



EMC Test Data

Client:	Ricoh	Job Number:	J83980
Model:	eQ101 (FCC ID: BBP-W3GEWS101)	T-Log Number:	T84001
		Account Manager:	Christine Krebill
Contact:	Jay Moulton @ RF Exposure		
Emissions Standard(s):	FCC 15.247, 15.E, Part 22/24	Class:	B

EMC Test Data

For The

Ricoh

Model

eQ101 (FCC ID: BBP-W3GEWS101)

Date of Last Test: 9/1/2011

Client:	Ricoh	Job Number:	J83980
Model:	eQ101 (FCC ID: BBP-W3GEWS101)	T-Log Number:	T84001
Contact:	Jay Moulton @ RF Exposure	Account Manager:	Christine Krebill
Standard:	FCC 15.247, 15.E, Part 22/24	Class:	N/A

FCC Part 22 and 24 Power and Spurious Emissions

Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

General Test Configuration

With the exception of the radiated spurious emissions tests, all measurements are made with the EUT's rf port connected to the measurement instrument via an attenuator or dc-block if necessary. All amplitude measurements are adjusted to account for the attenuation between EUT and measuring instrument. For frequency stability measurements the EUT was placed inside an environmental chamber.

Radiated measurements are made with the EUT located on a non-conductive table, 3m from the measurement antenna.

Ambient Conditions:

Temperature:	20.4 °C
Rel. Humidity:	37 %

Summary of Results

Run #		Test Performed	Limit	Pass / Fail	Result / Margin
1		Output Power (Radiated)	34 dBm EIRP (PCS) 38.5 dBm ERP (AMPS)	Pass	22H: 22.8 dBm @ 824.7 MHz ERP 24E: 24.7 dBm @ 1851.25 MHz EIRP

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

Client:	Ricoh	Job Number:	J83980
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Contact:	Jay Moulton @ RF Exposure	Account Manager:	Christine Krebill
Standard:	FCC 15.247, 15.E, Part 22/24	Class:	N/A

Run #1: Output Power - Radiated (ERP/EIRP)

Date: 8/22/2011

Engineer: David Bare

Location: FT chamber #3

Test setup: EUT on test table. Antennas connected to the RF output ports. Wireless connection to the call box. Measured the L, M, H channels for each band. Each measurement needs to be done in three orientation, as the device is handheld. All measurements taken with RBW=1MHz, VBW=3MHz.

Preliminary tests demonstrated that the fundamental field strength was highest with the EUT placed flat on the test table.

Testing performed in the mode with the highest output power noted in the original certification filing report.

Sample 2011-1384

Frequency	Level	Pol	FCC Part 22/24		Detector	Azimuth	Height	Comments	Channel
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
1851.250	114.5	V	-	-	PK	267	1.1	PK (0.10s)	EUT Flat
1851.250	109.2	H	-	-	PK	98	1.0	PK (0.10s)	EUT Flat
1880.000	111.5	V	-	-	PK	123	1.1	PK (0.10s)	EUT Flat
1880.000	107.7	H	-	-	PK	96	1.3	PK (0.10s)	EUT Flat
1908.750	113.4	V	-	-	PK	95	1.0	PK (0.10s)	EUT Flat
1908.750	109.3	H	-	-	PK	126	1.1	PK (0.10s)	EUT Flat
824.700	111.1	V	-	-	PK	86	1.9	PK (0.10s)	EUT Flat
824.700	118.4	H	-	-	PK	38	1.0	PK (0.10s)	EUT Flat
836.520	108.6	V	-	-	PK	209	1.8	PK (0.10s)	EUT Flat
836.520	118.3	H	-	-	PK	40	1.0	PK (0.10s)	EUT Flat
848.310	111.3	V	-	-	PK	78	1.6	PK (0.10s)	EUT Flat
848.310	118.1	H	-	-	PK	40	1.0	PK (0.10s)	EUT Flat

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Standard:	FCC 15.247, 15.E, Part 22/24	Class:	N/A

Substitution measurements

Horizontal

Frequency MHz	Substitution measurements			Site Factor ⁴	EUT measurements			eirp Limit dBm	erp Limit dBm	Margin dB
	Pin ¹	Gain ²	FS ³		FS ⁵	eirp (dBm)	erp (dBm)			
824.700	-4.2	2.2	91.4	93.4	118.4		22.8			
836.520	-4.2	2.2	91.4	93.4	118.3		22.7			
848.310	-4.2	2.2	91.2	93.2	118.1		22.7			
1851.250	-6.5	8.3	89.5	87.7	109.2	21.5				
1880.000	-6.5	8.3	92.1	90.3	107.7	17.4				
1908.750	-6.5	8.3	92.4	90.6	109.3	18.7				

Vertical

Frequency MHz	Substitution measurements			Site Factor ⁴	EUT measurements			eirp Limit dBm	erp Limit dBm	Margin dB
	Pin ¹	Gain ²	FS ³		FS ⁵	eirp (dBm)	erp (dBm)			
824.700	-4.2	2.2	88.1	90.1	111.1		18.8			
836.520	-4.2	2.2	87.8	89.8	108.6		16.6			
848.310	-4.2	2.2	86.8	88.8	111.3		20.3			
1851.250	-6.5	8.3	91.6	89.8	114.5	24.7				
1880.000	-6.5	8.3	90.9	89.1	111.5	22.4				
1908.750	-6.5	8.3	93.2	91.4	113.4	22.0				

Note 1: Pin is the input power (dBm) to the substitution antenna

Note 2: Gain is the gain (dBi) for the substitution antenna.

Note 3: FS is the field strength (dBuV/m) measured from the substitution antenna.

Note 4: Site Factor - this is the site factor to convert from a field strength in dBuV/m to an eirp in dBm.

Note 5: EUT field strength as measured during initial run.

Radiated Emissions, Fundamental and 1,500 - 20,000 MHz, 22-Aug-11**Engineer: David Bare**

<u>Manufacturer</u>	<u>Description</u>	<u>Model #</u>	<u>Asset #</u>	<u>Cal Due</u>
Hewlett Packard	SpecAn 9 KHz-26.5 GHz, Non-Program	8563E	284	13-Jan-12
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	870	28-Feb-12
Hewlett Packard	High Pass filter, 3.5 GHz	P/N 84300-80038	1157	05-Aug-12
EMCO	Antenna, Horn, 1-18 GHz (SA40-Blu)	3115	1386	21-Sep-12
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1630	13-Apr-12
Hewlett Packard	High Pass filter, 1.5 GHz (Purple System)	P/N 84300-80037 (84125C)	1769	29-Nov-11
Sunol Sciences	Biconilog, 30-3000 MHz	JB3	2237	14-Jul-12