REPORT

For

Nautilus International Cntrol & Eng. Ltd.

6866 Russell Avenue
Burnaby, British Columbia
V5J 4R9, Canada

Date:	September 10, 2009
Report No.:	9505-1E
Revision No.:	0
Project No.:	9505
Equipment:	900MHz ISM Band Data Transceiver Module
Model No.:	NRM-900-1

ONE STOP GLOBAL CERTIFICATION SOLUTIONS

3133-20800 Westminster Hwy, Richmond, BC
V6V 2W3, Canada
Phone: 604-247-0444
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TEST REPORT		
FCC15.247:2008 / RSS-210, Issue 7		
Report reference No.	9505-1E	
Report Revision History:	✓ Rev. 0: Sep. 10, 2009	
Tested by (printed name and signature)	Jeremy Lee	
Approved by (printed name and signature)	Kavinder Dhillon, Eng.L	
Date of issue	Sep. 10, 2009	
Note: By signing this report, both the Testing Technician and the Reviewer hereby declare to abide by the applicable LabTest policies: **1.) Statement of Independence # 3014 (LabTest Employees),** **2.) Independence, Impartiality, and Integrity #1039, clause 11 (Engineering Service Subcontractors), or** **3.) Independence, Impartiality, and Integrity #1019, clause 3.5 (Testing Subcontractors).**		
Testing Laboratory Name	LabTest Certification Inc.	
Address	3133 – 20800 Westminster Hwy, Richmond, B.C. V6V-2W3	
FCC Site Registration No.	444229	
IC Site Registration No.	5970B-1	
OATS Test Location Name	LabTest Certification Inc.	
Address	17325-48Ave., Surrey, BC, Canada	
Applicant's Name	Nautilus International Control & Engineering Ltd.	
Address	6866 Russell Avenue, Burnaby, B.C. Canada V5J 4R8	
Manufacturer's Name	Same as Applicant	
Address	Same as Applicant	
Test specification		
Standards	➢ FCC15.247:2008 ➢ RSS-210, Issue 7, June 2007	
Testing		
Date of receipt of test item	Aug. 27, 2009	
Date(s) of performance of test	Sep. 01 - 10, 2009	
Test item description		
Trademark	N/A	
Model and/or type reference	NRM-900-1	
Serial numbers	N/A	
Electrical Rating(s)	3.6VDC from Lithium-Ion Rechargeable Battery	

Product descriptions	
Type of modulation ..... :	Digital Modulation System
Operating Frequency Range ..... :	902 to 928MHz
Application for ..... :	900MHz ISM Band Data Transceiver Module
Equipment mobility ..... :	Yes
Nominal Voltages for:	_X_ stand-alone equipment ___ combined (or host) equipment ___ test jig
Supply Voltage:	_____ AC _____ Amps __3.6V__ DC ___40mA__Amps
If DC Power:	____ Internal Power Supply ____ External Power Supply or AC/DC adapter __X_ Battery □ Nickel Cadmium □ Alkaline □ Nickel-Metal Hydride ■ Lithium-Ion □ Lead Acid (Vehicle regulated) □ Other
Size of equipment(L X W X H, mm) ..... :	27.5 x 21 x 18
Mass of equipment (g)..... :	20
Operating Temperature Range ..... :	-10 °C to + 60 °C
Test case verdicts	
Test case does not apply to the test object :	N/A
Test item does meet the requirement ..... :	Pass
Test item does not meet the requirement .. :	Fail

General product information:

The NRM-900-1 is a single-chip packet radio transceiver. It is programmed and controlled by the host microcontroller using SPI bus (serial data in, serial data out, clock, chip select) and two auxiliary status outputs (GDO0 and GDO2). The microcontroller's firmware determines all the major parameters in both transmit and receive modes of operation. The same SPI bus is used to supply the data to be transmitted to the radio and to retrieve the received data from the radio.

Frequencies

Module	Signal	Frequences (MHz)
Crystal Oscillator	Local OSC	26.0

List of ancillary and/or support equipment provided by the applicant

Model No.	Description	Manufacturer	Approvals/Standards
N/A	Test JIG	Nautilus	N/A
MFT120	1/4wavelength whip Antenna with magnetic base with RF Cable, TNC(m)	PCTEL Inc.	N/A
N/A	Cable Assay(BNC(f) to SMA(f))	N/A	N/A

Description of Interface Cables for Testing

Connected port	Cable Type	Cable length	Ferrite
N/A			

ARRANGEMENT OF INTERFACE CABLES: All interface cables were positioned for worst-case maximum emissions within the manner assumed to be a typical operation condition (please reference photographs).

Software and Firmware

Description	Version
N/A	

Worst-case configuration and mode of operation during testing

The test JIG has been designed to facilitate compliance testing of the Nautilus Radio Module, namely NRM-900-1.
The JIG closely emulates the typical Nautilus radio remote control system that hosts the radio module. It contains a microcontroller that programs the radio and then exercises it by sending a test message representative of a typical control message in the remote control system. It provides three working radio channels in each band: the first, the last and the middle.

The JIG is powered by a Lithium-Ion rechargeable battery. The voltage supplied to the radio module is regulated, so discharging battery has no effect on the fixture's operation as long as the battery voltage remains above 3.4VDC.

The JIG has four DIP switches that control its main operating parameters.
Note that changes in the DIP switches require power cycling to take effect.

DIP switches **1 and 2** determine the **working channel** according to the following table:

DIP switch 2	DIP switch 1	Frequency in 400MHz band	Frequency in 900MHz band
Open	Open	430.0MHz	902.6MHz
Open	Closed	445.0MHz	915.0MHz
Closed	Open	460.0MHz	927.4MHz
Closed	Closed	460.0MHz	927.4MHz

DIP switch **3** determines the **frequency band**:
- Open – 400MHz band;
- Closed – 900MHz band.

DIP switch **4** determines **mode of operation**:
- Open – Communication Slave;
- Closed – Communication Master.

Communication Master initiates sending a packet every 100ms. Communication Slave transmits only after receiving a message from the Master. Therefore, for stand-alone testing the device under test should be configured as Master, i.e. DIP switch 4 should be closed.

Modifications Required for Compliance

None.

Test Equipment Verified for function

Model #	Description	Checked Function	Results
8596EM	Spectrum Analyzer	Frequency and Amplitude	Connected 300MHz and -20dBm Cal_siganl and checked OK.
PA-103	Pre-Amplifier, 1 to 1,000MHz	Gain at 30 and 1,000Mhz	Gains are normal.
LPA-10-10	Pre-Amplifier, 1 to 10GHz	Gain at 1 and 4GHz	Gains are normal.
SAS-542	Anatenna, 30 to 300MHz	Checked structure	Normal – no damage
SAS-571	Anatenna, 1 to 18Hz	Checked structure	Normal – no damage
SAC-26G-3	RF Cable, up to 26.5GHz	Insertion Loss at 1 and 4GHz	Insertion Losses are normal
LCI-001	RF Cable, up to 1GHz	Insertion Losses from 30 to	Saved data

		1,000MHz	
N/A	RF Cable, up to 10GHz	Insertion Loss upto 4GHz	Saved data
N/A	15dB Attenuator	Attenuation up to 4GHz	Saved data

Measurement Uncertainty

Where relevant, the folllowing measurement uncertainty levels have been estimated for tests:

Parameter	Uncertainty(dB)
Radiated Emission, 30 to 300MHz	4.94
Radiated Emission, 300 to 1,000MHz	5.05
Radiated Emission, 1 to 26.5GHz	5.05
Conducted Measurements	2.86

Uncertainty figures are valid to a confidence level of 95%.

Markings

Blank

You should refer to the clause of FCC Part 2 Section 2.295 and FCC Part 15 Section 15.19 for information to be contained on the label as well as information about the label. Any other statements or labelling requirements may appear on a separate label at the option of the applicant/grantee.

According to FCC Section 2.925(a),
”(a)Each equipment covered in an application for equipment authorization shall bear a nameplate or label listing the following:
(1) FCC Identifier consisting of the two elements in the exact order specified in §2.926. The FCC Identifier shall be preceded by the term *FCC ID* in capital letters on a single line, and shall be a type size large enough to be legible without the aid of magnification.
Example: FCC ID XXX123. XXX-Grantee Code 123-Equipment Product Code”

According to FCC Section 15.19(a)(3), the following statement must be include on the identification label:
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Test Summary

When configured and operated as specified in this report, the product was found to comply with the requirements as indicated below.

Test Type	Regulation	Measurement Method	Result
Antenna Requirements	15.203	N/A	PASS
6dB Bandwidth	15.247(a)(2) & RSS-210	FCC Public notice DA 00-705	PASS
Conducted Output Power	15.247(b)(3) & RSS-210	FCC Public notice DA 00-705	PASS
Antenna Gain	15.247(b)(4) & RSS-210	FCC Public notice DA 00-705	PASS
Band Edge Compliance of RF Conducted Emissions	15.247(d) & RSS-210	FCC Public notice DA 00-705	PASS
Spurious RF Conducted Emissions	15.247(d) & RSS-210	FCC Public notice DA 00-705	PASS
Spurious Radiated Emissions	15. 247(d), 15.205(a), 15.209(a) & RSS-210	ANSI C63.4:2003	PASS
Conducted Power Spectral Density	15.247(e) & RSS-210	FCC Public notice DA 00-705	PASS
RF Exposure	15.247(i) & RSS-102	FCC1.1310	PASS
Radiated Emissions-Unintentional radiators	15.109(a) & ICES-003	ANSI C63.4:2003	PASS
AC Power Line Conducted Emission	15.207(a) & ICES-003	ANSI C63.4:2003	N/A[1)]

Note1): The EUT connected to host power system. This test was exempted by no connection to AC Power Line.

Antenna Requirements

Test Date	Sep. 01, 2009
Sample Number	764994
Tested By	Jeremy LEE

Use the barometric pressure reported at: http://www.theweathernetwork.com/weather/CABC0308

Test Limits

FCC15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

Test Results:

The EUT was attached SMA(M) antenna connector with the requirements. And the user manual described about the recommended antenna spec. and direction of replacement

X Pass **Fail** **N/A**

6dB Bandwidth

Temperature	27.9 °C
Relative Humidity	42.5 %
Barometric Pressure:	101.52 kPa
Test Date	Sep. 01, 2009
Sample Number	764994
Calibrated Test Equipment (ID)	106, 228
Reference Equipment (ID) (Calibration not required)	N1, N2
Tested By	Jeremy LEE

Use the barometric pressure reported at: http://www.flightstats.com/go/Airport/weather.do?airportCode=YVR

Test Limits

15.247(a)
(2) Systems using digital modulation techniques may operate in the 902–928MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Setup

The test was performed in accordance with **FCC 15.247:2008, FCC 15.31:2008, and FCC Public notice DA 00-705 Released March 30, 2000.**

- The RF output of the EUT was connected to the RF input port of the Spectrum Analyzer.
- The transmitter was transmitting as its maximum data rate for measuring 20dB BW.
- The following measurements were made with
  - Span = approximately 2 to 3 times the 6dB bandwidth, centered on a channel for 6dB Bandwidth.
  - RBW ≥ 1% of each span
  - VBW ≥ RBW
  - Sweep = auto
  - Detector Function = peak
  - Trace = max hold
- Allowe the trace to stabilize.
- Use the function of 99% bandwidth in Spectrum Analayzer.

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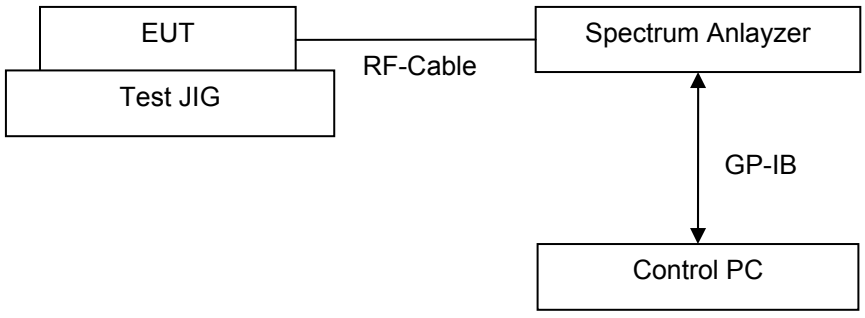
Setup Block Diagram

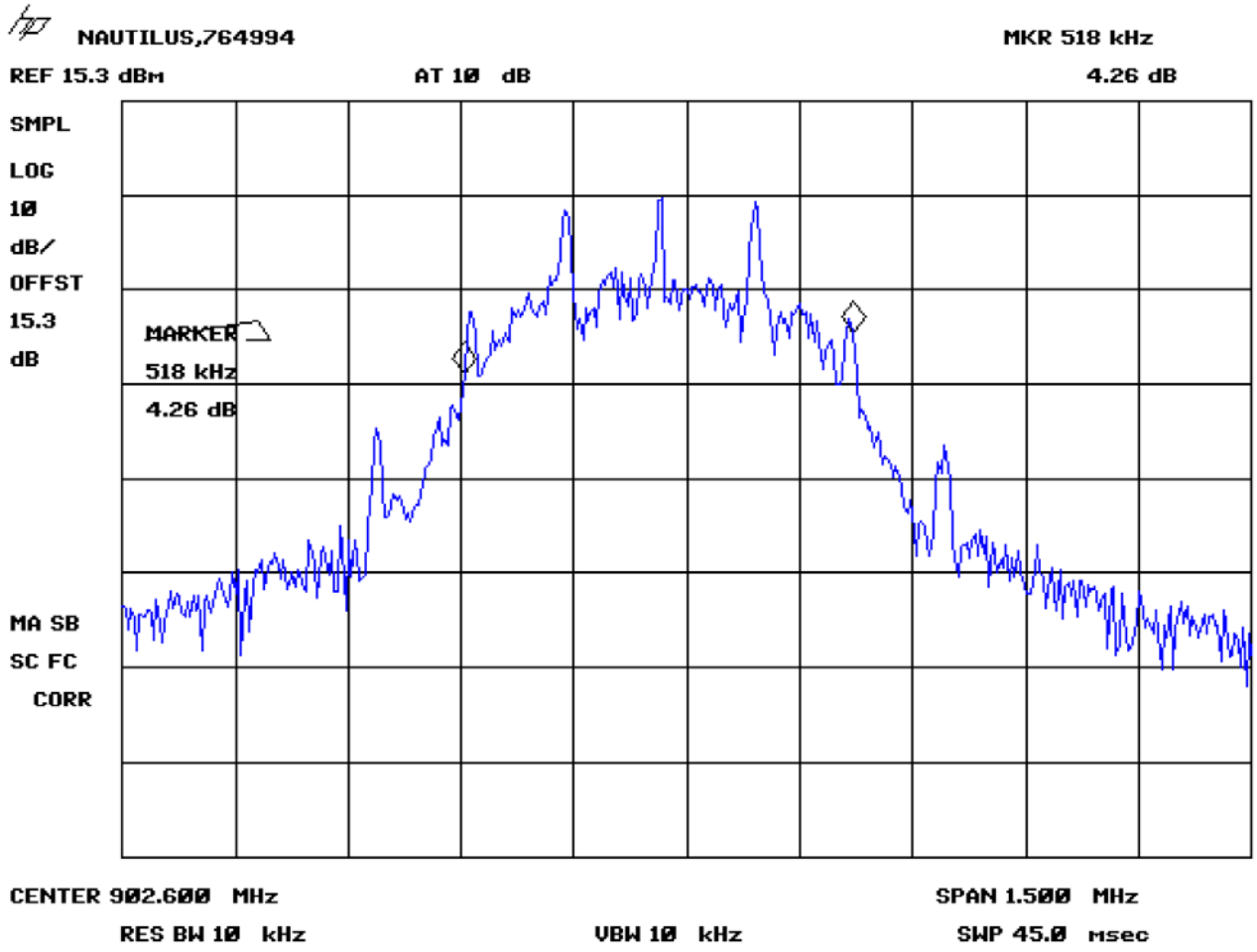


Test Results:

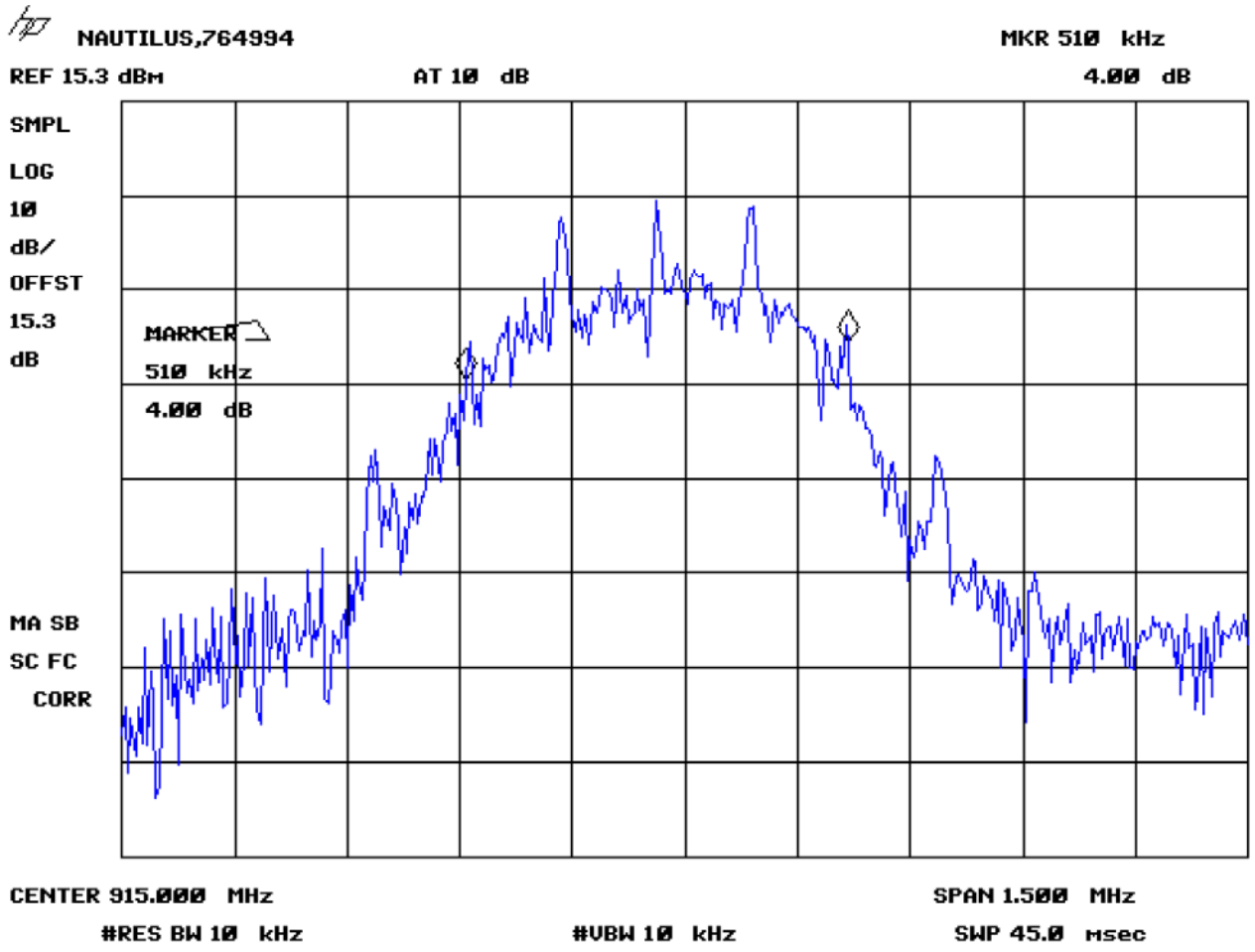
Channel Frequency(MHz)	6dB BW(kHz)	Limit(kHz)	Pass/Fail
902.60	518	≥ 500	Pass
915.00	510	≥ 500	Pass
927.40	514	≥ 500	Pass

X Pass Fail N/A

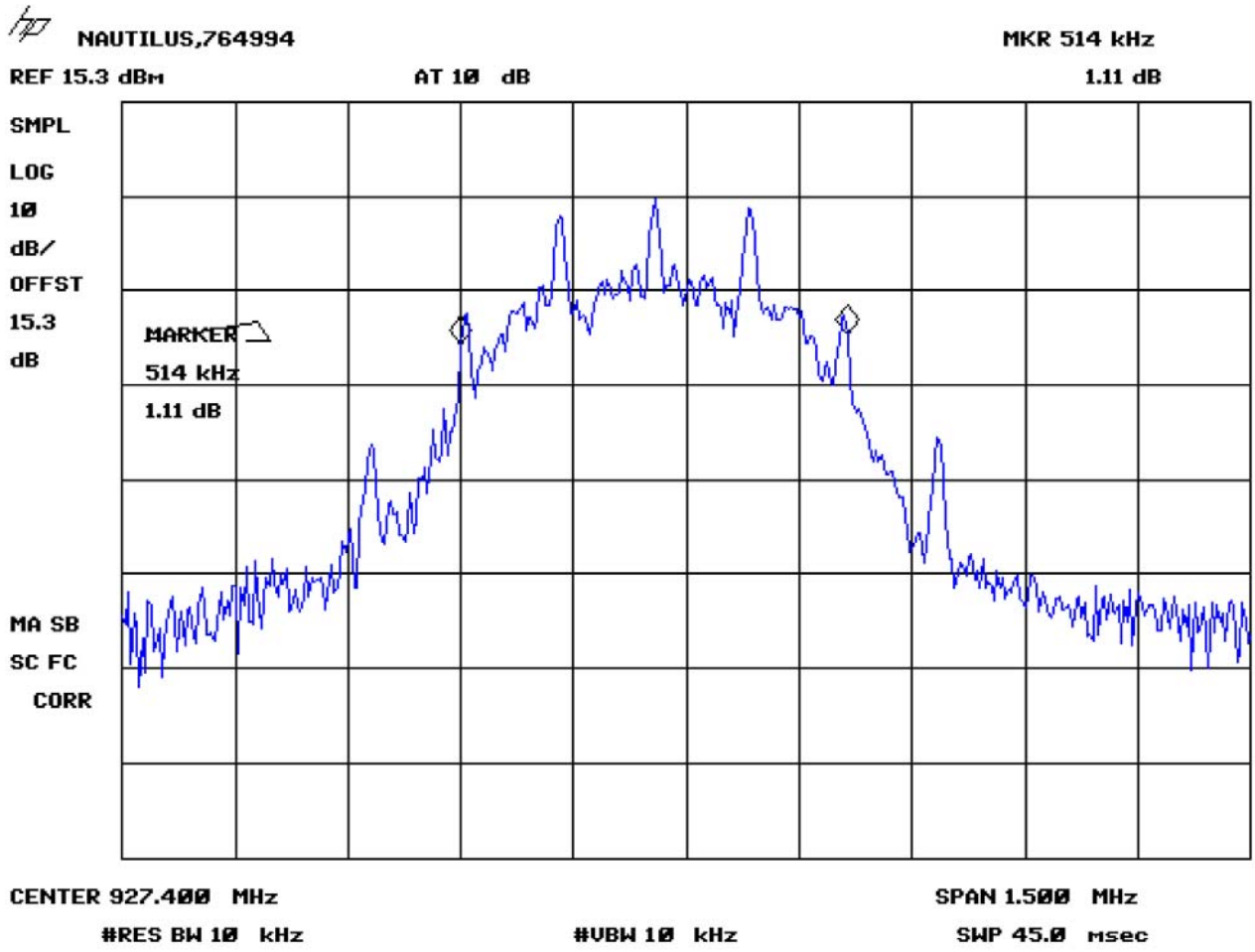
- 6dB Bandwidth at Carrier Frequency is 902.60MHz



- 6dB Bandwidth at Carrier Frequency is 915.00MHz



- 6dB Bandwidth at Carrier Frequency is 927.40MHz



Conducted Output Power

Temperature	27.9 °C
Relative Humidity	42.5 %
Barometric Pressure:	101.52 kPa
Test Date	Sep. 01, 2009
Sample Number	764994
Calibrated Test Equipment (ID)	106, 228
Reference Equipment (ID) (Calibration not required)	N1, N2
Tested By	Jeremy LEE

Use the barometric pressure reported at: http://www.flightstats.com/go/Airport/weather.do?airportCode=YVR

Test Limits

15.247(b)

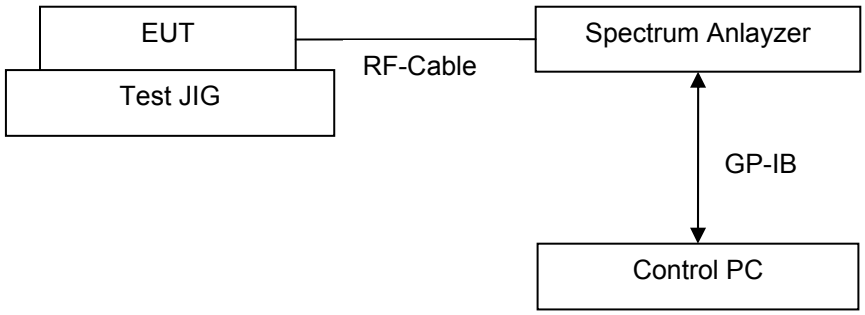
(3) For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined 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.

Test Setup

The test was performed in accordance with **FCC 15.247:2008, FCC 15.31:2008, and FCC Public notice DA 00-705 Released March 30, 2000.**

- The RF output of the EUT was connected to the RF input port of the Spectrum Analyzer.
- The EUT was set-up three diferrent transmiting mode, low-end, middle, and high-end.
- The transmitter was set-up as its maximum power.
- The following measurements were made with
  - Span = 10MHz
  - RBW = 1MHz
  - VBW ≥ RBW
  - Sweep = Auto
  - Detector Function = peak
  - Trace = Single trace up to capturing the whole range of signal
- Allowed the trace to stabilize.
- Use the marker function to set the peak of the signal.
- The indicated level is the peak conductyed output power(with the addition of the cable loss).
- The measurement was not repeated as different power supplying, because of the DC power was supplied by host system.

Setup Block Diagram

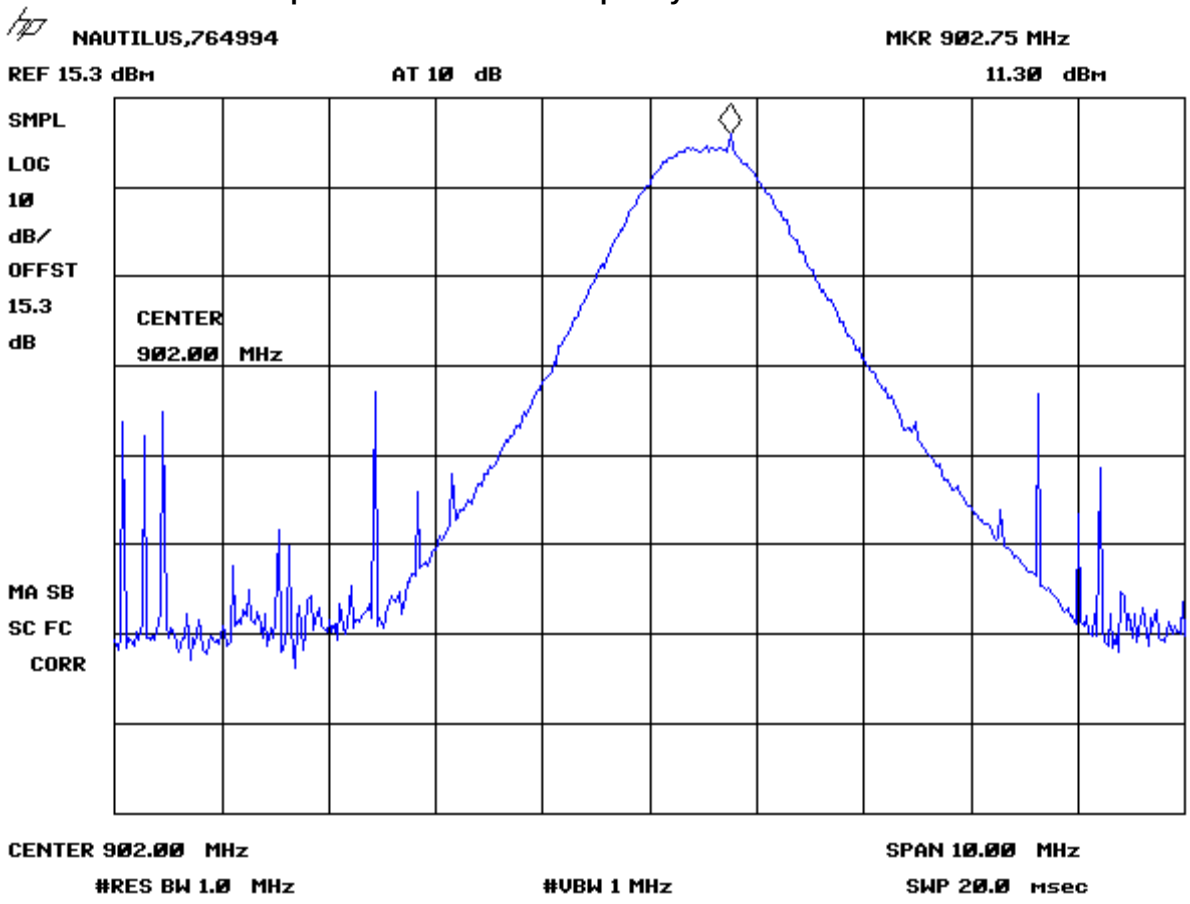


Test Results:

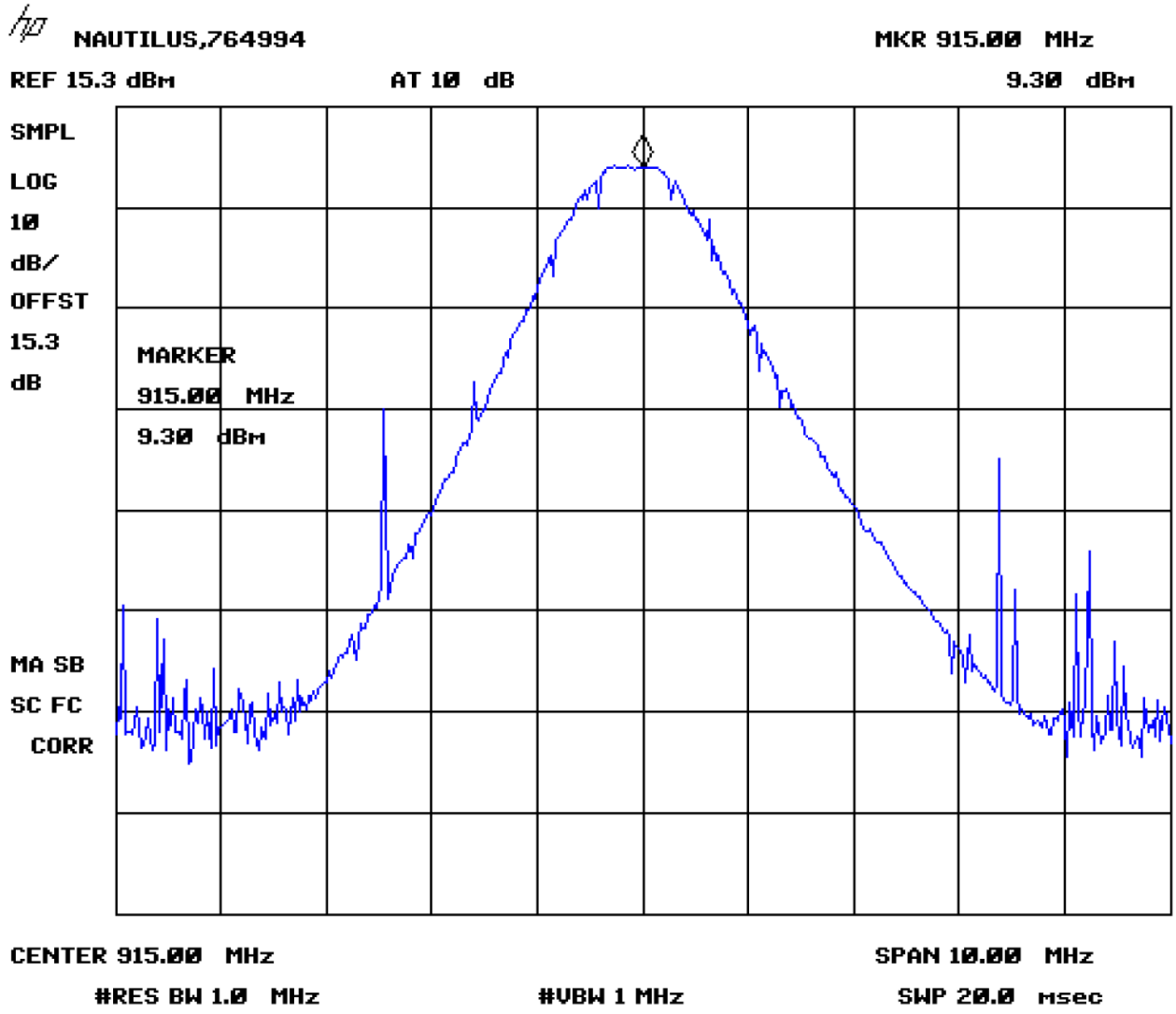
Channel Frequency(MHz)	Peak Power(dBm)	Limit(W/dBm)	Pass/Fail
902.60	11.30	≤ 1 / +30	Pass
915.00	9.30	≤ 1 / +30	Pass
927.40	11.15	≤ 1 / +30	Pass

X Pass Fail N/A

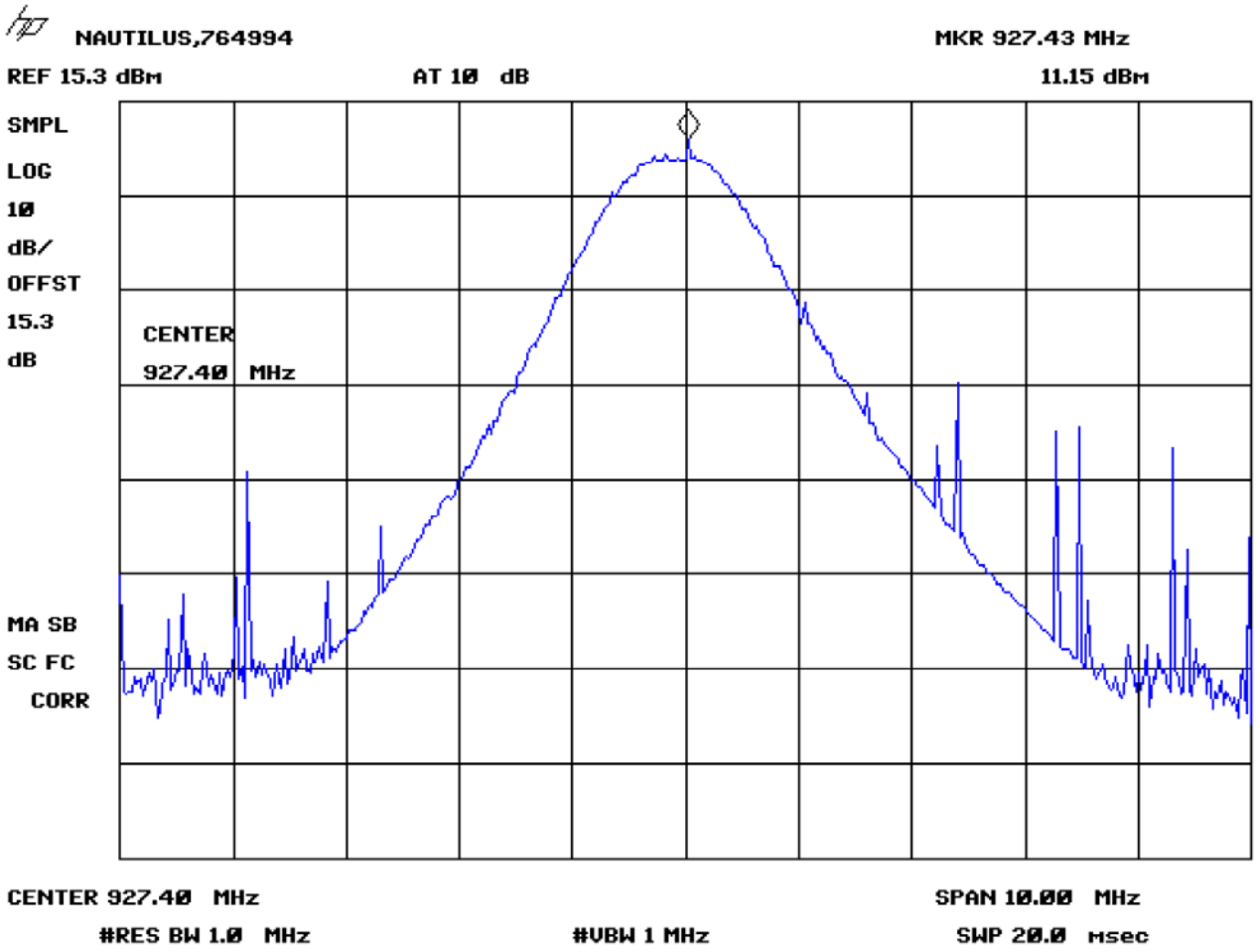
- Conducted maximum power at the Carrier Frequency is: 902.60MHz



- Conducted maximum power at the Carrier Frequency is: 915.00MHz



- Conducted maximum power at the Carrier Frequency is: 927.40MHz



Antenna Gain

Test Date	Sep. 01, 2009
Sample Number	764994
Tested By	Jeremy LEE

Use the barometric pressure reported at: http://www.flightstats.com/go/Airport/weather.do?airportCode=YVR

Test Limits

15.247(b)

(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi.

Test Results:

Antenna description	Peak Antenna Gain(dBi)	Limit(dBi)	Pass/Fail
PCTEL, 915MHz ¼ Wavelength Antenna	0	≤ 6	Pass

X Pass **Fail** **N/A**

- Antenna Specification

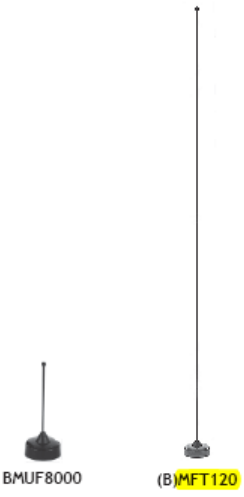
Chrome Nut Antennas

These antennas feature a super flexible design that protects the .062" diameter rod against damage that can be caused by limited vehicle height clearance. They also include a rubber seal gasket to prevent water leakage. All models are available in bright chrome or black finish.

Features

- Economical
- Flexible rod
- Ready to install; no rod cutting is required
- Available in either bright chrome or black finish
- Antenna includes rubber seal gasket to prevent water leakage
- Mates with all 1-1/8"-18 thread mounts, including 3/4" mounts

Figure A - MAB Replacement Ball



MAXRAD

Technical Data

Maximum Power: 150 watts
Nominal Impedance: 50 ohms
VSWR: < 1.5:1
Radiator Material: .062" diameter stainless steel, bright or black finish
Mount Nut: Brass; bright or black chrome finish
Antenna Type: 1/4 Wave (Unity gain models) 5/8 Wave over a 1/4 Wave (3 dB gain models))

For detailed specifications, visit **http://antenna.pctel.com.**

MOBILE ANTENNAS

Chrome Nut Antennas

Antenna Electrical Specifications

Model	Frequency Range	Factory Tuned Frequency	Gain
(B)MFT120	118-940 MHz	Field Tunable	Unity
(B)MHB1520	152-162 MHz	157 MHz	Unity
MHB1620	162-174 MHz	167 MHz	Unity
MUF4060	406-430 MHz	418 MHz	Unity
MUF4300	430-450 MHz	440 MHz	Unity
MUF4500	450-470 MHz	460 MHz	Unity
MUF4700	470-490 MHz	480 MHz	Unity
MUF4900	490-512 MHz	501 MHz	Unity
MUF7000	760-870 MHz	816 MHz	Unity

Model	Frequency Range	Factory Tuned Frequency	Gain
(B)MUF8063	806-866 MHz	815 MHz	3 dB
B)MUF8000	806-896 MHz	835 MHz	Unity
(B)MUF8253	825-896 MHz	835 MHz	3 dB
MUF8963	896-940 MHz	898 MHz	3 dB
MUF24005	2400-2480 MHz	2.45 GHz	5 dB

Mechanical Specifications

Model	Antenna Height at lowest frequency
(B)MFT120	Approximately 24”
(B)MHB1520	Approximately 21.625”
MHB1620	Approximately 21.625”
MUF4060	Approximately 7.375”
MUF4300	Approximately 7.375”
MUF4500	Approximately 7.375”
MUF4700	Approximately 7.375”
MUF4900	Approximately 7.375”
MUF7000	Approximately 3.3”

Model	Antenna Height at lowest frequency
(B)MUF8063	Approximately 14.5”
(B)MUF8000	Approximately 2.9”
(B)MUF8253	Approximately 14.0”
MUF8963	Approximately 12.0”
MUF24005	Approximately 8.75”

The Quik Ship icon indicates that the product is available for immediate delivery from select distributors.

*Prefix “B” indicates black.

Band-edge Compliance of RF Conducted Emissions

Temperature	23.9 °C
Relative Humidity	48.9 %
Barometric Pressure:	101.85 kPa
Test Date	Sep. 03, 2009
Sample Number	764994
Calibrated Test Equipment (ID)	106, 228
Reference Equipment (ID) (Calibration not required)	N1, N2
Tested By	Jeremy LEE

Use the barometric pressure reported at: http://www.flightstats.com/go/Airport/weather.do?airportCode=YVR

Test Limits

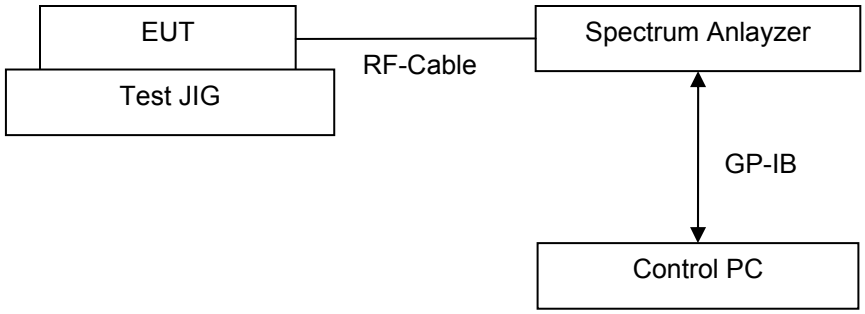
15.247(d)
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

Test Setup

The test was performed in accordance with **FCC 15.247:2008, FCC 15.31:2008, and FCC Public notice DA 00-705 Released March 30, 2000.**

- The RF output of the EUT was connected to the RF input port of the Spectrum Analyzer.
- The transmitter was transmitting as its maximum data rate.
- The following measurements were made with
  - Span = wide enough to capture the peak level of the emission operating on thechannel closet to the band-edge, as well as any modulation products which fall outside of the authorized band of operation.
  - RBW = 100kHz
  - VBW ≥ RBW
  - Sweep = Auto
  - Detector Function = peak
  - Trace = Single trace up to capturing the whole range of signal
- Allowed the trace to stabilize.
- Set the marker on the emission at the bandedge, or on the highest modulation product outside of band, if this level is greater than that at the bandedge.
- Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission.
- The marker-delta value was measured.
- The EUT was set-up two diferrent transmiting mode, low-end and high-end.
- The transmitter was set-up as its maximum power.

Setup Block Diagram

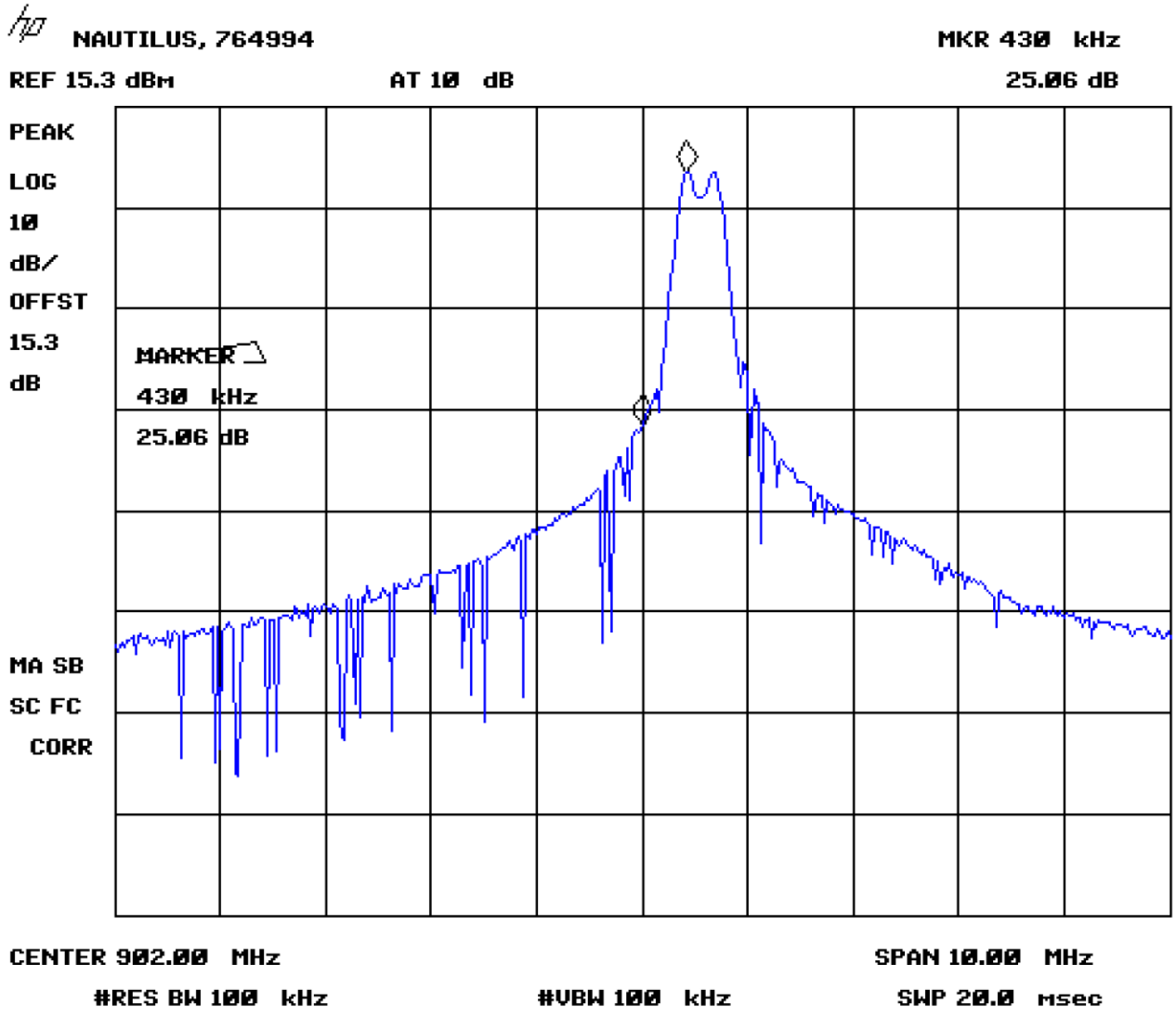


Test Results:

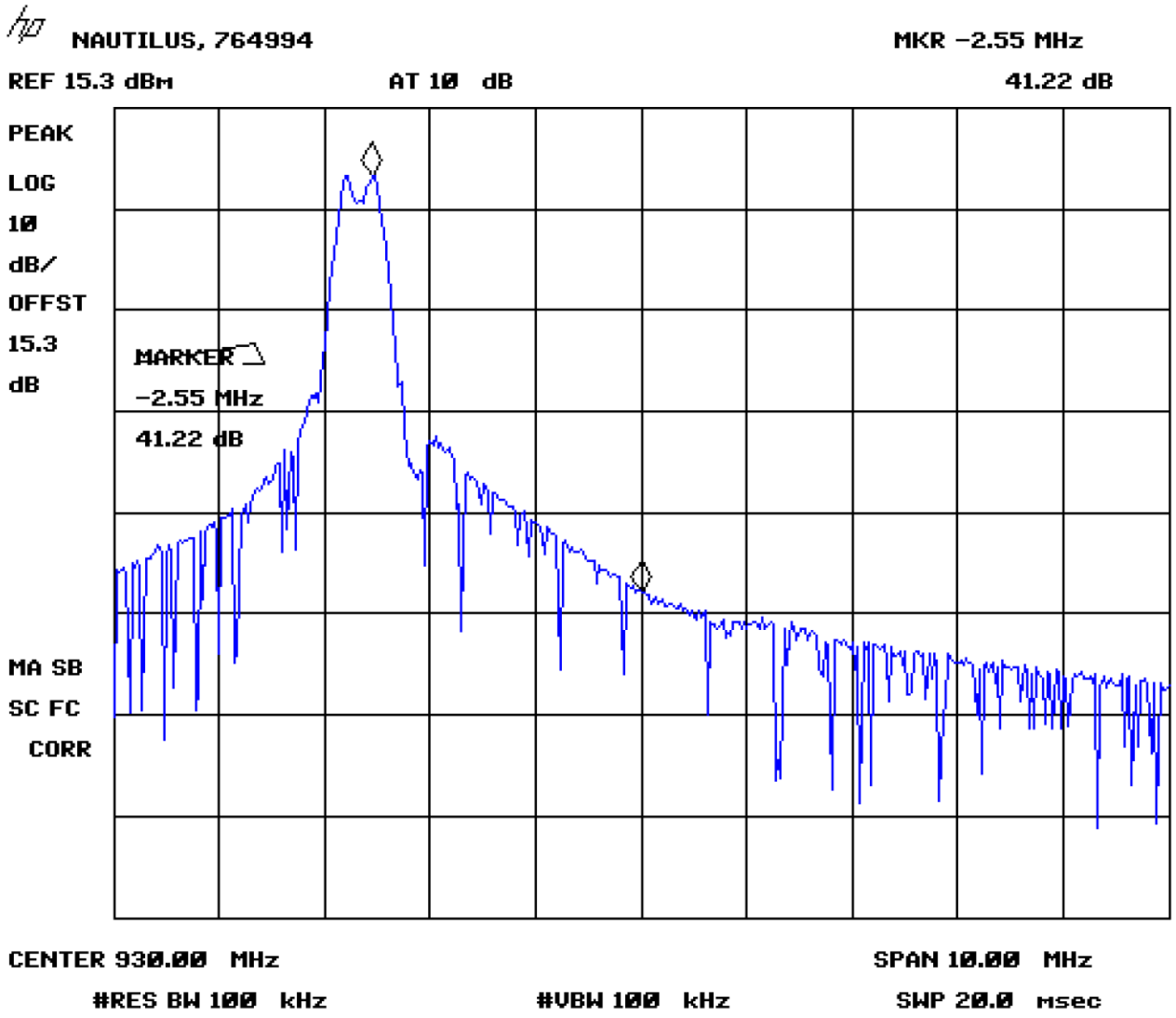
Channel Frequency(MHz)	Difference(dB)	Limit(dB)	Pass/Fail
Low-end	25.06	> 20	Pass
High-end	41.22	> 20	Pass

X Pass Fail N/A

- Band-edge compliance at low-end



- Band-edge compliance at high-end



Spurious RF Conducted Emissions

Temperature	23.9 °C
Relative Humidity	48.9 %
Barometric Pressure:	101.85kPa
Test Date	Sep. 03, 2009
Sample Number	764994
Calibrated Test Equipment (ID)	106, 228
Reference Equipment (ID) (Calibration not required)	N1, N2
Tested By	Jeremy LEE

Use the barometric pressure reported at: http://www.flightstats.com/go/Airport/weather.do?airportCode=YVR

Test Limits

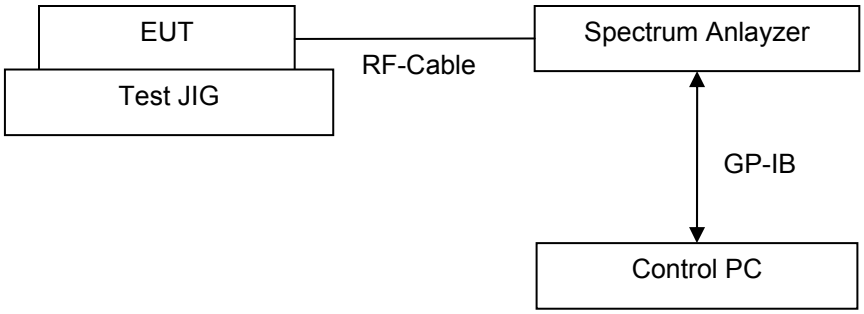
15.247(d)
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

Test Setup

The test was performed in accordance with **FCC 15.247:2008, FCC 15.31:2008, and FCC Public notice DA 00-705 Released March 30, 2000.**

- The RF output of the EUT was connected to the RF input port of the Spectrum Analyzer.
- The EUT was set-up three diferrent transmiting mode, low-end, middle, and high-end.
- The transmitter was set-up as its maximum power.
- The following measurements were made with
  - Span = wide enough to capture the peak level of the in-band emission and all spurious emissions(e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic.
  - RBW = 100kHz.
  - VBW ≥ RBW
  - Sweep = Auto
  - Detector Function = peak
  - Trace = Single trace up to capturing the whole range of signal
- Allowed the trace to stabilize.
- Set the marker on the peak of any spurious emission recorded.

Setup Block Diagram



Test Results:

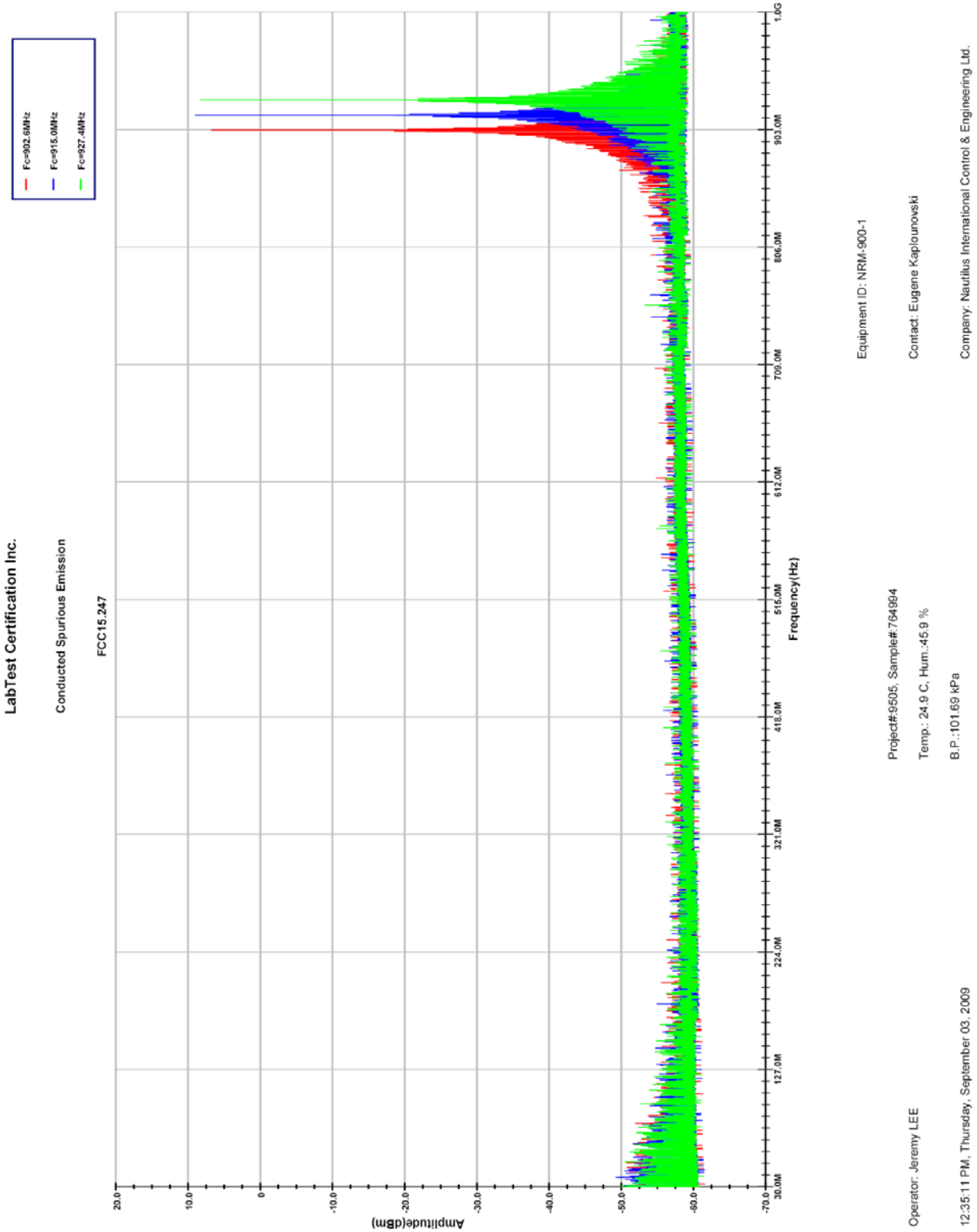
Difference(dB) = Measured Carrier Level(dBm) - Measured Spurious Level(dBm)

Description	Frequency (MHz)	Measured (dBm)	Difference (dB)	Limit (dB)	Pass/Fail
Carrier_Low End	902.6	+6.72	-	-	-
Spurious	901.85	-18.65	25.37	> 20	Pass
	1006.85	-45.61	52.33	> 20	Pass
2nd Harmonic	1805.2	-38.35	45.07	> 20	Pass
3rd Harmonic	2707.8	-39.07	45.79	> 20	Pass
4th Harmonic	3610.4	-58.33	65.05	> 20	Pass
5th Harmonic	4512.0	-57.60	64.32	> 20	Pass
6th Harmonic	5415.6	-57.19	63.91	> 20	Pass
7th Harmonic	6318.2	-55.42	62.14	> 20	Pass
8th Harmonic	7220.8	-50.19	56.91	> 20	Pass
9th Harmonic	8123.4	-48.06	54.78	> 20	Pass
10th Harmonic	9026.0	-49.76	56.48	> 20	Pass
Carrier_Middle	915.0	+8.95	-	-	-
Spurious	915.93	-20.75	29.70	> 20	Pass
	1000.00	-42.85	51.80	> 20	Pass
2nd Harmonic	1830.0	-37.29	46.24	> 20	Pass
3rd Harmonic	2745.0	-39.28	48.23	> 20	Pass

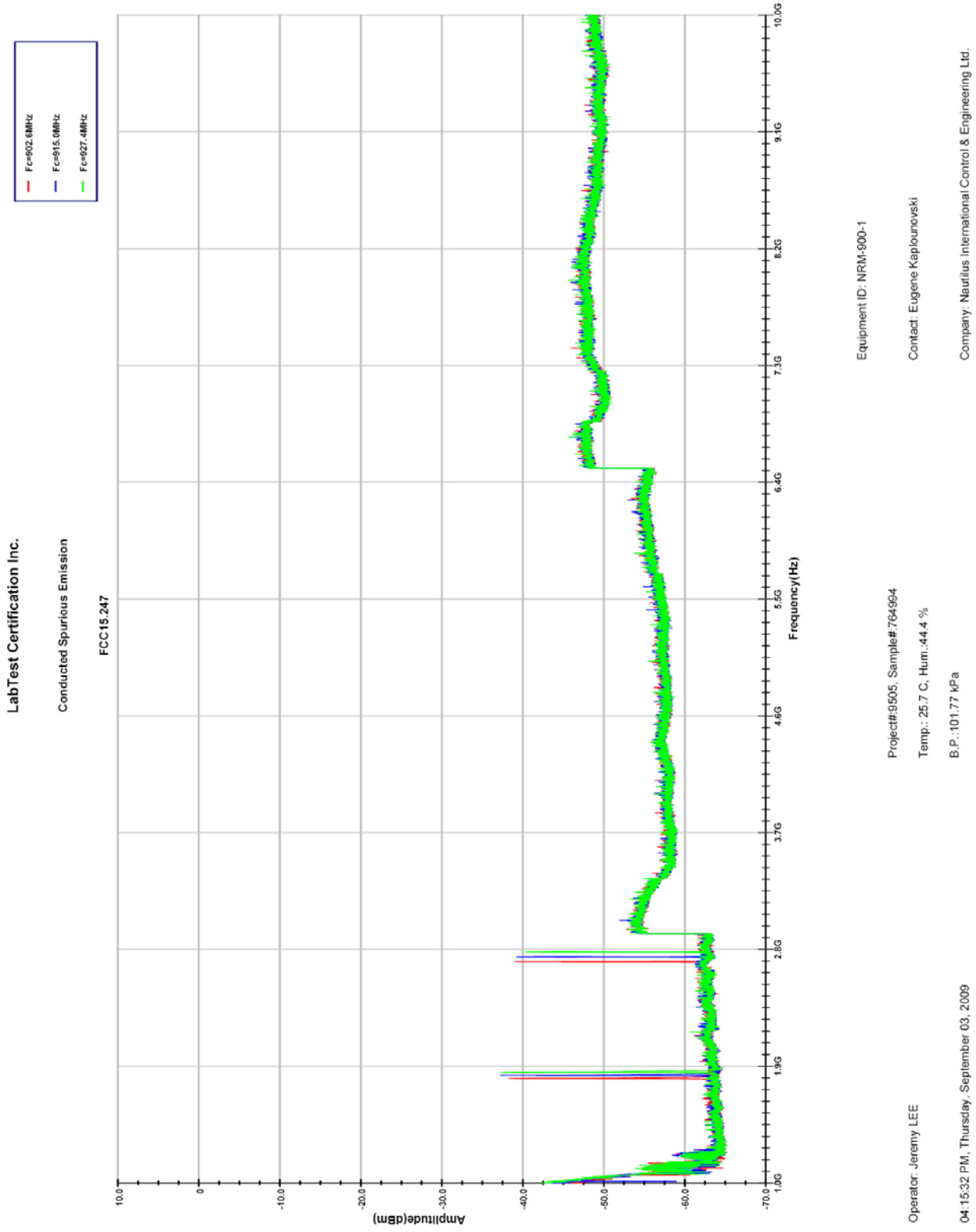
4th Harmonic	3660.0	-57.03	65.98	> 20	Pass
5th Harmonic	4575.0	-56.85	65.80	> 20	Pass
6th Harmonic	5490.0	-56.21	65.16	> 20	Pass
7th Harmonic	6405.0	-54.87	63.82	> 20	Pass
8th Harmonic	7320.0	-47.83	56.78	> 20	Pass
9th Harmonic	8235.0	-47.21	56.16	> 20	Pass
10th Harmonic	9150.0	-49.63	58.58	> 20	Pass
Carrier_High End	927.4	+8.22	-	-	-
Spurious	928.64	-21.94	30.16	> 20	Pass
	1001.96	-42.48	50.70	> 20	Pass
2nd Harmonic	1854.8	-37.37	45.59	> 20	Pass
3rd Harmonic	2782.2	-40.43	48.65	> 20	Pass
4th Harmonic	309.6	-58.04	66.26	> 20	Pass
5th Harmonic	4637.0	-57.08	65.30	> 20	Pass
6th Harmonic	5564.4	-56.67	64.89	> 20	Pass
7th Harmonic	6491.8	-55.22	63.44	> 20	Pass
8th Harmonic	7419.2	-47.79	56.01	> 20	Pass
9th Harmonic	8346.6	-47.82	56.04	> 20	Pass
10th Harmonic	9274.0	-49.02	57.24	> 20	Pass

X Pass **Fail** **N/A**

- Spurious RF Conducted Emissions, 30 to 1000MHz.



- Spurious RF Conducted Emissions, 1 to 10GHz.



Spurious Radiated Emissions

Temperature	22.4 °C
Relative Humidity	61.5 %
Barometric Pressure:	101.70 kPa
Test Date	Sep. 02, 2009
Sample Number	764994
Calibrated Test Equipment (ID)	106, 112, 227-1, 227-3, 228
Reference Equipment (ID) (Calibration not required)	141, 233, 235
Tested By	Jeremy LEE

Use the barometric pressure reported at: http://www.flightstats.com/go/Airport/weather.do?airportCode=YVR

Test Limits

15.247(d)
Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

15.205(a)
Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090–0.110	16.42–16.423	399.9–410	4.5–5.15
[1] 0.495–0.505	16.69475–16.69525	608–614	5.35–5.46
2.1735–2.1905	16.80425–16.80475	960–1240	7.25–7.75
4.125–4.128	25.5–25.67	1300–1427	8.025–8.5
4.17725–4.17775	37.5–38.25	1435–1626.5	9.0–9.2
4.20725–4.20775	73–74.6	1645.5–1646.5	9.3–9.5
6.215–6.218	74.8–75.2	1660–1710	10.6–12.7
6.26775–6.26825	108–121.94	1718.8–1722.2	13.25–13.4
6.31175–6.31225	123–138	2200–2300	14.47–14.5
8.291–8.294	149.9–150.05	2310–2390	15.35–16.2
8.362–8.366	156.52475–156.52525	2483.5–2500	17.7–21.4
8.37625–8.38675	156.7–156.9	2690–2900	22.01–23.12
8.41425–8.41475	162.0125–167.17	3260–3267	23.6–24.0
12.29–12.293	167.72–173.2	3332–3339	31.2–31.8
12.51975–12.52025	240–285	3345.8–3358	36.43–36.5
12.57675–12.57725	322–335.4	3600–4400	[2]
13.36–13.41.			

[1] Until February 1, 1999, this restricted band shall be 0.490–0.510 MHz.
[2] Above 38.6

15.209(a)
Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30
30–88	100 **	3
88–216	150 **	3
216–960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.

Test Setup

The test was performed in accordance with **FCC 15.247:2008, FCC 15.31:2008, FCC 15.33:2008, FCC 15.35:2008, and ANSI C63.4, 2003, and FCC Public notice DA 00-705 Released March 30, 2000.**

Test procedure is based on the FCC15.31(a)(3) - Other intentional and unintentional radiators are to be measured for compliance using the following procedure excluding sections 4.1.5.2, 5.7, 9 and 14: ANSI C63.4–2003: "Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz" (incorporated by reference, see § 15.38). This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51.
NOTE to Paragraph (a)(3): Digital devices tested to show compliance with the provisions of §§ 15.207(e) and 15.209(g) must be tested following the ANSI C63.4 procedure described in paragraph (a)(3) of this section.[As stated in the adopting R&O, ANSI C63.4 is not used for measurements below 30 MHz.]

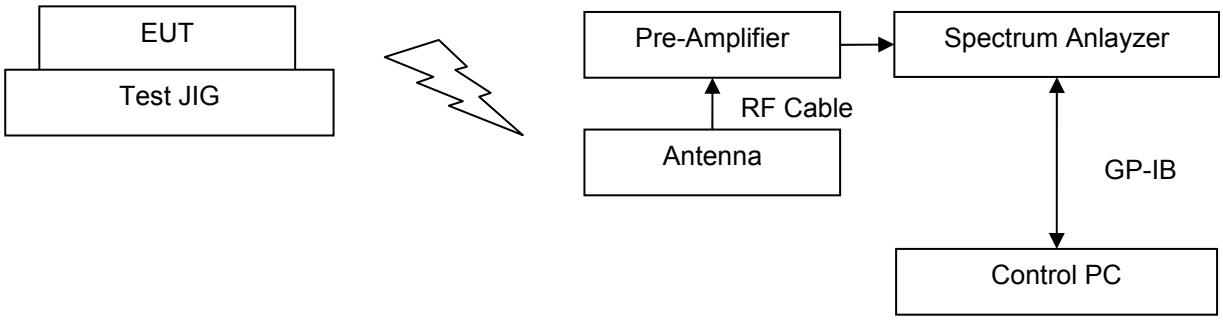
The EUT was placed on a 1 meter by 1.5 meters wide and 0.8-meter high nonconductive table that was placed directly onto a flush mounted turntable. The EUT was connected to its support equipment with any excess I/O cabling bundled to approximately 1 meter. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna supporter. It is measured with a receiver – spectrum analyzer, was software controlled. The antennas were balanced dipoles. For frequencies of 80 MHz or above, the antennas were resonant in length, and for frequencies below 80 MHz it had a length equal to the 80 MHz resonant length.

Prescan tests were performed to determine the "worst-case" orientation of the EUT (By Manipulating the EUT's position through all three orthogonal axes). With the EUT positioned in the "worst case" orientation, emissions from the unit were maximized by manipulating the cables, and by adjusting the polarization and height of the receive antenna and rotating the EUT on the turntable.

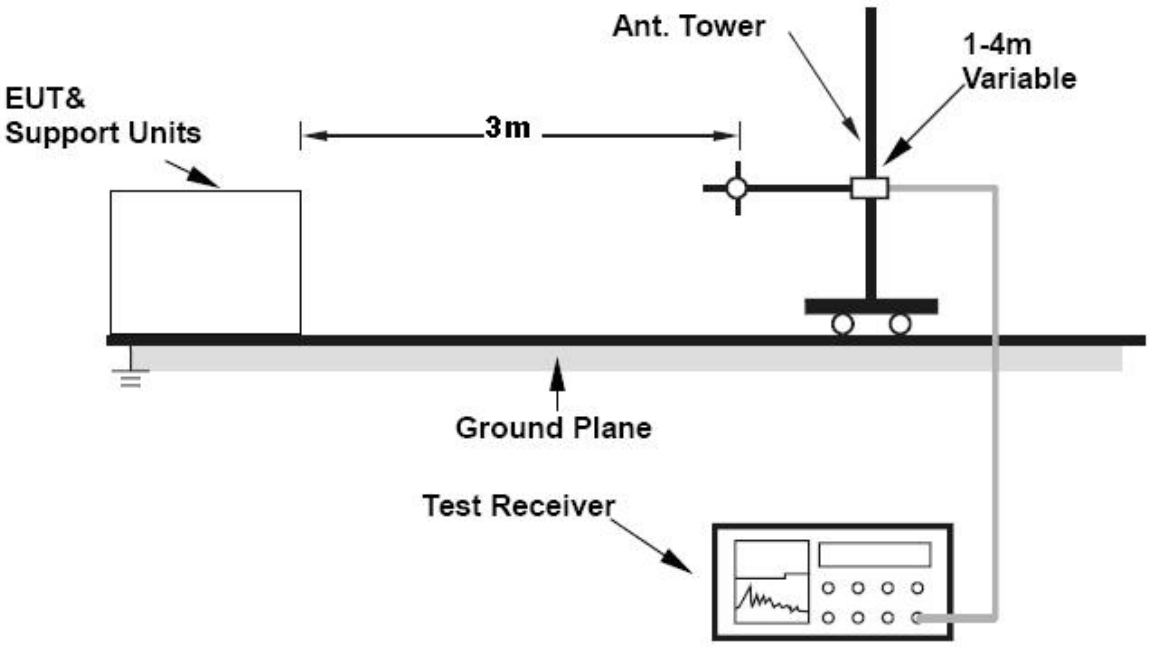
- The EUT was set-up three diferrent transmiting mode, low-end, middle, and high-end.
- The transmitter was set-up as its maximum power.
- The following measurements were made with
  - Span = wide enough to fully capture the emission being measured.
  - RBW = 120kHz for f < 1GHz, and 1MHz for f ≥ 1GHz
  - VBW ≥ RBW
  - Sweep = Auto
  - Detector Function = peak

- Trace = Single trace up to capturing the whole range of signal
- Detecting Method = Quasi peak for f < 1GHz, and Averaging detector for f ≥ 1GHz

Setup Block Diagram



Test Setup at OATS



Test Result

Radiated Emission (dBuV/m) = Measured Emission (dBuV) + Antenna Factor(1/m) + Cable Loss(dB)– Pre-Amplifier Gain(dB)

X Pass **Fail** **N/A**

Frequency (MHz)	Measured (dBuV)	AF (dB/m)	CL (dB)	Pre-Amp (dB)	Radiated Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Results
Fc=902.60MHz								
1805.20	25.69	25.48	20.22	29.15	42.24	53.98	11.74	Pass
2707.80	26.76	28.78	17.91	27.94	45.51	53.98	8.47	Pass
Fc=915.00MHz								
1830.00	25.65	25.79	20.00	29.10	42.34	53.98	11.64	Pass
2745.00	26.60	28.89	18.05	27.90	45.63	53.98	8.35	Pass
Fc=927.40MHz								
1854.80	25.63	26.10	19.79	29.05	42.46	53.98	11.52	Pass
2782.20	26.74	28.99	18.18	27.86	46.05	53.98	7.93	Pass

*** All other Spurious and Harmonics were under Ambient.**

- Table of Spurious Radiated Emissions: 1 to 10GHz, Quasi-peak Detecting, Antenna was used SAS-571.

LabTest Certification Inc.
Intentional Radiated Emission
FCC15.249 & 205, 3meters, Harmonic

Operator: Jeremy Lee
Model Number: NRM-900-1
Contact: Eugene Kaplounovski
01:09:03 PM, Wednesday, September 02, 2009
Company: Nautilus International Control & Engineering Ltd.

Frequency MHz	AVG Measur dBuV	Antenna dB/m	Cable dB	Preamp dB	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower cm	T/T Degree	Pol
1.805 GHz	25.35	25.48	20.22	-29.15	41.90	53.98	12.08	110.0	0.0	H
1.830 GHz	25.65	25.79	20.00	-29.10	42.34	53.98	11.64	110.0	0.0	H
1.854 GHz	25.63	26.10	19.79	-29.05	42.46	53.98	11.52	110.0	0.0	H
2.708 GHz	26.76	28.78	17.91	-27.94	45.51	53.98	8.47	110.0	0.0	H
2.745 GHz	26.34	28.89	18.05	-27.90	45.37	53.98	8.61	110.0	0.0	H
2.782 GHz	26.49	28.99	18.18	-27.86	45.81	53.98	8.17	110.0	0.0	H

Project #: 9505, Sample #: 764994
Temp.: 22.4 C, Hum.: 61.5 %
Barometer Pres.:101.70kPa

LabTest Certification Inc.
Intentional Radiated Emission
FCC15.249 & 205, 3meters, Vertical

Operator: Jeremy Lee
Model Number: NRM-900-1
Contact: Eugene Kaplounovski
01:09:03 PM, Wednesday, September 02, 2009
Company: Nautilus International Control & Engineering Ltd.

Frequency MHz	AVG Measur dBuV	Antenna dB/m	Cable dB	Preamp dB	Emission dBuV/m	Limit dBuV/m	Margin dB	Tower cm	T/T Degree	Pol
1.805 GHz	25.69	25.48	20.22	-29.15	42.24	53.98	11.74	110.0	0.0	V
1.830 GHz	25.94	25.79	20.00	-29.10	42.63	53.98	11.35	110.0	0.0	V
1.855 GHz	25.15	26.10	19.78	-29.05	41.98	53.98	12.00	110.0	0.0	V
2.708 GHz	26.74	28.78	17.91	-27.94	45.48	53.98	8.50	110.0	0.0	V
2.745 GHz	26.60	28.89	18.05	-27.90	45.63	53.98	8.35	110.0	0.0	V
2.782 GHz	26.74	28.99	18.18	-27.86	46.05	53.98	7.93	110.0	0.0	V

Project #: 9505, Sample #: 764994
Temp.: 22.4 C, Hum.: 61.5 %
Barometer Pres.:101.70kPa

Conducted Power Spectral Density

Temperature	25.5 °C
Relative Humidity	43.8 %
Barometric Pressure:	102.53 kPa
Test Date	Sep. 10, 2009
Sample Number	764994
Calibrated Test Equipment (ID)	106, 228
Reference Equipment (ID) (Calibration not required)	N1, N2
Tested By	Jeremy LEE

Use the barometric pressure reported at: http://www.flightstats.com/go/Airport/weather.do?airportCode=YVR

Test Limits

15.247(e)

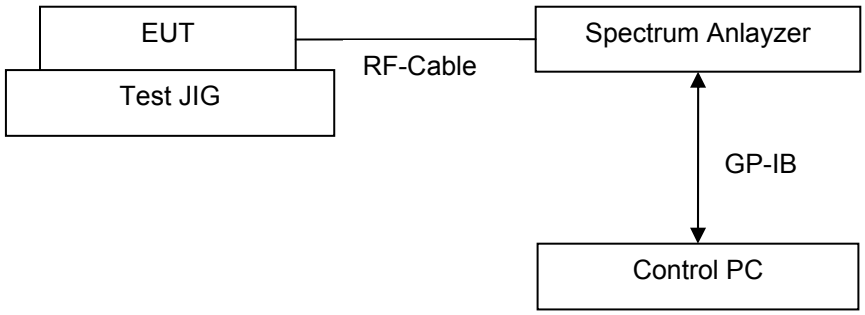
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Test Setup

The test was performed in accordance with **FCC 15.247:2008, FCC 15.31:2008, and FCC Public notice DA 00-705 Released March 30, 2000.**

- The RF output of the EUT was connected to the RF input port of the Spectrum Analyzer.
- The EUT was set-up three diferrent transmiting mode, low-end, middle, and high-end.
- The transmitter was set-up as its maximum power.
- The following measurements were made with
  - Span = 1MHz
  - RBW = 3kHz
  - VBW ≥ RBW
  - Sweep = Auto
  - Detector Function = peak
  - Trace = Single trace up to capturing the whole range of signal
- Allowed the trace to stabilize.
- Use the marker function to set the peak of the signal.
- The indicated level is the peak conductyed output power(with the addition of the cable loss).

Setup Block Diagram

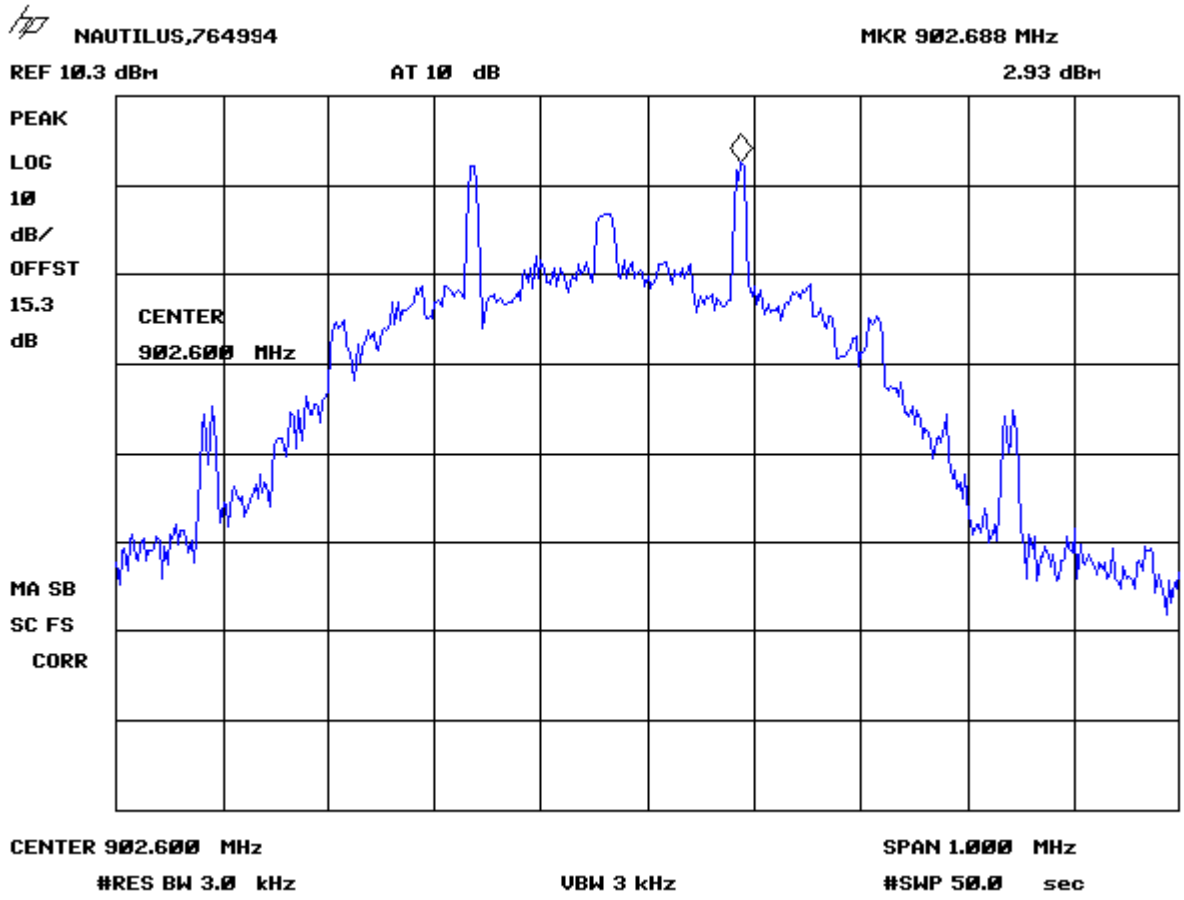


Test Results:

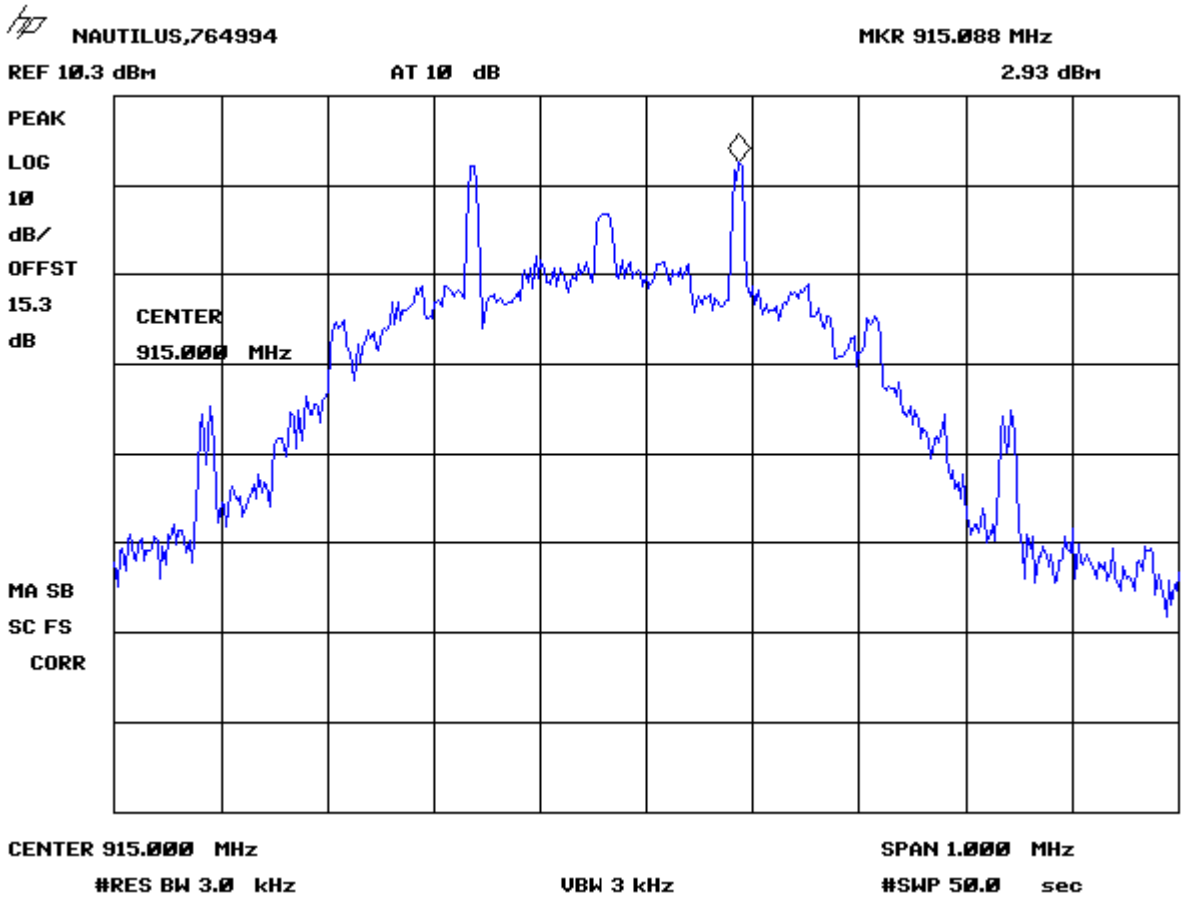
Channel Frequency(MHz)	Peak Power Density (dBm)	Limit(dBm)	Pass/Fail
902.60	2.93	≤ +8	Pass
915.00	2.93	≤ +8	Pass
927.40	2.93	≤ +8	Pass

X Pass Fail N/A

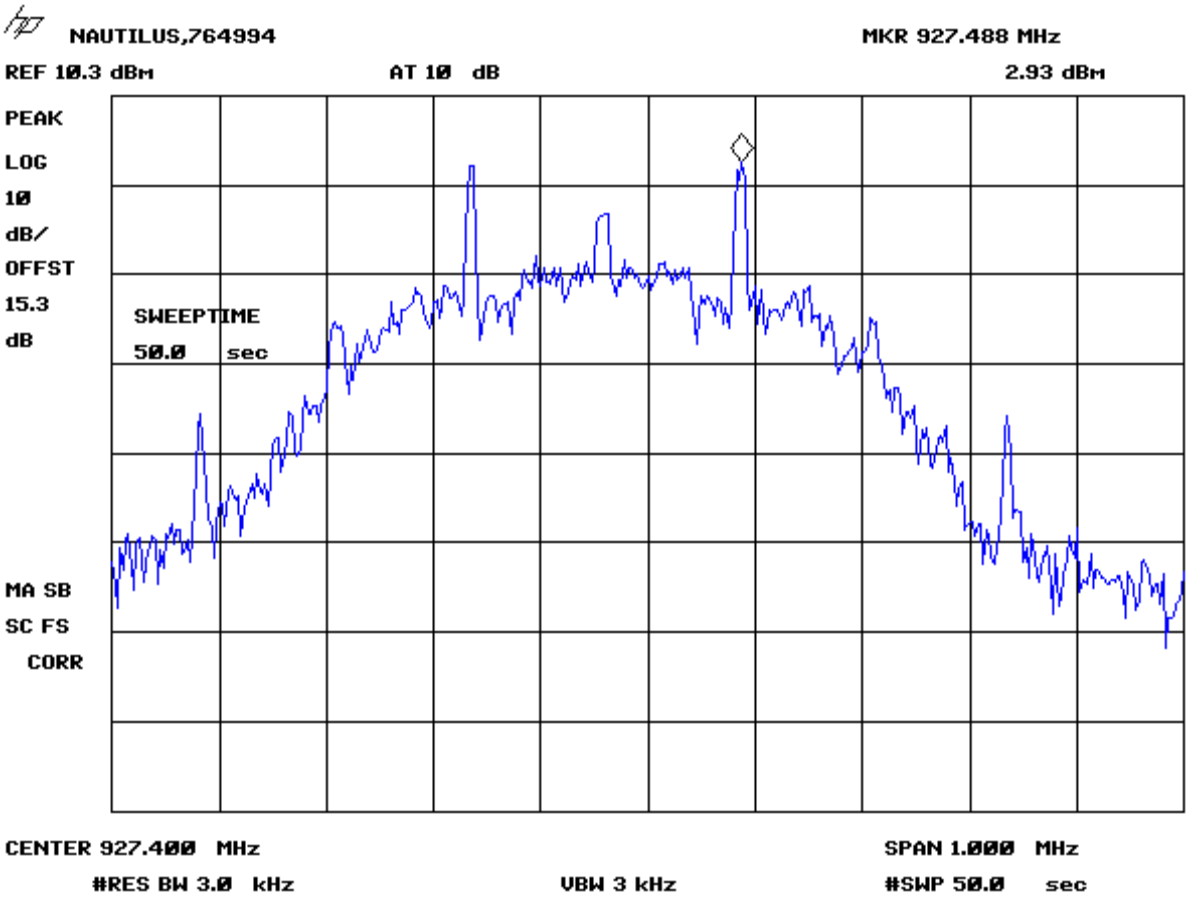
- Conducted Power Spectral Density at the Carrier Frequency is: 902.60MHz



- Conducted Power Spectral Density at the Carrier Frequency is: 915.00MHz



- Conducted Power Spectral Density at the Carrier Frequency is: 927.40MHz



RF Exposure (SAR)

Test Date	Sep. 03, 2009
Sample Number	764994
Tested By	Jeremy LEE

Use the barometric pressure reported at: http://www.theweathernetwork.com/weather/CABC0308

Test Limits

FCC15.247 (i)

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. *See* § 1.1307(b)(1) of this chapter.

FCC1.1310

The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in § 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of § 2.1093 of this chapter. Further information on evaluating compliance with these limits can be found in the FCC's OST/OET Bulletin Number 65, ''Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation.''

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f^2)	6
30–300	61.4	0.163	1.0	6
300–1500	.....	.....	f/300	6
1500–100,000	.....	.....	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f^2)	30
30–300	27.5	0.073	0.2	30
300–1500	.....	.....	f/1500	30
1500–100,000	.....	.....	1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density

NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

Included are calculations that determine that minimum distance from the transmitter antenna that will ensure an exposure limit at or below the guidelines given in Table 1 of Section 1.1310 for the general population. The formula for these calculations are taken from OET Bulletin 65, edition 97-01, August 1997; "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields".

Calculations

Per Table 1 of Section 1.1310, the limit for General Population/Uncontrolled Exposure at 902 to 928MHz is f/1500 mW/cm^2, where f is frequency in MHz.
Per OET Bulletin 65, Edition 97-01, the formula for calculating power density is: $S=P*G/4\pi d^2$ with:

Given
E=√(30*P*G)/d
and
S=E^2/3770
where
E=Field Strength in Volts/meter
P=Power in Watts
G=Numeric antenna gain
D=Distance in meters
S=Power Density in milliwatts/square centimeter

Combining equations and rearranging the terms to express the distance as a function of the remaining variables yields:
d=√ ((30*P*G)/(3770*S)

Changing to units of Power to mW and Distance to cm, using:
P(mW)=P(W)/1000 and
D(cm)=100*d(m)

yields
d=100*√30*(P/1000)*G)/(3770*S))
d=0.282*√(P*G/S)

where
d=distance in cm
P=Power in mW
G=Numeric antenna gain
S=Power Density in mW/cm^2

Substituting the logarithmic form of power and gain using:
P(mW)=10^(P(dBm)/10) and
G(numeric)=10^(G(dBi)/10)

yields
d=0.282*10^((P+G)/20)/ √S Equation(1)

where
d=MPE distance in cm
P=Power in dBm
G=Antenna Gain in dBi
S=Power Density Limit in mW/cm^2

Equation (1) and the measured peak power is used to calculate the MPE distance.

Limits

From §1.1310 Table 1 (B), S=1.0mW/cm^2

Results

No non-compliance noted:

Channel Frequency(MHz)	Power Density Limit (mW/cm^2)	Output Power (dBm)	Gain of Antenna (dBi)	MPE distance (cm)
902.60	0.60	+11.30	0	1.337
915.00	0.61	+9.30	0	1.053
927.40	0.62	+11.15	0	1.285

Conclusion

For mobile or fixed location transmitters, the minimum separation distance is 20cm, even if calculations indicate that the MPE distance would be less. Therefore, the minimum safe distance has to be inserted in the EUT's User Manual.

Radiated Emission; Unintentional Radiators

Temperature	25.3 °C
Relative Humidity	57.2 %
Barometric Pressure:	101.22 kPa
Test Date	Sep. 02, 2009
Sample Number	764994
Calibrated Test Equipment (ID)	106, 112, 227-1, 228
Reference Equipment (ID) (Calibration not required)	124, 233, 235
Tested By	Jeremy LEE

Use the barometric pressure reported at: http://www.flightstats.com/go/Airport/weather.do?airportCode=YVR

Test Limits

FCC 15.109 (a):
Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of emission (MHz)	Field strength (microvolts/ meter)
30–88	100
88–216	150
216–960	200
Above 960	500

Test Setup

The test was performed in accordance with **FCC 15.247:2008, FCC 15.31:2008, FCC 15.33:2008, FCC 15.35:2008, and ANSI C63.4, 2003, and FCC Public notice DA 00-705 Released March 30, 2000.**

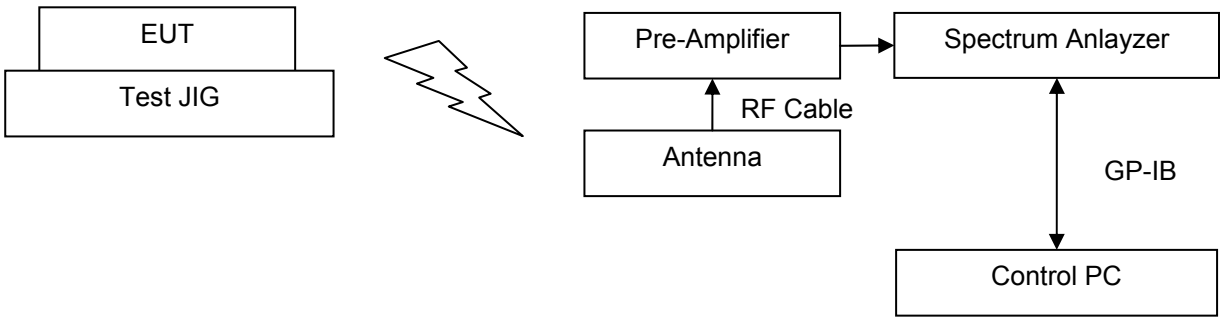
Test procedure is based on the FCC15.31(a)(3) - Other intentional and unintentional radiators are to be measured for compliance using the following procedure excluding sections 4.1.5.2, 5.7, 9 and 14: ANSI C63.4–2003: “Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz” (incorporated by reference, see § 15.38). This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51.
NOTE to Paragraph (a)(3): Digital devices tested to show compliance with the provisions of §§ 15.107(e) and 15.109(g) must be tested following the ANSI C63.4 procedure described in paragraph (a)(3) of this section.[As stated in the adopting R&O, ANSI C63.4 is not used for measurements below 30 MHz.]

The EUT was placed on a 1 meter by 1.5 meters wide and 0.8-meter high nonconductive table that was placed directly onto a flush mounted turntable. The EUT was connected to its support equipment with any excess I/O cabling bundled to approximately 1 meter. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna supporter. It is measured with a receiver – spectrum analyzer, was software controlled. The antennas were balanced dipoles. For frequencies of 80 MHz or above, the antennas were resonant in length, and for frequencies below 80 MHz it had a length equal to the 80 MHz resonant length.

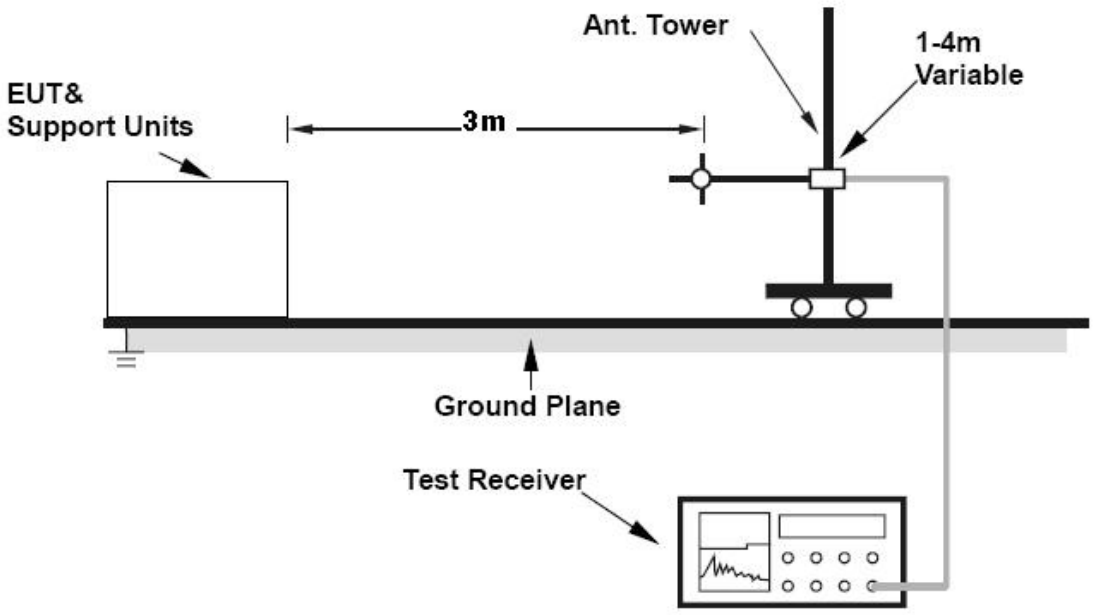
Tests were performed to determine the Idle orientation of the EUT. With the EUT positioned in the Idle, emissions from the unit were maximized by manipulating the cables, and by adjusting the polarization and height of the receive antenna and rotating the EUT on the turntable.

- The EUT was set-up idle mode.
- The following measurements were made with
  - Span = wide enough to fully capture the emission being measured.
  - RBW = 120kHz.
  - VBW ≥ RBW
  - Sweep = Auto
  - Detector Function = peak
  - Trace = Single trace up to capturing the whole range of signal
  - Detecting Method = Quasi peak.

Setup Block Diagram



Test Setup at OATS



Test Result

Radiated Emission (dBuV/m) = Measured Emission (dBuV) + Antenna Factor(1/m) + Cable Loss(dB)– Pre-Amplifier Gain(dB)

X Pass Fail N/A

- Table of Radiated Emissions: 30 to300MHz, Quasi-peak Detecting, Antenna was used SAS-542.

LabTest Certification Inc.
Unintentional Radiated Emissions
FCC15.109, Class B, 3 meters, Horizontal

Operator: Jeremy Lee
Model #: NRM-900-1
Contact: Eugene Kaplounovski
03:52:52 PM, Wednesday, September 02, 2009
Company: Nautilus International Control & Engineering Ltd.

Frequency MHz	Measured dBuV	AntFactor dB/m	CableLoss dB	Preamp dB	Emission dBuV/m	Limit dBuV/m	Margin dB	T/T degree	Tower cm	Pol
132.77 MHz	52.43	11.78	3.24	-33.00	34.45	43.52	9.07	298.9	373.3	H
188.09 MHz	44.59	13.66	3.85	-32.86	29.25	43.52	14.27	346.4	150.0	H
210.26 MHz	46.54	14.60	4.09	-32.85	32.37	43.52	11.15	346.3	150.0	H
221.23 MHz	53.27	14.72	4.18	-32.80	39.38	46.02	6.64	58.9	320.5	H
232.31 MHz	47.14	15.09	4.29	-32.75	33.77	46.02	12.25	173.8	342.8	H
254.49 MHz	50.53	16.42	4.58	-32.66	38.88	46.02	7.14	289.1	362.9	H

Project # : 9505, Sample #: 7464994
Temp.: 25.3 C, Hum.: 57.2 %
Barometer Pres.:101.22 kPa

LabTest Certification Inc.
Unintentional Radiated Emissions
FCC15.109, Class B, 3 meters, Vertical

Operator: Jeremy Lee
Model #: NRM-900-1
Contact: Eugene Kaplounovski
03:52:52 PM, Wednesday, September 02, 2009
Company: Nautilus International Control & Engineering Ltd.

Frequency MHz	Measured dBuV	AntFactor dB/m	CableLoss dB	Preamp dB	Emission dBuV/m	Limit dBuV/m	Margin dB	T/T degree	Tower cm	Pol
132.774 MHz	41.67	11.78	3.24	-33.00	23.69	43.52	19.83	340.3	385.5	V
188.087 MHz	52.52	13.66	3.85	-32.86	37.18	43.52	6.34	220.9	373.5	V
210.258 MHz	47.14	14.60	4.09	-32.85	32.97	43.52	10.55	90.9	384.4	V
221.229 MHz	46.42	14.72	4.18	-32.80	32.53	46.02	13.49	17.8	387.1	V
232.314 MHz	36.00	15.09	4.29	-32.75	22.63	46.02	23.39	278.2	352.5	V
254.486 MHz	39.51	16.42	4.58	-32.66	27.86	46.02	18.16	93.3	377.5	V

Project # : 9505, Sample #: 7464994
Temp.: 25.3 C, Hum.: 57.2 %
Barometer Pres.:101.22 kPa

Conducted Emission

Test Date	Sep. 01, 2009
Sample Number	764994
Tested By	Jeremy LEE

Use the barometric pressure reported at: http://www.theweathernetwork.com/weather/CABC0308

Test Limits

FCC 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 30MHz shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN).

Test Results

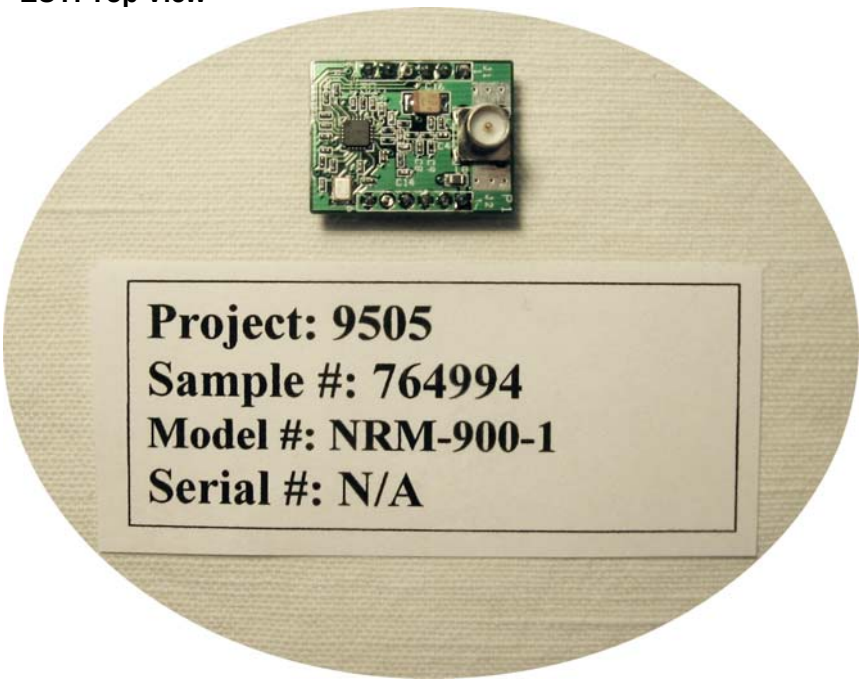
The test was exempted by there is no public utility (AC) power line connection.

APPENDIX A: Test Equipment Used

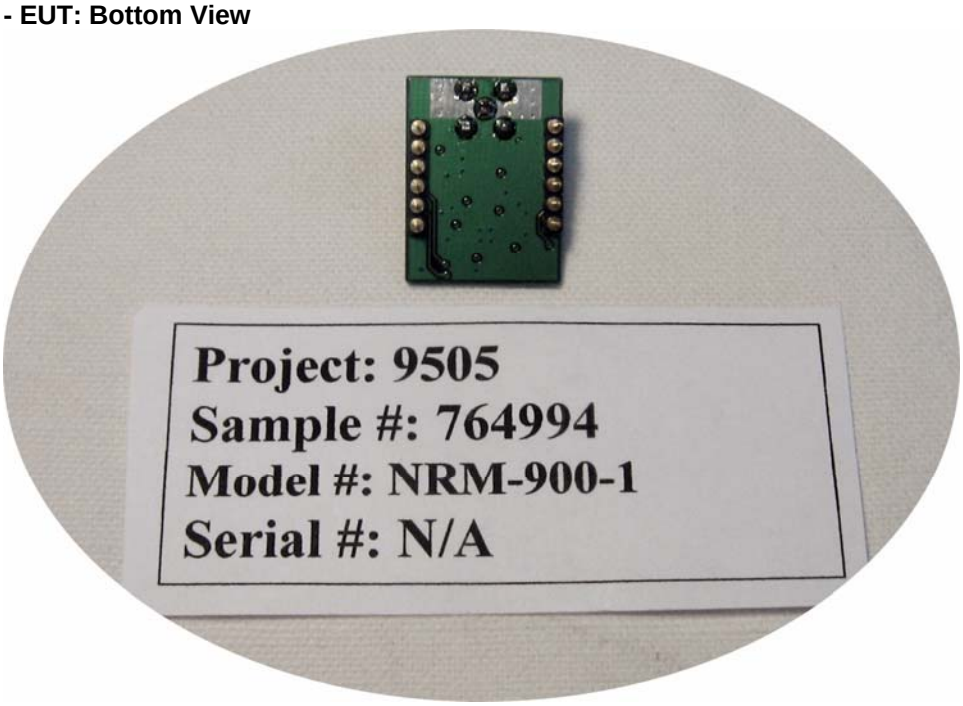
ID No.	Description	Manufacturer	Model	Serial No.	Calibration Date	Calibration Due Date	Calibration Certificate No:	Calibration Laboratory
106	Spectrum Analyzer	HP	8596EM	3536A00113	30-Sep-2008	30-Sep-2009	280731	Wescan
112	GTEM EMC Chamber	Emco	5317	N/A	04-Oct-2005	04-Oct-2010	1000082343	Wescan
124	Pre-Amplifier	Com-Power	PA-103	161118	N/A	N/A	N/A	N/A
141	Pre-Amplifier	RF Bay	LPA-10-10	04521173	N/A	N/A	N/A	N/A
227-1	Biconical Antenna	A.H. Systems	SAS-542	716	29-Apr-2009	29-Apr-2010	10399EE	A.H. Systems
227-3	Horn Antenna	A.H. Systems	SAS-571	936	29-Apr-2009	29-Apr-2010	10399EE	A.H. Systems
228	Humidity/ Temperature Logger	Veriteq	SP-2000-20R	07072157	16-Sep-2008	16-Sep-2009	0133270	Veriteq
233	Coaxial RF Cable	N/A	LCI-001	N/A	N/A	N/A	N/A	N/A
235	Turn table /Tower System	Sunol Sciences Co.	SC104V	031407-1	N/A	N/A	N/A	N/A
N1	Coaxial RF Cable(N(m) to BNC(m))	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N2	Attenuator	Mini-circuits	UNAT-15+	3 0548	N/A	N/A	N/A	N/A

APPENDIX B: EUT Photos

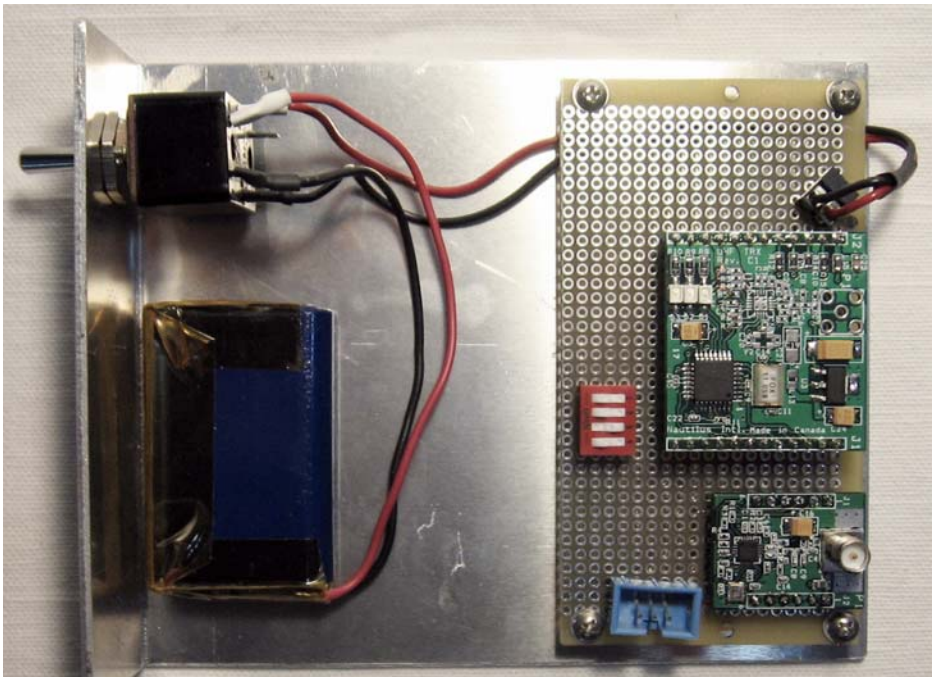
- EUT: Top View



- EUT: Bottom View



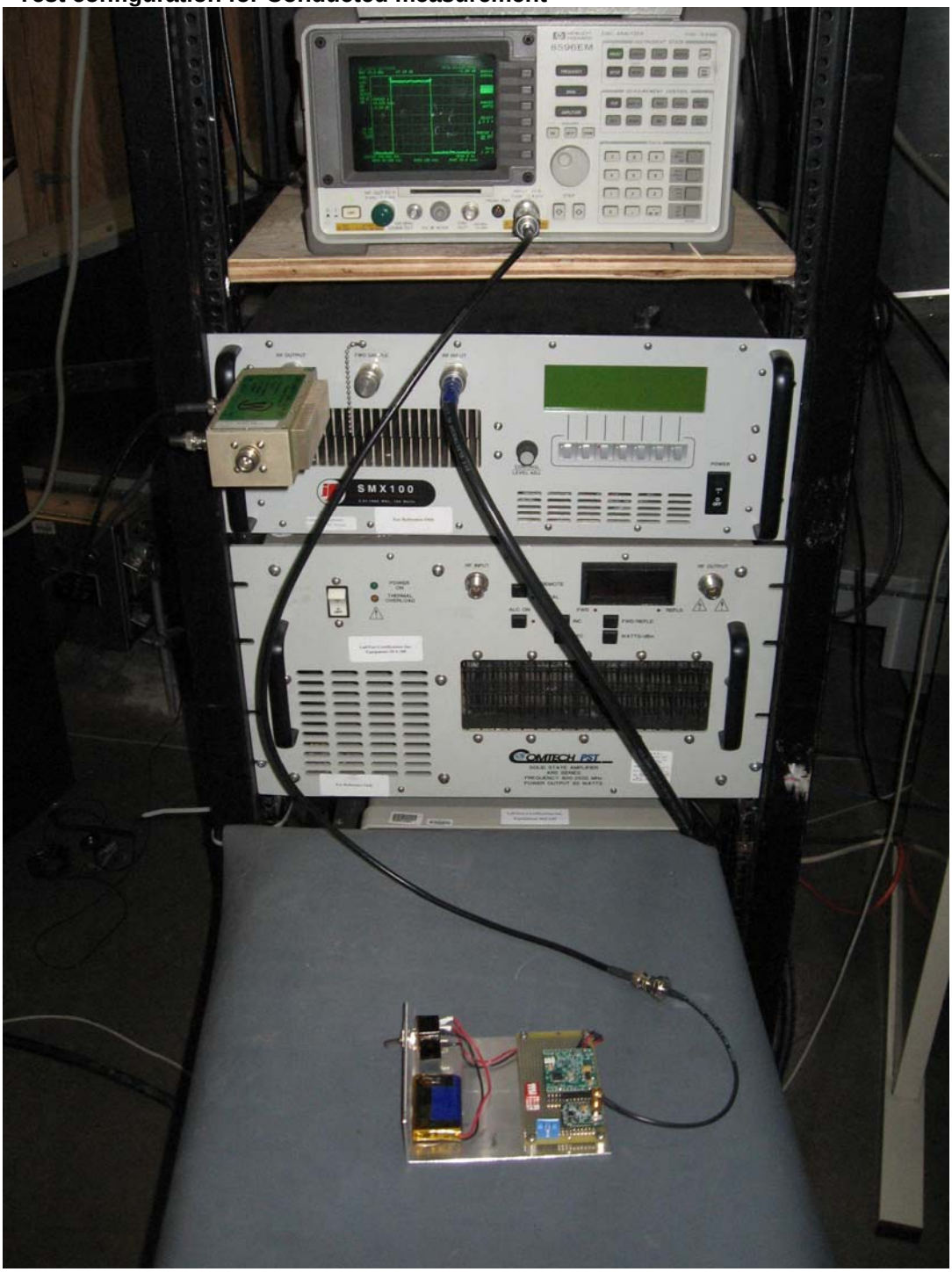
- EUT with Test JIG



- Cable Assay

APPENDIX C: Test setup photos

- Test configuration for Conducted measurement



- Test configuration for Radiated Emission at OATS

END OF REPORT