

NORTHWEST EMC

Parallel Wireless Inc.

CWS-3050-05

**FCC 22H:2016
Converged Wireless System**

Report # KMWC0071 Rev 01



NVLAP Lab Code: 200676-0

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CERTIFICATE OF TEST

Last Date of Test: September 28, 2016
Parallel Wireless Inc.
Model: CWS-3050-05

Radio Equipment Testing

Standards

Specification	Method
FCC 22H:2016	ANSI/TIA/EIA-603-D-2010

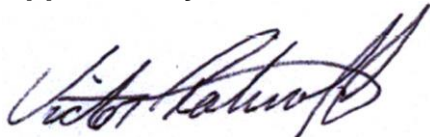
Results

Method Clause	Test Description	Applied	Results	Comments
2.2.1	Conducted Output Power	Yes	Pass	
2.2.1	Peak To Average Ratio	Yes	Pass	
2.2.2	Frequency Stability	Yes	Pass	
2.2.3	Occupied Bandwidth	Yes	Pass	
2.2.12	Out of Band Emissions	Yes	Pass	
2.2.13	Band Edge Compliance	Yes	Pass	
2.2.13	Spurious Conducted Emissions	Yes	Pass	
2.2.13	Intermodulation	Yes	Pass	
2.2.17.2	ERP of Fundamental	No	N/A	Not requested

Deviations From Test Standards

None

Approved By:



Victor Ratinoff, Operations Manager

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. 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. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information.

REVISION HISTORY

Revision Number	Description	Date	Page Number
01	Removed LTE20 data	11/22/16	Multiple

ACCREDITATIONS AND AUTHORIZATIONS

United States

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 17065 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

Canada

ISED - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB). Certification chambers and Open Area Test Sites are filed with ISED.

European Union

European Commission – Validated by the European Commission as a Notified Body under the R&TTE Directive.

Australia/New Zealand

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

Korea

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

Japan

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

Taiwan

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.

Singapore

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

Israel

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

Hong Kong

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

Vietnam

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

SCOPE

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

<http://www.nwemc.com/accreditations/>
<http://gsi.nist.gov/global/docs/cabs/designations.html>

MEASUREMENT UNCERTAINTY

Measurement Uncertainty

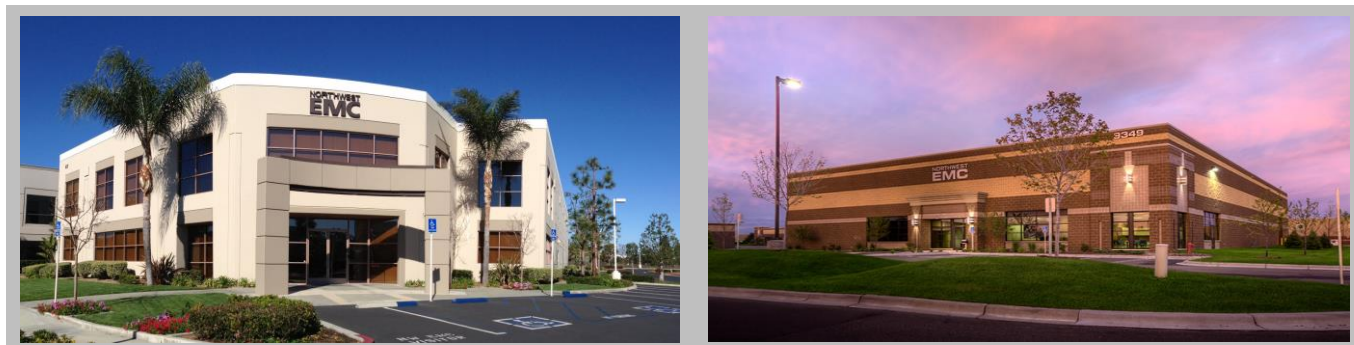
When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement 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 QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty ($K=2$) can be found included as part of the applicable test description page. 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 16-4-2 as applicable), and are available upon request.

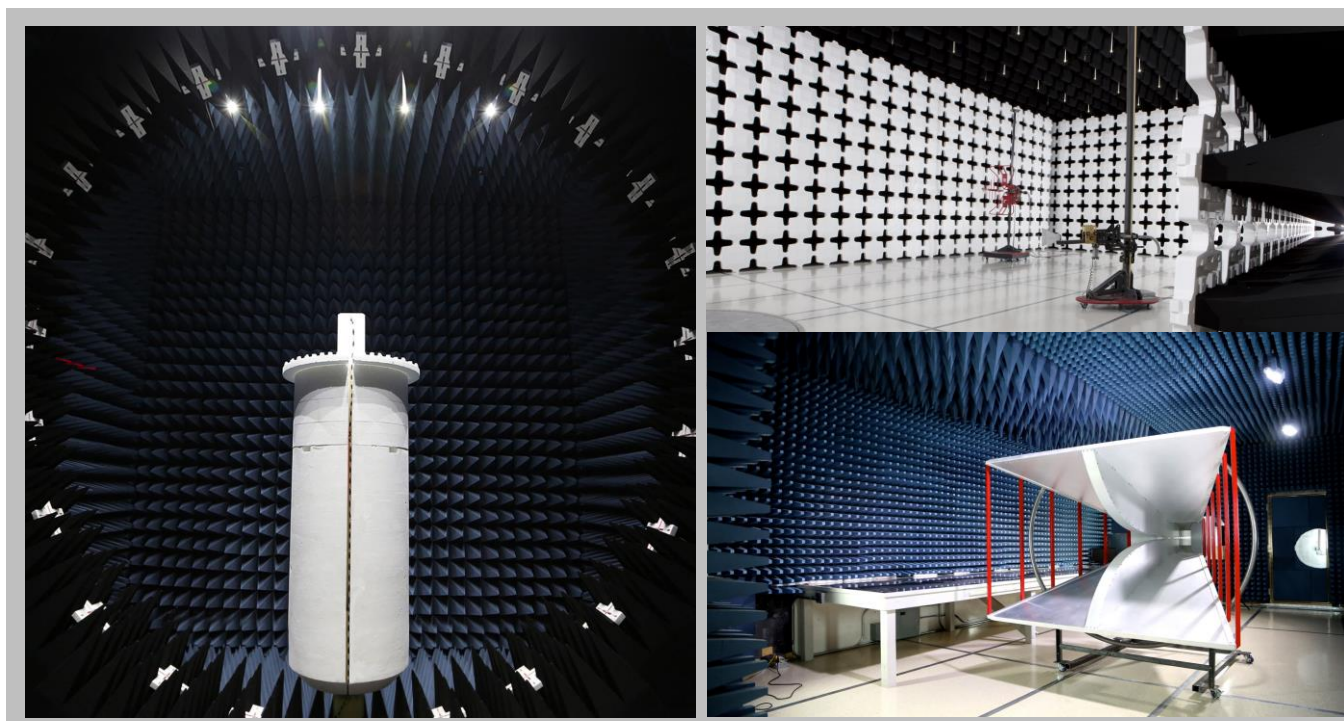
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

Test	+ MU	- MU
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%
Field Strength (dB)	5.2 dB	-5.2 dB
AC Powerline Conducted Emissions (dB)	2.4 dB	-2.4 dB

FACILITIES



California Labs OC01-13 41 Tesla Irvine, CA 92618 (949) 861-8918	Minnesota Labs MN01-08, MN10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	New York Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 554-8214	Oregon Labs EV01-12 22975 NW Evergreen Pkwy Hillsboro, OR 97124 (503) 844-4066	Texas Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Washington Labs NC01-05 19201 120 th Ave NE Bothell, WA 98011 (425)984-6600
NVLAP					
NVLAP Lab Code: 200676-0	NVLAP Lab Code: 200881-0	NVLAP Lab Code: 200761-0	NVLAP Lab Code: 200630-0	NVLAP Lab Code:201049-0	NVLAP Lab Code: 200629-0
Innovation, Science and Economic Development Canada					
2834B-1, 2834B-3	2834E-1	N/A	2834D-1, 2834D-2	2834G-1	2834F-1
BSMI					
SL2-IN-E-1154R	SL2-IN-E-1152R	N/A	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
VCCI					
A-0029	A-0109	N/A	A-0108	A-0201	A-0110
Recognized Phase I CAB for ACMA, BSMI, IDA, KCC/RRR, MIC, MOC, NCC, OFCA					
US0158	US0175	N/A	US0017	US0191	US0157



PRODUCT DESCRIPTION

Client and Equipment Under Test (EUT) Information

Company Name:	Parallel Wireless Inc.
Address:	1 Tara Blvd, Suite #404
City, State, Zip:	Nashua, NH 03062
Test Requested By:	Edward Lee of KMW Communications
Model:	CWS-3050-05
First Date of Test:	September 26, 2016
Last Date of Test:	September 28, 2016
Receipt Date of Samples:	September 26, 2016
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
Tower based Converged Wireless System Base Station operating in the UMTS Band 5 with WCDMA and LTE Band 5 with 5 MHz and 10 MHz channel bandwidths.
Testing Objective:
To demonstrate compliance of the Cellular radio to FCC 22H requirements.

CONFIGURATIONS

Configuration KMWC0071- 1

Software/Firmware Running during test				
Description			Version	
eNB2440_20160729_v0_1_41.pkg			41	

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Converged Wireless System Base Station	Parallel Wireless Inc.	CWS-3050-05	K162600004

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
High Power Terminator	Telcon	KTMO400800060	1111-0064
Laptop	Samsung	NP300V5A	HGHS93-JBA00674K
Laptop Power Supply	Delta Electronics, Inc.	SADP-90FH D	CNBA4400215ABZ040C18685

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Cable	No	5m	No	CWS-3050 Tower	DC Mains
RF Output Cable x2	Yes	5m	No	CWS-3050 Tower	High Power Terminator
Ethernet Cable	No	2.5m	No	CWS-3050 Tower	Laptop
AC Cable	No	1.5m	No	AC Mains	Laptop Power Supply
DC Cable	No	2.0m	Yes	Laptop	Laptop Power Supply

Configuration KMWC0071- 2

Software/Firmware Running during test					
Description			Version		
eNB2440_20160729_v0_1_41.pkg			41		
EUT					
Description	Manufacturer	Model/Part Number	Serial Number		
Converged Wireless System Base Station	Parallel Wireless Inc.	CWS-3050-05	K162600004		
Peripherals in test setup boundary					
Description	Manufacturer	Model/Part Number	Serial Number		
High Power Terminator	Telcon	KTMO400800060	1111-0064		
High Power Terminator	Telcon	KTMO400800060	1111-0004		
Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Cable	No	5m	No	CWS-3050 Tower	DC Mains
Ethernet Cable	No	2.5m	No	CWS-3050 Tower	Unterminated
AISG Cable	Yes	3m	No	CWS-3050 Tower	Unterminated
AISG (ALM) Cable	Yes	6.1m	No	CWS-3050 Tower	Unterminated
RF Output Cable x2	Yes	5m	No	CWS-3050 Tower	High Power Terminator
Optical Cable	No	10m	No	CWS-3050 Tower	Unterminated
Ground Braid	No	2m	No	CWS-3050 Tower	Ground

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	9/26/2016	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.
2	9/26/2016	Peak To 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.
3	9/26/2016	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.
4	9/26/2016	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	9/26/2016	Spurious Emissions at the Antenna Terminals	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	9/26/2016	Intermodulation	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	9/26/2016	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.
8	9/28/2016	Out of Band Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

CONDUCTED OUTPUT POWER - LTE BAND 5

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.	Cal. Due
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Meter - Power	ETS Lindgren	7002-006	SRB	12/14/2015	12/14/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The RF output power was measured with the EUT set to the modes called out in the datasheet. The power measurement was made using a direct connection between the RF output of the EUT and an RF Power Sensor which only measures across the high time of the burst of the carrier.

The observed duty cycle was noted but not needed to calculate the ERP.


ERP = Max Measured Power + Antenna gain (dBi)

The measurements from Port 1 and Port 2 were summed to determine the total average power in ERP.

CONDUCTED OUTPUT POWER

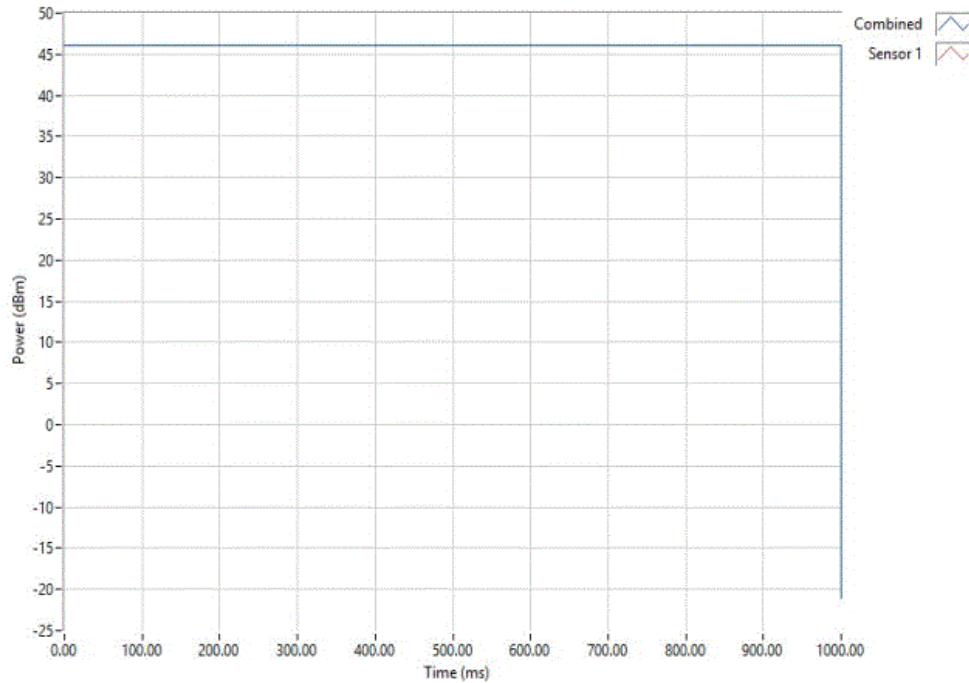


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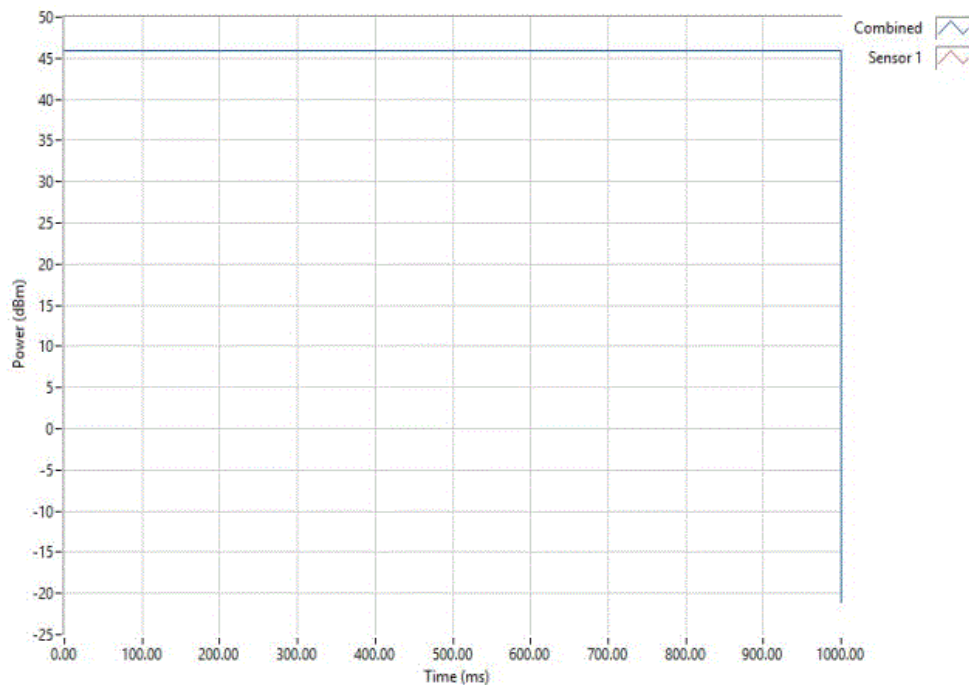
EUT: CWS-3050-05		Work Order: KMWC0071	
Serial Number: K162600004		Date: 09/26/16	
Customer: KMW Communications		Temperature: 22.3 °C	
Attendees: Edward Lee		Humidity: 38.4% RH	
Project: None		Barometric Pres.: 1016 mbar	
Tested by: Johnny Candelas		Power: 48VDC	
Job Site: OC13			
TEST SPECIFICATIONS		Test Method	
FCC 22H:2016		ANSI/TIA/EIA-603-D-2010	
COMMENTS			
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 55.0dB total.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature 	
		Avg Cond Pwr (dBm)	Duty Cycle (%)
		Antenna Gain (dBi)	EIRP (dBm)
		Limit (Watts)	Results
Antenna Port 1			
	Low Channel LTE5, 871.5 MHz	46.00	100
	Mid Channel LTE5, 881.5 MHz	45.99	100
	High Channel LTE5, 891.5 MHz	45.96	100
	Low Channel LTE10, 874 MHz	45.98	100
	Mid Channel LTE10, 881.5 MHz	45.99	100
	High Channel LTE10, 889 MHz	45.97	100
Antenna Port 2			
	Low Channel LTE5, 871.5 MHz	45.97	100
	Mid Channel LTE5, 881.5 MHz	45.98	100
	High Channel LTE5, 891.5 MHz	45.95	100
	Low Channel LTE10, 874 MHz	45.97	100
	Mid Channel LTE10, 881.5 MHz	45.99	100
	High Channel LTE10, 889 MHz	45.99	100
Antenna Port 1 MIMO			
	Low Channel LTE5, 871.5 MHz	45.97	100
	Mid Channel LTE5, 881.5 MHz	45.97	100
	High Channel LTE5, 891.5 MHz	45.99	100
	Low Channel LTE10, 874 MHz	45.99	100
	Mid Channel LTE10, 881.5 MHz	45.99	100
	High Channel LTE10, 889 MHz	45.99	100
Antenna Port 2 MIMO			
	Low Channel LTE5, 871.5 MHz	45.99	100
	Mid Channel LTE5, 881.5 MHz	46.00	100
	High Channel LTE5, 891.5 MHz	45.99	100
	Low Channel LTE10, 874 MHz	45.99	100
	Mid Channel LTE10, 881.5 MHz	45.98	100
	High Channel LTE10, 889 MHz	45.98	100
Linear Sum of the Power			
	Port 1 (mW)	Port 2 (mW)	Sum (mW)
	Sum (dBm)		
	Low Channel LTE5, 871.5 MHz	39536.7	39719.2
	Mid Channel LTE5, 881.5 MHz	39536.7	39810.7
	High Channel LTE5, 891.5 MHz	39719.2	39719.2
	Low Channel LTE10, 874 MHz	39719.2	39719.2
	Mid Channel LTE10, 881.5 MHz	39719.2	39627.8
	High Channel LTE10, 889 MHz	39719.2	39627.8

CONDUCTED OUTPUT POWER - LTE BAND 5

Antenna Port 1, Low Channel LTE5, 871.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	46.00	100	0	46	500	Pass

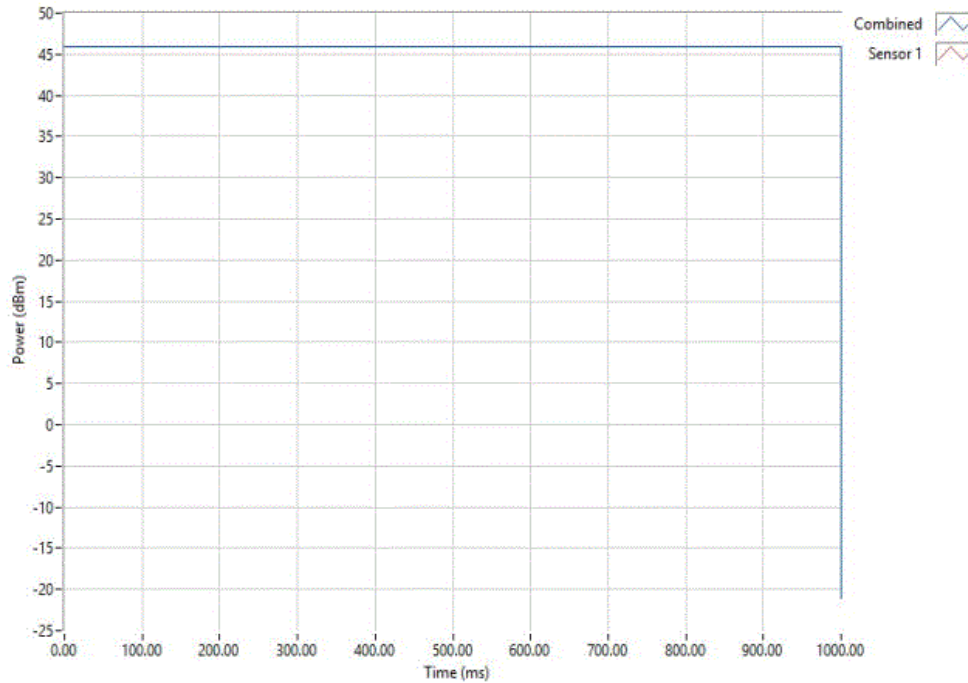


Antenna Port 1, Mid Channel LTE5, 881.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.99	100	0	46	500	Pass

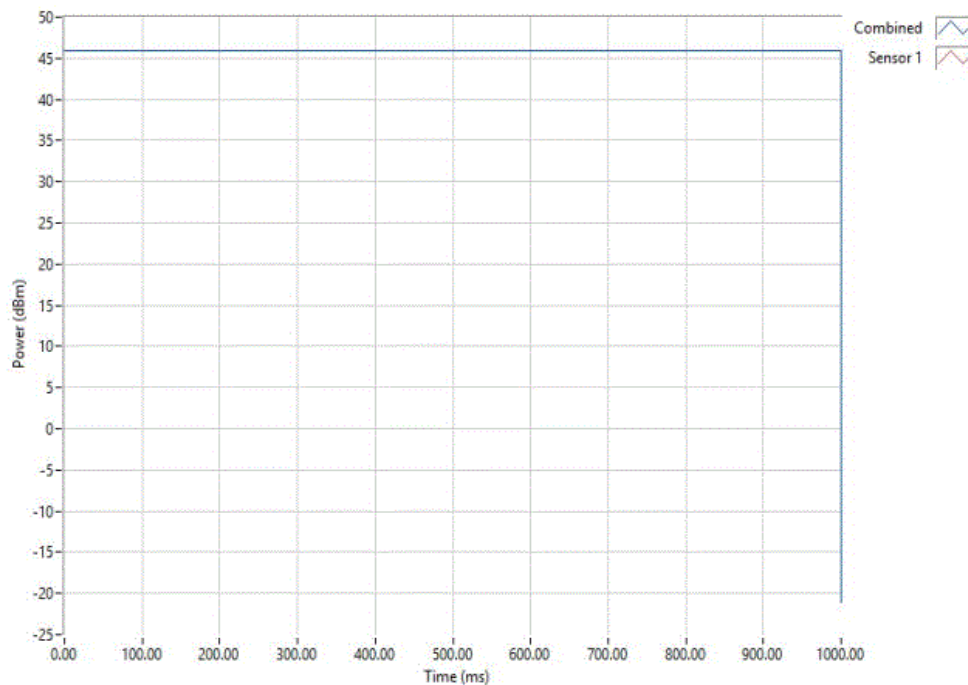


CONDUCTED OUTPUT POWER - LTE BAND 5

Antenna Port 1, High Channel LTE5, 891.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.96	100	0	46	500	Pass

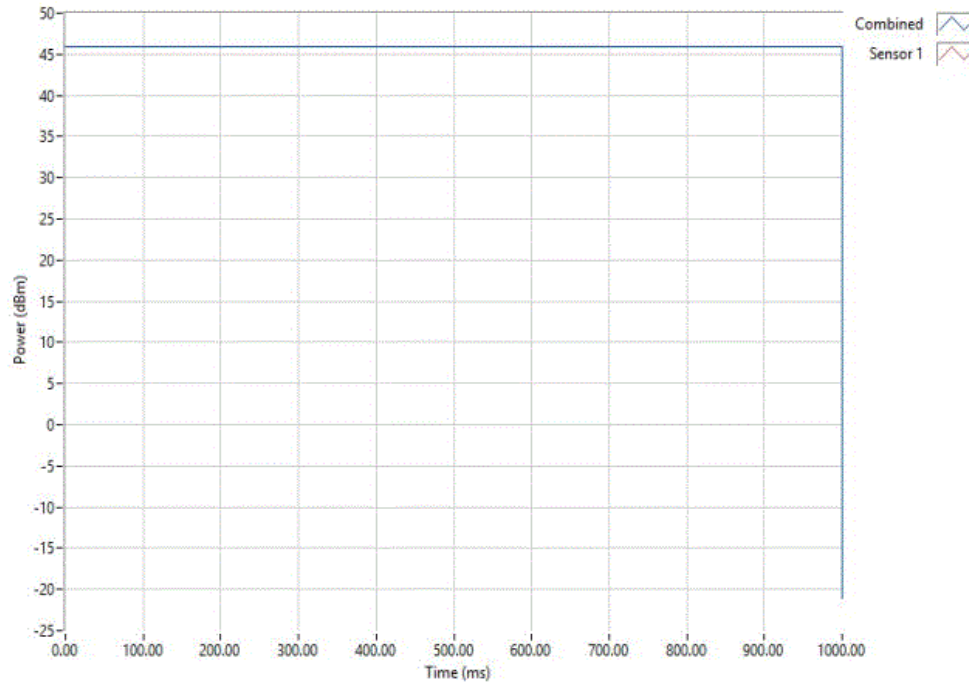


Antenna Port 1, Low Channel LTE10, 874 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.98	100	0	46	500	Pass

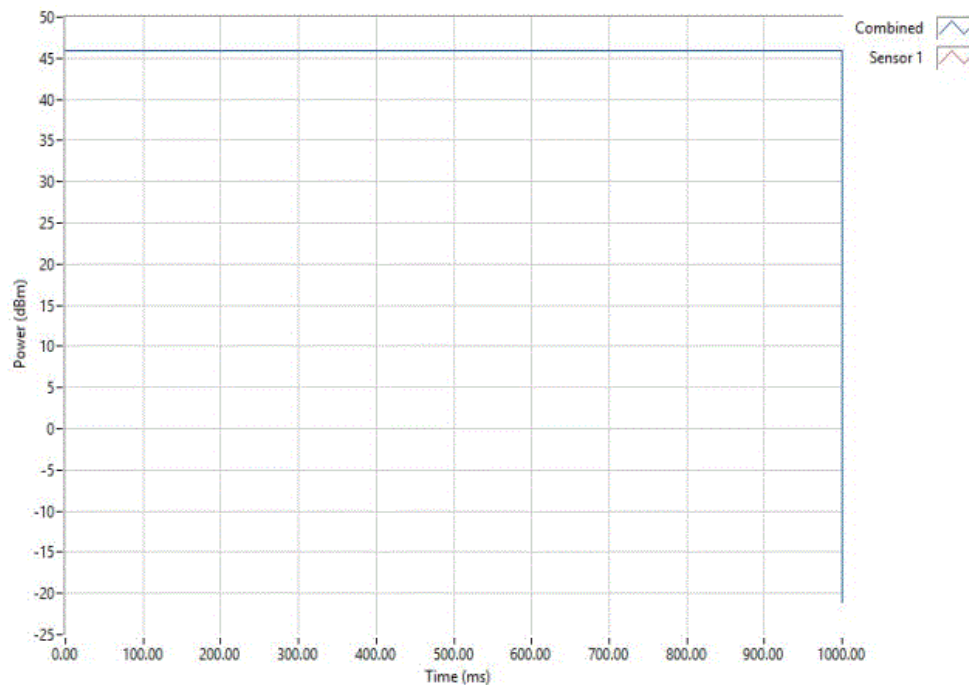


CONDUCTED OUTPUT POWER - LTE BAND 5

Antenna Port 1, Mid Channel LTE10, 881.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.99	100	0	46	500	Pass



Antenna Port 1, High Channel LTE10, 889 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.97	100	0	46	500	Pass

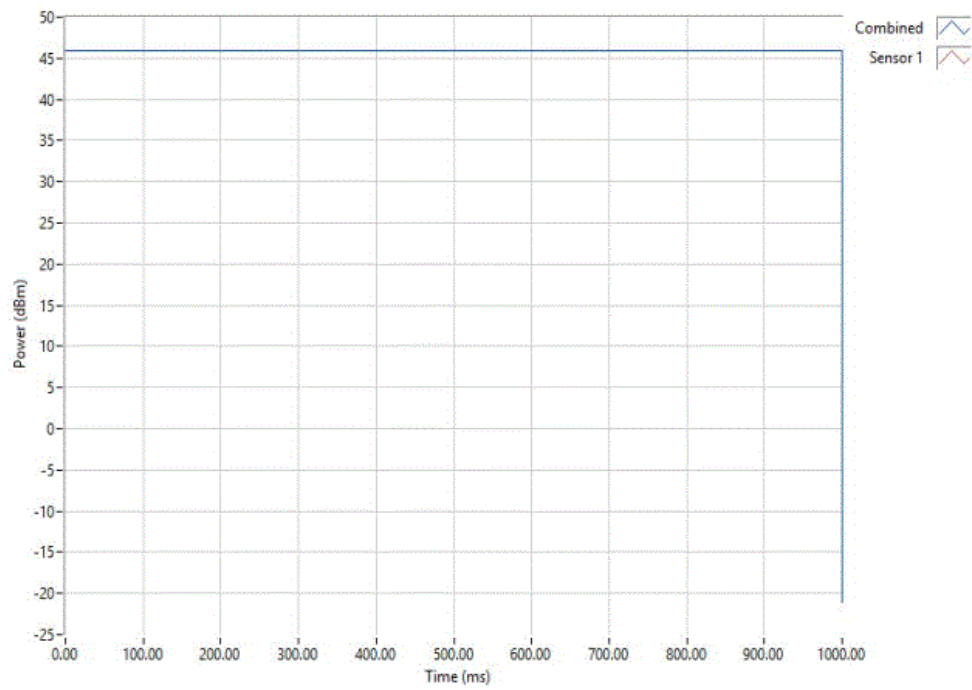


CONDUCTED OUTPUT POWER - LTE BAND 5

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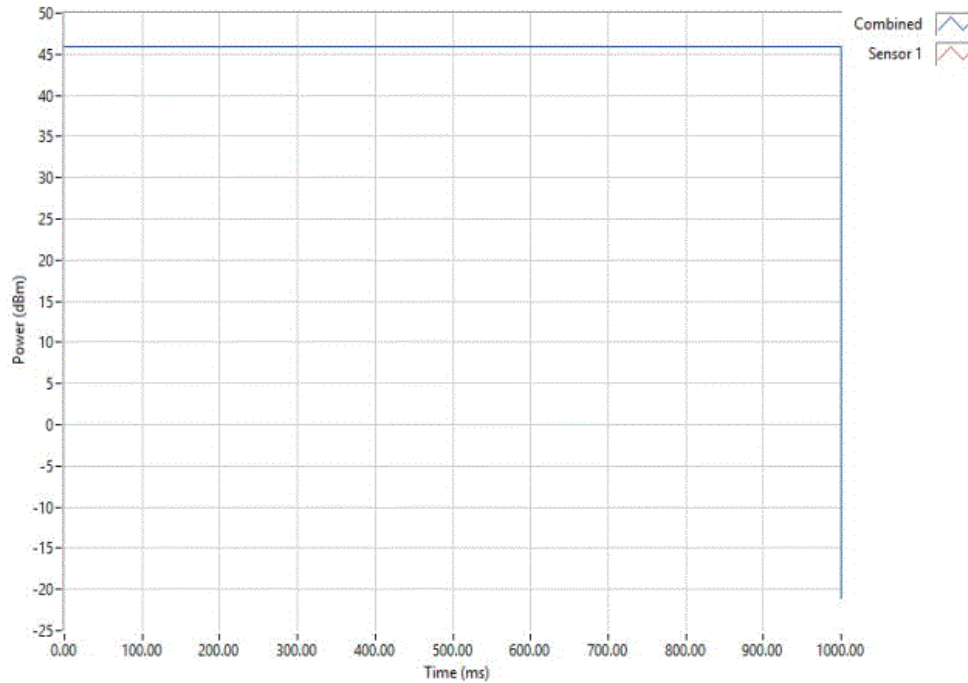
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Antenna Port 2, Low Channel LTE5, 871.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.97	100	0	46	500	Pass

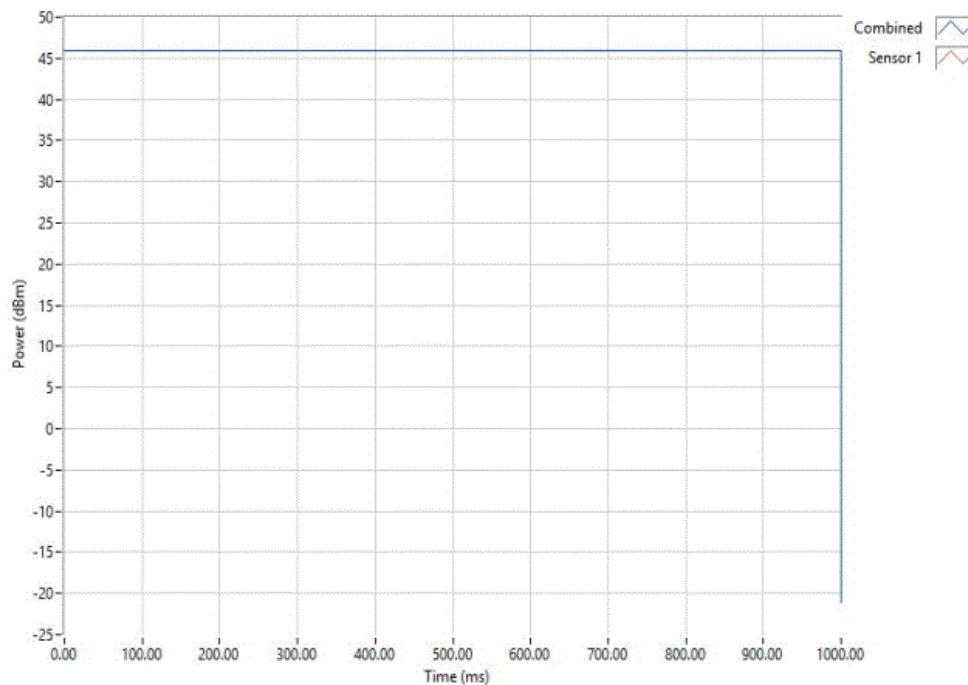


CONDUCTED OUTPUT POWER - LTE BAND 5

Antenna Port 2, Mid Channel LTE5, 881.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.98	100	0	46	500	Pass

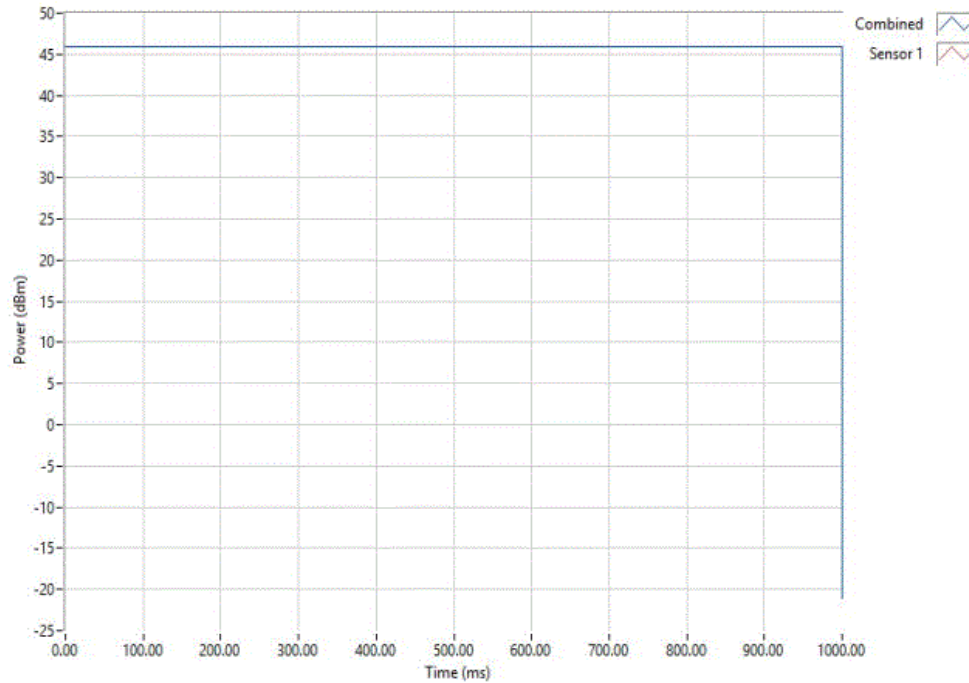


Antenna Port 2, High Channel LTE5, 891.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.95	100	0	46	500	Pass

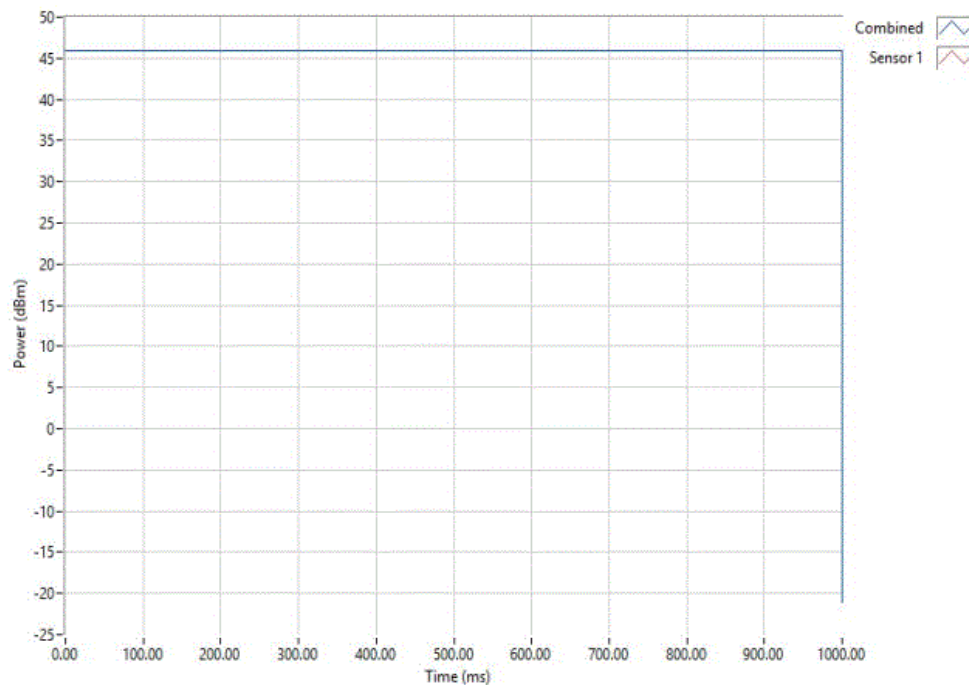


CONDUCTED OUTPUT POWER - LTE BAND 5

Antenna Port 2, Low Channel LTE10, 874 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.97	100	0	46	500	Pass

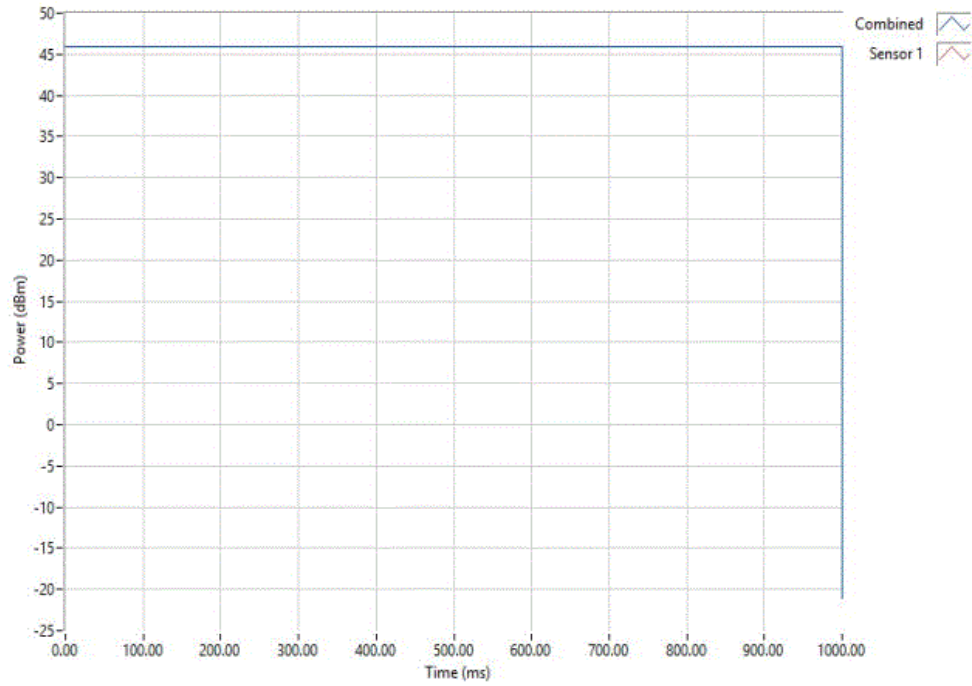


Antenna Port 2, Mid Channel LTE10, 881.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.99	100	0	46	500	Pass



CONDUCTED OUTPUT POWER - LTE BAND 5

Antenna Port 2, High Channel LTE10, 889 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.99	100	0	46	500	Pass

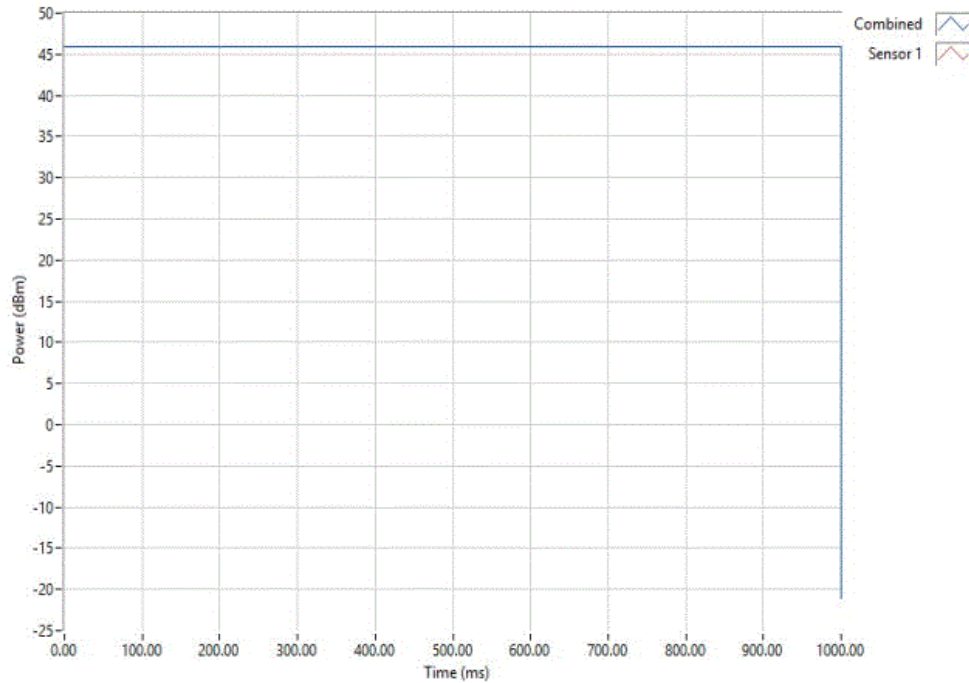


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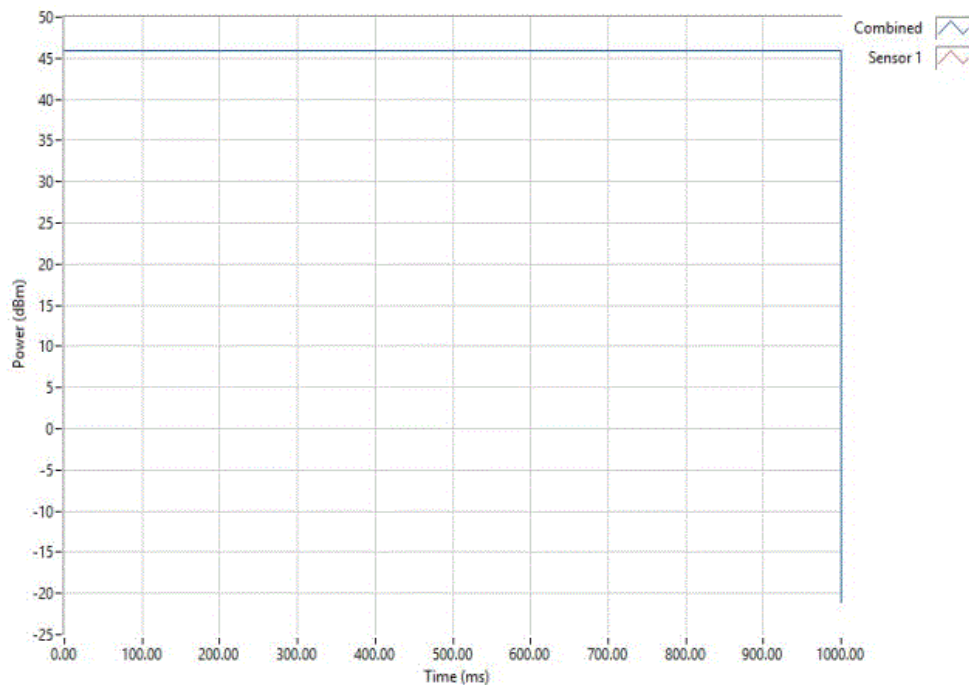
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CONDUCTED OUTPUT POWER - LTE BAND 5

Antenna Port 1 MIMO, Low Channel LTE5, 871.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.97	100	0	46	500	Pass

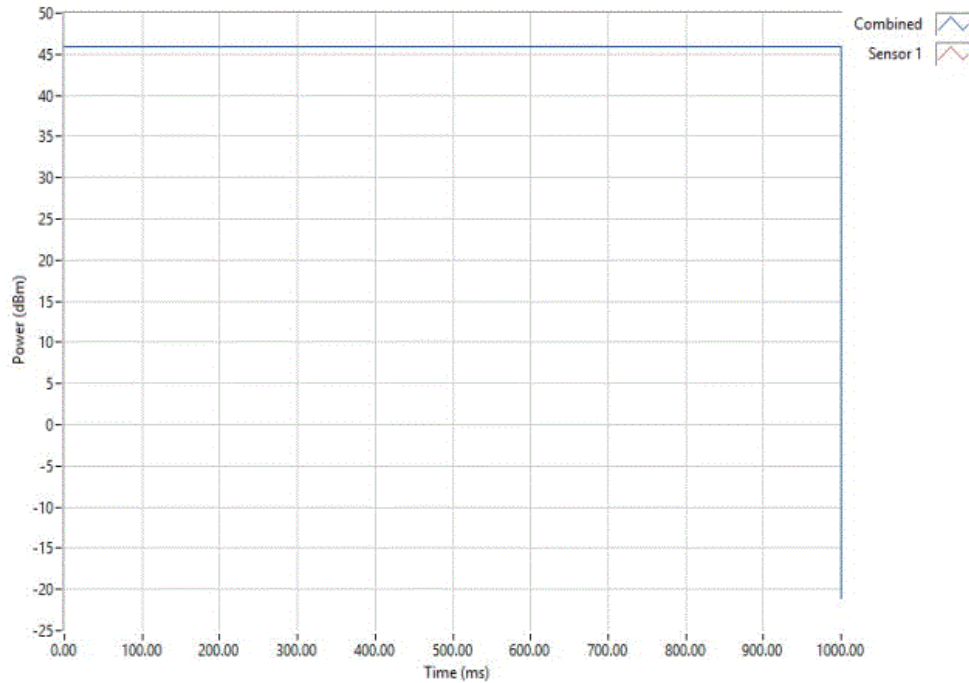


Antenna Port 1 MIMO, Mid Channel LTE5, 881.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.97	100	0	46	500	Pass

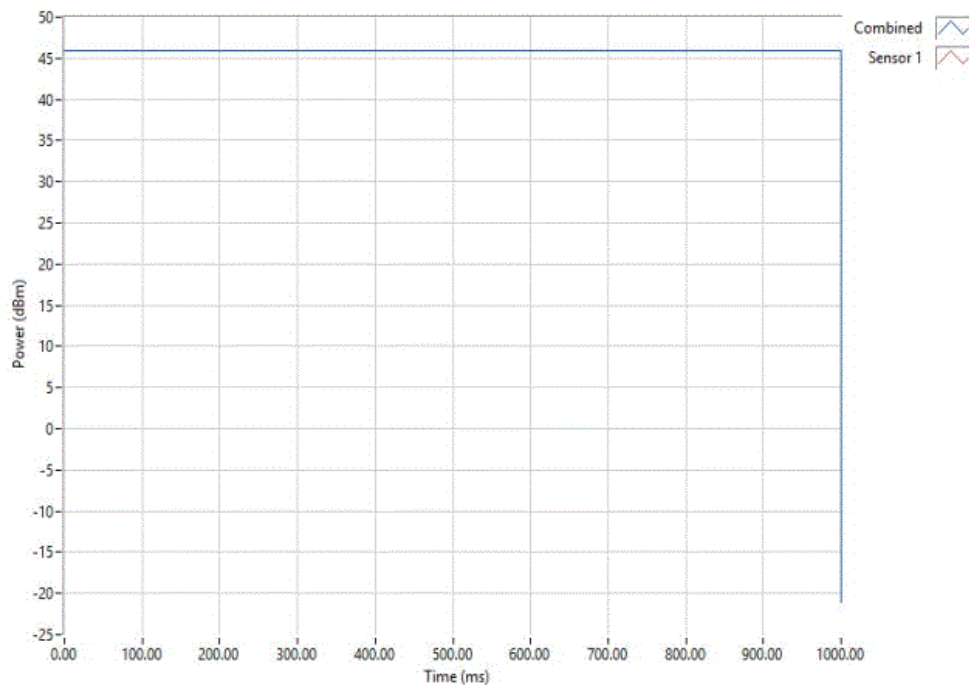


CONDUCTED OUTPUT POWER - LTE BAND 5

Antenna Port 1 MIMO, High Channel LTE5, 891.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.99	100	0	46	500	Pass

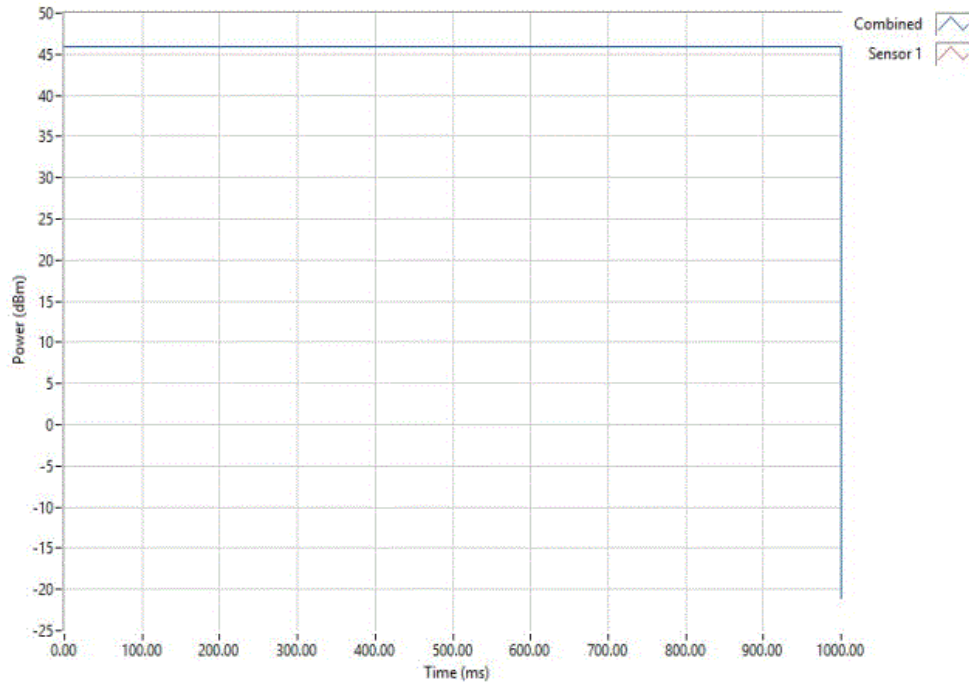


Antenna Port 1 MIMO, Low Channel LTE10, 874 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.99	100	0	46	500	Pass

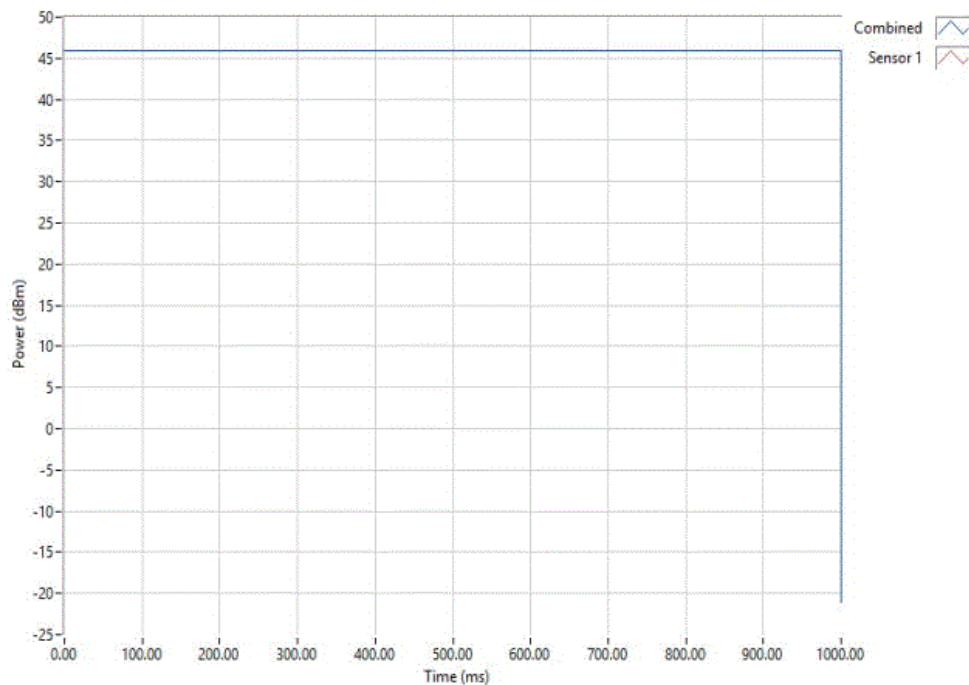


CONDUCTED OUTPUT POWER - LTE BAND 5

Antenna Port 1 MIMO, Mid Channel LTE10, 881.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.99	100	0	46	500	Pass



Antenna Port 1 MIMO, High Channel LTE10, 889 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.99	100	0	46	500	Pass

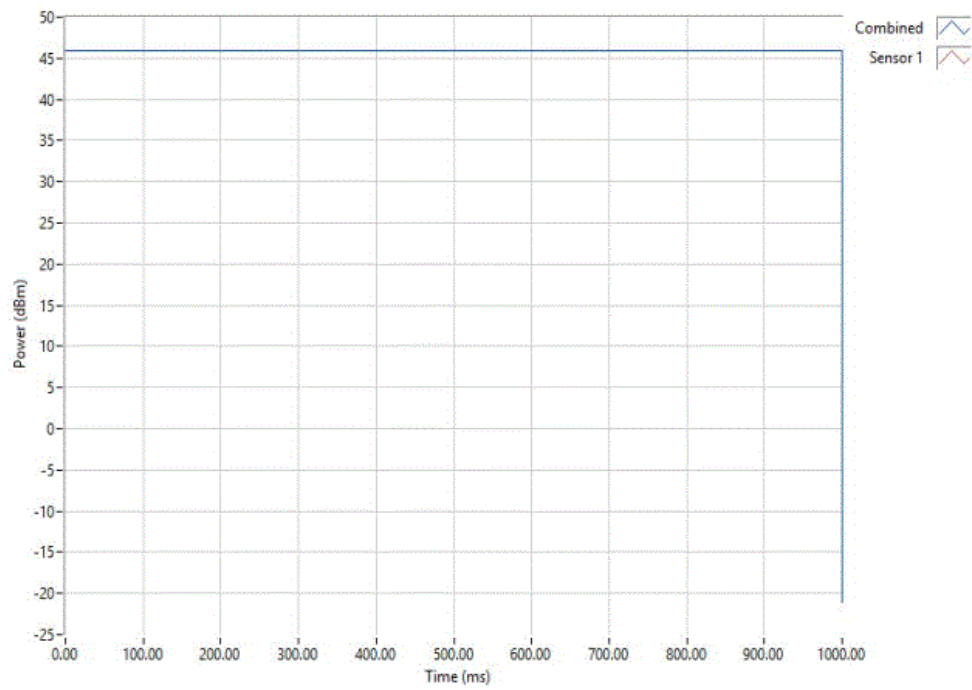


CONDUCTED OUTPUT POWER - LTE BAND 5

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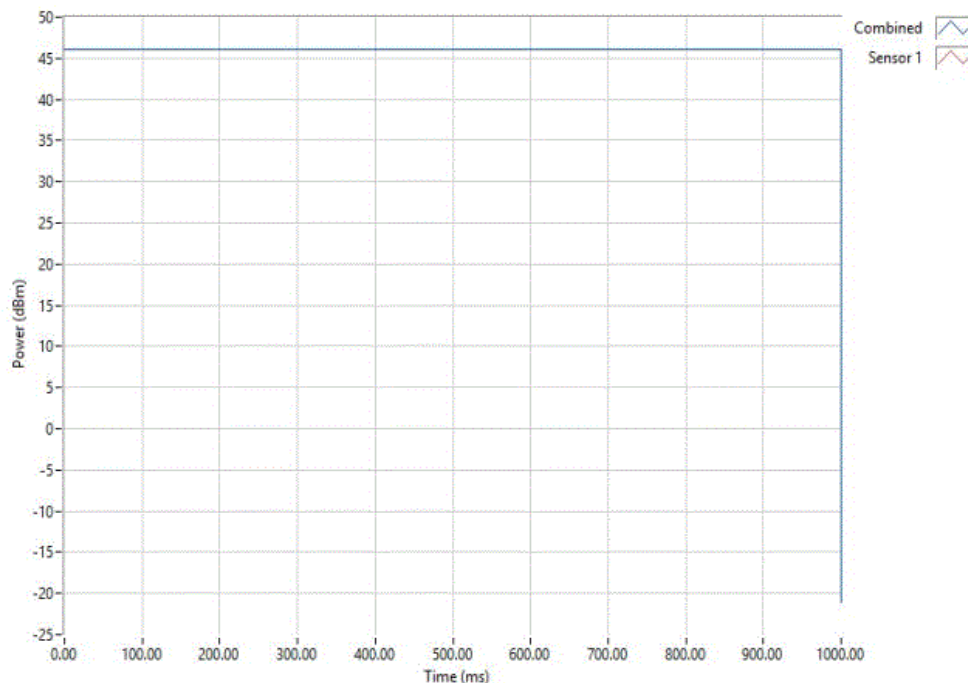
Intentionally Left Blank

Antenna Port 2 MIMO, Low Channel LTE5, 871.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.99	100	0	46	500	Pass

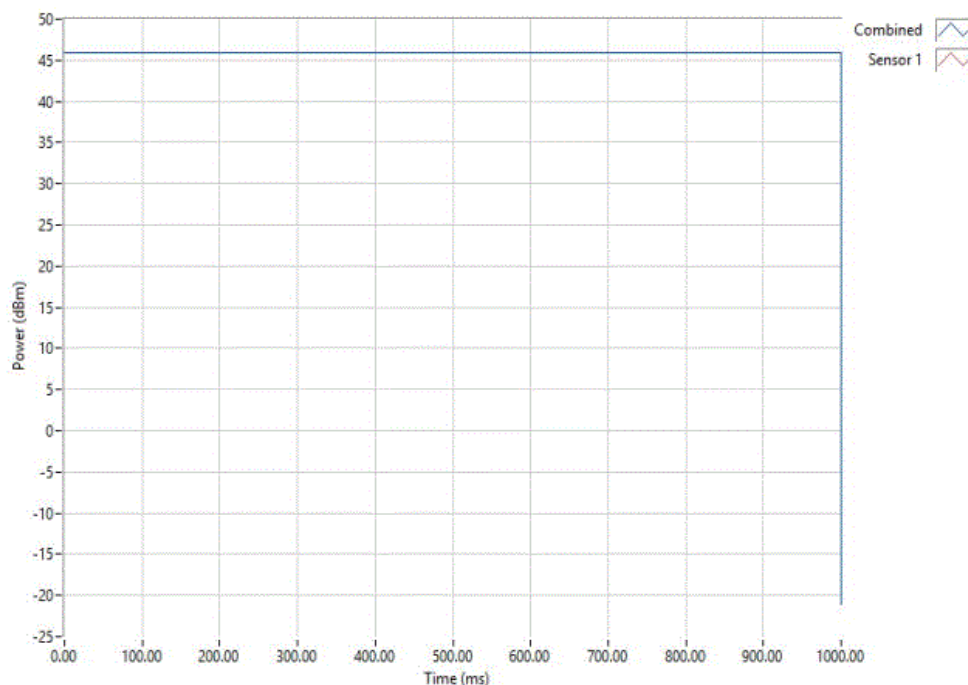


CONDUCTED OUTPUT POWER - LTE BAND 5

Antenna Port 2 MIMO, Mid Channel LTE5, 881.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	46.00	100	0	46	500	Pass

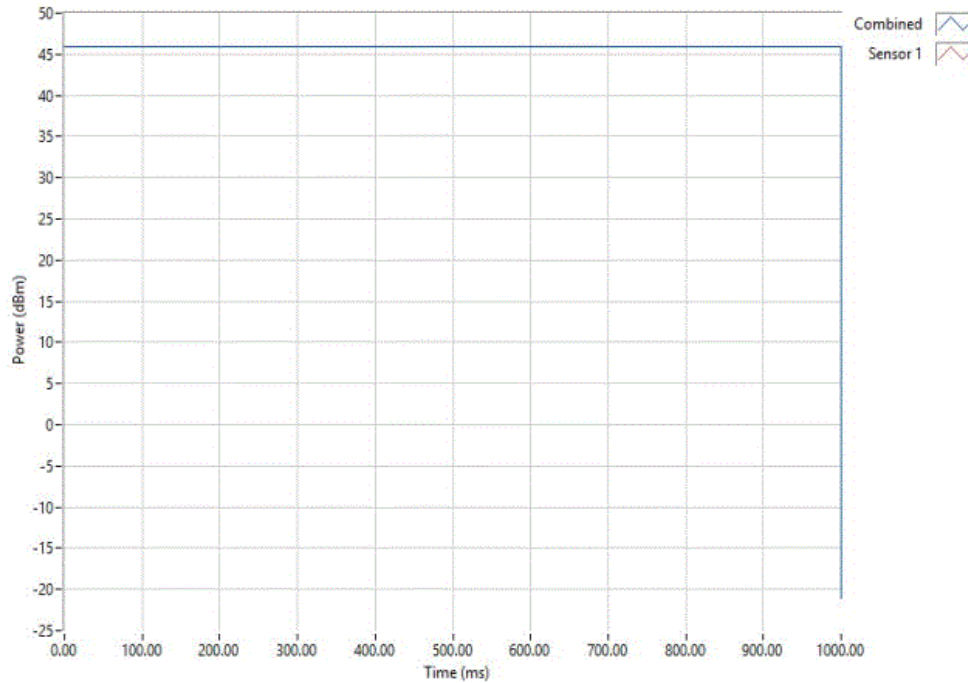


Antenna Port 2 MIMO, High Channel LTE5, 891.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.99	100	0	46	500	Pass

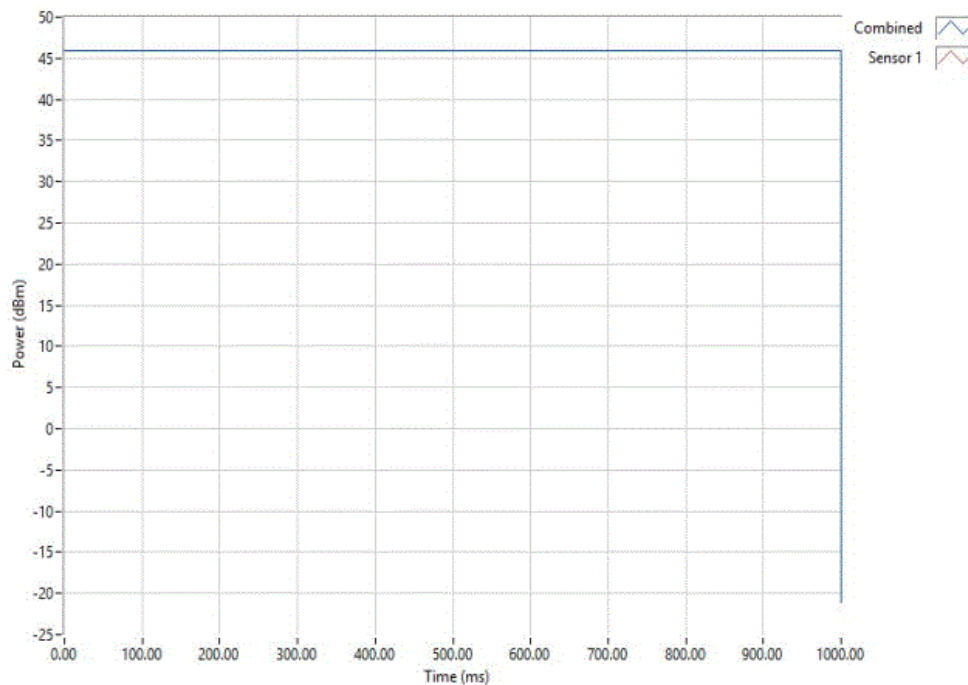


CONDUCTED OUTPUT POWER - LTE BAND 5

Antenna Port 2 MIMO, Low Channel LTE10, 874 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.99	100	0	46	500	Pass

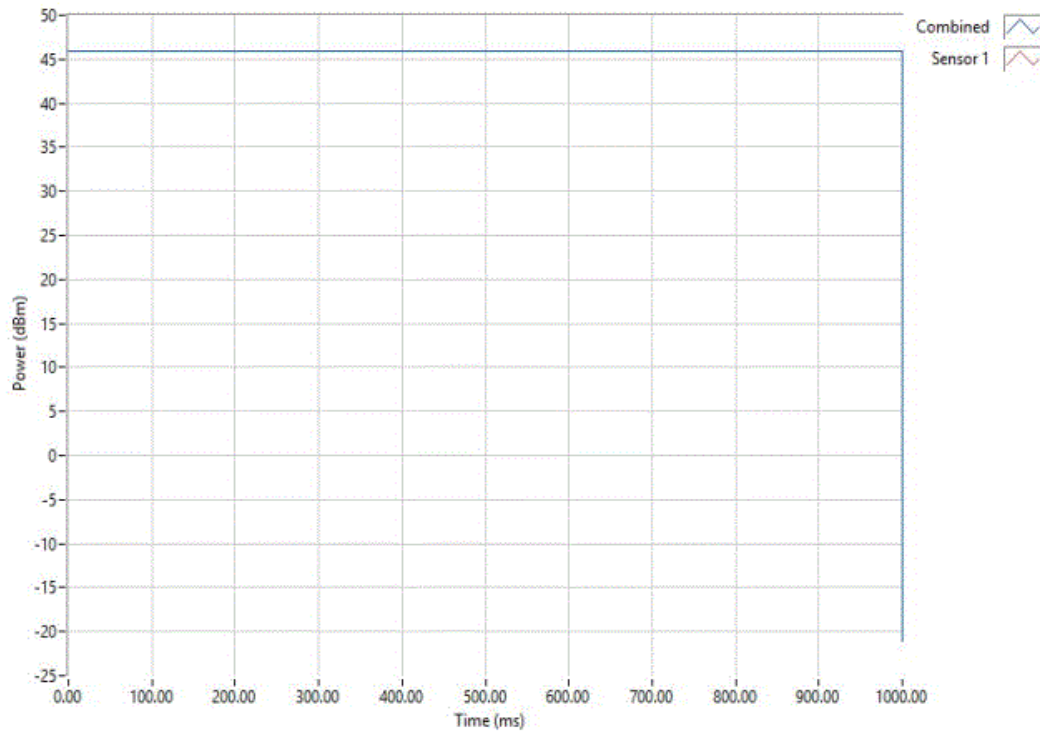


Antenna Port 2 MIMO, Mid Channel LTE10, 881.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.98	100	0	46	500	Pass



CONDUCTED OUTPUT POWER - LTE BAND 5

Antenna Port 2 MIMO, High Channel LTE10, 889 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.98	100	0	46	500	Pass



CONDUCTED OUTPUT POWER - WCDMA

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.	Cal. Due
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Meter - Power	ETS Lindgren	7002-006	SRB	12/14/2015	12/14/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The RF output power was measured with the EUT set to the modes called out in the datasheet. The power measurement was made using a direct connection between the RF output of the EUT and an RF Power Sensor which only measures across the high time of the burst of the carrier.

The observed duty cycle was noted but not needed to calculate the ERP.


ERP = Max Measured Power + Antenna gain (dBi)

The measurements from Port 1 and Port 2 were summed to determine the total average power in ERP.

CONDUCTED OUTPUT POWER

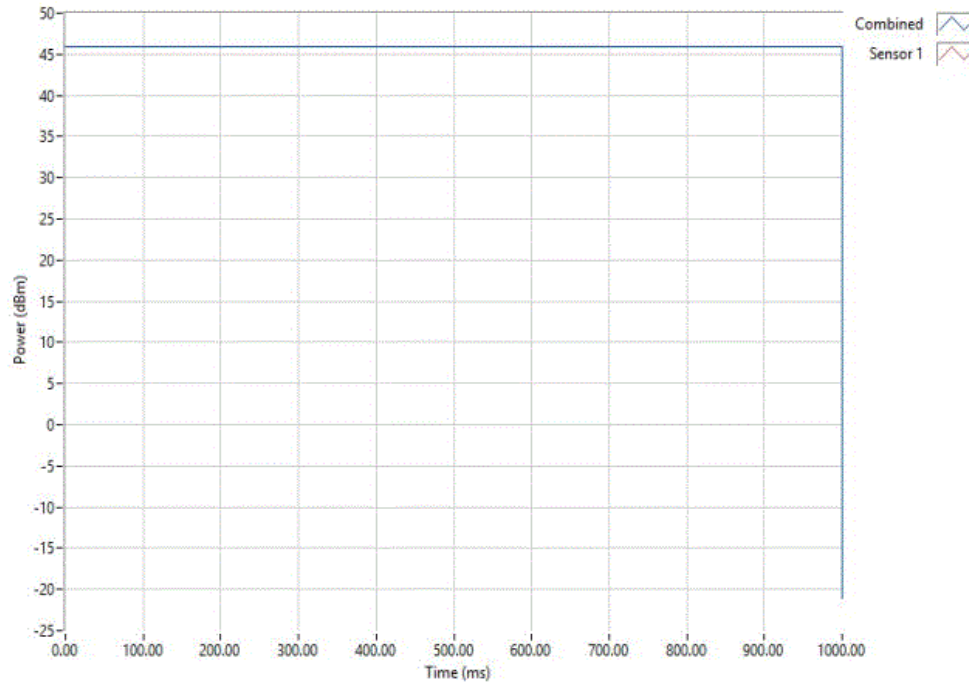


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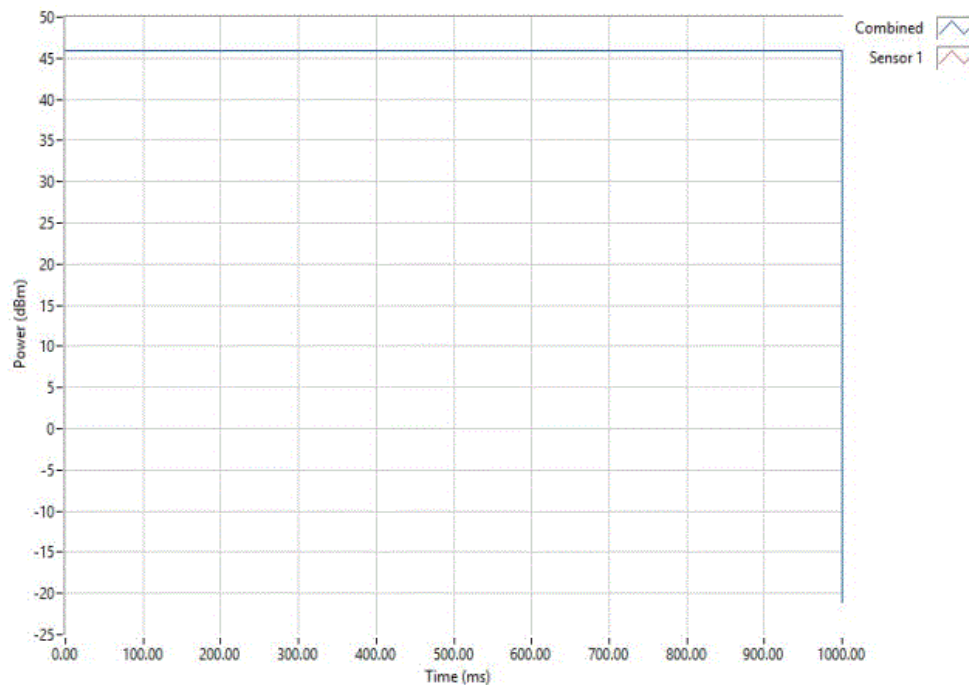
EUT: CWS-3050-05		Work Order: KMWC0071	
Serial Number: K162600004		Date: 09/26/16	
Customer: KMW Communications		Temperature: 22.3 °C	
Attendees: Edward Lee		Humidity: 38.4% RH	
Project: None		Barometric Pres.: 1016 mbar	
Tested by: Johnny Candelas		Power: 48VDC	
Job Site: OC13			
TEST SPECIFICATIONS		Test Method	
FCC 22H:2016		ANSI/TIA/EIA-603-D-2010	
COMMENTS			
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 55.0dB total.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature 	
		Avg Cond Pwr (dBm)	Duty Cycle (%)
		Antenna Gain (dBi)	EIRP (dBm)
		Limit (Watts)	Results
Antenna Port 1			
	Low Channel WCDMA, 871.4 MHz	45.97	100
	Mid Channel WCDMA, 881.4 MHz	45.98	100
	High Channel WCDMA, 891.6 MHz	45.99	100
Antenna Port 2			
	Low Channel WCDMA, 871.4 MHz	46	100
	Mid Channel WCDMA, 881.4 MHz	46	100
	High Channel WCDMA, 891.6 MHz	45.97	100
Antenna Port 1 MIMO			
	Low Channel WCDMA, 871.4 MHz	46	100
	Mid Channel WCDMA, 881.4 MHz	45.98	100
	High Channel WCDMA, 891.6 MHz	45.98	100
Antenna Port 2 MIMO			
	Low Channel WCDMA, 871.4 MHz	45.98	100
	Mid Channel WCDMA, 881.4 MHz	45.96	100
	High Channel WCDMA, 891.6 MHz	45.99	100
Linear Sum of the Power			
		Port 1 (mW)	Port 2 (mW)
		Sum (mW)	Sum (dBm)
	Low Channel WCDMA, 871.4 MHz	39810.7	39627.8
	Mid Channel WCDMA, 881.4 MHz	39627.8	39445.7
	High Channel WCDMA, 891.6 MHz	39627.8	39719.2

CONDUCTED OUTPUT POWER - WCDMA

Antenna Port 1, Low Channel WCDMA, 871.4 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.97	100	0	46	500	Pass

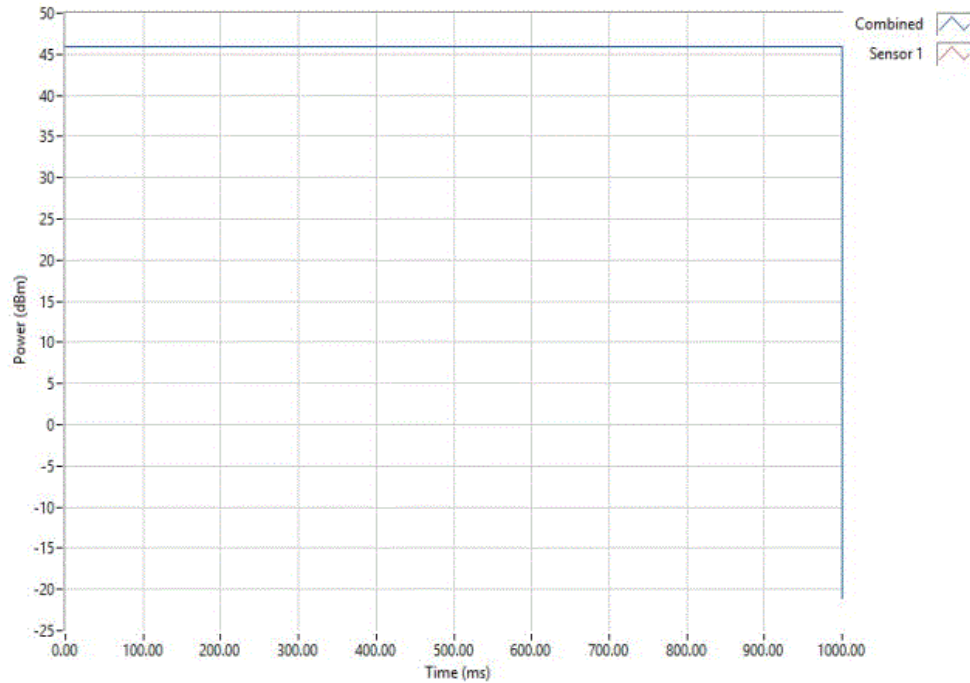


Antenna Port 1, Mid Channel WCDMA, 881.4 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.98	100	0	46	500	Pass

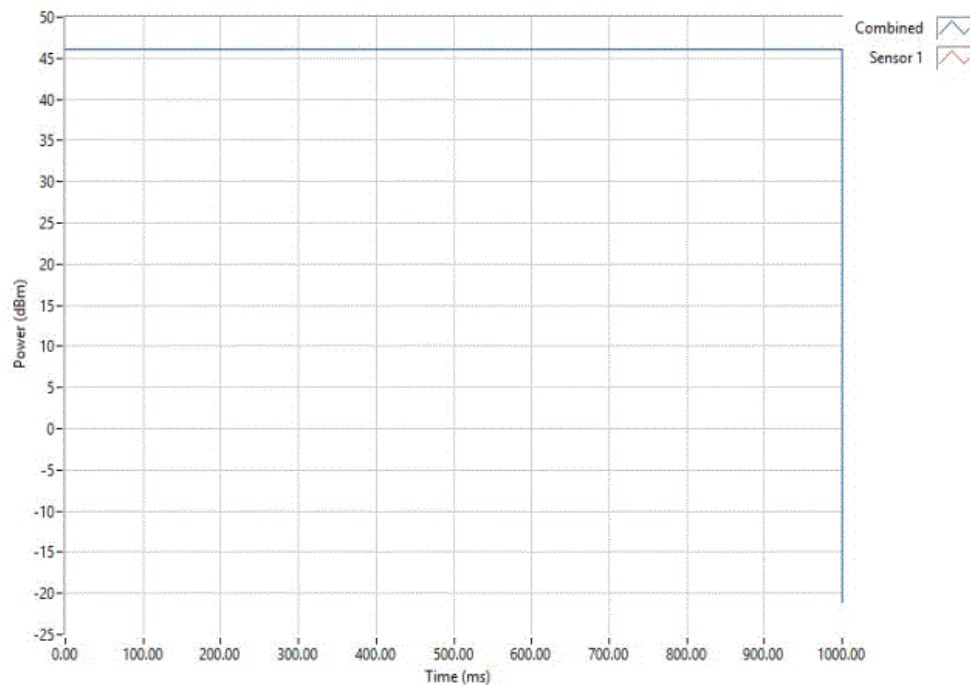


CONDUCTED OUTPUT POWER - WCDMA

Antenna Port 1, High Channel WCDMA, 891.6 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.99	100	0	46	500	Pass

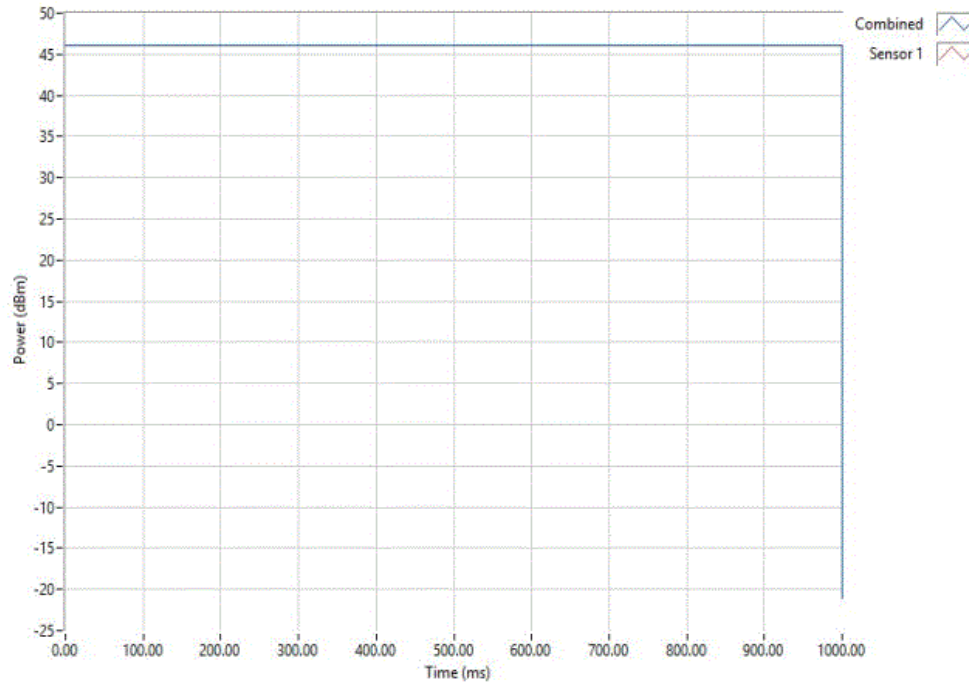


Antenna Port 2, Low Channel WCDMA, 871.4 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	46	100	0	46	500	Pass

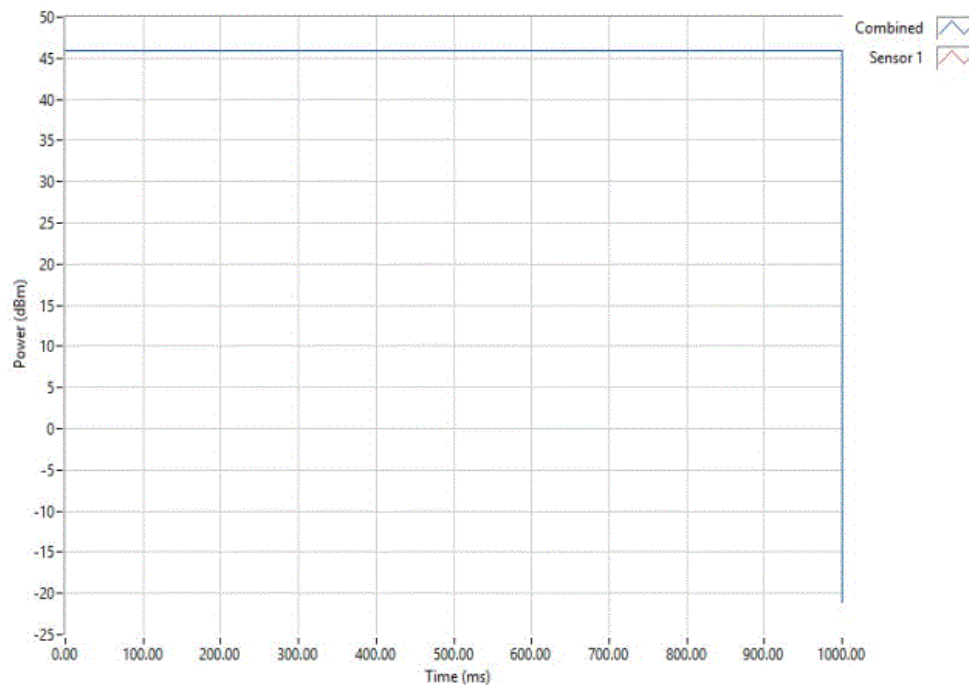


CONDUCTED OUTPUT POWER - WCDMA

Antenna Port 2, Mid Channel WCDMA, 881.4 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	46	100	0	46	500	Pass

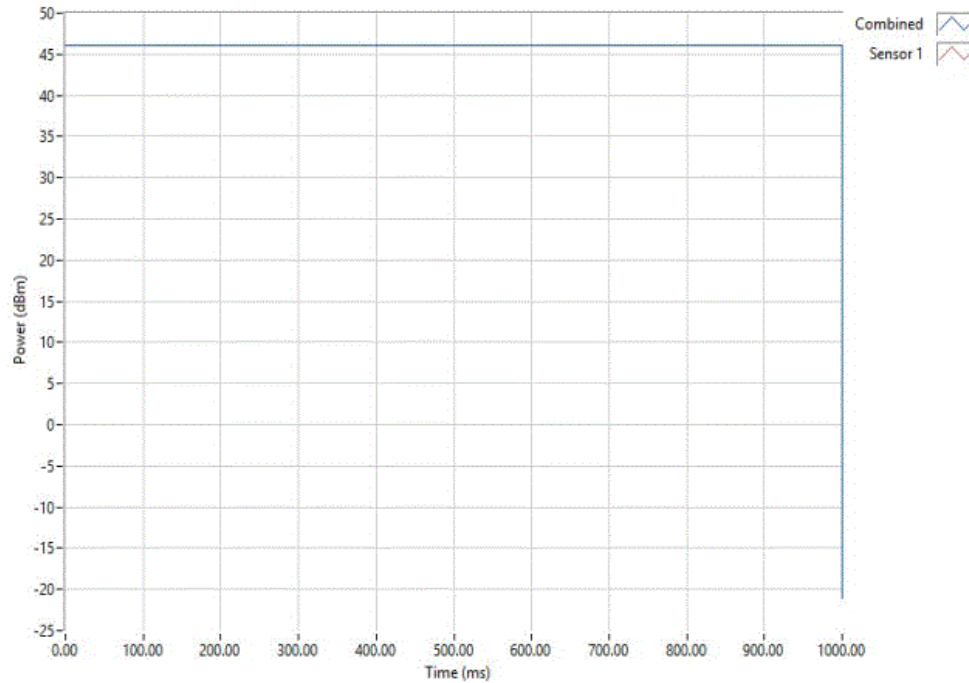


Antenna Port 2, High Channel WCDMA, 891.6 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.97	100	0	46	500	Pass

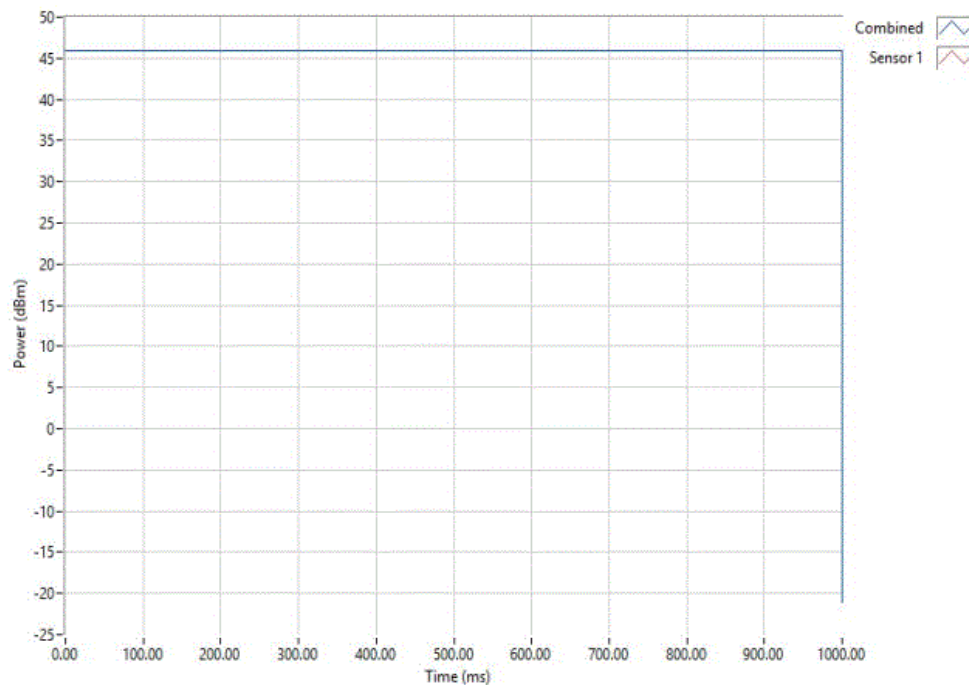


CONDUCTED OUTPUT POWER - WCDMA

Antenna Port 1 MIMO, Low Channel WCDMA, 871.4 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	46	100	0	46	500	Pass

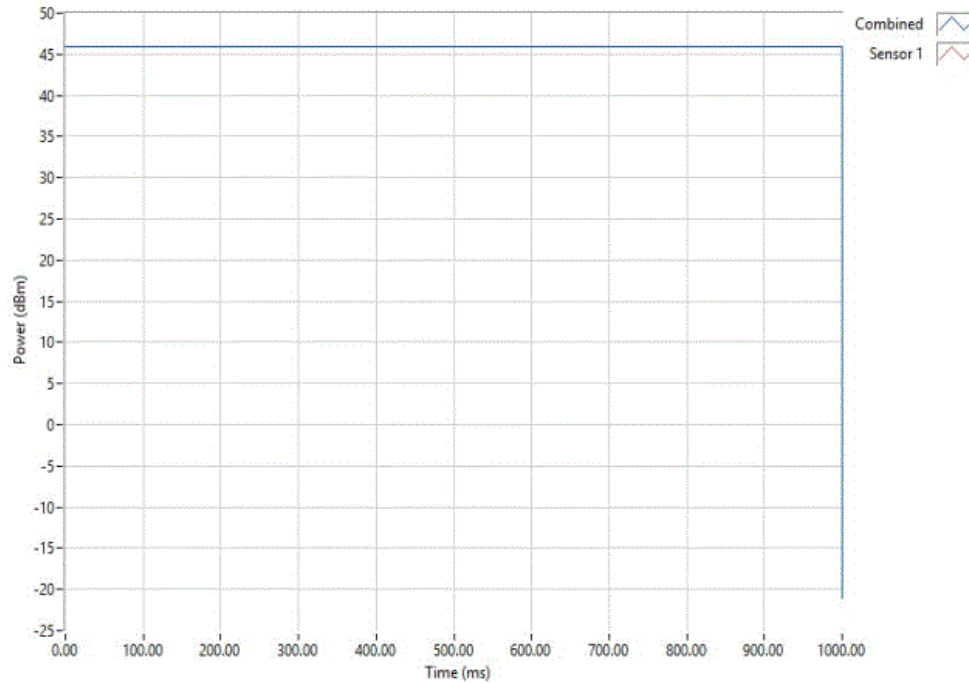


Antenna Port 1 MIMO, Mid Channel WCDMA, 881.4 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.98	100	0	46	500	Pass

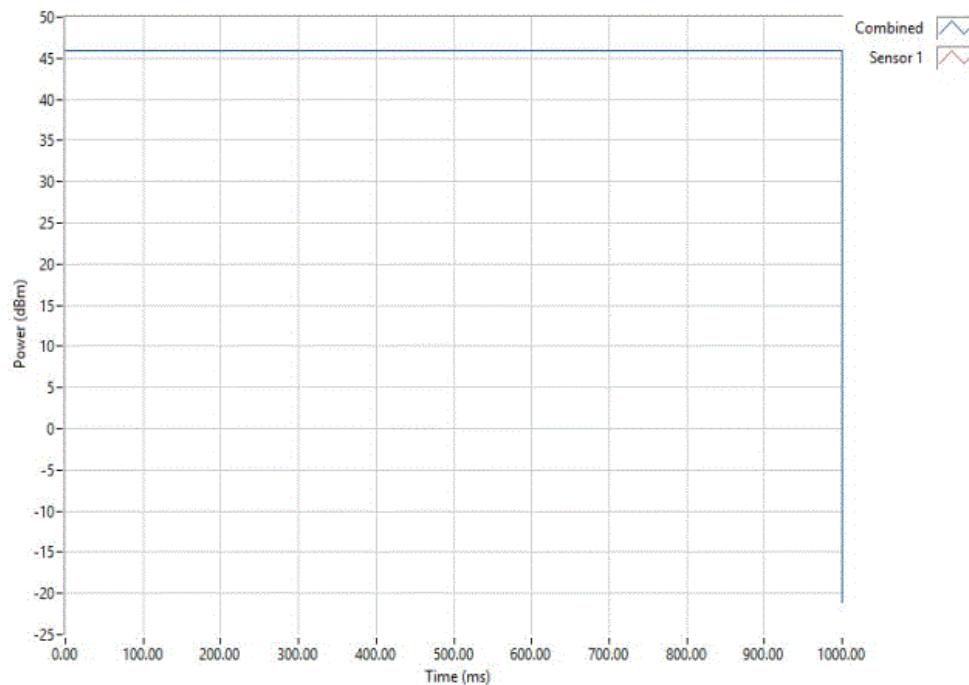


CONDUCTED OUTPUT POWER - WCDMA

Antenna Port 1 MIMO, High Channel WCDMA, 891.6 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.98	100	0	46	500	Pass

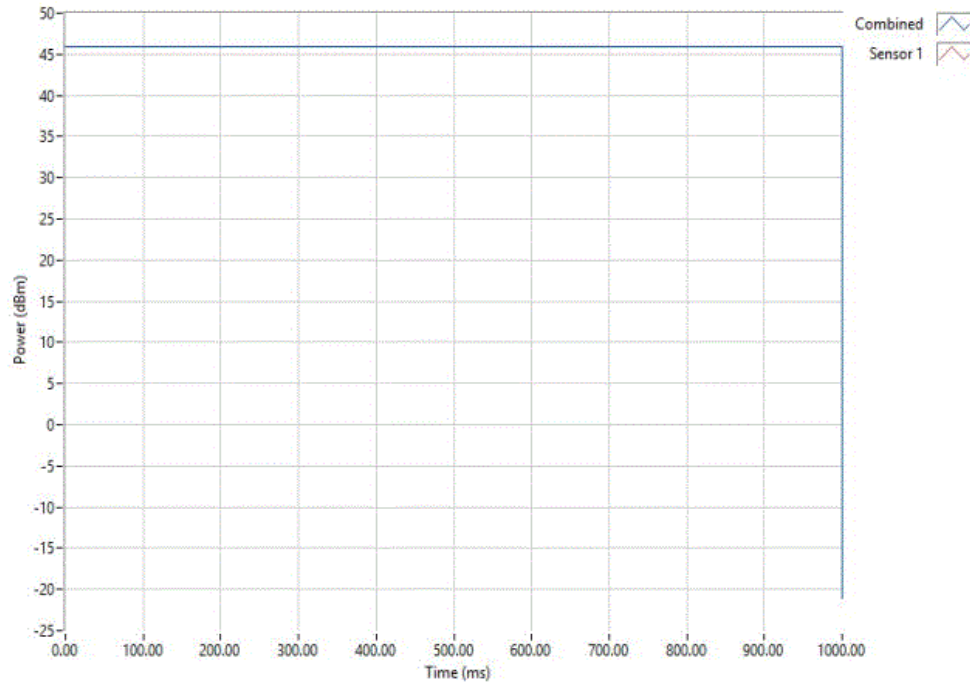


Antenna Port 2 MIMO, Low Channel WCDMA, 871.4 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.98	100	0	46	500	Pass

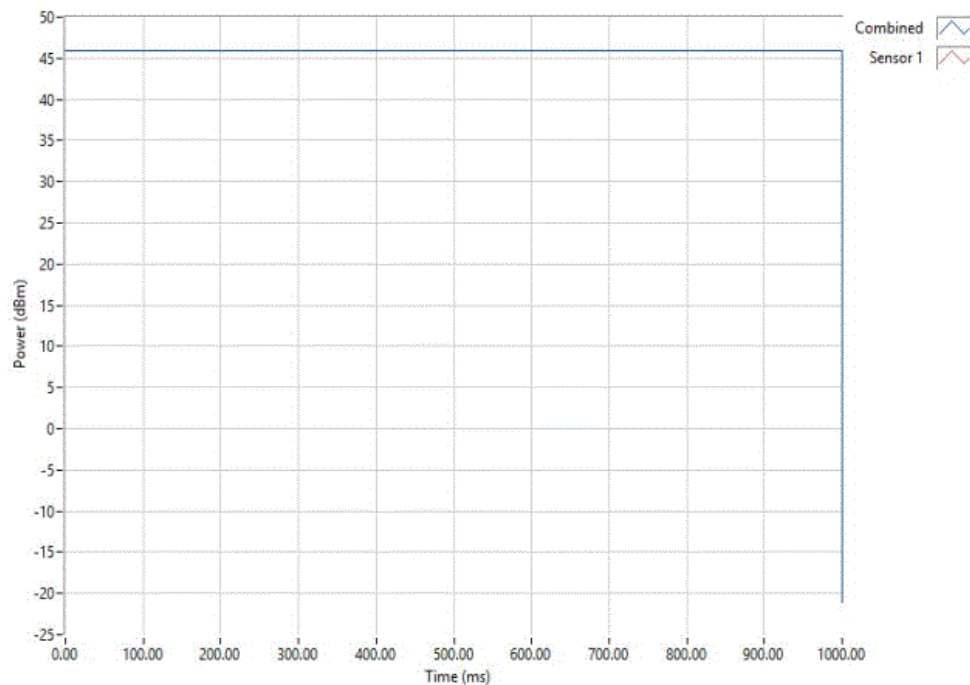


CONDUCTED OUTPUT POWER - WCDMA

Antenna Port 2 MIMO, Mid Channel WCDMA, 881.4 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.96	100	0	46	500	Pass



Antenna Port 2 MIMO, High Channel WCDMA, 891.6 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (Watts)	Results
	45.99	100	0	46	500	Pass



PEAK TO AVERAGE RATIO - LTE BAND 5

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.	Cal. Due
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

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 dB.

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 traces was calculated:


➤1st Trace: Peak detector and trace max-hold.

➤2nd Trace: The same procedure and settings as was used for conducted Output Power.

PEAK TO AVERAGE RATIO - LTE BAND 5

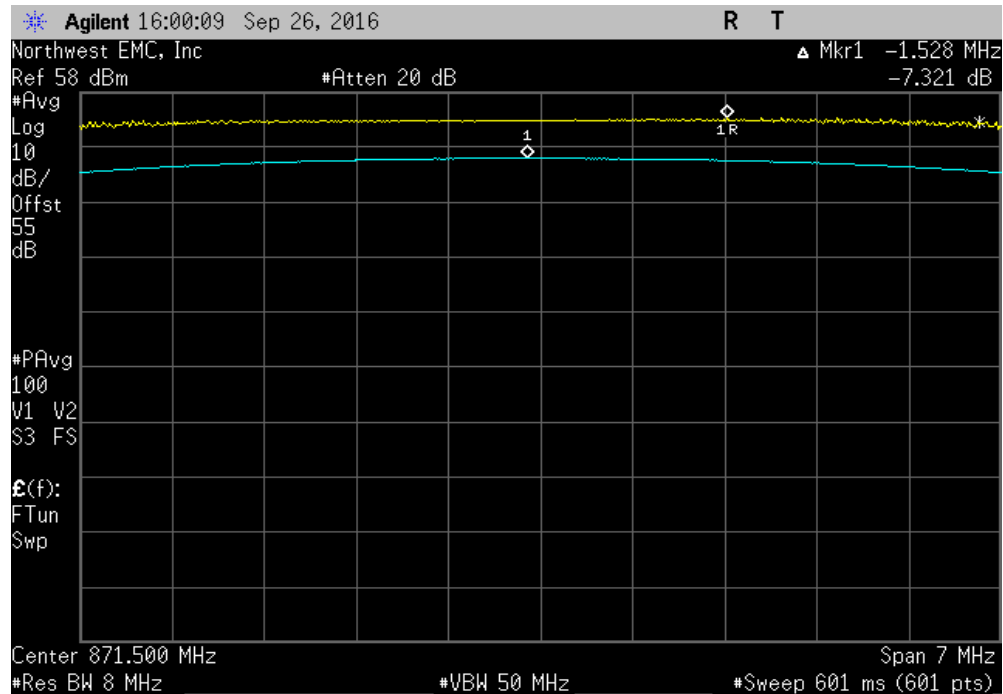


XMR 2016.05.06

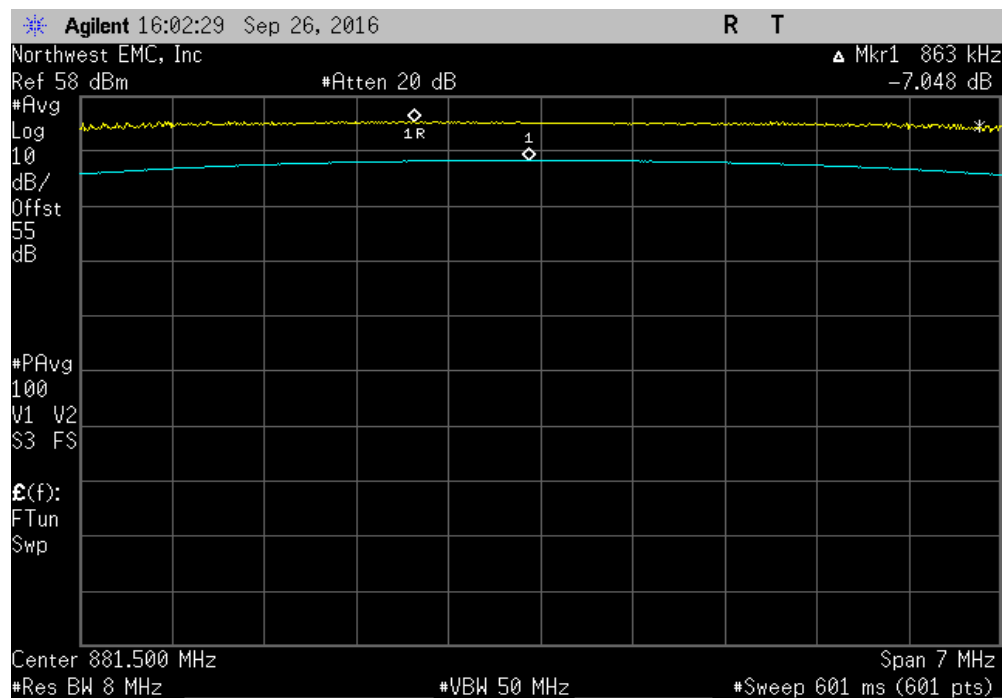
EUT: CWS-3050-05		Work Order: KMWC0071	
Serial Number: K162600004		Date: 09/26/16	
Customer: Parallel Wireless Inc.		Temperature: 22.3 °C	
Attendees: Edward Lee		Humidity: 38.4% RH	
Project: None		Barometric Pres.: 1016 mbar	
Tested by: Johnny Candelas		Power: 48VDC	
		Job Site: OC13	
TEST SPECIFICATIONS		Test Method	
FCC 22H:2016		ANSI/TIA/EIA-603-D-2010	
COMMENTS			
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 55.0dB total.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature 	
		Value (dB)	Limit < (dB)
Antenna Port 1			
	Low Channel LTE5, 871.5 MHz	7.321	13
	Mid Channel LTE5, 881.5 MHz	7.048	13
	High Channel LTE5, 891.5 MHz	7.334	13
	Low Channel LTE10, 874 MHz	9.617	13
	Mid Channel LTE10, 881.5 MHz	9.748	13
	High Channel LTE10, 889 MHz	10.085	13
Antenna Port 2			
	Low Channel LTE5, 871.5 MHz	7.349	13
	Mid Channel LTE5, 881.5 MHz	7.095	13
	High Channel LTE5, 891.5 MHz	7.44	13
	Low Channel LTE10, 874 MHz	9.719	13
	Mid Channel LTE10, 881.5 MHz	10.041	13
	High Channel LTE10, 889 MHz	10.025	13
			Results

PEAK TO AVERAGE RATIO - LTE BAND 5

Antenna Port 1, Low Channel LTE5, 871.5 MHz						
				Value (dB)	Limit < (dB)	Results
				7.321	13	Pass

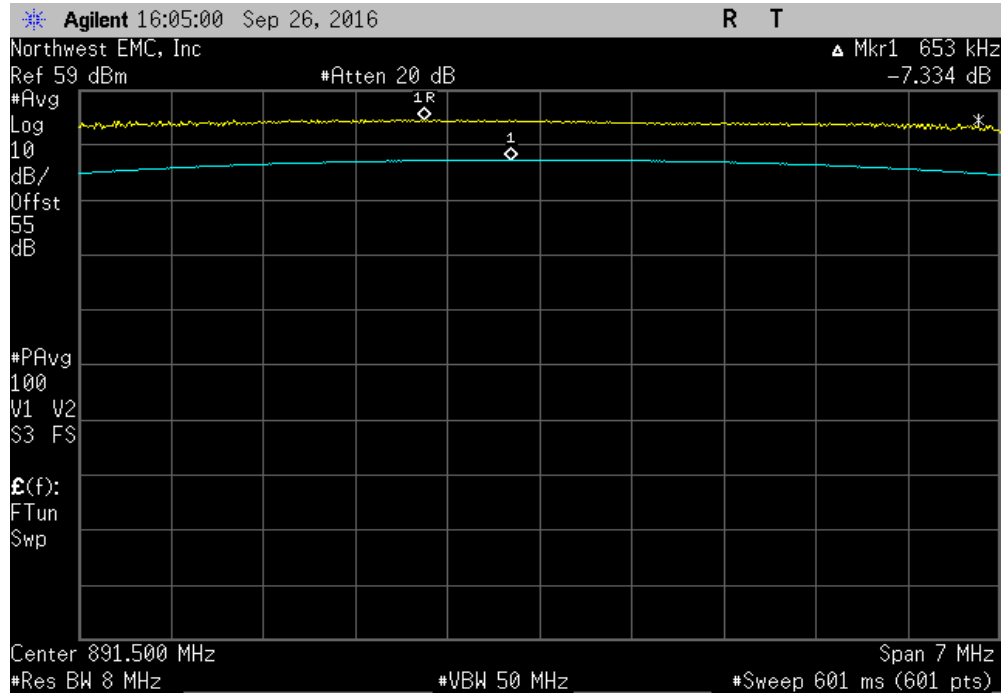


Antenna Port 1, Mid Channel LTE5, 881.5 MHz						
				Value (dB)	Limit < (dB)	Results
				7.048	13	Pass

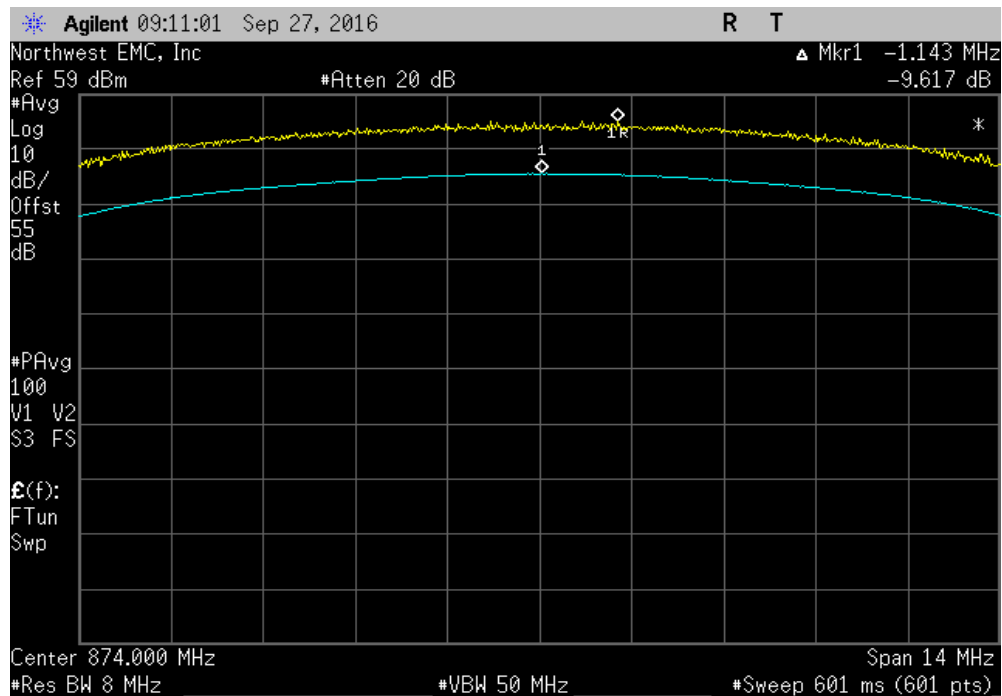


PEAK TO AVERAGE RATIO - LTE BAND 5

Antenna Port 1, High Channel LTE5, 891.5 MHz						
				Value (dB)	Limit < (dB)	Results
				7.334	13	Pass

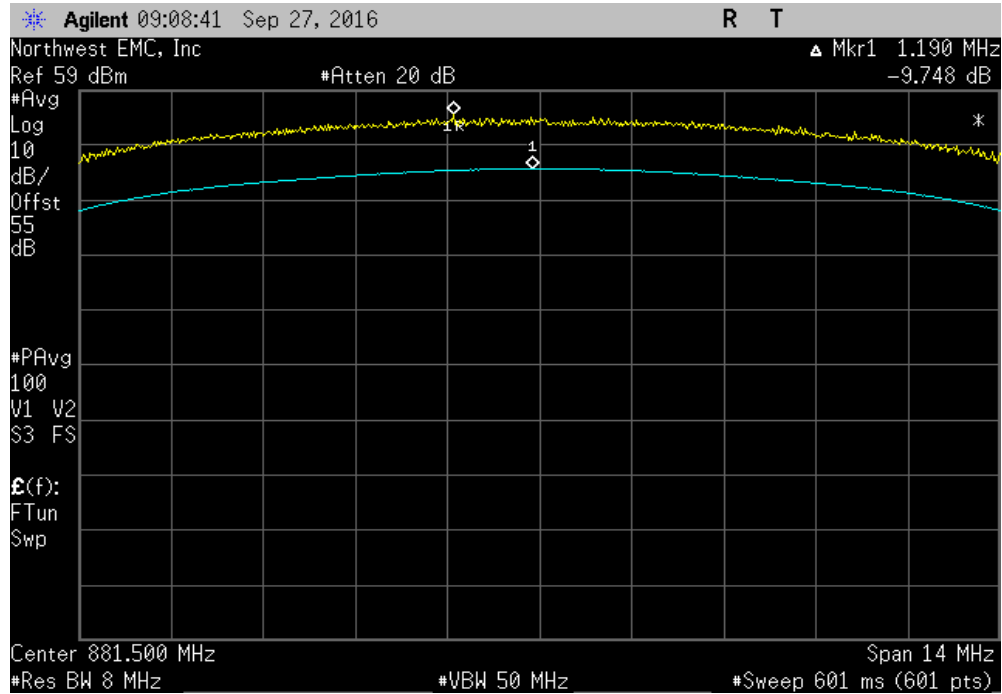


Antenna Port 1, Low Channel LTE10, 874 MHz						
				Value (dB)	Limit < (dB)	Results
				9.617	13	Pass

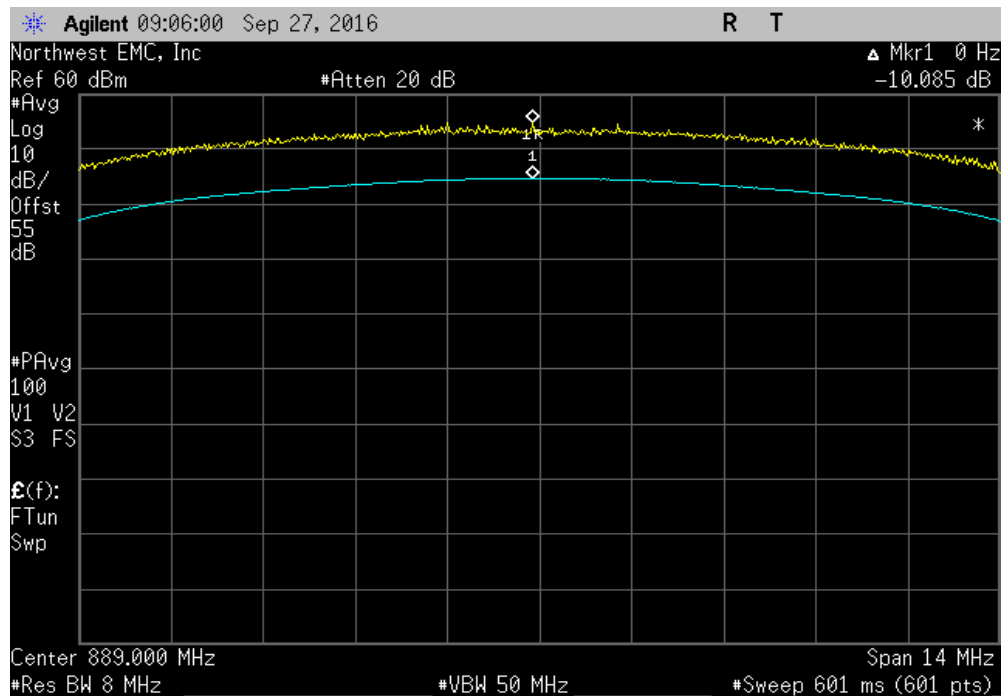


PEAK TO AVERAGE RATIO - LTE BAND 5

Antenna Port 1, Mid Channel LTE10, 881.5 MHz						
				Value (dB)	Limit < (dB)	Results
				9.748	13	Pass



Antenna Port 1, High Channel LTE10, 889 MHz						
				Value (dB)	Limit < (dB)	Results
				10.085	13	Pass

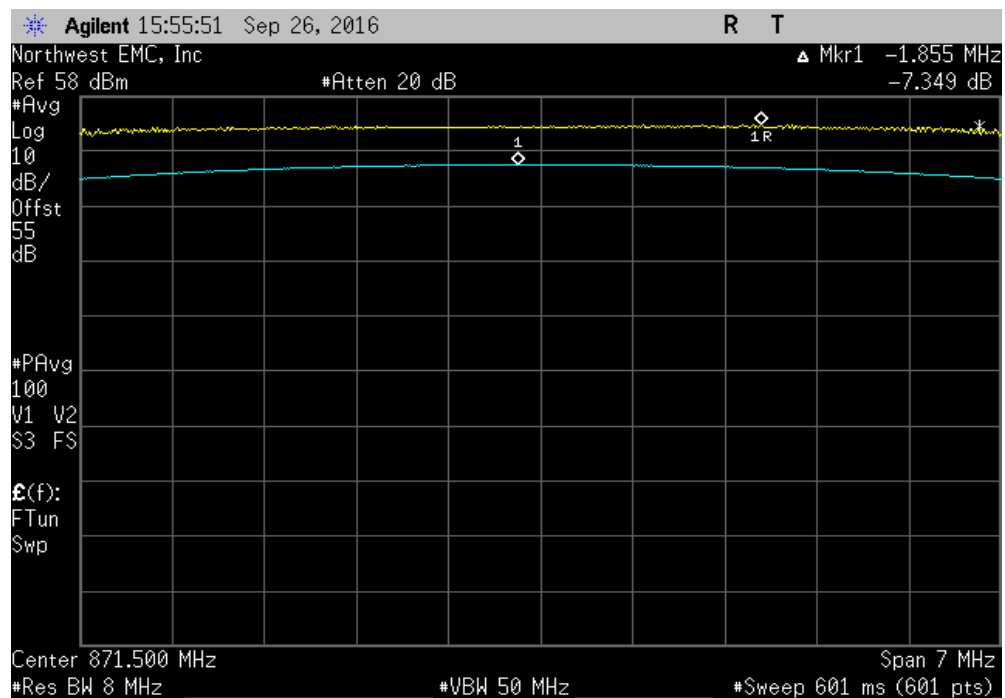


PEAK TO AVERAGE RATIO - LTE BAND 5

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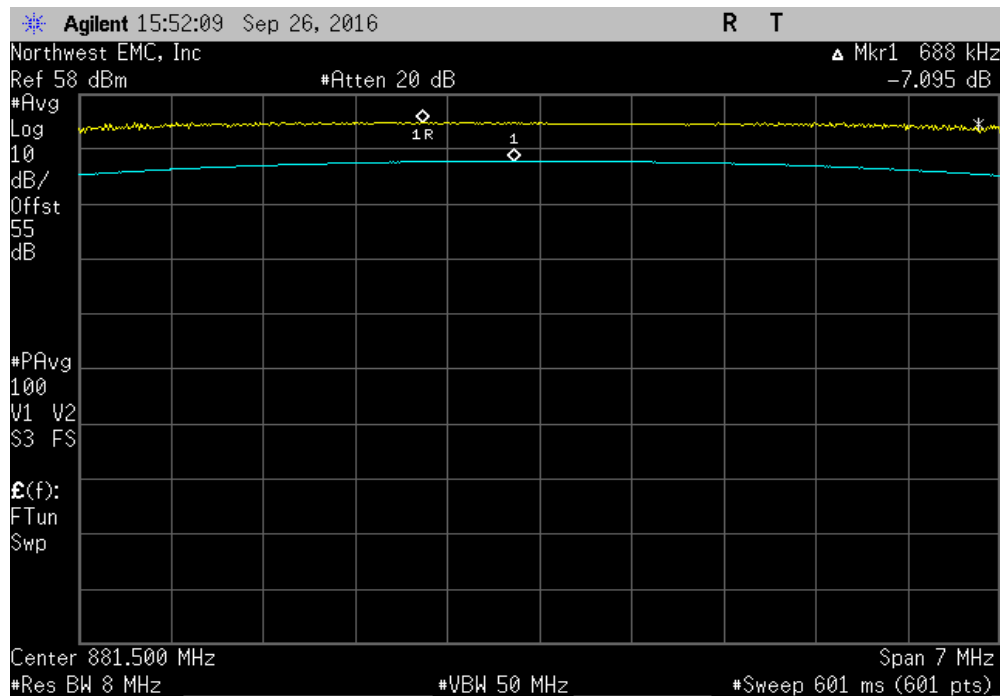
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Antenna Port 2, Low Channel LTE5, 871.5 MHz								
					Value (dB)	Limit < (dB)	Results	
					7.349	13	Pass	

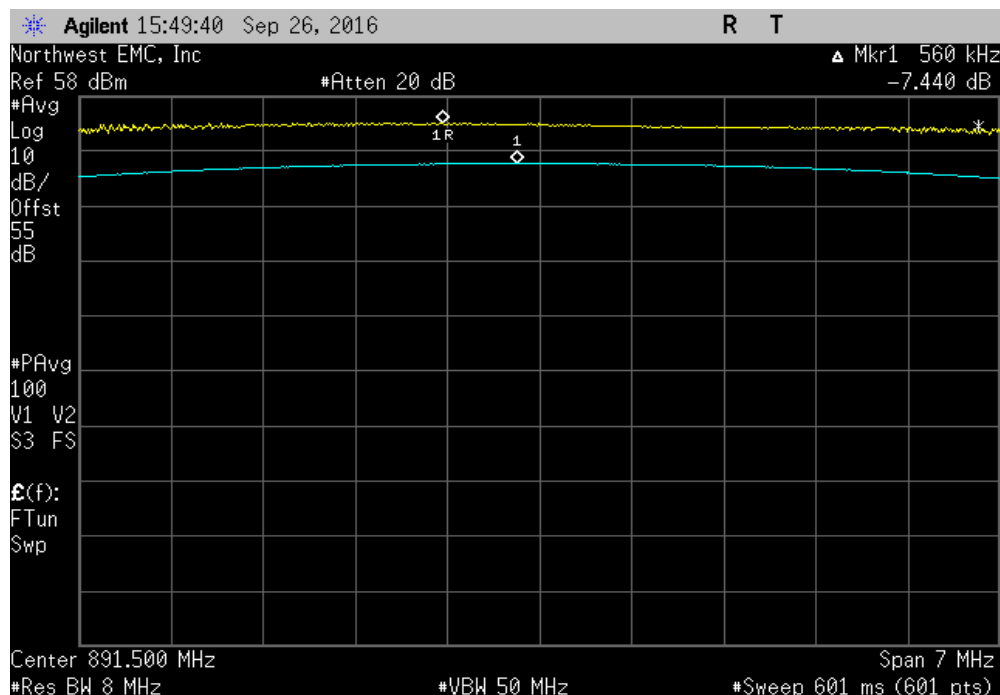


PEAK TO AVERAGE RATIO - LTE BAND 5

Antenna Port 2, Mid Channel LTE5, 881.5 MHz						
				Value (dB)	Limit < (dB)	Results
				7.095	13	Pass

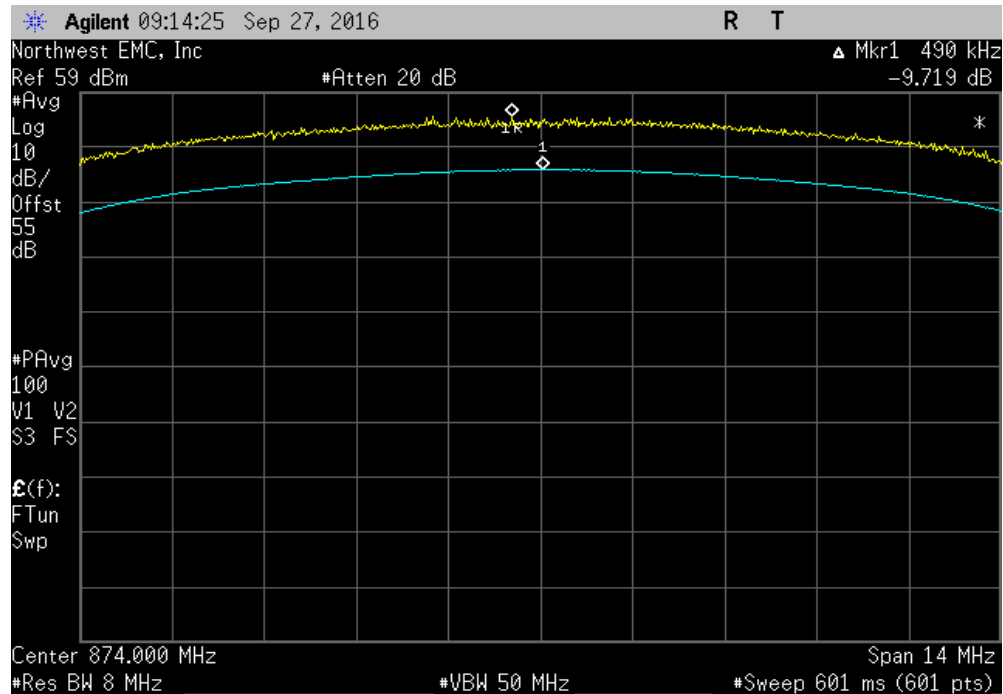


Antenna Port 2, High Channel LTE5, 891.5 MHz						
				Value (dB)	Limit < (dB)	Results
				7.44	13	Pass

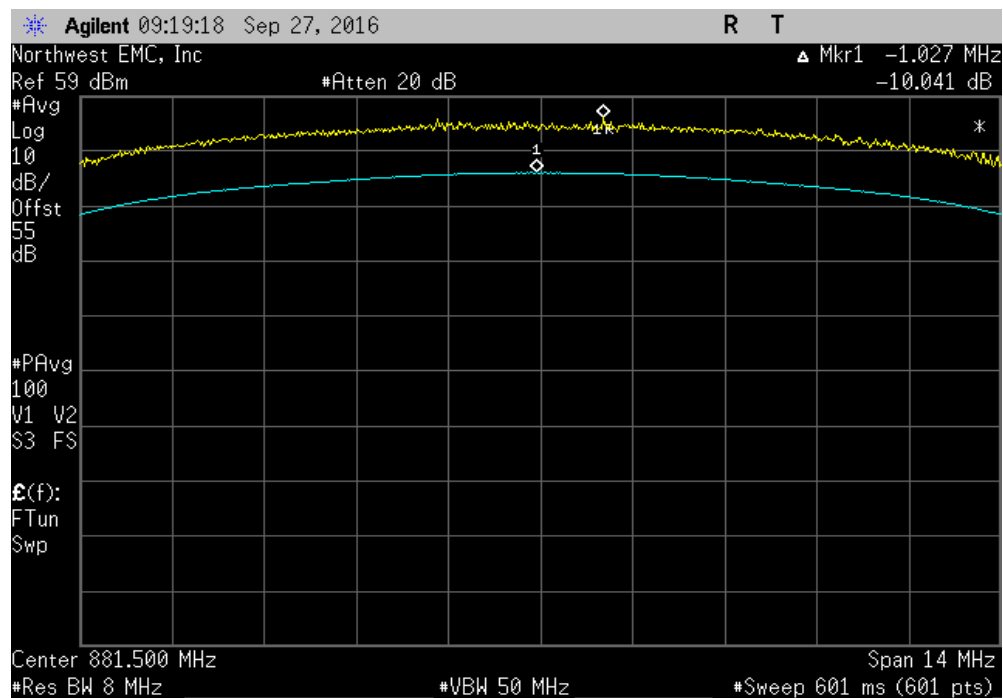


PEAK TO AVERAGE RATIO - LTE BAND 5

Antenna Port 2, Low Channel LTE10, 874 MHz						
				Value (dB)	Limit < (dB)	Results
				9.719	13	Pass

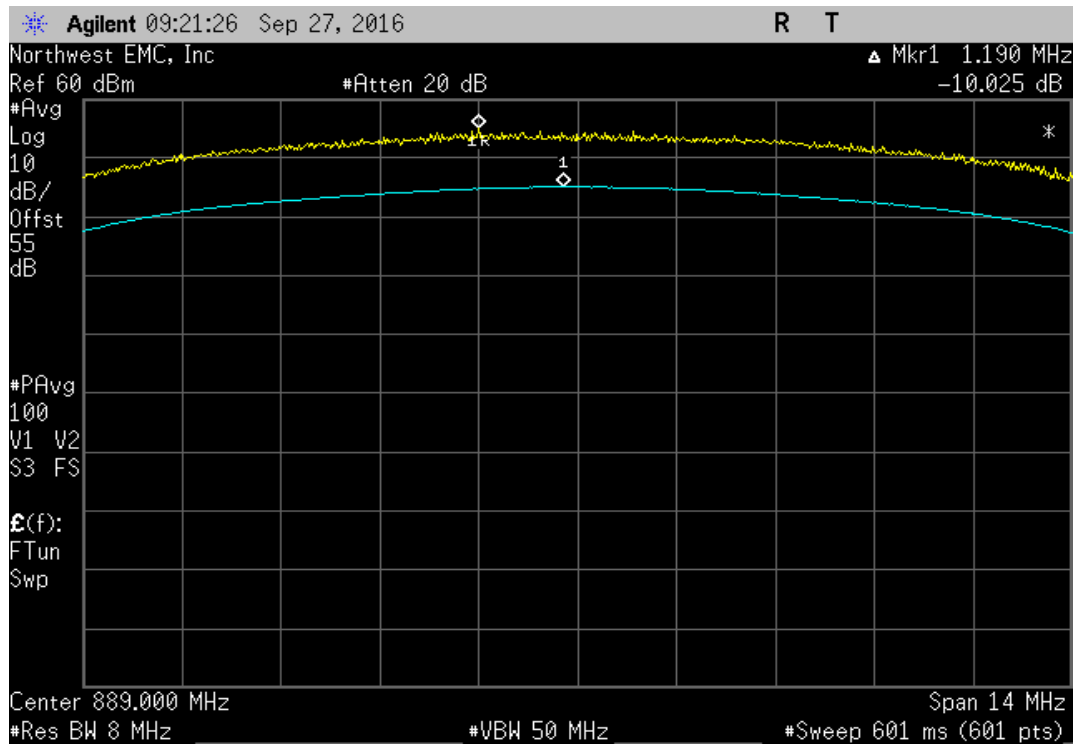


Antenna Port 2, Mid Channel LTE10, 881.5 MHz						
				Value (dB)	Limit < (dB)	Results
				10.041	13	Pass



PEAK TO AVERAGE RATIO - LTE BAND 5

Antenna Port 2, High Channel LTE10, 889 MHz							
					Value (dB)	Limit < (dB)	Results
					10.025	13	Pass



PEAK TO AVERAGE RATIO - WCDMA

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.	Cal. Due
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

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 dB.

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 traces was calculated:


➤1st Trace: Peak detector and trace max-hold.

➤2nd Trace: The same procedure and settings as was used for conducted Output Power.

PEAK TO AVERAGE RATIO - WCDMA

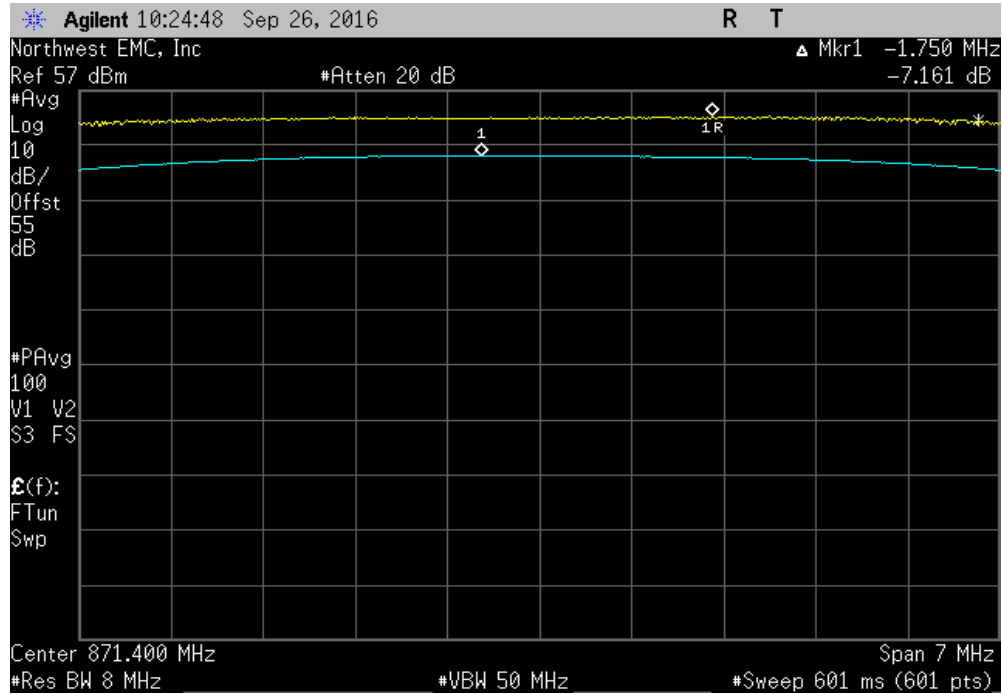


XMR 2016.05.06

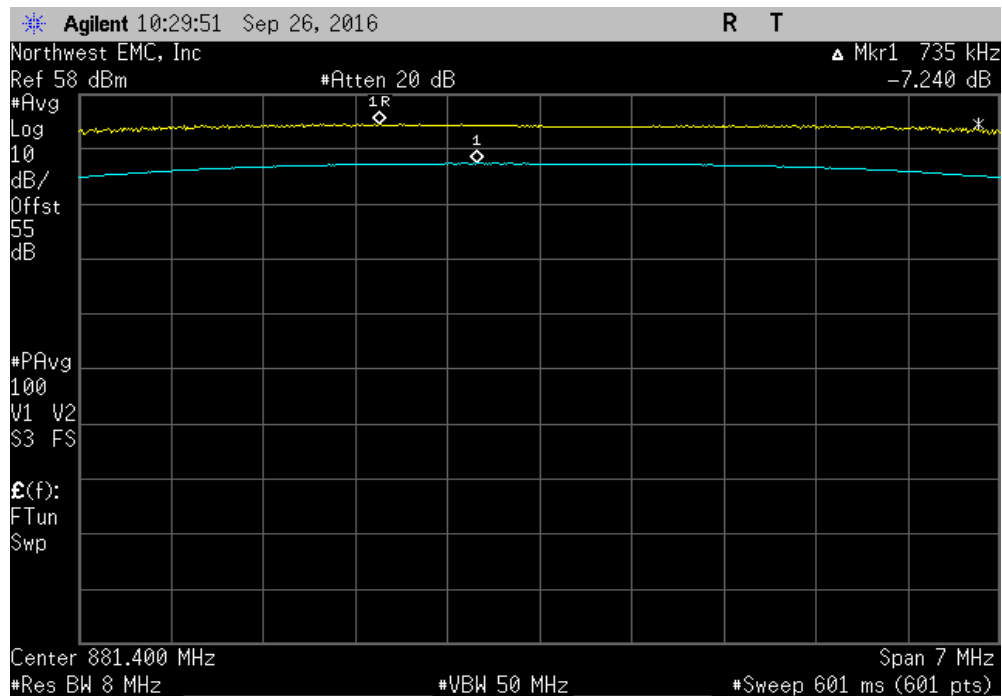
EUT: CWS-3050-05		Work Order: KMWC0071	
Serial Number: K162600004		Date: 09/26/16	
Customer: Parallel Wireless Inc.		Temperature: 22.3 °C	
Attendees: Edward Lee		Humidity: 38.4% RH	
Project: None		Barometric Pres.: 1016 mbar	
Tested by: Johnny Candelas		Power: 48VDC	
		Job Site: OC13	
TEST SPECIFICATIONS			
FCC 22H:2016		Test Method	
		ANSI/TIA/EIA-603-D-2010	
COMMENTS			
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 55.0dB total.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature 	
		Value (dB)	Limit < (dB)
Antenna Port 1			Results
Low Channel WCDMA, 871.4 MHz		7.161	13 Pass
Mid Channel WCDMA, 881.4 MHz		7.24	13 Pass
High Channel WCDMA, 891.6 MHz		7.484	13 Pass
Antenna Port 2			Results
Low Channel WCDMA, 871.4 MHz		7.177	13 Pass
Mid Channel WCDMA, 881.4 MHz		7.265	13 Pass
High Channel WCDMA, 891.6 MHz		7.5	13 Pass

PEAK TO AVERAGE RATIO - WCDMA

Antenna Port 1, Low Channel WCDMA, 871.4 MHz						
				Value (dB)	Limit < (dB)	Results
				7.161	13	Pass

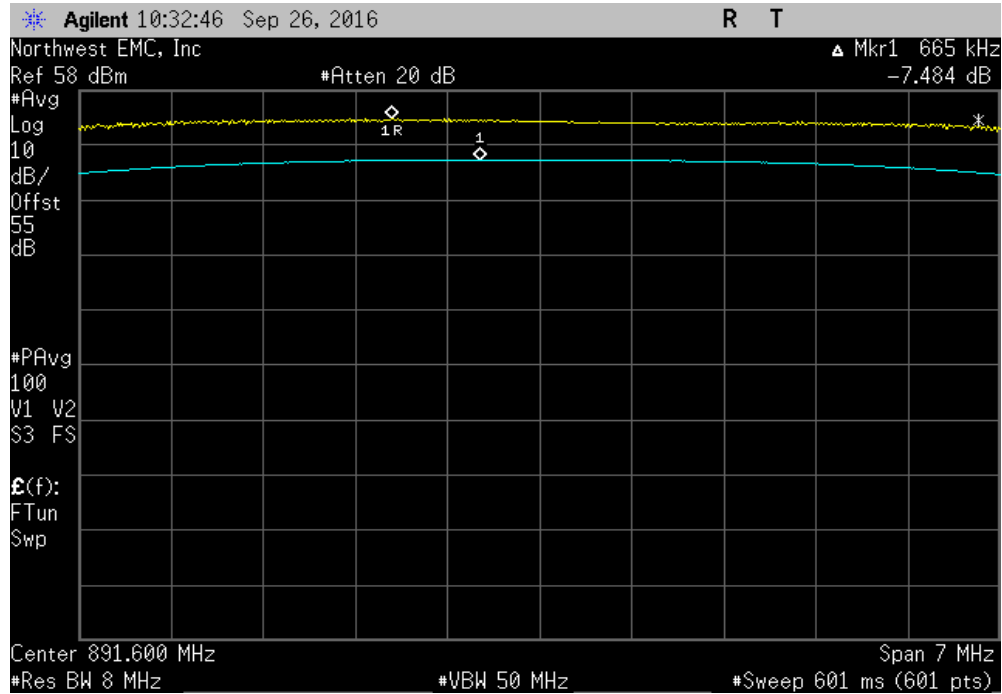


Antenna Port 1, Mid Channel WCDMA, 881.4 MHz						
				Value (dB)	Limit < (dB)	Results
				7.24	13	Pass

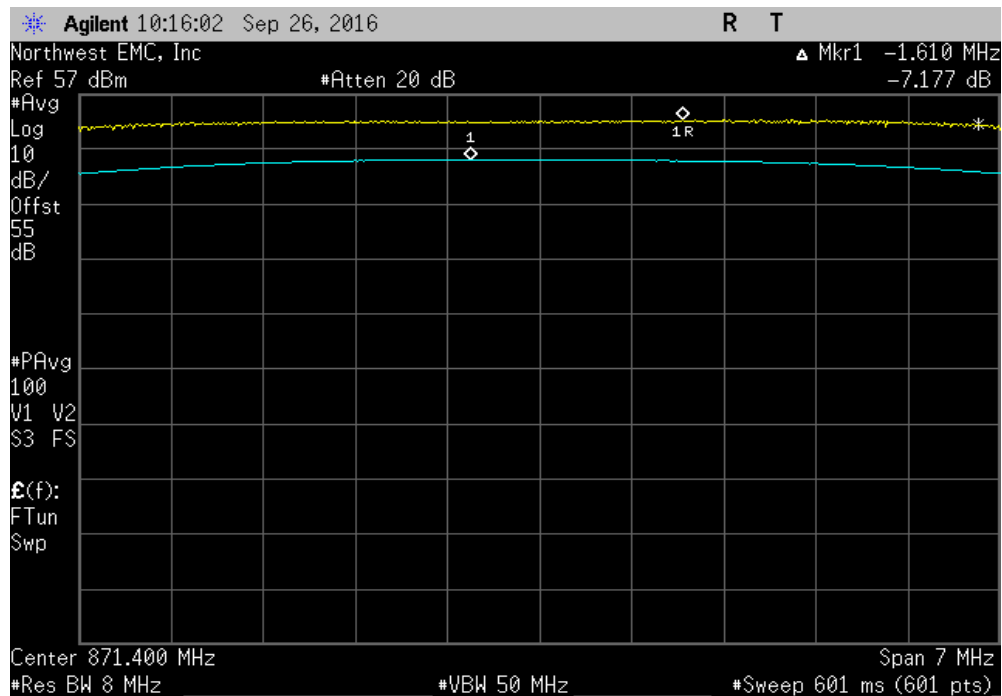


PEAK TO AVERAGE RATIO - WCDMA

Antenna Port 1, High Channel WCDMA, 891.6 MHz						
				Value (dB)	Limit < (dB)	Results
				7.484	13	Pass

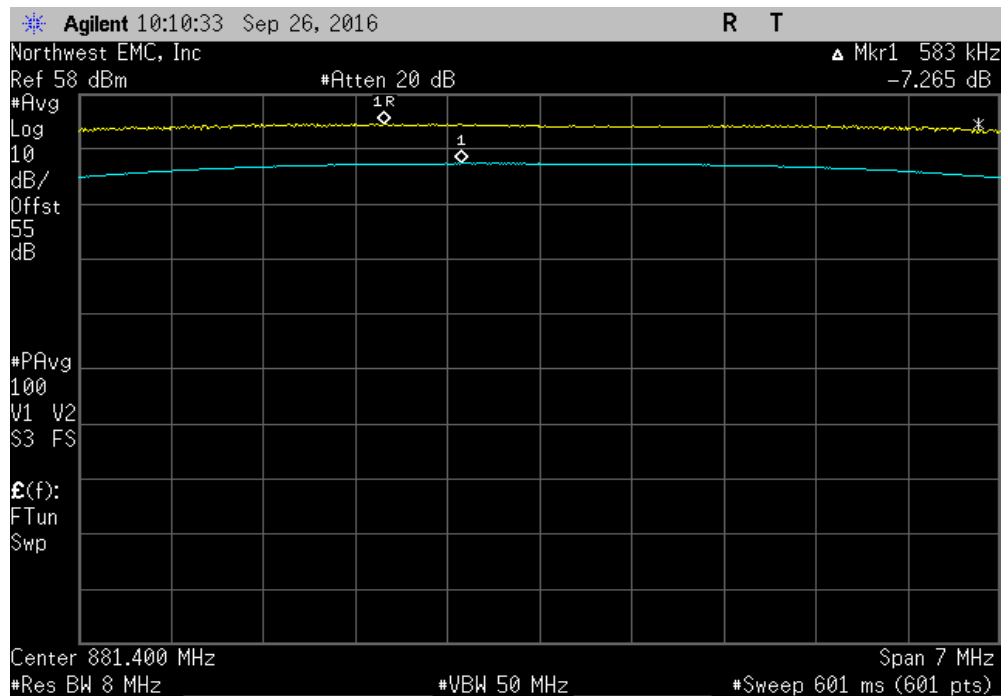


Antenna Port 2, Low Channel WCDMA, 871.4 MHz						
				Value (dB)	Limit < (dB)	Results
				7.177	13	Pass

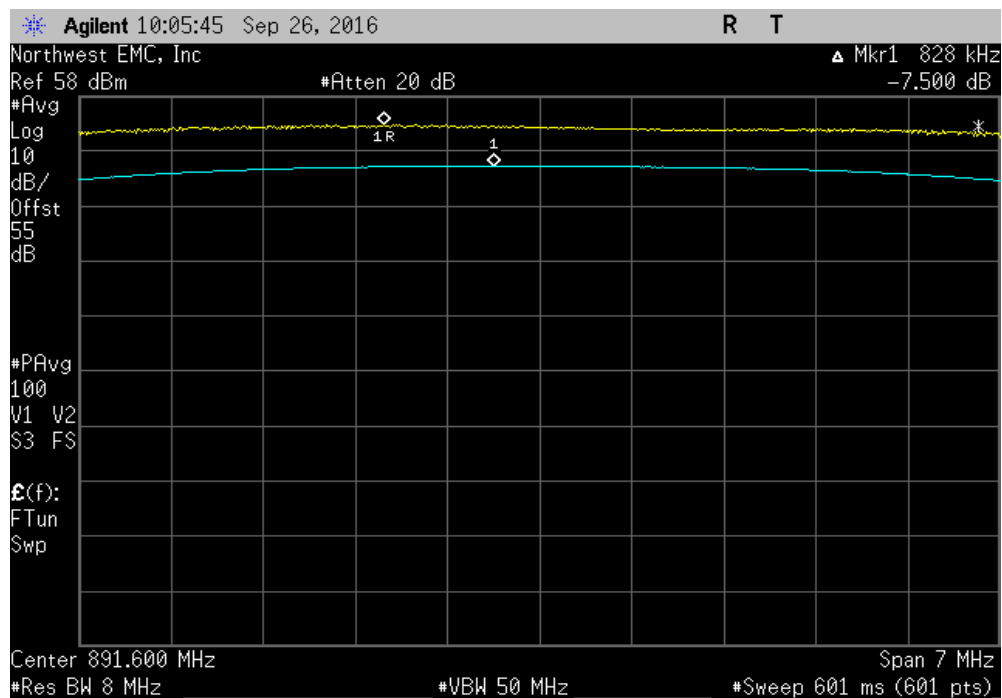


PEAK TO AVERAGE RATIO - WCDMA

Antenna Port 2, Mid Channel WCDMA, 881.4 MHz						
				Value (dB)	Limit < (dB)	Results
				7.265	13	Pass



Antenna Port 2, High Channel WCDMA, 891.6 MHz						
				Value (dB)	Limit < (dB)	Results
				7.5	13	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.	Cal. Due
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPHS-32-3.5-SCT/AC	TBE	NCR	NCR
Thermometer	Omega Engineering, Inc.	HH311	DUC	10/3/2014	10/3/2017
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model		Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43		NCR	NCR
Attenuator - 20dB	N/A	N/A		NCR	NCR
Power Divider	Fairview Microwave	MP8748-2		NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4		NCR	NCR
High Power Terminator	Telcon	KTMO400800060		NCR	NCR

TEST DESCRIPTION


The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

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) at 10°C intervals.

Per the requirements of FCC Part 22.355, the specified limits for Fixed Base Station use is 1.5 ppm.

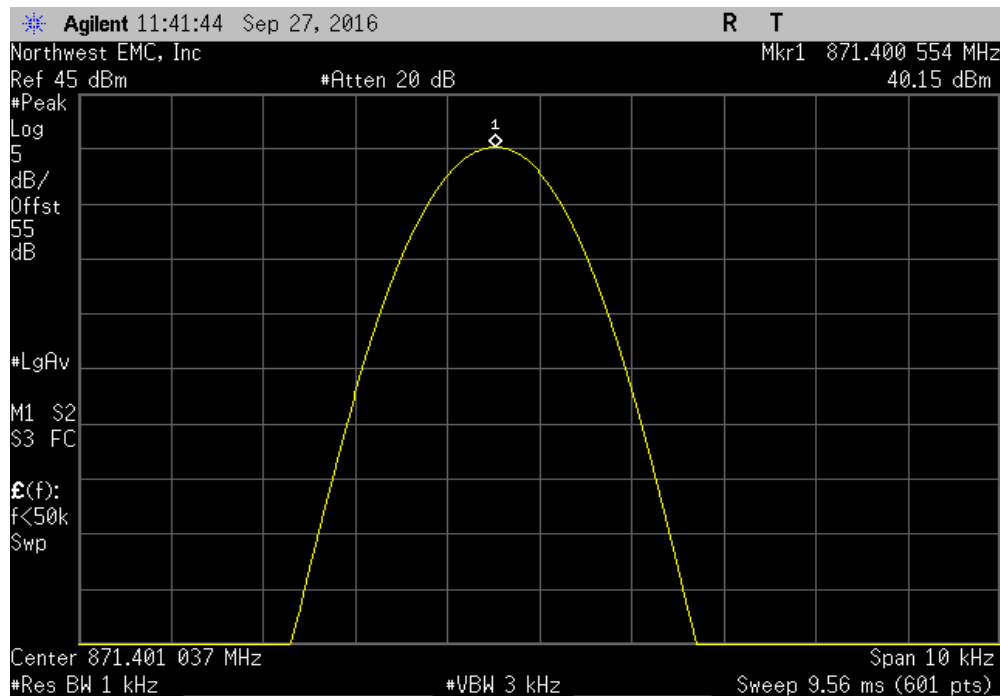
FREQUENCY STABILITY

EUT: CWS-3050-05		Work Order: KMWC0071				
Serial Number: K162600004		Date: 09/26/16				
Customer: Parallel Wireless Inc.		Temperature: 22.3 °C				
Attendees: Edward Lee		Humidity: 38.4% RH				
Project: None		Barometric Pres.: 1016 mbar				
Tested by: Johnny Candelas		Power: 48VDC				
Job Site: OC13						
TEST SPECIFICATIONS		Test Method				
FCC 22H:2016		ANSI/TIA/EIA-603-D-2010				
COMMENTS						
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 55.0dB total.						
DEVIATIONS FROM TEST STANDARD						
None						
Configuration #	1	Signature 				
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
Antenna Port 1						
Normal Temperature and Voltage						
Low Channel CW, 871.4 MHz		871.400554	871.4	0.6	1.5	Pass
Mid Channel CW, 881.5 MHz		881.500559	881.5	0.6	1.5	Pass
High Channel CW, 891.6 MHz		891.600589	891.6	0.7	1.5	Pass
Extreme Voltage, 55.2 VDC						
Low Channel CW, 871.4 MHz		871.400553	871.4	0.6	1.5	Pass
Mid Channel CW, 881.5 MHz		881.500576	881.5	0.7	1.5	Pass
High Channel CW, 891.6 MHz		891.600589	891.6	0.7	1.5	Pass
Extreme Voltage, 40.8 VDC						
Low Channel CW, 871.4 MHz		871.400553	871.4	0.6	1.5	Pass
Mid Channel CW, 881.5 MHz		881.500576	881.5	0.7	1.5	Pass
High Channel CW, 891.6 MHz		891.60059	891.6	0.7	1.5	Pass
Extreme Temperature, -30°C						
Low Channel CW, 871.4 MHz		871.400103	871.4	0.1	1.5	Pass
Mid Channel CW, 881.5 MHz		881.500109	881.5	0.1	1.5	Pass
High Channel CW, 891.6 MHz		891.600105	891.6	0.1	1.5	Pass
Extreme Temperature, -20°C						
Low Channel CW, 871.4 MHz		871.400236	871.4	0.3	1.5	Pass
Mid Channel CW, 881.5 MHz		881.500242	881.5	0.3	1.5	Pass
High Channel CW, 891.6 MHz		891.600255	891.6	0.3	1.5	Pass
Extreme Temperature, -10°C						
Low Channel CW, 871.4 MHz		871.40037	871.4	0.4	1.5	Pass
Mid Channel CW, 881.5 MHz		881.500376	881.5	0.4	1.5	Pass
High Channel CW, 891.6 MHz		891.600388	891.6	0.4	1.5	Pass
Extreme Temperature, 0°C						
Low Channel CW, 871.4 MHz		871.400503	871.4	0.6	1.5	Pass
Mid Channel CW, 881.5 MHz		881.500509	881.5	0.6	1.5	Pass
High Channel CW, 891.6 MHz		891.600507	891.6	0.6	1.5	Pass
Extreme Temperature, +10°C						
Low Channel CW, 871.4 MHz		871.400503	871.4	0.6	1.5	Pass
Mid Channel CW, 881.5 MHz		881.500509	881.5	0.6	1.5	Pass
High Channel CW, 891.6 MHz		891.600522	891.6	0.6	1.5	Pass
Extreme Temperature, +20°C						
Low Channel CW, 871.4 MHz		871.400503	871.4	0.6	1.5	Pass
Mid Channel CW, 881.5 MHz		881.500509	881.5	0.6	1.5	Pass
High Channel CW, 891.6 MHz		891.600522	891.6	0.6	1.5	Pass
Extreme Temperature, +30°C						
Low Channel CW, 871.4 MHz		871.40052	871.4	0.6	1.5	Pass
Mid Channel CW, 881.5 MHz		881.500526	881.5	0.6	1.5	Pass
High Channel CW, 891.6 MHz		891.600539	891.6	0.6	1.5	Pass
Extreme Temperature, +40°C						
Low Channel CW, 871.4 MHz		871.400587	871.4	0.7	1.5	Pass
Mid Channel CW, 881.5 MHz		881.50061	881.5	0.7	1.5	Pass
High Channel CW, 891.6 MHz		891.600622	891.6	0.7	1.5	Pass
Extreme Temperature, +50°C						
Low Channel CW, 871.4 MHz		871.40067	871.4	0.8	1.5	Pass
Mid Channel CW, 881.5 MHz		881.500676	881.5	0.8	1.5	Pass
High Channel CW, 891.6 MHz		891.60069	891.6	0.8	1.5	Pass
Antenna Port 2						
Normal Temperature and Voltage						
Low Channel CW, 871.4 MHz		871.40057	871.4	0.7	1.5	Pass
Mid Channel CW, 881.5 MHz		881.500576	881.5	0.7	1.5	Pass
High Channel CW, 891.6 MHz		891.600589	891.6	0.7	1.5	Pass
Extreme Voltage, 55.2 VDC						
Low Channel CW, 871.4 MHz		871.400587	871.4	0.7	1.5	Pass
Mid Channel CW, 881.5 MHz		881.50058	881.5	0.7	1.5	Pass
High Channel CW, 891.6 MHz		891.600589	891.6	0.7	1.5	Pass
Extreme Voltage, 40.8 VDC						
Low Channel CW, 871.4 MHz		871.40057	871.4	0.7	1.5	Pass
Mid Channel CW, 881.5 MHz		881.500593	881.5	0.7	1.5	Pass
High Channel CW, 891.6 MHz		891.600589	891.6	0.7	1.5	Pass
Extreme Temperature, -30°C						
Low Channel CW, 871.4 MHz		871.400153	871.4	0.2	1.5	Pass
Mid Channel CW, 881.5 MHz		881.500142	881.5	0.2	1.5	Pass
High Channel CW, 891.6 MHz		891.600138	891.6	0.2	1.5	Pass
Extreme Temperature, -20°C						
Low Channel CW, 871.4 MHz		871.400236	871.4	0.3	1.5	Pass
Mid Channel CW, 881.5 MHz		881.500242	881.5	0.3	1.5	Pass
High Channel CW, 891.6 MHz		891.600238	891.6	0.3	1.5	Pass
Extreme Temperature, -10°C						
Low Channel CW, 871.4 MHz		871.400387	871.4	0.4	1.5	Pass
Mid Channel CW, 881.5 MHz		881.500376	881.5	0.4	1.5	Pass
High Channel CW, 891.6 MHz		891.60039	891.6	0.4	1.5	Pass

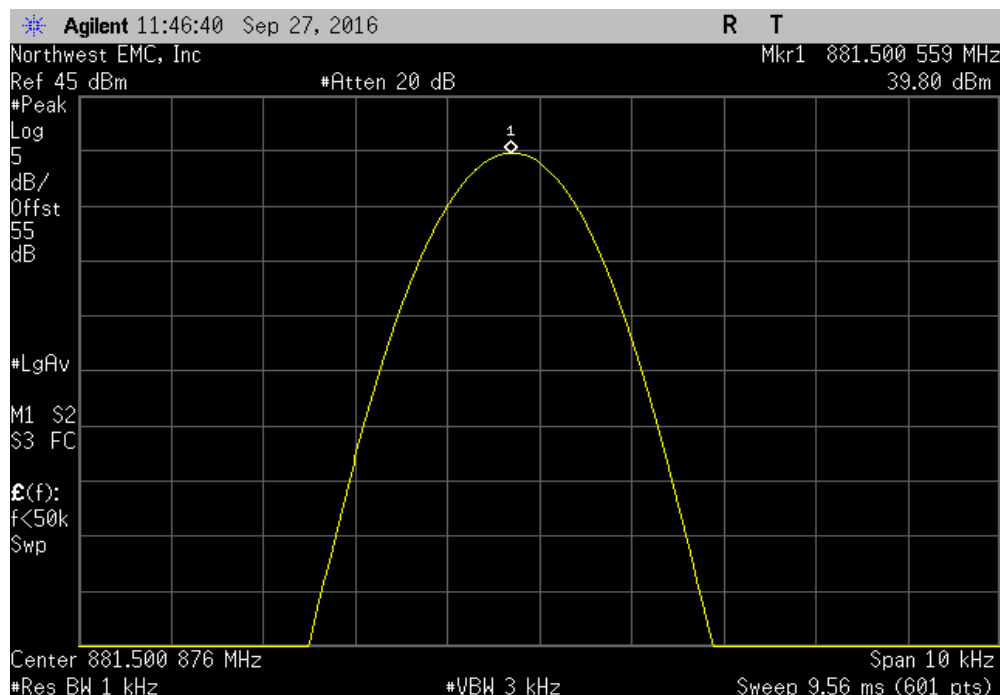
Extreme Temperature, 0°C						
Low Channel CW, 871.4 MHz	871.400487	871.4	0.6	1.5	Pass	
Mid Channel CW, 881.5 MHz	881.500493	881.5	0.6	1.5	Pass	
High Channel CW, 891.6 MHz	891.600505	891.6	0.6	1.5	Pass	
Extreme Temperature, +10°C						
Low Channel CW, 871.4 MHz	871.400503	871.4	0.6	1.5	Pass	
Mid Channel CW, 881.5 MHz	881.500509	881.5	0.6	1.5	Pass	
High Channel CW, 891.6 MHz	891.600522	891.6	0.6	1.5	Pass	
Extreme Temperature, +20°C						
Low Channel CW, 871.4 MHz	871.400503	871.4	0.6	1.5	Pass	
Mid Channel CW, 881.5 MHz	881.500509	881.5	0.6	1.5	Pass	
High Channel CW, 891.6 MHz	891.600505	891.6	0.6	1.5	Pass	
Extreme Temperature, +30°C						
Low Channel CW, 871.4 MHz	871.40052	871.4	0.6	1.5	Pass	
Mid Channel CW, 881.5 MHz	881.500514	881.5	0.6	1.5	Pass	
High Channel CW, 891.6 MHz	891.60054	891.6	0.6	1.5	Pass	
Extreme Temperature, +40°C						
Low Channel CW, 871.4 MHz	871.400604	871.4	0.7	1.5	Pass	
Mid Channel CW, 881.5 MHz	881.50061	881.5	0.7	1.5	Pass	
High Channel CW, 891.6 MHz	891.600606	891.6	0.7	1.5	Pass	
Extreme Temperature, +50°C						
Low Channel CW, 871.4 MHz	871.40067	871.4	0.8	1.5	Pass	
Mid Channel CW, 881.5 MHz	881.500676	881.5	0.8	1.5	Pass	
High Channel CW, 891.6 MHz	891.60069	891.6	0.8	1.5	Pass	

FREQUENCY STABILITY

Antenna Port 1, Normal Temperature and Voltage, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400554	871.4	0.6	1.5	Pass	

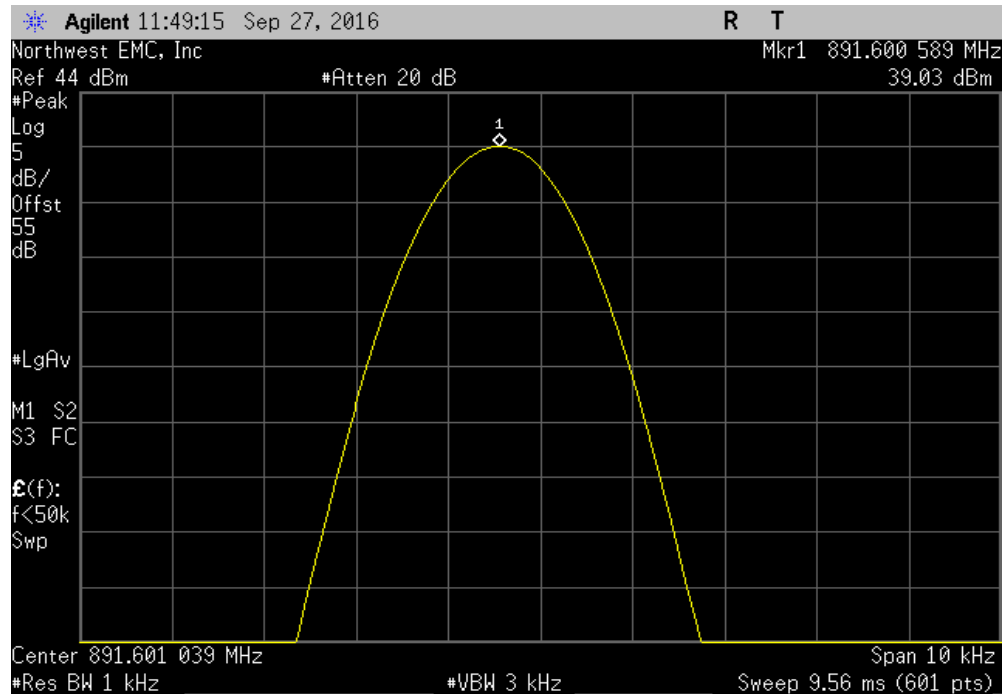


Antenna Port 1, Normal Temperature and Voltage, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500559	881.5	0.6	1.5	Pass	

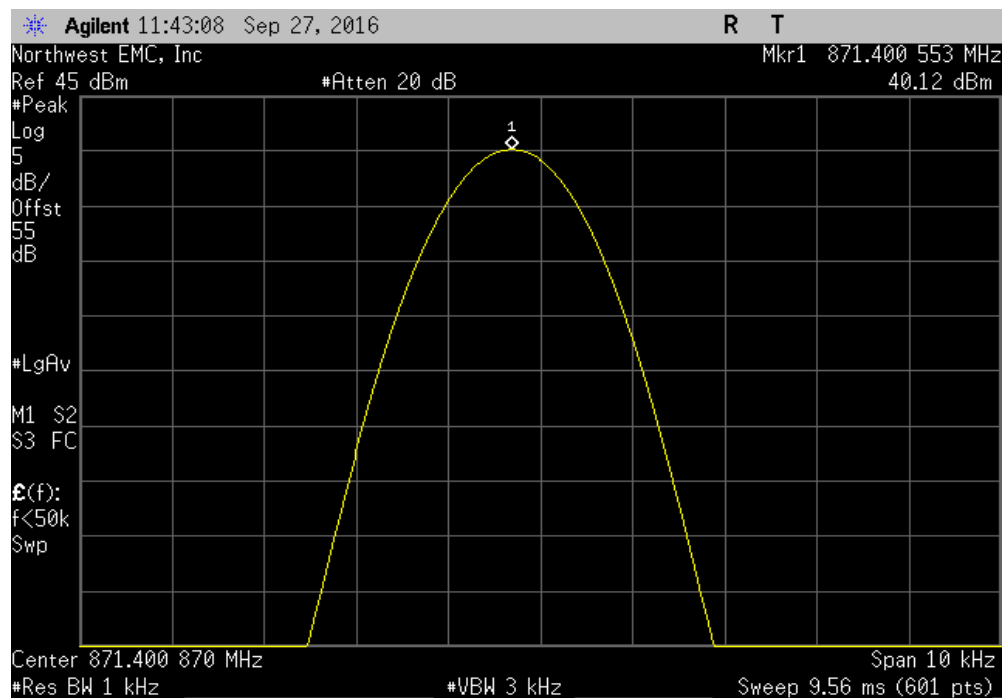


FREQUENCY STABILITY

Antenna Port 1, Normal Temperature and Voltage, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600589	891.6	0.7	1.5	Pass	

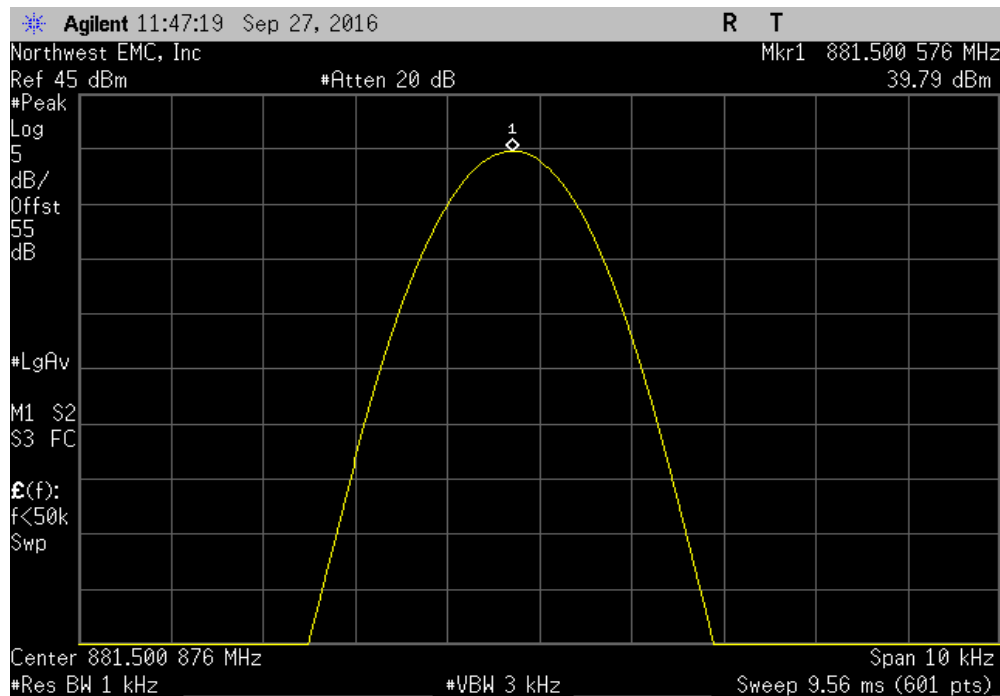


Antenna Port 1, Extreme Voltage, 55.2 VDC, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400553	871.4	0.6	1.5	Pass	

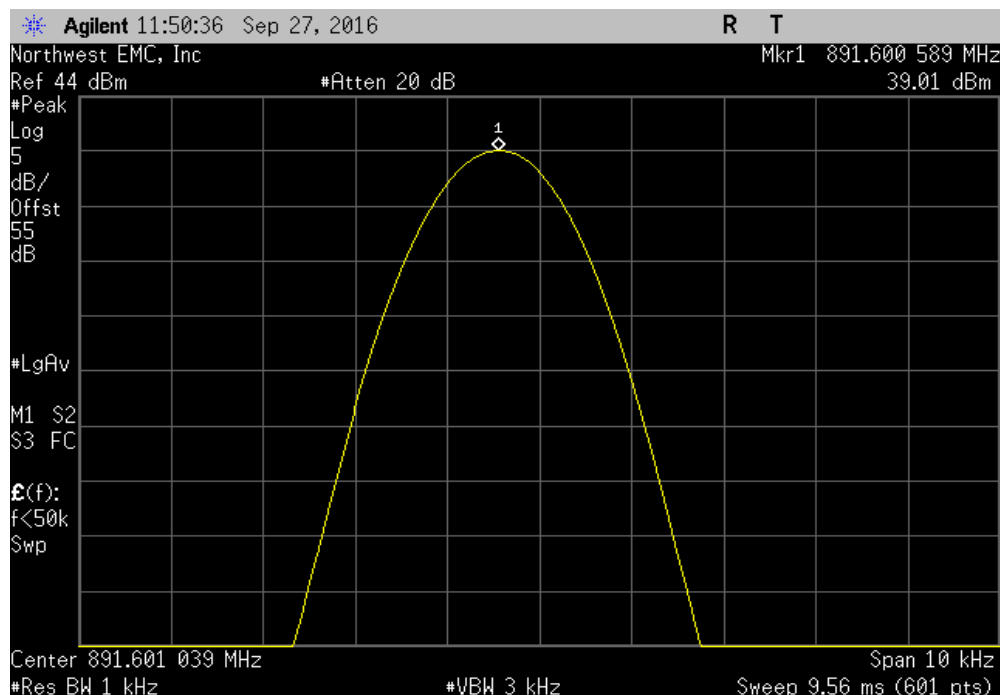


FREQUENCY STABILITY

Antenna Port 1, Extreme Voltage, 55.2 VDC, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500576	881.5	0.7	1.5	Pass	

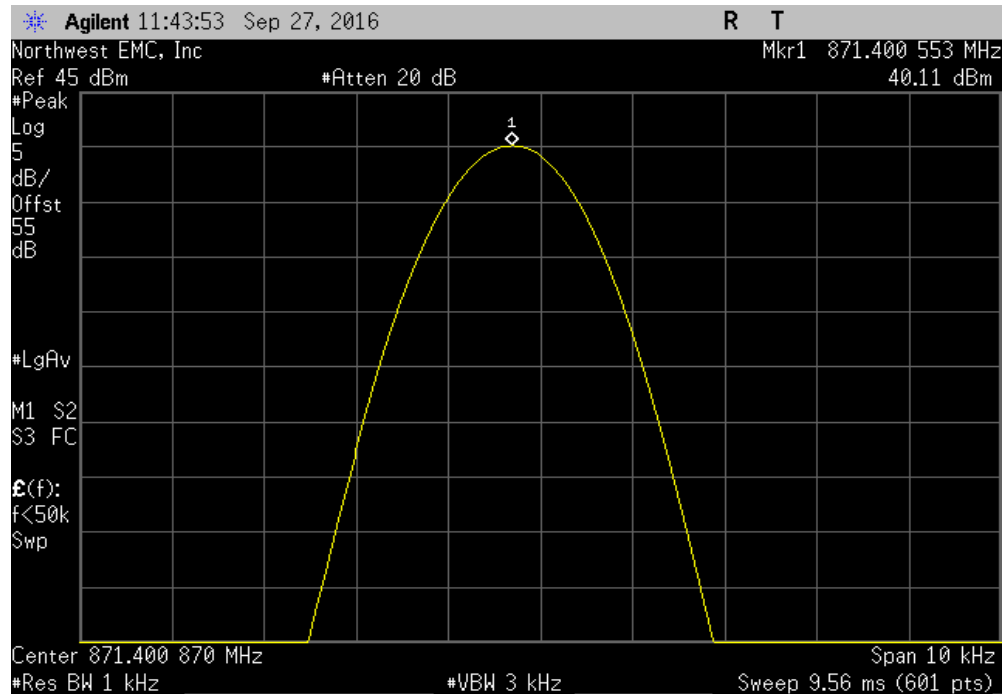


Antenna Port 1, Extreme Voltage, 55.2 VDC, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600589	891.6	0.7	1.5	Pass	

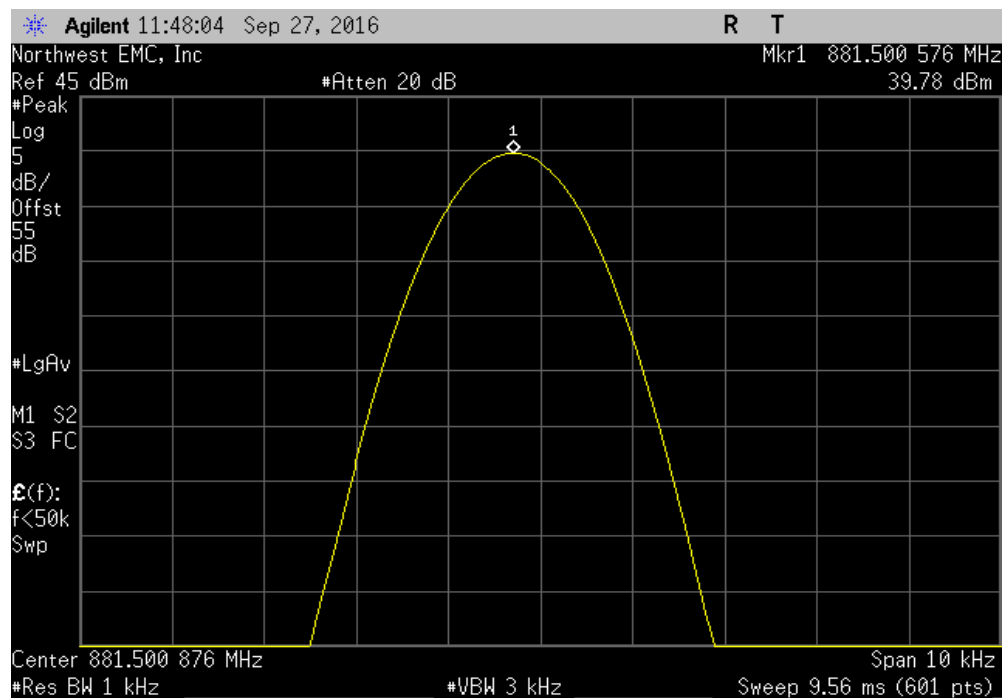


FREQUENCY STABILITY

Antenna Port 1, Extreme Voltage, 40.8 VDC, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400553	871.4	0.6	1.5	Pass	

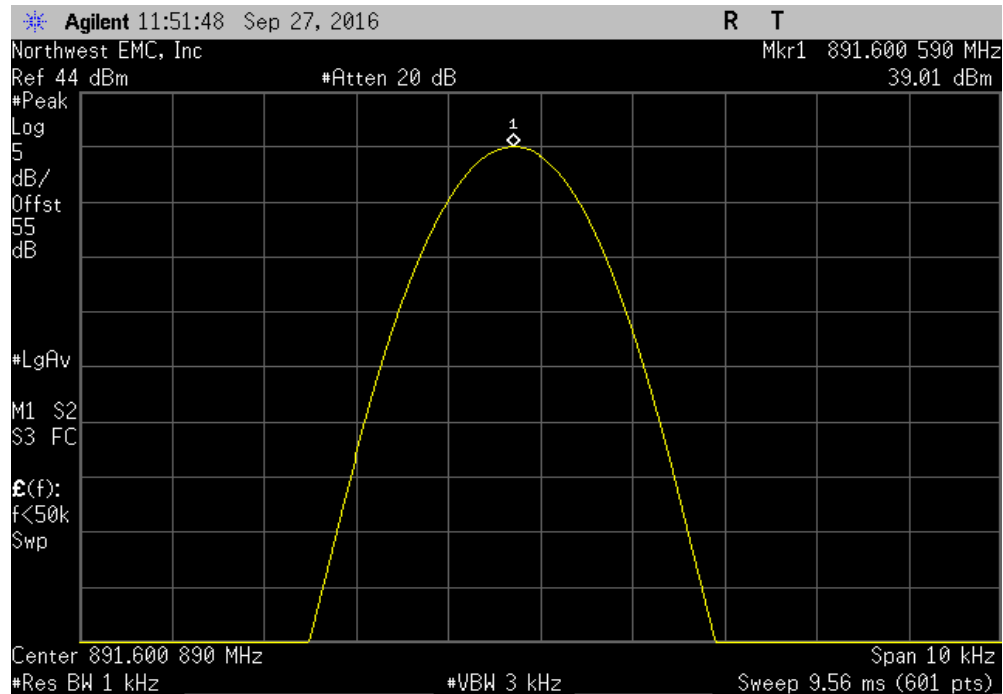


Antenna Port 1, Extreme Voltage, 40.8 VDC, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500576	881.5	0.7	1.5	Pass	

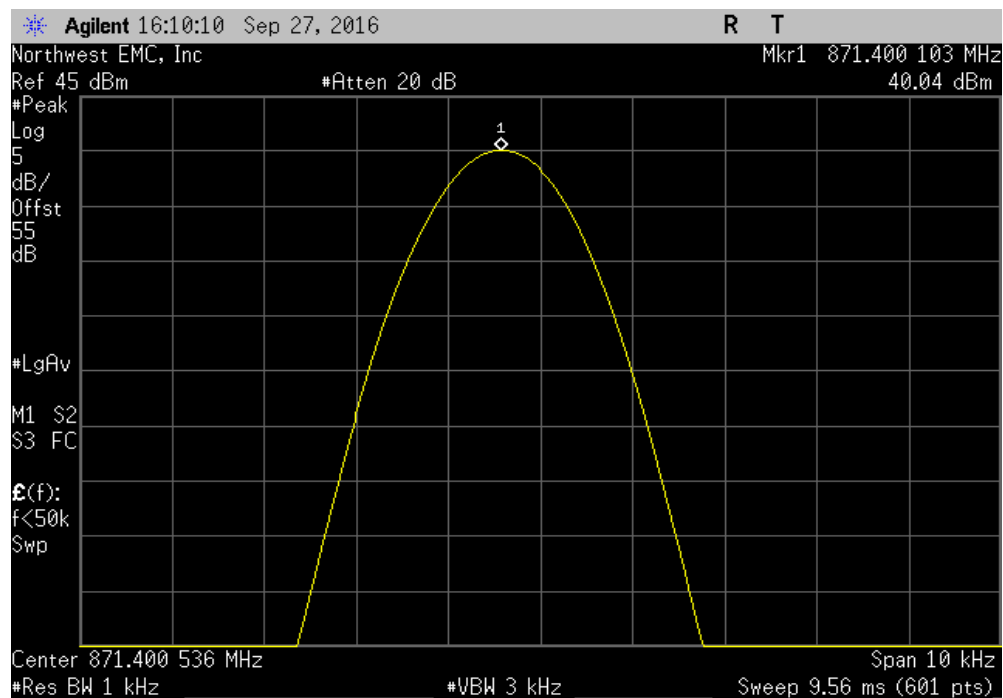


FREQUENCY STABILITY

Antenna Port 1, Extreme Voltage, 40.8 VDC, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.60059	891.6	0.7	1.5	Pass	

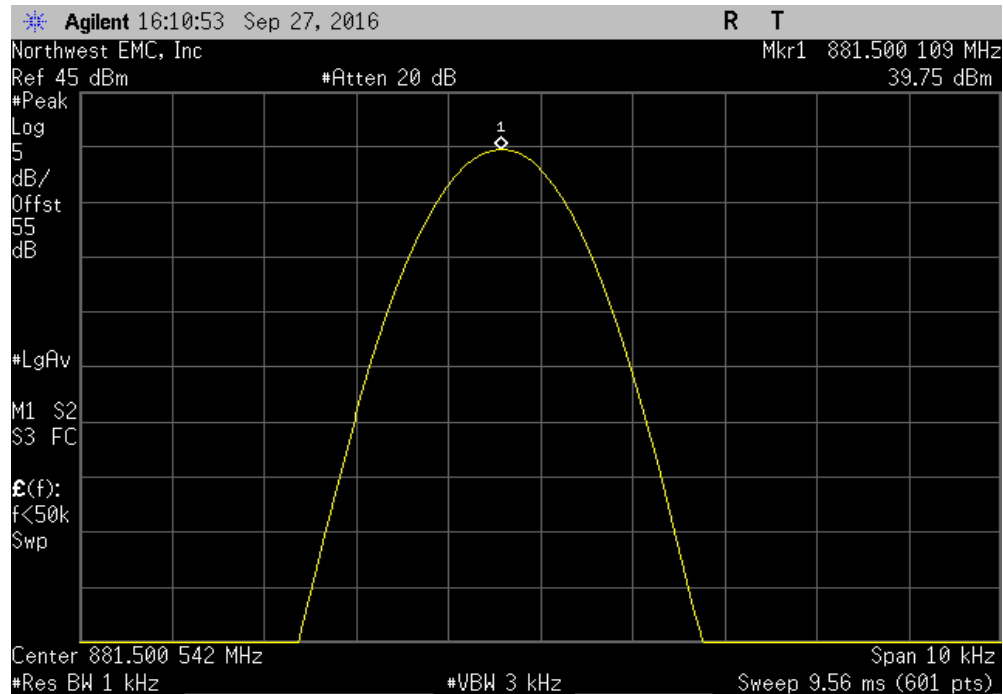


Antenna Port 1, Extreme Temperature, -30°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400103	871.4	0.1	1.5	Pass	

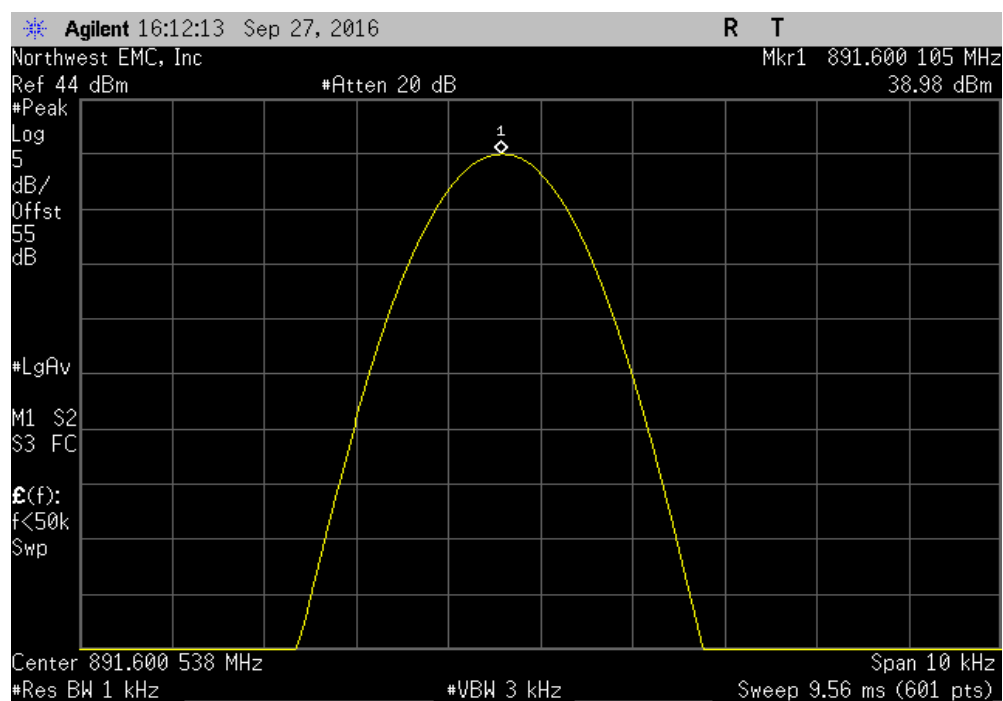


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, -30°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500109	881.5	0.1	1.5	Pass	

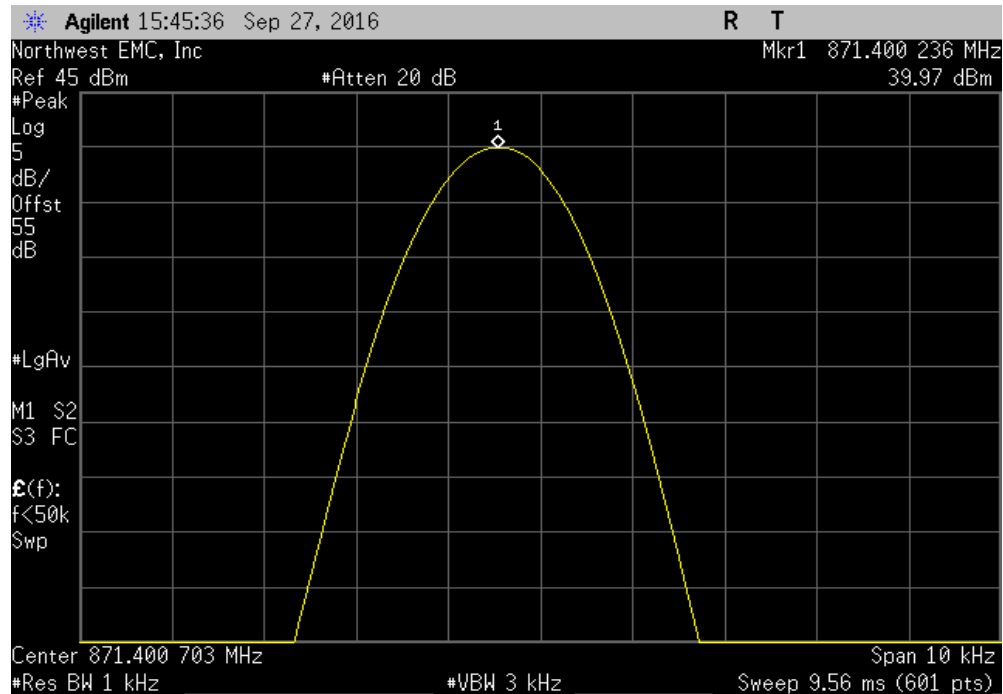


Antenna Port 1, Extreme Temperature, -30°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600105	891.6	0.1	1.5	Pass	

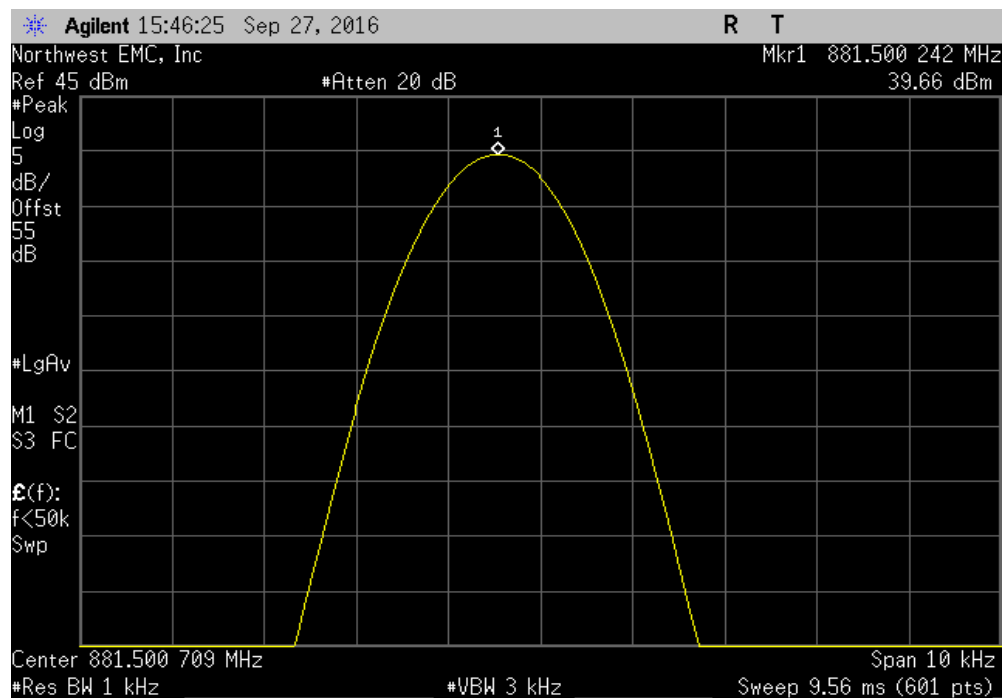


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, -20°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400236	871.4	0.3	1.5	Pass	

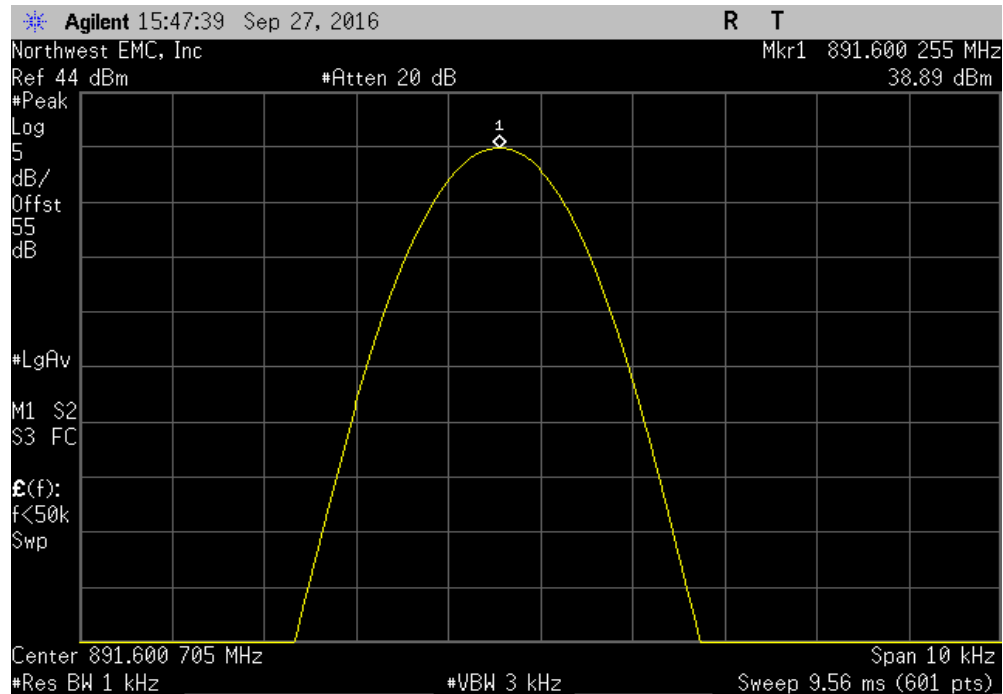


Antenna Port 1, Extreme Temperature, -20°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500242	881.5	0.3	1.5	Pass	

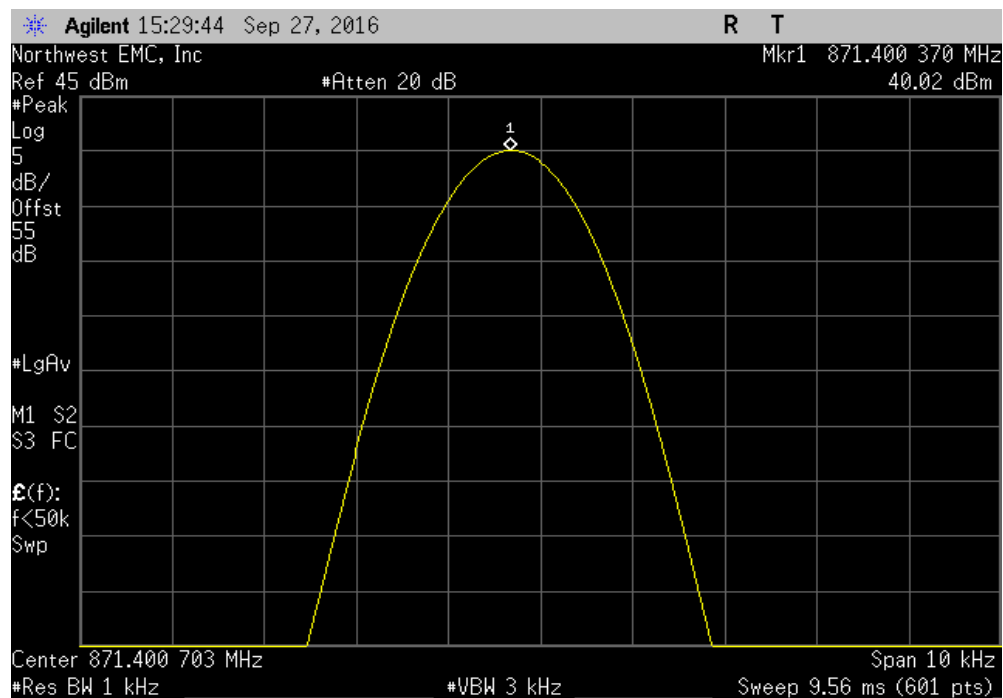


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, -20°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600255	891.6	0.3	1.5	Pass	

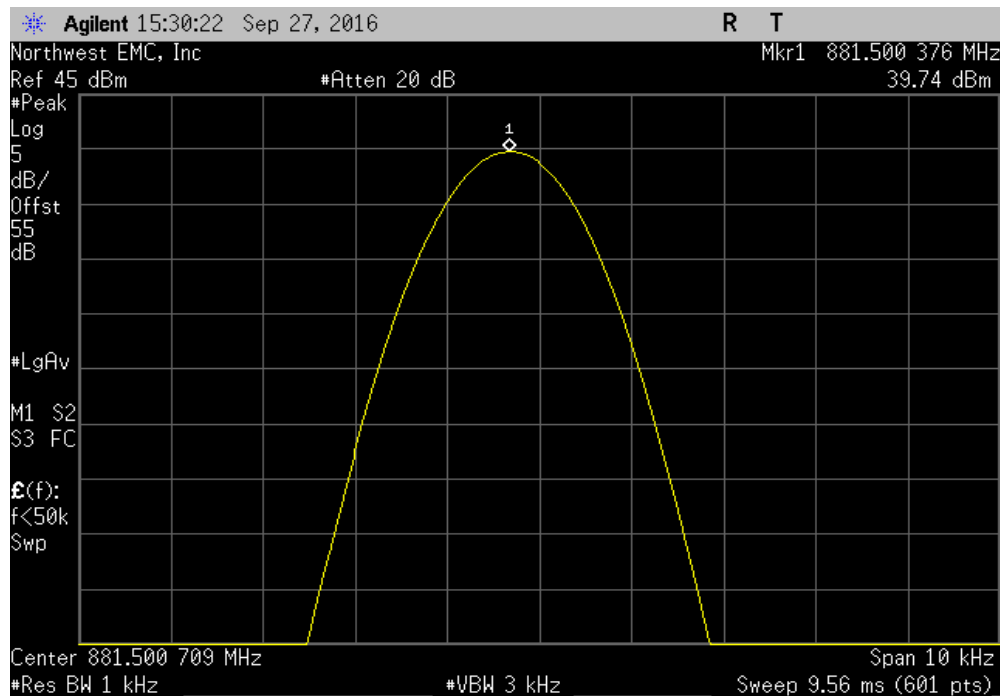


Antenna Port 1, Extreme Temperature, -10°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.40037	871.4	0.4	1.5	Pass	

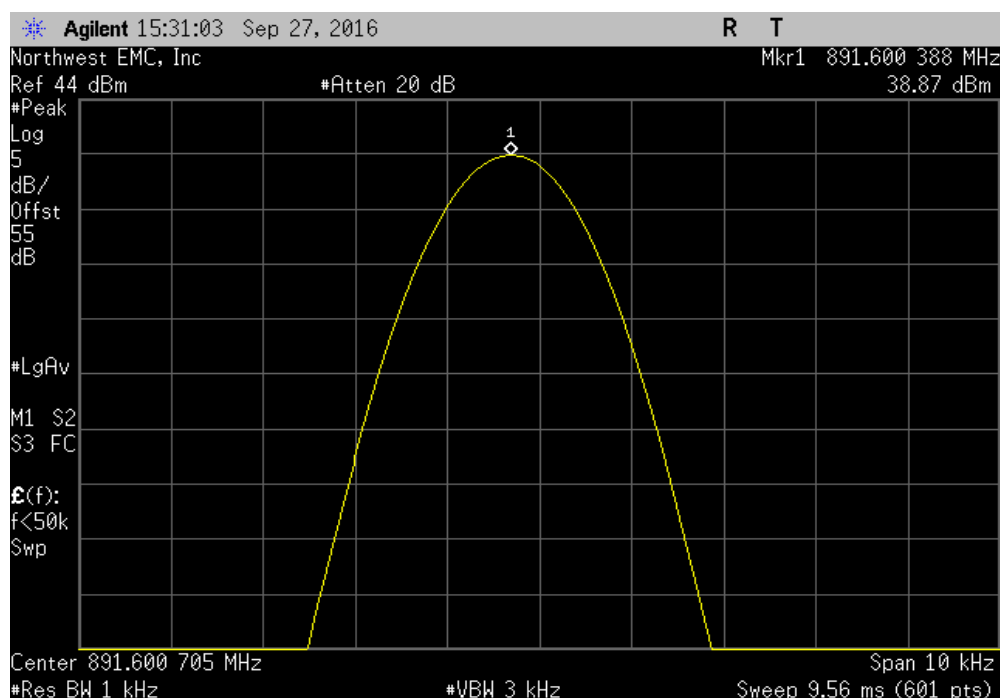


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, -10°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500376	881.5	0.4	1.5	Pass	

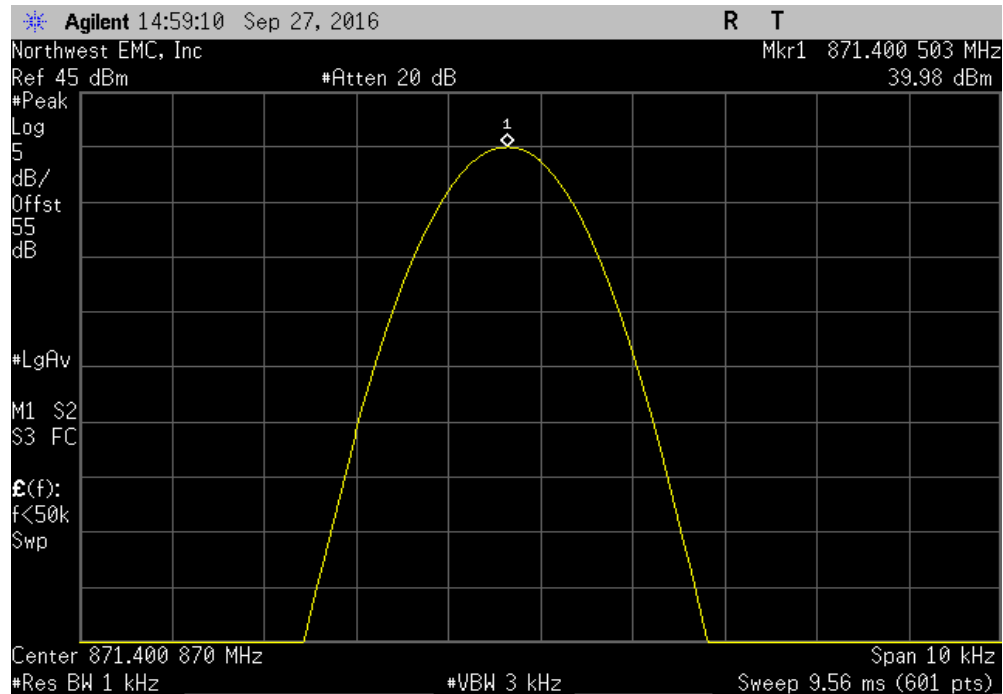


Antenna Port 1, Extreme Temperature, -10°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600388	891.6	0.4	1.5	Pass	

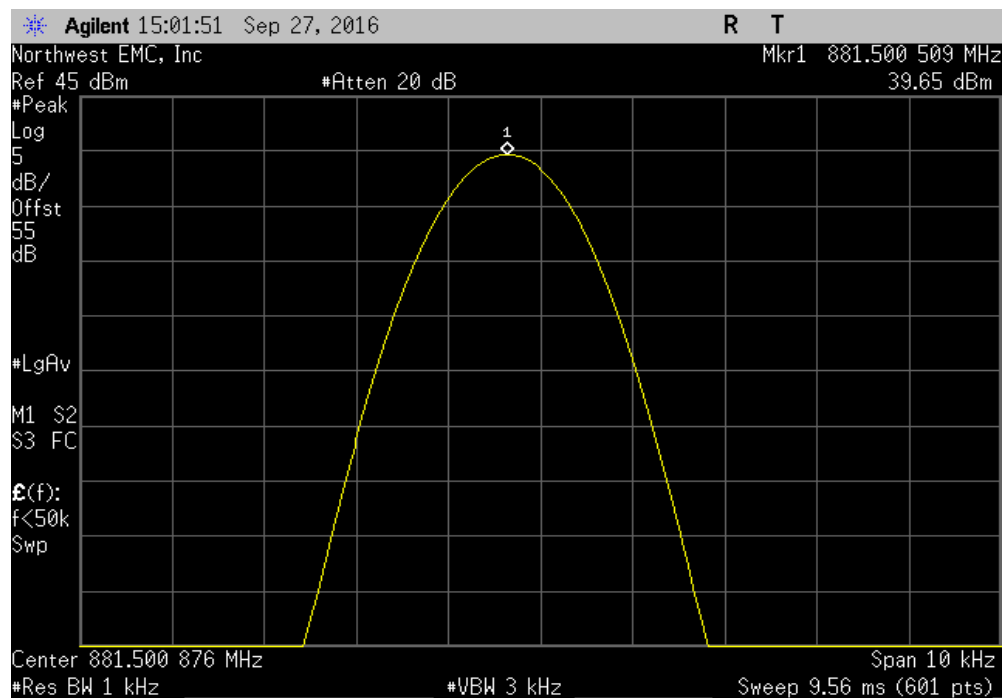


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, 0°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400503	871.4	0.6	1.5	Pass	

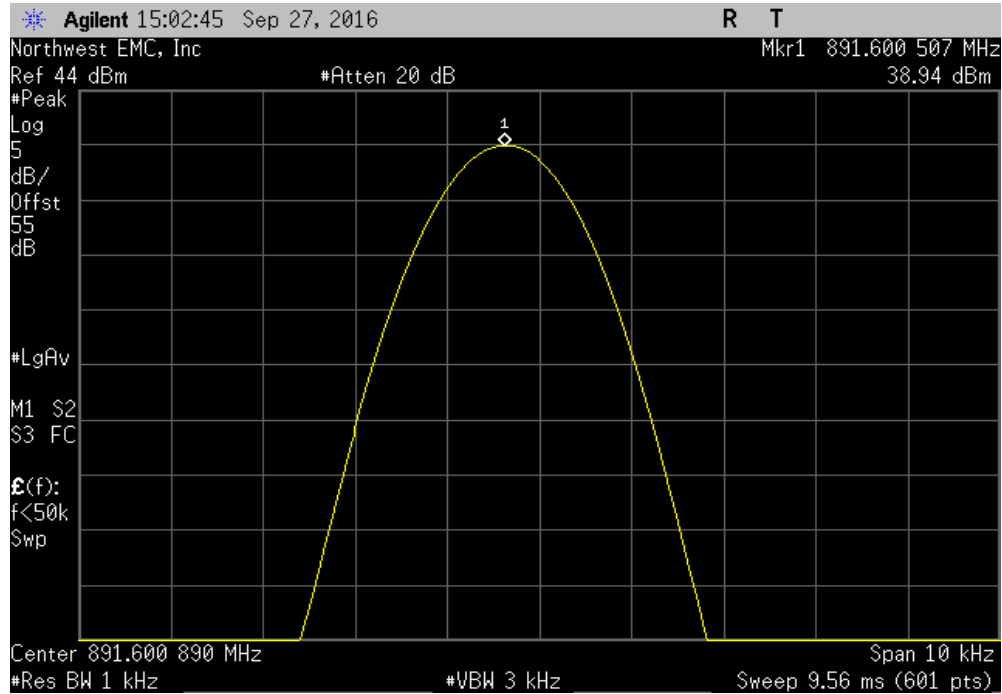


Antenna Port 1, Extreme Temperature, 0°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500509	881.5	0.6	1.5	Pass	

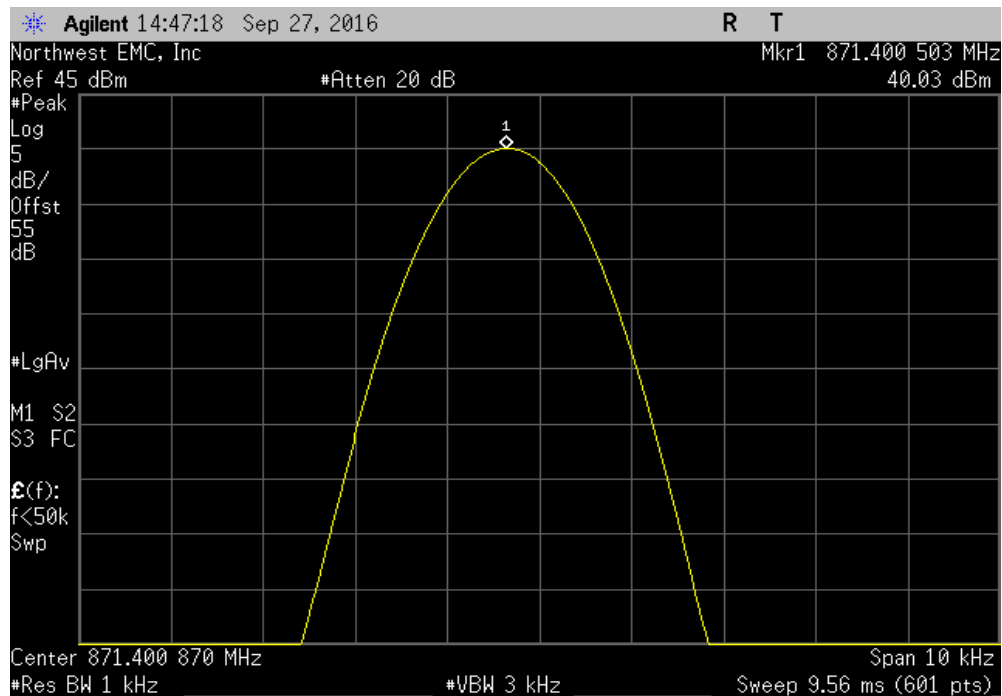


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, 0°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600507	891.6	0.6	1.5	Pass	

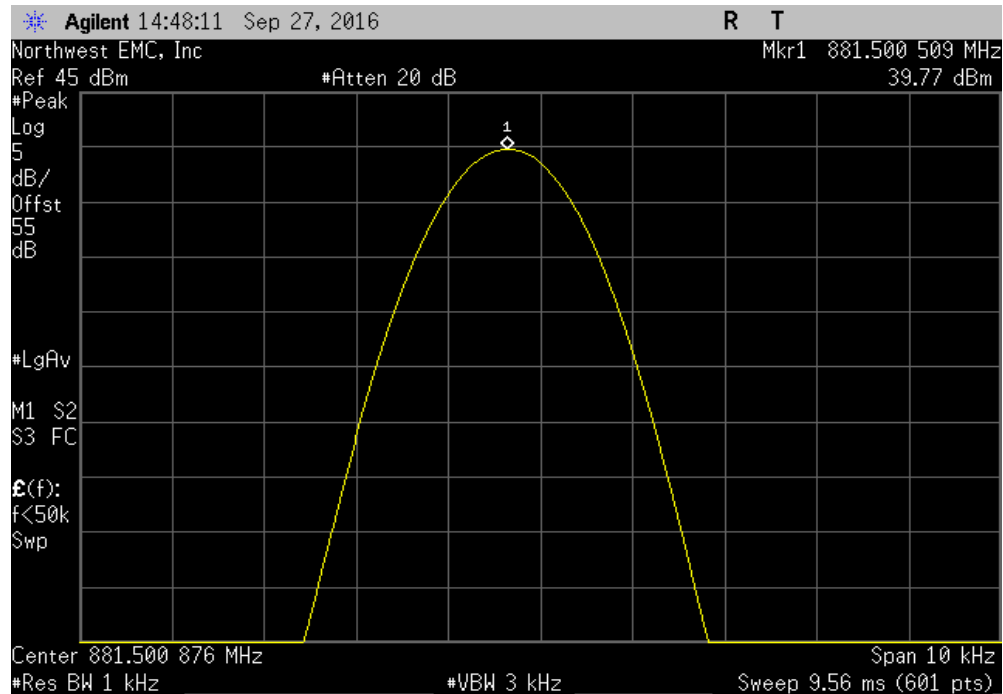


Antenna Port 1, Extreme Temperature, +10°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400503	871.4	0.6	1.5	Pass	

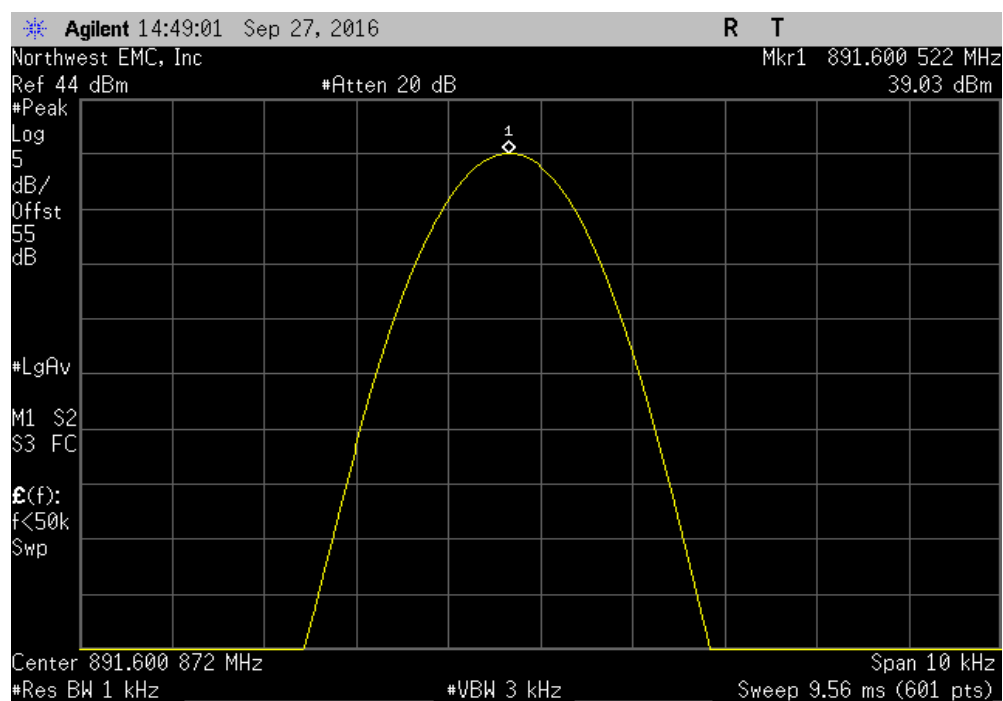


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, +10°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500509	881.5	0.6	1.5	Pass	

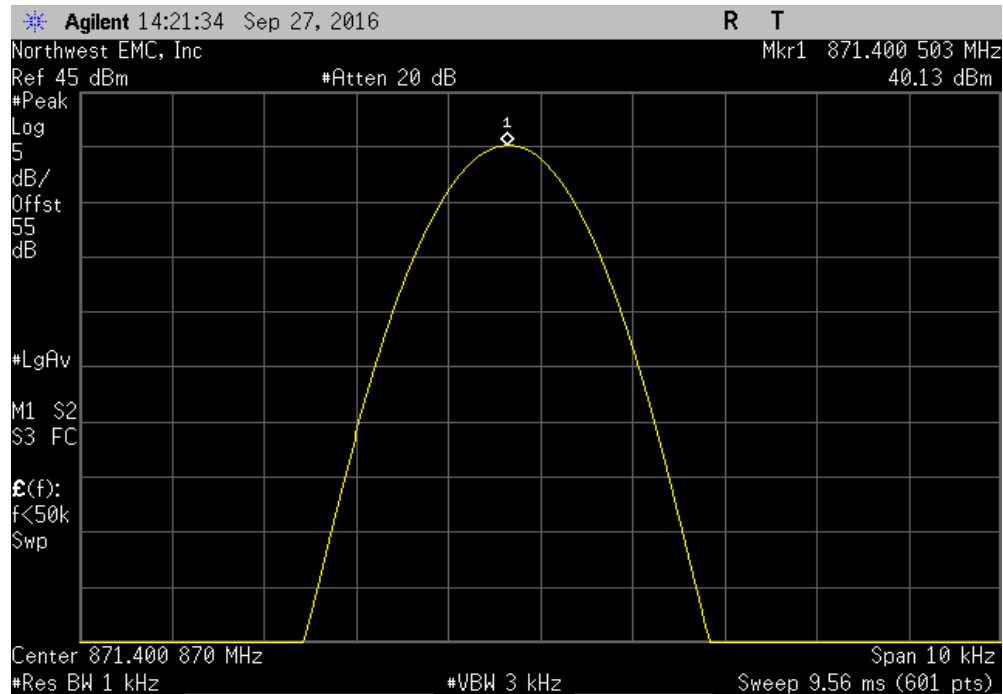


Antenna Port 1, Extreme Temperature, +10°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600522	891.6	0.6	1.5	Pass	

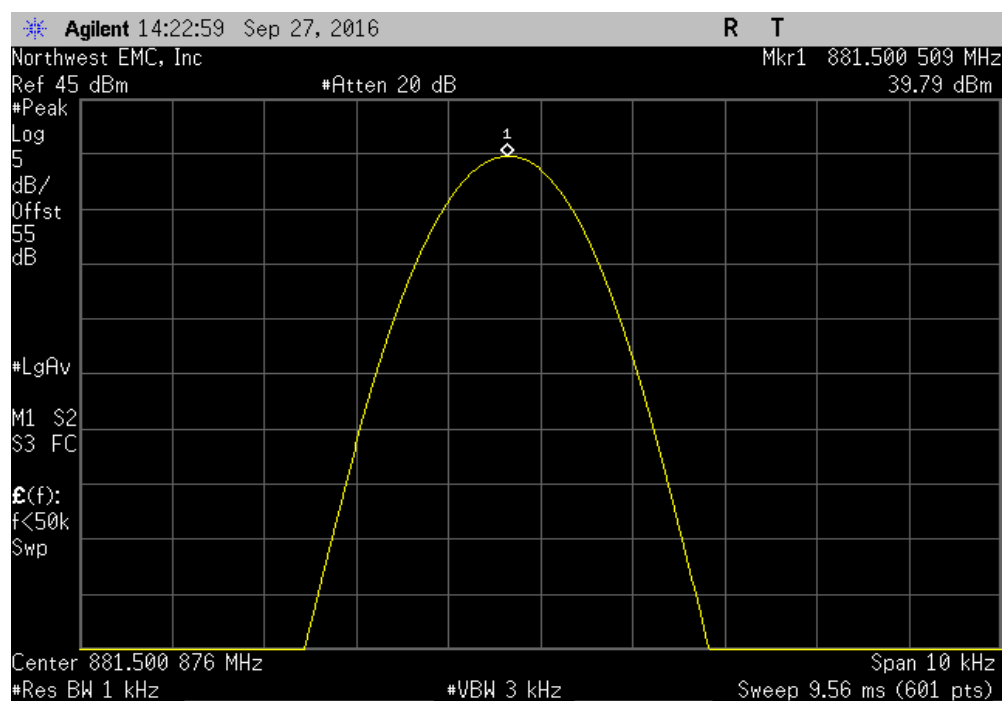


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, +20°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400503	871.4	0.6	1.5	Pass	

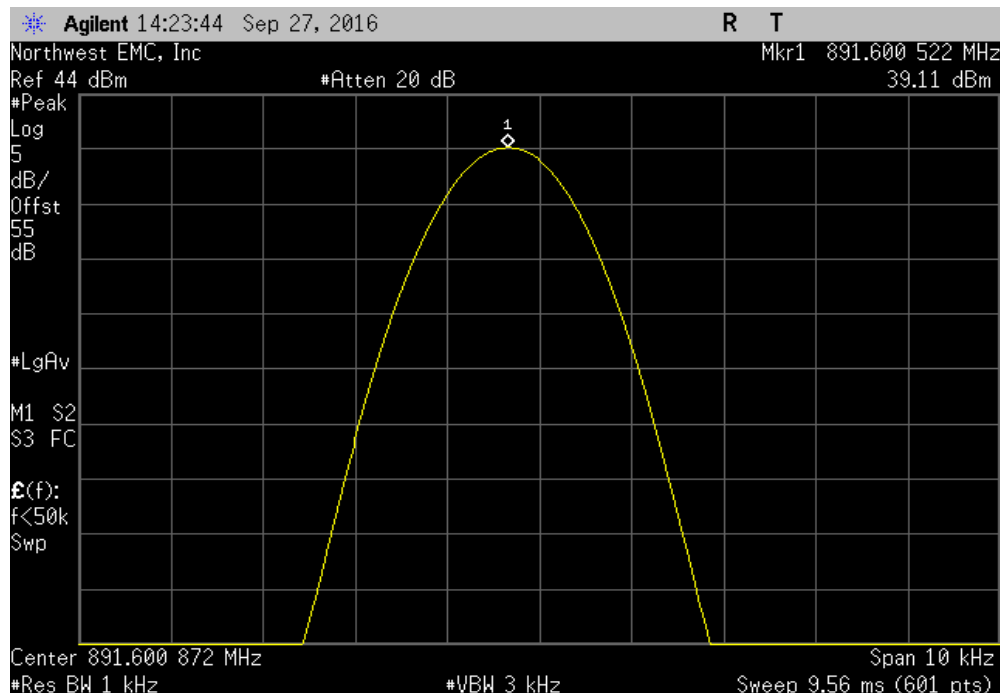


Antenna Port 1, Extreme Temperature, +20°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500509	881.5	0.6	1.5	Pass	

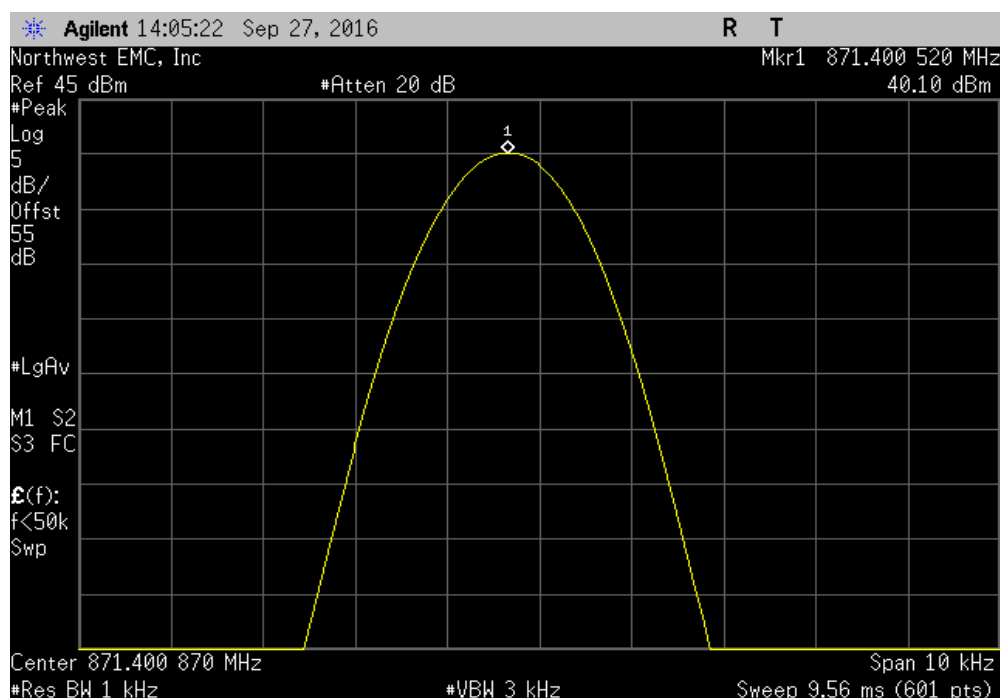


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, +20°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600522	891.6	0.6	1.5	Pass	

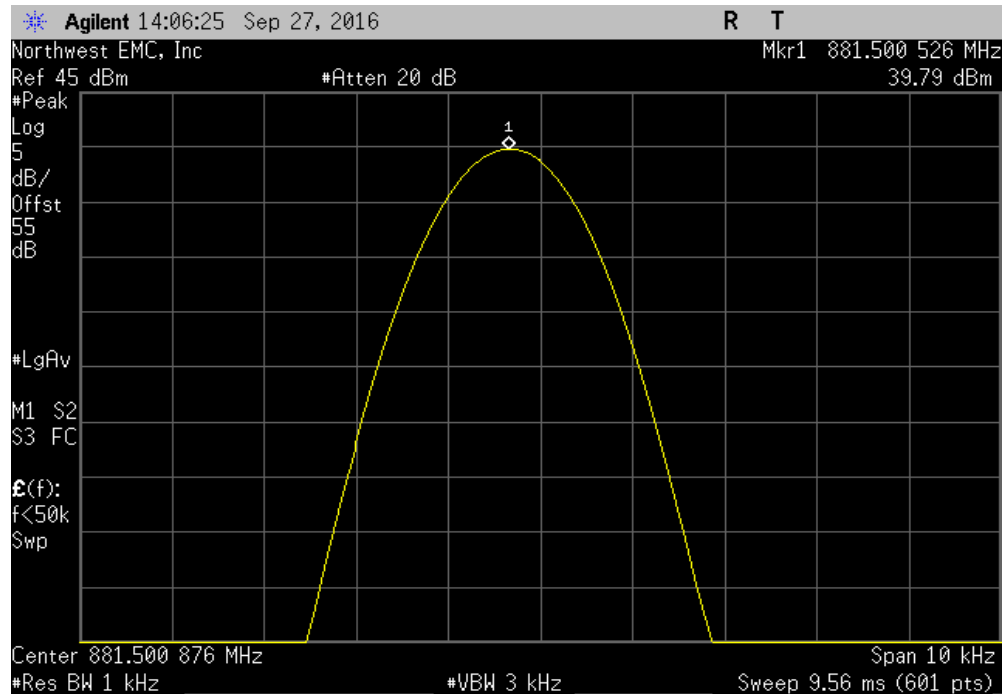


Antenna Port 1, Extreme Temperature, +30°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.40052	871.4	0.6	1.5	Pass	

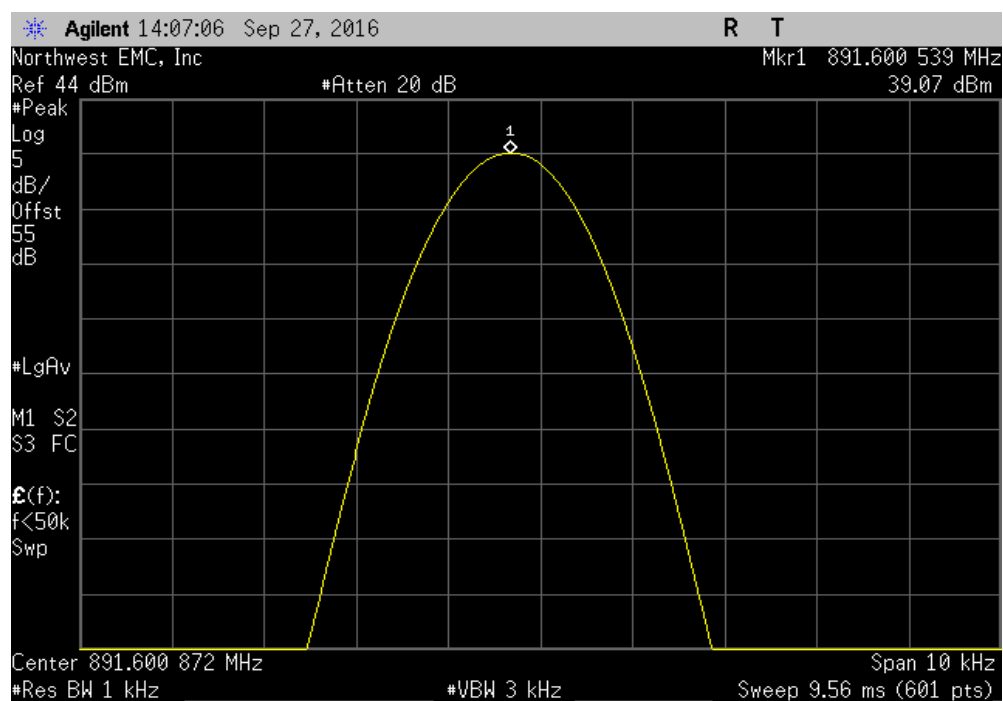


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, +30°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500526	881.5	0.6	1.5	Pass	

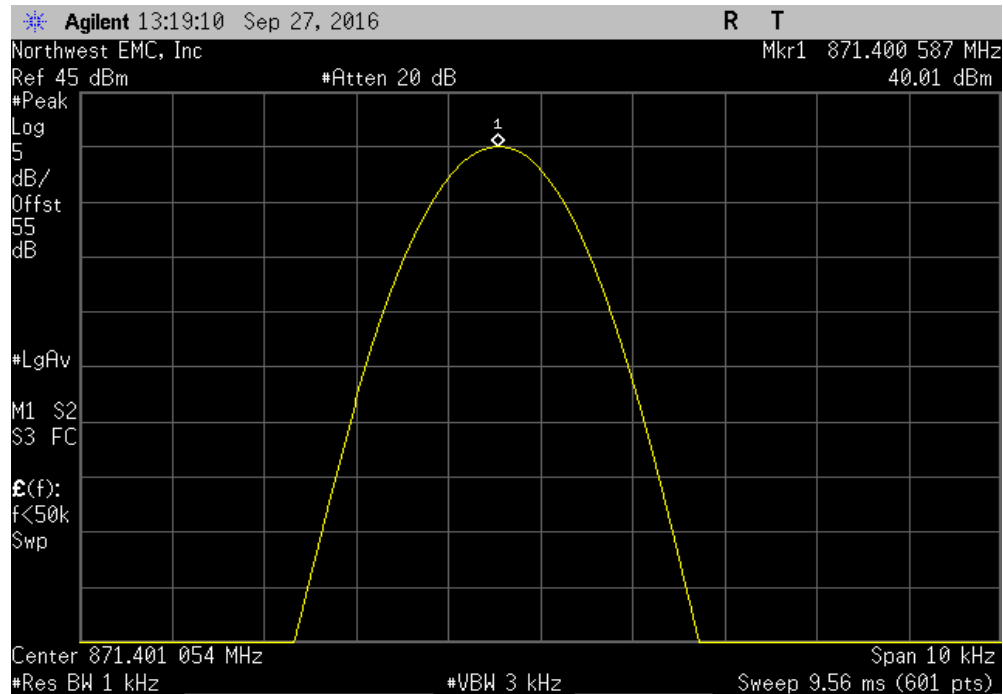


Antenna Port 1, Extreme Temperature, +30°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600539	891.6	0.6	1.5	Pass	

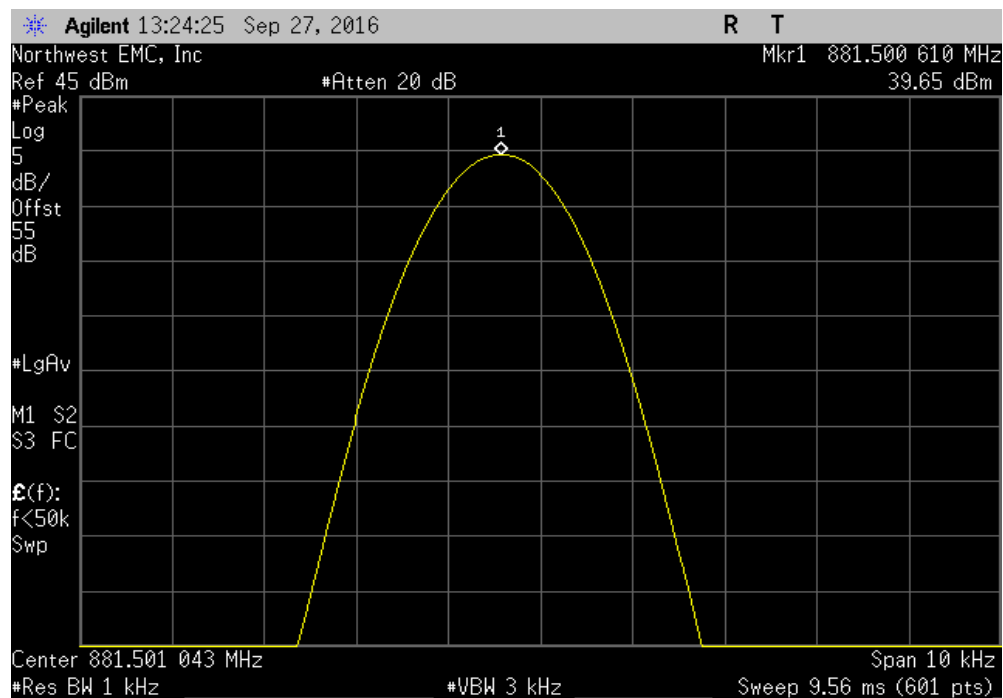


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, +40°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400587	871.4	0.7	1.5	Pass	

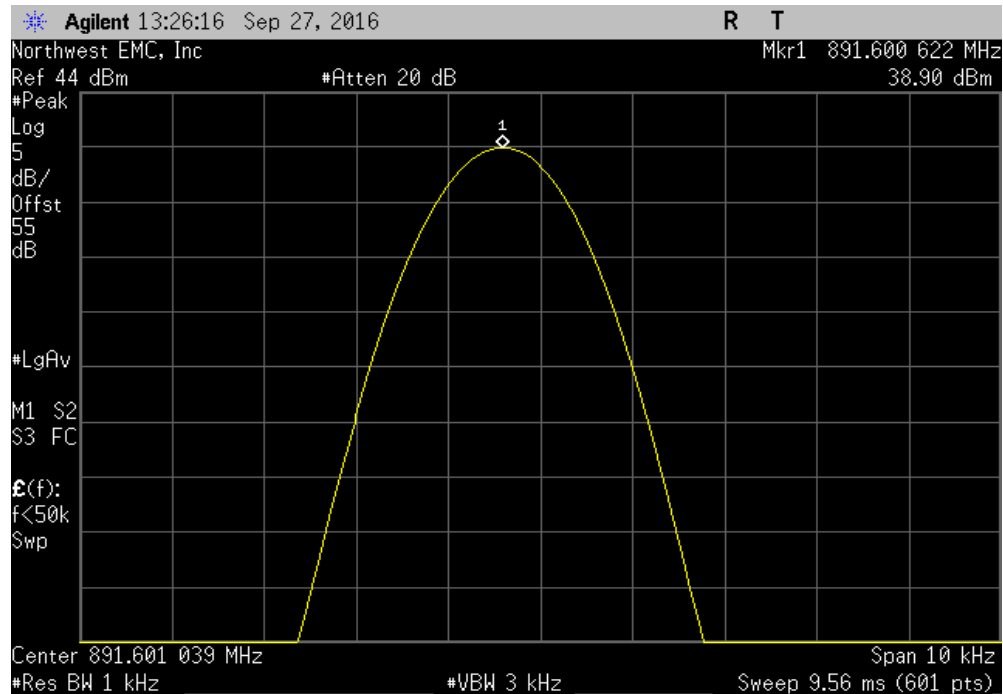


Antenna Port 1, Extreme Temperature, +40°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.50061	881.5	0.7	1.5	Pass	

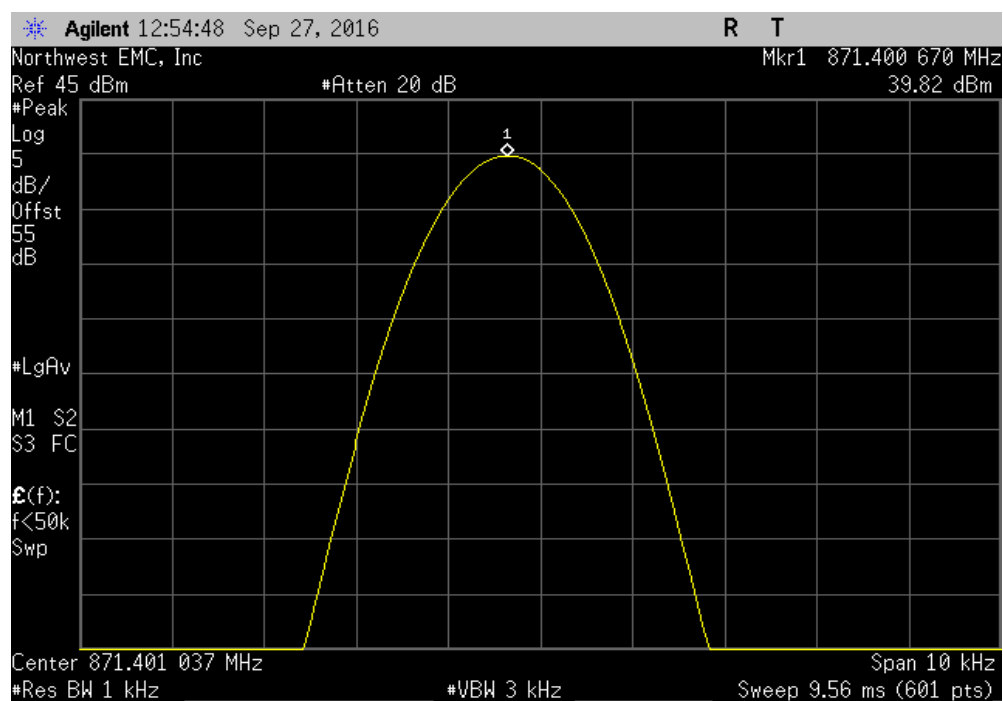


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, +40°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600622	891.6	0.7	1.5	Pass	

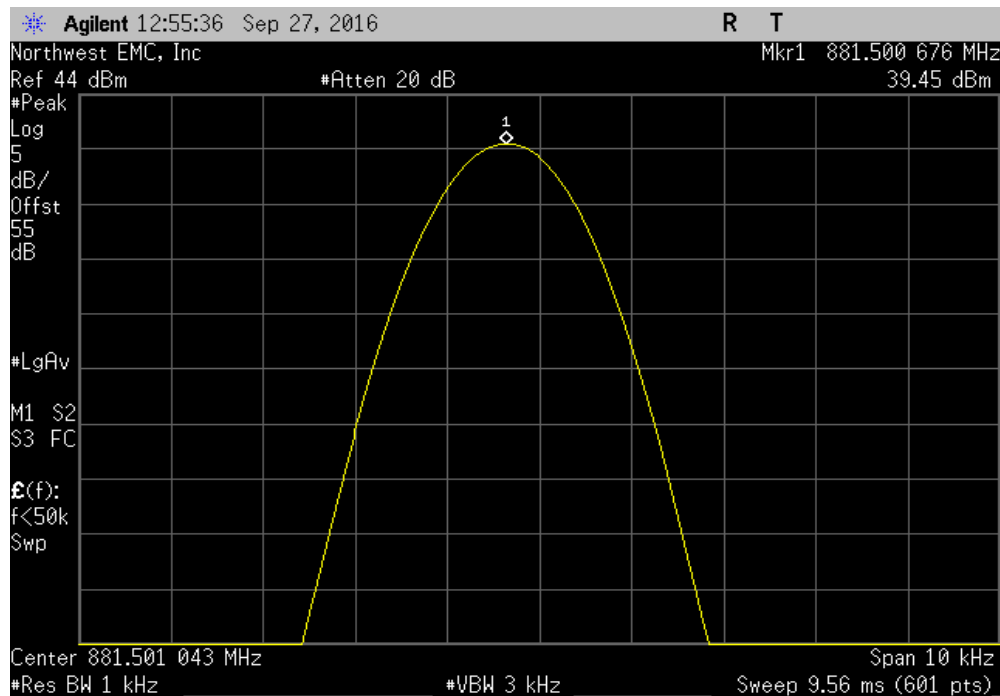


Antenna Port 1, Extreme Temperature, +50°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.40067	871.4	0.8	1.5	Pass	

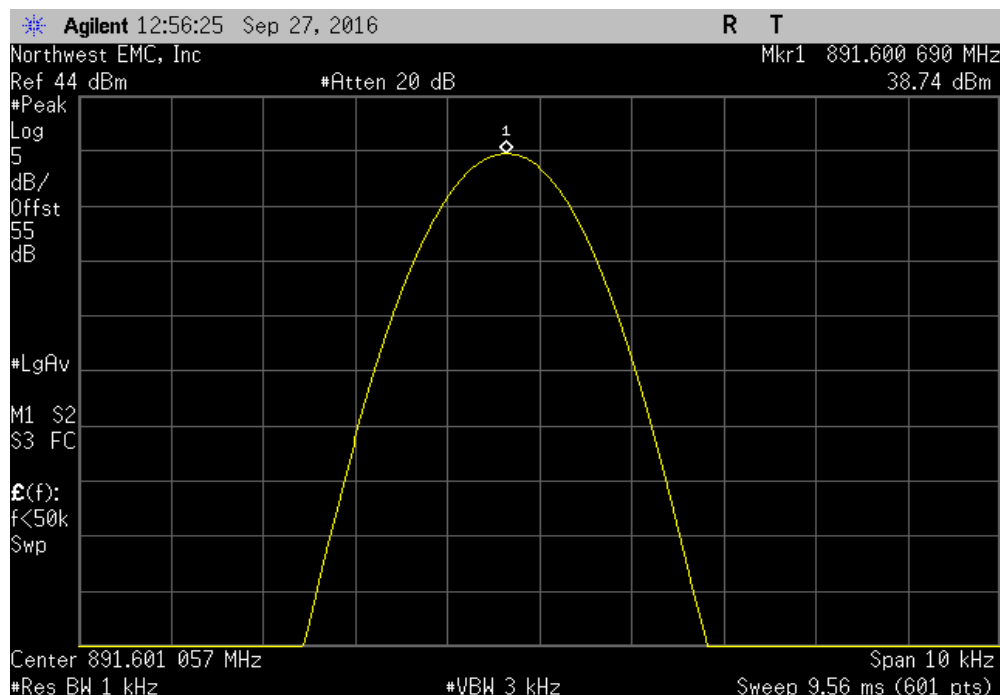


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, +50°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500676	881.5	0.8	1.5	Pass	

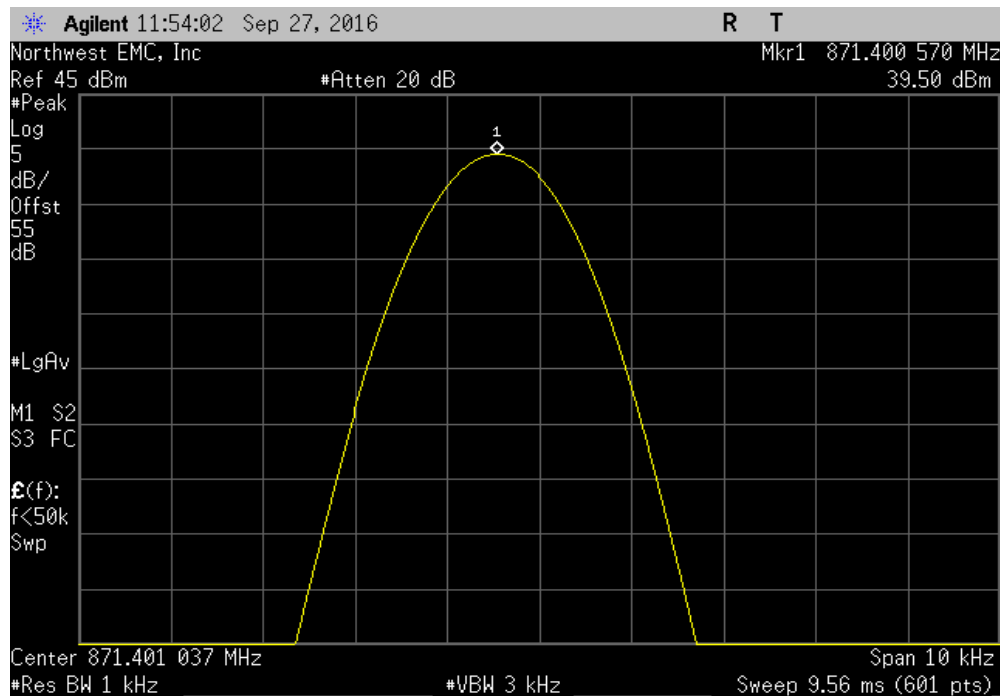


Antenna Port 1, Extreme Temperature, +50°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.60069	891.6	0.8	1.5	Pass	

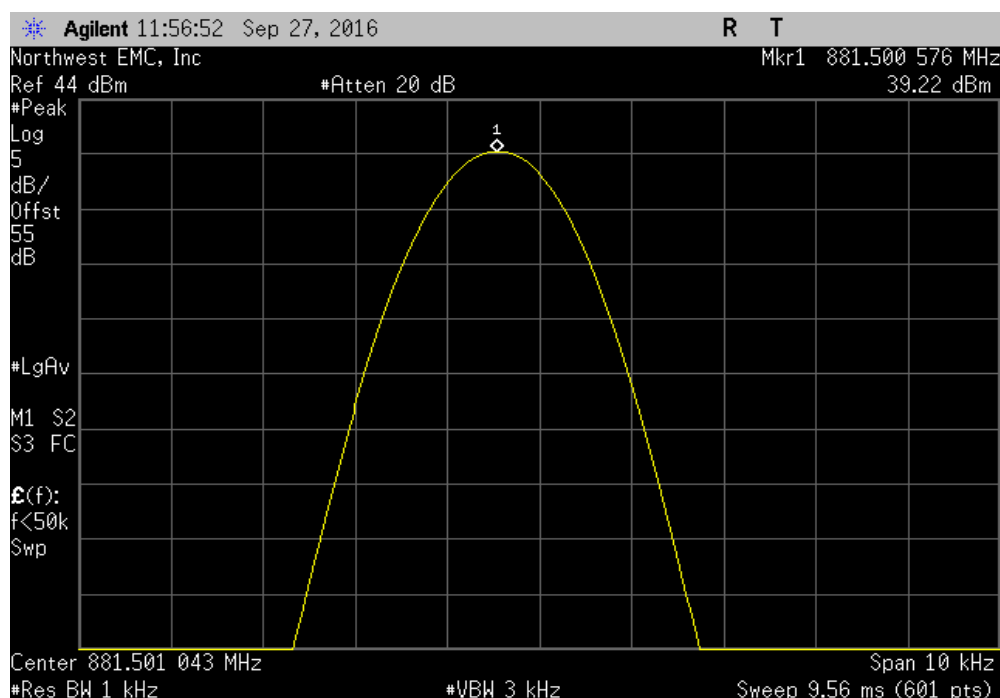


FREQUENCY STABILITY

Antenna Port 2, Normal Temperature and Voltage, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.40057	871.4	0.7	1.5	Pass	

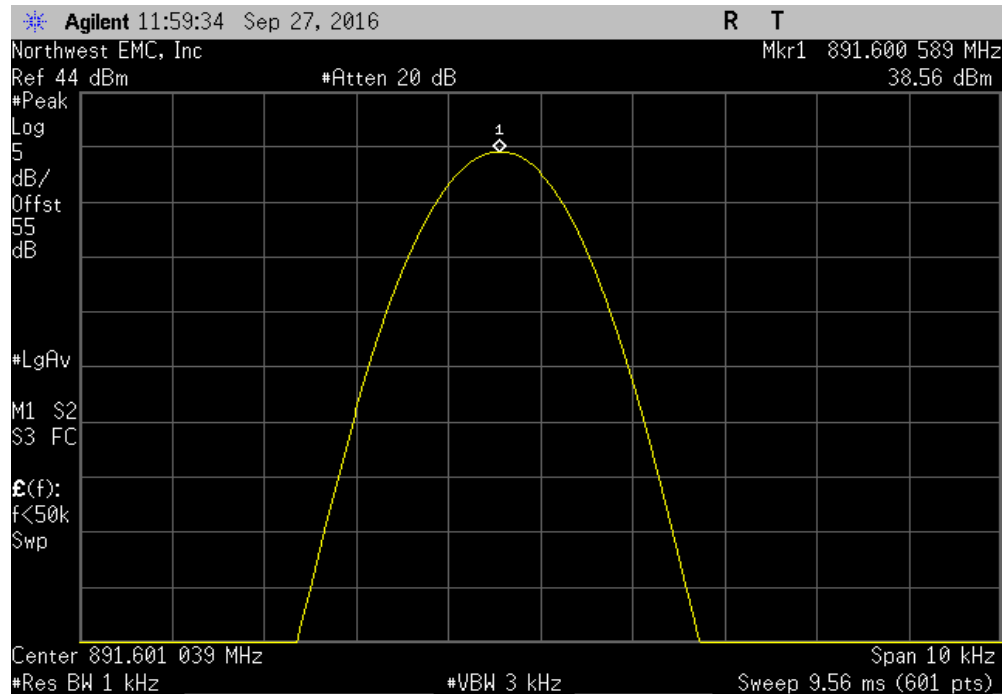


Antenna Port 2, Normal Temperature and Voltage, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500576	881.5	0.7	1.5	Pass	

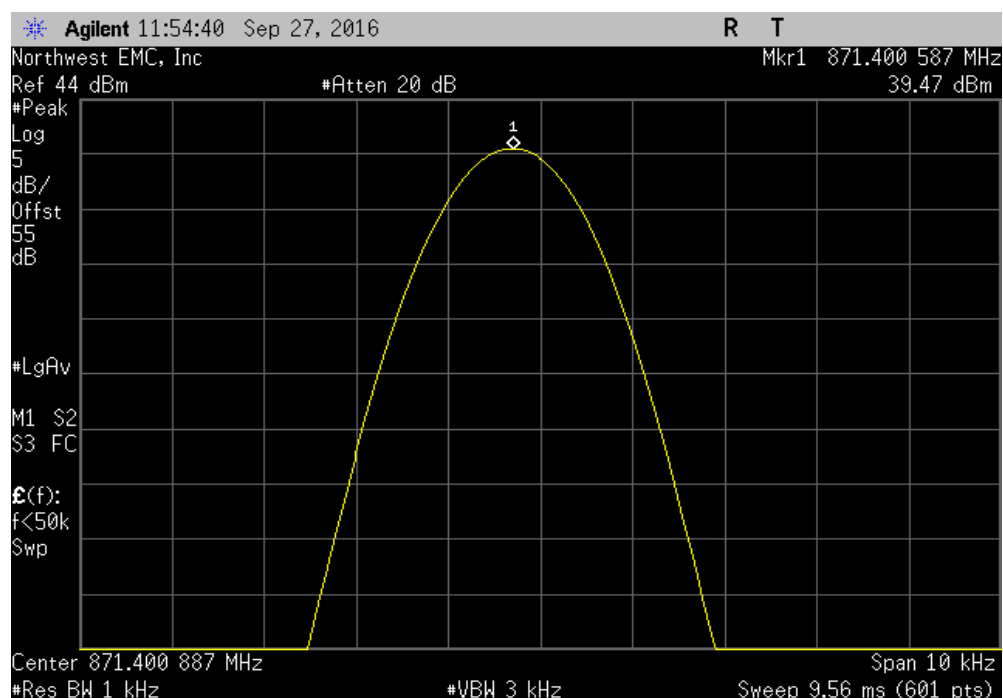


FREQUENCY STABILITY

Antenna Port 2, Normal Temperature and Voltage, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600589	891.6	0.7	1.5	Pass	

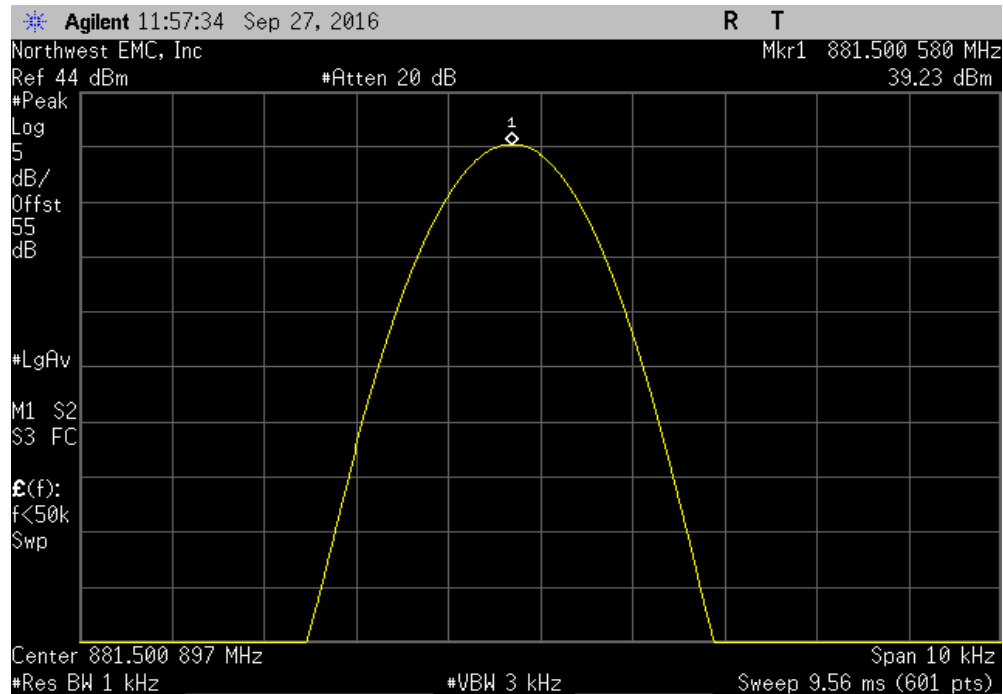


Antenna Port 2, Extreme Voltage, 55.2 VDC, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400587	871.4	0.7	1.5	Pass	

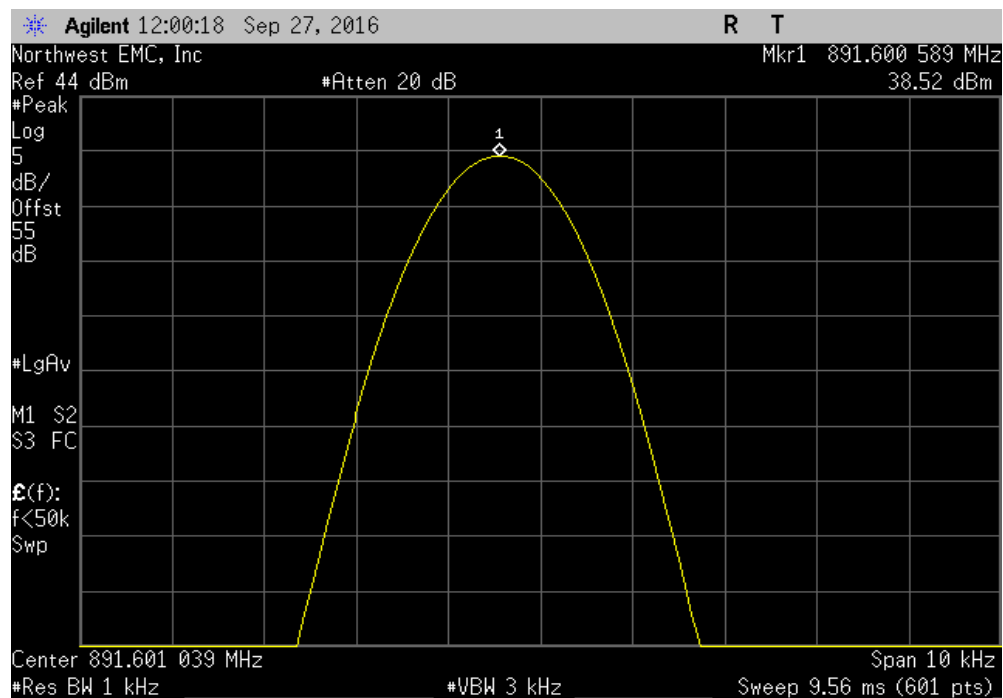


FREQUENCY STABILITY

Antenna Port 2, Extreme Voltage, 55.2 VDC, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.50058	881.5	0.7	1.5	Pass	

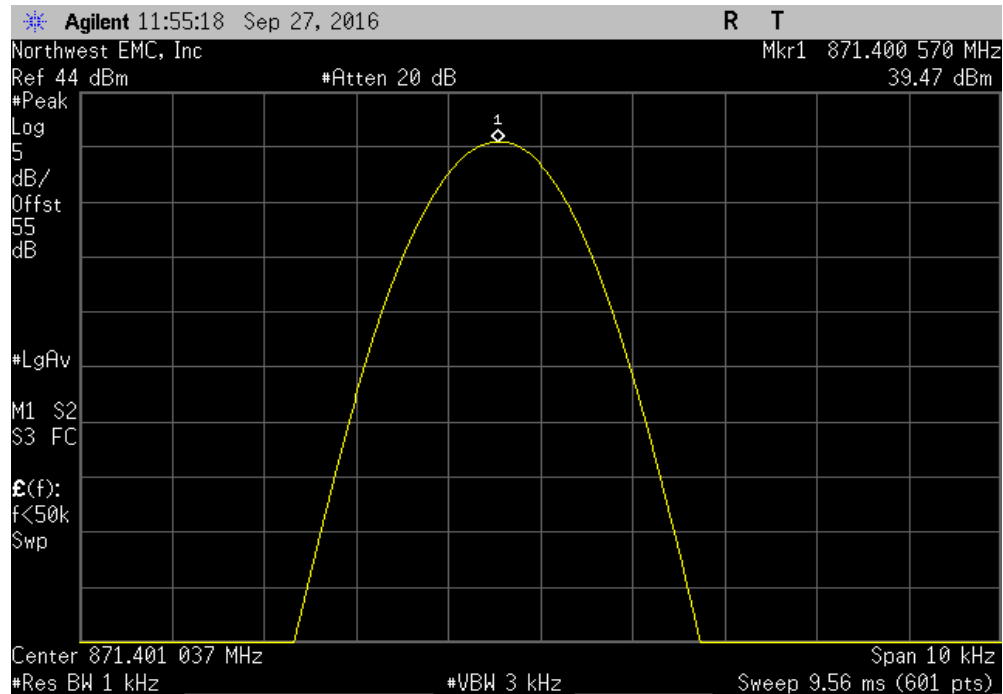


Antenna Port 2, Extreme Voltage, 55.2 VDC, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600589	891.6	0.7	1.5	Pass	

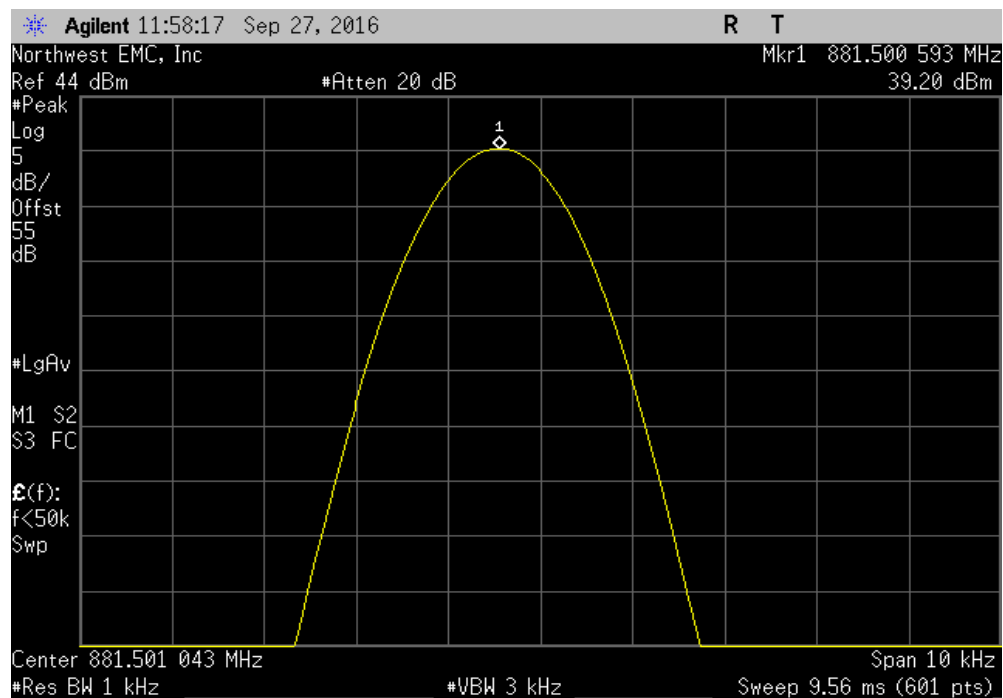


FREQUENCY STABILITY

Antenna Port 2, Extreme Voltage, 40.8 VDC, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.40057	871.4	0.7	1.5	Pass	

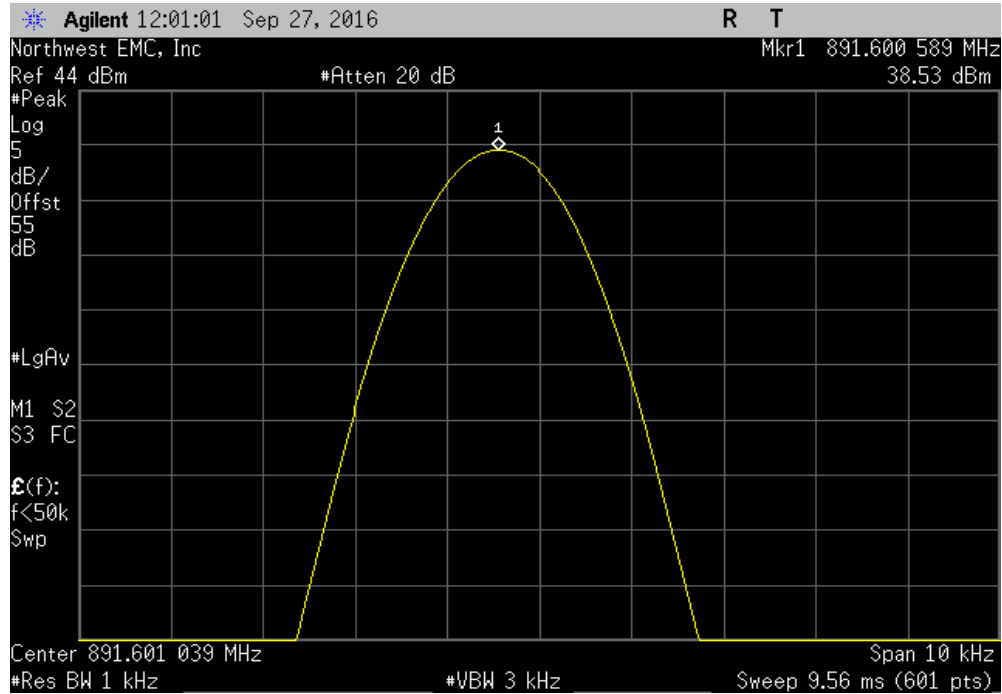


Antenna Port 2, Extreme Voltage, 40.8 VDC, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500593	881.5	0.7	1.5	Pass	

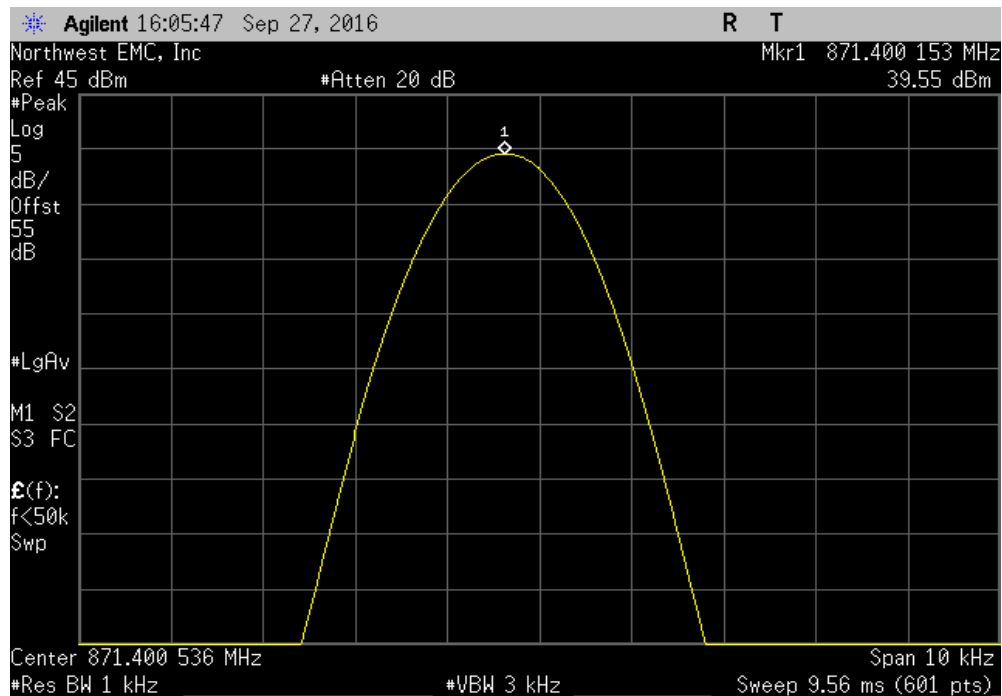


FREQUENCY STABILITY

Antenna Port 2, Extreme Voltage, 40.8 VDC, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600589	891.6	0.7	1.5	Pass	

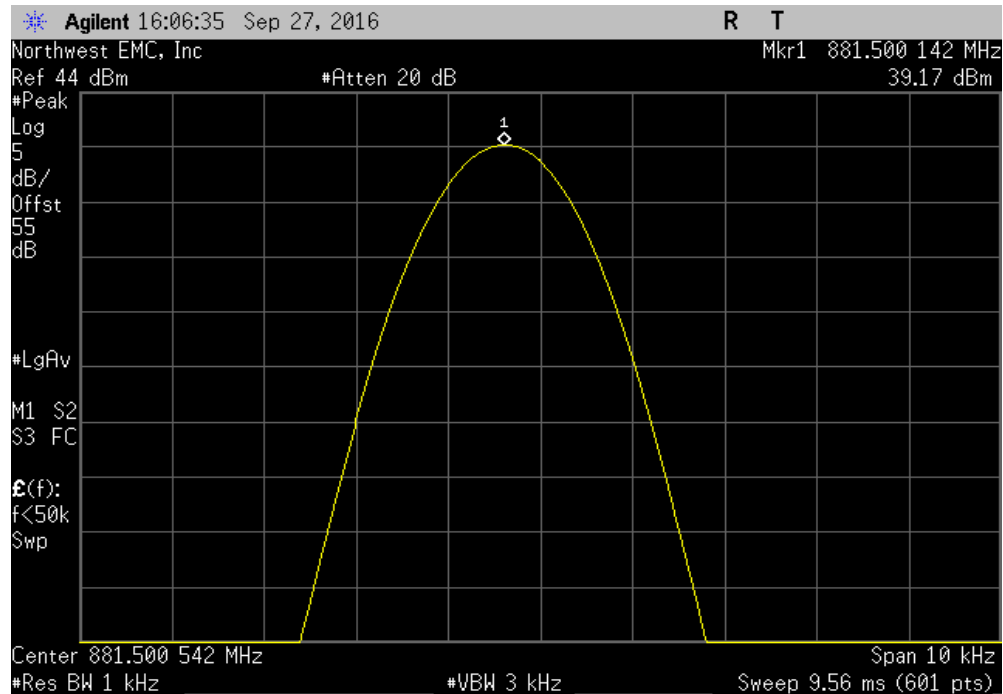


Antenna Port 2, Extreme Temperature, -30°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400153	871.4	0.2	1.5	Pass	

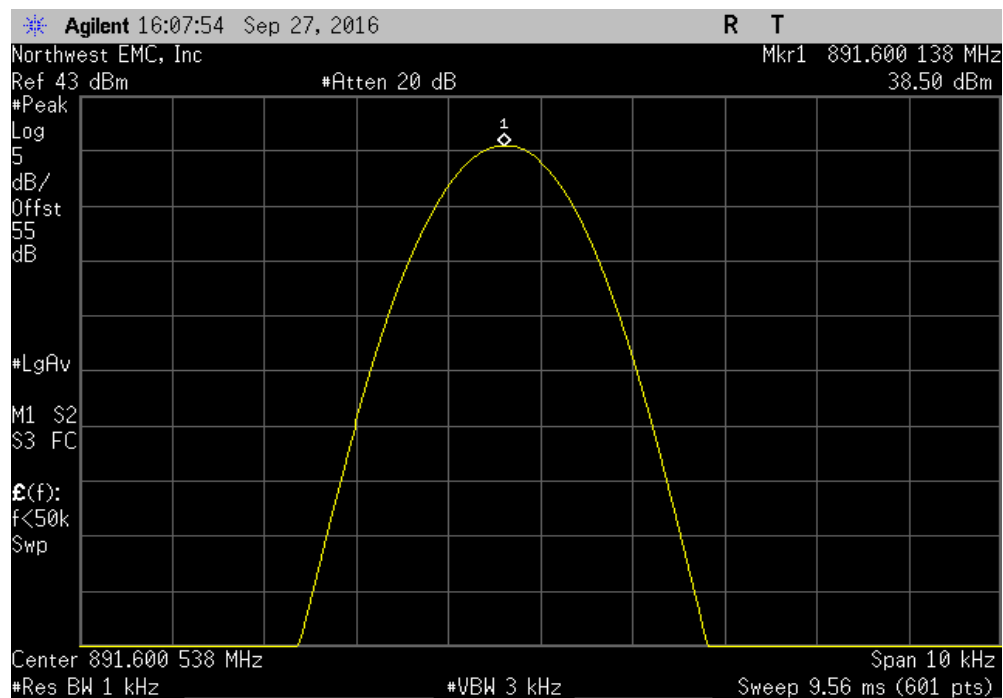


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, -30°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500142	881.5	0.2	1.5	Pass	

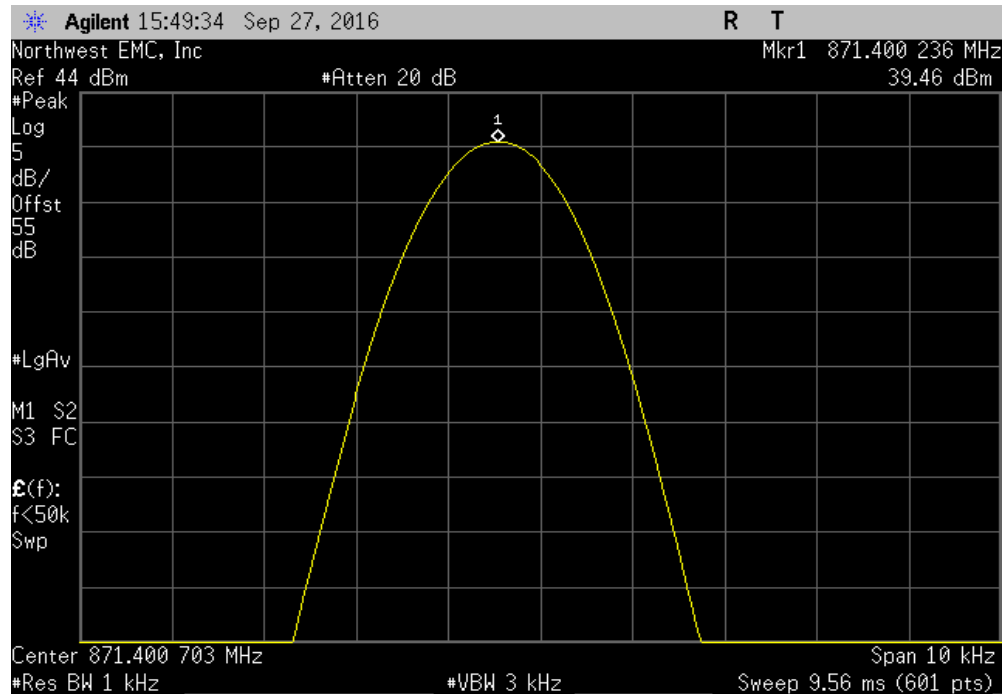


Antenna Port 2, Extreme Temperature, -30°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600138	891.6	0.2	1.5	Pass	

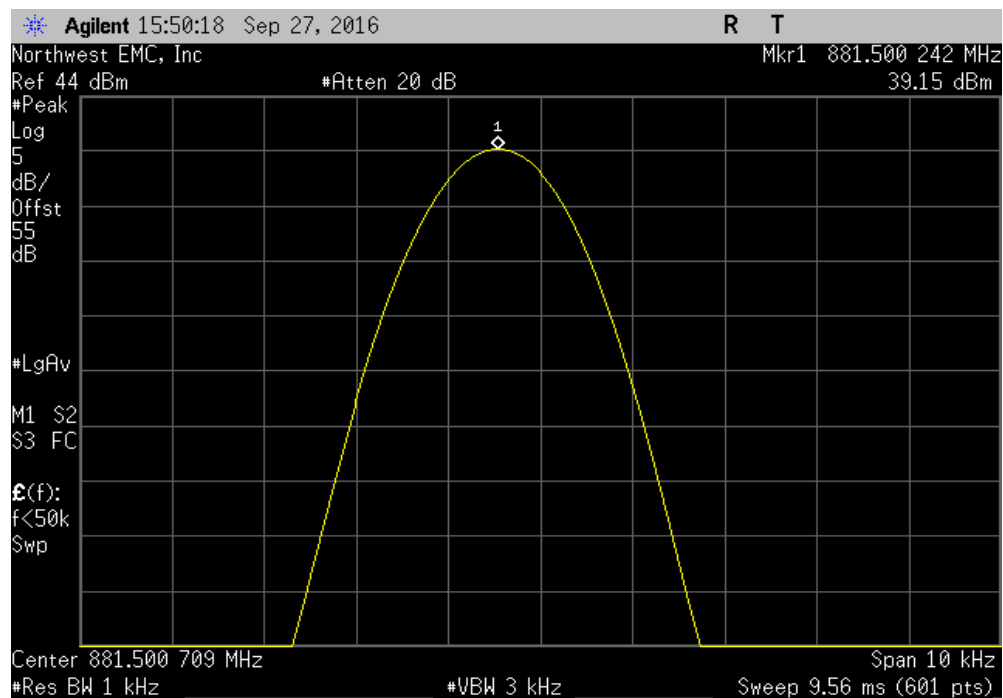


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, -20°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400236	871.4	0.3	1.5	Pass	

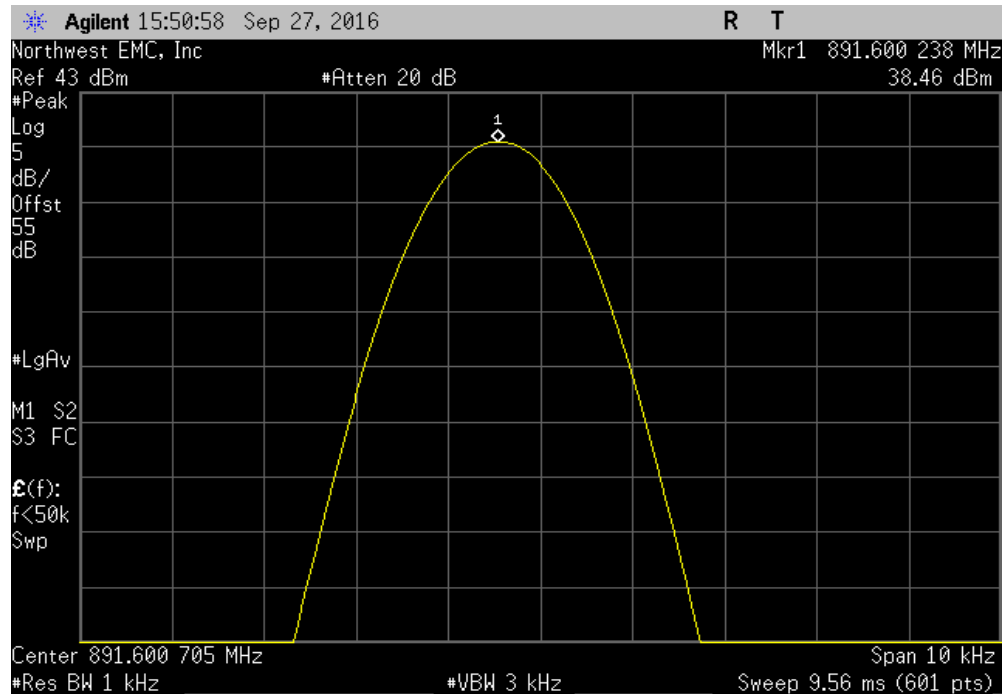


Antenna Port 2, Extreme Temperature, -20°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500242	881.5	0.3	1.5	Pass	

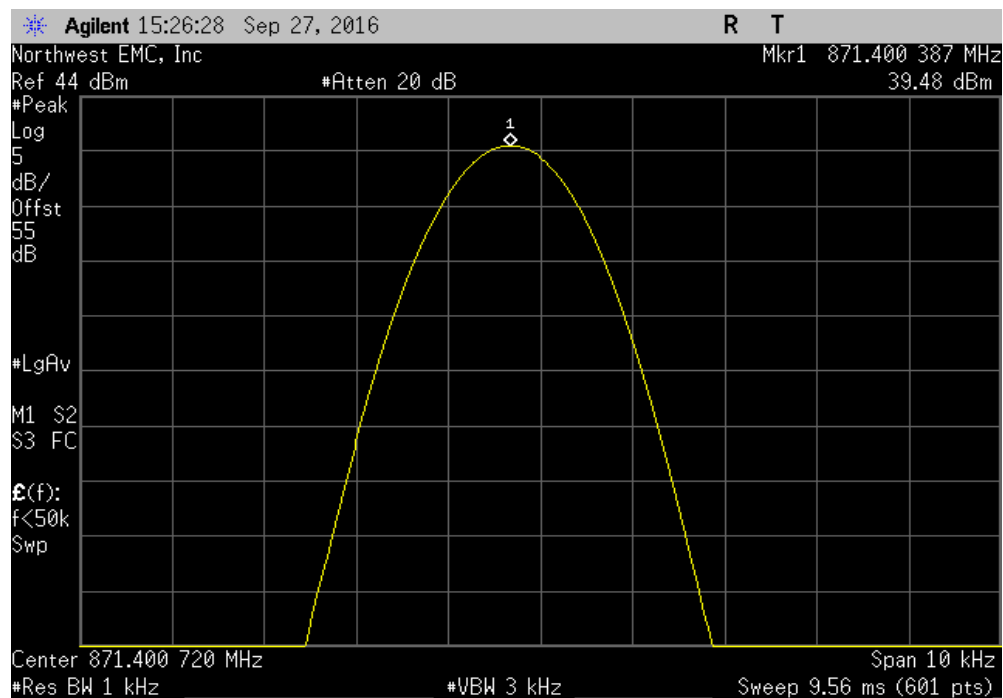


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, -20°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600238	891.6	0.3	1.5	Pass	

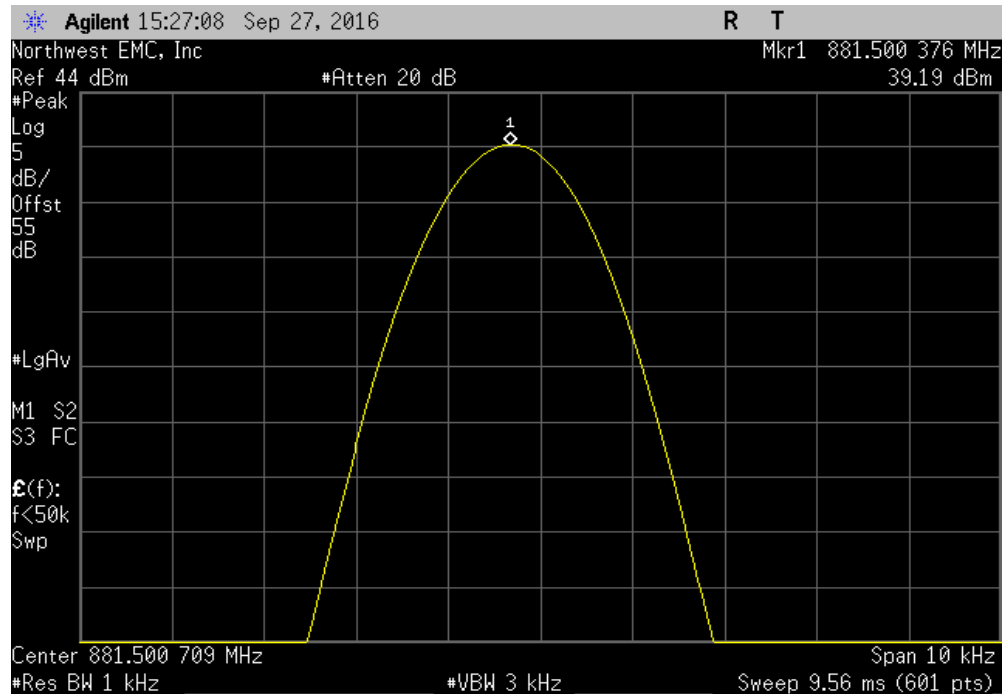


Antenna Port 2, Extreme Temperature, -10°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400387	871.4	0.4	1.5	Pass	

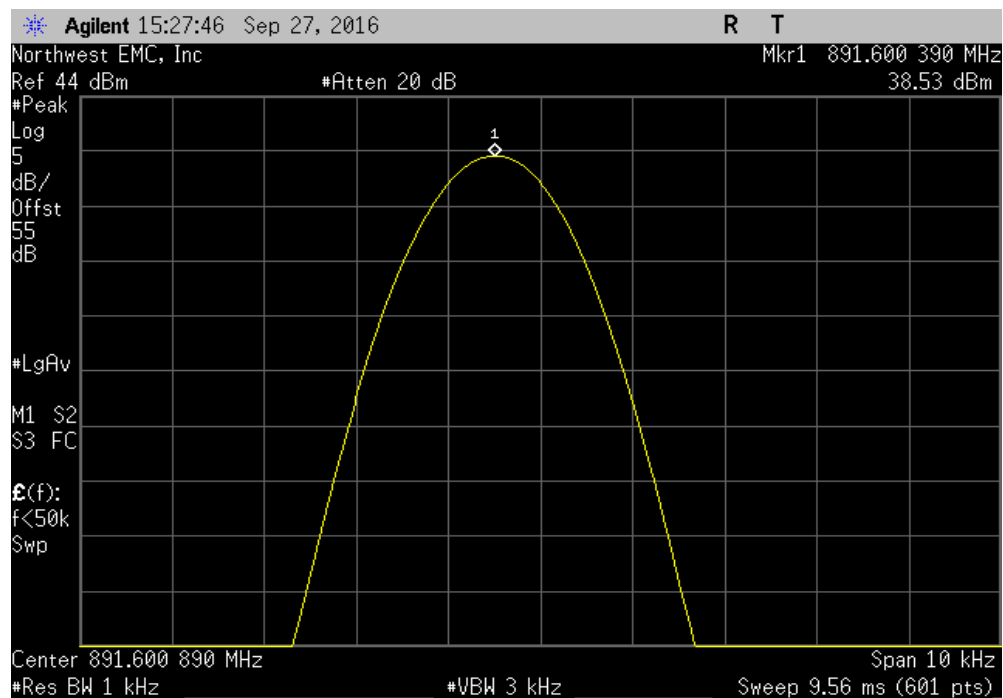


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, -10°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500376	881.5	0.4	1.5	Pass	

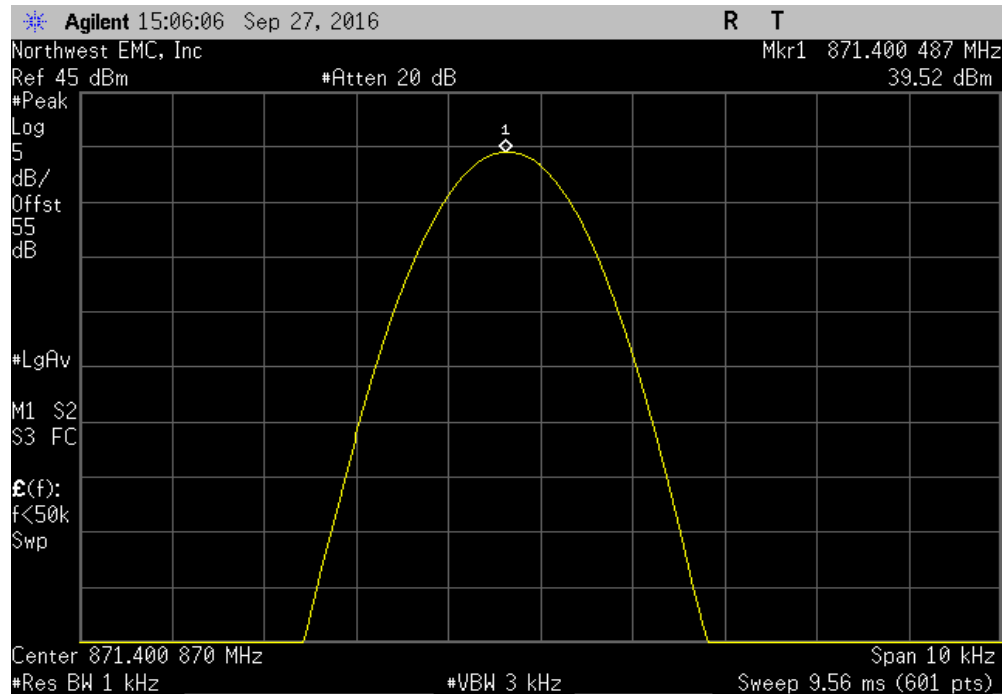


Antenna Port 2, Extreme Temperature, -10°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.60039	891.6	0.4	1.5	Pass	

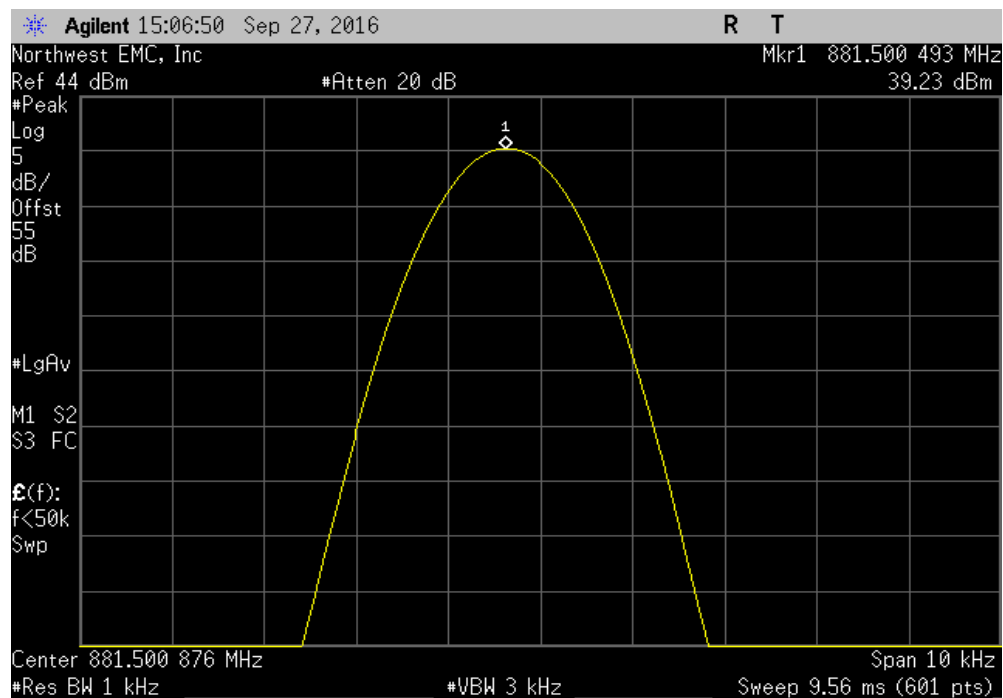


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, 0°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400487	871.4	0.6	1.5	Pass	

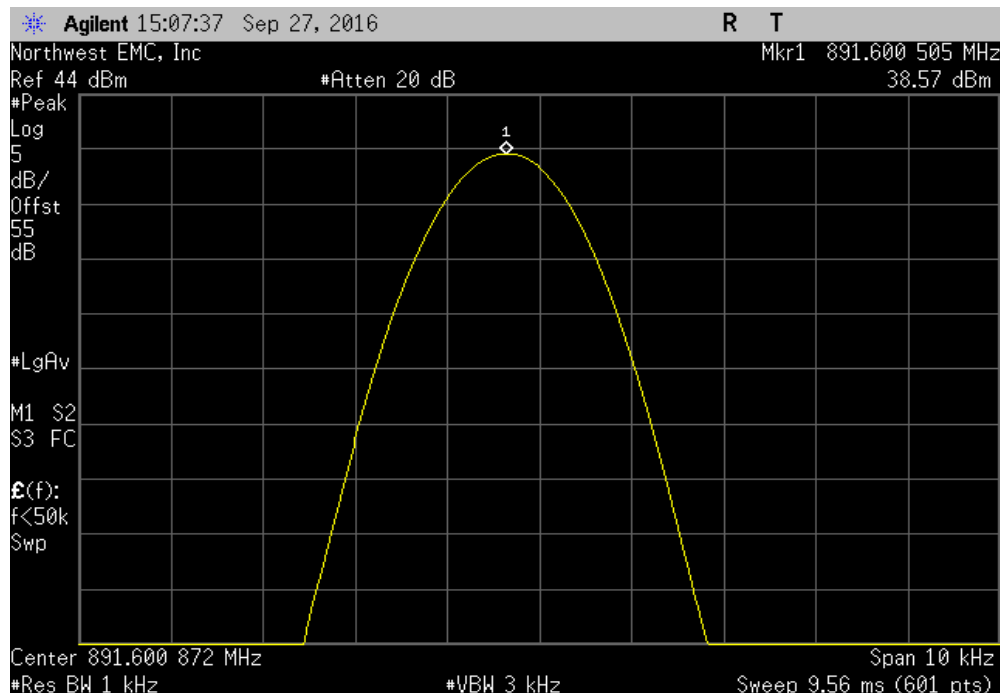


Antenna Port 2, Extreme Temperature, 0°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500493	881.5	0.6	1.5	Pass	

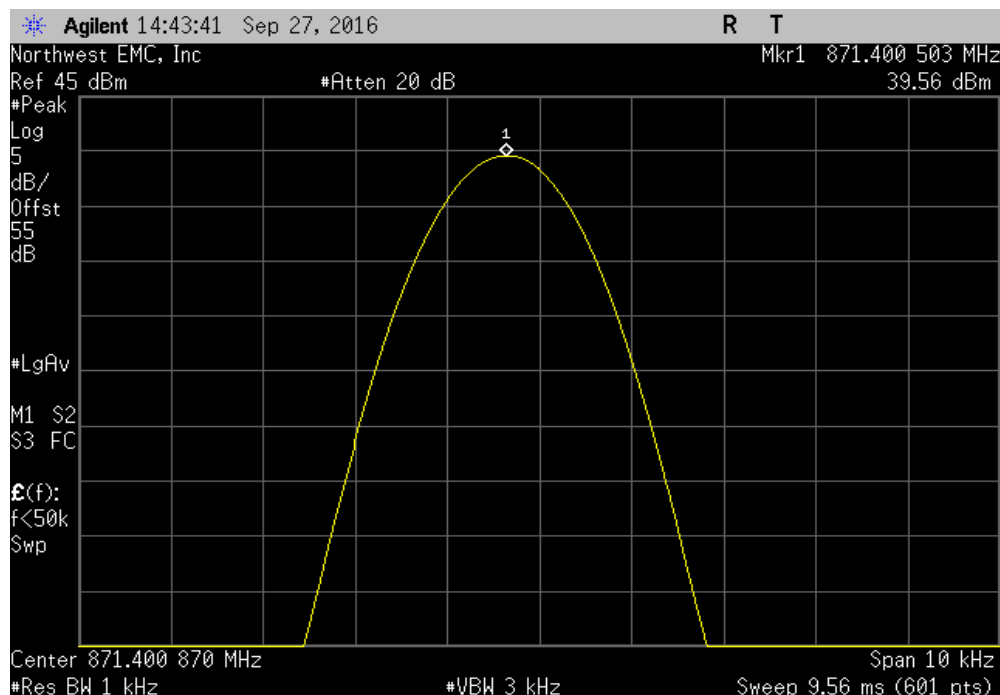


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, 0°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600505	891.6	0.6	1.5	Pass	

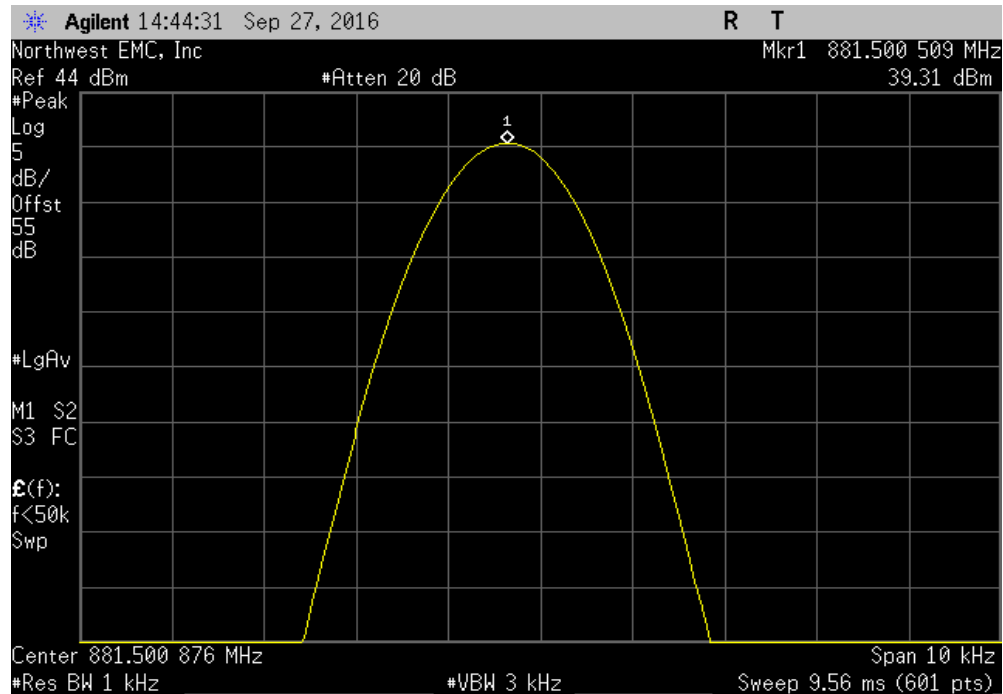


Antenna Port 2, Extreme Temperature, +10°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400503	871.4	0.6	1.5	Pass	

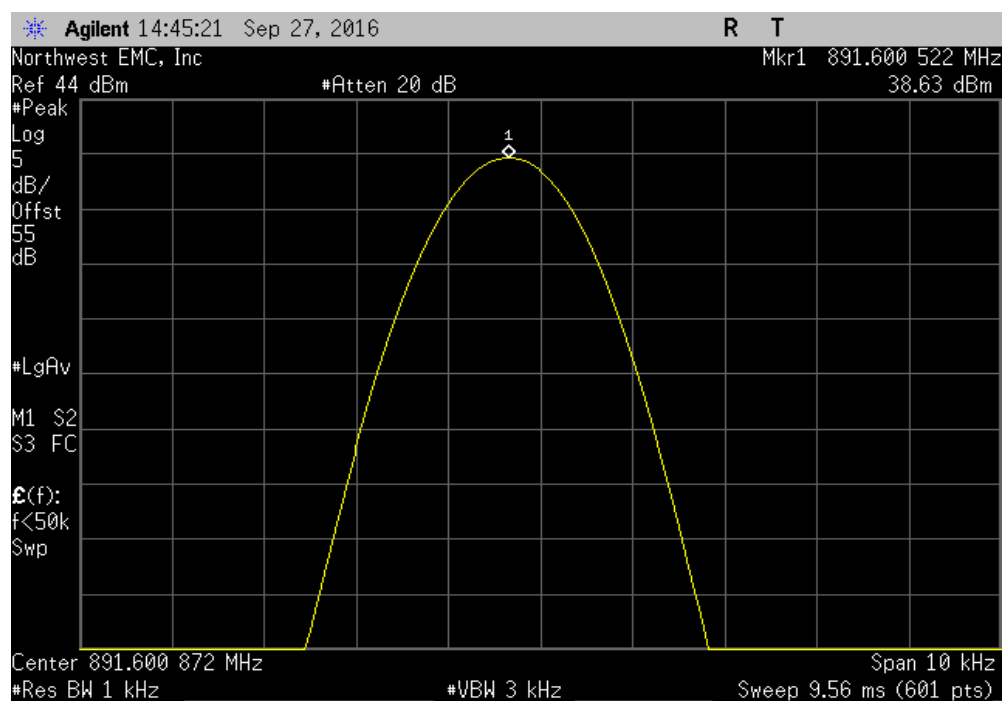


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, +10°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500509	881.5	0.6	1.5	Pass	

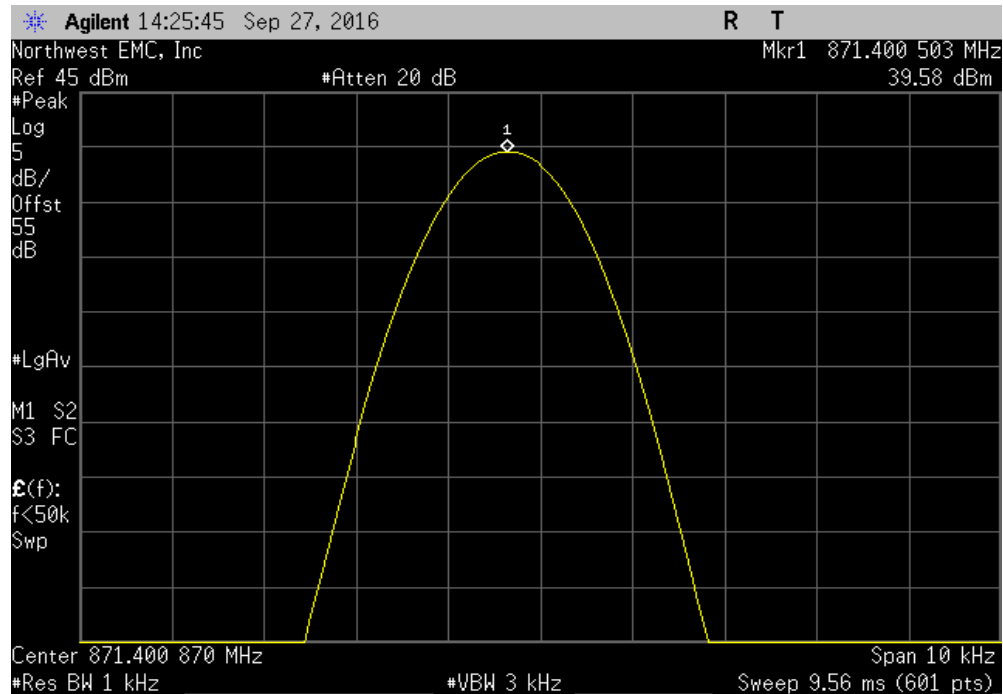


Antenna Port 2, Extreme Temperature, +10°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600522	891.6	0.6	1.5	Pass	

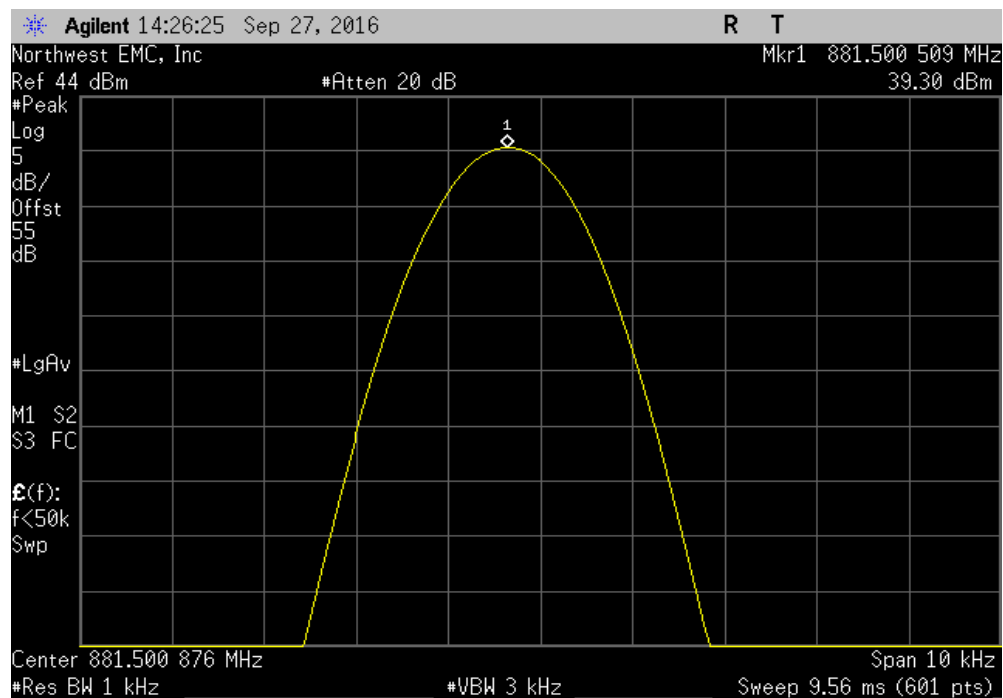


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, +20°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400503	871.4	0.6	1.5	Pass	

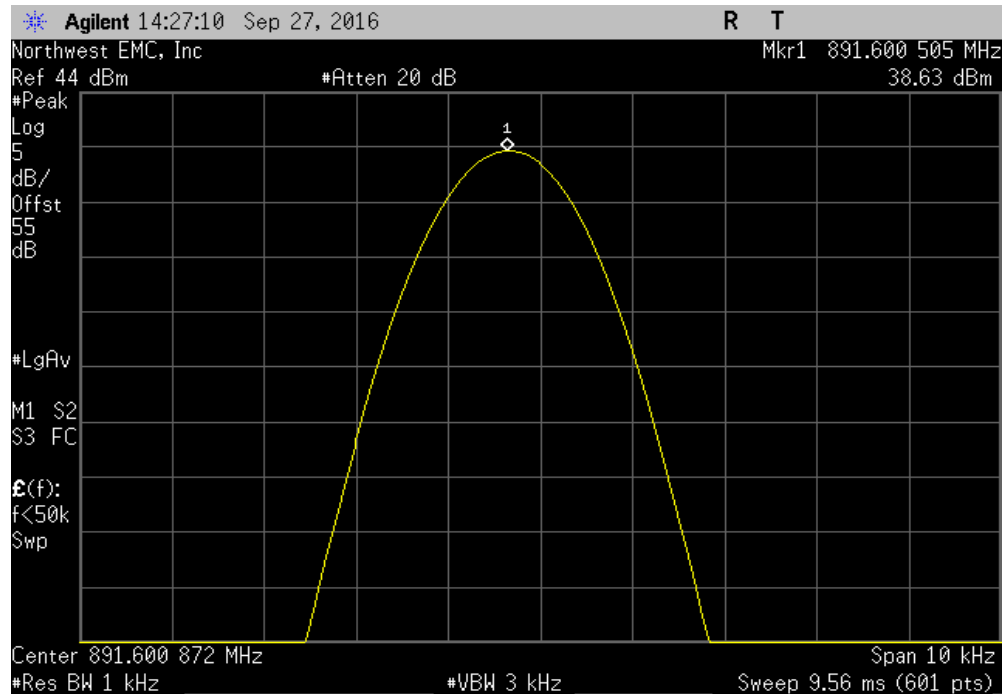


Antenna Port 2, Extreme Temperature, +20°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500509	881.5	0.6	1.5	Pass	

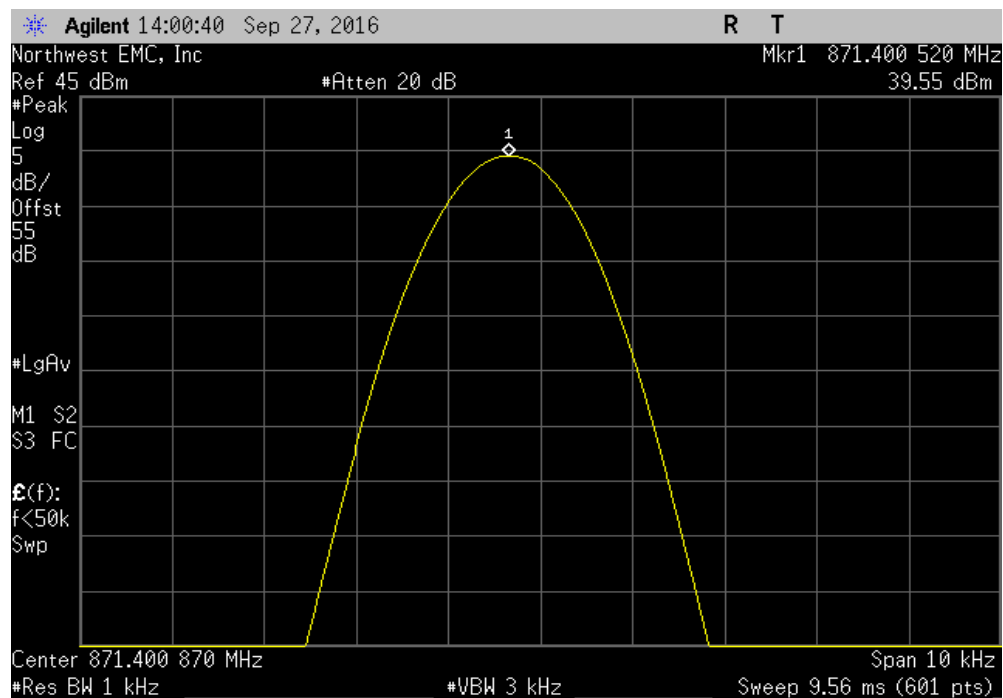


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, +20°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600505	891.6	0.6	1.5	Pass	

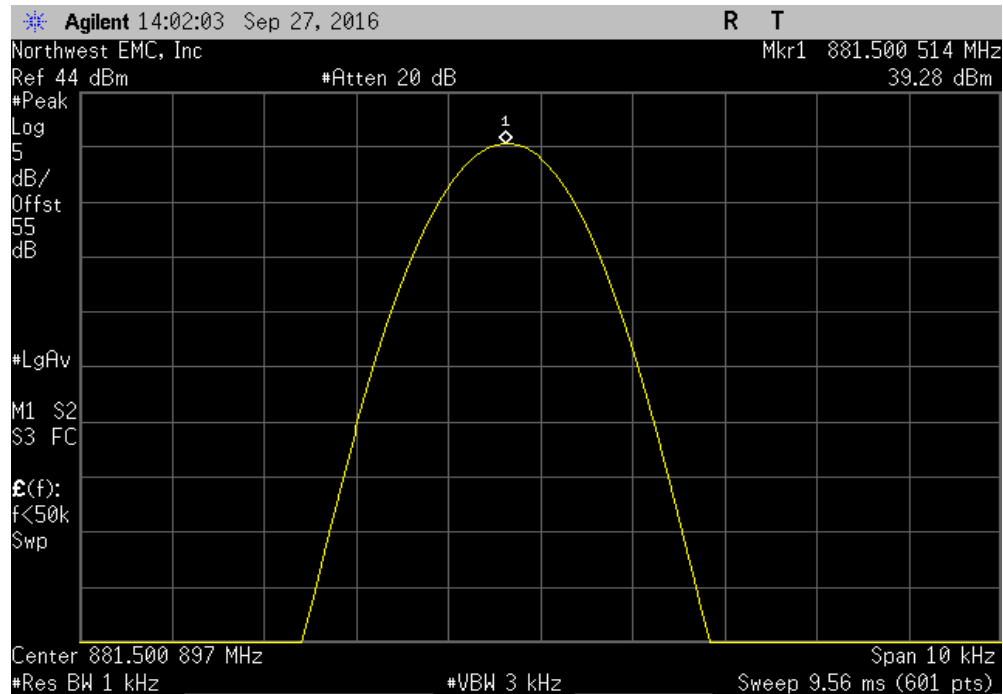


Antenna Port 2, Extreme Temperature, +30°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.40052	871.4	0.6	1.5	Pass	

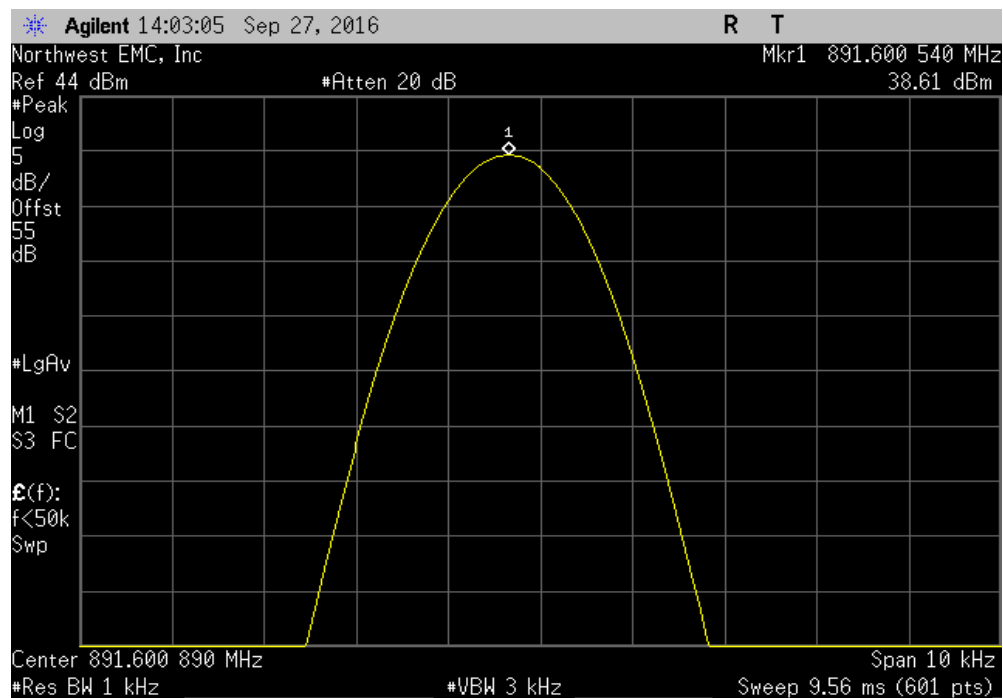


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, +30°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500514	881.5	0.6	1.5	Pass	

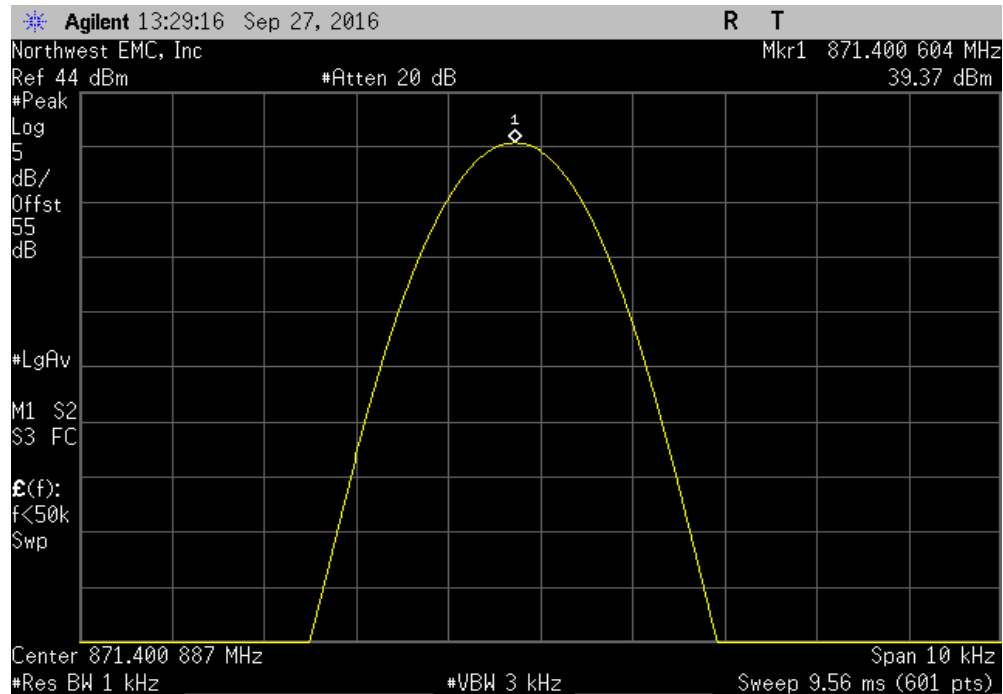


Antenna Port 2, Extreme Temperature, +30°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.60054	891.6	0.6	1.5	Pass	

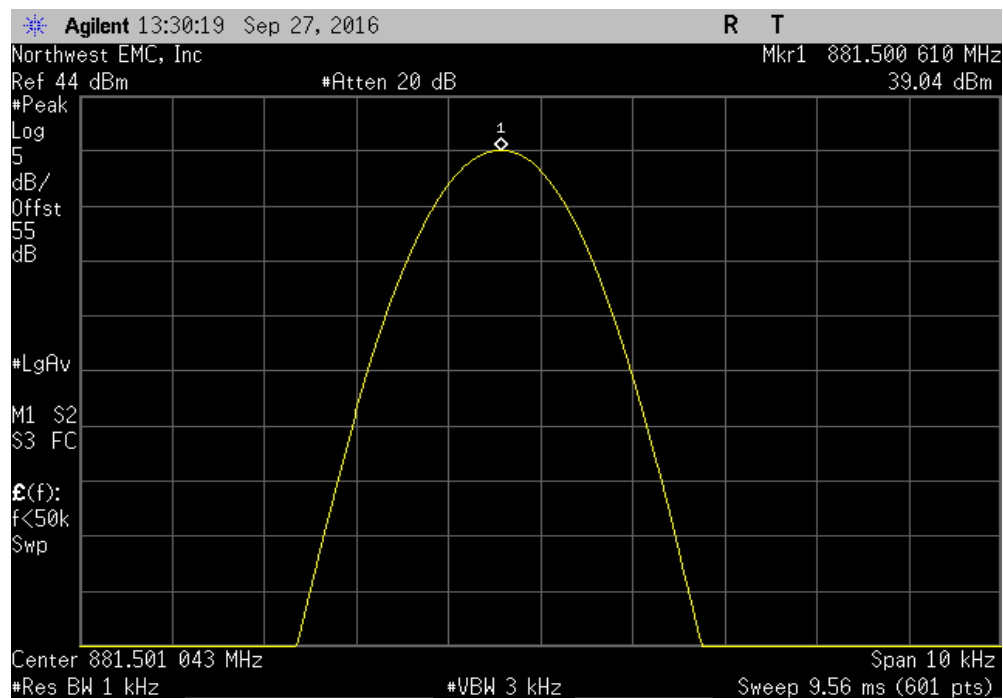


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, +40°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.400604	871.4	0.7	1.5	Pass	

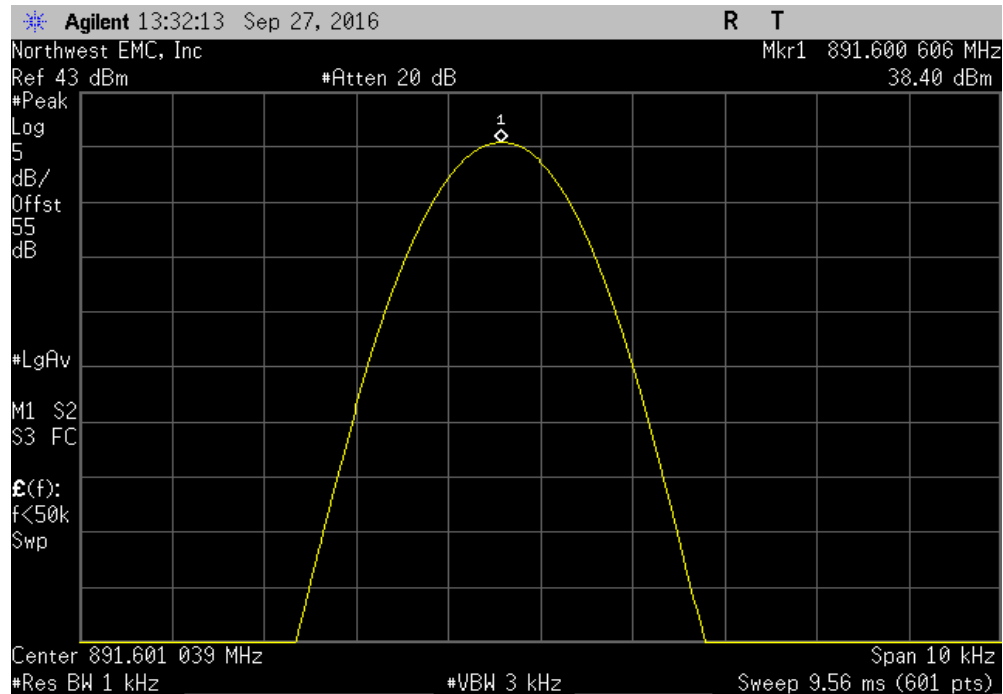


Antenna Port 2, Extreme Temperature, +40°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.50061	881.5	0.7	1.5	Pass	

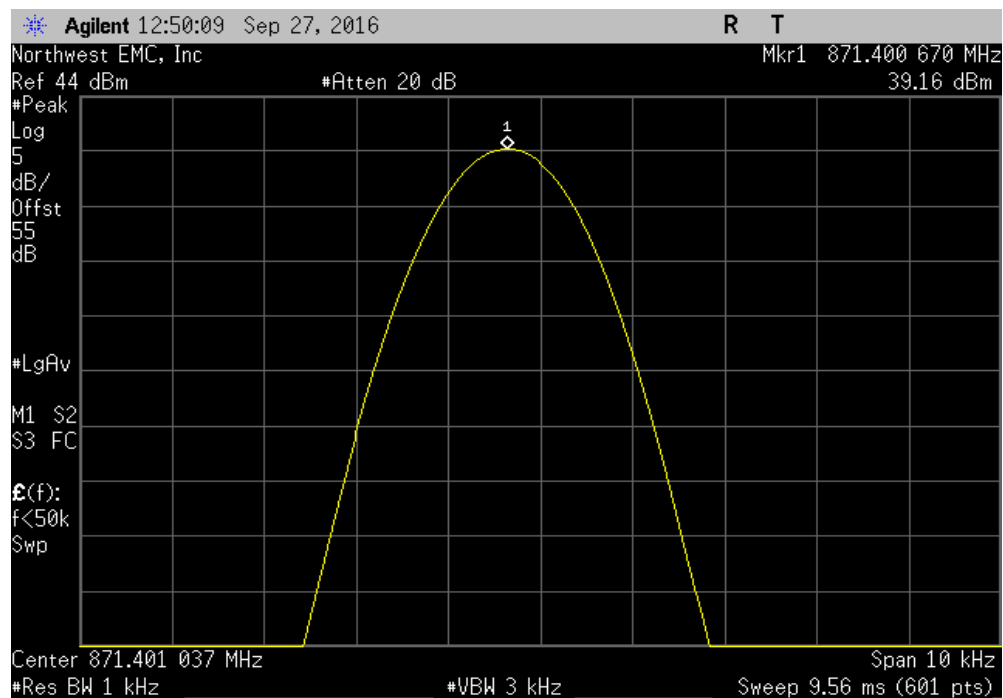


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, +40°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.600606	891.6	0.7	1.5	Pass	

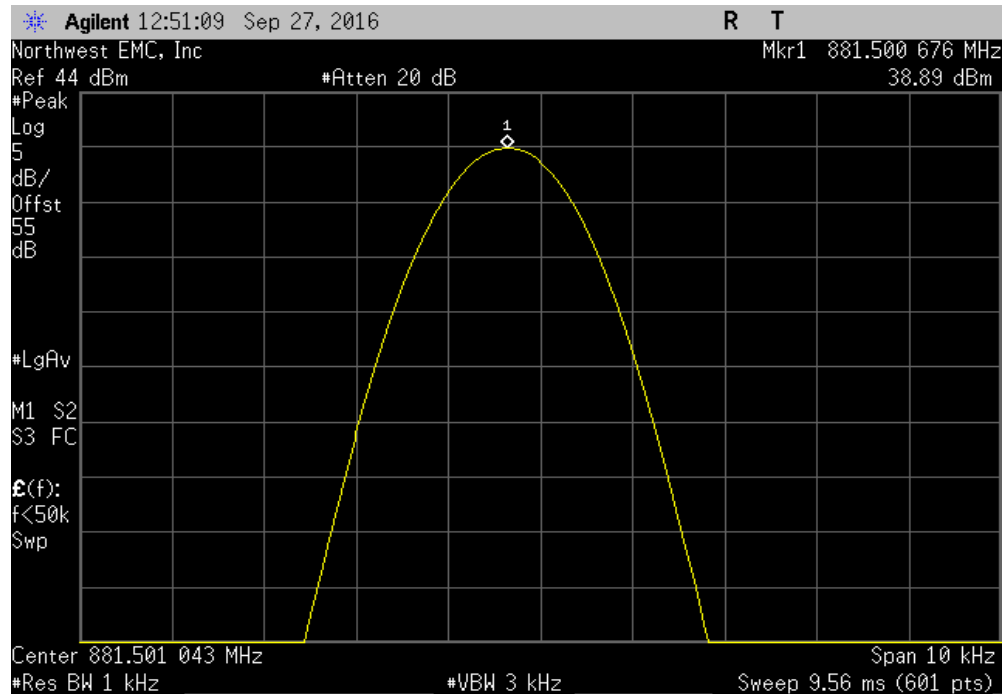


Antenna Port 2, Extreme Temperature, +50°C, Low Channel CW, 871.4 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	871.40067	871.4	0.8	1.5	Pass	

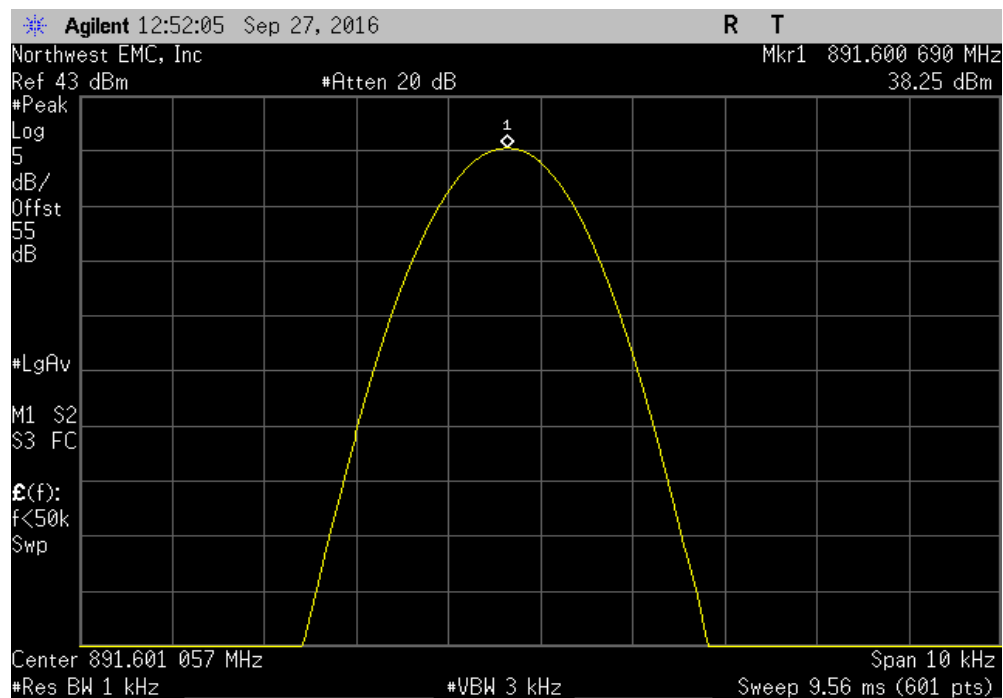


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, +50°C, Mid Channel CW, 881.5 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	881.500676	881.5	0.8	1.5	Pass	



Antenna Port 2, Extreme Temperature, +50°C, High Channel CW, 891.6 MHz						
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
	891.60069	891.6	0.8	1.5	Pass	



OCCUPIED BANDWIDTH - LTE BAND 5

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.	Cal. Due
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The spectrum analyzer settings were as follows:

- RBW = Approx. 1% of the emission bandwidth (B). This was an iterative process to determine the RBW based on the emissions bandwidth (B).
- VBW= > RBW
- A peak detector was used
- Trace max hold.


The spectrum analyzer occupied bandwidth measurement function was then used to measure the 26 dB emission bandwidth.

There is no required limit to be met in the rule part for this test. The purpose of the test is to report the results.

OCCUPIED BANDWIDTH - LTE BAND 5

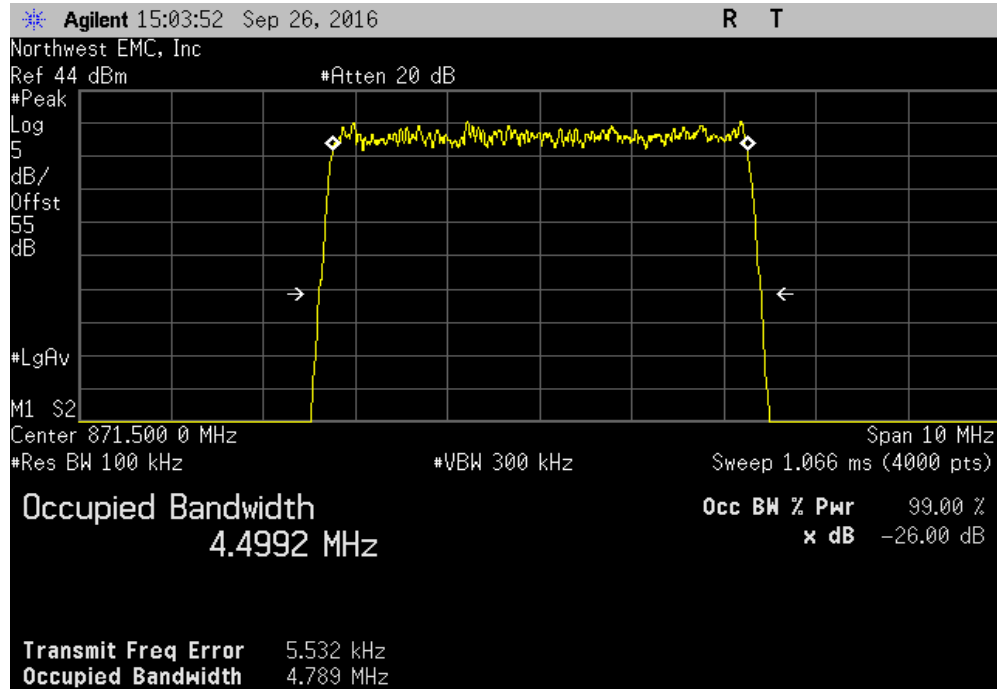


XMR 2016.05.06

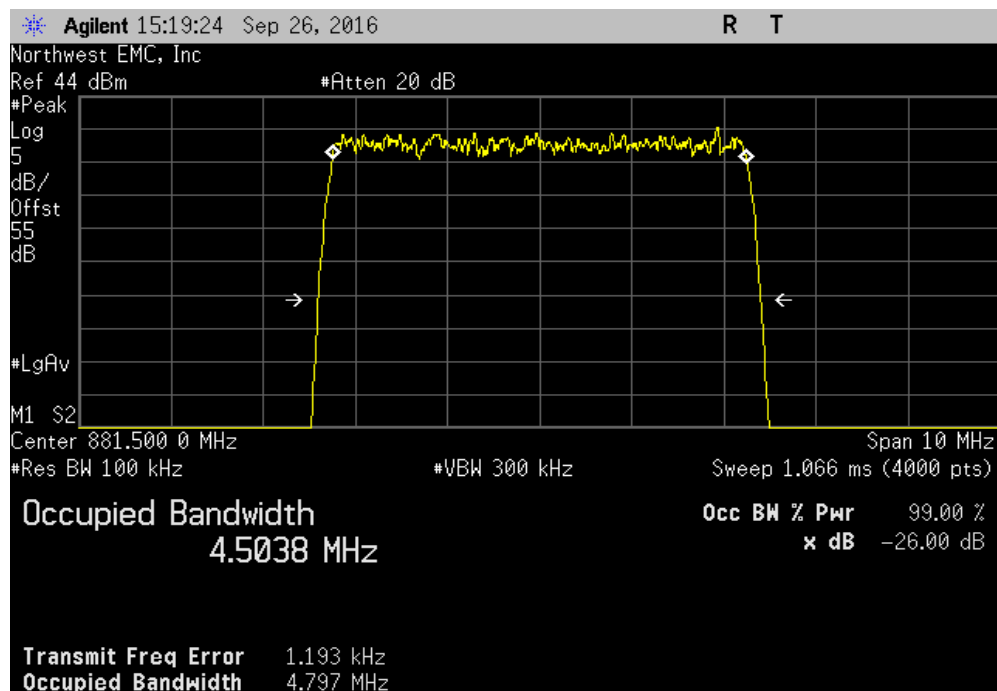
EUT: CWS-3050-05		Work Order: KMWC0071	
Serial Number: K162600004		Date: 09/26/16	
Customer: Parallel Wireless Inc.		Temperature: 22.3 °C	
Attendees: Edward Lee		Humidity: 38.4% RH	
Project: None		Barometric Pres.: 1016 mbar	
Tested by: Johnny Candelas		Power: 48VDC	
		Job Site: OC13	
TEST SPECIFICATIONS		Test Method	
FCC 22H:2016		ANSI/TIA/EIA-603-D-2010	
COMMENTS			
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 55.0dB total.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature 	
		Value	Limit
Antenna Port 1			
	Low Channel LTE5, 871.5 MHz	4.789 MHz	N/A
	Mid Channel LTE5, 881.5 MHz	4.797 MHz	N/A
	High Channel LTE5, 891.5 MHz	4.805 MHz	N/A
	Low Channel LTE10, 874 MHz	9.503 MHz	N/A
	Mid Channel LTE10, 881.5 MHz	9.599 MHz	N/A
	High Channel LTE10, 889 MHz	9.58 MHz	N/A
Antenna Port 2			
	Low Channel LTE5, 871.5 MHz	4.787 MHz	N/A
	Mid Channel LTE5, 881.5 MHz	4.798 MHz	N/A
	High Channel LTE5, 891.5 MHz	4.793 MHz	N/A
	Low Channel LTE10, 874 MHz	9.55 MHz	N/A
	Mid Channel LTE10, 881.5 MHz	9.573 MHz	N/A
	High Channel LTE10, 889 MHz	9.533 MHz	N/A

OCCUPIED BANDWIDTH - LTE BAND 5

Antenna Port 1, Low Channel LTE5, 871.5 MHz						
				Value	Limit	Result
				4.789 MHz	N/A	N/A

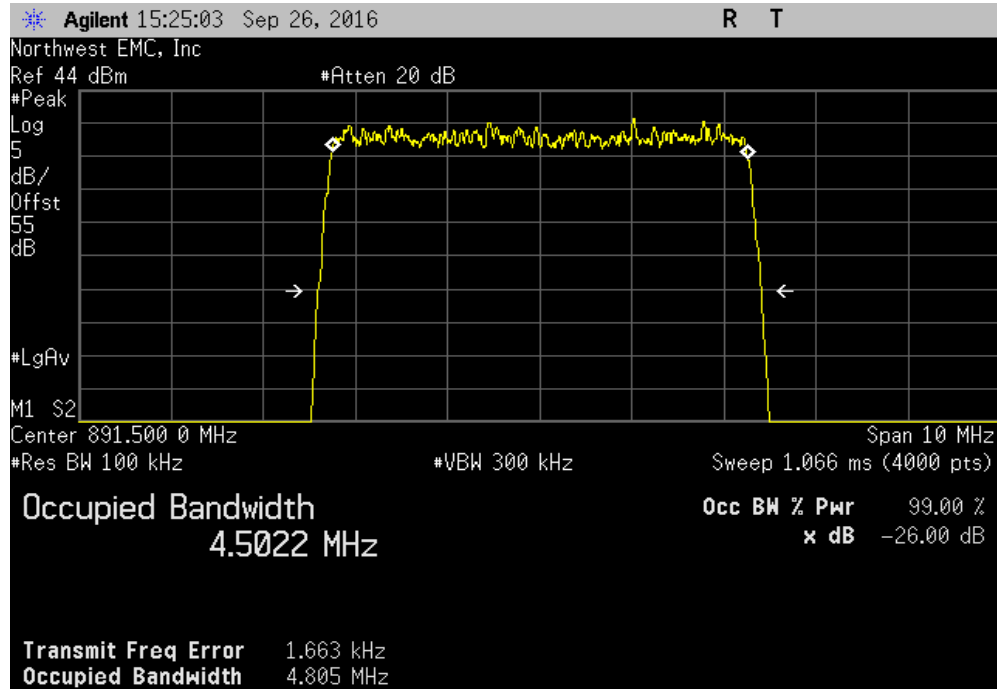


Antenna Port 1, Mid Channel LTE5, 881.5 MHz						
				Value	Limit	Result
				4.797 MHz	N/A	N/A

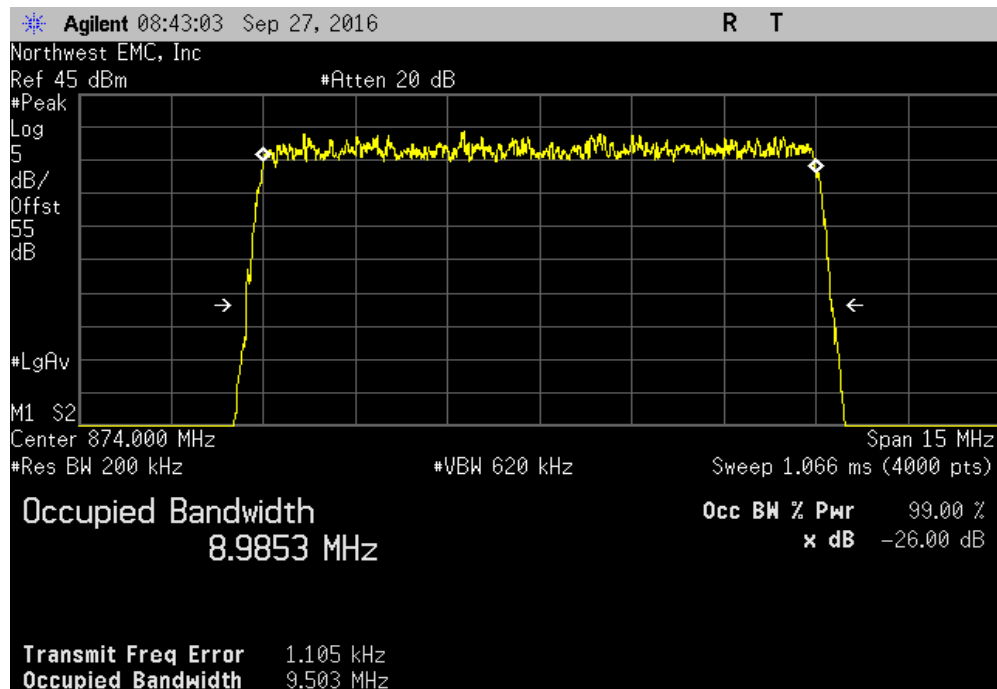


OCCUPIED BANDWIDTH - LTE BAND 5

Antenna Port 1, High Channel LTE5, 891.5 MHz						
				Value	Limit	Result
				4.805 MHz	N/A	N/A

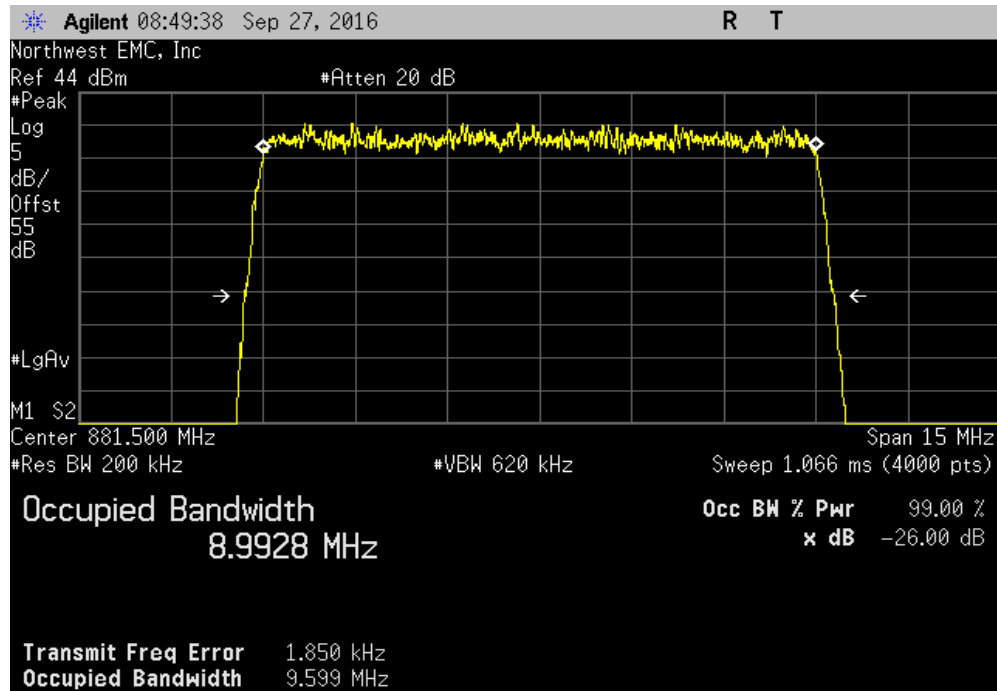


Antenna Port 1, Low Channel LTE10, 874 MHz						
				Value	Limit	Result
				9.503 MHz	N/A	N/A

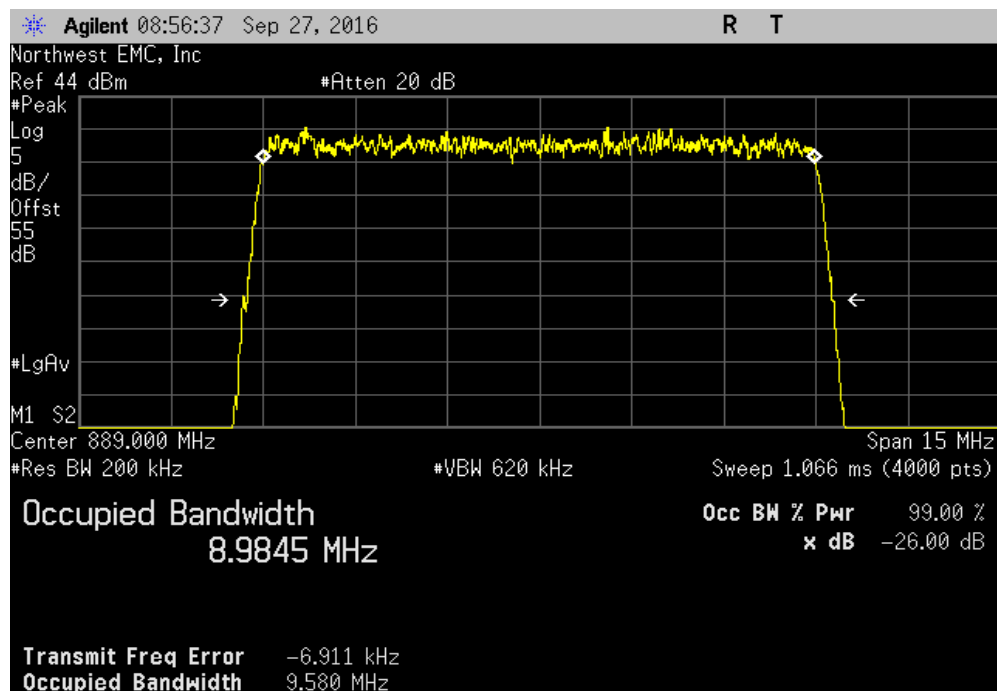


OCCUPIED BANDWIDTH - LTE BAND 5

Antenna Port 1, Mid Channel LTE10, 881.5 MHz						
				Value	Limit	Result
				9.599 MHz	N/A	N/A



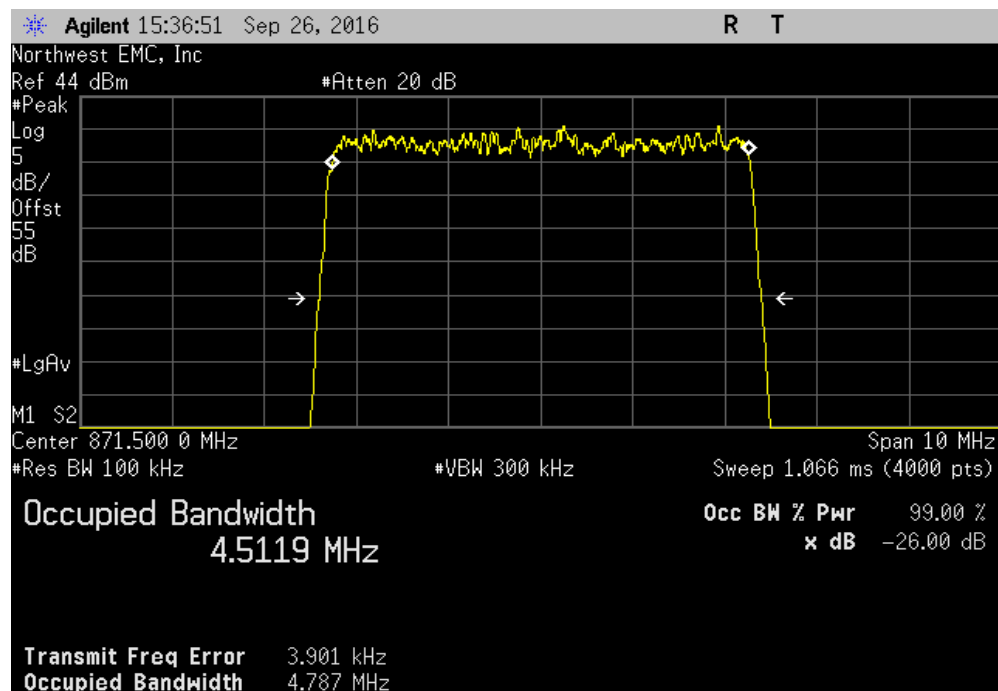
Antenna Port 1, High Channel LTE10, 889 MHz						
				Value	Limit	Result
				9.58 MHz	N/A	N/A



**NORTHWEST
EMC**

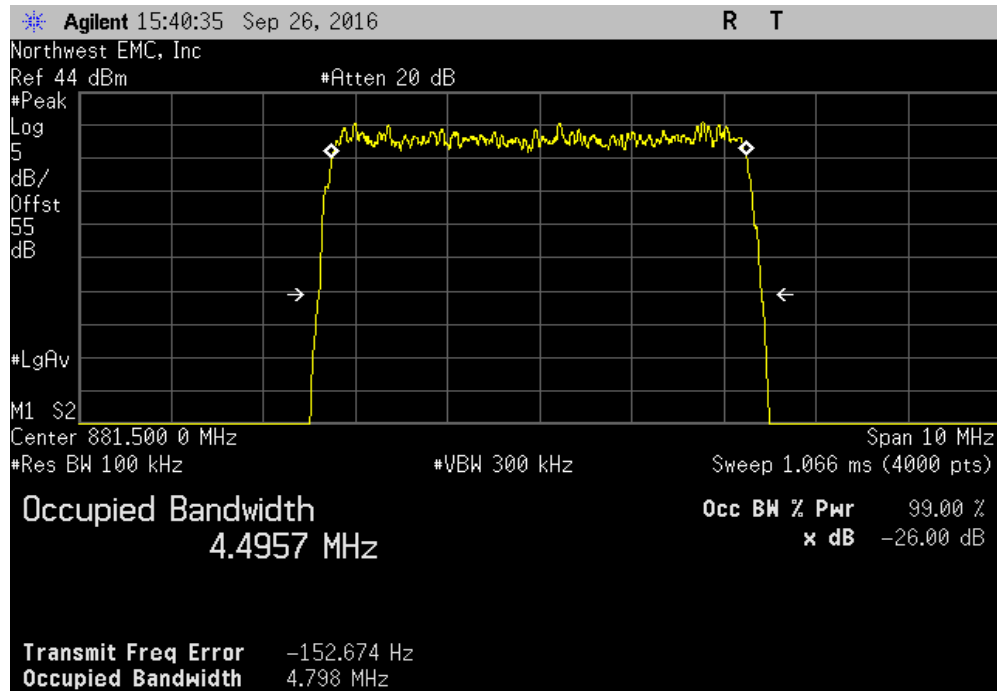
XMit 2016.05.06

Antenna Port 2, Low Channel LTE5, 871.5 MHz						
				Value	Limit	Result
				4.787 MHz	N/A	N/A

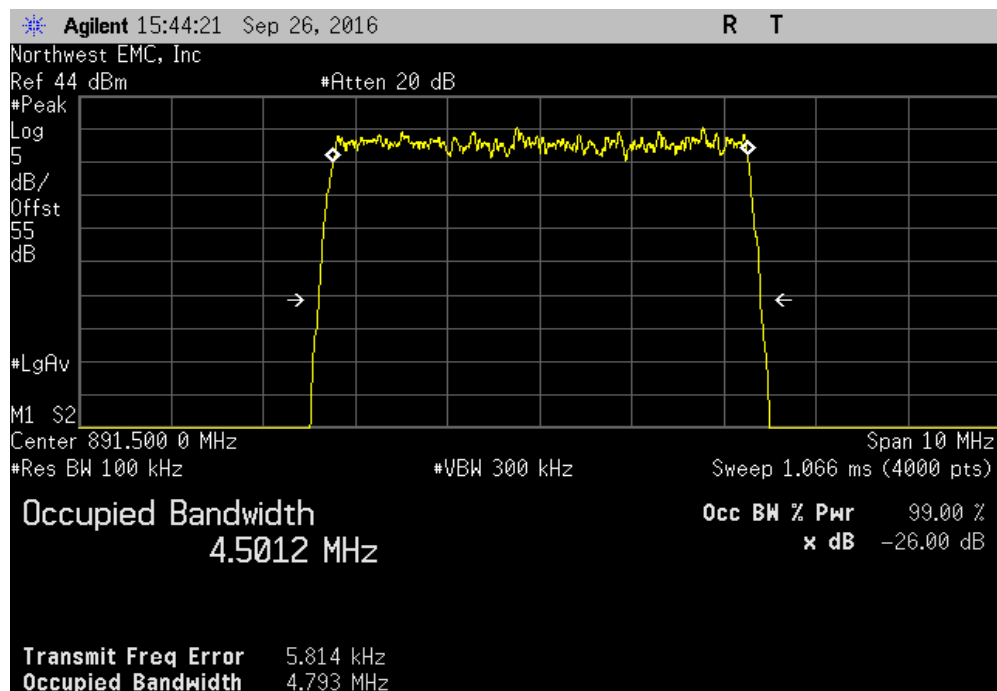


OCCUPIED BANDWIDTH - LTE BAND 5

Antenna Port 2, Mid Channel LTE5, 881.5 MHz						
				Value	Limit	Result
				4.798 MHz	N/A	N/A

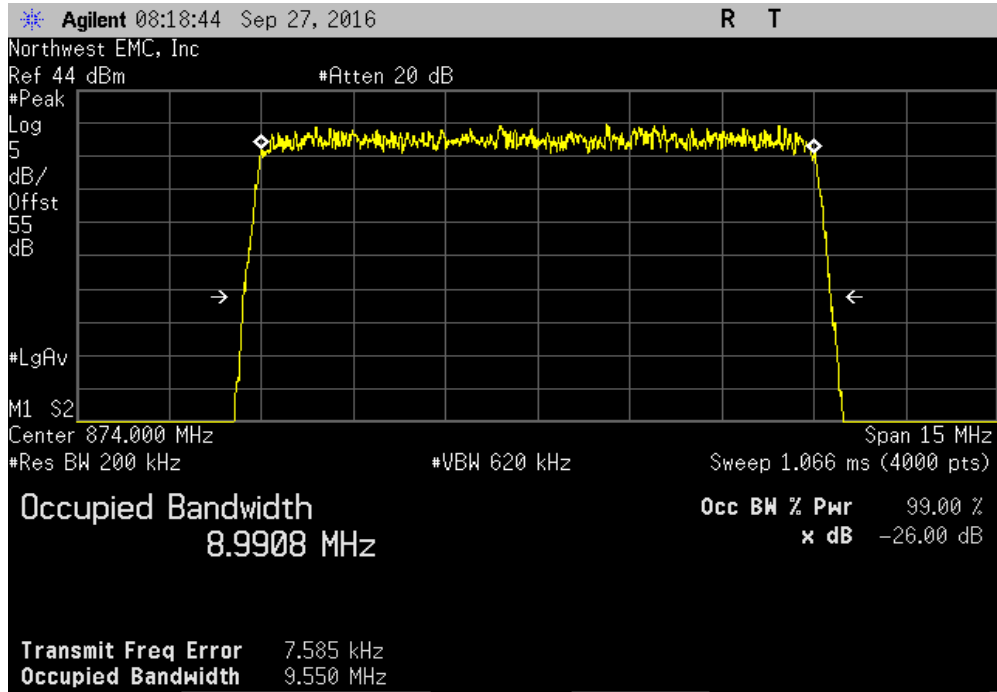


Antenna Port 2, High Channel LTE5, 891.5 MHz						
				Value	Limit	Result
				4.793 MHz	N/A	N/A

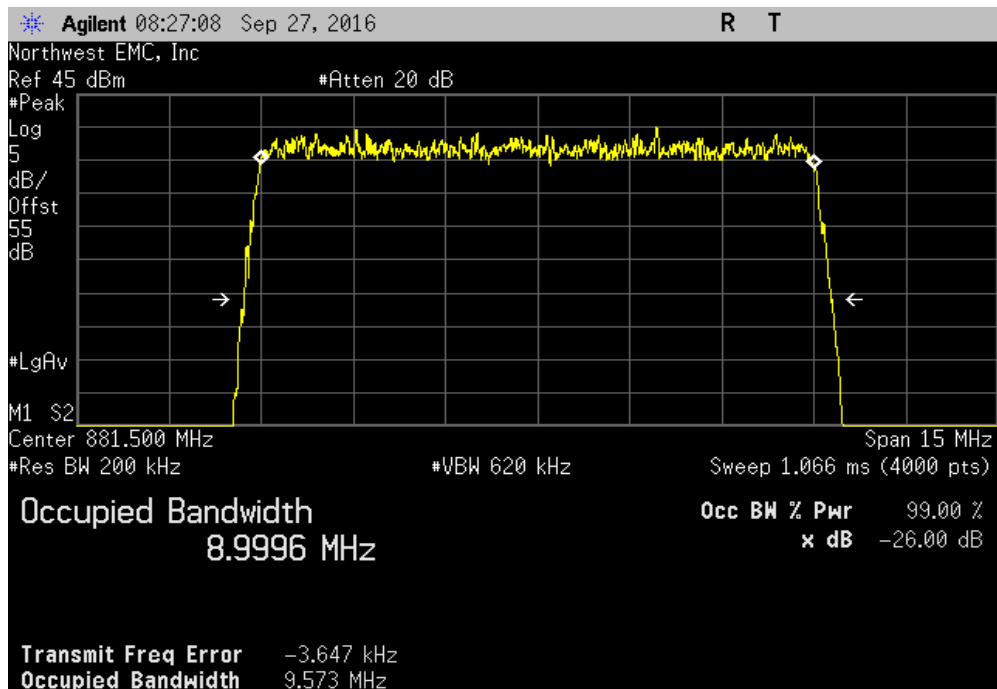


OCCUPIED BANDWIDTH - LTE BAND 5

Antenna Port 2, Low Channel LTE10, 874 MHz						
				Value	Limit	Result
				9.55 MHz	N/A	N/A

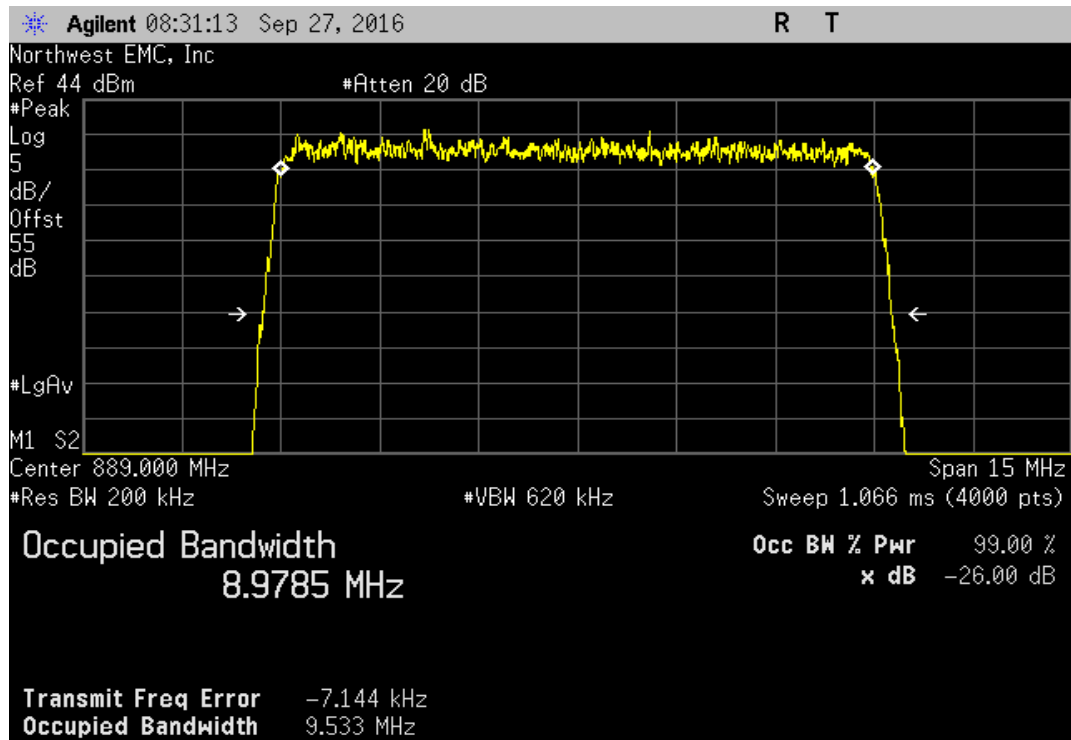


Antenna Port 2, Mid Channel LTE10, 881.5 MHz						
				Value	Limit	Result
				9.573 MHz	N/A	N/A



OCCUPIED BANDWIDTH - LTE BAND 5

Antenna Port 2, High Channel LTE10, 889 MHz						
				Value	Limit	Result
				9.533 MHz	N/A	N/A



OCCUPIED BANDWIDTH - WCDMA

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.	Cal. Due
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.


The spectrum analyzer settings were as follows:

- RBW = Approx. 1% of the emission bandwidth (B). This was an iterative process to determine the RBW based on the emissions bandwidth (B).
- VBW= > RBW
- A peak detector was used
- Trace max hold.

The spectrum analyzer occupied bandwidth measurement function was then used to measure the 26 dB emission bandwidth.

There is no required limit to be met in the rule part for this test. The purpose of the test is to report the results.

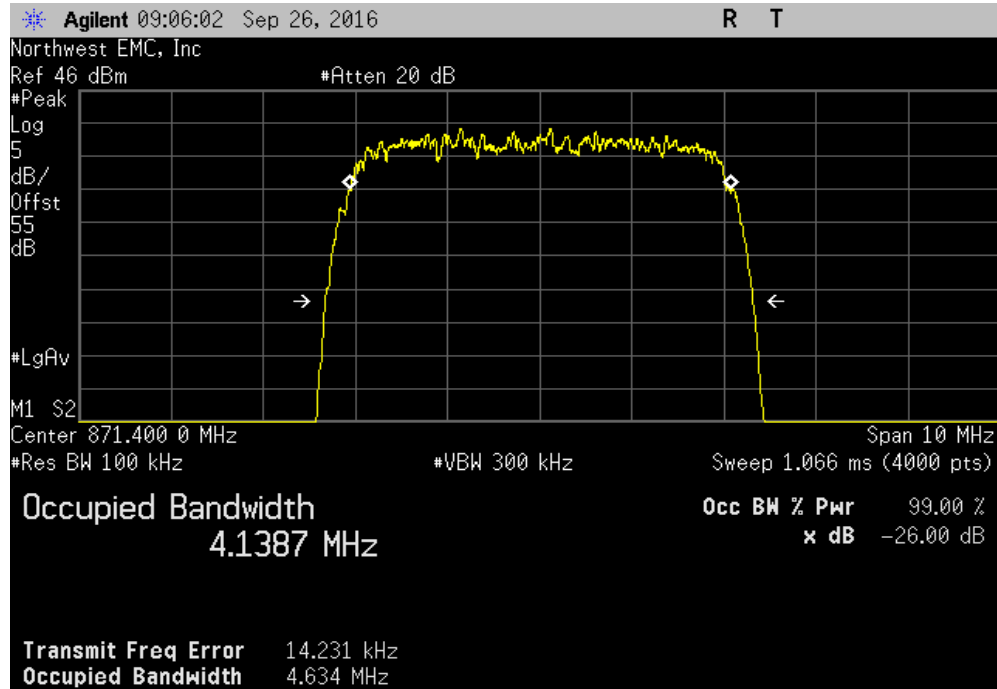
OCCUPIED BANDWIDTH - WCDMA

EUT: CWS-3050-05		Work Order: KMWC0071	
Serial Number: K162600004		Date: 09/26/16	
Customer: Parallel Wireless Inc.		Temperature: 22.3 °C	
Attendees: Edward Lee		Humidity: 38.4% RH	
Project: None		Barometric Pres.: 1016 mbar	
Tested by: Johnny Candelas	Power: 48VDC	Job Site: OC13	
TEST SPECIFICATIONS		Test Method	
FCC 22H:2016		ANSI/TIA/EIA-603-D-2010	
COMMENTS			
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 55.0dB total.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature 	
		Value	Limit
Antenna Port 1			
	Low Channel WCDMA, 871.4 MHz	4.634 MHz	N/A
	Mid Channel WCDMA, 881.4 MHz	4.609 MHz	N/A
	High Channel WCDMA, 891.6 MHz	4.635 MHz	N/A
Antenna Port 2			
	Low Channel WCDMA, 871.4 MHz	4.602 MHz	N/A
	Mid Channel WCDMA, 881.4 MHz	4.64 MHz	N/A
	High Channel WCDMA, 891.6 MHz	4.658 MHz	N/A

OCCUPIED BANDWIDTH - WCDMA

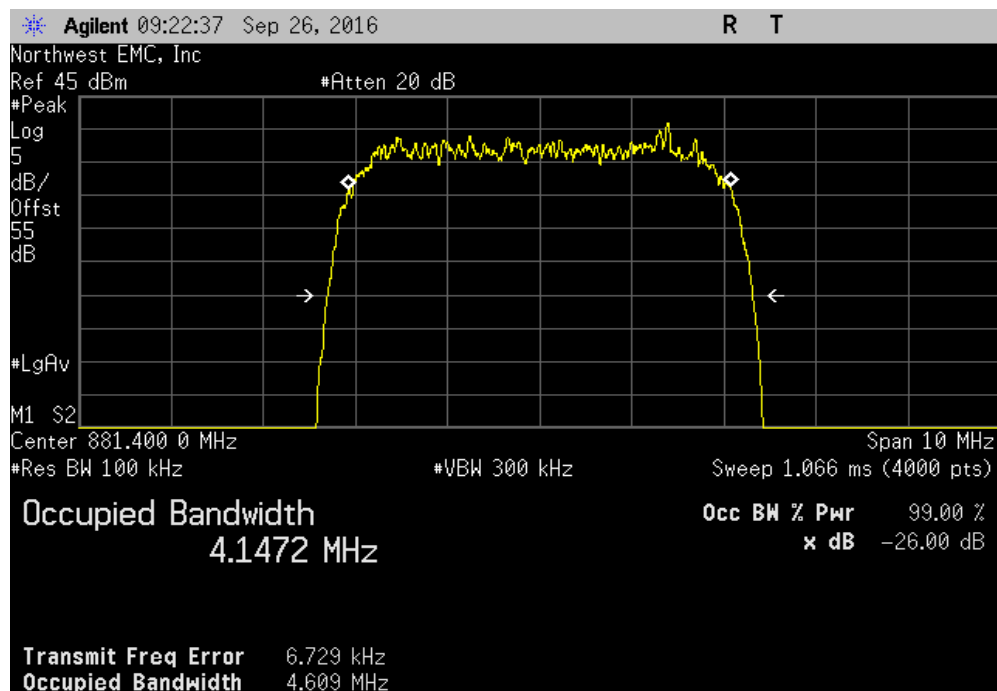
Antenna Port 1, Low Channel WCDMA, 871.4 MHz

Value	Limit	Result
4.634 MHz	N/A	N/A



Antenna Port 1, Mid Channel WCDMA, 881.4 MHz

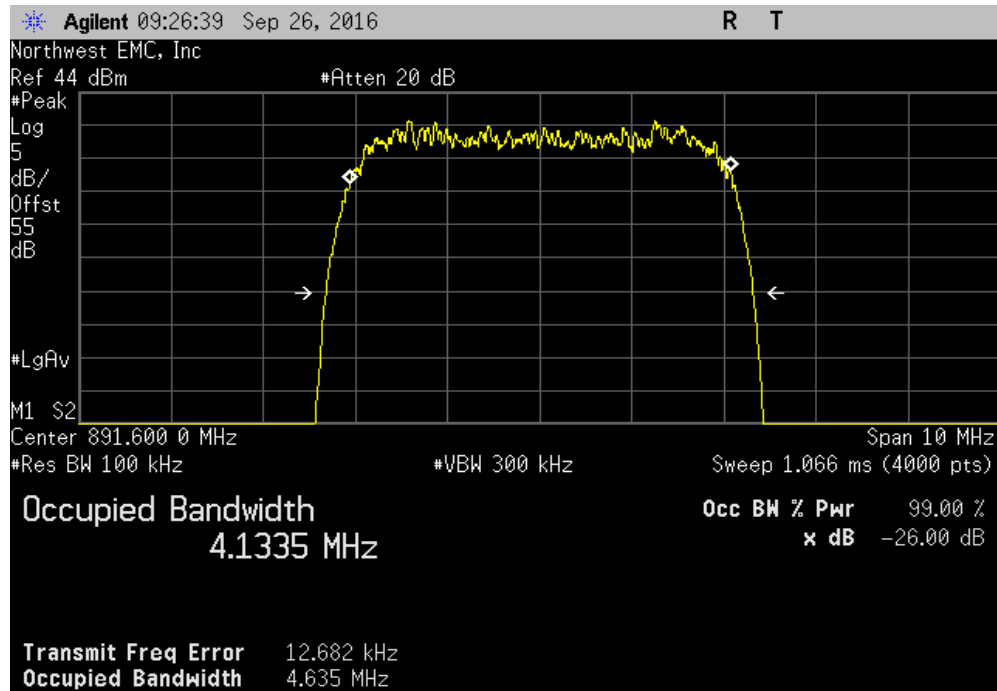
Value	Limit	Result
4.609 MHz	N/A	N/A



OCCUPIED BANDWIDTH - WCDMA

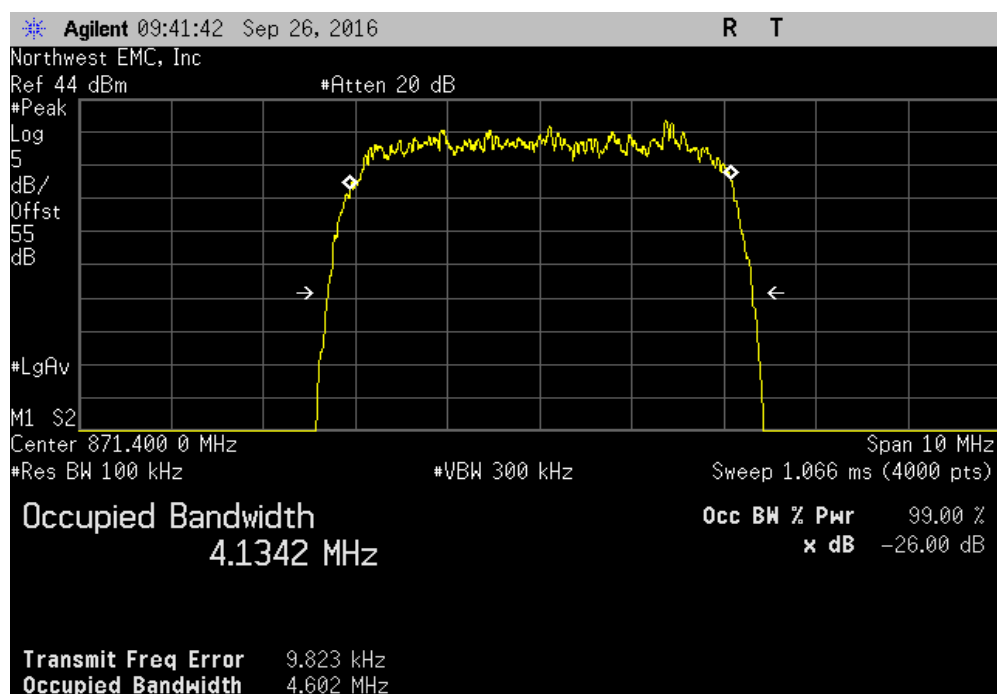
Antenna Port 1, High Channel WCDMA, 891.6 MHz

	Value	Limit	Result
	4.635 MHz	N/A	N/A



Antenna Port 2, Low Channel WCDMA, 871.4 MHz

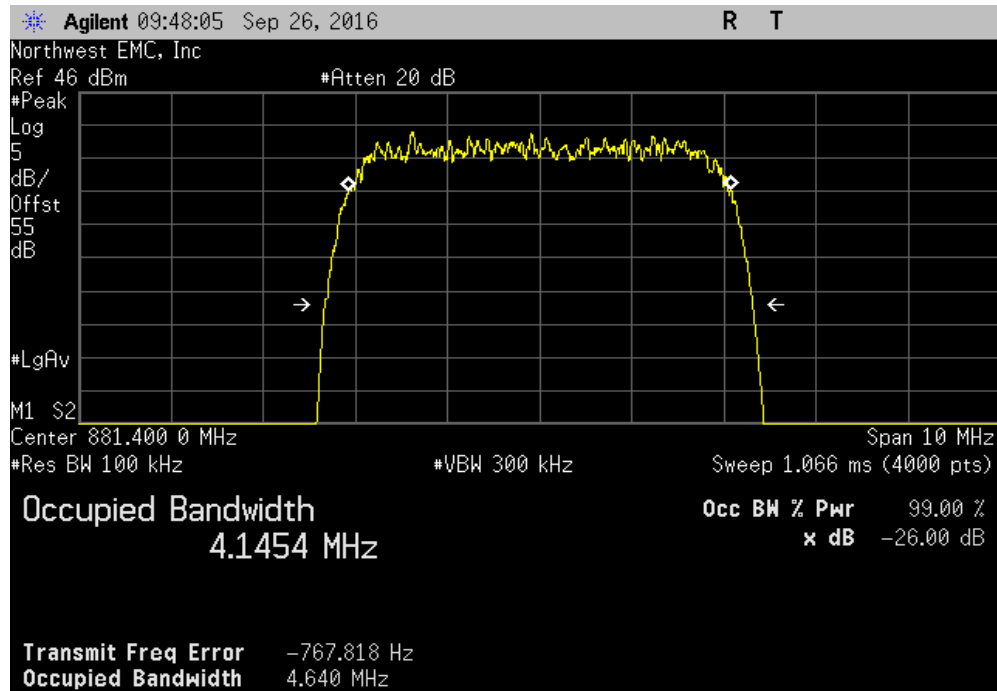
	Value	Limit	Result
	4.602 MHz	N/A	N/A



OCCUPIED BANDWIDTH - WCDMA

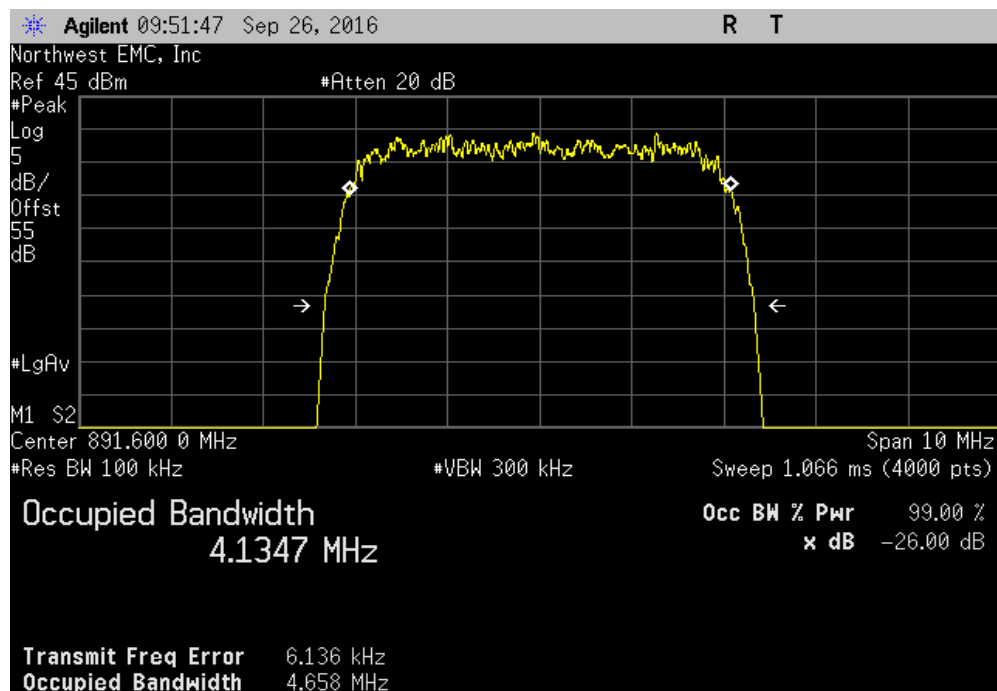
Antenna Port 2, Mid Channel WCDMA, 881.4 MHz

Value	Limit	Result
4.64 MHz	N/A	N/A



Antenna Port 2, High Channel WCDMA, 891.6 MHz

Value	Limit	Result
4.658 MHz	N/A	N/A



OUT OF BAND EMISSIONS

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 at LTE5, Low Ch(871.5MHZ), Mid Ch(881.5MHZ), High Ch(891.5MHZ)
Transmitting at LTE10, Low Ch(874MHZ), Mid Ch(881.5MHZ), High Ch(889MHZ)
Transmitting at WCDMA, Low Ch(871.4MHZ), Mid Ch(881.4MHZ), High Ch(891.6MHZ)

POWER SETTINGS INVESTIGATED

48VDC

CONFIGURATIONS INVESTIGATED

KMWC0071 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	8000 MHz
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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
Filter - Band Pass/Notch	K&L Microwave	3TNF-500/1000-N/N	HFR	3/3/2016	12 mo
Attenuator	S.M. Electronics	SA6-20	REO	3/28/2016	12 mo
Attenuator	S.M. Electronics	SA18H-10	REN	3/28/2016	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	PAD	8/15/2016	12 mo
Cable	ESM Cable Corp.	1-8GHz cables	OCX	9/19/2016	12 mo
Cable	ESM Cable Corp.	30-1GHz cables	OCW	9/19/2016	12 mo
Filter - High Pass	Micro-Tronics	HPM50108	HGP	3/28/2016	12 mo
Filter - Low Pass	Micro-Tronics	LPM50003	HGO	3/28/2016	12 mo
Antenna - Biconilog	EMCO	3142	AXB	11/6/2015	24 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVJ	8/15/2016	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIR	6/23/2016	24 mo
Analyzer - Spectrum Analyzer	Agilent	E4446A	AAY	11/5/2015	12 mo

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). 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 ½ 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 ½ wave dipole antenna is determined for each radiated spurious emission.

OUT OF BAND EMISSIONS

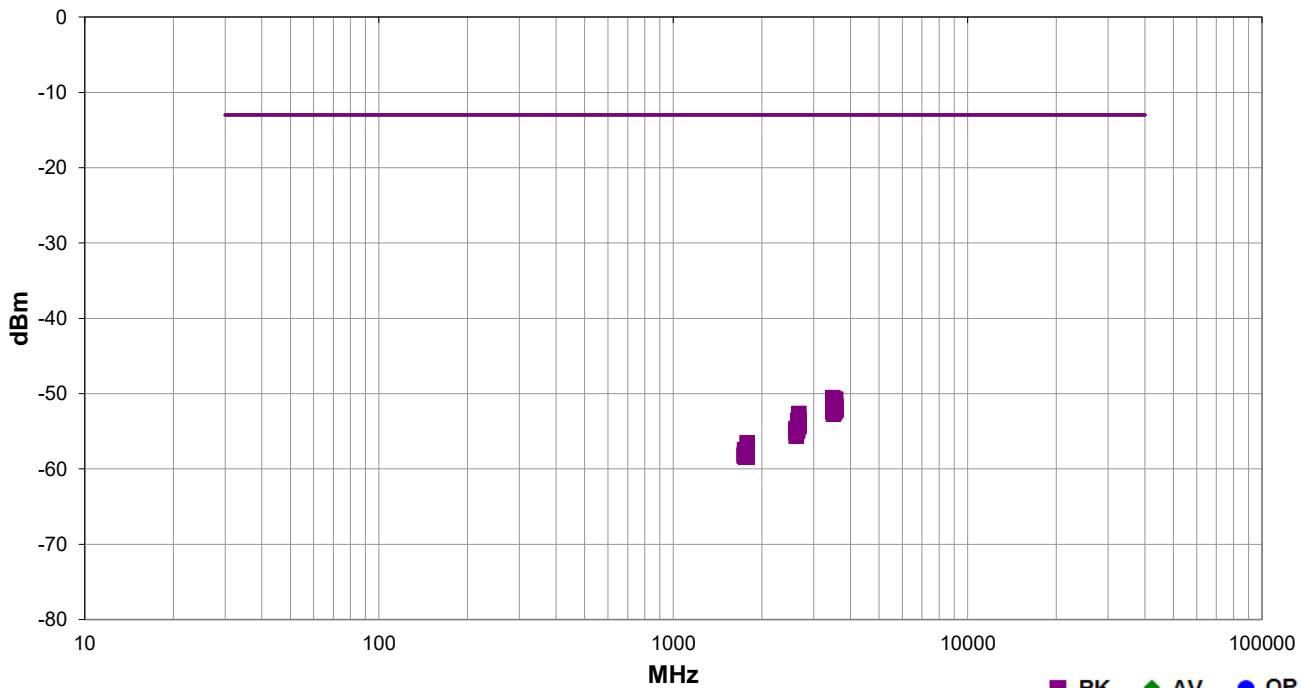


PSA-ESCI 2016.07.22
EmiR5 2016.07.22.1

Work Order:	KMWC0071	Date:	09/28/16	
Project:	None	Temperature:	22 °C	
Job Site:	OC07	Humidity:	42.9% RH	
Serial Number:	K162600004	Barometric Pres.:	1016 mbar	
EUT:	CWS-3050-05			Tested by: Mike Tran
Configuration:	2			
Customer:	Parallel Wireless Inc.			
Attendees:	Edward Lee			
EUT Power:	48VDC			
Operating Mode:	Transmitting at LTE5, Low Ch(871.5MHz), Mid Ch(881.5MHz), High Ch(891.5MHz)			
	Transmitting at LTE10, Low Ch(874MHz), Mid Ch(881.5MHz), High Ch(889MHz)			
	Transmitting at WCDMA, Low Ch(871.4MHz), Mid Ch(881.4MHz), High Ch(891.6MHz)			
Deviations:	None			
Comments:	None			

Test Specifications	Test Method
FCC 22H:2016	ANSI/TIA/EIA-603-D-2010

Run #	5	Test Distance (m)	3	Antenna Height(s)	1 to 4(m)	Results	Pass
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Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
3487.042	1.0	311.0	Horz	PK	8.85E-09	-50.5	-13.0	-37.5	LTE5, Low Ch, EUT Horz
3564.992	1.3	201.0	Vert	PK	8.46E-09	-50.7	-13.0	-37.7	LTE5, High Ch, EUT Vert
3488.292	1.0	181.0	Vert	PK	7.20E-09	-51.4	-13.0	-38.4	LTE5, Low Ch, EUT Vert
3565.267	1.0	150.0	Horz	PK	7.03E-09	-51.5	-13.0	-38.5	LTE5, High Ch, EUT Horz
3483.942	2.5	294.0	Horz	PK	7.03E-09	-51.5	-13.0	-38.5	Dual LTE5+LTE10, Low Ch, EUT Horz
3484.717	3.3	331.0	Horz	PK	6.87E-09	-51.6	-13.0	-38.6	Dual WCDMA+WCDMA, Low Ch, EUT Horz
3526.825	2.7	227.0	Horz	PK	6.87E-09	-51.6	-13.0	-38.6	WCDMA, Mid Ch, EUT Vert
3486.958	2.2	76.0	Horz	PK	6.72E-09	-51.7	-13.0	-38.7	Dual LTE5+WCDMA, Low Ch, EUT Horz
3564.250	1.0	209.0	Vert	PK	6.72E-09	-51.7	-13.0	-38.7	WCDMA, High Ch, EUT Horz
3565.042	2.4	311.0	Horz	PK	6.56E-09	-51.8	-13.0	-38.8	WCDMA, High Ch, EUT Vert
3488.017	1.0	288.0	Vert	PK	6.41E-09	-51.9	-13.0	-38.9	Dual LTE5+LTE5, Low Ch, EUT Vert

	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
	3568.500	2.9	99.0	Horz	PK	6.41E-09	-51.9	-13.0	-38.9	WCDMA, High Ch, EUT on Side
	3565.017	1.0	320.0	Vert	PK	6.41E-09	-51.9	-13.0	-38.9	WCDMA, High Ch, EUT Vert
	3525.617	1.1	230.0	Vert	PK	6.27E-09	-52.0	-13.0	-39.0	LTE10, Mid Ch, EUT Vert
	3555.292	1.0	86.0	Vert	PK	6.27E-09	-52.0	-13.0	-39.0	LTE10, High Ch, EUT Vert
	3526.450	3.0	40.0	Vert	PK	6.27E-09	-52.0	-13.0	-39.0	WCDMA, Mid Ch, EUT Horz
	3484.342	1.1	343.0	Horz	PK	6.27E-09	-52.0	-13.0	-39.0	WCDMA, Low Ch, EUT Vert
	3495.108	1.0	194.0	Vert	PK	6.13E-09	-52.1	-13.0	-39.1	LTE10, Low Ch, EUT Vert
	3526.150	1.2	124.0	Horz	PK	6.13E-09	-52.1	-13.0	-39.1	LTE10, Mid Ch, EUT Horz
	3486.850	3.7	352.0	Vert	PK	6.13E-09	-52.1	-13.0	-39.1	Dual LTE5+LTE10, Low Ch, EUT Vert
	3497.750	1.0	325.0	Vert	PK	6.13E-09	-52.1	-13.0	-39.1	Dual LTE10+WCDMA, Low Ch, EUT Vert
	3566.558	1.0	92.0	Vert	PK	6.13E-09	-52.1	-13.0	-39.1	WCDMA, High Ch, EUT on Side
	3556.833	1.3	90.0	Horz	PK	5.99E-09	-52.2	-13.0	-39.2	LTE10, High Ch, EUT Horz
	3486.525	1.6	244.0	Vert	PK	5.99E-09	-52.2	-13.0	-39.2	Dual LTE5+WCDMA, Low Ch, EUT Vert
	3484.725	1.3	259.0	Vert	PK	5.99E-09	-52.2	-13.0	-39.2	Dual WCDMA+WCDMA, Low Ch, EUT Vert
	3567.525	1.0	209.0	Horz	PK	5.99E-09	-52.2	-13.0	-39.2	WCDMA, High Ch, EUT Horz
	3485.267	1.0	120.0	Horz	PK	5.85E-09	-52.3	-13.0	-39.3	Dual LTE5+LTE5, Low Ch, EUT Horz
	3485.392	2.5	75.0	Vert	PK	5.85E-09	-52.3	-13.0	-39.3	WCDMA, Low Ch, EUT Horz
	3525.675	1.0	243.0	Horz	PK	5.59E-09	-52.5	-13.0	-39.5	LTE5, Mid Ch, EUT Horz
	3525.983	2.4	67.0	Vert	PK	5.59E-09	-52.5	-13.0	-39.5	LTE5, Mid Ch, EUT Vert
	3494.275	1.0	94.0	Horz	PK	5.59E-09	-52.5	-13.0	-39.5	LTE10, Low Ch, EUT Horz
	2674.035	1.0	135.0	Horz	PK	5.46E-09	-52.6	-13.0	-39.6	LTE5, High Ch, EUT Horz
	3496.525	1.0	44.0	Horz	PK	5.33E-09	-52.7	-13.0	-39.7	Dual LTE10+WCDMA, Low Ch, EUT Horz
	2673.960	1.0	47.0	Vert	PK	4.44E-09	-53.5	-13.0	-40.5	LTE5, High Ch, EUT Vert
	2645.433	1.0	62.0	Horz	PK	4.44E-09	-53.5	-13.0	-40.5	LTE5, Mid Ch, EUT Horz
	2673.775	2.0	206.0	Horz	PK	4.34E-09	-53.6	-13.0	-40.6	LTE5, High Ch, EUT Vert
	2674.825	1.0	13.0	Vert	PK	4.24E-09	-53.7	-13.0	-40.7	LTE 5, High Ch, EUT on Side
	2674.605	1.0	238.0	Vert	PK	4.14E-09	-53.8	-13.0	-40.8	LTE5, High Ch, EUT Horz
	2676.325	3.3	101.0	Horz	PK	3.95E-09	-54.0	-13.0	-41.0	LTE 5, High Ch, EUT on Side
	2672.975	1.0	166.0	Vert	PK	3.78E-09	-54.2	-13.0	-41.2	WCDMA, High Ch, EUT Horz
	2674.242	1.0	193.0	Horz	PK	3.61E-09	-54.4	-13.0	-41.4	WCDMA, High Ch, EUT Vert
	2614.075	1.0	55.0	Horz	PK	3.44E-09	-54.6	-13.0	-41.6	LTE5, Low Ch, EUT Horz
	2613.308	1.0	94.0	Vert	PK	3.37E-09	-54.7	-13.0	-41.7	LTE5, Low Ch, EUT Vert
	2641.650	1.0	112.0	Horz	PK	3.29E-09	-54.8	-13.0	-41.8	WCDMA, Mid Ch, EUT Vert
	2641.983	1.0	275.0	Vert	PK	3.29E-09	-54.8	-13.0	-41.8	WCDMA, Mid Ch, EUT Horz
	2643.492	1.0	141.0	Vert	PK	3.14E-09	-55.0	-13.0	-42.0	LTE5, Mid Ch, EUT Vert
	2611.833	1.0	135.0	Vert	PK	3.07E-09	-55.1	-13.0	-42.1	WCDMA, Low Ch, EUT Horz
	2611.517	1.0	196.0	Horz	PK	2.74E-09	-55.6	-13.0	-42.6	WCDMA, Low Ch, EUT Vert
	1781.017	1.0	118.0	Vert	PK	2.22E-09	-56.5	-13.0	-43.5	LTE5, High Ch, EUT Vert
	1744.667	1.0	114.0	Vert	PK	1.81E-09	-57.4	-13.0	-44.4	LTE5, Low Ch, EUT Vert
	1780.533	2.0	153.0	Horz	PK	1.69E-09	-57.7	-13.0	-44.7	LTE5, High Ch, EUT Horz
	1761.258	1.0	144.0	Vert	PK	1.61E-09	-57.9	-13.0	-44.9	LTE5, Mid Ch, EUT Vert
	1765.475	1.0	244.0	Horz	PK	1.57E-09	-58.0	-13.0	-45.0	LTE5, Mid Ch, EUT Horz
	1743.933	1.0	305.0	Vert	PK	1.57E-09	-58.0	-13.0	-45.0	WCDMA, Low Ch, EUT Horz
	1741.600	1.0	196.0	Horz	PK	1.50E-09	-58.2	-13.0	-45.2	LTE5, Low Ch, EUT Horz
	1784.442	2.9	350.0	Horz	PK	1.50E-09	-58.2	-13.0	-45.2	WCDMA, High Ch, EUT Vert
	1760.650	1.8	214.0	Horz	PK	1.50E-09	-58.2	-13.0	-45.2	WCDMA, Mid Ch, EUT Vert
	1741.992	2.2	70.0	Horz	PK	1.47E-09	-58.3	-13.0	-45.3	WCDMA, Low Ch, EUT Vert
	1782.067	3.7	266.0	Vert	PK	1.44E-09	-58.4	-13.0	-45.4	WCDMA, High Ch, EUT Horz
	1765.217	1.0	360.0	Vert	PK	1.44E-09	-58.4	-13.0	-45.4	WCDMA, Mid Ch, EUT Horz

BAND EDGE COMPLIANCE - LTE BAND 5

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.	Cal. Due
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model		Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43		NCR	NCR
Attenuator - 20dB	N/A	N/A		NCR	NCR
Power Divider	Fairview Microwave	MP8748-2		NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4		NCR	NCR
High Power Terminator	Telcon	KTMO400800060		NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.


The spurious RF conducted emissions at the authorized bands per FCC 22(H) were measured with the EUT transmitting at the data rate(s) listed in the datasheet.

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 limit at the band edge.

BAND EDGE COMPLIANCE

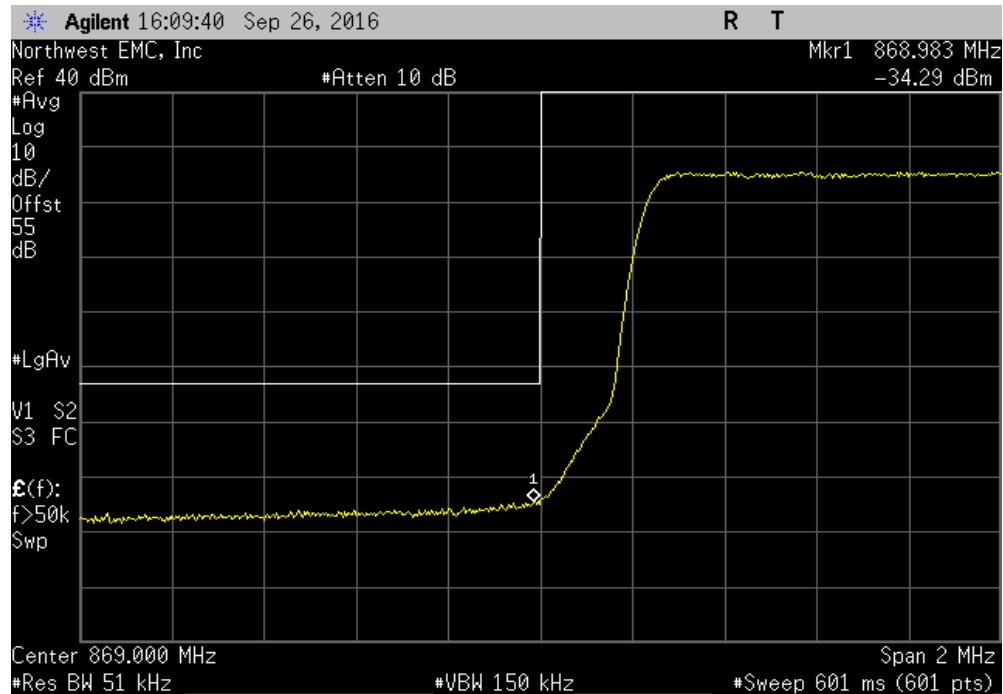


XMit 2016.05.06

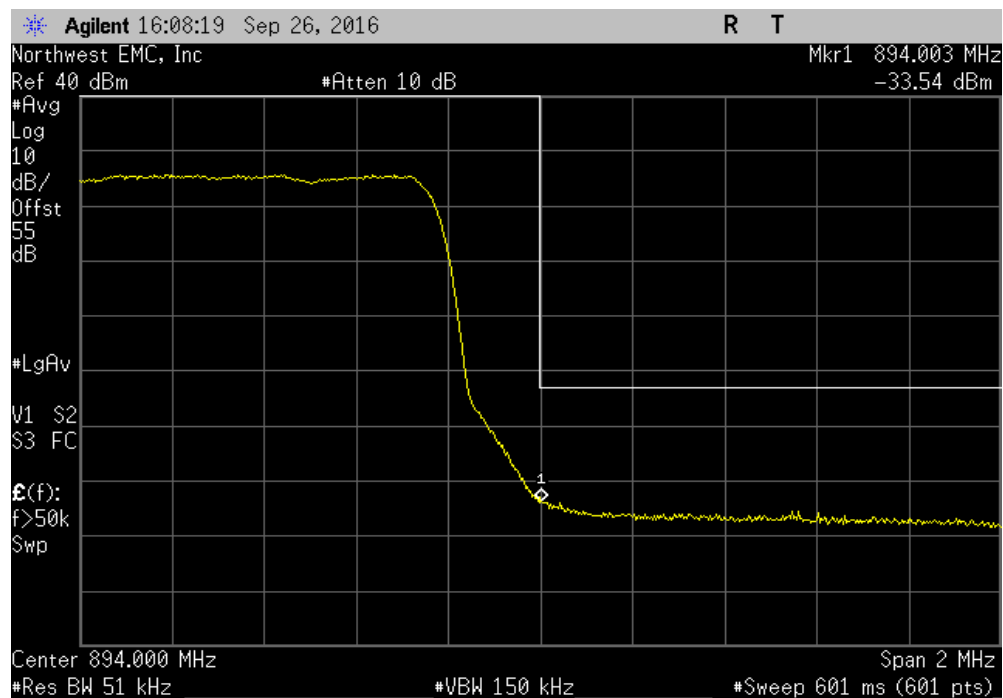
EUT: CWS-3050-05		Work Order: KMWC0071	
Serial Number: K162600004		Date: 09/26/16	
Customer: Parallel Wireless Inc.		Temperature: 22.3 °C	
Attendees: Edward Lee		Humidity: 38.4% RH	
Project: None		Barometric Pres.: 1016 mbar	
Tested by: Johnny Candelas		Power: 48VDC	
Job Site: OC13			
TEST SPECIFICATIONS		Test Method	
FCC 22H:2016		ANSI/TIA/EIA-603-D-2010	
COMMENTS			
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 55.0dB total.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature 	
		Frequency Range	Max Value (dBm) Limit ≤ (dBm) Result
Antenna Port 1			
	Low Channel LTE5, 871.5 MHz	868 MHz - 870 MHz	-34.29 -13 Pass
	High Channel LTE5, 891.5 MHz	893 MHz - 895 MHz	-33.54 100 Pass
	Low Channel LTE10, 874 MHz	868 MHz - 870 MHz	-32.66 -13 Pass
	High Channel LTE10, 889 MHz	893 MHz - 895 MHz	-32.35 -13 Pass
Antenna Port 2			
	Low Channel LTE5, 871.5 MHz	868 MHz - 870 MHz	-34.78 -13 Pass
	High Channel LTE5, 891.5 MHz	893 MHz - 895 MHz	-33.55 100 Pass
	Low Channel LTE10, 874 MHz	868 MHz - 870 MHz	-33.31 -13 Pass
	High Channel LTE10, 889 MHz	893 MHz - 895 MHz	-31.52 -13 Pass

BAND EDGE COMPLIANCE - LTE BAND 5

Antenna Port 1, Low Channel LTE5, 871.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
868 MHz - 870 MHz	-34.29	-13	Pass	

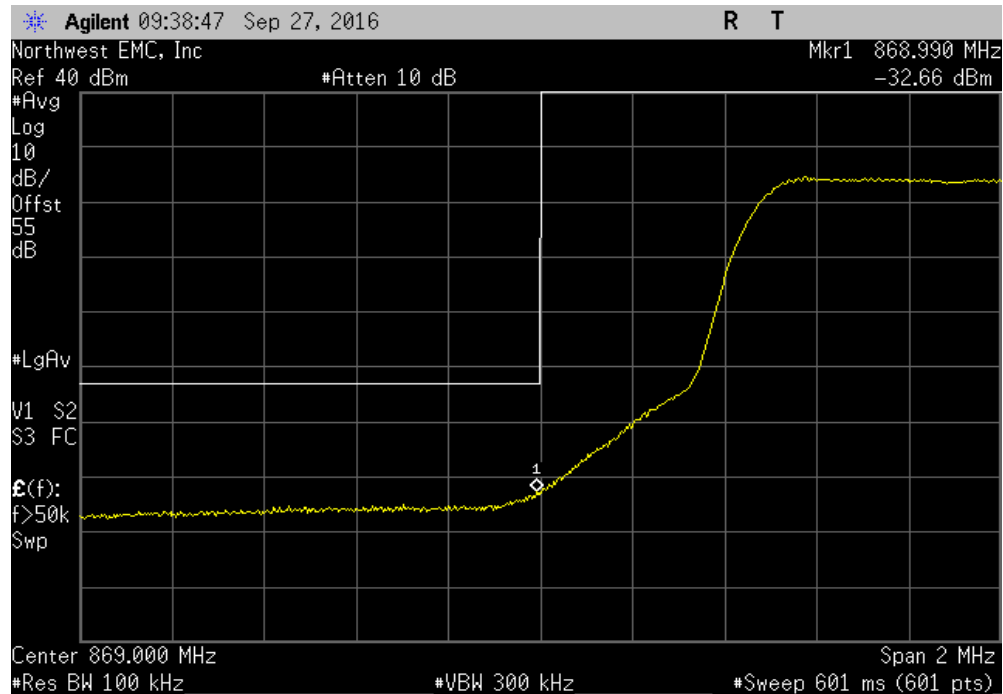


Antenna Port 1, High Channel LTE5, 891.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
893 MHz - 895 MHz	-33.54	100	Pass	

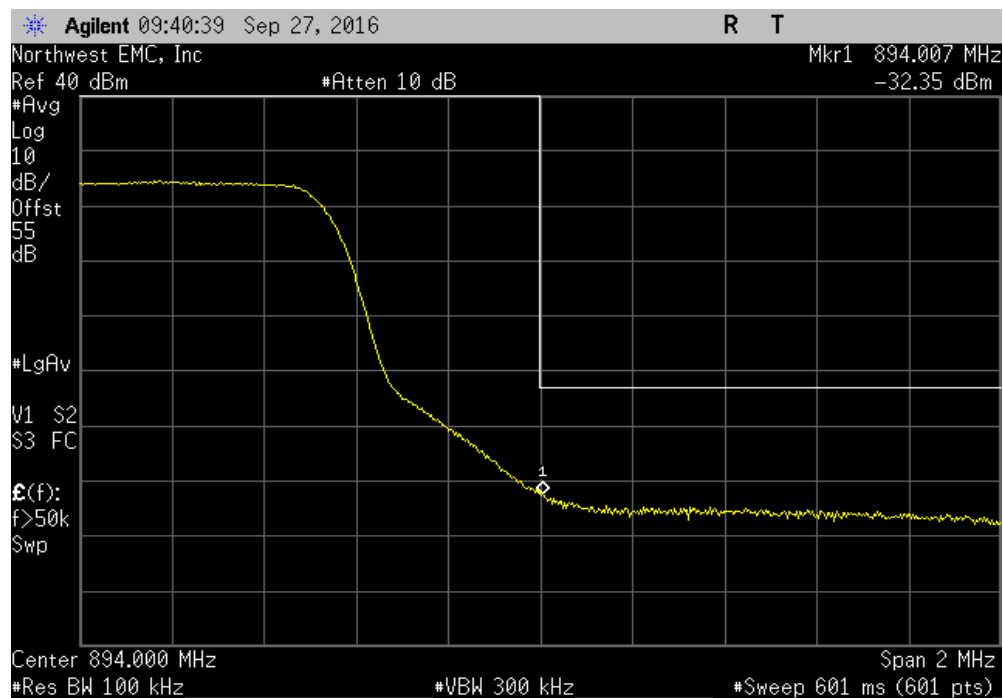


BAND EDGE COMPLIANCE - LTE BAND 5

Antenna Port 1, Low Channel LTE10, 874 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
868 MHz - 870 MHz	-32.66	-13	Pass	

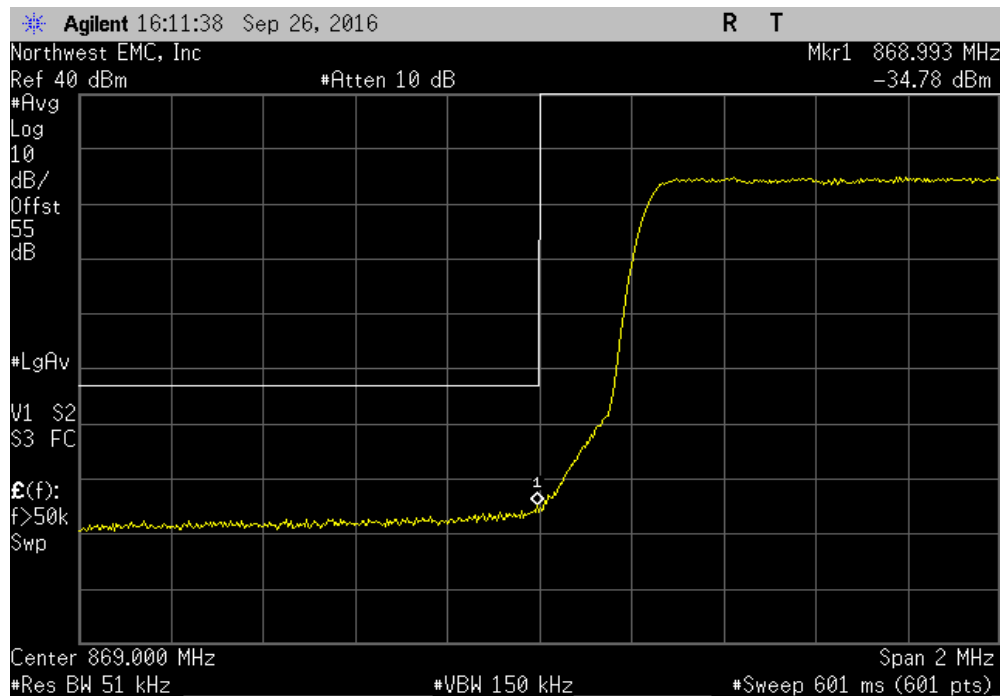


Antenna Port 1, High Channel LTE10, 889 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
893 MHz - 895 MHz	-32.35	-13	Pass	

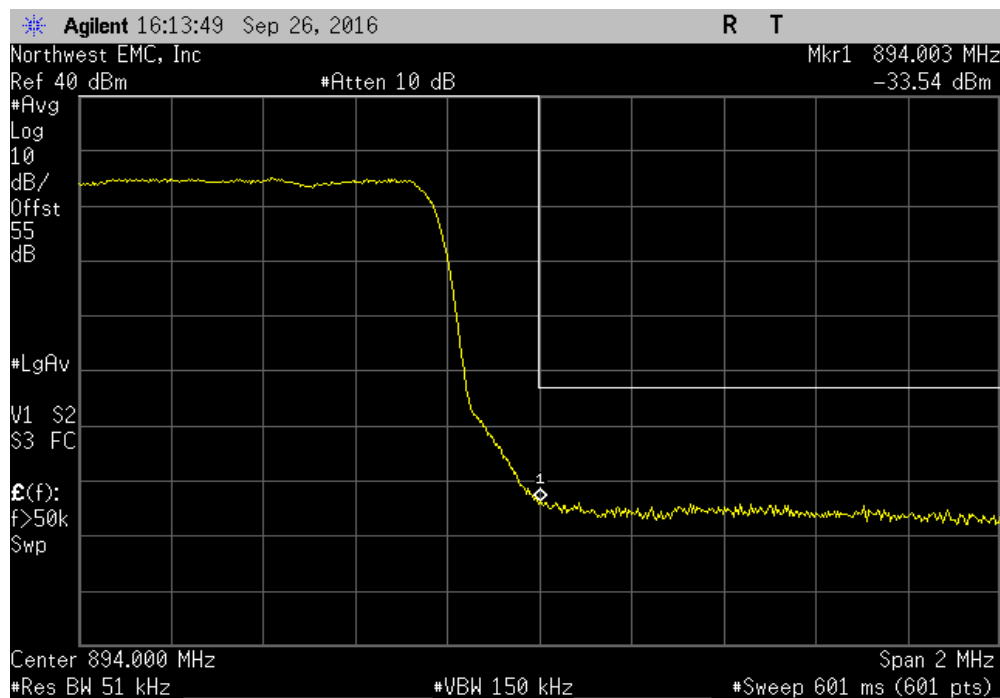


BAND EDGE COMPLIANCE - LTE BAND 5

Antenna Port 2, Low Channel LTE5, 871.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
868 MHz - 870 MHz	-34.78	-13	Pass	

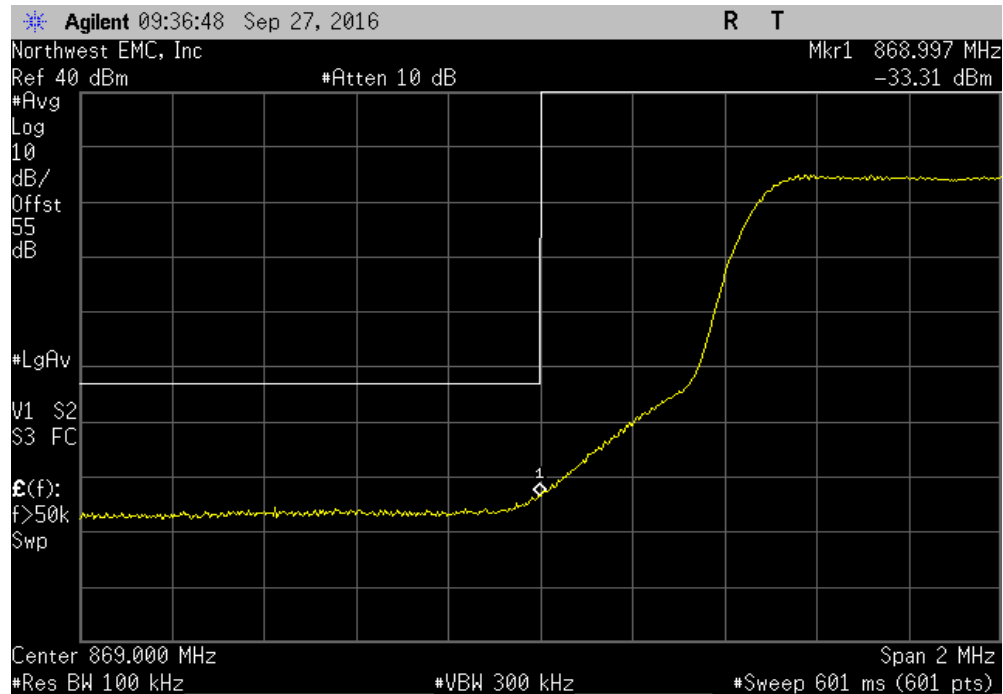


Antenna Port 2, High Channel LTE5, 891.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
893 MHz - 895 MHz	-33.55	100	Pass	

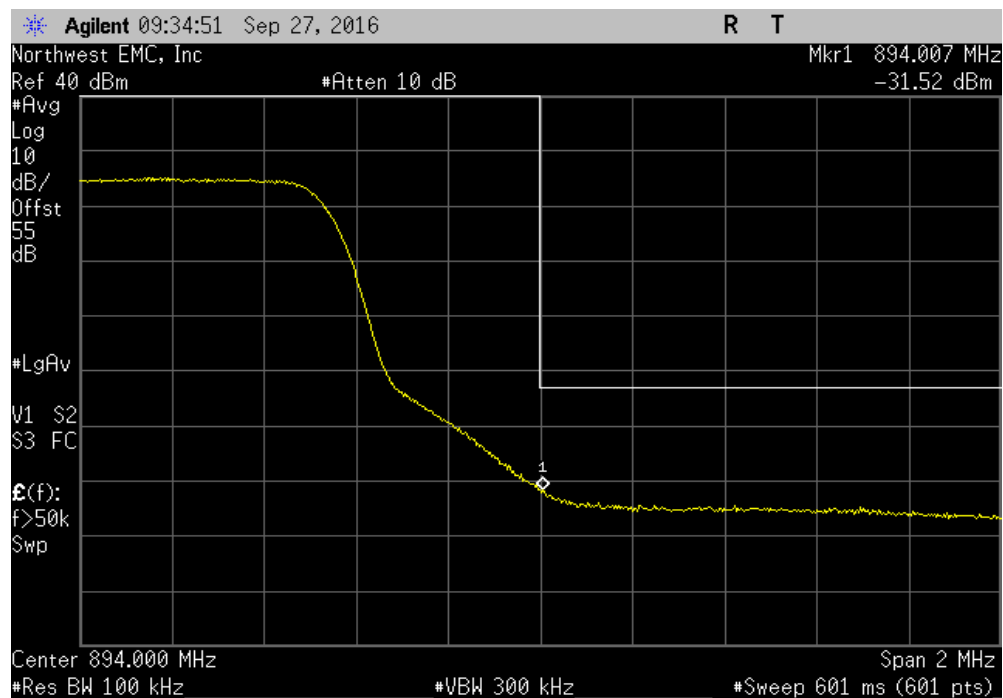


BAND EDGE COMPLIANCE - LTE BAND 5

Antenna Port 2, Low Channel LTE10, 874 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
868 MHz - 870 MHz	-33.31	-13	Pass	



Antenna Port 2, High Channel LTE10, 889 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
893 MHz - 895 MHz	-31.52	-13	Pass	



BAND EDGE COMPLIANCE - WCDMA

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.	Cal. Due
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.


The spurious RF conducted emissions at the authorized bands per FCC 22H were measured with the EUT transmitting at the data rate(s) listed in the datasheet.

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 limit at the band edge.

BAND EDGE COMPLIANCE - WCDMA

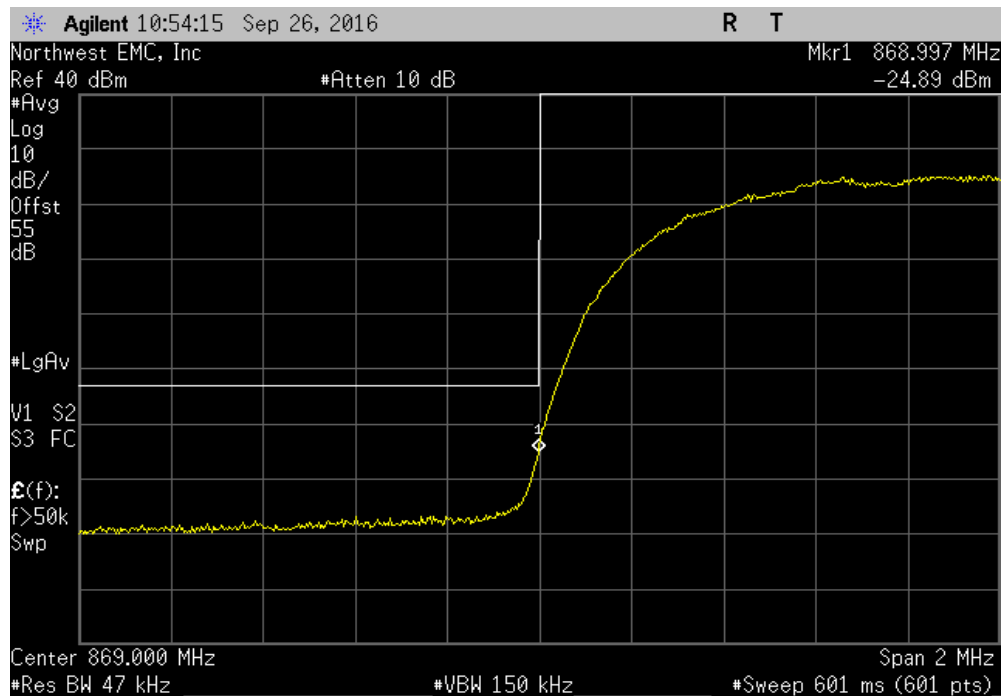


XMit 2016.05.06

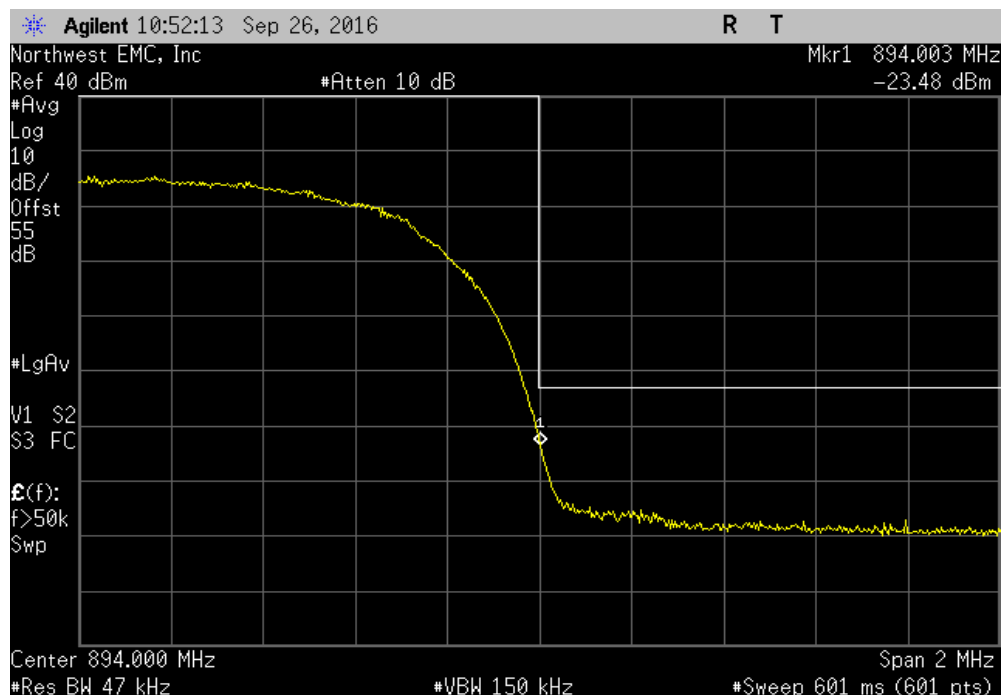
EUT: CWS-3050-05		Work Order: KMWC0071	
Serial Number: K162600004		Date: 09/26/16	
Customer: Parallel Wireless Inc.		Temperature: 22.3 °C	
Attendees: Edward Lee		Humidity: 38.4% RH	
Project: None		Barometric Pres.: 1016 mbar	
Tested by: Johnny Candelas		Power: 48VDC	Job Site: OC13
TEST SPECIFICATIONS		Test Method	
FCC 22H:2016		ANSI/TIA/EIA-603-D-2010	
COMMENTS			
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 55.0dB total.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature 	
		Frequency Range	Max Value (dBm) Limit ≤ (dBm) Result
Antenna Port 1			
		Low Channel WCDMA, 871.4 MHz	868 MHz - 870 MHz -24.89 -13 Pass
		High Channel WCDMA, 891.6 MHz	893 MHz - 895 MHz -23.48 100 Pass
Antenna Port 2			
		Low Channel WCDMA, 871.4 MHz	868 MHz - 870 MHz -25.58 -13 Pass
		High Channel WCDMA, 891.6 MHz	893 MHz - 895 MHz -24.06 100 Pass

BAND EDGE COMPLIANCE - WCDMA

Antenna Port 1, Low Channel WCDMA, 871.4 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
868 MHz - 870 MHz	-24.89	-13	Pass	

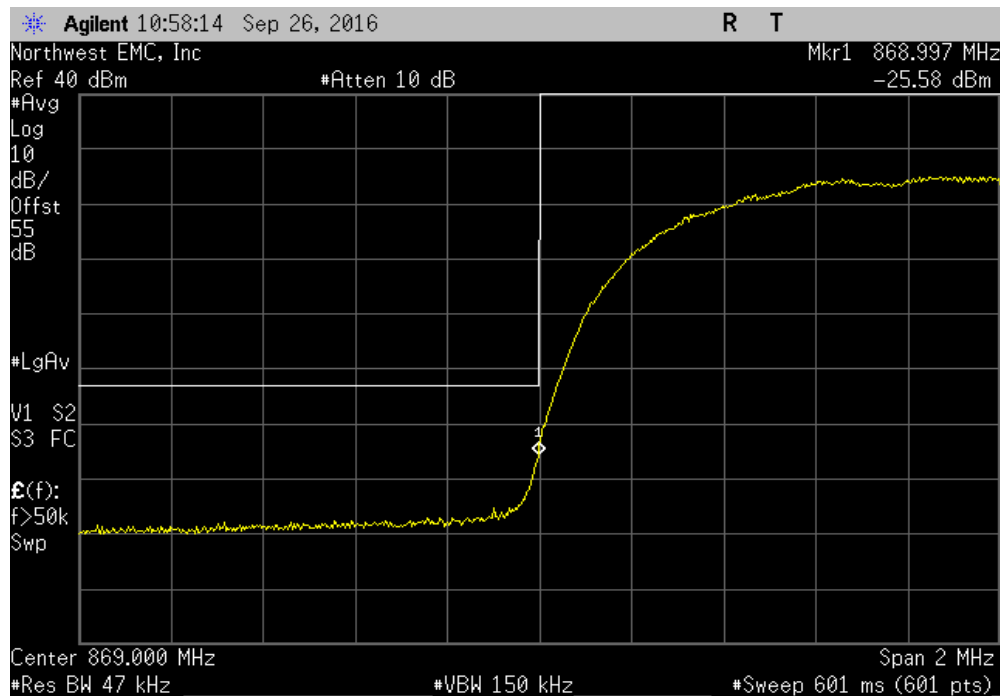


Antenna Port 1, High Channel WCDMA, 891.6 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
893 MHz - 895 MHz	-23.48	100	Pass	

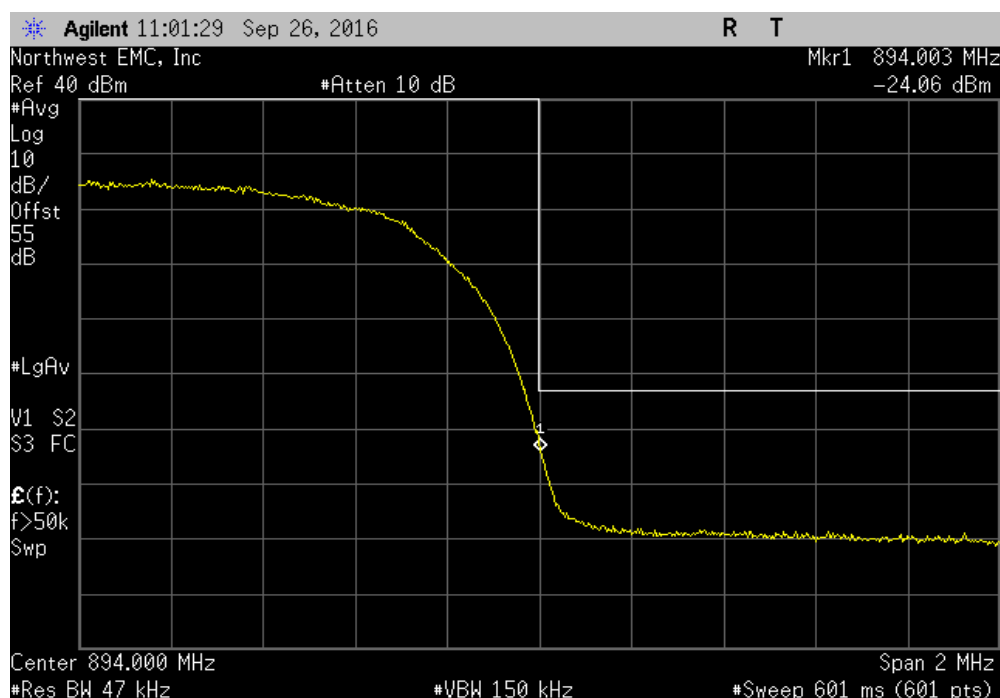


BAND EDGE COMPLIANCE - WCDMA

Antenna Port 2, Low Channel WCDMA, 871.4 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
868 MHz - 870 MHz	-25.58	-13	Pass	



Antenna Port 2, High Channel WCDMA, 891.6 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
893 MHz - 895 MHz	-24.06	100	Pass	



SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5



XMIT 2016.05.06

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.	Cal. Due
Filter - High Pass	Micro-Tronics	HPM50108	HGX	7/25/2016	7/25/2017
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR


The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. Analyzer plots utilizing a 1 MHz resolution bandwidth and no video filtering were made for each mode listed in the datasheet.

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 the limit.

SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

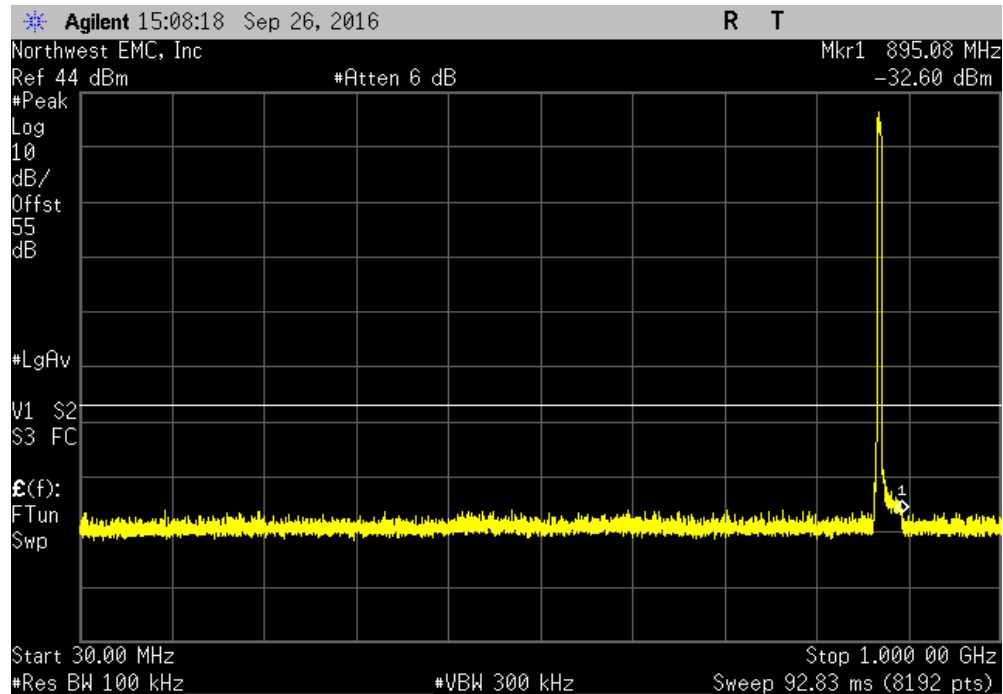


XMR 2016.05.06

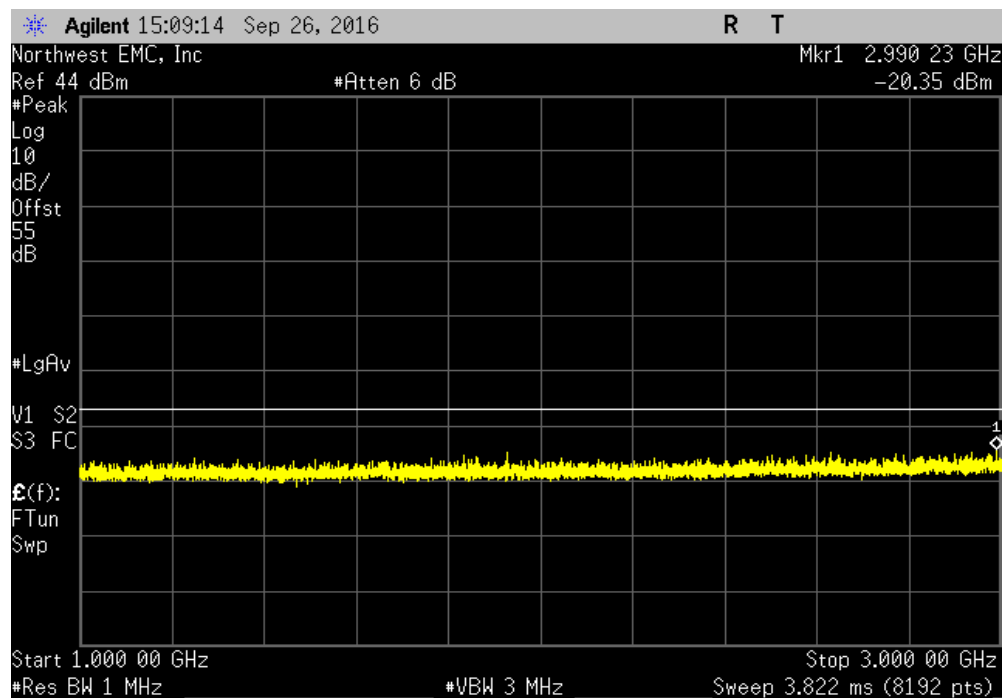
EUT: CWS-3050-05		Work Order: KMWC0071		
Serial Number: K162600004		Date: 09/26/16		
Customer: Parallel Wireless Inc.		Temperature: 22.3 °C		
Attendees: Edward Lee		Humidity: 38.4% RH		
Project: None		Barometric Pres.: 1016 mbar		
Tested by: Johnny Candelas		Power: 48VDC		
Job Site: OC13				
TEST SPECIFICATIONS		Test Method		
FCC 22H:2016		ANSI/TIA/EIA-603-D-2010		
COMMENTS				
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 55.0dB total.				
DEVIATIONS FROM TEST STANDARD				
None				
Configuration #	1	Signature 		
	Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
Antenna Port 1				
Low Channel LTE5, 871.5 MHz	30 MHz - 1 GHz	-32.6	-13	Pass
Low Channel LTE5, 871.5 MHz	1 GHz - 3 GHz	-20.35	-13	Pass
Low Channel LTE5, 871.5 MHz	3 GHz - 9 GHz	-19.27	-13	Pass
Mid Channel LTE5, 881.5 MHz	30 MHz - 1 GHz	-30.14	-13	Pass
Mid Channel LTE5, 881.5 MHz	1 GHz - 3 GHz	-20.5	-13	Pass
Mid Channel LTE5, 881.5 MHz	3 GHz - 9 GHz	-20.16	-13	Pass
High Channel LTE5, 891.5 MHz	30 MHz - 1 GHz	-32.08	-13	Pass
High Channel LTE5, 891.5 MHz	1 GHz - 3 GHz	-19.94	-13	Pass
High Channel LTE5, 891.5 MHz	3 GHz - 9 GHz	-19.97	-13	Pass
Low Channel LTE10, 874 MHz	30 MHz - 1 GHz	-27.5	-13	Pass
Low Channel LTE10, 874 MHz	1 GHz - 3 GHz	-20.79	-13	Pass
Low Channel LTE10, 874 MHz	3 GHz - 9 GHz	-18.67	-13	Pass
Mid Channel LTE10, 881.5 MHz	30 MHz - 1 GHz	-29.33	-13	Pass
Mid Channel LTE10, 881.5 MHz	1 GHz - 3 GHz	-20.34	-13	Pass
Mid Channel LTE10, 881.5 MHz	3 GHz - 9 GHz	-20.06	-13	Pass
High Channel LTE10, 889 MHz	30 MHz - 1 GHz	-29.98	-13	Pass
High Channel LTE10, 889 MHz	1 GHz - 3 GHz	-20.66	-13	Pass
High Channel LTE10, 889 MHz	3 GHz - 9 GHz	-18.91	-13	Pass
Antenna Port 2				
Low Channel LTE5, 871.5 MHz	30 MHz - 1 GHz	-30.5	-13	Pass
Low Channel LTE5, 871.5 MHz	1 GHz - 3 GHz	-19.96	-13	Pass
Low Channel LTE5, 871.5 MHz	3 GHz - 9 GHz	-19.53	-13	Pass
Mid Channel LTE5, 881.5 MHz	30 MHz - 1 GHz	-32.05	-13	Pass
Mid Channel LTE5, 881.5 MHz	1 GHz - 3 GHz	-20.38	-13	Pass
Mid Channel LTE5, 881.5 MHz	3 GHz - 9 GHz	-19.84	-13	Pass
High Channel LTE5, 891.5 MHz	30 MHz - 1 GHz	-30.22	-13	Pass
High Channel LTE5, 891.5 MHz	1 GHz - 3 GHz	-20.95	-13	Pass
High Channel LTE5, 891.5 MHz	3 GHz - 9 GHz	-18.92	-13	Pass
Low Channel LTE10, 874 MHz	30 MHz - 1 GHz	-24.04	-13	Pass
Low Channel LTE10, 874 MHz	1 GHz - 3 GHz	-20.97	-13	Pass
Low Channel LTE10, 874 MHz	3 GHz - 9 GHz	-19.74	-13	Pass
Mid Channel LTE10, 881.5 MHz	30 MHz - 1 GHz	-29.56	-13	Pass
Mid Channel LTE10, 881.5 MHz	1 GHz - 3 GHz	-20.56	-13	Pass
Mid Channel LTE10, 881.5 MHz	3 GHz - 9 GHz	-19.42	-13	Pass
High Channel LTE10, 889 MHz	30 MHz - 1 GHz	-30.88	-13	Pass
High Channel LTE10, 889 MHz	1 GHz - 3 GHz	-19.81	-13	Pass
High Channel LTE10, 889 MHz	3 GHz - 9 GHz	-19.76	-13	Pass

SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 1, Low Channel LTE5, 871.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-32.6	-13	Pass		

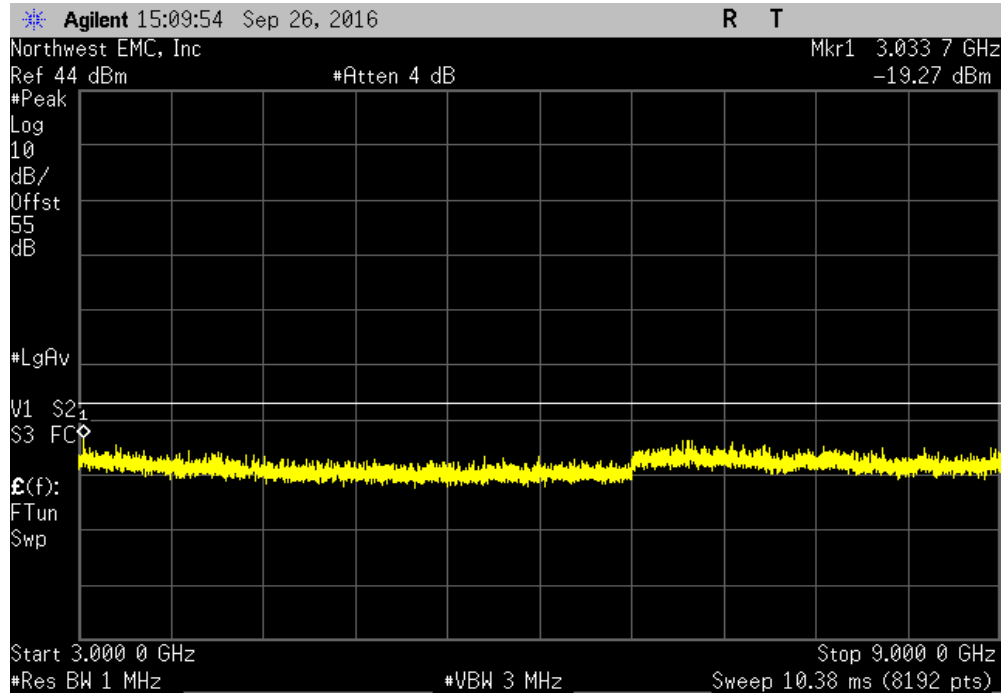


Antenna Port 1, Low Channel LTE5, 871.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz	-20.35	-13	Pass		

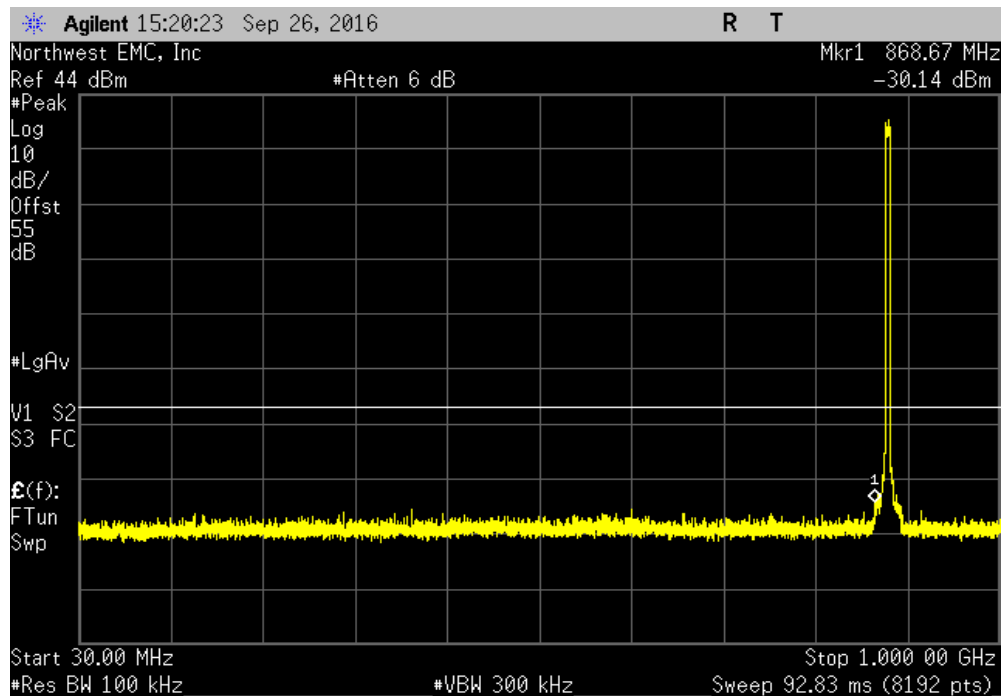


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 1, Low Channel LTE5, 871.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz	-19.27	-13	Pass		

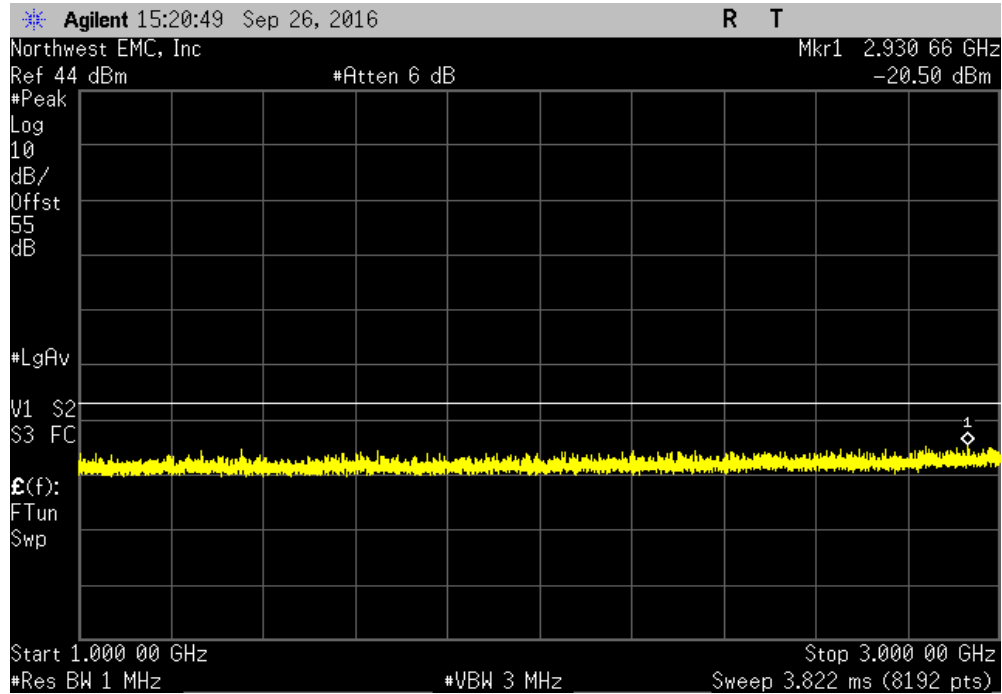


Antenna Port 1, Mid Channel LTE5, 881.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-30.14	-13	Pass		

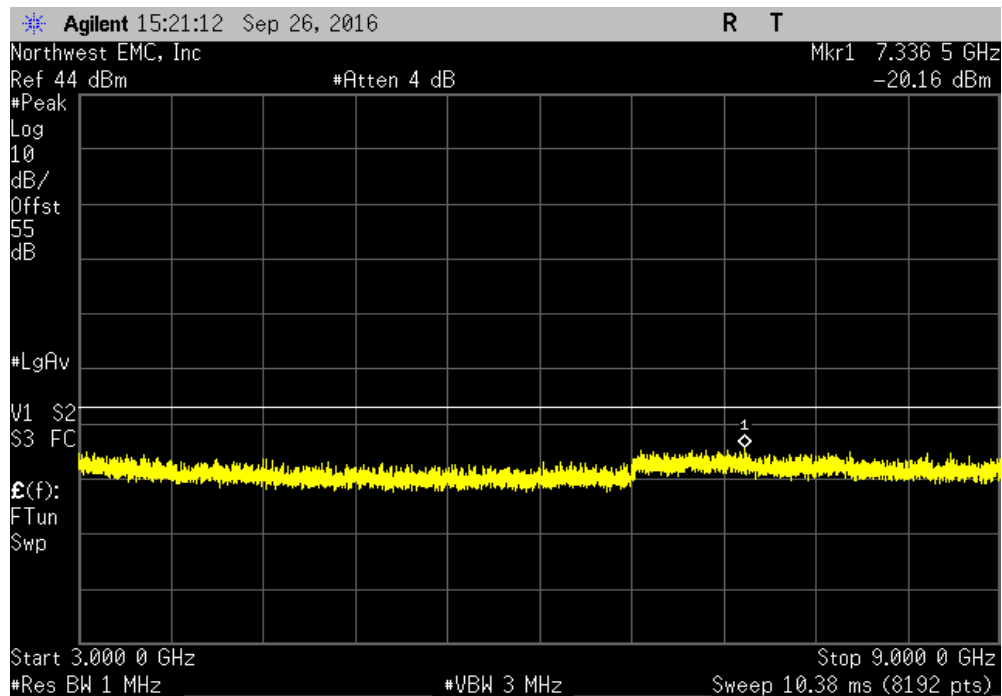


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 1, Mid Channel LTE5, 881.5 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
1 GHz - 3 GHz		-20.5		-13	Pass	

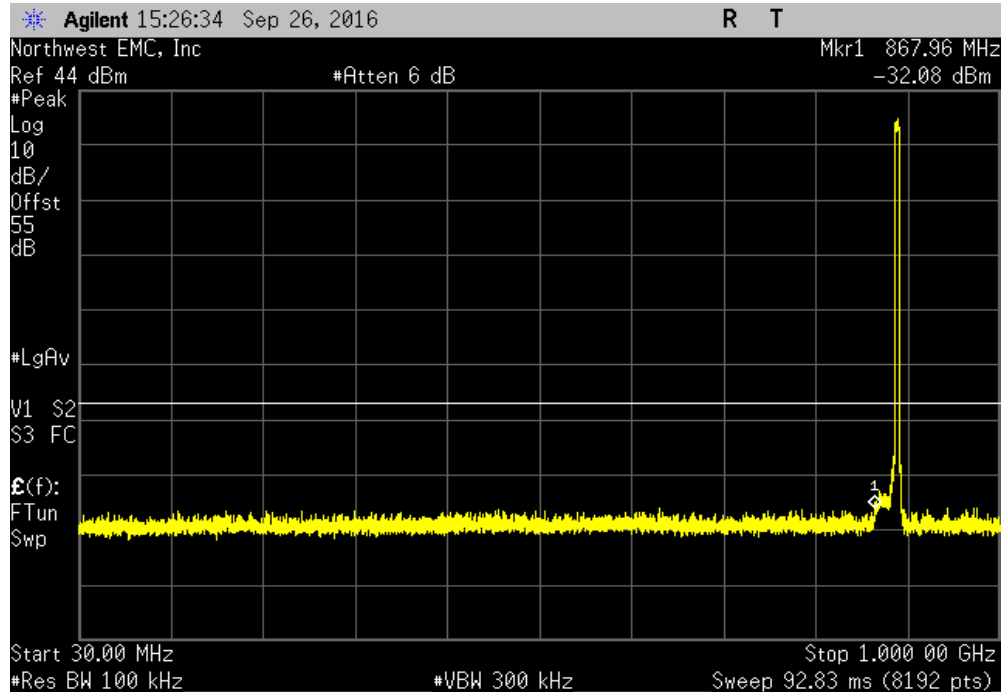


Antenna Port 1, Mid Channel LTE5, 881.5 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
3 GHz - 9 GHz		-20.16		-13	Pass	

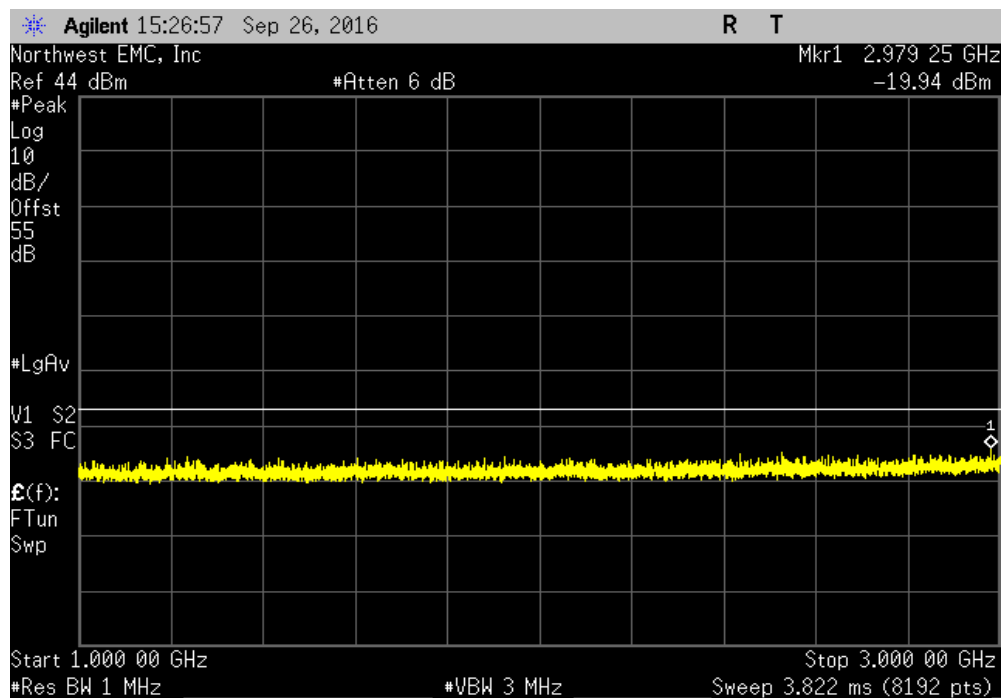


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 1, High Channel LTE5, 891.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-32.08	-13	Pass		

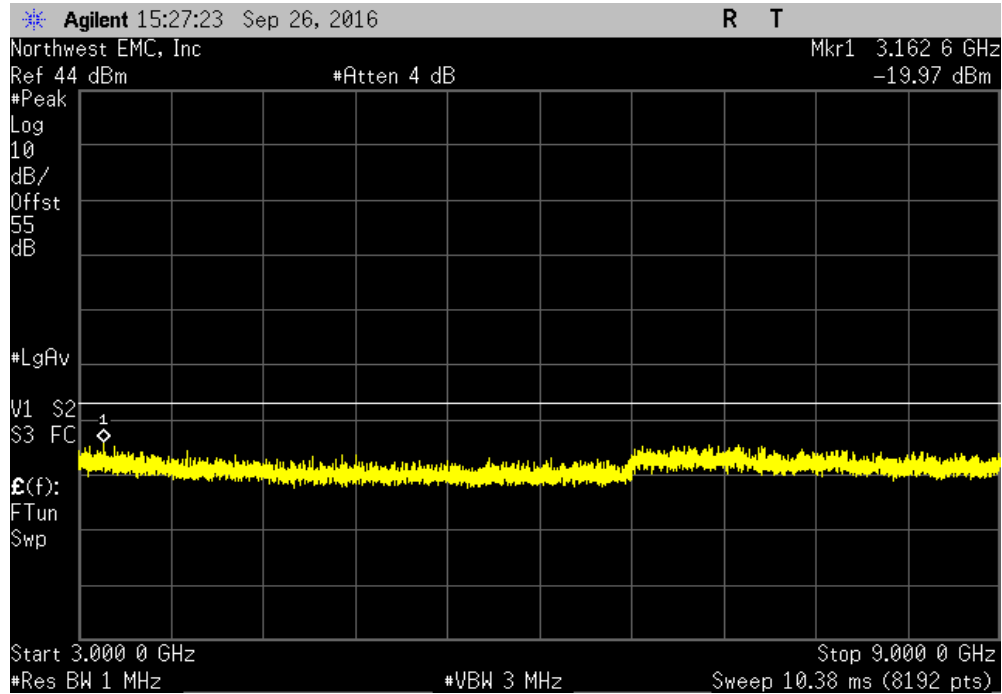


Antenna Port 1, High Channel LTE5, 891.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz	-19.94	-13	Pass		

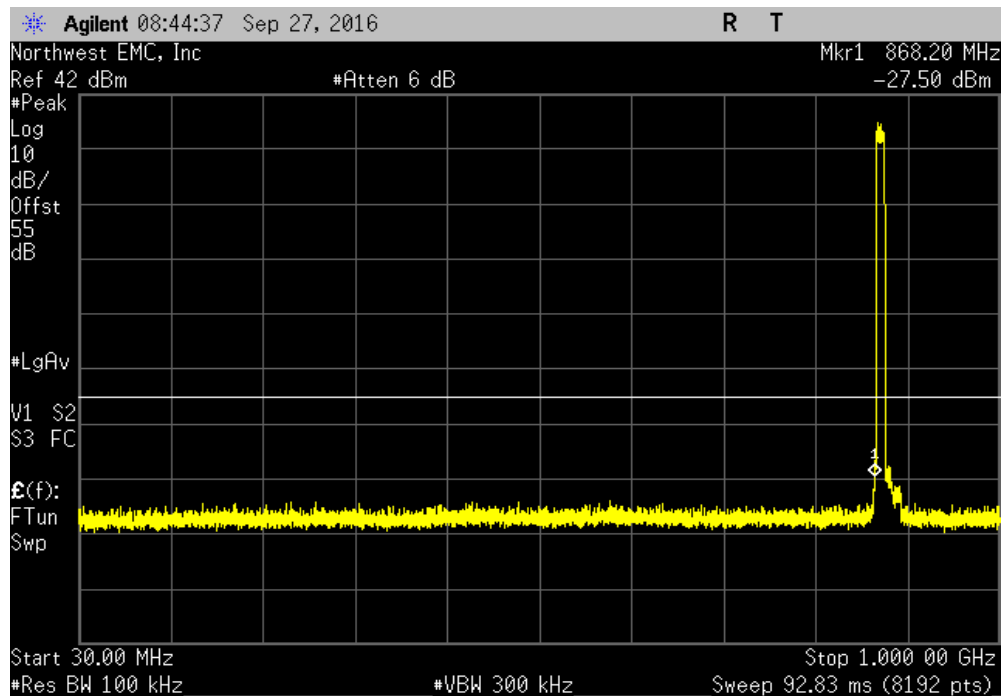


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 1, High Channel LTE5, 891.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz	-19.97	-13	Pass		

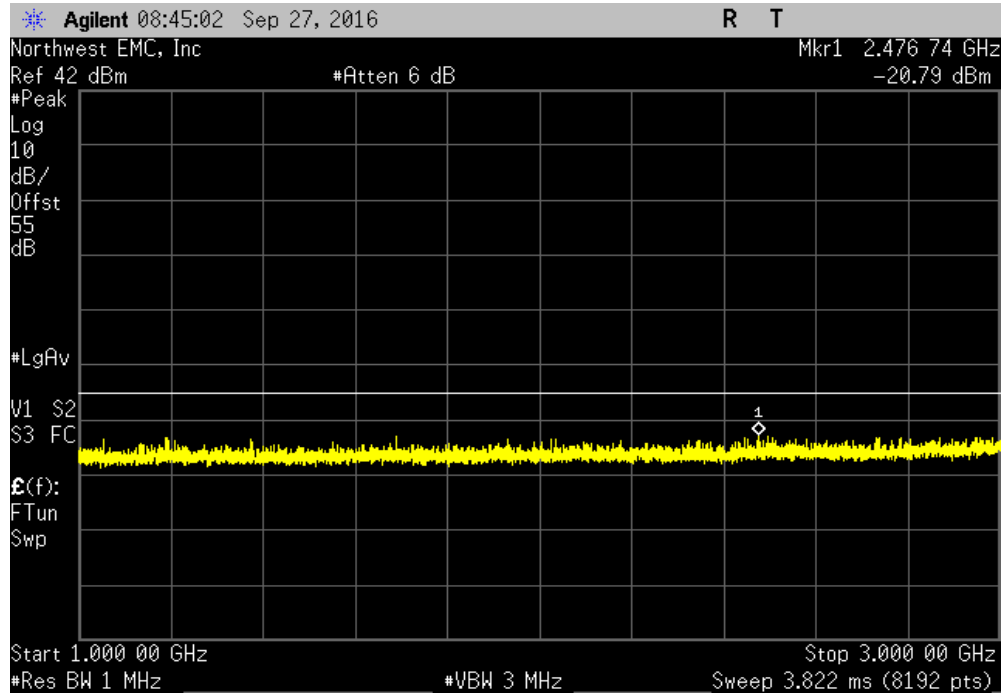


Antenna Port 1, Low Channel LTE10, 874 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-27.5	-13	Pass		

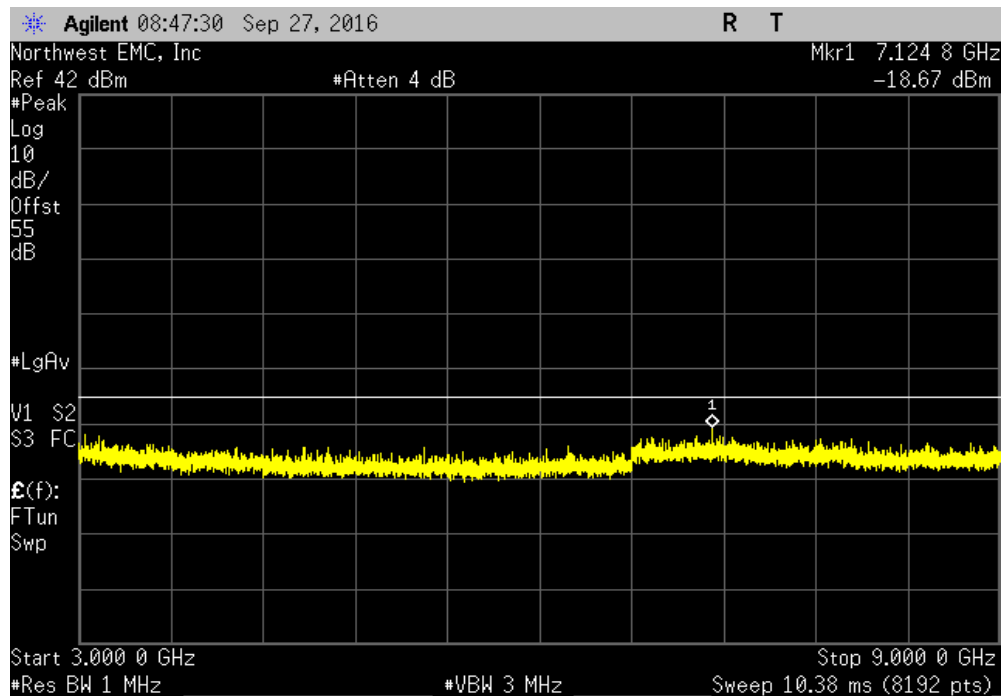


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 1, Low Channel LTE10, 874 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz	-20.79	-13	Pass		

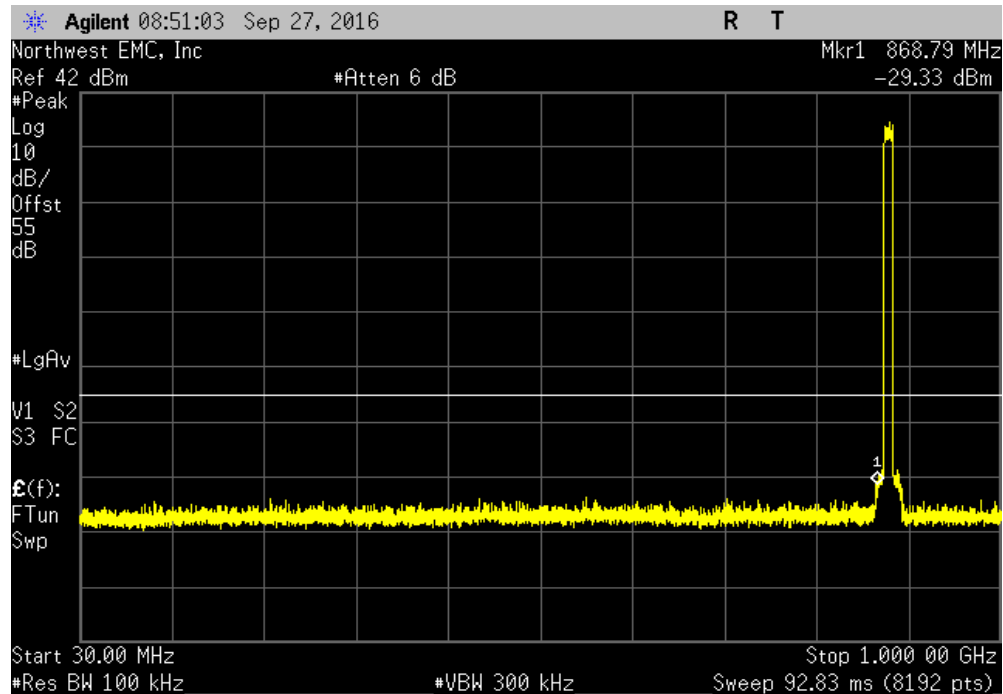


Antenna Port 1, Low Channel LTE10, 874 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz	-18.67	-13	Pass		

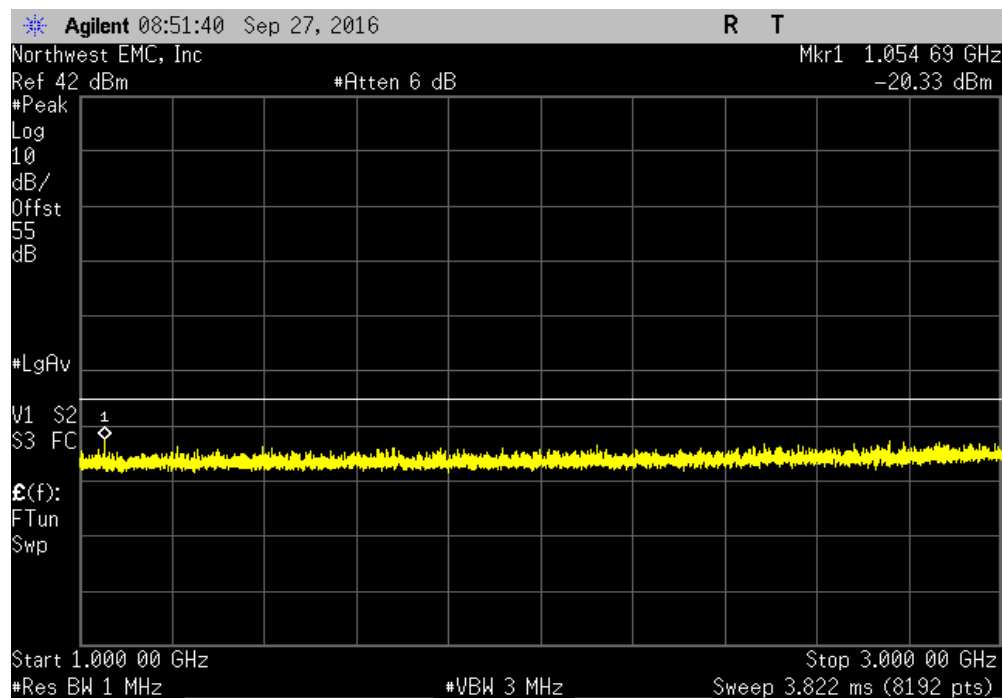


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 1, Mid Channel LTE10, 881.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-29.33	-13	Pass		

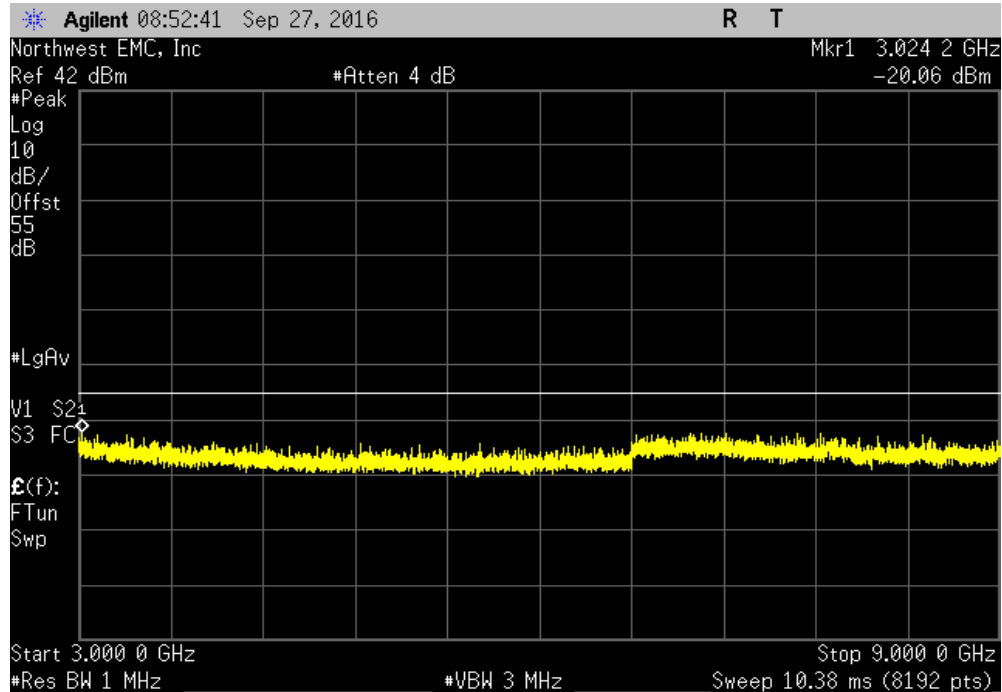


Antenna Port 1, Mid Channel LTE10, 881.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz	-20.34	-13	Pass		

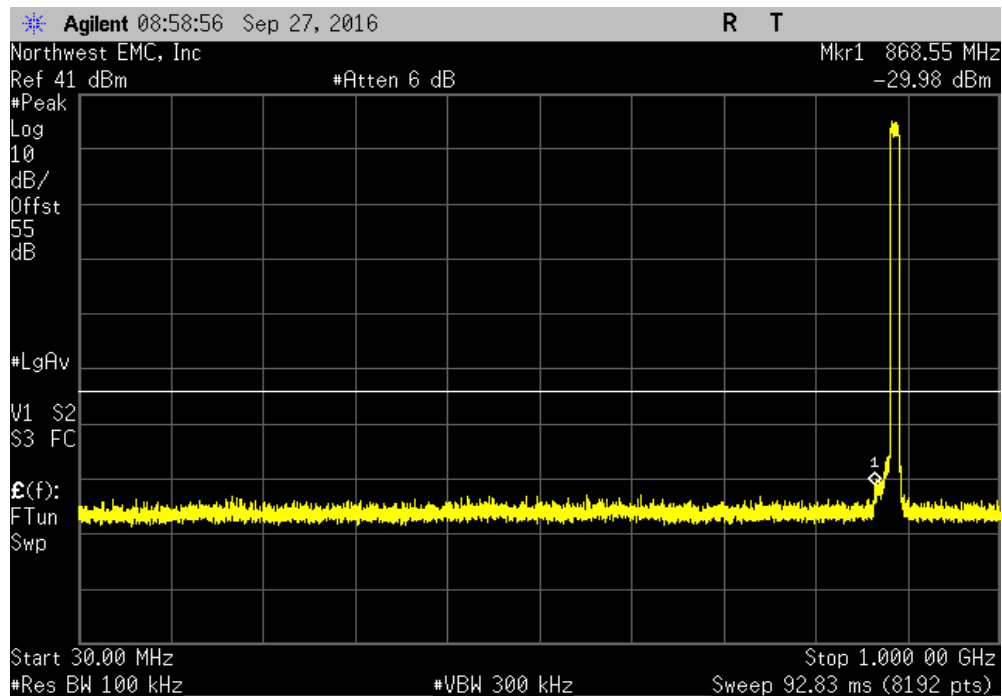


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 1, Mid Channel LTE10, 881.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz	-20.06	-13	Pass		

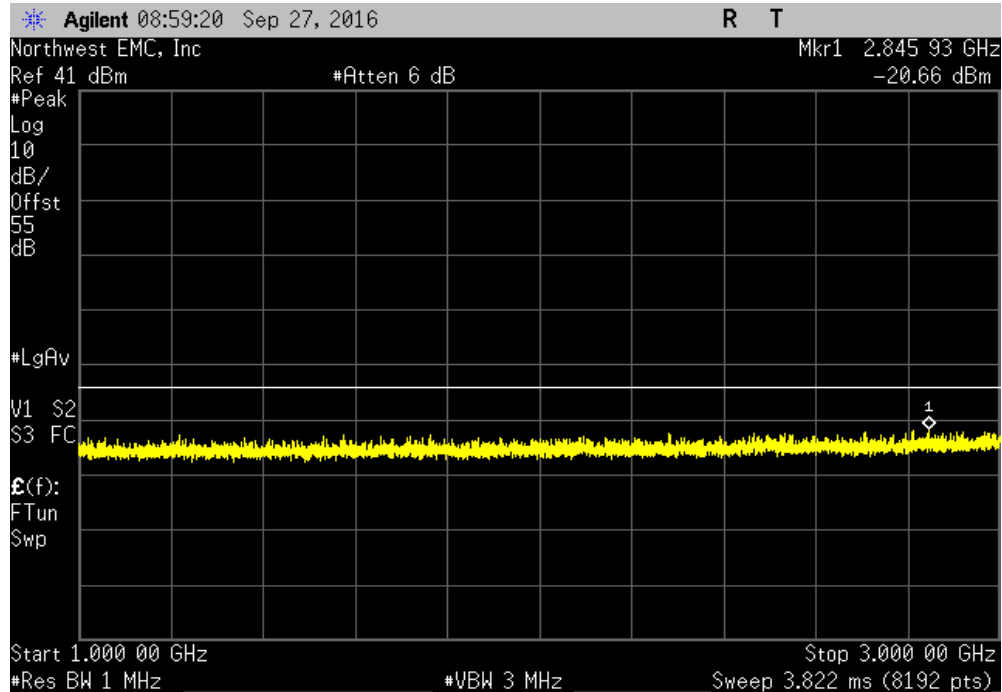


Antenna Port 1, High Channel LTE10, 889 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-29.98	-13	Pass		

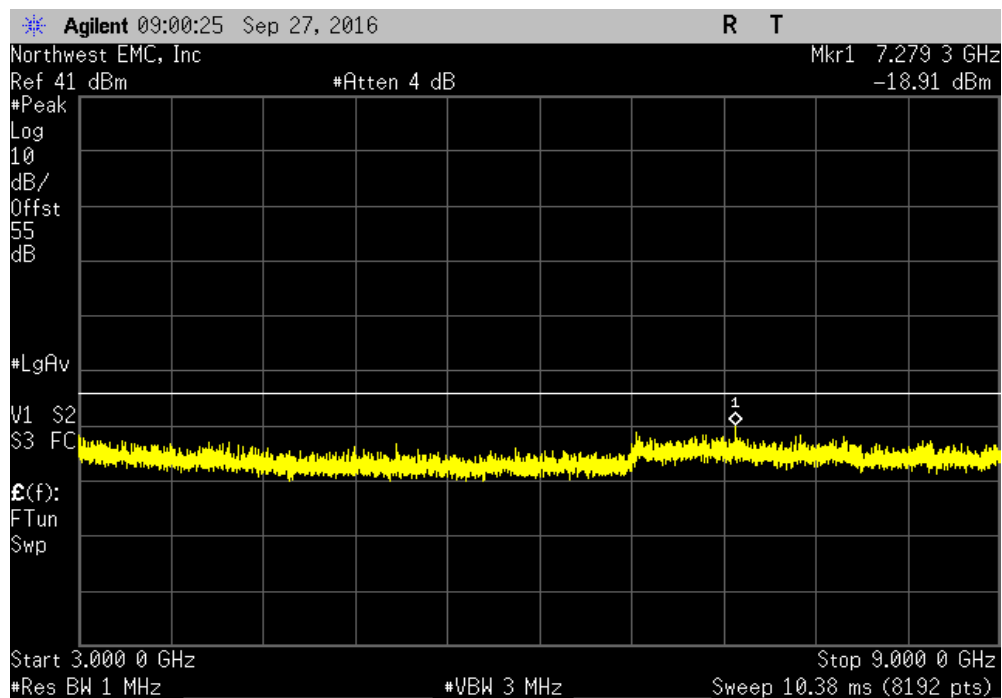


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 1, High Channel LTE10, 889 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 3 GHz	-20.66	-13	Pass	



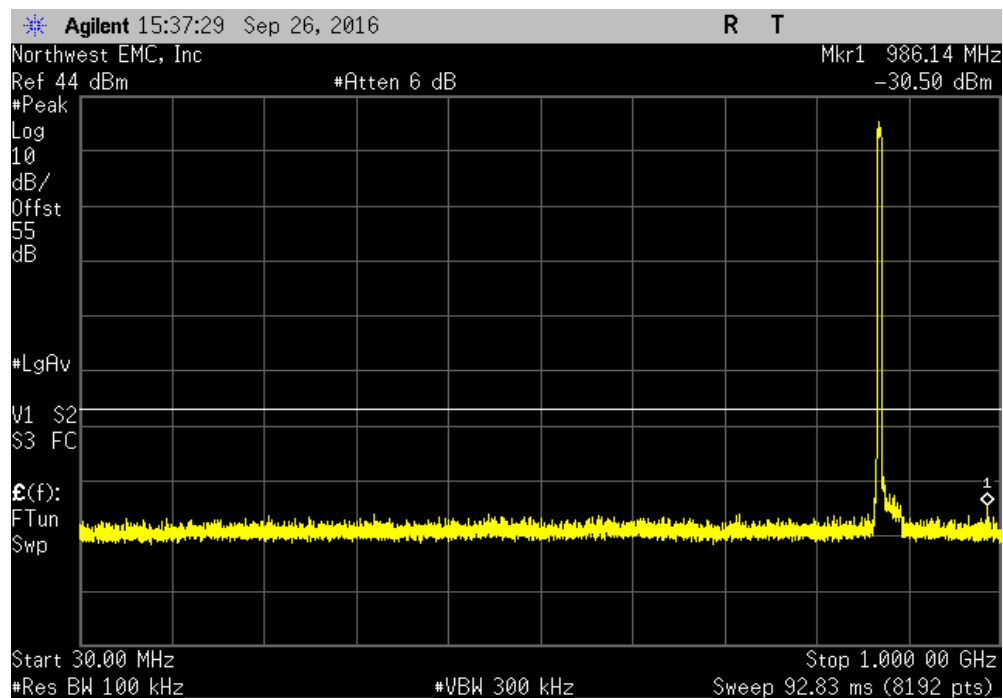
Antenna Port 1, High Channel LTE10, 889 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
3 GHz - 9 GHz	-18.91	-13	Pass	



**NORTHWEST
EMC**

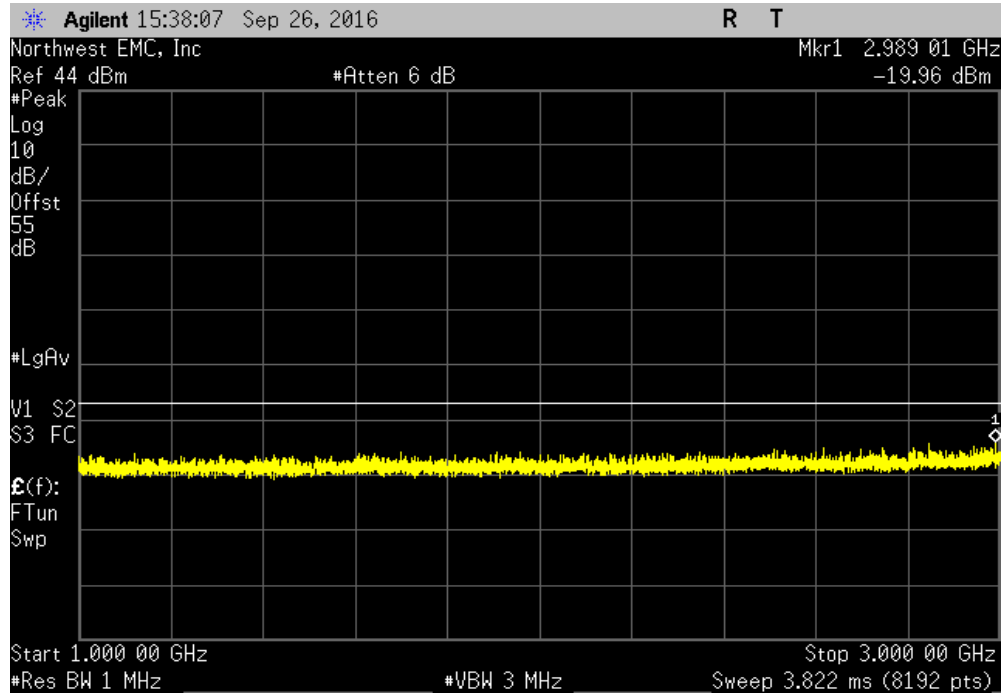
XMit 2016.05.06

Antenna Port 2, Low Channel LTE5, 871.5 MHz						
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result		
	30 MHz - 1 GHz	-30.5	-13	Pass		

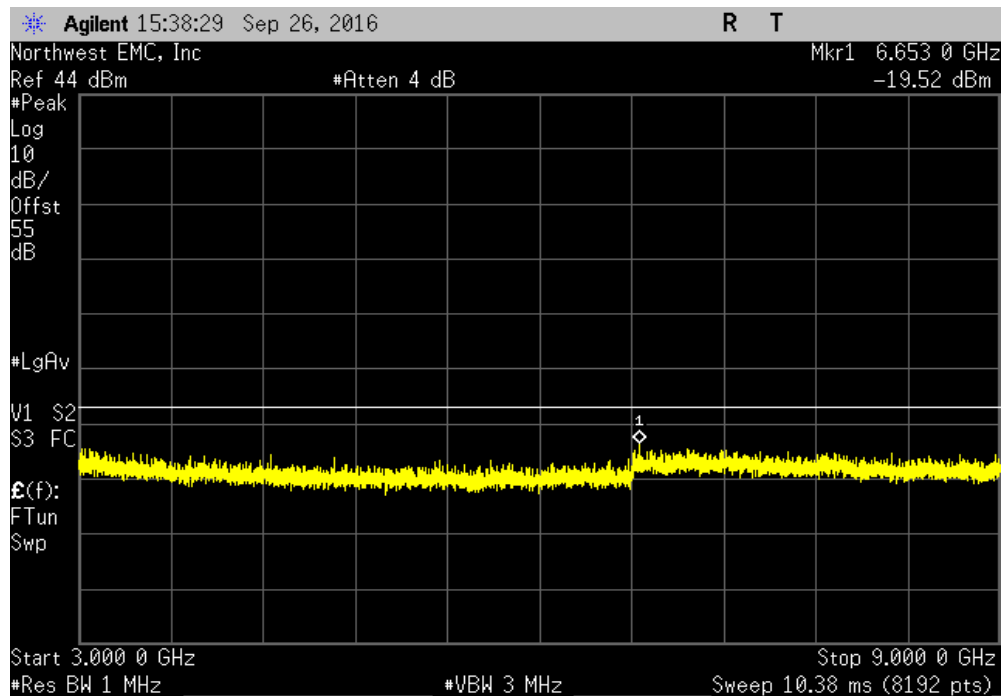


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 2, Low Channel LTE5, 871.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz	-19.96	-13	Pass		

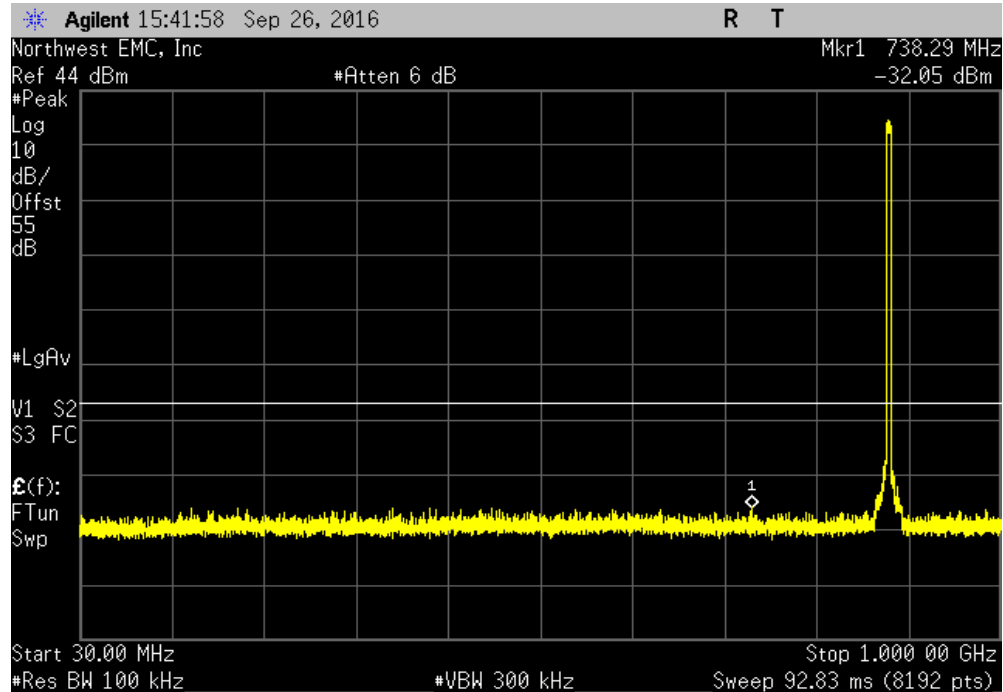


Antenna Port 2, Low Channel LTE5, 871.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz	-19.53	-13	Pass		

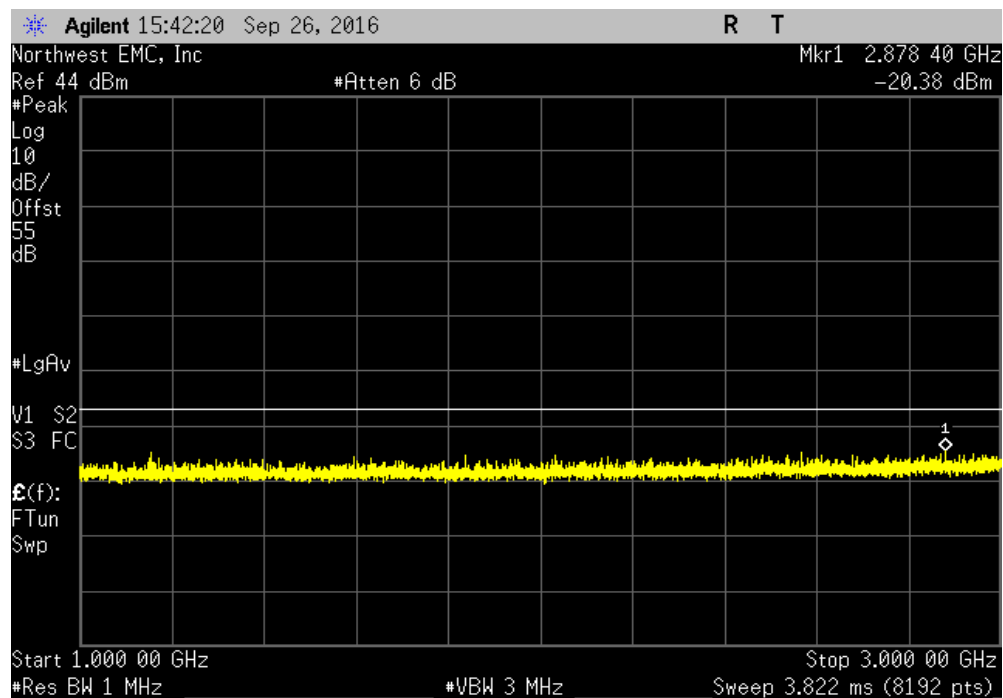


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 2, Mid Channel LTE5, 881.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
30 MHz - 1 GHz	-32.05	-13	Pass	

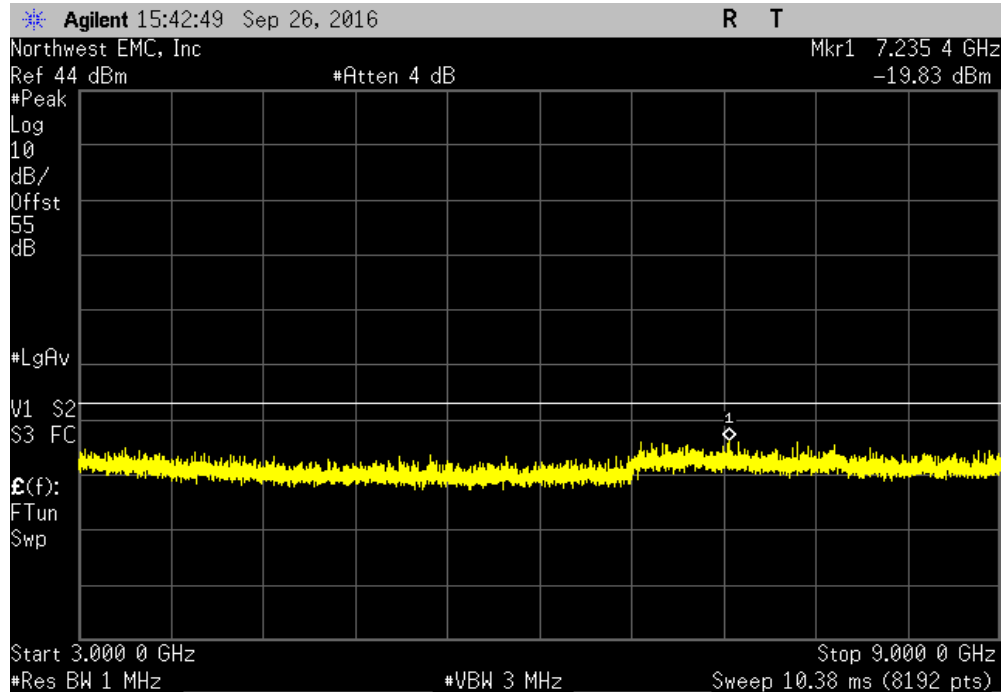


Antenna Port 2, Mid Channel LTE5, 881.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 3 GHz	-20.38	-13	Pass	

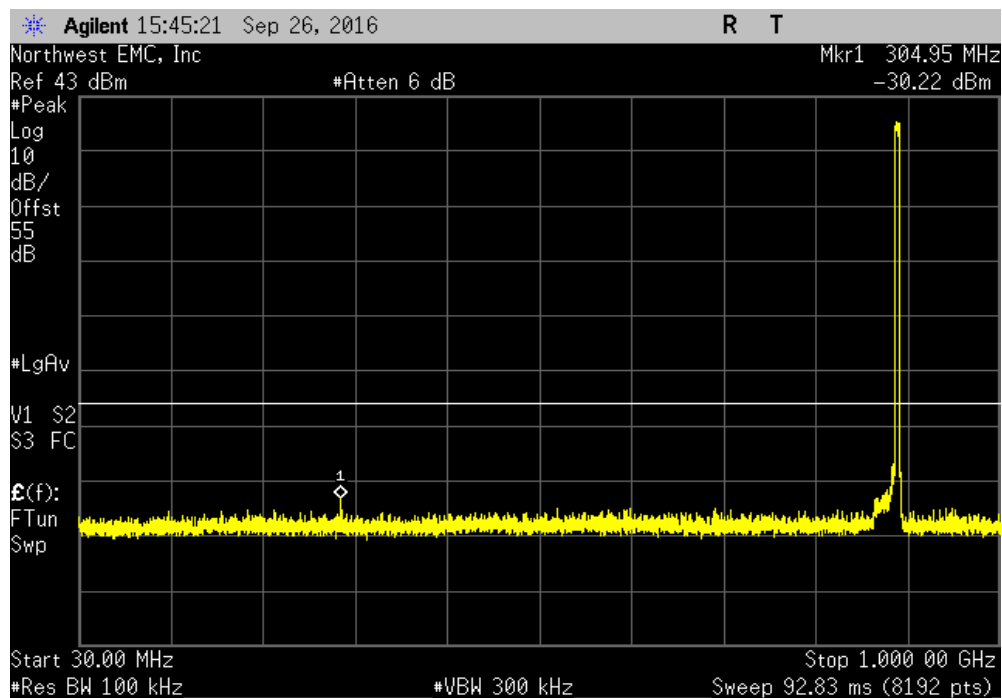


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 2, Mid Channel LTE5, 881.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz	-19.84	-13	Pass		

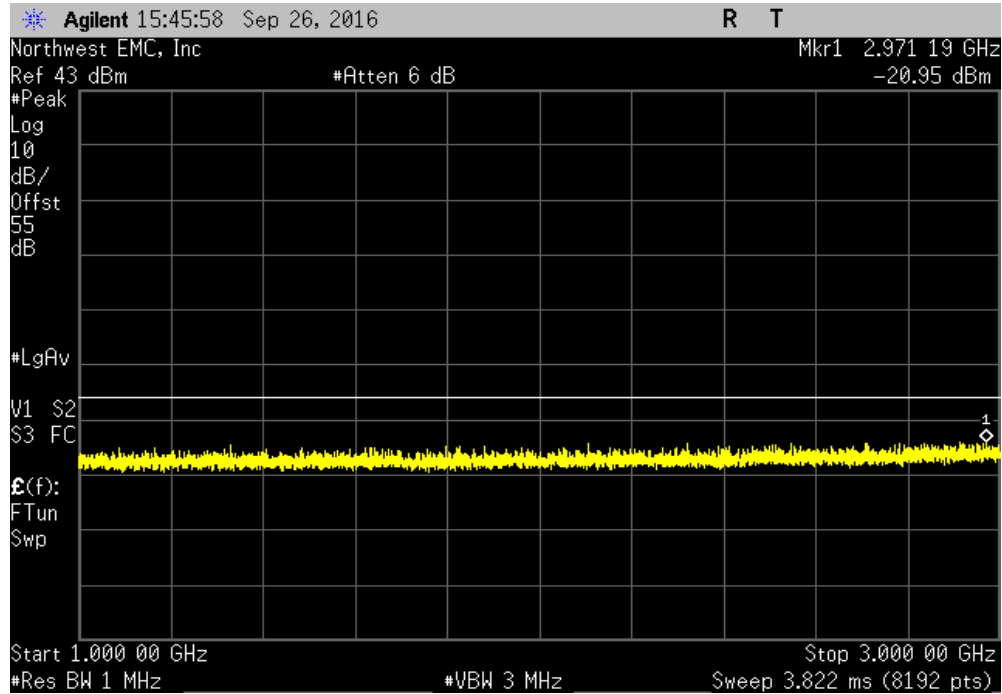


Antenna Port 2, High Channel LTE5, 891.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-30.22	-13	Pass		

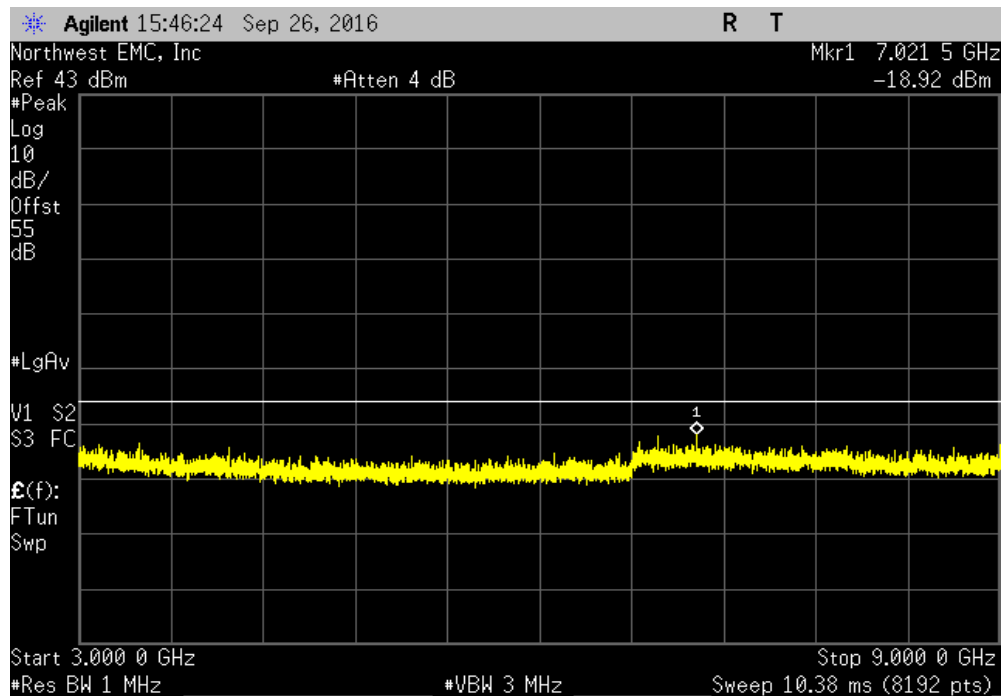


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 2, High Channel LTE5, 891.5 MHz						
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz		-20.95	-13	Pass		

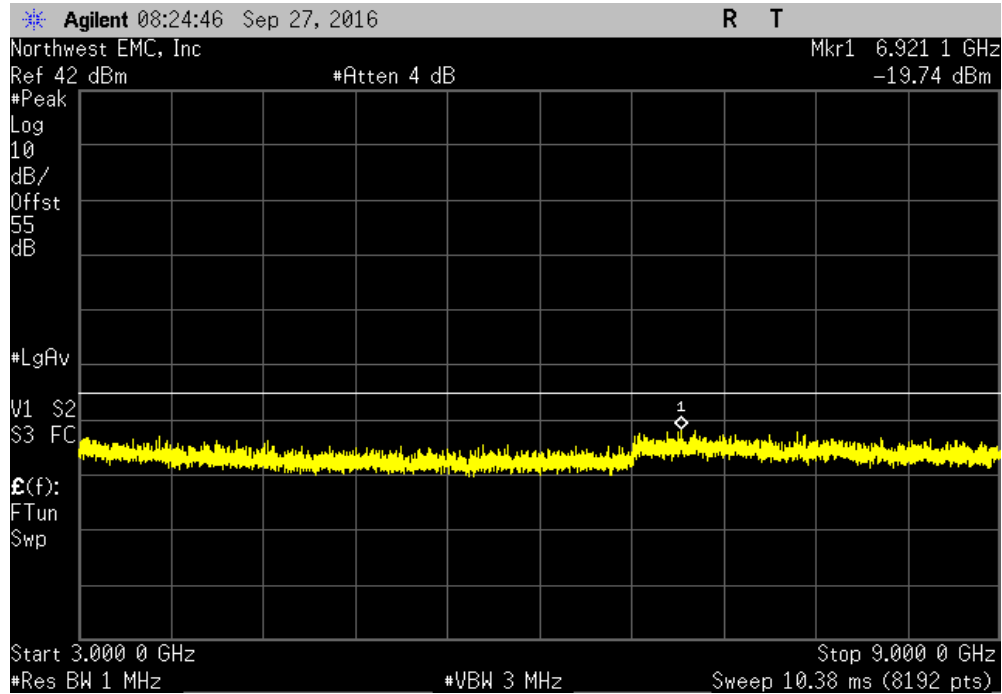


Antenna Port 2, High Channel LTE5, 891.5 MHz						
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz		-18.92	-13	Pass		

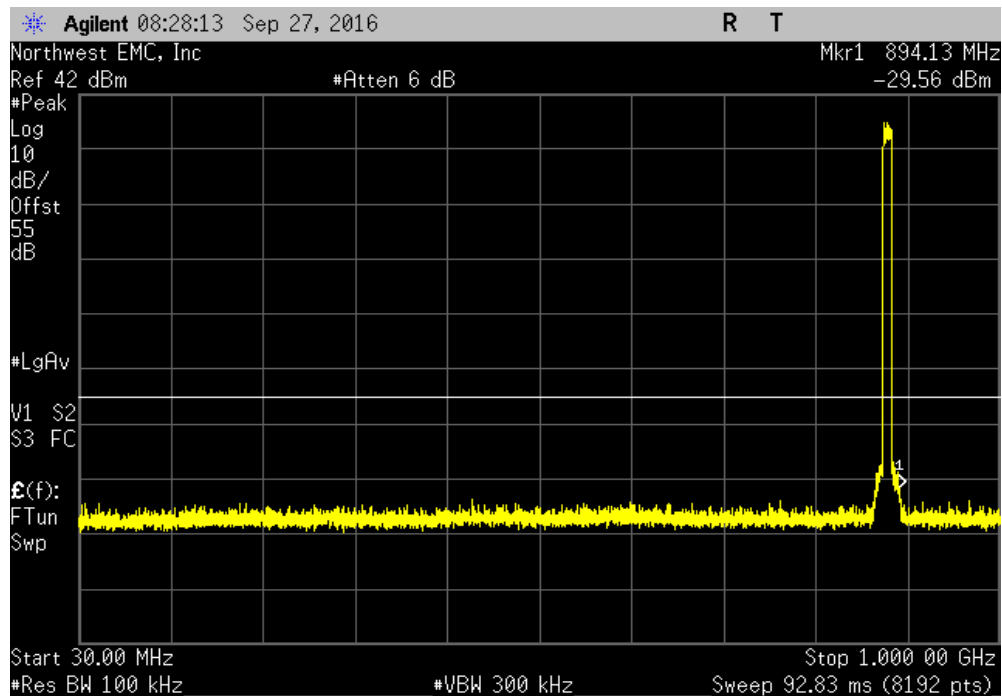


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 2, Low Channel LTE10, 874 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz	-19.74	-13	Pass		

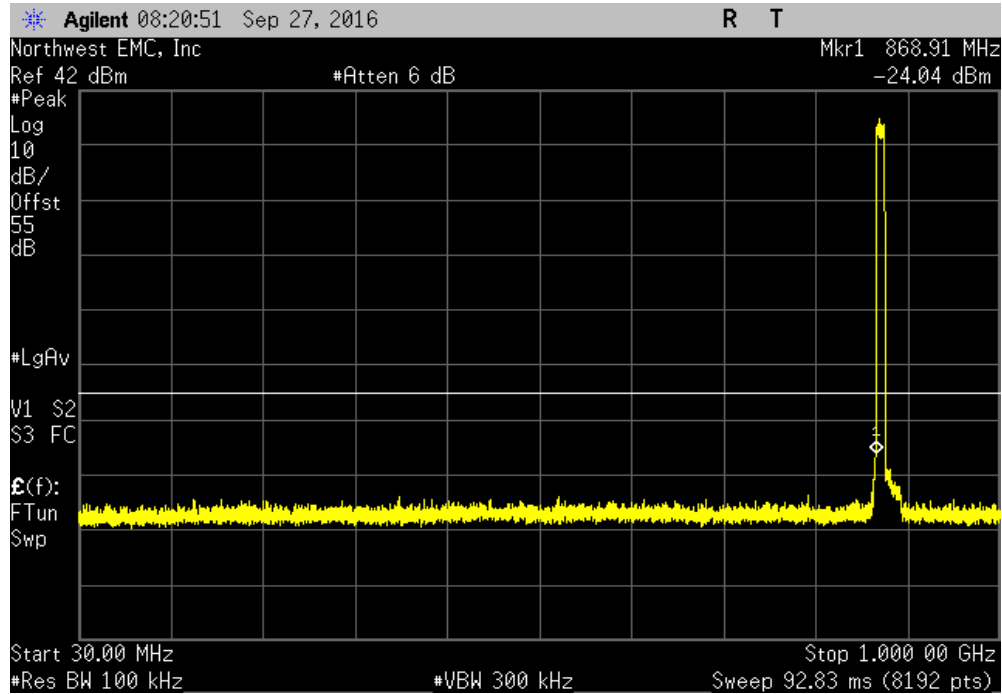


Antenna Port 2, Mid Channel LTE10, 881.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-29.56	-13	Pass		

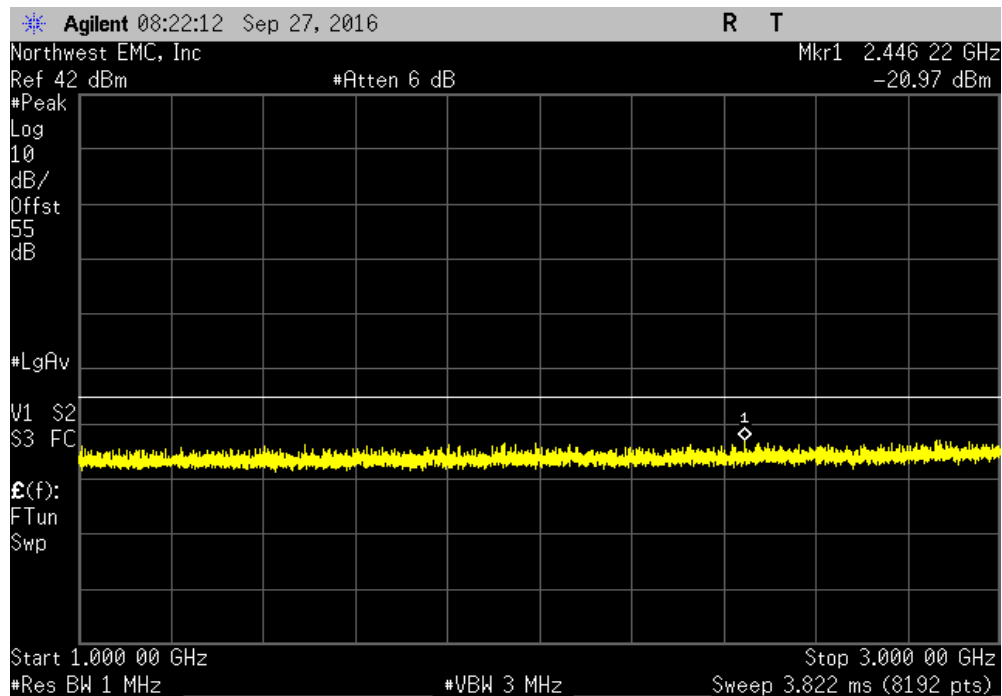


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 2, Low Channel LTE10, 874 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-24.04	-13	Pass		

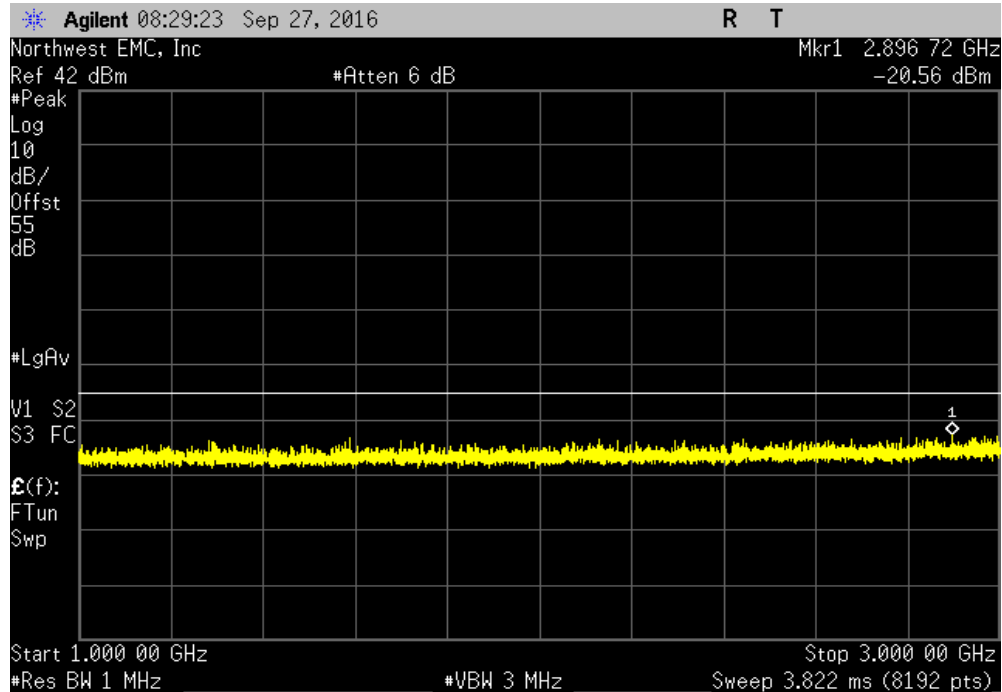


Antenna Port 2, Low Channel LTE10, 874 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz	-20.97	-13	Pass		

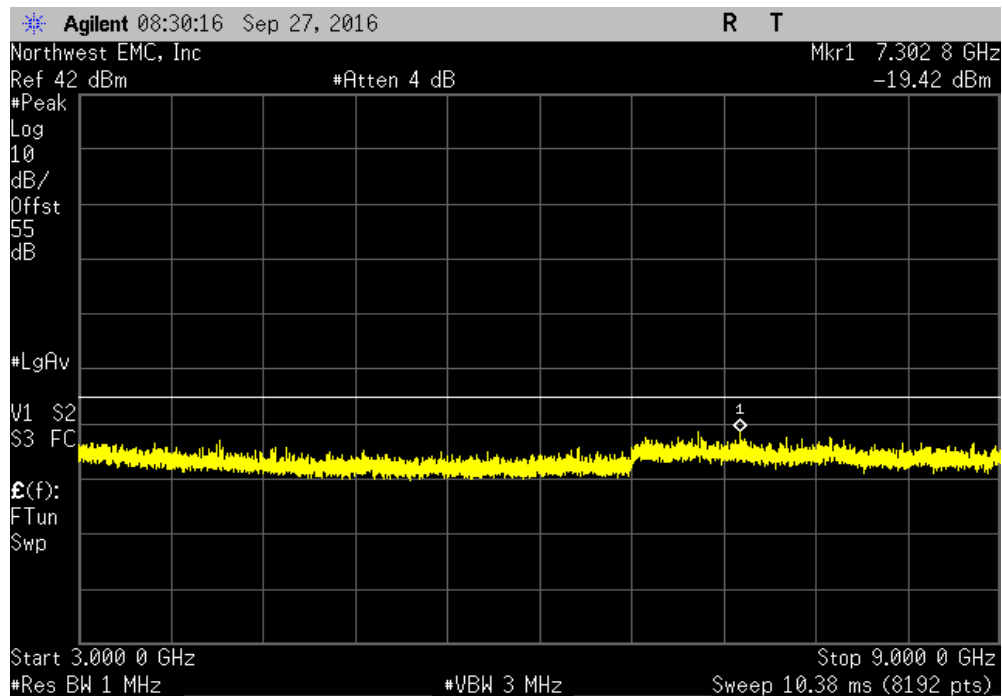


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 2, Mid Channel LTE10, 881.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz	-20.56	-13	Pass		

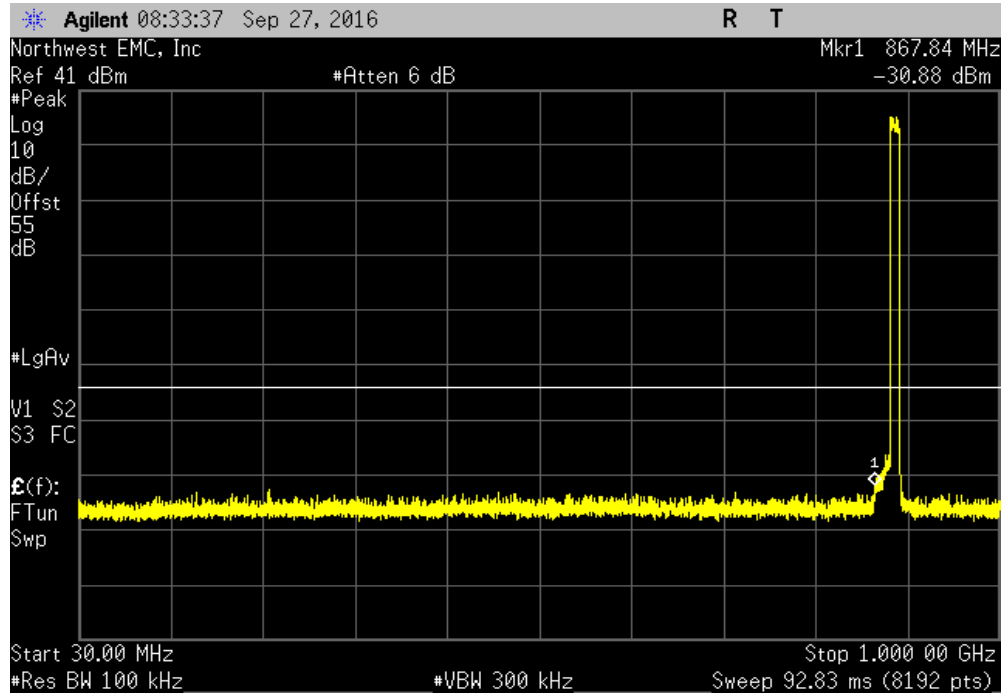


Antenna Port 2, Mid Channel LTE10, 881.5 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz	-19.42	-13	Pass		

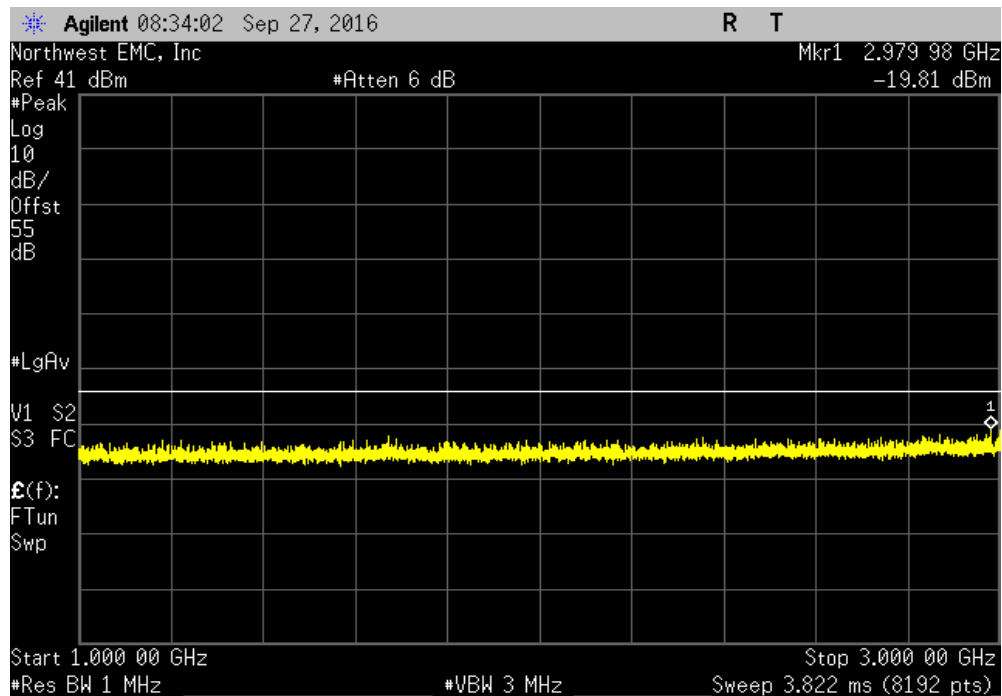


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 2, High Channel LTE10, 889 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-30.88	-13	Pass		

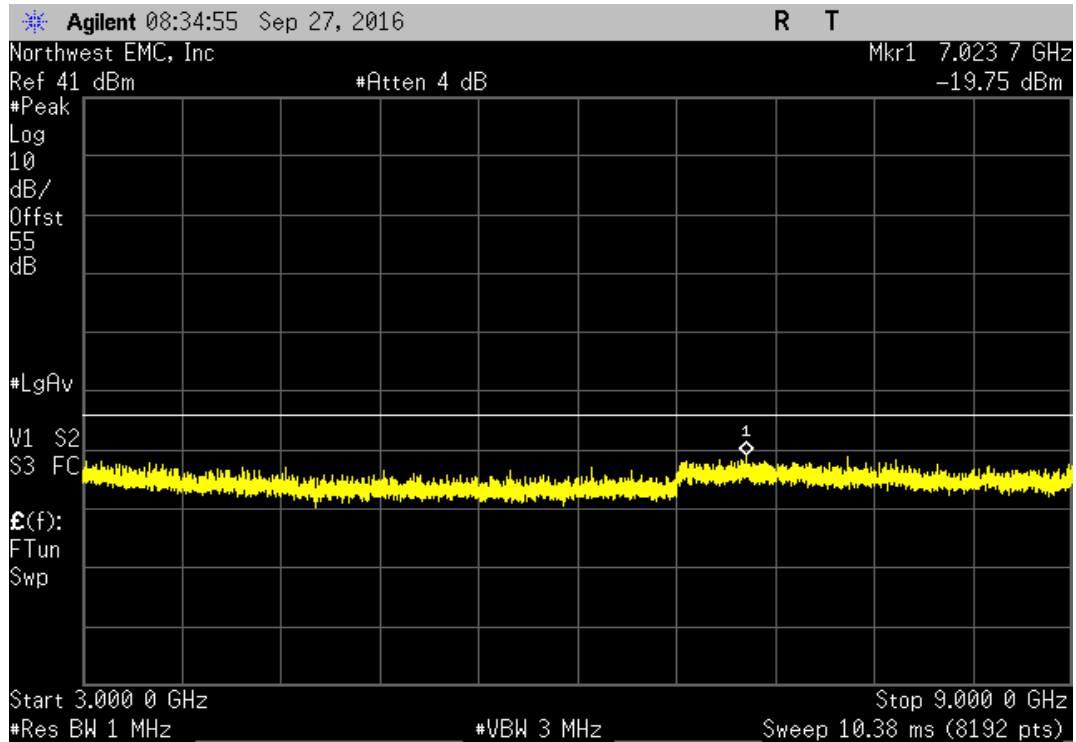


Antenna Port 2, High Channel LTE10, 889 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz	-19.81	-13	Pass		



SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - LTE BAND 5

Antenna Port 2, High Channel LTE10, 889 MHz						
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result			
3 GHz - 9 GHz	-19.76	-13	Pass			



SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - WCDMA

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.	Cal. Due
Filter - High Pass	Micro-Tronics	HPM50108	HGX	7/25/2016	7/25/2017
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT

Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION


The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. Analyzer plots utilizing a 1 MHz resolution bandwidth and no video filtering were made for each mode listed in the datasheet.

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 the limit.

SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - WCDMA

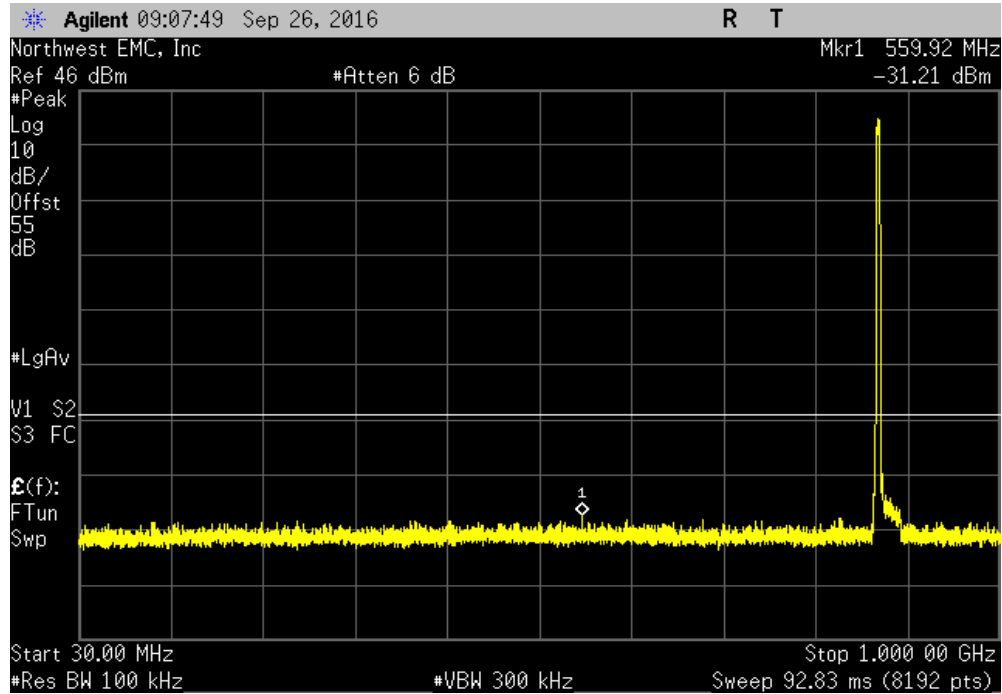


XMR 2016.05.06

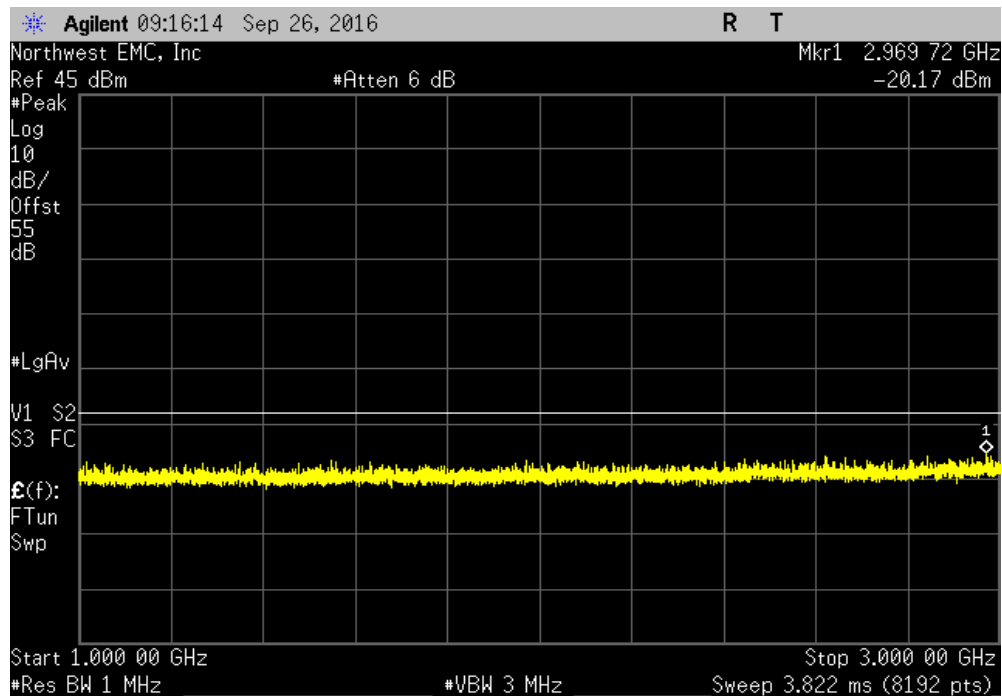
EUT: CWS-3050-05		Work Order: KMWC0071	
Serial Number: K162600004		Date: 09/26/16	
Customer: Parallel Wireless Inc.		Temperature: 22.3 °C	
Attendees: Edward Lee		Humidity: 38.4% RH	
Project: None		Barometric Pres.: 1016 mbar	
Tested by: Johnny Candelas		Power: 48VDC	
Job Site: OC13			
TEST SPECIFICATIONS		Test Method	
FCC 22H:2016		ANSI/TIA/EIA-603-D-2010	
COMMENTS			
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 55.0dB total.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature 	
		Frequency Range	Max Value (dBm)
			Limit ≤ (dBm)
			Result
Antenna Port 1			
	Low Channel WCDMA, 871.4 MHz	30 MHz - 1 GHz	-31.21
	Low Channel WCDMA, 871.4 MHz	1 GHz - 3 GHz	-20.17
	Low Channel WCDMA, 871.4 MHz	3 GHz - 9 GHz	-19.99
	Mid Channel WCDMA, 881.4 MHz	30 MHz - 1 GHz	-31.49
	Mid Channel WCDMA, 881.4 MHz	1 GHz - 3 GHz	-20.93
	Mid Channel WCDMA, 881.4 MHz	3 GHz - 9 GHz	-20.34
	High Channel WCDMA, 891.6 MHz	30 MHz - 1 GHz	-31.93
	High Channel WCDMA, 891.6 MHz	1 GHz - 3 GHz	-20.28
	High Channel WCDMA, 891.6 MHz	3 GHz - 9 GHz	-20.48
Antenna Port 2			
	Low Channel WCDMA, 871.4 MHz	30 MHz - 1 GHz	-31.38
	Low Channel WCDMA, 871.4 MHz	1 GHz - 3 GHz	-20.43
	Low Channel WCDMA, 871.4 MHz	3 GHz - 9 GHz	-20.29
	Mid Channel WCDMA, 881.4 MHz	30 MHz - 1 GHz	-31.27
	Mid Channel WCDMA, 881.4 MHz	1 GHz - 3 GHz	-20.14
	Mid Channel WCDMA, 881.4 MHz	3 GHz - 9 GHz	-20.13
	High Channel WCDMA, 891.6 MHz	30 MHz - 1 GHz	-31.37
	High Channel WCDMA, 891.6 MHz	1 GHz - 3 GHz	-19.6
	High Channel WCDMA, 891.6 MHz	3 GHz - 9 GHz	-20.23

SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - WCDMA

Antenna Port 1, Low Channel WCDMA, 871.4 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-31.21	-13	Pass		

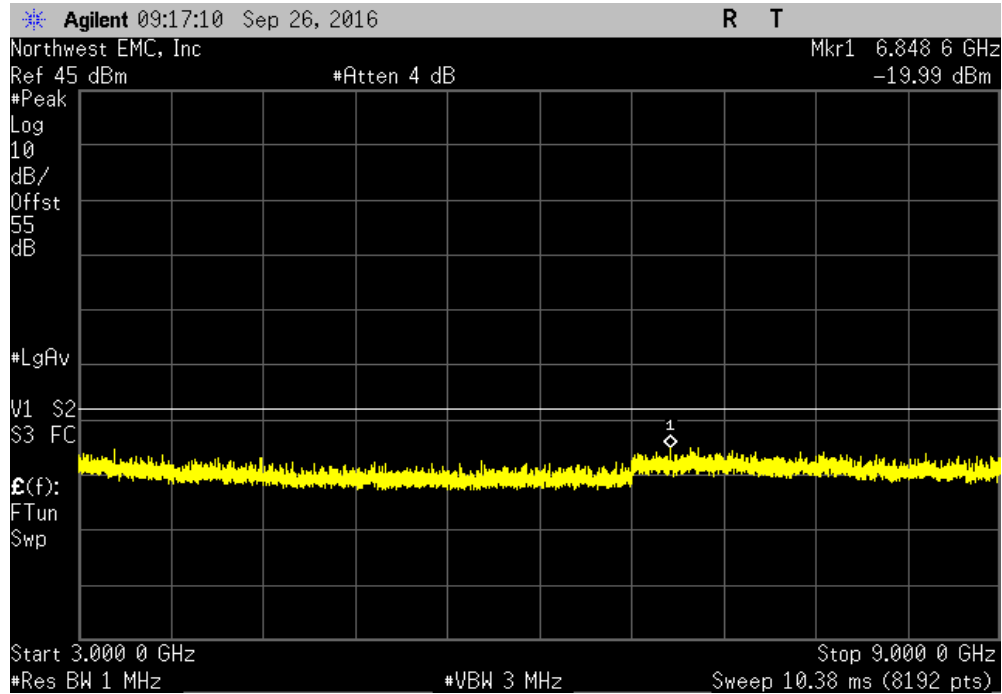


Antenna Port 1, Low Channel WCDMA, 871.4 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz	-20.17	-13	Pass		

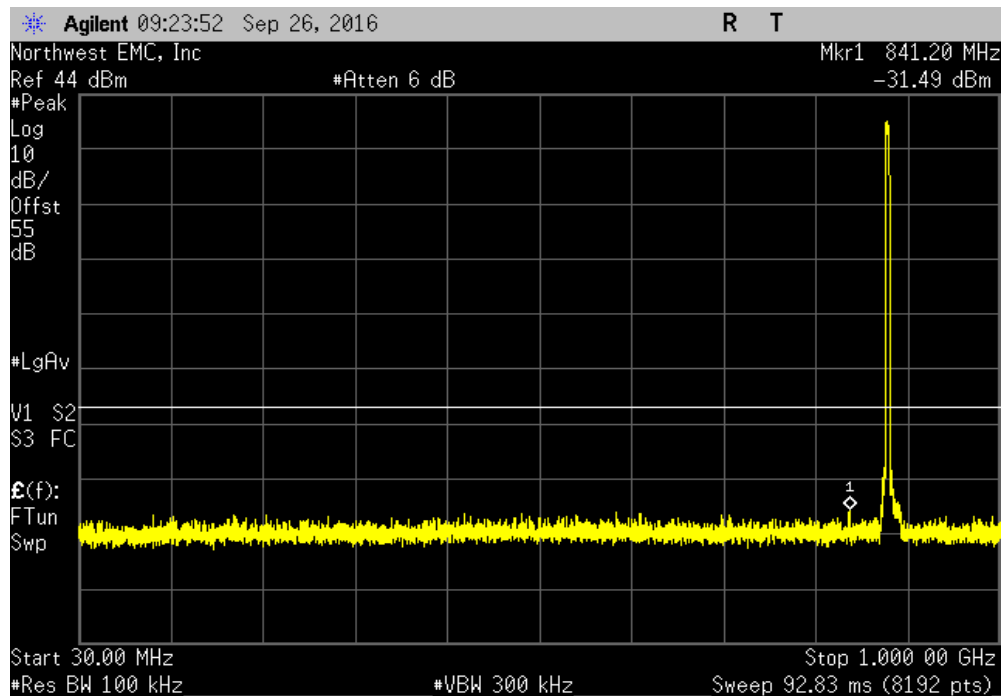


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - WCDMA

Antenna Port 1, Low Channel WCDMA, 871.4 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz	-19.99	-13	Pass		

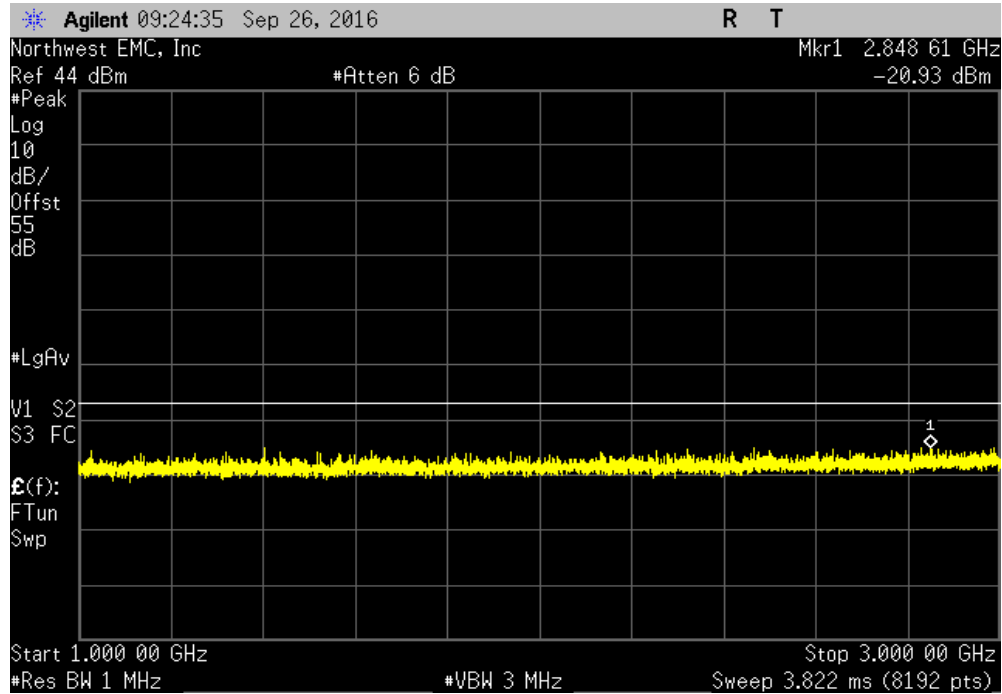


Antenna Port 1, Mid Channel WCDMA, 881.4 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-31.49	-13	Pass		

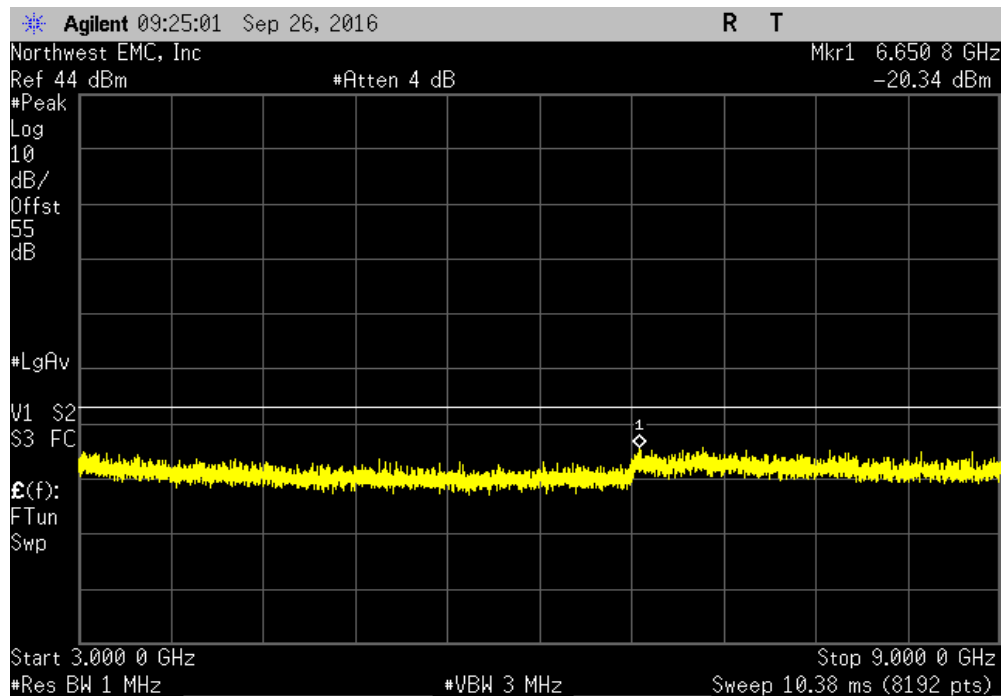


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - WCDMA

Antenna Port 1, Mid Channel WCDMA, 881.4 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 3 GHz	-20.93	-13	Pass	

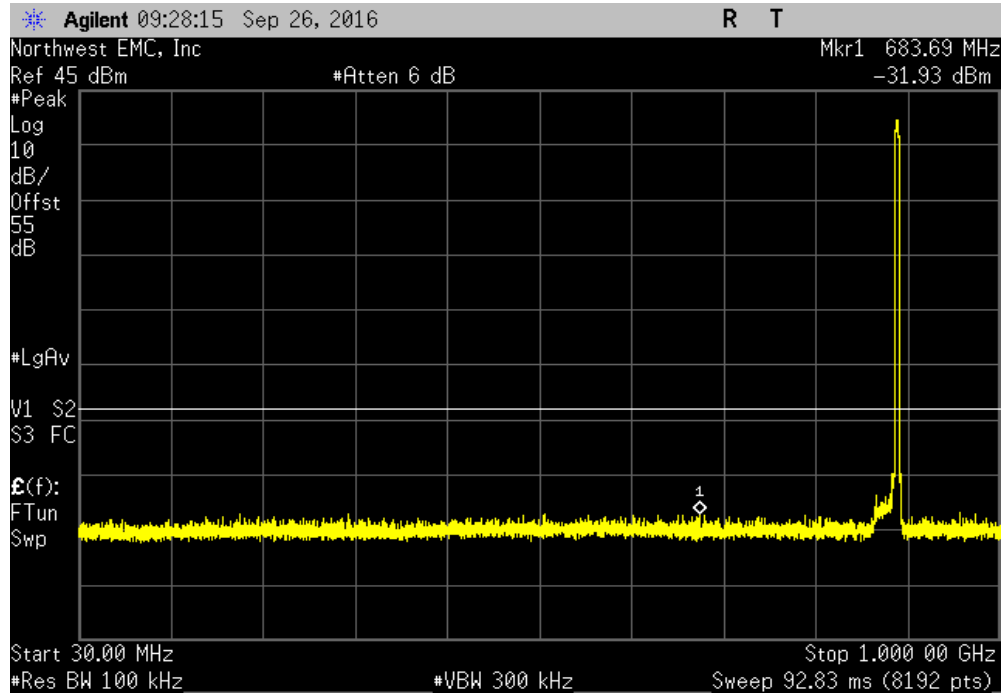


Antenna Port 1, Mid Channel WCDMA, 881.4 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
3 GHz - 9 GHz	-20.34	-13	Pass	

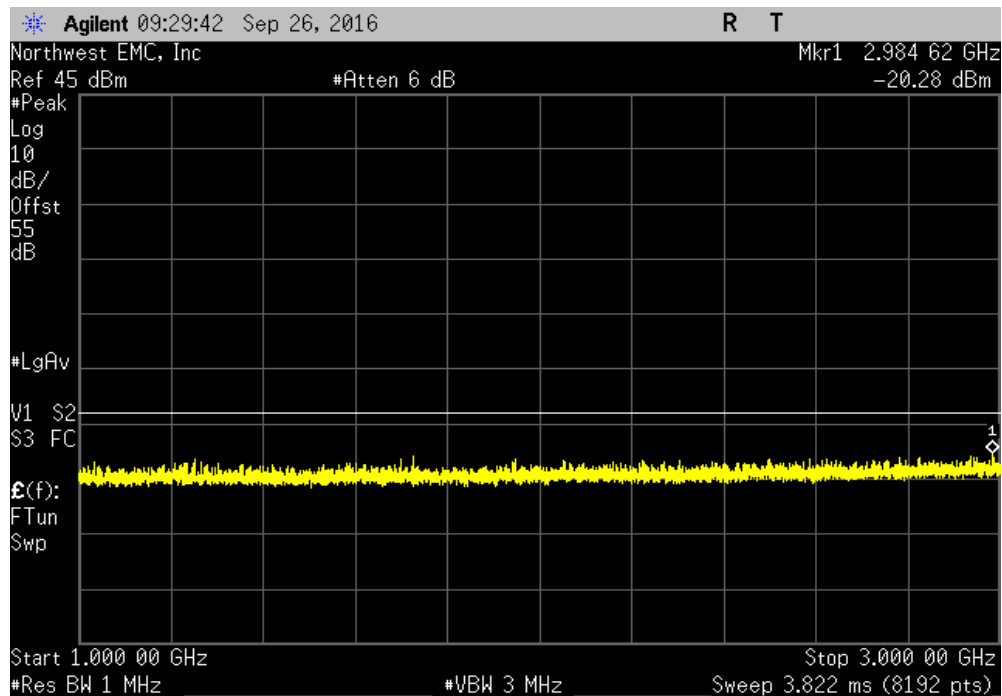


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - WCDMA

Antenna Port 1, High Channel WCDMA, 891.6 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-31.93	-13	Pass		

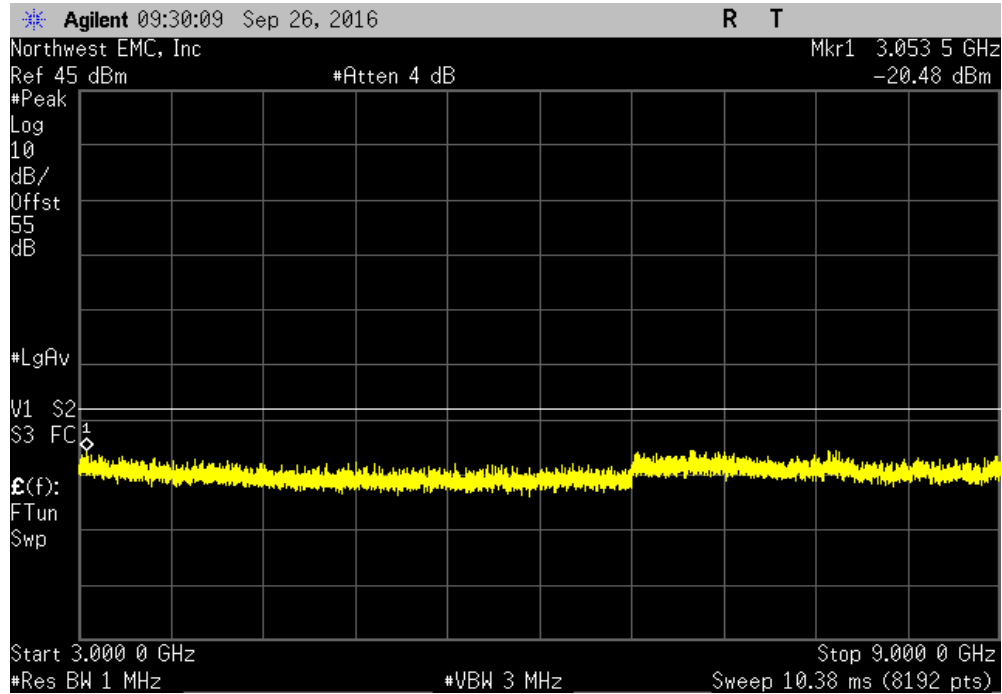


Antenna Port 1, High Channel WCDMA, 891.6 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz	-20.28	-13	Pass		

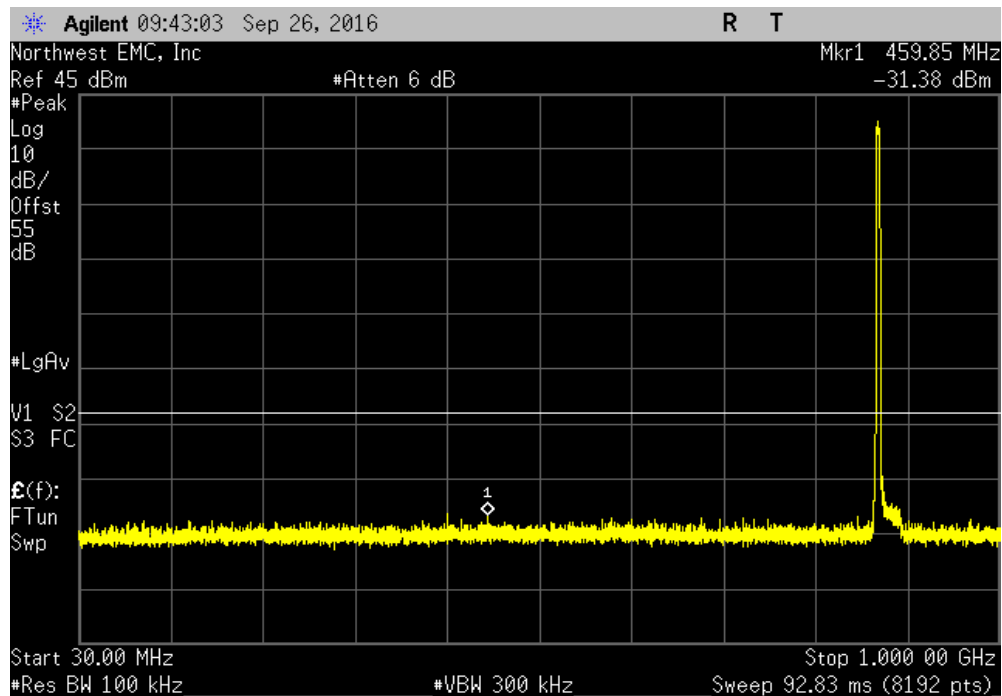


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - WCDMA

Antenna Port 1, High Channel WCDMA, 891.6 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz	-20.48	-13	Pass		

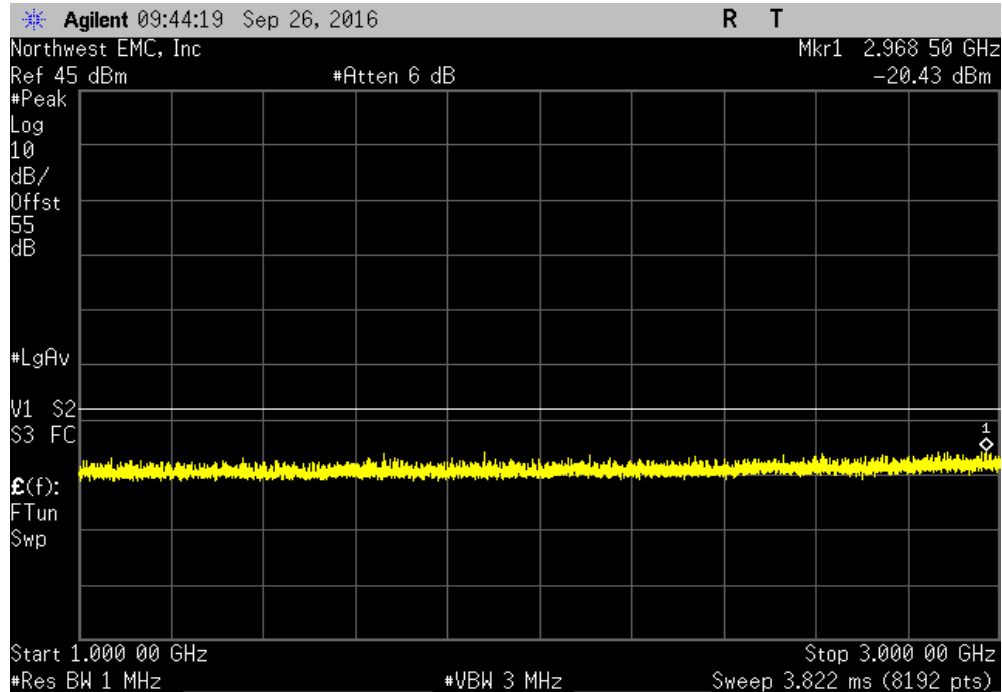


Antenna Port 2, Low Channel WCDMA, 871.4 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-31.38	-13	Pass		

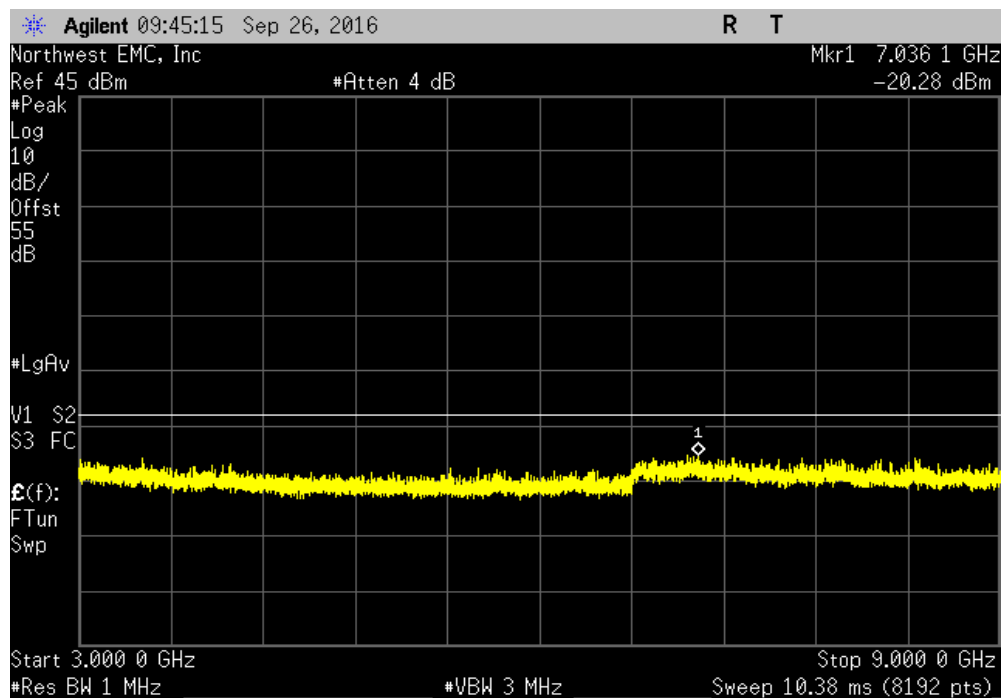


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - WCDMA

Antenna Port 2, Low Channel WCDMA, 871.4 MHz						
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz		-20.43	-13	Pass		

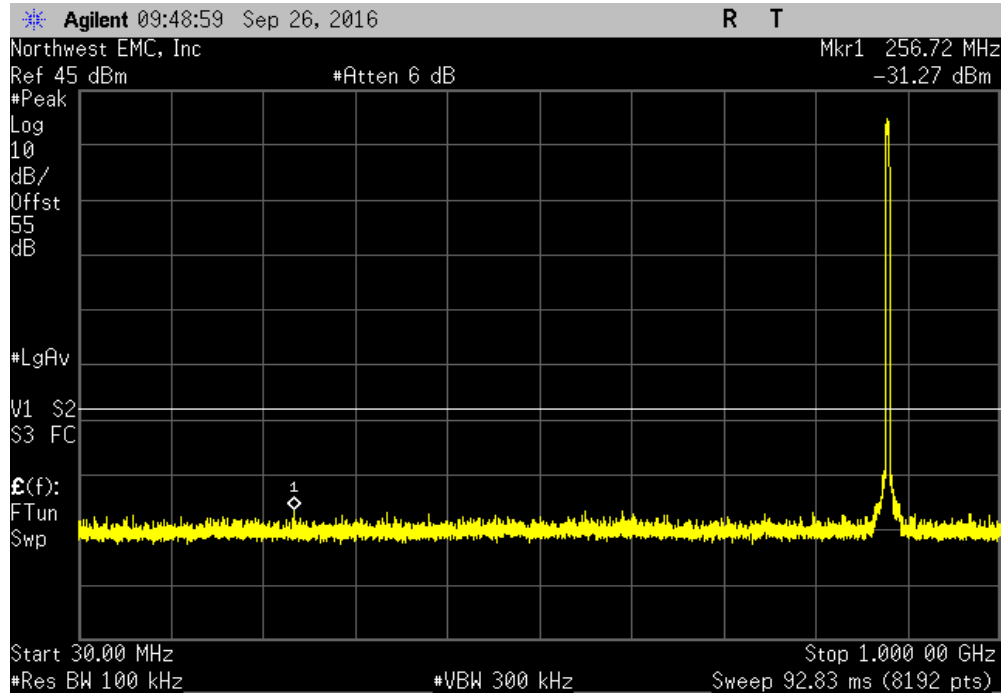


Antenna Port 2, Low Channel WCDMA, 871.4 MHz						
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz		-20.29	-13	Pass		

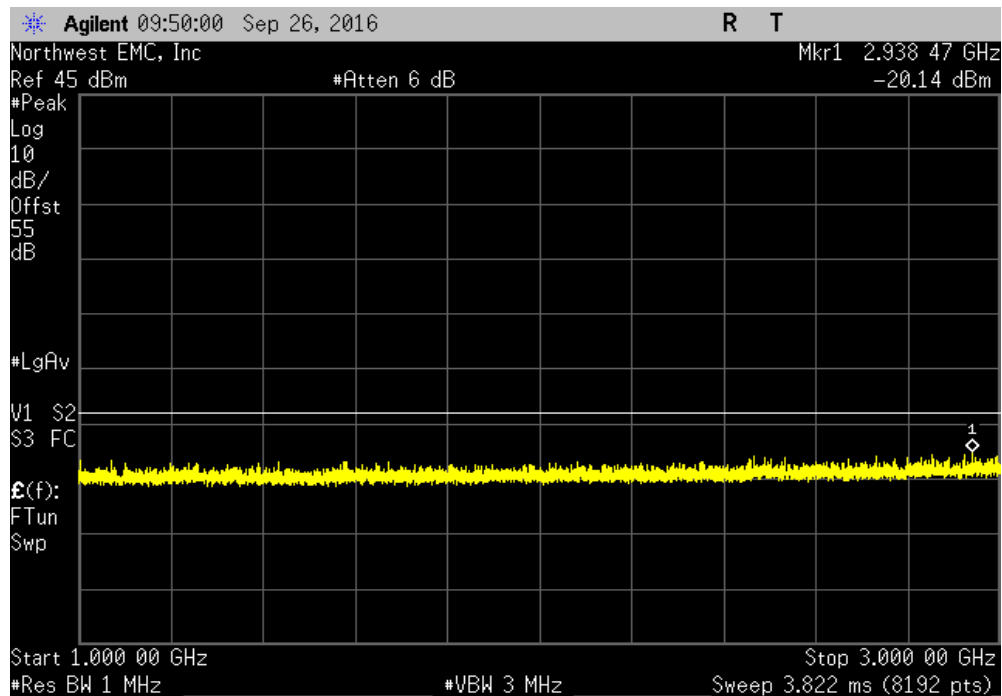


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - WCDMA

Antenna Port 2, Mid Channel WCDMA, 881.4 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-31.27	-13	Pass		

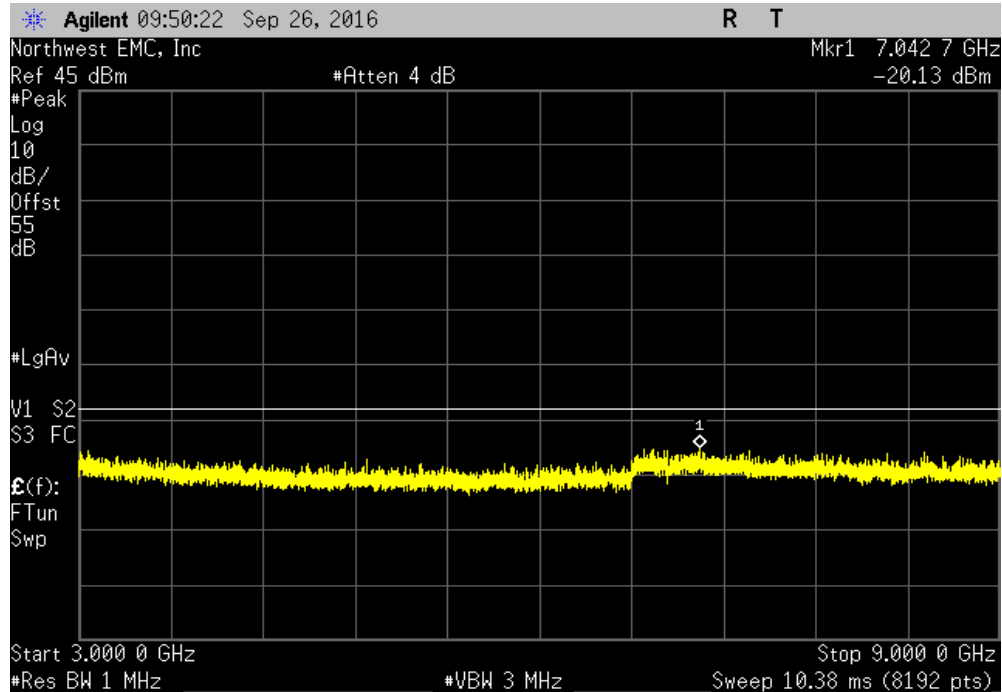


Antenna Port 2, Mid Channel WCDMA, 881.4 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz	-20.14	-13	Pass		

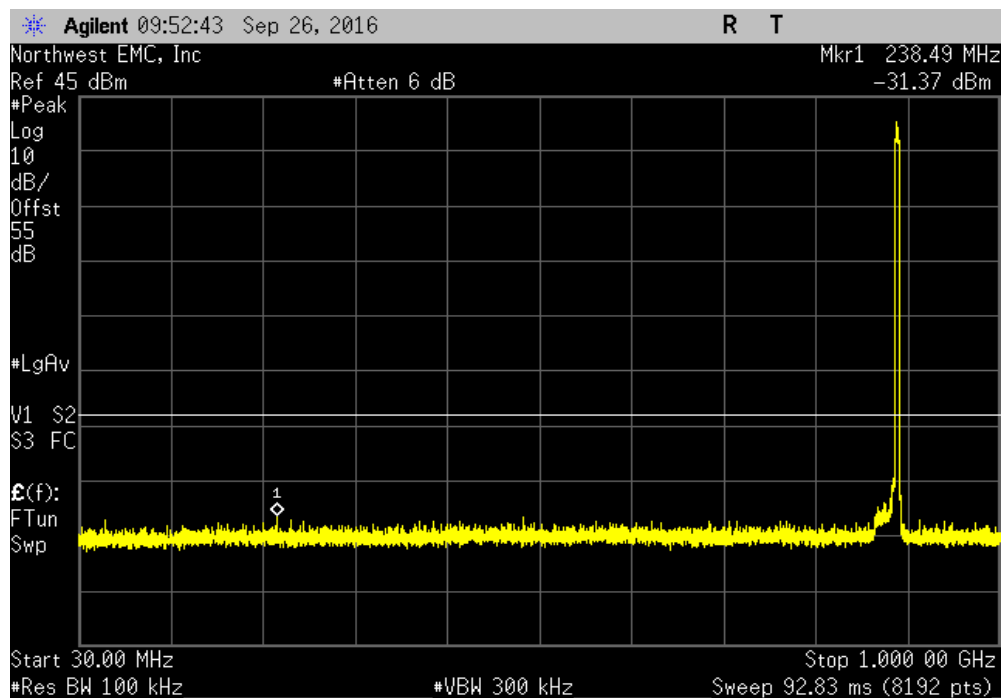


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - WCDMA

Antenna Port 2, Mid Channel WCDMA, 881.4 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz	-20.13	-13	Pass		

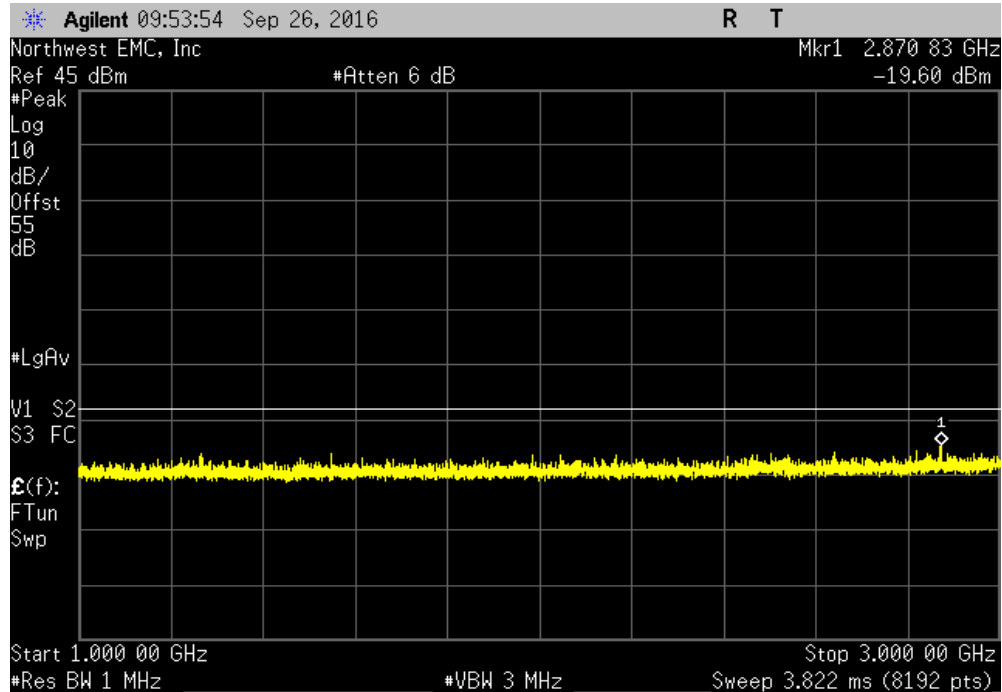


Antenna Port 2, High Channel WCDMA, 891.6 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-31.37	-13	Pass		

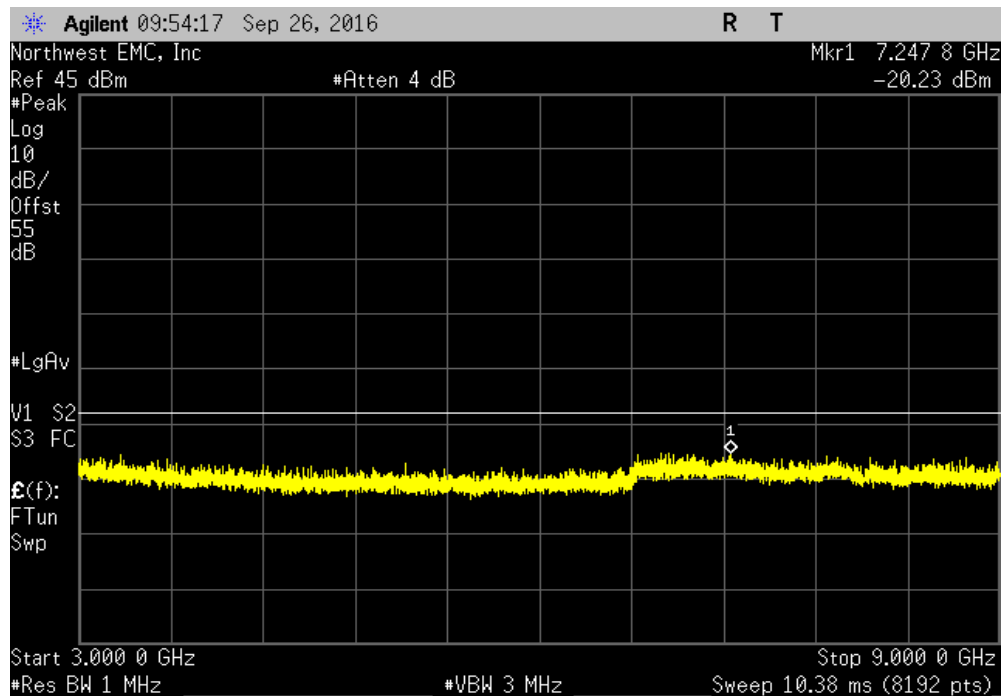


SPURIOUS EMISSIONS AT THE ANTENNA TERMINAL - WCDMA

Antenna Port 2, High Channel WCDMA, 891.6 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz	-19.6	-13	Pass		



Antenna Port 2, High Channel WCDMA, 891.6 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz	-20.23	-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.	Cal. Due
Filter - High Pass	Micro-Tronics	HPM50108	HGX	7/25/2016	7/25/2017
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/19/2015	11/19/2016

CLIENT PROVIDED EQUIPMENT


Description	Manufacturer	Model	Last Cal.	Cal. Due
High Power Attenuator - 30dB	Aeroflex/Weinschel	53-30-43	NCR	NCR
Attenuator - 20dB	N/A	N/A	NCR	NCR
Power Divider	Fairview Microwave	MP8748-2	NCR	NCR
50Ohm Terminator	Aeroflex/Weinschel	1455-4	NCR	NCR
High Power Terminator	Telcon	KTMO400800060	NCR	NCR

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. Analyzer plots utilizing a 1 MHz resolution bandwidth and no video filtering were made for each mode listed in the datasheet.

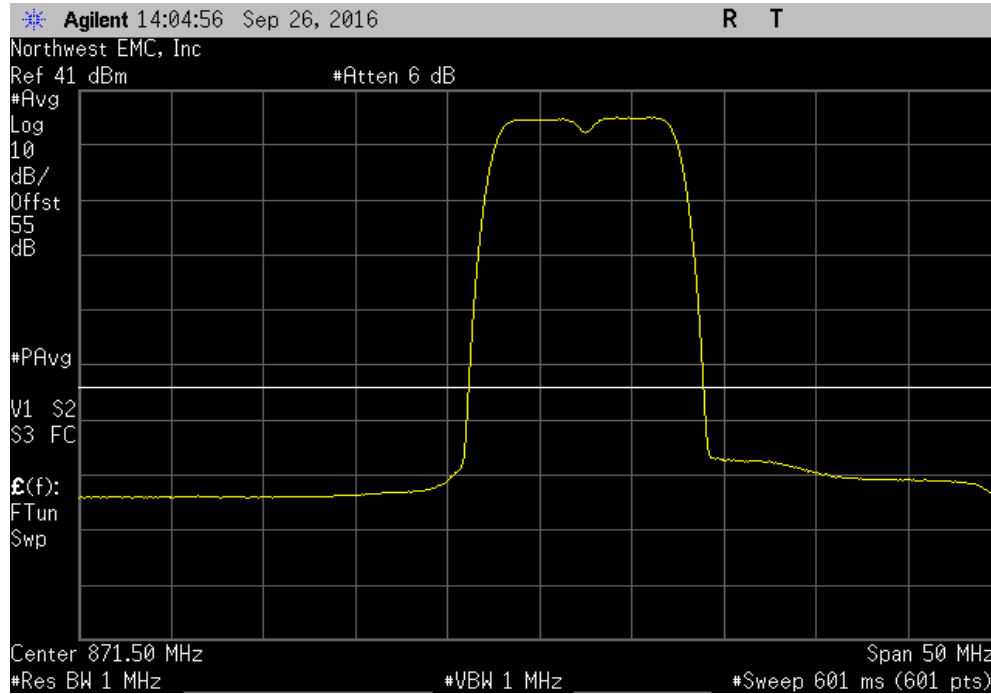
The peak conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than or equal to the limit.

INTERMODULATION

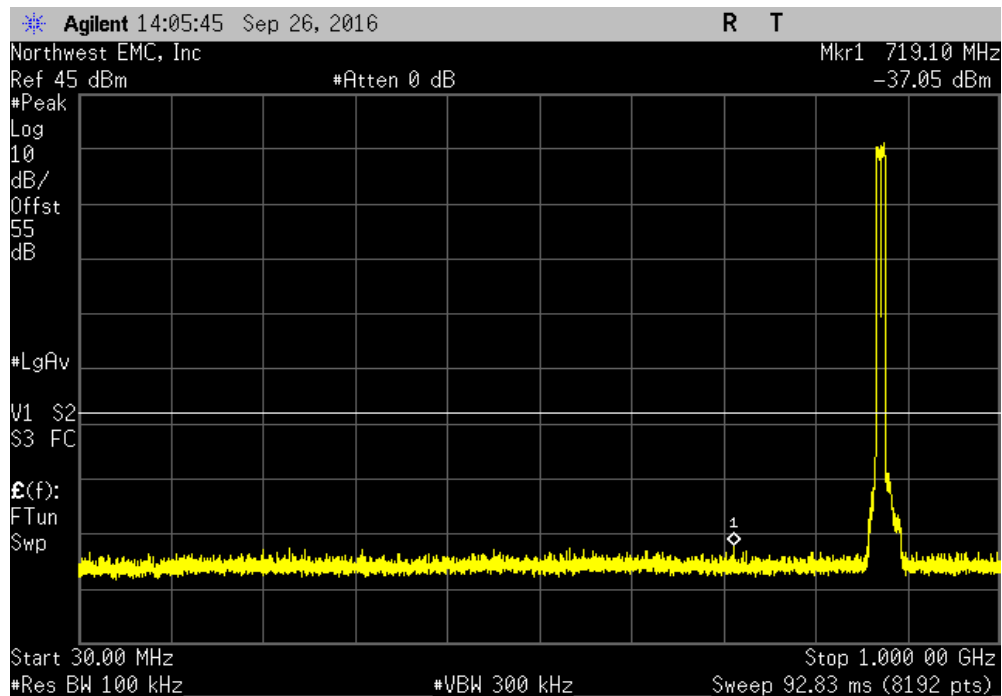
EUT: CWS-3050-05		Work Order: KMWC0071			
Serial Number: K162600004		Date: 09/26/16			
Customer: Parallel Wireless Inc.		Temperature: 22.3 °C			
Attendees: Edward Lee		Humidity: 38.4% RH			
Project: None		Barometric Pres.: 1016 mbar			
Tested by: Johnny Candelas		Power: 48VDC			
		Job Site: OC13			
TEST SPECIFICATIONS		Test Method			
FCC 22H:2016		ANSI/TIA/EIA-603-D-2010			
COMMENTS					
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 55.0dB total.					
DEVIATIONS FROM TEST STANDARD					
None					
Configuration #	1	Signature 			
		Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
Antenna Port 1					
LTE5 - 871.5 MHz & LTE5 - 876.5 MHz		Fundamental	N/A	N/A	N/A
LTE5 - 871.5 MHz & LTE5 - 876.5 MHz		30 MHz - 1 GHz	-37.05	-13	Pass
LTE5 - 871.5 MHz & LTE5 - 876.5 MHz		1 GHz - 3 GHz	-26.27	-13	Pass
LTE5 - 871.5 MHz & LTE5 - 876.5 MHz		3 GHz - 9 GHz	-23.74	-13	Pass
LTE5 - 871.5 MHz & LTE5 - 891.5 MHz		Fundamental	N/A	N/A	N/A
LTE5 - 871.5 MHz & LTE5 - 891.5 MHz		30 MHz - 1 GHz	-29.22	-13	Pass
LTE5 - 871.5 MHz & LTE5 - 891.5 MHz		1 GHz - 3 GHz	-26.52	-13	Pass
LTE5 - 871.5 MHz & LTE5 - 891.5 MHz		3 GHz - 9 GHz	-23.62	-13	Pass
LTE5 - 871.5 MHz & LTE10 - 889 MHz		Fundamental	N/A	N/A	N/A
LTE5 - 871.5 MHz & LTE10 - 889 MHz		30 MHz - 1 GHz	-29.16	-13	Pass
LTE5 - 871.5 MHz & LTE10 - 889 MHz		1 GHz - 3 GHz	-26.01	-13	Pass
LTE5 - 871.5 MHz & LTE10 - 889 MHz		3 GHz - 9 GHz	-23.7	-13	Pass
WCDMA - 871.4 MHz & WCDMA - 891.6 MHz		Fundamental	N/A	N/A	N/A
WCDMA - 871.4 MHz & WCDMA - 891.6 MHz		30 MHz - 1 GHz	-25.68	-13	Pass
WCDMA - 871.4 MHz & WCDMA - 891.6 MHz		1 GHz - 3 GHz	-26.57	-13	Pass
WCDMA - 871.4 MHz & WCDMA - 891.6 MHz		3 GHz - 9 GHz	-23.8	-13	Pass
LTE5 - 871.5 MHz & WCDMA - 891.6 MHz		Fundamental	N/A	N/A	N/A
LTE5 - 871.5 MHz & WCDMA - 891.6 MHz		30 MHz - 1 GHz	-28.91	-13	Pass
LTE5 - 871.5 MHz & WCDMA - 891.6 MHz		1 GHz - 3 GHz	-26.42	-13	Pass
LTE5 - 871.5 MHz & WCDMA - 891.6 MHz		3 GHz - 9 GHz	-23.37	-13	Pass
LTE10 - 874 MHz & WCDMA - 891.6 MHz		Fundamental	N/A	N/A	N/A
LTE10 - 874 MHz & WCDMA - 891.6 MHz		30 MHz - 1 GHz	-29.86	-13	Pass
LTE10 - 874 MHz & WCDMA - 891.6 MHz		1 GHz - 3 GHz	-26.83	-13	Pass
LTE10 - 874 MHz & WCDMA - 891.6 MHz		3 GHz - 9 GHz	-24.1	-13	Pass
Antenna Port 2					
LTE5 - 871.5 MHz & LTE5 - 876.5 MHz		Fundamental	N/A	N/A	N/A
LTE5 - 871.5 MHz & LTE5 - 876.5 MHz		30 MHz - 1 GHz	-37.31	-13	Pass
LTE5 - 871.5 MHz & LTE5 - 876.5 MHz		1 GHz - 3 GHz	-26.22	-13	Pass
LTE5 - 871.5 MHz & LTE5 - 876.5 MHz		3 GHz - 9 GHz	-24.1	-13	Pass
LTE5 - 871.5 MHz & LTE5 - 891.5 MHz		Fundamental	N/A	N/A	N/A
LTE5 - 871.5 MHz & LTE5 - 891.5 MHz		30 MHz - 1 GHz	-30.65	-13	Pass
LTE5 - 871.5 MHz & LTE5 - 891.5 MHz		1 GHz - 3 GHz	-25.85	-13	Pass
LTE5 - 871.5 MHz & LTE5 - 891.5 MHz		3 GHz - 9 GHz	-24	-13	Pass
LTE5 - 871.5 MHz & LTE10 - 889 MHz		Fundamental	N/A	N/A	N/A
LTE5 - 871.5 MHz & LTE10 - 889 MHz		30 MHz - 1 GHz	-30.48	-13	Pass
LTE5 - 871.5 MHz & LTE10 - 889 MHz		1 GHz - 3 GHz	-26.34	-13	Pass
LTE5 - 871.5 MHz & LTE10 - 889 MHz		3 GHz - 9 GHz	-23.28	-13	Pass
WCDMA - 871.4 MHz & WCDMA - 891.6 MHz		Fundamental	N/A	N/A	N/A
WCDMA - 871.4 MHz & WCDMA - 891.6 MHz		30 MHz - 1 GHz	-27.1	-13	Pass
WCDMA - 871.4 MHz & WCDMA - 891.6 MHz		1 GHz - 3 GHz	-26.49	-13	Pass
WCDMA - 871.4 MHz & WCDMA - 891.6 MHz		3 GHz - 9 GHz	-24.46	-13	Pass
LTE5 - 871.5 MHz & WCDMA - 891.6 MHz		Fundamental	N/A	N/A	N/A
LTE5 - 871.5 MHz & WCDMA - 891.6 MHz		30 MHz - 1 GHz	-27.92	-13	Pass
LTE5 - 871.5 MHz & WCDMA - 891.6 MHz		1 GHz - 3 GHz	-26.34	-13	Pass
LTE5 - 871.5 MHz & WCDMA - 891.6 MHz		3 GHz - 9 GHz	-24.37	-13	Pass
LTE10 - 874 MHz & WCDMA - 891.6 MHz		Fundamental	N/A	N/A	N/A
LTE10 - 874 MHz & WCDMA - 891.6 MHz		30 MHz - 1 GHz	-30.43	-13	Pass
LTE10 - 874 MHz & WCDMA - 891.6 MHz		1 GHz - 3 GHz	-26.36	-13	Pass
LTE10 - 874 MHz & WCDMA - 891.6 MHz		3 GHz - 9 GHz	-24.21	-13	Pass

INTERMODULATION

Antenna Port 1, LTE5 - 871.5 MHz & LTE5 - 876.5 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
Fundamental		N/A		N/A	N/A	

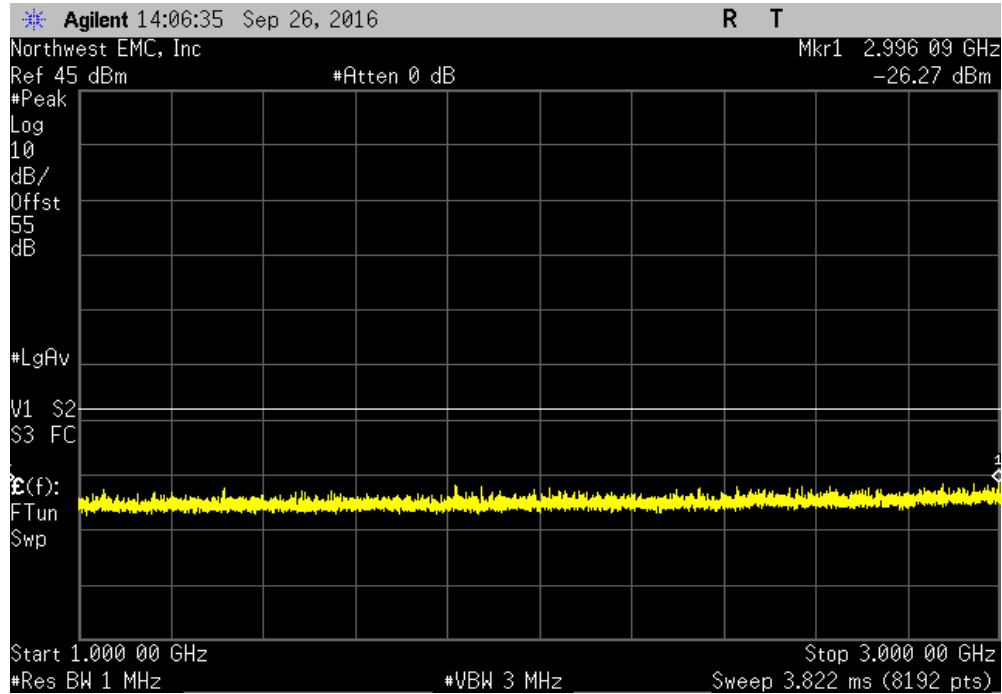


Antenna Port 1, LTE5 - 871.5 MHz & LTE5 - 876.5 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-37.05		-13	Pass	

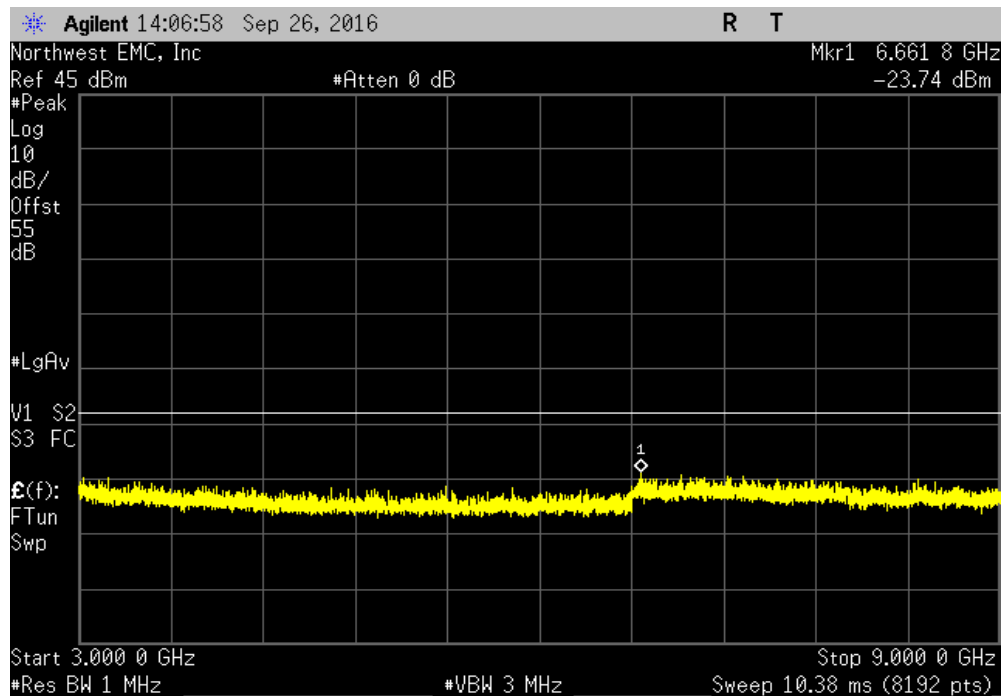


INTERMODULATION

Antenna Port 1, LTE5 - 871.5 MHz & LTE5 - 876.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 3 GHz	-26.27	-13	Pass	

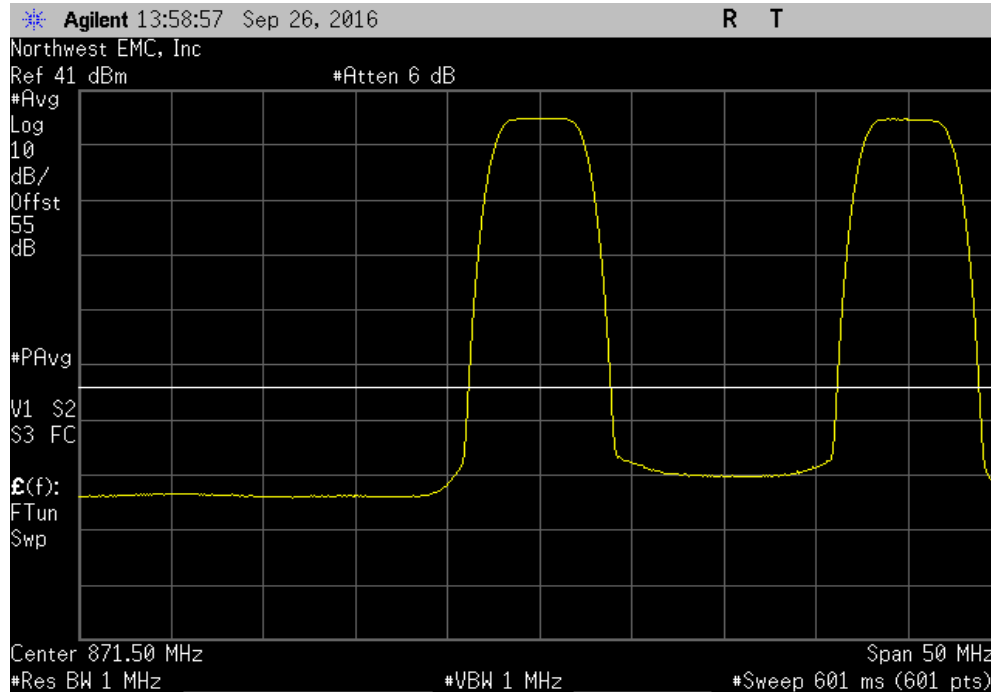


Antenna Port 1, LTE5 - 871.5 MHz & LTE5 - 876.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
3 GHz - 9 GHz	-23.74	-13	Pass	

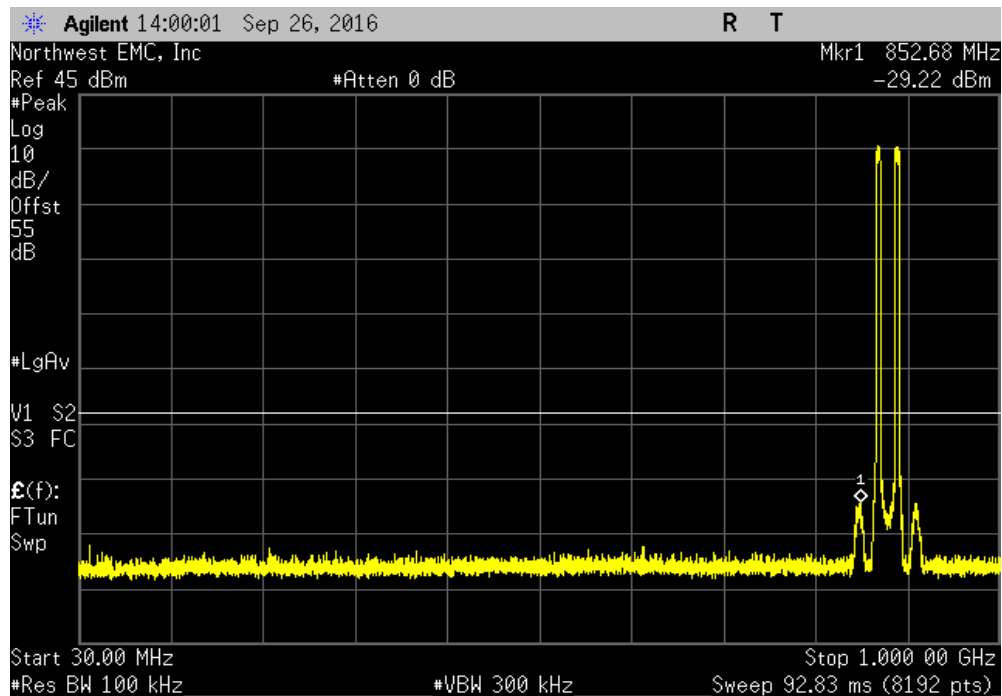


INTERMODULATION

Antenna Port 1, LTE5 - 871.5 MHz & LTE5 - 891.5 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
Fundamental		N/A		N/A	N/A	

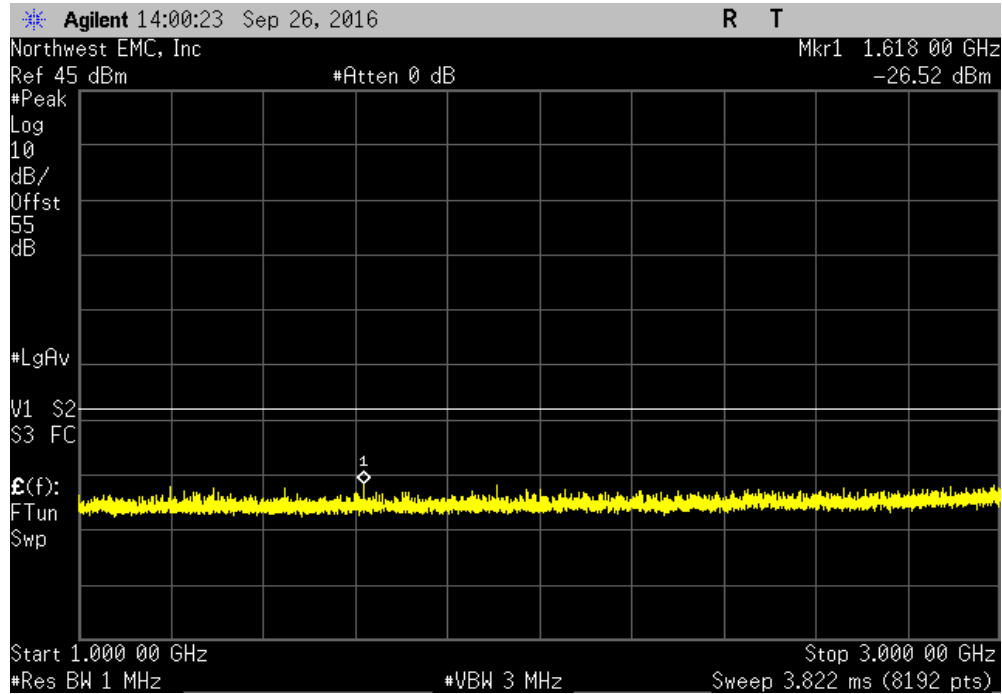


Antenna Port 1, LTE5 - 871.5 MHz & LTE5 - 891.5 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-29.22		-13	Pass	

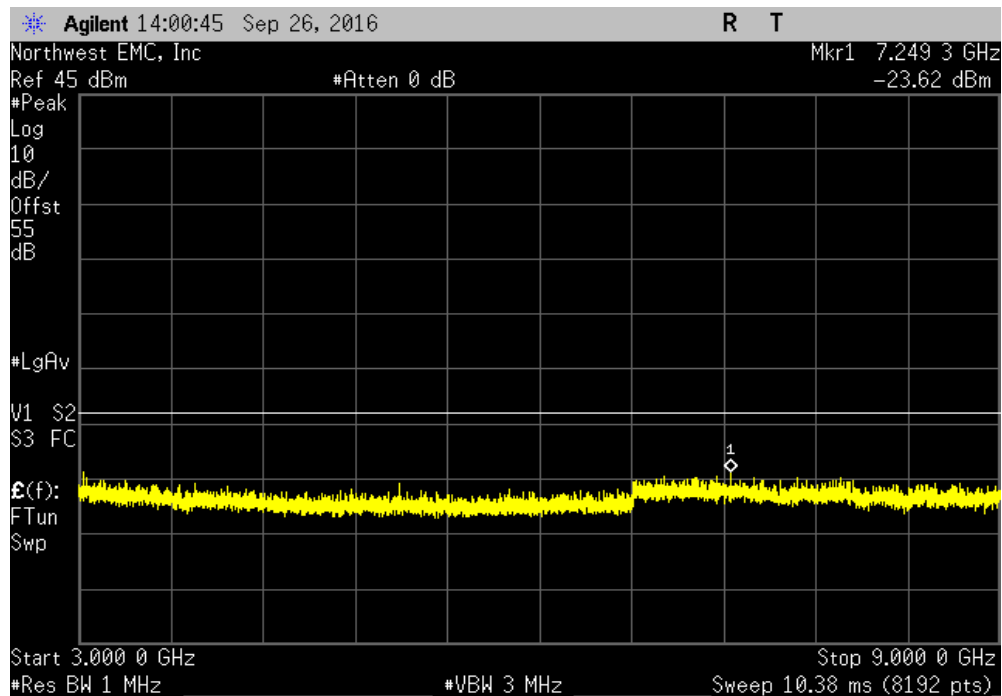


INTERMODULATION

Antenna Port 1, LTE5 - 871.5 MHz & LTE5 - 891.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 3 GHz	-26.52	-13	Pass	

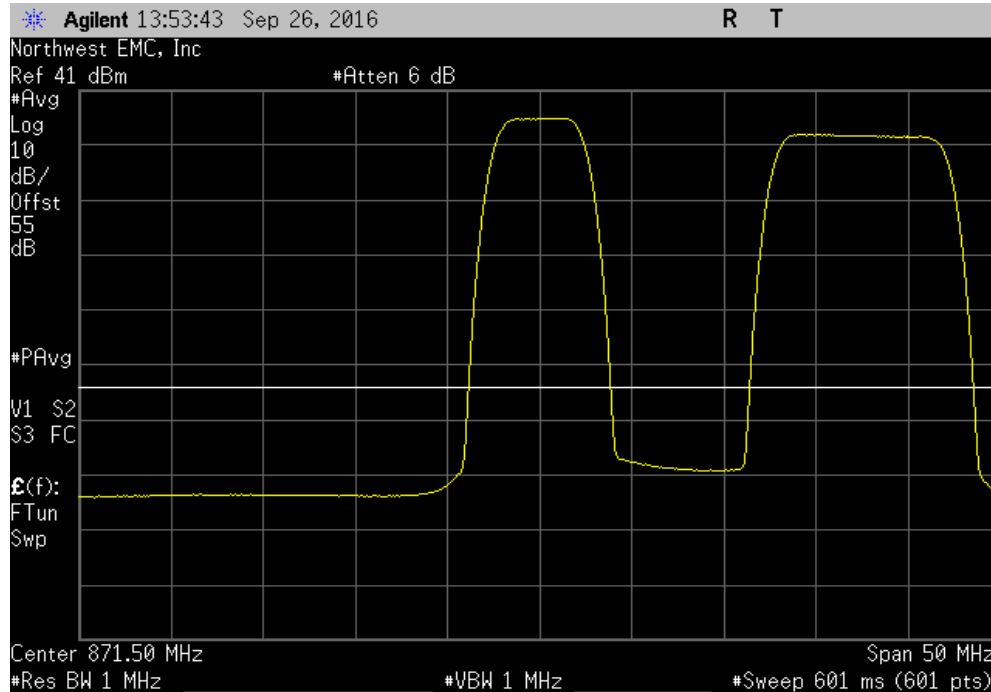


Antenna Port 1, LTE5 - 871.5 MHz & LTE5 - 891.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
3 GHz - 9 GHz	-23.62	-13	Pass	

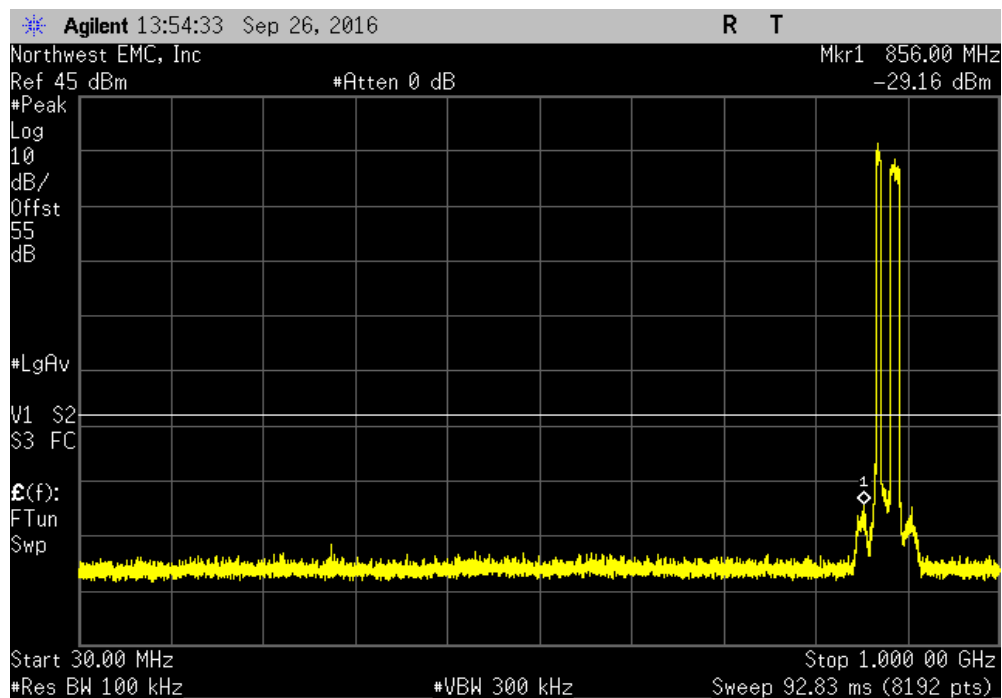


INTERMODULATION

Antenna Port 1, LTE5 - 871.5 MHz & LTE10 - 889 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
Fundamental		N/A		N/A	N/A	

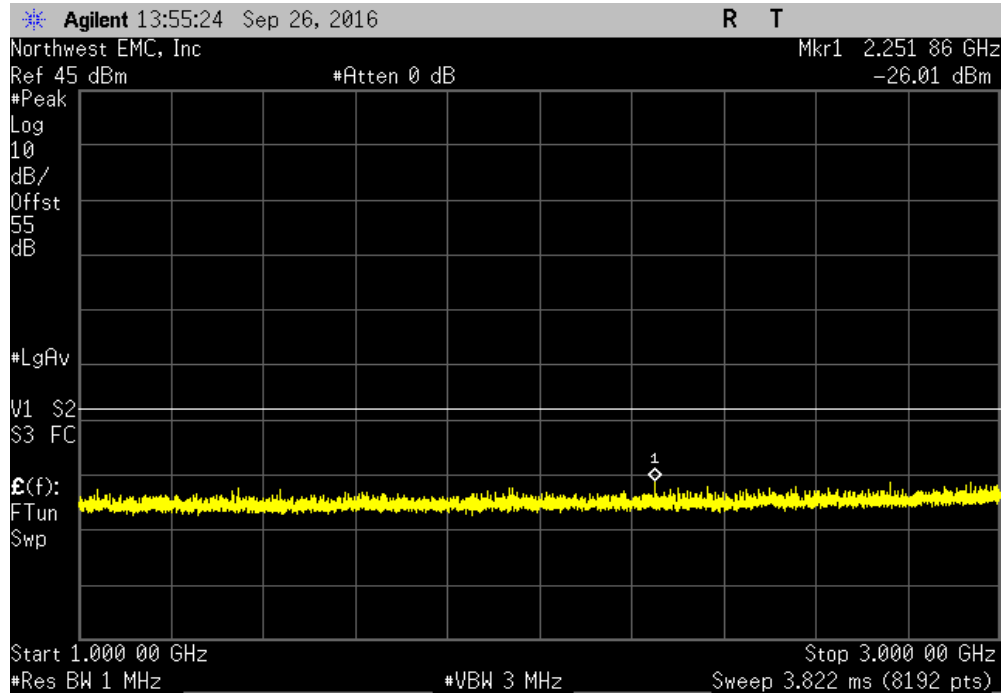


Antenna Port 1, LTE5 - 871.5 MHz & LTE10 - 889 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-29.16		-13	Pass	

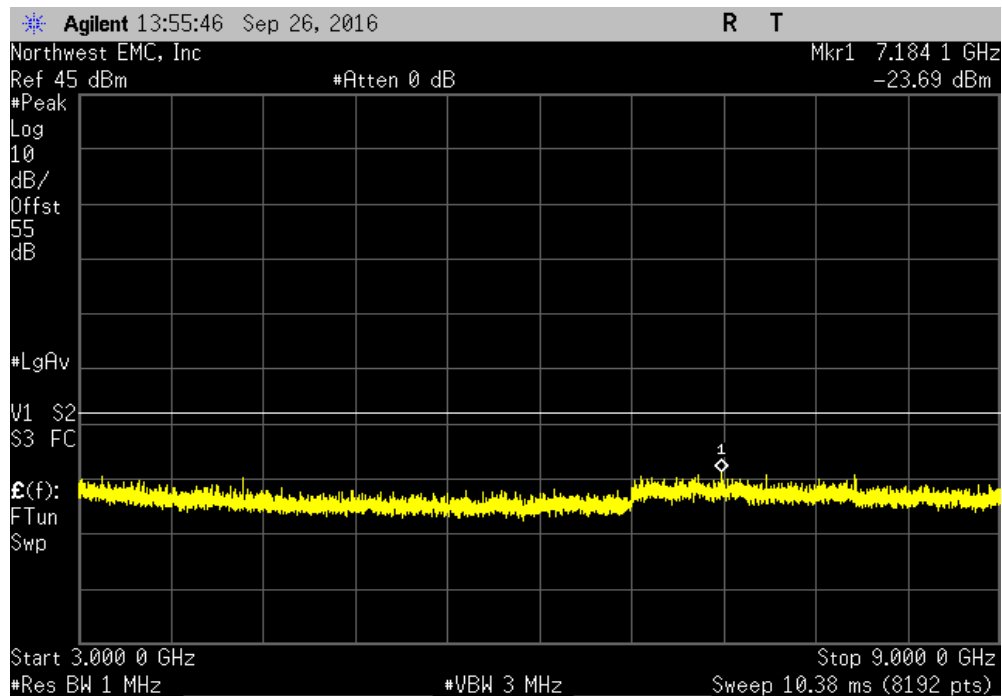


INTERMODULATION

Antenna Port 1, LTE5 - 871.5 MHz & LTE10 - 889 MHz						
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz		-26.01	-13	Pass		

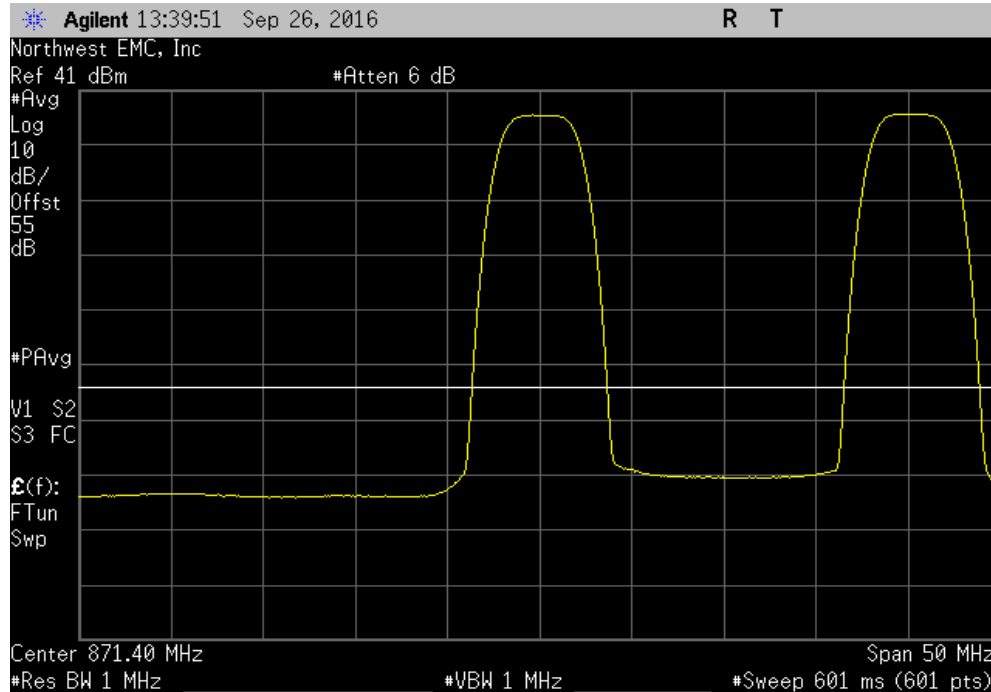


Antenna Port 1, LTE5 - 871.5 MHz & LTE10 - 889 MHz						
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz		-23.7	-13	Pass		

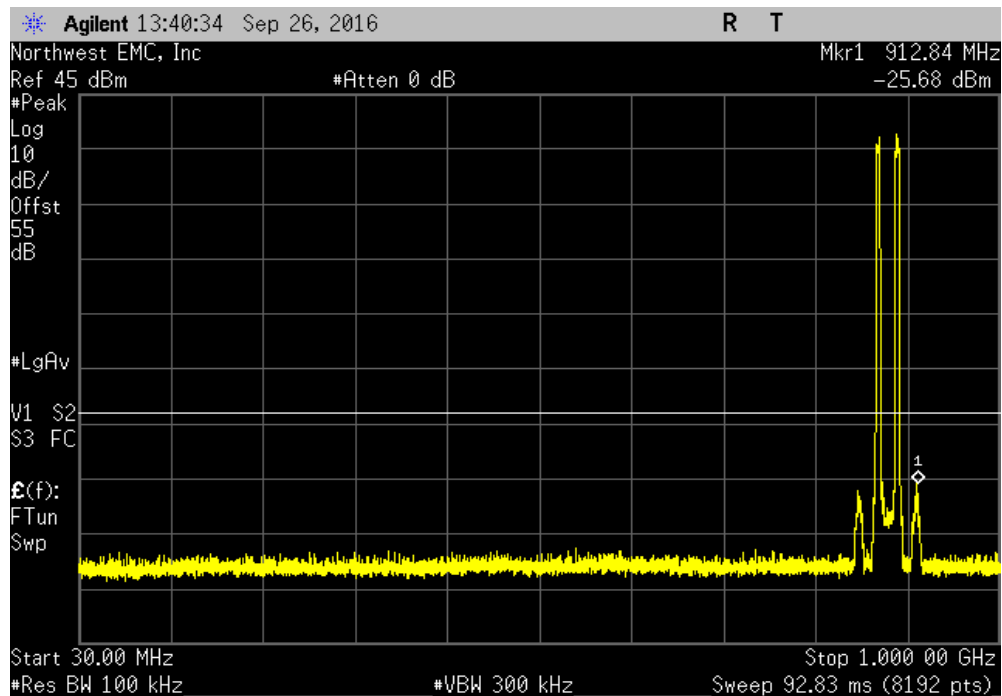


INTERMODULATION

Antenna Port 1, WCDMA - 871.4 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
Fundamental		N/A		N/A	N/A	

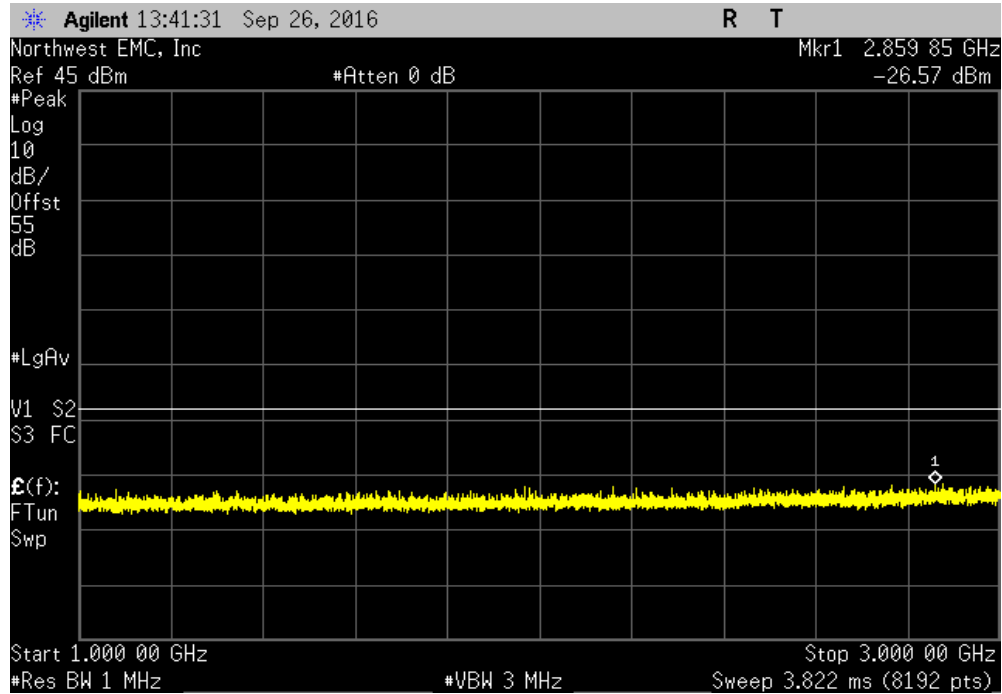


Antenna Port 1, WCDMA - 871.4 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-25.68		-13	Pass	

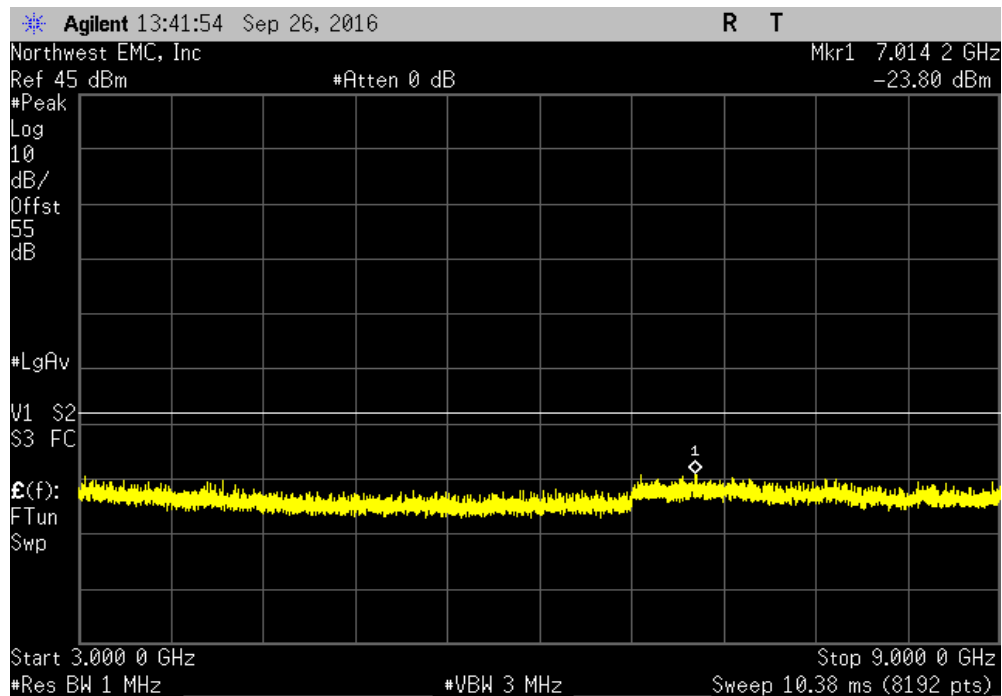


INTERMODULATION

Antenna Port 1, WCDMA - 871.4 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
1 GHz - 3 GHz		-26.57		-13	Pass	

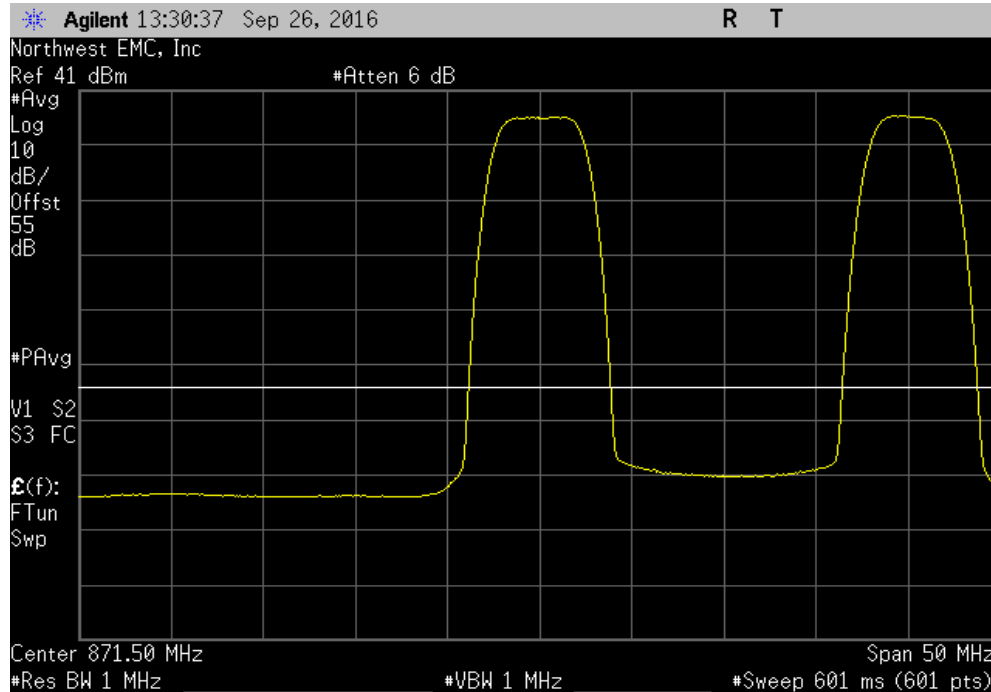


Antenna Port 1, WCDMA - 871.4 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
3 GHz - 9 GHz		-23.8		-13	Pass	

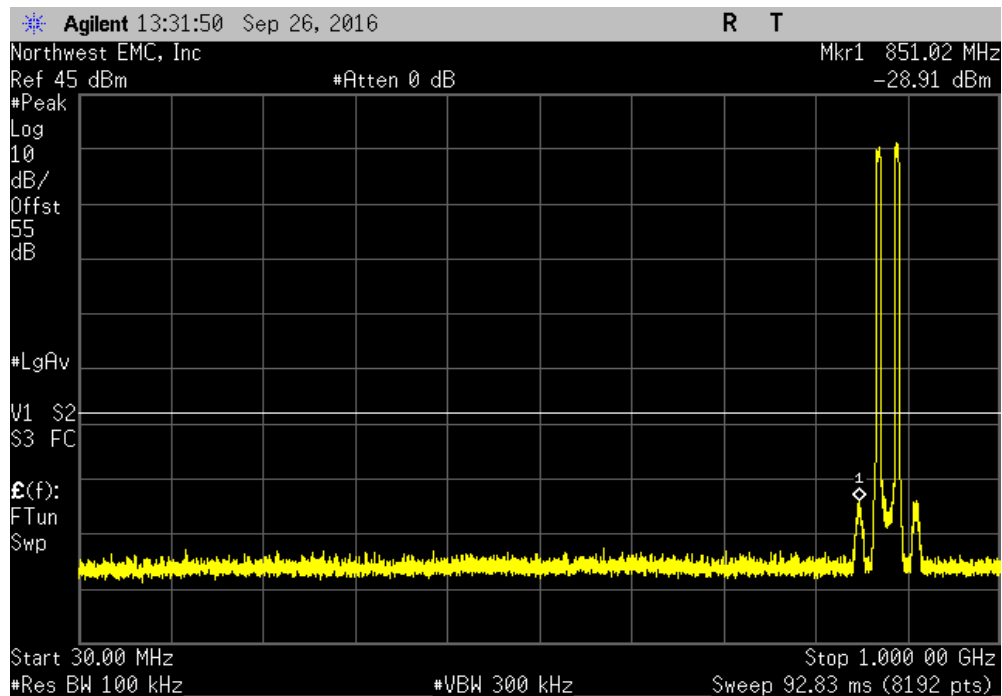


INTERMODULATION

Antenna Port 1, LTE5 - 871.5 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
Fundamental		N/A		N/A	N/A	

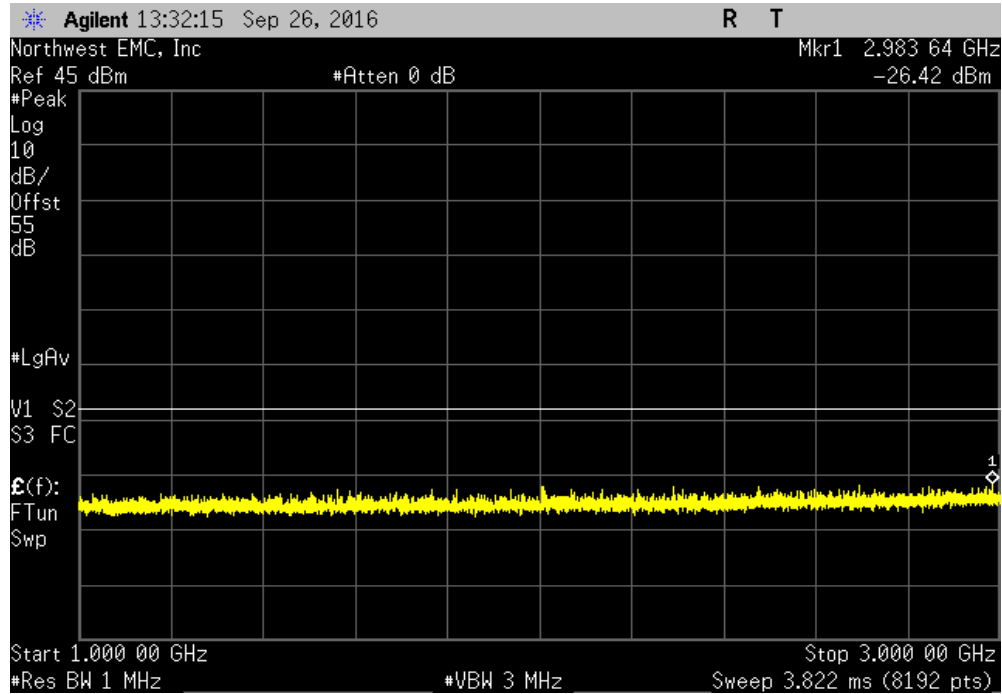


Antenna Port 1, LTE5 - 871.5 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-28.91		-13	Pass	

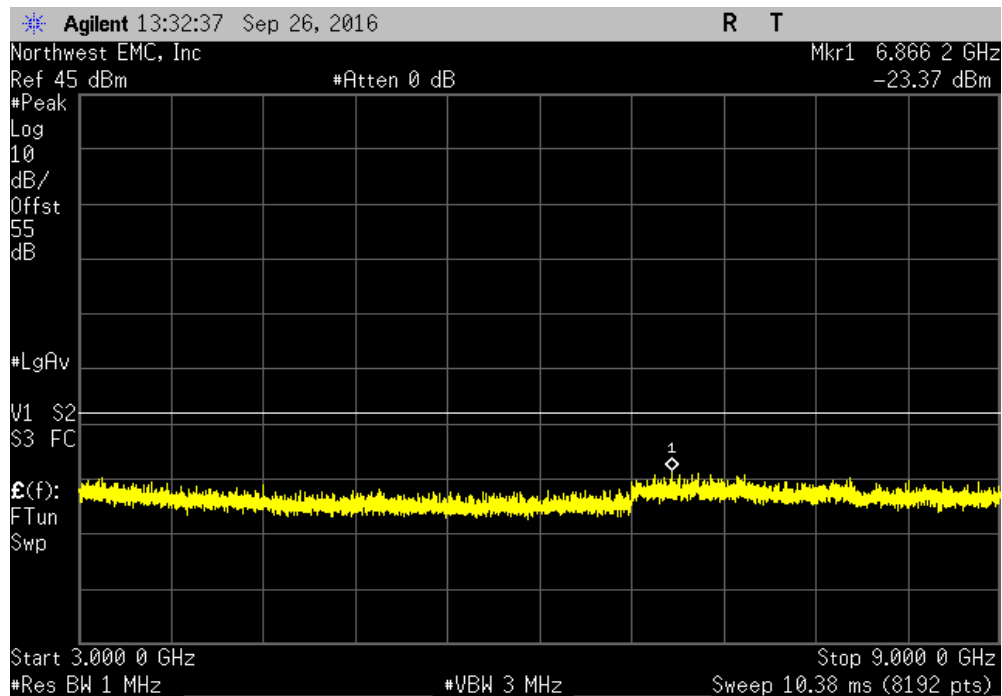


INTERMODULATION

Antenna Port 1, LTE5 - 871.5 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz		-26.42	-13	Pass		

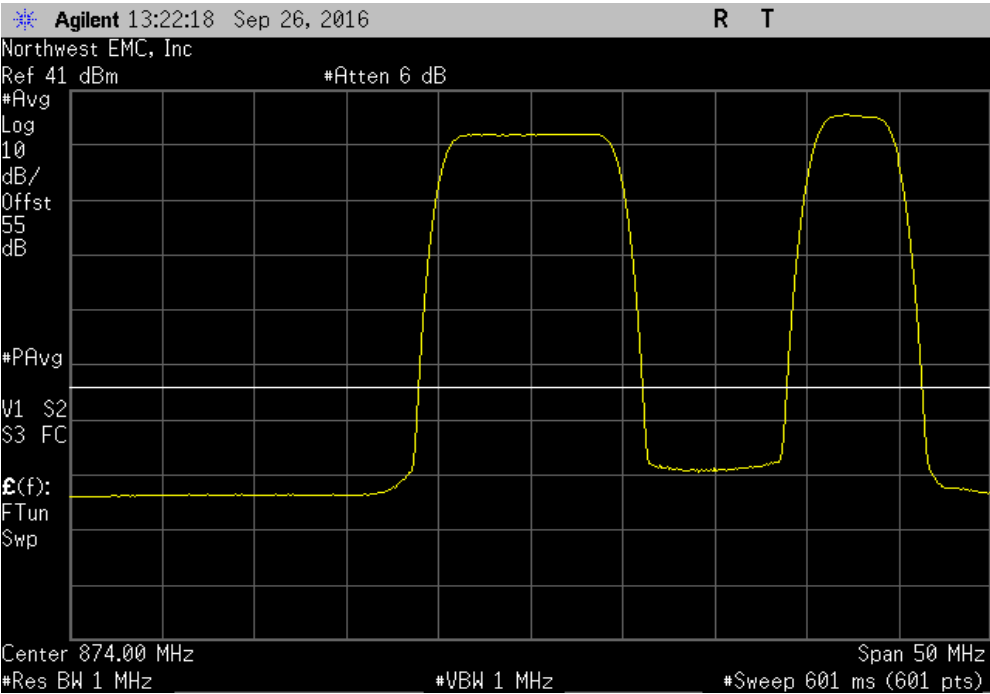


Antenna Port 1, LTE5 - 871.5 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz		-23.37	-13	Pass		

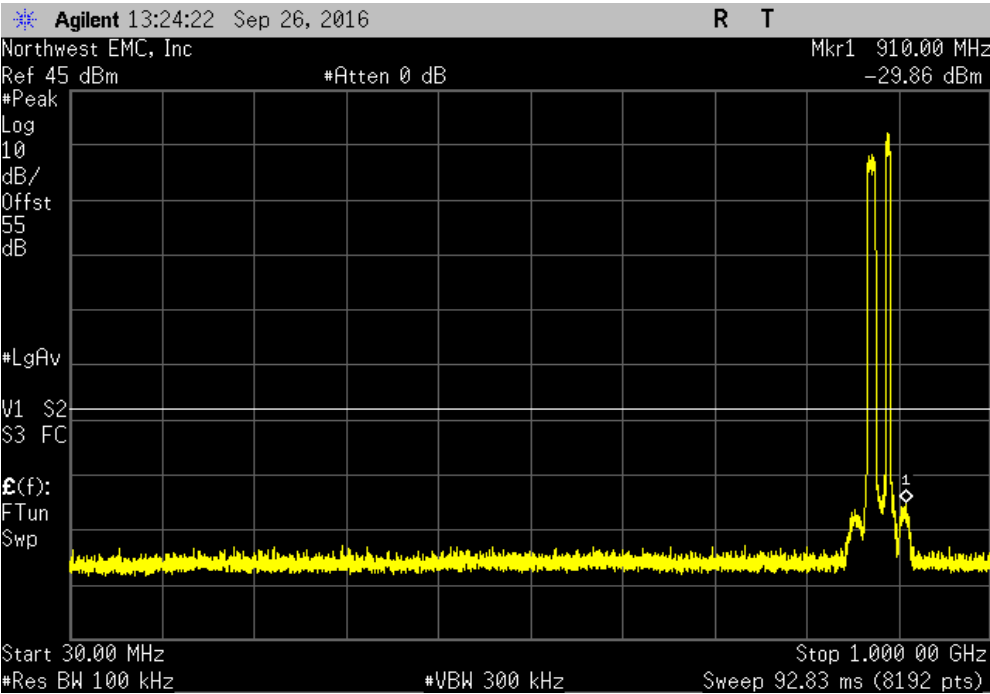


INTERMODULATION

Antenna Port 1, LTE10 - 874 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
		N/A		N/A	N/A	

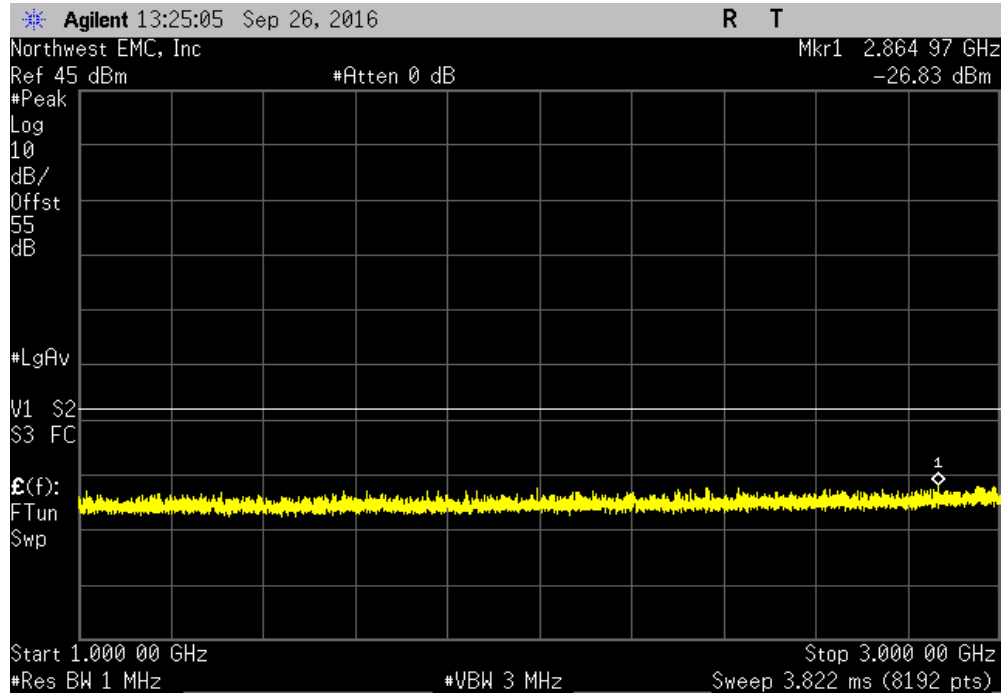


Antenna Port 1, LTE10 - 874 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-29.86		-13	Pass	

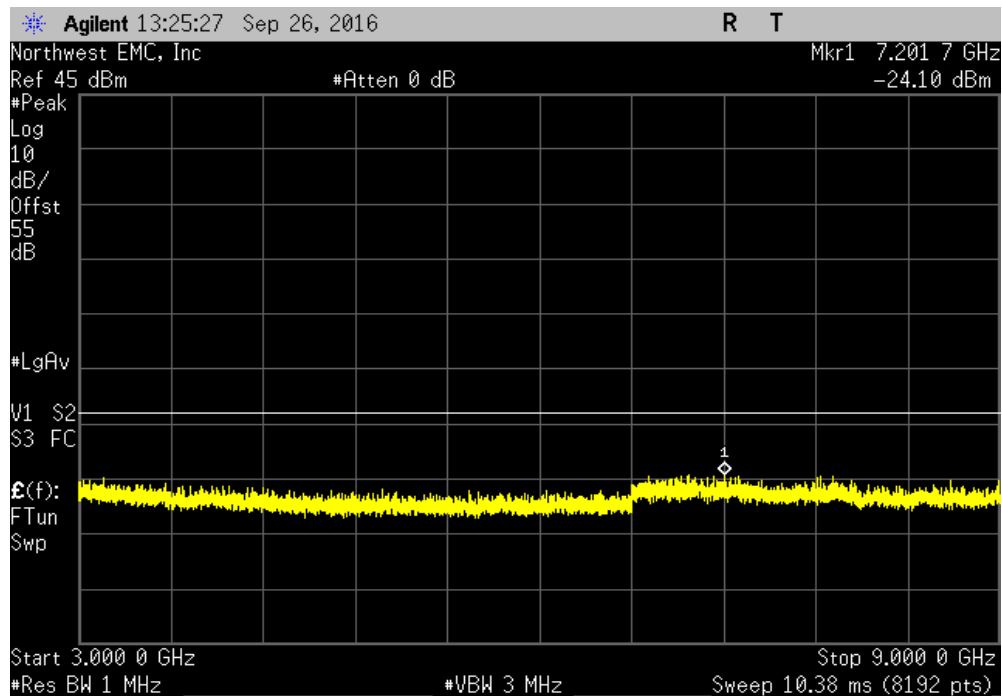


INTERMODULATION

Antenna Port 1, LTE10 - 874 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
1 GHz - 3 GHz		-26.83		-13	Pass	

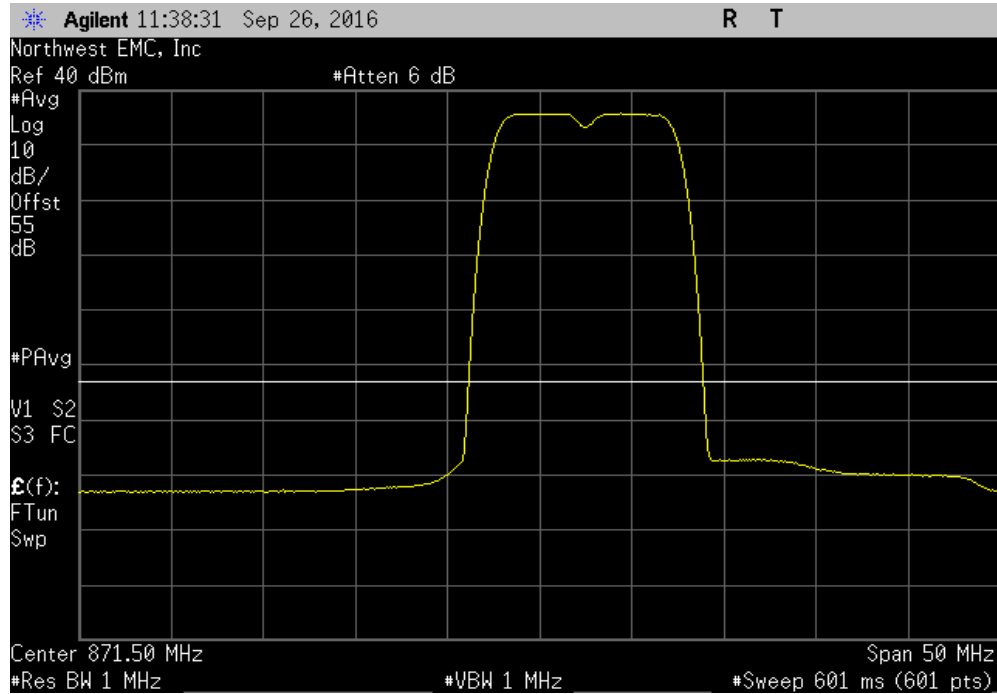


Antenna Port 1, LTE10 - 874 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
3 GHz - 9 GHz		-24.1		-13	Pass	

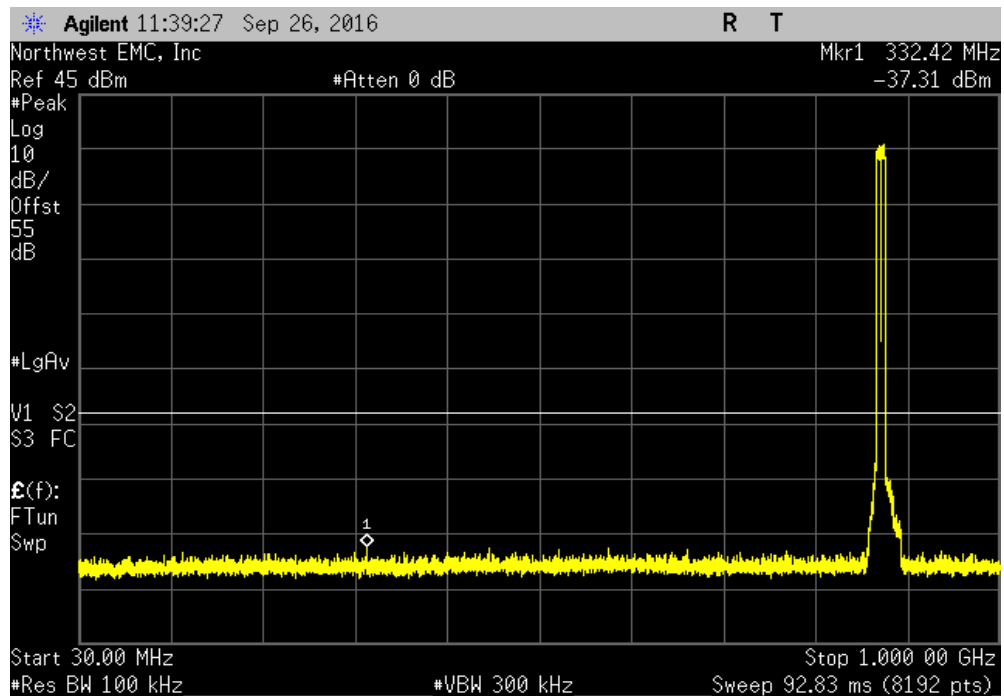


INTERMODULATION

Antenna Port 2, LTE5 - 871.5 MHz & LTE5 - 876.5 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
Fundamental		N/A		N/A	N/A	

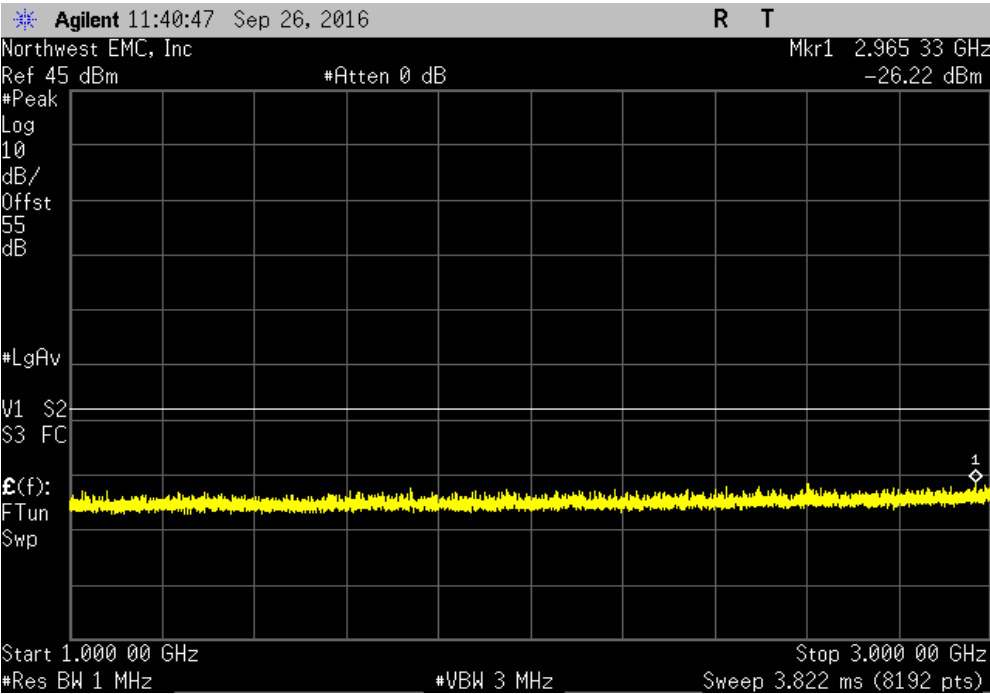


Antenna Port 2, LTE5 - 871.5 MHz & LTE5 - 876.5 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-37.31		-13	Pass	

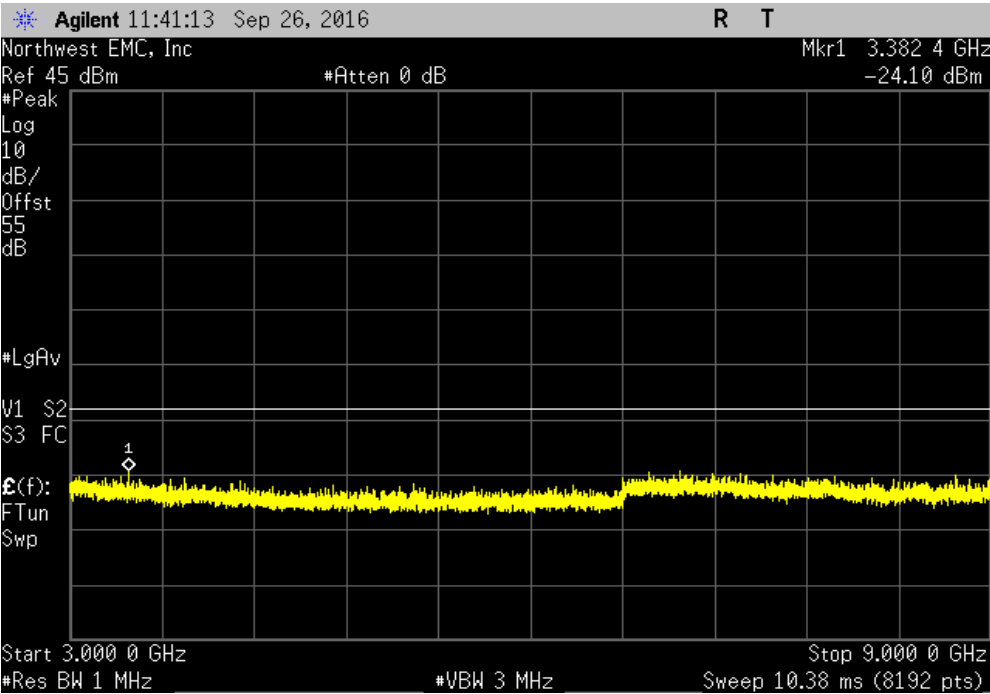


INTERMODULATION

Antenna Port 2, LTE5 - 871.5 MHz & LTE5 - 876.5 MHz					
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 3 GHz		-26.22	-13	Pass	

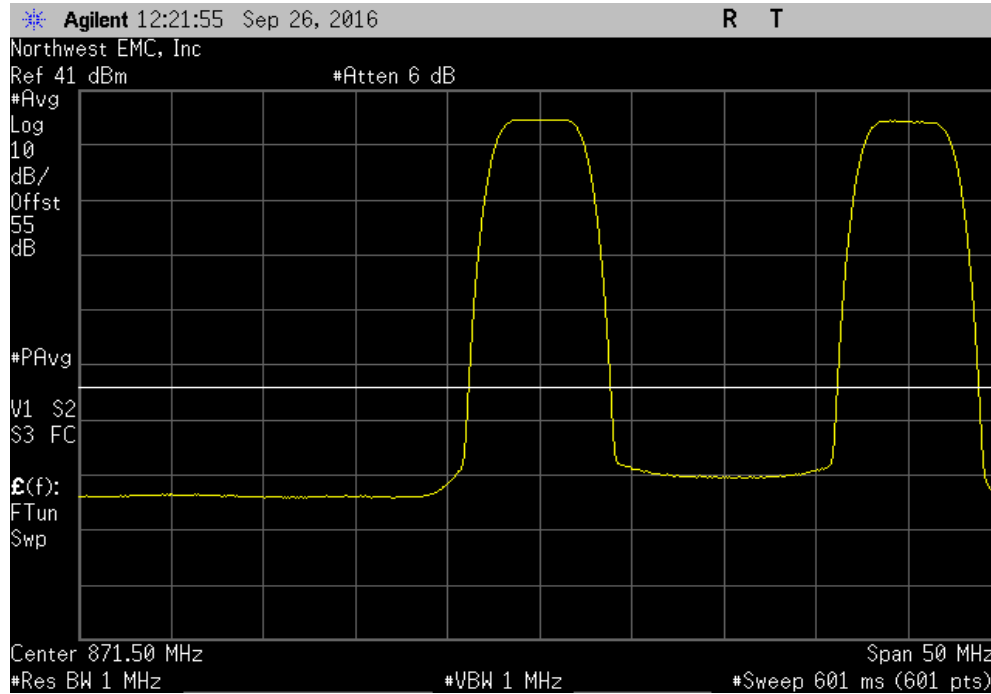


Antenna Port 2, LTE5 - 871.5 MHz & LTE5 - 876.5 MHz					
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result	
3 GHz - 9 GHz		-24.1	-13	Pass	

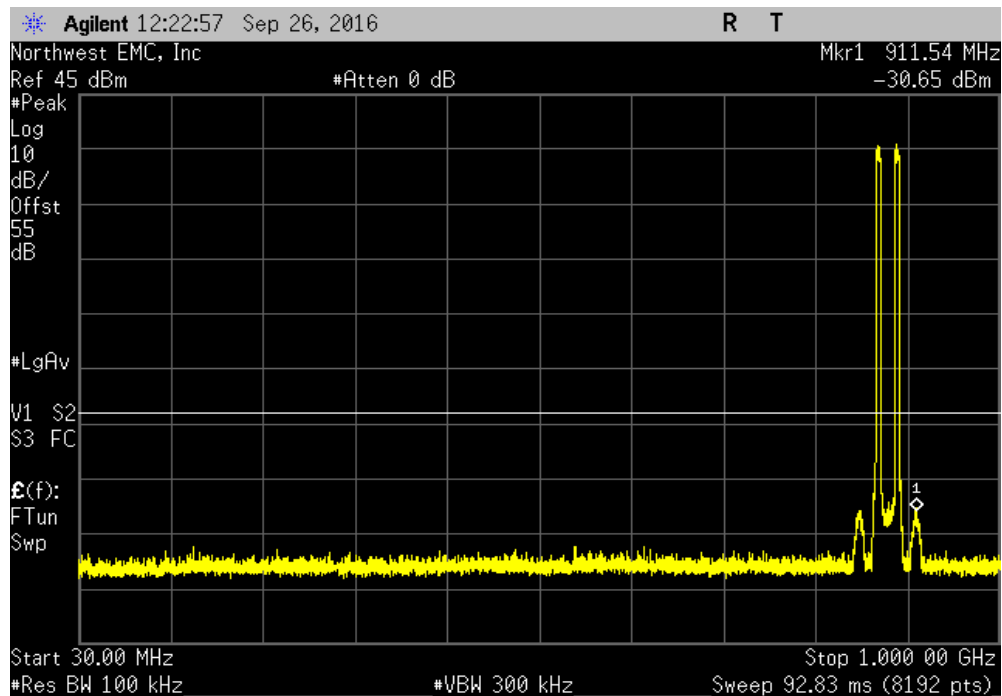


INTERMODULATION

Antenna Port 2, LTE5 - 871.5 MHz & LTE5 - 891.5 MHz						
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result		
Fundamental		N/A	N/A	N/A		

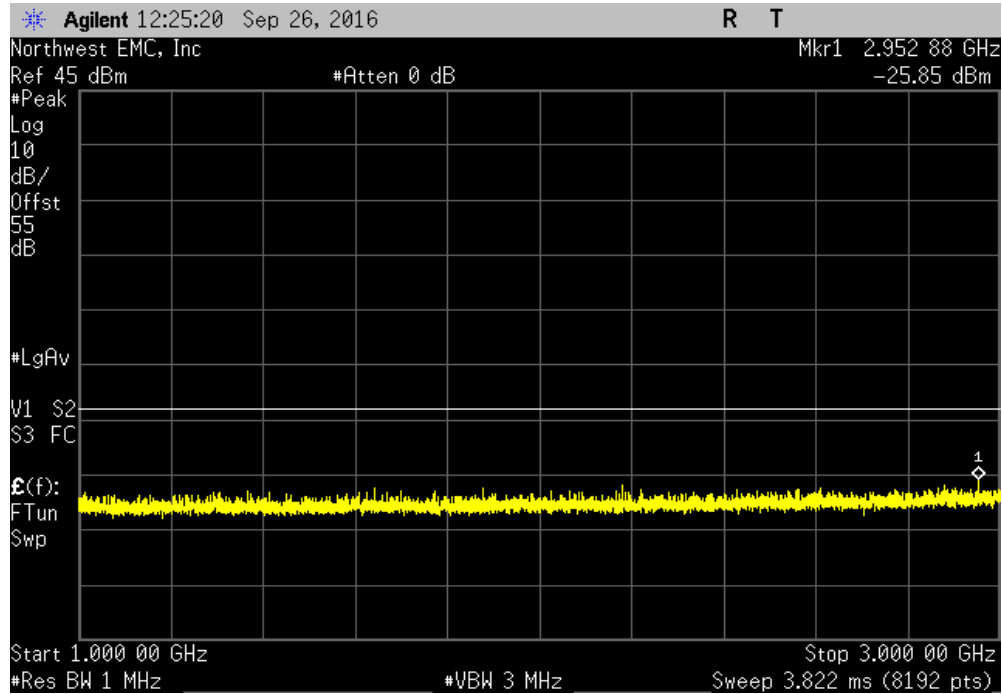


Antenna Port 2, LTE5 - 871.5 MHz & LTE5 - 891.5 MHz						
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz		-30.65	-13	Pass		

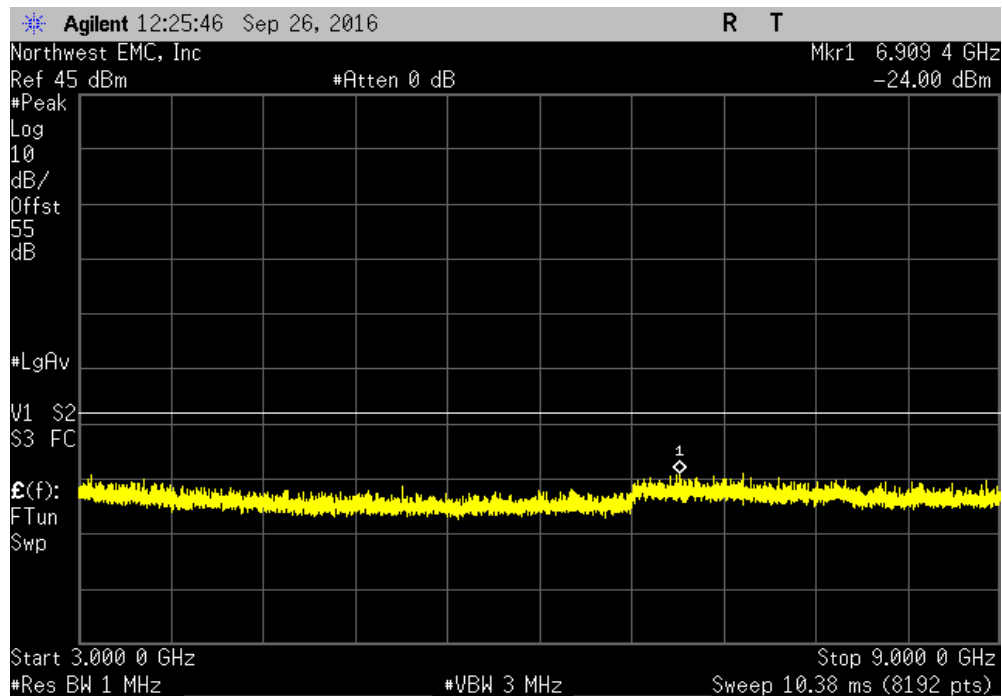


INTERMODULATION

Antenna Port 2, LTE5 - 871.5 MHz & LTE5 - 891.5 MHz						
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz		-25.85	-13	Pass		

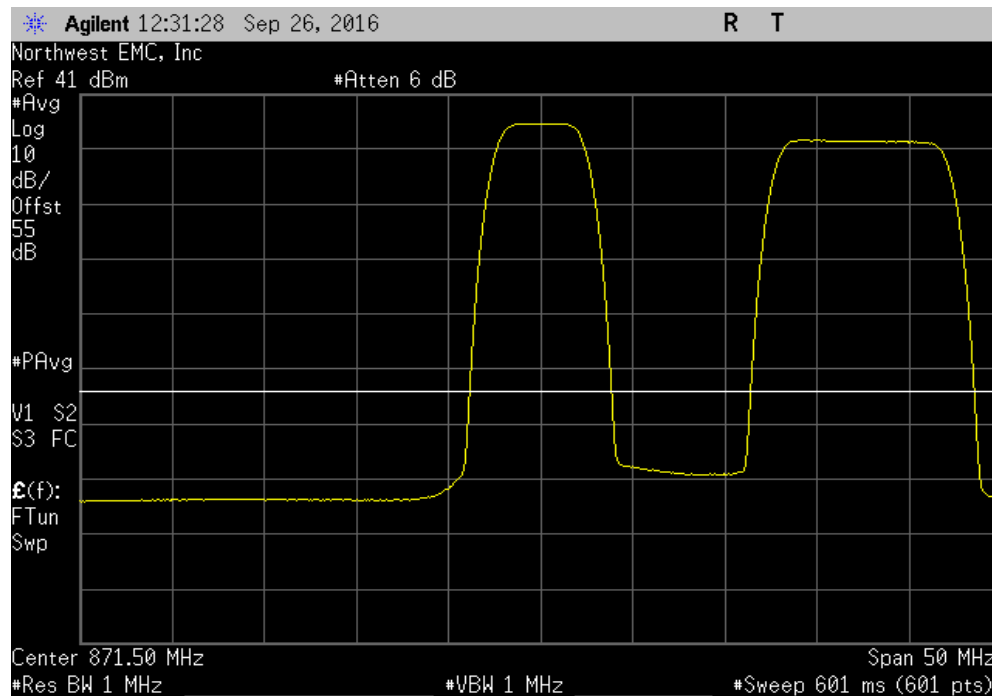


Antenna Port 2, LTE5 - 871.5 MHz & LTE5 - 891.5 MHz						
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz		-24	-13	Pass		

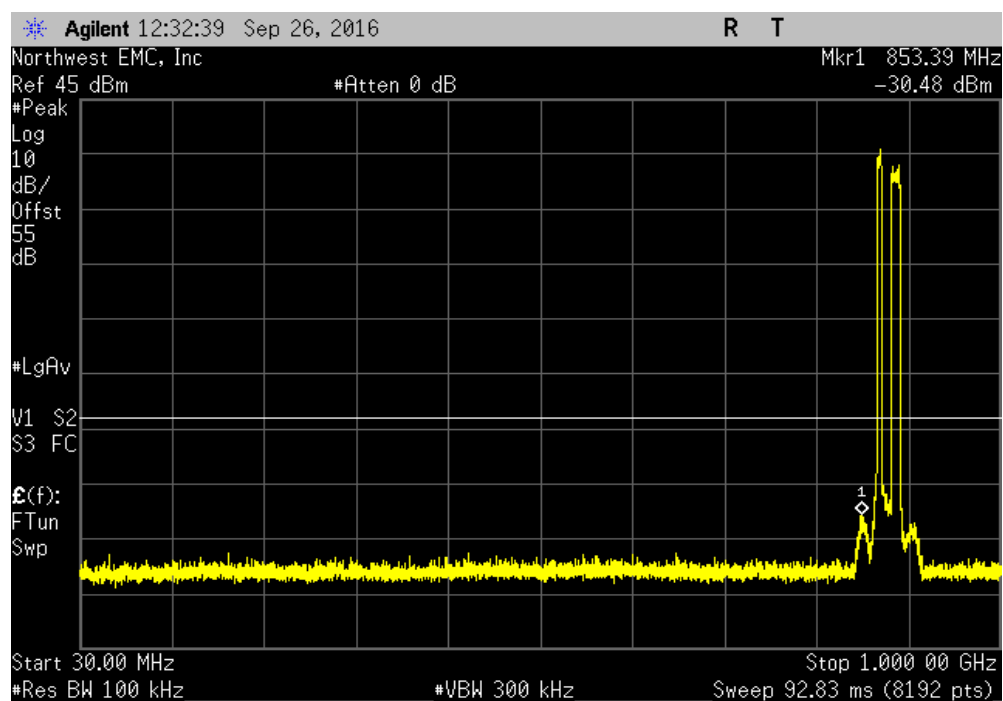


INTERMODULATION

Antenna Port 2, LTE5 - 871.5 MHz & LTE10 - 889 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
Fundamental		N/A		N/A	N/A	

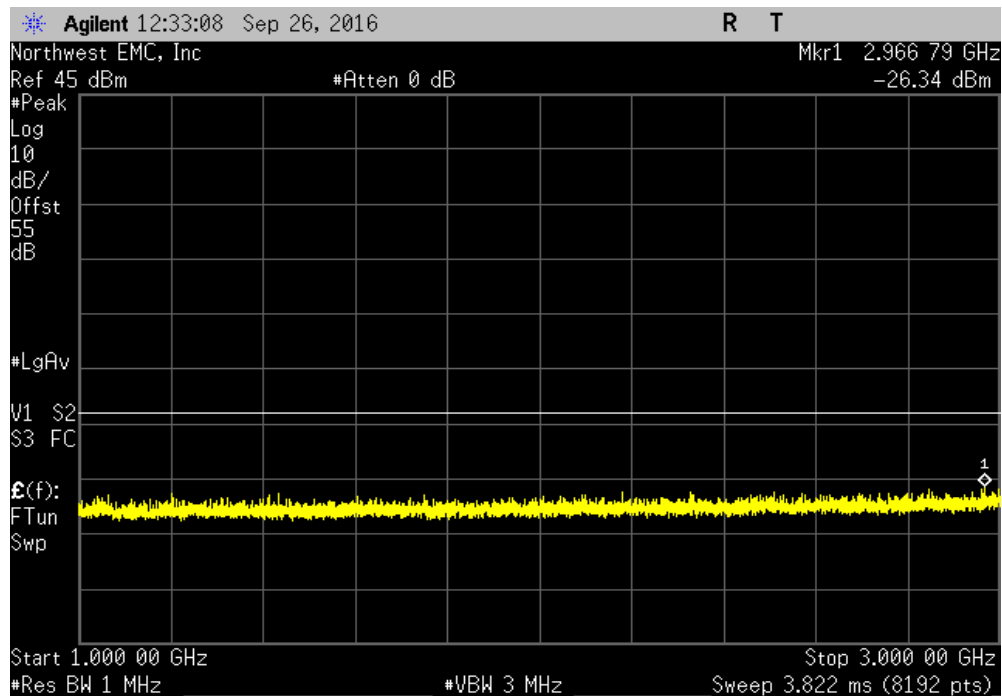


Antenna Port 2, LTE5 - 871.5 MHz & LTE10 - 889 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-30.48		-13	Pass	

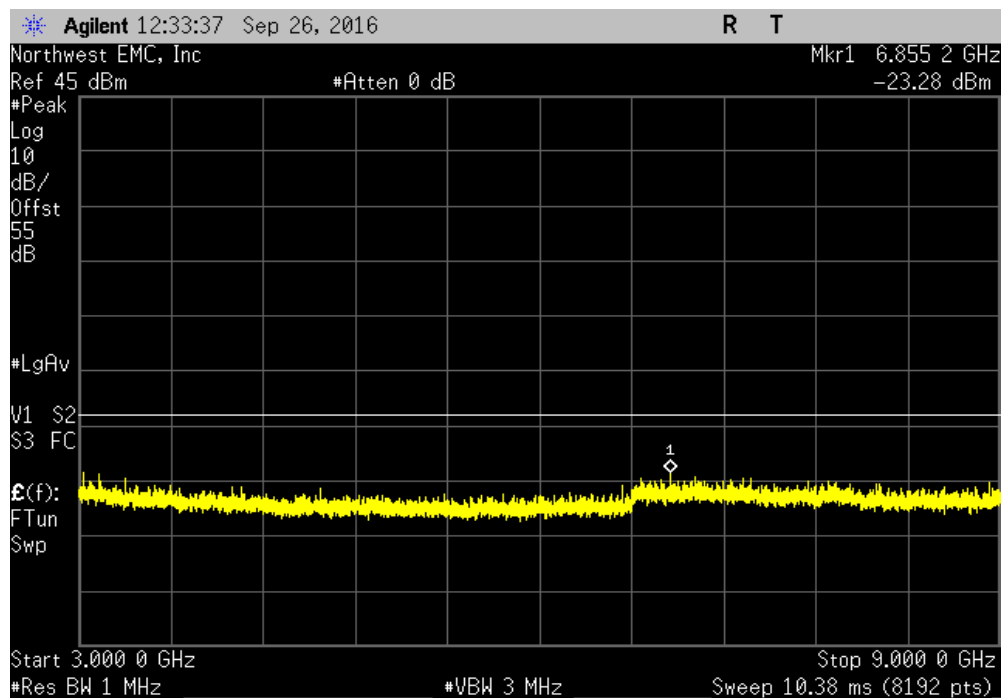


INTERMODULATION

Antenna Port 2, LTE5 - 871.5 MHz & LTE10 - 889 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 3 GHz	-26.34	-13	Pass	

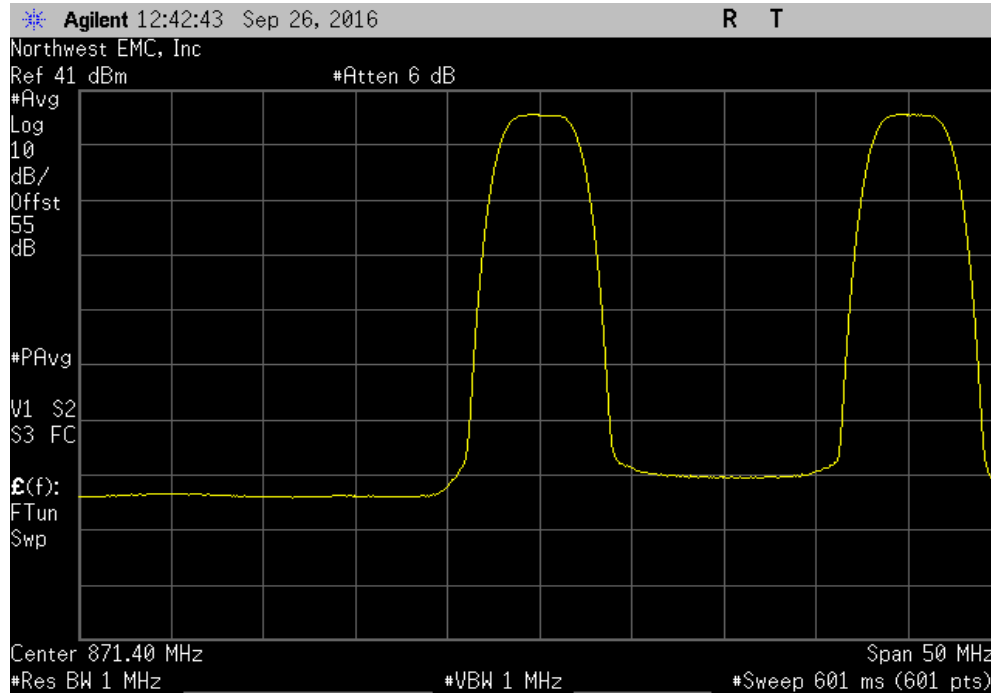


Antenna Port 2, LTE5 - 871.5 MHz & LTE10 - 889 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
3 GHz - 9 GHz	-23.28	-13	Pass	

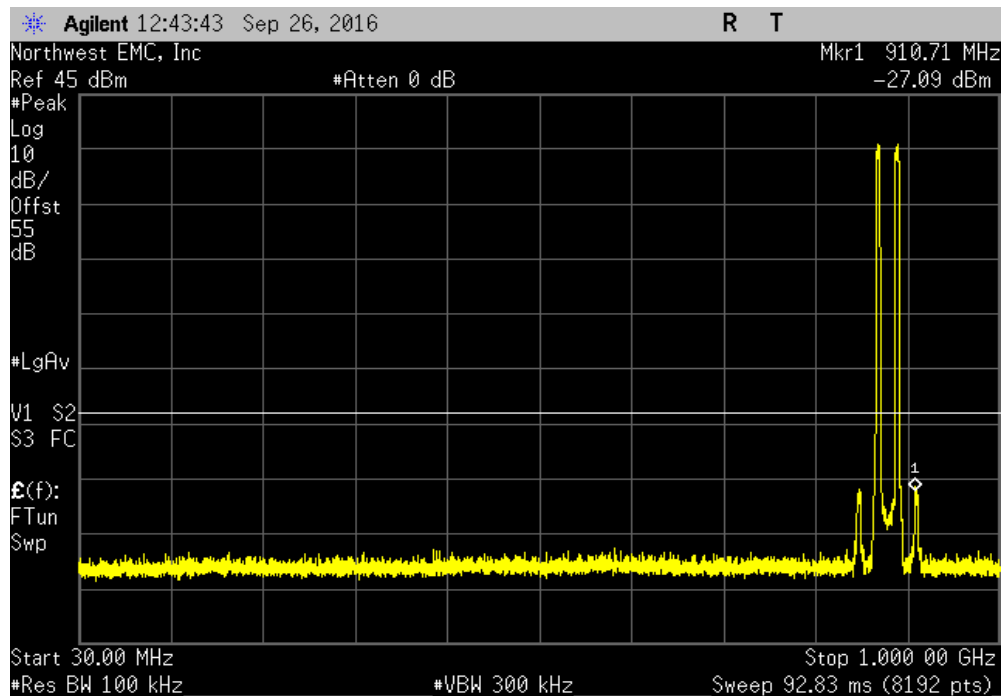


INTERMODULATION

Antenna Port 2, WCDMA - 871.4 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
Fundamental		N/A		N/A	N/A	

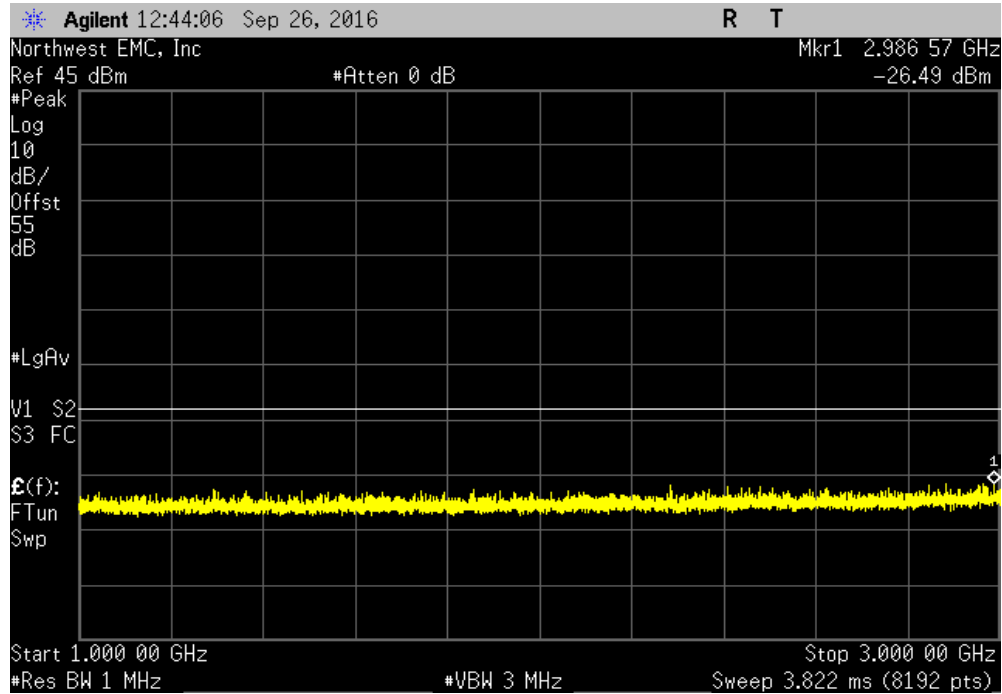


Antenna Port 2, WCDMA - 871.4 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-27.1		-13	Pass	

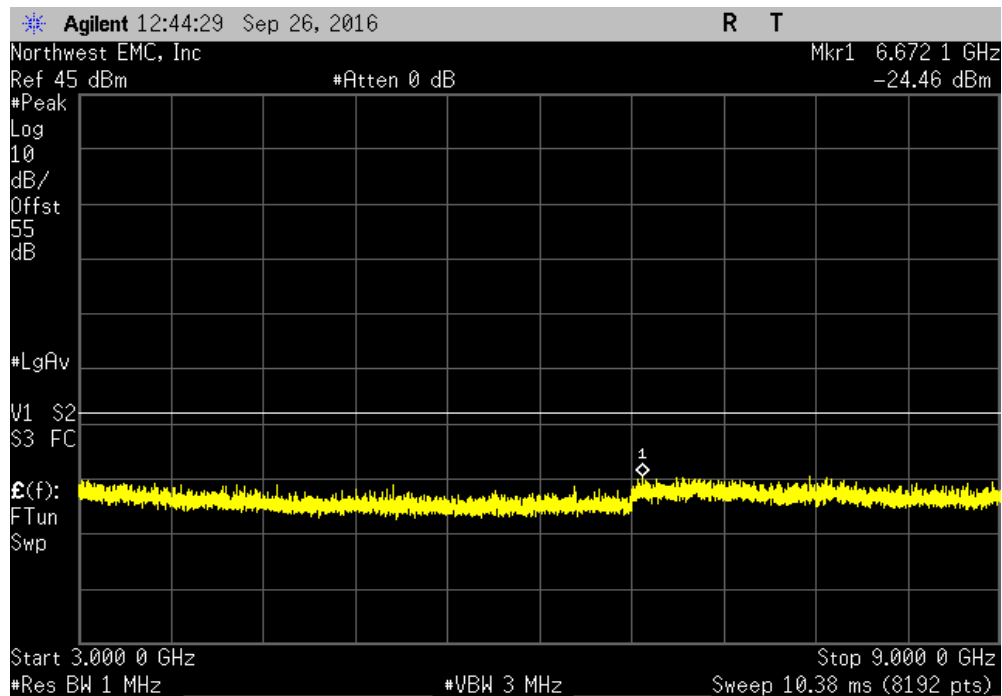


INTERMODULATION

Antenna Port 2, WCDMA - 871.4 MHz & WCDMA - 891.6 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 3 GHz	-26.49	-13	Pass	

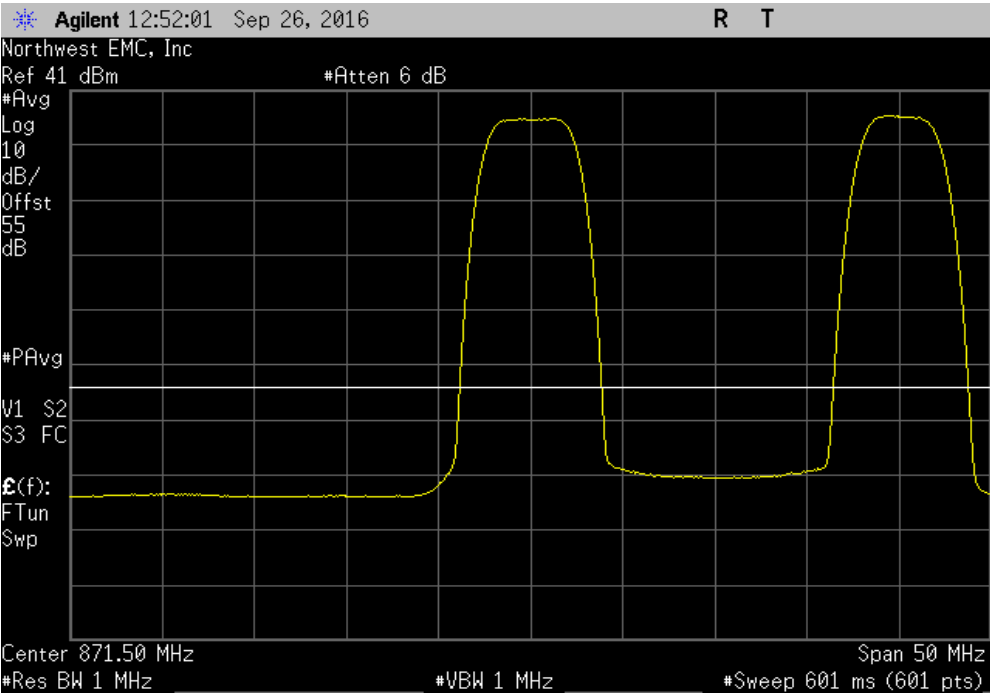


Antenna Port 2, WCDMA - 871.4 MHz & WCDMA - 891.6 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
3 GHz - 9 GHz	-24.46	-13	Pass	

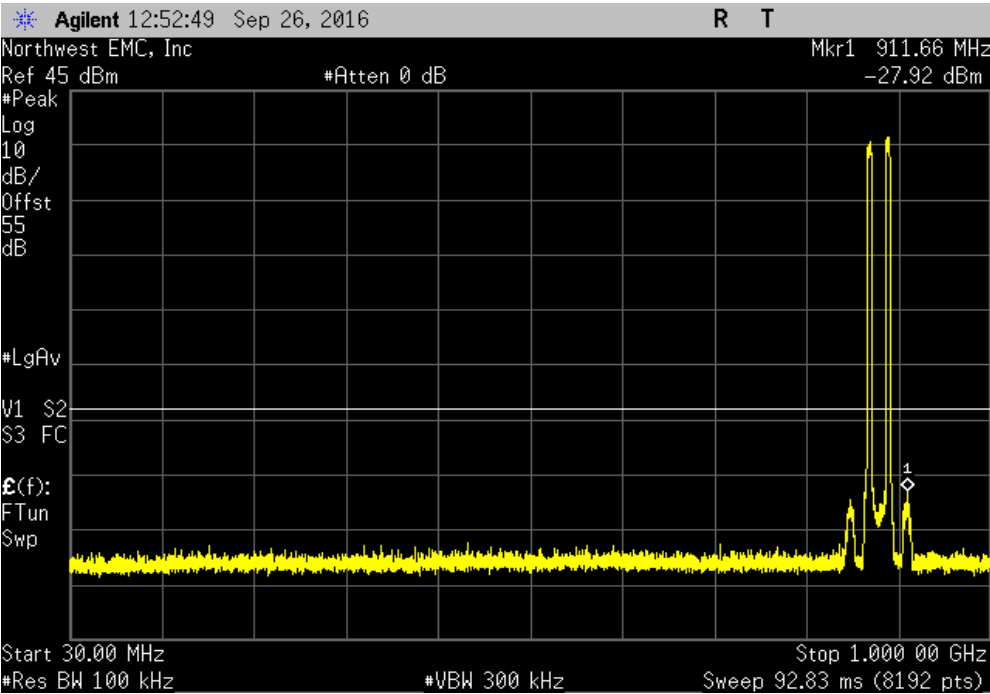


INTERMODULATION

Antenna Port 2, LTE5 - 871.5 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
		N/A		N/A	N/A	

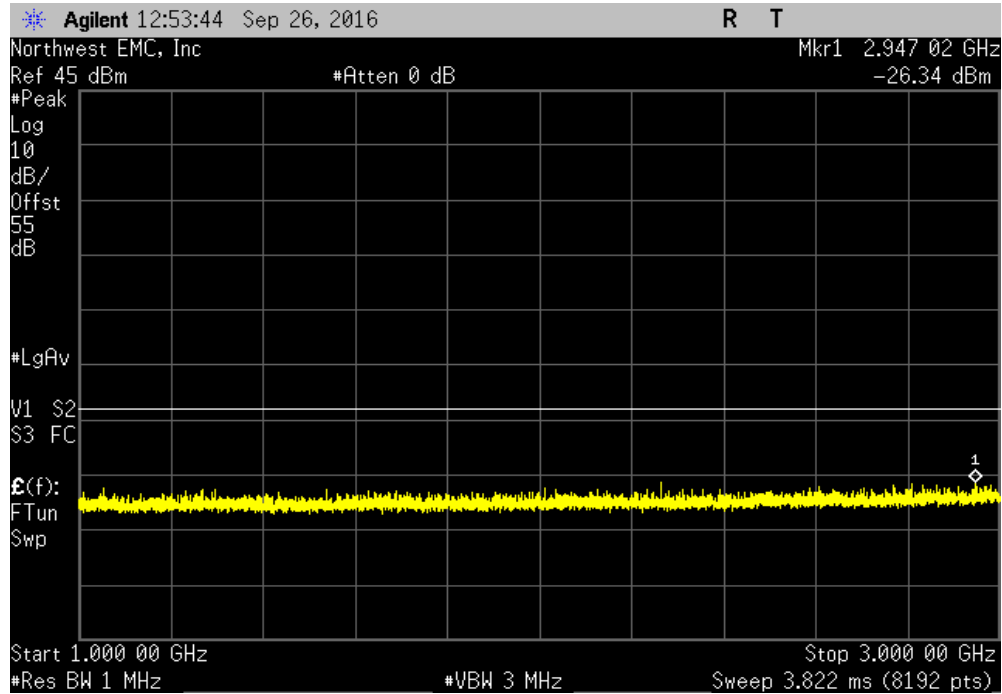


Antenna Port 2, LTE5 - 871.5 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-27.92		-13	Pass	

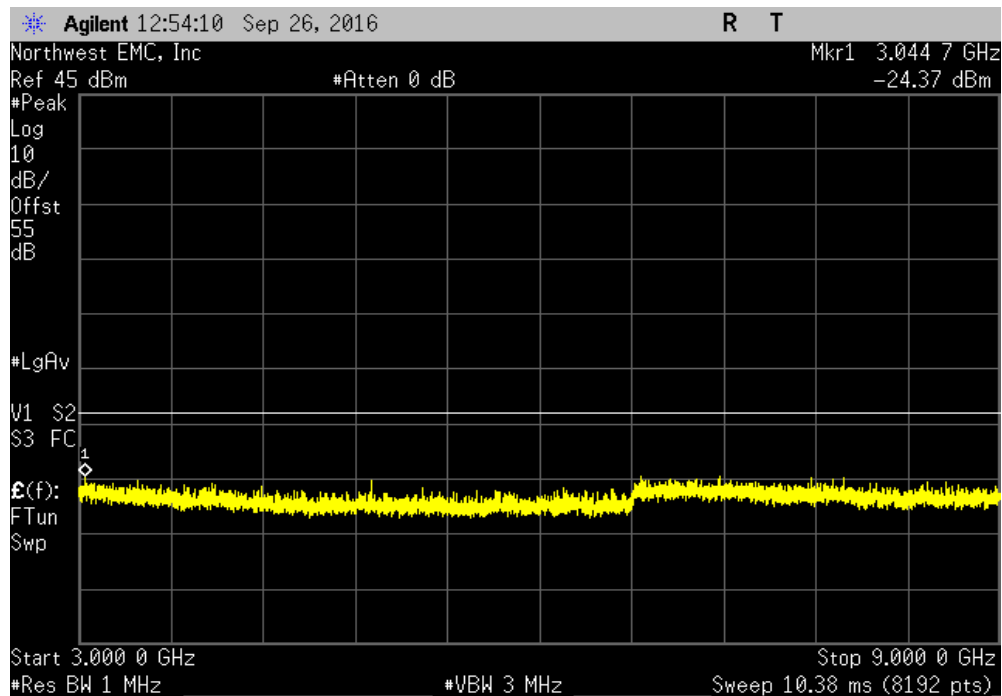


INTERMODULATION

Antenna Port 2, LTE5 - 871.5 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz		-26.34	-13	Pass		

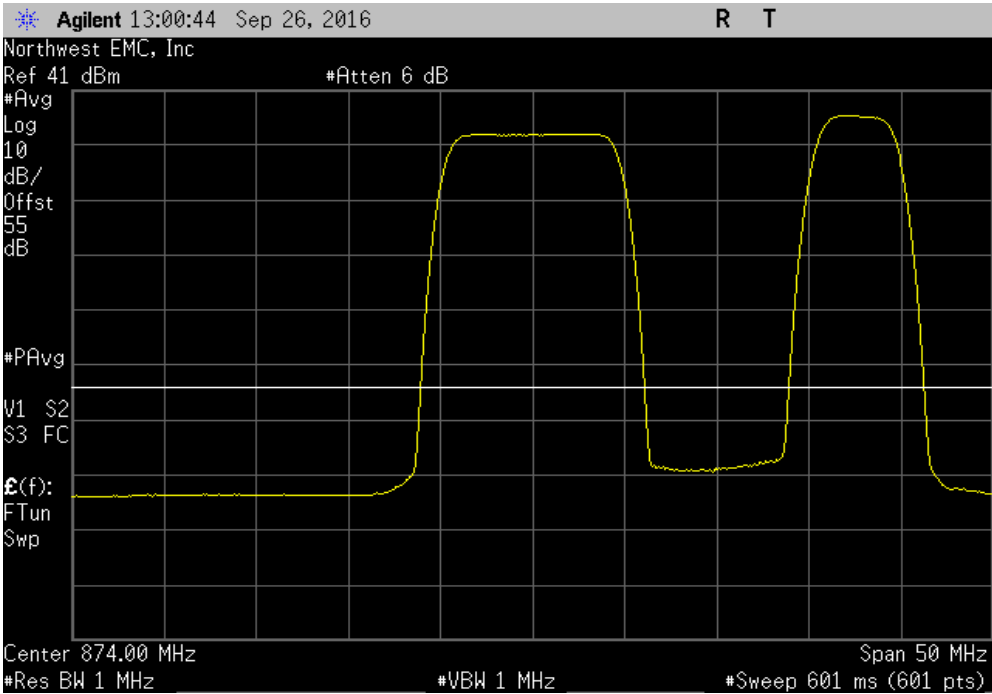


Antenna Port 2, LTE5 - 871.5 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz		-24.37	-13	Pass		

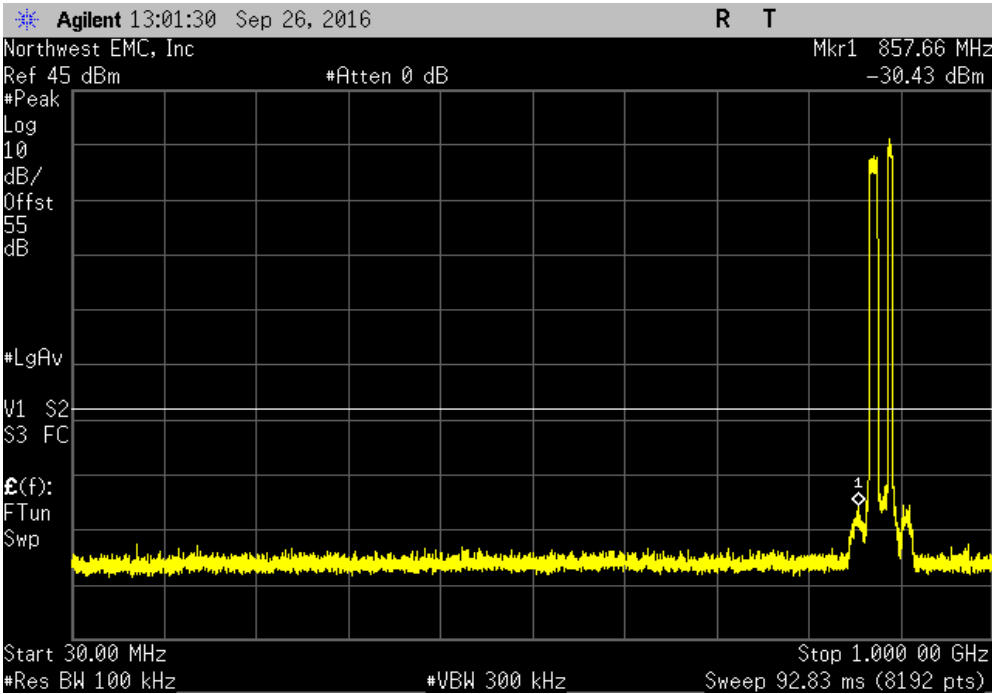


INTERMODULATION

Antenna Port 2, LTE10 - 874 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
Fundamental		N/A		N/A	N/A	

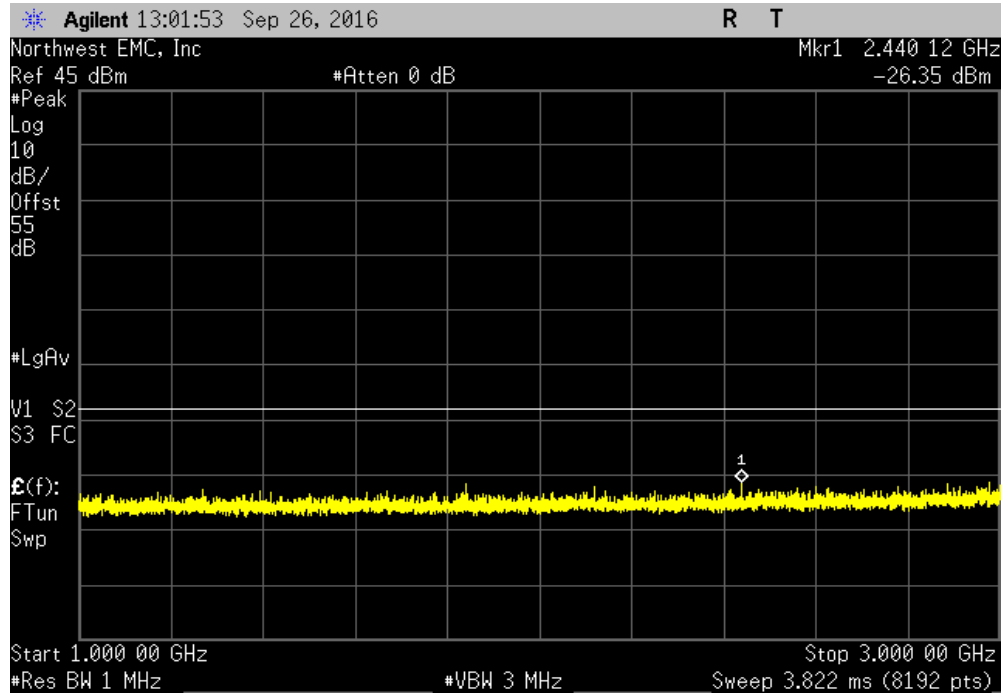


Antenna Port 2, LTE10 - 874 MHz & WCDMA - 891.6 MHz						
Frequency Range		Max Value (dBm)		Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-30.43		-13	Pass	



INTERMODULATION

Antenna Port 2, LTE10 - 874 MHz & WCDMA - 891.6 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 3 GHz	-26.36	-13	Pass		



Antenna Port 2, LTE10 - 874 MHz & WCDMA - 891.6 MHz					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
3 GHz - 9 GHz	-24.21	-13	Pass		

