# REGULATORY COMPLIANCE REPORT

**TITLE:** FCC & IC Test Report for 15.231(a) & RSS-210 Annex 1, Momentary Operated Devices

**900 BCR Radio**

**AUTHOR:** W. Raymond Stoner

| REV | CCO | DESCRIPTION OF CHANGE | DATE | APPROVALS | |
|---|---|---|---|---|---|
| 001 | | INITIAL RELEASE | | Engineering | |
| | | | | Regulatory | |

REVISION HISTORY

| | | | | | |
|---|---|---|---|---|---|
| A | | original | 02dec09 | Engineering | |
| | | | | Regulatory | |
| B | | answer first non-conforms:<br>go to to 15.231(a) from (e) threw out; SMA polarity; add variation of Supply Voltage;; add test on timing, removed annex's B&D (wavier and prof. installation) | 16dec09 | Engineering | |
| | | | | Regulatory | |
| C | | answers to second round: power out of voltage, periodic triggers, | 17dec | Engineering | |
| | | | | Regulatory | |

**Test Data Summary**

**FCC 15.231(a) / IC RSS-210 Annex1; Momentary Operated Devices Transmitter;**
900 BCR Radio, 952 – 953 MHz for EUT
**FCC ID: EO9BCR900**
**IC: 864D-BCR900**
IC Device Models (for IC): **900 BCR Radio**
Part Numbers: **900 BCR Radio**
*Serial Numbers – see below*
OATS Registration Number: FCC 90716, IC 864D-1

| Rule | Description | Spec Limit | Max. Reading | Pass/Fail |
|---|---|---|---|---|
| Part 15.203 | Antenna Requirement | see below | n/a | Pass |
| Part 15.31(e) | Variation of Input Voltage – Conducted | n/a | 12.2V | Pass |
| Part 15.207 / RSS-Gen 7.2.2 | AC Power line Conducted Emissions | 46 dBµV/m | 36.5 dBµV/m | Pass |
| Part 15.231(a) / RSS-210 A1.1.1 (b) | Periodic timing | 5 seconds | 5 seconds | Pass |
| Part 15.231(b) / RSS-210 A1.1.2 | Transmitter Field Strength Limits - radiated | 12,500 / 1,250 uV/m @ 3m | 1646µV/m 116.6µV/m | Pass |
| Part 15.231(c) | 20dB Bandwidth – conducted | <0.5% of the center frequency | 1.551 MHz | Pass |
| RSS 210 A1.1.3 | 99% Bandwidth – conducted | <0.5% of the center frequency | 1.476 MHz | Pass |

*Rule versions: FCC Part 1 (01-2006), FCC Part 2 (01-2006), FCC Part 15 (05-04-2007), RSS-102 Issue 2 (11-2005), RSS-210 Issue 7 (June 2007), RSS-Gen Issue 2 (06-2007).*
*Reference docs: ANSI C63.4-2003, DA 00-705 (03-30-2000), OET65 (08-1997), OET65C (06-2001), IEEE C95.3-2002.*

**Cognizant Personnel**

| Name | Title |
|---|---|
| W. Raymond Stoner | Engineer |
| Jay Holcomb | Regulatory Manager |
| Drew Rosenberg | Project Lead |

## CONDITIONS DURING TESTING

No Modifications to the EUT were necessary during the testing.

**FCC 15.31(m) – IC _n/a_; Number of Channels**
This device was tested on one channel.

**FCC 15.203 – IC _n/a_; Antenna Connector Requirements for detachable antennas**
The antenna is removable and has a unique Reverse polarity SMA connector; therefore the EUT complies with these FCC rules.

**ANSI C63.4 - Temperature and Humidity During Testing**
The temperature during testing was within +10º C and +40º C.
The Relative humidity was between 10% and 90%.
RSS-Gen 4.3: Tests shall be performed at ambient temperature

**EQUIPMENT UNDER TEST (EUT) DESCRIPTION**
Itron declares that the EUT tested was representative of a production unit.

**EQUIPMENT UNDER TEST**

**EUT Module**

| | |
|---|---|
| Manuf: | Itron, Inc. |
| Model: | **900 BCR Radio** |
| Serial Number(s) | Listed Below |
| Power source | Belt clip charging cradle |

**Plot Information**
In the zero span measurements, the line in the display is the trigger level.

**Peripheral Devices**
The EUT was tested with the following peripheral devices:

**12VDC Power Supply**
Manuf: CUI Inc.
Model: DSA-0421S-121
Serial: NA

**Charging Cradle**
Manuf: Itron Inc
Model: NA
Serial: NA

**AC Adapter for PC**
Manuf: Lite-On Technology Corporation
Model: LA90PSO-00
Serial: CN-ODF266-71615-65O-202C

**Laptop PC**
Manuf: Dell Inc
Model: PP18L
Serial: 21216189133

**15.31(e)**
**Variation of Supply Voltage**

*For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.*

*Vary the supply voltage from 85% to 115% of the nominal voltage. If the power level of the fundamental signal varies with supply voltage, record the voltage level at which the fundamental signal is at its highest and use that voltage level for all further testing.*

| Equipment Used | Serial Number | Cal Date | Due |
|---|---|---|---|
| Fluke 83 Multimeter | 48000153 | 3/09 | 3/10 |
| Kikasui AC power supply PCR500L | BL005456 | 3/09 | 3/10 |
| | | | |
| Date | Tested by | | |
| 12/11/09 | W. Raymond Stoner | | |

**Unit tested: 67400139**

| Line Voltage | UUT input voltage |
|---|---|
| 102 | 12.2 |
| 120 | 12.2 |
| 138 | 12.2 |

**There was no change in output power level seen over the voltage variation.**

**15.207 / RSS-GEN 7.2.2**

**Power line Conducted Emissions**

Measure the AC power line conducted emissions from 150kHz to 30 MHz using a 50uH/50 ohm line impedance stabilization network (LISN) according to the procedure specified in ANSI C63.4. Verify that no emissions exceed the following limits:

| Frequency (MHz) | Quasi-Peak (dB□V) | Average (dB□V) |
|---|---|---|
| 0.15-0.5 | 66 to 56* | 56 to 46* |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

*Decreases with the logarithm of frequency

| Equipment Used | Serial Number | Cal Date | Due |
|---|---|---|---|
| Agilent SA E4407B | MY45107856 | 3/09 | 3/11 |
| Emco-3810/2 LISN | 00026824 | 4/09 | 4/10 |
| Agilent Transient limiter 11947A | 3107A03963 | 3/09 | 3/10 |
| Date | Tested by | | |
| 11/02/09 | W. Raymond Stoner | | |

Unit tested: 67400139

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|
| | | Peak | Transient | | Corrected | | |
| Freqency | | Level | limiter | LISN | Value | Spec | Margin |
| MHz | Polarity | dBµV/m | dB | dB | dBµV/m | dBµV/m | dB |
| 0.962 | Black | 25.4 | 10 | 0 | 35.4 | 46 | -10.6 |
| 2.319 | White | 25.4 | 10 | 0.1 | 35.5 | 46 | -10.5 |
| 3.641 | White | 25.5 | 10 | 0.1 | 35.6 | 46 | -10.4 |
| 3.901 | Black | 26.3 | 10 | 0.2 | 36.5 | 46 | -9.5 |
| 4.011 | White | 25.2 | 10 | 0.2 | 35.4 | 46 | -10.6 |
| 4.135 | Black | 25.7 | 10 | 0.2 | 35.9 | 46 | -10.1 |
| 4.194 | Black | 25.2 | 10 | 0.2 | 35.4 | 46 | -10.6 |
| 4.39 | White | 26.3 | 10 | 0.2 | 36.5 | 46 | -9.5 |
| 4.454 | Black | 25.7 | 10 | 0.2 | 35.9 | 46 | -10.1 |
| 4.59 | Black | 26 | 10 | 0.2 | 36.2 | 46 | -9.8 |

3+4+5=6 6-7=8

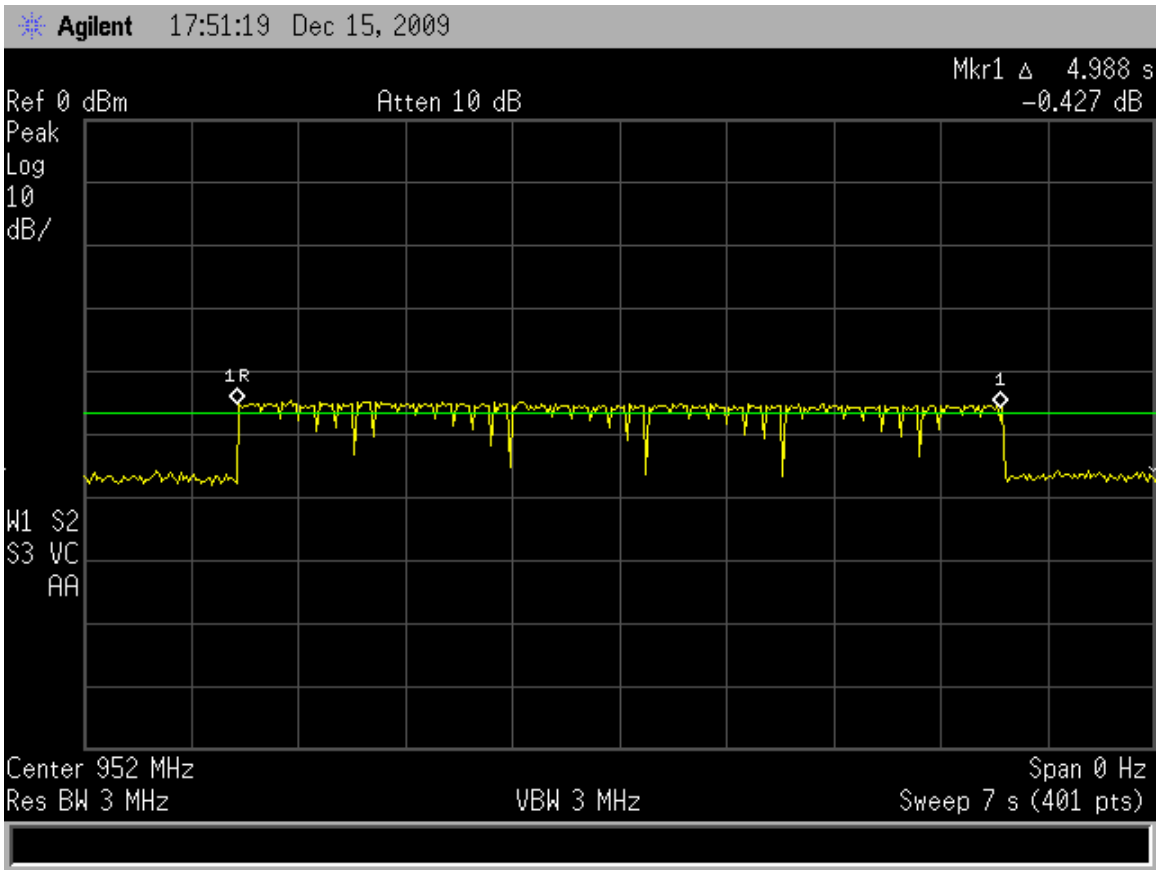
**15.231(a) (1) & (2) / RSS-210 A1.1.1 (b)**

**Periodic Operation - conducted**

(a) The provisions of this section are restricted to periodic operation within the band 40.66-40.70 MHz and above 70 MHz. Except as shown in paragraph (e) of this section, the intentional radiator is restricted to the transmission of a control signal such as those used with alarm systems, door openers, remote switches, etc. Continuous transmissions, voice, video and the radio control of toys are not permitted. Data is permitted to be sent with a control signal. The following conditions shall be met to comply with the provisions for this periodic operation:
(1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.
(2) A transmitter activated automatically shall cease transmission within 5 seconds after activation.

| Equipment Used | Serial Number | Cal Date | Due |
|---|---|---|---|
| Agilent SA E4407B | MY45107856 | 3/09 | 3/11 |
| Date | Tested by | | |
| 12/16/09 | W. Raymond Stoner | | |

Unit tested: 67400139




This plot is the longest message that is sent.

The programming sequence is initiated by keyboard or receiving device, then the transmission is triggered automatically.

**15.231(b) / RSS-210 A1.1.2**

**Transmitter Field Strength Limits - radiated**

(b) In addition to the provisions of §15.205, the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

**Emission Limits**

| Frequency (MHz) | Field Strength (microvolts/meter) | in dBuV/m | Measurement Distance (meters)* | maximum Peak +20 over Avg limit dBuV/m |
|---|---|---|---|---|
| Fundamental | 12,500 | 81.93 | 3 | 101.93 |
| Spurious emissions | 1,250 | 61.93 | 3 | 81.93 |

FS (dBuV/m) = 20 * log (FS(uV/m))

Measure the field strength of all transmitter emissions according to the procedure in appendix A.

| Equipment Used | Serial Number | Cal Date | Due |
|---|---|---|---|
| AH systems preamplifier model PAM 0126 | 135 | 12/08 | 12/09 |
| H/S Sucoflex 40ft cable | 220297001 | 12/07 | 12/09 |
| Agilent E7405A Spectrum Analyzer | MY45113415 | 7/09 | 7/10 |
| Emco 6502 Loop (9kHz to 30Mhz) | 9509-2970 | 10/08 | 10/10 |
| Emco 3110B Biconical (30MHz-to 300MHz) | 9807-3129 | 10/09 | 10/11 |
| Emco 3148 Log Periodic (200Mhz to 1GHz) | 9901-1044 | 10/09 | 10/11 |
| Emco 3115 wave guide (1GHz-18GHz) | 9205-3878 | 3/08 | 3/10 |
| Date | Tested by | | |
| 11/11/09 | Mark Kvamme | | |

Measure the field strength of all transmitter emissions according to the procedure in appendix A. The maximum field strength of emissions may not exceed above.:

Unit tested: 67400138

For emissions measurements below 30MHz, rotate the loop antenna about its horizontal and vertical positions to maximize emissions.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ` | | | | | | | VBW ≥ | | | 10Hz VBW | | |
| | | VBW ≥ | 10Hz VBW | | | | RBW | | | | | |
| | | RBW | | | | | Peak | | | Average* | | |
| | Ant. | Peak | Average | Cable | Ant. | Amplifier | Corrected | Peak | Peak | Corrected | Average | Average |
| Freq. | vert or | Level | Level | Loss | Factor | Gain | Level | Limit | Margin | Level | Limit | Margin |
| MHz | horz. | dBuV/m | dBuV/m | dB | dB/m | dB | dBuV/m | dBuV/m | dB | dBuV/m | dBuV/m | dB |
| 952 | Vert | 62.29 | 33.03 | 2.7 | 28.6 | 0 | 93.59 | 101.93 | -8.34 | 64.33 | 81.93 | -17.6 |

[8] = [3]+[5}+[6]+[7]; [9] from table above; [10] = [8] – [9]
[11] = [4]+[5]+[6]+[7]; [12] from table above; [13] = [12] – [11] FS (dBuV/m) =
20 * log (FS(uV/m)); 64.33 dBuV/m = 1646 uV/m

note1: If peak is below average limit, average does not need to be reported

**Harmonics**

| | | VBW ≥ | 10Hz VBW | | | | RBW | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | RBW | | | | | Peak | | | Average* | | |
| | Ant. | Peak | Average | Cable | Ant. | Amplifier | Corrected | Peak | Peak | Corrected | Average | Average |
| Freq. | vert or | Level | Level | Loss | Factor | Gain | Level | Limit | Margin | Level | Limit | Margin |
| MHz | horz. | dBuV/m | dBuV/m | dB | dB/m | dB | dBuV/m | dBuV/m | dB | dBuV/m | dBuV/m | dB |
| 1904 | vert | 60.46 | 44.81 | 4.51 | 26.94 | -35.48 | 56.43 | 81.93 | -25.5 | 40.78 | 61.93 | -21.15 |
| 1904 | horz | 59.95 | 45.37 | 4.51 | 26.94 | -35.48 | 55.92 | 81.93 | -26.01 | 41.34 | 61.93 | -20.59 |
| 2856 | horz | 57.97 | 38.63 | 5.42 | 29.81 | -35.14 | 58.06 | 81.93 | -23.87 | 38.72 | 61.93 | -23.21 |
| 2856 | vert | 57.06 | 38.01 | 5.42 | 29.81 | -35.14 | 57.15 | 81.93 | -24.78 | 38.1 | 61.93 | -23.83 |
| 3808 | vert | 37.77 | na | 6.15 | 32.18 | -34.73 | 41.37 | 81.93 | -40.56 | na | 61.93 | -20.56 |
| 3808 | horz | 38.84 | na | 6.15 | 32.18 | -34.73 | 42.44 | 81.93 | -39.49 | na | 61.93 | -19.49 |
| 4760 | vert | 38.24 | na | 7 | 32.66 | -35.12 | 42.78 | 81.93 | -39.15 | na | 61.93 | -19.15 |
| 4760 | horz | 37.63 | na | 7 | 32.66 | -35.12 | 42.17 | 81.93 | -39.76 | na | 61.93 | -19.76 |
| 5712 | vert | 37.71 | na | 7.43 | 34.28 | -35.56 | 43.86 | 81.93 | -38.07 | na | 61.93 | -18.07 |
| 5712 | horz | 37.35 | na | 7.43 | 34.28 | -35.56 | 43.5 | 81.93 | -38.43 | na | 61.93 | -18.43 |
| 6664 | vert | 36.08 | na | 8.23 | 34.76 | -35.29 | 43.78 | 81.93 | -38.15 | na | 61.93 | -18.15 |
| 6664 | horz | 36.66 | na | 8.23 | 34.76 | -35.29 | 44.36 | 81.93 | -37.57 | na | 61.93 | -17.57 |
| 7616 | vert | 37.62 | na | 8.75 | 36.57 | -34.91 | 48.03 | 81.93 | -33.9 | na | 61.93 | -13.9 |
| 7616 | horz | 36.8 | na | 8.75 | 36.57 | -34.91 | 47.21 | 81.93 | -34.72 | na | 61.93 | -14.72 |

[8] = [3]+[5}+[6]+[7]; [9] from table above; [10] = [8] – [9]
[11] = [4]+[5]+[6]+[7]; [12] from table above; [13] = [12] – [11]
FS (dBuV/m) = 20 * log (FS(uV/m)); 41.34 dBuV/m = 116.6 uV/m

note1: If peak is below average limit, average does not need to be reported

**15.231(c)**

**20dB Bandwidth - conducted**

(c) The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

Measure the 20dB bandwidth and verify it does not exceed 0.5% of the center frequency

Use the following spectrum analyzer settings:

Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a channel.
RBW ≥ 1% of the 20 dB bandwidth
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold

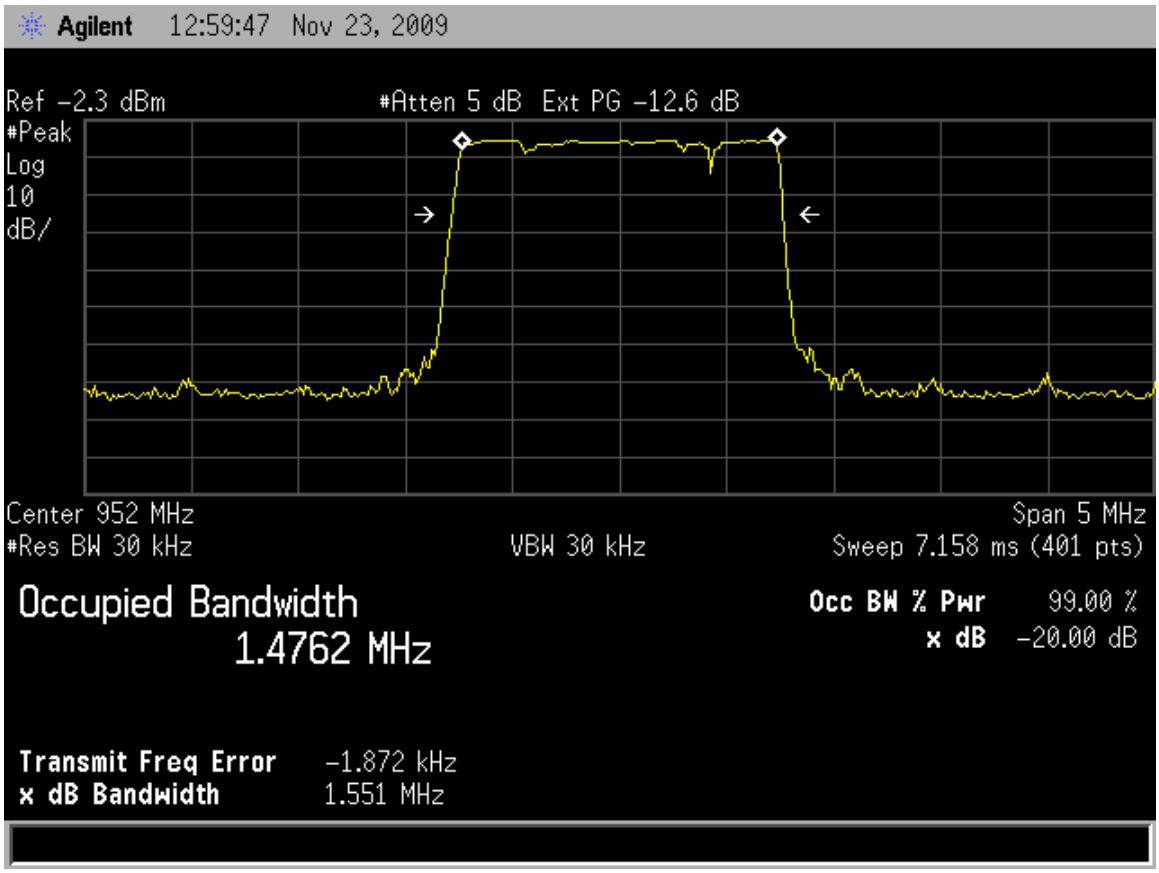
The EUT should be transmitting at its maximum data rate. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the mission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth of the emission. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s).

| Equipment Used | Serial Number | Cal Date | Cal Due |
|---|---|---|---|
| HP 4407B | MY45107856 | 3/09 | 3/11 |
| Date | Tested by | | |
| 11/23/09 | W. Raymond Stoner | | |

Unit tested: 67400139

Due to configuration limitations of the bandwidth measurement screen in the spectrum analyzer Occupied bandwidth is listed at the top of the screen. The 20 db bandwidth measurement is located near the bottom left of the screen capture

| Frequency, MHz | total BW, MHz |
|---|---|
| *952* | *1.551* |


Agilent 12:59:47 Nov 23, 2009
Ref -2.3 dBm
#Atten 5 dB Ext PG -12.6 dB
#Peak
Log
10
dB/
Center 952 MHz
#Res BW 30 kHz
VBW 30 kHz
Span 5 MHz
Sweep 7.158 ms (401 pts)
Occupied Bandwidth
1.4762 MHz
Occ BW % Pwr 99.00 %
x dB -20.00 dB
Transmit Freq Error -1.872 kHz
x dB Bandwidth 1.551 MHz

**RSS 210 A1.1.3 (RSS GEN 4.6.1)**

**99% Bandwidth - conducted**

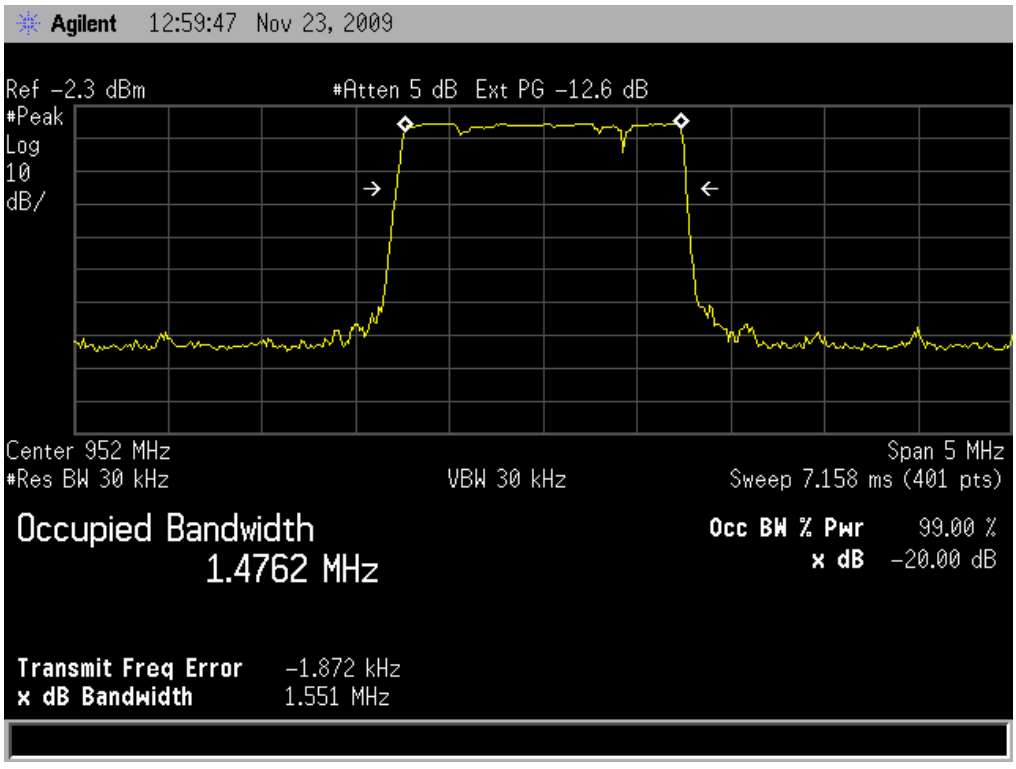
The transmitter shall be operated at its maximum carrier power measured under normal test conditions. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1% of the selected span as is possible without being below 1%. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual. The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded.
The span between the two recorded frequencies is the occupied bandwidth.

Capture a plot of the 99% bandwidth of a single transmission.

| Equipment Used | Serial Number | Cal Date | Cal Due |
|---|---|---|---|
| HP 4407B | MY45107856 | 3/09 | 3/11 |
| Date | Tested by | | |
| 11/23/09 | W. Raymond Stoner | | |

Unit tested: 67400139

| Frequency, MHz | total BW, MHz |
|---|---|
| *952* | *1.476* |

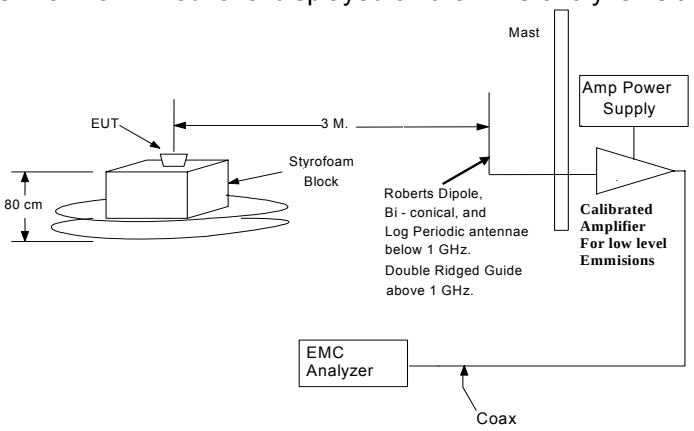


## ANNEX A

### Field Strength Measurement Procedure

This test measures the field strength of radiated emissions using a spectrum analyzer and a receiving antenna in accordance with ANSI C63.4-2003. During the test, the EUT is to be placed on a non-conducting support at 80 cm above the horizontal ground plane of the OATS. The horizontal distance between the antenna and the EUT is to be 3 meters. The bandwidths used shall be; 200 Hz from 9 kHz to 150 kHz, 9 kHz from 150 kHz to 30 MHz, 120 kHz from 30 MHz to 1000 MHz, and 1 MHz from 1 GHz to 40 GHz, with the detector set to peak hold.

1) The antenna correction factor, preamplifier gain (if the preamplifier is installed), and cable loss may be stored in tables in the EMC analyzer and the level at the analyzer is then the corrected level in dbuV/m. Otherwise it is calculated externally.
2) Monitor the frequency range of interest at a fixed antenna height and EUT azimuth.
3) If appropriate, manipulate the system cables to produce the highest amplitude signal relative to the limit. Note the amplitude and frequency of the suspect signal.
4) Rotate the EUT 360° to maximize the suspected highest amplitude signal. If the signal or another at a different frequency is observed to exceed the previously noted highest amplitude signal by 1 dB or more, go back to the azimuth and repeat step 3). Otherwise, orient the EUT azimuth to repeat the highest amplitude observation and proceed.
5) Move the antenna over its fully allowed range of travel to maximize the suspected highest amplitude signal. If the signal or another at a different frequency is observed to exceed the previously noted highest amplitude signal by 1 dB or more, return to step 3) with the antenna fixed at this height. Otherwise, move the antenna to the height that repeats the highest amplitude observation and proceed.
6) Change the polarity of the antenna and repeat step 3), step 4), and step 5). Compare the resulting suspected highest amplitude signal with that found for the other polarity. Select and note the higher of the two signals.
7) The final maximized level displayed on the EMC analyzer is the field strength.



# ANNEX B

Several of the FCC / IC rules that are referenced.

**Section 15.247(b) (3):** For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

**1997 FCC Decisions, Amendment of Parts 2 and 15. 7 CR 534, 12 FCC Rcd 7488, 62 FR 26239, 1997 FCC LEXIS 1927. FCC 917-114 Report and Order, Released: April 10, 1997:**
**Section 15.247(c):** Spurious emissions. The following tests are required:

(1) RF antenna conducted test: Set RBW = 100 kHz, Video bandwidth (VBW) > RBW, scan up through 10th harmonic. All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.
(2) Radiated emission test: Applies to harmonics/spurs that fall in the restricted bands listed in Section 15.205. The maximum permitted average field strength is listed in Section 15.209. A pre-amp (and possibly a high-pass filter) is necessary for this measurement. For measurements above 1 GHz, set RBW = 1 MHz, VBW = 10 Hz, Sweep: Auto. If the emission is pulsed, modify the unit for continuous operation, use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation. See Section 15.35(b) and (c).

§15.33 Frequency range of radiated measurements.
(a) For an intentional radiator, the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to at least the frequency shown in this paragraph:
(1) If the intentional radiator operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

**Section 15.33 (b) - Frequency range of radiated measurements. For unintentional radiators: see part. (9kHz or lowest generated to 5GHz or 5$^{th}$ harmonic)**

**Section 15.35** Measurement detector functions and bandwidths. - The conducted and radiated emission limits shown in this part are based on the following, unless otherwise specified elsewhere in this part:

(a) …( (a) does not apply to this report)

(b) Unless otherwise specified, on any frequency or frequencies above 1000 MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function. Unless otherwise specified, measurements above 1000 MHz shall be performed using a minimum resolution bandwidth of 1 MHz. When average radiated emission measurements are specified in this part, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. Unless otherwise specified, e.g., see §§15.250, 15.252, 15.255, and 15.509-15.519, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device, e.g., the total peak power level. Note that the use of a pulse desensitization correction factor may be needed to determine the total peak emission level. The instruction manual or application note for the measurement instrument should be consulted for determining pulse desensitization factors, as necessary.

(c) Unless otherwise specified, e.g. §15.255(b), when the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value. The exact method of calculating the average field strength shall be submitted with any application for certification or shall be retained in the measurement data file for equipment subject to Declaration of Conformity or verification.

**RSS-GEN 4.9 Transmitter Unwanted Emissions:**
The search for unwanted emissions shall be from the lowest frequency internally generated or used in the device (local oscillator, intermediate or carrier frequency), or from 30 MHz, whichever is the lower, to the 5$^{th}$ harmonic of the highest frequency generated without exceeding 40 GHz.