



**TE Connectivity / ADC Telecommunications**  
**Prism HDM 40W PCS SISO RF Module**  
**Model: FWP-881T000MOD**

**FCC 24E: 2013**

**Report #: TECO0005**



Report Prepared By Northwest EMC Inc.

NORTHWEST EMC – (888) 364-2378 – [www.nwemc.com](http://www.nwemc.com)

California – Minnesota – Oregon – New York – Washington

# CERTIFICATE OF TEST

Last Date of Test: September 23, 2013  
 TE Connectivity / ADC Telecommunications  
 Prism HDM 40W PCS SISO RF Module  
 Model: FWP-881T000MOD

## Emissions

Test Description	Specification	Test Method	Pass/Fail
Conducted Output Power	FCC 24E:2013, FCC 2.1046:2013	ANSI/TIA/EIA-603-C-2004	Pass
Out of Band Emissions - Conducted	FCC 24E:2013, FCC 2.1051:2013	ANSI/TIA/EIA-603-C-2004	Pass
Intermodulation	FCC 24E:2013, FCC 2.1051:2013	ANSI/TIA/EIA-603-C-2004	Pass
Frequency Stability	FCC 24E:2013, FCC 2.1055:2013	ANSI/TIA/EIA-603-C-2004	Pass
Occupied Bandwidth	FCC 24E:2013, FCC 2.1049:2013	ANSI/TIA/EIA-603-C-2004	Pass
Field Strength of Spurious Emissions	FCC 24E:2013, FCC 2.1053:2013	ANSI/TIA/EIA-603-C-2004	Pass
Band Edge Compliance	FCC 24E:2013, FCC 2.1051:2013	ANSI/TIA/EIA-603-C-2004	Pass
Peak to Average Ratio	FCC 24E:2013, FCC 2.1046:2013	ANSI/TIA/EIA-603-C-2004	Pass

## Deviations From Test Standards

None

## Approved By:



Tim O'Shea, Operations Manager



NVLAP Lab Code: 200881-0

*This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America.*

*Product compliance is the responsibility of the client, therefore the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. This Report may only be duplicated in its entirety. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test.*

## REVISION HISTORY

Revision Number	Description	Date	Page Number
00	None		

### **Barometric Pressure**

The recorded barometric pressure has been normalized to sea level.

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## United States

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**FCC** - Designated by the FCC as a Telecommunications Certification Body (TCB). Certification chambers, Open Area Test Sites, and conducted measurement facilities are listed with the FCC.

**A2LA** - Accredited by A2LA to ISO / IEC Guide 65 as a product certifier. This allows Northwest EMC to certify transmitters to FCC and IC specifications.

**NVLAP** - Each laboratory is accredited by NVLAP to ISO 17025

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## Canada

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**IC** - Recognized by Industry Canada as a Certification Body (CB). Certification chambers and Open Area Test Sites are filed with IC.

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## European Union

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**European Commission** – Validated by the European Commission as a Conformity Assessment Body (CAB) under the EMC directive and as a Notified Body under the R&TTE Directive.

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## Australia/New Zealand

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**ACMA** - Recognized by ACMA as a CAB for the acceptance of test data.

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## Korea

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**KCC / RRA** - Recognized by KCC's RRA as a CAB for the acceptance of test data.

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## Japan

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**VCCI** - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

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## Taiwan

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**BSMI** – Recognized by BSMI as a CAB for the acceptance of test data.

**NCC** - Recognized by NCC as a CAB for the acceptance of test data.

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## Singapore

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**IDA** – Recognized by IDA as a CAB for the acceptance of test data.

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## Hong Kong

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**OFTA** – Recognized by OFTA as a CAB for the acceptance of test data.

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## Vietnam

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**MIC** – Recognized by MIC as a CAB for the acceptance of test data.

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## Russia

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**GOST** – Accredited by Certinform VNIINMASH, CERTINFO, SAMTES, and Federal CHEC to perform EMC and Hygienic testing for Information Technology products to GOST standards.

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## SCOPE

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For details on the Scopes of our Accreditations, please visit:

<http://www.nwemc.com/accreditations/>

## Measurement Uncertainty

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error qualified by a probability distribution.

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty ( $K=2$ ) for each test is on each data sheet. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-1 as applicable), and are available upon request.

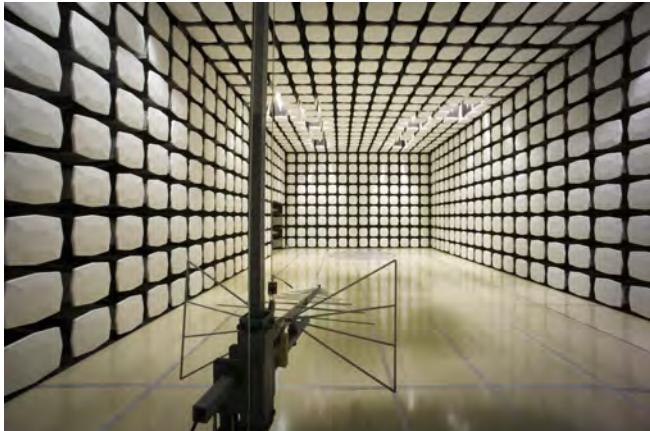
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

Test	+ MU	- MU
Frequency Accuracy (Hz)	0.12	-0.01
Amplitude Accuracy (dB)	0.49	-0.49
Conducted Power (dB)	0.41	-0.41
Radiated Power via Substitution (dB)	0.69	-0.68
Temperature (degrees C)	0.81	-0.81
Humidity (% RH)	2.89	-2.89
Field Strength (dB)	4.00	-4.00
AC Powerline Conducted Emissions (dB)	2.70	-2.70

# FACILITIES



<b>Oregon</b> Labs EV01-12 22975 NW Evergreen Pkwy Hillsboro, OR 97124 (503) 844-4066	<b>California</b> Labs OC01-13 41 Tesla Irvine, CA 92618 (949) 861-8918	<b>New York</b> Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 685-0796	<b>Minnesota</b> Labs MN01-08 9349 W Broadway Ave. Brooklyn Park, MN 55445 (763) 425-2281	<b>Washington</b> Labs NC01-05, SU02, SU07 19201 120 <sup>th</sup> Ave. NE Bothell, WA 98011 (425) 984-6600
<b>VCCI</b>				
A-0108	A-0029		A-0109	A-0110
<b>Industry Canada</b>				
2834D-1, 2834D-2	2834B-1, 2834B-2, 2834B-3		2834E-1	2834C-1
<b>NVLAP</b>				
NVLAP Lab Code: 200630-0	NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200761-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200629-0





# PRODUCT DESCRIPTION

## Client and Equipment Under Test (EUT) Information

<b>Company Name:</b>	TE Connectivity / ADC Telecommunications
<b>Address:</b>	1187 Park Place
<b>City, State, Zip:</b>	Shakopee, MN 55379
<b>Test Requested By:</b>	Joshua Wittman
<b>Model:</b>	Prism HDM 40W PCS SISO RF Module Model: FWP-881T000MOD
<b>First Date of Test:</b>	August 06, 2013
<b>Last Date of Test:</b>	September 23, 2013
<b>Receipt Date of Samples:</b>	August 05, 2013
<b>Equipment Design Stage:</b>	Production
<b>Equipment Condition:</b>	No Damage

## Information Provided by the Party Requesting the Test

### Functional Description of the EUT (Equipment Under Test):

The Prism HDM is an industrial signal booster which is used to enhance wireless networks in outdoor locations and large venues.

### Testing Objective:

To demonstrate compliance to FCC Part 24E.

## Configuration TECO0005- 1

Software/Firmware Running during test	
Description	Version
PRU	8.1.1.1

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Prism HDM 40W PCS SISO RF Module	TE Connectivity / ADC Telecommunications	FWP-881T000MOD	None

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
RF Signal Generator	Aeroflex	IFR 3413	341006
Power Supply	Sorensen	DCS80-13E	None
IO Control Device	TE Connectivity / ADC Telecommunications	SVT-GU-1011	7109A001D
Laptop	Dell	Latitude D630	34562243089
Laptop Supply	Dell	LA90PS0-00	CN-0DF266-71615-68A-7166
30 dB attenuator	Aeroflex	86-30-12DC-22GHz	369

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power	No	> 3m	No	Prism HDM 40W PCS SISO RF Module	AC Mains
Fiber	No	> 3m	No	Prism HDM 40W PCS SISO RF Module	IO Control Device
RF	Yes	0.9m	No	Prism HDM 40W PCS SISO RF Module	30 dB attenuator
RF	Yes	0.7m	No	IO Control Device	RF Signal Generator
AC Power	No	1.8m	No	RF Signal Generator	AC Mains
AC Power	No	1.8m	No	Power Supply	AC Mains
DC Power	No	2.8m	Yes	IO Control Device	Power Supply
AC Power	No	1.8m	No	Laptop Supply	AC Mains
DC Power	No	1.8m	Yes	Laptop	Laptop Supply
Ethernet	No	1.5m	No	Laptop	IO Control Device

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

## Configuration TECO0005- 2

Software/Firmware Running during test				
Description		Version		
PRU		8.1.1.1		
EUT				
Description	Manufacturer	Model/Part Number	Serial Number	
Prism HDM 40W PCS SISO RF Module	TE Connectivity / ADC Telecommunications	FWP-881T000MOD	None	
Peripherals in test setup boundary				
Description	Manufacturer	Model/Part Number	Serial Number	
30 dB attenuator	Aeroflex	57-30-43	NL616	
Remote Equipment Outside of Test Setup Boundary				
Description	Manufacturer	Model/Part Number	Serial Number	
RF Signal Generator	Aeroflex	IFR 3413	341006	
Power Supply	Sorenson	DCS80-13E	None	
IO Control Device	TE Connectivity / ADC Telecommunications	SVT-GU-1011	7109A001D	
Laptop	Dell	Latitude D630	34562243089	
Laptop Supply	Dell	LA90PS0-00	CN-0DF266-71615-68A-7166	
Cables				
Cable Type	Shield	Length (m)	Ferrite	Connection 1
AC Power	No	> 3m	No	Prism HDM 40W PCS SISO RF Module
Fiber	No	> 3m	No	Prism HDM 40W PCS SISO RF Module
RF	Yes	0.9m	No	Prism HDM 40W PCS SISO RF Module
RF	Yes	0.7m	No	IO Control Device
AC Power	No	1.8m	No	RF Signal Generator
AC Power	No	1.8m	No	Power Supply
DC Power	No	2.8m	Yes	IO Control Device
AC Power	No	1.8m	No	Laptop Supply
DC Power	No	1.8m	Yes	Laptop
Ethernet	No	1.5m	No	Laptop

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

## Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	8/6/2013	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
2	8/6/2013	Out of Band Emissions - Conducted	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
3	8/6/2013	Conducted Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
4	8/6/2013	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
5	8/6/2013	Peak Average Ratio	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
6	8/7/2013	Frequency Stability	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
7	8/8/2013	Field Strength of Spurious Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
8	9/23/2013	Intermodulation	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.



## DUTY CYCLE

### TEST DESCRIPTION

The Duty Cycle (x) were measured for each of the EUT operating modes. The measurements were made using a zero span on the spectrum analyzer to see the pulses in the time domain. The transmit power was set to its default maximum. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used

The duty cycle was calculated by dividing the transmission pulse duration (T) by the total period of a single on and total off time.

The EUT operates at 100% Duty Cycle.

## Conducted Output Power

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

### TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/12/2013	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	10/5/2012	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	24

### TEST DESCRIPTION

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The Average (RMS) output power was measured with the EUT set to the parameters called out in the data sheets. The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. Prior to making the measurements the setup, including cables and attenuators were calibrated and added into the reference level offset.

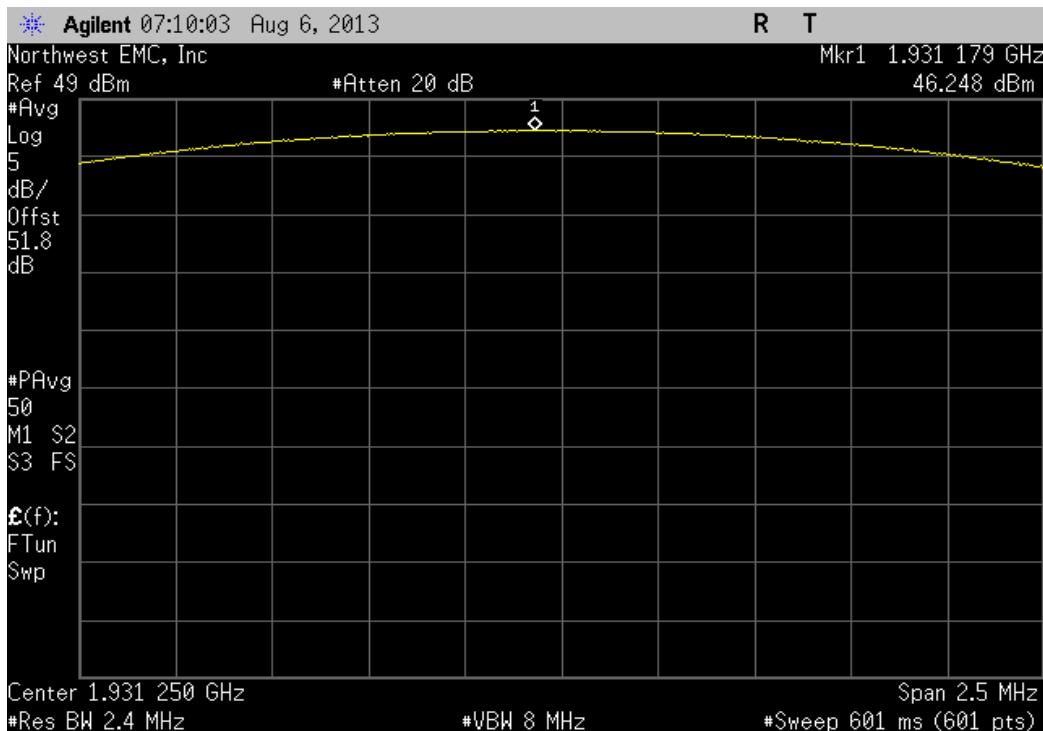


## Conducted Output Power

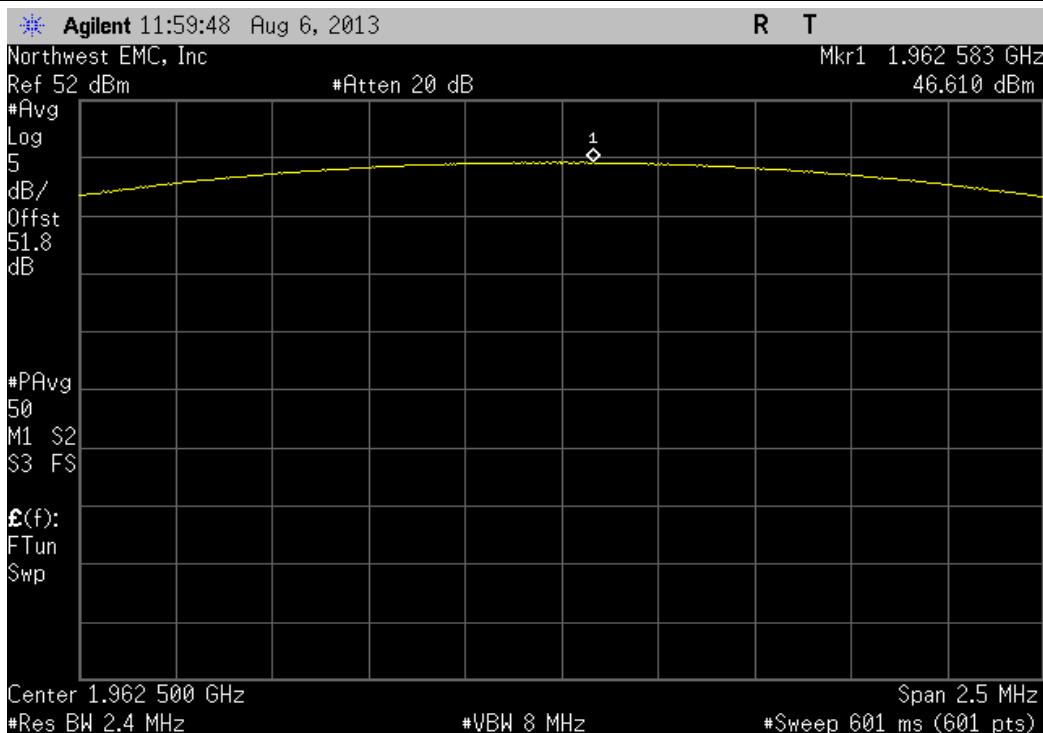
XMit 2013.02.28  
PsaTx 2013.07.11

EUT: Prism HDM 40W PCS SISO RF Module Model: FWP-881T000MOD		Work Order: TEC0005			
Serial Number: None		Date: 08/06/13			
Customer: TE Connectivity / ADC Telecommunications		Temperature: 25.3°C			
Attendees: None		Humidity: 44%			
Project: None		Barometric Pres.: 1010			
Tested by: Trevor Buls	Power: 110VAC/60Hz	Job Site: MN08			
TEST SPECIFICATIONS	Test Method				
FCC 24E:2013	ANSI/TIA/EIA-603-C-2004				
COMMENTS	Customer provided a high wattage 30 dB attenuator.				
DEVIATIONS FROM TEST STANDARD	None				
Configuration #	1	Signature <i>Trevor Buls</i>			
		Value (dBm)	Value (W)	Limit	Result
CDMA	Low Channel	46.248	42.2	< 1640 W	Pass
	Mid Channel	46.61	45.8	< 1640 W	Pass
	High Channel	46.162	41.3	< 1640 W	Pass
WCDMA	Low Channel	46.649	46.2	< 1640 W	Pass
	Mid Channel	47.077	51.0	< 1640 W	Pass
	High Channel	46.259	42.3	< 1640 W	Pass
LTE 10 MHz	Low Channel	46.235	42.0	< 1640 W	Pass
	Mid Channel	46.132	41.0	< 1640 W	Pass
	High Channel	46.076	40.5	< 1640 W	Pass
LTE 15 MHz	Low Channel	46.255	42.2	< 1640 W	Pass
	Mid Channel	46.338	43.0	< 1640 W	Pass
	High Channel	46.052	40.3	< 1640 W	Pass
LTE 20 MHz	Low Channel	46.102	40.8	< 1640 W	Pass
	Mid Channel	46.096	40.7	< 1640 W	Pass
	High Channel	46.162	41.3	< 1640 W	Pass

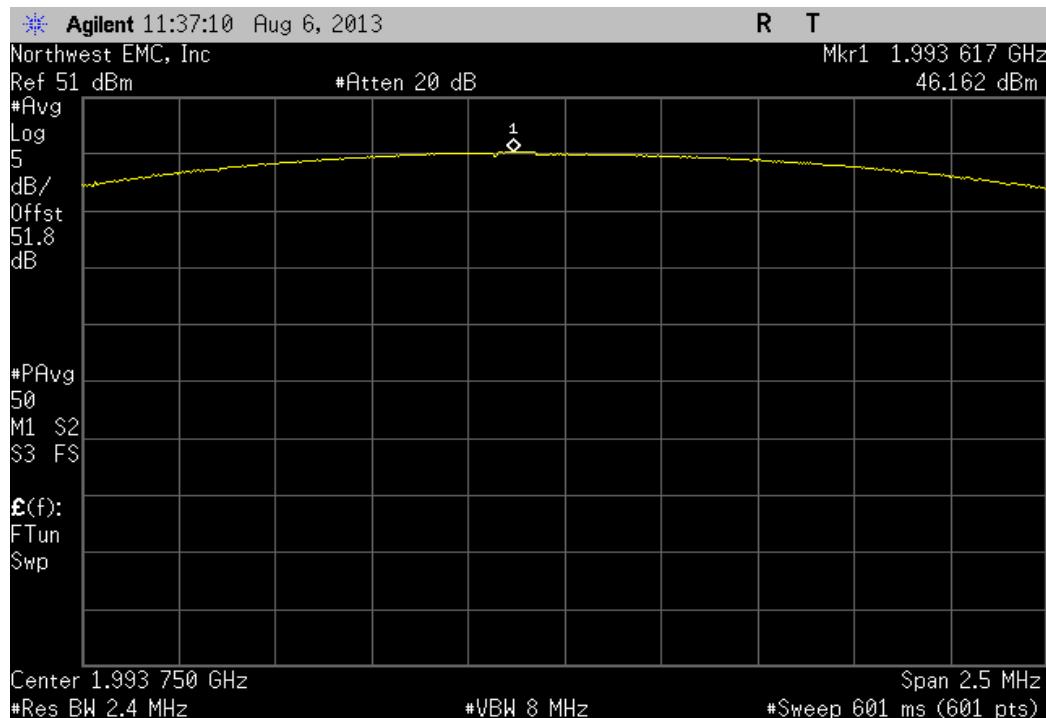
CDMA, Low Channel						
	Value (dBm)		Value (W)	Limit	Result	
	46.248		42.2	< 1640 W	Pass	



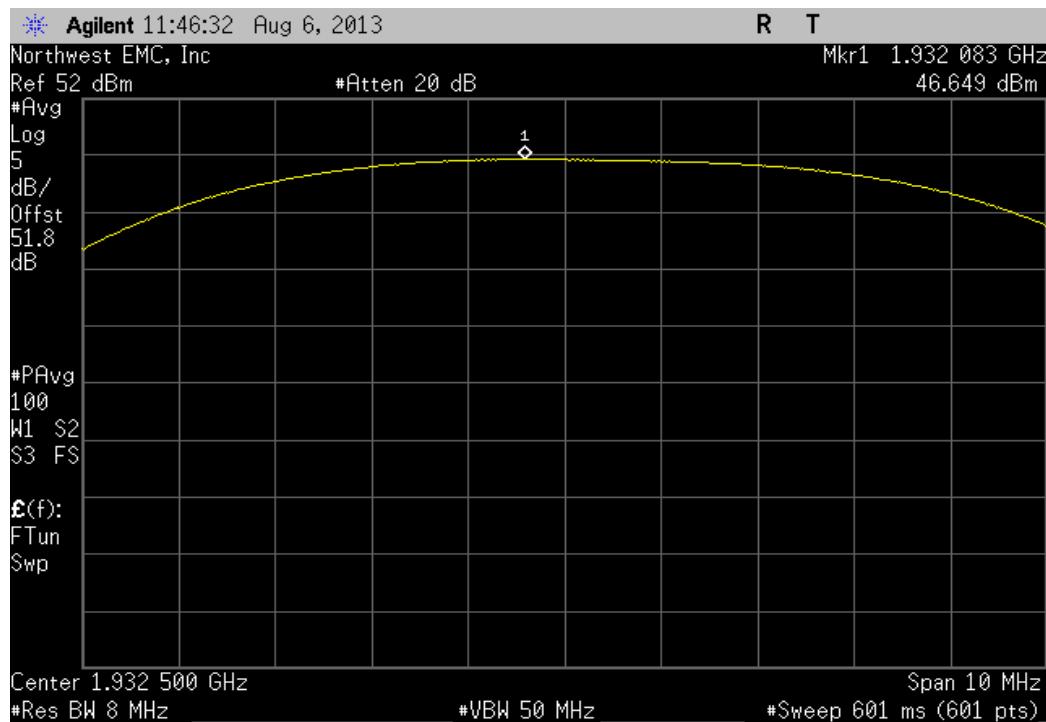
CDMA, Mid Channel						
	Value (dBm)		Value (W)	Limit	Result	
	46.61		45.8	< 1640 W	Pass	



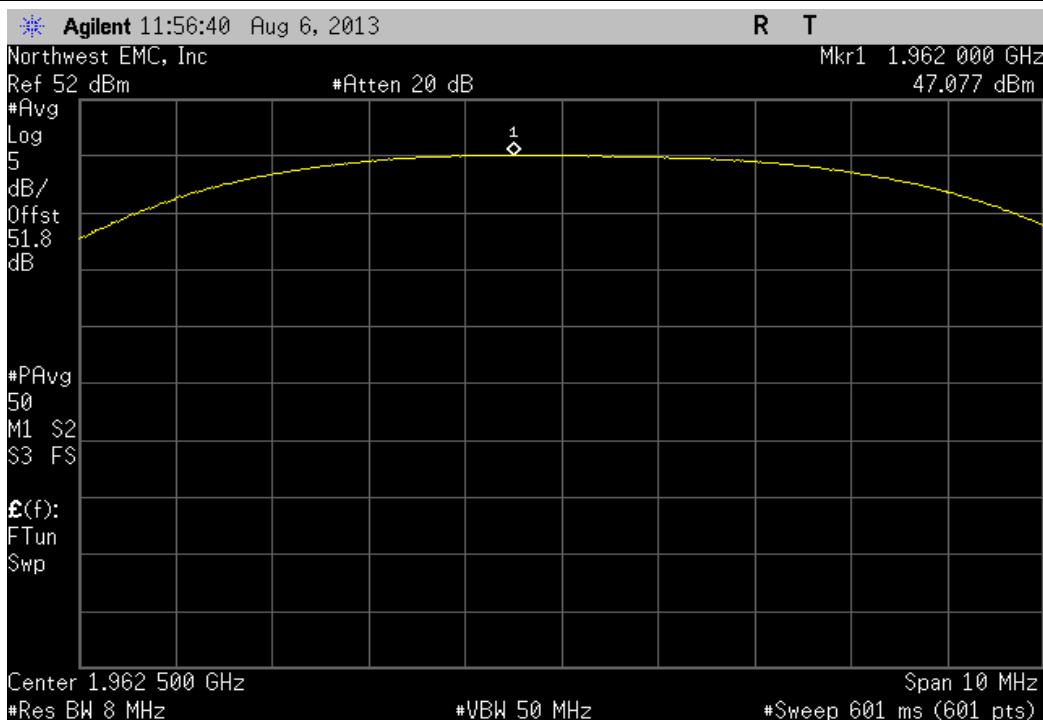
CDMA, High Channel					
	Value (dBm)		Value (W)	Limit	Result
	46.162		41.3	< 1640 W	Pass



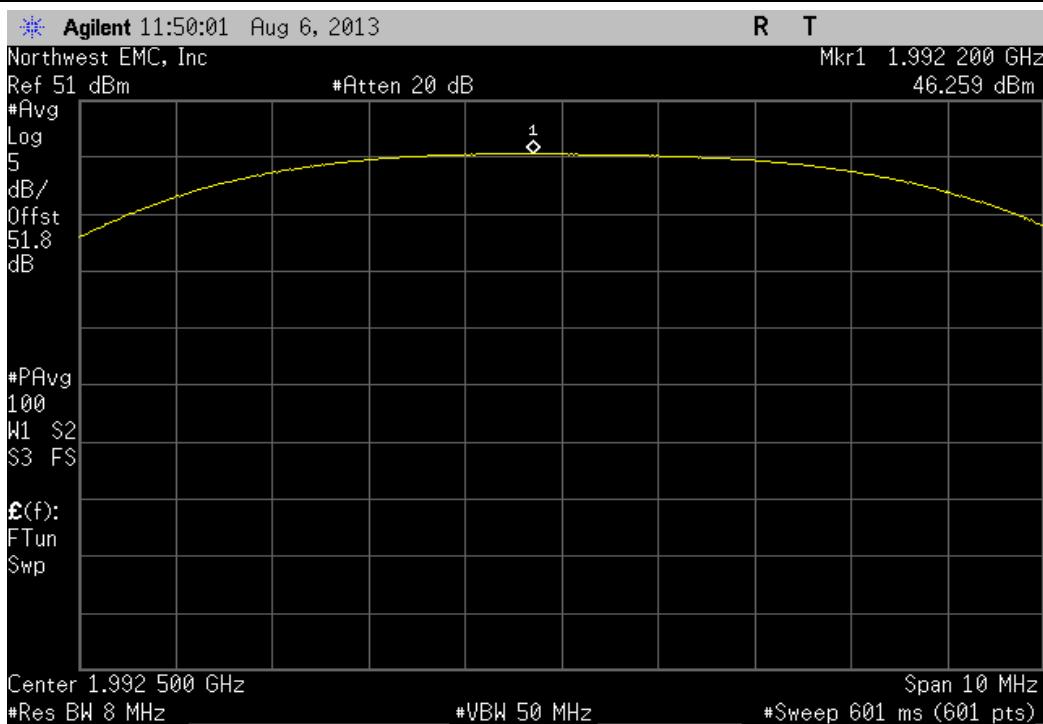
WCDMA, Low Channel					
	Value (dBm)		Value (W)	Limit	Result
	46.649		46.2	< 1640 W	Pass



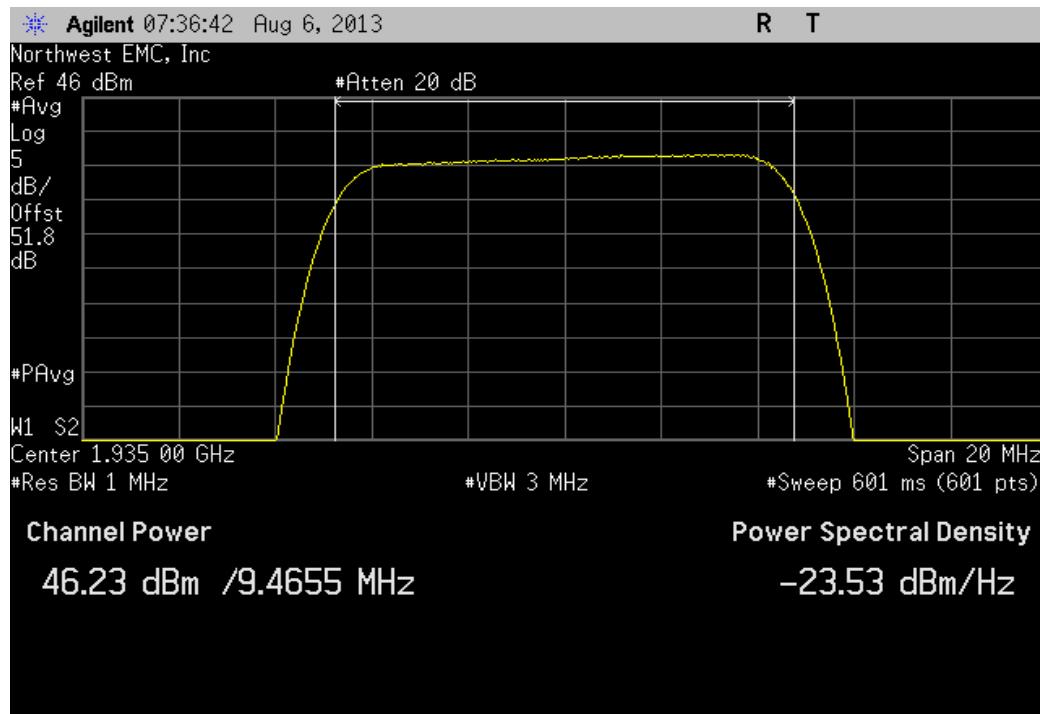
WCDMA, Mid Channel					
	Value (dBm)	Value (W)	Limit	Result	
	47.077	51.0	< 1640 W	Pass	



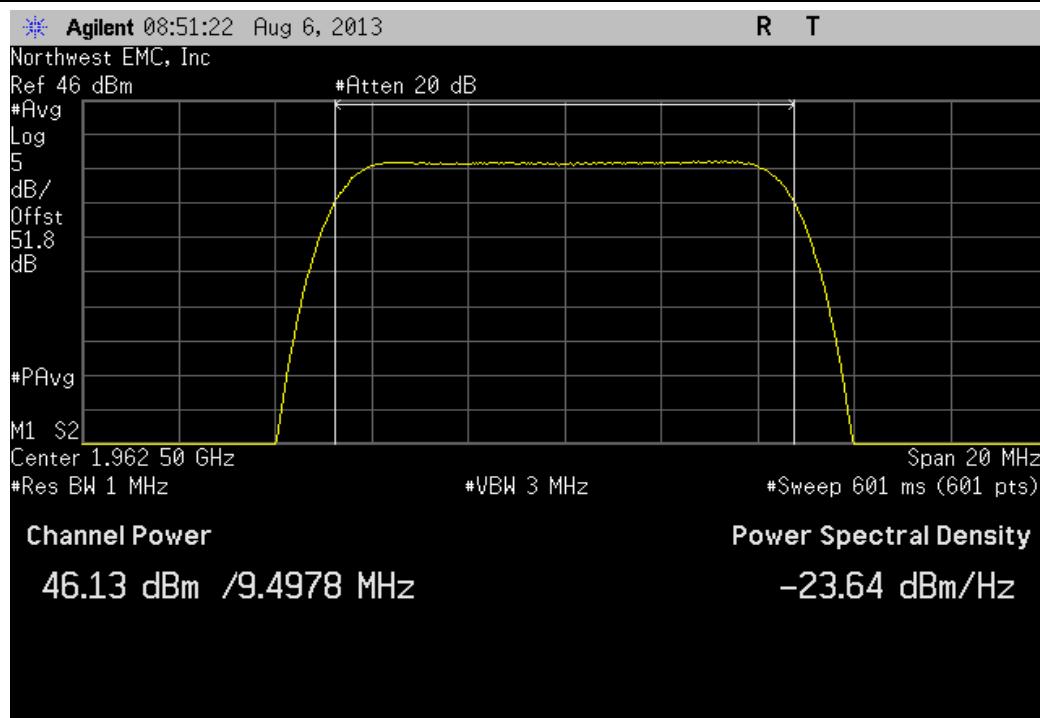
WCDMA, High Channel					
	Value (dBm)	Value (W)	Limit	Result	
	46.259	42.3	< 1640 W	Pass	



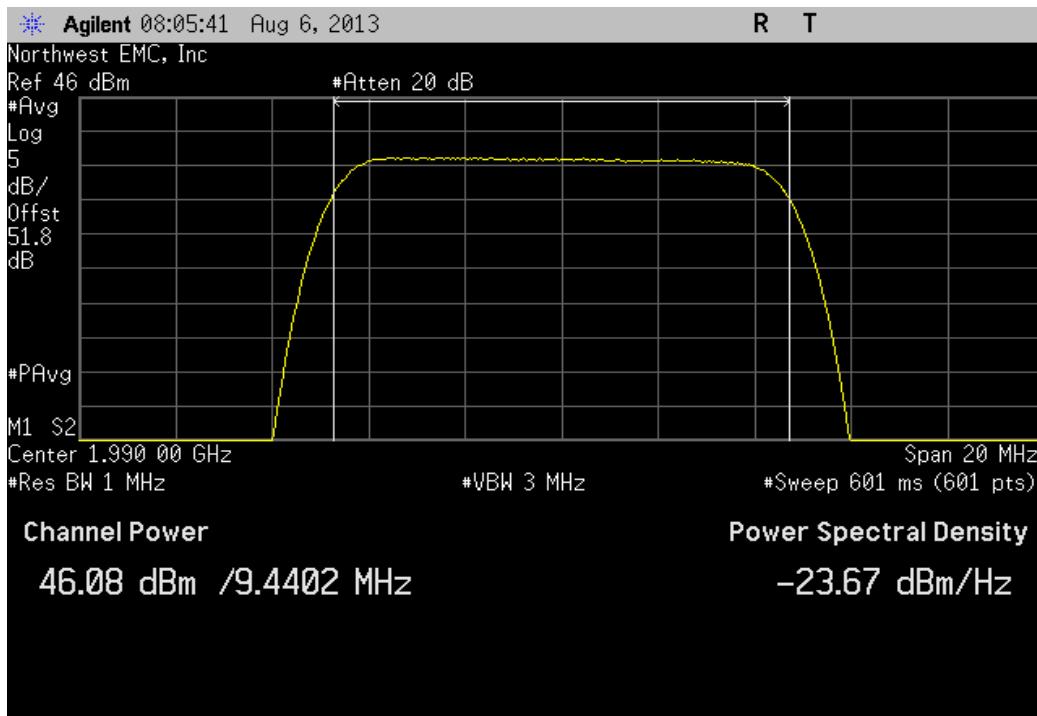
LTE 10 MHz, Low Channel					
	Value (dBm)	Value (W)	Limit	Result	
	46.235	42.0	< 1640 W	Pass	



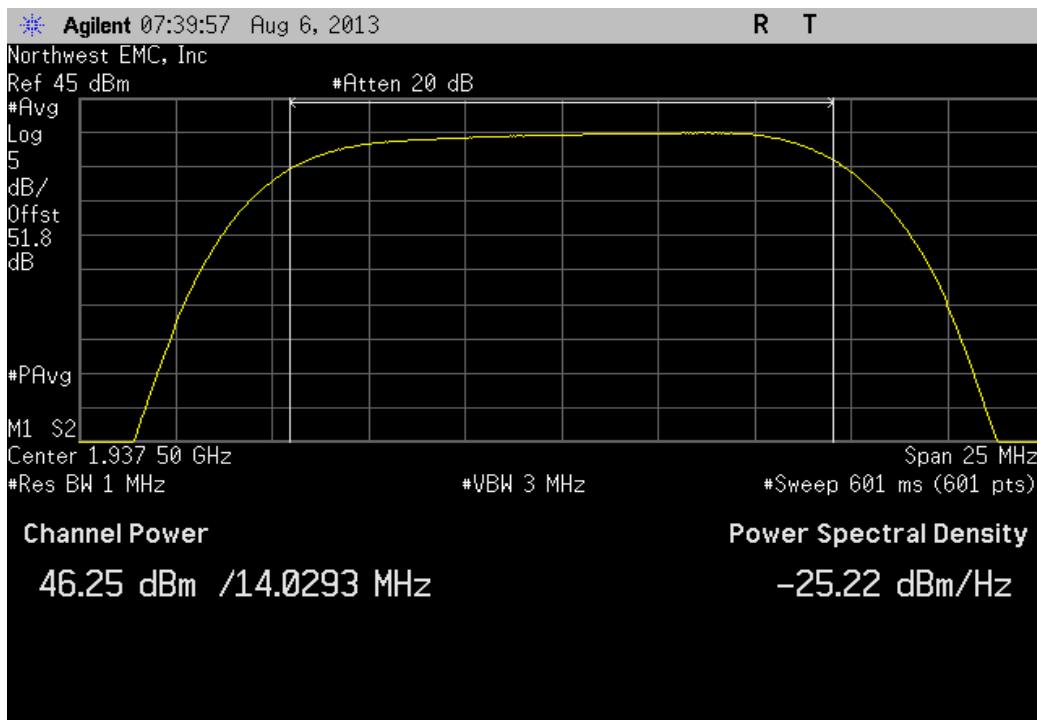
LTE 10 MHz, Mid Channel					
	Value (dBm)	Value (W)	Limit	Result	
	46.132	41.0	< 1640 W	Pass	

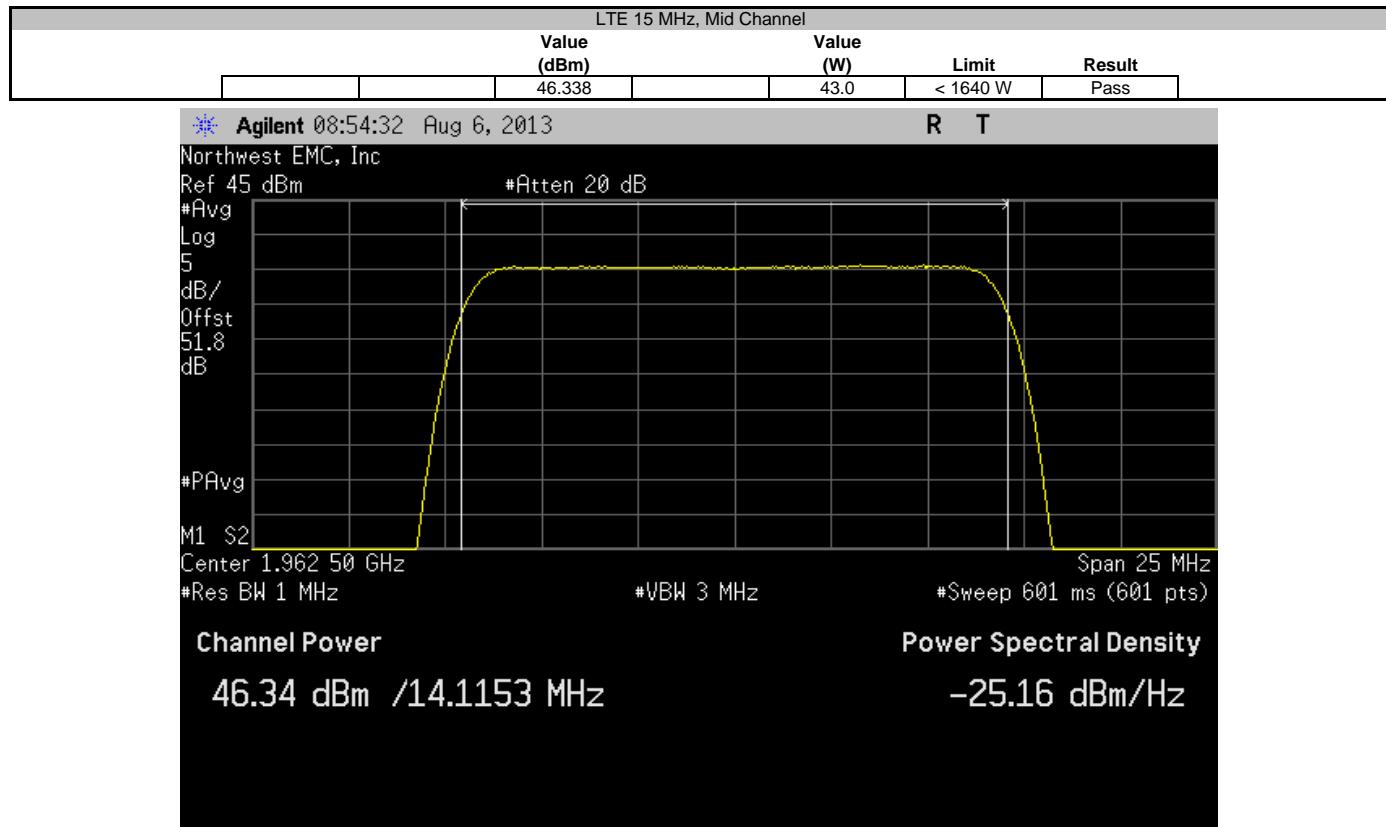


LTE 10 MHz, High Channel					
	Value (dBm)	Value (W)	Limit	Result	
	46.076	40.5	< 1640 W	Pass	

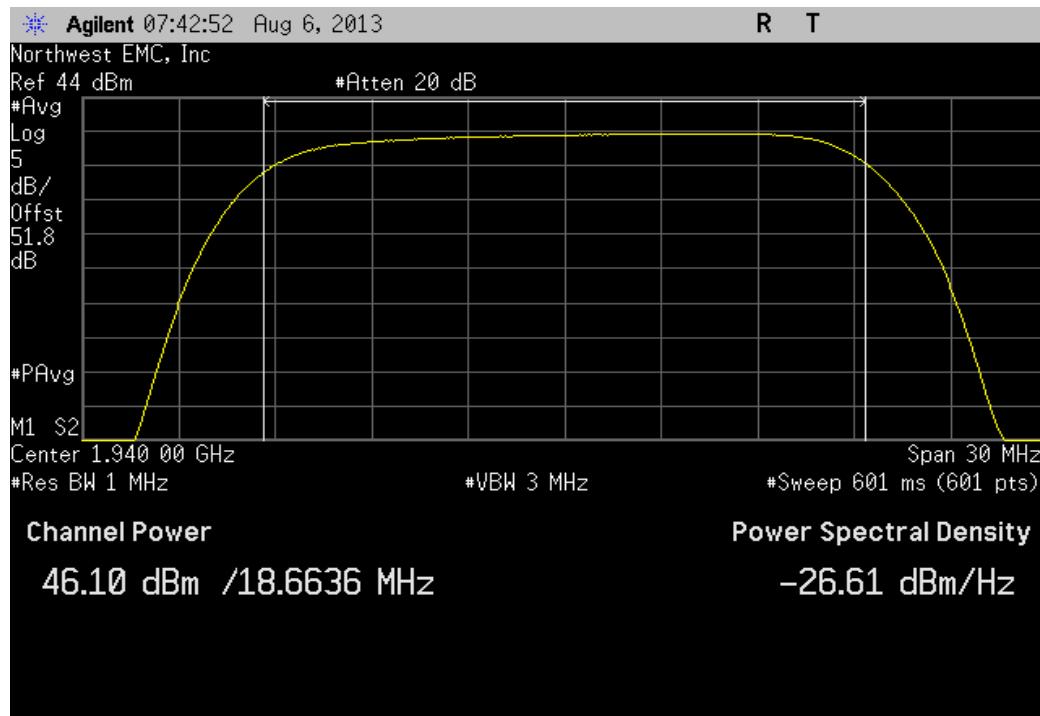


LTE 15 MHz, Low Channel					
	Value (dBm)	Value (W)	Limit	Result	
	46.255	42.2	< 1640 W	Pass	

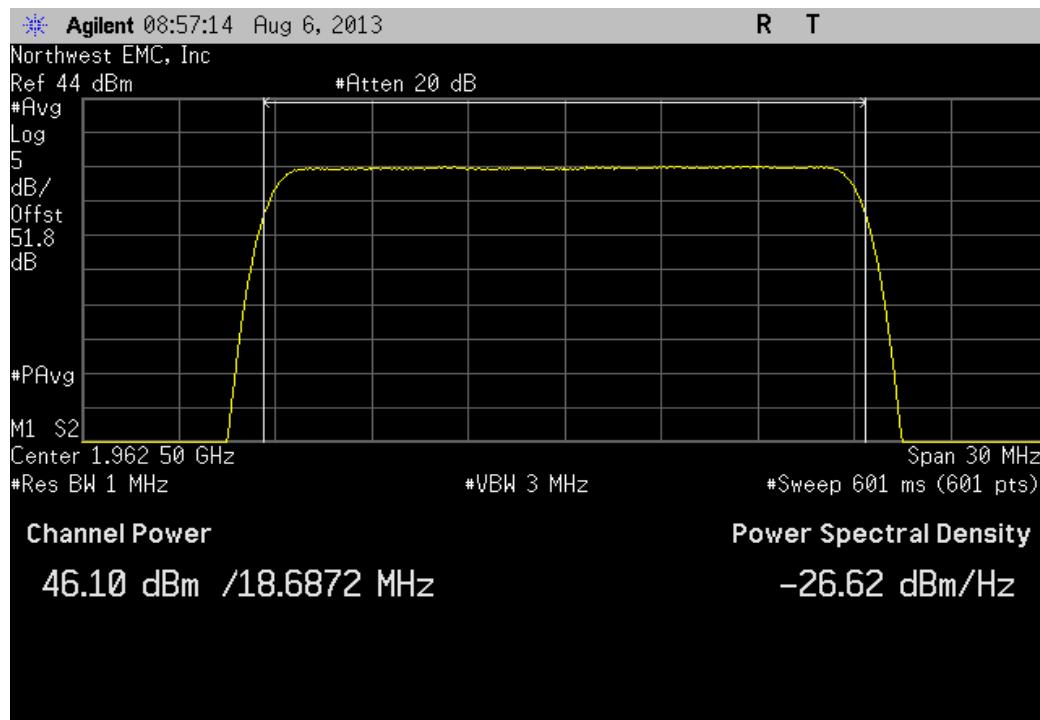


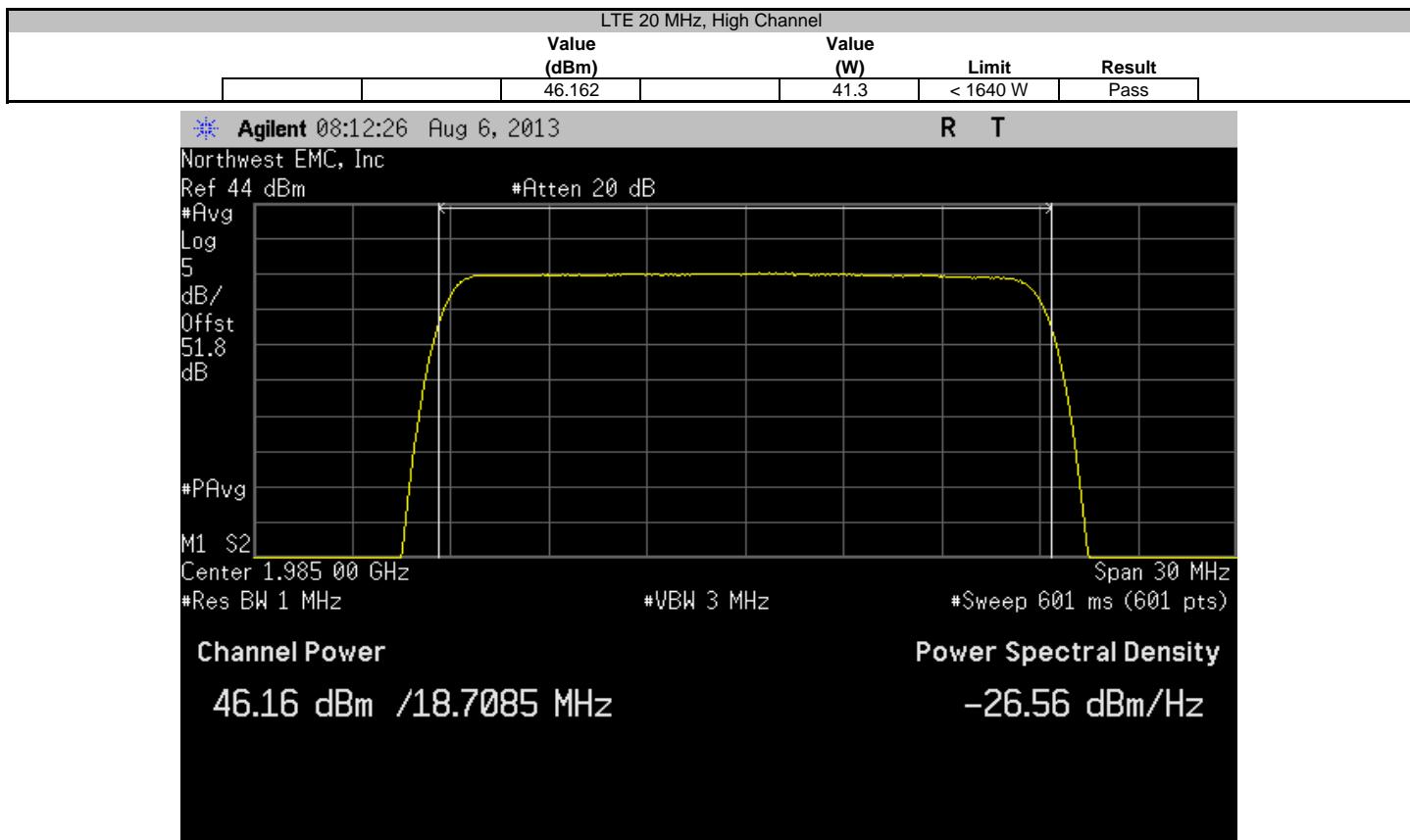


LTE 20 MHz, Low Channel					
	Value (dBm)	Value (W)	Limit	Result	
	46.102	40.8	< 1640 W	Pass	



LTE 20 MHz, Mid Channel					
	Value (dBm)	Value (W)	Limit	Result	
	46.096	40.7	< 1640 W	Pass	





## Out of Band Emissions - Conducted

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

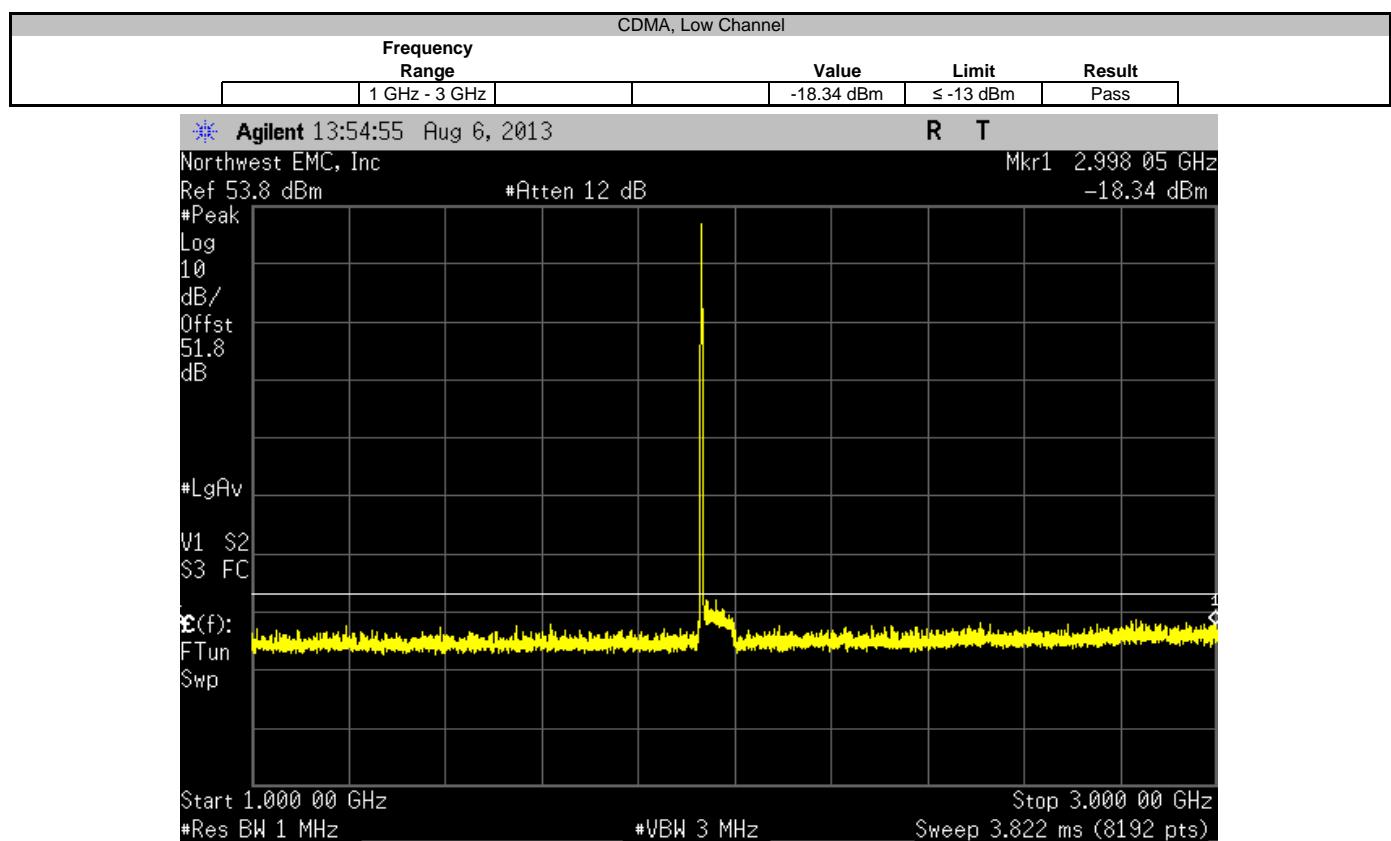
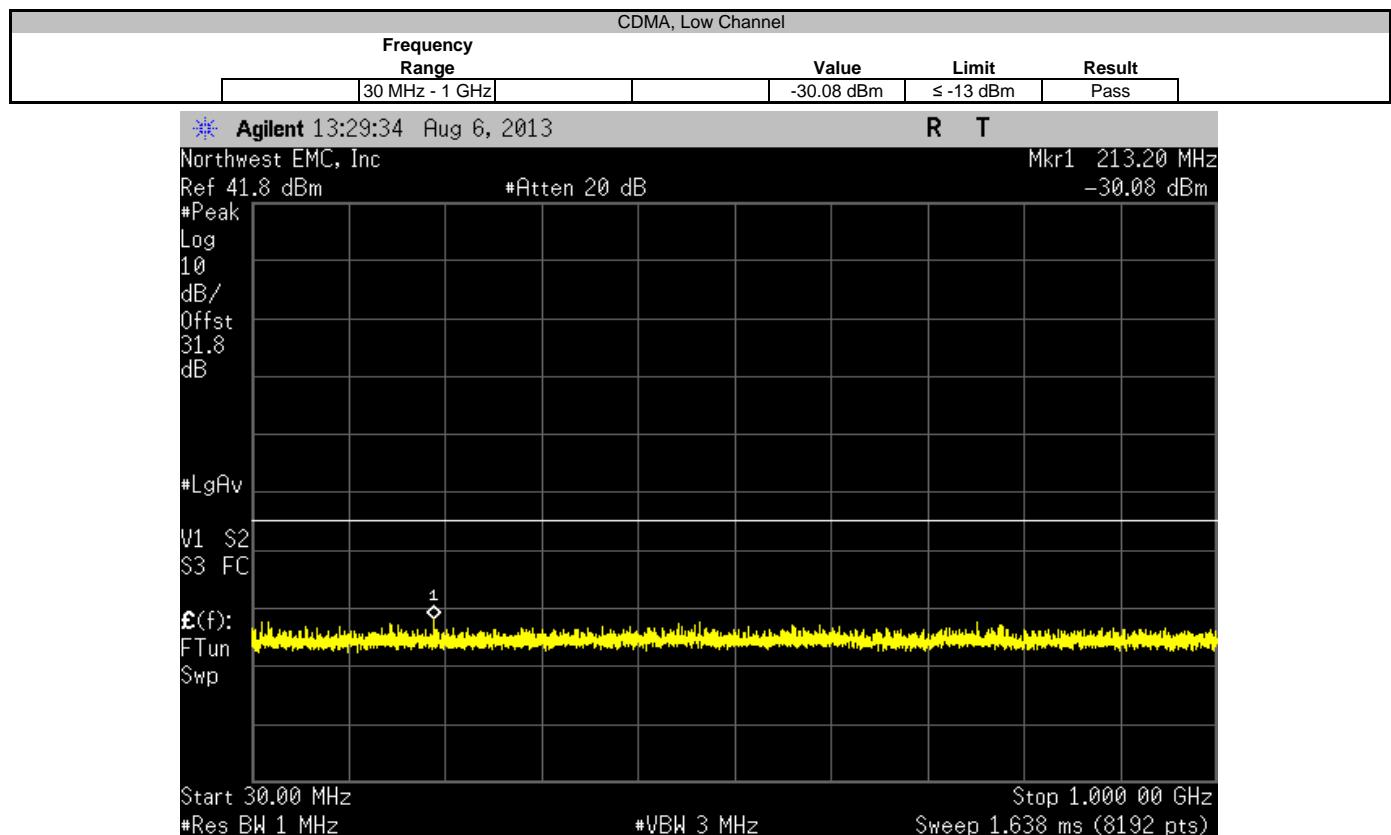
### TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
High Pass Filter 2.8-18 GHz	Micro-Tronics	HPM50111	HGY	10/5/2012	24
Low Pass Filter 0-1000 MHz	Micro-Tronics	LPM50004	HGV	10/5/2012	24
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/12/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
40 GHz DC block	Fairview Microwave	SD3379	AMI	10/5/2012	12
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	24

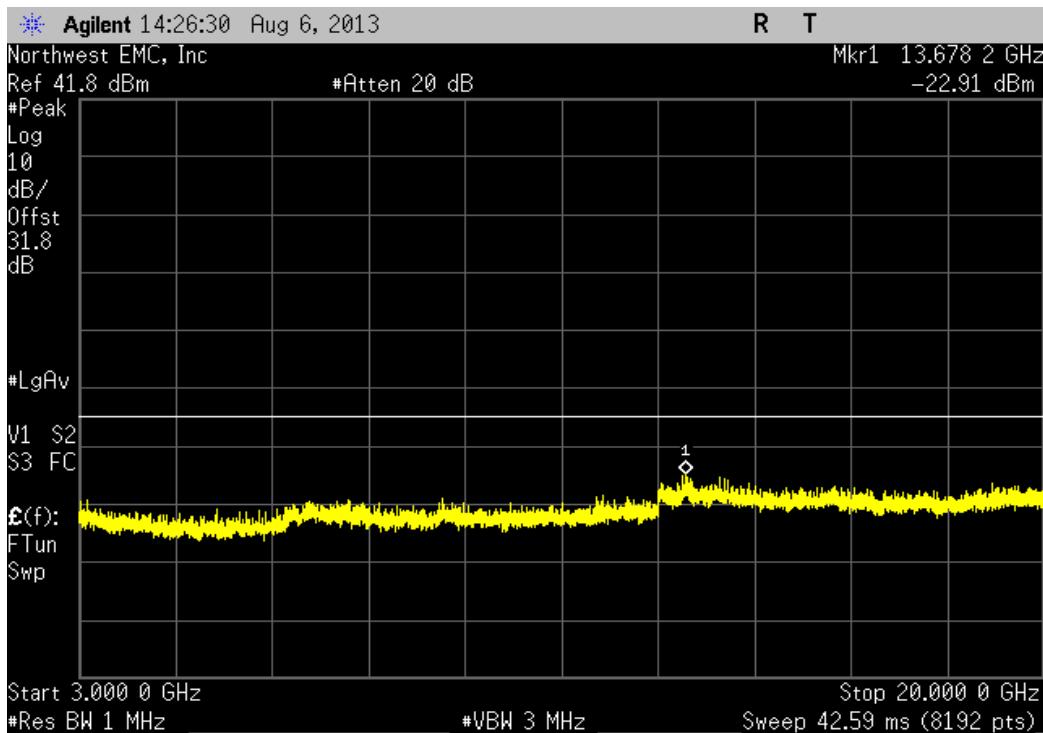
### TEST DESCRIPTION

The antenna port spurious emissions were measured at the RF output terminal of the EUT with external attenuation on the RF input of the spectrum analyzer. Analyzer plots utilizing a 1 MHz resolution bandwidth and no video filtering were made for each modulation type from 30 MHz to 20 GHz. The peak conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than or equal to -13 dBm.

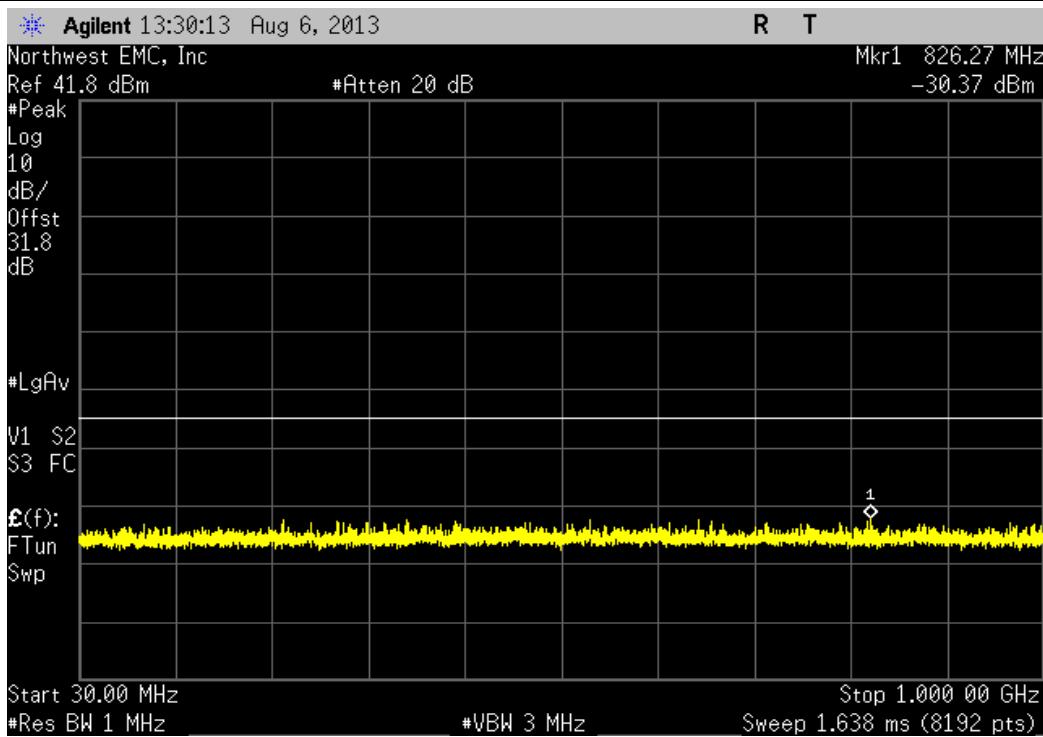
EUT: Prism HDM 40W PCS SISO RF Module Model: FWP-881T000MOD		Work Order: TECO0005			
Serial Number: None		Date: 08/06/13			
Customer: TE Connectivity / ADC Telecommunications		Temperature: 25.3°C			
Attendees: None		Humidity: 44%			
Project: None		Barometric Pres.: 1010			
Tested by: Trevor Buls	Power: 110VAC/60Hz	Job Site: MN08			
TEST SPECIFICATIONS		Test Method			
FCC 24E:2013	ANSI/TIA/EIA-603-C-2004				
COMMENTS					
Customer provided a high wattage 30 dB attenuator.					
DEVIATIONS FROM TEST STANDARD					
None					
Configuration #	1	Signature 			
		Frequency Range	Value	Limit	Result
CDMA					
Low Channel	30 MHz - 1 GHz	-30.08 dBm	≤ -13 dBm	Pass	
Low Channel	1 GHz - 3 GHz	-18.34 dBm	≤ -13 dBm	Pass	
Low Channel	3 GHz - 20 GHz	-22.91 dBm	≤ -13 dBm	Pass	
Mid Channel	30 MHz - 1 GHz	-30.37 dBm	≤ -13 dBm	Pass	
Mid Channel	1 GHz - 3 GHz	-17.47 dBm	≤ -13 dBm	Pass	
Mid Channel	3 GHz - 20 GHz	-23.43 dBm	≤ -13 dBm	Pass	
High Channel	30 MHz - 1 GHz	-30.41 dBm	≤ -13 dBm	Pass	
High Channel	1 GHz - 3 GHz	-17.83 dBm	≤ -13 dBm	Pass	
High Channel	3 GHz - 20 GHz	-22.73 dBm	≤ -13 dBm	Pass	
WCDMA					
Low Channel	30 MHz - 1 GHz	-30.25 dBm	≤ -13 dBm	Pass	
Low Channel	1 GHz - 3 GHz	-17.78 dBm	≤ -13 dBm	Pass	
Low Channel	3 GHz - 20 GHz	-23.24 dBm	≤ -13 dBm	Pass	
Mid Channel	30 MHz - 1 GHz	-30.62 dBm	≤ -13 dBm	Pass	
Mid Channel	1 GHz - 3 GHz	-17.66 dBm	≤ -13 dBm	Pass	
Mid Channel	3 GHz - 20 GHz	-23.45 dBm	≤ -13 dBm	Pass	
High Channel	30 MHz - 1 GHz	-30.36 dBm	≤ -13 dBm	Pass	
High Channel	1 GHz - 3 GHz	-18.05 dBm	≤ -13 dBm	Pass	
High Channel	3 GHz - 20 GHz	-23.63 dBm	≤ -13 dBm	Pass	
LTE 10 MHz					
Low Channel	30 MHz - 1 GHz	-30.48 dBm	≤ -13 dBm	Pass	
Low Channel	1 GHz - 3 GHz	-17.45 dBm	≤ -13 dBm	Pass	
Low Channel	3 GHz - 20 GHz	-23.6 dBm	≤ -13 dBm	Pass	
Mid Channel	30 MHz - 1 GHz	-30.4 dBm	≤ -13 dBm	Pass	
Mid Channel	1 GHz - 3 GHz	-17.32 dBm	≤ -13 dBm	Pass	
Mid Channel	3 GHz - 20 GHz	-22.72 dBm	≤ -13 dBm	Pass	
High Channel	30 MHz - 1 GHz	-30.14 dBm	≤ -13 dBm	Pass	
High Channel	1 GHz - 3 GHz	-17.09 dBm	≤ -13 dBm	Pass	
High Channel	3 GHz - 20 GHz	-23.32 dBm	≤ -13 dBm	Pass	
LTE 15 MHz					
Low Channel	30 MHz - 1 GHz	-29.3 dBm	≤ -13 dBm	Pass	
Low Channel	1 GHz - 3 GHz	-17.55 dBm	≤ -13 dBm	Pass	
Low Channel	3 GHz - 20 GHz	-23.14 dBm	≤ -13 dBm	Pass	
Mid Channel	30 MHz - 1 GHz	-29.72 dBm	≤ -13 dBm	Pass	
Mid Channel	1 GHz - 3 GHz	-17.73 dBm	≤ -13 dBm	Pass	
Mid Channel	3 GHz - 20 GHz	-23.06 dBm	≤ -13 dBm	Pass	
High Channel	30 MHz - 1 GHz	-30.59 dBm	≤ -13 dBm	Pass	
High Channel	1 GHz - 3 GHz	-17.85 dBm	≤ -13 dBm	Pass	
High Channel	3 GHz - 20 GHz	-23.2 dBm	≤ -13 dBm	Pass	
LTE 20 MHz					
Low Channel	30 MHz - 1 GHz	-29.78 dBm	≤ -13 dBm	Pass	
Low Channel	1 GHz - 3 GHz	-17.46 dBm	≤ -13 dBm	Pass	
Low Channel	3 GHz - 20 GHz	-23.74 dBm	≤ -13 dBm	Pass	
Mid Channel	30 MHz - 1 GHz	-30.38 dBm	≤ -13 dBm	Pass	
Mid Channel	1 GHz - 3 GHz	-17.45 dBm	≤ -13 dBm	Pass	
Mid Channel	3 GHz - 20 GHz	-23.82 dBm	≤ -13 dBm	Pass	
High Channel	30 MHz - 1 GHz	-30.26 dBm	≤ -13 dBm	Pass	
High Channel	1 GHz - 3 GHz	-19.73 dBm	≤ -13 dBm	Pass	
High Channel	3 GHz - 20 GHz	-23.67 dBm	≤ -13 dBm	Pass	

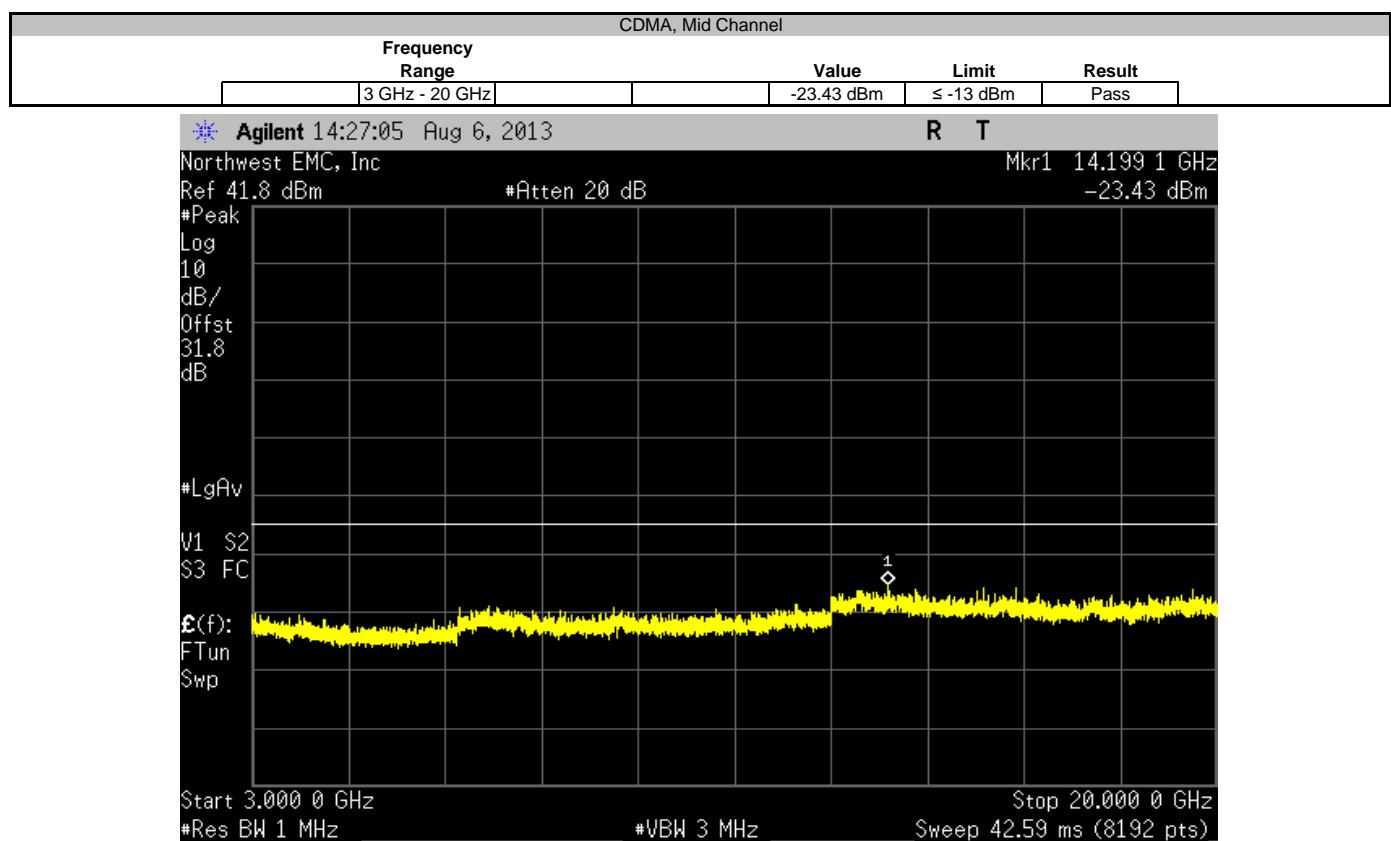
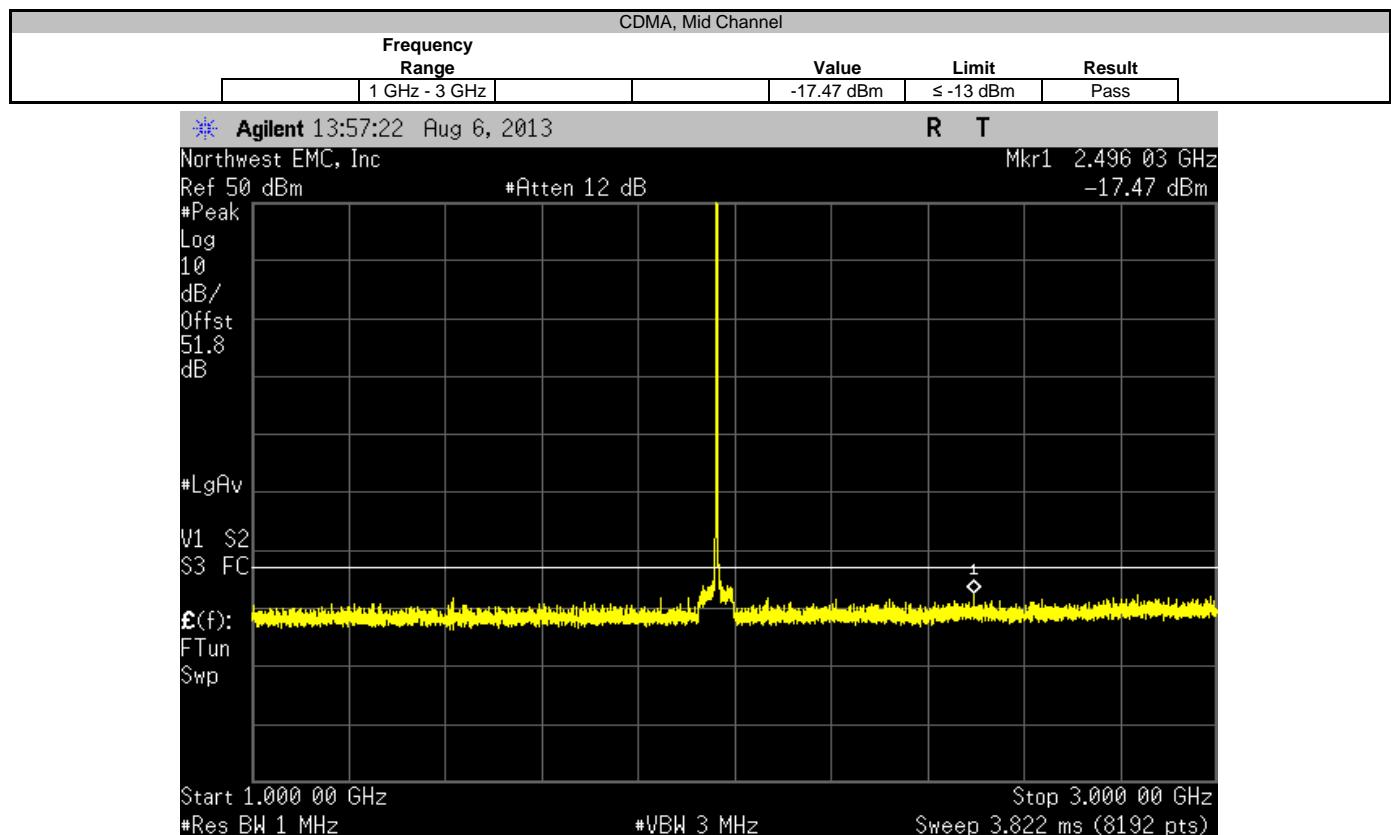


CDMA, Low Channel					
Frequency	Range	Value	Limit	Result	
	3 GHz - 20 GHz	-22.91 dBm	≤ -13 dBm	Pass	

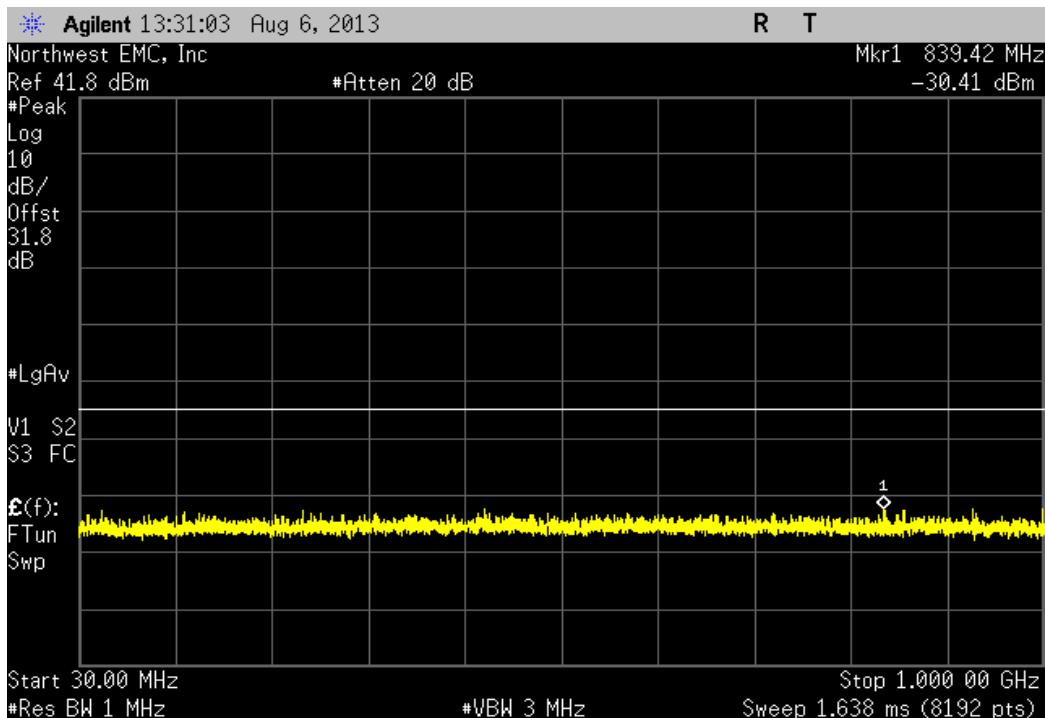


CDMA, Mid Channel					
Frequency	Range	Value	Limit	Result	
	30 MHz - 1 GHz	-30.37 dBm	≤ -13 dBm	Pass	

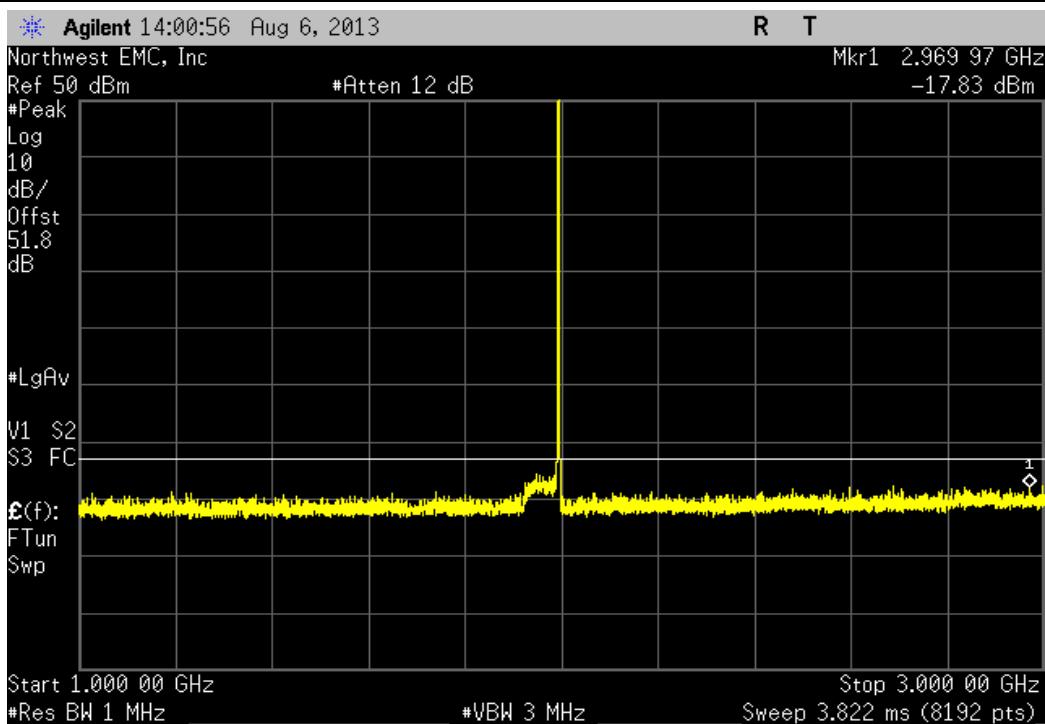




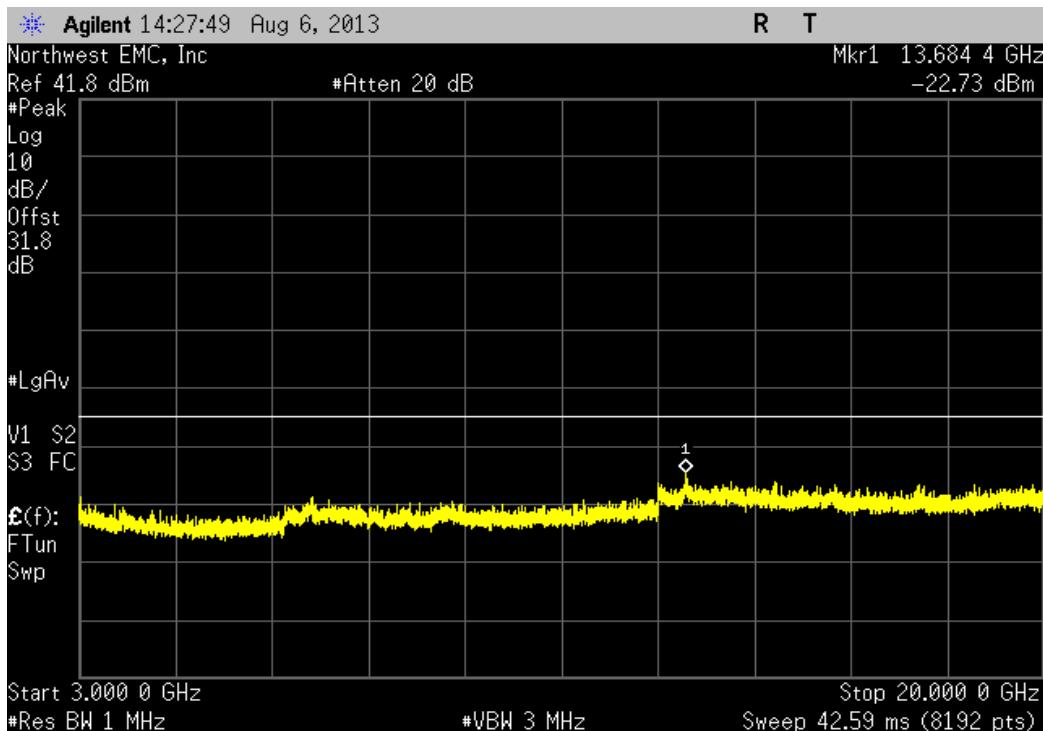
CDMA, High Channel					
Frequency Range		Value	Limit	Result	
30 MHz - 1 GHz		-30.41 dBm	≤ -13 dBm	Pass	



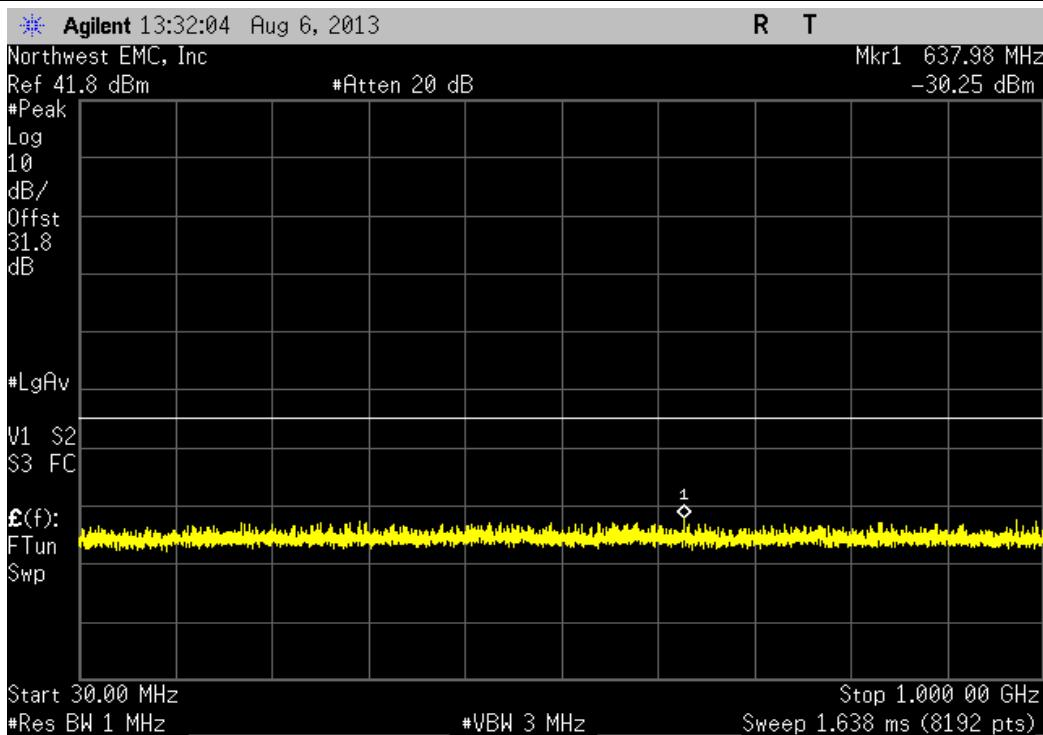
CDMA, High Channel					
Frequency Range		Value	Limit	Result	
1 GHz - 3 GHz		-17.83 dBm	≤ -13 dBm	Pass	

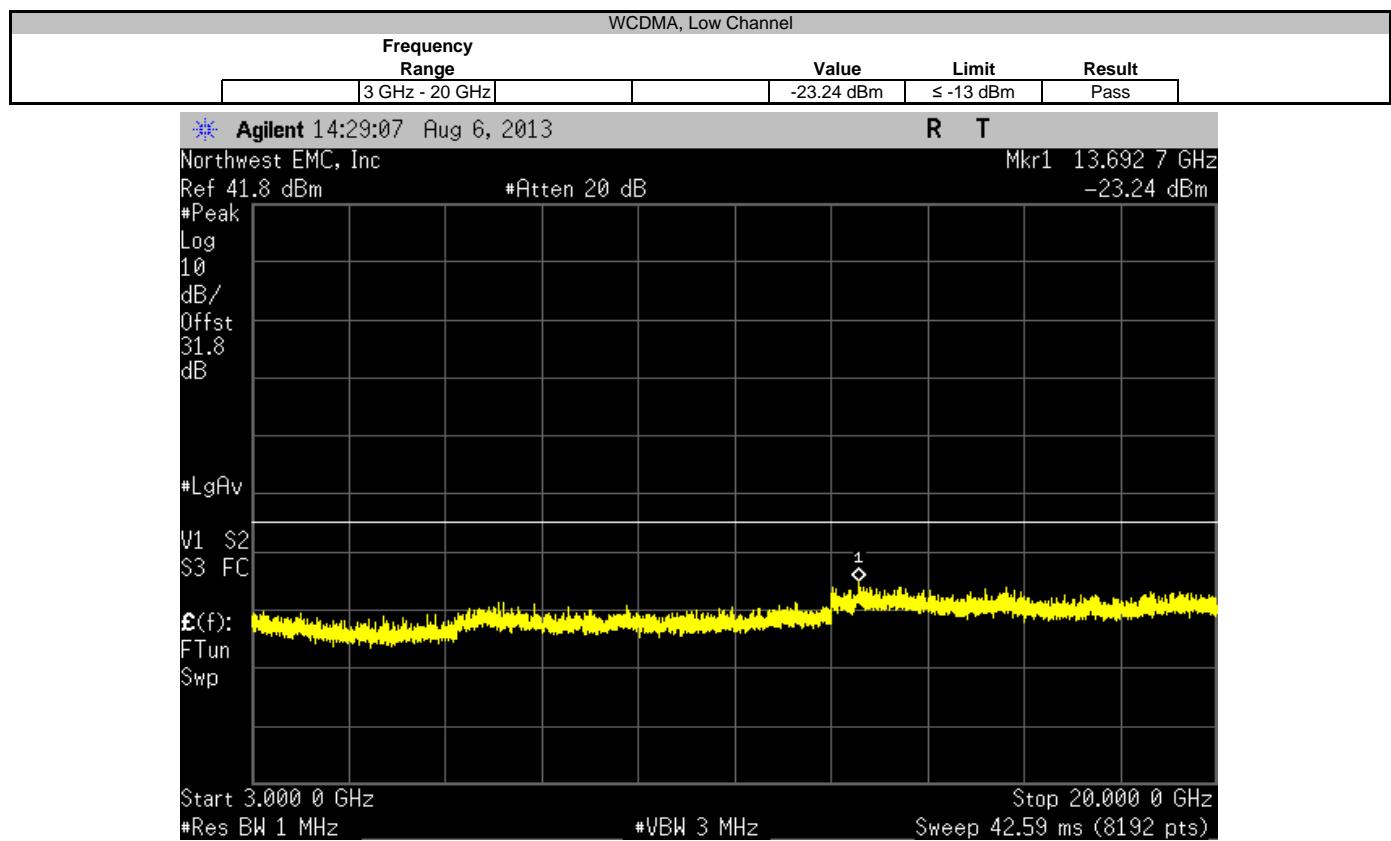
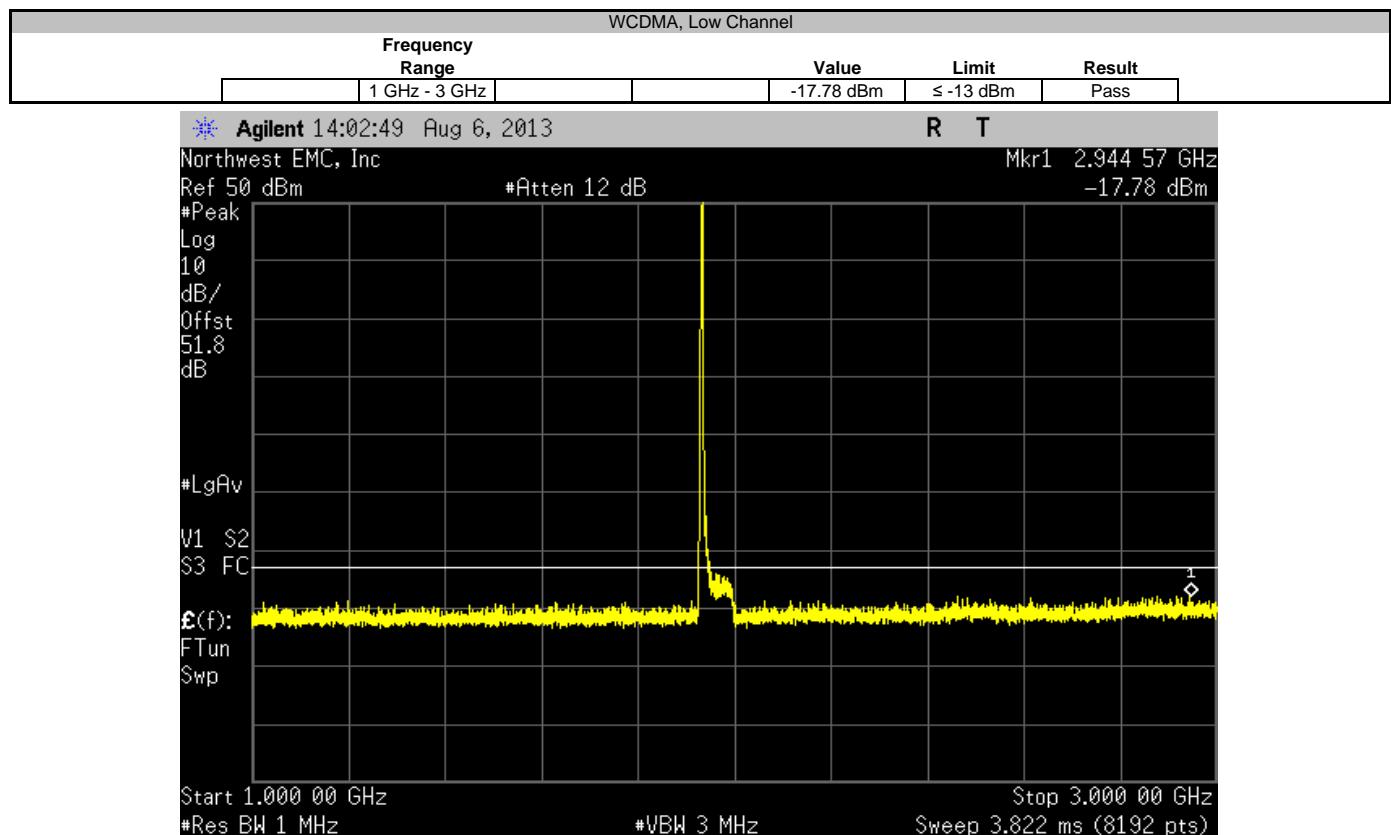


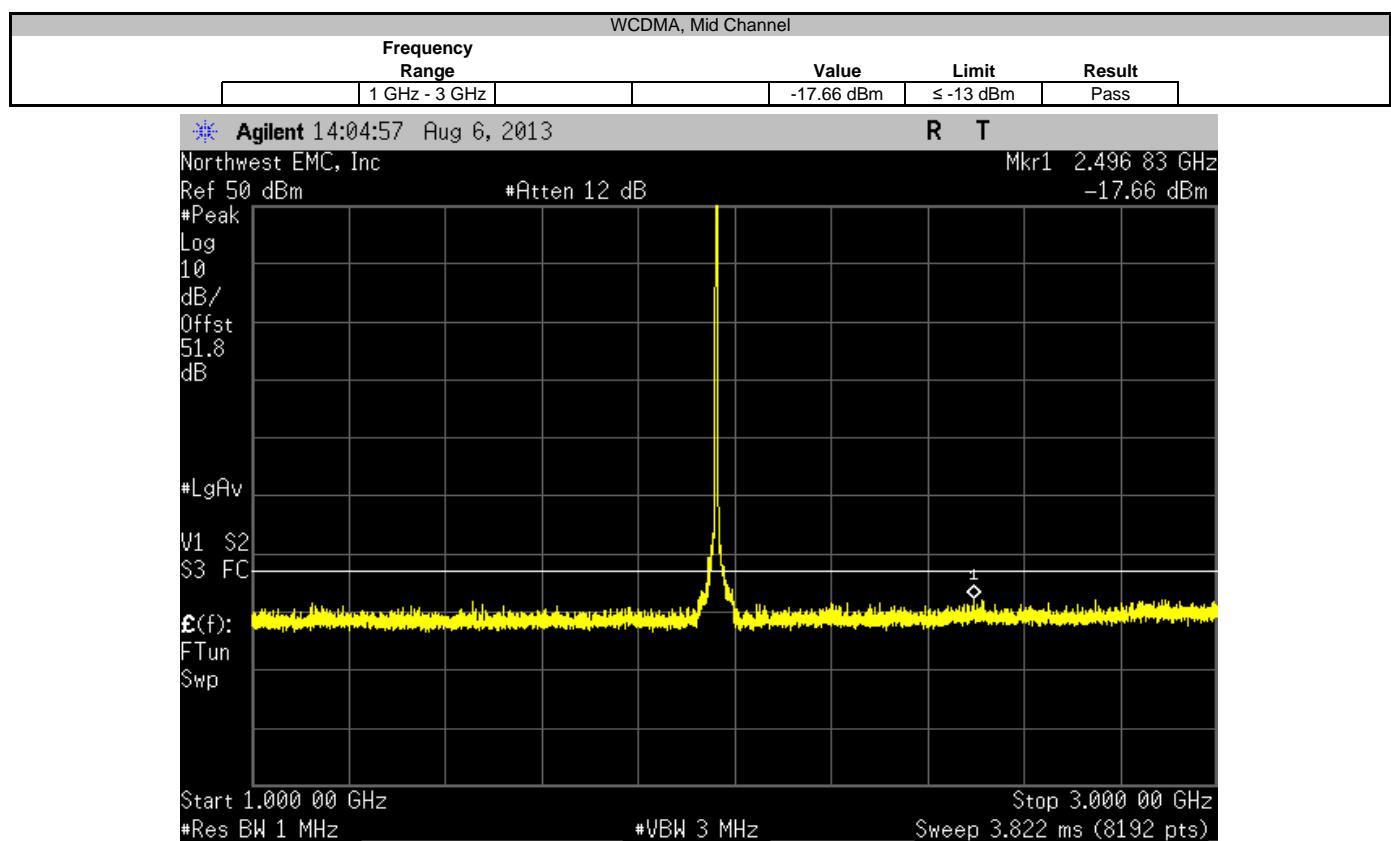
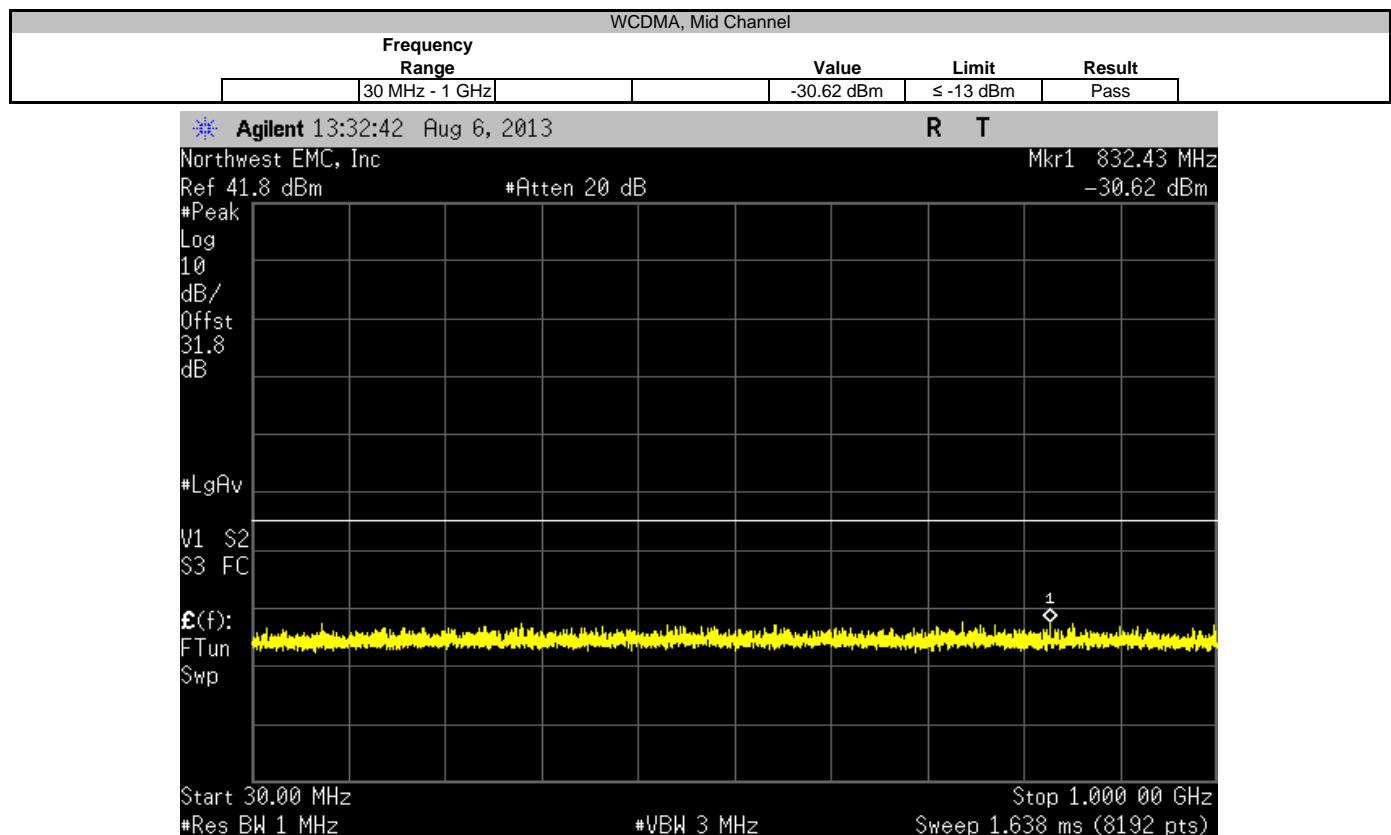
CDMA, High Channel					
Frequency	Range	Value	Limit	Result	
	3 GHz - 20 GHz	-22.73 dBm	≤ -13 dBm	Pass	



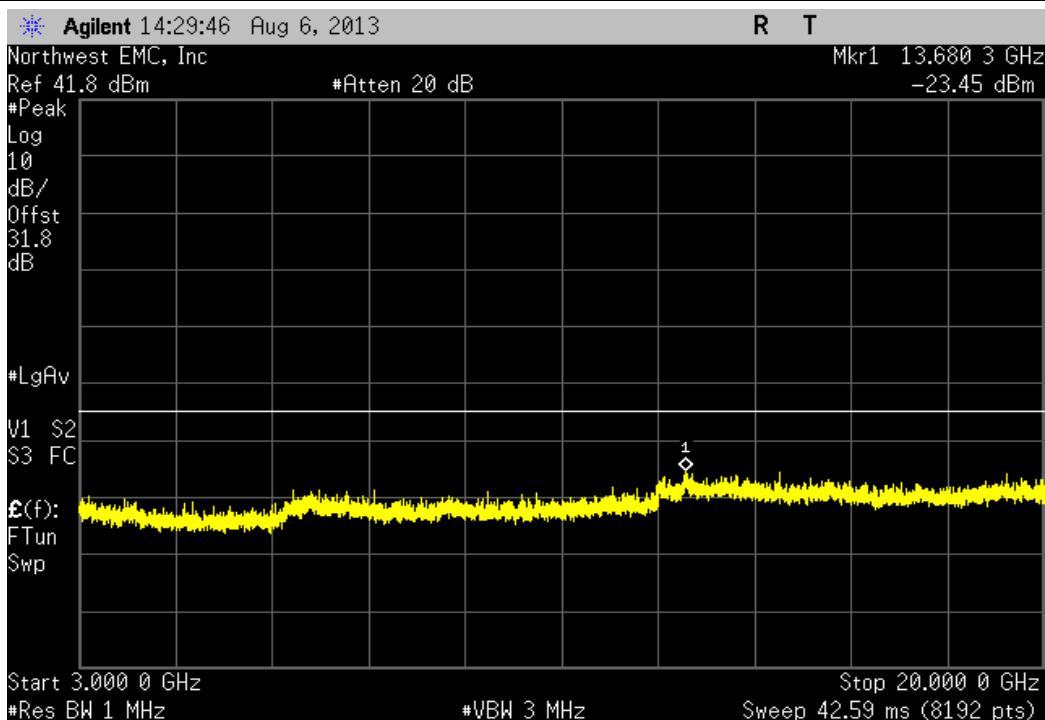
WCDMA, Low Channel					
Frequency	Range	Value	Limit	Result	
	30 MHz - 1 GHz	-30.25 dBm	≤ -13 dBm	Pass	



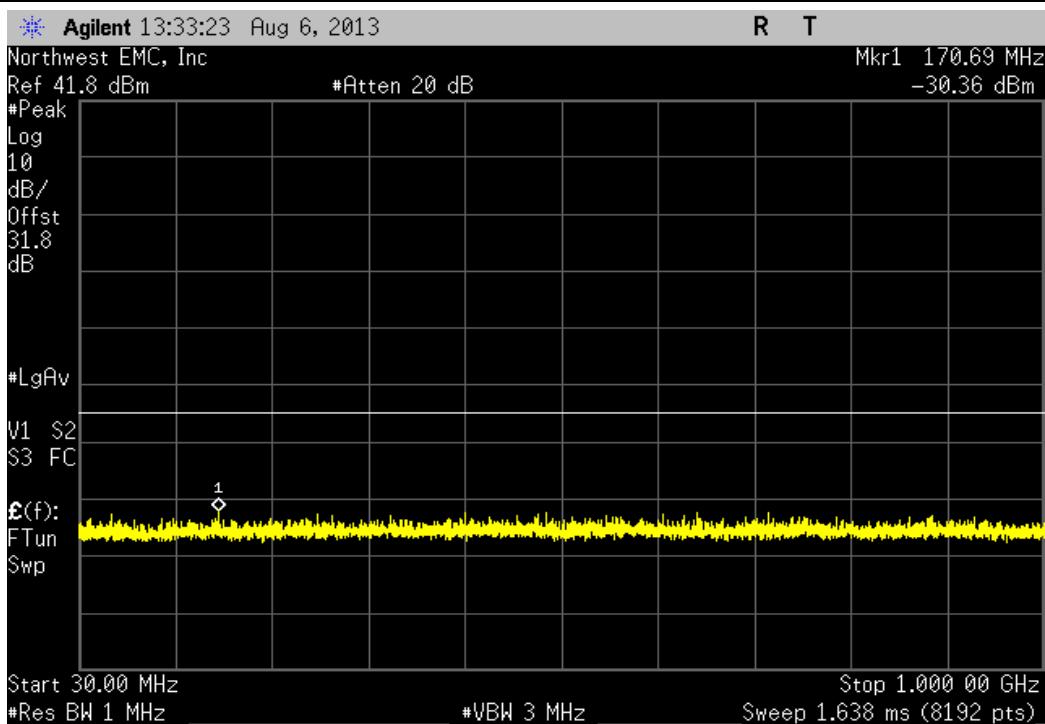


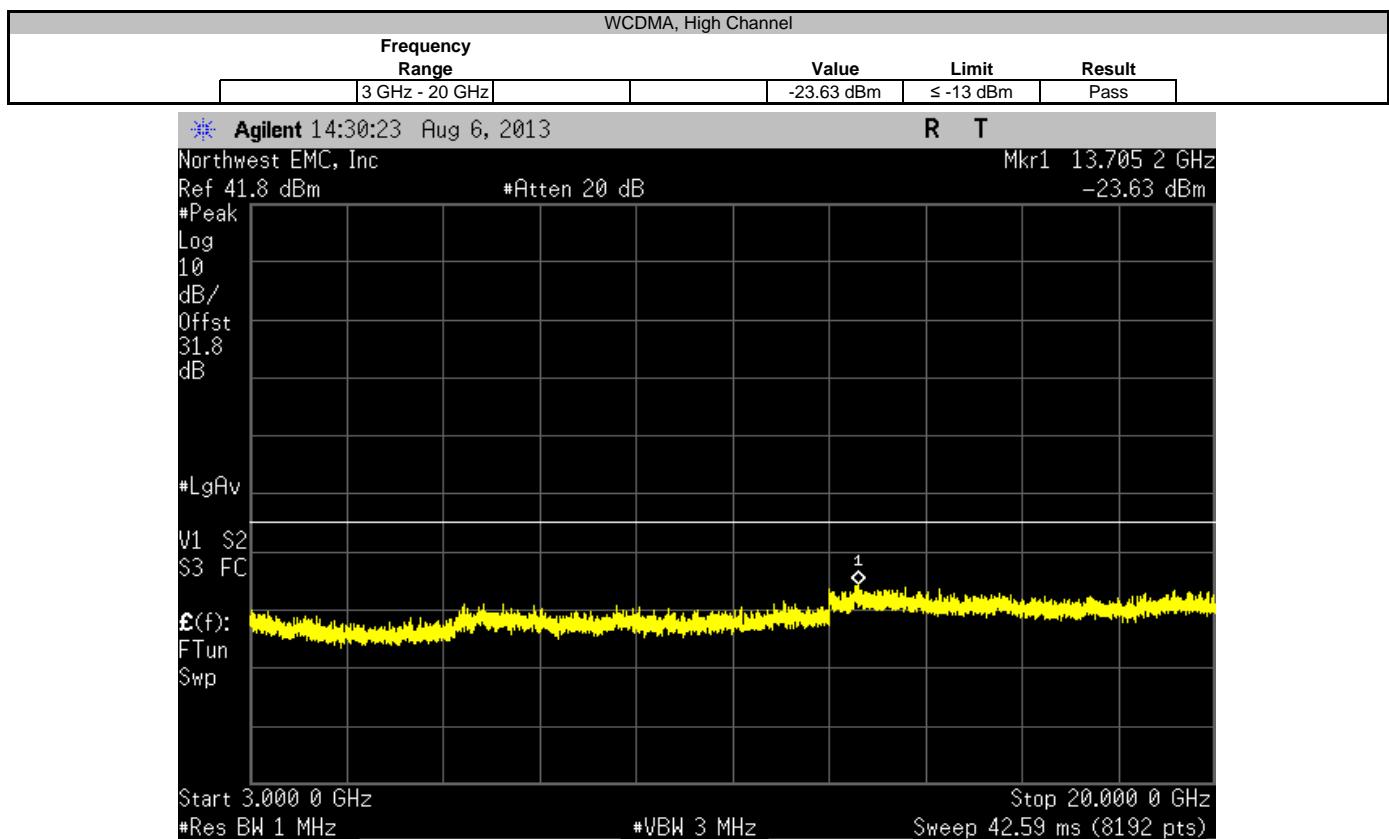
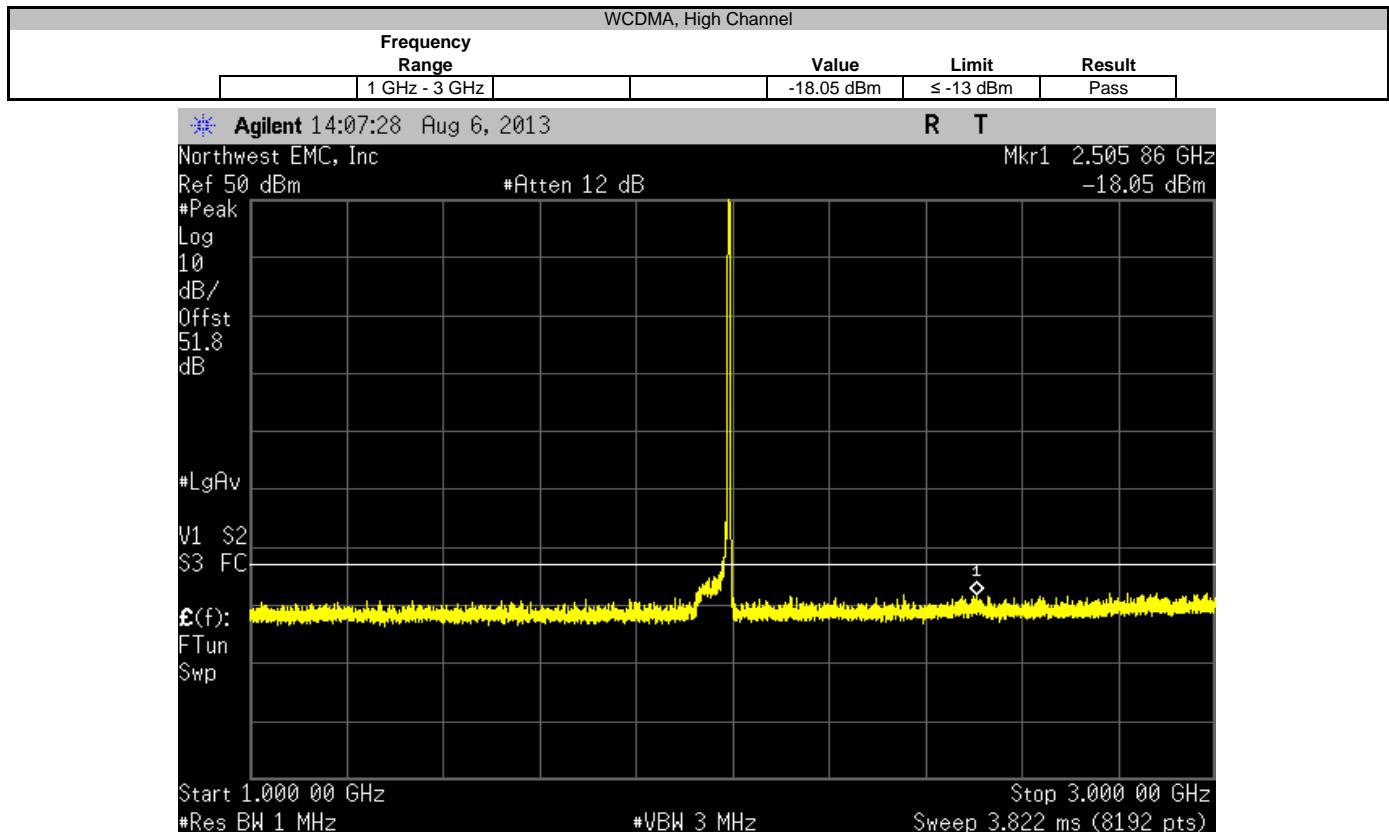


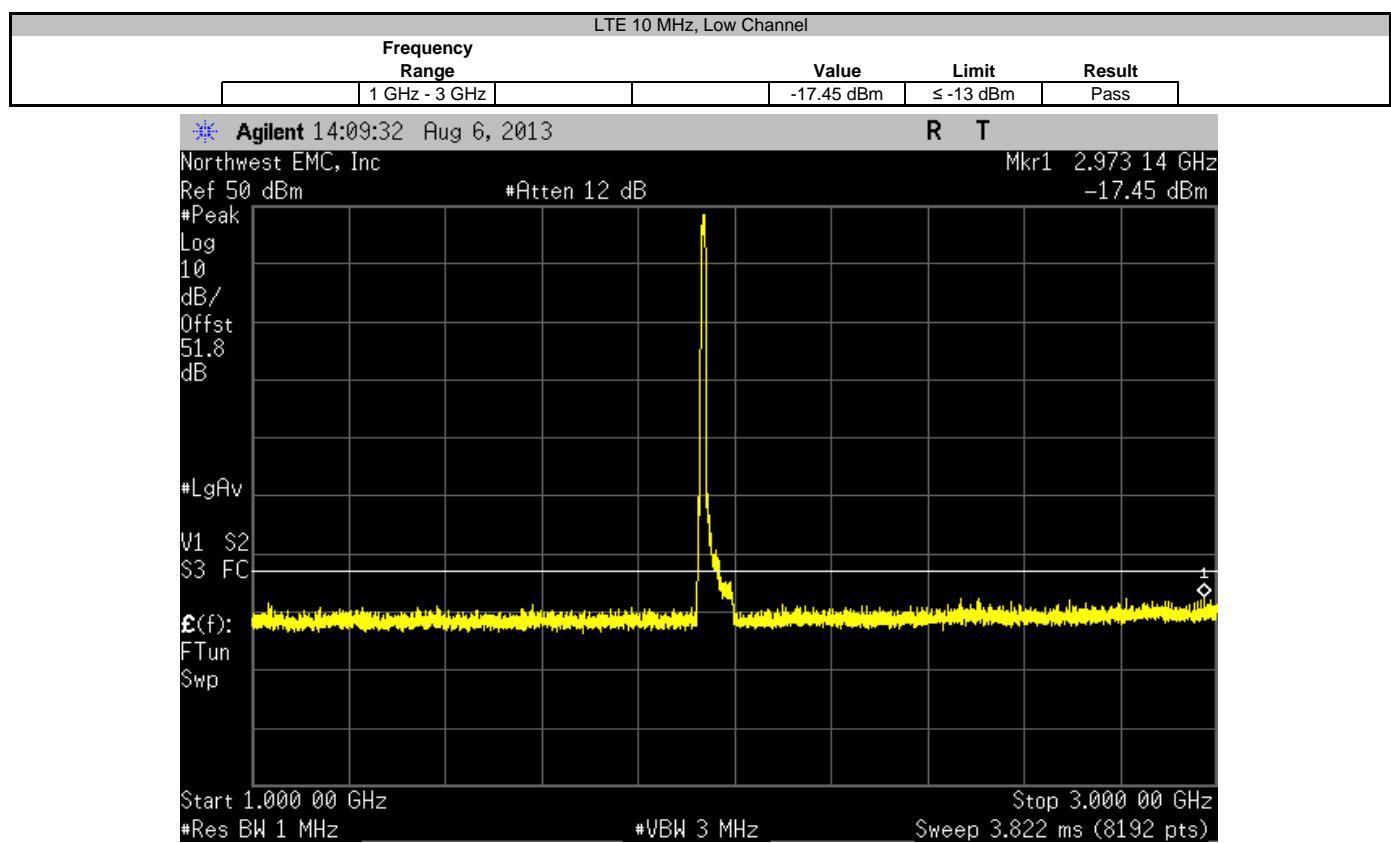
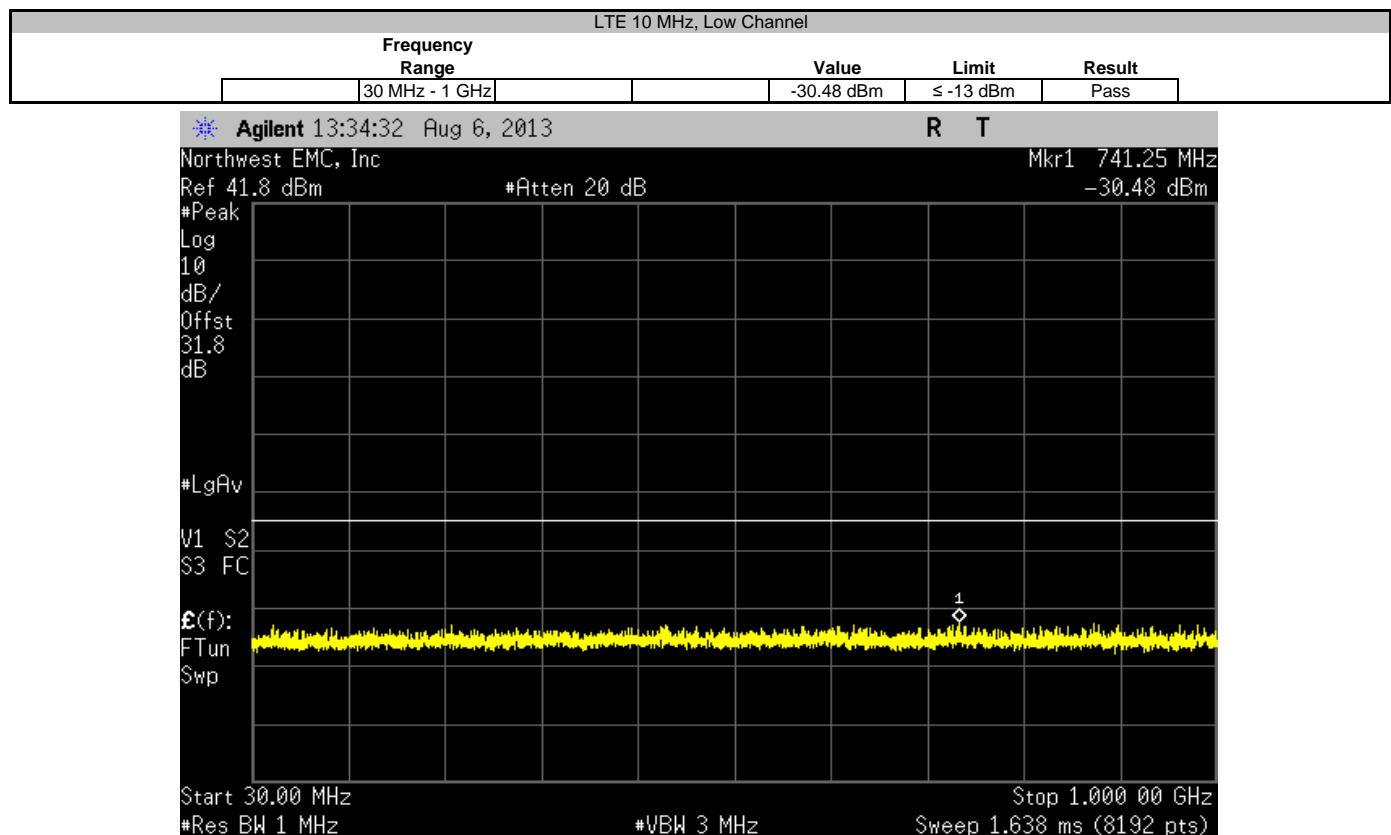
WCDMA, Mid Channel					
Frequency Range		Value	Limit	Result	
3 GHz - 20 GHz		-23.45 dBm	≤ -13 dBm	Pass	



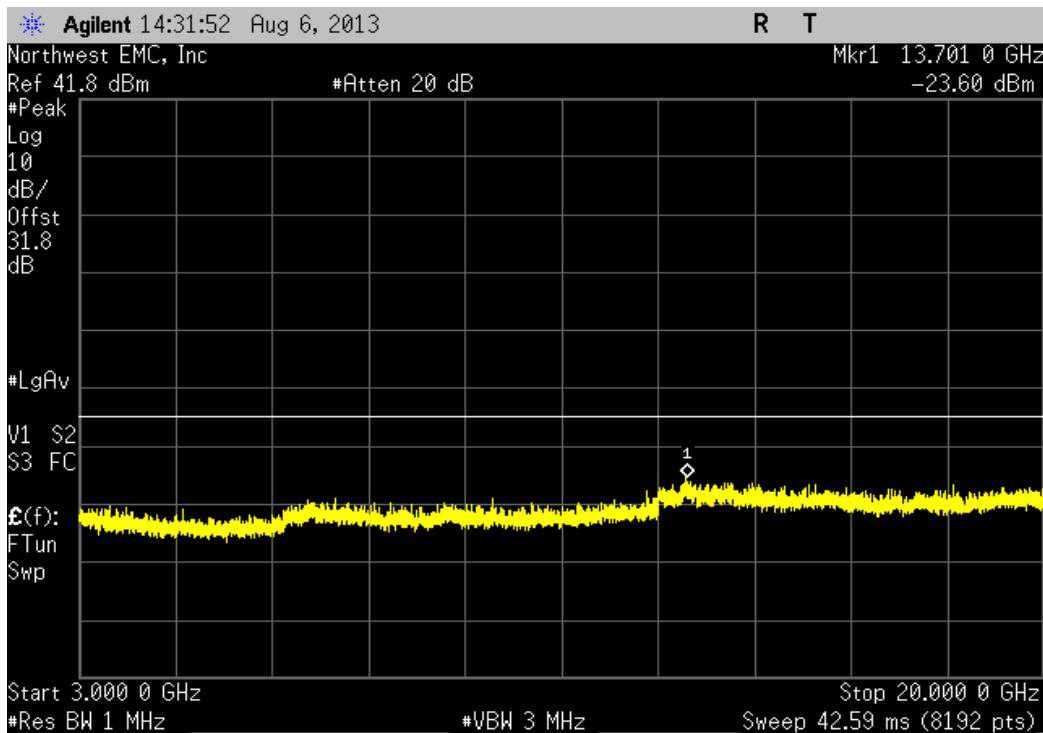
WCDMA, High Channel					
Frequency Range		Value	Limit	Result	
30 MHz - 1 GHz		-30.36 dBm	≤ -13 dBm	Pass	



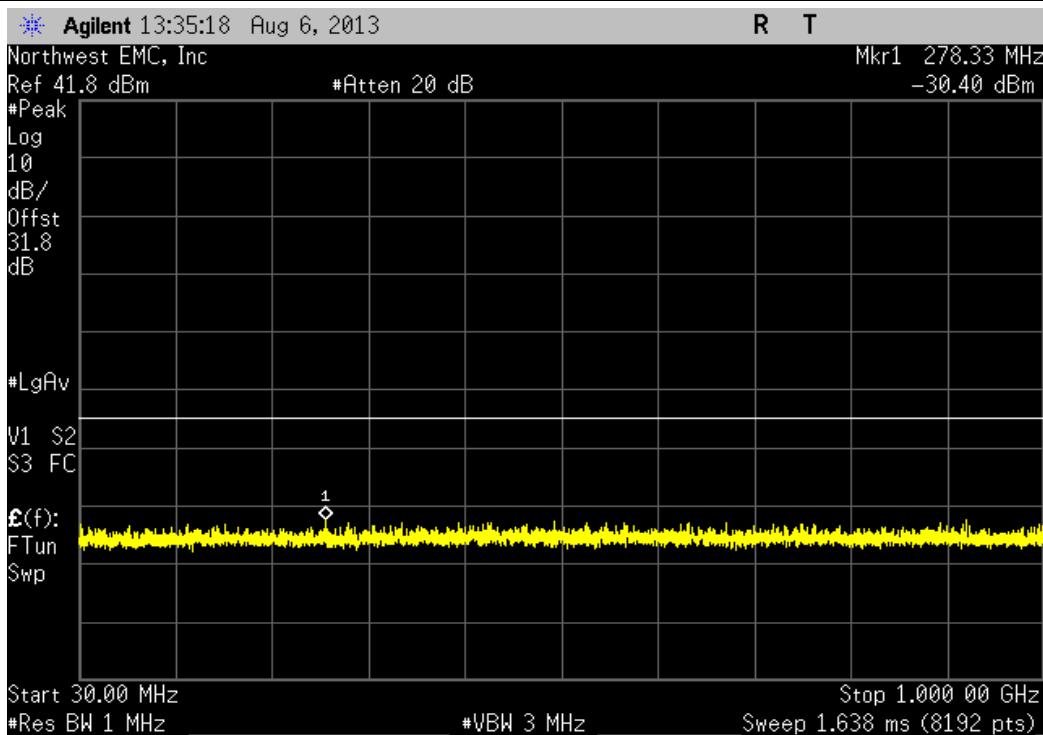


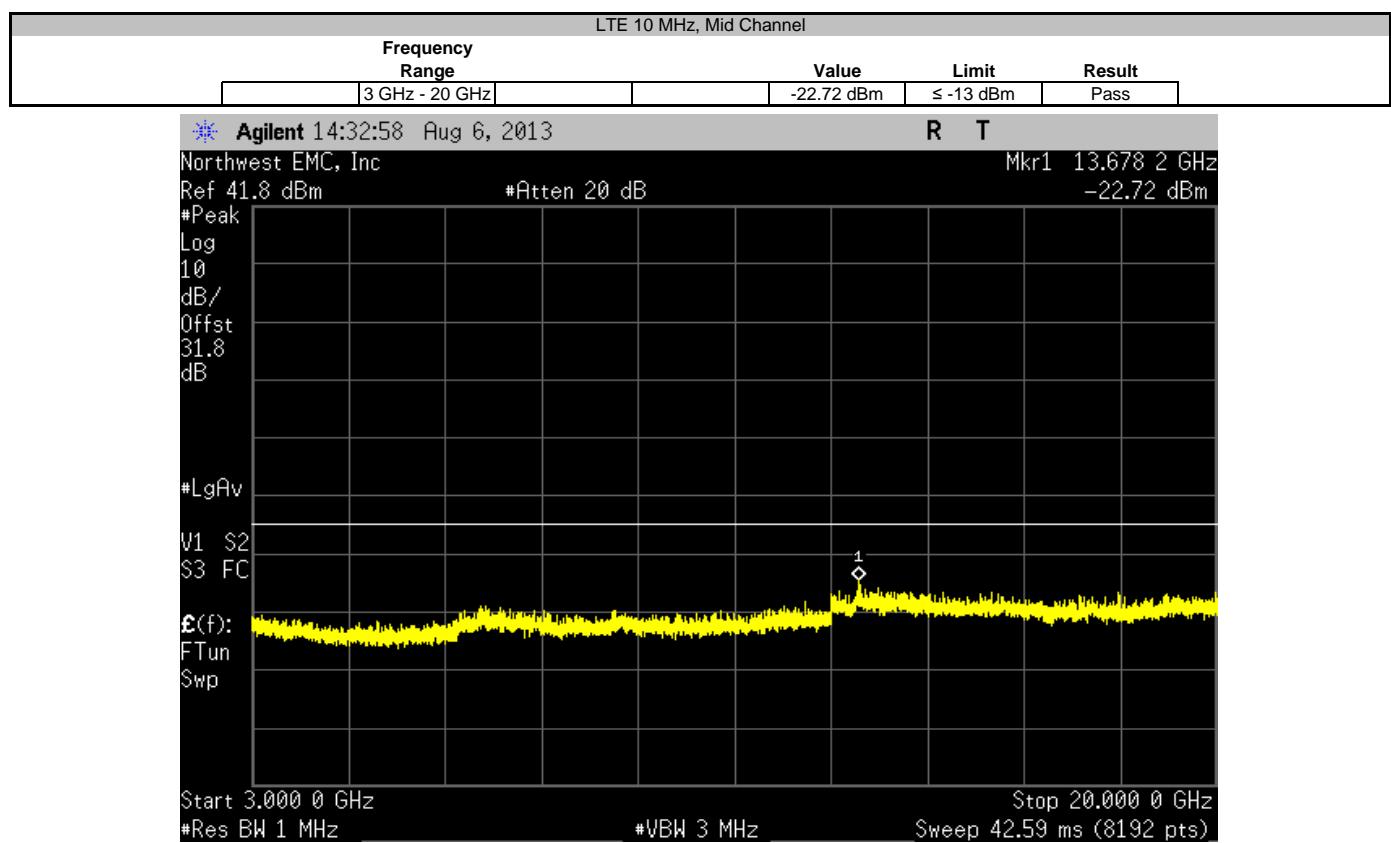
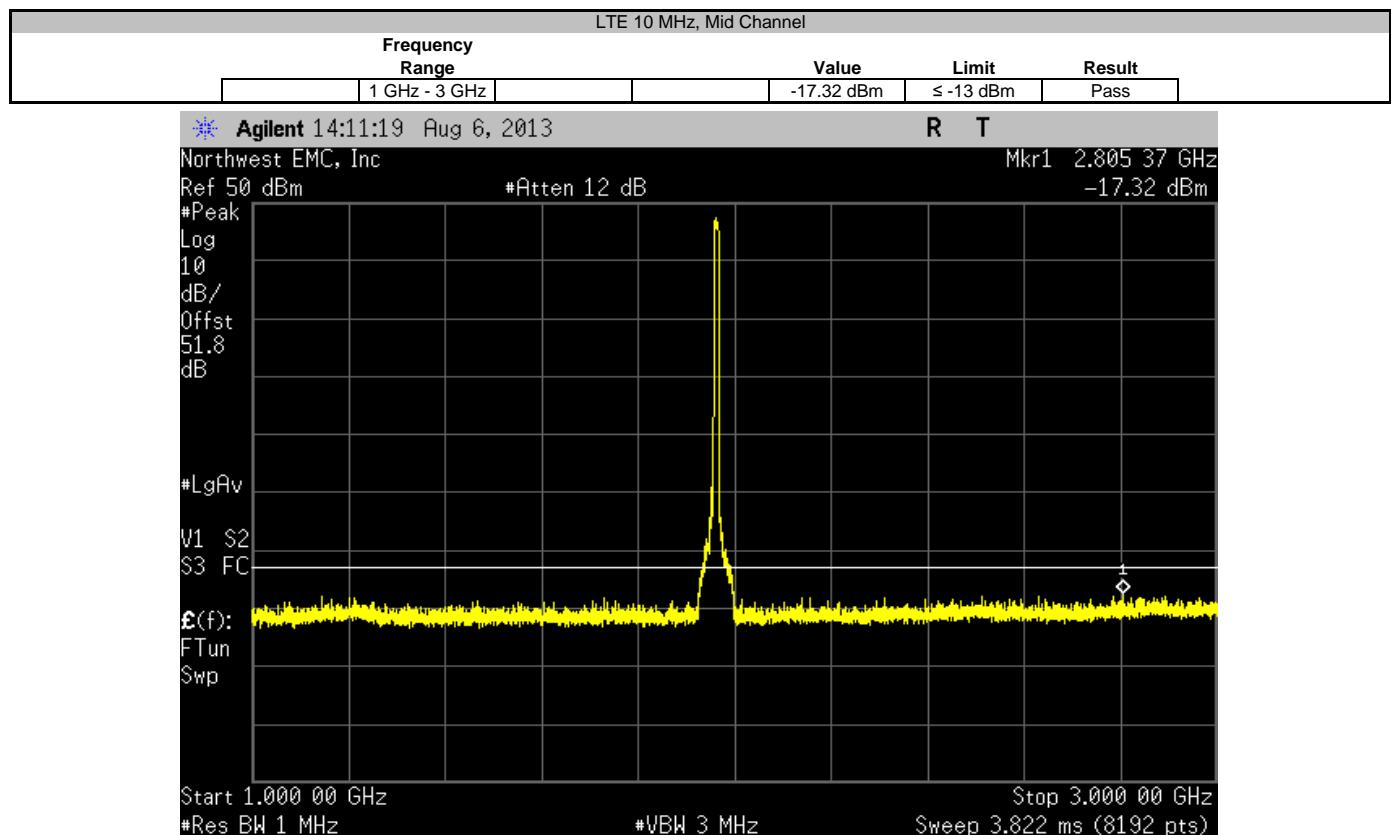


LTE 10 MHz, Low Channel					
Frequency	Range	Value	Limit	Result	
	3 GHz - 20 GHz	-23.6 dBm	≤ -13 dBm	Pass	

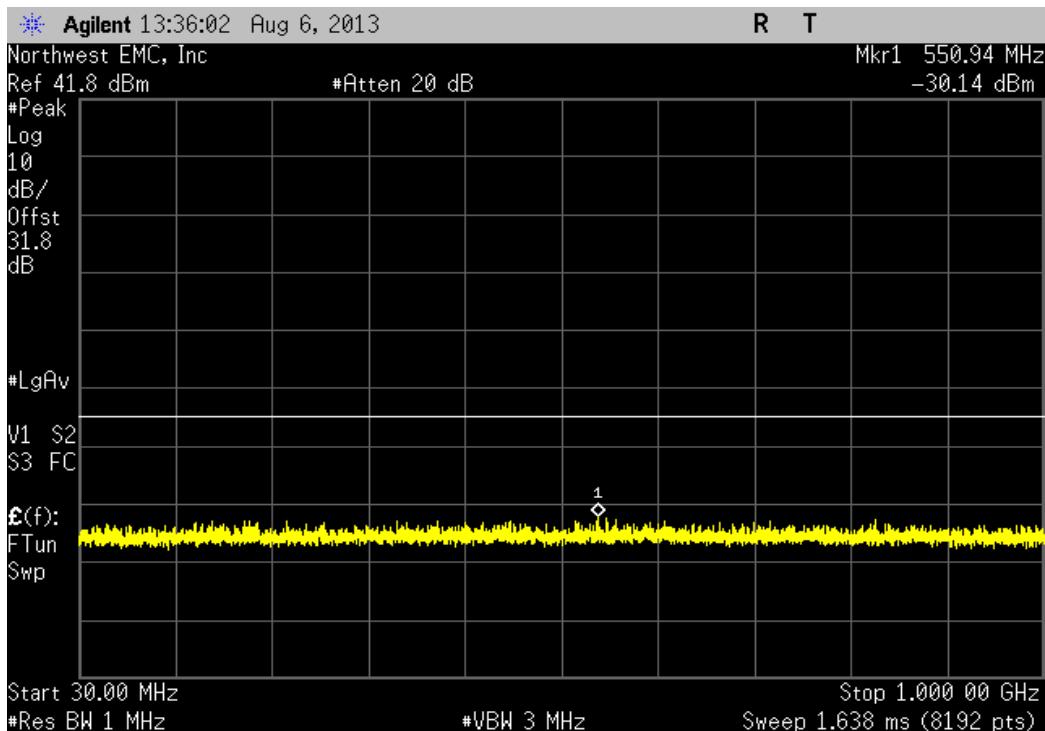


LTE 10 MHz, Mid Channel					
Frequency	Range	Value	Limit	Result	
	30 MHz - 1 GHz	-30.4 dBm	≤ -13 dBm	Pass	

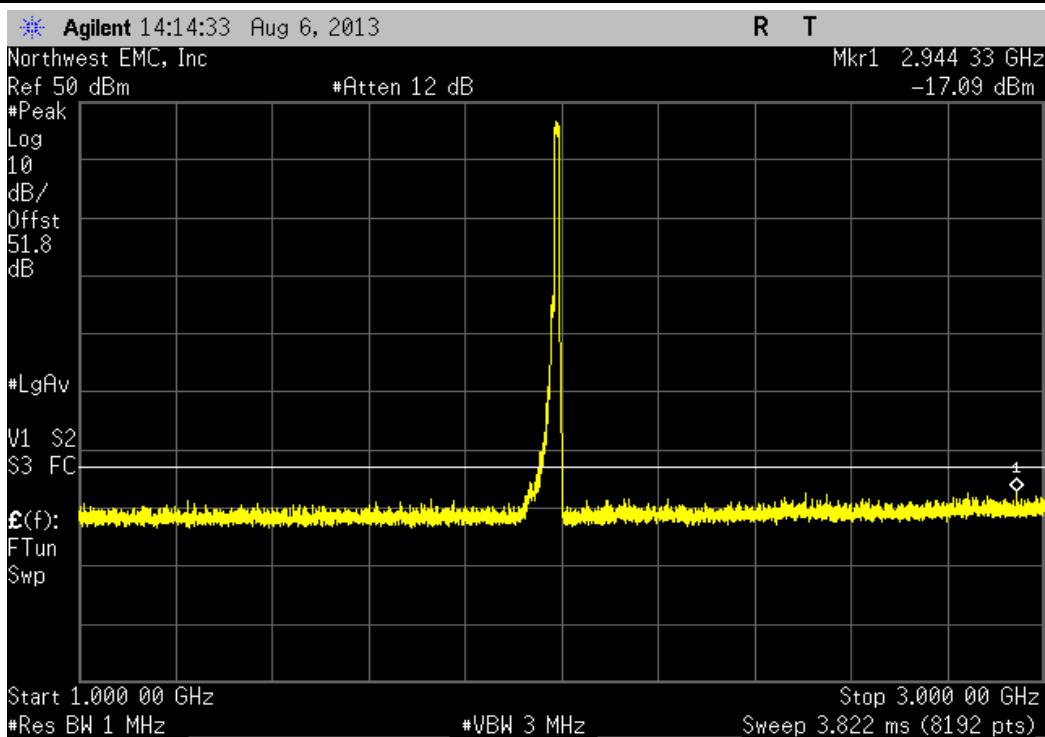




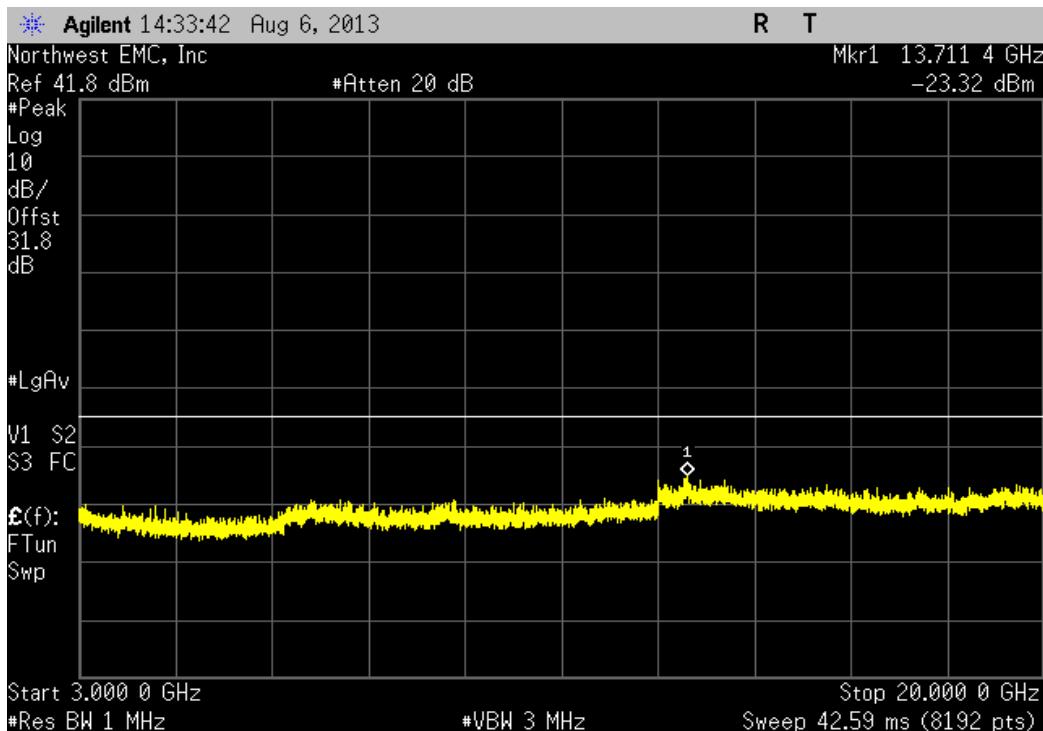
LTE 10 MHz, High Channel					
Frequency	Range	Value	Limit	Result	
	30 MHz - 1 GHz	-30.14 dBm	≤ -13 dBm	Pass	



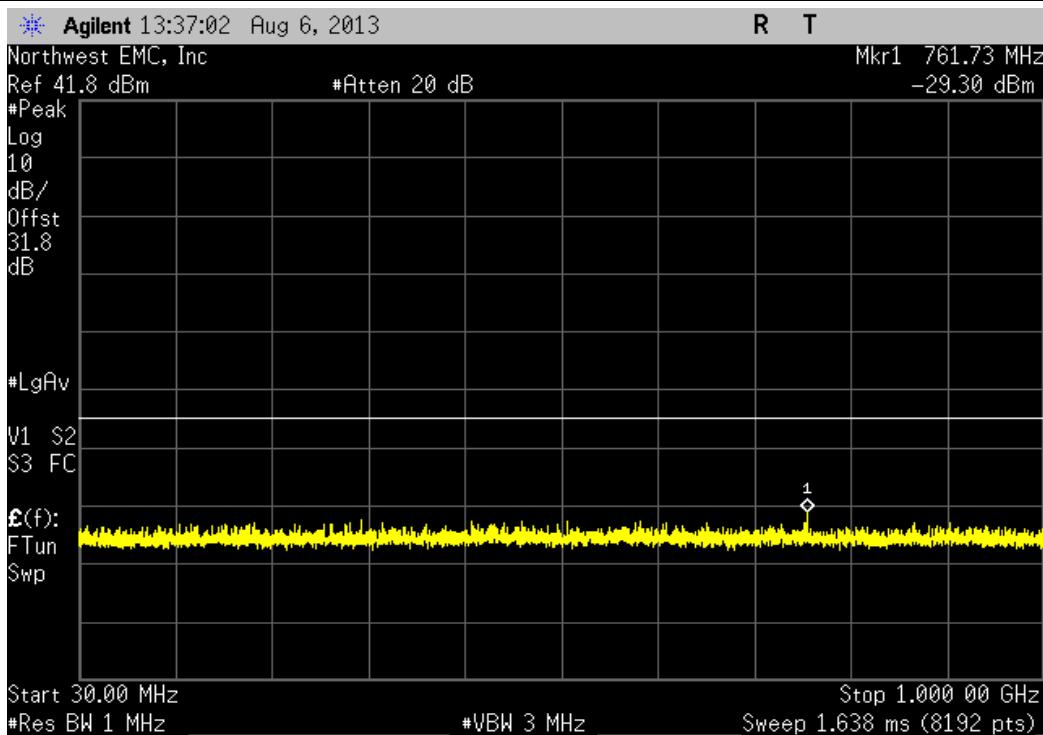
LTE 10 MHz, High Channel					
Frequency	Range	Value	Limit	Result	
	1 GHz - 3 GHz	-17.09 dBm	≤ -13 dBm	Pass	



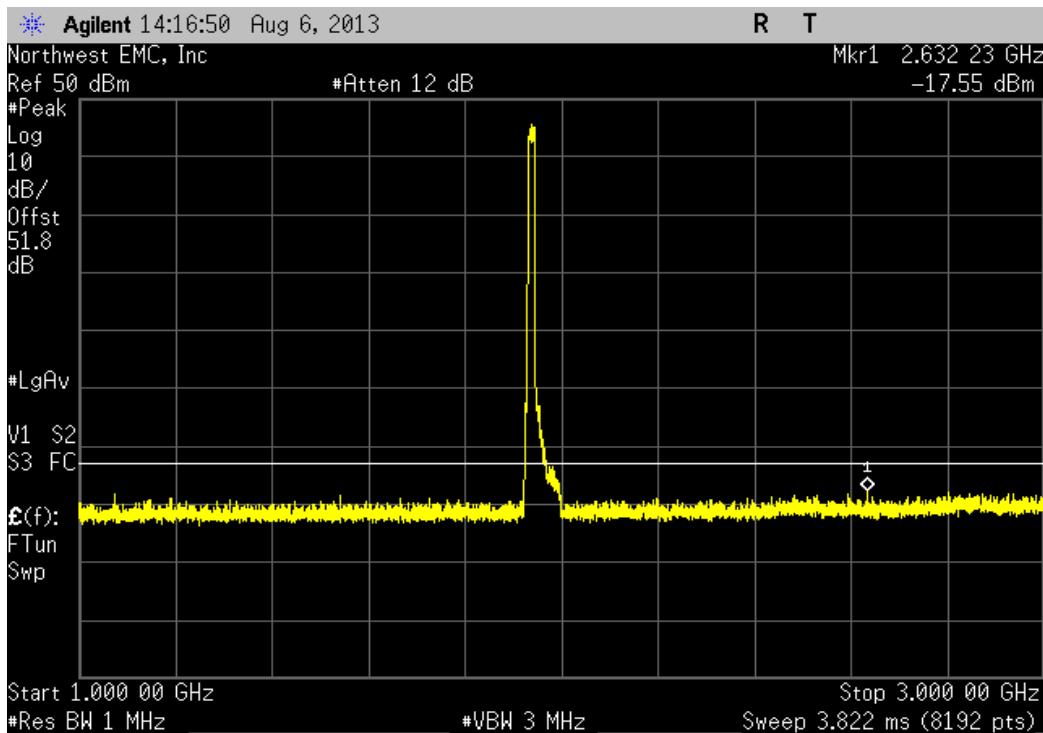
LTE 10 MHz, High Channel					
Frequency	Range	Value	Limit	Result	
	3 GHz - 20 GHz	-23.32 dBm	≤ -13 dBm	Pass	



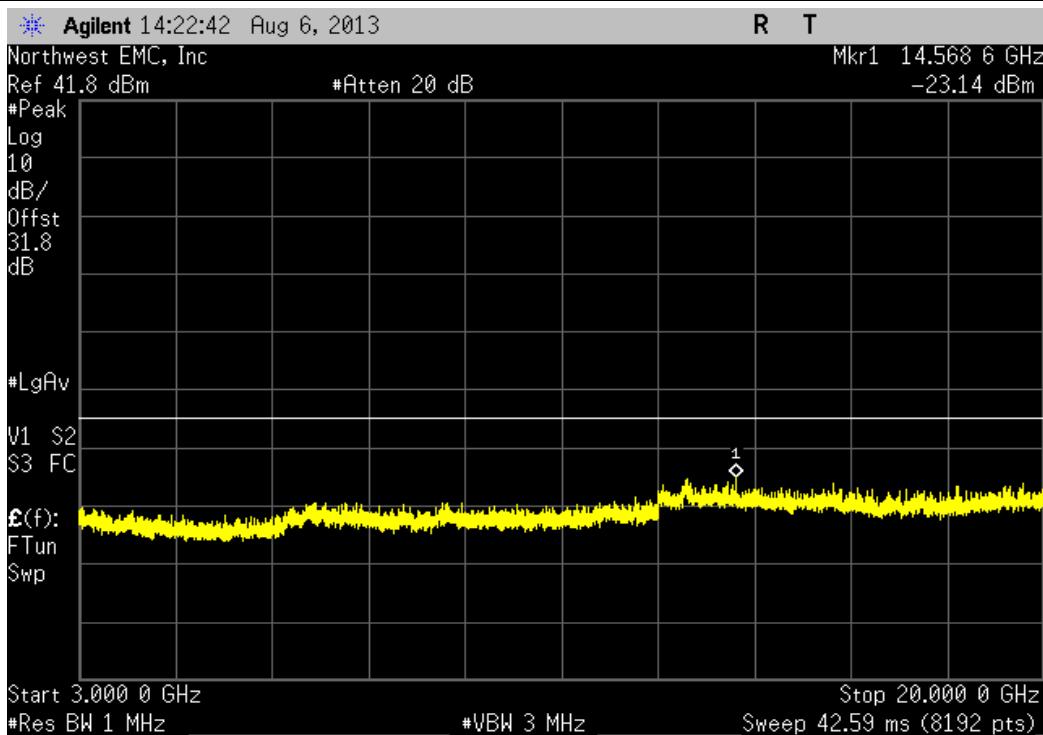
LTE 15 MHz, Low Channel					
Frequency	Range	Value	Limit	Result	
	30 MHz - 1 GHz	-29.3 dBm	≤ -13 dBm	Pass	

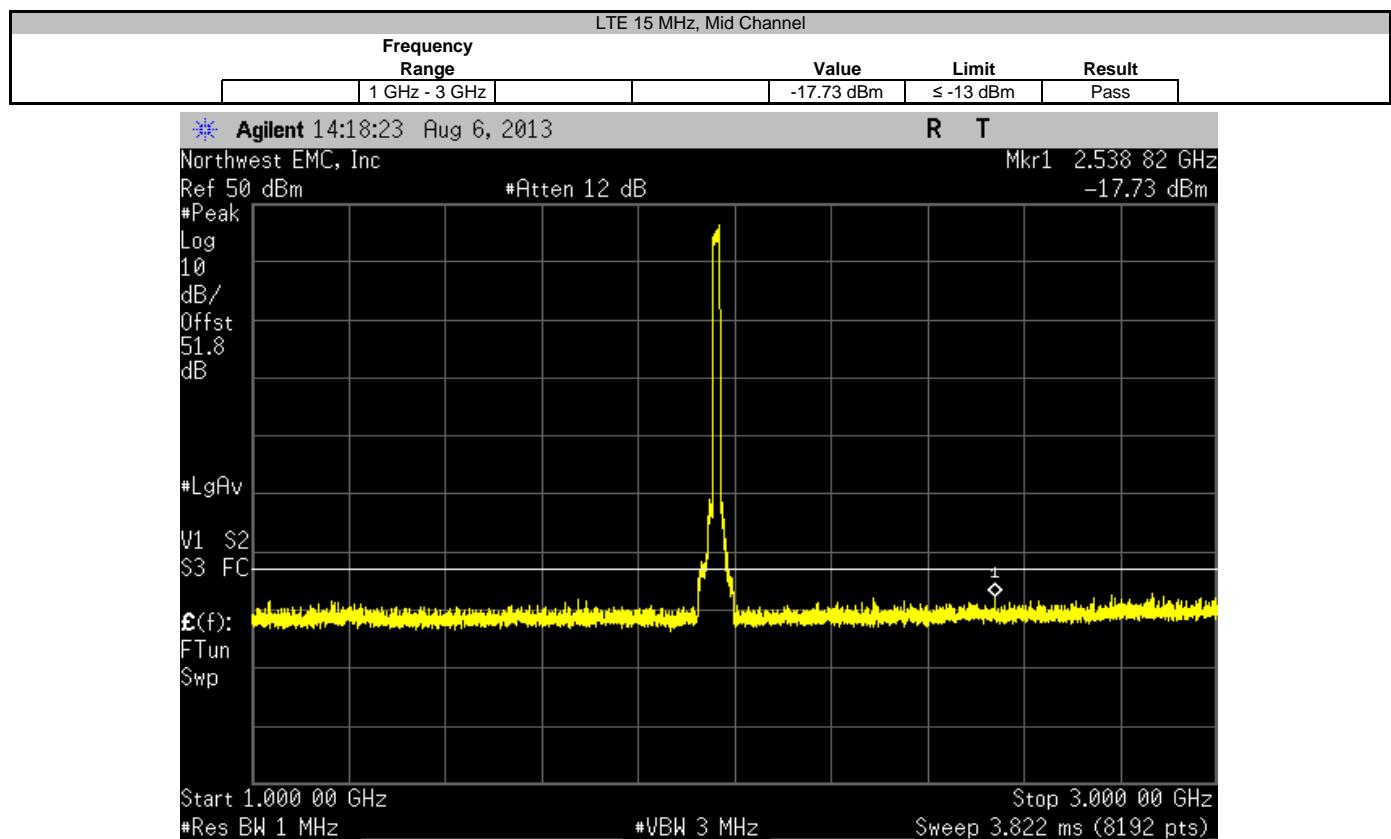
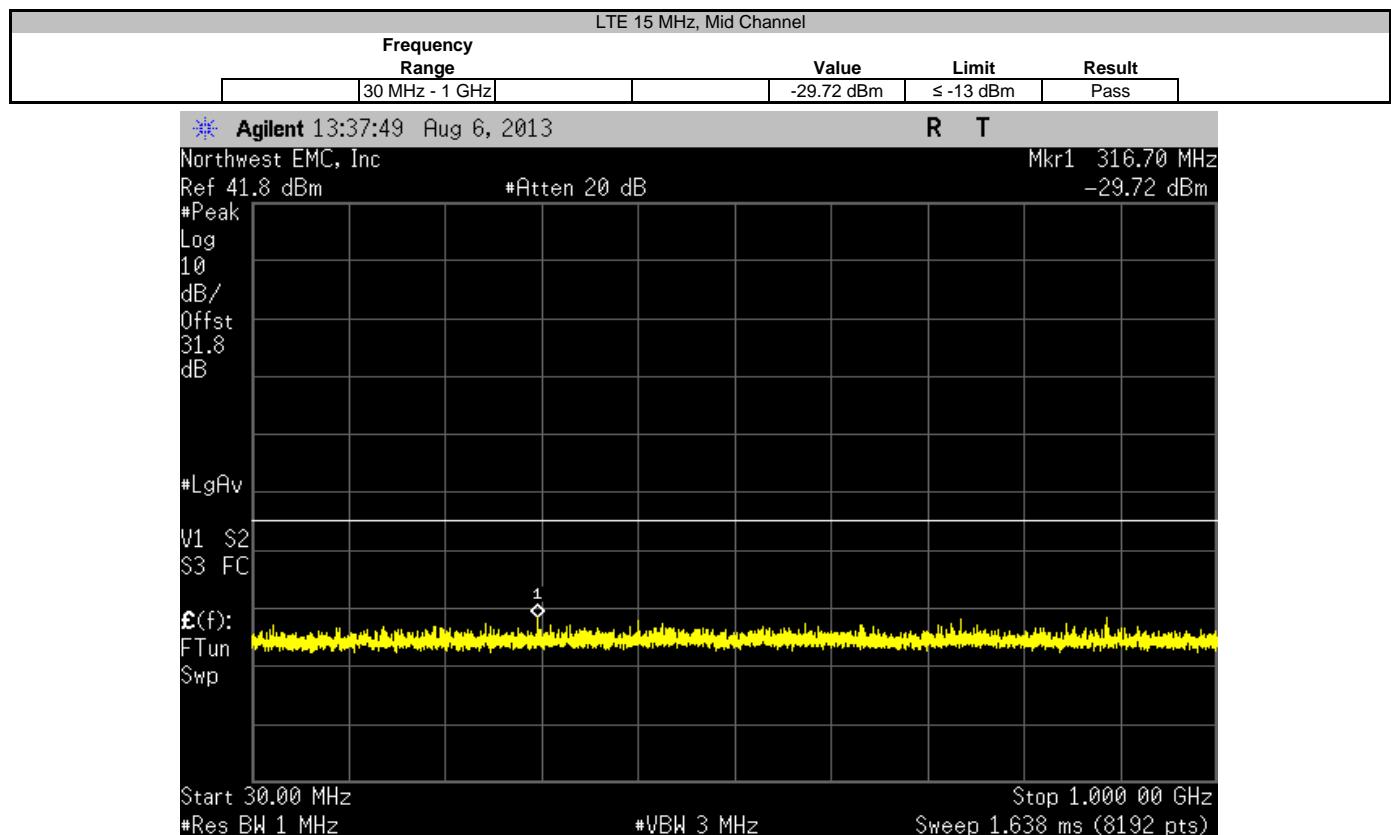


LTE 15 MHz, Low Channel					
Frequency	Range	Value	Limit	Result	
	1 GHz - 3 GHz	-17.55 dBm	≤ -13 dBm	Pass	

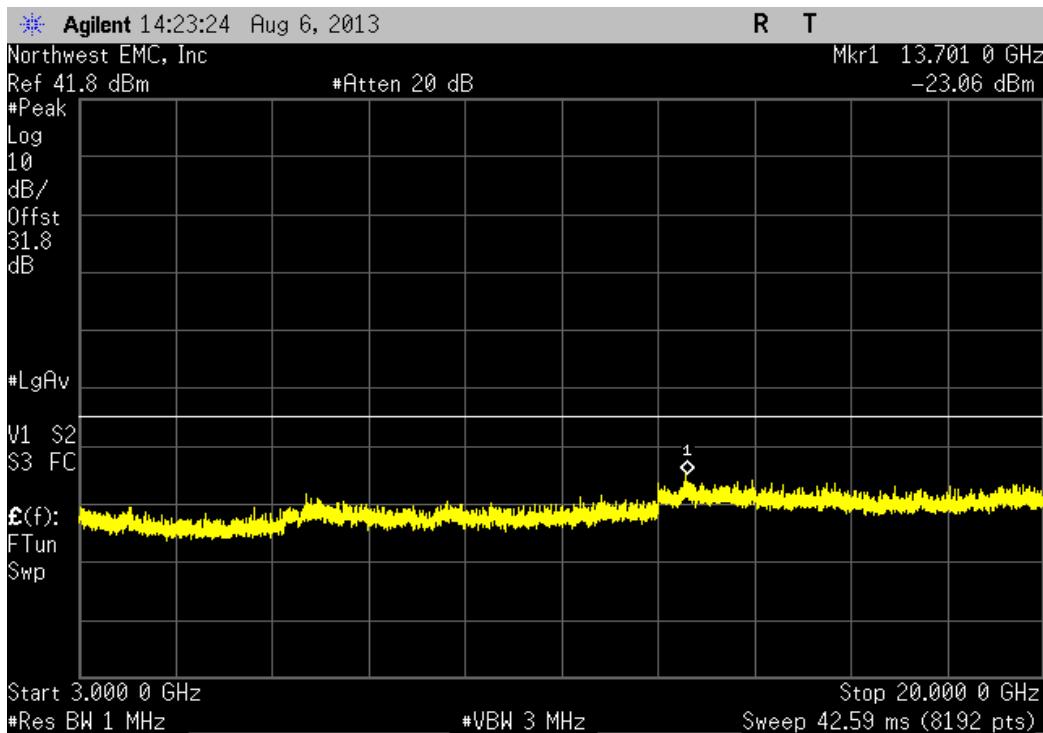


LTE 15 MHz, Low Channel					
Frequency	Range	Value	Limit	Result	
	3 GHz - 20 GHz	-23.14 dBm	≤ -13 dBm	Pass	

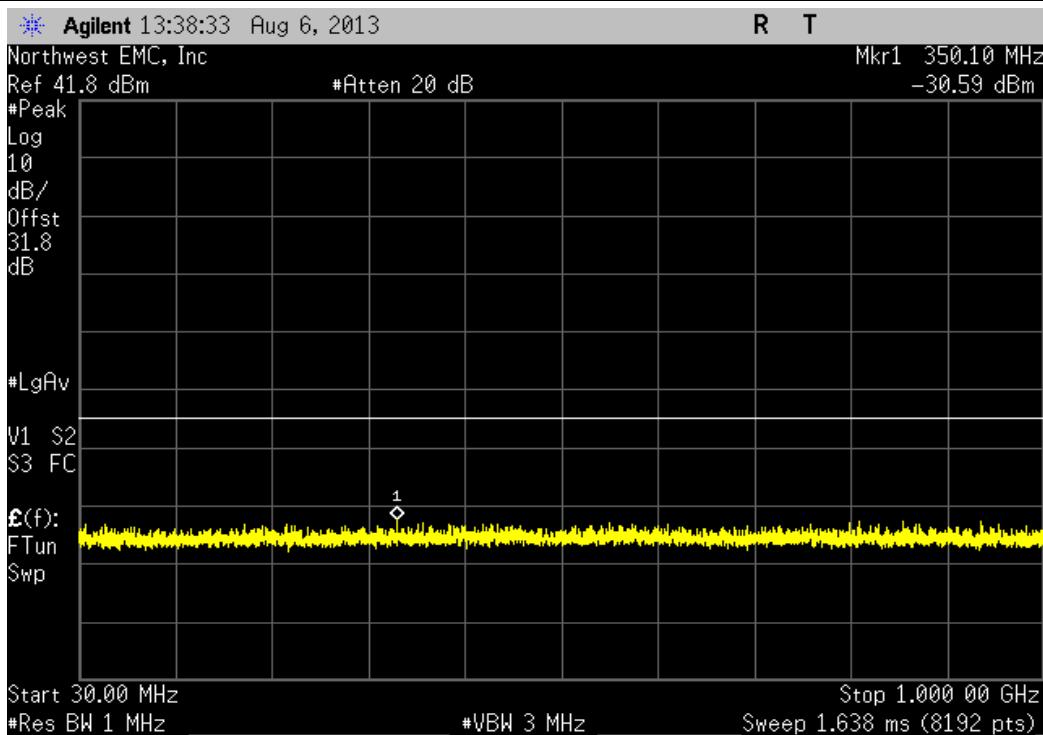




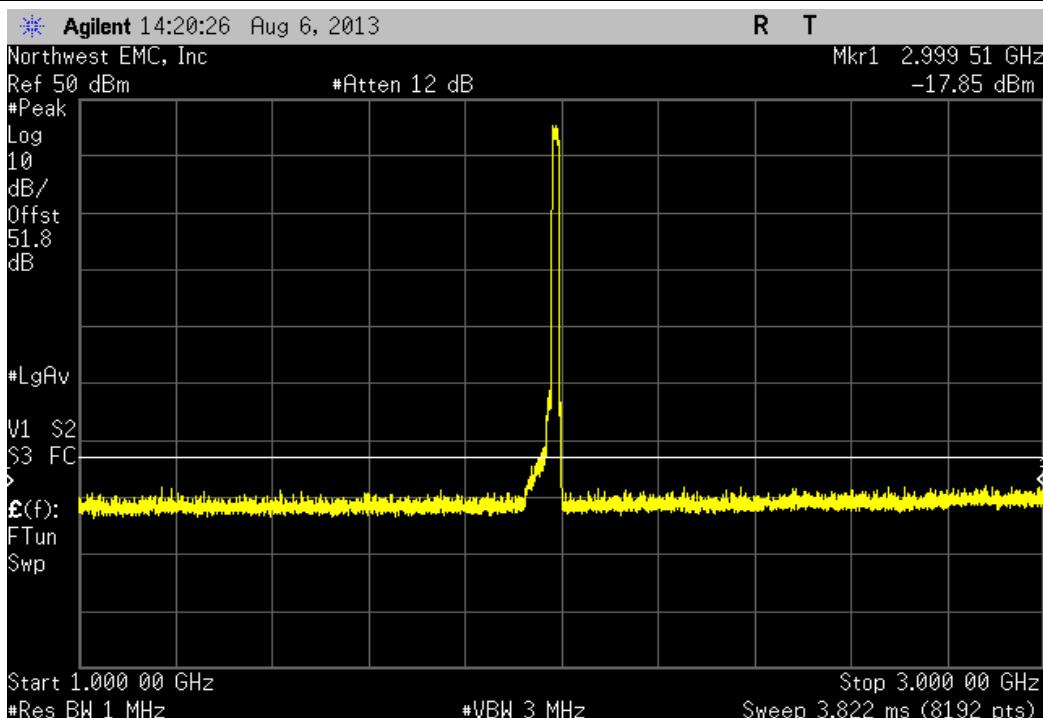
LTE 15 MHz, Mid Channel					
Frequency	Range	Value	Limit	Result	
	3 GHz - 20 GHz	-23.06 dBm	≤ -13 dBm	Pass	



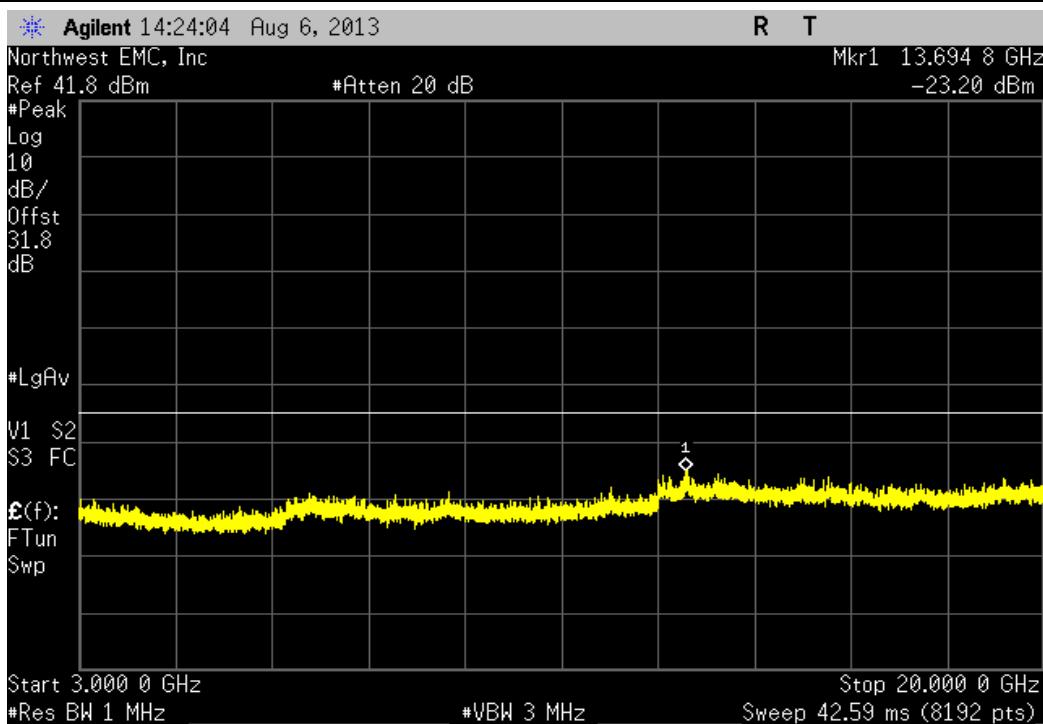
LTE 15 MHz, High Channel					
Frequency	Range	Value	Limit	Result	
	30 MHz - 1 GHz	-30.59 dBm	≤ -13 dBm	Pass	



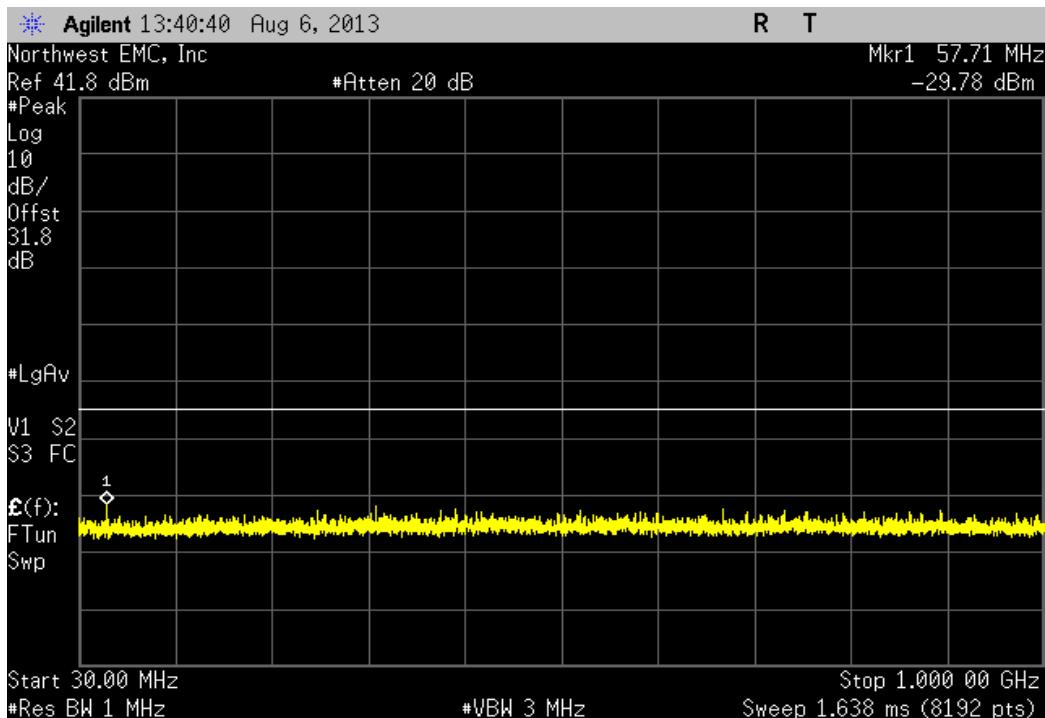
LTE 15 MHz, High Channel					
Frequency Range		Value	Limit	Result	
1 GHz - 3 GHz		-17.85 dBm	≤ -13 dBm	Pass	



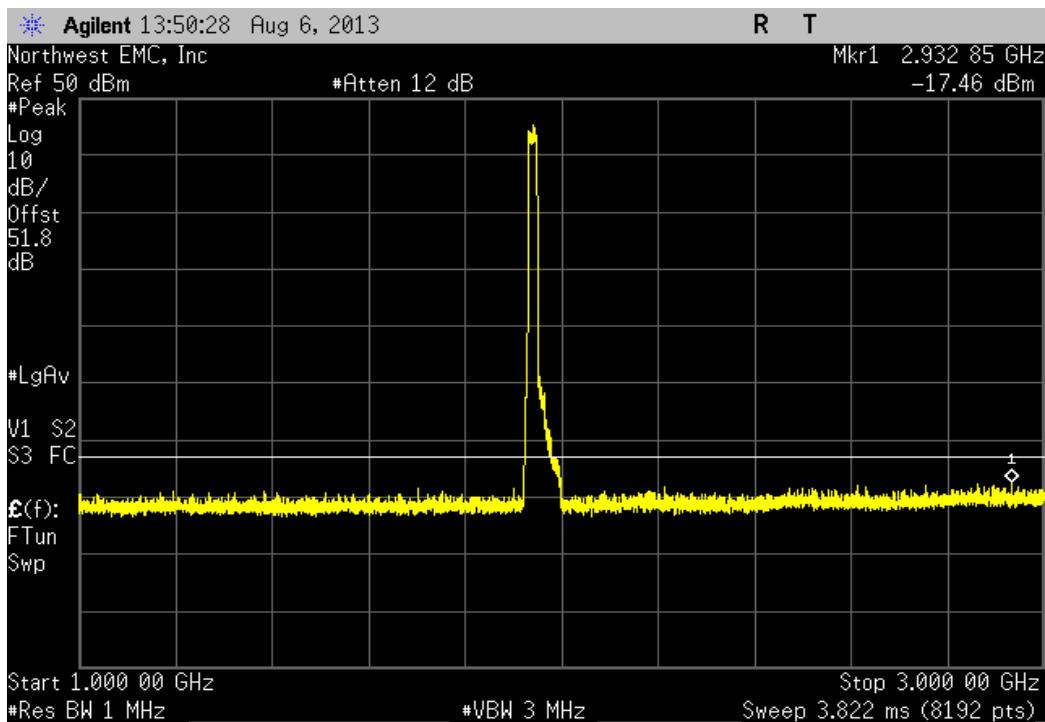
LTE 15 MHz, High Channel					
Frequency Range		Value	Limit	Result	
3 GHz - 20 GHz		-23.2 dBm	≤ -13 dBm	Pass	



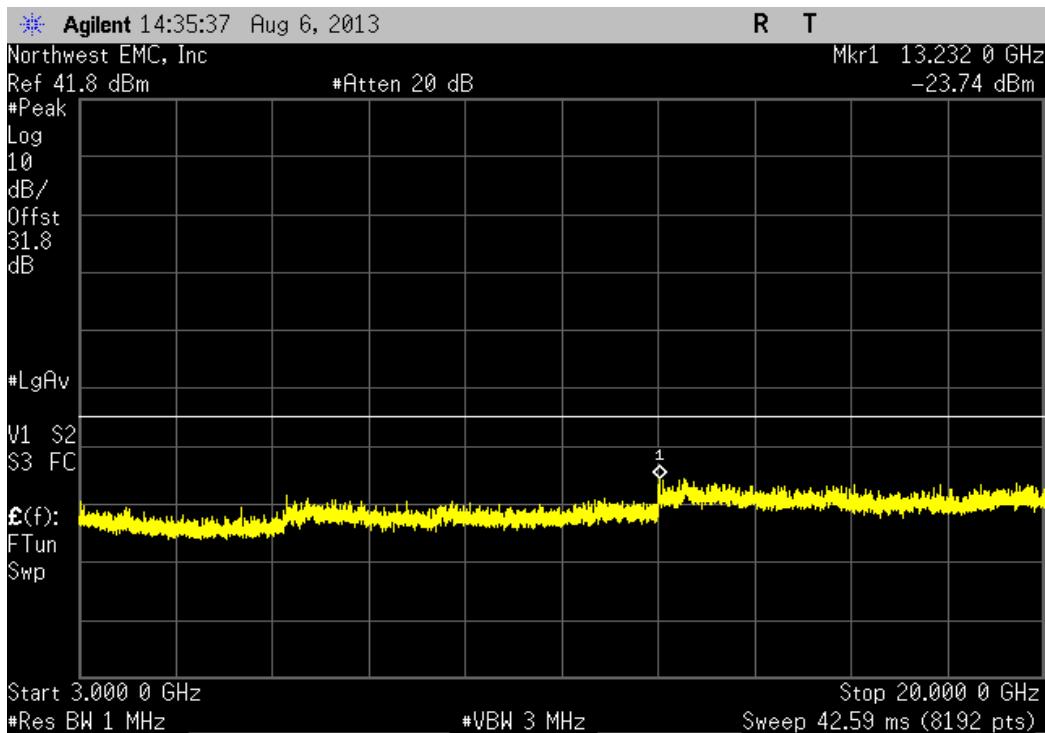
LTE 20 MHz, Low Channel					
Frequency Range		Value	Limit	Result	
30 MHz - 1 GHz		-29.78 dBm	≤ -13 dBm	Pass	



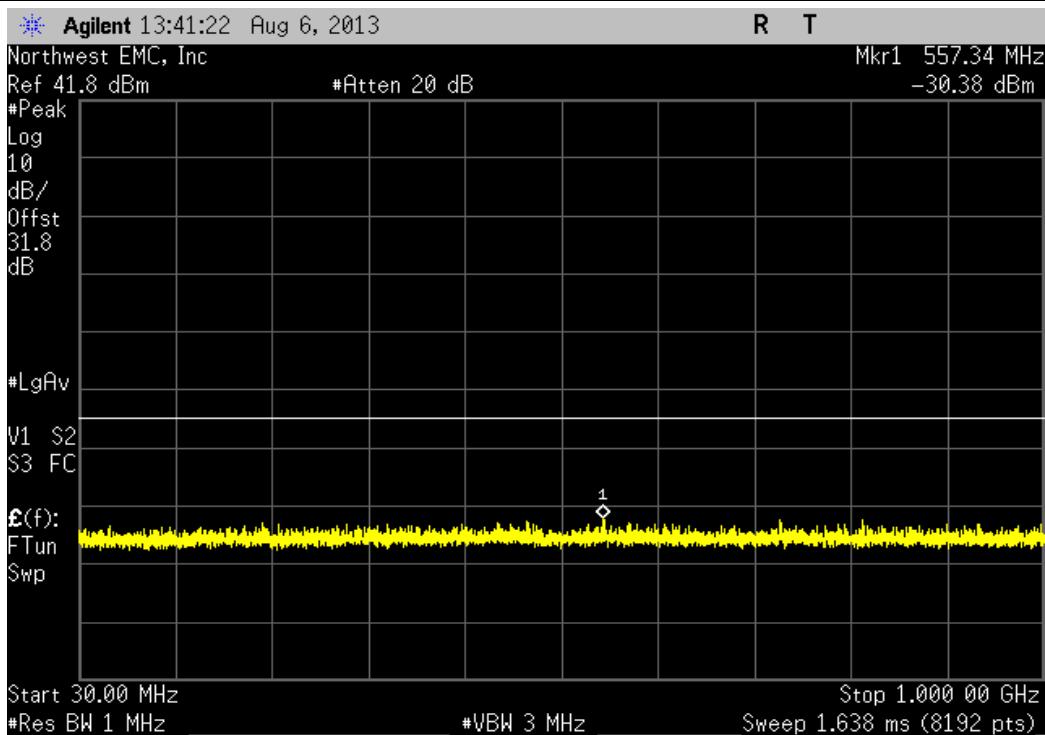
LTE 20 MHz, Low Channel					
Frequency Range		Value	Limit	Result	
1 GHz - 3 GHz		-17.46 dBm	≤ -13 dBm	Pass	

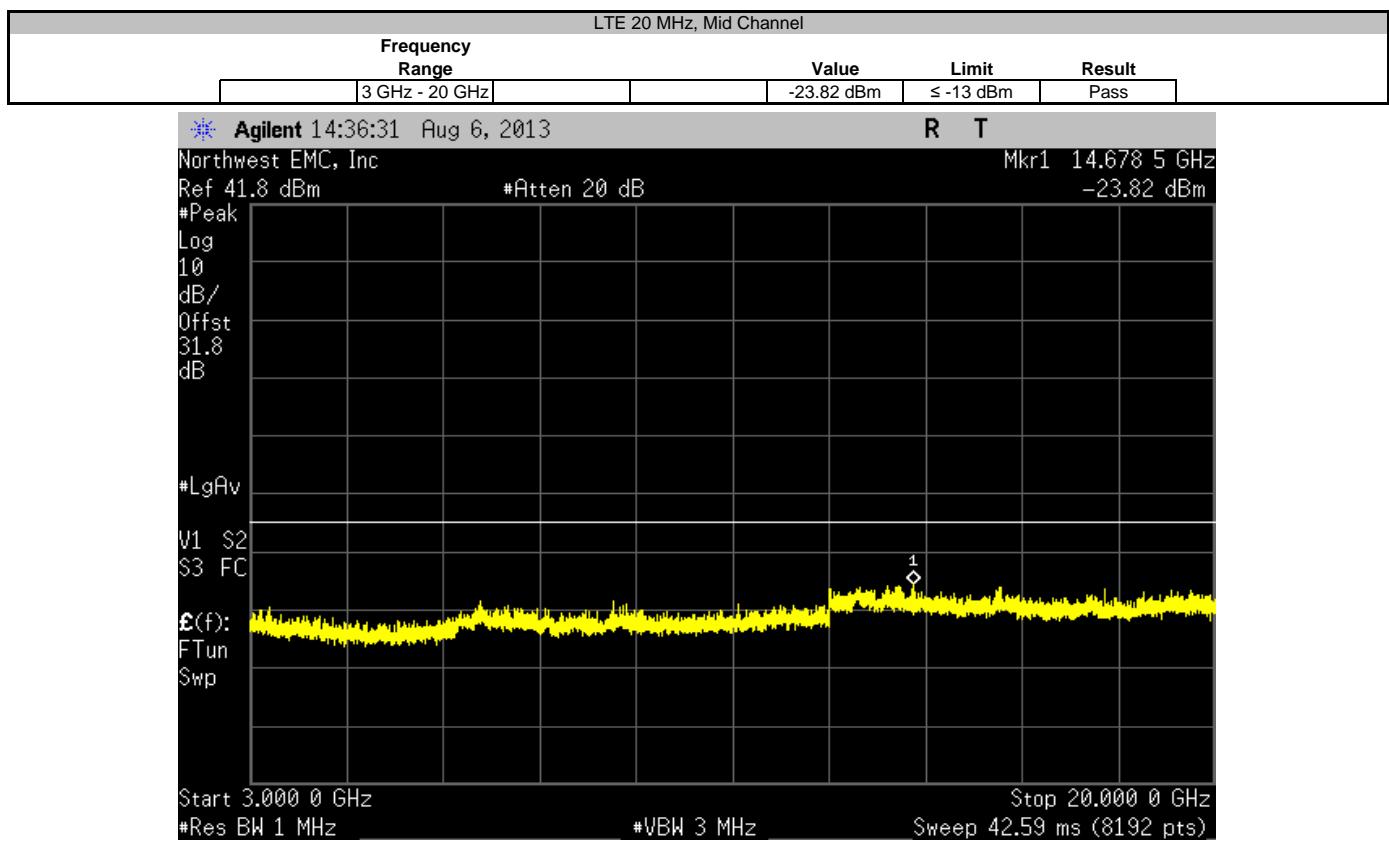
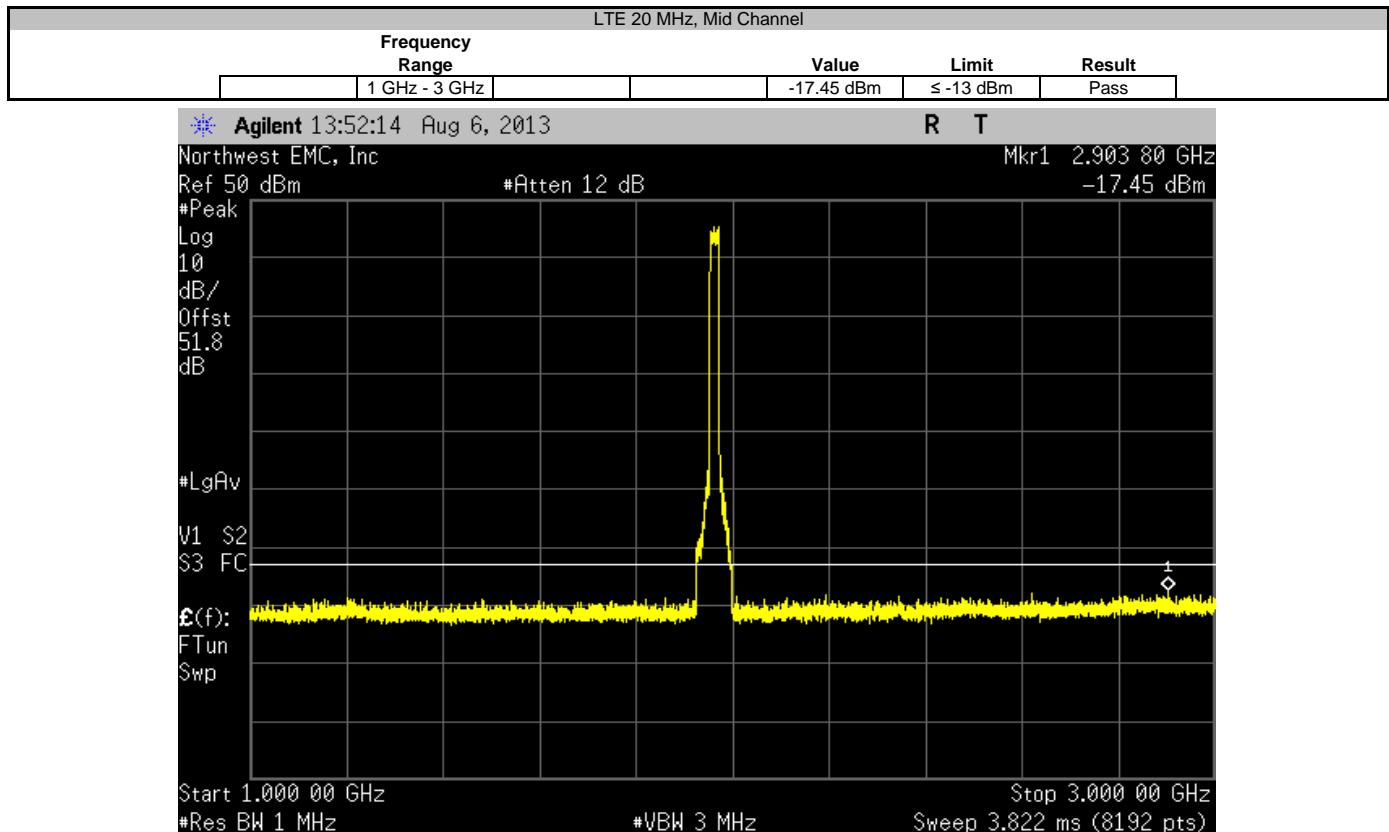


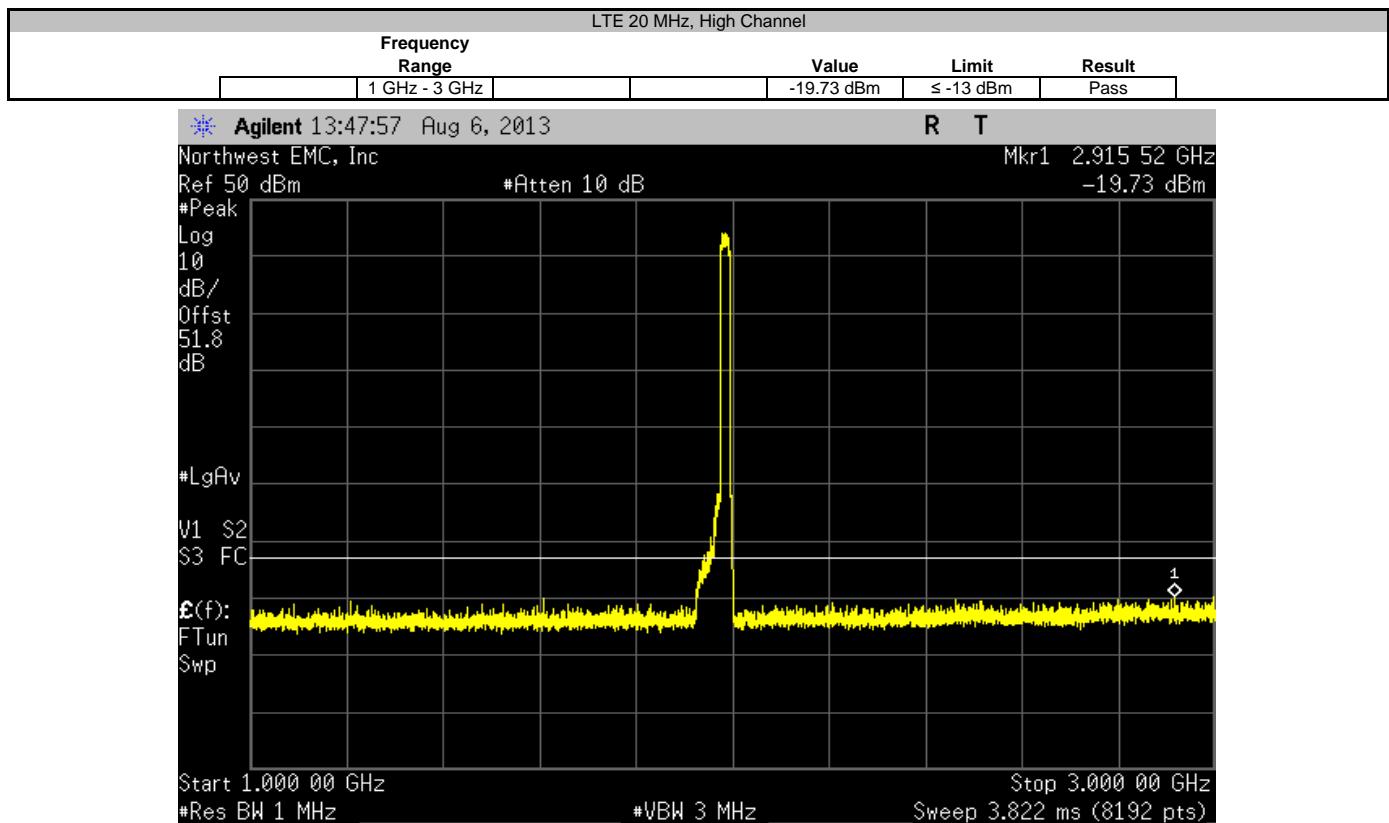
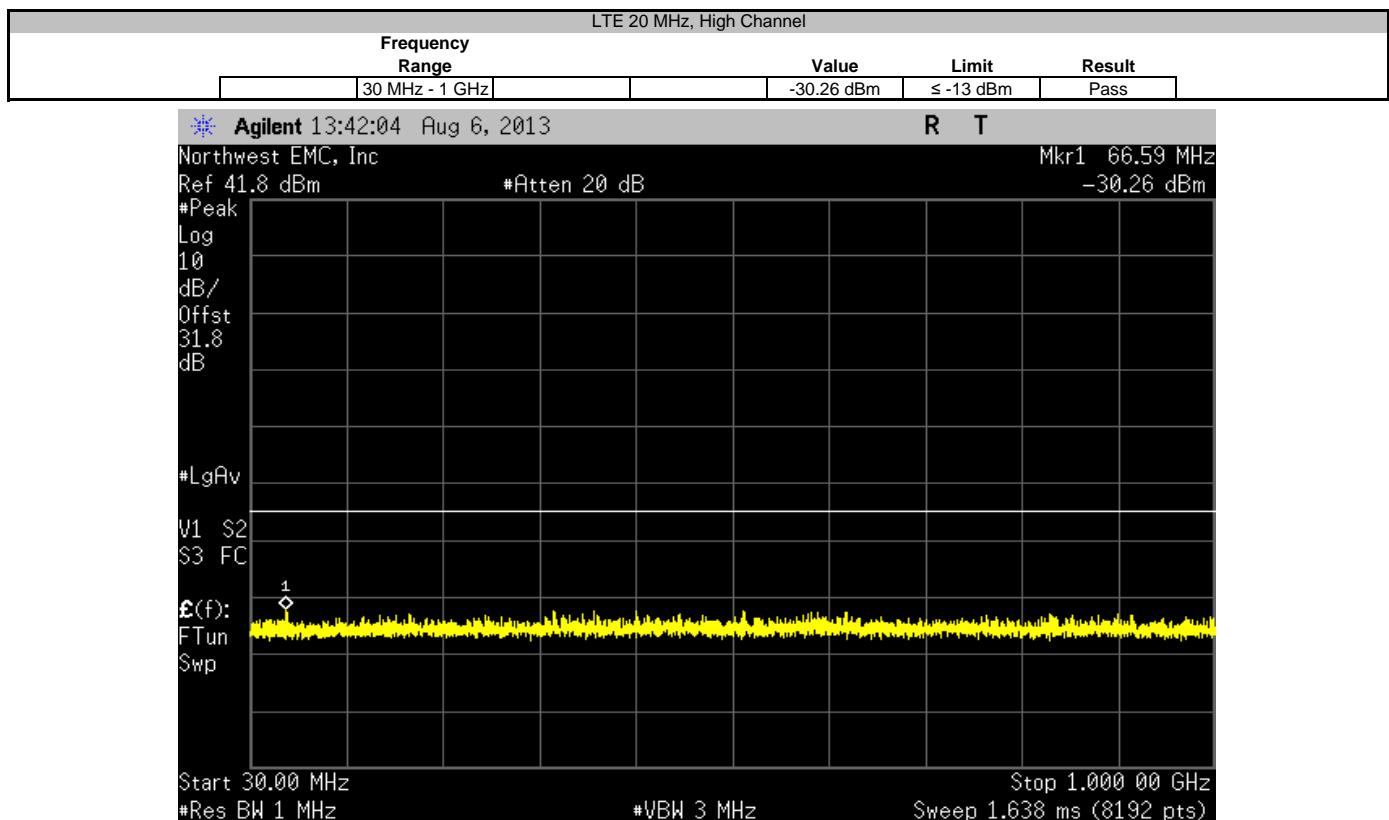
LTE 20 MHz, Low Channel					
Frequency	Range	Value	Limit	Result	
	3 GHz - 20 GHz	-23.74 dBm	≤ -13 dBm	Pass	

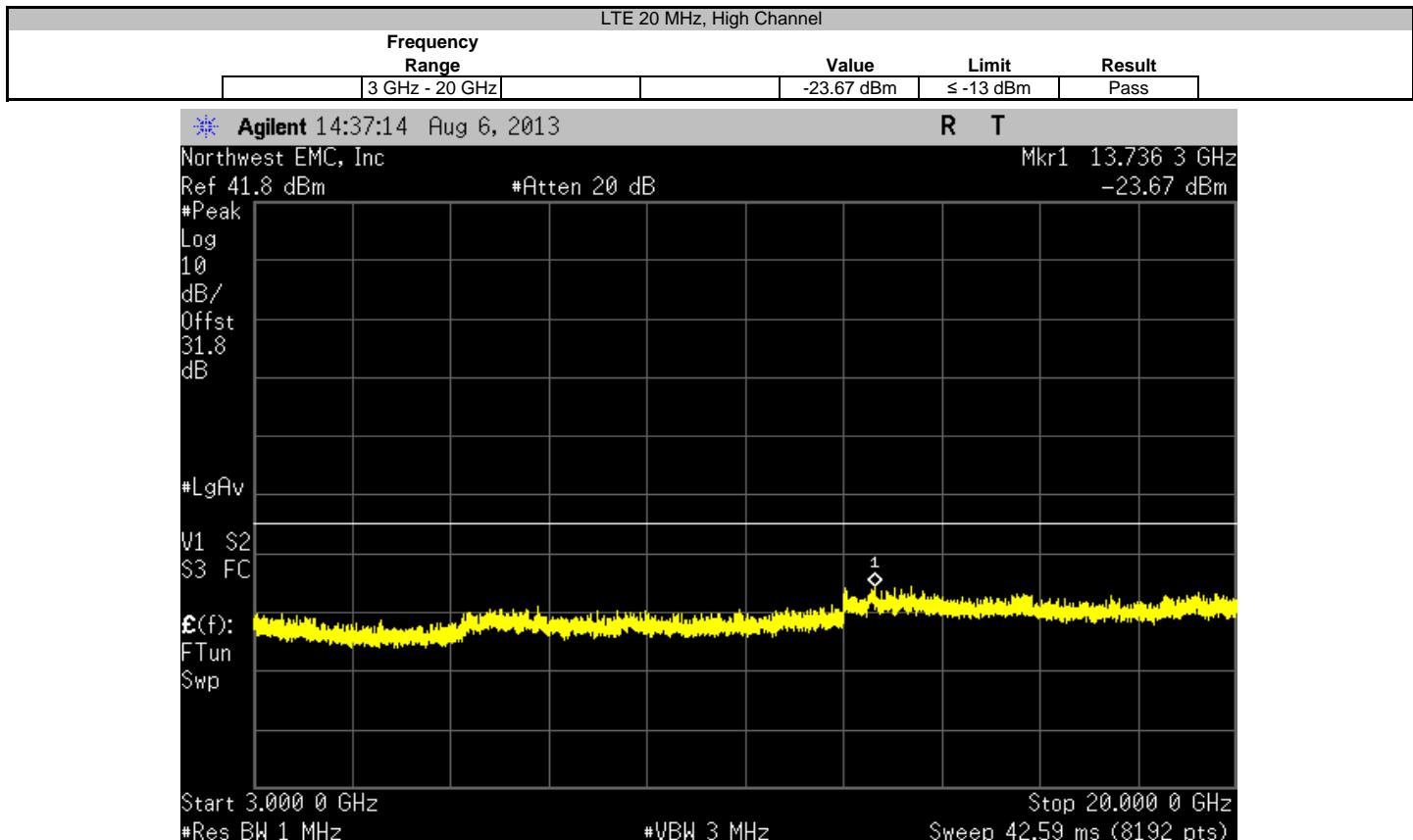


LTE 20 MHz, Mid Channel					
Frequency	Range	Value	Limit	Result	
	30 MHz - 1 GHz	-30.38 dBm	≤ -13 dBm	Pass	









## Frequency Stability

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

### TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Humidity Temperature Meter	Omega Engineering, Inc.	HH31	DUB	10/25/2011	36
Temp./Humidity Chamber	Cincinnati Sub Zero (CSZ)	ZPH-32-3.5-SCT/AC	TBF	NCR	0
Multimeter	Fluke	114	MMU	7/8/2011	36
Variable Transformer	Powerstat	246	XFR	NCR	0
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	24

### TEST DESCRIPTION

A direct connect measurement was made between the EUT's antenna cable and a spectrum analyzer. The spectrum analyzer is equipped with a precision frequency reference that exceeds the stability requirement of the EUT. Testing was done with an absence of modulation in a CW mode of operation.

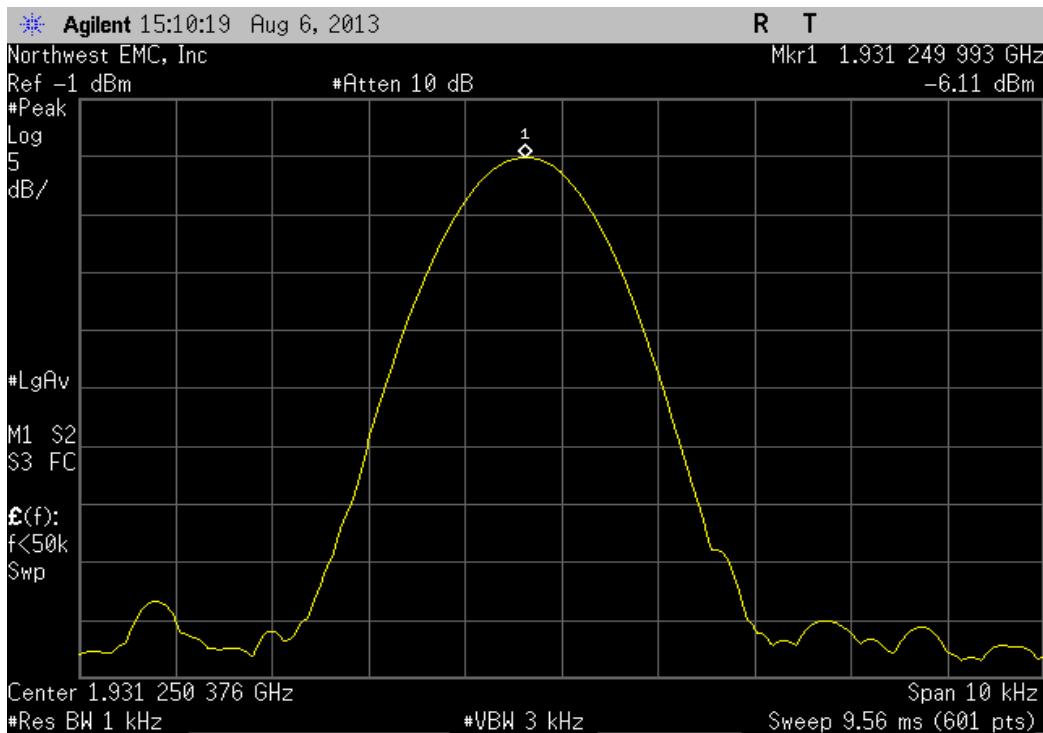
The primary supply voltage was varied from 85 % to 115% of the nominal voltage. Using a temperature chamber, the transmit frequency was recorded at the extremes of the specified temperature range (-30 ° to +50° C) and at 10°C intervals.



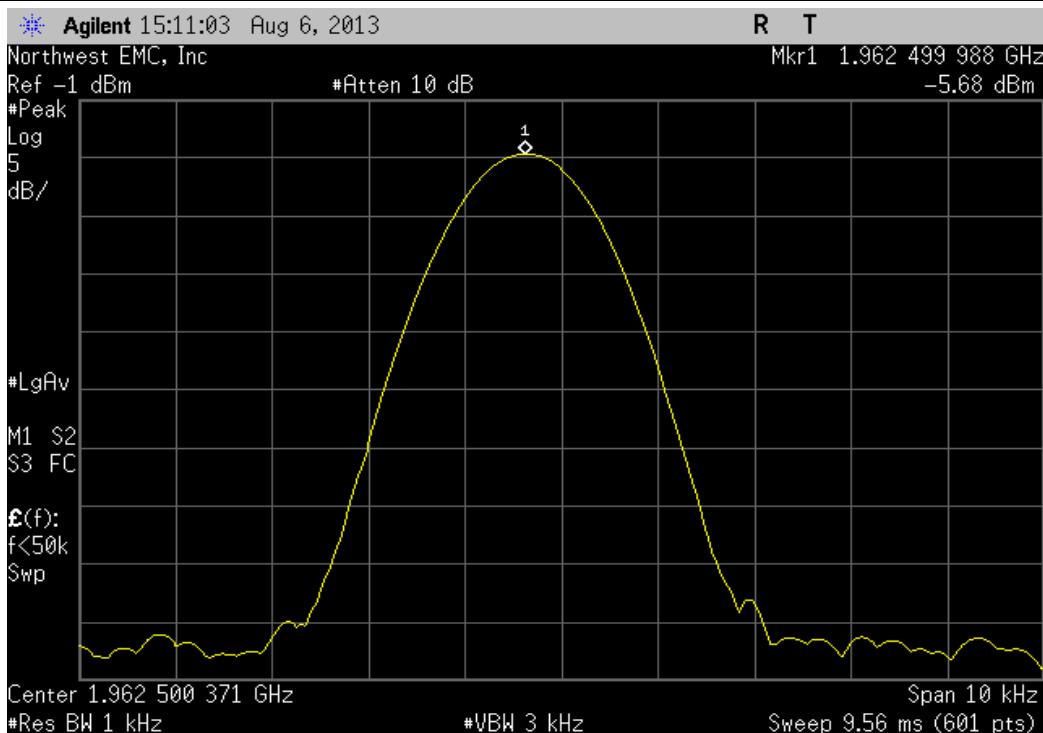
## Frequency Stability

EUT: Prism HDM 40W PCS SISO RF Module Model: FWP-881T000MOD			Work Order: TEC0005				
Serial Number: None			Date: 08/07/13				
Customer: TE Connectivity / ADC Telecommunications			Temperature: 23.1°C				
Attendees: None			Humidity: 48%				
Project: None			Barometric Pres.: 1014.9				
Tested by: Trevor Buls		Power: 110VAC/60Hz		Job Site: MN08			
TEST SPECIFICATIONS			Test Method				
FCC 24E:2013			ANSI/TIA/EIA-603-C-2004				
COMMENTS							
Customer provided a high wattage 30 dB attenuator. The voltage range was varied from 93.5 - 126.5 VAC.							
DEVIATIONS FROM TEST STANDARD							
None							
Configuration #	1	Signature	<i>Trevor Buls</i>				
			Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result
Voltage: 115%							
Low Channel, 1931.25 MHz			1931.249993	1931.25	0.0036	1	Pass
Mid Channel, 1962.5 MHz			1962.499988	1962.5	0.0061	1	Pass
High Channel, 1993.75 MHz			1993.749984	1993.75	0.0080	1	Pass
Voltage: 100%							
Low Channel, 1931.25 MHz			1931.249993	1931.25	0.0036	1	Pass
Mid Channel, 1962.5 MHz			1962.499988	1962.5	0.0061	1	Pass
High Channel, 1993.75 MHz			1993.749984	1993.75	0.0080	1	Pass
Voltage: 85%							
Low Channel, 1931.25 MHz			1931.249993	1931.25	0.0036	1	Pass
Mid Channel, 1962.5 MHz			1962.499988	1962.5	0.0061	1	Pass
High Channel, 1993.75 MHz			1993.749984	1993.75	0.0080	1	Pass
Temperature: +50°							
Low Channel, 1931.25 MHz			1931.249993	1931.25	0.0036	1	Pass
Mid Channel, 1962.5 MHz			1962.499988	1962.5	0.0061	1	Pass
High Channel, 1993.75 MHz			1993.75	1993.75	0.0000	1	Pass
Temperature: +40°							
Low Channel, 1931.25 MHz			1931.249993	1931.25	0.0036	1	Pass
Mid Channel, 1962.5 MHz			1962.499988	1962.5	0.0061	1	Pass
High Channel, 1993.75 MHz			1993.75	1993.75	0.0000	1	Pass
Temperature: +30°							
Low Channel, 1931.25 MHz			1931.249993	1931.25	0.0036	1	Pass
Mid Channel, 1962.5 MHz			1962.499988	1962.5	0.0061	1	Pass
High Channel, 1993.75 MHz			1993.75	1993.75	0.0000	1	Pass
Temperature: +20°							
Low Channel, 1931.25 MHz			1931.249993	1931.25	0.0036	1	Pass
Mid Channel, 1962.5 MHz			1962.499988	1962.5	0.0061	1	Pass
High Channel, 1993.75 MHz			1993.75	1993.75	0.0000	1	Pass
Temperature: +10°							
Low Channel, 1931.25 MHz			1931.249993	1931.25	0.0036	1	Pass
Mid Channel, 1962.5 MHz			1962.500004	1962.5	0.0020	1	Pass
High Channel, 1993.75 MHz			1993.749984	1993.75	0.0080	1	Pass
Temperature: 0°							
Low Channel, 1931.25 MHz			1931.249993	1931.25	0.0036	1	Pass
Mid Channel, 1962.5 MHz			1962.499988	1962.5	0.0061	1	Pass
High Channel, 1993.75 MHz			1993.749984	1993.75	0.0080	1	Pass
Temperature: -10°							
Low Channel, 1931.25 MHz			1931.249993	1931.25	0.0036	1	Pass
Mid Channel, 1962.5 MHz			1962.499988	1962.5	0.0061	1	Pass
High Channel, 1993.75 MHz			1993.75	1993.75	0.0000	1	Pass
Temperature: -20°							
Low Channel, 1931.25 MHz			1931.249993	1931.25	0.0036	1	Pass
Mid Channel, 1962.5 MHz			1962.499988	1962.5	0.0061	1	Pass
High Channel, 1993.75 MHz			1993.75	1993.75	0.0000	1	Pass
Temperature: -30°							
Low Channel, 1931.25 MHz			1931.249993	1931.25	0.0036	1	Pass
Mid Channel, 1962.5 MHz			1962.499988	1962.5	0.0061	1	Pass
High Channel, 1993.75 MHz			1993.749984	1993.75	0.0080	1	Pass

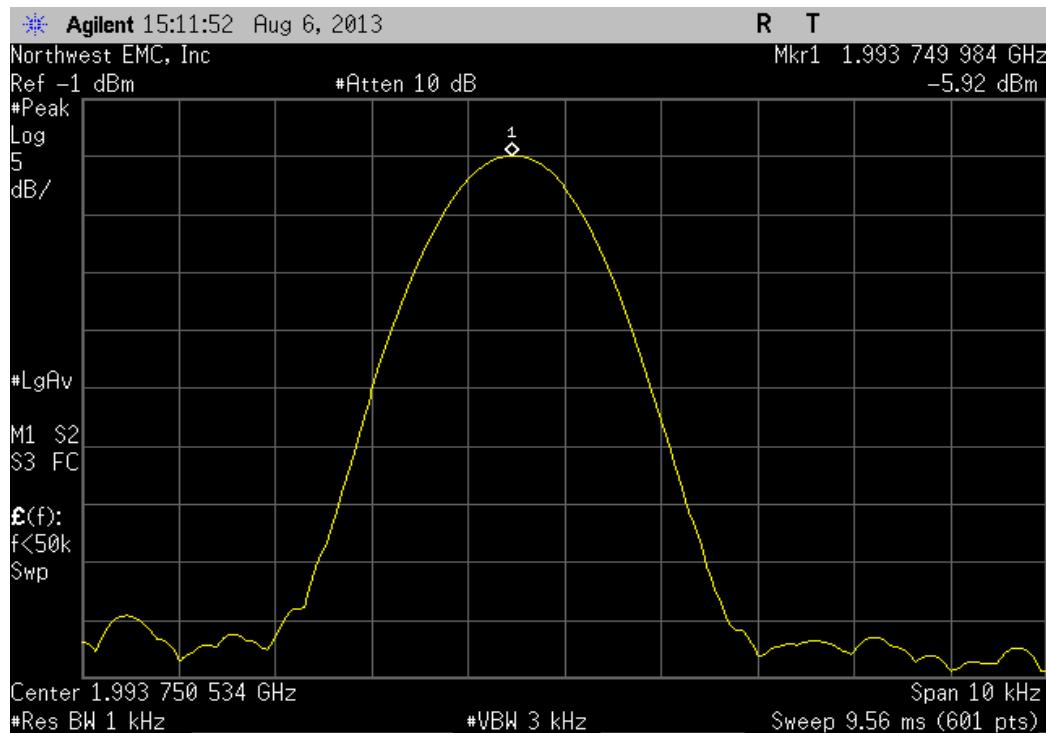
Voltage: 115%, Low Channel, 1931.25 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1931.249993	1931.25	0.0036	1	Pass	



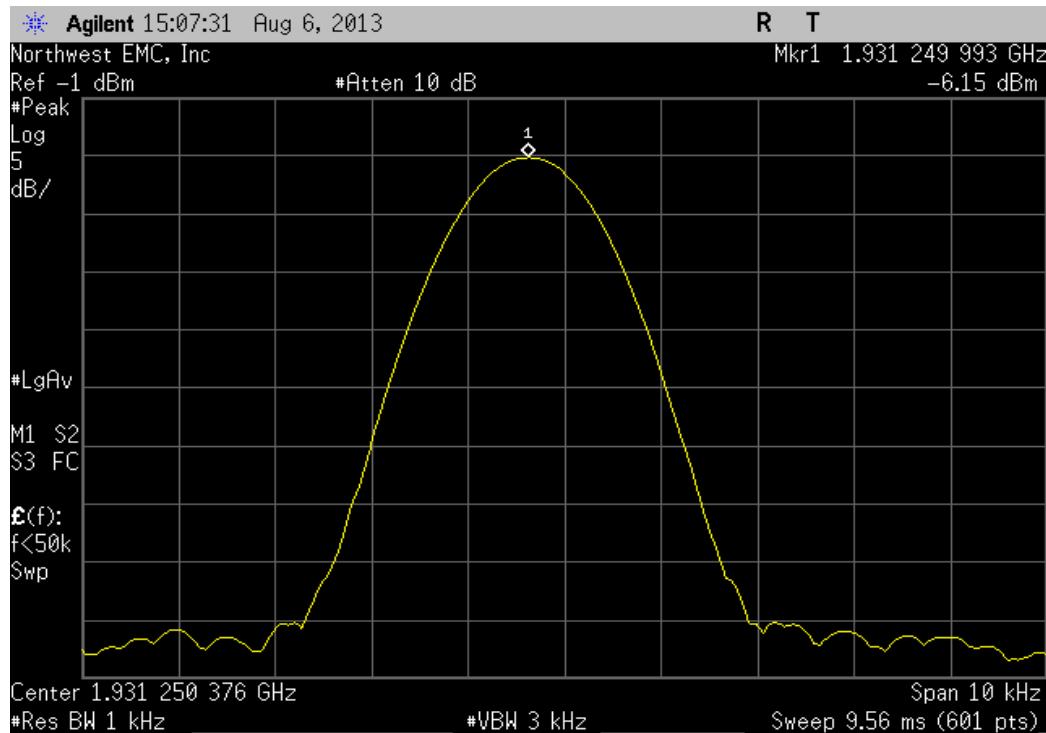
Voltage: 115%, Mid Channel, 1962.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1962.499988	1962.5	0.0061	1	Pass	



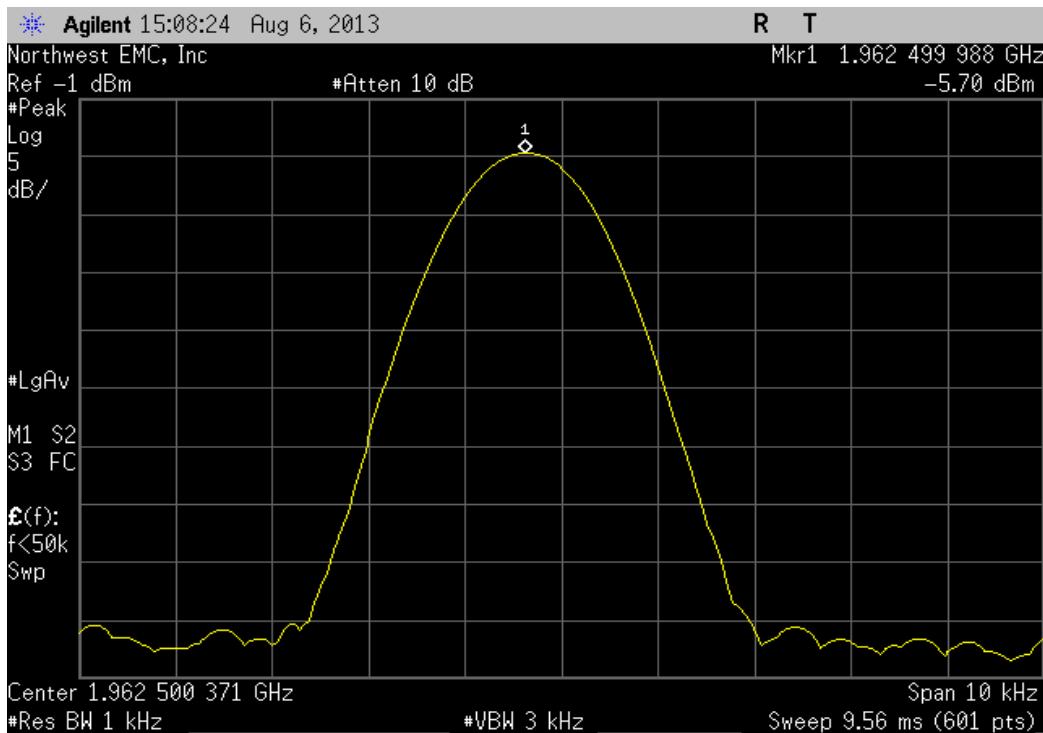
Voltage: 115%, High Channel, 1993.75 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1993.749984	1993.75	0.0080	1	Pass	



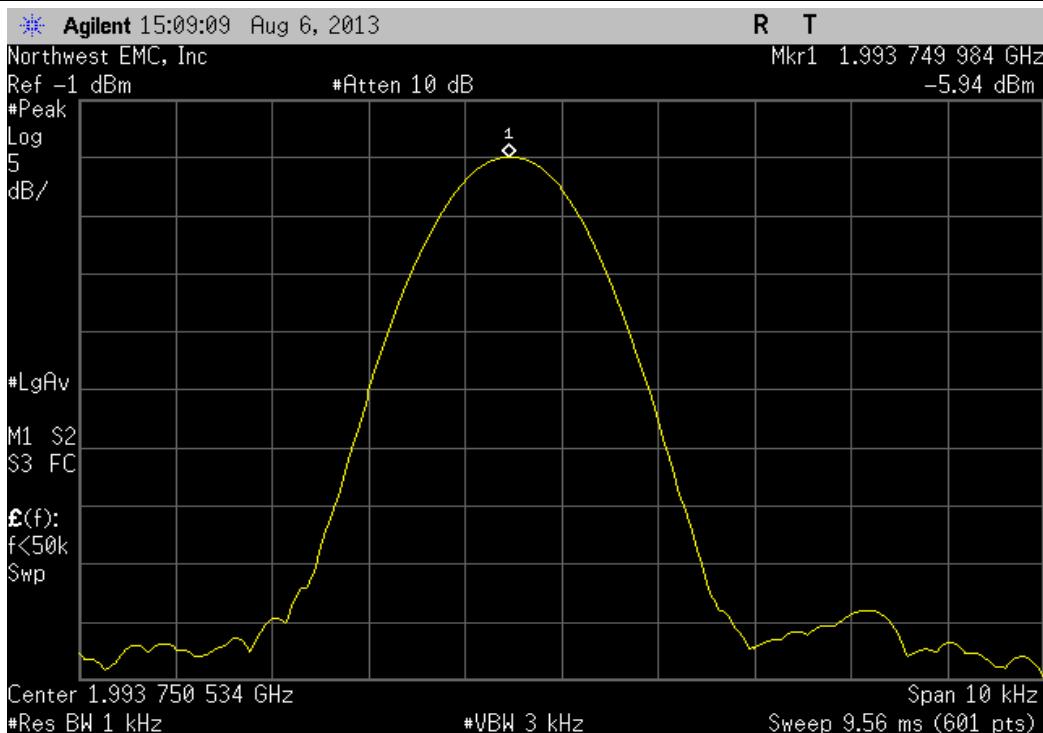
Voltage: 100%, Low Channel, 1931.25 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1931.249993	1931.25	0.0036	1	Pass	



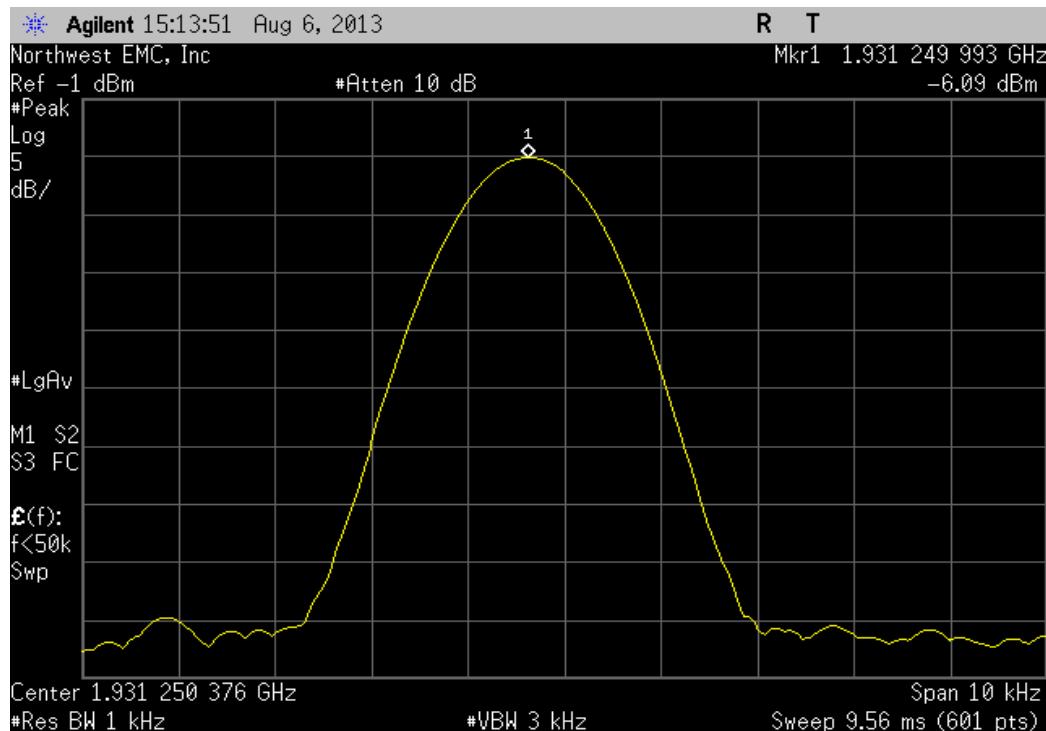
Voltage: 100%, Mid Channel, 1962.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1962.499988	1962.5	0.0061	1	Pass	



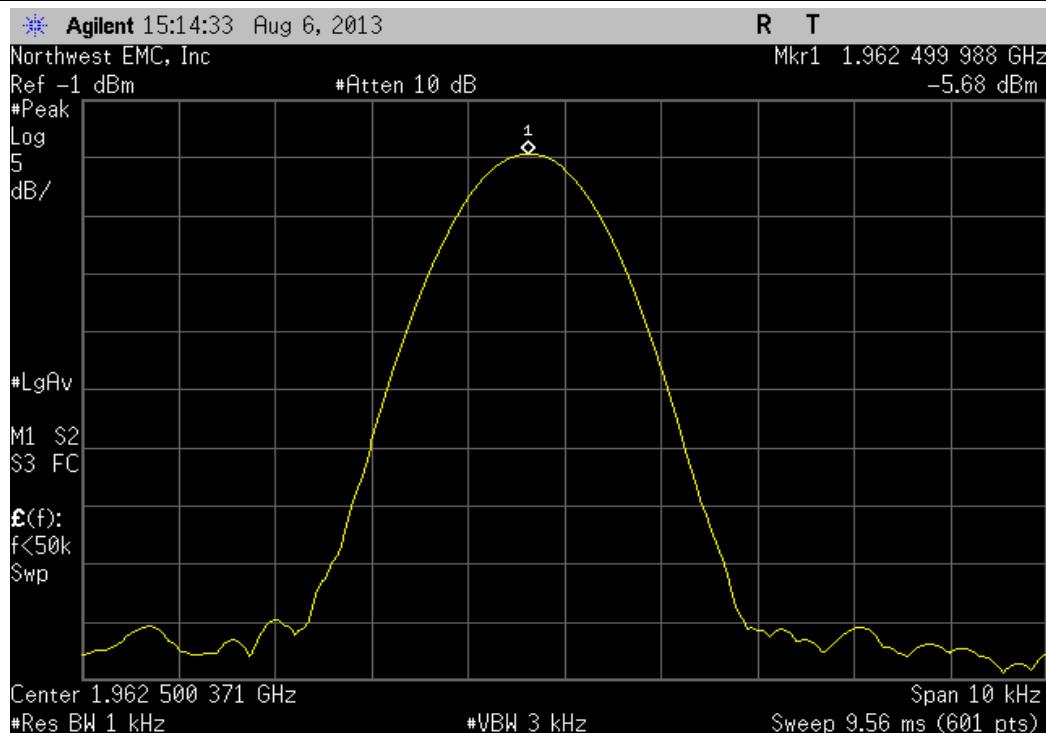
Voltage: 100%, High Channel, 1993.75 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1993.749984	1993.75	0.0080	1	Pass	



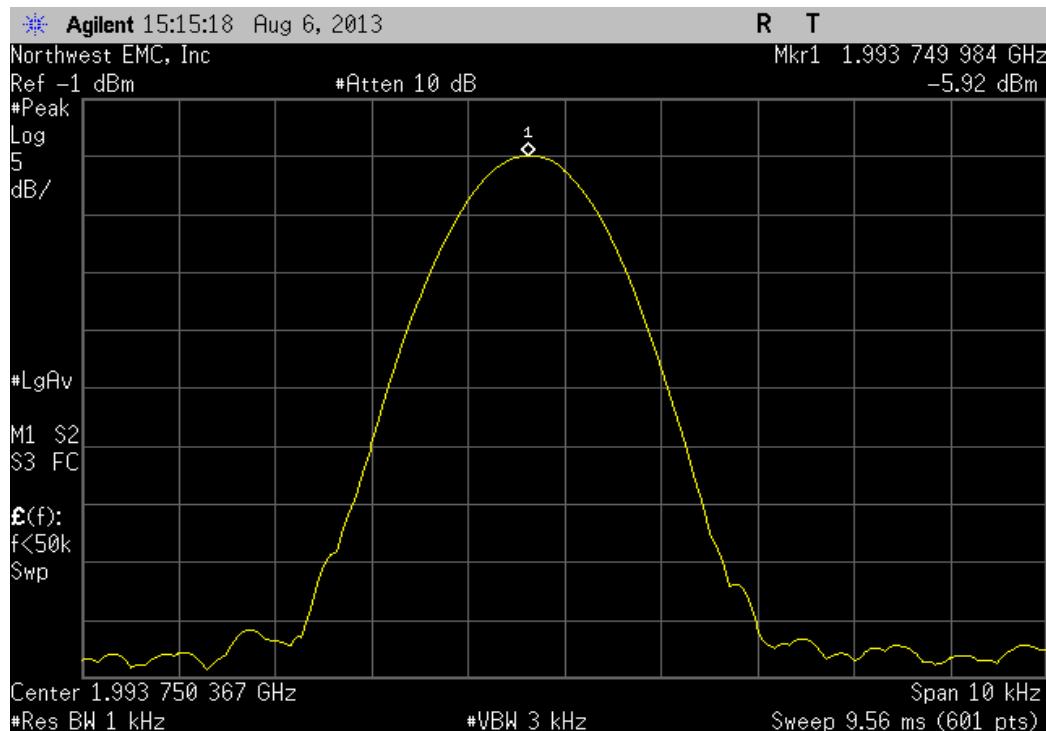
Voltage: 85%, Low Channel, 1931.25 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1931.249993	1931.25	0.0036	1	Pass	



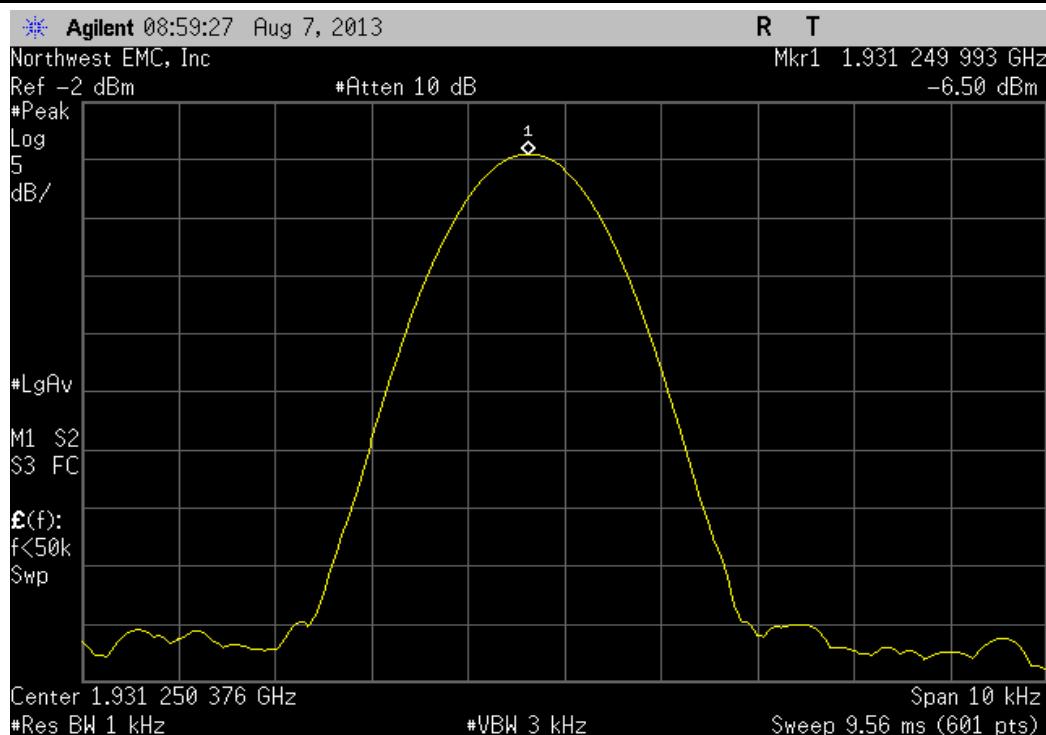
Voltage: 85%, Mid Channel, 1962.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1962.499988	1962.5	0.0061	1	Pass	



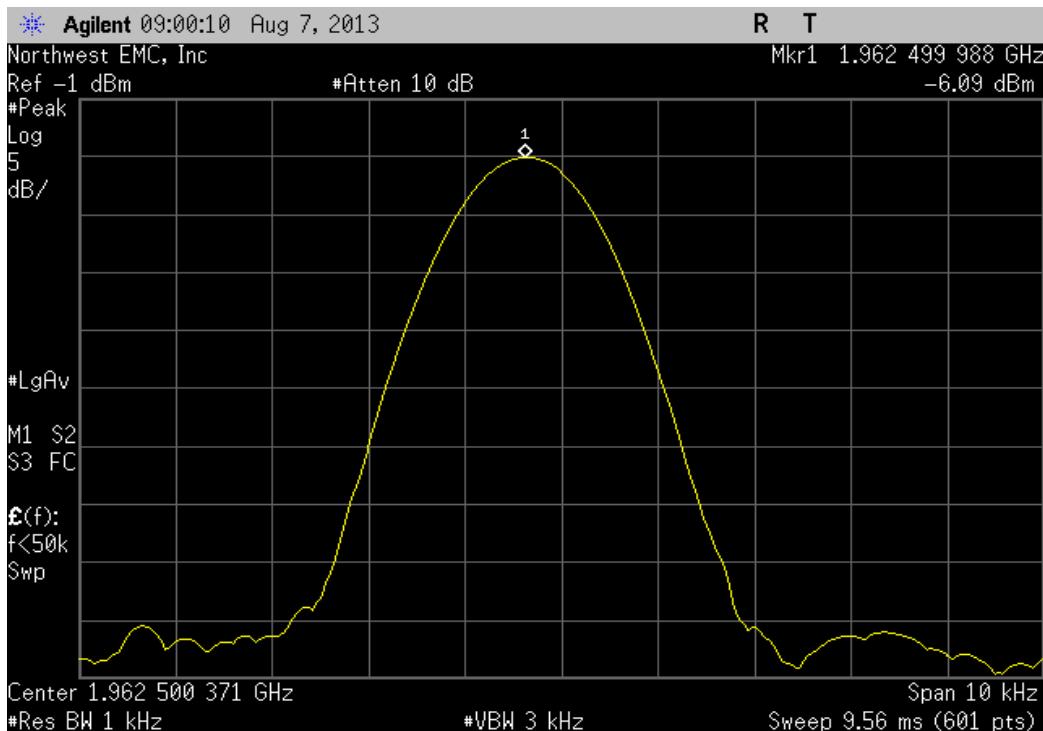
Voltage: 85%, High Channel, 1993.75 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1993.749984	1993.75	0.0080	1	Pass	



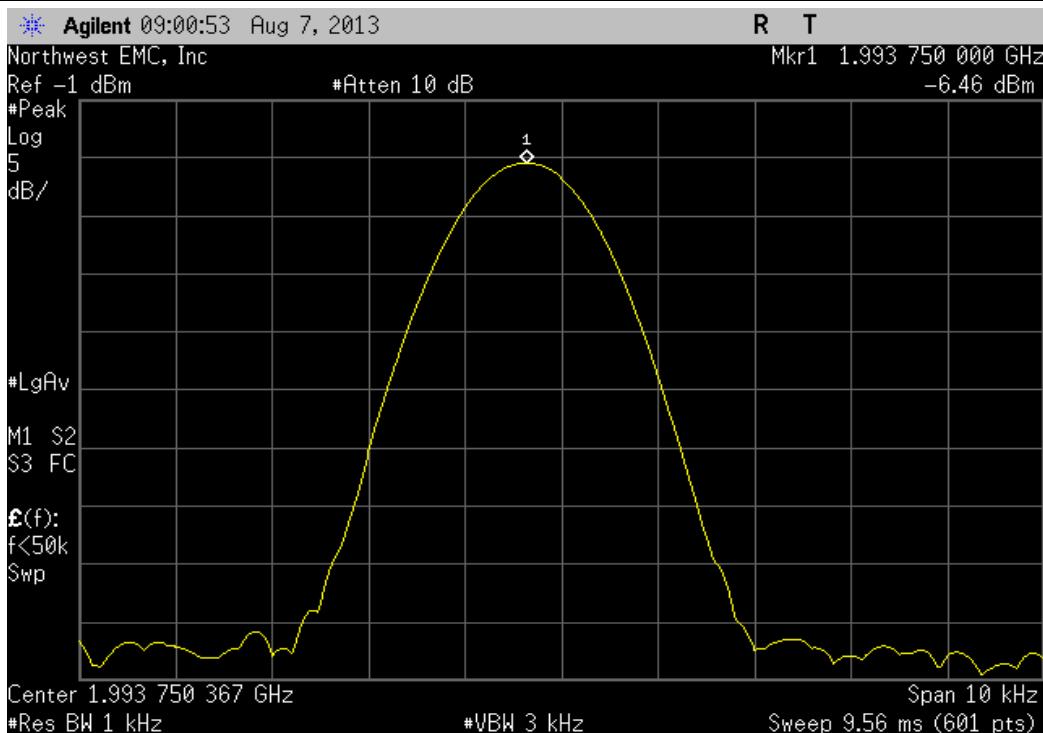
Temperature: +50°, Low Channel, 1931.25 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1931.249993	1931.25	0.0036	1	Pass	



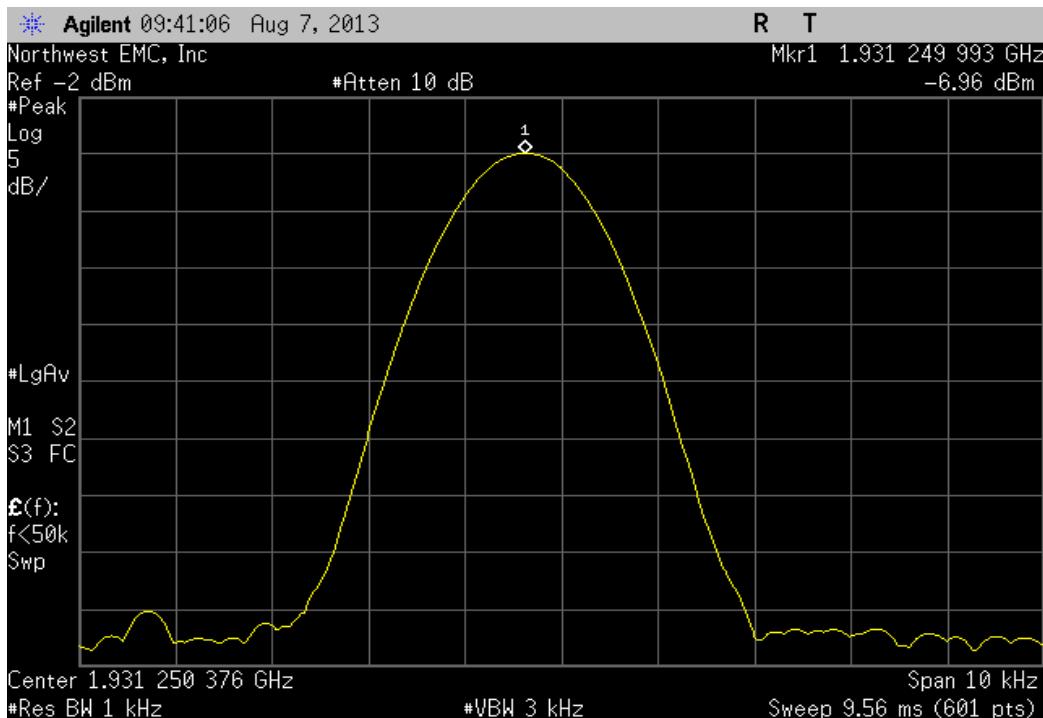
Temperature: +50°, Mid Channel, 1962.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1962.499988	1962.5	0.0061	1	Pass	



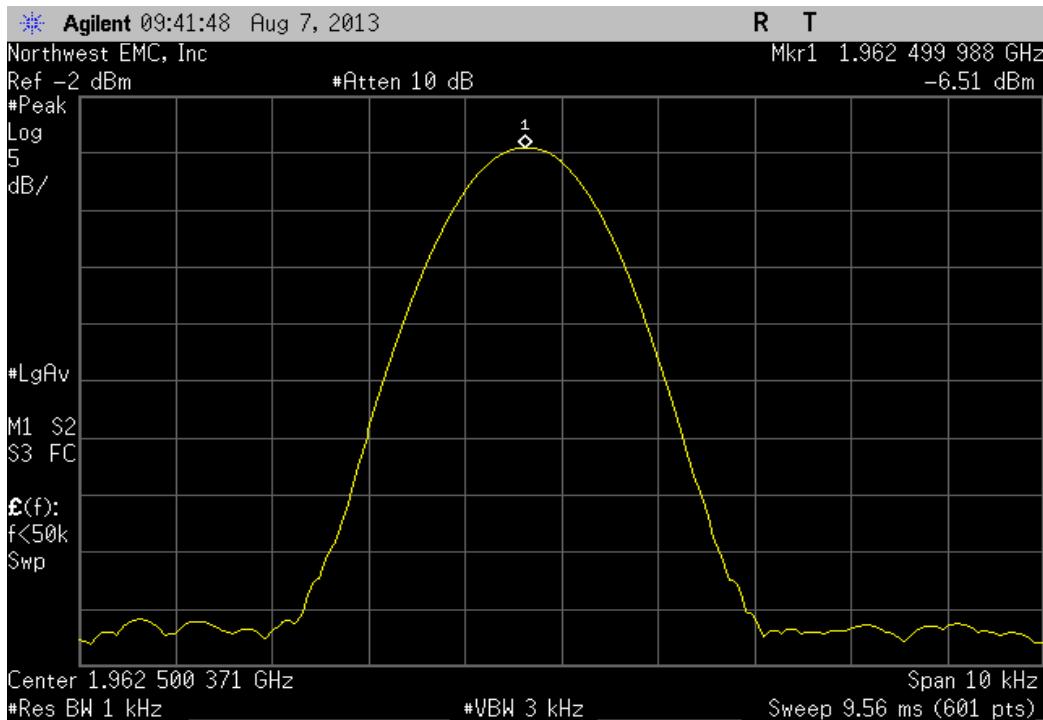
Temperature: +50°, High Channel, 1993.75 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1993.75	1993.75	0.0000	1	Pass	



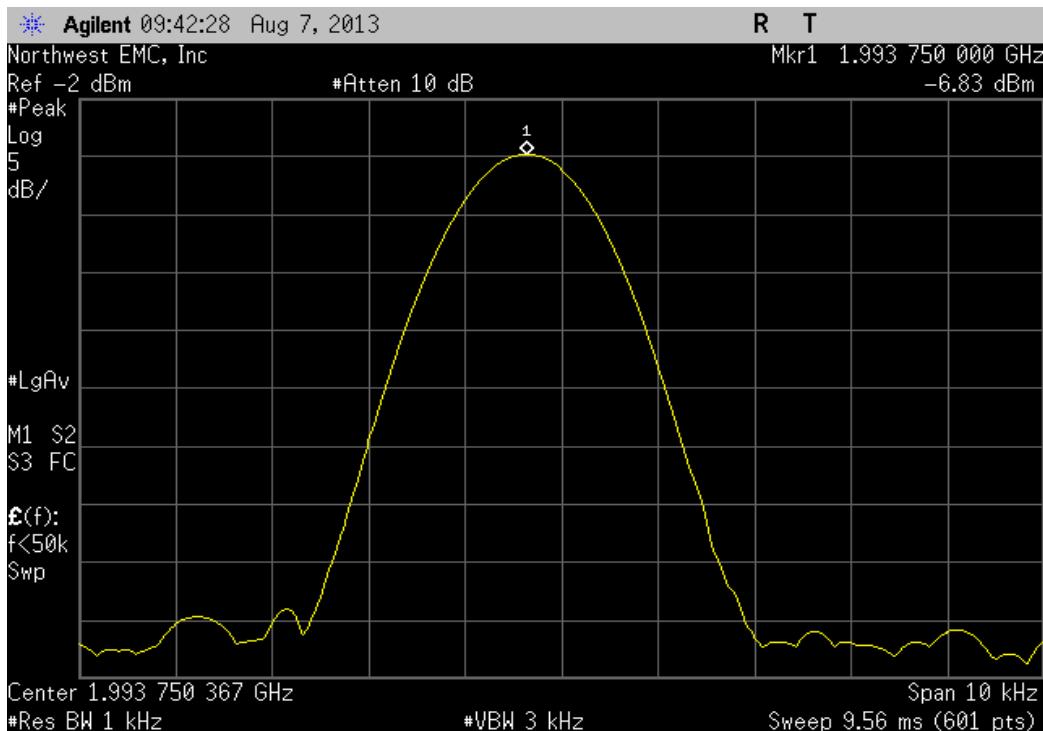
Temperature: +40°, Low Channel, 1931.25 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1931.249993	1931.25	0.0036	1	Pass	



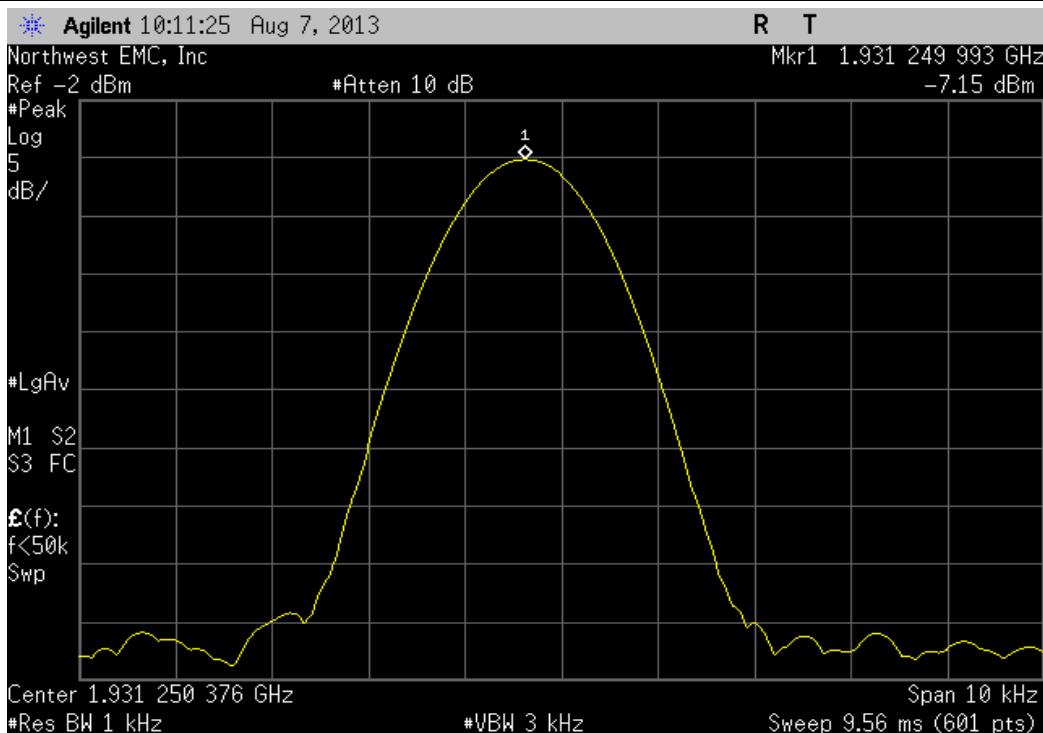
Temperature: +40°, Mid Channel, 1962.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1962.49998	1962.5	0.0061	1	Pass	



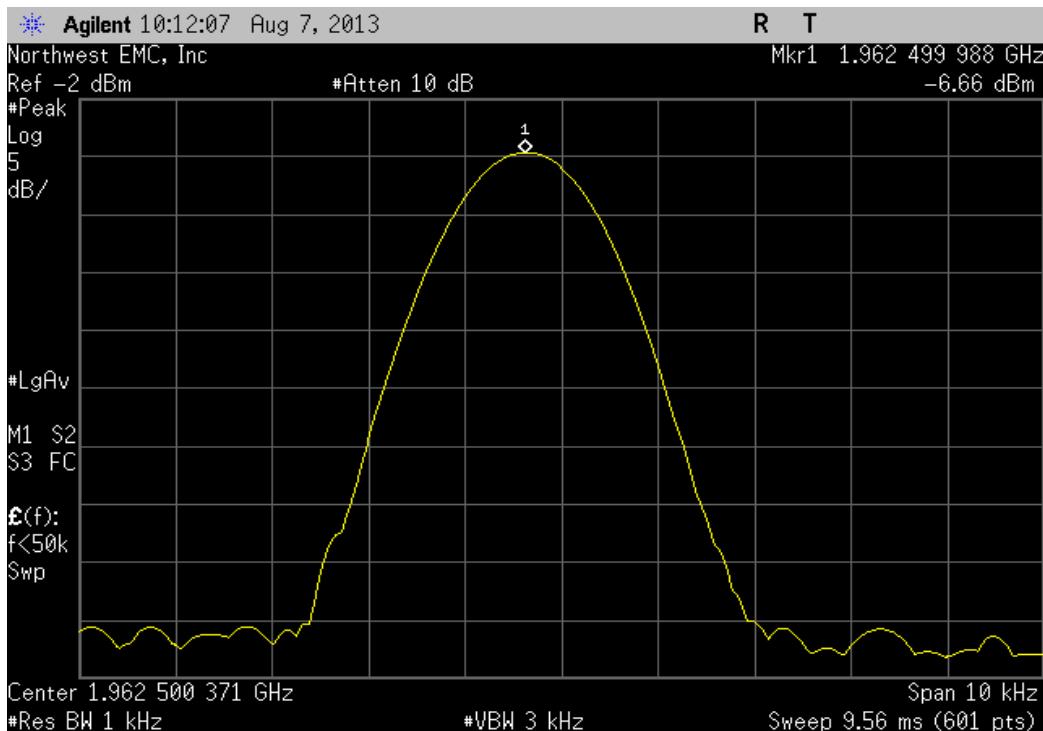
Temperature: +40°, High Channel, 1993.75 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	1993.75	1993.75	0.0000	1		Pass



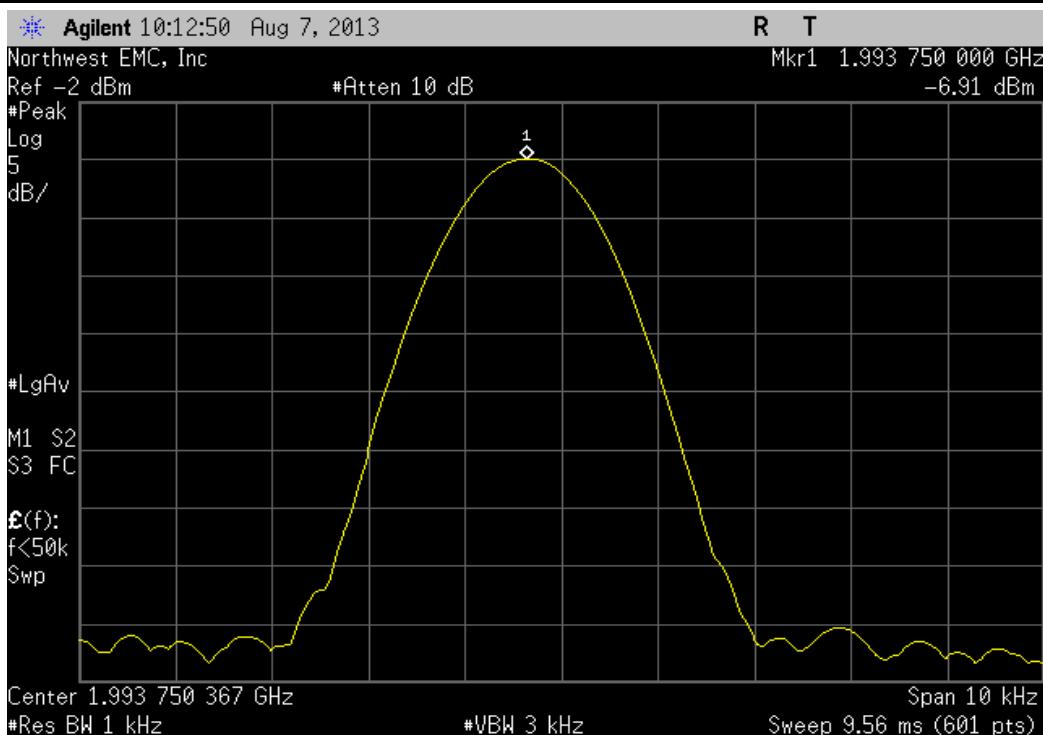
Temperature: +30°, Low Channel, 1931.25 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	1931.249993	1931.25	0.0036	1		Pass



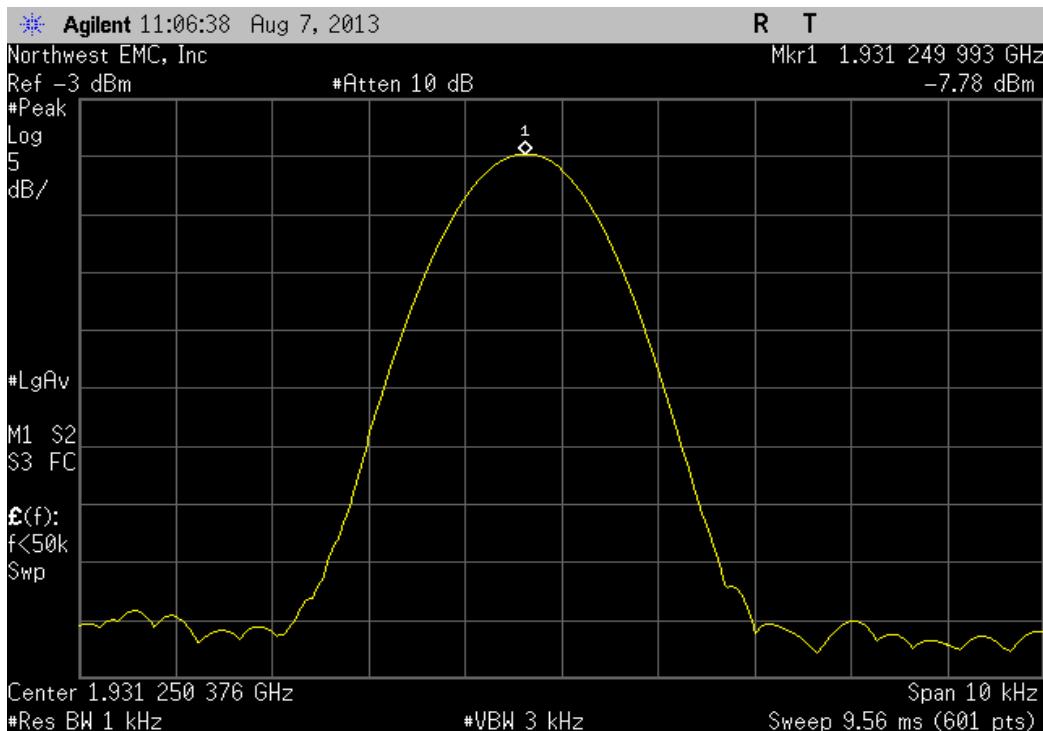
Temperature: +30°, Mid Channel, 1962.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1962.499988	1962.5	0.0061	1	Pass	



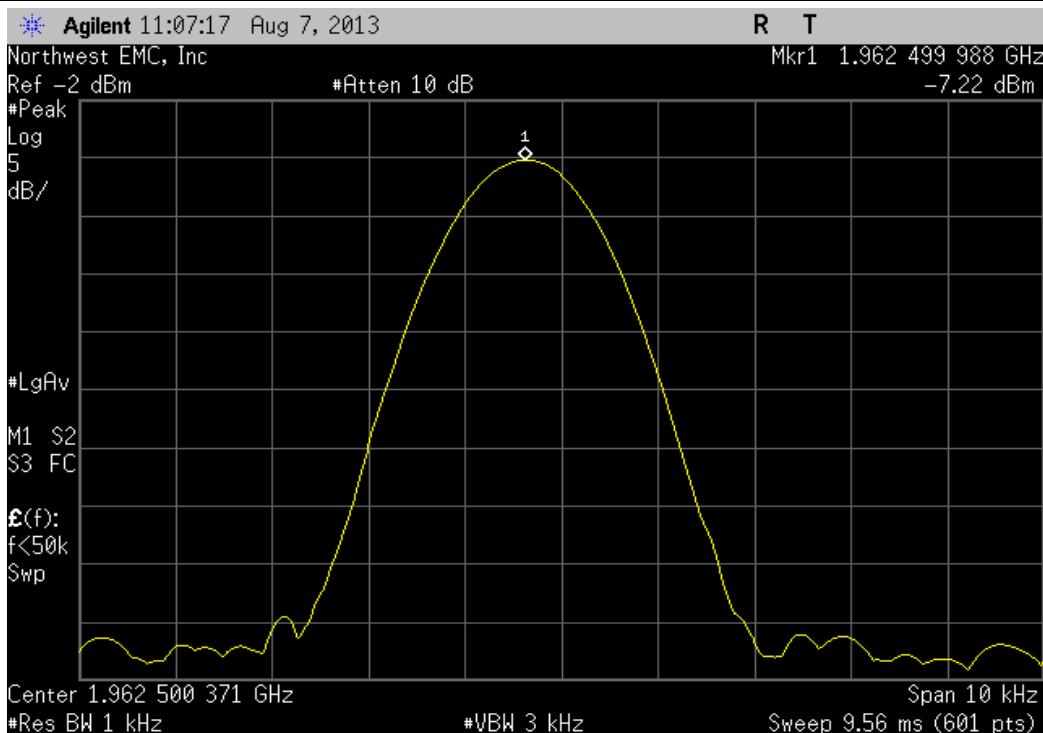
Temperature: +30°, High Channel, 1993.75 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1993.75	1993.75	0.0000	1	Pass	



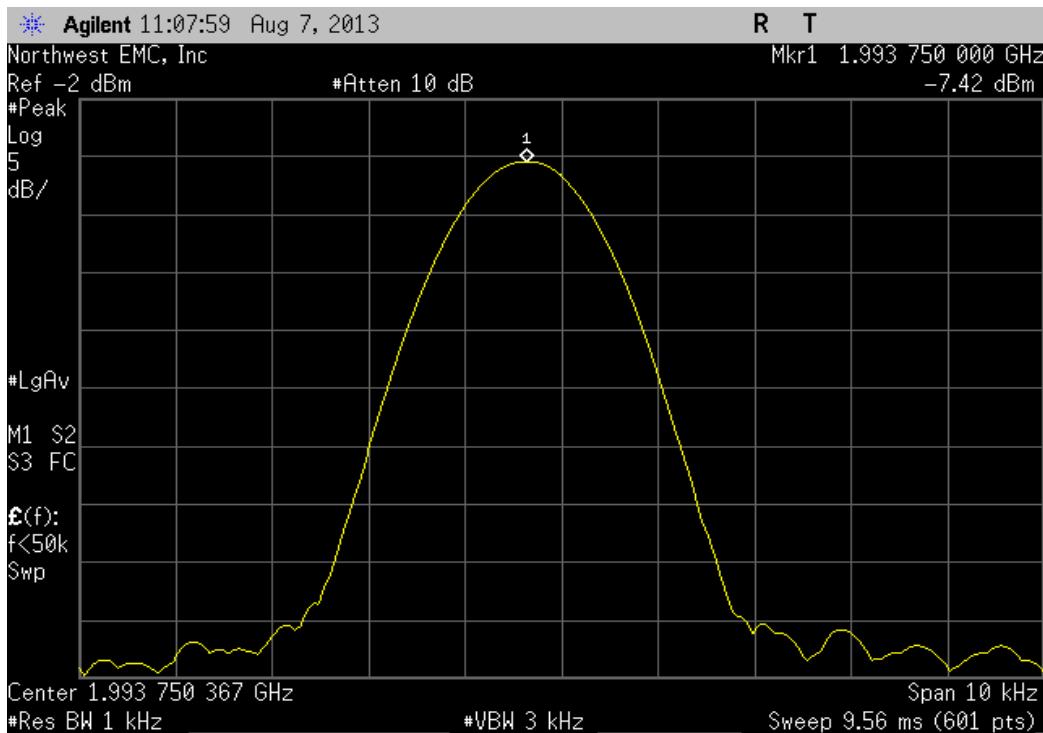
Temperature: +20°, Low Channel, 1931.25 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1931.249993	1931.25	0.0036	1	Pass	



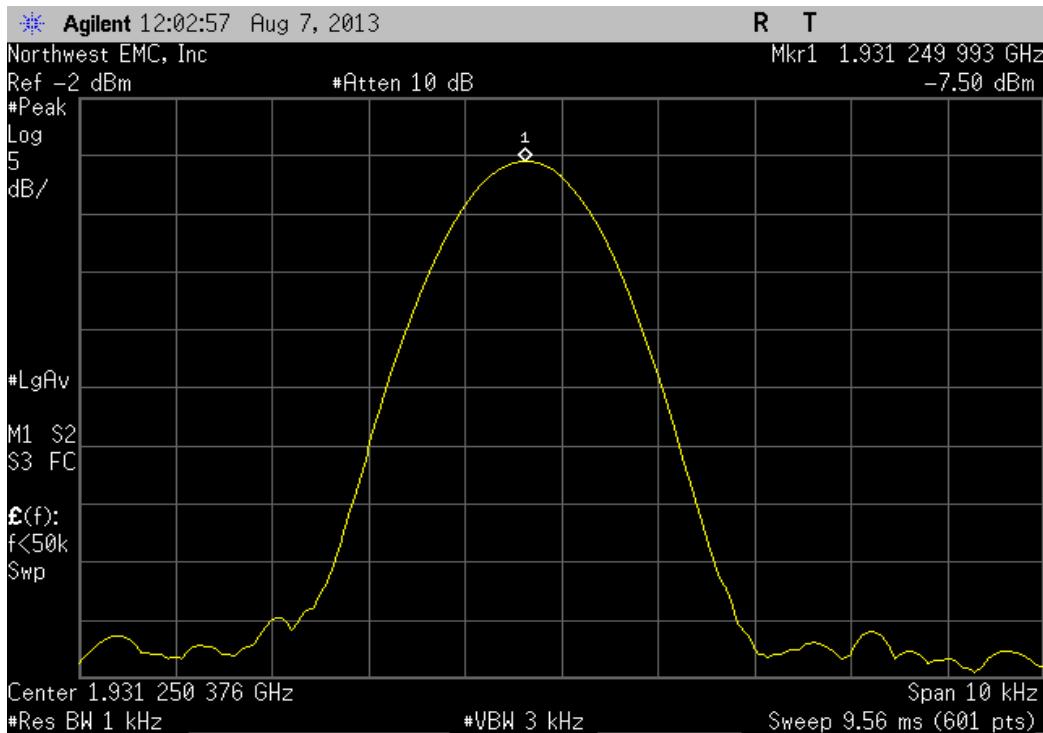
Temperature: +20°, Mid Channel, 1962.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1962.499988	1962.5	0.0061	1	Pass	



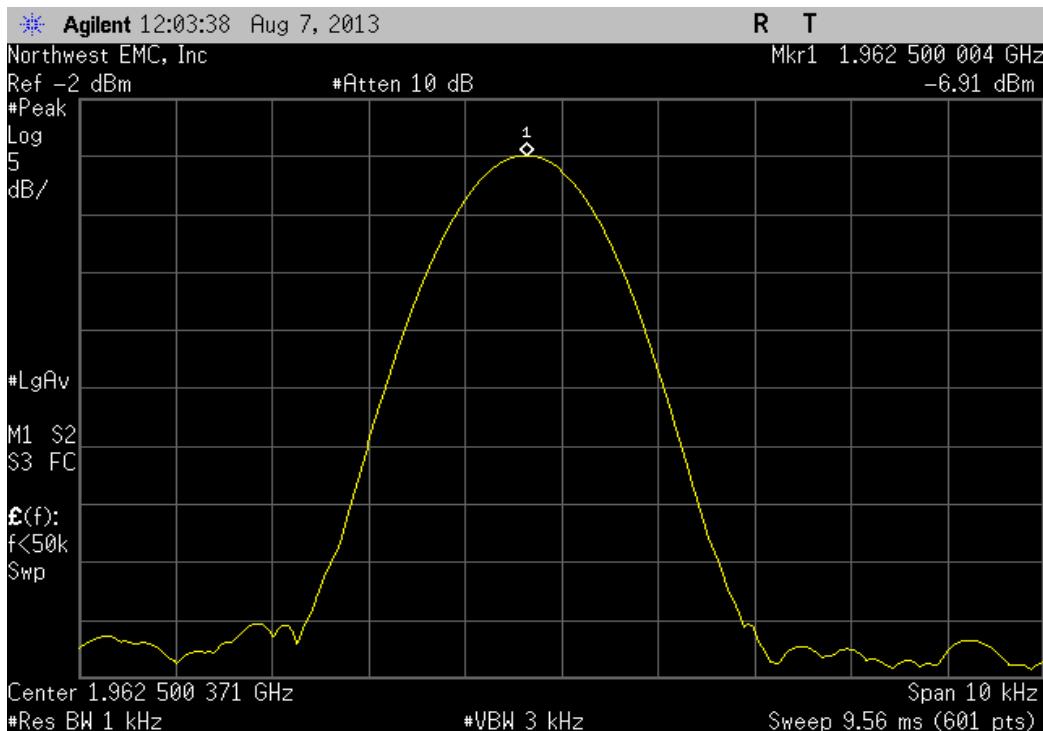
Temperature: +20°, High Channel, 1993.75 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	1993.75	1993.75	0.0000	1		Pass



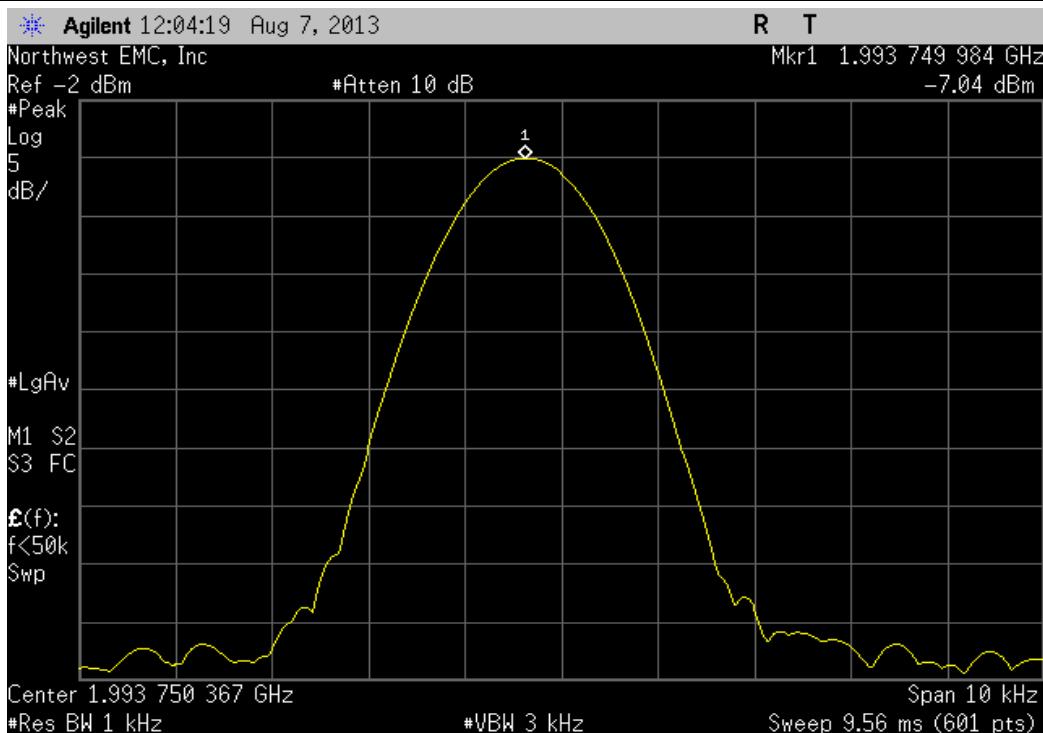
Temperature: +10°, Low Channel, 1931.25 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
	1931.249993	1931.25	0.0036	1		Pass



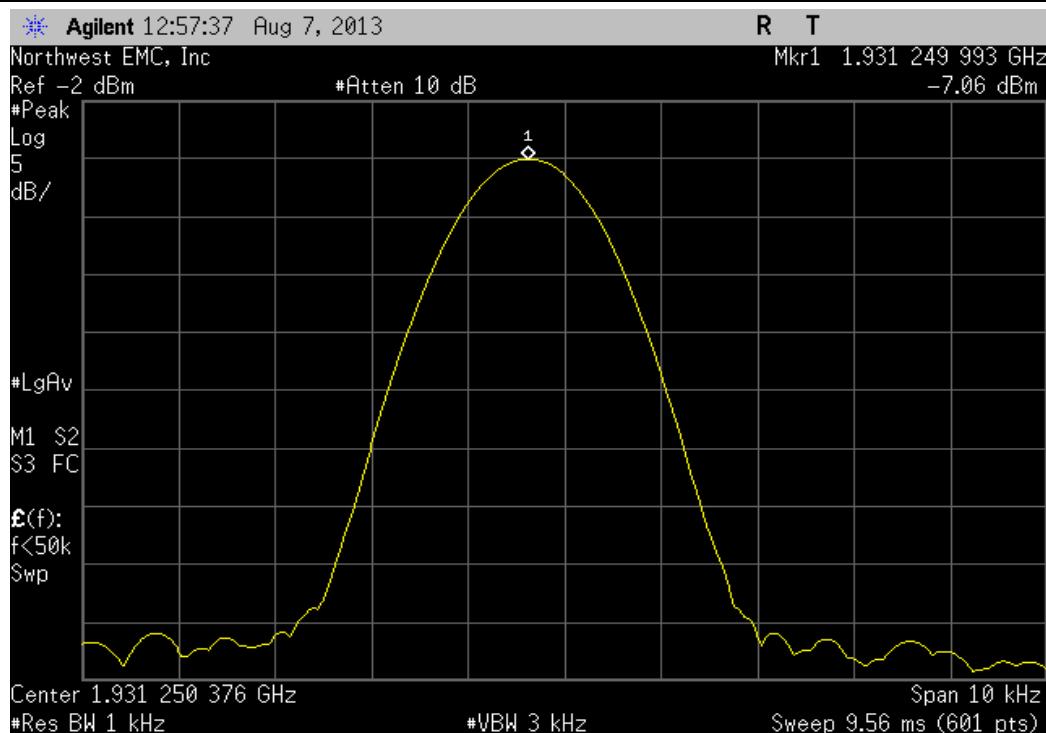
Temperature: +10°, Mid Channel, 1962.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
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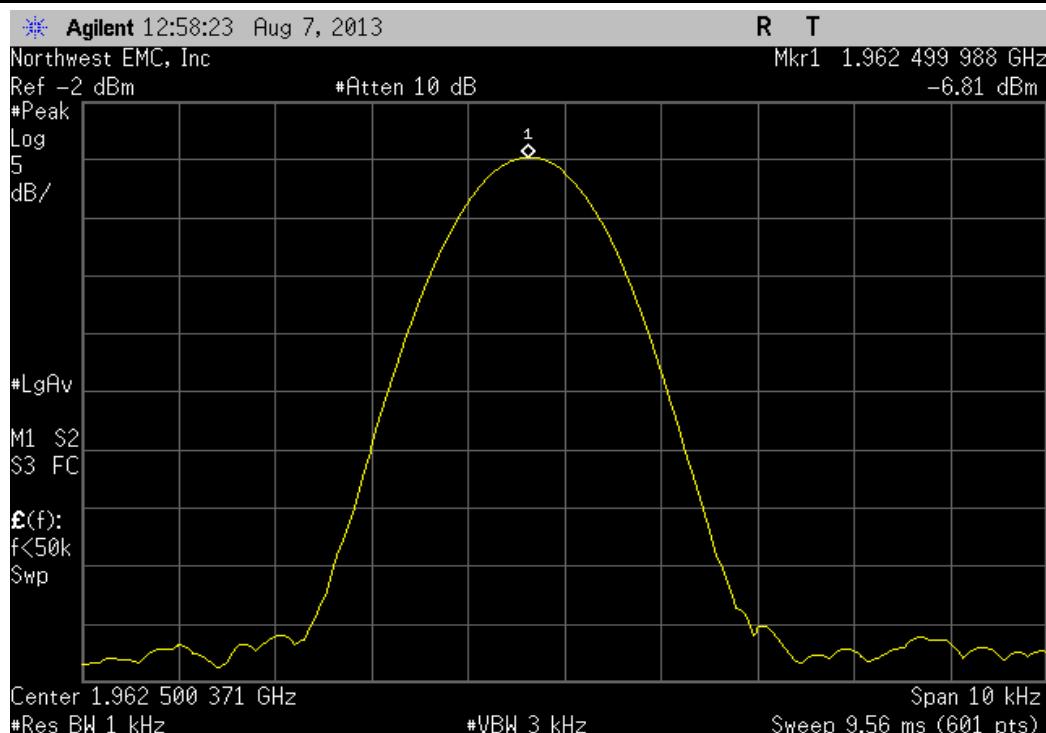
Temperature: +10°, High Channel, 1993.75 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1993.749984	1993.75	0.0080	1	Pass	



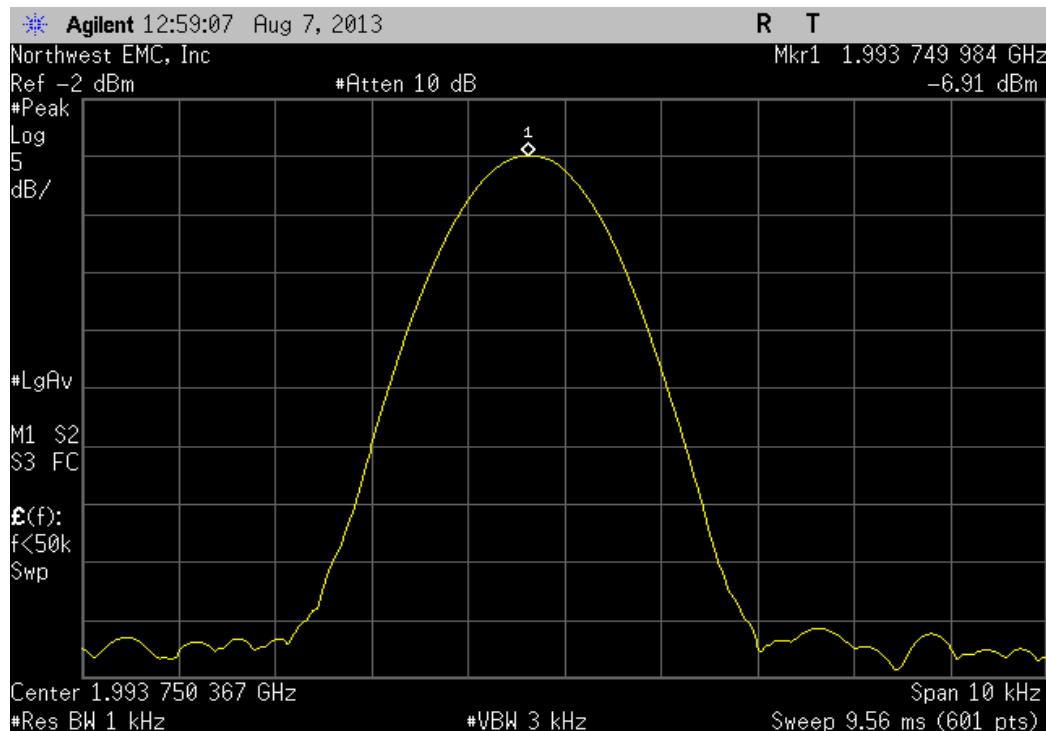
Temperature: 0°, Low Channel, 1931.25 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1931.249993	1931.25	0.0036	1	Pass	



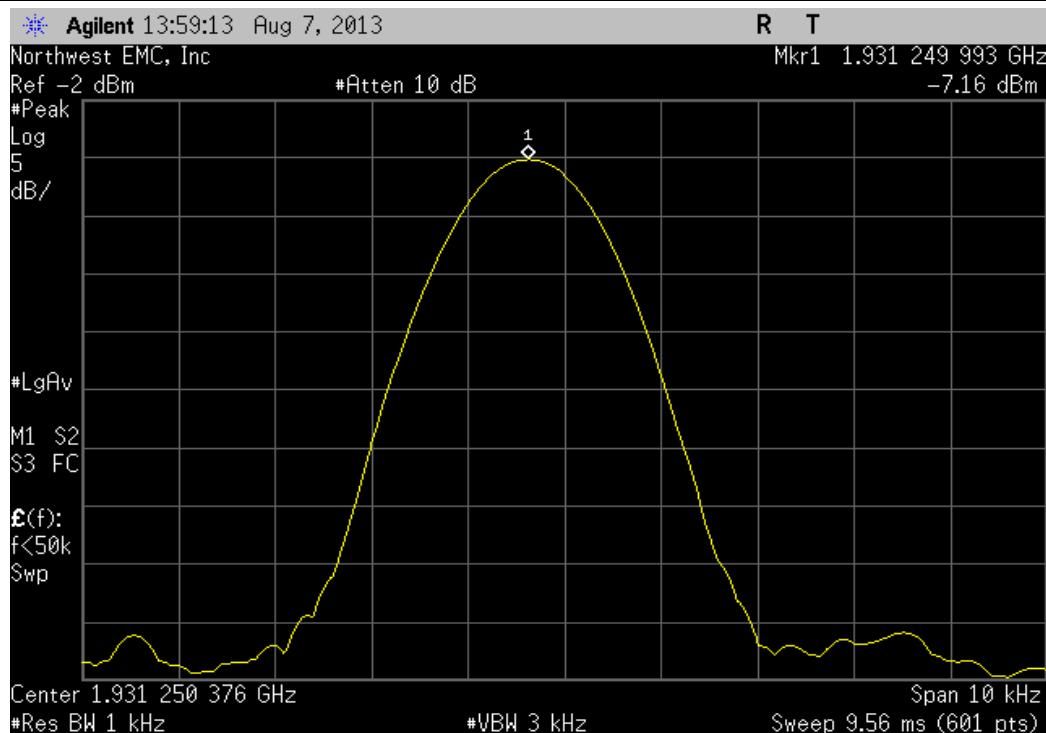
Temperature: 0°, Mid Channel, 1962.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1962.499988	1962.5	0.0061	1	Pass	



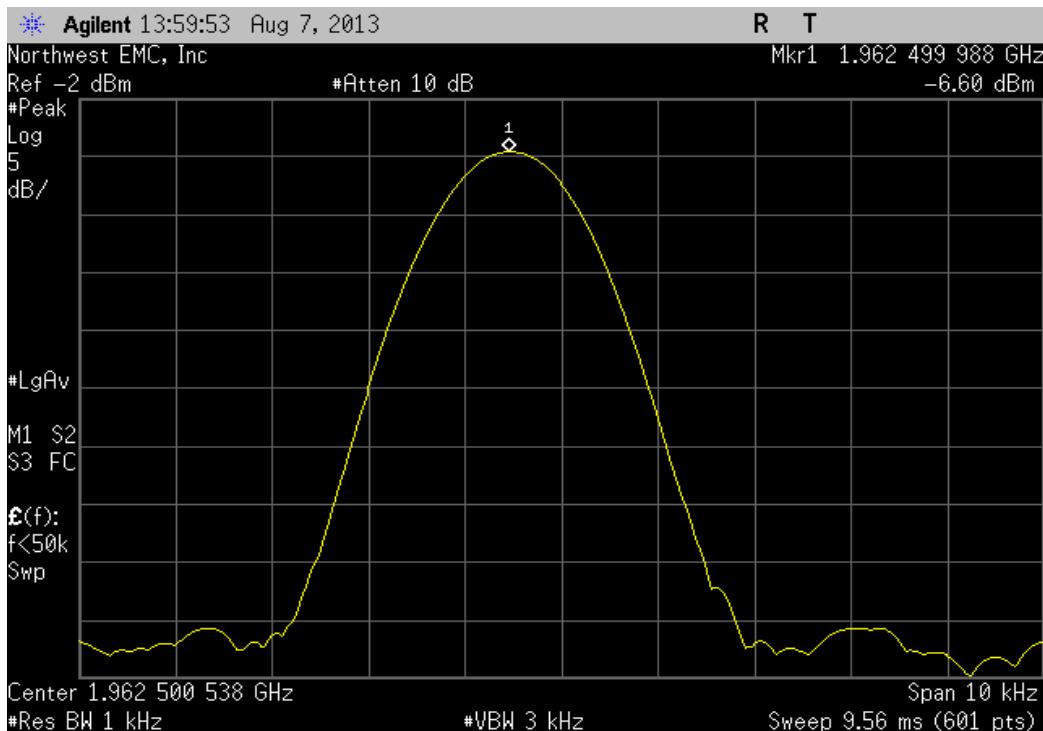
Temperature: 0°, High Channel, 1993.75 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1993.749984	1993.75	0.0080	1	Pass	



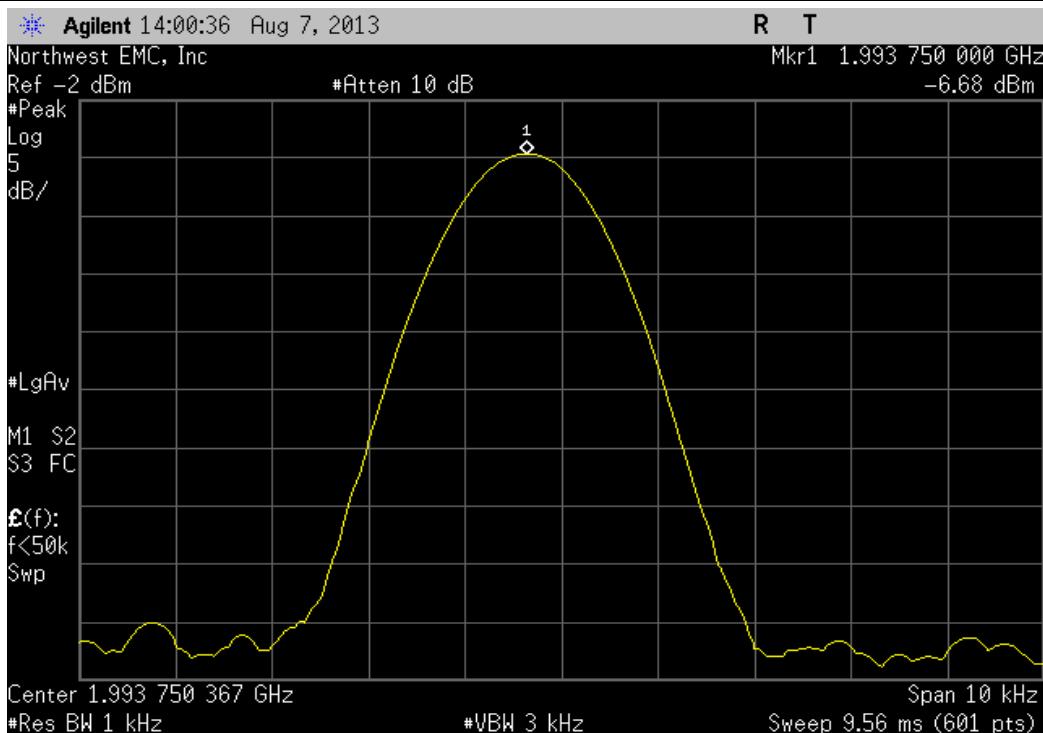
Temperature: -10°, Low Channel, 1931.25 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1931.249993	1931.25	0.0036	1	Pass	



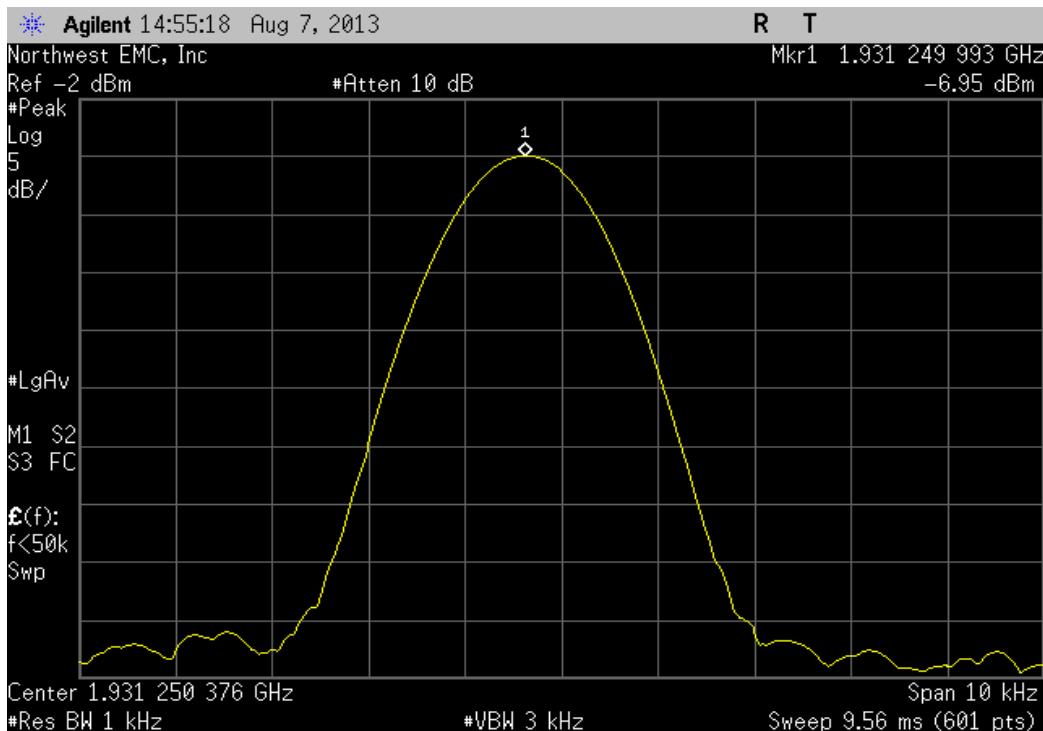
Temperature: -10°, Mid Channel, 1962.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1962.499988	1962.5	0.0061	1	Pass	



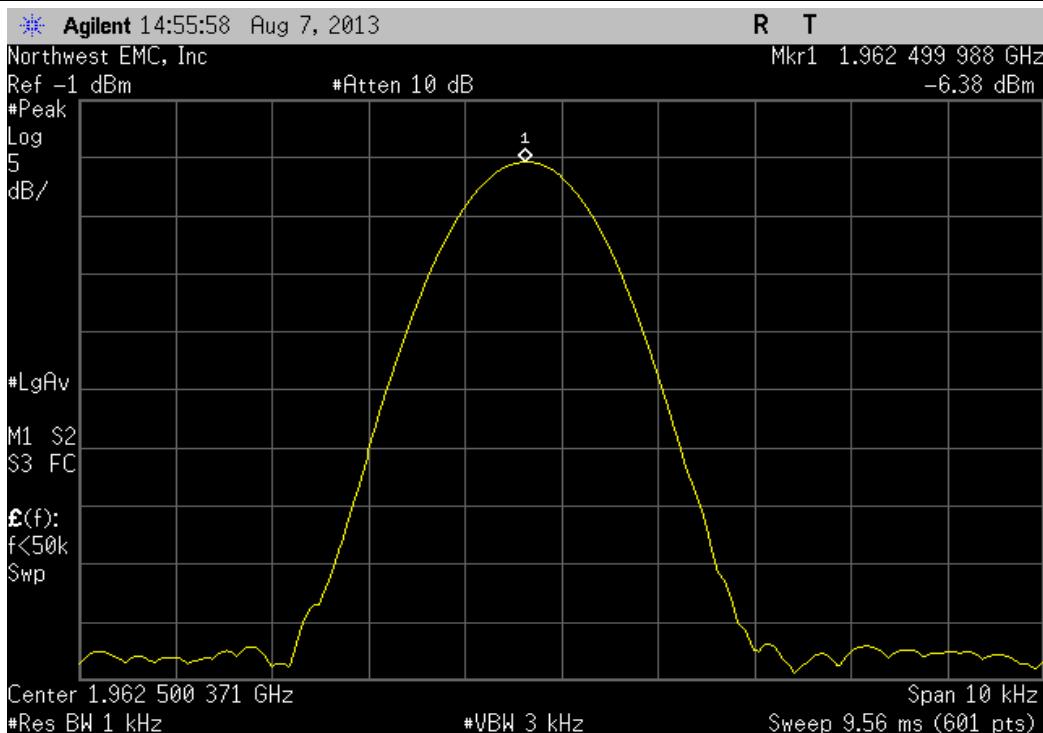
Temperature: -10°, High Channel, 1993.75 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1993.75	1993.75	0.0000	1	Pass	



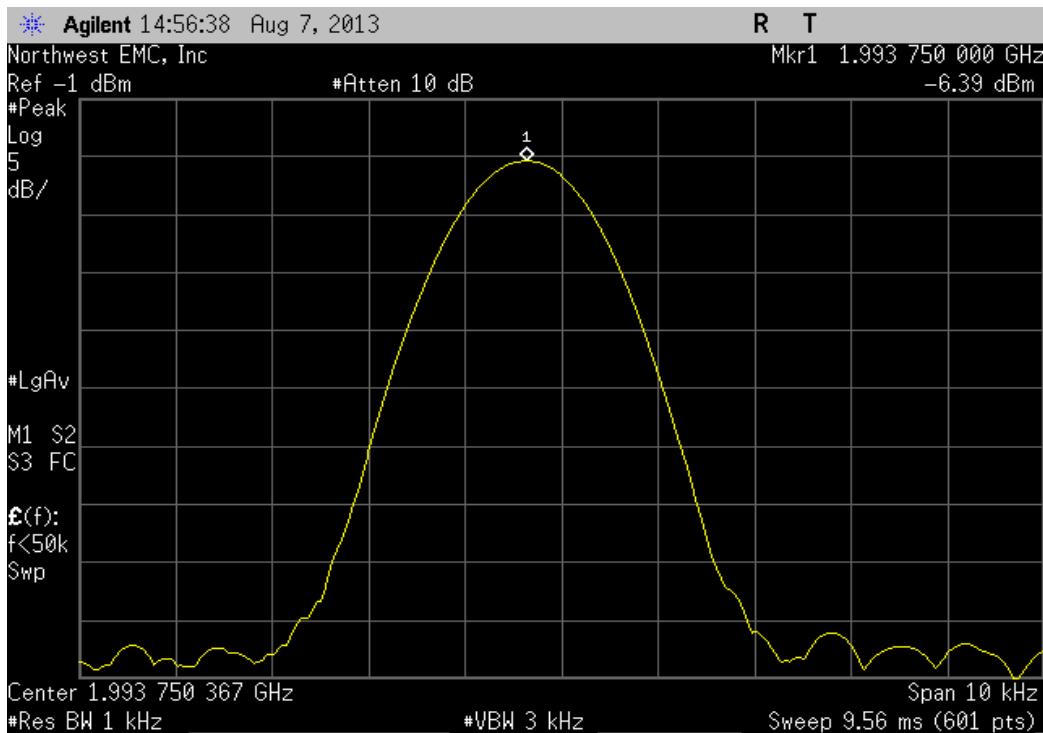
Temperature: -20°, Low Channel, 1931.25 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1931.249993	1931.25	0.0036	1	Pass	



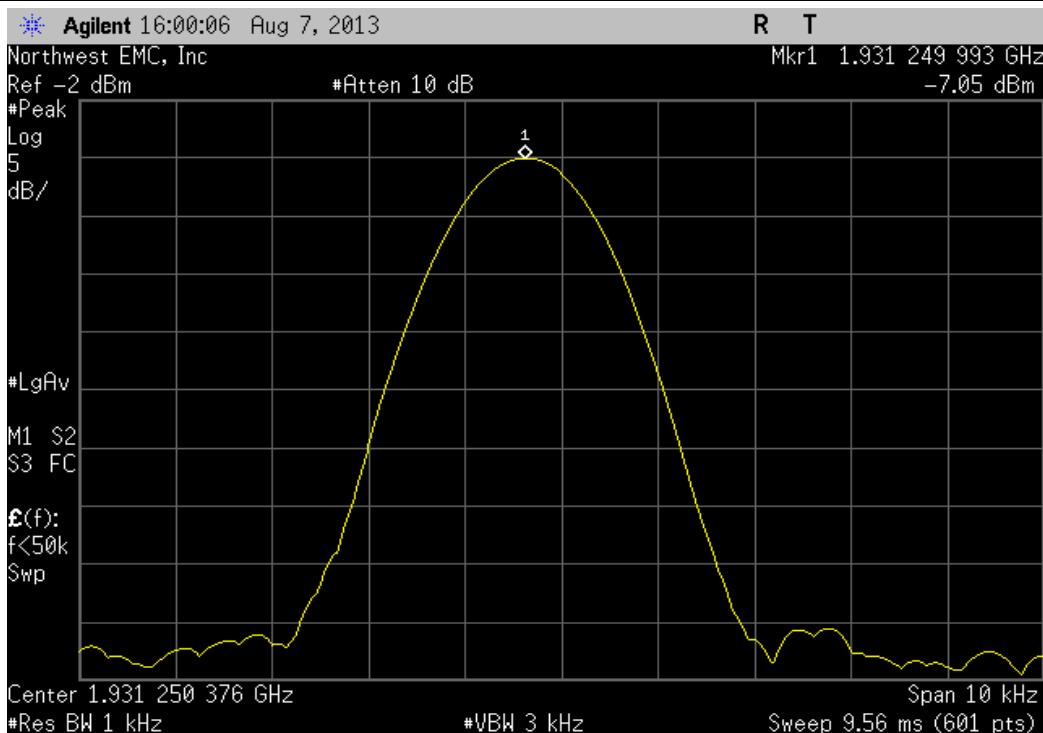
Temperature: -20°, Mid Channel, 1962.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1962.499988	1962.5	0.0061	1	Pass	



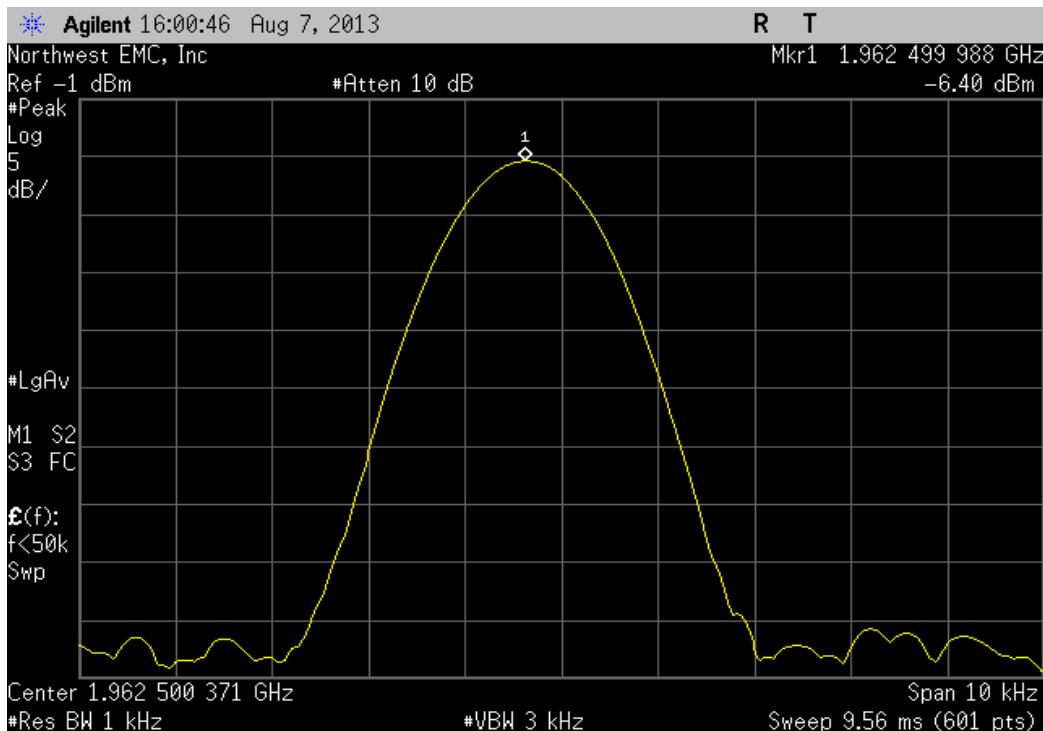
Temperature: -20°, High Channel, 1993.75 MHz						
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result		
1993.75	1993.75	0.0000	1	Pass		



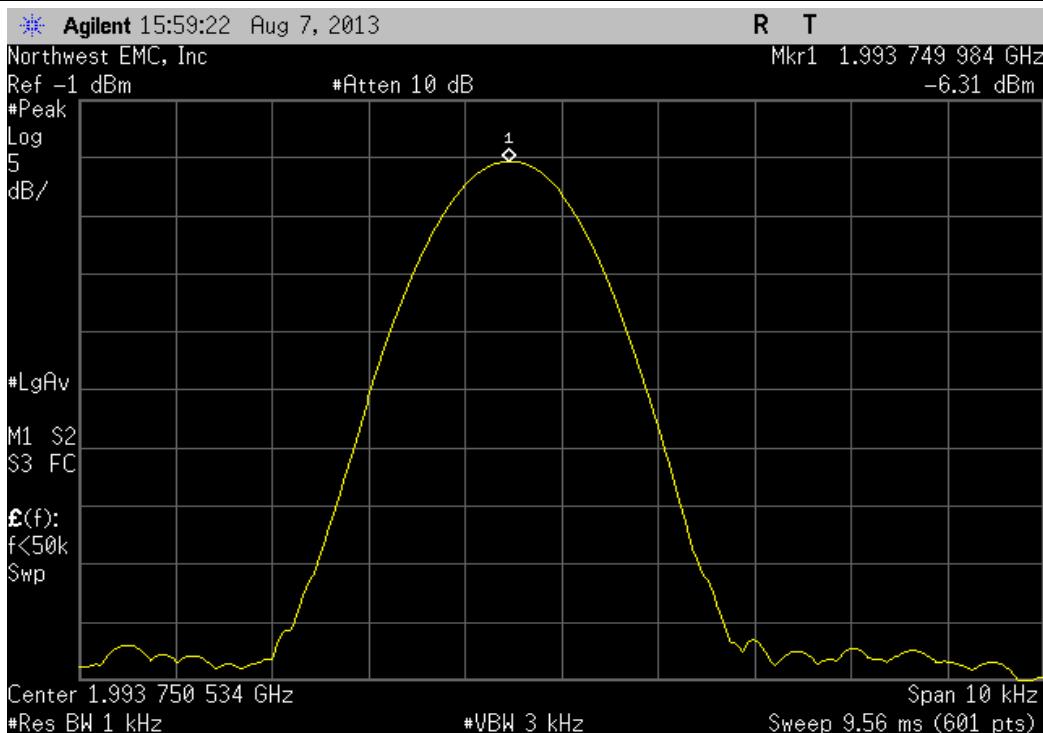
Temperature: -30°, Low Channel, 1931.25 MHz						
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result		
1931.249993	1931.25	0.0036	1	Pass		



Temperature: -30°, Mid Channel, 1962.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1962.499988	1962.5	0.0061	1	Pass	



Temperature: -30°, High Channel, 1993.75 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Result	
1993.749984	1993.75	0.0080	1	Pass	



## Occupied Bandwidth (26 dB)

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

### TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/12/2013	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	10/5/2012	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	24

### TEST DESCRIPTION

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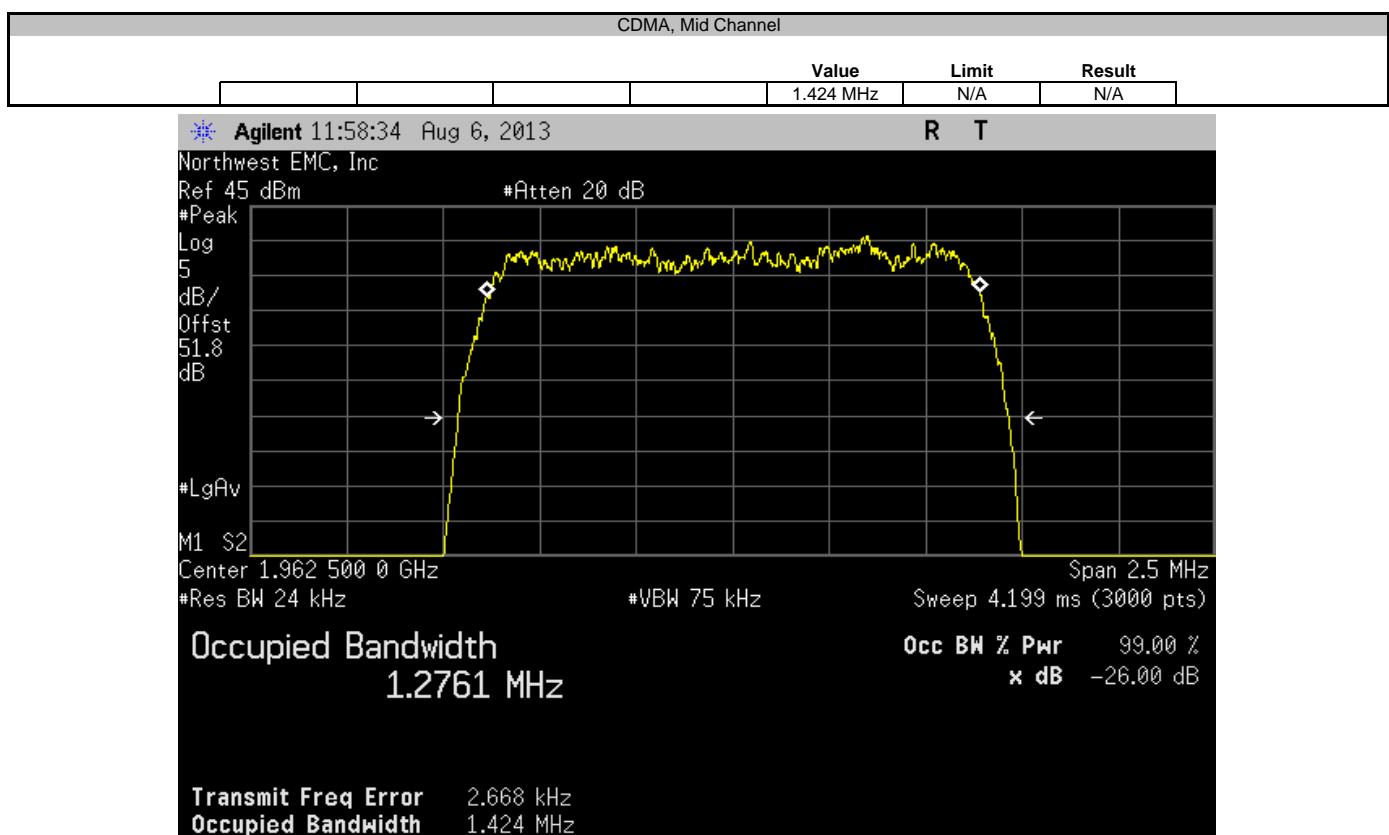
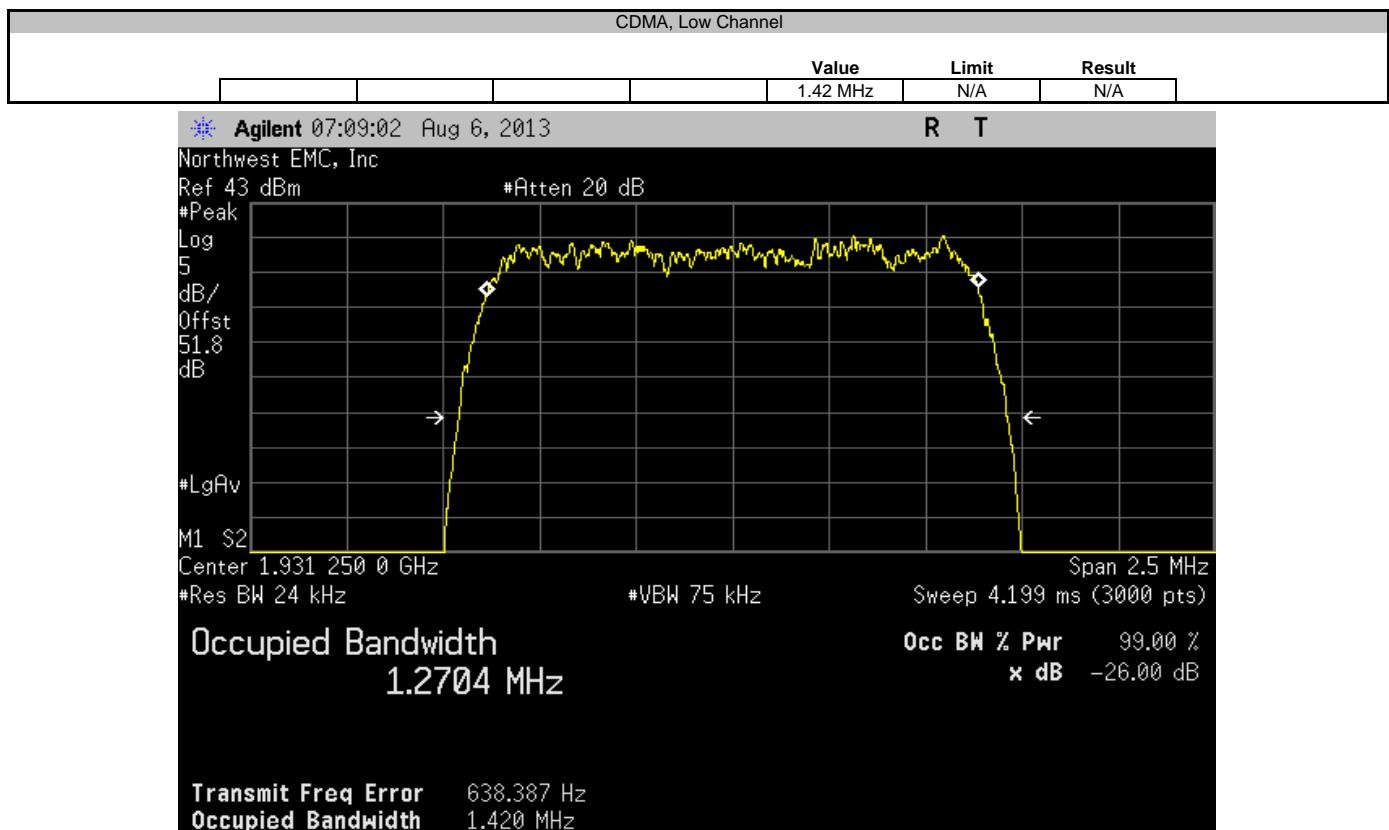
The 26 dB occupied bandwidth was measured utilizing the analyzer's peak detector based on the peak output power level measured. A plot was taken to show the occupied bandwidth is contained within the allowable transmit band.

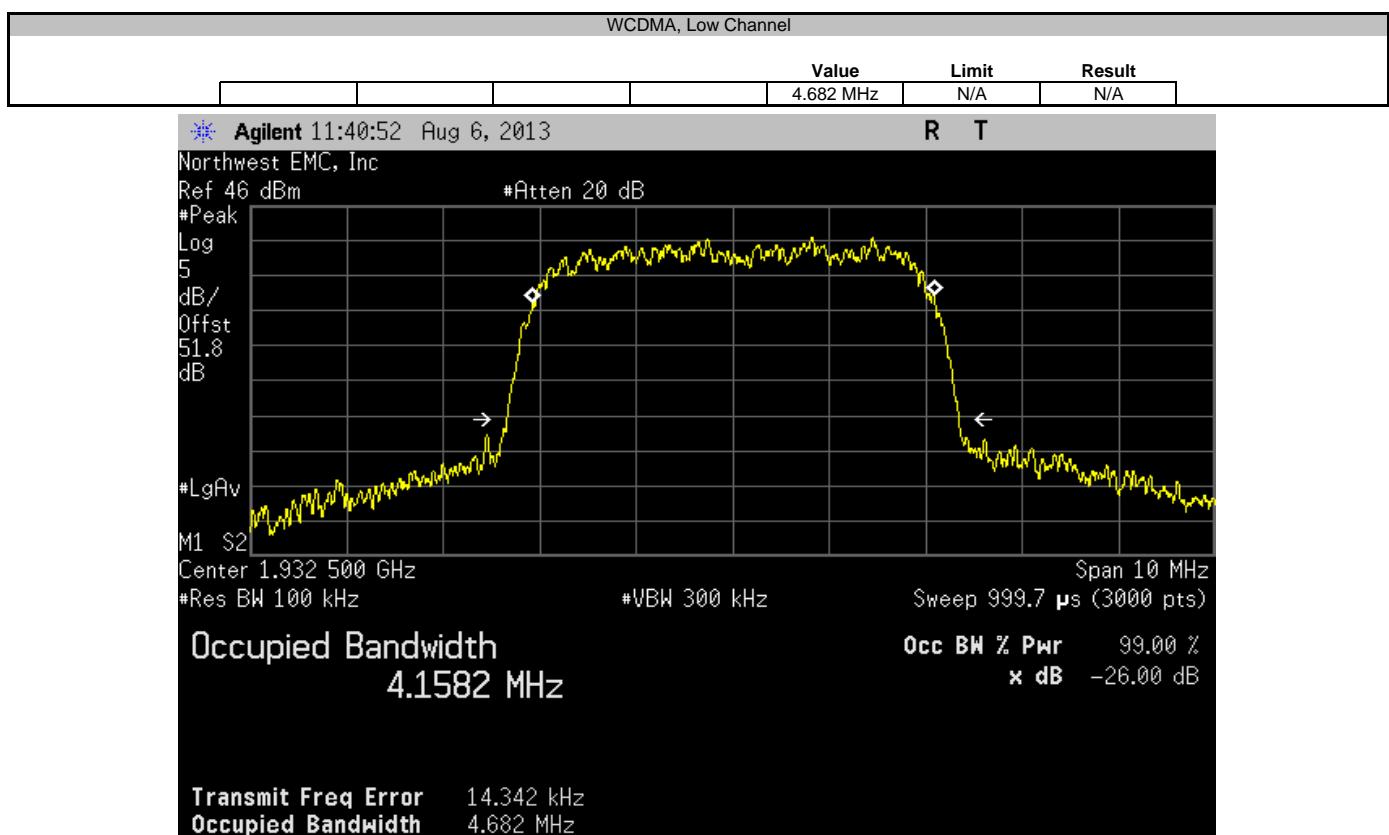
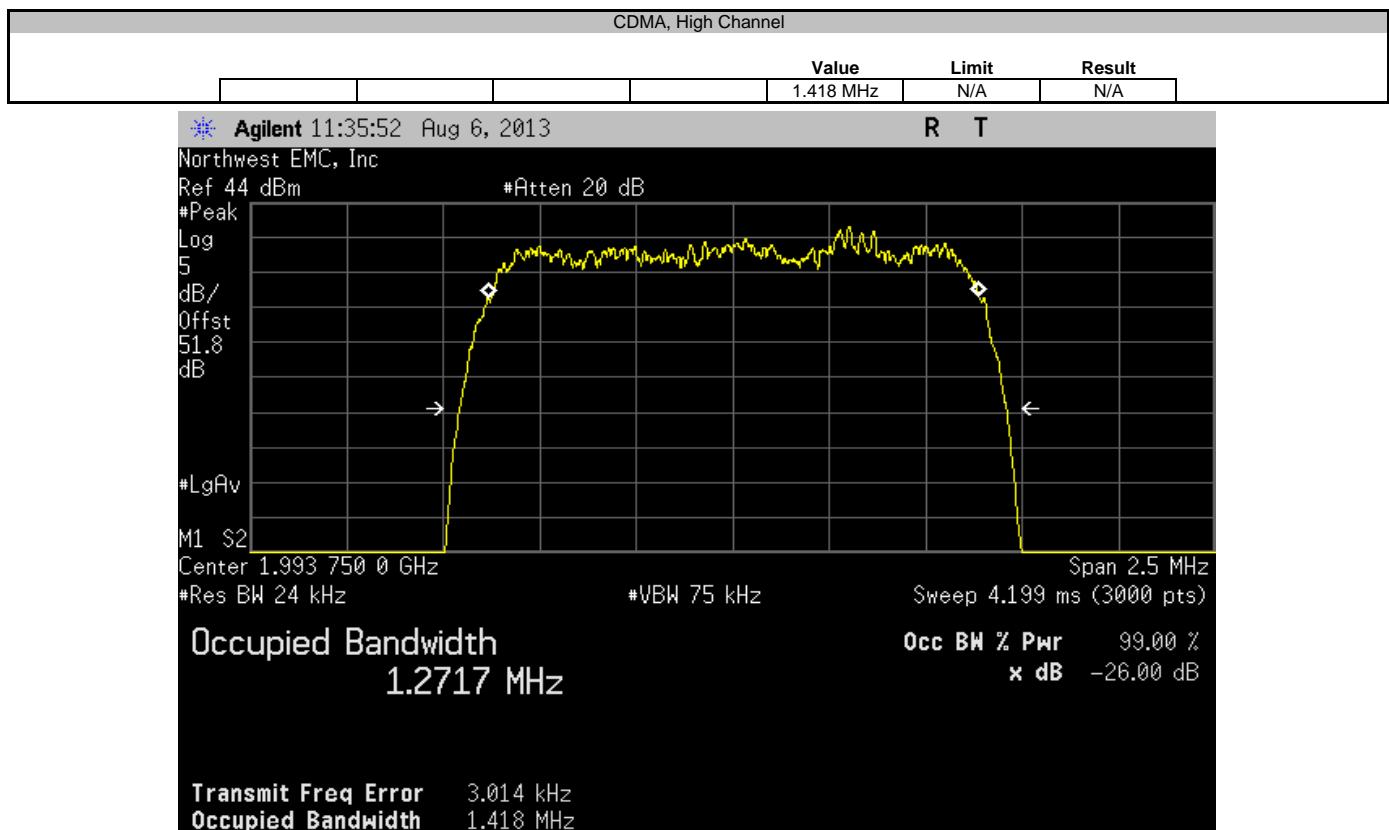
A direct connection was made between the EUT and a spectrum analyzer. The resolution bandwidth was approximately equal to 1% of the 26 dB bandwidth and the video bandwidth was greater than or equal to the resolution bandwidth.

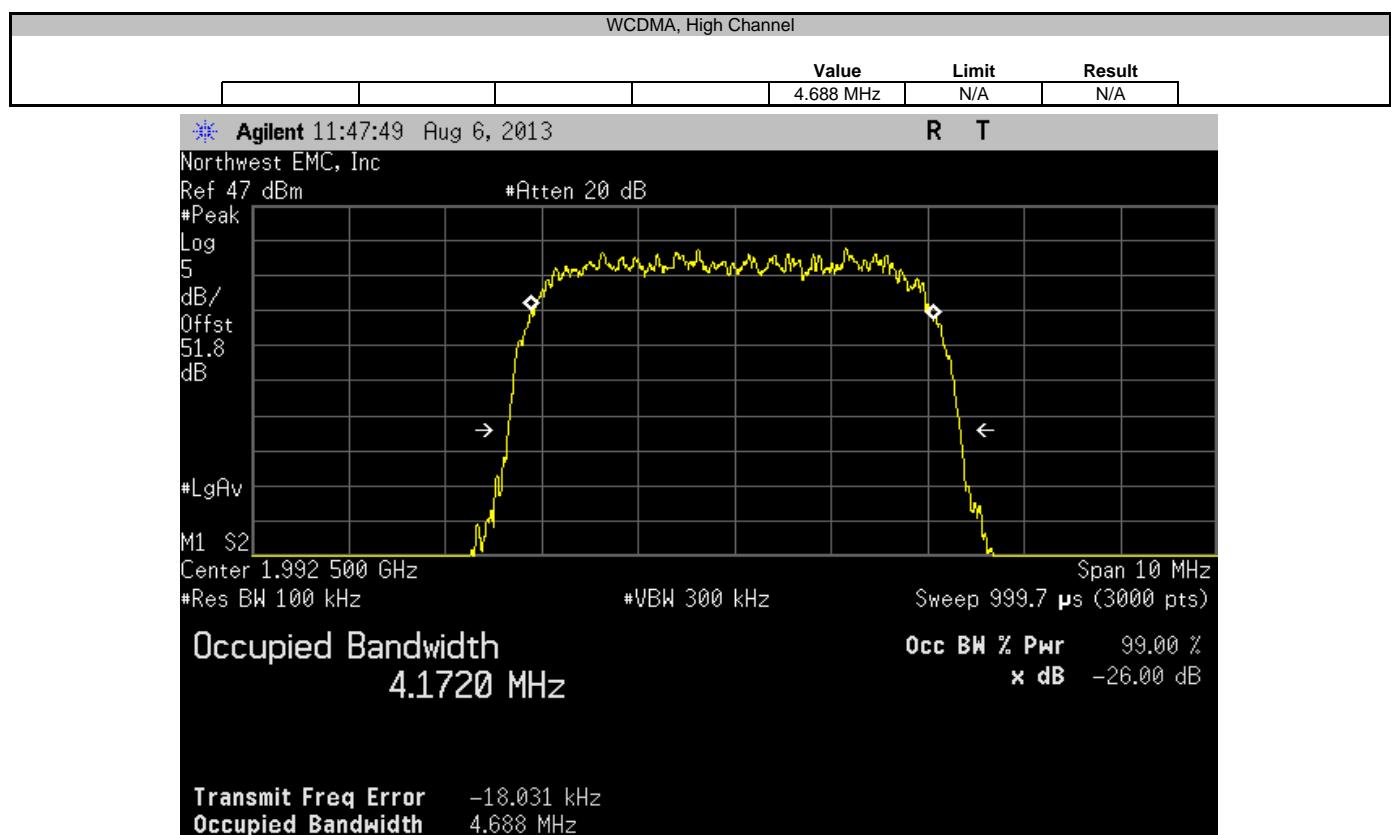
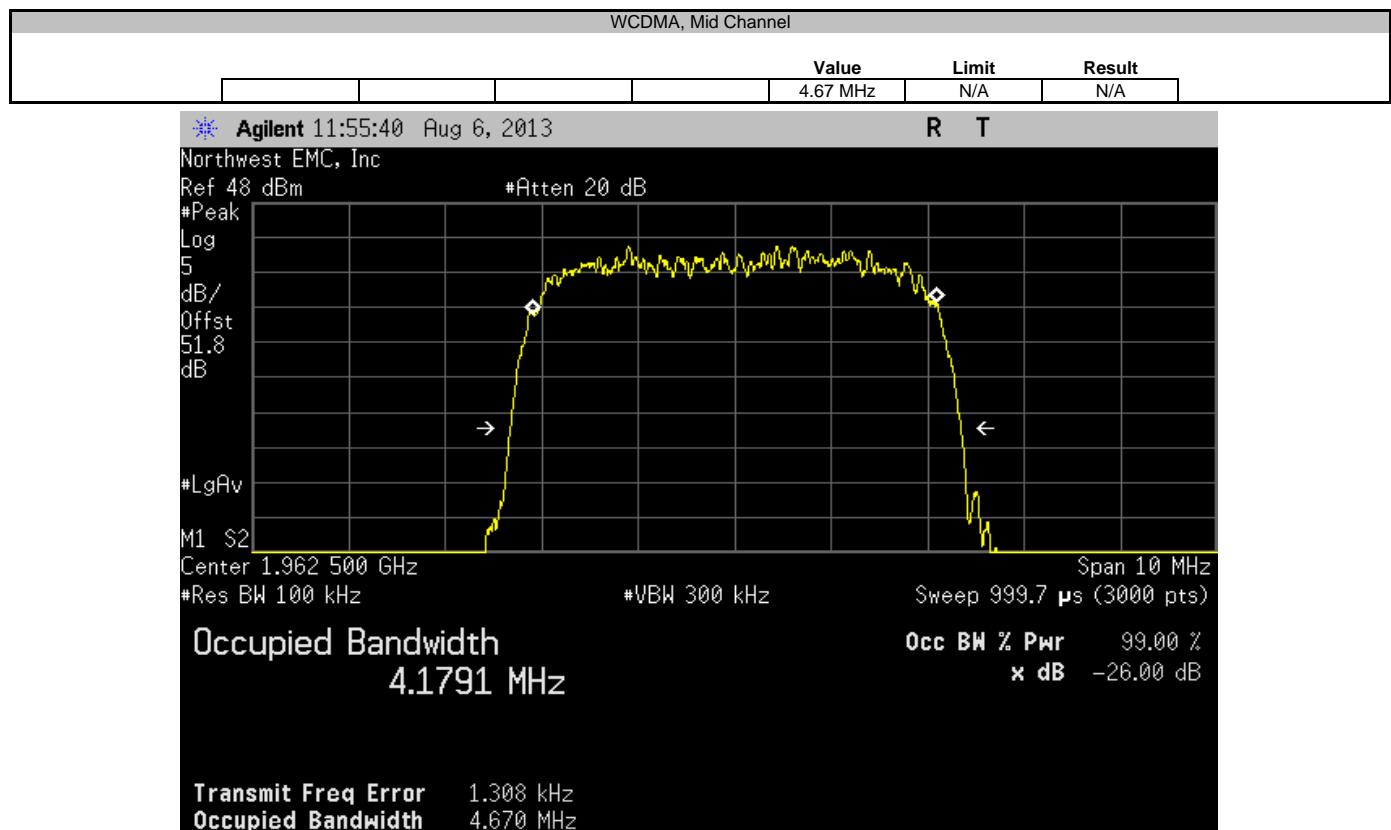
The occupied bandwidth was measured with the EUT configured in the modes called out in the data sheets.

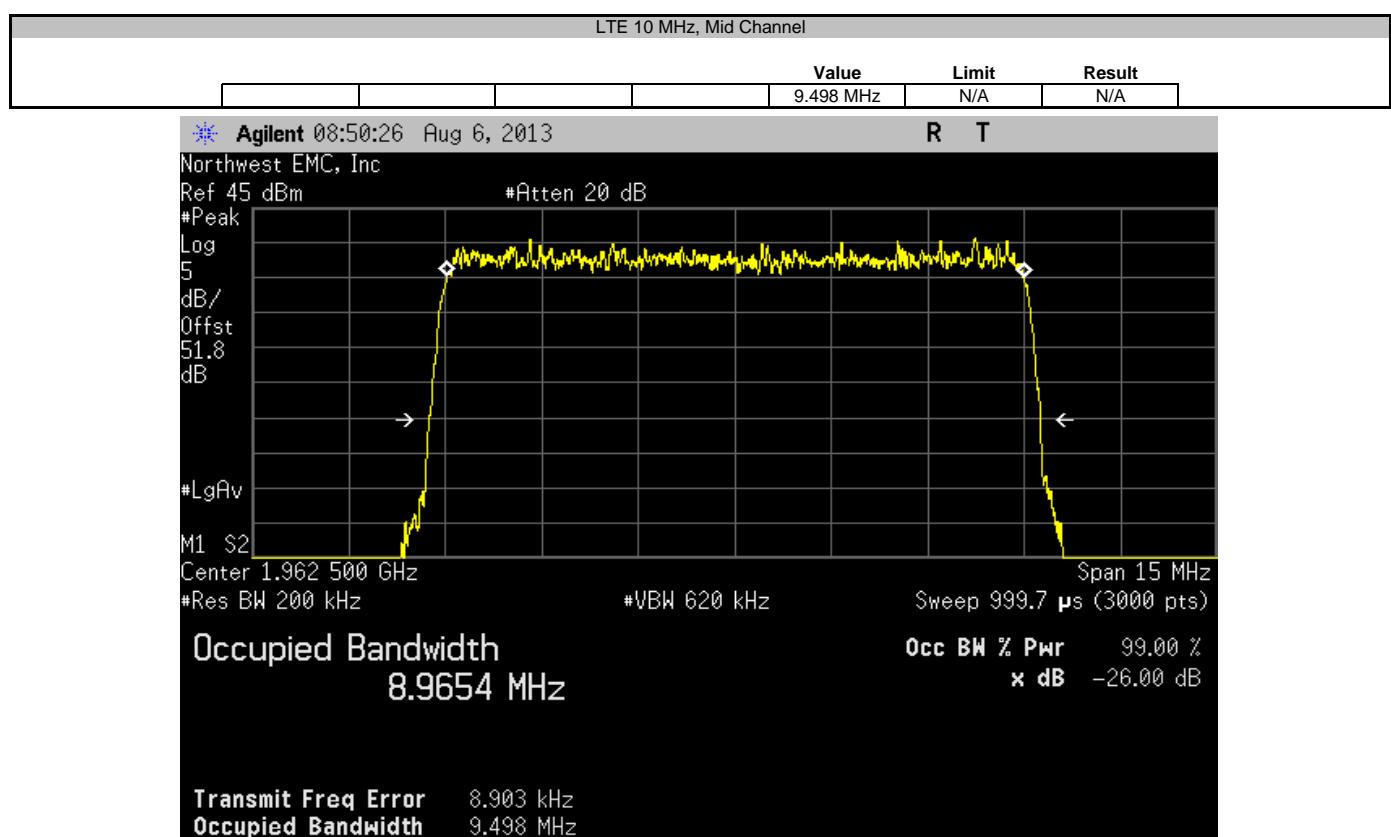
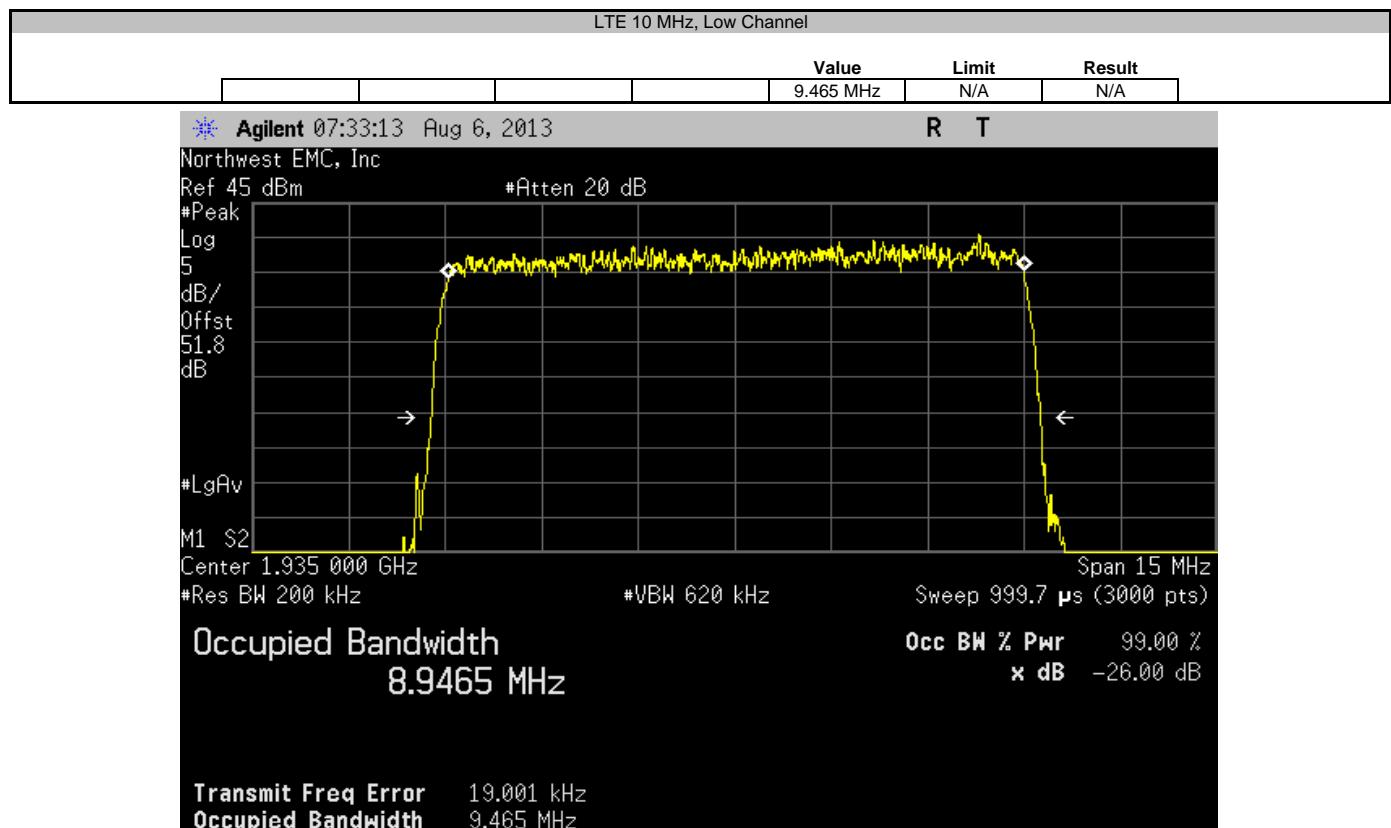
## Occupied Bandwidth (26 dB)

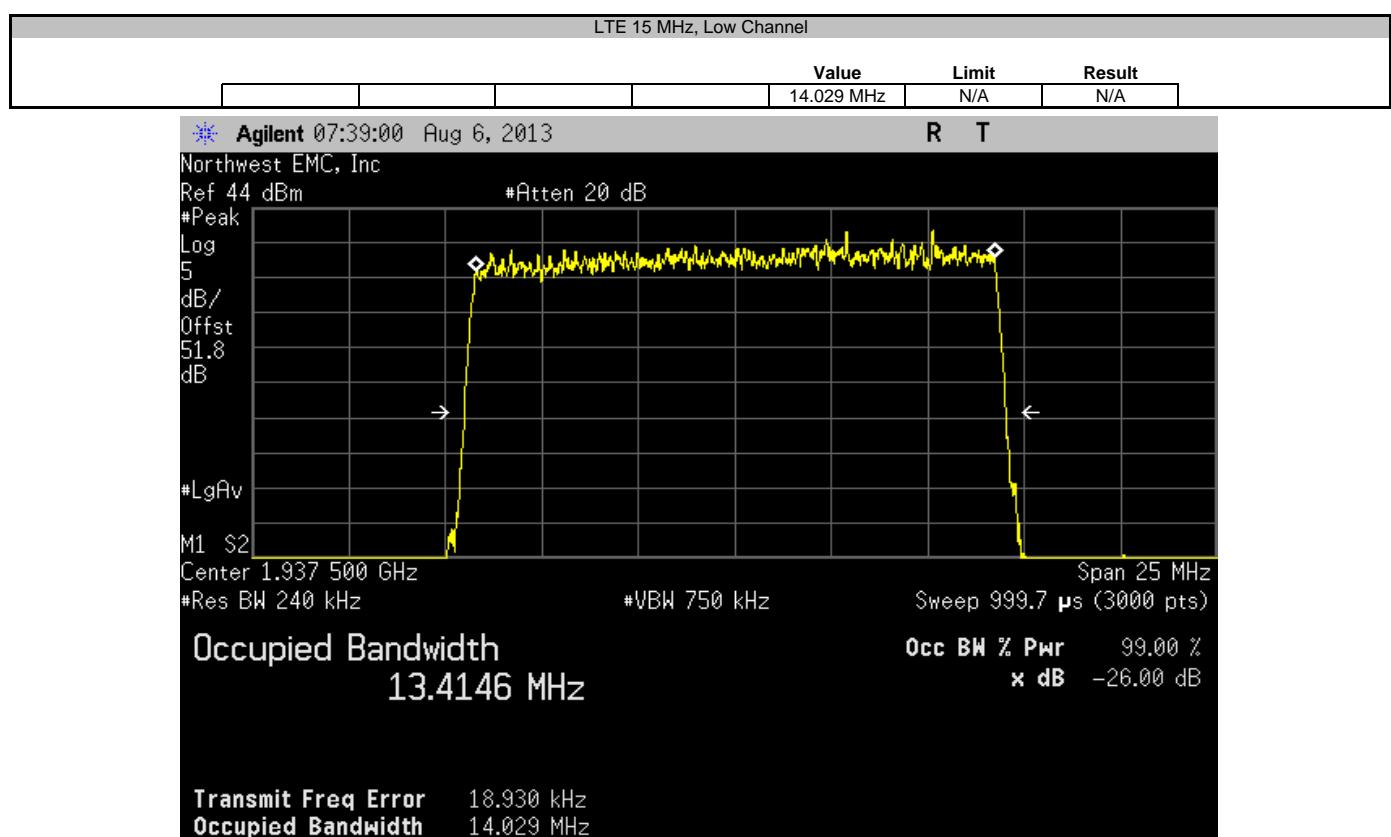
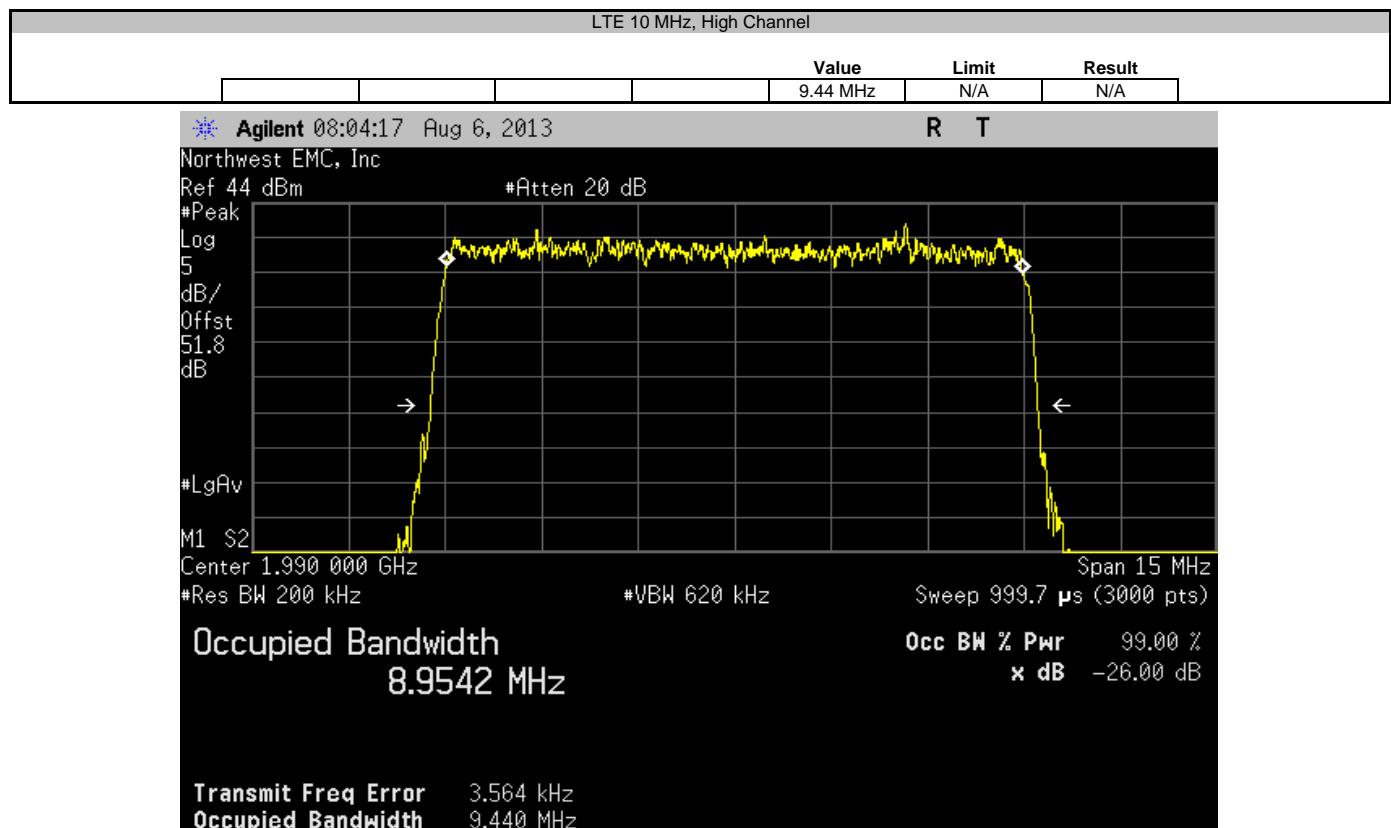
EUT: Prism HDM 40W PCS SISO RF Module Model: FWP-881T000MOD		Work Order: TECO0005																																																																															
Serial Number: None		Date: 08/06/13																																																																															
Customer: TE Connectivity / ADC Telecommunications		Temperature: 25.3°C																																																																															
Attendees: None		Humidity: 44%																																																																															
Project: None		Barometric Pres.: 1010																																																																															
Tested by: Trevor Buls	Power: 110VAC/60Hz	Job Site: MN08																																																																															
TEST SPECIFICATIONS																																																																																	
FCC 24E:2013		Test Method: ANSI/TIA/EIA-603-C-2004																																																																															
COMMENTS																																																																																	
Customer provided a high wattage 30 dB attenuator.																																																																																	
DEVIATIONS FROM TEST STANDARD																																																																																	
None																																																																																	
Configuration #	1	Signature: <i>Trevor Buls</i>																																																																															
<table border="1"> <thead> <tr> <th></th> <th>Value</th> <th>Limit</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>CDMA</td> <td>Low Channel</td> <td>1.42 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td></td> <td>Mid Channel</td> <td>1.424 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td></td> <td>High Channel</td> <td>1.418 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>WCDMA</td> <td>Low Channel</td> <td>4.682 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td></td> <td>Mid Channel</td> <td>4.67 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td></td> <td>High Channel</td> <td>4.688 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>LTE 10 MHz</td> <td>Low Channel</td> <td>9.465 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td></td> <td>Mid Channel</td> <td>9.498 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td></td> <td>High Channel</td> <td>9.44 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>LTE 15 MHz</td> <td>Low Channel</td> <td>14.029 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td></td> <td>Mid Channel</td> <td>14.115 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td></td> <td>High Channel</td> <td>14.06 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>LTE 20 MHz</td> <td>Low Channel</td> <td>18.664 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td></td> <td>Mid Channel</td> <td>18.687 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td></td> <td>High Channel</td> <td>18.709 MHz</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table>				Value	Limit	Result	CDMA	Low Channel	1.42 MHz	N/A	N/A		Mid Channel	1.424 MHz	N/A	N/A		High Channel	1.418 MHz	N/A	N/A	WCDMA	Low Channel	4.682 MHz	N/A	N/A		Mid Channel	4.67 MHz	N/A	N/A		High Channel	4.688 MHz	N/A	N/A	LTE 10 MHz	Low Channel	9.465 MHz	N/A	N/A		Mid Channel	9.498 MHz	N/A	N/A		High Channel	9.44 MHz	N/A	N/A	LTE 15 MHz	Low Channel	14.029 MHz	N/A	N/A		Mid Channel	14.115 MHz	N/A	N/A		High Channel	14.06 MHz	N/A	N/A	LTE 20 MHz	Low Channel	18.664 MHz	N/A	N/A		Mid Channel	18.687 MHz	N/A	N/A		High Channel	18.709 MHz	N/A	N/A
	Value	Limit	Result																																																																														
CDMA	Low Channel	1.42 MHz	N/A	N/A																																																																													
	Mid Channel	1.424 MHz	N/A	N/A																																																																													
	High Channel	1.418 MHz	N/A	N/A																																																																													
WCDMA	Low Channel	4.682 MHz	N/A	N/A																																																																													
	Mid Channel	4.67 MHz	N/A	N/A																																																																													
	High Channel	4.688 MHz	N/A	N/A																																																																													
LTE 10 MHz	Low Channel	9.465 MHz	N/A	N/A																																																																													
	Mid Channel	9.498 MHz	N/A	N/A																																																																													
	High Channel	9.44 MHz	N/A	N/A																																																																													
LTE 15 MHz	Low Channel	14.029 MHz	N/A	N/A																																																																													
	Mid Channel	14.115 MHz	N/A	N/A																																																																													
	High Channel	14.06 MHz	N/A	N/A																																																																													
LTE 20 MHz	Low Channel	18.664 MHz	N/A	N/A																																																																													
	Mid Channel	18.687 MHz	N/A	N/A																																																																													
	High Channel	18.709 MHz	N/A	N/A																																																																													

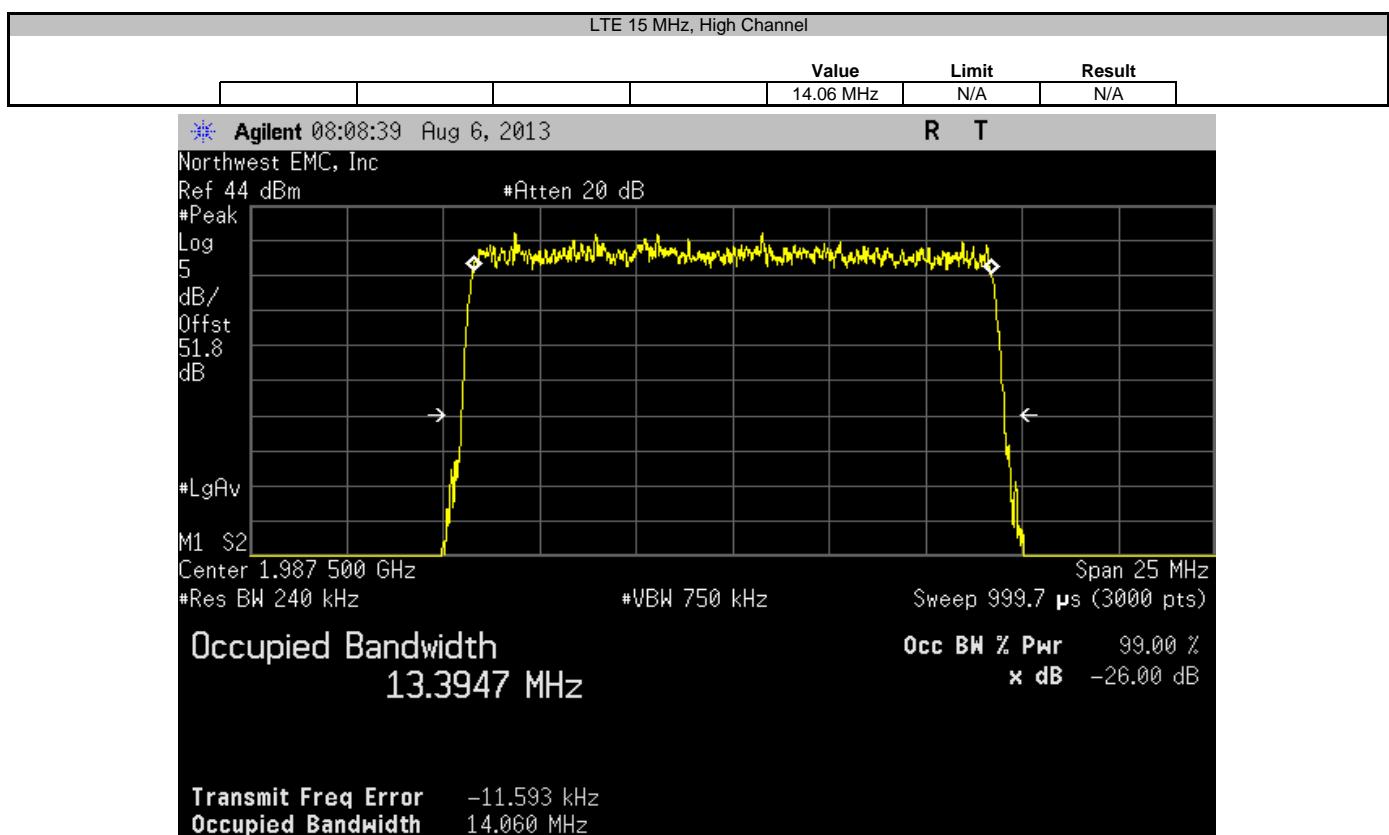
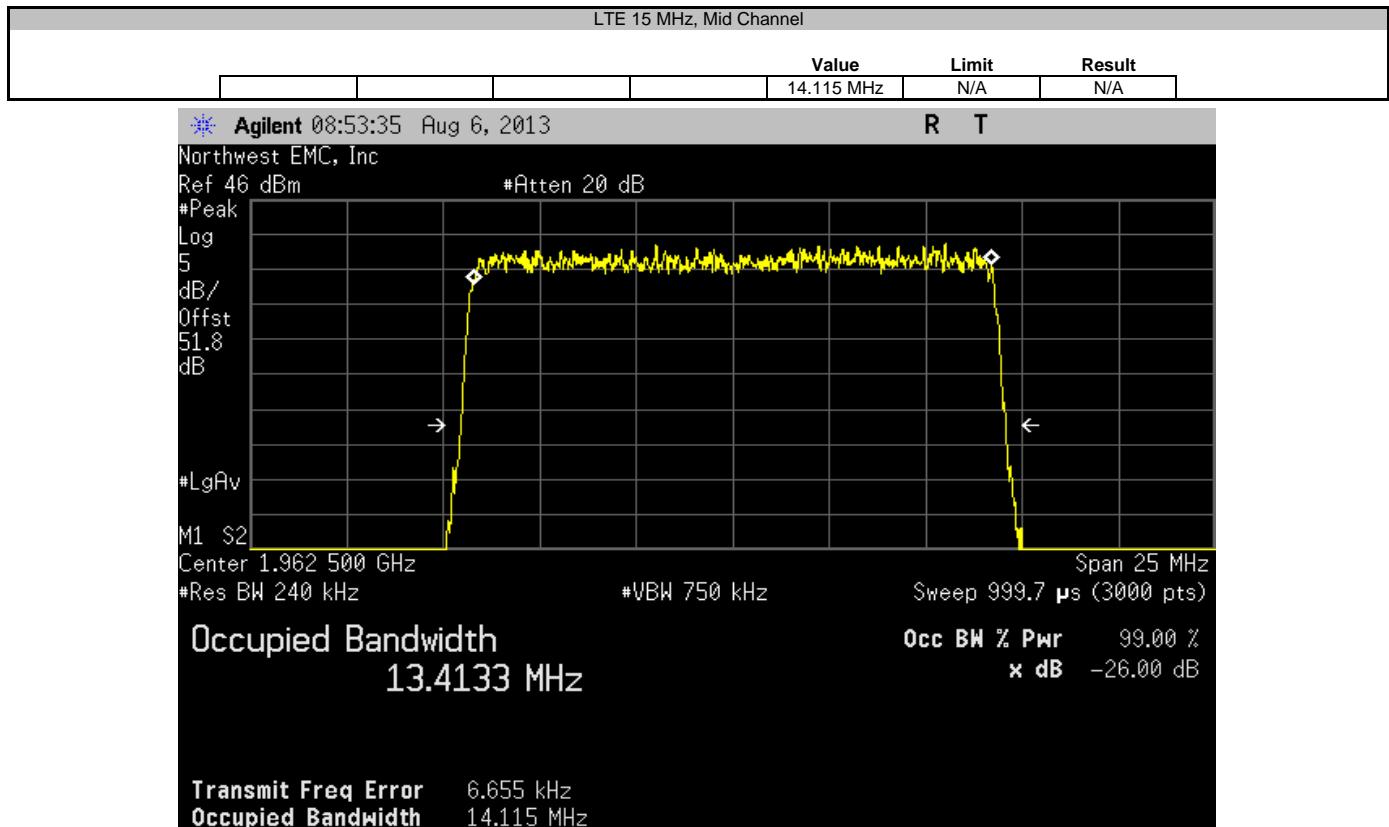


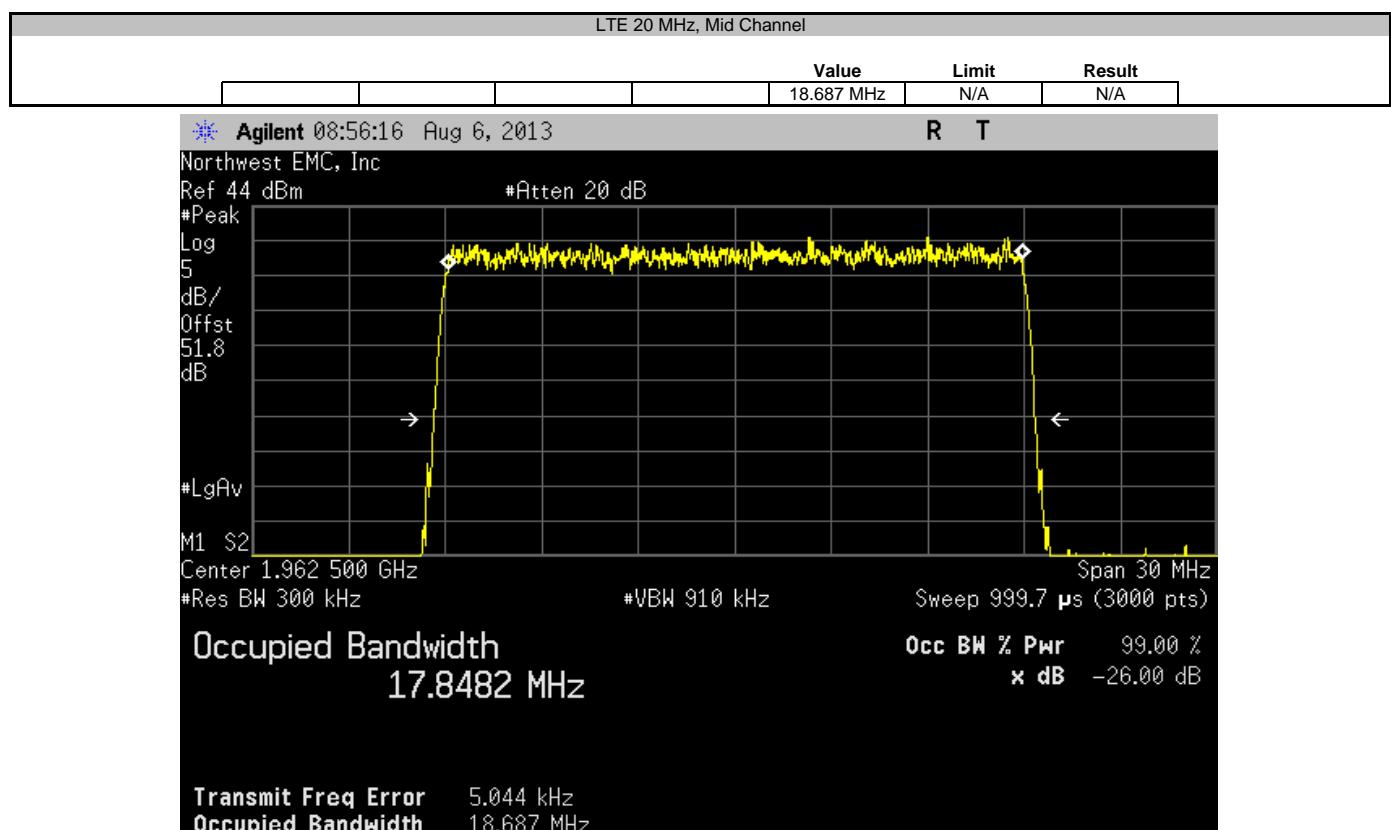
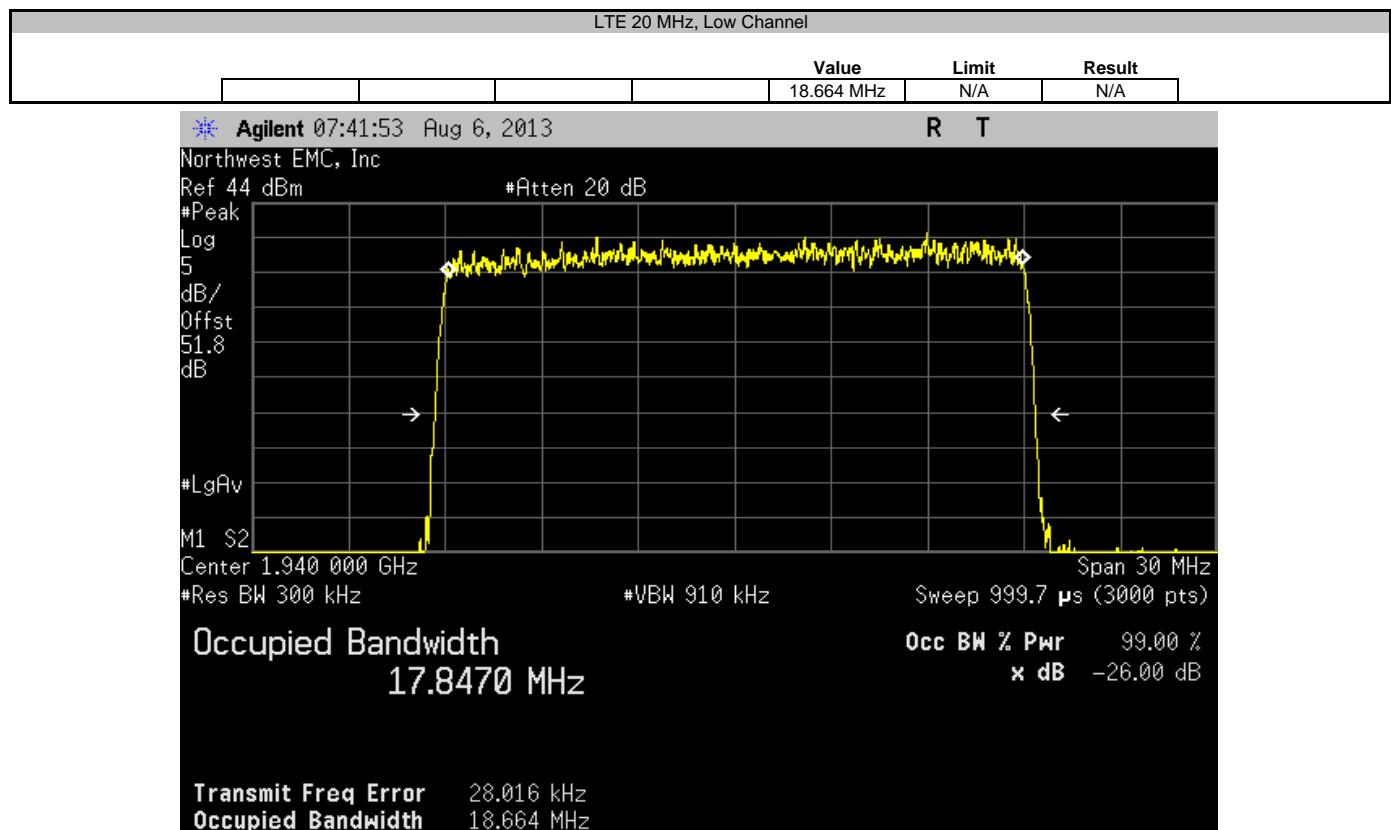


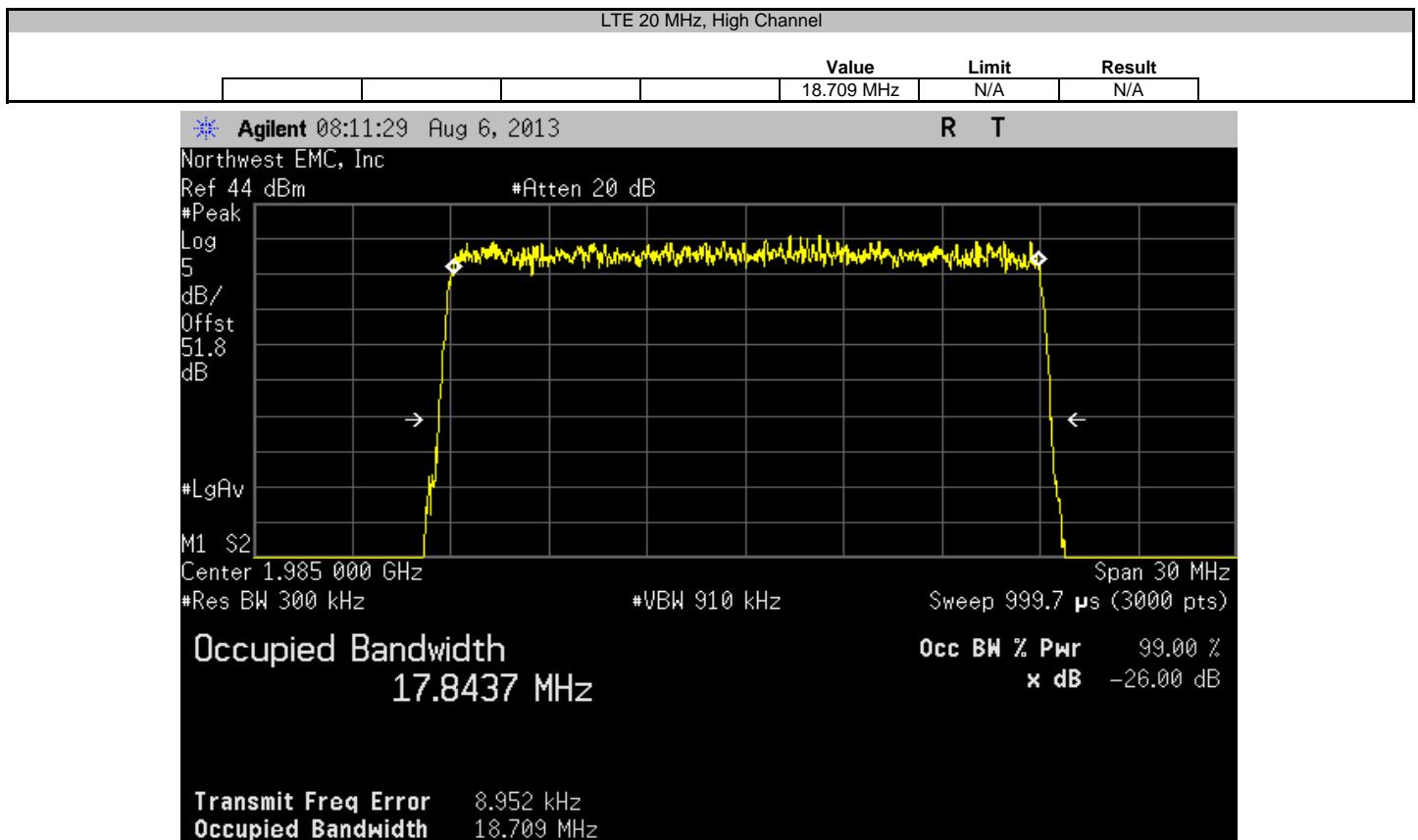












Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

## MODES OF OPERATION

Transmitting WCDMA, Low, Mid, High Channel: 1932.5, 1962.5, 1992.5 MHz and CDMA, LTE 10 MHz, LTE 15 MHz, LTE 20 MHz (see comments for center frequency)

## POWER SETTINGS INVESTIGATED

110VAC/60Hz

## CONFIGURATIONS INVESTIGATED

TECO0005 - 2

## FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	20 GHz
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## SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36 mo
Power Sensor	Agilent	N8481A	SQN	8/27/2012	24 mo
Power Meter	Agilent	N1913A	SQL	8/27/2012	24 mo
Antenna, Horn	ETS	3115	AJA	5/13/2011	36 mo
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	10/5/2012	12 mo
		18-26GHz Standard Gain Horn			
MN05 Cables	N/A	Cable	MNP	10/5/2012	12 mo
Antenna, Horn	ETS	3160-09	AHG	NCR	0 mo
Attenuator, 20 dB, 'SMA'	SM Electronics	SA6-20	REO	5/20/2013	12 mo
Low Pass Filter	Micro-Tronics	LPM50004	HGK	5/31/2012	24 mo
High Pass Filter	Micro-Tronics	HPM50111	HGQ	6/1/2012	24 mo
Antenna, Horn	ETS Lindgren	3160-08	AIQ	NCR	0 mo
Antenna, Horn	ETS	3160-07	AXP	NCR	0 mo
MN05 Cables	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	5/20/2013	12 mo
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVW	7/25/2013	12 mo
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	5/20/2013	12 mo
Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVX	5/20/2013	12 mo
MN05 Cables	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	5/20/2013	12 mo
Antenna, Horn (DRG)	ETS Lindgren	3115	AIP	6/29/2011	36 mo
Pre-Amplifier	Miteq	AM-1616-1000	PAD	5/20/2013	12 mo
MN05 Cables	ESM Cable Corp.	Bilog Cables	MNH	5/20/2013	12 mo
Antenna, Biolog	Teseq	CBL 6141B	AYD	12/17/2012	12 mo
Spectrum Analyzer	Agilent	N9010A	AFI	1/27/2013	24 mo

## MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

## TEST DESCRIPTION

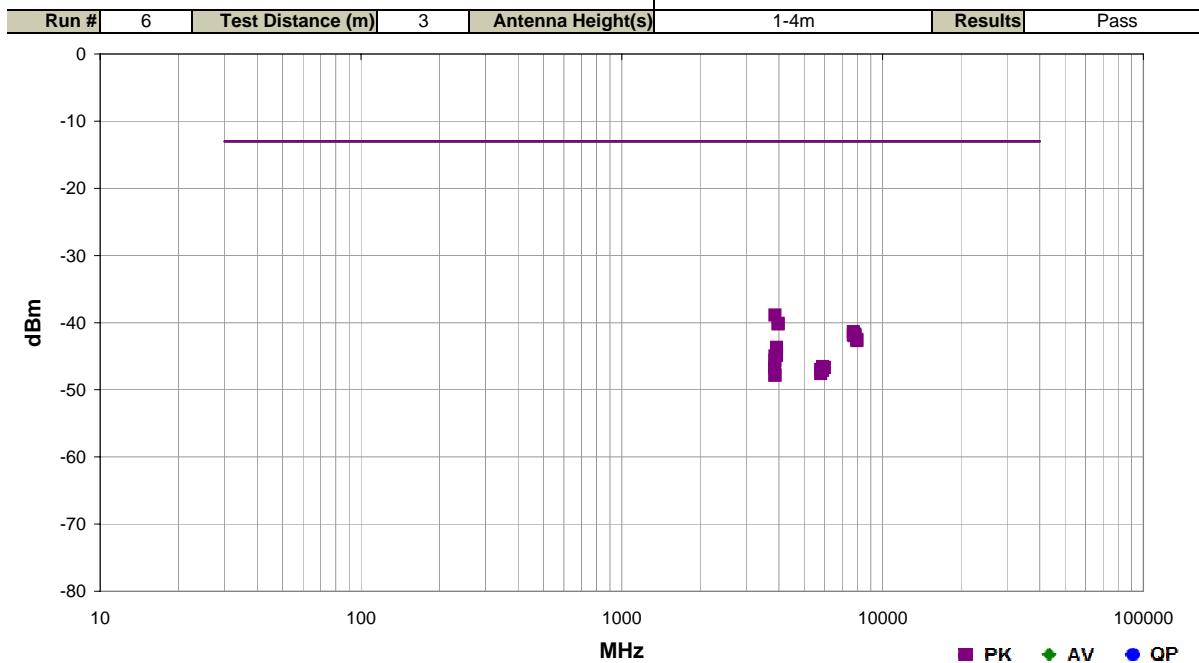
The highest gain antenna to be used with the EUT was tested for final measurements. The EUT was configured for the lowest, a middle, and the highest transmit frequency in each operational band. For each configuration, the spectrum was scanned throughout the specified range. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.10:2009). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

For licensed transmitters, the FCC references TIA/EIA-603 as the measurement procedure standard. TIA/EIA-603 Section 2.2.12 describes a method for measuring radiated spurious emissions that utilizes an antenna substitution method:

At an approved test site, the transmitter is placed on a remotely controlled turntable, and the measurement antenna is placed 3 meters from the transmitter. The turntable azimuth is varied to maximize the level of spurious emissions. The height of the measurement antenna is also varied from 1 to 4 meters. The amplitude and frequency of the highest emissions are noted. The transmitter is then replaced with a 1/2 wave dipole that is successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator is connected to the dipole (horn antenna for frequencies above 1 GHz), and its output is adjusted to match the level previously noted for each frequency. The output of the signal generator is recorded, and by factoring in the cable loss to the antenna and its gain; the power (dBm) into an ideal 1/2 wave dipole antenna is determined for each radiated spurious emission.

For the purposes of preliminary measurements, the field strength of the spurious emissions can be measured and compared with a 3 meter limit. The 3 meter limit was calculated to be 82.5 dBuV/m at 3 meters. The final measurements must be made utilizing the substitution method described above

Work Order:	TECO0005	Date:	08/08/13		
Project:	None	Temperature:	23.2 °C		
Job Site:	MN05	Humidity:	52.4% RH		
Serial Number:	None	Barometric Pres.:	1016 mbar	Tested by:	Trevor Buls
EUT:	Prism HDM 40W PCS SISO RF Module Model: FWP-881T000MOD				
Configuration:	2				
Customer:	TE Connectivity / ADC Telecommunications				
Attendees:	None				
EUT Power:	110VAC/60Hz				
Operating Mode:	Transmitting WCDMA, Low, Mid, High Channel: 1932.5, 1962.5, 1992.5 MHz and CDMA, LTE 10 MHz, LTE 15 MHz, LTE 20 MHz (see comments for center frequency)				
Deviations:	None				
Comments:	Antenna port terminated. Tested in one position only because EUT is fixed floor standing equipment.				
Test Specifications		Test Method			
FCC 24E:2013		ANSI/TIA/EIA-603-C:2004			



	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
3866.800	1.2	338.0	Horz	PK	1.29E-07	-38.9	-13.0	-25.9	-25.9	WCDMA, Low Ch: 1932.5 MHz
3982.992	1.0	3.0	Horz	PK	9.75E-08	-40.1	-13.0	-27.1	-27.1	WCDMA, High Ch: 1992.5 MHz
3982.975	1.3	295.0	Vert	PK	9.52E-08	-40.2	-13.0	-27.2	-27.2	WCDMA, High Ch: 1992.5 MHz
7729.375	1.0	145.0	Vert	PK	7.29E-08	-41.4	-13.0	-28.4	-28.4	WCDMA, Low Ch: 1932.5 MHz
7851.267	1.0	33.0	Vert	PK	6.67E-08	-41.8	-13.0	-28.8	-28.8	WCDMA, Mid Ch: 1962.5 MHz
7728.592	1.5	289.0	Horz	PK	6.50E-08	-41.9	-13.0	-28.9	-28.9	WCDMA, Low Ch: 1932.5 MHz
7852.017	1.0	295.0	Horz	PK	6.36E-08	-42.0	-13.0	-29.0	-29.0	WCDMA, Mid Ch: 1962.5 MHz
7972.250	1.0	174.0	Horz	PK	5.65E-08	-42.5	-13.0	-29.5	-29.5	WCDMA, High Ch: 1992.5 MHz
7968.858	1.0	45.0	Vert	PK	5.40E-08	-42.7	-13.0	-29.7	-29.7	WCDMA, High Ch: 1992.5 MHz
3926.800	1.0	261.0	Vert	PK	4.28E-08	-43.7	-13.0	-30.7	-30.7	WCDMA, Mid Ch: 1962.5 MHz
3924.625	1.0	81.0	Horz	PK	3.24E-08	-44.9	-13.0	-31.9	-31.9	WCDMA, Mid Ch: 1962.5 MHz
3867.392	1.2	39.0	Vert	PK	3.18E-08	-45.0	-13.0	-32.0	-32.0	WCDMA, Low Ch: 1932.5 MHz
3869.450	1.2	328.0	Horz	PK	2.71E-08	-45.7	-13.0	-32.7	-32.7	LTE 10 MHz, Low Ch: 1935 MHz
5889.708	1.0	126.0	Horz	PK	2.21E-08	-46.5	-13.0	-33.5	-33.5	WCDMA, Mid Ch: 1962.5 MHz
3862.892	1.0	311.0	Horz	PK	2.14E-08	-46.7	-13.0	-33.7	-33.7	CDMA, Low Ch: 1931.25 MHz
5979.642	1.0	82.0	Vert	PK	2.13E-08	-46.7	-13.0	-33.7	-33.7	WCDMA, High Ch: 1992.5 MHz
5977.617	2.4	251.0	Horz	PK	2.13E-08	-46.7	-13.0	-33.7	-33.7	WCDMA, High Ch: 1992.5 MHz
5797.742	1.0	55.0	Vert	PK	2.00E-08	-47.0	-13.0	-34.0	-34.0	WCDMA, Low Ch: 1932.5 MHz
5890.425	1.4	344.0	Vert	PK	1.93E-08	-47.1	-13.0	-34.1	-34.1	WCDMA, Mid Ch: 1962.5 MHz
5798.942	1.0	175.0	Horz	PK	1.74E-08	-47.6	-13.0	-34.6	-34.6	WCDMA, Low Ch: 1932.5 MHz
3875.050	1.3	70.0	Horz	PK	1.64E-08	-47.8	-13.0	-34.8	-34.8	LTE 20 MHz, Low Ch: 1940 MHz
3872.000	1.3	330.0	Horz	PK	1.64E-08	-47.9	-13.0	-34.9	-34.9	LTE 15 MHz, Low Ch: 1937.5 MHz

## Band Edge Compliance

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

### TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/12/2013	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	10/5/2012	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	24

### TEST DESCRIPTION

The spurious RF conducted emissions at the edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in the available band. The channels closest to the band edges were selected. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at the data rate(s) listed in the datasheet.

The spectrum was scanned below the lower band edge and above the higher band edge. The resolution bandwidth was set to approximately 1% of the measured emissions bandwidth. An average RMS detector was used to match the method used during Output Power. The screen capture shows the margin between the measured value and the -13 dBm limit at the band edge.

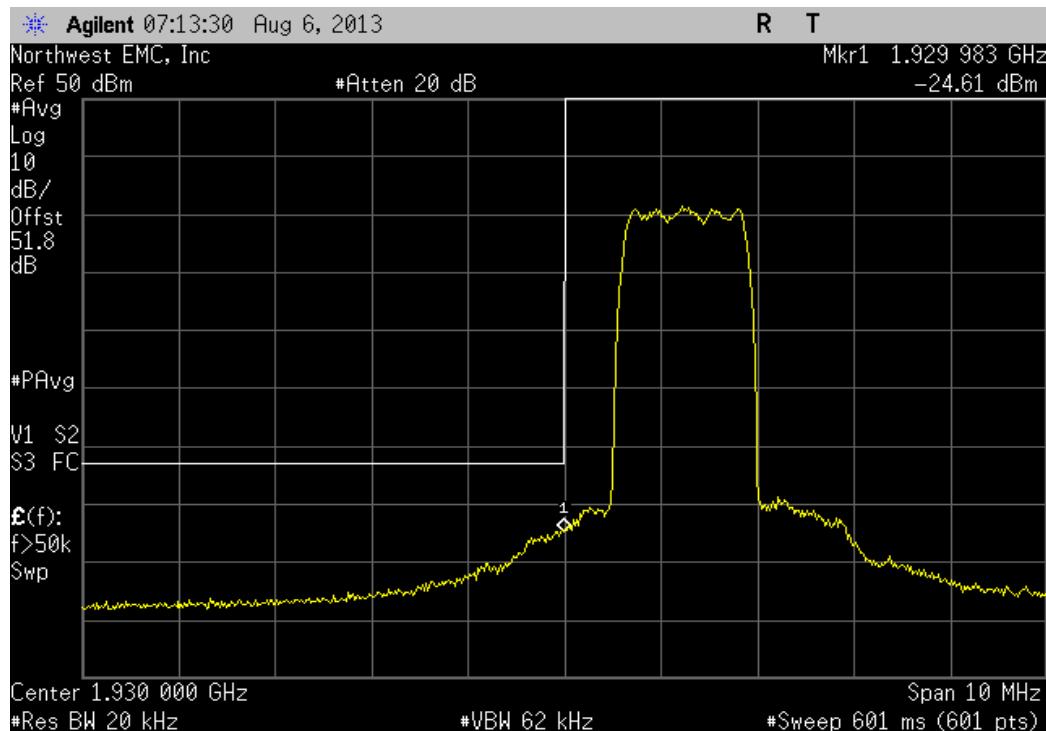


## Band Edge Compliance

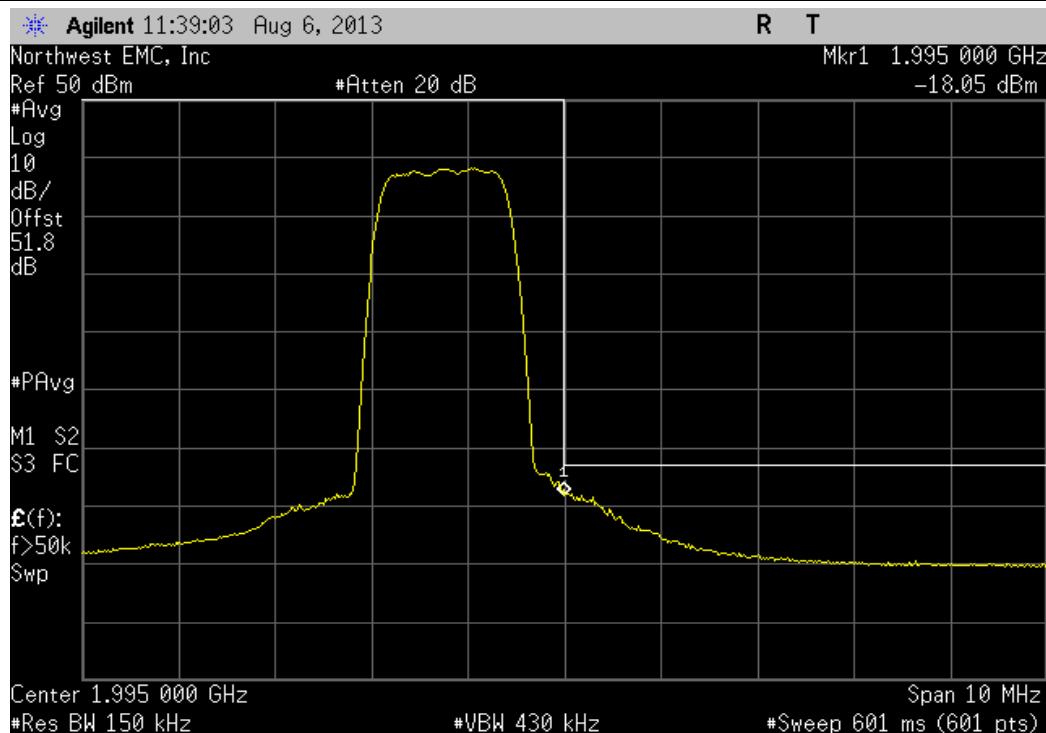
XMit 2013.02.28  
PsaTx 2013.07.11

EUT: Prism HDM 40W PCS SISO RF Module Model: FWP-881T000MOD		Work Order: TEC0005		
Serial Number: None		Date: 08/06/13		
Customer: TE Connectivity / ADC Telecommunications		Temperature: 25.3°C		
Attendees: None		Humidity: 44%		
Project: None		Barometric Pres.: 1010		
Tested by: Trevor Buls	Power: 110VAC/60Hz	Job Site: MN08		
TEST SPECIFICATIONS				
FCC 24E:2013	Test Method: ANSI/TIA/EIA-603-C-2004			
COMMENTS				
Customer provided a high wattage 30 dB attenuator.				
DEVIATIONS FROM TEST STANDARD				
None				
Configuration #	1	Signature: <i>Trevor Buls</i>		
		Value (dBm)	Limit ≤ (dBm)	Result
CDMA	Low Channel	-24.61	-13	Pass
	High Channel	-18.05	-13	Pass
WCDMA	Low Channel	-13.35	-13	Pass
	High Channel	-16.44	-13	Pass
LTE 10 MHz	Low Channel	-15.61	-13	Pass
	High Channel	-14.85	-13	Pass
LTE 15 MHz	Low Channel	-16.54	-13	Pass
	High Channel	-19.68	-13	Pass
LTE 20 MHz	Low Channel	-16.98	-13	Pass
	High Channel	-16.68	-13	Pass

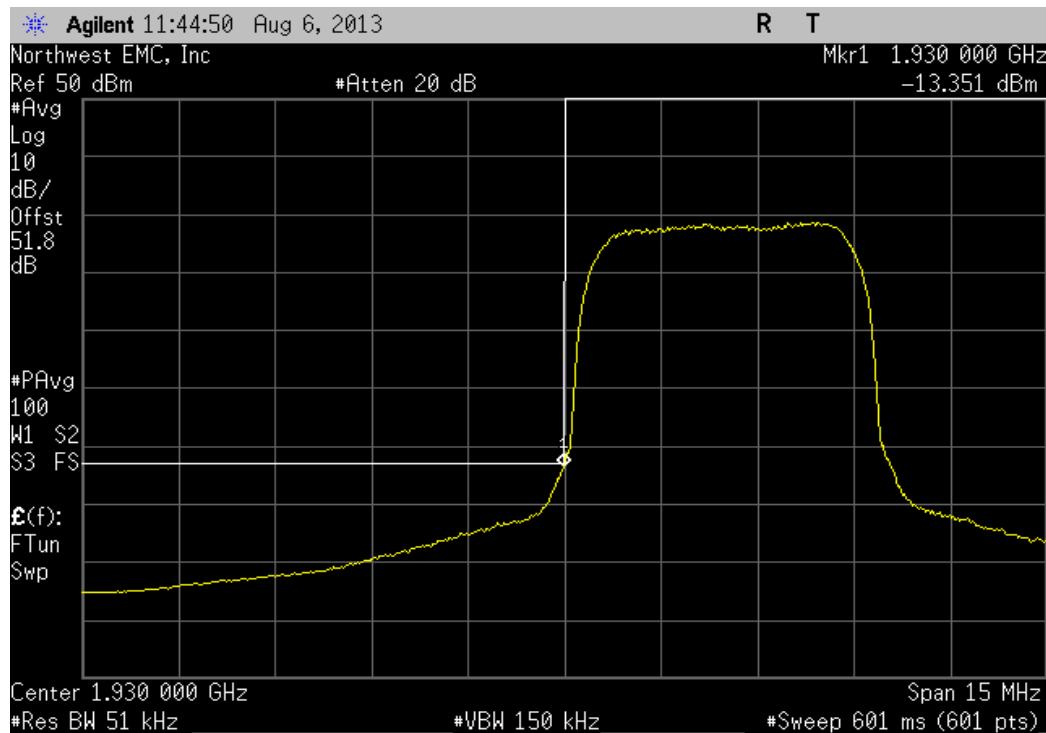
CDMA, Low Channel				Value (dBm)	Limit ≤ (dBm)	Result
				-24.61	-13	Pass



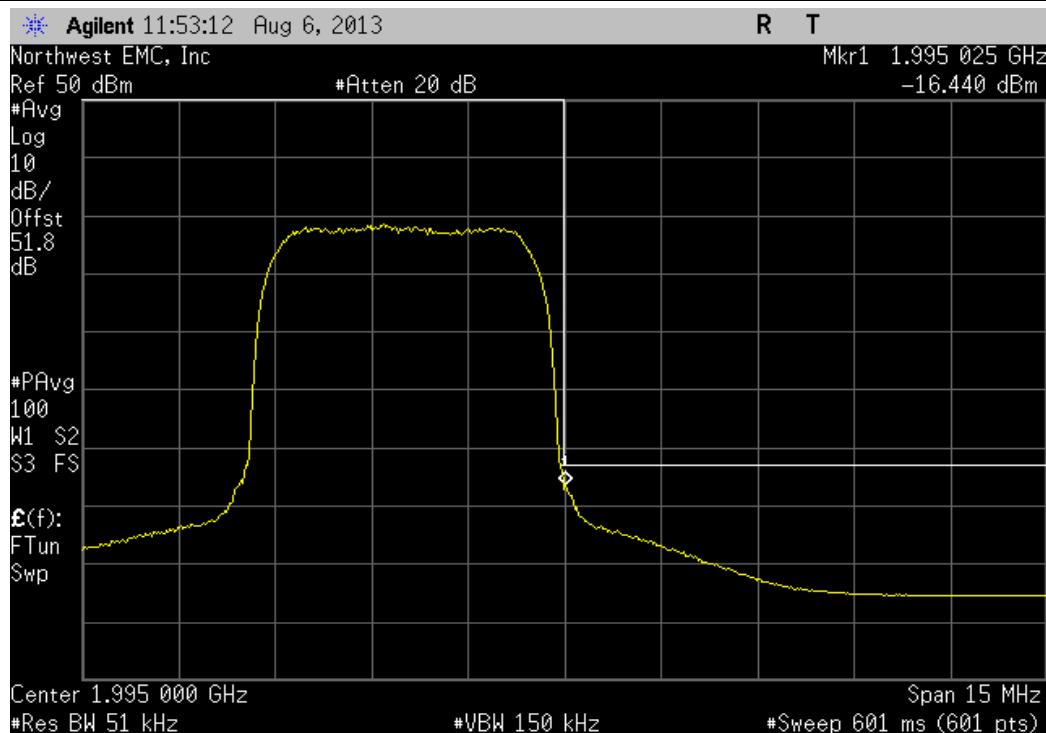
CDMA, High Channel				Value (dBm)	Limit ≤ (dBm)	Result
				-18.05	-13	Pass



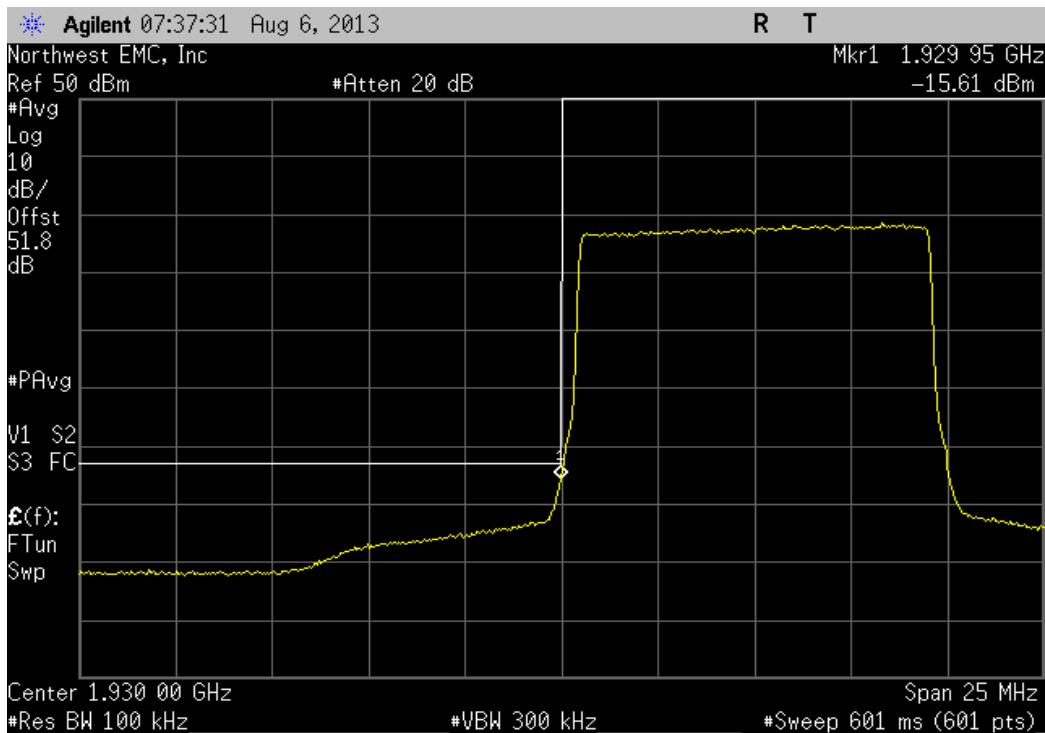
WCDMA, Low Channel				Value (dBm)	Limit ≤ (dBm)	Result
				-13.35	-13	Pass



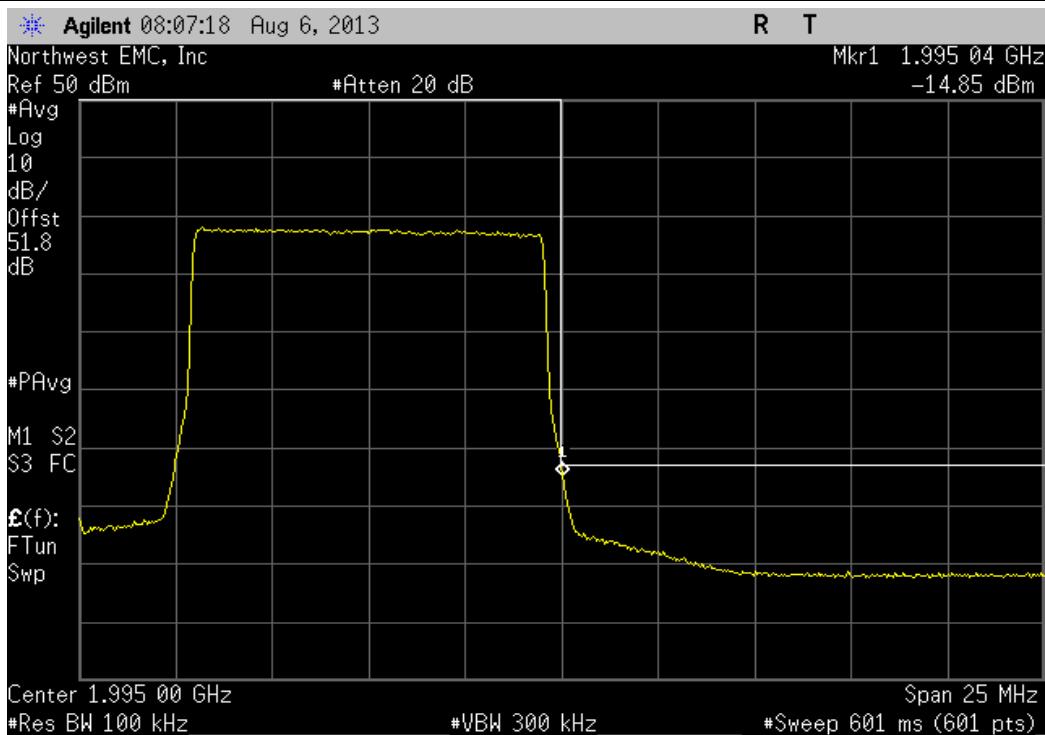
WCDMA, High Channel				Value (dBm)	Limit ≤ (dBm)	Result
				-16.44	-13	Pass



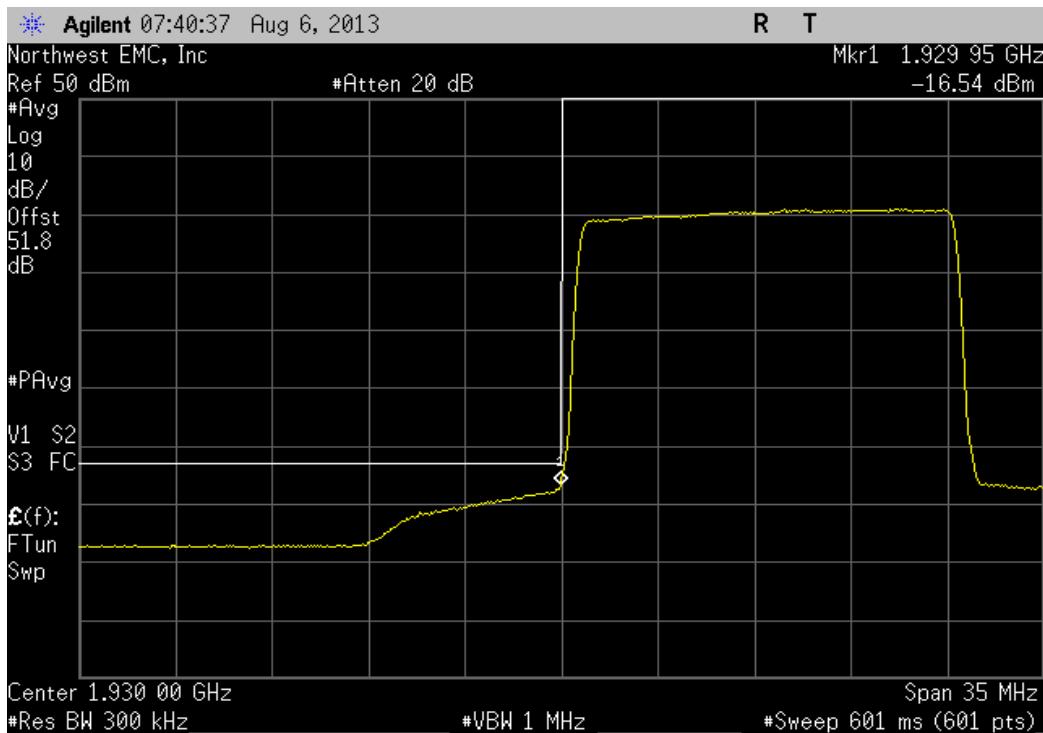
LTE 10 MHz, Low Channel			
	Value (dBm)	Limit ≤ (dBm)	Result
	-15.61	-13	Pass



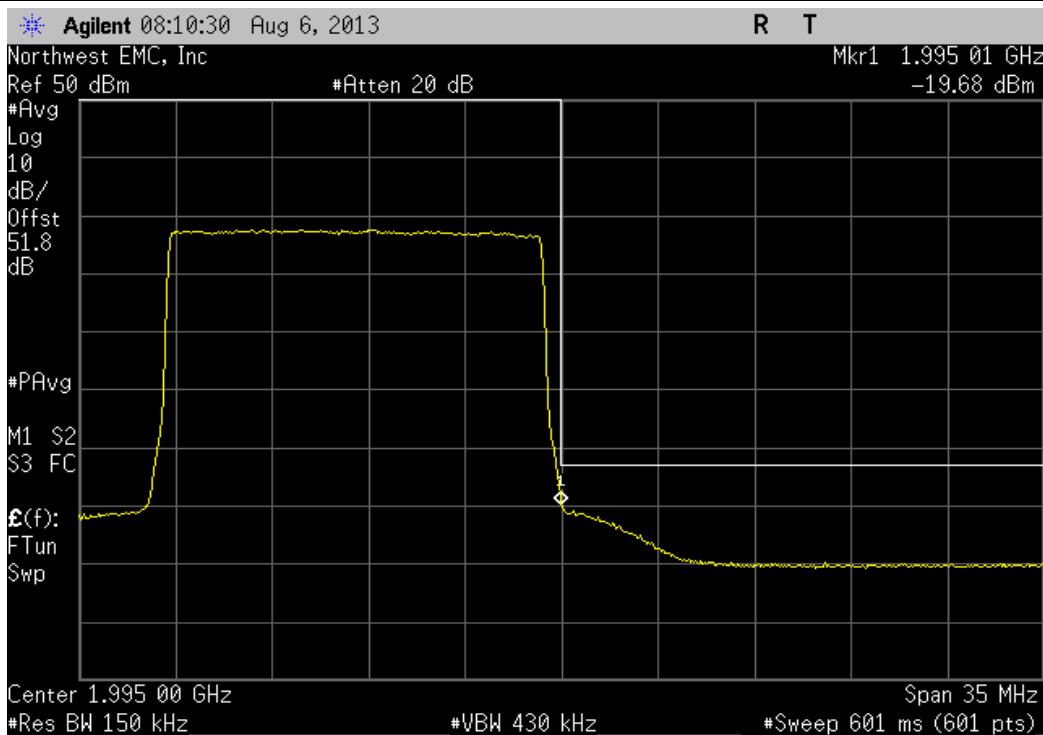
LTE 10 MHz, High Channel			
	Value (dBm)	Limit ≤ (dBm)	Result
	-14.85	-13	Pass



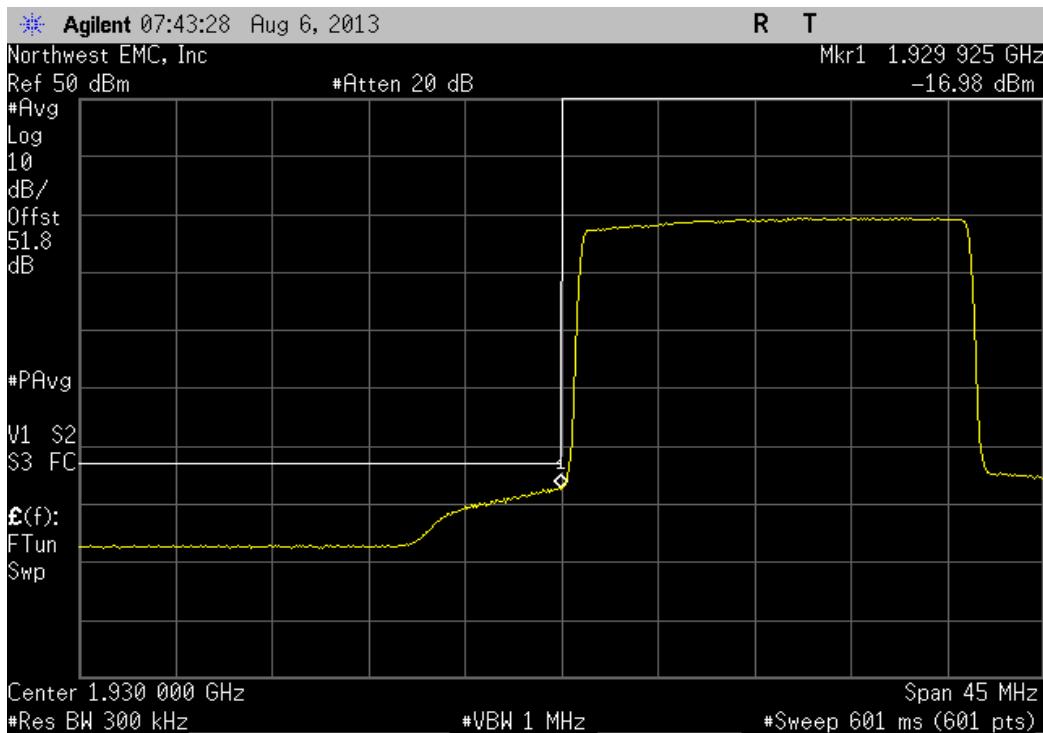
LTE 15 MHz, Low Channel			
	Value (dBm)	Limit ≤ (dBm)	Result
	-16.54	-13	Pass



LTE 15 MHz, High Channel			
	Value (dBm)	Limit ≤ (dBm)	Result
	-19.68	-13	Pass



LTE 20 MHz, Low Channel			
	Value (dBm)	Limit ≤ (dBm)	Result
	-16.98	-13	Pass



LTE 20 MHz, High Channel			
	Value (dBm)	Limit ≤ (dBm)	Result
	-16.68	-13	Pass



## Peak to Average Ratio

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

### TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/12/2013	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	10/5/2012	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	24

### TEST DESCRIPTION

Because the conducted Output Power was measured using a RMS Average detector, the Peak to Average Ratio was measured to show that the maximum peak-max-hold spectrum to the maximum of the average spectrum does not exceed 13 dBm.

A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

The spectrum analyzer settings were as follows:

Span set to encompass the entire emission bandwidth, centered on the transmit channel.

The largest difference between the following two screen captures was calculated:

- 1st Screen Capture: The same procedure and settings as was used for conducted Output Power.
- 2nd Screen Capture: Same as Screen capture 1 except using a peak detector and trace max-hold.

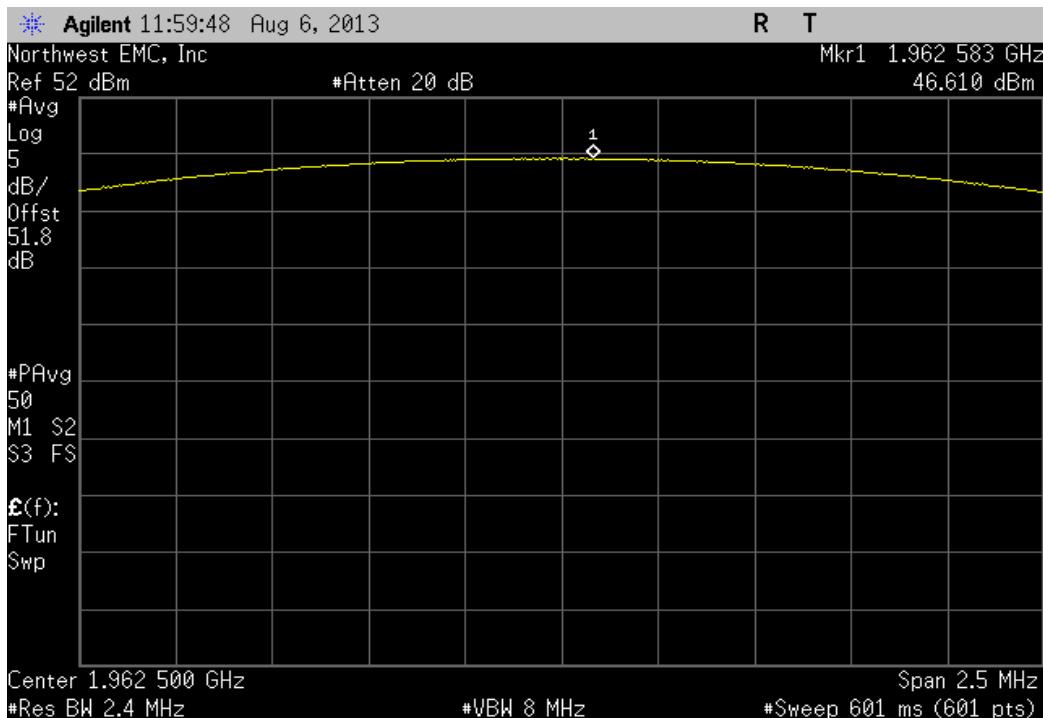


## Peak to Average Ratio

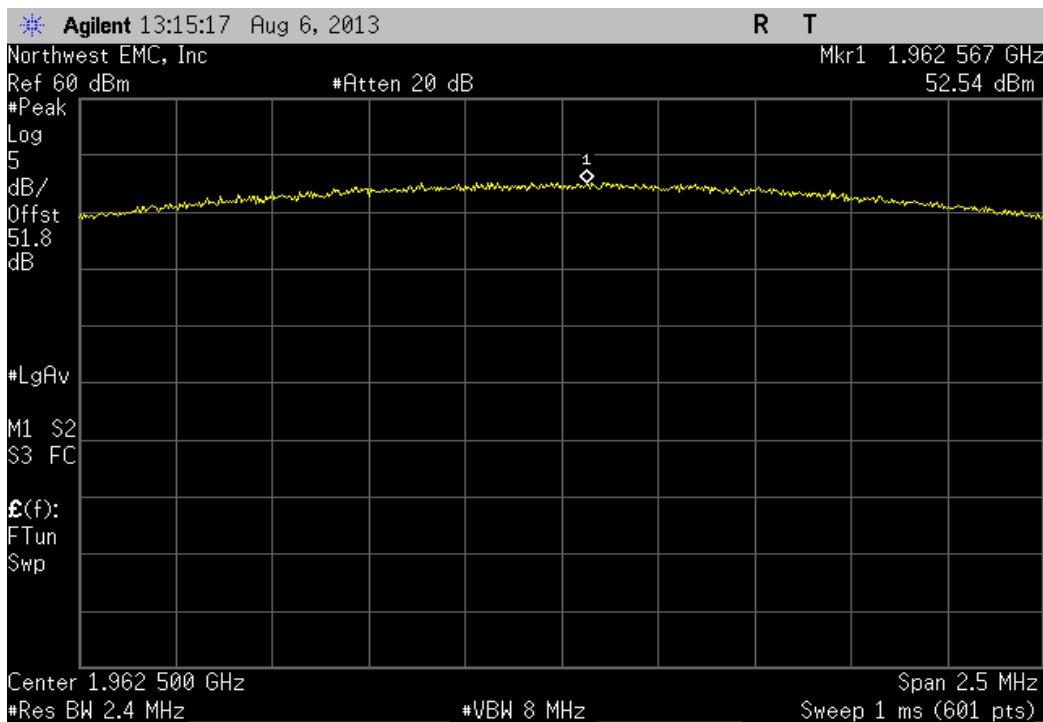
XMit 2013.02.28  
PsaTx 2013.07.11

EUT: Prism HDM 40W PCS SISO RF Module Model: FWP-881T000MOD			Work Order: TECO0005				
Serial Number: None			Date: 08/06/13				
Customer: TE Connectivity / ADC Telecommunications			Temperature: 25.3°C				
Attendees: None			Humidity: 44%				
Project: None			Barometric Pres.: 1010				
Tested by: Trevor Buls		Power: 110VAC/60Hz	Job Site: MN08				
TEST SPECIFICATIONS			Test Method				
FCC 24E:2013			ANSI/TIA/EIA-603-C-2004				
COMMENTS							
Customer provided a high wattage 30 dB attenuator.							
DEVIATIONS FROM TEST STANDARD							
None							
Configuration #	1	Signature	Trevor Buls				
			Average Value (dBm)	Peak Value (dBm)	Delta (dB)	Limit	Result
CDMA	Average (RMS)		46.61	N/A	N/A	N/A	N/A
	Peak		N/A	52.54	5.9	13	Pass
WCDMA	Average (RMS)		47.077	N/A	N/A	N/A	N/A
	Peak		N/A	55.06	8.0	13	Pass
LTE 10 MHz	Average (RMS)		46.132	N/A	N/A	N/A	N/A
	Peak		N/A	50.13	4.0	13	Pass
LTE 15 MHz	Average (RMS)		46.338	N/A	N/A	N/A	N/A
	Peak		N/A	50.28	3.9	13	Pass
LTE 20 MHz	Average (RMS)		46.096	N/A	N/A	N/A	N/A
	Peak		N/A	50.36	4.3	13	Pass

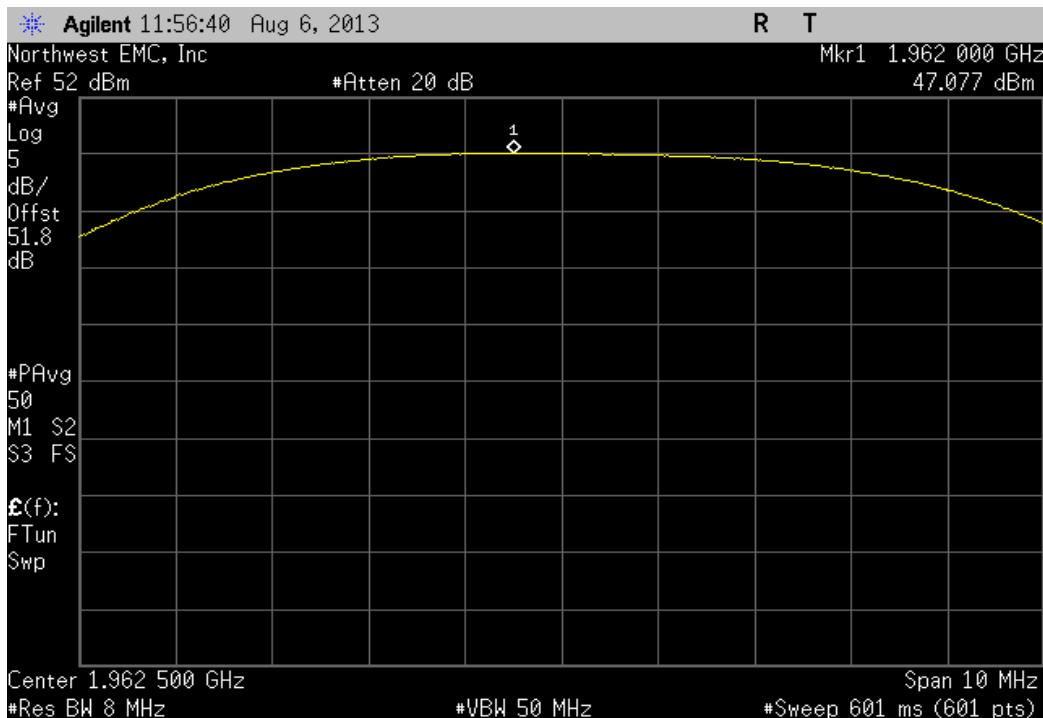
CDMA, Average (RMS)					
Average Value (dBm)	Peak Value (dBm)	Delta (dB)	Limit	Result	
46.61	N/A	N/A	N/A	N/A	N/A



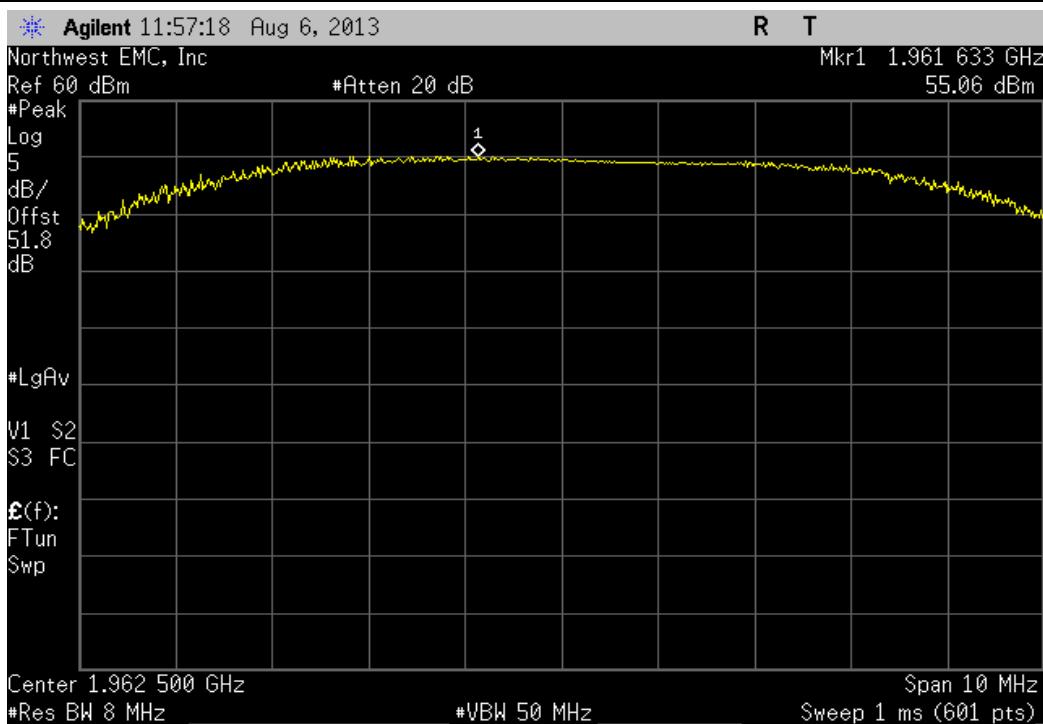
CDMA, Peak					
Average Value (dBm)	Peak Value (dBm)	Delta (dB)	Limit	Result	
N/A	52.54	5.9	13	Pass	



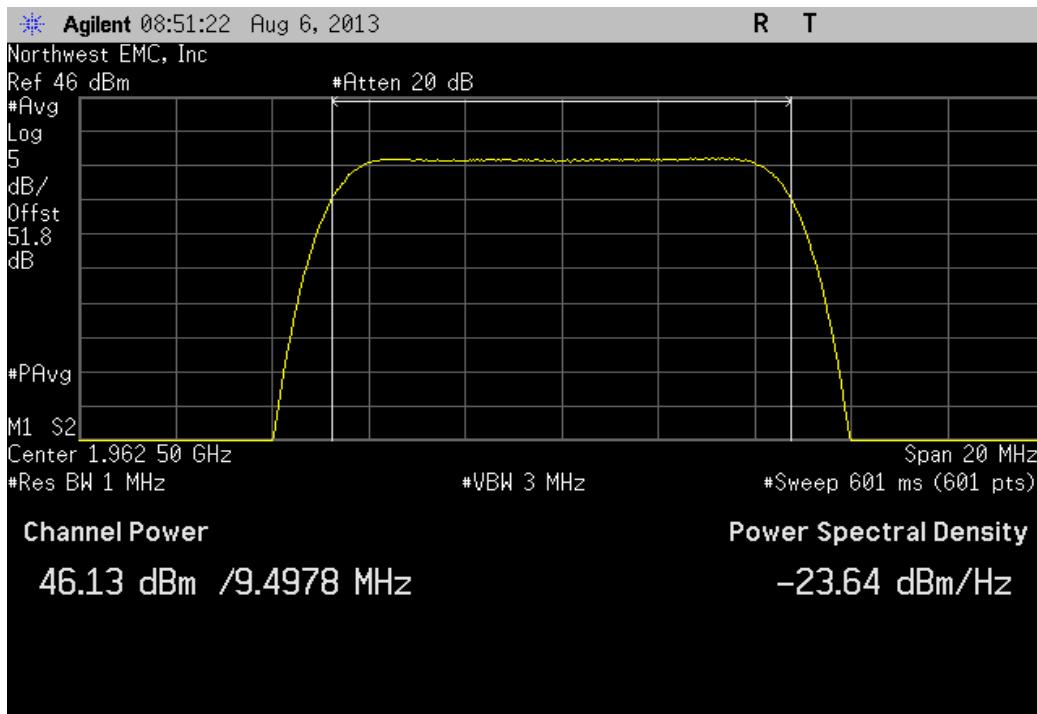
WCDMA, Average (RMS)						
Average Value (dBm)	Peak Value (dBm)	Delta (dB)	Limit	Result		
47.077	N/A	N/A	N/A	N/A		



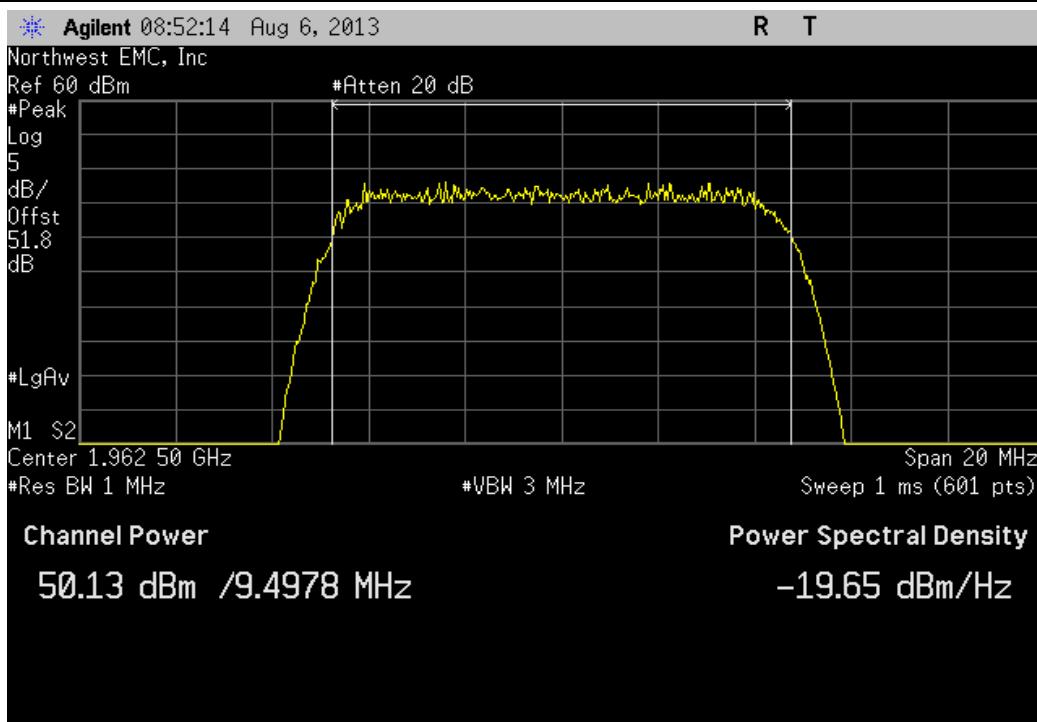
WCDMA, Peak						
Average Value (dBm)	Peak Value (dBm)	Delta (dB)	Limit	Result		
N/A	55.06	8.0	13	Pass		

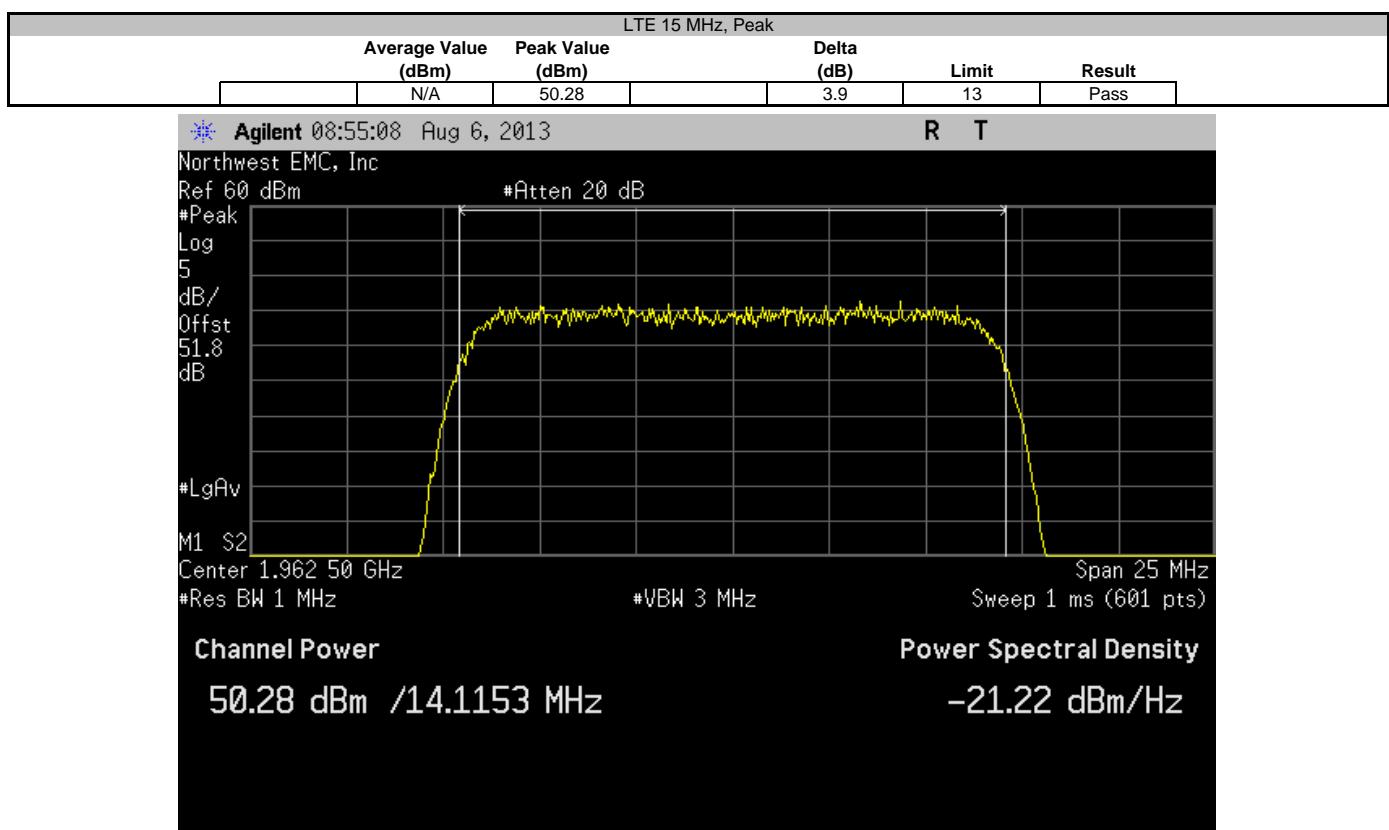
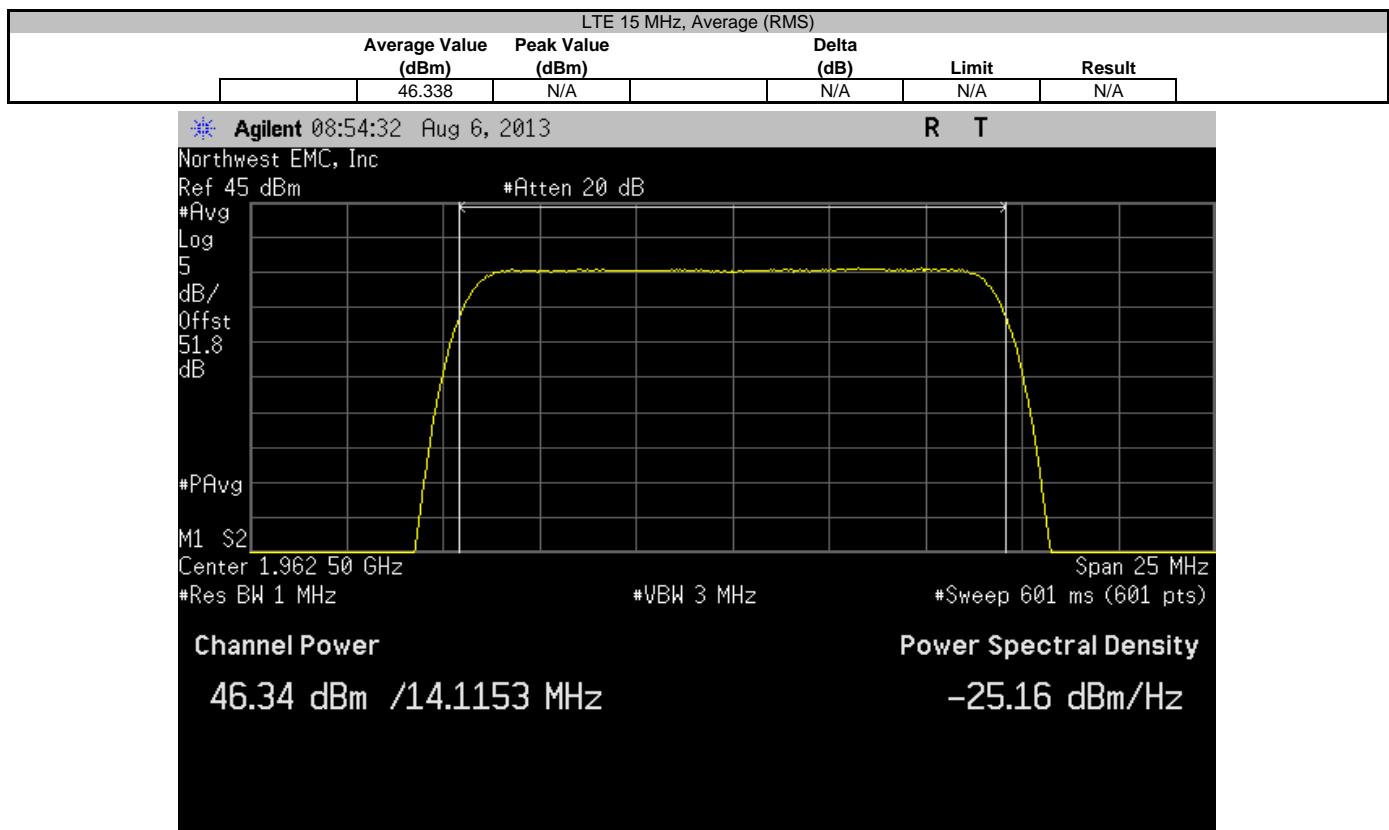


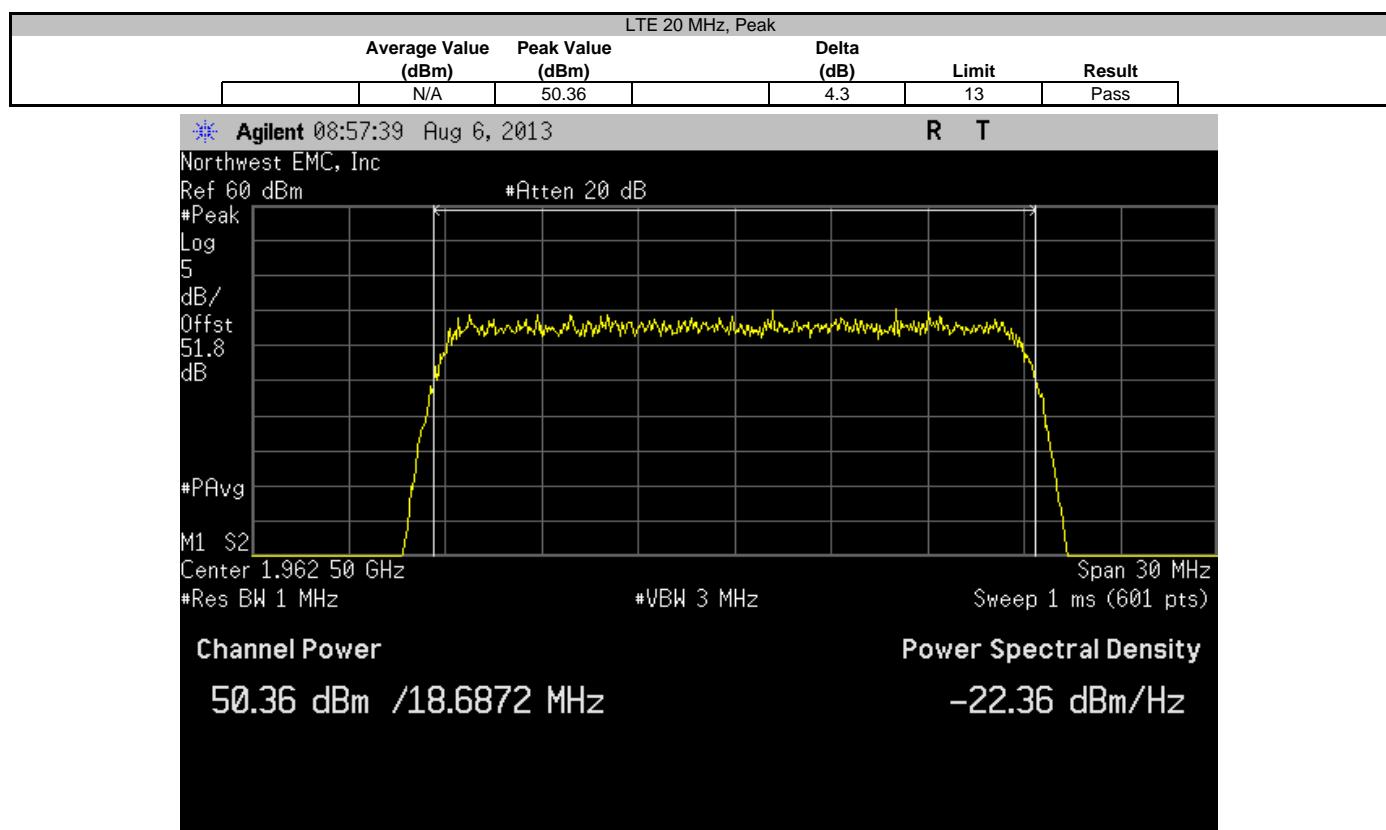
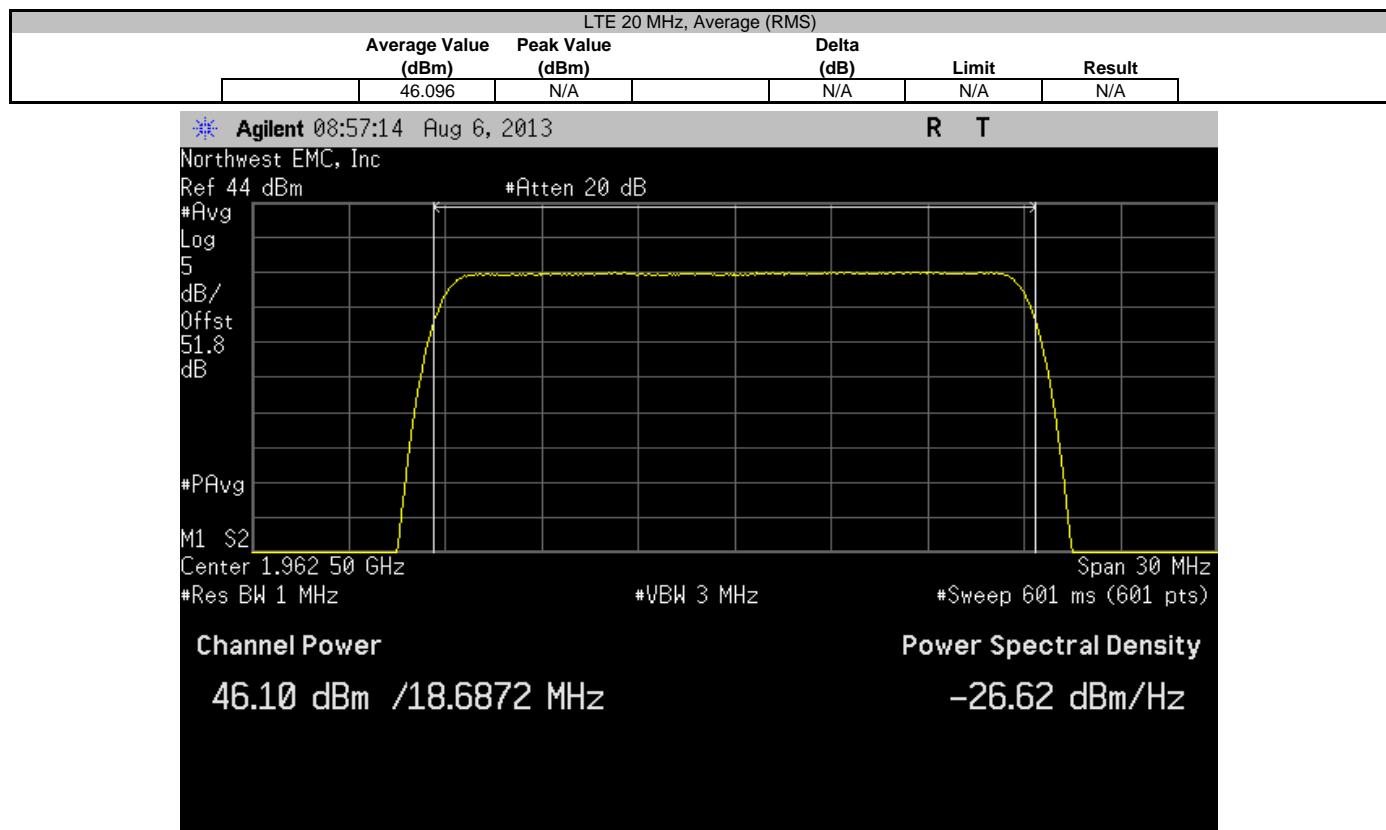
LTE 10 MHz, Average (RMS)						
Average Value (dBm)	Peak Value (dBm)	Delta (dB)	Limit	Result		
46.132	N/A	N/A	N/A	N/A		



LTE 10 MHz, Peak						
Average Value (dBm)	Peak Value (dBm)	Delta (dB)	Limit	Result		
	50.13	4.0	13	Pass		







## Intermodulation

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

### TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Power Divider/Combiner	Fairview Microwave	MP0208-2	IAF	NCR	0
Power Divider/Combiner	Fairview Microwave	MP0208-2	IAE	NCR	0
Signal Generator	Agilent	E4422B	TGQ	3/5/2012	36
40 GHz DC block	Fairview Microwave	SD3379	AMI	10/5/2012	12
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/12/2013	12
Low Pass Filter 0-1000 MHz	Micro-Tronics	LPM50004	HGV	10/5/2012	24
High Pass Filter 2.8-18 GHz	Micro-Tronics	HPM50111	HGY	10/5/2012	24
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	24

### MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

### TEST DESCRIPTION

The EUT was configured with an input of a CW pulse at the bottom of the band, a CW pulse at the bottom of the band, and a modulated pulse near the bottom of the band.

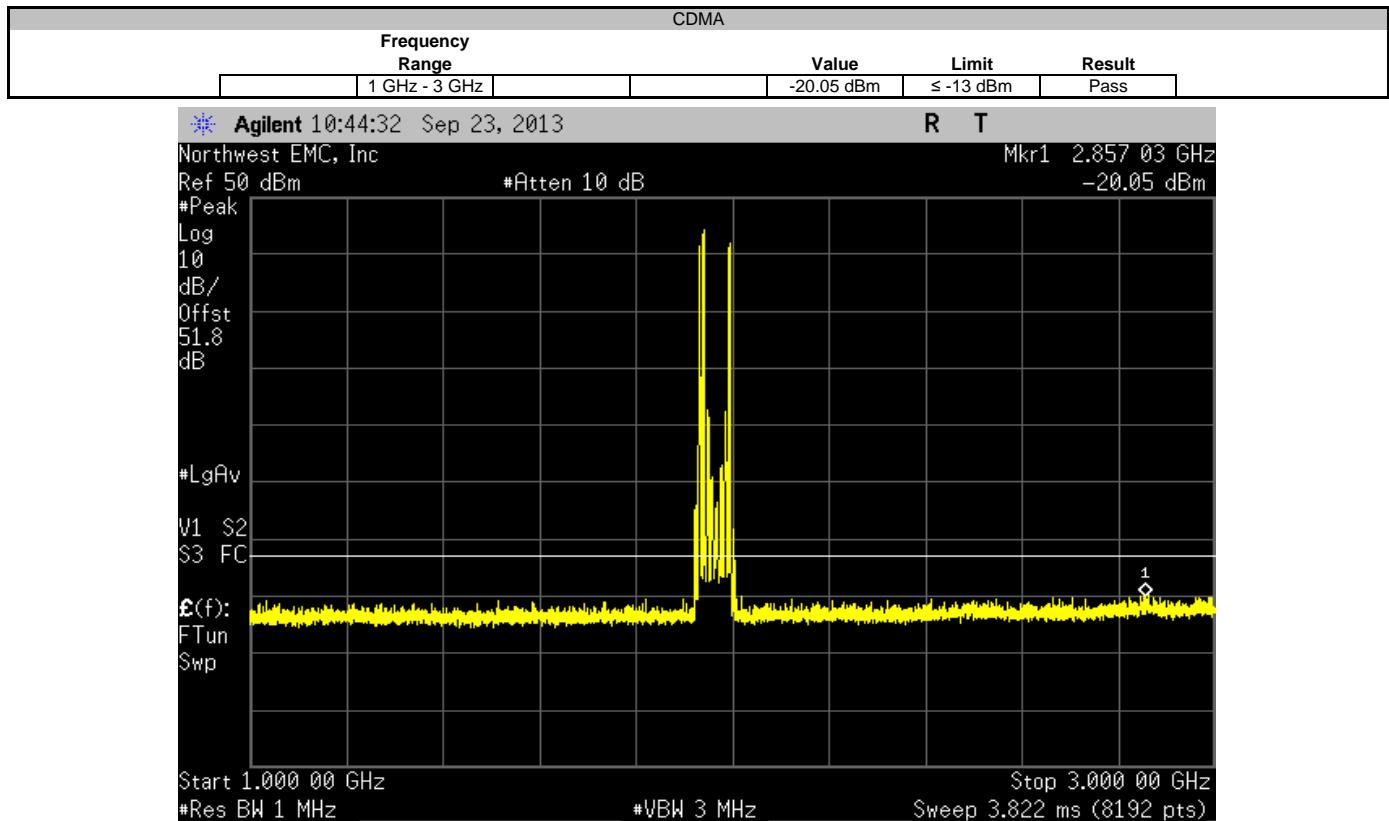
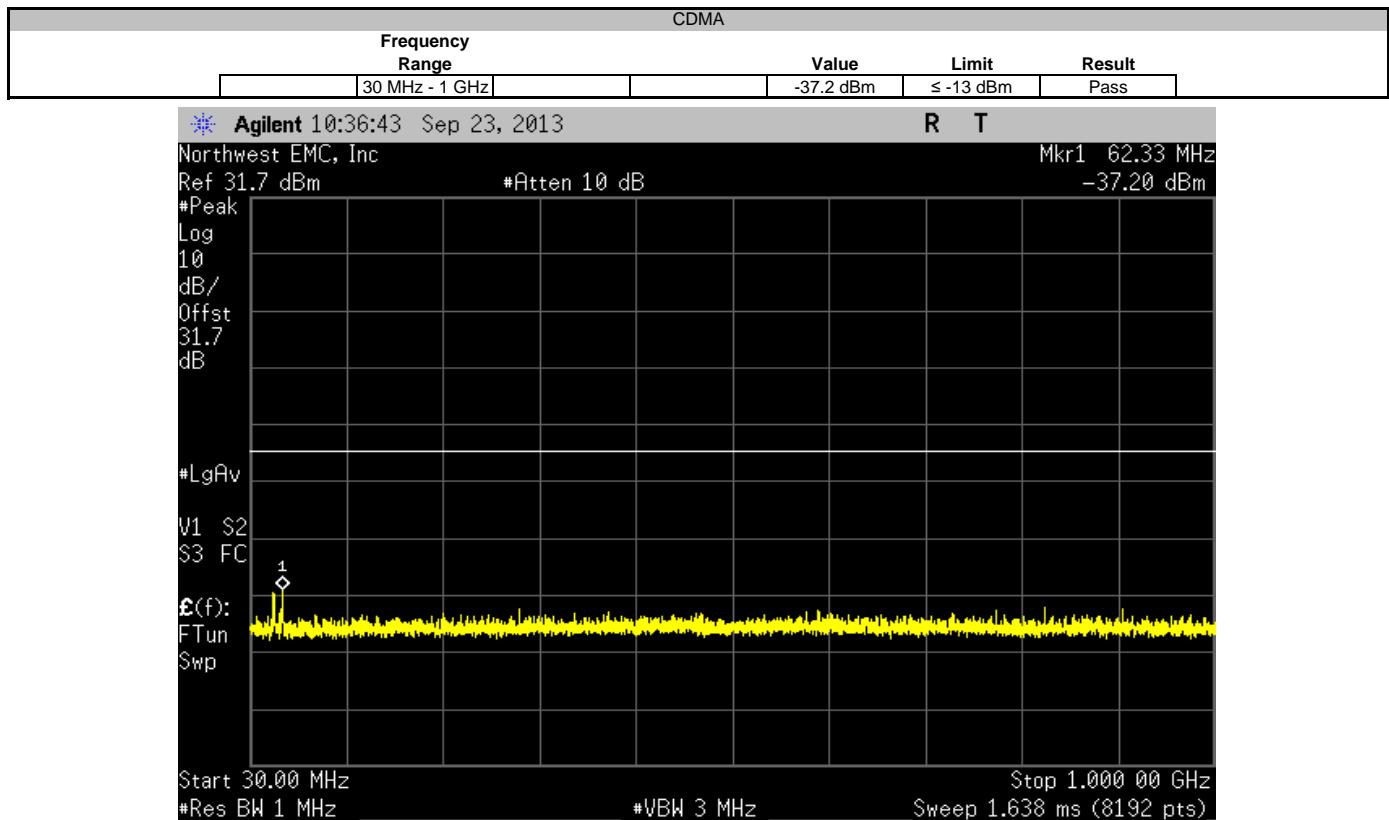
The antenna port spurious emissions were measured at the RF output terminal of the EUT with external attenuation on the RF input of the spectrum analyzer. Analyzer plots utilizing a 1MHz resolution bandwidth and no video filtering were made for each modulation type from 30 MHz to 20 GHz. The peak conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than or equal to -13 dBm.



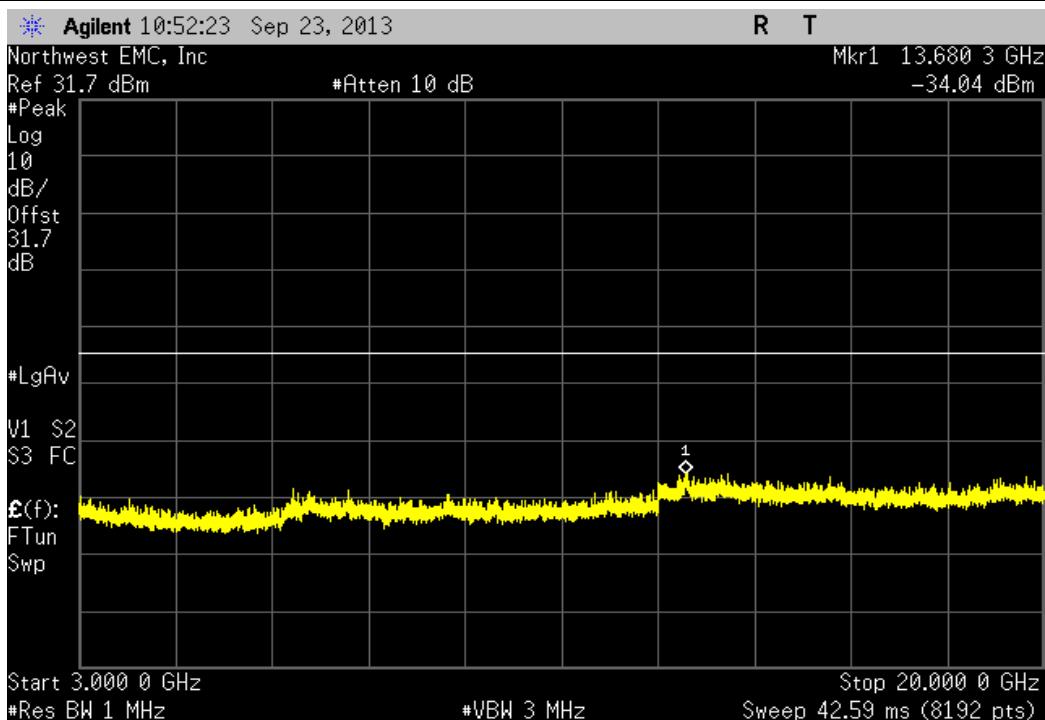
## Intermodulation

XMit 2013.08.15  
PsaTx 2013.08.16

EUT: Prism HDM 40W PCS SISO RF Module Model: FWP-881T000MOD		Work Order: TECO0005		
Serial Number: None		Date: 09/23/13		
Customer: TE Connectivity / ADC Telecommunications		Temperature: 23.0°C		
Attendees: None		Humidity: 44%		
Project: None		Barometric Pres.: 1013.9		
Tested by: Trevor Buls	Power: 110VAC/60Hz	Job Site: MN08		
TEST SPECIFICATIONS				
FCC 24E:2013		Test Method: ANSI/TIA/EIA-603-C-2004		
COMMENTS				
Customer provided a high wattage 30 dB attenuator.				
DEVIATIONS FROM TEST STANDARD				
None				
Configuration #	1	Signature <i>Trevor Buls</i>		
	Frequency Range	Value	Limit	Result
CDMA	30 MHz - 1 GHz	-37.2 dBm	≤ -13 dBm	Pass
CDMA	1 GHz - 3 GHz	-20.05 dBm	≤ -13 dBm	Pass
CDMA	3 GHz - 20 GHz	-34.04 dBm	≤ -13 dBm	Pass
WCDMA	30 MHz - 1 GHz	-38.21 dBm	≤ -13 dBm	Pass
WCDMA	1 GHz - 3 GHz	-19.47 dBm	≤ -13 dBm	Pass
WCDMA	3 GHz - 20 GHz	-34.49 dBm	≤ -13 dBm	Pass
LTE 10 MHz	30 MHz - 1 GHz	-39.85 dBm	≤ -13 dBm	Pass
LTE 10 MHz	1 GHz - 3 GHz	-19.37 dBm	≤ -13 dBm	Pass
LTE 10 MHz	3 GHz - 20 GHz	-33.28 dBm	≤ -13 dBm	Pass
LTE 15 MHz	30 MHz - 1 GHz	-37.67 dBm	≤ -13 dBm	Pass
LTE 15 MHz	1 GHz - 3 GHz	-19.3 dBm	≤ -13 dBm	Pass
LTE 15 MHz	3 GHz - 20 GHz	-34.01 dBm	≤ -13 dBm	Pass
LTE 20 MHz	30 MHz - 1 GHz	-38.49 dBm	≤ -13 dBm	Pass
LTE 20 MHz	1 GHz - 3 GHz	-20.75 dBm	≤ -13 dBm	Pass
LTE 20 MHz	3 GHz - 20 GHz	-33.14 dBm	≤ -13 dBm	Pass



CDMA					
Frequency Range		Value	Limit	Result	
3 GHz - 20 GHz		-34.04 dBm	≤ -13 dBm	Pass	



WCDMA					
Frequency Range		Value	Limit	Result	
30 MHz - 1 GHz		-38.21 dBm	≤ -13 dBm	Pass	

