Amplifier	HP	8449B	3008A01973	01/05/2008	01/04/2009
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	01/05/2008	01/04/2009
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	01/05/2008	01/04/2009

7.3 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	

7.4 Measurement Result

Refer to attach tabular data sheets.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	TX	Test Date	Aug. 14, 2008
Fundamental Frequency	2402MHz	Test By	Bondi
Temperature	25 ℃	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	40.63	-13.76	26.87	40.00	-13.13
58.13	V	Peak	41.64	-14.66	26.98	40.00	-13.02
104.69	V	Peak	40.45	-16.63	23.82	43.50	-19.68
51.34	H	Peak	45.97	-14.19	31.78	40.00	-8.22
58.13	H	Peak	43.23	-14.66	28.57	40.00	-11.43
75.59	H	Peak	42.38	-17.13	25.25	40.00	-14.75

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) 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, VBW=300KHz.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode:	TX	Test Date :	Aug. 14, 2008
Fundamental Frequency:	2402MHz	Test By:	Bondi
Temperature :	25 ℃	Pol:	Vertical
Humidity :	65 %		

Freq. (MHz)	Ant.Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)	
2402.0	V	89.86	--	-1.36	88.50	--	114.00	94.00	-5.50	F
1188.5	V	40.58	--	-7.33	33.25	--	74.00	54.00	-20.75	H
4804.0	V	42.45	--	5.99	48.44	--	74.00	54.00	-5.56	H
7206.0	V	--	--			--	74.00	54.00		H
9608.0	V	--	--			--	74.00	54.00		H
12010.0	V	--	--			--	74.00	54.00		H
14412.0	V	--	--			--	74.00	54.00		H
16814.0	V	--	--			--	74.00	54.00		H
19216.0	V	--	--			--	74.00	54.00		H
21618.0	V	--	--			--	74.00	54.00		H
24020.0	V	--	--			--	74.00	54.00		H

Remark：

(1) Measuring frequencies from 30MHz to the 10tth 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) 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.

(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 B bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode:	TX	Test Date :	Aug. 14, 2008
Fundamental Frequency:	2402MHz	Test By:	Bondi
Temperature :	25 ℃	Pol:	Horizontal
Humidity :	65 %		

Freq. (MHz)	Ant.Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Factor (dB)	Actual Peak FS (dBuV/m)	Actual AV FS (dBuV/m)	Peak Limit at 3m (dBuV/m)	AV Limit at 3m (dBuV/m)	Margin (dB)	
2402.0	V	89.86	--	-1.36	88.50	--	114.00	94.00	-5.50	F
1793.0	V	38.69	--	-4.47	34.22	--	74.00	54.00	-19.78	H
4804.0	V	40.38	--	5.99	46.37	--	74.00	54.00	-7.63	H
7206.0	V	--	--			--	74.00	54.00		H
9608.0	V	--	--			--	74.00	54.00		H
12010.0	V	--	--			--	74.00	54.00		H
14412.0	V	--	--			--	74.00	54.00		H
16814.0	V	--	--			--	74.00	54.00		H
19216.0	V	--	--			--	74.00	54.00		H
21618.0	V	--	--			--	74.00	54.00		H
24020.0	V	--	--			--	74.00	54.00		H

Remark:

(1) Measuring frequencies from 30MHz to the 10tth 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) 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.

(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 B bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	RX	Test Date	Aug. 14, 2008
Fundamental Frequency	2402MHz	Test By	Bondi
Temperature	25 ℃	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	41.21	-13.76	27.45	40.00	-12.55
58.13	V	Peak	41.58	-14.66	26.92	40.00	-13.08
51.34	H	Peak	46.83	-14.19	32.64	40.00	-7.36
75.59	H	Peak	41.66	-17.13	24.53	40.00	-15.47

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) 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, VBW=300KHz.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode:	RX	Test Date :	Aug. 14, 2008
Fundamental Frequency:	2402MHz	Test By:	Bondi
Temperature :	25 ℃	Pol:	Vertical
Humidity :	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
4804.0	----					74.00	54.00	
7206.0	----					74.00	54.00	
9608.0	----					74.00	54.00	
12010.0	----					74.00	54.00	
14412.0	----					74.00	54.00	

Remark：

(1) Measuring frequencies from 30MHz to the 10tth 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) 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.

(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 B bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode:	RX	Test Date :	Aug. 14, 2008
Fundamental Frequency:	2402MHz	Test By:	Bondi
Temperature :	25 ℃	Pol:	Horizontal
Humidity :	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
4804.0	----					74.00	54.00	
7206.0	----					74.00	54.00	
9608.0	----					74.00	54.00	
12010.0	----					74.00	54.00	
14412.0	----					74.00	54.00	

Remark:

(1) Measuring frequencies from 30MHz to the 10tth 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) 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.

(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 B bandwidth Setting : 1GHz- 26GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

7. 26dB and 99% Bandwidth Measurement

7.1 Standard Applicable

26 dB Bandwidth and 99% Bandwidth

RSS-Gen §4.4.1, the transmitter shall be operated at its maximum carrier power measured under normal test conditions. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1% of the selected span as is possible without being below 1%. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual.

The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded.

The span between the two recorded frequencies is the occupied bandwidth.

7.2 Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/19/2008	04/18/2010
Spectrum Analyzer	Agilent	E7405A	US41160416	07/04/2007	07/03/2009
Spectrum Analyzer	R&S	FSP 40	100034	02/22/2008	02/21/2009
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	N/A	N/A
Attenuator	Mini-Circuit	BW-S6W5	N/A	07/05/2008	07/04/2009

7.3 Test Set-up:

Refer to section 2.4.

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=1% of the approximate emission bandwidth, VBW = 3 times RBW, Span= approximately 20dB below the peak level. Sweep=auto
4. Turn on the 99% bandwidth function, max reading..
5. Repeat above procedures until all frequency measured were complete.

7.5 Measurement Result

CH	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
2402MHz	1.339	0.989

99% & 26dB Band Width test Plot