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Radio Test Report

FCC Part 90 Permissive Change (928 to 930 MHz, 935-940 MHz)

Model: SDM9

COMPANY:	GE MDS LLC 175 Science Parkway Rochester, NY 14620
TEST SITE(S):	National Technical Systems - Silicon Valley 41039 Boyce Road. Fremont, CA. 94538-2435
REPORT DATE:	February 1, 2016
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FINAL TEST DATES:	October 22, 2014, May 18, December 9, 21 and 22, 2015, January 15, 2016
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ACCREDITED
Testing Cert #0214.26

REVISION HISTORY

Rev#	Date	Comments	Modified By
-	February 1, 2016	First release	
1	February 11, 2016	Corrected typographical error in margin for spurious emissions	David Guidotti

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SCOPE

Tests have been performed on the GE MDS LLC model SDM9, pursuant to the relevant requirements of the following standard(s) in order to obtain device certification against the regulatory requirements of the Federal Communications Commission and Industry Canada.

- Code of Federal Regulations (CFR) Title 47 Part 2
- CFR 47 Part 90 (Private Land Mobile Radio Service) Subparts P and S

Conducted and radiated emissions data has been collected, reduced, and analyzed within this report in accordance with measurement guidelines set forth in the following reference standards and as outlined in National Technical Systems - Silicon Valley test procedures:

ANSI C63.4:2014
ANSI TIA-603-D

The intentional radiator above has been tested in a simulated typical installation to demonstrate compliance with the relevant Industry Canada performance and procedural standards.

Every practical effort was made to perform an impartial test using appropriate test equipment of known calibration. All pertinent factors have been applied to reach the determination of compliance.

The test results recorded herein are based on a single type test of the GE MDS LLC model SDM9 and therefore apply only to the tested sample. The sample was selected and prepared by Dennis McCarthy of GE MDS LLC.

OBJECTIVE

The primary objective of the manufacturer is compliance with the regulations outlined in the previous section.

Prior to marketing in the USA, the device requires certification. Prior to marketing in Canada, Class I transmitters, receivers and transceivers require certification.

Certification is a procedure where the manufacturer submits test data and technical information to a certification body and receives a certificate or grant of equipment authorization upon successful completion of the certification body's review of the submitted documents. Once the equipment authorization has been obtained, the label indicating compliance must be attached to all identical units, which are subsequently manufactured.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product which may result in increased emissions should be checked to ensure compliance has been maintained (i.e., printed circuit board layout changes, different line filter, different power supply, harnessing or I/O cable changes, etc.).

STATEMENT OF COMPLIANCE

The tested sample of GE MDS LLC model SDM9 complied with the requirements of the standards and frequency bands declared in the scope of this test report.

Maintenance of compliance is the responsibility of the manufacturer. Any modifications to the product should be assessed to determine their potential impact on the compliance status of the device with respect to the standards detailed in this test report.

DEVIATIONS FROM THE STANDARDS

No deviations were made from the published requirements listed in the scope of this report.

TEST RESULTS

FCC Part 90

FCC		Description	Measured	Limit	Result
Transmitter Modulation, output power and other characteristics					
§2.1033 (c) (5) § 90.35		Frequency range(s)	928-930 MHz & 935-940 MHz	928-930 MHz & 935-940 MHz	Complied
§2.1033 (c) (6) §2.1033 (c) (7) § 2.1046 § 90.205 § 90.635		RF power output at the antenna terminals	40.1 dBm	100 Watts (50 dBm)	Complied
§2.1033 (c) (4) § 2.1047 § 90.210		Emission types	F1D, F2D, F3D	-	-
		Emission mask	Complied with Mask	Within Mask	Complied
§ 2.1049 § 90.209		Occupied Bandwidth	5.76, 10.6 and 15.2 kHz	11.25 & 20 kHz	Complied
Transmitter spurious emissions					
§ 2.1051 § 2.1057		At the antenna terminals	-22.5 dBm @ 947.926 MHz (-2.5 dB)	-20 dBm	Complied
§ 2.1053 § 2.1057		Field strength	-28.7 dBm @ 1038.90 MHz (-8.7 dB)	-20 dBm	Complied
Other details					
§ 2.1055 § 90.213		Frequency stability	0.4 ppm	See Note	See Note
§ 2.1093		RF Exposure	See separate MPE exhibit		Complied
§2.1033 (c) (8)		Final radio frequency amplifying circuit's dc voltages and currents for normal operation over the power range	15Vdc, 3A		
-	-	Antenna Gain	Up to 9.15 dBi		

Notes
Frequency Stability was not re-measured for this Permissive Change. The measured value is from the original test results submitted for Parts 24 and 101 operations. Refer to separate GE MDS LLC attestation concerning frequency stability for Part 90 operation.

MEASUREMENT UNCERTAINTIES

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2) and were calculated in accordance with NAMAS document NIS 81 and M3003.

Measurement Type	Measurement Unit	Frequency Range	Expanded Uncertainty
RF frequency	Hz	25 to 7,000 MHz	1.7×10^{-7}
RF power, conducted	dBm	25 to 7,000 MHz	± 0.52 dB
Conducted emission of transmitter	dBm	25 to 40,000 MHz	± 0.7 dB
Conducted emission of receiver	dBm	25 to 40,000 MHz	± 0.7 dB
Radiated emission (substitution method)	dBm	25 to 40,000 MHz	± 2.5 dB
Radiated emission (field strength)	dBμV/m	25 to 1,000 MHz 1 to 40 GHz	± 3.6 dB ± 6.0 dB

EQUIPMENT UNDER TEST (EUT) DETAILS

GENERAL

The GE MDS LLC model SDM9 is a radio module that is designed to be used in a GE MDS LLC Orbit Master Station Chassis. It operates in "900 MHz" bands. The EUT was treated as tabletop equipment during testing to simulate the end-user environment. The electrical rating of the EUT is 24 Volts DC, 2.5 Amps.

The sample was received on October 22, 2015 and tested on October 22, 2014, May 18, December 9, 21 and 22, 2015, January 15, 2016. The EUT consisted of the following component(s):

Company	Model	Description	Serial Number	FCC ID
GE MDS LLC	SDM9	Orbit Radio Module	2519103	E5MDS-SDM9 IC ID: 101D-SDM9

OTHER EUT DETAILS

The following EUT details should be noted: The EUT is designed to be installed in an Orbit Master Station Chassis. The device is currently FCC Certified for operation in 900 MHz band per FCC Rule Part 24 and 101. This permissive change is to add operation per FCC Rule part 90.

ENCLOSURE

The EUT has no enclosure. It is designed to be installed within the enclosure of an Orbit Master Station.

MODIFICATIONS

The EUT required the following modifications in order to comply with the emission specifications.

Mod. #	Test	Date	Modification
1	RE Spurious	12/9/2015	The PA matching passive components were changed so that there is a better 50 impedance match between the input driver and the output LPF and directional coupler. The matching slightly affects RF power, but it makes it more efficient and the feedback control loop maintains the power at the controlled level. Therefore, the RF output power is still 10W. The output impedance matching maximizes the power transfer and minimizes the signal reflection from the load, which in this case was the PA input and PA output LPF. This matching does not affect the TX masks, the modem and modulator are exactly the same and the occupied BW and masks do not change. The modem modulation comes from the Modulator and DSP's.

SUPPORT EQUIPMENT

The following equipment was used as support equipment for testing:

Company	Model	Description	Serial Number	FCC ID
Power Designs	6150D	Power Supply	2884	

The following equipment was used as remote support equipment for emissions testing:

Company	Model	Description	Serial Number	FCC ID
HP	HP Pavilion dv6000	Laptop	CNF73411TR	

EUT INTERFACE PORTS

The I/O cabling configuration during testing was as follows:

Port	Connected To	Cable(s)		
		Description	Shielded or Unshielded	Length(m)
Tx	Attenuator	Coax	Shielded	0.3
Rx	Un-terminated	Coax	Shielded	0.3
Fixture DC	Power Supply	Two wire	Unshielded	1.3
Fixture Serial	Laptop	Multiwire	Shielded	2

Note: The serial cable and laptop were disconnected after programming the radio during radiated testing.

EUT OPERATION

During emissions testing the EUT was configured to transmit continuously on the selected frequency and modulation at rated power.

TESTING

GENERAL INFORMATION

Antenna port measurements were taken at the National Technical Systems - Silicon Valley test site located at 41039 Boyce Road, Fremont, CA 94538-2435.

Radiated spurious emissions measurements were taken at the National Technical Systems - Silicon Valley Anechoic Chambers and/or Open Area Test Site(s) listed below. The sites conform to the requirements of ANSI C63.4: 2014 *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* and CISPR 16-1-4:2007 - *Specification for radio disturbance and immunity measuring apparatus and methods Part 1-4: Radio disturbance and immunity measuring apparatus Ancillary equipment Radiated disturbances*. They are on file with the FCC and industry Canada.

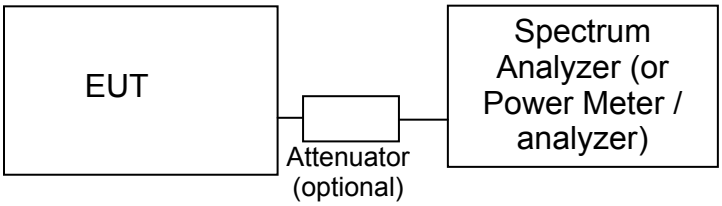
Site	Designation / Registration Numbers		Location
	FCC	Canada	
Chamber 5	US0027	IC 2845B-5	41039 Boyce Road Fremont, CA 94538-2435

In the case of Open Area Test Sites, ambient levels are at least 6 dB below the specification limits with the exception of predictable local TV, radio, and mobile communications traffic.

Considerable engineering effort has been expended to ensure that the facilities conform to all pertinent requirements.

RF PORT MEASUREMENT PROCEDURES

Conducted measurements are performed with the EUT's rf input/output connected to the input of a spectrum analyzer, power meter or modulation analyzer. When required an attenuator, filter and/or dc block is placed between the EUT and the spectrum analyzer to avoid overloading the front end of the measurement device. Measurements are corrected for the insertion loss of the attenuators and cables inserted between the rf port of the EUT and the measurement equipment.



Test Configuration for Antenna Port Measurements

For devices with an integral antenna the output power and spurious emissions are measured as a field strength at a test distance of (typically) 3m and then converted to an eirp using a substitution measurement (refer to RADIATED EMISSIONS MEASUREMENTS). All other measurements are made as detailed below but with the test equipment connected to a measurement antenna directed at the EUT.

OUTPUT POWER

Output power is measured using a power meter and an average sensor head, a spectrum analyzer or a power meter and peak power sensor head as required by the relevant rule part(s). Where necessary measurements are gated to ensure power is only measured over periods that the device is transmitting.

Power measurements made directly on the rf power port are, when appropriate, converted to an EIRP by adding the gain of the highest gain antenna that can be used with the device under test, as specified by the manufacturer.

BANDWIDTH MEASUREMENTS

The 6dB, 20dB and/or 26dB signal bandwidth is measured in using the bandwidths recommended by ANSI C63.4. When required, the 99% bandwidth is measured using the methods detailed in RSS-GEN. The measurement bandwidth is set to be at least 1% of the instrument's frequency span.

CONDUCTED SPURIOUS EMISSIONS

Initial scans are made using a peak detector (RBW=VBW) and using scan rates to ensure that the EUT transmits before the sweep moves out of each resolution bandwidth (for transmit mode measurements). Where the limits are expressed as an average power the spectrum analyzer is tunes to that frequency with a narrow span (wide enough to capture the emission and its sidebands) and the resolution and video bandwidths are adjusted as required by the reference measurement standards. For transmitter measurements the appropriate detector (average, peak, normal ,sample, quasi-peak) is used when making measurements for licensed devices. For receiver conducted spurious measurements the detector is set to peak.

TRANSMITTER MASK MEASUREMENTS

The transmitter mask measurements are made using resolution bandwidths as specified in the pertinent rule part(s). Where narrower bandwidths are used the measurement is corrected to account for the reduced bandwidth by either using the adjacent channel power function of the spectrum analyzer to sum the power across the required measurement bandwidth. The frequency span of the analyzer is set to ensure the fundamental signal and all significant sidebands are displayed.

The top of the mask may be set by the total output power of the signal, the power of the unmodulated signal or the peak value of the signal in the reference bandwidth being used for the mask measurement.

RADIATED EMISSIONS MEASUREMENTS

Transmitter radiated spurious emissions are initially measured as a field strength. The eirp or erp limit as specified in the relevant rule part(s) is converted to a field strength at the test distance and the emissions from the EUT are then compared to that limit. Emissions within 20dB of this limit are the subjected to a substitution measurement.

All radiated emissions measurements are performed in two phases. A preliminary scan of emissions is conducted in either an anechoic chamber or on an OATS during which all significant EUT frequencies are identified with the system in a nominal configuration. At least two scans are performed across the complete frequency range of interest and at each operating frequency identified in the reference standard. One or more of these is with the antenna polarized vertically while the one or more of these is with the antenna polarized horizontally. Initial scans are made using a peak detector (RBW=VBW) and using scan rates to ensure that the EUT transmits before the sweep moves out of each resolution bandwidth (for transmit mode).

During the preliminary scans, the EUT is rotated through 360°, the antenna height is varied and cable positions are varied to determine the highest emission relative to the limit. For transmitter spurious emissions, where the limit is expressed as an effective radiated power, the eirp or erp is converted to a field strength limit.

Final measurements are made on an OATS or in a semi-anechoic chamber at the significant frequencies observed during the preliminary scan(s) using the same process of rotating the EUT and raising/lowering the measurement antenna to find the highest level of the emission. The field strength is recorded and, for receiver spurious emissions, compared to the field strength limit. For the final measurement the appropriate detectors (average, peak, normal, sample, quasi-peak) are used. For receiver measurements below 1GHz the detector is a Quasi-Peak detector, above 1GHz a peak detector is used and the peak value (RB=VB=1MHz) and average value (RB=1MHz, VB=10Hz) are recorded.

For transmitter spurious emissions, the radiated power of all emissions within 20dB of the calculated field strength limit are determined using a substitution measurement. The substitution measurement is made by replacing the EUT with an antenna of known gain (typically a dipole antenna or a double-ridged horn antenna), connected to a signal source. The output power of the signal generator is adjusted until the maximum field strength from the substitution antenna is similar to the field strength recorded from the EUT. The erp of the EUT is then calculated.

INSTRUMENTATION

An EMI receiver as specified in CISPR 16-1-1 is used for radiated emissions measurements. The receivers used can measure over the frequency range of 9 kHz up to 7000 MHz. These receivers allow both ease of measurement and high accuracy to be achieved. The receivers have Peak, Average, and CISPR (Quasi-peak) detectors built into their design so no external adapters are necessary.

For measurements above the frequency range of the receivers and for all conducted measurements a spectrum analyzer is utilized because it provides visibility of the entire spectrum along with the precision and versatility required to support engineering analysis.

Measurement bandwidths for the test instruments are set in accordance with the requirements of the standards referenced in this document.

Software control is used to correct the measurements for transducer factors (e.g. antenna) and the insertion loss of cables, attenuators and other series elements to obtain the final measurement value. This provides faster, more accurate readings by performing the conversions described under Sample Calculations within the Test Procedures section of this report. Results are exported in a graphic and/or tabular format, as appropriate.

FILTERS/ATTENUATORS

External filters and precision attenuators are often connected between the EUT antenna port or receiving antenna and the test receiver. This eliminates saturation effects and non-linear operation due to high amplitude transient events.

ANTENNAS

A combination of biconical, log periodic or bi-log antennas are used to cover the range from 30 MHz to 1000 MHz. Broadband antennas or tuned dipole antennas are used over the entire 25 to 1000 MHz frequency range as the reference antenna for substitution measurements.

Above 1000 MHz, a dual-ridge guide horn antenna or octave horn antenna are used as reference and measurement antennas.

The antenna calibration factors are included in site factors that are programmed into the test receivers and instrument control software when measuring the radiated field strength.

ANTENNA MAST AND EQUIPMENT TURNTABLE

The antennas used to measure the radiated electric field strength are mounted on a non-conductive antenna mast equipped with a motor-drive to vary the antenna height.

Table mounted devices are placed on a non-conductive table at a height of 80 centimeters above the floor. Floor mounted equipment is placed on the ground plane if the device is normally used on a conductive floor or separated from the ground plane by insulating material from 3 to 12 mm if the device is normally used on a non-conductive floor. The EUT is positioned on a motorized turntable to allow it to be rotated during testing to determine the angel with the highest level of emissions.

SAMPLE CALCULATIONS

SAMPLE CALCULATIONS - CONDUCTED SPURIOUS EMISSIONS

Measurements are compared directly to the conducted emissions specification limit (decibel form). The calculation is as follows:

$$R_r - S = M$$

where:

R_r = Measured value in dBm
S = Specification Limit in dBm
M = Margin to Specification in +/- dB

SAMPLE CALCULATIONS –RADIATED FIELD STRENGTH

Measurements of radiated field strength are compared directly to the specification limit (decibel form). The receiver and/or control software corrects for cable loss, preamplifier gain, and antenna factor. The calculations are in the reverse direction of the actual signal flow, thus cable loss is added and the amplifier gain is subtracted. The Antenna Factor converts the voltage at the antenna coaxial connector to the field strength at the antenna elements.

A distance factor is sued when measurements are made at a test distance that is different to the specified limit distance by using the following formula:

$$F_d = 20*LOG_{10} (D_m/D_s)$$

where:

F_d = Distance Factor in dB
D_m = Measurement Distance in meters
D_s = Specification Distance in meters

For electric field measurements below 30MHz the extrapolation factor is either determined by making measurements at multiple distances or a theoretical value is calculated using the formula:

$$F_d = 40*LOG_{10} (D_m/D_s)$$

The margin of a given emission peak relative to the limit is calculated as follows:

$$R_c = R_r + F_d$$

and

$$M = R_c - L_s$$

where:

R_r = Receiver Reading in dBuV/m

F_d = Distance Factor in dB

R_c = Corrected Reading in dBuV/m

L_s = Specification Limit in dBuV/m

M = Margin in dB Relative to Spec

SAMPLE CALCULATIONS –RADIATED POWER

The erp/eirp limits for transmitter spurious measurements are converted to a field strength in free space using the following formula:

$$E = \frac{\sqrt{30\ P\ G}}{d}$$

where:

E = Field Strength in V/m
P = Power in Watts
G = Gain of isotropic antenna (numeric gain) = 1
D = measurement distance in meters

The field strength limit is then converted to decibel form (dBuV/m) and the margin of a given emission peak relative to the limit is calculated (refer to *SAMPLE CALCULATIONS –RADIATED FIELD STRENGTH*).

When substitution measurements are required (all signals with less than 20dB of margin relative to the calculated field strength limit) the eirp of the spurious emission is calculated using:

$$P_{EUT} = P_S - (E_S - E_{EUT})$$

and

$$P_S = G + P_{in}$$

where:

P_S = effective isotropic radiated power of the substitution antenna (dBm)
P_{in} = power input to the substitution antenna (dBm)
G = gain of the substitution antenna (dBi)
E_S = field strength the substitution antenna (dBm) at eirp P_S
E_{EUT} = field strength measured from the EUT

Where necessary the effective isotropic radiated power is converted to effective radiated power by subtracting the gain of a dipole (2.2dBi) from the eirp value.

Appendix A Test Equipment Calibration Data

Manufacturer	Description	Model	Asset #	Calibrated	Cal Due
Radio Antenna Port (Power and Spurious Emissions), 22-Oct-14					
Agilent Technologies	3Hz -44GHz PSA Spectrum Analyzer	E4446A	2796	2/6/2015	
Radiated Emissions, 30 - 10,000 MHz, 18-May-15					
EMCO	Antenna, Horn, 1-18 GHz	3115	786	12/20/2013	12/20/2015
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	870	2/20/2015	2/20/2016
Hewlett Packard	SpecAn 30 Hz -40 GHz, SV (SA40) Red	8564E (84125C)	1148	9/20/2014	9/20/2015
Sunol Sciences	Biconilog, 30-3000 MHz	JB3	1549	5/30/2013	5/30/2015
Bird Technologies	Attenuator, 30 dB, 500 W	500-WA-FFN-30	1597	1/19/2015	1/19/2016
Hewlett Packard	High Pass filter, 1.5 GHz (Purple System)	P/N 84300-80037	1769	11/14/2014	11/14/2015
Com-Power	Preamplifier, 30-1000 MHz	PA-103A	2359	12/22/2014	12/22/2015
Rohde & Schwarz	EMI Test Receiver, 20 Hz-40 GHz	ESIB40 (1088.7490.40)	2493	1/23/2015	1/23/2016
Radiated Emissions, 1,000 - 10,000 MHz, 09-Dec-15					
EMCO	Antenna, Horn, 1-18GHz	3115	868	6/26/2014	6/26/2016
Hewlett Packard	High Pass filter, 1.5 GHz (Purple System)	P/N 84300-80037	1769	11/3/2015	11/3/2016
A. H. Systems	Spare System Horn, 18-40GHz	SAS-574, p/n: 2581	2162	7/29/2015	7/29/2017
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	2199	10/9/2015	10/9/2016
Hewlett Packard	Spectrum Analyzer (SA40) Purple 9 kHz - 40 GHz,	8564E (84125C)	2415	3/7/2015	3/7/2016
Radiated Emissions, 1,000 - 10,000 MHz, 21-Dec-15					
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	263	3/26/2015	3/26/2016
Hewlett Packard	Spectrum Analyzer (Spare SA26) 9 KHz-26.5 GHz, Non-Program	8563E	284	3/14/2015	3/14/2016
EMCO	Antenna, Horn, 1-18GHz	3115	868	6/26/2014	6/26/2016
Hewlett Packard	High Pass filter, 1.5 GHz (Purple System)	P/N 84300-80037	1769	11/3/2015	11/3/2016
Antenna port measurements, 22-Dec-15					
Fluke	Mulitmeter, True RMS	111	1480	3/30/2015	3/30/2016
Agilent Technologies	PSA, Spectrum Analyzer, (installed options, 111, 115, 123, 1DS, B7J, HYX,	E4446A	2139	6/22/2015	6/22/2016
Radiated Emissions and Substitution Measurements, 1,000 - 10,000 MHz, 22-Dec-15					
NTS	NTS EMI Software (rev 2.10)	N/A	0		N/A
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	263	3/26/2015	3/26/2016
Hewlett Packard	Spectrum Analyzer (Spare SA26) 9 KHz-26.5 GHz, Non-Program	8563E	284	3/14/2015	3/14/2016

Manufacturer	Description	Model	Asset #	Calibrated	Cal Due
EMCO	Antenna, Horn, 1-18GHz	3115	868	6/26/2014	6/26/2016
Rohde & Schwarz	Power Meter, Dual Channel	NRVD	1071	3/26/2015	3/26/2016
EMCO	Antenna, Horn, 1-18 GHz	3115	1242	3/24/2015	3/24/2017
Hewlett Packard	High Pass filter, 1.5 GHz (Purple System)	P/N 84300-80037	1769	11/3/2015	11/3/2016
Agilent Technologies	PSG, Vector Signal Generator, (250kHz - 20MHz)	E8267D	3011	1/8/2015	1/8/2016
Rohde & Schwarz	Peak Power Sensor 100 uW - 2 Watts use with 20dB attenuator sn:1031.6959.00 only	NRV-Z32	3225	9/24/2015	9/24/2016
Radio Antenna Port (Mask), 15-Jan-16					
Agilent Technologies	PSA, Spectrum Analyzer, (installed options, 111, 115, 123, 1DS, B7J, HYX,	E4446A	2139	6/22/2015	6/22/2016

Appendix B Test Data

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Client:	GE MDS LLC	Job Number:	J96452
Product	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	
Emissions Standard(s):	FCC Part 24 and 90, RSS-119	Class:	-
Immunity Standard(s):	-	Environment:	Radio

EMC Test Data

For The

GE MDS LLC

Product

SDM9

Date of Last Test: 1/15/2016

Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	N/A

RSS-119 and FCC Part 90

Power, Occupied Bandwidth, Frequency Stability and Spurious Emissions

Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

General Test Configuration

With the exception of the radiated spurious emissions tests, all measurements are made with the EUT's rf port connected to the measurement instrument via an attenuator or dc-block if necessary. All amplitude measurements are adjusted to account for the attenuation between EUT and measuring instrument. For frequency stability measurements the EUT was place inside an environmental chamber.

Radiated measurements are made with the EUT located on a non-conductive table, 3m from the measurement antenna.

Ambient Conditions:

Temperature: 20-22 °C

Rel. Humidity: 35-38 %

Summary of Results

Run #			Test Performed	Limit	Pass / Fail	Result / Margin
1			Output Power	Depends on license	Pass	40.1 dBm
2			Spectral Mask	varies with modulation	Pass	Complied with Mask
3			99% or Occupied Bandwidth	varies with modulation	-	See below

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	N/A

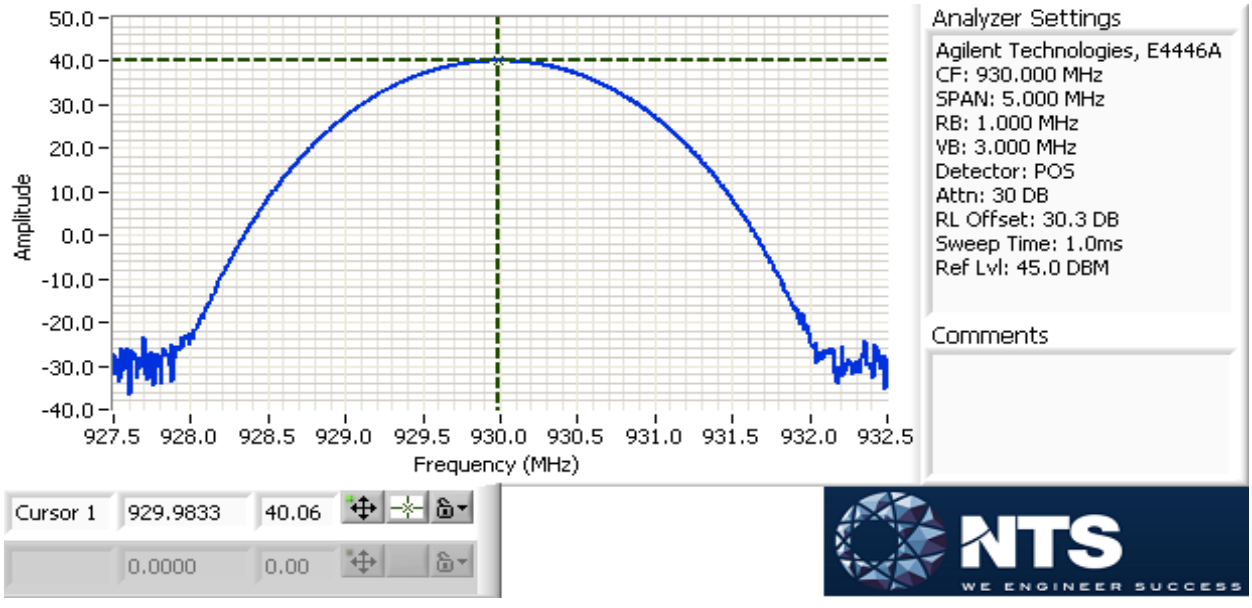
Run #1: Output Power

Date of Test: 10/22/2014 Config. Used: 1
Test Engineer: Jack Liu Config Change: None
Test Location: Fremont Lab 4B EUT Voltage: 24VDC

Cable Loss: 0.3 dB Attenuator: 30.0 dB Total Loss: 30.3 dB
Cable ID(s): EL119 Attenuator IDs: 1878+2098

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	W
38	928	40.1	10.1
38	930	40.1	10.1
38	935	40.0	10.1
39	940	40.0	10.0

Note 1:	Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, Peak detector
Note 2:	Power setting - the software power setting used during testing, included for reference only.



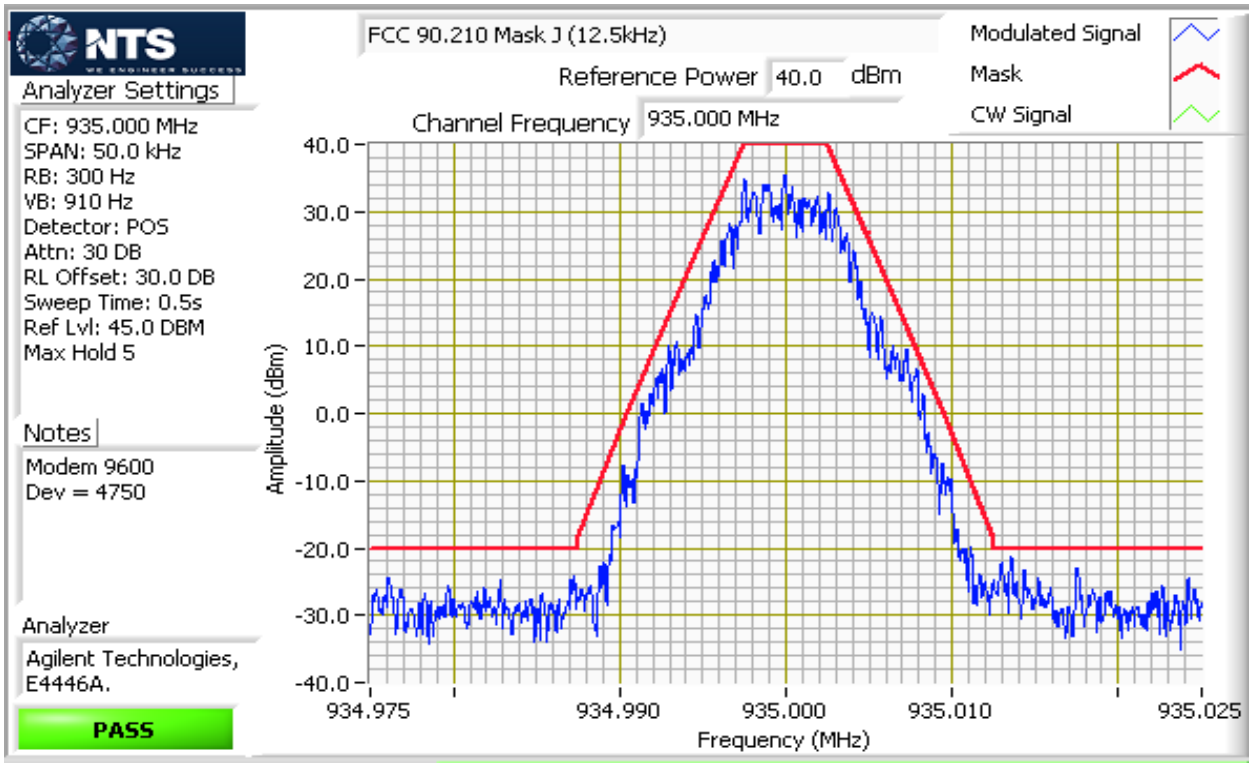
Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	N/A

Run #2: Spectral Mask, FCC Part 90 Masks G & J, RSS-119 Mask G & J

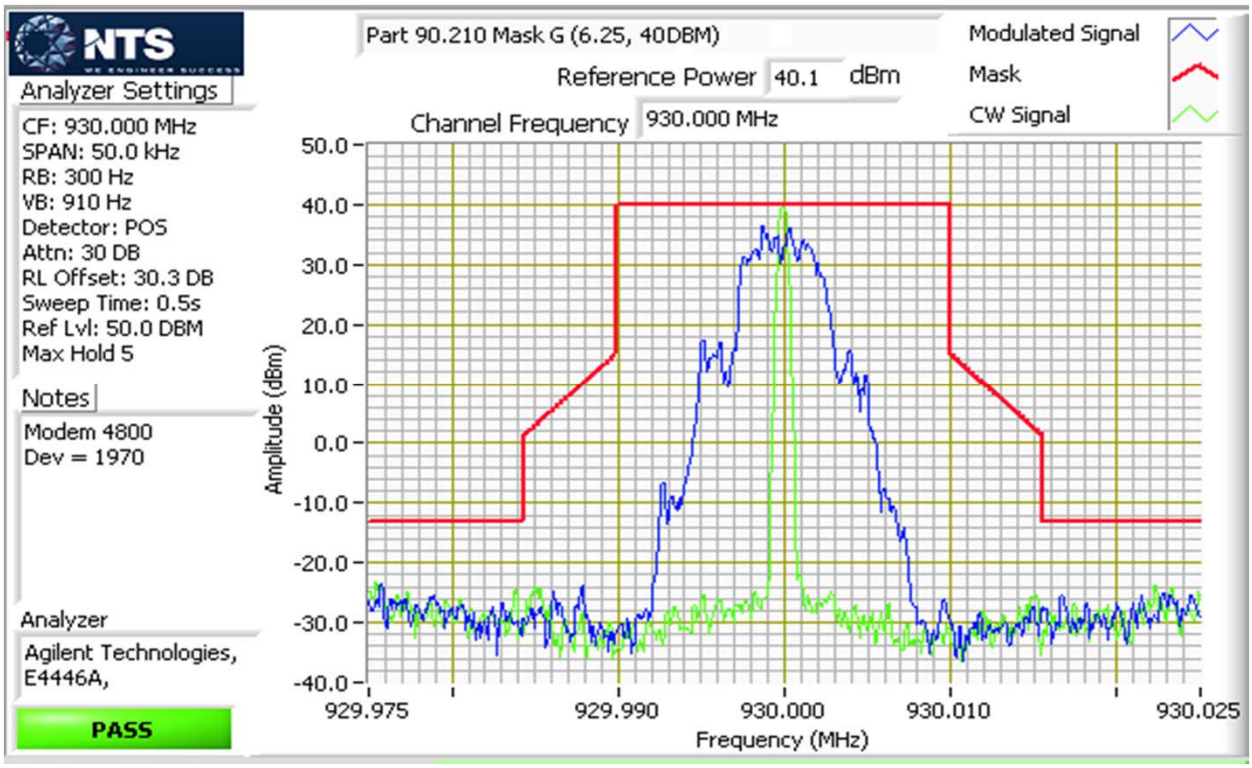
Date of Test: 10/22/2014 & 1/15/2016 Config. Used: 1
Test Engineer: Jack Liu & David Bare Config Change: None
Test Location: Fremont Lab 4B EUT Voltage: 24VDC

RSS-119 Masks
935-940 MHz J(12.5 kHz), G(25 kHz)

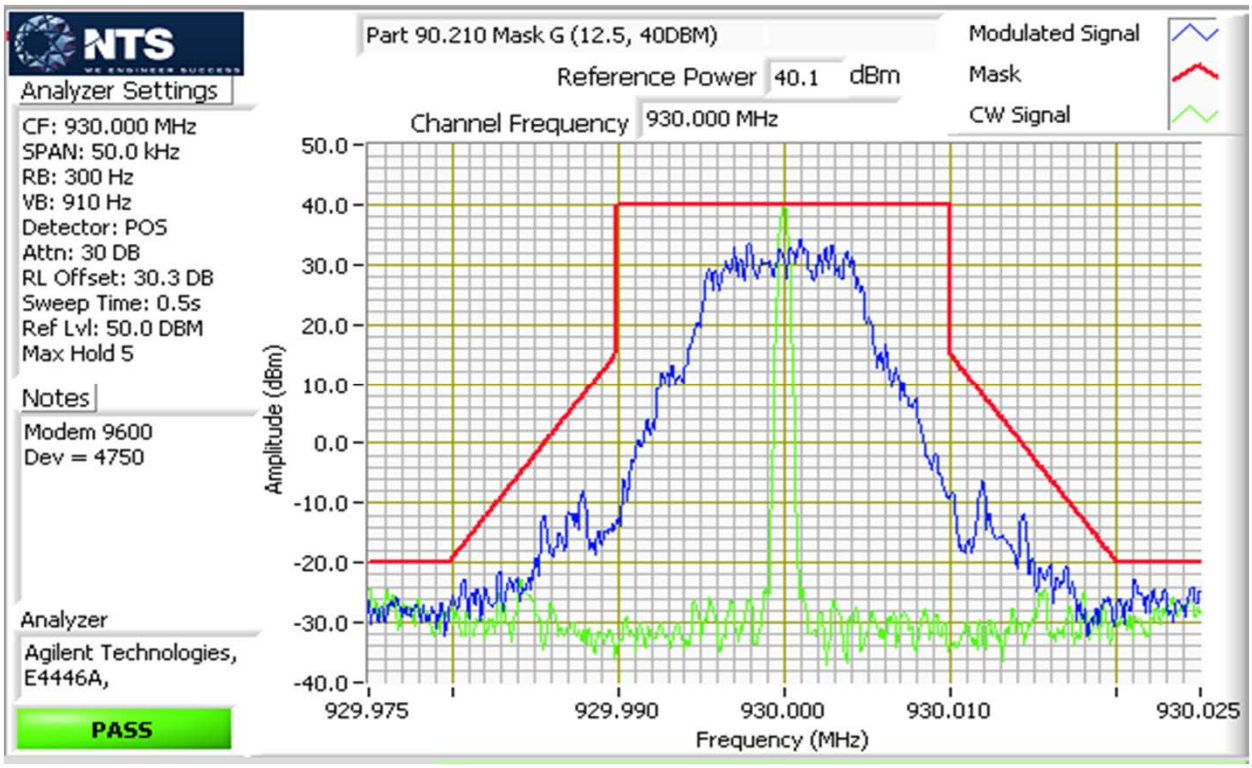
FCC Part 90 Masks
935–940 J (12.5 kHz)
928–930 G (6.25, 12.5 & 25 kHz)



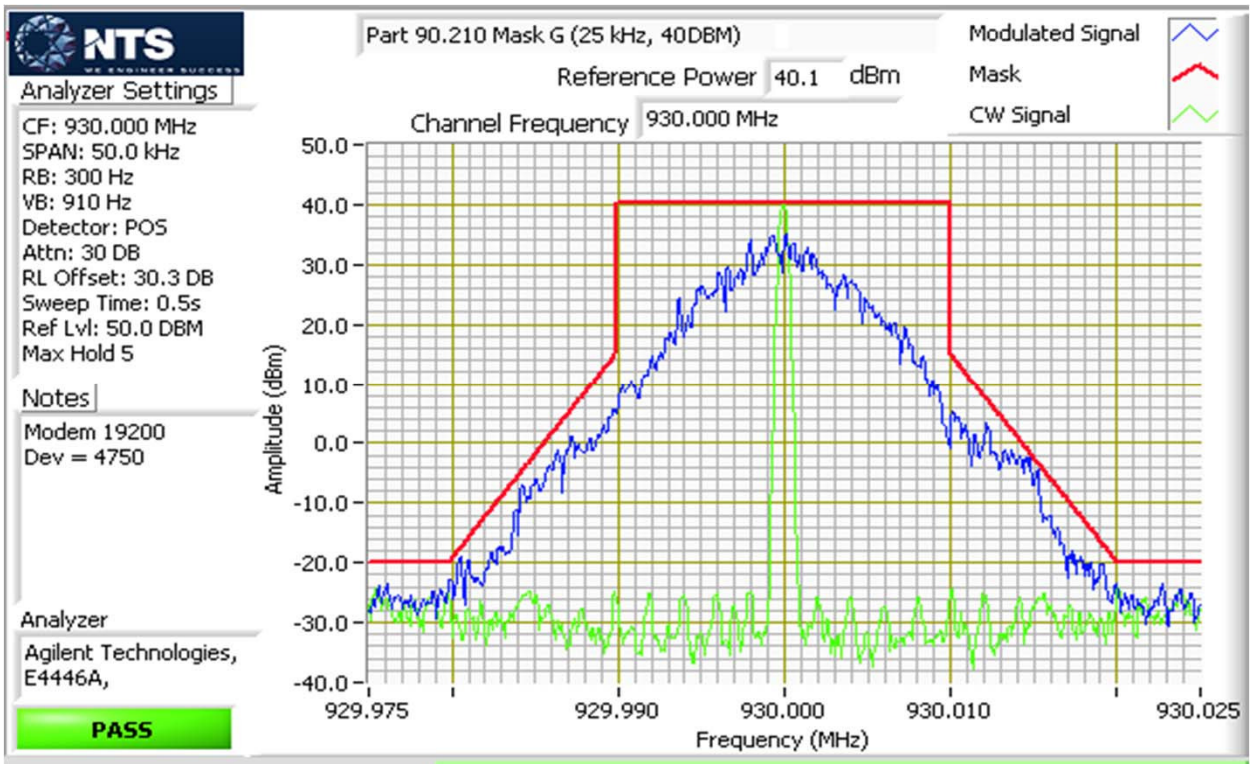
Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	N/A



Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	N/A



Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	N/A



Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	N/A

Run #3: Signal Bandwidth

Date of Test: 12/16/13, 10/22/14 — Config. Used: 1
Test Engineer: Jack Liu — Config Change: None
Test Location: Fremont Lab 4A /4B — EUT Voltage: 24VDC

6.25kHz Modem 4800 Deviation 1970

Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (kHz) 26dB	99%
40	930	240Hz		5.76

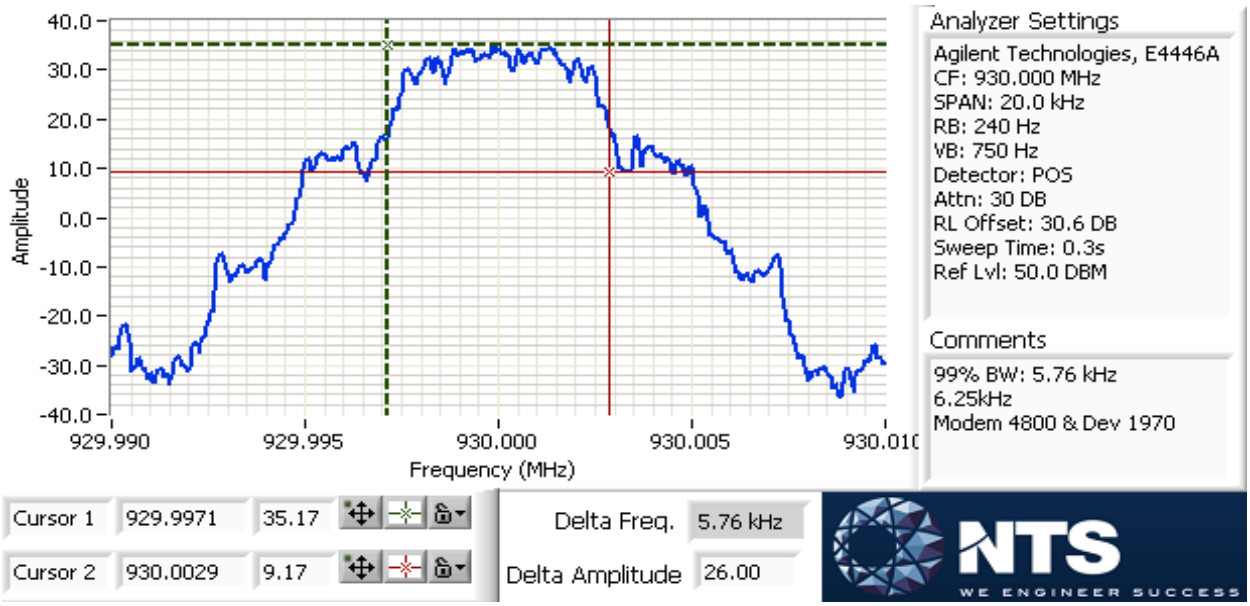
12.5kHz Modem 9600 Deviation 4750

Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (kHz) 26dB	99%
40	930	470Hz		10.6

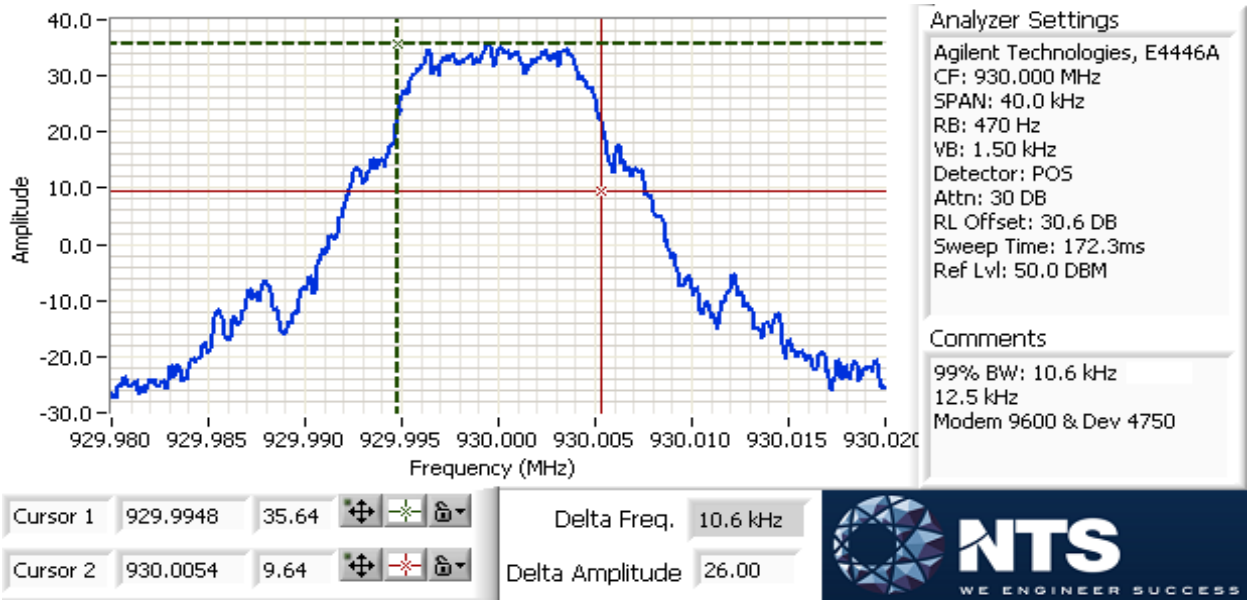
25kHz Modem 19200 Deviation 4750

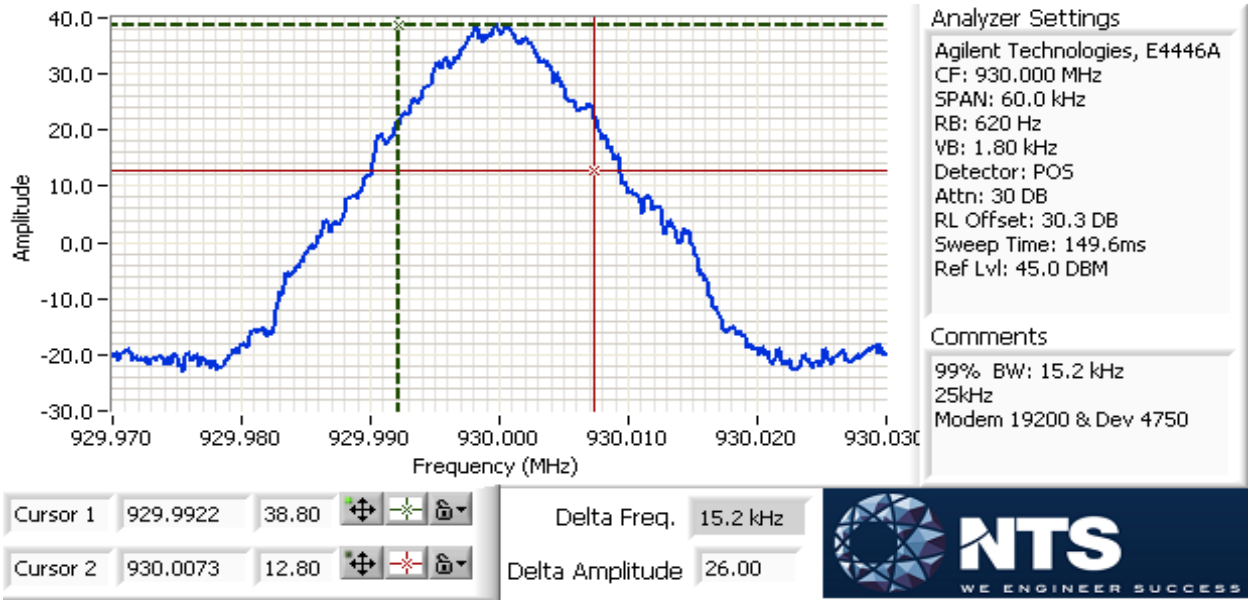
Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (kHz) 26dB	99%
40	930	620Hz		15.2

Note 1: 99% bandwidth measured in accordance with RSS GEN, with RB > 1% of the span and VB > 3xRB



Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	N/A





Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-

RSS-119 and FCC Part 90
Spurious Emissions

Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 12/22/2015
Test Engineer: D. Demirci
Test Location: Lab #4b

Config. Used: 1
Config Change: None
EUT Voltage: 24 Vdc

Ambient Conditions:

Temperature: 18-20 °C
Rel. Humidity: 30-35 %

Summary of Results

Run #	Test Performed	Limit	Result	Margin
1	Transmitter Conducted Spurious Emissions, 30 - 10,000 MHz	FCC part 90 (-20 dBm)	Pass	-22.5 dBm @ 947.926 MHz (-2.5 dB)

Modifications Made During Testing

No modifications were made from the requirements of the standard.

Deviations From The Standard

No deviations were made from the requirements of the standard.

Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-

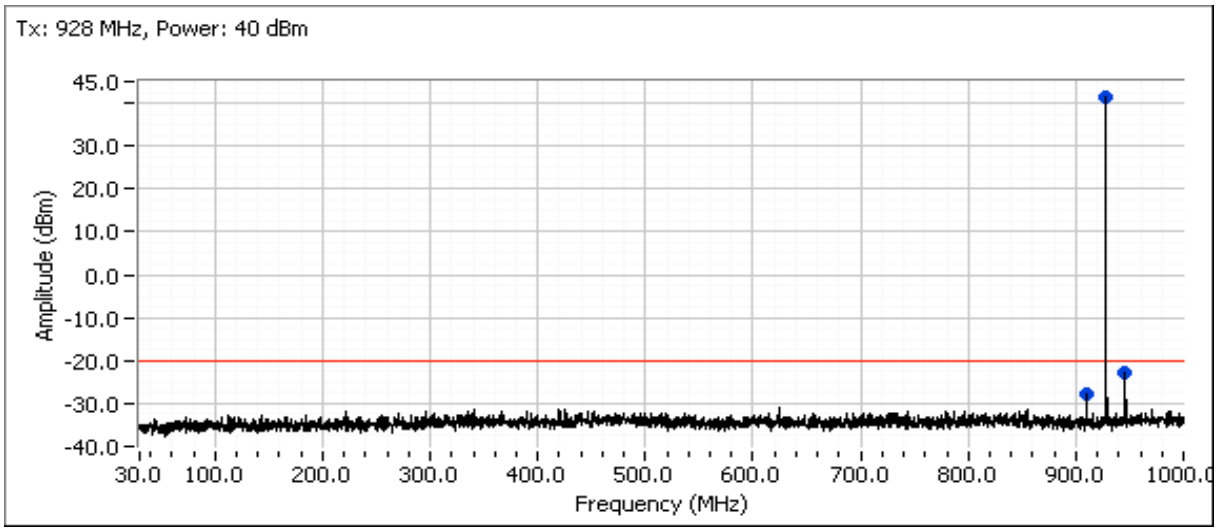
Run #1: Out of Band Spurious Emissions, Conducted

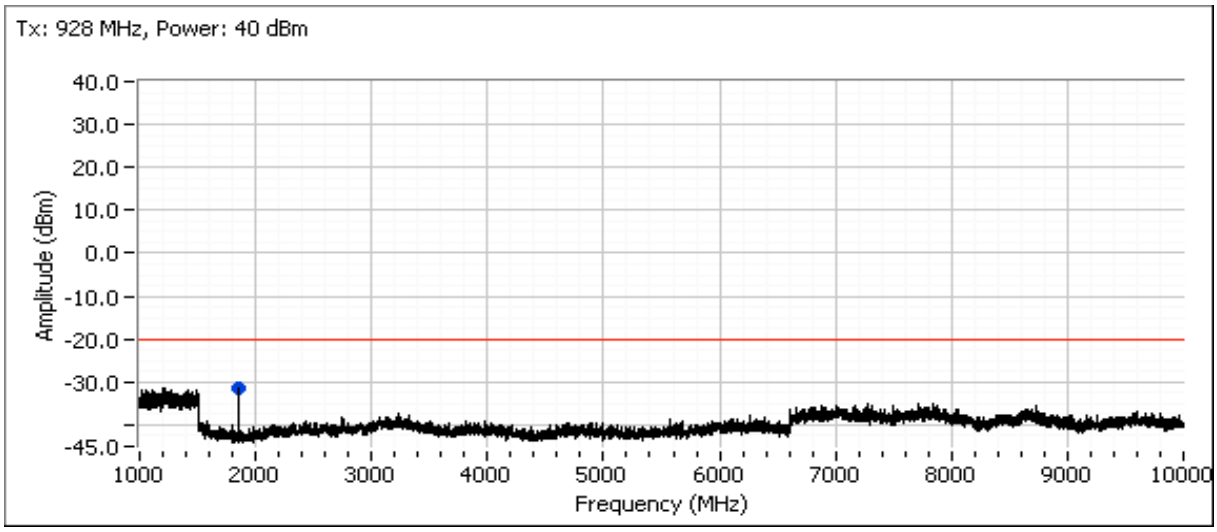
Conducted limit (dBm): -20 Low Channels = 896, 928 and 935 MHz

Approximate field strength limit @ 3m: 75.3 High Channels = 901, 930 and 940 MHz

The limit is taken from FCC Part 90 Mask J

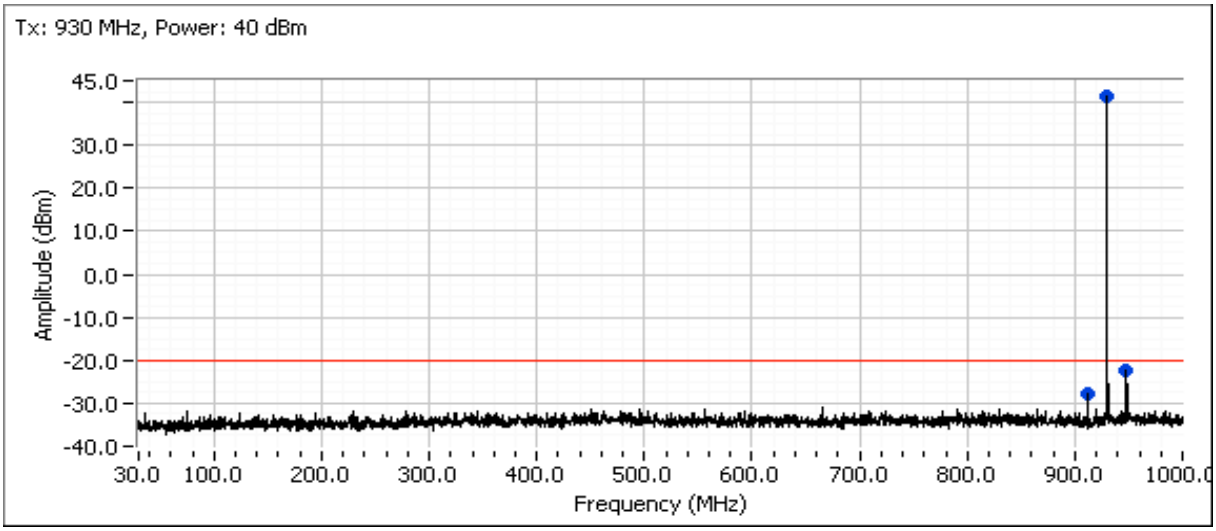
Plots for low channel (928 MHz), power setting(s) = 40 dBm

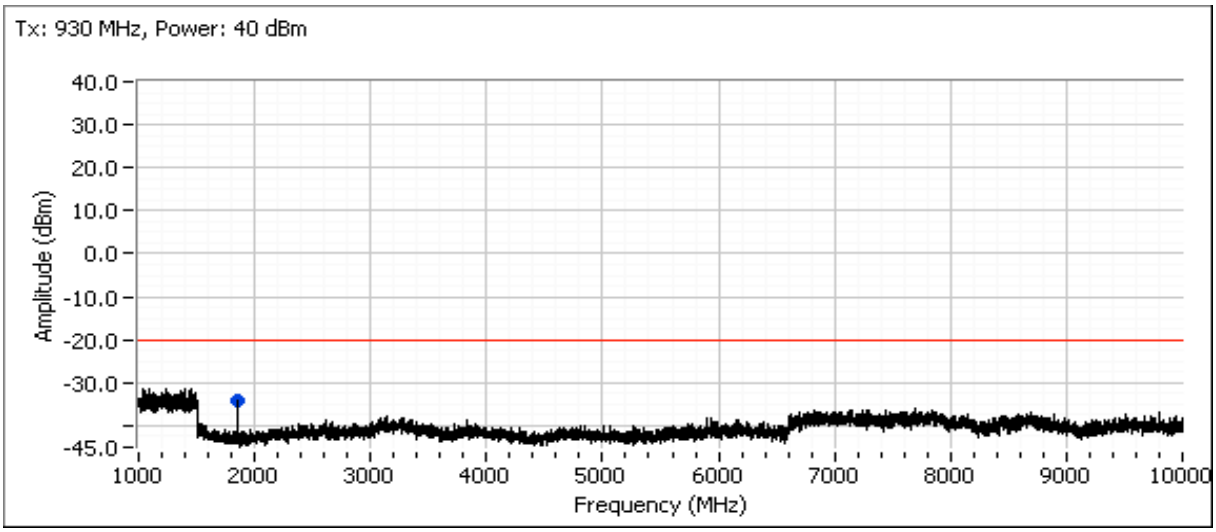




Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-

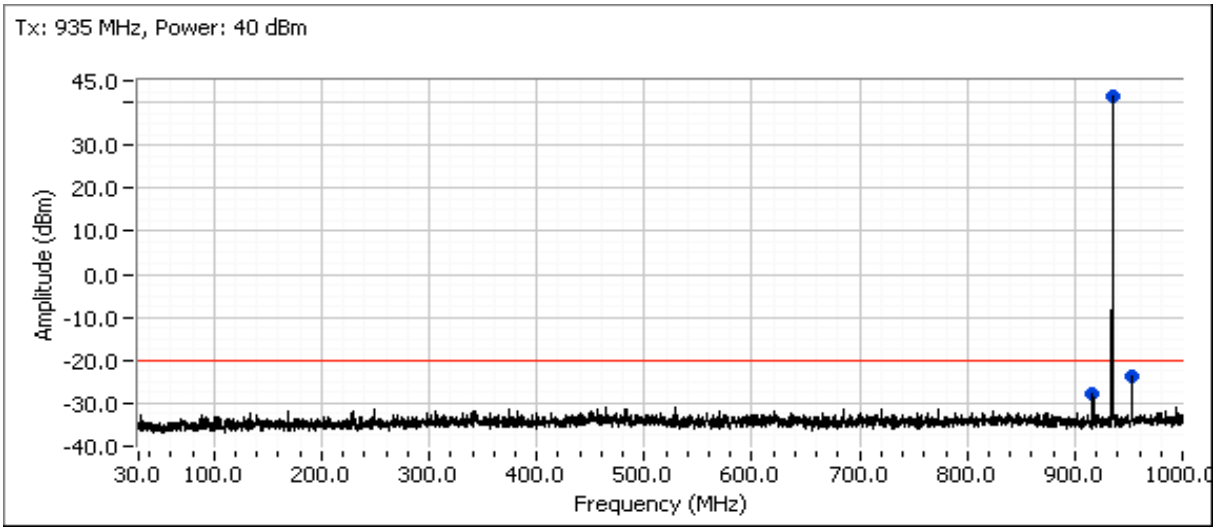
Plots for low channel (930 MHz), power setting(s) = 40 dBm

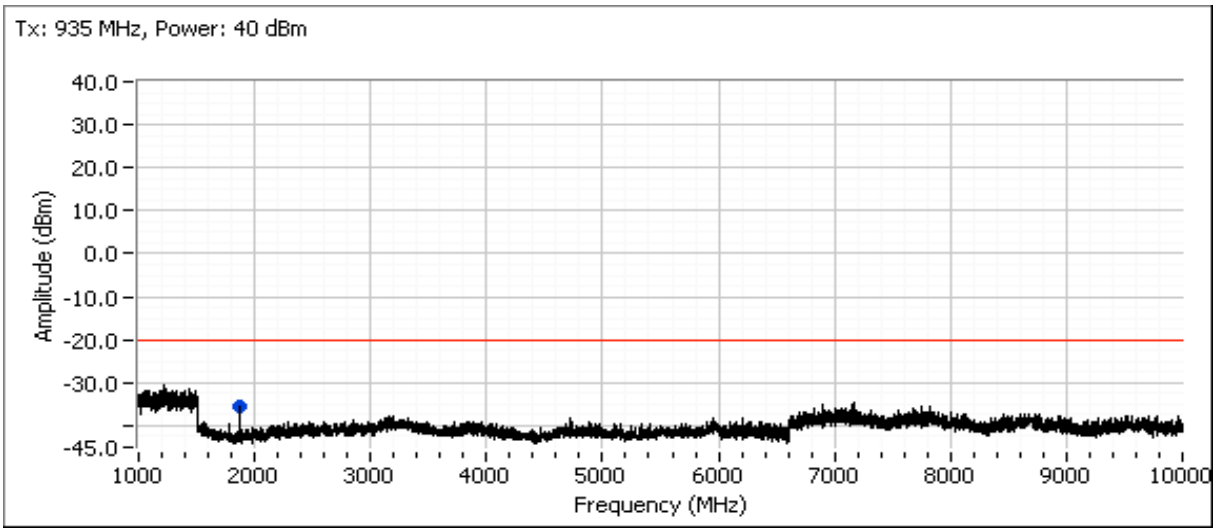




Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-

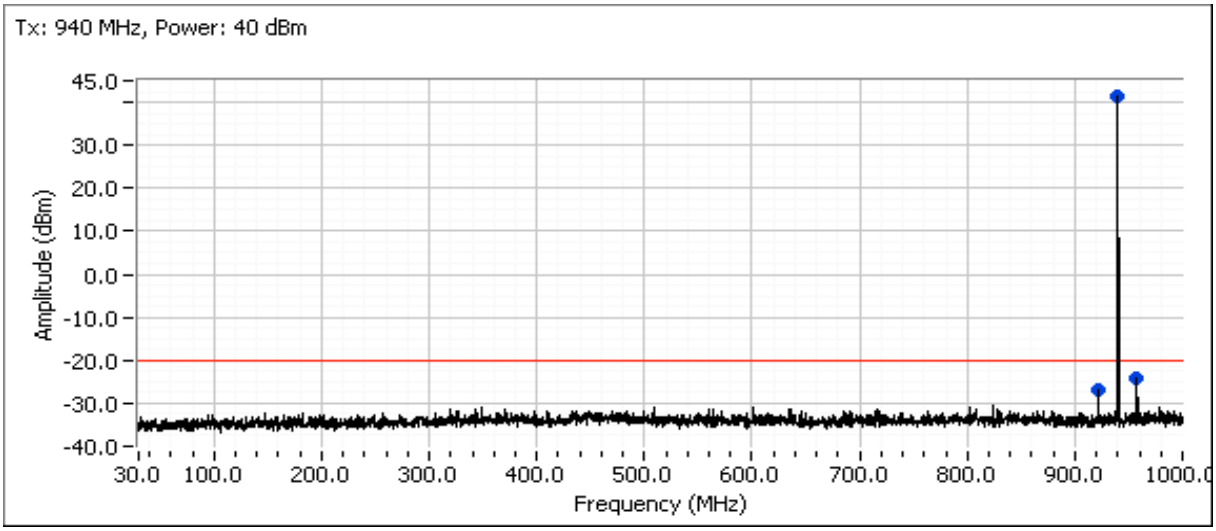
Plots for low channel (935), power setting(s) = 40

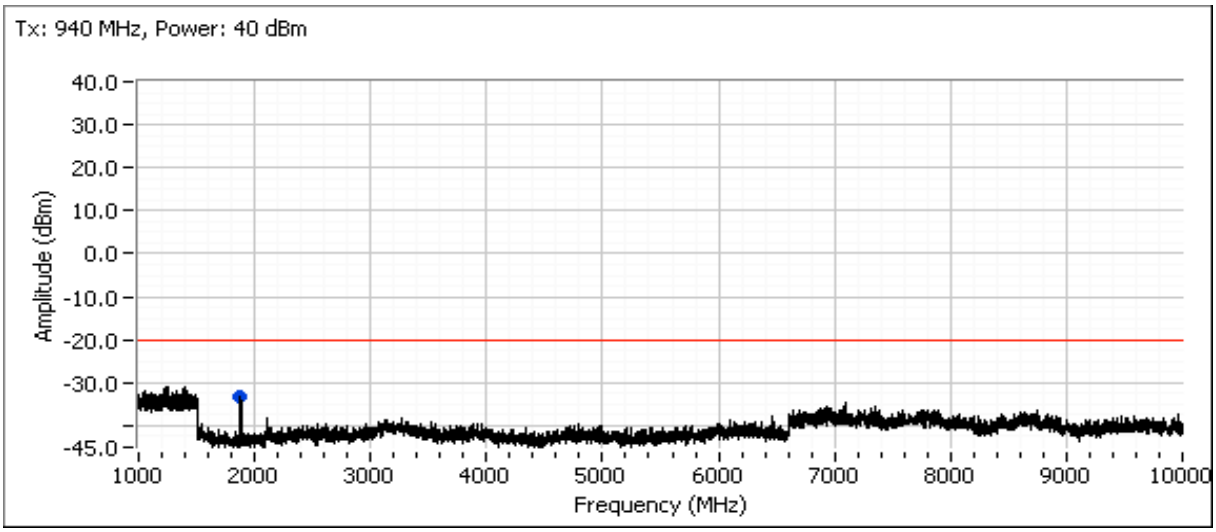




Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-

Plots for low channel (940), power setting(s) = 40





Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-

Final Measurements

Frequency	Level	Pol	FCC Part 90		Detector	Azimuth	Height	Comments	Channel
MHz	dBm	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
910.083	-27.8	RF Port	-20.0	-7.8	PK	-	-	RB 100 kHz; VB: 300 kH	928 MHz
927.993	41.2	RF Port	-	-	PK	-	-	Carrier	928 MHz
945.985	-22.9	RF Port	-20.0	-2.9	PK	-	-	RB 100 kHz; VB: 300 kH	928 MHz
1855.980	-33.4	RF Port	-20.0	-13.4	PK	-	-	RB 1 MHz; VB: 8 MHz	928 MHz
912.024	-27.7	RF Port	-20.0	-7.7	PK	-	-	RB 100 kHz; VB: 300 kH	930 MHz
930.037	41.2	RF Port	-	-	PK	-	-	Carrier	930 MHz
947.926	-22.5	RF Port	-20.0	-2.5	PK	-	-	RB 100 kHz; VB: 300 kH	930 MHz
1860.030	-34.7	RF Port	-20.0	-14.7	PK	-	-	RB 1 MHz; VB: 8 MHz	930 MHz
916.876	-28.0	RF Port	-20.0	-8.0	PK	-	-	RB 100 kHz; VB: 300 kH	935 MHz
934.988	41.3	RF Port	-	-	PK	-	-	Carrier	935 MHz
953.101	-23.5	RF Port	-20.0	-3.5	PK	-	-	RB 100 kHz; VB: 300 kH	935 MHz
1869.950	-37.8	RF Port	-20.0	-17.8	PK	-	-	RB 1 MHz; VB: 8 MHz	935 MHz
922.051	-27.0	RF Port	-20.0	-7.0	PK	-	-	RB 100 kHz; VB: 300 kH	940 MHz
939.994	41.3	RF Port	-	-	PK	-	-	Carrier	940 MHz
957.953	-24.3	RF Port	-20.0	-4.3	PK	-	-	RB 100 kHz; VB: 300 kH	940 MHz
1879.950	-33.9	RF Port	-20.0	-13.9	PK	-	-	RB 1 MHz; VB: 8 MHz	940 MHz

Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-

RSS-119 and FCC Part 90

Spurious Emissions

Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 12/9/2015, 12/21/2015
Test Engineer: M. Birgani, D. Demirci
Test Location: chamber #5

Config. Used: 1
Config Change: None
EUT Voltage: 24 Vdc

General Test Configuration

The EUT and any local support equipment were located on the turntable for radiated emissions testing. No remote support equipment was used.

Radiated emissions tests above 1 GHz to FCC Part 90 were performed with floor absorbers in place and the EUT height was 1.5 m in accordance with the test methods of ANSI C63.4:2014.

The test distance and extrapolation factor (if applicable) are detailed under each run description.

Note, preliminary testing indicates that the emissions were maximized by orientation of the EUT and elevation of the measurement antenna. Maximized testing indicated that the emissions were maximized by orientation of the EUT, elevation of the measurement antenna, and manipulation of the EUT's interface cables.

Ambient Conditions:

Temperature: 18-20 °C
Rel. Humidity: 30-35 %

Summary of Results (ANSI C63.4:2014)

Run #	Test Performed	Limit	Result	Margin
2	Transmitter Radiated Spurious Emissions, 1,000 - 10,000 MHz	FCC part 90 (-20 dBm)	Pass	-28.7 dBm @ 1038.90 MHz (-8.7 dB)

Modifications Made During Testing

Prior to testing, the fixture in which the radio was installed was modified and the PA output match was changed. No modifications were made to the EUT during testing.

Deviations From The Standard

No deviations were made from the requirements of the standard.

Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-

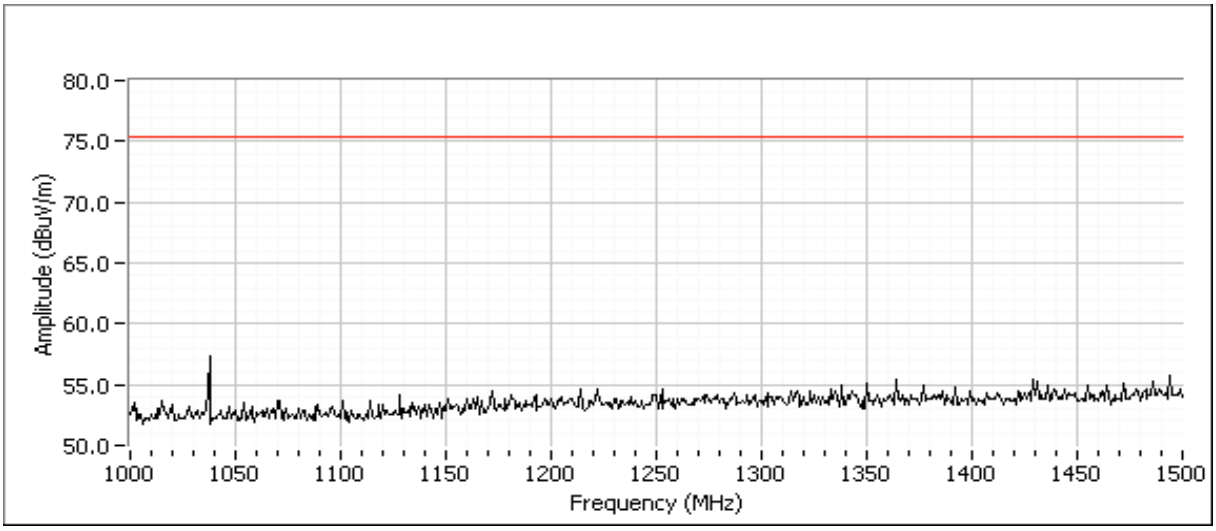
Run #1: Out of Band Spurious Emissions, Radiated

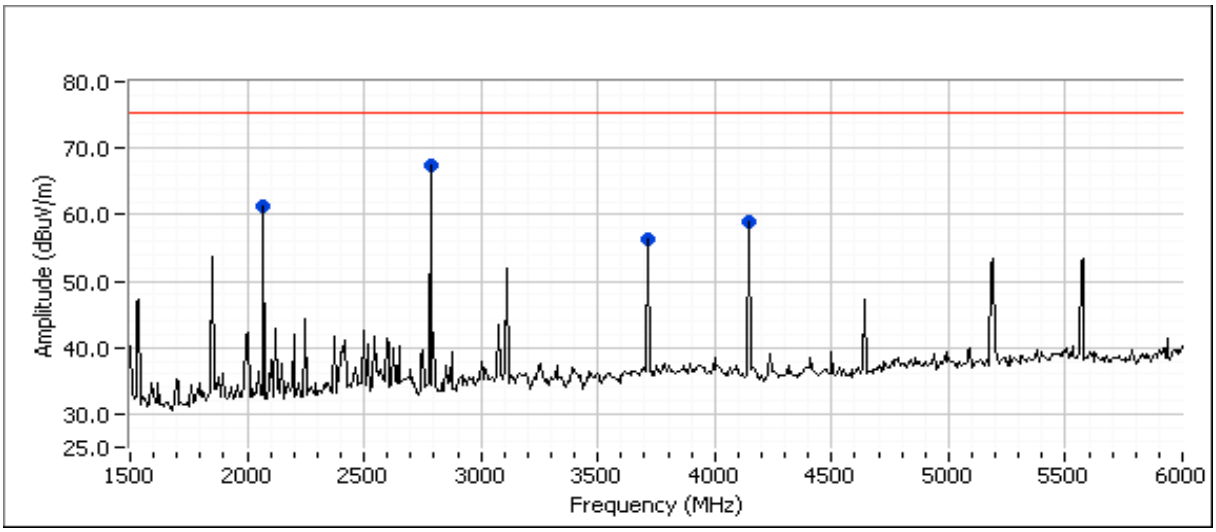
Conducted limit (dBm):	-20	Low Channels = 928 and 935 MHz
Approximate field strength limit @ 3m:	75.3	High Channels = 930 and 940 MHz

The limit is taken from FCC Part 90 Mask J

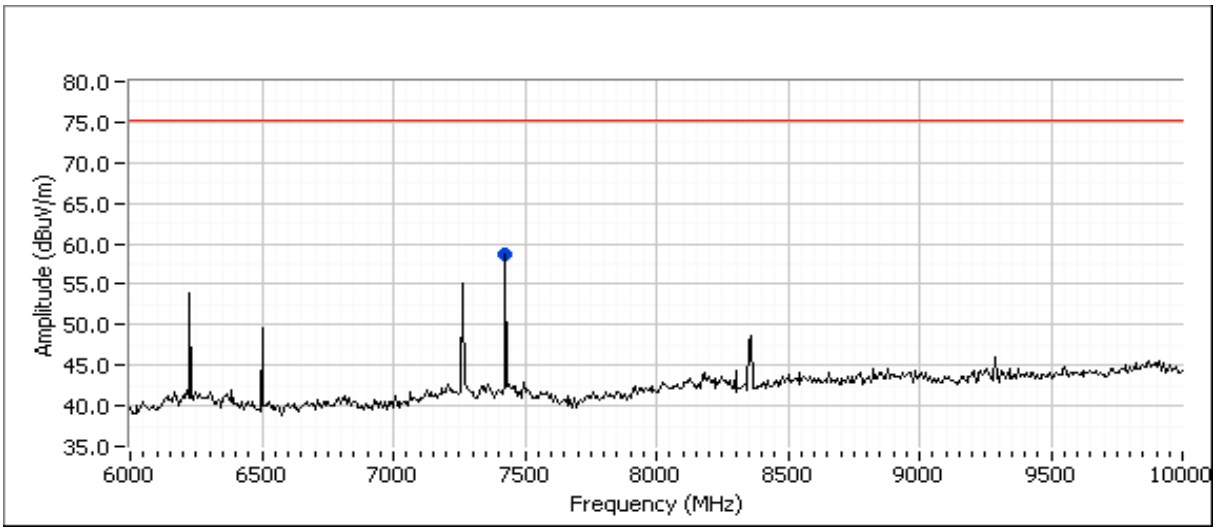
Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-

Plots for low channel (928 MHz), power setting(s) = 40 dBm

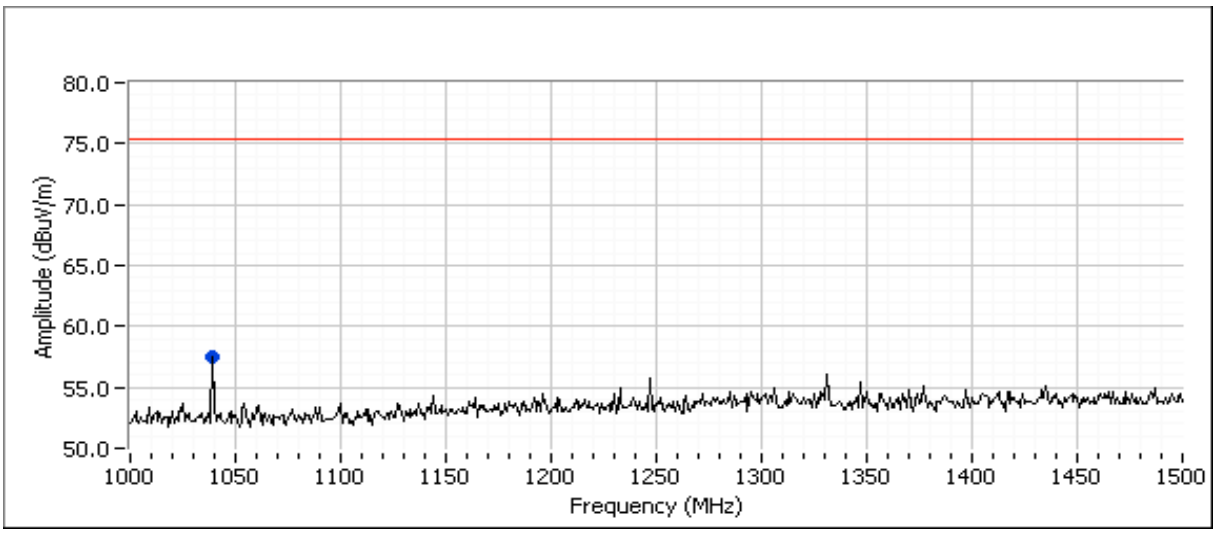




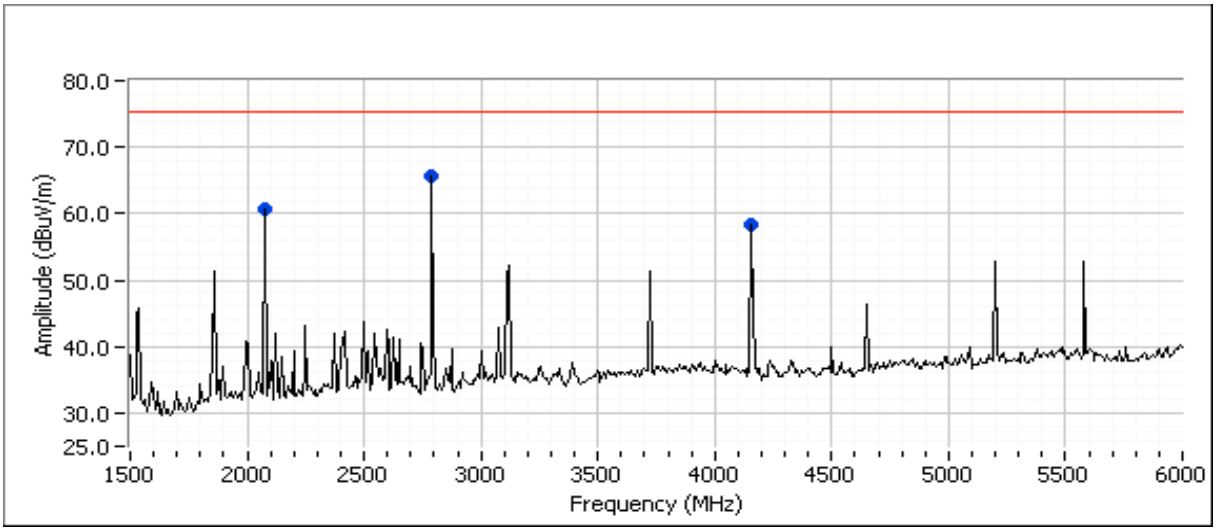
Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-

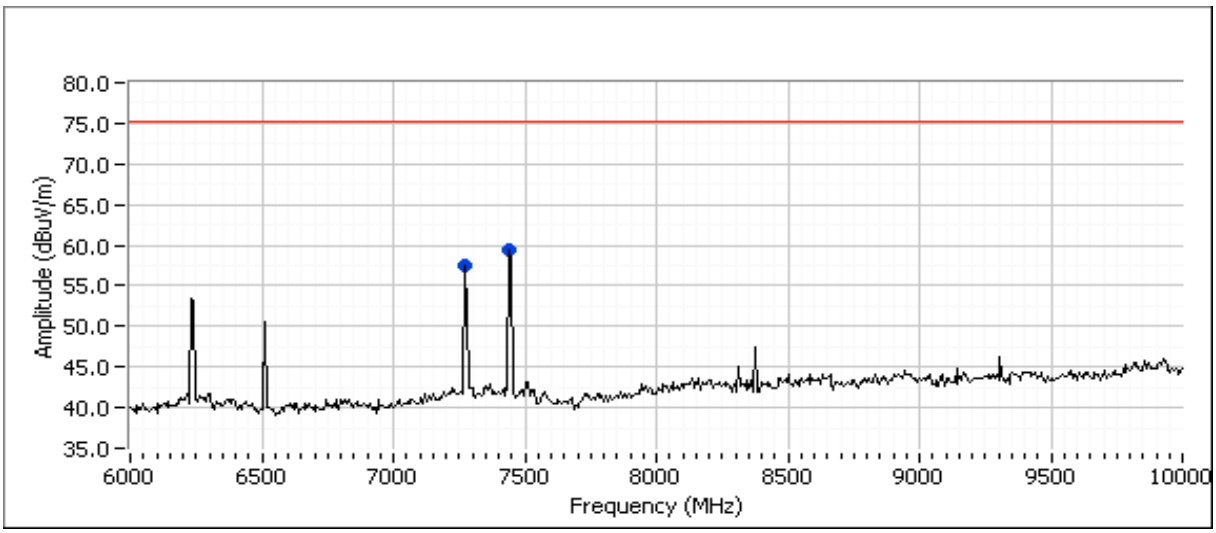


Plots for low channel (930 MHz), power setting(s) = 40 dBm



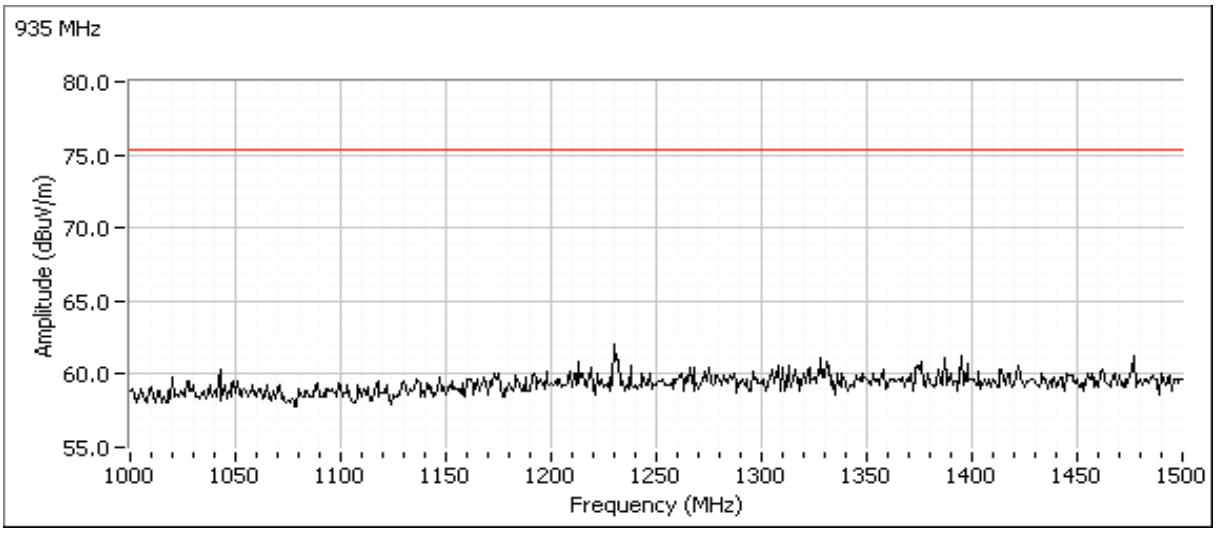
Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-

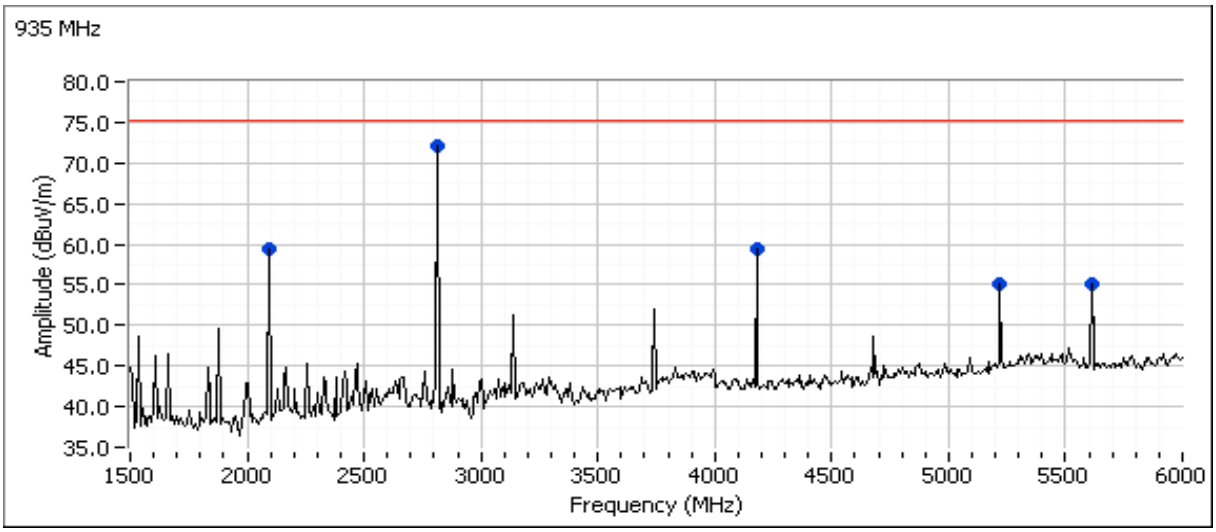




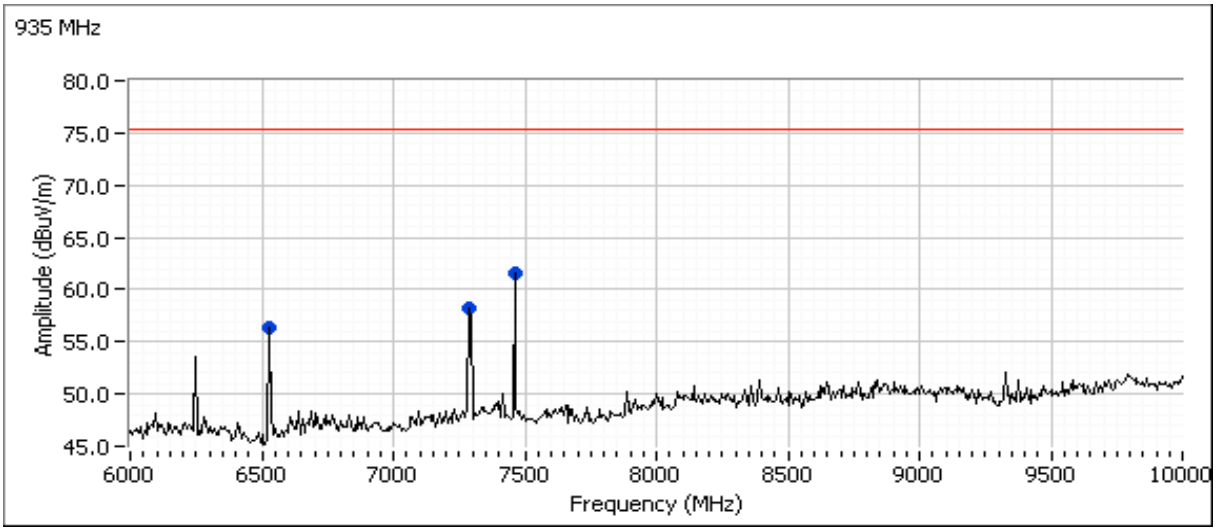
Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-

Plots for low channel (935), power setting(s) = 40

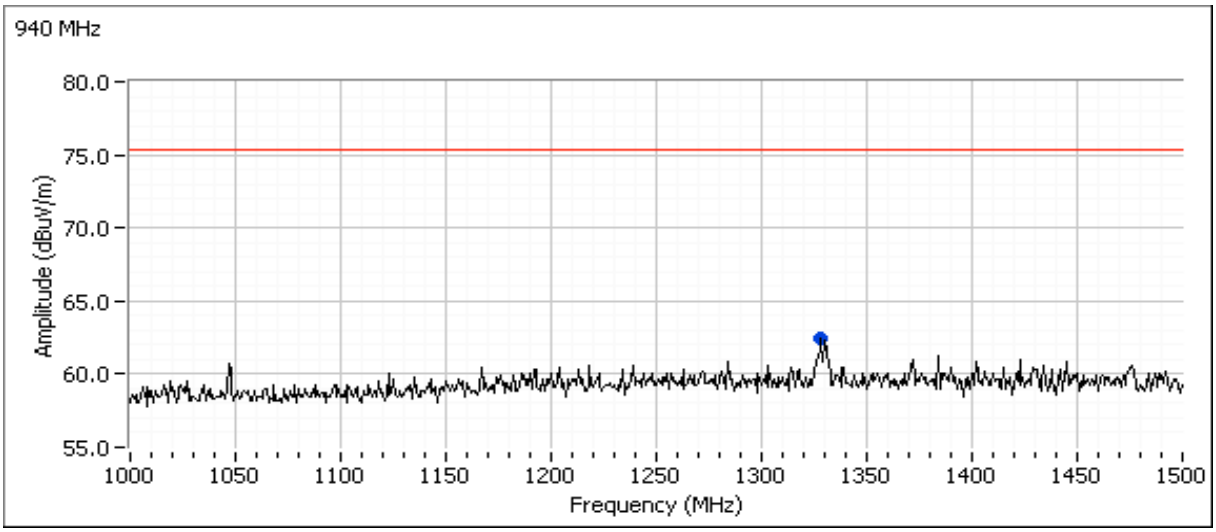




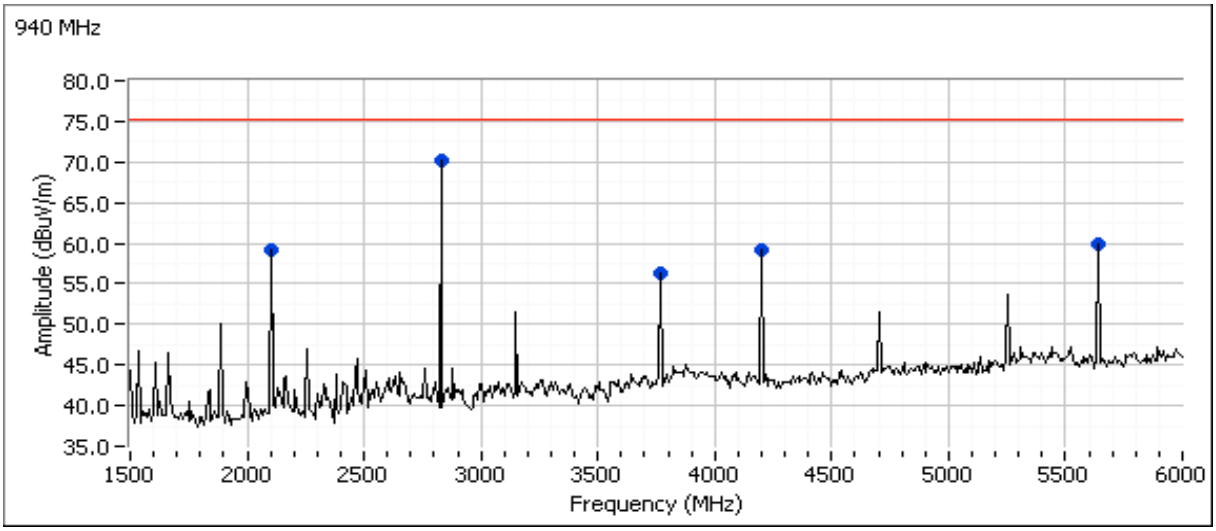
Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-

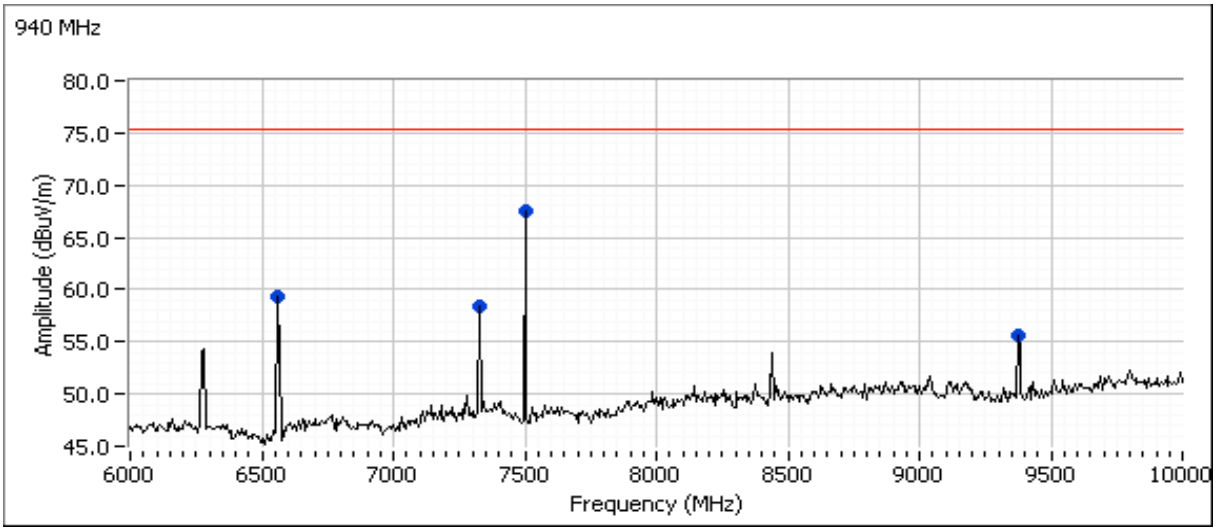


Plots for low channel (940), power setting(s) = 40



Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-





Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-

Run #2: - Final Field Strength Measurements and Substitution Measurements

EUT Field Strength

Frequency	Level	Pol	FCC Part 90		Detector	Azimuth	Height	Comments	Channel
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
1038.900	69.0	V	75.3	-6.3	PK	64	2.2	RB 1 MHz;VB 3 MHz;Pea	928
2784.030	66.7	V	75.3	-8.6	PK	265	1.0	RB 1 MHz;VB 3 MHz;Pea	928
2074.000	61.2	V	75.3	-14.1	PK	59	1.6	RB 1 MHz;VB 3 MHz;Pea	928
3711.900	56.4	V	75.3	-18.9	PK	78	1.3	RB 1 MHz;VB 3 MHz;Pea	928
4148.030	59.2	V	75.3	-16.1	PK	61	1.5	RB 1 MHz;VB 3 MHz;Pea	928
7423.910	59.1	V	75.3	-16.2	PK	360	2.0	RB 1 MHz;VB 3 MHz;Pea	928
1039.190	68.0	V	75.3	-7.3	PK	59	2.1	RB 1 MHz;VB 3 MHz;Pea	930
2790.050	63.6	H	75.3	-11.7	PK	360	2.5	RB 1 MHz;VB 3 MHz;Pea	930
7272.970	58.5	V	75.3	-16.8	PK	108	1.1	RB 1 MHz;VB 3 MHz;Pea	930
2078.100	60.5	V	75.3	-14.8	PK	96	1.5	RB 1 MHz;VB 3 MHz;Pea	930
4156.060	59.3	V	75.3	-16.0	PK	36	1.3	RB 1 MHz;VB 3 MHz;Pea	930
7440.060	58.7	V	75.3	-16.6	PK	29	1.8	RB 1 MHz;VB 3 MHz;Pea	930
2088.030	60.2	V	75.3	-15.1	PK	240	2.5	RB 1 MHz;VB 3 MHz;Pea	935
2804.920	72.4	H	75.3	-2.9	PK	123	1.4	RB 1 MHz;VB 3 MHz;Pea	935
4175.980	60.2	V	75.3	-15.1	PK	275	2.5	RB 1 MHz;VB 3 MHz;Pea	935
5220.000	55.9	V	75.3	-19.4	PK	247	2.5	RB 1 MHz;VB 3 MHz;Pea	935
5609.950	57.5	V	75.3	-17.8	PK	251	1.6	RB 1 MHz;VB 3 MHz;Pea	935
6544.940	59.4	V	75.3	-15.9	PK	304	2.4	RB 1 MHz;VB 3 MHz;Pea	935
7308.020	60.9	V	75.3	-14.4	PK	224	1.2	RB 1 MHz;VB 3 MHz;Pea	935
7479.890	62.9	V	75.3	-12.4	PK	256	1.5	RB 1 MHz;VB 3 MHz;Pea	935
1328.330	62.4	V	75.3	-12.9	PK	260	1.0	RB 1 MHz;VB 3 MHz;Pea	940
2097.930	60.5	V	75.3	-14.8	PK	256	2.2	RB 1 MHz;VB 3 MHz;Pea	940
2819.980	71.9	H	75.3	-3.4	PK	122	1.5	RB 1 MHz;VB 3 MHz;Pea	940
3759.940	59.3	V	75.3	-16.0	PK	260	1.0	RB 1 MHz;VB 3 MHz;Pea	940
4196.010	60.7	V	75.3	-14.6	PK	269	2.3	RB 1 MHz;VB 3 MHz;Pea	940
5640.050	61.5	V	75.3	-13.8	PK	252	1.6	RB 1 MHz;VB 3 MHz;Pea	940
6580.110	61.1	V	75.3	-14.2	PK	303	1.0	RB 1 MHz;VB 3 MHz;Pea	940
7342.900	60.6	V	75.3	-14.7	PK	223	1.2	RB 1 MHz;VB 3 MHz;Pea	940
7519.900	65.4	V	75.3	-9.9	PK	247	1.8	RB 1 MHz;VB 3 MHz;Pea	940
9400.070	58.0	V	75.3	-17.3	PK	249	1.1	RB 1 MHz;VB 3 MHz;Pea	940

Note 1:	The field strength limit in the tables above was calculated from the erp/eirp limit detailed in the standard using the free space propagation equation: E=√(30PG)/d. This limit is conservative - it does not consider the presence of the ground plane and, for erp limits, the dipole gain (2.2dBi) has not been included. The erp or eirp for all signals with less than **20 dB** of margin relative to this field strength limit is determined using substitution measurements.
Note 2:	Measurements are made with the antenna port terminated.

Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-

Substitution measurements

Horizontal

Frequency	Substitution measurements			Site	EUT measurements			eirp Limit	erp Limit	Margin
MHz	Pin[1]	Gain[2]	FS[3]	Factor[4]	FS[5]	eirp (dBm)	erp (dBm)	dBm	dBm	dB
2790.050	-30.0	9.8	75.5	95.7	63.6	-32.1	-34.3		-20.0	-14.3
2804.920	-30.0	9.8	75.4	95.6	72.4	-23.2	-25.4		-20.0	-5.4
2819.980	-30.0	9.7	76.0	96.3	71.9	-24.4	-26.6		-20.0	-6.6

Vertical

Frequency	Substitution measurements			Site	EUT measurements			eirp Limit	erp Limit	Margin
MHz	Pin[1]	Gain[2]	FS[3]	Factor[4]	FS[5]	eirp (dBm)	erp (dBm)	dBm	dBm	dB
1038.900	-30.0	6.2	71.7	95.5	69.0	-26.5	-28.7		-20.0	-8.7
2784.030	-30.0	9.8	75.2	95.4	66.7	-28.7	-30.9		-20.0	-10.9
2074.000	-30.0	8.8	74.6	95.8	61.2	-34.6	-36.8		-20.0	-16.8
3711.900	-30.0	8.7	74.6	95.9	56.4	-39.5	-41.7		-20.0	-21.7
4148.030	-30.0	9.9	75.9	96.0	59.2	-36.8	-39.0		-20.0	-19.0
7423.910	-30.0	9.9	76.1	96.2	59.1	-37.1	-39.3		-20.0	-19.3
1039.190	-30.0	6.2	71.9	95.7	68.0	-27.7	-29.9		-20.0	-9.9
7272.970	-30.0	10.2	75.9	95.7	58.5	-37.2	-39.4		-20.0	-19.4
2078.100	-30.0	8.8	74.6	95.8	60.5	-35.3	-37.5		-20.0	-17.5
4156.060	-30.0	9.9	75.7	95.8	59.3	-36.5	-38.7		-20.0	-18.7
7440.060	-30.0	10.3	76.0	95.7	58.7	-37.0	-39.2		-20.0	-19.2
2088.030	-30.0	8.8	74.9	96.1	60.2	-35.9	-38.1		-20.0	-18.1
4175.980	-30.0	10.0	75.5	95.5	60.2	-35.3	-37.5		-20.0	-17.5
5220.000	-30.0	10.0	75.7	95.7	55.9	-39.8	-42.0		-20.0	-22.0
5609.950	-30.0	10.5	76.7	96.2	57.5	-38.7	-40.9		-20.0	-20.9
6544.940	-30.0	11.3	77.3	96.0	59.4	-36.6	-38.8		-20.0	-18.8
7308.020	-30.0	9.8	75.9	96.1	60.9	-35.2	-37.4		-20.0	-17.4
7479.890	-30.0	10.3	76.3	96.0	62.9	-33.1	-35.3		-20.0	-15.3
1328.330	-30.0	7.5	73.4	95.9	62.4	-33.5	-35.7		-20.0	-15.7
2097.930	-30.0	9.1	74.8	95.7	60.5	-35.2	-37.4		-20.0	-17.4
3759.940	-30.0	8.5	74.7	96.2	59.3	-36.9	-39.1		-20.0	-19.1
4196.010	-30.0	10.0	75.6	95.6	60.7	-34.9	-37.1		-20.0	-17.1
5640.050	-30.0	10.6	76.4	95.8	61.5	-34.3	-36.5		-20.0	-16.5
6580.110	-30.0	11.2	77.1	95.9	61.1	-34.8	-37.0		-20.0	-17.0
7342.900	-30.0	10.0	76.1	96.1	60.6	-35.5	-37.7		-20.0	-17.7
7519.900	-30.0	10.3	76.5	96.2	65.4	-30.8	-33.0		-20.0	-13.0
9400.070	-30.0	11.5	77.9	96.4	58.0	-38.4	-40.6		-20.0	-20.6

Client:	GE MDS LLC	Job Number:	J96452
Model:	SDM9	T-Log Number:	T96464
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Part 24 and 90, RSS-119	Class:	-

Note 1:	Pin is the input power (dBm) to the substitution antenna
Note 2:	Gain is the gain (dBi) for the substitution antenna.
Note 3:	FS is the field strength (dBuV/m) measured from the substitution antenna.
Note 4:	Site Factor - this is the site factor to convert from a field strength in dBuV/m to an eirp in dBm.
Note 5:	EUT field strength as measured during initial run.

End of Report

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