



**F2 Labs**  
16740 Peters Road  
Middlefield, Ohio 44062  
United States of America  
[www.f2labs.com](http://www.f2labs.com)

## CERTIFICATION TEST REPORT

**Manufacturing Address:** Beijing Jia An Electronics Technology Co., Ltd.  
No. 19 Gu Cheng West Street,  
Shi Jing Shan District,  
Beijing 100043, China

**Applicant:** BEA Incorporated  
RIDC Park West,  
100 Enterprise Drive  
Pittsburgh, Pennsylvania 15275  
United States of America

**Product:** RF 900 MHz Transceivers for Pedestrian  
Automatic Door Industry

**Model:** 10RD900

**FCC ID:** 2ABWS-10RD900

**Testing Commenced:** April 9, 2014

**Testing Ended:** July 31, 2014

**Summary of Test Results:** Page 5

**Standards:**

- ❖ **FEDERAL REGISTER CFR 47, PART 15 – RADIO FREQUENCY DEVICES**
  - Part 15 Subpart C, Section 15.231 - Periodic operation in the band 40.66–40.70 MHz and above 70 MHz
  - Part 15 Subpart C, Section 15.209 - Radiated emissions limits; general requirements
  - Part 15 Subpart C, Section 15.207 - Conducted Limits
- ❖ **ANSI C63.4 2009 – 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**



Order Number: F2LQ5979B

Client: BEA Incorporated

Model: 10RD900

Evaluation Conducted by:

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Joe Knepper, EMC Proj. Eng.

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Ken Littell, EMC Tech. Mgr.

Report Reviewed by:

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Wendy Fuster, President

F2 Labs  
26501 Ridge Road  
Damascus, MD 20872  
Ph 301.253.4500  
Fax 301.253.5179

F2 Labs  
16740 Peters Road  
Middlefield, OH 44062  
Ph 440.632.5541  
Fax 440.632.5542

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• UE259 Engineering Change Requests (Hardware) 20140603		



## 1 ADMINISTRATIVE INFORMATION

### 1.1 Measurement Location:

F2 Labs in Middlefield, Ohio. Site description and attenuation data are on file with the FCC's Sampling and Measurement Branch at the FCC Laboratory in Columbia, MD.

### 1.2 Measurement Procedure:

All measurements were performed according to the 2009 version of ANSI C63.4 and recommended FCC procedure of measurement for Intermittent Transmitters and Receivers operating under Section 15.231. A list of the measurement equipment can be found in Section 6.

### 1.3 Uncertainty Budget:

#### Radiated Emissions

- Combined Uncertainty (+ or -) 2.67 dB
- Expanded Uncertainty (+ or -) 5.35 dB

#### Conducted Emissions

- Combined Uncertainty (+ or -) 1.88 dB
- Expanded Uncertainty (+ or -) 3.75 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

### 1.4 Document History

Document Number	Description	Issue Date	Approved By
F2LQ5979A-08E	First Issue	Aug. 2, 2014	W. Fuster



## 2 SUMMARY OF TEST RESULTS

Standard(s)	Results
CFR 47 Part 15.231(a)(1)	Complies
CFR 47 Part 15.207(a)	Complies

Note: Product has provisions for being operated from a source that may connect to an AC mains network or an AC to DC power supply. Voltage Variation testing in 15.31(3)(e) was performed at the nominal voltage, and then the 85% and 115% of that voltage was tested also. The output power at the High, Mid, and Low channels was measured to verify how much the power and frequency were affected by the variation of the input power. No shift in frequency or power was measured at either of the varied voltages on any of the channels.

Modifications Made to the Equipment
Reduced power of EUT to -8.0dBm
Refer to APPENDIX - UE259 Engineering Change Requests (Hardware) 20140603



Order Number: F2LQ5979B

Client: BEA Incorporated

Model: 10RD900

### 3 ENGINEERING STATEMENT

This report has been prepared on behalf of BEA Incorporated, to provide documentation for the testing described herein. This equipment has been tested and found to comply with Parts 15.231 and 15.207 of the FCC Rules, using ANSI C63.4 2009 standards, with the modifications noted in Section 2 of this Test report. The test results found in this test report relate only to the items tested.



## 4 EUT INFORMATION AND DATA

### 4.1 Equipment Under Test:

Product: RF 900 MHz Transceivers for Pedestrian Automatic Door Industry  
Model: 10RD900  
Serial No.: None Spec.  
FCC ID: 2ABWS-10RD900

### 4.2 Trade Name: BEA Incorporated

### 4.3 Power Supply:

Battery Powered and provisions for being operated from a source that may connect to an AC mains network or an AC to DC power supply.

### 4.4 Applicable Rules:

CFR 47, Part 15.231, subpart C  
CFR 47, Part 15.207

### 4.5 Equipment Category:

Intermittent Transceiver

### 4.6 Antenna:

0dBi Internal

### 4.7 Accessories:

N/A

### 4.8 Test Item Condition:

The equipment to be tested was received in good condition.

### 4.9 Testing Algorithm:

The EUT was configured to permit frequency changes from low-mid-upper transmission channel. For all tests, in a semi-anechoic chamber and on the OATS, the EUT was equipped with a 0dBi internal antenna.



Order Number: F2LQ5979B

Client: BEA Incorporated  
Model: 10RD900

## 5 LIST OF MEASUREMENT INSTRUMENTATION

Equipment Type	Asset Number	Manufacturer	Model	Serial Number	Calibration Due Date
Shield Room	0175	Ray Proof	N/A	11645	Aug. 7, 2014
Temp/Hum. Recorder	CL119	Extech	RH520	H005869	Jan. 8, 2015
OATS-3m	CL017	Compliance Labs	N/A	001	Dec. 13, 2014
Spectrum Analyzer	CL147	Agilent	E7402A	MY45101241	Oct. 24, 2014
Spectrum Analyzer	CL138	Agilent Technologies	E4407B	US41192779	Oct. 29, 2014
Receiver	CL151	Rohde & Schwarz	ESU40	100319	Oct. 30, 2014
Antenna 1-Chamber	0142	ETS/EMCO	3142B	9811-1330	Verified
Antenna 2-OATS	0105	Sunol Sciences	JB1	A101101	May 7, 2015
Pre-Amplifier	CL153	Agilent	83006-69007	MY39500900	Jan. 9, 2015
Amplifier w/Monopole & 18" Loop	CL163	A.H. Systems, Inc.	EHA-52B	100	Apr. 24, 2015
Antenna, Horn	CL098	Emco	3115	9809-5580	Dec. 3, 2015
Cable: 0.3m Low Loss	CL116	A.H. Systems, Inc.	SAC-26G-0.3	206	Apr. 29, 2015
Cable: 0.3m Low Loss	CL117	A.H. Systems, Inc.	SAC-26G-3	207	Jan. 16, 2015
Cable, High Frequency	CL154	Pasternack	p/n PE350-240	N/A	Jan. 16, 2015
Transient Limiter	CL102	Hewlett Packard	11947A	3107A03325	Feb. 11, 2015
LISN 2	0147	Solar	8028-50-TS-24-BNC	1128	Jan. 16, 2017
LISN 4	0146	Solar	8028-50-TS-24-BNC	1127	Jan. 16, 2017
Software:	Tile Version 1.0			Software Verified: July 31, 2014	



## 6 FCC PART 15.231(b)

### 6.1 Requirements:

Field strength of emissions, fundamental and spurious using average detector and a peak limit of 20dB was added above the average limit per 15.35(b).

Limit for fundamental frequency above 470 MHz is: 12,500  $\mu$ V/m.

Limits for spurious emissions were those specified in 15.209.

The EUT was initially placed in a semi-anechoic chamber, and rotated in all three orthogonal positions to maximize the emissions. Characterization measurements were then performed to determine at which frequencies significant emissions occurred. These graphs are shown below.

The EUT was then positioned on the OATS and while the equipment was energized, the receiving antenna was scanned from 1.0 meter to 4.0 meters in both vertical and horizontal polarities while the turntable was adjusted 360 degrees to determine the maximum field strength. The tables of measured results can be found below.

The equipment was fully exercised with all cabling attached to the EUT and was positioned for maximum emissions. The EUT was positioned flat against the plastic tabletop and it was verified, by placing a foam support between the table and the antenna, that the table had no effect on the emissions at these frequency ranges.

Some of the frequencies did not change with the EUT on or off. At those frequencies, the test distance was shortened to 1 meter and still no emissions from the EUT were visible or over the ambient or limit.

In the following plots, the black line indicates ambient noise and the red line indicates the measurement with the EUT on. Emissions to be found by the EUT were measured and listed in tables. In the frequency range of 9kHz-30MHz, the plots are for reference only and the limit lines are not actual limit lines but merely a guide. The plots are to show that there are no measureable emissions above the ambient signal.

The formula used was: DCCF =  $20 \log \left( \frac{29.25ms}{100ms} \right) = -10.68$



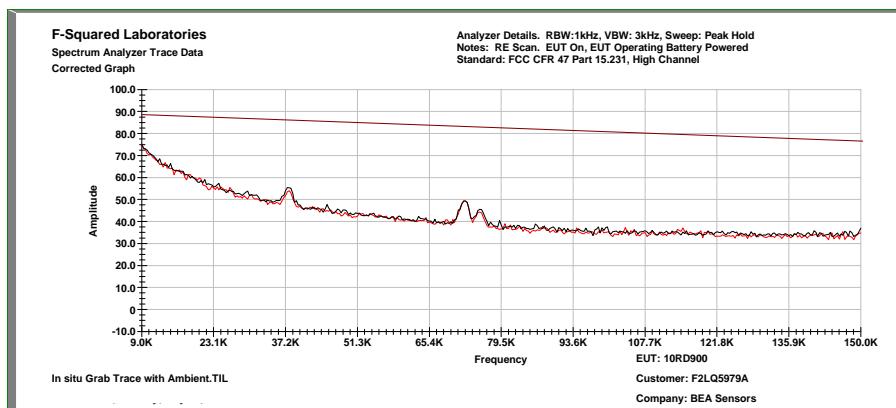
Order Number: F2LQ5979B

Client: BEA Incorporated  
Model: 10RD900

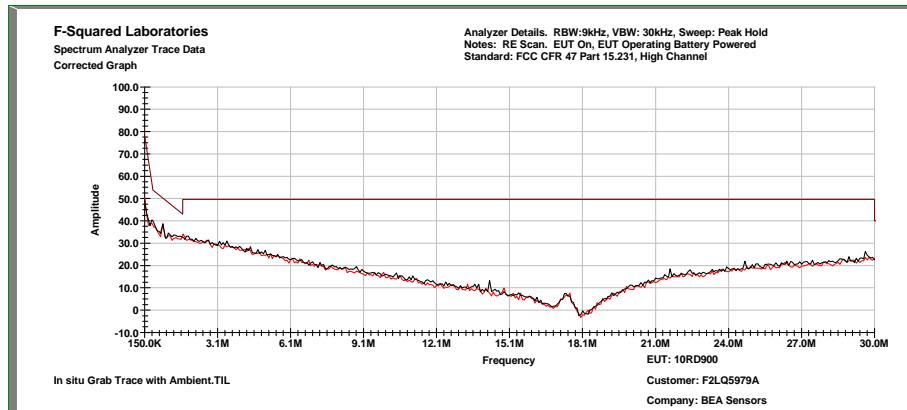
## 6.2 Test Data

<b>Test Date:</b>	Apr. 9, 2014 to May 12, 2014	<b>Test Engineers:</b>	J. Knepper; K. Littell
<b>Standards:</b>	CFR 47 Part 15.231(b); 15.209; C63.4:2009, Section 13.7	<b>Air Temperature:</b>	18.8°C
		<b>Relative Humidity:</b>	47%

### High Channel: 9 kHz to 150 kHz



### High Channel: 150 kHz to 30 MHz



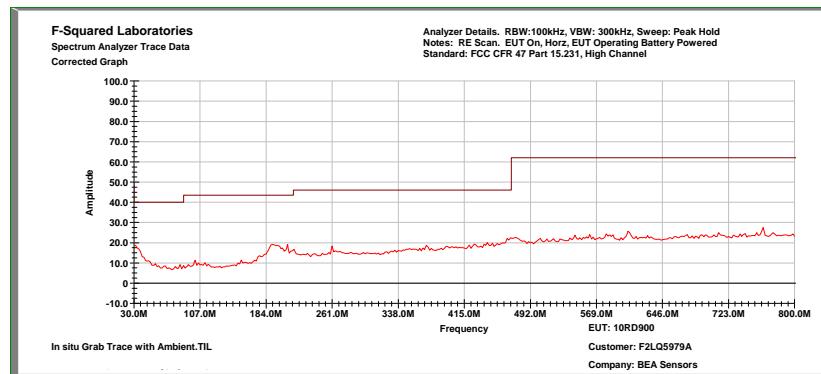


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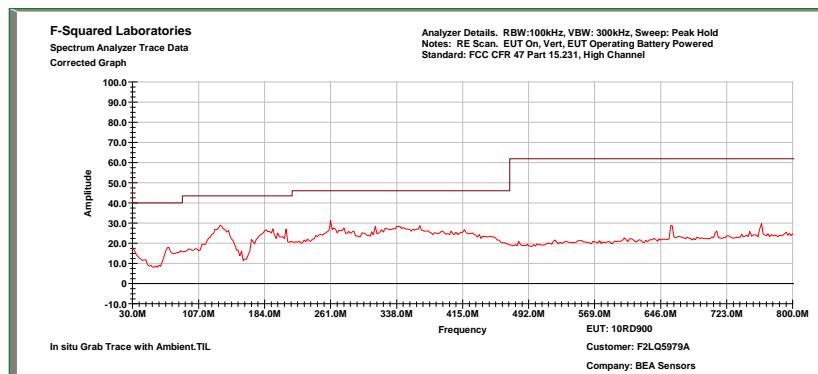
Client: BEA Incorporated

Model: 10RD900

## High Channel: 30 MHz to 800 MHz, Horizontal



## High Channel: 30 MHz to 800 MHz, Vertical



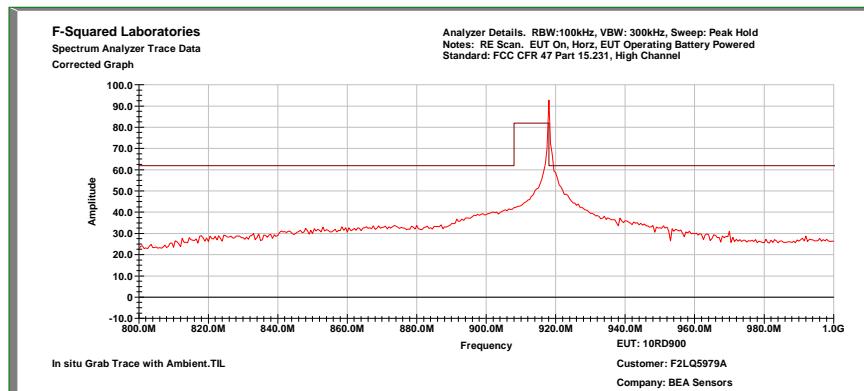


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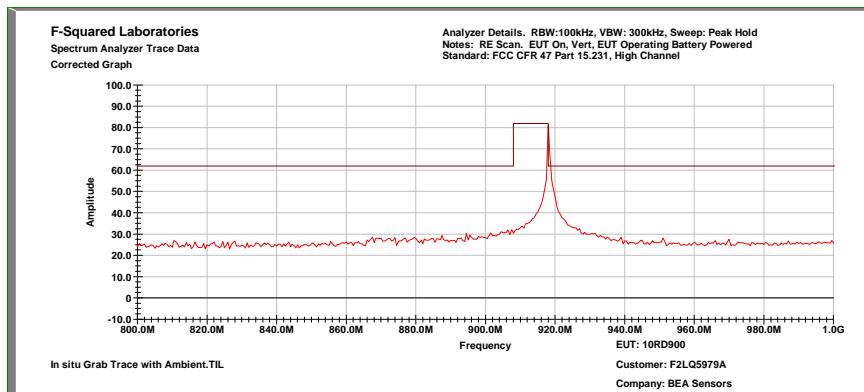
Client: BEA Incorporated

Model: 10RD900

### High Channel: 800 MHz to 1 GHz, Horizontal



### High Channel: 800 MHz to 1 GHz, Vertical



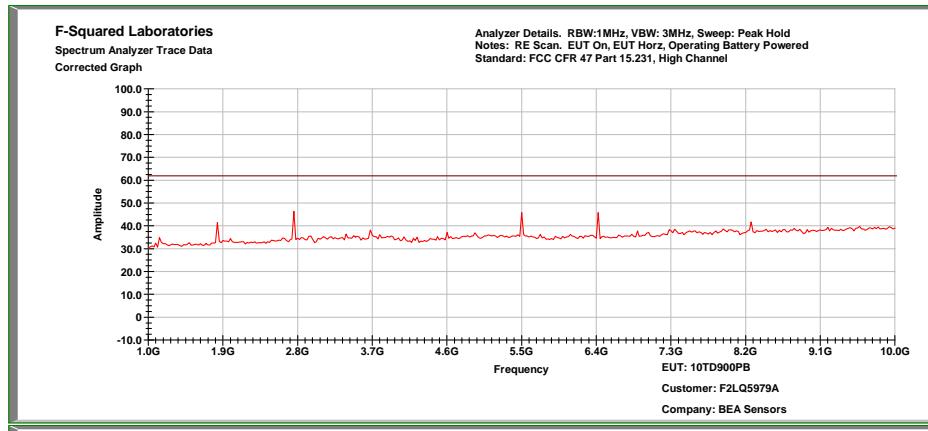


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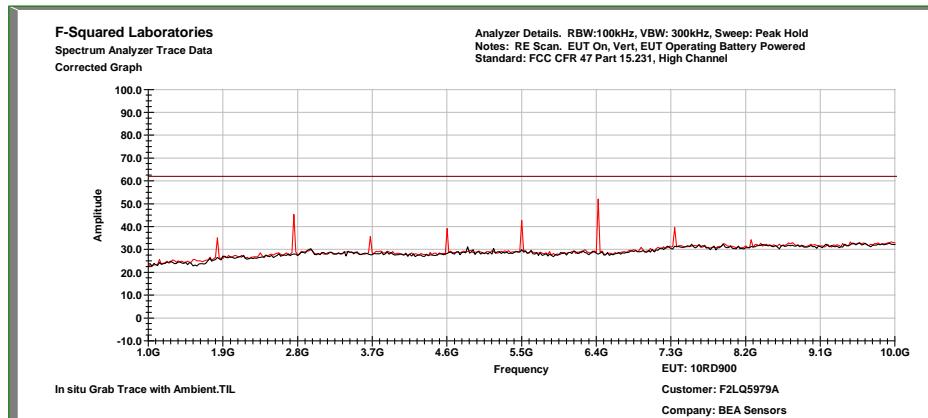
Client: BEA Incorporated

Model: 10RD900

### High Channel: 1 GHz to 10 GHz, Horizontal



### High Channel: 1 GHz to 10 GHz, Vertical





Order Number: F2LQ5979B

Client: BEA Incorporated  
Model: 10RD900

## High Channel

Frequency (MHz)	Polarity	Corr. (dB)	MaxPeak (dB $\mu$ V/m)	MaxPeak (dB $\mu$ V/m) Limit	MaxPeak Margin	Average (dB $\mu$ V/m)	Average (dB $\mu$ V/m) w/DCCF	Average (dB $\mu$ V/m) Limit	Average Margin	Bandwidth (kHz)
130.890000	V	15.7	36.1	63.5	-27.4	22.2	11.52	43.5	-32.0	120.000
182.770000	V	14.1	27	63.5	-36.5	14.6	3.92	43.5	-39.6	120.000
260.020000	V	15.5	29.3	63.5	-34.2	17	6.32	43.5	-37.2	120.000
902.000000	H	28.5	43.1	81.9	-38.8	29.9	19.22	61.9	-42.7	120.000
902.000000	V	28.9	42.9	81.9	-39.0	30.3	19.62	61.9	-42.3	120.000
918.000000	H	28.2	91.2	101.9	-10.7	87.8	77.12	81.9	-4.8	120.000
918.000000	V	28.9	82	101.9	-19.9	78.6	67.92	81.9	-14.0	120.000
928.000000	V	29.2	43.2	81.9	-38.7	30.7	20.02	61.9	-41.9	120.000
928.000000	H	28.4	44.7	81.9	-37.2	30.8	20.12	61.9	-41.8	120.000
2754.000000	H	36.3	42.5	73.97	-31.5	34.6	23.92	53.97	-30.1	1000.000
2754.000000	V	36.4	43.2	73.97	-30.8	35.7	25.02	53.97	-29.0	1000.000
5508.000000	V	38.1	43.1	81.9	-38.8	37.2	26.52	61.9	-35.4	1000.000
5508.000000	H	38.8	44	81.9	-37.9	38.5	27.82	61.9	-34.1	1000.000
6426.000000	H	39.7	49.3	81.9	-32.6	44.6	33.92	61.9	-28.0	1000.000
6426.000000	V	38.8	50	81.9	-31.9	47.2	36.52	61.9	-25.4	1000.000

Frequency (MHz)	Polarity	Corr. (dB)	Quasi-Peak (dB $\mu$ V/m)	Quasi-Peak (dB $\mu$ V/m) Limit	Quasi-Peak Margin	Bandwidth (kHz)
130.890000	V	17.9	42.1	43.5	-1.4	120.000
182.770000	V	16.6	31.9	43.5	-11.6	120.000
260.020000	V	18.5	39.9	46	-6.1	120.000

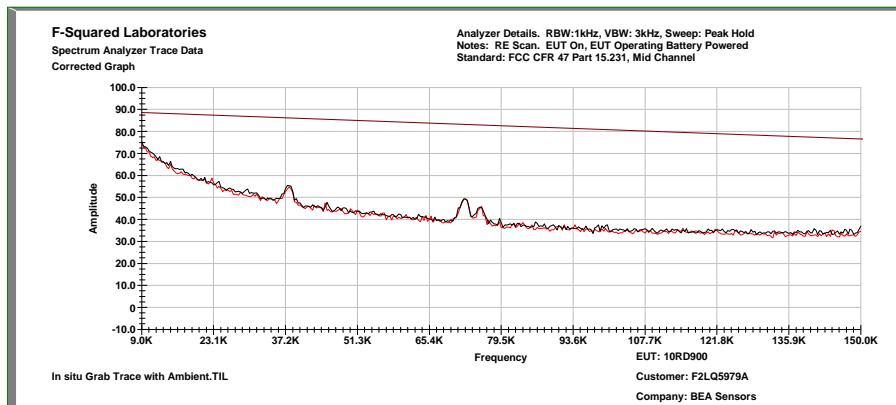


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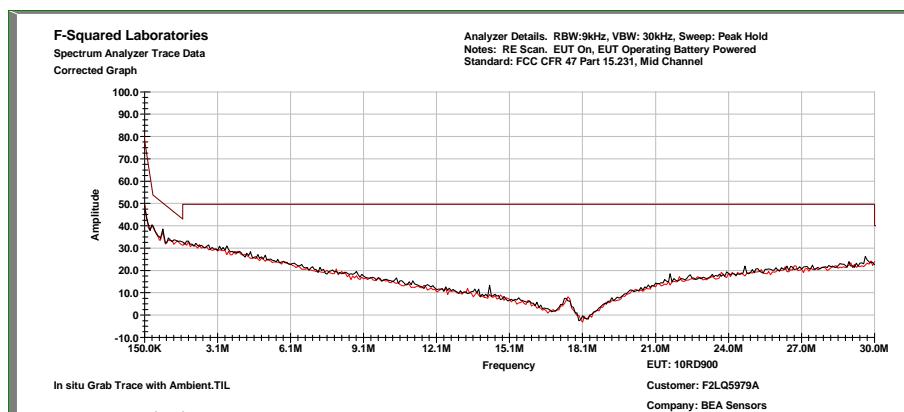
Client: BEA Incorporated

Model: 10RD900

### Mid Channel: 9 kHz to 150 kHz



### Mid Channel: 150 kHz to 30 MHz



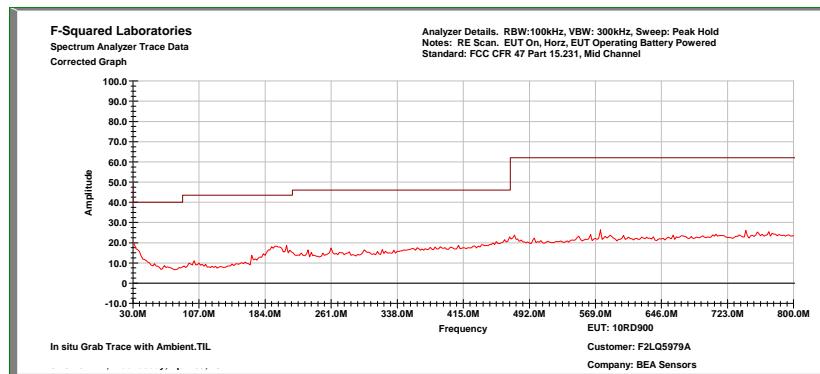


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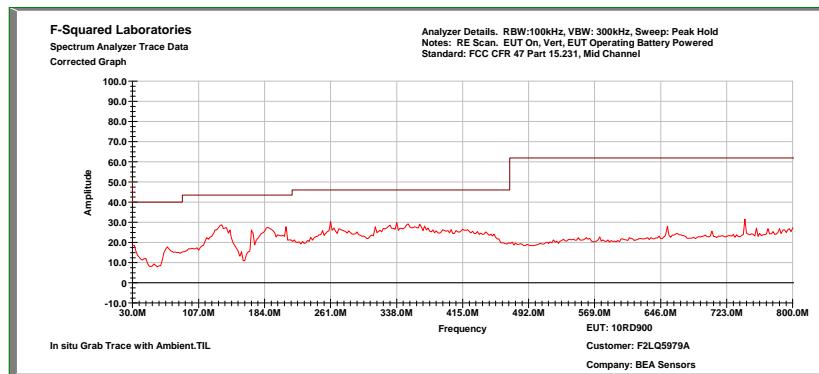
Client: BEA Incorporated

Model: 10RD900

### Mid Channel: 30 MHz to 800 MHz, Horizontal



### Mid Channel: 30 MHz to 800 MHz, Vertical



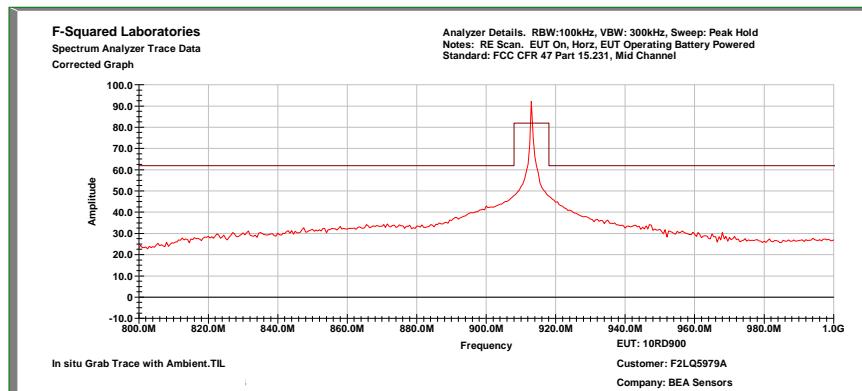


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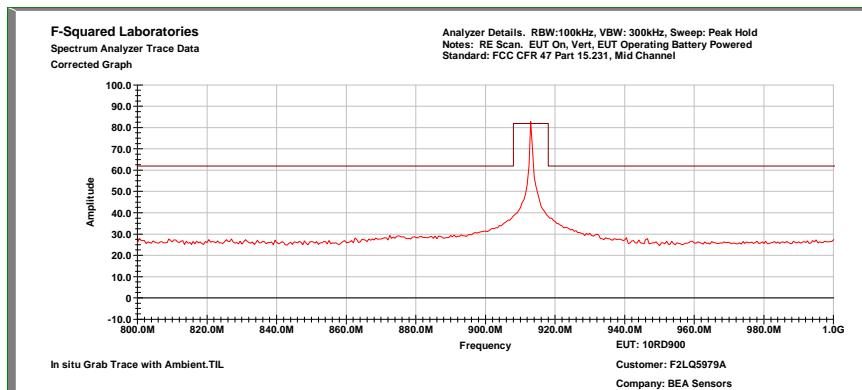
Client: BEA Incorporated

Model: 10RD900

### Mid Channel: 800 MHz to 1 GHz, Horizontal



### Mid Channel: 800 MHz to 1 GHz, Vertical



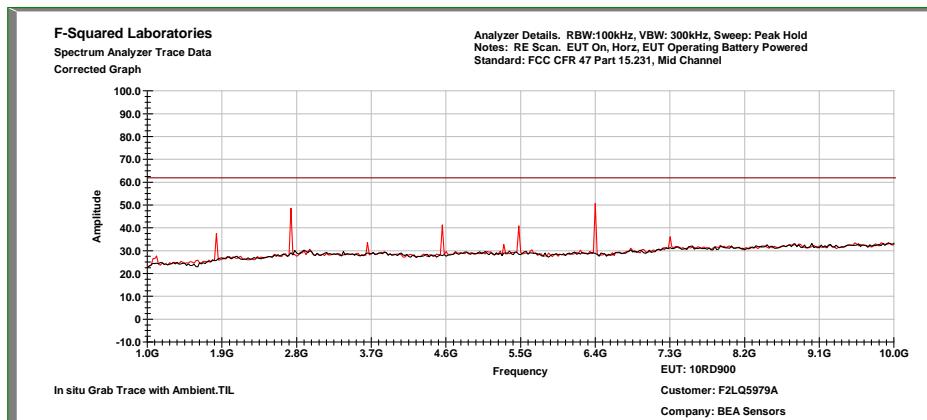


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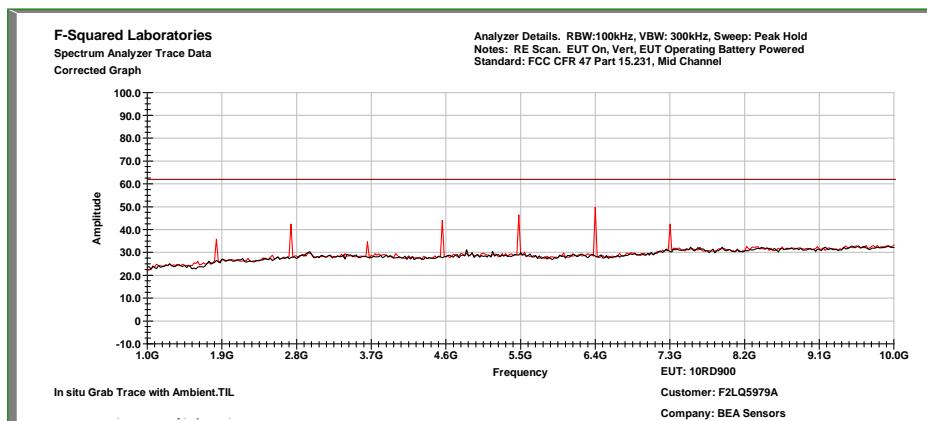
Client: BEA Incorporated

Model: 10RD900

### Mid Channel: 1 GHz to 10 GHz, Horizontal



### Mid Channel: 1 GHz to 10 GHz, Vertical





Order Number: F2LQ5979B

Client: BEA Incorporated  
Model: 10RD900

## Mid Channel

Frequency (MHz)	Polarity	Corr. (dB)	MaxPeak (dB $\mu$ V/m)	MaxPeak (dB $\mu$ V/m) Limit	MaxPeak Margin	Average (dB $\mu$ V/m)	Average (dB $\mu$ V/m) w/DCCF	Average (dB $\mu$ V/m) Limit	Average Margin	Bandwidth (kHz)
130.770000	V	15.7	36.3	63.5	-27.2	22	11.32	43.5	-32.2	120.000
185.990000	V	14.0	27.3	63.5	-36.2	15.9	5.22	43.5	-38.3	120.000
259.980000	V	15.4	29.1	63.5	-34.4	16.8	6.12	46	-39.9	120.000
902.000000	V	28.9	42.8	81.9	-39.1	30.3	19.62	61.9	-42.3	120.000
902.000000	H	28.5	42.4	81.9	-39.5	30	19.32	61.9	-42.6	120.000
913.000000	H	28.2	91.1	101.9	-10.8	87.7	77.02	81.9	-4.9	120.000
913.000000	V	28.9	81.1	101.9	-20.8	77.7	67.02	81.9	-14.9	120.000
928.000000	V	29.2	42.7	81.9	-39.2	30.7	20.02	61.9	-41.9	120.000
928.000000	H	28.4	42.2	81.9	-39.7	29.9	19.22	61.9	-42.7	120.000
2739.000000	V	36.2	41.8	73.97	-32.2	37.2	26.52	53.97	-27.5	1000.000
2739.000000	H	36.5	42.6	73.97	-31.4	36.9	26.22	53.97	-27.8	1000.000
6391.000000	H	40.4	48.3	81.9	-33.6	41.7	31.02	61.9	-30.9	1000.000
6391.000000	V	40.1	49.7	81.9	-32.2	44.1	33.42	61.9	-28.5	1000.000

Frequency (MHz)	Polarity	Corr. (dB)	Quasi-Peak (dB $\mu$ V/m)	Quasi-Peak (dB $\mu$ V/m) Limit	Quasi-Peak Margin	Bandwidth (kHz)
130.770000	V	17.9	41.3	43.5	-2.2	120.000
185.990000	V	16.6	32.7	43.5	-10.8	120.000
259.980000	V	18.5	36.5	43.5	-7.0	120.000

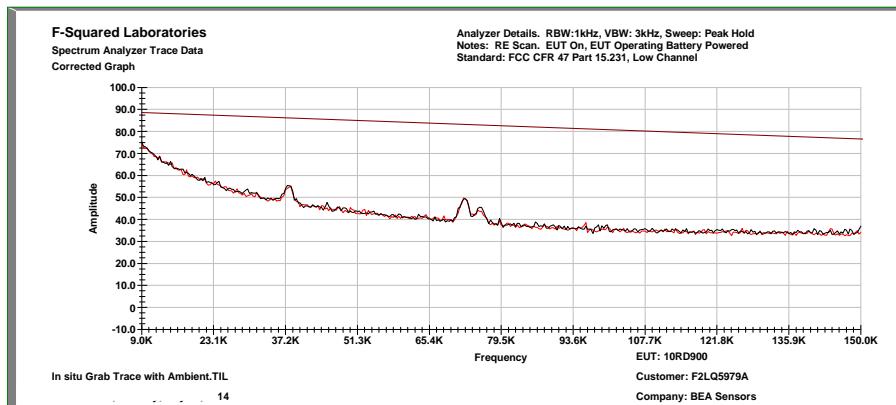


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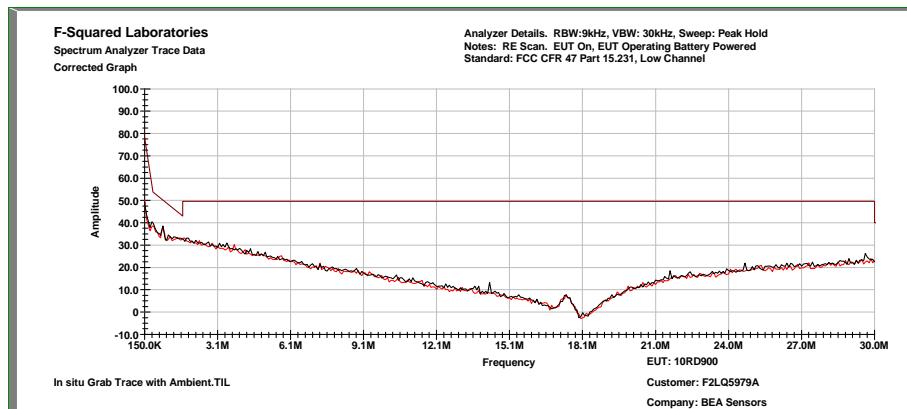
Client: BEA Incorporated

Model: 10RD900

## Low Channel: 9 kHz to 150 kHz



## Low Channel: 150 kHz to 30 MHz



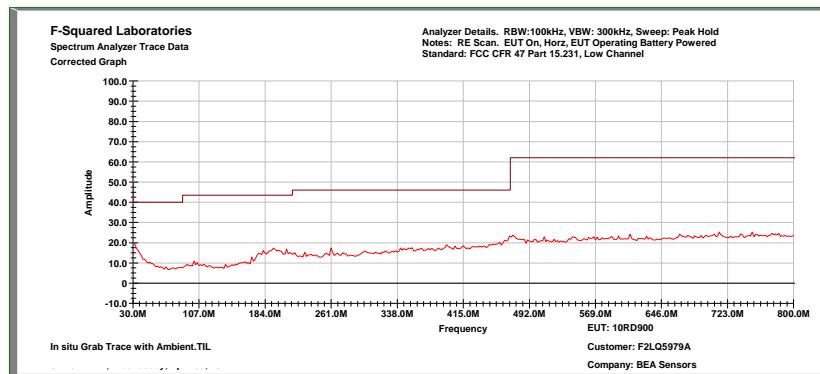


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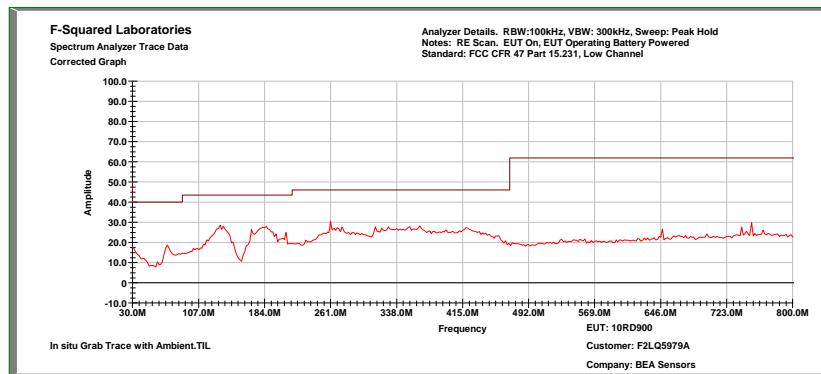
Client: BEA Incorporated

Model: 10RD900

### Low Channel: 30 MHz to 800 MHz, Horizontal



### Low Channel: 30 MHz to 800 MHz, Vertical



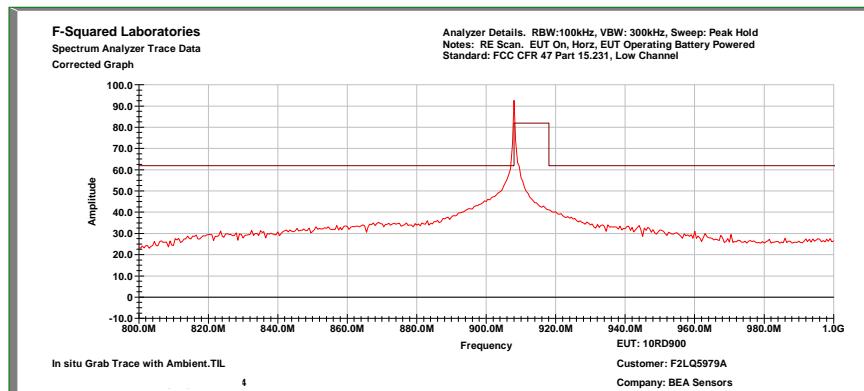


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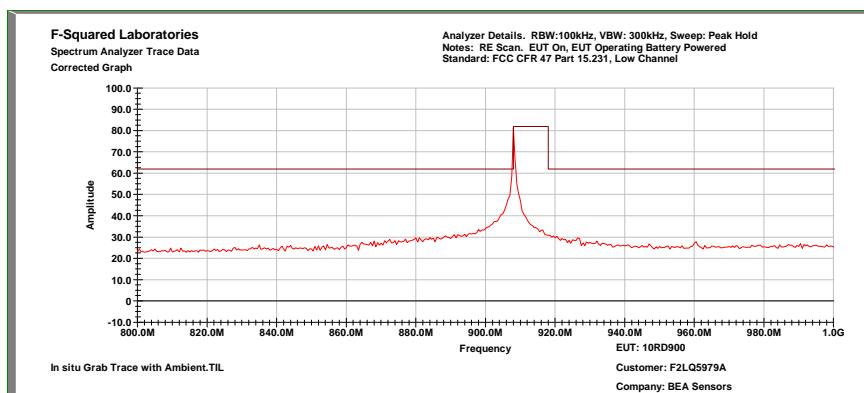
Client: BEA Incorporated

Model: 10RD900

### Low Channel: 800 MHz to 1 GHz, Horizontal



### Low Channel: 800 MHz to 1 GHz, Vertical



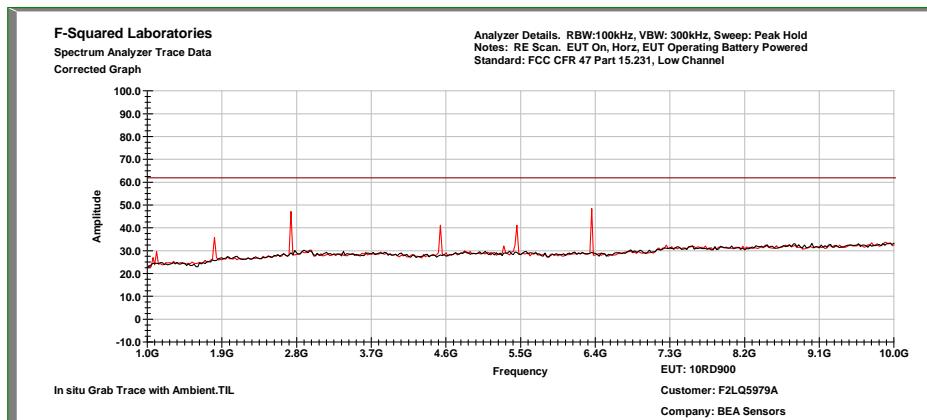


Order Number: F2LQ5979B

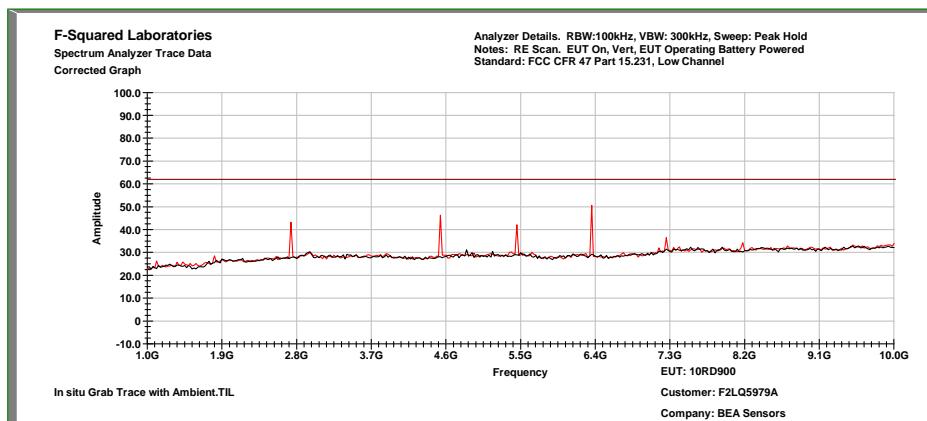
Client: BEA Incorporated

Model: 10RD900

### Low Channel: 1 GHz to 10 GHz, Horizontal



### Low Channel: 1 GHz to 10 GHz, Vertical





Order Number: F2LQ5979B

Client: BEA Incorporated  
Model: 10RD900

## Low Channel

Frequency (MHz)	Polarity	Corr. (dB)	MaxPeak (dB $\mu$ V/m)	MaxPeak (dB $\mu$ V/m) Limit	MaxPeak Margin	Average (dB $\mu$ V/m)	Average (dB $\mu$ V/m) w/DCCF	Average (dB $\mu$ V/m) Limit	Average Margin	Bandwidth (kHz)
130.770000	V	15.7	37	63.5	-26.5	25.3	14.62	43.5	-28.9	120.000
184.800000	V	14.0	27.3	63.5	-36.2	15.2	4.52	43.5	-39.0	120.000
260.010000	V	15.5	28.1	63.5	-35.4	16	5.32	43.5	-38.2	120.000
902.000000	H	28.5	44	81.9	-37.9	30	19.32	61.9	-42.6	120.000
902.000000	V	28.9	42.6	81.9	-39.3	30.3	19.62	61.9	-42.3	120.000
908.000000	H	28.3	89.2	101.9	-12.7	85.8	75.12	81.9	-6.8	120.000
908.000000	V	28.9	83.7	101.9	-18.2	80.2	69.52	81.9	-12.4	120.000
908.400000	H	28.3	70.7	101.9	-31.2	42.1	31.42	81.9	-50.5	120.000
928.000000	H	28.4	44	81.9	-37.9	30.7	20.02	61.9	-41.9	120.000
928.000000	V	29.2	43.8	81.9	-38.1	30.7	20.02	61.9	-41.9	1000.000
2724.000000	V	36.2	44.2	73.97	-29.8	40.4	29.72	53.97	-24.3	1000.000
2724.000000	H	36.5	45.9	73.97	-28.1	38.9	28.22	53.97	-25.8	1000.000
6356.000000	H	40.5	47.3	81.9	-34.6	42.5	31.82	61.9	-30.1	1000.000
6356.000000	V	40.1	48.6	81.9	-33.3	43.1	32.42	61.9	-29.5	1000.000

Frequency (MHz)	Polarity	Corr. (dB)	Quasi-Peak (dB $\mu$ V/m)	Quasi-Peak (dB $\mu$ V/m) Limit	Quasi-Peak Margin	Bandwidth (kHz)
130.770000	V	17.9	40.1	43.5	-3.4	120.000
184.800000	V	16.5	30.4	43.5	-13.1	120.000
260.010000	V	18.5	35.7	43.5	-7.8	120.000
182.770000	V	16.6	31.9	43.5	-11.6	120.000
260.020000	V	18.5	39.9	46	-6.1	120.000



## 7 CONDUCED EMISSIONS, 15.207

### 7.1 Requirements

In accordance with FCC CFR 47 Part 15.207(a), "Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of emission (MHz)	Conducted limit (dB $\mu$ V)	
	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.

### 7.2 Procedure

The EUT was placed on a 1.0 x 1.5 meter non-conductive table, 0.8 meter above a horizontal ground plane and 0.4 meter from a vertical ground plane. Power was provided to the EUT through a LISN bonded to a 3 x 2 meter ground plane. The LISN and peripherals were supplied power through a filtered AC power source. The output of the LISN was connected to the input of the receiver via a transient limiter, and emissions in the range 150 kHz to 30 MHz were measured. The measurements were recorded using the quasi-peak and average detectors as directed by the standard, and the resolution bandwidth during testing was 9 kHz. The raw measurements were corrected to allow for attenuation from the LISN, transient limiter and cables.



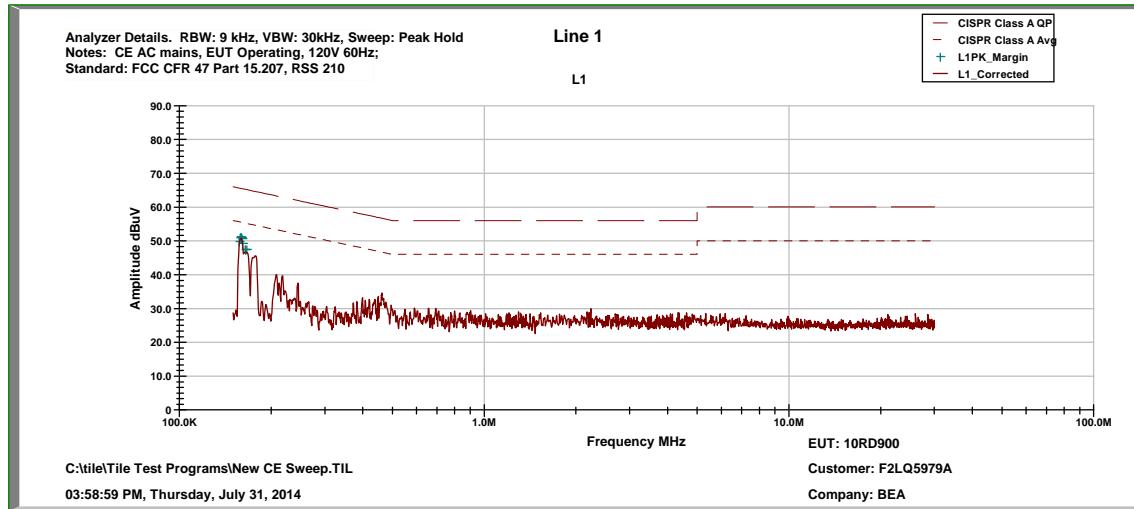
Order Number: F2LQ5979B

Client: BEA Incorporated  
Model: 10RD900

### 7.3 Conducted Emissions Test Data

<b>Test Date:</b>	July 31, 2014	<b>Test Engineer:</b>	J. Knepper
<b>Rule:</b>	FCC CFR 47, Part 15.207(a)	<b>Air Temperature:</b>	22.1° C
<b>Test Results:</b>	Pass	<b>Relative Humidity:</b>	51%

#### Conducted Test – Line 1: 0.15 MHz to 30.0 MHz



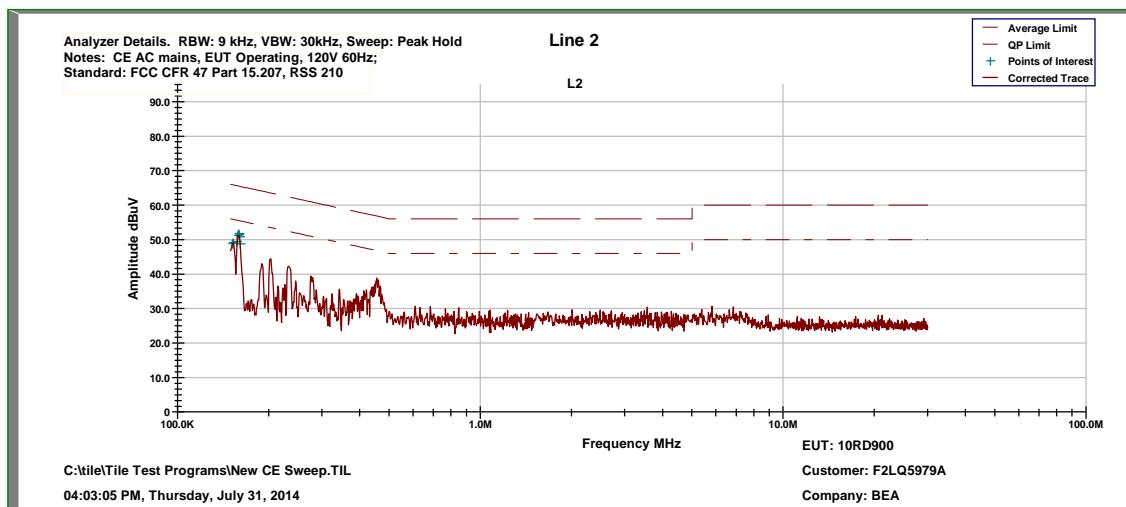
Top Discrete Measurements									
No.	Conductor	Frequency (MHz)	Detector	Level (dB $\mu$ V)	Adjustment (dB)	Results (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	
1	Line 1	0.157298	Quasi-Peak	32.919	11.464	44.383	65.6	-21.224	
		0.157298	Average	12.317	11.464	23.781	55.6	-31.826	
2	Line 1	0.158109	Quasi-Peak	33.735	11.459	45.194	65.6	-20.370	
		0.158109	Average	12.504	11.459	23.963	55.6	-31.601	
3	Line 1	0.158919	Quasi-Peak	33.377	11.455	44.832	65.5	-20.689	
		0.158919	Average	13.229	11.455	24.684	55.5	-30.837	
4	Line 1	0.15973	Quasi-Peak	33.865	11.451	45.316	65.5	-20.162	
		0.15973	Average	12.704	11.451	24.155	55.5	-31.323	
5	Line 1	0.16	Quasi-Peak	33.091	11.450	44.541	65.5	-20.92	
		0.16	Average	13.095	11.450	24.545	55.5	-30.919	
6	Line 1	0.160541	Quasi-Peak	32.782	11.441	44.223	65.4	-21.213	
		0.160541	Average	11.549	11.441	22.990	55.4	-32.446	
7	Line 1	0.161352	Quasi-Peak	33.669	11.428	45.097	65.4	-20.298	
		0.161352	Average	12.612	11.428	24.040	55.4	-31.355	
8	Line 1	0.164595	Quasi-Peak	32.206	11.376	43.582	65.2	-21.647	
		0.164595	Average	11.012	11.376	22.388	55.2	-32.841	
9	Line 1	0.165	Quasi-Peak	32.305	11.370	43.675	65.2	-21.533	
		0.165	Average	11.292	11.370	22.662	55.2	-32.546	
10	Line 1	0.166217	Quasi-Peak	31.606	11.351	42.957	65.1	-22.191	
		0.166217	Average	11.602	11.351	22.953	55.1	-32.195	



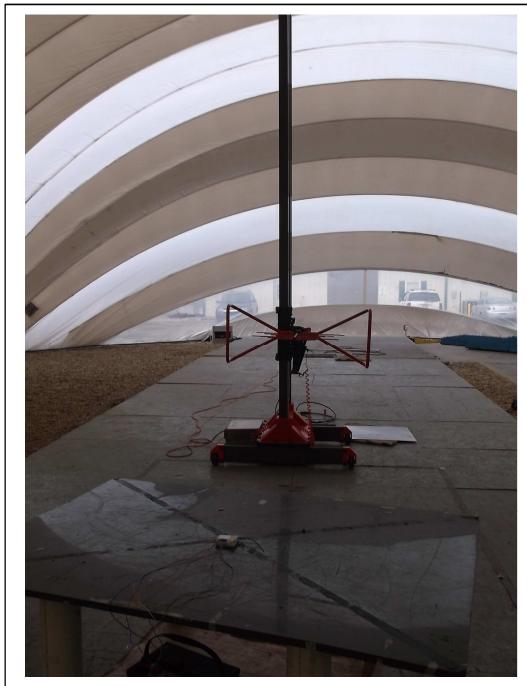
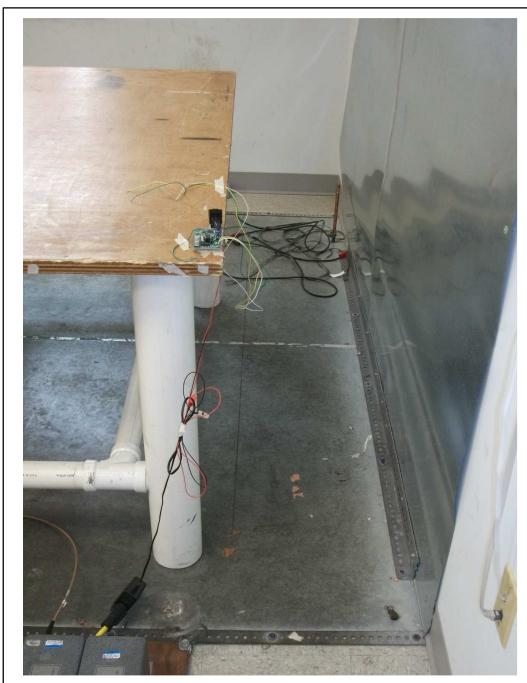
Order Number: F2LQ5979B

Client: BEA Incorporated  
Model: 10RD900

## Conducted Test – Line 2: 0.15 MHz to 30.0 MHz



Top Discrete Measurements									
No.	Conductor	Frequency (MHz)	Detector	Level (dB $\mu$ V)	Adjustment (dB)	Results (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)	
1	Line 2	0.151622	Quasi-Peak	34.338	11.492	45.830	65.9	-20.082	
		0.151622	Average	10.379	11.492	21.871	55.9	-34.041	
2	Line 2	0.152433	Quasi-Peak	34.461	11.488	45.949	65.9	-19.919	
		0.152433	Average	12.685	11.488	24.173	55.9	-31.695	
3	Line 2	0.153243	Quasi-Peak	34.199	11.484	45.683	65.8	-20.141	
		0.153243	Average	11.898	11.484	23.382	55.8	-32.442	
4	Line 2	0.157298	Quasi-Peak	33.811	11.464	45.275	65.6	-20.332	
		0.157298	Average	11.554	11.464	23.018	55.6	-32.589	
5	Line 2	0.158109	Quasi-Peak	34.305	11.459	45.764	65.6	-19.80	
		0.158109	Average	11.057	11.459	22.516	55.6	-33.048	
6	Line 2	0.158919	Quasi-Peak	33.964	11.455	45.419	65.5	-20.102	
		0.158919	Average	12.122	11.455	23.577	55.5	-31.944	
7	Line 2	0.15973	Quasi-Peak	33.471	11.451	44.922	65.5	-20.556	
		0.15973	Average	12.312	11.451	23.763	55.5	-31.715	
8	Line 2	0.16	Quasi-Peak	32.641	11.450	44.091	65.5	-21.373	
		0.16	Average	10.921	11.450	22.371	55.5	-33.093	
9	Line 2	0.160541	Quasi-Peak	33.891	11.441	45.332	65.4	-20.104	
		0.160541	Average	11.893	11.441	23.334	55.4	-32.102	
10	Line 2	0.161352	Quasi-Peak	33.156	11.428	44.584	65.4	-20.811	
		0.161352	Average	12.968	11.428	24.396	55.4	-30.999	

**8 PHOTOGRAPH(S)****Field Strength of Emissions and Radiated Spurious Emissions****Conducted Emissions**

## **APPENDIX**

# REPORTING FORM

**EU259**

Project



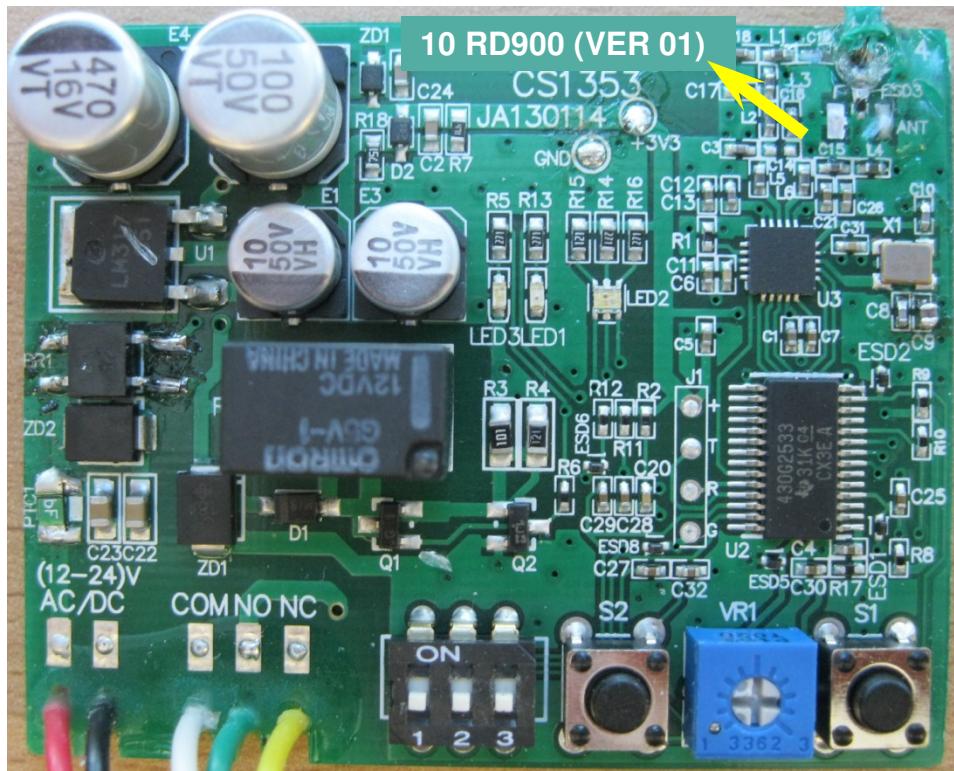
Name: A Gianettino  
Date: 6/3/2014

## UE259 BEA 900Mhz TxRx Engineering Change Requests (Hardware)

The purpose of this report is to provide a description of the final hardware changes (pertaining to assemblies 10.1256 / 10.1257 / 10.1258 / 10.1262 / 10.1263 / 10.1264). All changes must be implemented for first production parts.

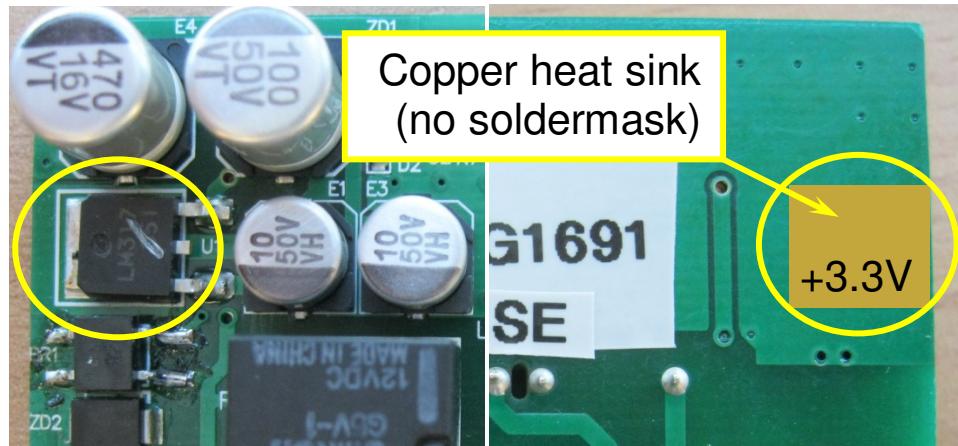
### Changes

- **10RD900 (10.1256)**
  - Change tolerance of resistors (R7, R18) to  $\pm 1\%$ .
  - On silkscreen layer add "(VER 01)" next to the assembly number "10RD900".

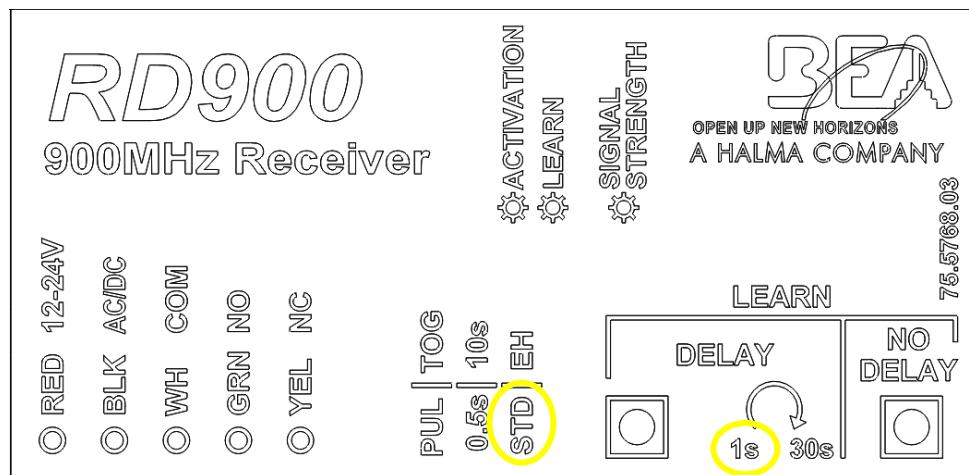


[Printed 6/3/2014]	W:\Products_Projects\UE259_900MHz_Pedestrian_Transceiver\Reports\UE259 Engineering Change Requests (Hardware)_20140603.docx	Page 1 of 4
Document Control Number 013.95.1850.01	<b>Document is uncontrolled unless stamped controlled in red</b>	
100 Enterprise Drive, RIDC Park West, Pittsburgh, PA 15275, Phone (412) 249 4100, Fax (412) 249 4101		

- Add copper heat sink for voltage regulator (U1) on bottom side of PCB



- Change fuse F1 to MFR PN 0ZCA0020FF2E
- Silkscreen cover label
  - Change label for dip switch 3 from "REG" to "STD"
  - Change minimum delay from "0s" to "1s"



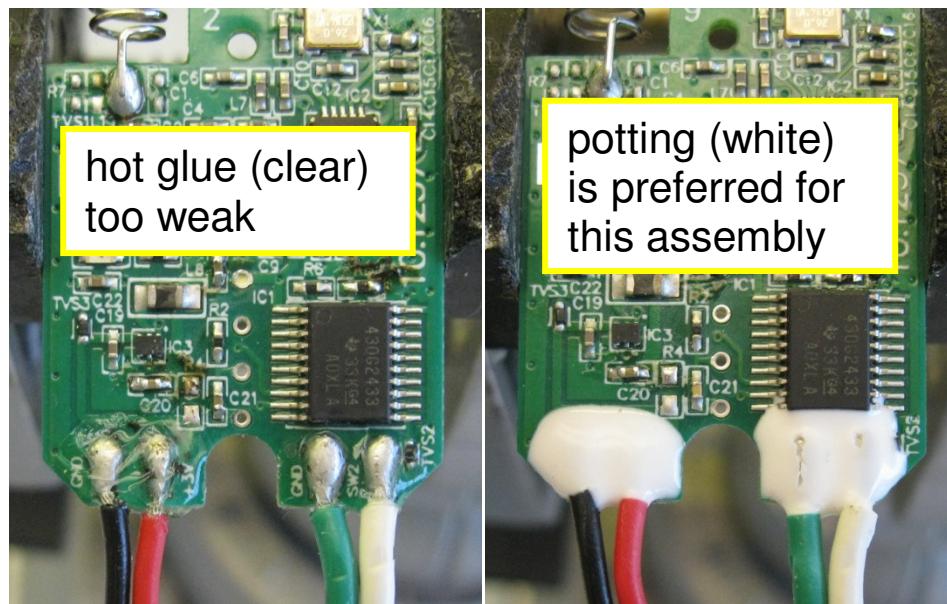
- ZD3 (as labeled on the schematic) is incorrectly called ZD1 on the BOM. Correct BOM.

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- **10TD900PB** (10.1257)
  - On silkscreen layer add "(VER 01)" next to the assembly number "10TD900PB".



- On this assembly, use white potting for better strength.

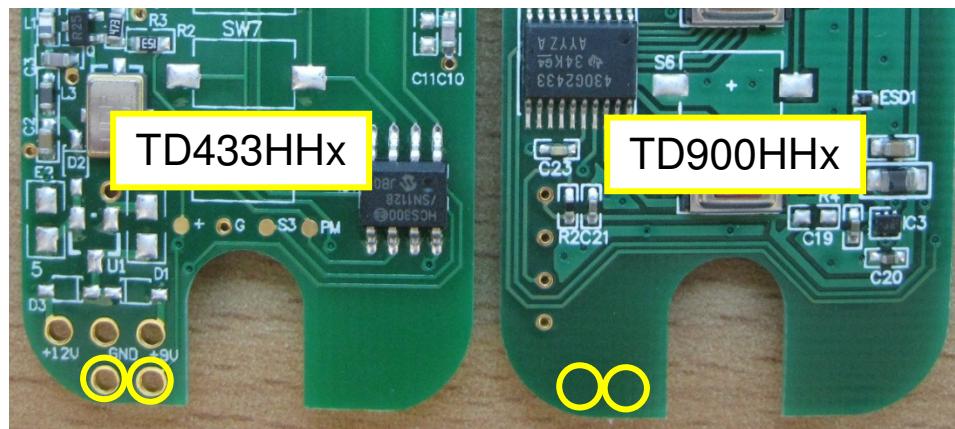


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- **10TD900HHx** (10.1258 / 10.1262 / 10.1263 / 10.1264)
  - On silkscreen layer add "(VER 01)" next to the assembly number "10TD900HHx".



- Add through hole pads for external activation leads (same as TD433HHx)



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