

# Curtis-Straus

**Worldwide Regulatory Approvals Experts**

(A2LA Certificate Number 1627-01)

## Technical Report

Company: Beltronics USA, Inc.  
FRN: 0007600588  
Models: RD650  
822R  
FCC ID: QL4G6S6B  
Equipment Code: CRD

Report prepared for:  
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EMC Manager

**Introduction**

This report is an application for Certification of Radar Detectors operating pursuant to 47 CFR 15.109, as amended by ET Docket No. 01-278; FCC 02-211, published in the Federal Register Vol. 67, No. 145 on Monday July 29, 2002.

**Statement of Conformity**

47 CFR 15.109(h) states that “*Radar detectors shall comply with the emissions limits...of [section 15.109(a)] over the frequency range of 11.7 – 12.2GHz.*” The applicable limit being 500 $\mu$ V/m measured at a distance of 3m. The following Beltronics 6B platform models have been tested and found to comply with this requirement:

RD650

822R

**Test Methodology**

Radiated emission testing was performed according to the procedures in ANSI C63.4 (2001). The testing was performed at an antenna to EUT distance of 1 meter. Performance was investigated in the range 11.7-12.2GHz. The RD650 was powered by a R.O.C. SPN4025A 12VDC 400mA power supply, and the 822R was powered by a HP E3612A DC Power Supply. Since the devices are hand-held units, the emissions were maximized around the three orthogonal axes and the maximum reading was recorded. The integrated antenna cannot be maximized separately.

Test Equipment

<b>SPECTRUM ANALYZERS</b>					
<b>x</b>	<b>Analyzer</b>	<b>Model No.</b>	<b>Company</b>	<b>Serial No.</b>	<b>Calibration Due</b>
<b>X</b>	<b>ORANGE</b> 9kHz-26.5GHz	E4407B	HP	US39440975	07-JUN-2003

<b>OPEN AREA TEST SITES (OATS)</b>					
<b>x</b>	<b>Site</b>	<b>FCC Code</b>	<b>IC Code</b>	<b>VCCI Code</b>	<b>Calibration Due</b>
<b>X</b>	<b>"T"</b> Texas	93448	IC 2762-T	R-905/ C-480	04-FEB-2004
<b>X</b>	<b>"M"</b> Maine	93448	IC 2762-M	R-904/ C-480	04-FEB-2004

<b>ANTENNAS</b>					
<b>x</b>	<b>Antenna</b>	<b>Model No.</b>	<b>Company</b>	<b>Serial No.</b>	<b>Calibration Due</b>
<b>X</b>	<b>YELLOW</b> Horn: 1-18GHz	3115	EMCO	9608-4898	08-MAY-2003
<b>X</b>	<b>BLACK</b> Horn: 1-18GHz	3115	EMCO	9703-5148	12-JUN-2003

<b>PREAMPLIFIERS / ATTENUATORS</b>					
<b>x</b>	<b>Preamplifier</b>	<b>Model No.</b>	<b>Company</b>	<b>Serial No.</b>	<b>Calibration Due</b>
<b>X</b>	<b>ORANGE-BLACK</b> 1-20GHz	SMC-12A	MITEQ	690639	06-SEP-2002

Unless otherwise noted the calibration interval is one year. All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard. All Open Area Test Sites are located at 527 Great Road, Littleton, MA 01460.

Sample Setup Photo



Model: RD650

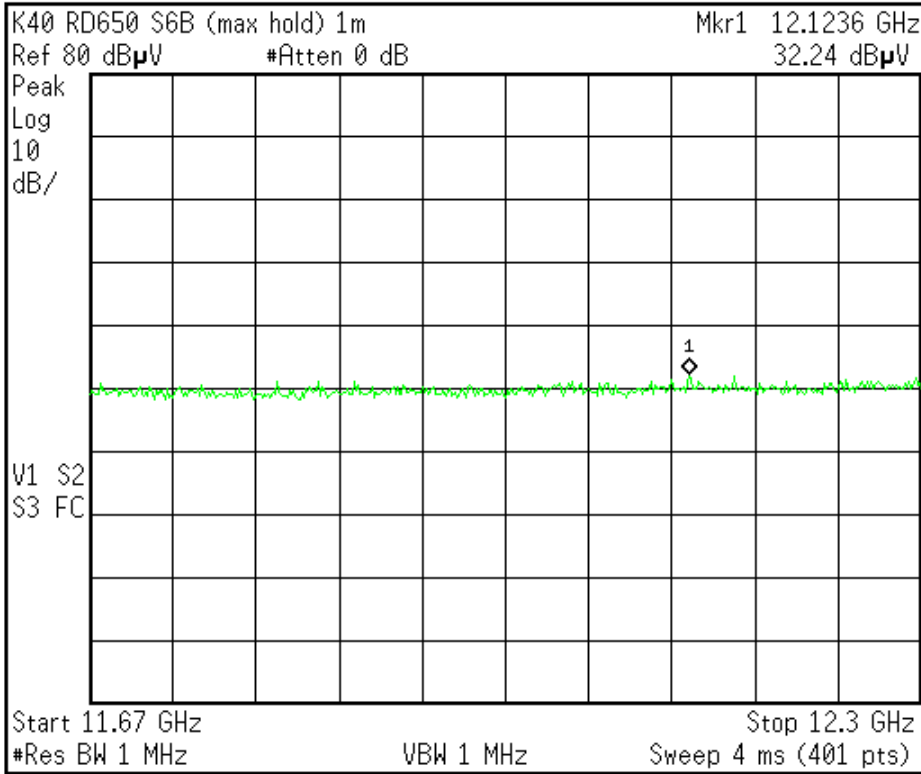
**Measurement Results**

All measurements taken were peak detector readings of the noise floor.  
 There were no emissions detected from the EUTs.

Radiated Emissions Table							Curtis-Straus LLC		
Date: 08-Aug-02		16-Aug-02		23-Aug-02		Company: Beltronics		Table 1	
Engineer: Evan Gould			EUT Desc: various radar detector models				Work Order: C0610		
Frequency Range: 11.7-12.2GHz					Measurement Distance: 1 m				
Notes: Emissions maximized Horizontally and Vertically. All measurements are noise floor readings.									
Antenna Polarization (H / V)	Frequency (MHz)	Reading (dBµV)	Preamp Factor (dB)	Antenna Factor (dB/m)	Cable Factor (dB)	Adjusted Reading (dBµV/m)	47 CFR 15.209(a)		
							Limit (dBµV/m)	Margin (dB)	Result (Pass/Fail)
RD650 S6B	12124.0	32.2	20.1	38.9	4.7	55.7	63.5	-7.8	Pass
822R S6B	12029.0	31.3	20.3	38.9	4.7	54.6	63.5	-8.9	Pass
Test Sites: "T" "M"		Pre-Amp: Or-Blk		Cable: 3m Microflex		Analyzer: Orange		Antennas: Black Horn Yellow Horn	

### Sample Emission Plot

Agilent 10:11:15 Aug 16, 2002



Display
Full Screen
Display Line 81.99 dBµV On Off
Limits>
Title>
Preferences>

A:\E906M1.GIF file saved