



EMC Emission - TEST REPORT

Test Report File No. : **WC700020** Date of issue: 12 January 2007

Model / Serial No. : **RSU-2510-R / 0082-0300-6500055**

Product Name : **Expedience 2.496-2.690 GHz RSU**

Product Type : **BRS/EBS Residential Subscribe Unit (RSU)**

Applicant : **Motorola Incorporated Nextnet Wireless Product Group**

Manufacturer : **Motorola Incorporated Nextnet Wireless Product Group**

License Holder : **Motorola Incorporated Nextnet Wireless Product Group**

Address : **299 Johnson Avenue
Suite 120
Waseca, MN 56093**

Test Result : **Positive** **Negative**

Test Project Number Reference(s) : **WC700020**

Total pages including Appendices **58**

TÜV America Inc reports apply only to the specific samples tested under stated test conditions. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. TÜV America Inc shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV America Inc issued reports.

This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval. This report shall not be used by the client to claim product endorsement by NVLAP, NIST, or any agency of the US government.

TÜV America Inc and its professional staff hold government and professional organization certifications and are members of AAMI, ACIL, AEA, ANSI, IEEE, NVLAP, and VCCI

D I R E C T O R Y

Documentation	Page(s)
Test Regulations	<u>3</u>
Test setup drawings and photos	<u>7 - 10</u>
Test Operation Mode, Configuration of the device under test, Deviations from standard	<u>11</u>
General Remarks and Summary	<u>12</u>

Test Results	FCC	IC	Page(s)
Radiated emissions - Transmitter	27.53	RSS-193 6.3	<u>4</u>
Radiated emissions - Receiver	15.205, 15.209	RSS-Gen 6(a)	<u>5</u>
Conducted emissions	15.107	RSS-Gen 7.2.2	<u>6</u>

Appendix A	Page(s)
Test data	<u>13 - 46</u>

Appendix B	Page(s)
Constructional data form & Block diagram	<u>47 - 56</u>

Appendix C	Page(s)
Measurement Protocol	<u>57 - 58</u>

Sign Explanations:
 - not applicable
 - applicable

EMISSIONS TEST REGULATIONS :

The emissions tests were performed according to following regulations:

- | | | |
|---|---|---|
| <input type="checkbox"/> - EN 50081-1 / 1991 | <input type="checkbox"/> - Group 1 | <input type="checkbox"/> - Group 2 |
| <input type="checkbox"/> - EN 55011 / 1991 | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
| <input type="checkbox"/> - EN 55013 / 1990 | | |
|
 | | |
| <input type="checkbox"/> - EN 55014 / 1987 | <input type="checkbox"/> - Household appliances and similar | |
| | <input type="checkbox"/> - Portable tools | |
| | <input type="checkbox"/> - Semiconductor devices | |
|
 | | |
| <input type="checkbox"/> - EN 55014 / A2:1990 | <input type="checkbox"/> - Household appliances and similar | |
| <input type="checkbox"/> - EN 55014 / 1993 | <input type="checkbox"/> - Portable tools | |
| | <input type="checkbox"/> - Semiconductor devices | |
|
 | | |
| <input type="checkbox"/> - EN 55015 / 1987 | | |
| <input type="checkbox"/> - EN 55015 / A1:1990 | | |
| <input type="checkbox"/> - EN 55015 / 1993 | | |
| <input type="checkbox"/> - EN 55022 / 1987 | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
| <input type="checkbox"/> - EN 55022 / 1991 | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
|
 | | |
| <input type="checkbox"/> - BS | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
| <input type="checkbox"/> - VCCI | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
|
 | | |
| <input checked="" type="checkbox"/> - FCC Part 15 Subpart B | <input type="checkbox"/> - Class A | <input checked="" type="checkbox"/> - Class B |
| <input type="checkbox"/> - FCC Part 15 Subpart C | | |
| <input checked="" type="checkbox"/> - FCC Part 27 Subpart C | | |
|
 | | |
| <input type="checkbox"/> - CISPR 11 (1990) | <input type="checkbox"/> - Group 1 | <input type="checkbox"/> - Group 2 |
| | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
|
 | | |
| <input type="checkbox"/> - CISPR 22 (1993) | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
|
 | | |
| <input checked="" type="checkbox"/> - IC RSS-Gen Issue 1 | | |
| <input checked="" type="checkbox"/> - IC RSS-193 Issue 1 | | |

Radiated emission limits - Transmitter, FCC 27.53, IC RSS-193 6.3

Test summary

The requirements are: - MET - NOT MET

Minimum margin of compliance is 11 dB at 782.2 MHz, run 1

Test location

- Wild River Lab Large Test Site (Open Area Test Site)

- Wild River Lab Small Test Site (Open Area Test Site)

Test Distance

- 3 meters

- 10 meters

Test equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
3203	EM-6917B	Electro-Metrics	Biconicalog Periodic	106	02-May-07
2690	8566B	Hewlett-Packard	Spectrum Analyzer	2430A00930	12 May 07
2673	85662A	Hewlett-Packard	Analyzer Display	2152A03687	12 May 07
2684	85650A	Hewlett-Packard	Quasi-Peak Adapter	2521A01006	15 Mar 07
2075	3115	EMCO	Ridge Guide Ant. 1-18 GHz	9001-3275	07-Dec-06
3847	ZHL-1042J	Mini-Circuits	Preamplifier 10 - 3000 MHz	0607	Code B 05 May 07
3935	F548B-1	Acronetics	1 – 2 GHz Bandpass Filter	010	Code B 11-Oct-07
N/A	L2G010G2	Microwave Circuits	Low Pass Filter	85441	Code B 24-Mar-07
N/A	H04G1862	Acronetics	High Pass Filter	89099	Code B 24-Mar-07
3333	SME03	Rhode & Schwarz	Signal Generator	100003	07-Jun-07
3236	UHAP-10dB	Schwarzbeck	Dipole Antenna 300-1000	164	N/A
3958	SL18B4020	Phase One Microwave	Preamplifier 1 – 18 GHz	0002	Code B 24-May-07
3161		Weinschel	Attenuator	1	Code B 11-Oct-07

Cal Code B = Calibration verification performed internally.

Test limit

-13.0 dBm

Test Data

Pages 14 – 27 (RE run 1)

Radiated emission limits - Receiver, FCC 15.205, FCC 15.209, IC RSS-Gen 6(a)

Test summary

The requirements are: - MET - NOT MET

Minimum margin of compliance is 2 dB at 150.0 MHz, run 2

Test location

- Wild River Lab Large Test Site (Open Area Test Site)

- Wild River Lab Small Test Site (Open Area Test Site)

Test Distance

- 3 meters

- 10 meters

Test equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
3203	EM-6917B	Electro-Metrics	Biconicalog Periodic	106	02-May-07
2690	8566B	Hewlett-Packard	Spectrum Analyzer	2430A00930	12 May 07
2673	85662A	Hewlett-Packard	Analyzer Display	2152A03687	12 May 07
2684	85650A	Hewlett-Packard	Quasi-Peak Adapter	2521A01006	15 Mar 07
2075	3115	EMCO	Ridge Guide Ant. 1-18 GHz	9001-3275	07-Dec-06
3847	ZHL-1042J	Mini-Circuits	Preamplifier 10 - 3000 MHz	0607	Code B 05 May 07
3958	SL18B4020	Phase One Microwave	Preamplifier 1 – 18 GHz	0002	Code B 24-May-07

Cal Code B = Calibration verification performed internally.

Test limit

Spurious Frequency (MHz)	Field Strength (microvolt/m at 3 metres)
30-88	100
88-216	150
216-960	200
Above 960	500

Test Data

Pages 29 - 40 (RE run 2)

Conducted emissions - AC power lines - Class B limits, FCC 15.107, IC RSS-Gen 7.2.2

Test summary

The requirements are: - MET - NOT MET
 Minimum margin of compliance is 9 dB at 151 kHz, run 3

Test location

- Wild River Lab Large Test Site (Open Area Test Site)
 - Wild River Lab Small Test Site (Open Area Test Site)

Test equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
2417	3825/2	Electro-Mechanics (EMCO)	50 Ω LISN (yellow tape*)	8812-1439	Code B 10-Feb-07
2534	ESHS-20	Rhode & Schwarz	EMI Receiver	837055/003	27-Feb-07

Cal Code B = Calibration verification performed internally.

Test limit

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

*Decreases with the logarithm of the frequency.

Test Data

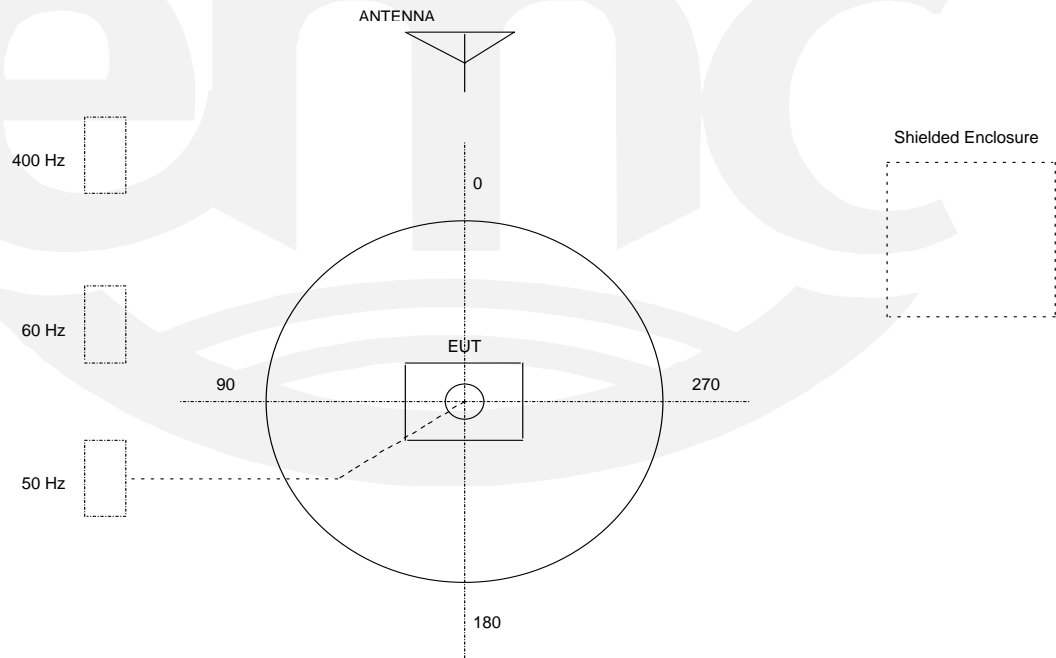
Pages 41 – 46 (CE run 3)

TEST SETUP FOR EMISSIONS TESTING

WILD RIVER LAB Large Test Site

Notes:

1. Items shown in dotted lines are located on the floor below the test area. It is 5 meters vertically from the ground floor to the test area.
2. 50 Hz, 60 Hz, and 400 Hz are power panels for alternating current.
3. The antenna may be positioned horizontally 3, 10 or 30 meters from the center of the turntable.
4. The circle is a 6.7 meter diameter turntable.
5. A ground plane is in the plane of this sheet.
6. The test sample is shown in the azimuthal position representing zero degrees.



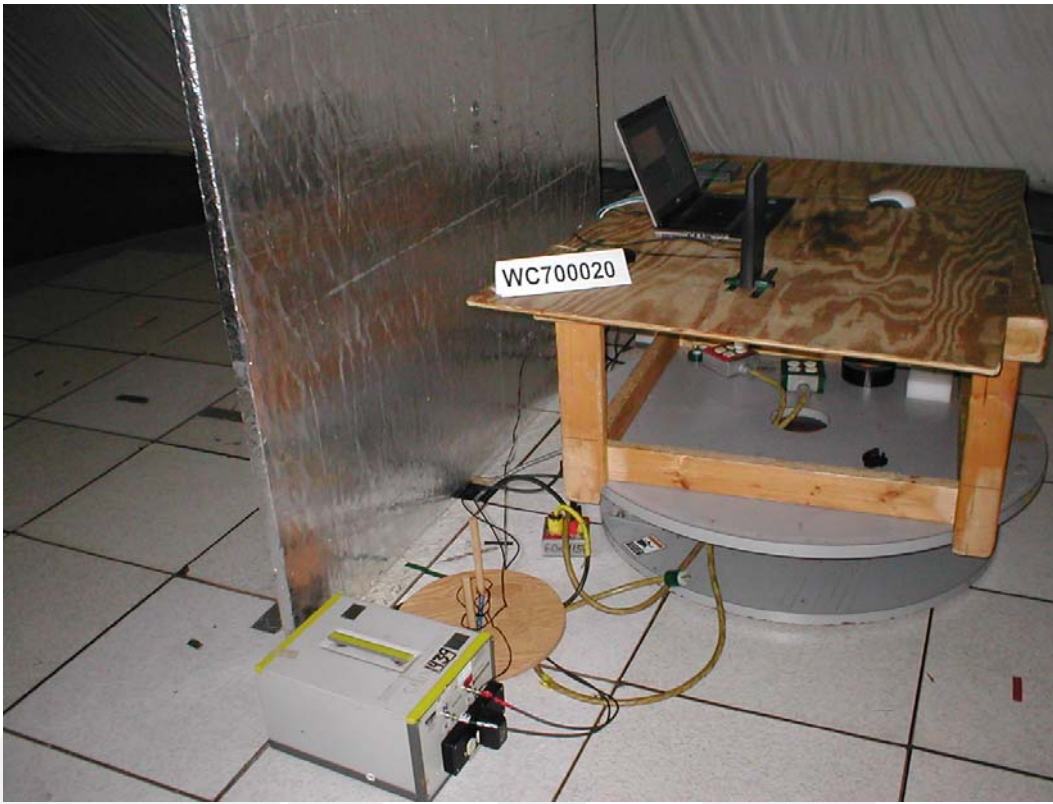
Test setup photo, radiated emissions



Test setup photo, radiated emissions



Test setup photo, conducted emissions on AC mains



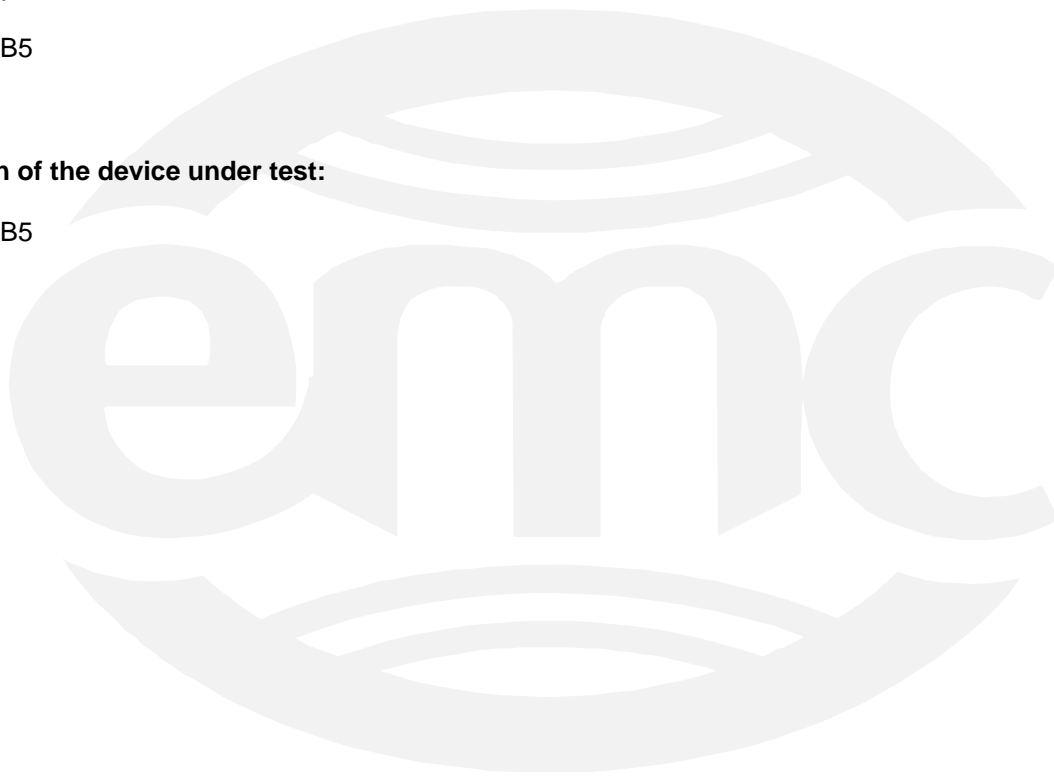
Test Operation Mode:

The device under test was operated under the following conditions during emissions testing:

- Standby
- Test program (H - Pattern)
- Test program (color bar)
- Test program (customer specific)
- Practice operation
- See page B5

Configuration of the device under test:

- See page B5



DEVIATIONS FROM STANDARD:

None.

GENERAL REMARKS:Modifications required to pass:

- None
- Added 5 pf Caps to C201, C202, C203, and C204 ethernet lines as indicated on the data sheets in run 2.

Test Specification Deviations: Additions to or Exclusions from:

- None
- As indicated in the Test Plan

SUMMARY:

The requirements according to the technical regulations are

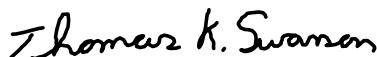
- met
- **not** met.

The device under test does

- fulfill the general approval requirements mentioned on page 3.
- **not** fulfill the general approval requirements mentioned on page 3.

EUT Received Date: 03 January 2007
Condition of EUT: Normal
Testing Start Date: 03 January 2007
Testing End Date: 09 January 2007

- TÜV AMERICA INC -



T. K. Swanson
EMC Technician



S. L. Rupp
EMC Technical Writer

Appendix A

Test Data



RADIATED EMISSIONS



America

Test Report #: WC700020 Run 1 Test Area: LTS

EUT Model #: RSU-2510-R Date: 1/3/2007

EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C

Test Method: FCC B Air Pressure: 98.0 kPa

Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Transmitter

Data File Name: 0020.dat Page: 1 of 14

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 -13dBm GUIDELINE < 1GHz	DELTA2 -13dBm GUIDELINE > 1GHz
Scan 30 to 1000 MHz						
Configuration 1 = 6.0 MHz channel bandwidth: RF Freq = 2499 MHz						
30.0 MHz	44.0 Qp	0.45 / 21.3 / 30.14 / 0.0	35.61	V / 1.00 / 0	-48.77	n/a
31.338 MHz	44.28 Qp	0.46 / 20.78 / 30.12 / 0.0	35.4	V / 1.00 / 0	-48.98	n/a
43.794 MHz	41.15 Qp	0.54 / 15.97 / 29.94 / 0.0	27.72	V / 1.00 / 0	-56.66	n/a
58.746 MHz	46.1 Qp	0.63 / 11.83 / 29.73 / 0.0	28.84	V / 1.00 / 0	-55.54	n/a
68.952 MHz	47.05 Qp	0.67 / 10.03 / 29.58 / 0.0	28.18	V / 1.00 / 0	-56.2	n/a
84.679 MHz	66.03 Qp	0.76 / 7.45 / 29.52 / 0.0	44.73	V / 1.00 / 0	-39.65	n/a
109.368 MHz	49.96 Qp	0.86 / 9.54 / 29.55 / 0.0	30.81	V / 1.00 / 0	-53.57	n/a
120.001 MHz	51.05 Qp	0.9 / 8.95 / 29.57 / 0.0	31.33	V / 1.00 / 0	-53.05	n/a
150.007 MHz	64.24 Qp	1.0 / 9.53 / 29.55 / 0.0	45.23	V / 1.00 / 0	-39.15	n/a
172.987 MHz	46.75 Qp	1.1 / 9.65 / 29.52 / 0.0	27.99	V / 1.00 / 0	-56.39	n/a
200.006 MHz	49.35 Qp	1.17 / 11.0 / 29.56 / 0.0	31.96	V / 1.00 / 0	-52.42	n/a
254.126 MHz	69.01 Qp	1.33 / 12.07 / 29.65 / 0.0	52.76	V / 1.00 / 0	-31.62	n/a
407.326 MHz	52.21 Qp	1.67 / 15.96 / 29.9 / 0.0	39.95	V / 1.00 / 0	-44.43	n/a
636.565 MHz	43.4 Qp	2.1 / 20.03 / 30.15 / 0.0	35.38	V / 1.00 / 0	-49.0	n/a
687.176 MHz	68.79 Qp	2.2 / 20.41 / 30.08 / 0.0	61.33	V / 1.00 / 0	-23.05	n/a
815.946 MHz	48.28 Qp	2.37 / 21.74 / 29.9 / 0.0	42.5	V / 1.00 / 0	-41.88	n/a
916.657 MHz	55.79 Qp	2.52 / 22.59 / 29.76 / 0.0	51.13	V / 1.00 / 0	-33.25	n/a
168.0 MHz	45.3 Qp	1.08 / 9.33 / 29.51 / 0.0	26.2	V / 1.00 / 0	-58.18	n/a
336.0 MHz	35.5 Qp	1.49 / 14.43 / 29.78 / 0.0	21.64	V / 1.00 / 0	-62.74	n/a
100.0 MHz	57.05 Qp	0.83 / 8.72 / 29.54 / 0.0	37.06	V / 1.00 / 0	-47.32	n/a

Tested by: T. K. Swanson
 Printed

Thomas K. Swanson
 Signature

Reviewed by: S. L. Rupp
 Printed

Susan L Rupp
 Signature

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 1 Test Area: LTS

EUT Model #: RSU-2510-R Date: 1/3/2007

EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C

Test Method: FCC B Air Pressure: 98.0 kPa

Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Transmitter

Data File Name: 0020.dat Page: 2 of 14

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 -13dBm GUIDELINE < 1GHz	DELTA2 -13dBm GUIDELINE > 1GHz
168.0 MHz	46.65 Qp	1.08 / 9.33 / 29.51 / 0.0	27.55	V / 1.00 / 90	-56.83	n/a
336.0 MHz	38.55 Qp	1.49 / 14.43 / 29.78 / 0.0	24.69	V / 1.00 / 90	-59.69	n/a
150.007 MHz	66.0 Qp	1.0 / 9.53 / 29.55 / 0.0	46.99	V / 1.00 / 180	-37.39	n/a
172.987 MHz	51.4 Qp	1.1 / 9.65 / 29.52 / 0.0	32.64	V / 1.00 / 180	-51.74	n/a
200.006 MHz	52.4 Qp	1.17 / 11.0 / 29.56 / 0.0	35.01	V / 1.00 / 180	-49.37	n/a
275.003 MHz	50.7 Qp	1.39 / 12.67 / 29.68 / 0.0	35.08	V / 1.00 / 180	-49.3	n/a
172.005 MHz	50.85 Qp	1.1 / 9.59 / 29.52 / 0.0	32.02	V / 1.00 / 180	-52.36	n/a
75.187 MHz	49.9 Qp	0.7 / 9.01 / 29.5 / 0.0	30.11	V / 1.00 / 180	-54.27	n/a
58.746 MHz	47.45 Qp	0.63 / 11.83 / 29.73 / 0.0	30.19	V / 1.00 / 270	-54.19	n/a
68.952 MHz	50.2 Qp	0.67 / 10.03 / 29.58 / 0.0	31.33	V / 1.00 / 270	-53.05	n/a
75.187 MHz	50.65 Qp	0.7 / 9.01 / 29.5 / 0.0	30.86	V / 1.00 / 45	-53.52	n/a
150 MHz maxed						
150.007 MHz	68.69 Qp	1.0 / 9.53 / 29.55 / 0.0	49.68	V / 2.10 / 170	-34.7	n/a
200.006 MHz	55.75 Qp	1.17 / 11.0 / 29.56 / 0.0	38.36	V / 2.10 / 170	-46.02	n/a
172.005 MHz	50.85 Qp	1.1 / 9.59 / 29.52 / 0.0	32.02	V / 2.10 / 170	-52.36	n/a
75.187 MHz	51.4 Qp	0.7 / 9.01 / 29.5 / 0.0	31.61	V / 2.10 / 170	-52.77	n/a
254 MHz maxed						
254.126 MHz	71.39 Qp	1.33 / 12.07 / 29.65 / 0.0	55.14	V / 1.30 / 0	-29.24	n/a
30.0 MHz	52.9 Qp	0.45 / 21.3 / 30.14 / 0.0	44.51	V / 1.30 / 0	-39.87	n/a
84.679 MHz	70.59 Qp	0.76 / 7.45 / 29.52 / 0.0	49.29	V / 1.30 / 0	-35.09	n/a
815.946 MHz	52.79 Qp	2.37 / 21.74 / 29.9 / 0.0	47.01	V / 1.30 / 0	-37.37	n/a

Tested by: T. K. Swanson
Printed

Thomas K. Swanson
Signature

Reviewed by: S. L. Rupp
Printed

Susan L Rupp
Signature

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 1 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/3/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Transmitter

Data File Name: 0020.dat Page: 3 of 14

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 -13dBm GUIDELINE < 1GHz	DELTA2 -13dBm GUIDELINE > 1GHz
687.176 MHz	71.37 Qp	2.2 / 20.41 / 30.08 / 0.0	63.91	V / 1.30 / 0	-20.47	n/a
687 MHz maxed						
687.176 MHz	71.4 Qp	2.2 / 20.41 / 30.08 / 0.0	63.94	V / 1.30 / 0	-20.44	n/a
916 MHz maxed						
916.657 MHz	56.86 Qp	2.52 / 22.59 / 29.76 / 0.0	52.2	V / 1.20 / 0	-32.18	n/a
688.176 MHz	58.88 Qp	2.2 / 20.43 / 30.07 / 0.0	51.44	H / 1.30 / 0	-32.94	n/a
172.005 MHz	52.85 Qp	1.1 / 9.59 / 29.52 / 0.0	34.02	H / 1.30 / 0	-50.36	n/a
172.987 MHz	54.0 Qp	1.1 / 9.65 / 29.52 / 0.0	35.24	H / 1.30 / 0	-49.14	n/a
254.126 MHz	65.18 Qp	1.33 / 12.07 / 29.65 / 0.0	48.93	H / 1.30 / 0	-35.45	n/a
120.001 MHz	51.65 Qp	0.9 / 8.95 / 29.57 / 0.0	31.93	H / 1.30 / 90	-52.45	n/a
150.007 MHz	65.3 Qp	1.0 / 9.53 / 29.55 / 0.0	46.29	H / 1.30 / 90	-38.09	n/a
336.0 MHz	41.65 Qp	1.49 / 14.43 / 29.78 / 0.0	27.79	H / 1.30 / 90	-56.59	n/a
200.006 MHz	58.75 Qp	1.17 / 11.0 / 29.56 / 0.0	41.36	H / 1.30 / 180	-43.02	n/a
150.007 MHz	69.75 Qp	1.0 / 9.53 / 29.55 / 0.0	50.74	H / 1.30 / 270	-33.64	n/a
120.001 MHz	52.9 Qp	0.9 / 8.95 / 29.57 / 0.0	33.18	H / 3.00 / 270	-51.2	n/a
100.0 MHz	58.45 Qp	0.83 / 8.72 / 29.54 / 0.0	38.46	H / 3.00 / 270	-45.92	n/a
150 MHz maxed						
150.007 MHz	72.35 Qp	1.0 / 9.53 / 29.55 / 0.0	53.34	H / 1.30 / 245	-31.04	n/a

Tested by: T. K. Swanson
 Printed

Thomas K. Swanson
 Signature

Reviewed by: S. L. Rupp
 Printed

Susan L Rupp
 Signature

RADIATED EMISSIONS



Test Report #: WC700020 Run 1 Test Area: LTS
EUT Model #: RSU-2510-R Date: 1/3/2007
EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
Test Method: FCC B Air Pressure: 98.0 kPa
Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Transmitter

Data File Name: 0020.dat Page: 4 of 14

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 -13dBm GUIDELINE < 1GHz	DELTA2 -13dBm GUIDELINE > 1GHz
254 MHz maxed						
254.126 MHz	65.51 Qp	1.33 / 12.07 / 29.65 / 0.0	49.26	H / 1.50 / 0	-35.12	n/a
688 MHz maxed						
688.176 MHz	59.11 Qp	2.2 / 20.43 / 30.07 / 0.0	51.67	H / 1.50 / 0	-32.71	n/a
Configuration 2 = 5.5 MHz channel bandwidth: RF freq = 2593						
75.187 MHz	52.15 Qp	0.7 / 9.01 / 29.5 / 0.0	32.36	V / 1.00 / 0	-52.02	n/a
178.994 MHz	69.05 Qp	1.12 / 10.05 / 29.53 / 0.0	50.69	V / 1.00 / 0	-33.69	n/a
536.217 MHz	61.85 Qp	1.94 / 18.1 / 30.1 / 0.0	51.8	V / 1.00 / 0	-32.58	n/a
731.738 MHz	43.42 Qp	2.29 / 21.41 / 30.01 / 0.0	37.11	V / 1.00 / 0	-47.27	n/a
782.238 MHz	71.53 Qp	2.34 / 21.78 / 29.95 / 0.0	65.71	V / 1.00 / 0	-18.67	n/a
999.979 MHz	42.37 Qp	2.64 / 22.87 / 29.65 / 0.0	38.23	V / 1.00 / 0	-46.15	n/a
58.746 MHz	48.05 Qp	0.63 / 11.83 / 29.73 / 0.0	30.79	V / 1.00 / 270	-53.59	n/a
150.007 MHz	66.3 Qp	1.0 / 9.53 / 29.55 / 0.0	47.29	V / 1.00 / 180	-37.09	n/a
536.217 MHz	63.34 Qp	1.94 / 18.1 / 30.1 / 0.0	53.29	V / 1.00 / 315	-31.09	n/a
782 MHz maxed						
782.238 MHz	78.72 Qp	2.34 / 21.78 / 29.95 / 0.0	72.9	V / 1.20 / 335	-11.48	n/a
178.994 MHz	74.67 Qp	1.12 / 10.05 / 29.53 / 0.0	56.31	V / 1.20 / 335	-28.07	n/a
150 MHz maxed						

Tested by: T. K. Swanson
Printed Signature

Reviewed by: S. L. Rupp
Printed Signature

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 1 Test Area: LTS

EUT Model #: RSU-2510-R Date: 1/3/2007

EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C

Test Method: FCC B Air Pressure: 98.0 kPa

Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Transmitter

Data File Name: 0020.dat Page: 5 of 14

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 -13dBm GUIDELINE < 1GHz	DELTA2 -13dBm GUIDELINE > 1GHz
150.007 MHz	65.69 Qp	1.0 / 9.53 / 29.55 / 0.0	46.68	V / 1.00 / 0	-37.7	n/a
536 MHz maxed						
536.217 MHz	63.37 Qp	1.94 / 18.1 / 30.1 / 0.0	53.32	V / 1.40 / 315	-31.06	n/a
150.007 MHz	66.02 Qp	1.0 / 9.53 / 29.55 / 0.0	47.01	H / 1.40 / 0	-37.37	n/a
172.005 MHz	54.05 Qp	1.1 / 9.59 / 29.52 / 0.0	35.22	H / 1.40 / 0	-49.16	n/a
172.987 MHz	54.8 Qp	1.1 / 9.65 / 29.52 / 0.0	36.04	H / 1.40 / 0	-48.34	n/a
178.994 MHz	60.61 Qp	1.12 / 10.05 / 29.53 / 0.0	42.25	H / 1.40 / 0	-42.13	n/a
536.217 MHz	59.63 Qp	1.94 / 18.1 / 30.1 / 0.0	49.58	H / 1.40 / 0	-34.8	n/a
782.238 MHz	59.69 Qp	2.34 / 21.78 / 29.95 / 0.0	53.87	H / 1.40 / 0	-30.51	n/a
150.007 MHz	71.2 Qp	1.0 / 9.53 / 29.55 / 0.0	52.19	H / 1.40 / 270	-32.19	n/a
200.006 MHz	59.35 Qp	1.17 / 11.0 / 29.56 / 0.0	41.96	H / 1.40 / 180	-42.42	n/a
275.003 MHz	52.09 Qp	1.39 / 12.67 / 29.68 / 0.0	36.47	H / 1.40 / 45	-47.91	n/a
782 MHz maxed						
782.238 MHz	62.93 Qp	2.34 / 21.78 / 29.95 / 0.0	57.11	H / 1.20 / 9	-27.27	n/a
150 MHz maxed						
150.007 MHz	72.87 Qp	1.0 / 9.53 / 29.55 / 0.0	53.86	H / 1.80 / 245	-30.52	n/a

Tested by: T. K. Swanson
Printed

Thomas K. Swanson
Signature

Reviewed by: S. L. Rupp
Printed

Susan L Rupp
Signature

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 1 Test Area: LTS

EUT Model #: RSU-2510-R Date: 1/3/2007

EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C

Test Method: FCC B Air Pressure: 98.0 kPa

Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Transmitter

Data File Name: 0020.dat Page: 6 of 14

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 -13dBm GUIDELINE < 1GHz	DELTA2 -13dBm GUIDELINE > 1GHz
Configuration 3 = 5.0 MHz channel bandwidth: RF Freq = 2687 MHz						
150.007 MHz	65.86 Qp	1.0 / 9.53 / 29.55 / 0.0	46.85	V / 1.00 / 0	-37.53	n/a
200.006 MHz	53.25 Qp	1.17 / 11.0 / 29.56 / 0.0	35.86	V / 1.00 / 0	-48.52	n/a
268.78 MHz	73.48 Qp	1.37 / 12.49 / 29.67 / 0.0	57.67	V / 1.00 / 0	-26.71	n/a
637.633 MHz	44.49 Qp	2.1 / 20.05 / 30.14 / 0.0	36.5	V / 1.00 / 0	-47.88	n/a
805.034 MHz	63.78 Qp	2.36 / 21.85 / 29.91 / 0.0	58.08	V / 1.00 / 0	-26.3	n/a
872.234 MHz	70.19 Qp	2.45 / 22.18 / 29.82 / 0.0	64.99	V / 1.00 / 0	-19.39	n/a
150 MHz maxed						
150.007 MHz	68.56 Qp	1.0 / 9.53 / 29.55 / 0.0	49.55	V / 1.80 / 180	-34.83	n/a
872 MHz maxed						
872.234 MHz	74.5 Qp	2.45 / 22.18 / 29.82 / 0.0	69.3	V / 1.40 / 0	-15.08	n/a
268 MHz maxed						
268.78 MHz	75.29 Qp	1.37 / 12.49 / 29.67 / 0.0	59.48	V / 1.30 / 0	-24.9	n/a
805 MHz maxed						
805.034 MHz	68.33 Qp	2.36 / 21.85 / 29.91 / 0.0	62.63	V / 1.40 / 0	-21.75	n/a
150.007 MHz	60.55 Qp	1.0 / 9.53 / 29.55 / 0.0	41.54	H / 1.40 / 0	-42.84	n/a
268.78 MHz	62.71 Qp	1.37 / 12.49 / 29.67 / 0.0	46.9	H / 1.40 / 0	-37.48	n/a
805.034 MHz	60.91 Qp	2.36 / 21.85 / 29.91 / 0.0	55.21	H / 1.40 / 0	-29.17	n/a
872.234 MHz	59.16 Qp	2.45 / 22.18 / 29.82 / 0.0	53.96	H / 1.40 / 0	-30.42	n/a

Tested by: T. K. Swanson
Printed

Thomas K. Swanson
Signature

Reviewed by: S. L. Rupp
Printed

Susan L Rupp
Signature

RADIATED EMISSIONS



Test Report #: WC700020 Run 1 Test Area: LTS
EUT Model #: RSU-2510-R Date: 1/3/2007
EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
Test Method: FCC B Air Pressure: 98.0 kPa
Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Transmitter

Data File Name: 0020.dat Page: 7 of 14

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 -13dBm GUIDELINE < 1GHz	DELTA2 -13dBm GUIDELINE > 1GHz
200.006 MHz	53.9 Qp	1.17 / 11.0 / 29.56 / 0.0	36.51	H / 1.40 / 180	-47.87	n/a
872 MHz maxed						
872.234 MHz	59.43 Qp	2.45 / 22.18 / 29.82 / 0.0	54.23	H / 1.30 / 0	-30.15	n/a
150 MHz maxed						
150.007 MHz	73.08 Qp	1.0 / 9.53 / 29.55 / 0.0	54.07	H / 1.70 / 250	-30.31	n/a
Begin scan 1 to 2 GHz						
No significant emissions detected 1 to 2 GHz						
Configuration 2						
No significant emissions detected 1 to 2 GHz						
Configuration 1						
No significant emissions detected 1 to 2 GHz						
Begin scan 2 to 4 GHz						
No significant emissions detected 2 to 4 GHz						
Configuration 2						

Tested by: T. K. Swanson
Printed

Thomas K. Swanson
Signature

Reviewed by: S. L. Rupp
Printed

Susan L Rupp
Signature

RADIATED EMISSIONS



Test Report #: WC700020 Run 1 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/3/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Transmitter

Data File Name: 0020.dat Page: 8 of 14

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 -13dBm GUIDELINE < 1GHz	DELTA2 -13dBm GUIDELINE > 1GHz
No emissions detected 2 to 4 GHz						
Configuration 3						
No emissions detected 2 to 4 GHz						
Begin scan 4 to 18 GHz						
5.3 GHz Maxed						
5.366 GHz	58.1 Pk	6.69 / 33.93 / 46.85 / 0.64	52.51	H / 1.00 / 235	n/a	-31.87*
5.366 GHz	40.33 Av	6.69 / 33.93 / 46.85 / 0.64	34.74	H / 1.00 / 235	n/a	-49.64
5.366 GHz	36.73 Av	6.69 / 33.93 / 46.85 / 0.64	31.14	V / 1.00 / 40	n/a	-53.24
No further emissions detected to 18 GHz						
Configuration 2						
5.1 GHz Maxed						
5.186 GHz	57.15 Pk	6.48 / 33.74 / 47.04 / 0.73	51.06	V / 1.30 / 310	n/a	-33.32*
5.186 GHz	41.1 Av	6.48 / 33.74 / 47.04 / 0.73	35.01	V / 1.30 / 310	n/a	-49.37
5.186 GHz	43.53 Av	6.48 / 33.74 / 47.04 / 0.73	37.44	H / 1.10 / 225	n/a	-46.94
5.186 GHz	75.75 Pk	6.48 / 33.74 / 47.04 / 0.73	69.66	H / 1.10 / 225	n/a	-14.72*

Tested by: T. K. Swanson
 Printed

Thomas K. Swanson
 Signature

Reviewed by: S. L. Rupp
 Printed

Susan L Rupp
 Signature

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 1 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/3/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Transmitter

Data File Name: 0020.dat Page: 9 of 14

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 -13dBm GUIDELINE < 1GHz	DELTA2 -13dBm GUIDELINE > 1GHz
7.7 GHz maxed						
7.778 GHz	49.0 Pk	8.32 / 36.52 / 47.1 / 0.06	46.8	H / 1.10 / 85	n/a	-37.58*
7.778 GHz	39.47 Av	8.32 / 36.52 / 47.1 / 0.06	37.27	H / 1.10 / 85	n/a	-47.11
7.778 GHz	48.2 Pk	8.32 / 36.52 / 47.1 / 0.06	46.0	V / 1.20 / 0	n/a	-38.38*
no further emissions to 18 GHz						
Configuration 1						
5 GHz maxed						
4.998 GHz	52.0 Pk	6.31 / 33.53 / 47.24 / 0.83	45.43	V / 1.30 / 50	n/a	-38.95*
4.998 GHz	39.22 Av	6.31 / 33.53 / 47.24 / 0.83	32.65	V / 1.30 / 50	n/a	-51.73
4.998 GHz	67.8 Pk	6.31 / 33.53 / 47.24 / 0.83	61.23	H / 1.30 / 240	n/a	-23.15*
4.998 GHz	40.91 Av	6.31 / 33.53 / 47.24 / 0.83	34.34	H / 1.30 / 240	n/a	-50.04
7.5 GHz maxed						
7.496 GHz	42.5 Pk	8.16 / 36.21 / 47.19 / 0.05	39.73	H / 1.30 / 240	n/a	-44.65*
7.496 GHz	38.65 Pk	8.16 / 36.21 / 47.19 / 0.05	35.88	V / 1.00 / 0	n/a	-48.5*
no further emissions to 18 GHz						
No emissions detected 18 to 27 GHz - Configurations 1, 2, 3						
NOTEChanged to EUT with horizontal antenna						
Configuration 1						

Tested by: T. K. Swanson
 Printed

Thomas K. Swanson
 Signature

Reviewed by: S. L. Rupp
 Printed

Susan L Rupp
 Signature

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 1 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/3/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Transmitter

Data File Name: 0020.dat Page: 10 of 14

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 -13dBm GUIDELINE < 1GHz	DELTA2 -13dBm GUIDELINE > 1GHz
5 GHz maxed						
4.998 GHz	62.3 Pk	6.31 / 33.53 / 47.24 / 0.83	55.73	H / 1.10 / 310	n/a	-28.65*
4.998 GHz	42.28 Av	6.31 / 33.53 / 47.24 / 0.83	35.71	H / 1.10 / 310	n/a	-48.67
4.998 GHz	51.55 Pk	6.31 / 33.53 / 47.24 / 0.83	44.98	V / 1.00 / 0	n/a	-39.4*
7.5 GHz maxed						
7.496 GHz	47.1 Pk	8.16 / 36.21 / 47.19 / 0.05	44.33	H / 1.20 / 220	n/a	-40.05*
7.496 GHz	39.6 Pk	8.16 / 36.21 / 47.19 / 0.05	36.83	V / 1.00 / 0	n/a	-47.55*
Configuration 2						
5 GHz maxed						
5.18 GHz	55.4 Pk	6.47 / 33.73 / 47.05 / 0.74	49.29	V / 1.00 / 0	n/a	-35.09*
5.18 GHz	64.5 Pk	6.47 / 33.73 / 47.05 / 0.74	58.39	H / 1.00 / 0	n/a	-25.99*
7 GHz maxed						
7.782 GHz	51.15 Pk	8.32 / 36.52 / 47.1 / 0.06	48.96	H / 1.00 / 0	n/a	-35.42*
7.777 GHz	50.8 Pk	8.32 / 36.52 / 47.1 / 0.06	48.6	V / 1.00 / 0	n/a	-35.78*
Configuration 3						
5 GHz maxed						
5.368 GHz	71.05 Pk	6.69 / 33.93 / 46.85 / 0.64	65.47	H / 1.00 / 0	n/a	-18.91*
5.367 GHz	57.15 Pk	6.69 / 33.93 / 46.85 / 0.64	51.57	V / 1.00 / 0	n/a	-32.81*
End of scan 30 to 27000 MHz						

Tested by: T. K. Swanson
 Printed

Thomas K. Swanson
 Signature

Reviewed by: S. L. Rupp
 Printed

Susan L Rupp
 Signature

RADIATED EMISSIONS



Test Report #: WC700020 Run 1 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/3/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Transmitter

Data File Name: 0020.dat Page: 11 of 14

Measurement summary for limit1: -13dBm GUIDELINE < 1GHz (Qp)					
FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 -13dBm GUIDELINE < 1GHz
782.238 MHz	78.72 Qp	2.34 / 21.78 / 29.95 / 0.0	72.9	V / 1.20 / 335	-11.48
872.234 MHz	74.5 Qp	2.45 / 22.18 / 29.82 / 0.0	69.3	V / 1.40 / 0	-15.08
687.176 MHz	71.4 Qp	2.2 / 20.41 / 30.08 / 0.0	63.94	V / 1.30 / 0	-20.44
805.034 MHz	68.33 Qp	2.36 / 21.85 / 29.91 / 0.0	62.63	V / 1.40 / 0	-21.75
268.78 MHz	75.29 Qp	1.37 / 12.49 / 29.67 / 0.0	59.48	V / 1.30 / 0	-24.9
178.994 MHz	74.67 Qp	1.12 / 10.05 / 29.53 / 0.0	56.31	V / 1.20 / 335	-28.07
254.126 MHz	71.39 Qp	1.33 / 12.07 / 29.65 / 0.0	55.14	V / 1.30 / 0	-29.24
150.007 MHz	73.08 Qp	1.0 / 9.53 / 29.55 / 0.0	54.07	H / 1.70 / 250	-30.31
536.217 MHz	63.37 Qp	1.94 / 18.1 / 30.1 / 0.0	53.32	V / 1.40 / 315	-31.06
916.657 MHz	56.86 Qp	2.52 / 22.59 / 29.76 / 0.0	52.2	V / 1.20 / 0	-32.18
688.176 MHz	59.11 Qp	2.2 / 20.43 / 30.07 / 0.0	51.67	H / 1.50 / 0	-32.71
84.679 MHz	70.59 Qp	0.76 / 7.45 / 29.52 / 0.0	49.29	V / 1.30 / 0	-35.09
815.946 MHz	52.79 Qp	2.37 / 21.74 / 29.9 / 0.0	47.01	V / 1.30 / 0	-37.37
30.0 MHz	52.9 Qp	0.45 / 21.3 / 30.14 / 0.0	44.51	V / 1.30 / 0	-39.87
200.006 MHz	59.35 Qp	1.17 / 11.0 / 29.56 / 0.0	41.96	H / 1.40 / 180	-42.42
407.326 MHz	52.21 Qp	1.67 / 15.96 / 29.9 / 0.0	39.95	V / 1.00 / 0	-44.43
100.0 MHz	58.45 Qp	0.83 / 8.72 / 29.54 / 0.0	38.46	H / 3.00 / 270	-45.92
999.979 MHz	42.37 Qp	2.64 / 22.87 / 29.65 / 0.0	38.23	V / 1.00 / 0	-46.15
731.738 MHz	43.42 Qp	2.29 / 21.41 / 30.01 / 0.0	37.11	V / 1.00 / 0	-47.27
637.633 MHz	44.49 Qp	2.1 / 20.05 / 30.14 / 0.0	36.5	V / 1.00 / 0	-47.88
275.003 MHz	52.09 Qp	1.39 / 12.67 / 29.68 / 0.0	36.47	H / 1.40 / 45	-47.91
172.987 MHz	54.8 Qp	1.1 / 9.65 / 29.52 / 0.0	36.04	H / 1.40 / 0	-48.34
31.338 MHz	44.28 Qp	0.46 / 20.78 / 30.12 / 0.0	35.4	V / 1.00 / 0	-48.98
636.565 MHz	43.4 Qp	2.1 / 20.03 / 30.15 / 0.0	35.38	V / 1.00 / 0	-49.0
172.005 MHz	54.05 Qp	1.1 / 9.59 / 29.52 / 0.0	35.22	H / 1.40 / 0	-49.16

Tested by: T. K. Swanson
 Printed

Signature

Reviewed by: S. L. Rupp
 Printed

Signature

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 1 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/3/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Transmitter

Data File Name: 0020.dat Page: 12 of 14

Measurement summary for limit1: -13dBm GUIDELINE < 1GHz (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 -13dBm GUIDELINE < 1GHz
120.001 MHz	52.9 Qp	0.9 / 8.95 / 29.57 / 0.0	33.18	H / 3.00 / 270	-51.2
75.187 MHz	52.15 Qp	0.7 / 9.01 / 29.5 / 0.0	32.36	V / 1.00 / 0	-52.02
68.952 MHz	50.2 Qp	0.67 / 10.03 / 29.58 / 0.0	31.33	V / 1.00 / 270	-53.05
109.368 MHz	49.96 Qp	0.86 / 9.54 / 29.55 / 0.0	30.81	V / 1.00 / 0	-53.57
58.746 MHz	48.05 Qp	0.63 / 11.83 / 29.73 / 0.0	30.79	V / 1.00 / 270	-53.59
336.0 MHz	41.65 Qp	1.49 / 14.43 / 29.78 / 0.0	27.79	H / 1.30 / 90	-56.59
43.794 MHz	41.15 Qp	0.54 / 15.97 / 29.94 / 0.0	27.72	V / 1.00 / 0	-56.66
168.0 MHz	46.65 Qp	1.08 / 9.33 / 29.51 / 0.0	27.55	V / 1.00 / 90	-56.83

Tested by: T. K. Swanson
 Printed

Thomas K. Swanson
 Signature

Reviewed by: S. L. Rupp
 Printed

Susan L Rupp
 Signature

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 1 Test Area: LTS

EUT Model #: RSU-2510-R Date: 1/3/2007

EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C

Test Method: FCC B Air Pressure: 98.0 kPa

Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Transmitter

Data File Name: 0020.dat Page: 13 of 14

Measurement summary for limit2: -13dBm GUIDELINE > 1GHz (Av)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA2 -13dBm GUIDELINE > 1GHz
5.186 GHz	43.53 Av	6.48 / 33.74 / 47.04 / 0.73	37.44	H / 1.10 / 225	-46.94
7.778 GHz	39.47 Av	8.32 / 36.52 / 47.1 / 0.06	37.27	H / 1.10 / 85	-47.11
4.998 GHz	42.28 Av	6.31 / 33.53 / 47.24 / 0.83	35.71	H / 1.10 / 310	-48.67
5.366 GHz	40.33 Av	6.69 / 33.93 / 46.85 / 0.64	34.74	H / 1.00 / 235	-49.64
4.998 GHz	40.91 Av	6.31 / 33.53 / 47.24 / 0.83	34.34	H / 1.30 / 240	-50.04
5.366 GHz	58.1 Pk	6.69 / 33.93 / 46.85 / 0.64	52.51	H / 1.00 / 235	-31.87*
5.186 GHz	75.75 Pk	6.48 / 33.74 / 47.04 / 0.73	69.66	H / 1.10 / 225	-14.72*
7.778 GHz	49.0 Pk	8.32 / 36.52 / 47.1 / 0.06	46.8	H / 1.10 / 85	-37.58*
4.998 GHz	67.8 Pk	6.31 / 33.53 / 47.24 / 0.83	61.23	H / 1.30 / 240	-23.15*
7.496 GHz	42.5 Pk	8.16 / 36.21 / 47.19 / 0.05	39.73	H / 1.30 / 240	-44.65*
4.998 GHz	62.3 Pk	6.31 / 33.53 / 47.24 / 0.83	55.73	H / 1.10 / 310	-28.65*
7.496 GHz	47.1 Pk	8.16 / 36.21 / 47.19 / 0.05	44.33	H / 1.20 / 220	-40.05*
5.18 GHz	64.5 Pk	6.47 / 33.73 / 47.05 / 0.74	58.39	H / 1.00 / 0	-25.99*
7.782 GHz	51.15 Pk	8.32 / 36.52 / 47.1 / 0.06	48.96	H / 1.00 / 0	-35.42*
7.777 GHz	50.8 Pk	8.32 / 36.52 / 47.1 / 0.06	48.6	V / 1.00 / 0	-35.78*
5.368 GHz	71.05 Pk	6.69 / 33.93 / 46.85 / 0.64	65.47	H / 1.00 / 0	-18.91*
5.367 GHz	57.15 Pk	6.69 / 33.93 / 46.85 / 0.64	51.57	V / 1.00 / 0	-32.81*

Tested by: T. K. Swanson Thomas K. Swanson
Printed Signature

Reviewed by: S. L. Rupp Susan L Rupp
Printed Signature

RADIATED EMISSIONS



America

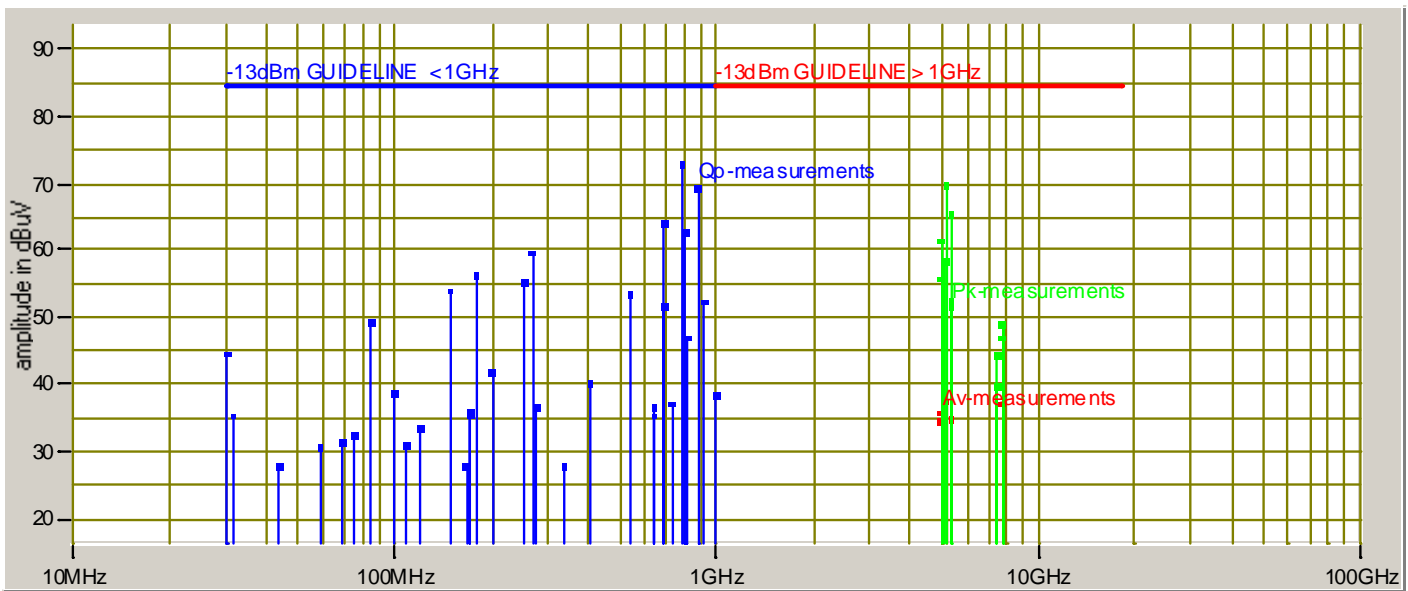
Test Report #: WC700020 Run 1 Test Area: LTS
EUT Model #: RSU-2510-R Date: 1/3/2007
EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
Test Method: FCC B Air Pressure: 98.0 kPa
Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Transmitter

Data File Name: 0020.dat Page: 14 of 14

Graph:



Tested by: T. K. Swanson
Printed

Thomas K. Swanson
Signature

Reviewed by: S. L. Rupp
Printed

Susan L Rupp
Signature

Equivalent Isotropically Radiated Power (EIRP) Substitution

Company: Motorola
EUT: RSU-2510-R
Date: 03 January 2007
Tested By: TKS

SUBSTITUTION PERFORMED

Plug in freq, final dBuV/m, Matching Sig gen level, and cable loss

(if using antenna other than dipole also enter ant. Gain) - final matching dBm will automatically be calculated in column F. (Final dBm = Sig gen level (dBm) - Cable loss + Ant. Gain)

Schwarzbeck dipole antenna gain : 2.15dBi -10dB + 1.64dB = -6.21

2.15dBi theoretical gain of a dipole, 10dB internal attenuator, 1.64dB correction for 73 / 50 ohm balun

Freq. (MHz)	Final (dBuV/m)	Matches Sig Gen Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)	Matches Final (dBm)
782.2	72.9	-14.3	3.5	-6.21	-24.01

SUBSTITUTION EXTRAPOLATED TO OTHER SPURIOUS EMISSIONS

Enter any more spurious frequencies and final dBuV/m. Corresponding final power levels will automatically be calculated.

Freq. MHz	Final dBuV/m	Correction Factor	Final dBm	Final uW	Final nW
782.2	72.9	96.91	-24.01	3.971915	3971.915
872.234	69.3	96.91	-27.61	1.733804	1733.804
687.176	63.9	96.91	-33.01	0.500035	500.035

The theoretical limit used on the data sheets is more stringent.

Correction factor for 10m measurements should be approximately 84.4

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 2 Test Area: LTS

EUT Model #: RSU-2510-R Date: 1/9/2007

EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C

Test Method: FCC B Air Pressure: 98.0 kPa

Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Receive Mode

Data File Name: 0020.dat Page: 1 of 12

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2 FCC B >1GHz 3m
Scan 1 to 14 GHz						
Configuration 4 = 6.0 MHz channel bandwidth: RF Freq = 2499 MHz						
1.3 GHz	63.5 Pk	3.68 / 25.48 / 50.67 / 0.0	41.99	V / 1.00 / 0	n/a	-12.01*
1.3 GHz	60.43 Av	3.68 / 25.48 / 50.67 / 0.0	38.92	V / 1.00 / 0	n/a	-15.08
1.5 GHz	66.7 Pk	3.93 / 26.0 / 50.69 / 0.0	45.93	V / 1.00 / 0	n/a	-8.07*
1.5 GHz	54.62 Av	3.93 / 26.0 / 50.69 / 0.0	33.85	V / 1.00 / 0	n/a	-20.15
1.659 GHz	65.25 Pk	4.11 / 26.73 / 50.51 / 0.0	45.58	V / 1.00 / 0	n/a	-8.42*
1.659 GHz	48.32 Av	4.11 / 26.73 / 50.51 / 0.0	28.65	V / 1.00 / 0	n/a	-25.35
1300 maxed						
1.3 GHz	59.62 Av	3.68 / 25.48 / 50.67 / 0.0	38.11	V / 1.00 / 0	n/a	-15.89
Configuration 5 = 5.5 MHz channel bandwidth: RF Freq = 2593 MHz						
1.125 GHz	54.59 Av	3.33 / 25.03 / 50.44 / 0.0	32.5	V / 1.00 / 0	n/a	-21.5
1.3 GHz	59.62 Av	3.68 / 25.48 / 50.67 / 0.0	38.11	V / 1.00 / 0	n/a	-15.89
1.666 GHz	48.08 Av	4.12 / 26.77 / 50.5 / 0.0	28.46	V / 1.00 / 0	n/a	-25.54
no higher emisissions with horizontal antenna						
config 4 recheck with horizontal antenna						
No higher emissions detected						

Tested by: T. K. Swanson
Printed

Thomas K. Swanson
Signature

Reviewed by: S. L. Rupp
Printed

Susan L Rupp
Signature

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 2 Test Area: LTS

EUT Model #: RSU-2510-R Date: 1/9/2007

EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C

Test Method: FCC B Air Pressure: 98.0 kPa

Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Receive Mode

Data File Name: 0020.dat Page: 2 of 12

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2 FCC B >1GHz 3m
Config 6 = 5.0 Mhz channel bandwidth : RF Freq = 2683 MHz						
3577 MHz maxed						
3.577 GHz	48.36 Av	6.35 / 32.24 / 48.77 / 0.0	38.19	H / 1.50 / 225	n/a	-15.81
3.577 GHz	41.47 Av	6.35 / 32.24 / 48.77 / 0.0	31.3	V / 1.20 / 190	n/a	-22.7
10.732 GHz	36.14 Av	15.04 / 38.92 / 46.27 / 0.0	43.84	V / 1.10 / 205	n/a	-10.16
config 4						
3332 MHz maxed						
3.332 GHz	37.56 Av	6.04 / 31.63 / 49.03 / 0.0	26.2	V / 1.10 / 180	n/a	-27.8
9995 MHz maxed						
9.996 GHz	37.24 Av	13.27 / 38.9 / 46.38 / 0.0	43.03	V / 1.10 / 220	n/a	-10.97
Config 5						
maxed						
3.457 GHz	41.74 Av	6.2 / 31.94 / 48.89 / 0.0	30.99	V / 1.30 / 180	n/a	-23.01
10.372 GHz	34.93 Av	14.06 / 38.83 / 46.26 / 0.0	41.56	V / 1.35 / 220	n/a	-12.44
End of scan 1 to 14 GHz						
Scan 30 to 1000 MHz						

Tested by: T. K. Swanson
Printed

Thomas K. Swanson
Signature

Reviewed by: S. L. Rupp
Printed

Susan L Rupp
Signature

RADIATED EMISSIONS



Test Report #: WC700020 Run 2 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/9/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Receive Mode

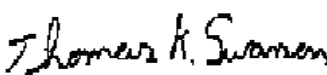
Data File Name: 0020.dat Page: 3 of 12

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2 FCC B >1GHz 3m
Config 4						
31.351 MHz	42.6 Qp	0.45 / 20.78 / 30.12 / 0.0	33.71	V / 1.00 / 0	-6.29	n/a
33.439 MHz	40.05 Qp	0.46 / 19.97 / 30.09 / 0.0	30.39	V / 1.00 / 0	-9.61	n/a
43.801 MHz	42.75 Qp	0.49 / 15.96 / 29.94 / 0.0	29.27	V / 1.00 / 0	-10.73	n/a
48.004 MHz	43.1 Qp	0.53 / 14.7 / 29.88 / 0.0	28.45	V / 1.00 / 0	-11.55	n/a
51.032 MHz	44.0 Qp	0.58 / 13.89 / 29.84 / 0.0	28.63	V / 1.00 / 0	-11.37	n/a
56.008 MHz	47.45 Qp	0.69 / 12.56 / 29.77 / 0.0	30.94	V / 1.00 / 0	-9.06	n/a
75.22 MHz	47.0 Qp	0.83 / 9.0 / 29.5 / 0.0	27.34	V / 1.00 / 0	-12.66	n/a
81.475 MHz	52.15 Qp	0.87 / 7.98 / 29.51 / 0.0	31.49	V / 1.00 / 0	-8.51	n/a
86.006 MHz	50.7 Qp	0.9 / 7.49 / 29.52 / 0.0	29.57	V / 1.00 / 0	-10.43	n/a
86.48 MHz	49.7 Qp	0.9 / 7.53 / 29.52 / 0.0	28.61	V / 1.00 / 0	-11.39	n/a
100.014 MHz	59.5 Qp	0.94 / 8.72 / 29.54 / 0.0	39.62	V / 1.00 / 0	-3.88	n/a
108.81 MHz	47.8 Qp	0.97 / 9.5 / 29.55 / 0.0	28.71	V / 1.00 / 0	-14.79	n/a
110.79 MHz	44.9 Qp	0.97 / 9.55 / 29.56 / 0.0	25.86	V / 1.00 / 0	-17.64	n/a
120.008 MHz	50.4 Qp	1.0 / 8.95 / 29.57 / 0.0	30.78	V / 1.00 / 0	-12.72	n/a
125.0 MHz	46.7 Qp	1.01 / 8.63 / 29.58 / 0.0	26.76	V / 1.00 / 0	-16.74	n/a
140.0 MHz	48.9 Qp	1.07 / 9.37 / 29.6 / 0.0	29.74	V / 1.00 / 0	-13.76	n/a
150.0 MHz	63.55 Qp	1.11 / 9.53 / 29.55 / 0.0	44.64	V / 1.00 / 0	1.14	n/a
150 MHz maxed						
150.0 MHz	67.45 Qp	1.11 / 9.53 / 29.55 / 0.0	48.54	V / 1.70 / 180	5.04	n/a
200.0 MHz	54.25 Qp	1.36 / 11.0 / 29.56 / 0.0	37.05	V / 1.70 / 180	-6.45	n/a
173.0 MHz	50.2 Qp	1.26 / 9.65 / 29.52 / 0.0	31.59	V / 1.70 / 180	-11.91	n/a
171.967 MHz	48.6 Qp	1.25 / 9.59 / 29.52 / 0.0	29.92	V / 1.70 / 180	-13.58	n/a
225.002 MHz	46.75 Qp	1.43 / 11.23 / 29.6 / 0.0	29.81	V / 1.70 / 180	-16.19	n/a
275.006 MHz	51.6 Qp	1.58 / 12.67 / 29.68 / 0.0	36.17	V / 1.70 / 180	-9.83	n/a

Tested by: T. K. Swanson

 Printed



 Signature

Reviewed by: S. L. Rupp

 Printed



 Signature

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 2 Test Area: LTS

EUT Model #: RSU-2510-R Date: 1/9/2007

EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C

Test Method: FCC B Air Pressure: 98.0 kPa

Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Receive Mode

Data File Name: 0020.dat Page: 4 of 12

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2 FCC B >1GHz 3m
259.24 MHz	48.05 Qp	1.5 / 12.22 / 29.66 / 0.0	32.11	V / 1.70 / 180	-13.89	n/a
168.0 MHz	38.15 Qp	1.23 / 9.33 / 29.51 / 0.0	19.2	V / 1.70 / 180	-24.3	n/a
999.979 MHz	39.45 Qp	3.07 / 22.87 / 29.65 / 0.0	35.74	V / 1.70 / 180	-18.26	n/a
43.794 MHz	43.75 Qp	0.49 / 15.97 / 29.94 / 0.0	30.27	V / 1.70 / 90	-9.73	n/a
100.0 MHz	59.85 Qp	0.94 / 8.72 / 29.54 / 0.0	39.97	V / 1.70 / 90	-3.53	n/a
144.012 MHz	46.55 Qp	1.08 / 9.79 / 29.58 / 0.0	27.85	V / 1.70 / 90	-15.65	n/a
250.016 MHz	49.0 Qp	1.48 / 11.95 / 29.64 / 0.0	32.79	V / 1.70 / 90	-13.21	n/a
300.021 MHz	43.35 Qp	1.71 / 13.39 / 29.72 / 0.0	28.73	V / 1.70 / 90	-17.27	n/a
386.599 MHz	40.6 Qp	1.99 / 15.63 / 29.86 / 0.0	28.36	V / 1.70 / 90	-17.64	n/a
300.021 MHz	43.85 Qp	1.71 / 13.39 / 29.72 / 0.0	29.23	V / 1.00 / 270	-16.77	n/a
100 Mhz maxed						
100.0 MHz	61.25 Qp	0.94 / 8.72 / 29.54 / 0.0	41.37	V / 1.00 / 0	-2.13	n/a
200 MHz maxed						
200.006 MHz	59.21 Qp	1.36 / 11.0 / 29.56 / 0.0	42.01	V / 1.50 / 175	-1.49	n/a
150 MHz maxed						
150.007 MHz	67.8 Qp	1.11 / 9.53 / 29.55 / 0.0	48.89	H / 2.00 / 130	5.39	n/a
Checking back up unit						
150 MHz maxed						

Tested by: T. K. Swanson
 Printed

Thomas K. Swanson
 Signature

Reviewed by: S. L. Rupp
 Printed

Susan L Rupp
 Signature

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 2 Test Area: LTS

EUT Model #: RSU-2510-R Date: 1/9/2007

EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C

Test Method: FCC B Air Pressure: 98.0 kPa

Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Receive Mode

Data File Name: 0020.dat Page: 5 of 12

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2 FCC B >1GHz 3m
150.0 MHz	65.2 Qp	1.11 / 9.53 / 29.55 / 0.0	46.29	V / 1.80 / 180	2.79	n/a
100 MHz maxed						
100.0 MHz	60.85 Qp	0.94 / 8.72 / 29.54 / 0.0	40.97	V / 1.00 / 0	-2.53	n/a
200 MHz maxed						
200.006 MHz	55.4 Qp	1.36 / 11.0 / 29.56 / 0.0	38.2	V / 1.00 / 180	-5.3	n/a
150 MHz maxed						
150.007 MHz	66.9 Qp	1.11 / 9.53 / 29.55 / 0.0	47.99	H / 1.40 / 125	4.49	n/a
Changed back to original unit - Added 5 pf Caps to C201, C202, C203, and C204 ethernet lines						
150 MHz maxed						
150.007 MHz	60.06 Qp	1.11 / 9.53 / 29.55 / 0.0	41.15	H / 1.50 / 235	-2.35	n/a
150.007 MHz	57.32 Qp	1.11 / 9.53 / 29.55 / 0.0	38.41	V / 1.70 / 190	-5.09	n/a
31.338 MHz	39.8 Qp	0.45 / 20.78 / 30.12 / 0.0	30.91	V / 1.70 / 190	-9.09	n/a
43.794 MHz	39.05 Qp	0.49 / 15.97 / 29.94 / 0.0	25.57	V / 1.70 / 190	-14.43	n/a
58.746 MHz	44.4 Qp	0.72 / 11.83 / 29.73 / 0.0	27.22	V / 1.70 / 190	-12.78	n/a
75.187 MHz	47.7 Qp	0.83 / 9.01 / 29.5 / 0.0	28.04	V / 1.70 / 190	-11.96	n/a
100.0 MHz	50.1 Qp	0.94 / 8.72 / 29.54 / 0.0	30.22	V / 1.70 / 190	-13.28	n/a
109.368 MHz	43.65 Qp	0.97 / 9.54 / 29.55 / 0.0	24.61	V / 1.70 / 190	-18.89	n/a
120.001 MHz	46.15 Qp	1.0 / 8.95 / 29.57 / 0.0	26.53	V / 1.70 / 190	-16.97	n/a
144.012 MHz	45.5 Qp	1.08 / 9.79 / 29.58 / 0.0	26.8	V / 1.70 / 190	-16.7	n/a
150.007 MHz	56.7 Qp	1.11 / 9.53 / 29.55 / 0.0	37.79	V / 1.70 / 190	-5.71	n/a
168.0 MHz	39.6 Qp	1.23 / 9.33 / 29.51 / 0.0	20.65	V / 1.70 / 190	-22.85	n/a

Tested by: T. K. Swanson
Printed

Thomas K. Swanson
Signature

Reviewed by: S. L. Rupp
Printed

Susan L Rupp
Signature

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 2 Test Area: LTS

EUT Model #: RSU-2510-R Date: 1/9/2007

EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C

Test Method: FCC B Air Pressure: 98.0 kPa

Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Receive Mode

Data File Name: 0020.dat Page: 6 of 12

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2 FCC B >1GHz 3m
172.005 MHz	47.75 Qp	1.25 / 9.59 / 29.52 / 0.0	29.07	V / 1.70 / 190	-14.43	n/a
172.987 MHz	49.45 Qp	1.25 / 9.65 / 29.52 / 0.0	30.84	V / 1.70 / 190	-12.66	n/a
178.994 MHz	36.35 Qp	1.28 / 10.05 / 29.53 / 0.0	18.15	V / 1.70 / 190	-25.35	n/a
200.006 MHz	50.85 Qp	1.36 / 11.0 / 29.56 / 0.0	33.65	V / 1.70 / 190	-9.85	n/a
250.016 MHz	44.2 Qp	1.48 / 11.95 / 29.64 / 0.0	27.99	V / 1.70 / 190	-18.01	n/a
254.126 MHz	44.4 Qp	1.49 / 12.07 / 29.65 / 0.0	28.31	V / 1.70 / 190	-17.69	n/a
268.78 MHz	44.35 Qp	1.55 / 12.49 / 29.67 / 0.0	28.72	V / 1.70 / 190	-17.28	n/a
275.003 MHz	51.05 Qp	1.58 / 12.67 / 29.68 / 0.0	35.62	V / 1.70 / 190	-10.38	n/a
300.021 MHz	41.45 Qp	1.71 / 13.39 / 29.72 / 0.0	26.83	V / 1.70 / 190	-19.17	n/a
336.0 MHz	36.9 Qp	1.87 / 14.43 / 29.78 / 0.0	23.42	V / 1.70 / 190	-22.58	n/a
386.599 MHz	38.85 Qp	1.99 / 15.63 / 29.86 / 0.0	26.61	V / 1.70 / 190	-19.39	n/a
999.979 MHz	38.85 Qp	3.07 / 22.87 / 29.65 / 0.0	35.14	V / 1.70 / 190	-18.86	n/a
357.939 MHz	40.95 Qp	1.93 / 15.06 / 29.82 / 0.0	28.13	V / 1.70 / 190	-17.87	n/a
86.005 MHz	53.2 Qp	0.9 / 7.49 / 29.52 / 0.0	32.07	V / 1.70 / 190	-7.93	n/a
82.008 MHz	52.1 Qp	0.88 / 7.89 / 29.51 / 0.0	31.36	V / 1.70 / 190	-8.64	n/a
357.939 MHz	45.05 Qp	1.93 / 15.06 / 29.82 / 0.0	32.23	V / 1.00 / 180	-13.77	n/a
386.599 MHz	44.6 Qp	1.99 / 15.63 / 29.86 / 0.0	32.36	V / 1.00 / 180	-13.64	n/a
100 MHz maxed						
100.0 MHz	52.75 Qp	0.94 / 8.72 / 29.54 / 0.0	32.87	V / 1.00 / 0	-10.63	n/a
200 MHz maxed						
200.006 MHz	48.0 Qp	1.36 / 11.0 / 29.56 / 0.0	30.8	V / 1.00 / 275	-12.7	n/a
86 MHz maxed						

Tested by: T. K. Swanson
 Printed

Thomas K. Swanson
 Signature

Reviewed by: S. L. Rupp
 Printed

Susan L Rupp
 Signature

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 2 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/9/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Receive Mode

Data File Name: 0020.dat Page: 8 of 12

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2 FCC B >1GHz 3m
300.021 MHz	43.4 Qp	1.71 / 13.39 / 29.72 / 0.0	28.78	H / 1.30 / 0	-17.22	n/a
150.007 MHz	57.35 Qp	1.11 / 9.53 / 29.55 / 0.0	38.44	H / 2.40 / 0	-5.06	n/a
86.005 MHz	46.2 Qp	0.9 / 7.49 / 29.52 / 0.0	25.07	H / 2.40 / 0	-14.93	n/a
86.005 MHz	51.9 Qp	0.9 / 7.49 / 29.52 / 0.0	30.77	H / 2.40 / 270	-9.23	n/a
120.001 MHz	50.3 Qp	1.0 / 8.95 / 29.57 / 0.0	30.68	H / 2.40 / 270	-12.82	n/a
144.012 MHz	45.85 Qp	1.08 / 9.79 / 29.58 / 0.0	27.15	H / 2.40 / 270	-16.35	n/a
Maxed						
150.007 MHz	59.83 Qp	1.11 / 9.53 / 29.55 / 0.0	40.92	H / 1.90 / 240	-2.58	n/a
200.006 MHz	56.1 Qp	1.36 / 11.0 / 29.56 / 0.0	38.9	H / 1.20 / 175	-4.6	n/a
250.016 MHz	50.6 Qp	1.48 / 11.95 / 29.64 / 0.0	34.39	H / 1.20 / 175	-11.61	n/a
maxed						
150.007 MHz	56.8 Qp	1.11 / 9.53 / 29.55 / 0.0	37.89	V / 1.00 / 180	-5.61	n/a
200.006 MHz	52.6 Qp	1.36 / 11.0 / 29.56 / 0.0	35.4	V / 1.00 / 180	-8.1	n/a
86.005 MHz	53.59 Qp	0.9 / 7.49 / 29.52 / 0.0	32.46	V / 1.00 / 180	-7.54	n/a
Config 6						
maxed						
86.005 MHz	52.6 Qp	0.9 / 7.49 / 29.52 / 0.0	31.47	V / 1.00 / 0	-8.53	n/a

Tested by: T. K. Swanson
 Printed

Thomas K. Swanson
 Signature

Reviewed by: S. L. Rupp
 Printed

Susan L Rupp
 Signature

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 2 Test Area: LTS

EUT Model #: RSU-2510-R Date: 1/9/2007

EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C

Test Method: FCC B Air Pressure: 98.0 kPa

Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Receive Mode

Data File Name: 0020.dat Page: 9 of 12

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2 FCC B >1GHz 3m
150.0 MHz	57.1 Qp	1.11 / 9.53 / 29.55 / 0.0	38.19	V / 1.80 / 190	-5.31	n/a
200.006 MHz	52.4 Qp	1.36 / 11.0 / 29.56 / 0.0	35.2	V / 1.00 / 180	-8.3	n/a
200.006 MHz	55.7 Qp	1.36 / 11.0 / 29.56 / 0.0	38.5	H / 1.40 / 180	-5.0	n/a
150.007 MHz	59.6 Qp	1.11 / 9.53 / 29.55 / 0.0	40.69	H / 1.80 / 240	-2.81	n/a
86.005 MHz	54.04 Qp	0.9 / 7.49 / 29.52 / 0.0	32.91	H / 2.20 / 235	-7.09	n/a

End of scan 30 to 14000 MHz

Tested by: T. K. Swanson
Printed

Thomas K. Swanson
Signature

Reviewed by: S. L. Rupp
Printed

Susan L Rupp
Signature

RADIATED EMISSIONS



Test Report #: WC700020 Run 2 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/9/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

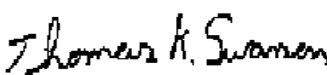
EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Receive Mode

Data File Name: 0020.dat Page: 10 of 12

Measurement summary for limit1: FCC-B <1GHz 3m (Qp)					
FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m
150.007 MHz	60.06 Qp	1.11 / 9.53 / 29.55 / 0.0	41.15	H / 1.50 / 235	-2.35
200.006 MHz	56.15 Qp	1.36 / 11.0 / 29.56 / 0.0	38.95	H / 1.30 / 180	-4.55
86.005 MHz	55.06 Qp	0.9 / 7.49 / 29.52 / 0.0	33.93	H / 2.30 / 230	-6.07
31.351 MHz	42.6 Qp	0.45 / 20.78 / 30.12 / 0.0	33.71	V / 1.00 / 0	-6.29
81.475 MHz	52.15 Qp	0.87 / 7.98 / 29.51 / 0.0	31.49	V / 1.00 / 0	-8.51
82.008 MHz	52.1 Qp	0.88 / 7.89 / 29.51 / 0.0	31.36	V / 1.70 / 190	-8.64
56.008 MHz	47.45 Qp	0.69 / 12.56 / 29.77 / 0.0	30.94	V / 1.00 / 0	-9.06
33.439 MHz	40.05 Qp	0.46 / 19.97 / 30.09 / 0.0	30.39	V / 1.00 / 0	-9.61
43.794 MHz	43.75 Qp	0.49 / 15.97 / 29.94 / 0.0	30.27	V / 1.70 / 90	-9.73
275.006 MHz	51.6 Qp	1.58 / 12.67 / 29.68 / 0.0	36.17	V / 1.70 / 180	-9.83
100.0 MHz	52.75 Qp	0.94 / 8.72 / 29.54 / 0.0	32.87	V / 1.00 / 0	-10.63
51.032 MHz	44.0 Qp	0.58 / 13.89 / 29.84 / 0.0	28.63	V / 1.00 / 0	-11.37
86.48 MHz	49.7 Qp	0.9 / 7.53 / 29.52 / 0.0	28.61	V / 1.00 / 0	-11.39
48.004 MHz	43.1 Qp	0.53 / 14.7 / 29.88 / 0.0	28.45	V / 1.00 / 0	-11.55
250.016 MHz	50.6 Qp	1.48 / 11.95 / 29.64 / 0.0	34.39	H / 1.20 / 175	-11.61
173.0 MHz	50.2 Qp	1.26 / 9.65 / 29.52 / 0.0	31.59	V / 1.70 / 180	-11.91
75.187 MHz	47.7 Qp	0.83 / 9.01 / 29.5 / 0.0	28.04	V / 1.70 / 190	-11.96
120.008 MHz	50.4 Qp	1.0 / 8.95 / 29.57 / 0.0	30.78	V / 1.00 / 0	-12.72
58.746 MHz	44.4 Qp	0.72 / 11.83 / 29.73 / 0.0	27.22	V / 1.70 / 190	-12.78
171.967 MHz	48.6 Qp	1.25 / 9.59 / 29.52 / 0.0	29.92	V / 1.70 / 180	-13.58
386.599 MHz	44.6 Qp	1.99 / 15.63 / 29.86 / 0.0	32.36	V / 1.00 / 180	-13.64
140.0 MHz	48.9 Qp	1.07 / 9.37 / 29.6 / 0.0	29.74	V / 1.00 / 0	-13.76
357.939 MHz	45.05 Qp	1.93 / 15.06 / 29.82 / 0.0	32.23	V / 1.00 / 180	-13.77
259.24 MHz	48.05 Qp	1.5 / 12.22 / 29.66 / 0.0	32.11	V / 1.70 / 180	-13.89
108.81 MHz	47.8 Qp	0.97 / 9.5 / 29.55 / 0.0	28.71	V / 1.00 / 0	-14.79
144.012 MHz	46.55 Qp	1.08 / 9.79 / 29.58 / 0.0	27.85	V / 1.70 / 90	-15.65

Tested by: T. K. Swanson
 Printed


 Signature

Reviewed by: S. L. Rupp
 Printed


 Signature

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 2 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/9/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Receive Mode

Data File Name: 0020.dat Page: 11 of 12

Measurement summary for limit1: FCC-B <1GHz 3m (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m
225.002 MHz	46.75 Qp	1.43 / 11.23 / 29.6 / 0.0	29.81	V / 1.70 / 180	-16.19
125.0 MHz	46.7 Qp	1.01 / 8.63 / 29.58 / 0.0	26.76	V / 1.00 / 0	-16.74
300.021 MHz	43.85 Qp	1.71 / 13.39 / 29.72 / 0.0	29.23	V / 1.00 / 270	-16.77
268.78 MHz	44.35 Qp	1.55 / 12.49 / 29.67 / 0.0	28.72	V / 1.70 / 190	-17.28
110.79 MHz	44.9 Qp	0.97 / 9.55 / 29.56 / 0.0	25.86	V / 1.00 / 0	-17.64
254.126 MHz	44.4 Qp	1.49 / 12.07 / 29.65 / 0.0	28.31	V / 1.70 / 190	-17.69
999.979 MHz	39.45 Qp	3.07 / 22.87 / 29.65 / 0.0	35.74	V / 1.70 / 180	-18.26
109.368 MHz	43.65 Qp	0.97 / 9.54 / 29.55 / 0.0	24.61	V / 1.70 / 190	-18.89
336.0 MHz	36.9 Qp	1.87 / 14.43 / 29.78 / 0.0	23.42	V / 1.70 / 190	-22.58
168.0 MHz	39.6 Qp	1.23 / 9.33 / 29.51 / 0.0	20.65	V / 1.70 / 190	-22.85
178.994 MHz	36.35 Qp	1.28 / 10.05 / 29.53 / 0.0	18.15	V / 1.70 / 190	-25.35

Tested by: T. K. Swanson

 Printed

Thomas K. Swanson

 Signature

Reviewed by: S. L. Rupp

 Printed

Susan L Rupp

 Signature

RADIATED EMISSIONS



America

Test Report #: WC700020 Run 2 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/9/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: Receive Mode

Data File Name: 0020.dat Page: 12 of 12

Measurement summary for limit2: FCC B >1GHz 3m (Av)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA2 FCC B >1GHz 3m
10.732 GHz	36.14 Av	15.04 / 38.92 / 46.27 / 0.0	43.84	V / 1.10 / 205	-10.16
9.996 GHz	37.24 Av	13.27 / 38.9 / 46.38 / 0.0	43.03	V / 1.10 / 220	-10.97
10.372 GHz	34.93 Av	14.06 / 38.83 / 46.26 / 0.0	41.56	V / 1.35 / 220	-12.44
1.3 GHz	60.43 Av	3.68 / 25.48 / 50.67 / 0.0	38.92	V / 1.00 / 0	-15.08
3.577 GHz	48.36 Av	6.35 / 32.24 / 48.77 / 0.0	38.19	H / 1.50 / 225	-15.81
1.5 GHz	54.62 Av	3.93 / 26.0 / 50.69 / 0.0	33.85	V / 1.00 / 0	-20.15
1.125 GHz	54.59 Av	3.33 / 25.03 / 50.44 / 0.0	32.5	V / 1.00 / 0	-21.5
3.457 GHz	41.74 Av	6.2 / 31.94 / 48.89 / 0.0	30.99	V / 1.30 / 180	-23.01
1.659 GHz	48.32 Av	4.11 / 26.73 / 50.51 / 0.0	28.65	V / 1.00 / 0	-25.35
1.666 GHz	48.08 Av	4.12 / 26.77 / 50.5 / 0.0	28.46	V / 1.00 / 0	-25.54
3.332 GHz	37.56 Av	6.04 / 31.63 / 49.03 / 0.0	26.2	V / 1.10 / 180	-27.8
1.3 GHz	63.5 Pk	3.68 / 25.48 / 50.67 / 0.0	41.99	V / 1.00 / 0	-12.01*
1.5 GHz	66.7 Pk	3.93 / 26.0 / 50.69 / 0.0	45.93	V / 1.00 / 0	-8.07*
1.659 GHz	65.25 Pk	4.11 / 26.73 / 50.51 / 0.0	45.58	V / 1.00 / 0	-8.42*

Tested by: T. K. Swanson
 Printed

Thomas K. Swanson
 Signature

Reviewed by: S. L. Rupp
 Printed

Susan L Rupp
 Signature

CONDUCTED EMISSIONS



Test Report #: WC700020 Run 3 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/9/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: _____

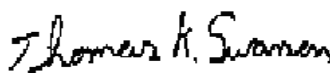
Data File Name: 0020.dat Page: 1 of 6

List of measurements for run #: 3

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	EUT Lead	DELTA1 EN55022 B Qp	DELTA2 EN55022 B Avg
Configuration 7						
150.0 kHz	45.4 Qp	0.12 / 0.1 / 0.0 / 0.0	45.62	L1	-20.38	n/a
150.0 kHz	19.85 Av	0.12 / 0.1 / 0.0 / 0.0	20.07	L1	n/a	-35.93
188.0 kHz	50.37 Qp	0.12 / 0.1 / 0.0 / 0.0	50.59	L1	-13.53	n/a
188.0 kHz	23.72 Av	0.12 / 0.1 / 0.0 / 0.0	23.94	L1	n/a	-30.18
299.0 kHz	40.07 Qp	0.14 / 0.0 / 0.0 / 0.0	40.22	L1	-20.06	n/a
299.0 kHz	27.59 Av	0.14 / 0.0 / 0.0 / 0.0	27.74	L1	n/a	-22.54
691.0 kHz	32.44 Qp	0.21 / 0.03 / 0.0 / 0.0	32.68	L1	-23.32	n/a
691.0 kHz	19.14 Av	0.21 / 0.03 / 0.0 / 0.0	19.38	L1	n/a	-26.62
2.163 MHz	27.3 Qp	0.36 / 0.04 / 0.0 / 0.0	27.7	L1	-28.3	n/a
2.163 MHz	13.78 Av	0.36 / 0.04 / 0.0 / 0.0	14.18	L1	n/a	-31.82
18.801 MHz	30.67 Qp	1.06 / 0.08 / 0.0 / 0.0	31.8	L1	-28.2	n/a
18.801 MHz	27.7 Av	1.06 / 0.08 / 0.0 / 0.0	28.83	L1	n/a	-21.17
25.066 MHz	33.44 Qp	1.2 / 0.25 / 0.0 / 0.0	34.89	L1	-25.11	n/a
25.066 MHz	30.86 Av	1.2 / 0.25 / 0.0 / 0.0	32.31	L1	n/a	-17.69
150.0 kHz	45.06 Qp	0.12 / 0.1 / 0.0 / 0.0	45.28	N	-20.72	n/a
150.0 kHz	19.31 Av	0.12 / 0.1 / 0.0 / 0.0	19.53	N	n/a	-36.47
188.0 kHz	50.23 Qp	0.12 / 0.1 / 0.0 / 0.0	50.45	N	-13.67	n/a
188.0 kHz	22.93 Av	0.12 / 0.1 / 0.0 / 0.0	23.15	N	n/a	-30.97
299.0 kHz	38.21 Qp	0.14 / 0.0 / 0.0 / 0.0	38.36	N	-21.92	n/a
299.0 kHz	23.43 Av	0.14 / 0.0 / 0.0 / 0.0	23.58	N	n/a	-26.7
691.0 kHz	36.83 Qp	0.21 / 0.03 / 0.0 / 0.0	37.07	N	-18.93	n/a
691.0 kHz	23.65 Av	0.21 / 0.03 / 0.0 / 0.0	23.89	N	n/a	-22.11

Tested by: T. K. Swanson

 Printed



 Signature

Reviewed by: S. L. Rupp

 Printed



 Signature

CONDUCTED EMISSIONS



America

Test Report #: WC700020 Run 3 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/9/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: _____

Data File Name: 0020.dat

Page: 2 of 6

List of measurements for run #: 3

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	EUT Lead	DELTA1 EN55022 B Qp	DELTA2 EN55022 B Avg
2.163 MHz	20.55 Qp	0.36 / 0.04 / 0.0 / 0.0	20.95	N	-35.05	n/a
2.163 MHz	9.85 Av	0.36 / 0.04 / 0.0 / 0.0	10.25	N	n/a	-35.75
18.801 MHz	30.77 Qp	1.06 / 0.08 / 0.0 / 0.0	31.9	N	-28.1	n/a
18.801 MHz	27.31 Av	1.06 / 0.08 / 0.0 / 0.0	28.44	N	n/a	-21.56
25.066 MHz	33.48 Qp	1.2 / 0.25 / 0.0 / 0.0	34.93	N	-25.07	n/a
25.066 MHz	30.71 Av	1.2 / 0.25 / 0.0 / 0.0	32.16	N	n/a	-17.84
Config 8						
151.0 kHz	56.28 Qp	0.12 / 0.1 / 0.0 / 0.0	56.5	N	-9.45	n/a
151.0 kHz	44.92 Av	0.12 / 0.1 / 0.0 / 0.0	45.14	N	n/a	-10.81
250.0 kHz	34.8 Qp	0.13 / 0.07 / 0.0 / 0.0	35.0	N	-26.76	n/a
250.0 kHz	-4.87 Av	0.13 / 0.07 / 0.0 / 0.0	-4.67	N	n/a	-56.43
250.0 kHz	6.83 Av	0.13 / 0.07 / 0.0 / 0.0	7.03	N	n/a	-44.73
293.0 kHz	42.4 Qp	0.14 / 0.01 / 0.0 / 0.0	42.55	N	-17.89	n/a
293.0 kHz	31.18 Av	0.14 / 0.01 / 0.0 / 0.0	31.33	N	n/a	-19.11
443.0 kHz	37.13 Qp	0.17 / 0.19 / 0.0 / 0.0	37.49	N	-19.51	n/a
443.0 kHz	33.25 Av	0.17 / 0.19 / 0.0 / 0.0	33.61	N	n/a	-13.39
591.0 kHz	30.3 Qp	0.2 / 0.01 / 0.0 / 0.0	30.51	N	-25.49	n/a
591.0 kHz	22.74 Av	0.2 / 0.01 / 0.0 / 0.0	22.95	N	n/a	-23.05
753.0 kHz	33.57 Qp	0.22 / 0.05 / 0.0 / 0.0	33.84	N	-22.16	n/a
753.0 kHz	4.15 Av	0.22 / 0.05 / 0.0 / 0.0	4.42	N	n/a	-41.58
2.941 MHz	29.31 Qp	0.42 / 0.05 / 0.0 / 0.0	29.78	N	-26.22	n/a
2.941 MHz	18.31 Av	0.42 / 0.05 / 0.0 / 0.0	18.78	N	n/a	-27.22
18.8 MHz	31.58 Qp	1.06 / 0.08 / 0.0 / 0.0	32.71	N	-27.29	n/a
18.8 MHz	29.82 Av	1.06 / 0.08 / 0.0 / 0.0	30.95	N	n/a	-19.05
25.068 MHz	33.84 Qp	1.2 / 0.25 / 0.0 / 0.0	35.29	N	-24.71	n/a

Tested by: T. K. Swanson

Printed

Thomas K. Swanson

Signature

Reviewed by: S. L. Rupp

by:

Printed

Susan L Rupp

Signature

CONDUCTED EMISSIONS



America

Test Report #: WC700020 Run 3 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/9/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: _____

Data File Name: 0020.dat Page: 3 of 6

List of measurements for run #: 3

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	EUT Lead	DELTA1 EN55022 B Qp	DELTA2 EN55022 B Avg
25.068 MHz	31.38 Av	1.2 / 0.25 / 0.0 / 0.0	32.83	N	n/a	-17.17
150.0 kHz	56.26 Qp	0.12 / 0.1 / 0.0 / 0.0	56.48	L1	-9.52	n/a
150.0 kHz	45.28 Av	0.12 / 0.1 / 0.0 / 0.0	45.5	L1	n/a	-10.5
151.0 kHz	53.56 Qp	0.12 / 0.1 / 0.0 / 0.0	53.78	L1	-12.17	n/a
151.0 kHz	42.43 Av	0.12 / 0.1 / 0.0 / 0.0	42.65	L1	n/a	-13.3
250.0 kHz	34.27 Qp	0.13 / 0.07 / 0.0 / 0.0	34.47	L1	-27.29	n/a
250.0 kHz	6.27 Av	0.13 / 0.07 / 0.0 / 0.0	6.47	L1	n/a	-45.29
293.0 kHz	41.5 Qp	0.14 / 0.01 / 0.0 / 0.0	41.65	L1	-18.79	n/a
443.0 kHz	32.32 Qp	0.17 / 0.19 / 0.0 / 0.0	32.68	L1	-24.32	n/a
591.0 kHz	37.28 Qp	0.2 / 0.01 / 0.0 / 0.0	37.49	L1	-18.51	n/a
591.0 kHz	29.9 Av	0.2 / 0.01 / 0.0 / 0.0	30.11	L1	n/a	-15.89
2.941 MHz	16.75 Qp	0.42 / 0.05 / 0.0 / 0.0	17.22	L1	-38.78	n/a
2.941 MHz	6.19 Av	0.42 / 0.05 / 0.0 / 0.0	6.66	L1	n/a	-39.34
753.0 kHz	32.35 Qp	0.22 / 0.05 / 0.0 / 0.0	32.62	L1	-23.38	n/a
753.0 kHz	15.5 Av	0.22 / 0.05 / 0.0 / 0.0	15.77	L1	n/a	-30.23
18.8 MHz	31.6 Qp	1.06 / 0.08 / 0.0 / 0.0	32.73	L1	-27.27	n/a
18.8 MHz	29.04 Av	1.06 / 0.08 / 0.0 / 0.0	30.17	L1	n/a	-19.83
25.066 MHz	31.21 Qp	1.2 / 0.25 / 0.0 / 0.0	32.66	L1	-27.34	n/a
25.066 MHz	29.4 Av	1.2 / 0.25 / 0.0 / 0.0	30.85	L1	n/a	-19.15
End of scan						

Tested by: T. K. Swanson
 Printed

Thomas K. Swanson
 Signature

Reviewed by: S. L. Rupp
 Printed

Susan L Rupp
 Signature

CONDUCTED EMISSIONS



America

Test Report #: WC700020 Run 3 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/9/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: _____

Data File Name: 0020.dat Page: 4 of 6

Measurement summary for limit1: EN55022 B Qp (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	EUT Lead	DELTA1 EN55022 B Qp
151.0 kHz	56.28 Qp	0.12 / 0.1 / 0.0 / 0.0	56.5	N	-9.45
188.0 kHz	50.37 Qp	0.12 / 0.1 / 0.0 / 0.0	50.59	L1	-13.53
293.0 kHz	42.4 Qp	0.14 / 0.01 / 0.0 / 0.0	42.55	N	-17.89
591.0 kHz	37.28 Qp	0.2 / 0.01 / 0.0 / 0.0	37.49	L1	-18.51
691.0 kHz	36.83 Qp	0.21 / 0.03 / 0.0 / 0.0	37.07	N	-18.93
443.0 kHz	37.13 Qp	0.17 / 0.19 / 0.0 / 0.0	37.49	N	-19.51
753.0 kHz	33.57 Qp	0.22 / 0.05 / 0.0 / 0.0	33.84	N	-22.16
25.068 MHz	33.84 Qp	1.2 / 0.25 / 0.0 / 0.0	35.29	N	-24.71
2.941 MHz	29.31 Qp	0.42 / 0.05 / 0.0 / 0.0	29.78	N	-26.22
250.0 kHz	34.8 Qp	0.13 / 0.07 / 0.0 / 0.0	35.0	N	-26.76
18.8 MHz	31.6 Qp	1.06 / 0.08 / 0.0 / 0.0	32.73	L1	-27.27
2.163 MHz	27.3 Qp	0.36 / 0.04 / 0.0 / 0.0	27.7	L1	-28.3

Tested by: T. K. Swanson

 Printed

Thomas K. Swanson

 Signature

Reviewed by: S. L. Rupp

 Printed

Susan L Rupp

 Signature

CONDUCTED EMISSIONS



America

Test Report #: WC700020 Run 3 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/9/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: _____

Data File Name: 0020.dat Page: 5 of 6

Measurement summary for limit2: EN55022 B Avg (Av)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	EUT Lead	DELTA2 EN55022 B Avg
150.0 kHz	45.28 Av	0.12 / 0.1 / 0.0 / 0.0	45.5	L1	-10.5
443.0 kHz	33.25 Av	0.17 / 0.19 / 0.0 / 0.0	33.61	N	-13.39
591.0 kHz	29.9 Av	0.2 / 0.01 / 0.0 / 0.0	30.11	L1	-15.89
25.068 MHz	31.38 Av	1.2 / 0.25 / 0.0 / 0.0	32.83	N	-17.17
18.8 MHz	29.82 Av	1.06 / 0.08 / 0.0 / 0.0	30.95	N	-19.05
293.0 kHz	31.18 Av	0.14 / 0.01 / 0.0 / 0.0	31.33	N	-19.11
691.0 kHz	23.65 Av	0.21 / 0.03 / 0.0 / 0.0	23.89	N	-22.11
2.941 MHz	18.31 Av	0.42 / 0.05 / 0.0 / 0.0	18.78	N	-27.22
188.0 kHz	23.72 Av	0.12 / 0.1 / 0.0 / 0.0	23.94	L1	-30.18
753.0 kHz	15.5 Av	0.22 / 0.05 / 0.0 / 0.0	15.77	L1	-30.23
2.163 MHz	13.78 Av	0.36 / 0.04 / 0.0 / 0.0	14.18	L1	-31.82
250.0 kHz	6.83 Av	0.13 / 0.07 / 0.0 / 0.0	7.03	N	-44.73

Tested by: T. K. Swanson

 Printed

Thomas K. Swanson

 Signature

Reviewed by: S. L. Rupp

 Printed

Susan L Rupp

 Signature

CONDUCTED EMISSIONS



America

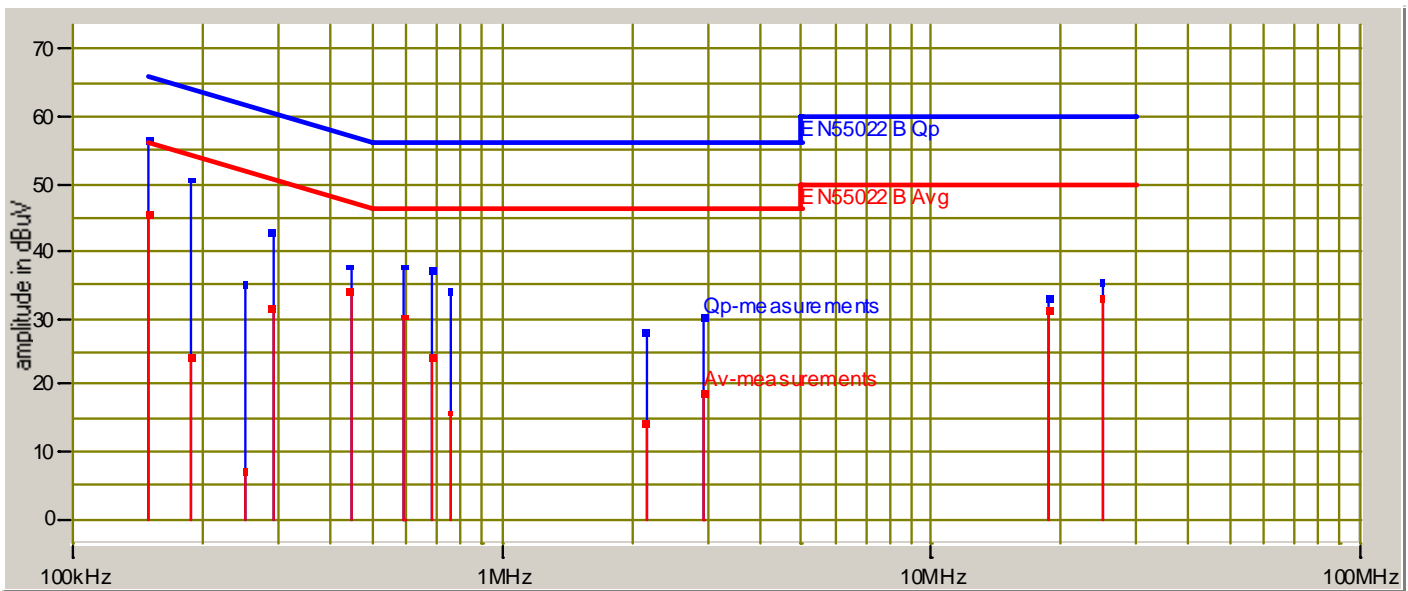
Test Report #: WC700020 Run 3 Test Area: LTS
 EUT Model #: RSU-2510-R Date: 1/9/2007
 EUT Serial #: 0082-0300-6500055 EUT Power: 60 Hz 120 VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: Motorola Inc. Rel. Humidity: 21.0 %

EUT Description: BRS/EBS Residential Subscribe Unit (RSU)

Notes: _____

Data File Name: 0020.dat Page: 6 of 6

Graph:



Tested by: T. K. Swanson
 Printed

Thomas K. Swanson
 Signature

Reviewed by: S. L. Rupp
 Printed

Susan L Rupp
 Signature

Appendix B

Constructional Data Form

and

Block Diagram





EMC Test Plan and Constructional Data Form

America

PLEASE COMPLETE THIS DOCUMENT IN FULL, ENTERING N/A IF THE FIELD IS NOT APPLICABLE. IF TESTING RESULTS IN MODIFICATIONS TO THE EQUIPMENT, PLEASE SUBMIT A REVISED TP/CDF INDICATING THOSE MODIFICATIONS.
NOTE: This information will be input into your test report as shown below. Press the F1 key at any time to get HELP for the current field selected.

Company: Motorola Inc., NextNet Wireless Product Group
 Address: 299 Johnson Ave.
Suite 120
Waseca, MN 56093
 Contact: Tim Blom Position: Engineering Section Manager
 Phone: 507-837-3672 Fax: 507-837-1059
 E-mail Address: Tim.Blom@motorola.com

General Equipment Description -- NOTE: This information will be input into your test report as shown below.

EUT Description BRS/EBS Residential Subscribe Unit (RSU)
 EUT Name Expedience 2.496-2.690 GHz RSU
 Model No.: RSU-2510-R Serial No.: S/N: 0082-0300-6500055
 Product Options: none
 Configurations to be tested: standard

Equipment Modification (If applicable, indicate modifications since EUT was last tested. If modifications are made during this testing, submit revised TP/CDF after testing is complete.)

Modifications since last test: N/A
 Modifications made during test: _____

Test Objective(s): Please indicate the tests to be performed, entering the applicable standard(s) where noted.

- | | |
|---|--|
| <input type="checkbox"/> EMC Directive 89/336/EEC (EMC)
Std: _____ | <input checked="" type="checkbox"/> FCC: Class <input type="checkbox"/> A <input checked="" type="checkbox"/> B Part <u>27</u> |
| <input type="checkbox"/> Machinery Directive 89/392/EEC (EMC)
Std: _____ | <input type="checkbox"/> VCCI: Class <input type="checkbox"/> A <input type="checkbox"/> B |
| <input type="checkbox"/> Medical Device Directive 93/42/EEC (EMC)
Std: _____ | <input type="checkbox"/> BSMI: Class <input type="checkbox"/> A <input type="checkbox"/> B |
| <input type="checkbox"/> Vehicle Directive 72/245/EEC (EMC)
Std: _____ | <input checked="" type="checkbox"/> Canada: Class <input type="checkbox"/> A <input checked="" type="checkbox"/> B |
| <input type="checkbox"/> FDA Reviewers Guidance for Premarket
Notification Submissions (EMC) | <input type="checkbox"/> Australia: Class <input type="checkbox"/> A <input type="checkbox"/> B |
| | <input checked="" type="checkbox"/> Other: <u>FCC 2, 15, 27, IC RSS-193</u> |

Third Party Certification, if applicable (*Signature on Page 6 Required)

- | | |
|---|---|
| <input type="checkbox"/> Attestation of Conformity (AoC)* | <input type="checkbox"/> EMC Certification (used with Octagon Mark)* |
| <input type="checkbox"/> Certificate of Conformity (CoC)* | <input type="checkbox"/> Compliance Document* |
| Protection Class (N/A for vehicles) | <input type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III |
| (Press F1 when field is selected to show additional information on Protection Class.) | |
| <input type="checkbox"/> FCC / TCB Certification | <input type="checkbox"/> Industry Canada / FCB Certification |
| <input type="checkbox"/> E-Mark Certification | <input type="checkbox"/> Taiwan Certification |



EMC Test Plan and Constructional Data Form

America

Attendance

Test will be: Attended by the customer Unattended by the customer

Failure - Complete this section if testing will not be attended by the customer.

If a failure occurs, TÜV America should:

- Call contact listed above, if not available then stop testing. (After hrs phone): _____
- Continue testing to complete test series.
- Continue testing to define corrective action.
- Stop testing.

EUT Specifications and Requirements

Length: 12.75 " Width: 7.75" Height: 1.5 " Weight: 1.8 Lb

Power Requirements

Regulations require testing to be performed at typical power ratings in the countries of intended use. (i.e., European power is typically 230 VAC 50 Hz or 400 VAC 50 Hz, single and three phase, respectively)

Voltage: 13 VDC (If battery powered, make sure battery life is sufficient to complete testing.)

of Phases: 1

Current (Amps/phase(max)): 1.3 Current (Amps/phase(nominal)): .36

Other: ---

Other Special Requirements

Transmitter radiated emissions to be measured per EIA/TIA 603-C procedure for licensed transmitters. Receiver radiated emissions testing to be performed on ANSI C63.4-2003 clause 5.4 compliant site. Receiver radiated emissions measured with a quasi peak detector compliant to CISPR Publication 16.

Typical Installation and/or Operating Environment

(ie. Hospital, Small Business, Industrial/Factory, etc.)
Residential indoor

EUT Power Cable

- Permanent OR Removable Length (in meters): 2
- Shielded OR Unshielded
- Not Applicable



EMC Test Plan and Constructional Data Form

America

EUT Interface Ports and Cables																
Type	Analog		Digital		During Test		Qty	Shielding		Termination	Connector Type	Port Termination	Length tested (in meters)	Removable	Permanent	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Active	Passive		Yes	No							Type
EXAMPLE: RS232	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Foil over braid	Coaxial	Metallized 9-pin D-Sub	Characteristic Impedance	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13 VDC cable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	twin pair	---	Circular	DC	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ethernet cable	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	CAT-5	differential 100 ohm	RJ-45	100 ohm	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>

EMC Test Plan and Constructional Data Form

EUT Software.

Revision Level: NextNet Diagnostics Test N Tune s/w: 2.04
 Subscriber operating s/w: 4.3.41
 Loader s/w: 2.12
 NextNet Tool/Diagnostics s/w: 8.02d
 RF ASIC Configuration file: rev2_122006

Description: Operating and test software for RSU product that enables test modes for compliance testing.

Equipment Under Test (EUT) Operating Modes to be Tested -- list the operating modes to be used during test. It is recommended the equipment be tested while operating in a typical operation mode. FCC testing of personal computers and/or peripherals requires that a simple program generate a complete line of upper case H's. Provide a general description of all software, firmware, and PLD algorithms used in the equipment. List all code modules as described above, with the revision level used during testing. Consult with your TÜV Product Service Representative if additional assistance is required.

1. Radiated emissions - transmitter - 14.29% duty cycle, 3 RF channels, 3 channel bandwidths

Requirements per TIA/EIA 603-C-2004 and Industry Canada RSS-193 procedures [absolute power level of -13 dBm and verified using antenna-generator substitution method]

Configuration 1 :: 6.0 MHz channel bandwidth: RF freq = 2499 MHz
 Configuration 2 :: 5.5 MHz channel bandwidth: RF freq = 2593 MHz
 Configuration 3 :: 5.0 MHz channel bandwidth: RF freq = 2683 MHz

Radiated emissions to be measured from 30 MHz to 27 GHz for each configuration.

2. Radiated emissions - receiver - 3 RF channels, 3 channel bandwidths

Requirements per FCC part 15B and Industry Canada RSS-Gen Issue 1, September, 2005 section 6 Table 1

Configuration 4 :: 6.0 MHz channel bandwidth: RF freq = 2499 MHz
 Configuration 5 :: 5.5 MHz channel bandwidth: RF freq = 2593 MHz
 Configuration 6 :: 5.0 MHz channel bandwidth: RF freq = 2683 MHz

Radiated emissions to be measured from 30 MHz to 14 GHz for each configuration.

3. Transmitter and Receiver AC Power Lines Conducted Emissions Limits.

Requirements per FCC part 15B and Industry Canada RSS-Gen Issue 1, September, 2005 section 7.2.2

Configuration 7 :: 6.0 MHz channel bandwidth: RF freq = 2499 MHz, transmit 14.29% duty cycle

Configuration 8 :: 5.5 MHz channel bandwidth: RF freq = 2593 MHz, receive mode



EMC Test Plan and Constructional Data Form

America

Equipment Under Test (EUT) System Components -- List and describe all components which are part of the EUT. For FCC & Taiwan testing a minimum configuration is required. (ie. Mouse, Printer, Monitor, External Disk Drive, Motherboard, etc)

Description	Model #	Serial #	FCC ID #
Residential Subscribe Unit (RSU)	RSU-2510-RV RSU-2510-RH	0082-0300- 6500055	FCC: PHX-RSU2510R IC: 4022A-RSU2510R
RSU Power Supply NN# 420-0060-0010	OTE-17-13	5305	N/A
Ethernet Cable NN# 597-6010-0001	N/A	N/A	N/A

Support Equipment -- List and describe all support equipment which is not part of the EUT. (i.e. peripherals, simulators, etc) This information is required for FCC & Taiwan testing.

Description	Model #	Serial #	FCC ID #
Dell laptop computer	Precision M65	CRFK3B1	N/A
D-link Switch	DSS-5+	DR8615B009993	N/A
Belkin Mouse	F8E814-OPT	057002030	N/A
Lexar Media USB memory stick reader	Part # : RW012 Rev. B	N/A	N/A



EMC Test Plan and Constructional Data Form

America

Oscillator Frequencies			
<i>Frequency</i>	<i>Derived Frequency</i>	<i>Component # / Location</i>	<i>Description of Use</i>
40 MHz	N	Y501	TCXO for main stability
2.135 MHz	N	U5 / 4.2 Vdc Power Supply	power supply switchers
3.186 MHz	N	U1 / 7 Vdc Power Supply	
20 MHz	Y	U500	main clock
2.5 MHz	Y	U221 / Logic	ethernet clock
25 MHz	Y	U210 / Logic	ethernet clock
86.25 MHz	Y	U210 / Logic	data clocks
172.5 MHz	Y	U210 / Logic	uP core clock
3.332 - 3.58666 GHz	N	U500 / Synthesizer	Main RF frequency source (VCO)
5.8333333 / 23.3333333 / 35 / 140 MHz	Y	U210 / Logic	NN Custom ASIC processing clocks (5.0 MHz channel)
6.333333 / 25.3333333 / 38 / 152 MHz	Y	U210 / Logic	NN Custom ASIC processing clocks (5.5 MHz channel)
7 / 28 / 42 / 168 MHz	Y	U210 / Logic	NN Custom ASIC processing clocks (6 MHz channel)

Power Supply			
<i>Manufacturer</i>	<i>Model #</i>	<i>Serial #</i>	<i>Type</i>
Operating Tech	OTE-17-13	5305	<input checked="" type="checkbox"/> Switched-mode: (Frequency) <u>252 kHz</u> <input type="checkbox"/> Linear <input type="checkbox"/> Other: _____
			<input type="checkbox"/> Switched-mode: (Frequency) _____ <input type="checkbox"/> Linear <input type="checkbox"/> Other: _____

Power Line Filters		
<i>Manufacturer</i>	<i>Model #</i>	<i>Location in EUT</i>
N/A		



EMC Test Plan and Constructional Data Form

Critical EMI Components (Capacitors, ferrites, etc.)				
<i>Description</i>	<i>Manufacturer</i>	<i>Part # or Value</i>	<i>Qty</i>	<i>Component # / Location</i>
N/A				

EMC Critical Detail -- Describe other EMC Design details used to reduce high frequency noise.

N/A

(PLEASE INSERT "ELECTRONIC SIGNATURE" BELOW IF POSSIBLE)

Authorization Signatures (Signature Required for Certifications checked on pg 1)

/s/ Tim Blom

01/02/2007

Customer authorization to perform tests according to this test plan.

Date

Test Plan/CDF Prepared By (please print)

Date



EMC Block Diagram Form

System Configuration Block Diagram -- Provide a line drawing identifying the EUT, simulators, support equipment, I/O cables, power cables, and any other pertinent components to be used during testing. Use a dashed line to separate the equipment in the testing field versus equipment outside testing field.

** Part 15 test setup for radiated emissions compliance (DoC). **
Test setup per ANSI C63.4-2003

** Parts 2 and 27 test setup for BRS and EBS service rules **
Test setup per TIA-603-C (2004)

Authorization Signatures

/s/ Tim Blom

01/02/2007

Customer authorization to perform tests
according to this test plan.

Date

Test Plan/CDF Prepared By (please print)

Date

FCC Emissions Test Plan Details (ATTACHMENT)



If testing levels other than those desired, then indicate the requested test levels under Engineering Justifications / Test Deviations.

Standards to be Applied	
<input type="checkbox"/> CISPR 22	
<input type="checkbox"/> Class A	
<input type="checkbox"/> Class B	
<input checked="" type="checkbox"/> FCC Part <u>2.1033</u> (list)	Class <u>B</u> (list)
<input type="checkbox"/> Other _____ (list)	

Description	Basic Document	Requirement
Radiated & Conducted Emissions	ANSI 63.4	Reference Basic Document or Applicable Standard

Engineering Justifications / Test Deviations
<p>Transmitter radiated spurious emissions:</p> <p>FCC 2.1033 Application for Certification</p> <p>FCC 2.1033(c) Applications for equipment other than that operating under parts 15 and 18 of the rules shall be accompanied by a technical report containing the following information:</p> <p>FCC 2.1053 Measurements Required: Field Strength of spurious radiation</p> <p>ANSI/TIA/EIA-603-C-2004 clause 2.2.12 Unwanted Emissions: Radiated Spurious</p> <p>Receiver and Digital Devices radiated spurious emissions:</p> <p>ANSI C63.4-2003 American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (2003)</p>

Appendix C

Measurement Protocol





MEASUREMENT PROTOCOL

Environmental conditions in the lab, (TUV)

Temperature: 23° C
Relative Humidity: 21 %
Atmospheric pressure: 98.0 kPa

Test Methodology

Emissions testing is performed according to the procedures in ANSI C63.4-2003.

Measurement Uncertainty

The test system for conducted emissions is defined as the LISN, tuned receiver or spectrum analyzer, and coaxial cable. The test system has a measurement uncertainty of ± 1.8 dB. The test system for radiated emissions is defined as the antenna, the pre-amplifier, the spectrum analyzer and the coaxial cable. The test system has a measurement uncertainty of ± 4.8 dB. The equipment comprising the test systems is calibrated on an annual basis.

Justification

The Equipment Under Test (EUT) is configured in a typical user arrangement in accordance with the manufacturer's instructions. A cable is connected to each available port and either terminated with a peripheral into its characteristic impedance or left unterminated. When appropriate, the cables are manually manipulated with respect to each other to obtain maximum emissions from the unit.

Radiated Emissions

The final level, in dB μ V/m, equals the reading from the spectrum analyzer (Level dB μ V), adding the antenna correction factor and cable loss factor (Factor dB) to it, and subtracting the preamp gain (and duty cycle correction factor, if applicable). This result then has the limit subtracted from it to provide the Delta, which gives the tabular data as shown in the data sheets in Attachment A.

Example:

FREQ (MHz)	LEVEL (dB μ V)	CABLE/ANT/PREAMP (dB) (dB/m) (dB)	FINAL (dB μ V/m)	POL/HGT/AZ (m) (deg)	DELTA1
60.80	42.5Qp +	1.2 + 10.9 - 25.5 =	29.1	V 1.0 0.0	-10.9

Substitution Method

Per TIA/EIA 603-C-2004, a radiated emission scan was also made, at TUV America's Wild River Lab Large Test Site, with the EUT's antenna replaced with a termination to demonstrate case radiation compliance to the -13 dBm requirement. Radiated emissions from the EUT are measured in the frequency range of 30 to 27000 MHz using a spectrum analyzer and appropriate broadband linearly polarized antennas. Table top equipment is placed on a 1.0 X 1.5 meter non-conducting table 80 centimeters above the ground plane. Floor standing equipment is placed directly on the turntable/ground plane. Interface cables that are closer than 40 centimeters to the ground plane are bundled in the center in a serpentine fashion so they are at least 40 centimeters from the ground plane. Cables to simulators/testers (if used in this test) are routed through the center of the table and to a screen room located outside the test area. The antenna is positioned 3 meters horizontally from the EUT. To locate maximum emissions from the test sample the antenna is varied in height from 1 to 4 meters, measurement scans are made with both horizontal and vertical antenna polarizations and the EUT are rotated 360 degrees. The field strength levels were measured per ANSI C63.4. The EUT is then replaced with a tuned dipole antenna (below 1 GHz) or horn antenna (above 1 GHz). The substitute antenna was placed in the same polarization as the test antenna. A signal generator was used to generate a signal level that matched the highest level measured from the EUT. The signal generator level minus the cable loss from the signal generator to the substitute antenna plus the substitute antenna gain equals the spurious power level.

Test Equipment

All measurement instrumentation is traceable to the National Institute of Standards and Technology and is calibrated according to internal procedure.