NTS Silicon Valley
www.nts.com
41039 Boyce Road
Fremont, CA 94538
510-578-3500 Phone
510-440-9525 Fax

Radio Test Report

FCC Part 80, 90 and 95
(216 MHz to 220 MHz)

Model: TD220PLUS

COMPANY:	GE MDS LLC 175 Science Parkway Rochester, NY 14620
TEST SITE(S):	NTS Silicon Valley 41039 Boyce Road. Fremont, CA. 94538-2435
REPORT DATE:	March 23, 2016
REISSUE DATE:	April 11, 2016
FINAL TEST DATES:	March 17, 2016
TOTAL NUMBER OF PAGES:	38

PROGRAM MGR /
TECHNICAL REVIEWER:

David W. Bare
Chief Engineer

QUALITY ASSURANCE DELEGATE /
FINAL REPORT PREPARER:

David Guidotti
Senior Technical Writer

A2LA ACCREDITED
Testing Cert #0214.26

REVISION HISTORY

Rev#	Date	Comments	Modified By
	March 23, 2016	First release	
1	April 6, 2016	Corrected emissions types on pages 7 and 8	dwb
2	April 11, 2016	Corrected frequency range on page 7	dwb

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SCOPE

Tests have been performed on the GE MDS LLC model TD220PLUS, 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 80 (Stations In The Maritime Services), Subpart J—Public Coast Stations (AMTS)
- CFR 47 Part 90 (Private Land Mobile Radio Service), Subparts K and T
- CFR 47 Part 95 (Personal Radio Service), Subpart F – 218-219 MHz Service

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 NTS 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 TD220PLUS 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 TD220PLUS 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 for the tests performed and included in this report.

TEST RESULTS

FCC Part 90 (217-220 MHz Band)

FCC		Description	Measured	Limit	Result
Transmitter Modulation, output power and other characteristics					
§2.1033 (c) (5) §90.35		Frequency range(s)	217.0125 – 219.9875 MHz	217 – 220 MHz	Pass
§2.1033 (c) (6) §2.1033 (c) (7) §2.1046 §90.205, §90.259	-	RF power output at the antenna terminals	32.2 dBm	33 dBm	Pass
§2.1033 (c) (4) §2.1047 § 90.210		Emission types	CPFSK (F1D, F2D, F3D)		
		Emission mask	Within Mask	FCC Mask C	Pass
§2.1049 § 90.209		Occupied Bandwidth	14.2 kHz	20 kHz	Pass
Transmitter spurious emissions					
§2.1051 §2.1057		At the antenna terminals	Tested previously, Addition of 25 kHz channels does not affect spurious emissions.		
§2.1053 §2.1057		Field strength			
Other details					
§2.1055 § 90.213		Frequency stability	Tested previously, Addition of 25 kHz channels does not affect stability		
§2.1093		RF Exposure	Addition of 25 kHz channels does not affect RF exposure		
§2.1033 (c) (8)		Final radio frequency amplifying circuit's dc voltages and currents for normal operation over the power range	13.8V, 6A	Information only	-
-		Antenna Gain	Maximum 16.5 dBi	Any allowed subject to licensing	-
Notes -					

FCC Part 80

FCC		Description	Measured	Limit	Result
Transmitter Modulation, output power and other characteristics					
§2.1033 (c) (5) §80.385		Frequency range(s)	216.0125 – 219.9875 MHz	216-220 MHz	Pass
§2.1033 (c) (6) §2.1033 (c) (7) §2.1046 §80.215(h)(5)		RF power output at the antenna terminals	32.2 to 44.6 dBm	47 dBm	Pass
§2.1033 (c) (4) §2.1047 §80.211		Emission types	CPFSK (F1D, F2D, F3D)		
		Emission mask	within Mask	Mask F	
§2.1049 §80.205		Occupied Bandwidth	14.2 kHz	20 kHz	Pass
Transmitter spurious emissions					
§2.1051 §2.1057		At the antenna terminals	Tested previously, Addition of 25 kHz channels does not affect spurious emissions.		
§2.1053 §2.1057		Field strength			
Other details					
§2.1055 § 90.213		Frequency stability	Tested previously, Addition of 25 kHz channels does not affect stability		
§2.1093		RF Exposure	Addition of 25 kHz channels does not affect RF exposure		
§2.1033 (c) (8)		Final radio frequency amplifying circuit's dc voltages and currents for normal operation over the power range	13.8V, 6A	Information only	-
-		Antenna Gain	Maximum 16.5 dBi	Any allowed subject to licensing	-
Notes -					

FCC		Description	Measured	Limit	Result
Transmitter Modulation, output power and other characteristics					
§2.1033 (c) (5) §95.853		Frequency range(s)	218.0125 – 218.9875 MHz	218-219 MHz	
§2.1033 (c) (6) §2.1033 (c) (7) §2.1046 §95.855		ERP	33.6 to 43 dBm	43 dBm	Pass
§2.1033 (c) (4) §2.1047 §95.857		Emission types	CPFSK (F1D, F2D, F3D)		
		Emission mask	within Mask	95.857 Mask	
§2.1049 §95.857		Occupied Bandwidth	14.2 kHz	Emission must stay in frequency segment	Pass
Transmitter spurious emissions					
§2.1051 §2.1057		At the antenna terminals	Tested previously, Addition of 25 kHz channels does not affect spurious emissions.		
§2.1053 §2.1057		Field strength			
Other details					
§2.1055 § 90.213		Frequency stability	Tested previously, Addition of 25 kHz channels does not affect stability		
§2.1093		RF Exposure	Addition of 25 kHz channels does not affect RF exposure		
§2.1033 (c) (8)		Final radio frequency amplifying circuit's dc voltages and currents for normal operation over the power range	13.8V, 6A	Information only	-
-		Antenna Gain	Maximum 16.5 dBi	Any allowed subject to licensing	-
Notes -					

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

EQUIPMENT UNDER TEST (EUT) DETAILS

GENERAL

The GE MDS LLC model TD220PLUS is a narrowband wireless transceiver which is designed to transmit and receive data in the 216 to 222 MHz bands at multiple bandwidths. Normally, the EUT would be placed on a tabletop or in a rack during operation. The EUT was, therefore, placed on a table during emissions testing to simulate the end user environment. The electrical rating of the EUT is 13.8vdc, 6 Amps.

The sample was received on March 17, 2016 and tested on March 17, 2016. The EUT consisted of the following component(s):

Company	Model	Description	Serial Number	FCC ID
GE MDS LLC	TD220Max	Narrowband Data Transceiver	2681692	E5MDS-TD220MAX

ENCLOSURE

The EUT enclosure is primarily constructed of diecast aluminum. It measures approximately 14.0cm wide by 17.0cm deep by 5.0cm high.

MODIFICATIONS

No modifications were made to the EUT during the time the product was at NTS Silicon Valley.

SUPPORT EQUIPMENT

The following equipment was used as support equipment for testing:

Company	Model	Description	Serial Number	FCC ID
Sorensen	DHP60-166	DC Power Supply, 0-60V/0-33Am	S103C0035	-

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

Company	Model	Description	Serial Number	FCC ID
Dell	Latitude D620	Laptop	14030653249	-
GE MDS	TD220/RCL220	DB25 to RJ11 Adapter Board	2098349	-

EUT INTERFACE PORTS

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

Port	Connected To	Cable(s)		
		Description	Shielded or Unshielded	Length(m)
Data	DB25 to RJ11 Adapter Board	Multiwire Flat	Unshielded	0.2
Power Port	DC power supply	DC power cable	Unshielded	2
Antenna	Test System	Coax	Shielded	1

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

Port	Connected To	Cable(s)		
		Description	Shielded or Unshielded	Length(m)
USB (Laptop)	DB9 to RJ11 cable	Multiwire	Unshielded	0.5
DB9 to RJ11 cable	DB25-RJ11 Adapter Board	Multiwire	Unshielded	2

EUT OPERATION

During emissions testing the EUT was set to transmit mode either unmodulated or modulated as required for testing.

PROPOSED CHANGE

The operating software and receiver IF filter bandwidth have been changed to allow operation on 25 kHz channels. Two parts on the PCB change for the 25 kHz IF BW (FL200 and FL202). Previously, operation was restricted to operation on 12.5 and 6.25 kHz channels.

TESTING

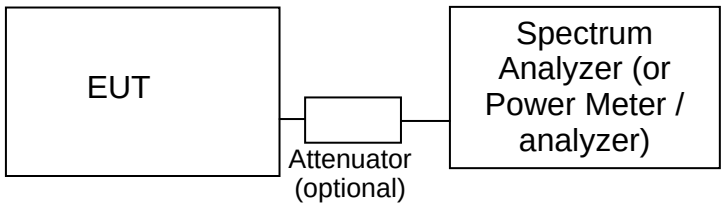
GENERAL INFORMATION

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

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 **Error! Reference source not found.**). 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.

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.

Appendix A Test Equipment Calibration Data

Radio Antenna Port (Power, BW and Masks), 17-Mar-16

Manufacturer	Description	Model	Asset #	Calibrated	Cal Due
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

T101234 Pages 15 – 37

Client:	GE MDS LLC	Job Number:	JD101172
Product	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Emissions Standard(s):	FCC Parts 80, 90 and 95, RSS-119	Class:	-
Immunity Standard(s):		Environment:	Radio

EMC Test Data

For The

GE MDS LLC

Product

TD220Max

Date of Last Test: 3/17/2016

Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

RSS 119 and FCC Parts 80, 90 and 95
Power, Mask and Occupied Bandwidth

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.

Ambient Conditions:

Temperature: 21 °C

Rel. Humidity: 35 %

Summary of Results

Run #			Test Performed	Limit	Pass / Fail	Result / Margin
1			Output Power	Part 80	Pass	44.6 dBm
			Output Power (217-220 MHz)	Part 90	Pass	32.2 dBm
			Output Power	Part 95	Pass	43 dBm
2			Spectral Mask	Within Mask	Pass	Within Mask
3			99% or Occupied Bandwidth	less than authorized	Pass	14.2 kHz

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.

Test Notes

Power and Mask tests at lowest and highest power settings

Part 80 (216-220 MHz, 28.8W), occupied bandwidth <= 16 kHz, Part 90 (217-220 MHz, 1.66W), authorized bandwidths 20/11.25/6, Part 95 (218-219 MHz, 20W) 500 kHz segments

Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

Run #1: Output Power

Date of Test: 3/17/2016
Test Engineer: David Bare
Test Location: Fremont EMC Lab #4B

Config. Used: 1
Config Change: None
EUT Voltage: 13.8 VDC

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP dBm	EIRP W	
Part 80								
XL	216.0125	33.2	2089.3	16.5	Pass	49.7	93.3	
H	216.0125	44.6	28840.3	12.0	Pass	56.6	457.1	§80.215(h)(5)
XL	219.9875	33.0	1995.3	16.5	Pass	49.5	89.1	
H	219.9875	44.2	26302.7	12.0	Pass	56.2	416.9	§80.215(h)(5)
Part 90								
FPWR 049	217.0125	32.2	1659.6	16.5	Pass	48.7	74.1	§90.259
FPWR 049	219.9875	32.2	1659.6	16.5	Pass	48.7	74.1	§90.259
Part 95								
XL	218.5	33.0	1995.3	9.0	Pass	42.0	15.8	
FPWR 105	218.5	43.0	19952.6	0.0	Pass	43.0	20.0	§95.855

Note 1:	Output power measured using a spectrum analyzer with RBW = 100 kHz and VBW = 300 kHz
Note 2:	Power setting - the software power setting used during testing, included for reference only. FPWR105 = 20 Watts, FPWR120 = H , FPWR 052 = XL, FPWR 049 = 1.66 Watts

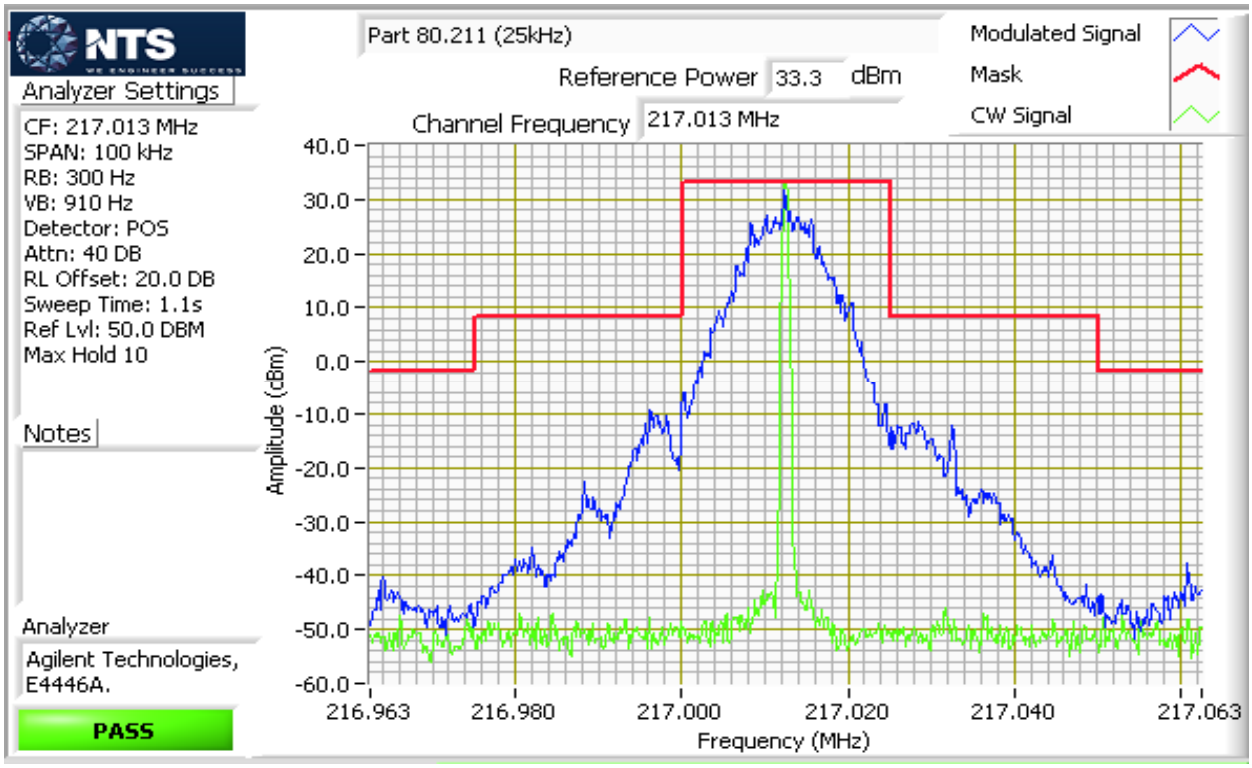
Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

Run #2a: Spectral Mask, FCC Part 80.211(f) (216-220 MHz)

Date of Test: 3/17/2016
Test Engineer: David Bare
Test Location: Fremont EMC Lab #4B

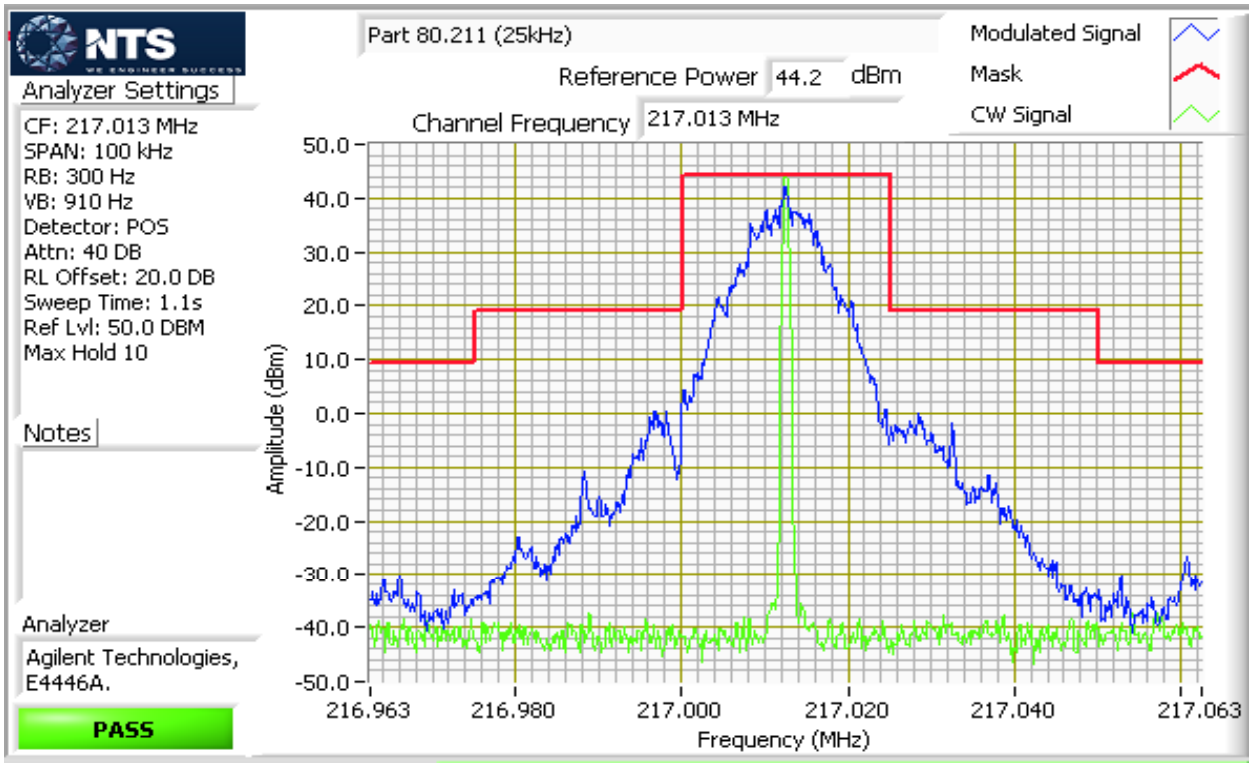
Config. Used: 1
Config Change: None
EUT Voltage: 13.8 VDC

2W Part 80 Mask F performed at temperature with highest frequency error (20° C)
DEV 250



Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

28.8W Part 80 Mask F performed at temperature with highest frequency error (20° C)
DEV 250



Run #2b: Spectral Mask, FCC Part 80.481

Note :	Passed 80.211 Mask F, No test required

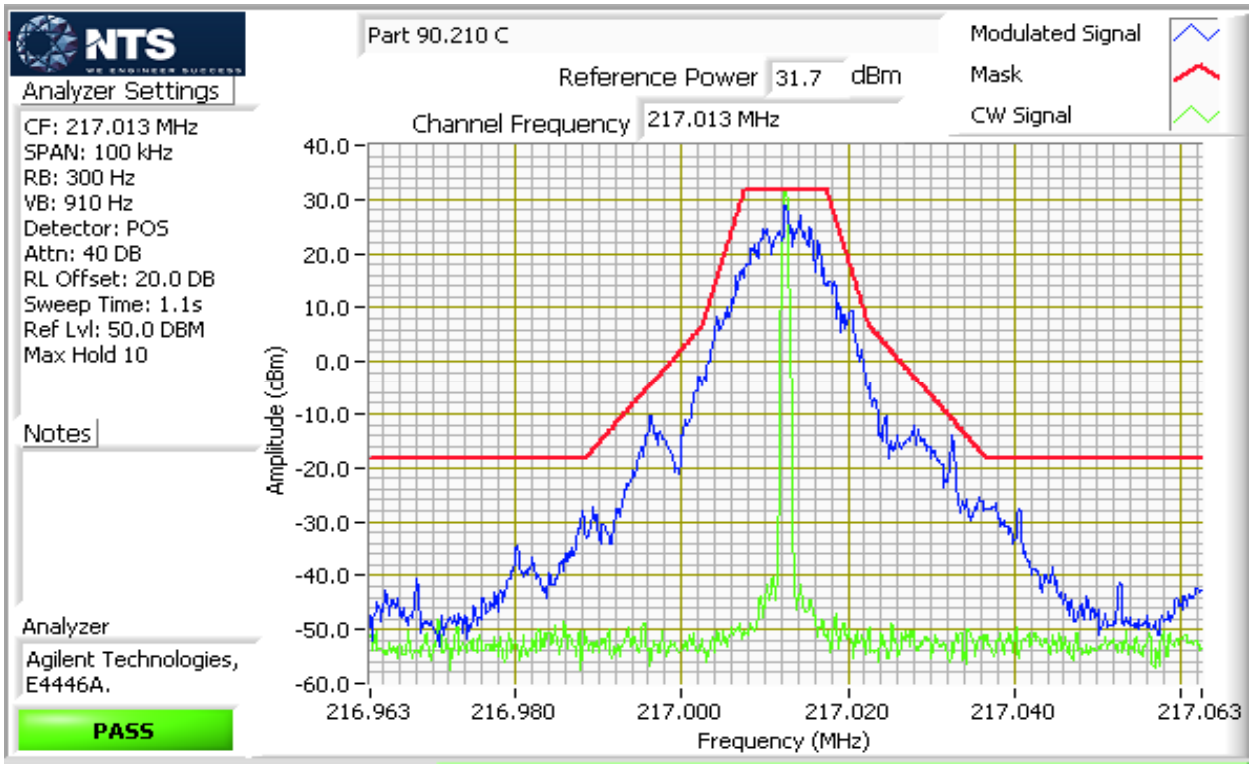
Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

Run #2c: Spectral Mask, FCC Part 90.210 Mask C (217-220 MHz)

Date of Test: 3/17/2016
Test Engineer: David Bare
Test Location: Fremont EMC Lab #4B

Config. Used: 1
Config Change: None
EUT Voltage: 13.8 VDC

1.66W Part 90 Mask C performed at temperature with highest frequency error (20° C)
DEV 250



Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

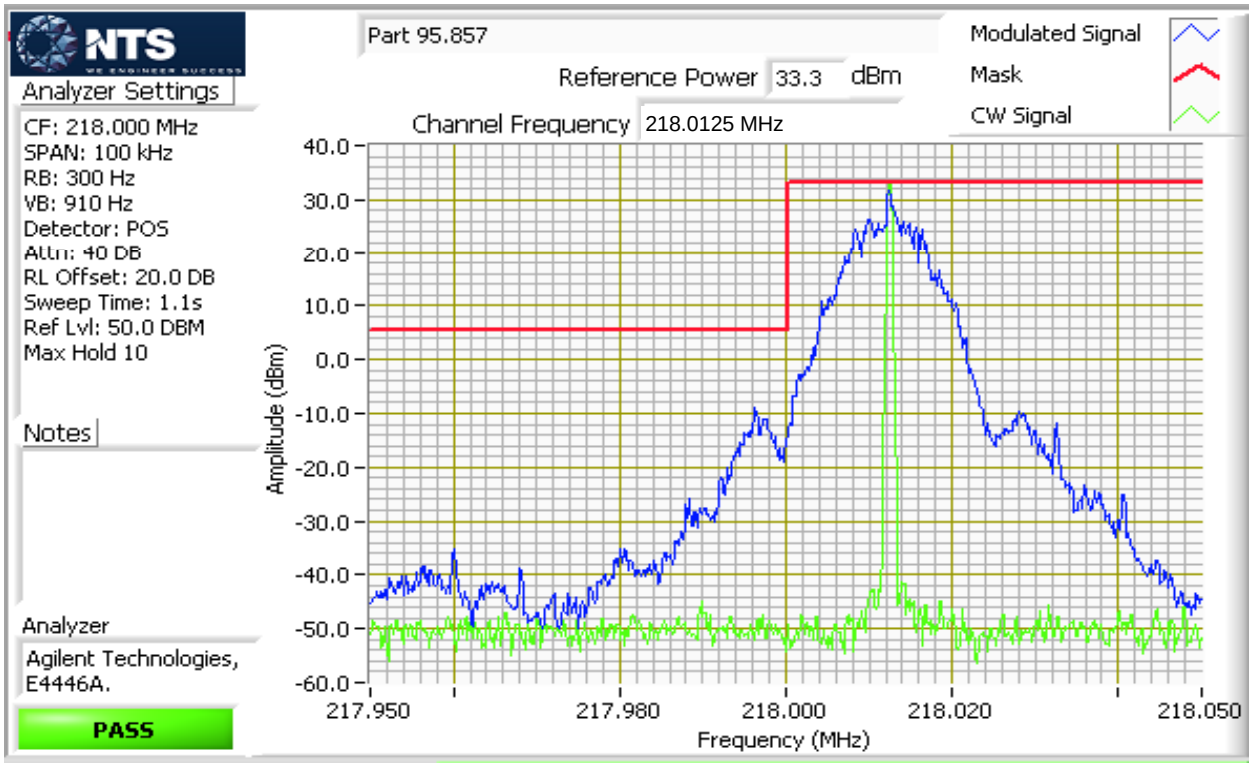
Run #2d: Spectral Mask, FCC Part 95.857 Mask A (218-219 MHz)
DEV 250

Date of Test: 3/17/2016
Test Engineer: David Bare
Test Location: Fremont EMC Lab #4B

Config. Used: 1
Config Change: None
EUT Voltage: 13.8 VDC

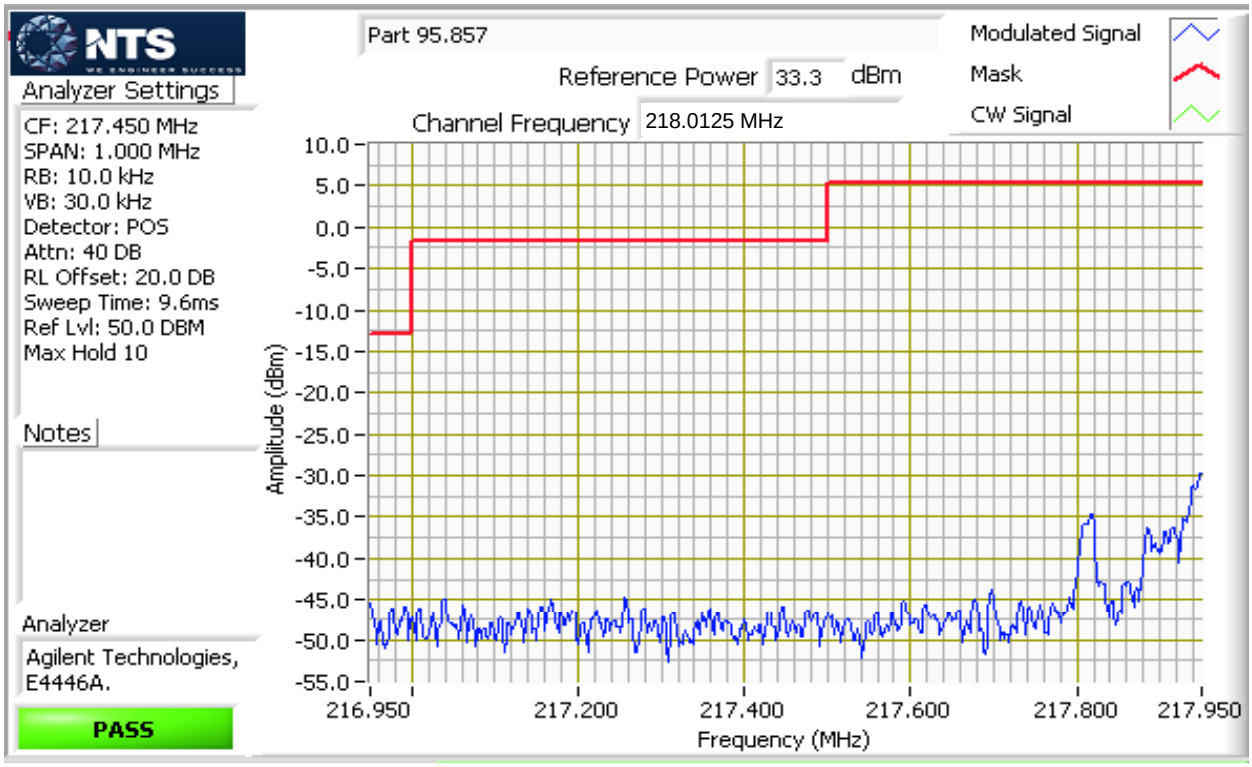
Note 1:	RBW = 300 Hz, VBW = 910 Hz inband and RBW = 10 kHz, VBW = 30 kHz below 217.95 MHz and above 218.55 MHz for the low segment and below 218.45 MHz and above 219.05 MHz for the high segment. EUT frequencies were 218.0125, 218.4875, 218.5125 and 218.9875 MHz. These are the closest frequencies to the segment edges.

lowest channel low segment 2W Part 95 Mask A performed at temperature with highest frequency error (20° C)



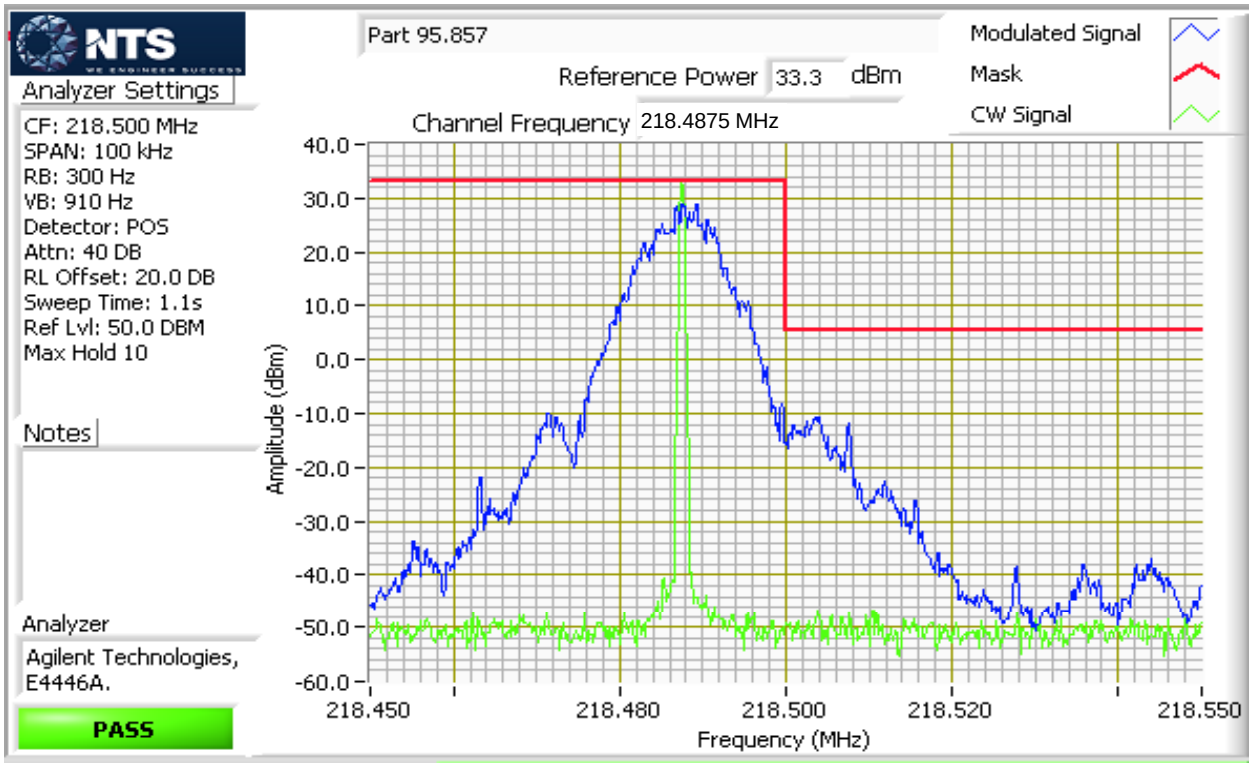
Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

lowest channel low segment 2W Part 95 Mask A performed at temperature with highest frequency error (20° C)



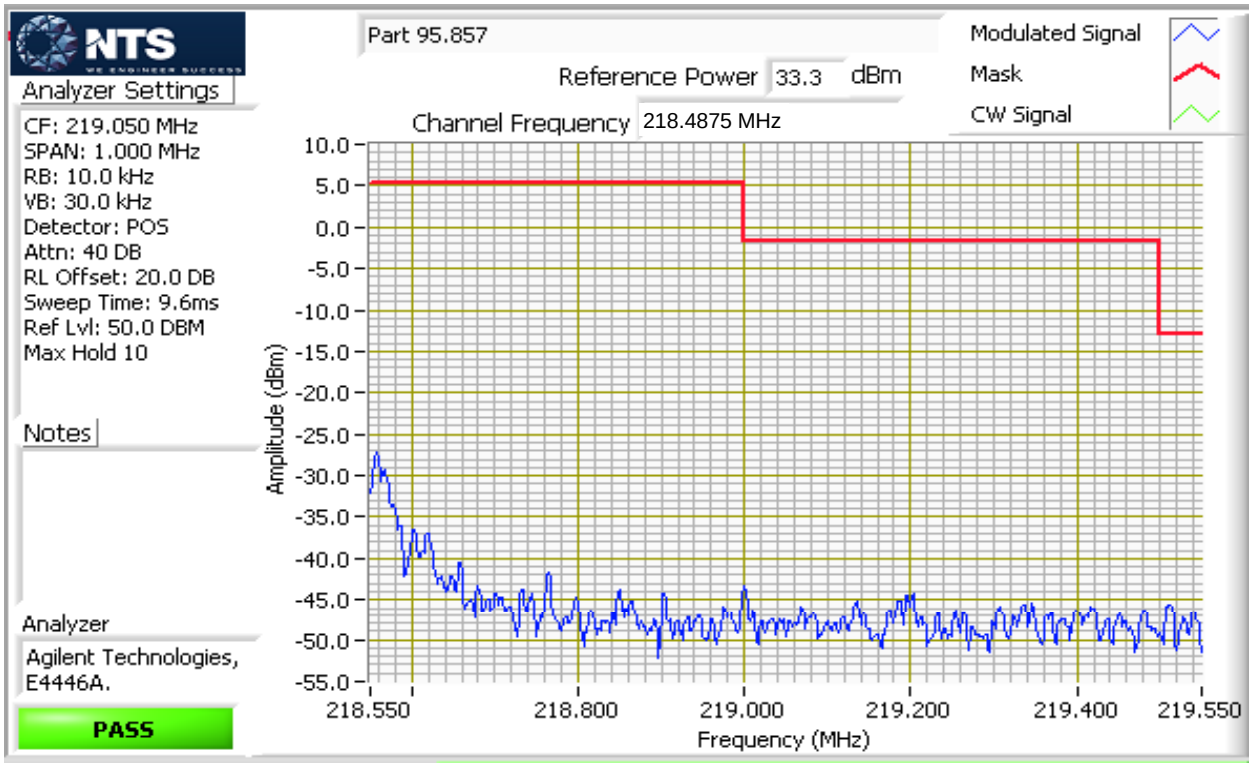
Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

highest channel low segment 2W Part 95 Mask A performed at temperature with highest frequency error (20° C)



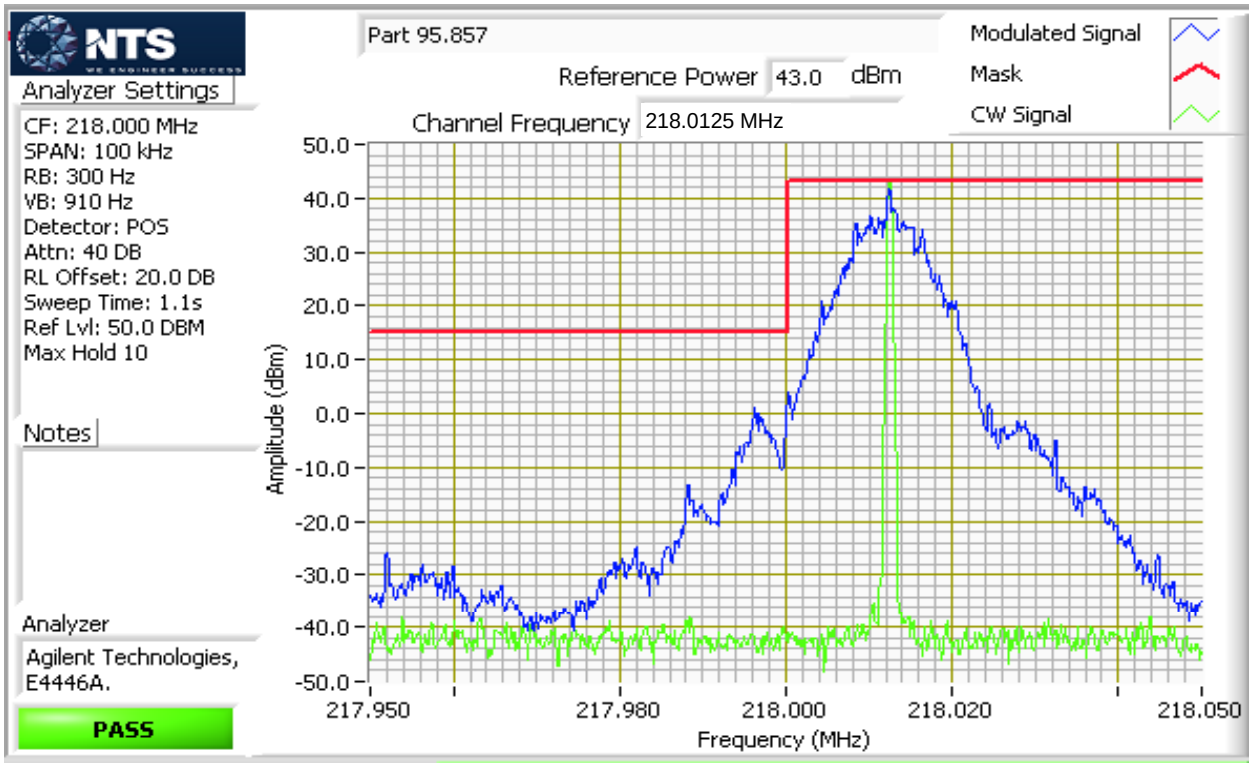
Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

highest channel low segment 2W Part 95 Mask A performed at temperature with highest frequency error (20° C)



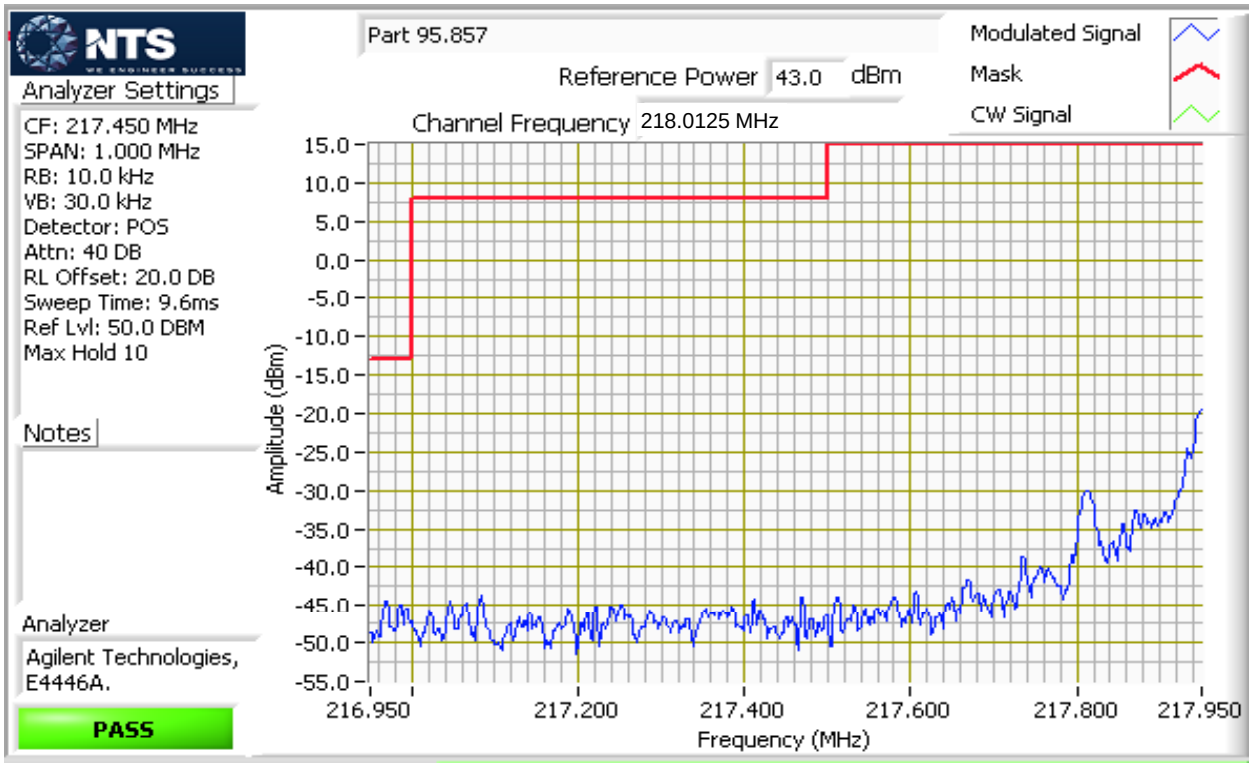
Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

lowest channel low segment 20W Part 95 Mask A performed at temperature with highest frequency error (20° C)



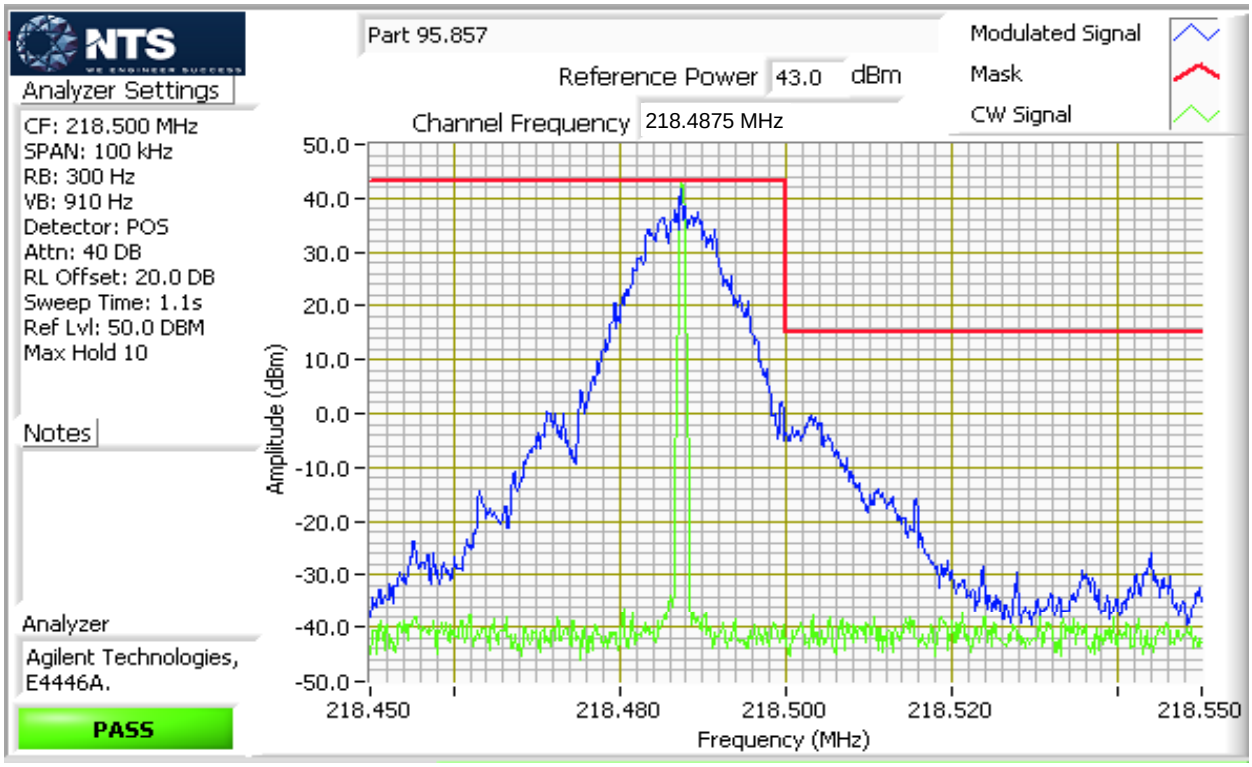
Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

lowest channel low segment 20W Part 95 Mask A performed at temperature with highest frequency error (20° C)



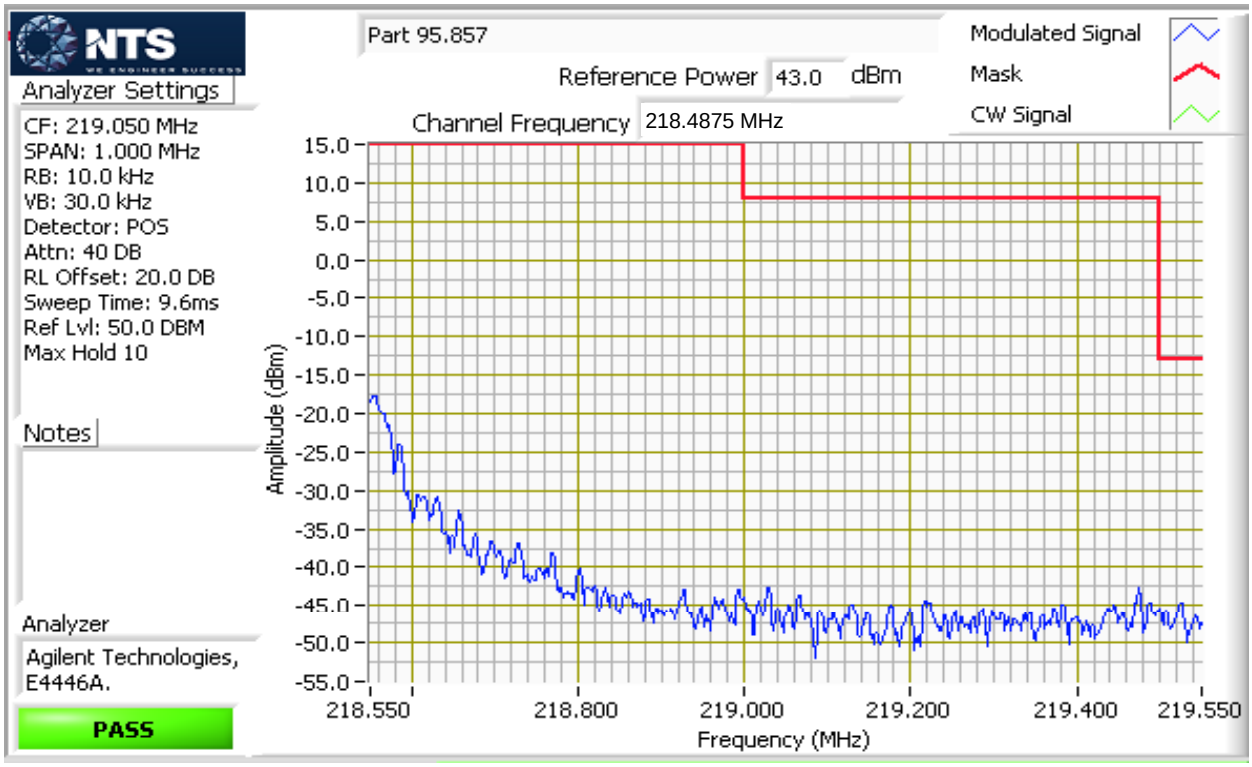
Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

highest channel low segment 20W Part 95 Mask A performed at temperature with highest frequency error (20° C)



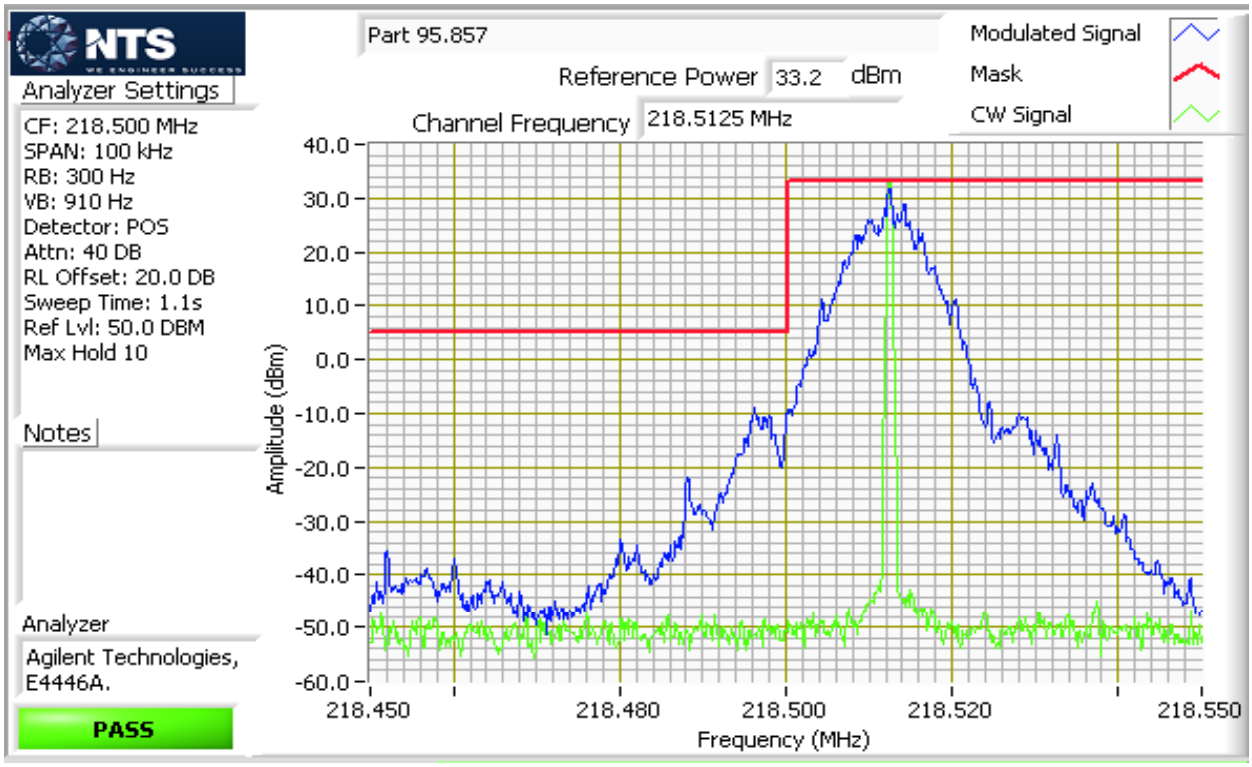
Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

highest channel low segment 20W Part 95 Mask A performed at temperature with highest frequency error (20° C)



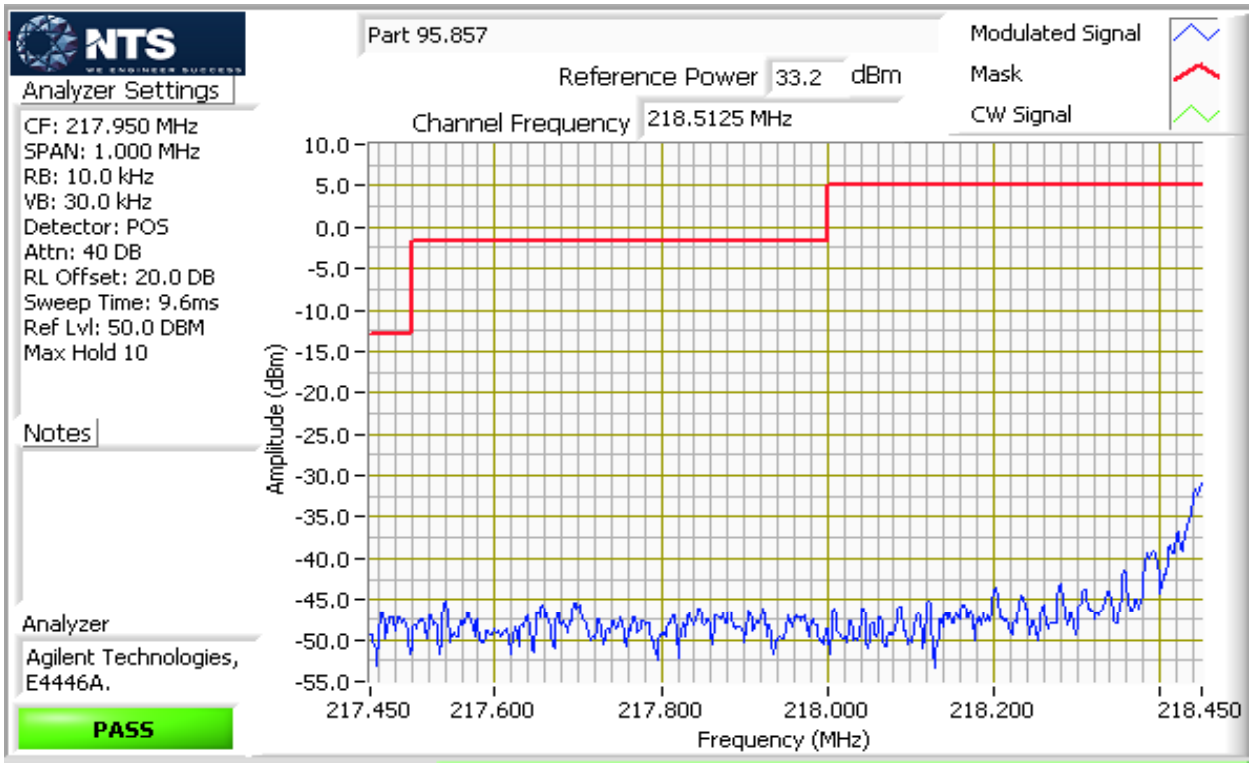
Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

lowest channel high segment 2W Part 95 Mask A performed at temperature with highest frequency error (20° C)



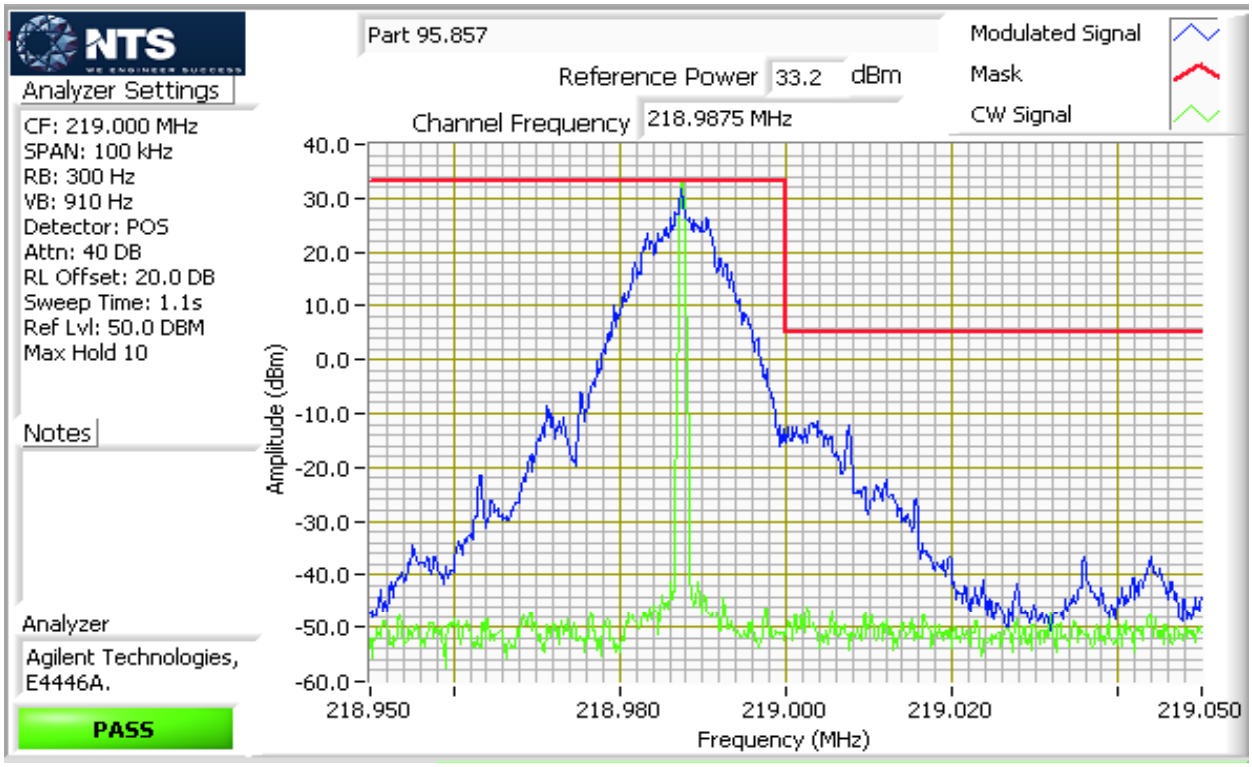
Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

lowest channel high segment 2W Part 95 Mask A performed at temperature with highest frequency error (20° C)



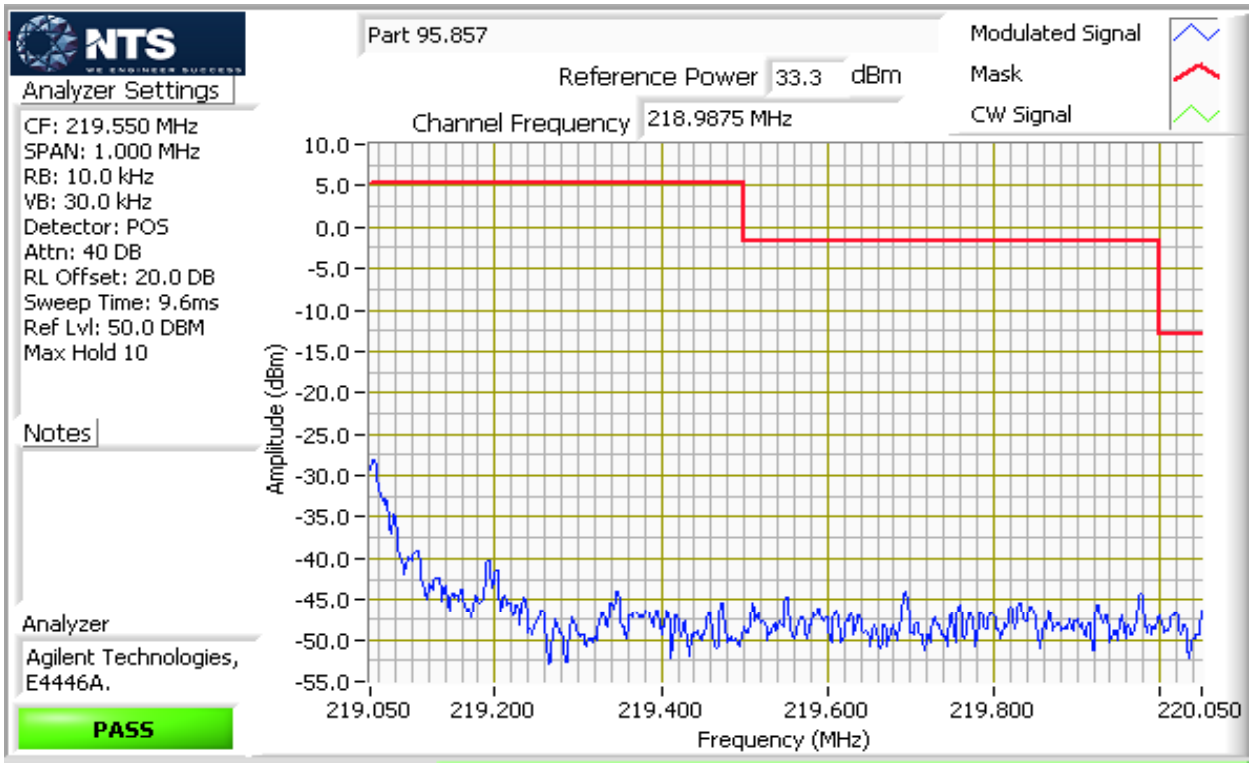
Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

highest channel high segment 2W Part 95 Mask A performed at temperature with highest frequency error (20° C)



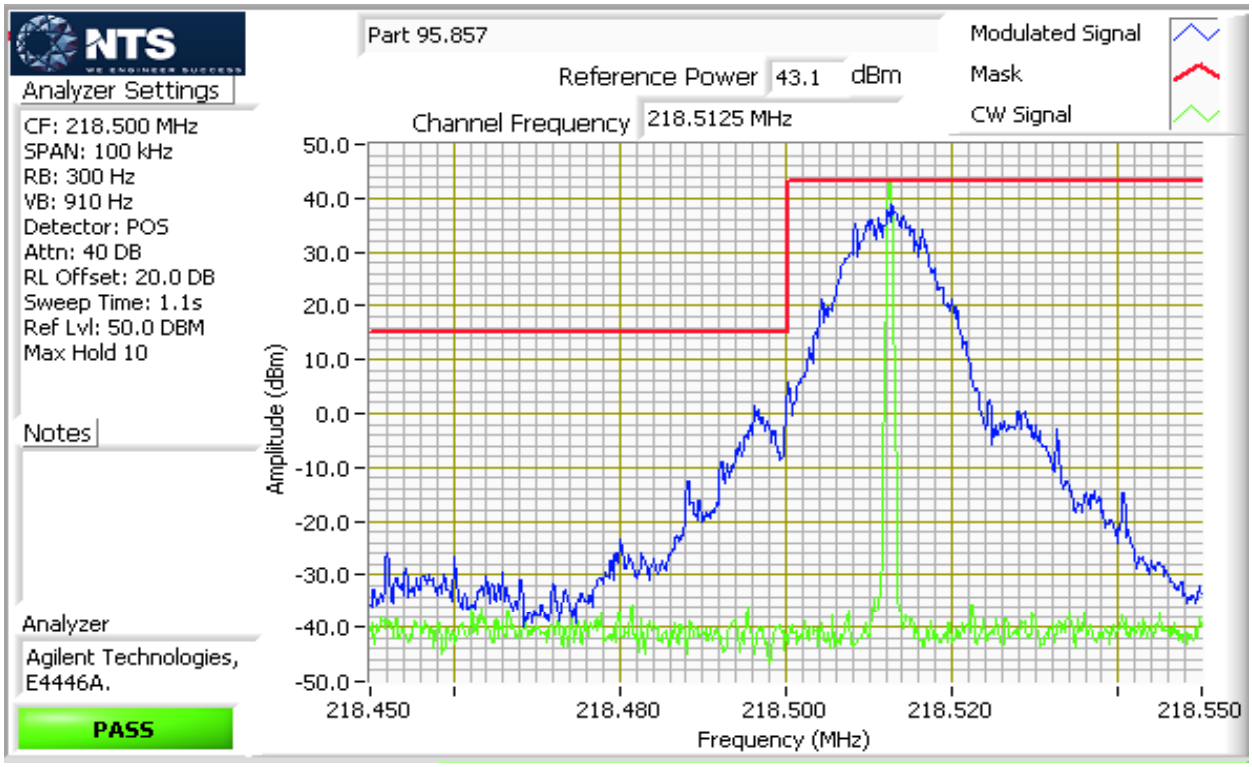
Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

highest channel high segment 2W Part 95 Mask A performed at temperature with highest frequency error (20° C)



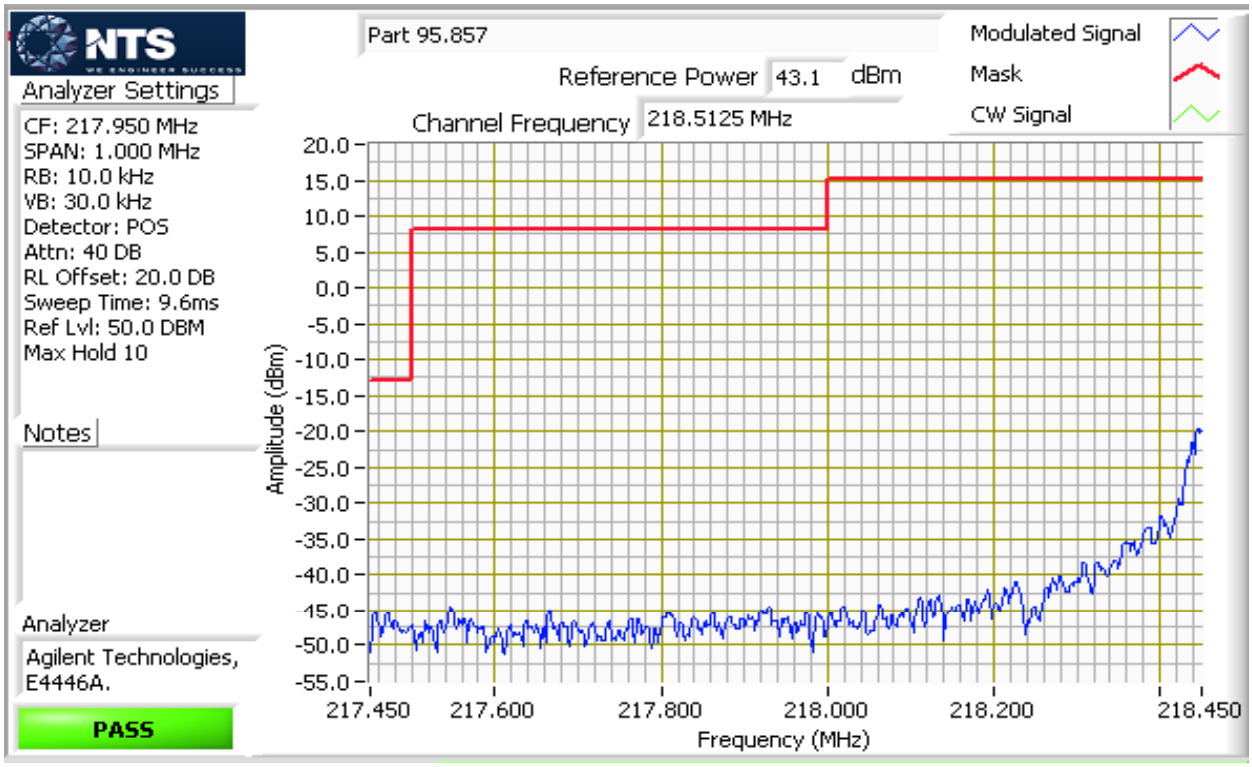
Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

lowest channel high segment 20W Part 95 Mask A performed at temperature with highest frequency error (20° C)



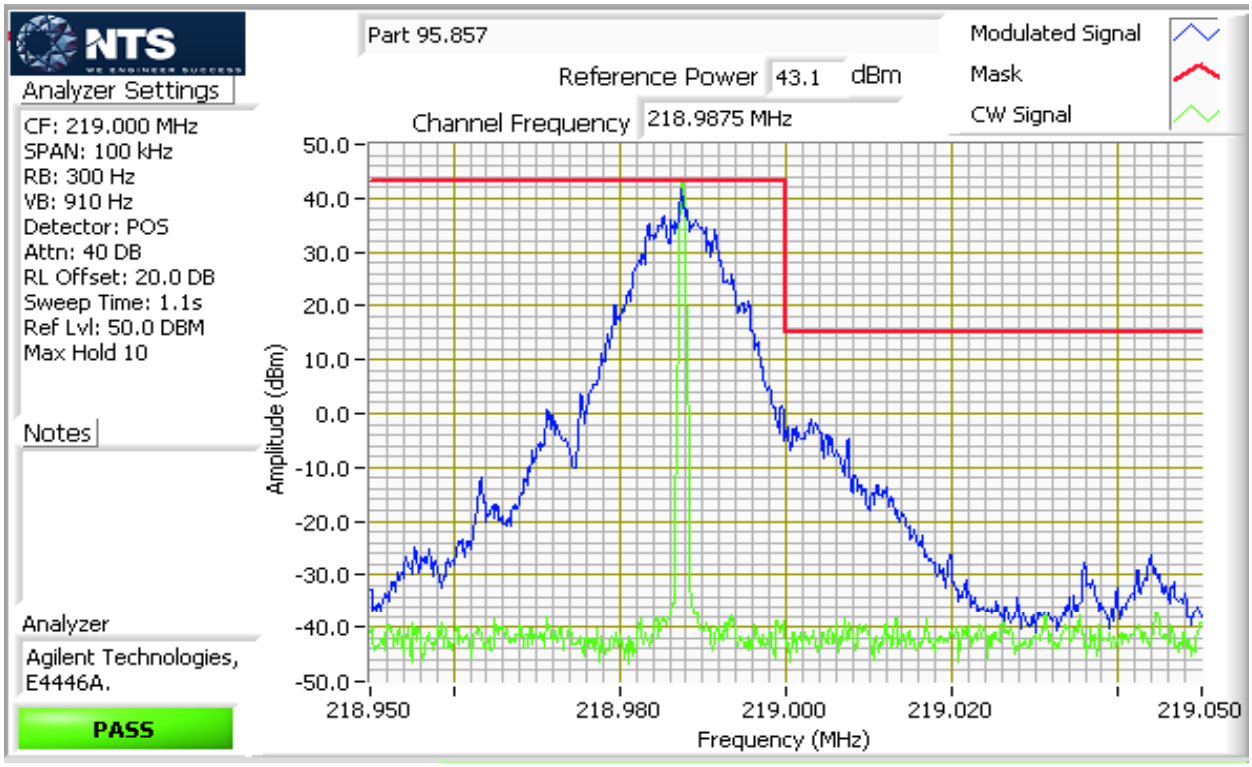
Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

lowest channel high segment 20W Part 95 Mask A performed at temperature with highest frequency error (20° C)



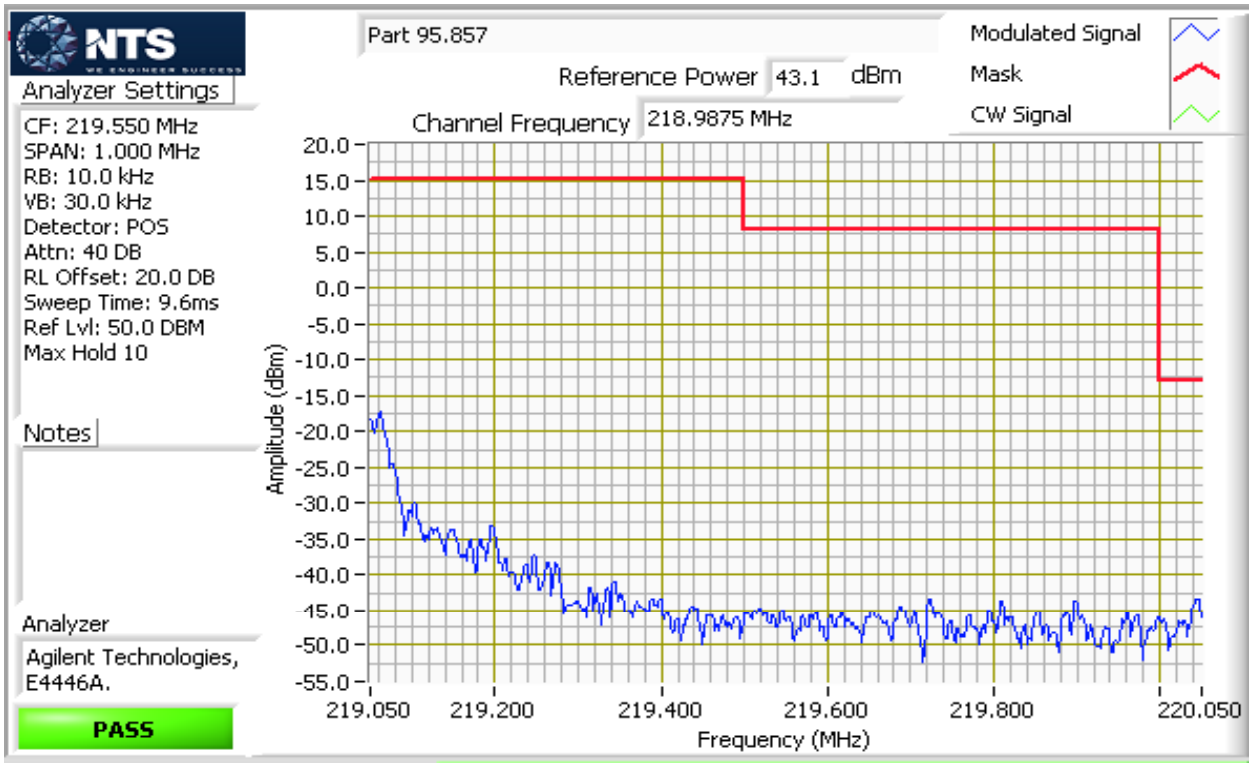
Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

highest channel high segment 20W Part 95 Mask A performed at temperature with highest frequency error (20° C)



Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

highest channel high segment 20W Part 95 Mask A performed at temperature with highest frequency error (20° C)



Client:	GE MDS LLC	Job Number:	JD101172
Model:	TD220Max	T-Log Number:	T101234
		Project Manager:	Christine Krebill
Contact:	Dennis McCarthy	Project Coordinator:	-
Standard:	FCC Parts 80, 90 and 95, RSS-119	Class:	N/A

Run #3: Signal Bandwidth
DEV 250

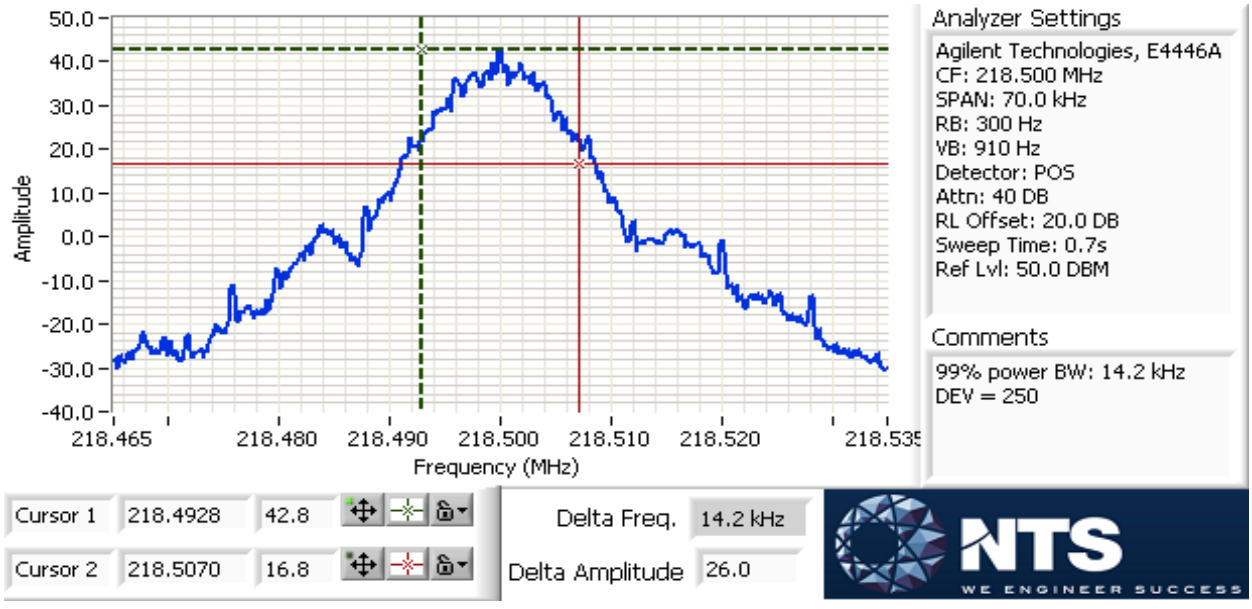
Date of Test: 3/17/2016
Test Engineer: David Bare
Test Location: Fremont EMC Lab #4B

Config. Used: 1
Config Change: None
EUT Voltage: 13.8 VDC

Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz) 99%	Dev
High	218.5	300Hz	14.2	250

Parts 80, 90 (217-220 MHz band) and 95

Note 1:	99% bandwidth measured in accordance with RSS GEN, with RB > 1% and < 5% of the OBW and VB > 3xRB



End of Report

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