

NORTHWEST EMC

Parallel Wireless Inc.

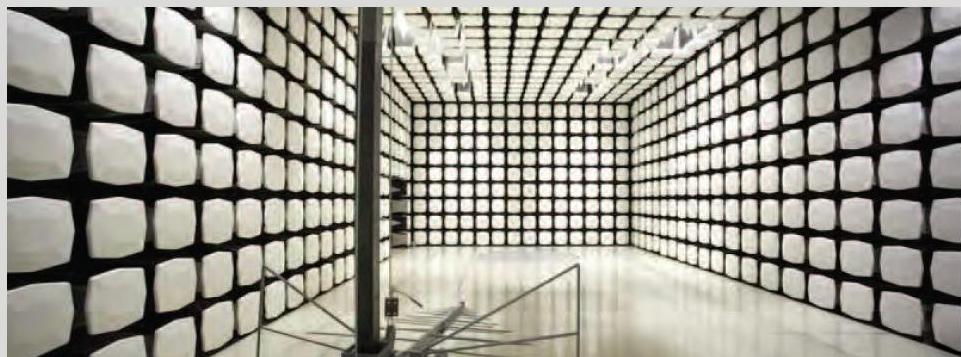
CWS-3050-12

FCC 27:2016

FCC 27.53:2016

Converged Wireless System Base Station

Report # KMWC0074



NVLAP Lab Code: 200676-0

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

CERTIFICATE OF TEST

Last Date of Test: November 08, 2016

Parallel Wireless Inc.

Model: CWS-3050-12

Radio Equipment Testing

Standards

Specification	Method
FCC 27:2016	
FCC 27.53:2016	ANSI/TIA/EIA-603-D-2010

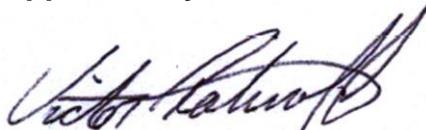
Results

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 - LTE Bands 12 and 17	Yes	Pass	
2.2.13	Spurious Emissions at the Antenna Terminals	Yes	Pass	
2.2.13	Band Edge Compliance	Yes	Pass	
2.2.13	Intermodulation	Yes	Pass	

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
00	None		

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.

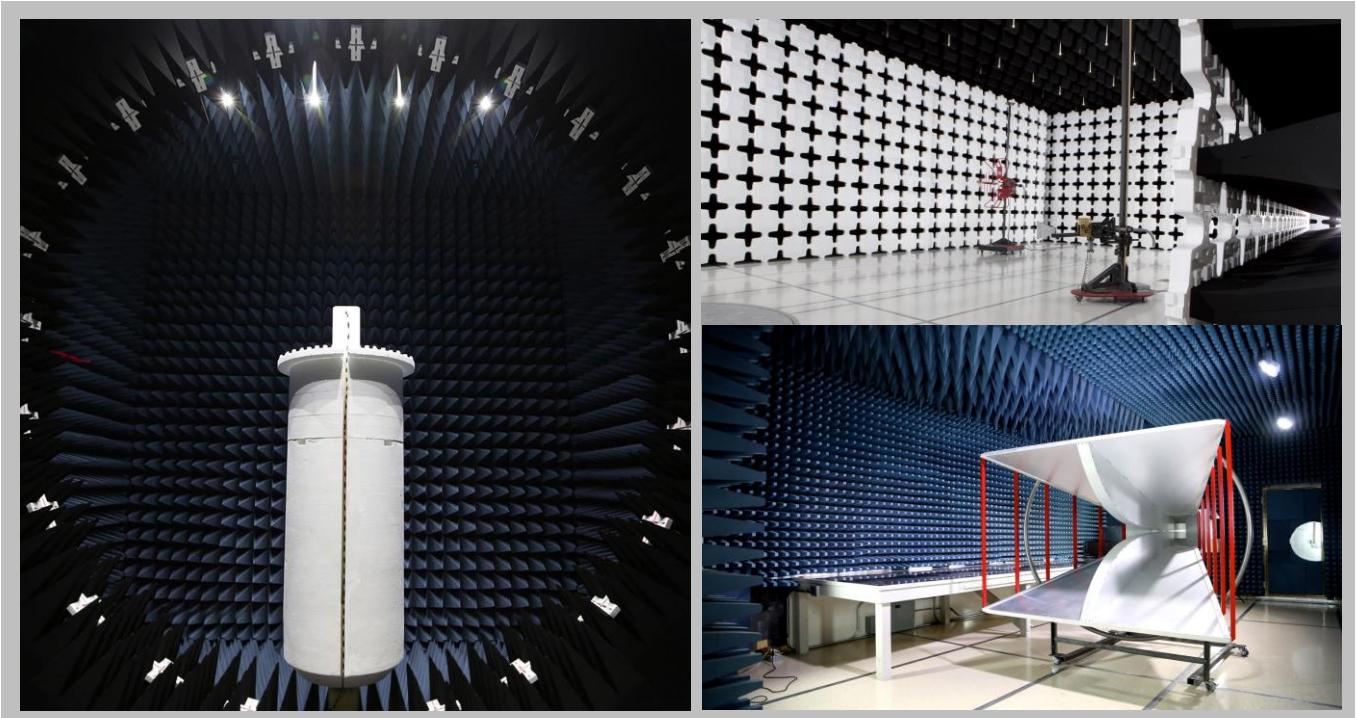
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

<u>Test</u>	<u>+ MU</u>	<u>- MU</u>
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	Minnesota	New York	Oregon	Texas	Washington
Labs OC01-13 41 Tesla Irvine, CA 92618 (949) 861-8918	Labs MN01-08, MN10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 554-8214	Labs EV01-12 22975 NW Evergreen Pkwy Hillsboro, OR 97124 (503) 844-4066	Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	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/RRA, 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-3050-12
First Date of Test:	August 29, 2016
Last Date of Test:	November 08, 2016
Receipt Date of Samples:	August 29, 2016
Equipment Design Stage:	Production
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
Tower based Converged Wireless System Base Station operating in LTE Band 12 and Band 17 with 5 MHz and 10 MHz channel bandwidths.
Testing Objective:
To demonstrate compliance of the Cellular radio to FCC Part 27 requirements.

CONFIGURATIONS

Configuration KMWC0074- 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-3050-12	K163300001

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-3050-12 Tower	DC Mains
RF Output Cable x2	Yes	5m	No	CWS-3050-12 Tower	High Power Terminator
Ethernet Cable	No	2.5m	No	CWS-3050-12 Tower	Laptop
AC Cable	No	1.5m	No	AC Mains	Laptop Power Supply
DC Cable	No	2.0m	Yes	Laptop	Laptop Power Supply

Configuration KMWC0074- 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-3050-12	K163300001

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-3050-12 Tower	DC Mains
Ethernet Cable	No	2.5m	No	CWS-3050-12 Tower	Unterminated
AISG Cable	Yes	3m	No	CWS-3050-12 Tower	Unterminated
AISG (ALM) Cable	Yes	6.1m	No	CWS-3050-12 Tower	Unterminated
RF Output Cable x2	Yes	5m	No	CWS-3050-12 Tower	High Power Terminator
Optical Cable	No	10m	No	CWS-3050-12 Tower	Unterminated
Ground Braid	No	2m	No	CWS-3050-12 Tower	Ground

CONFIGURATIONS

Configuration KMWC0077- 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-3050-12	K163300001

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-3050-12 Tower	DC Mains
RF Output Cable x2	Yes	5m	No	CWS-3050-12 Tower	High Power Terminator
Ethernet Cable	No	2.5m	No	CWS-3050-12 Tower	Laptop
AC Cable	No	1.5m	No	AC Mains	Laptop Power Supply
DC Cable	No	2.0m	Yes	Laptop	Laptop Power Supply

Configuration KMWC0077- 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-3050-12	K163300001

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-3050-12 Tower	DC Mains
Ethernet Cable	No	2.5m	No	CWS-3050-12 Tower	Unterminated
AISG Cable	Yes	3m	No	CWS-3050-12 Tower	Unterminated
AISG (ALM) Cable	Yes	6.1m	No	CWS-3050-12 Tower	Unterminated
RF Output Cable x2	Yes	5m	No	CWS-3050-12 Tower	High Power Terminator
Optical Cable	No	10m	No	CWS-3050-12 Tower	Unterminated
Ground Braid	No	2m	No	CWS-3050-12 Tower	Ground

MODIFICATIONS

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	8/29/2016	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.
2	8/29/2016	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	8/29/2016	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.
4	8/29/2016	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	8/29/2016	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.
6	8/31/2016	Out of Band Emissions - LTE Band 12	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	9/12/2016	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.
8	9/12/2016	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.
9	11/8/2016	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.
10	11/8/2016	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.
11	11/8/2016	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.
12	11/8/2016	Out of Band Emissions – LTE Band 17	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.
13	11/8/2016	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.
14	11/8/2016	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.
15	11/8/2016	Intermodulation	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

CONDUCTED OUTPUT POWER - BAND 12

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)

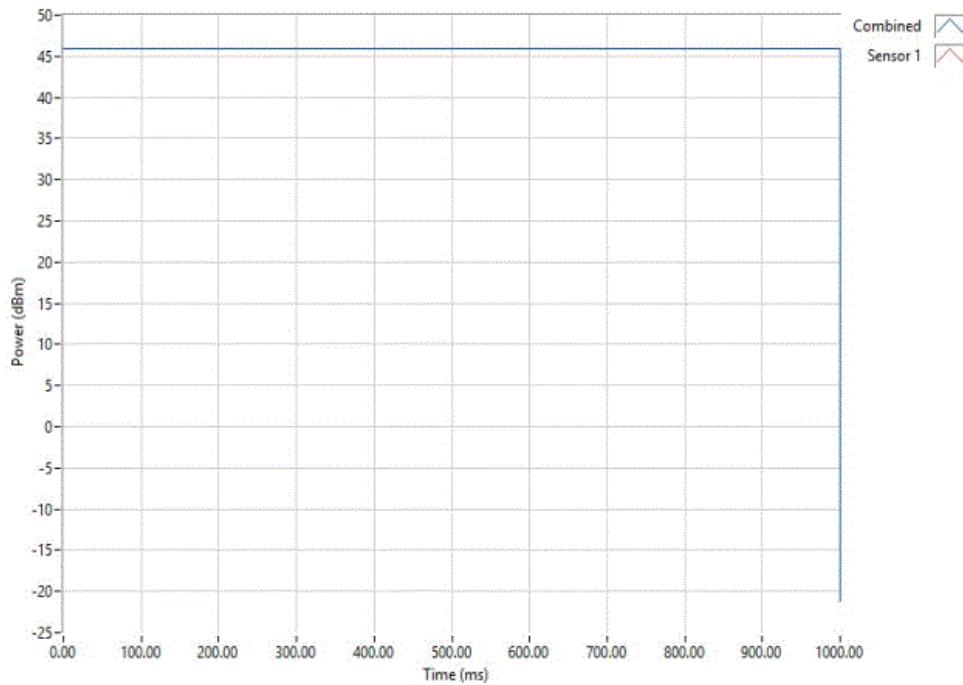
The measurements from Port 1 and Port 2 were summed to determine the total average power in ERP.

CONDUCTED OUTPUT POWER - BAND 12

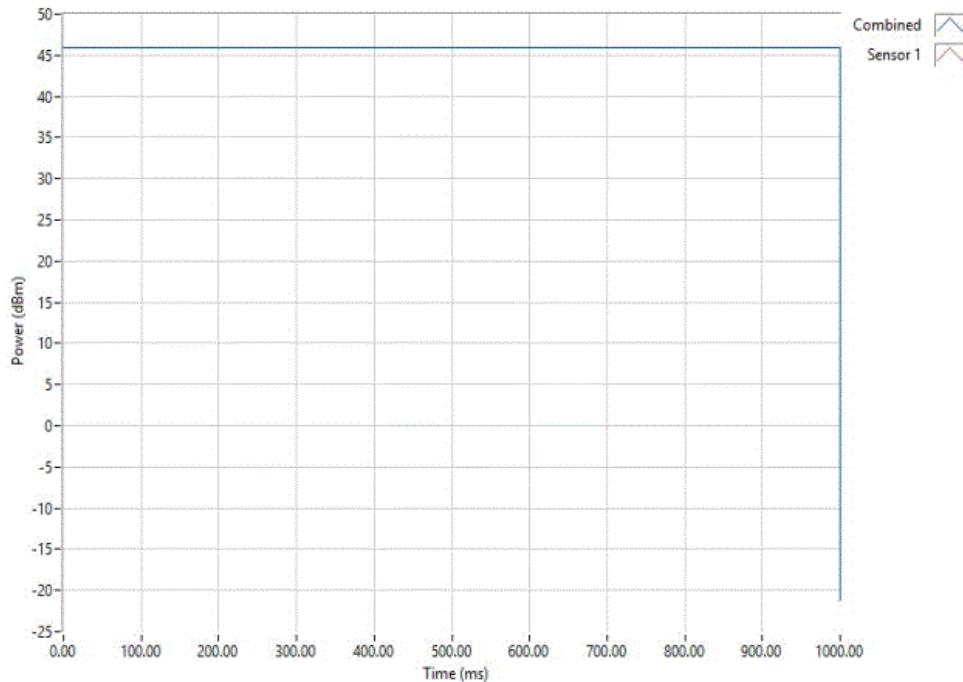
EUT:	CWS-3050-12	Work Order:	KMWC0074					
Serial Number:	K163300001	Date:	08/29/16					
Customer:	Parallel Wireless Inc.	Temperature:	21.4 °C					
Attendees:	Andy Ku	Humidity:	46.4% RH					
Project:	None	Barometric Pres.:	1017 mbar					
Tested by:	Johnny Candelas	Power:	48 VDC					
TEST SPECIFICATIONS		Test Method	ANSI/TIA/EIA-603-D-2010					
FCC 27:2016								
COMMENTS								
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 54.8dB total. Antenna Gain is assumed to be 0, per specification antenna gain will be re-evaluated during final installation taking height into account. MIMO measurements taken separately and a linear summation was performed below.								
DEVIATIONS FROM TEST STANDARD								
None								
Configuration #	1	Signature						
		Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
Antenna Port 1								
Low Channel LTE5, 731.5 MHz		45.9	100	0	45.9	60	Pass	
Mid Channel LTE5, 737.5 MHz		45.98	100	0	46.0	60	Pass	
High Channel LTE5, 743.5 MHz		45.9	100	0	45.9	60	Pass	
Low Channel LTE10, 734 MHz		45.97	100	0	46.0	60	Pass	
Mid Channel LTE10, 737.5 MHz		45.98	100	0	46.0	60	Pass	
High Channel LTE10, 741 MHz		46	100	0	46.0	60	Pass	
Antenna Port 2								
Low Channel LTE5, 731.5 MHz		45.99	100	0	46.0	60	Pass	
Mid Channel LTE5, 737.5 MHz		45.95	100	0	46.0	60	Pass	
High Channel LTE5, 743.5 MHz		45.96	100	0	46.0	60	Pass	
Low Channel LTE10, 734 MHz		46	100	0	46.0	60	Pass	
Mid Channel LTE10, 737.5 MHz		45.98	100	0	46.0	60	Pass	
High Channel LTE10, 741 MHz		46	100	0	46.0	60	Pass	
Antenna Port 1 MIMO								
Low Channel LTE5, 731.5 MHz		45.99	100	0	46.0	60	Pass	
Mid Channel LTE5, 737.5 MHz		45.98	100	0	46.0	60	Pass	
High Channel LTE5, 743.5 MHz		45.98	100	0	46.0	60	Pass	
Low Channel LTE10, 734 MHz		45.98	100	0	46.0	60	Pass	
Mid Channel LTE10, 737.5 MHz		46	100	0	46.0	60	Pass	
High Channel LTE10, 741 MHz		45.99	100	0	46.0	60	Pass	
Antenna Port 2 MIMO								
Low Channel LTE5, 731.5 MHz		45.93	100	0	45.9	60	Pass	
Mid Channel LTE5, 737.5 MHz		45.97	100	0	46.0	60	Pass	
High Channel LTE5, 743.5 MHz		45.97	100	0	46.0	60	Pass	
Low Channel LTE10, 734 MHz		45.92	100	0	45.9	60	Pass	
Mid Channel LTE10, 737.5 MHz		45.97	100	0	46.0	60	Pass	
High Channel LTE10, 741 MHz		45.92	100	0	45.9	60	Pass	
Linear Sum of the Power								
	Port 1 (mW)	Port 2 (mW)	Sum (mW)	Sum (dBm)				
Low Channel LTE5, 731.5 MHz	39719.2	39174.2	78893.3	48.97	0	49.0	60	Pass
Mid Channel LTE5, 737.5 MHz	39627.8	39536.7	79164.5	48.99	0	49.0	60	Pass
High Channel LTE5, 743.5 MHz	39627.8	39536.7	79164.5	48.99	0	49.0	60	Pass
Low Channel LTE10, 734 MHz	39627.8	39084.1	78711.9	48.96	0	49.0	60	Pass
Mid Channel LTE10, 737.5 MHz	39810.7	39536.7	79347.4	49.00	0	49.0	60	Pass
High Channel LTE10, 741 MHz	39719.2	39084.1	78803.2	48.97	0	49.0	60	Pass

CONDUCTED OUTPUT POWER - BAND 12

Antenna Port 1, Low Channel LTE5, 731.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.9	100	0	45.9	60	Pass	

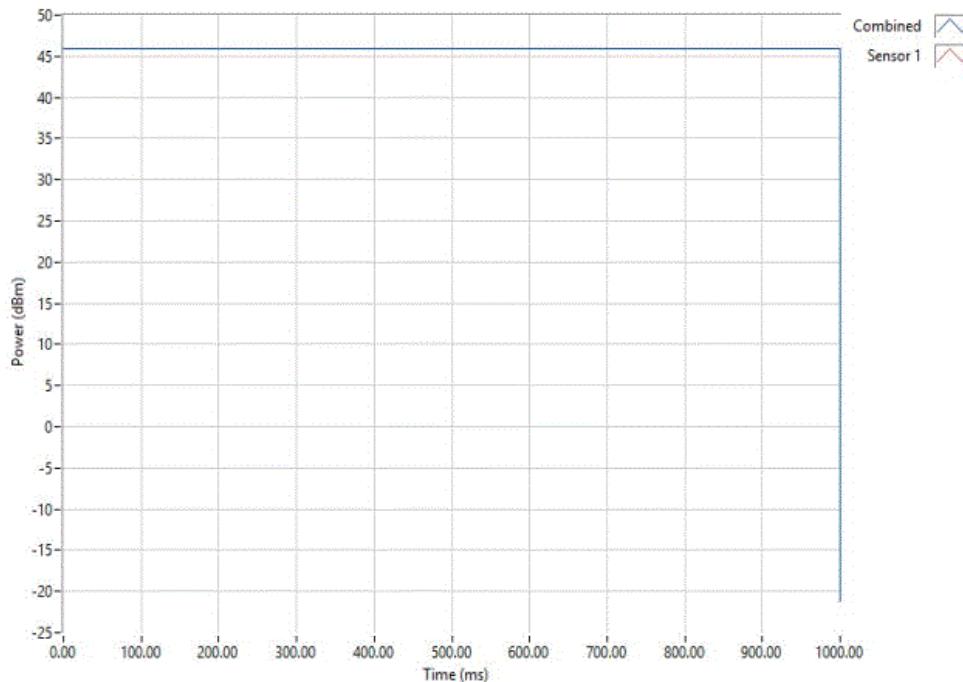


Antenna Port 1, Mid Channel LTE5, 737.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.98	100	0	46	60	Pass	

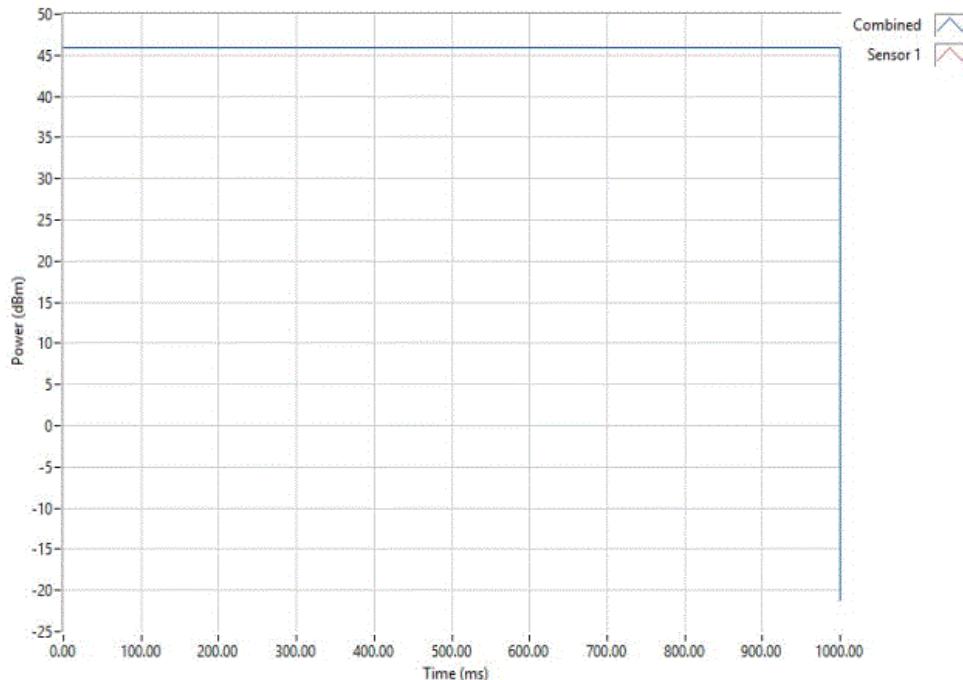


CONDUCTED OUTPUT POWER - BAND 12

Antenna Port 1, High Channel LTE5, 743.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.9	100	0	45.9	60	Pass	

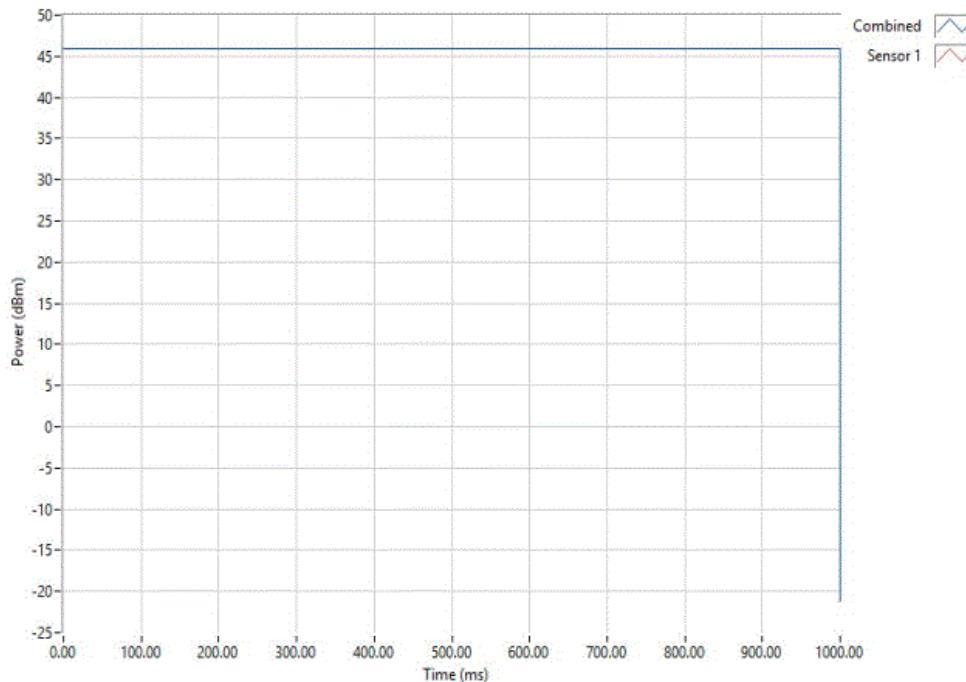


Antenna Port 1, Low Channel LTE10, 734 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.97	100	0	46	60	Pass	

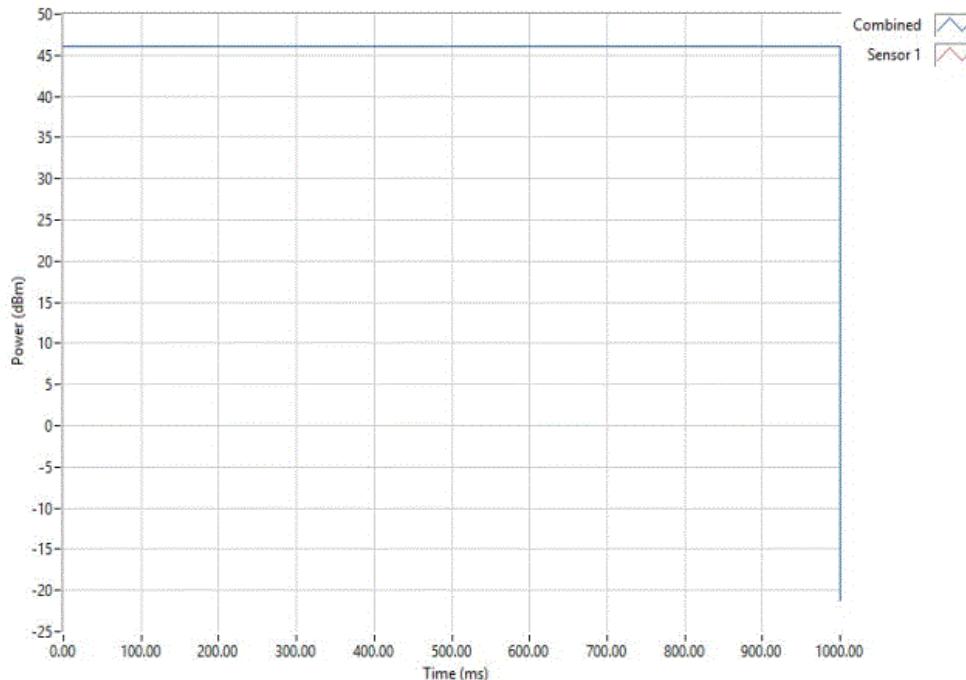


CONDUCTED OUTPUT POWER - BAND 12

Antenna Port 1, Mid Channel LTE10, 737.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.98	100	0	46	60	Pass	

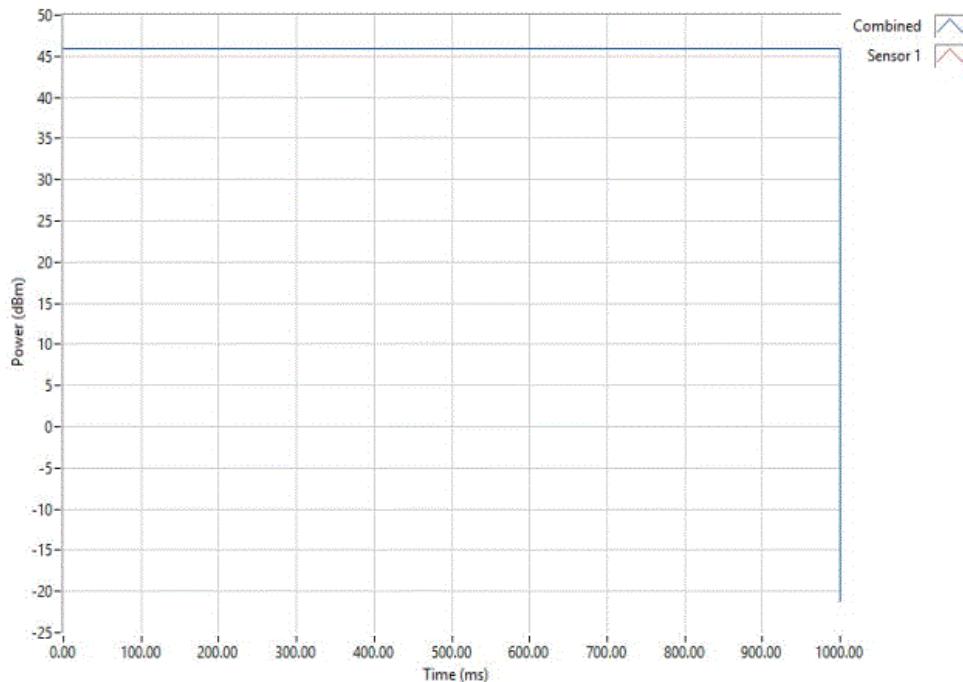


Antenna Port 1, High Channel LTE10, 741 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
46	100	0	46	60	Pass	

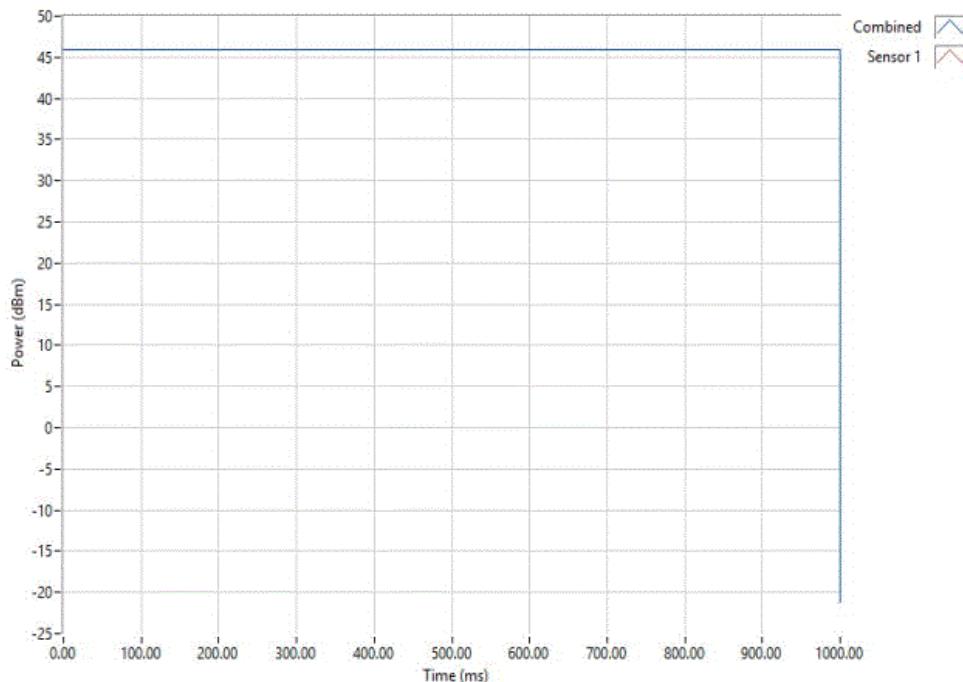


CONDUCTED OUTPUT POWER - BAND 12

Antenna Port 2, Low Channel LTE5, 731.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.99	100	0	46	60	Pass	

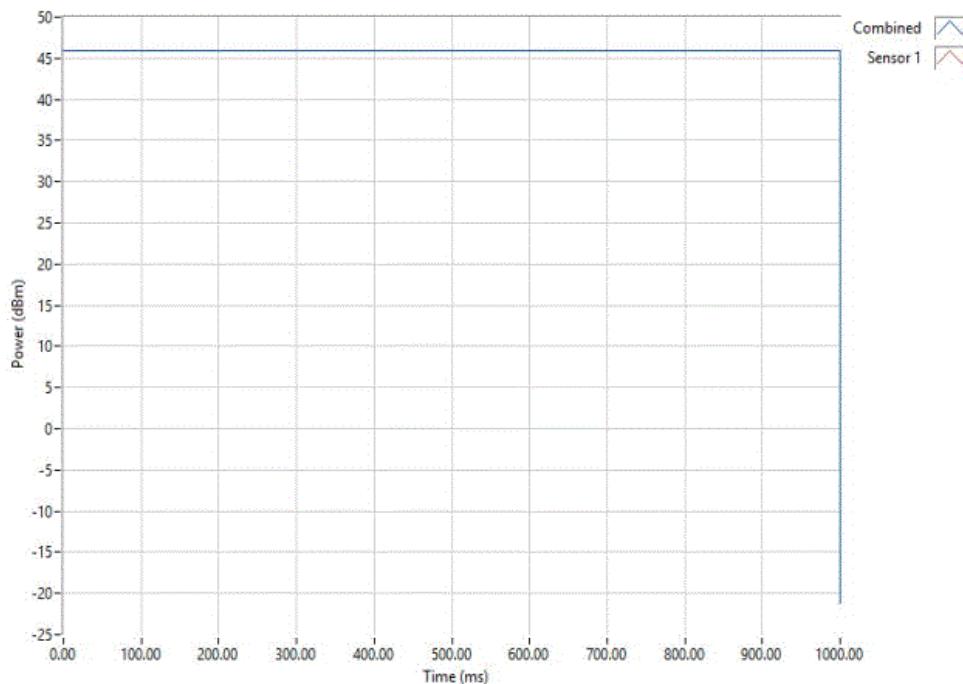


Antenna Port 2, Mid Channel LTE5, 737.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.95	100	0	46	60	Pass	

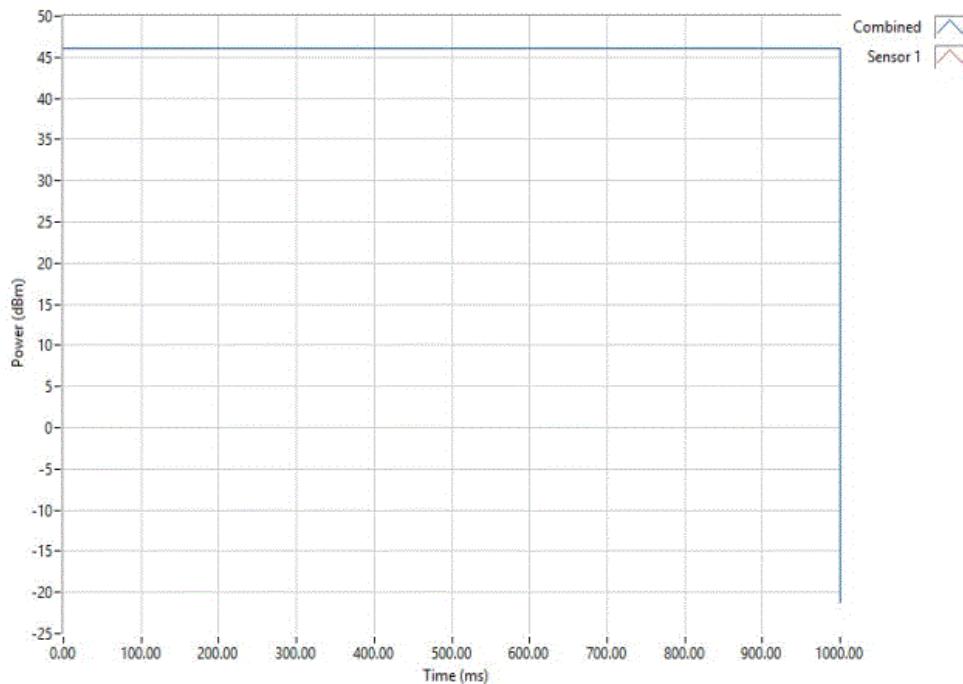


CONDUCTED OUTPUT POWER - BAND 12

Antenna Port 2, High Channel LTE5, 743.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.96	100	0	46	60	Pass	

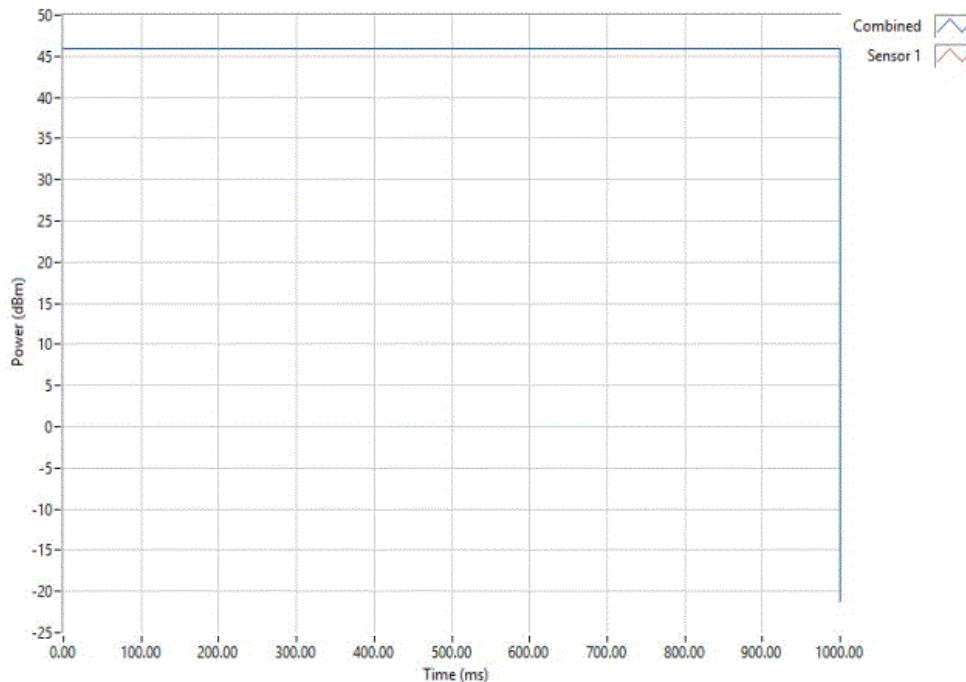


Antenna Port 2, Low Channel LTE10, 734 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
46	100	0	46	60	Pass	

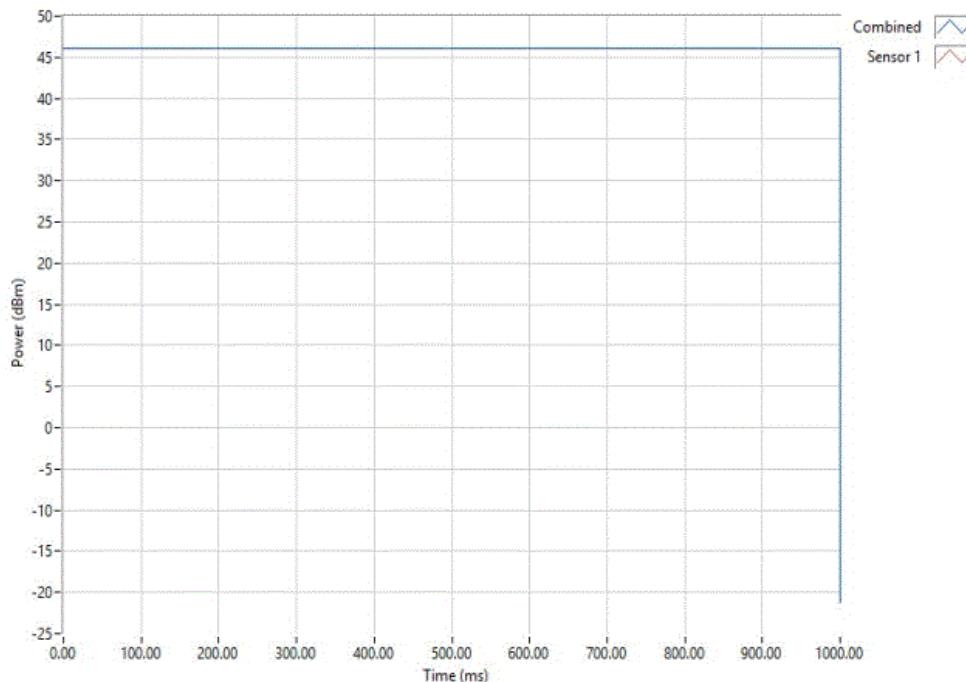


CONDUCTED OUTPUT POWER - BAND 12

Antenna Port 2, Mid Channel LTE10, 737.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.98	100	0	46	60	Pass	

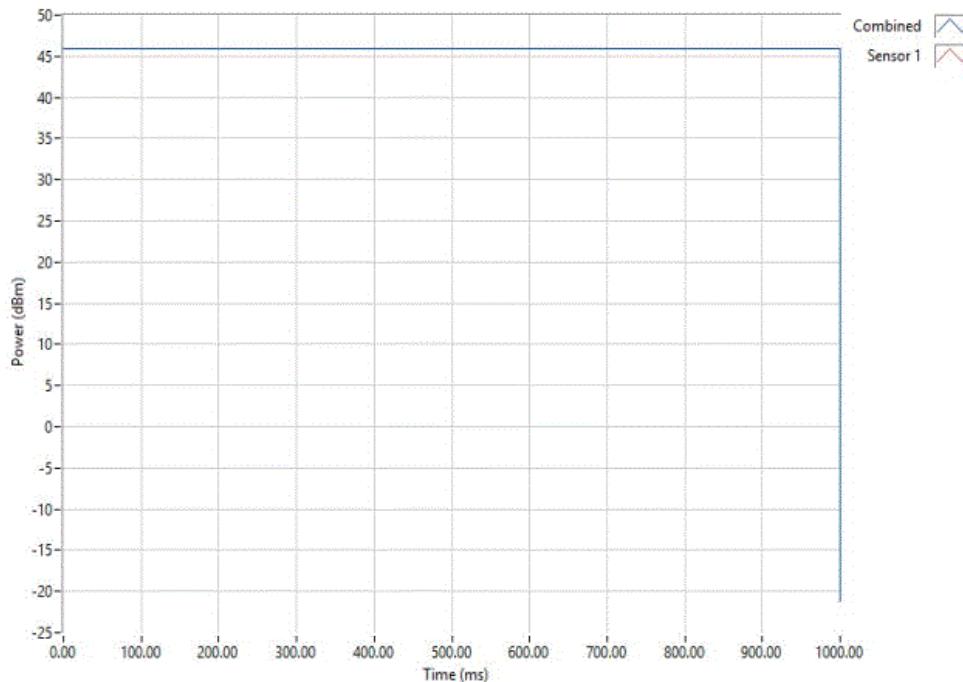


Antenna Port 2, High Channel LTE10, 741 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
46	100	0	46	60	Pass	

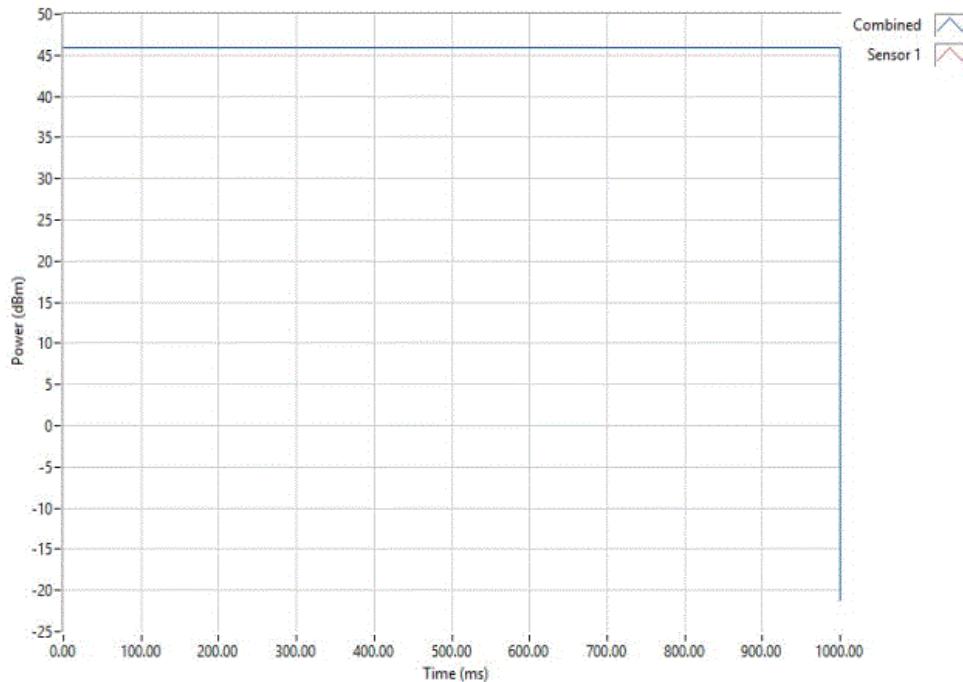


CONDUCTED OUTPUT POWER - BAND 12

Antenna Port 1 MIMO, Low Channel LTE5, 731.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.99	100	0	46	60	Pass	

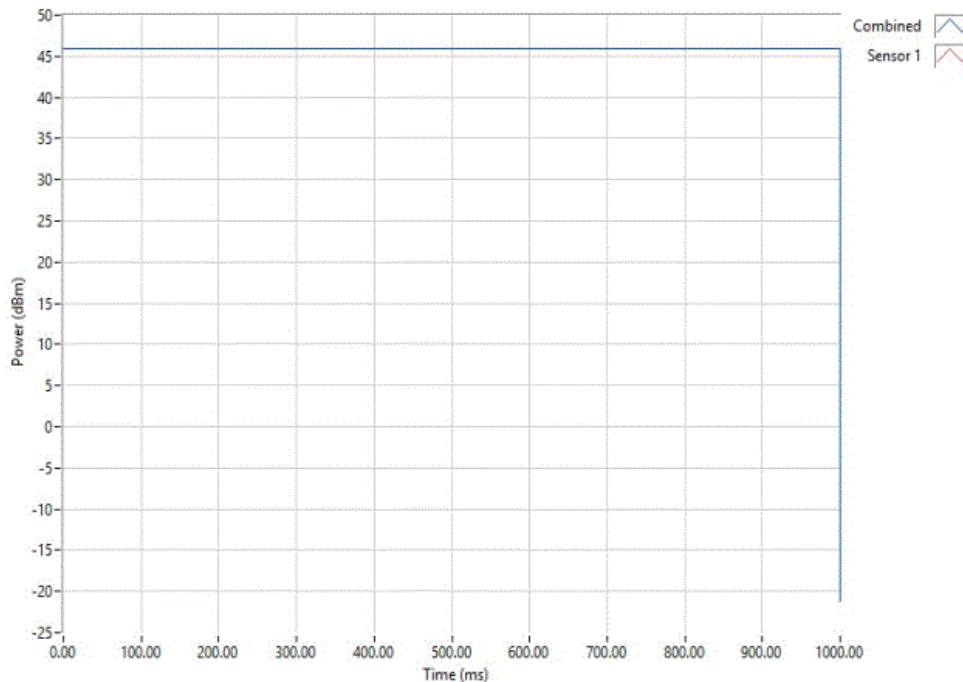


Antenna Port 1 MIMO, Mid Channel LTE5, 737.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.98	100	0	46	60	Pass	

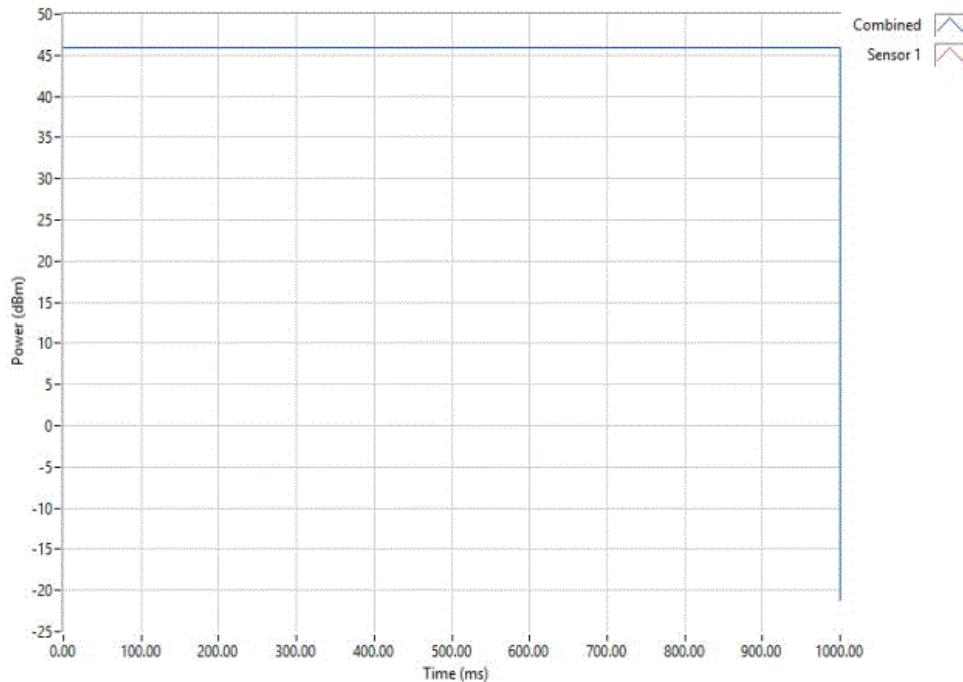


CONDUCTED OUTPUT POWER - BAND 12

Antenna Port 1 MIMO, High Channel LTE5, 743.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.98	100	0	46	60	Pass	

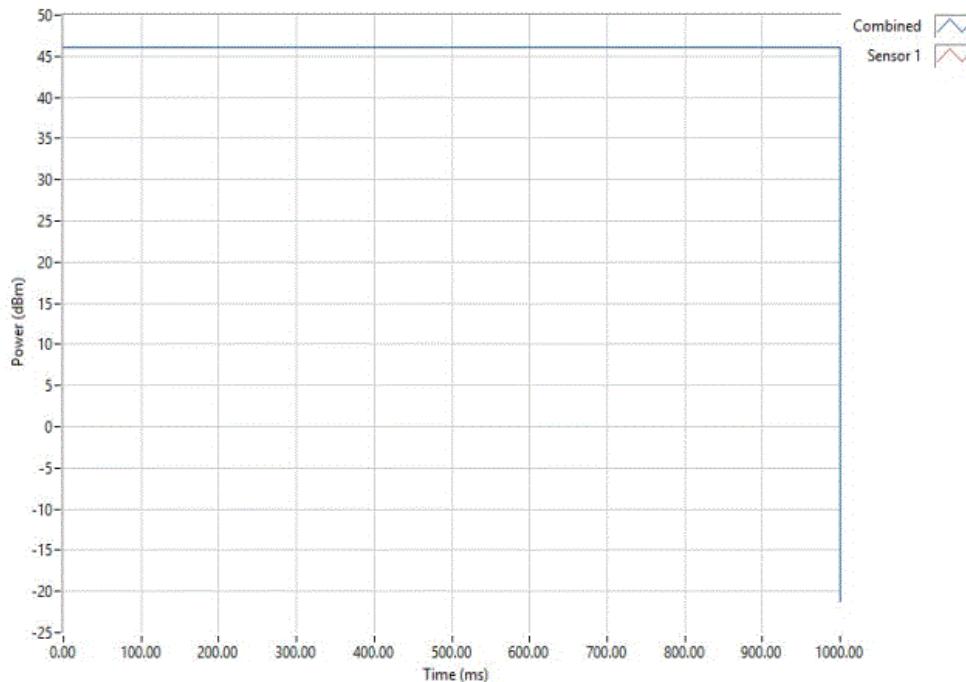


Antenna Port 1 MIMO, Low Channel LTE10, 734 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.98	100	0	46	60	Pass	

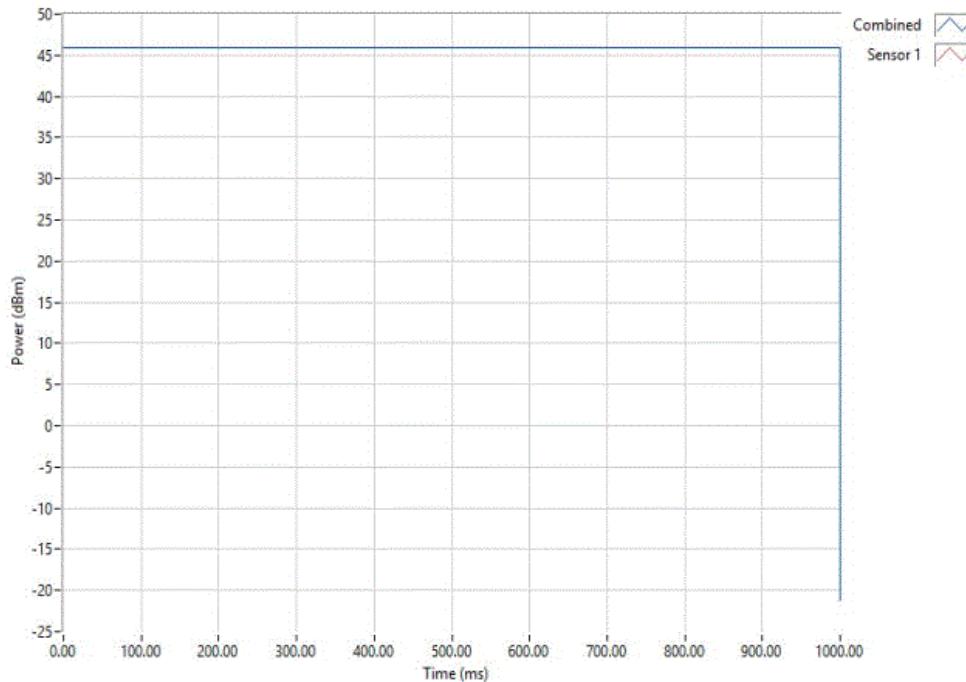


CONDUCTED OUTPUT POWER - BAND 12

Antenna Port 1 MIMO, Mid Channel LTE10, 737.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
46	100	0	46	60	Pass	

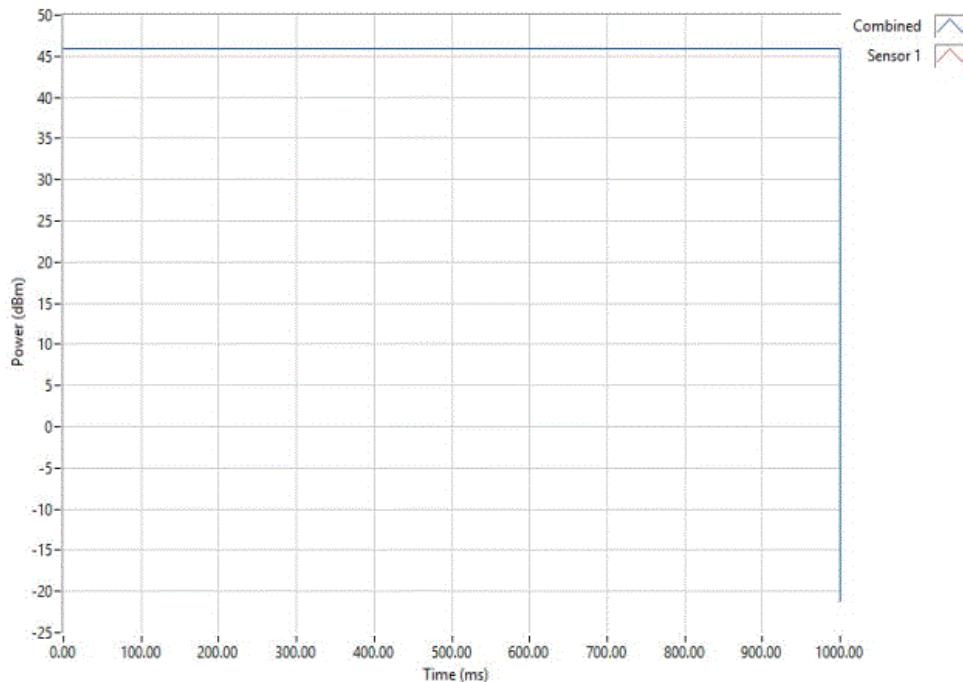


Antenna Port 1 MIMO, High Channel LTE10, 741 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.99	100	0	46	60	Pass	

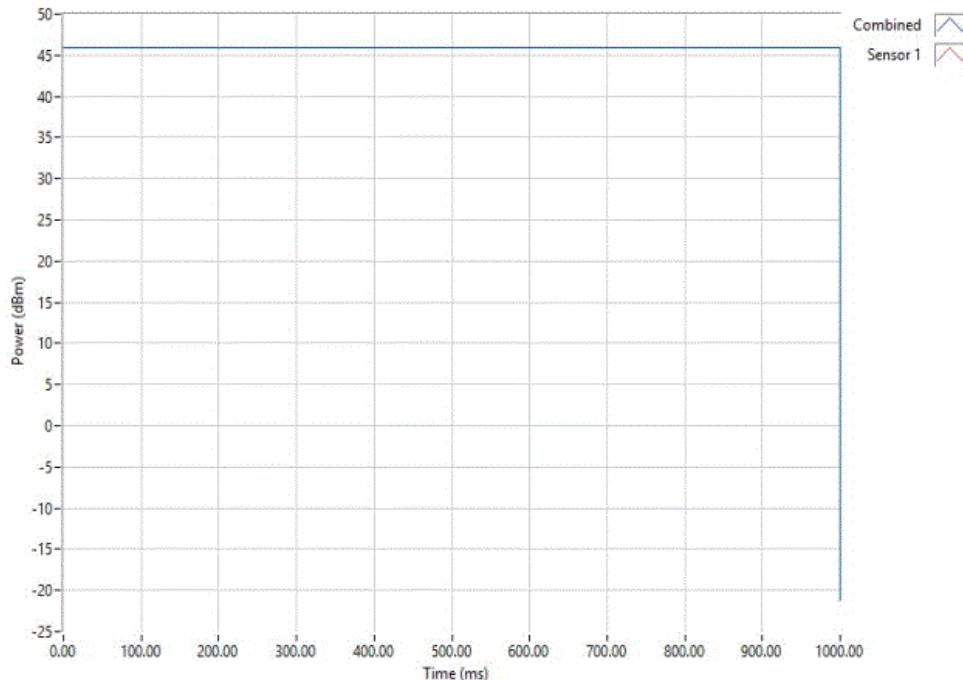


CONDUCTED OUTPUT POWER - BAND 12

Antenna Port 2 MIMO, Low Channel LTE5, 731.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.93	100	0	45.9	60	Pass	

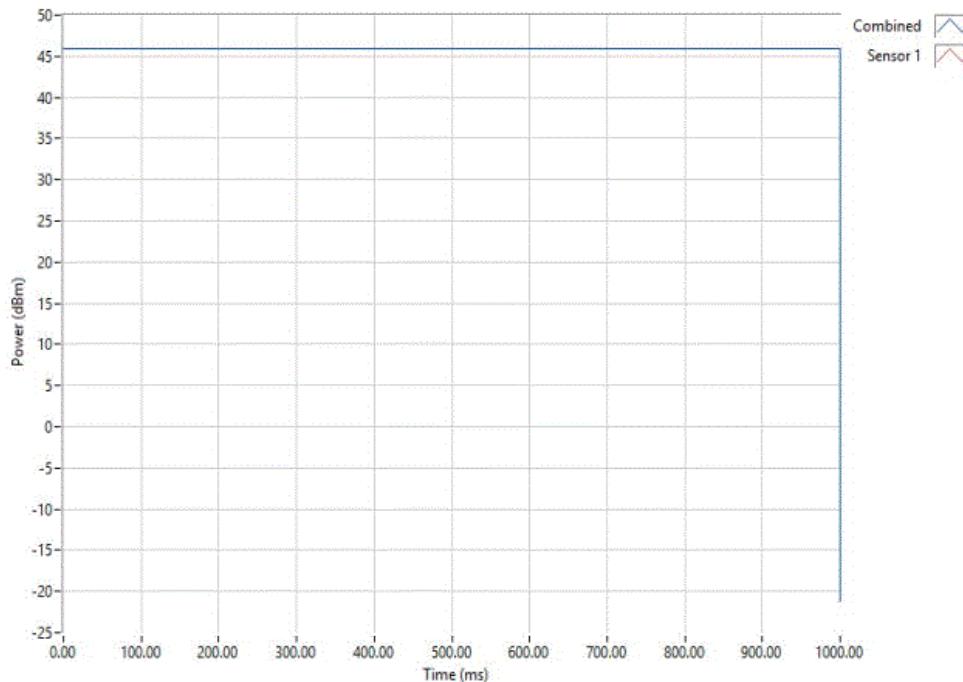


Antenna Port 2 MIMO, Mid Channel LTE5, 737.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.97	100	0	46	60	Pass	

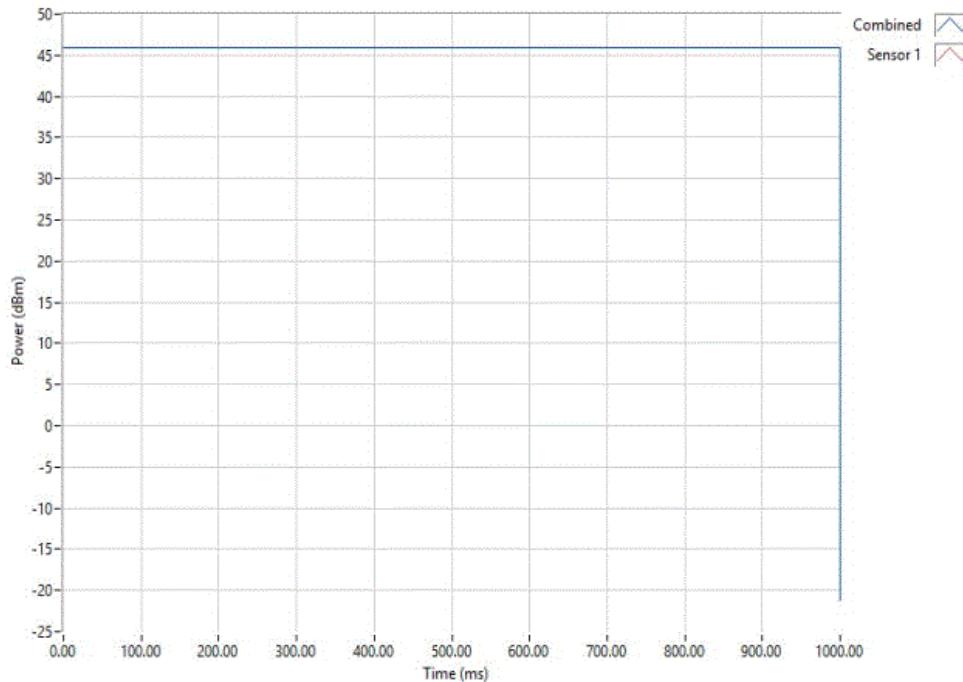


CONDUCTED OUTPUT POWER - BAND 12

Antenna Port 2 MIMO, High Channel LTE5, 743.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.97	100	0	46	60	Pass	

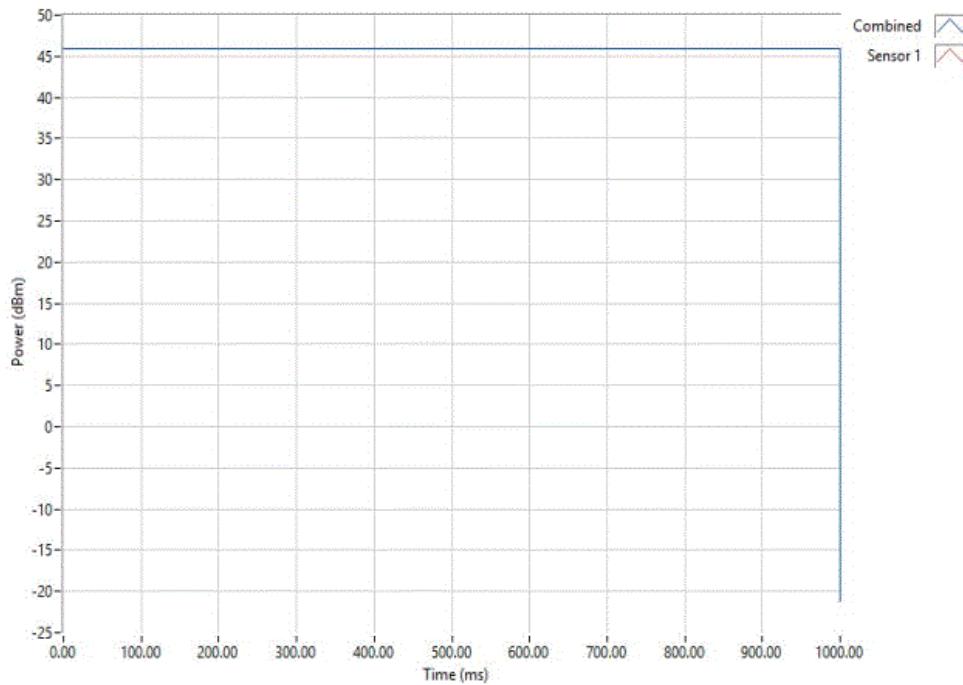


Antenna Port 2 MIMO, Low Channel LTE10, 734 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.92	100	0	45.9	60	Pass	

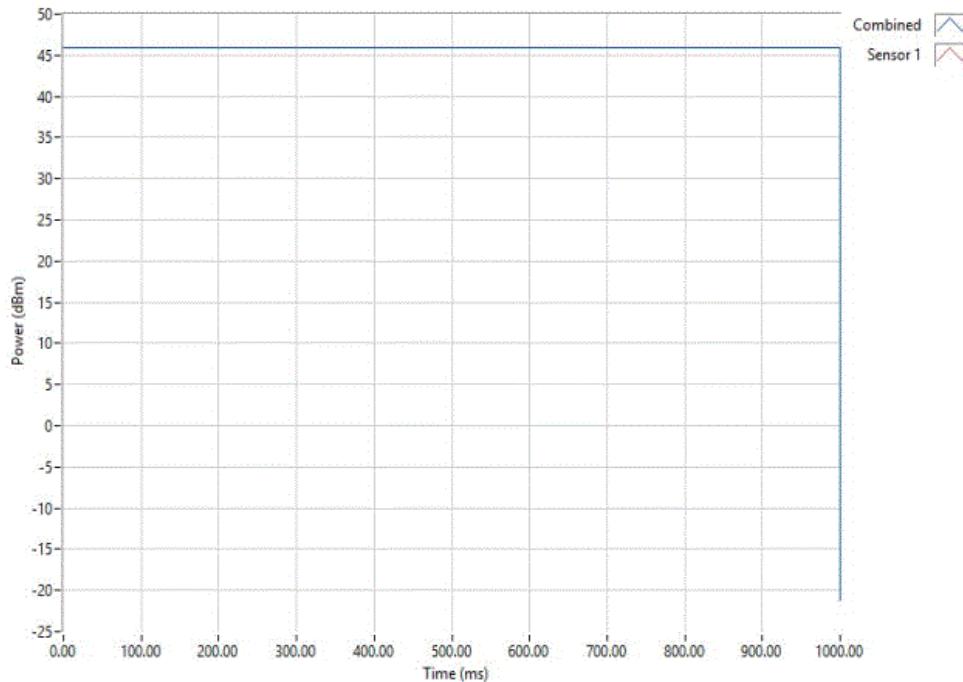


CONDUCTED OUTPUT POWER - BAND 12

Antenna Port 2 MIMO, Mid Channel LTE10, 737.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.97	100	0	46	60	Pass	



Antenna Port 2 MIMO, High Channel LTE10, 741 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.92	100	0	45.9	60	Pass	



CONDUCTED OUTPUT POWER - BAND 17

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	Keysight	N5182B	TFX	4/16/2015	4/16/2018
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.

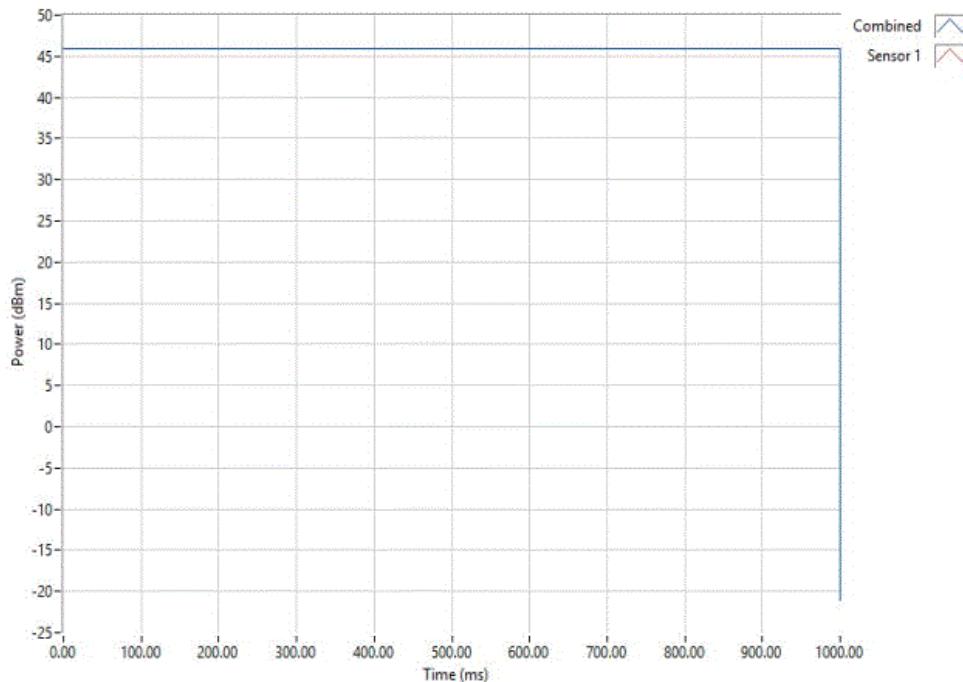
Only the Low Channel for each channel bandwidth was tested, the Mid & High Channels were previously tested in this band.

CONDUCTED OUTPUT POWER - BAND 17

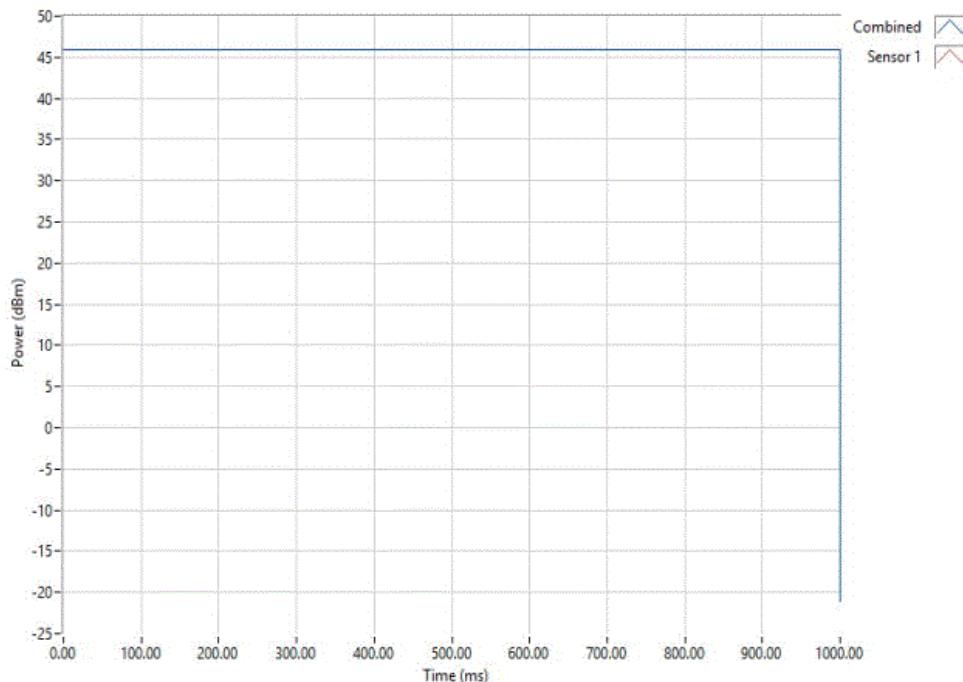
EUT:	CWS-3050-12		Work Order:	KMW0077	
Serial Number:	K163300001		Date:	11/08/16	
Customer:	Parallel Wireless Inc.		Temperature:	20.8 °C	
Attendees:	Edward Lee		Humidity:	49% RH	
Project:	None		Barometric Pres.:	1018 mbar	
Tested by:	Johnny Candelas	Power:	48 VDC	Job Site:	OC13
TEST SPECIFICATIONS			Test Method		
FCC 27:2016			ANSI/TIA/EIA-603-D-2010		
COMMENTS					
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 54.9dB total. Antenna Gain is assumed to be 0, per specification antenna gain will be re-evaluated during final installation taking height into account. MIMO measurements taken separately and a linear summation was performed below.					
DEVIATIONS FROM TEST STANDARD					
None					
Configuration #	1	Signature			
			Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)
Antenna Port 1			45.97	100	0
		Low Channel LTE5, 736.5 MHz	45.99	100	0
		Low Channel LTE10, 739 MHz	46.00	100	0
Antenna Port 2			46.00	100	0
		Low Channel LTE5, 736.5 MHz	46.00	100	0
		Low Channel LTE10, 739 MHz	46.00	100	0
Antenna Port 1 MIMO			45.99	100	0
		Low Channel LTE5, 736.5 MHz	45.99	100	0
		Low Channel LTE10, 739 MHz	46.00	100	0
Antenna Port 2 MIMO			45.98	100	0
		Low Channel LTE5, 736.5 MHz	46.00	100	0
		Low Channel LTE10, 739 MHz	46.00	100	0
Linear Sum of the Power			Port 1 (mW)	Port 2 (mW)	Sum (mW)
			39719.155	39627.803	79346.958
			39719.155	39810.717	79529.872
					Sum (dBm)
					49.00
					0
					49.01
					0
					49.0
					60
					Pass
					Pass

CONDUCTED OUTPUT POWER - BAND 17

Antenna Port 1, Low Channel LTE5, 736.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.97	100	0	46	60	Pass	

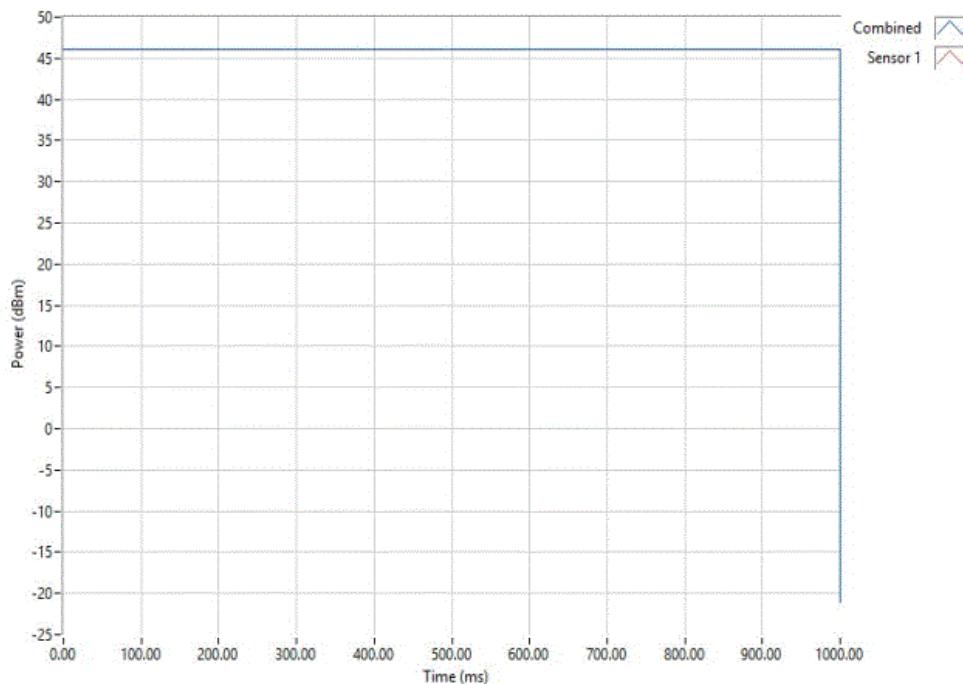


Antenna Port 1, Low Channel LTE10, 739 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.99	100	0	46	60	Pass	

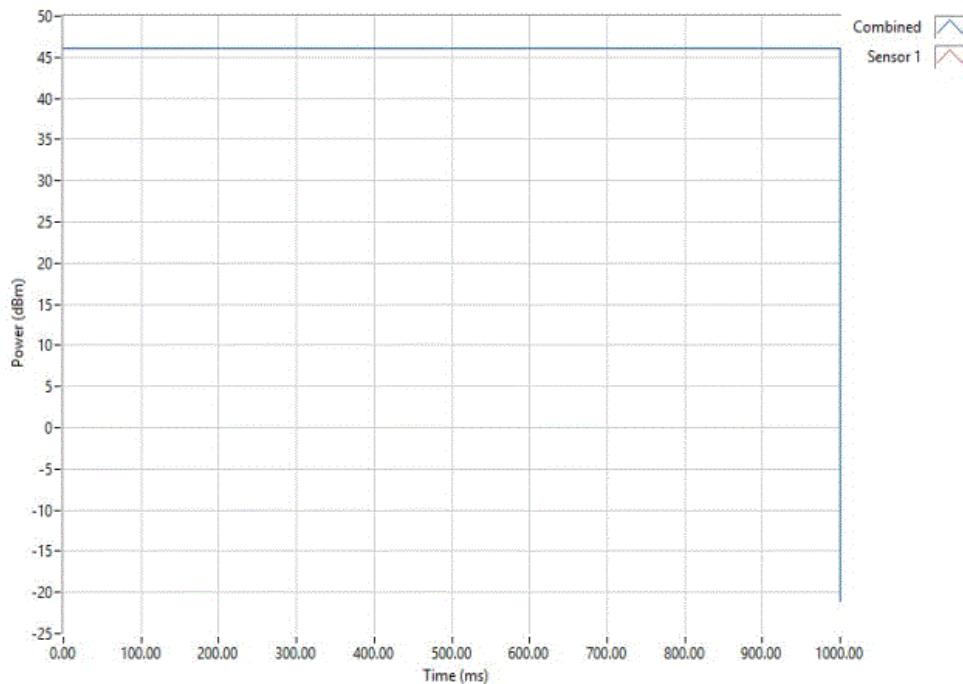


CONDUCTED OUTPUT POWER - BAND 17

Antenna Port 2, Low Channel LTE5, 736.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
46	100	0	46	60	Pass	

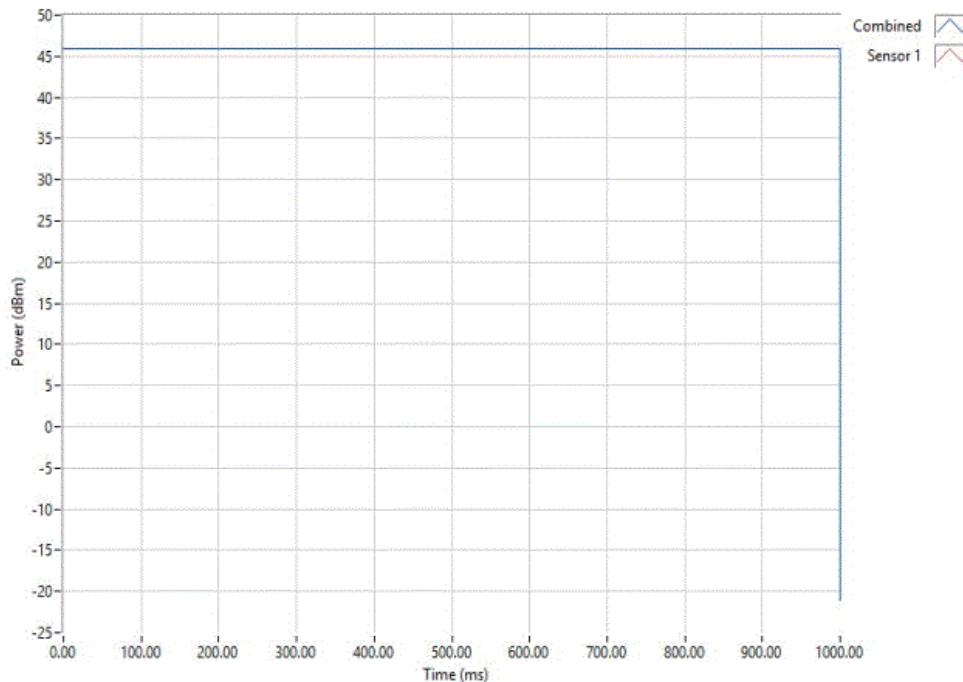


Antenna Port 2, Low Channel LTE10, 739 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
46	100	0	46	60	Pass	

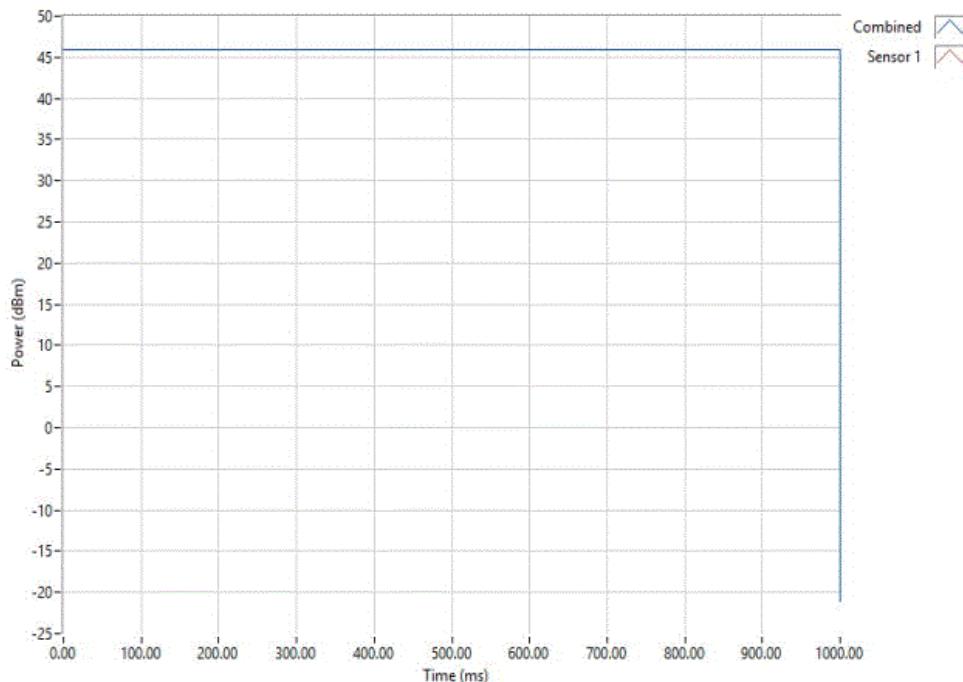


CONDUCTED OUTPUT POWER - BAND 17

Antenna Port 1 MIMO, Low Channel LTE5, 736.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.99	100	0	46	60	Pass	

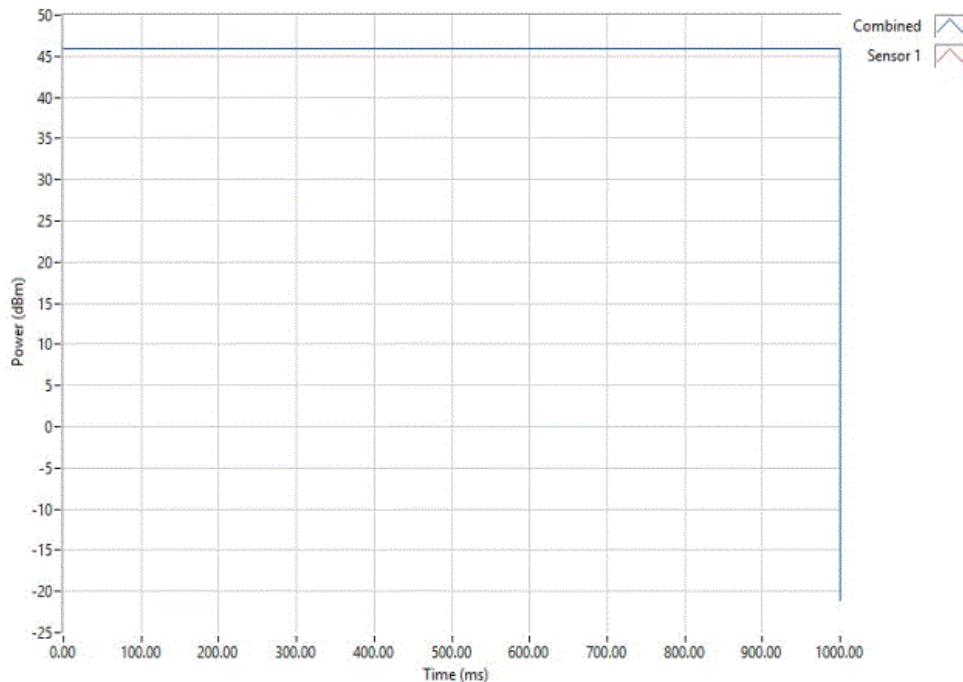


Antenna Port 1 MIMO, Low Channel LTE10, 739 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.99	100	0	46	60	Pass	

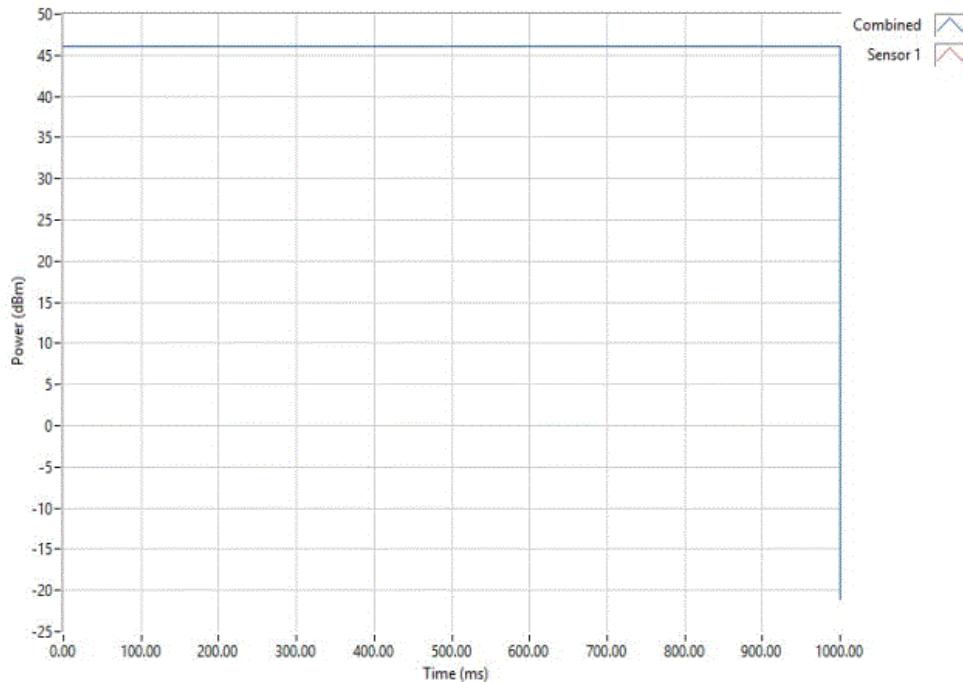


CONDUCTED OUTPUT POWER - BAND 17

Antenna Port 2 MIMO, Low Channel LTE5, 736.5 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
45.98	100	0	46	60	Pass	



Antenna Port 2 MIMO, Low Channel LTE10, 739 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results	
46	100	0	46	60	Pass	



PEAK TO AVERAGE RATIO - BAND 12

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:

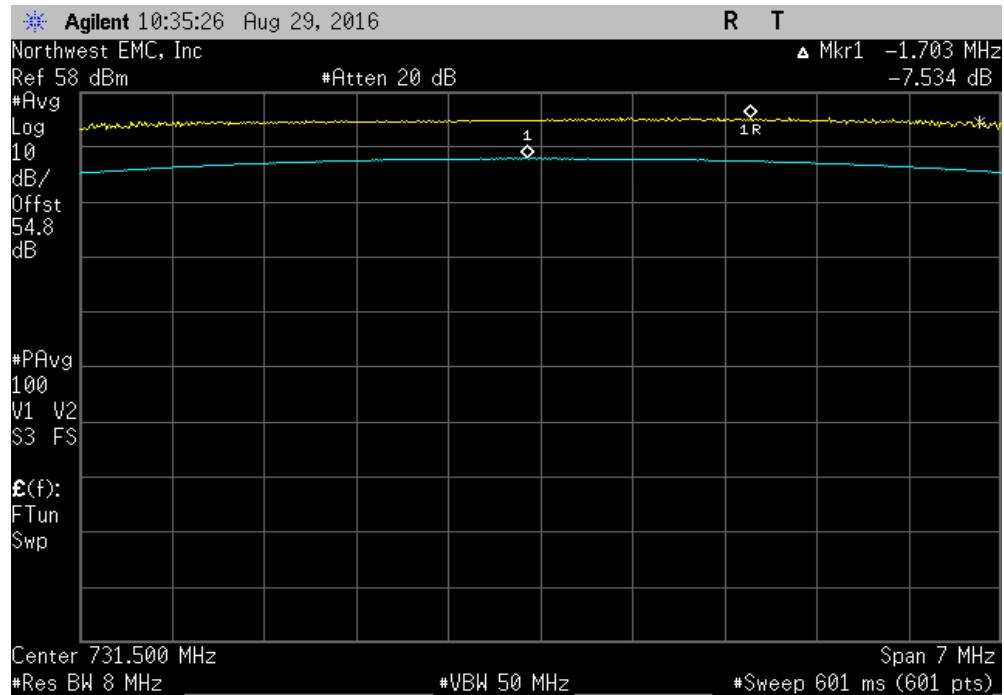
- 1st Trace: Peak detector and trace max-hold.
- 2nd Trace: The same procedure and settings as was used for conducted Output Power.

PEAK TO AVERAGE RATIO - BAND 12

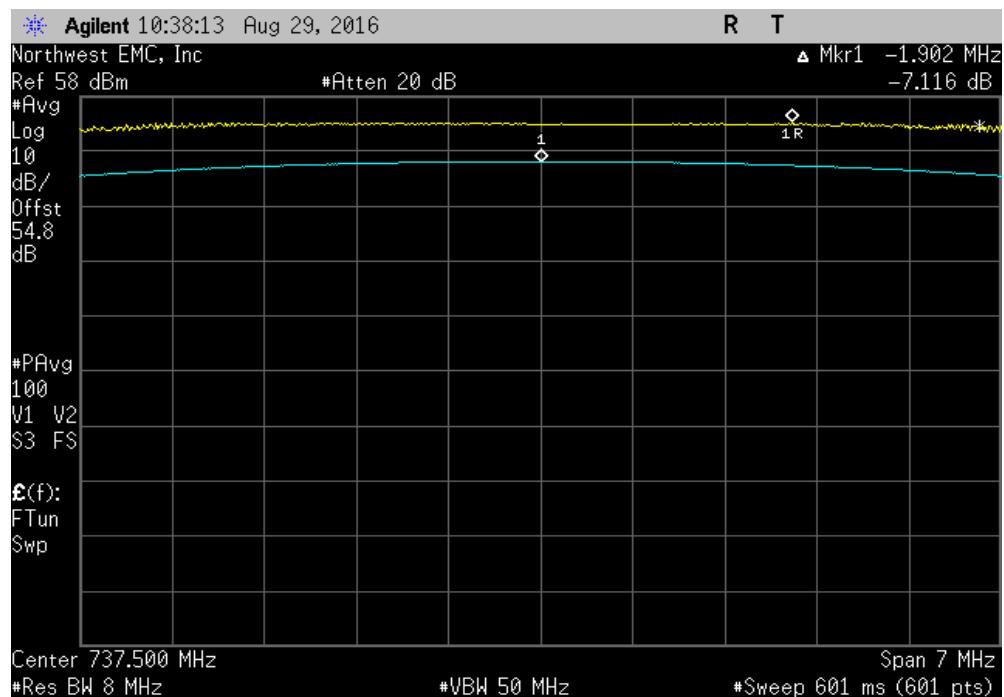
EUT:	CWS-3050-12		Work Order:	KMW0074	
Serial Number:	K163300001		Date:	08/29/16	
Customer:	Parallel Wireless Inc.		Temperature:	21.4 °C	
Attendees:	Andy Ku		Humidity:	46.4% RH	
Project:	None		Barometric Pres.:	1017 mbar	
Tested by:	Johnny Candelas	Power:	48 VDC	Job Site:	OC13
TEST SPECIFICATIONS			Test Method		
FCC 27:2016			ANSI/TIA/EIA-603-D-2010		
COMMENTS					
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 54.8dB total.					
DEVIATIONS FROM TEST STANDARD					
None					
Configuration #	1	Signature			
			Value (dB)	Limit < (dB)	Results
Antenna Port 1					
Low Channel LTE5, 731.5 MHz			7.534	13	Pass
Mid Channel LTE5, 737.5 MHz			7.116	13	Pass
High Channel LTE5, 743.5 MHz			7.341	13	Pass
Low Channel LTE10, 734 MHz			9.562	13	Pass
Mid Channel LTE10, 737.5 MHz			9.766	13	Pass
High Channel LTE10, 741 MHz			9.945	13	Pass
Antenna Port 2					
Low Channel LTE5, 731.5 MHz			7.490	13	Pass
Mid Channel LTE5, 737.5 MHz			7.092	13	Pass
High Channel LTE5, 743.5 MHz			7.348	13	Pass
Low Channel LTE10, 734 MHz			9.912	13	Pass
Mid Channel LTE10, 737.5 MHz			9.704	13	Pass
High Channel LTE10, 741 MHz			10.351	13	Pass

PEAK TO AVERAGE RATIO - BAND 12

Antenna Port 1, Low Channel LTE5, 731.5 MHz				Value (dB)	Limit < (dB)	Results
				7.534	13	Pass

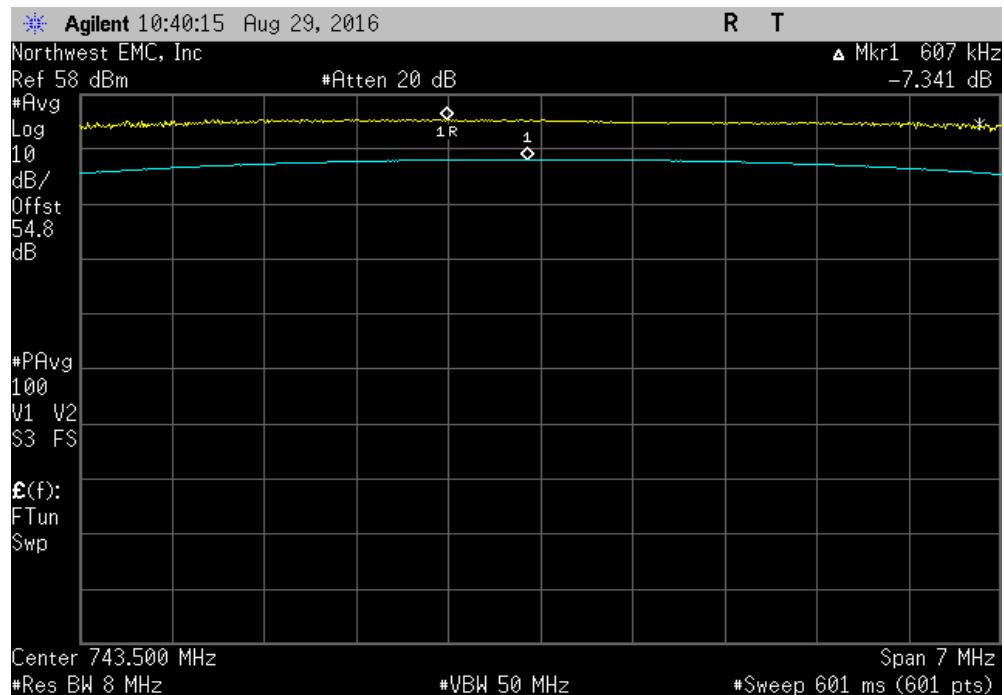


Antenna Port 1, Mid Channel LTE5, 737.5 MHz				Value (dB)	Limit < (dB)	Results
				7.116	13	Pass

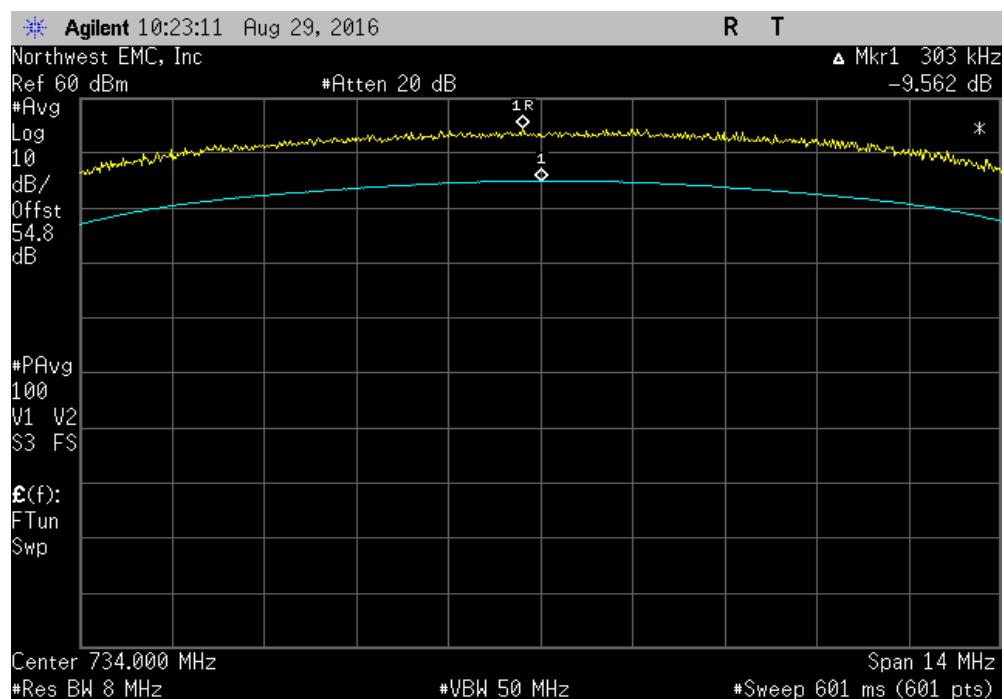


PEAK TO AVERAGE RATIO - BAND 12

Antenna Port 1, High Channel LTE5, 743.5 MHz				Value (dB)	Limit < (dB)	Results
				7.341	13	Pass

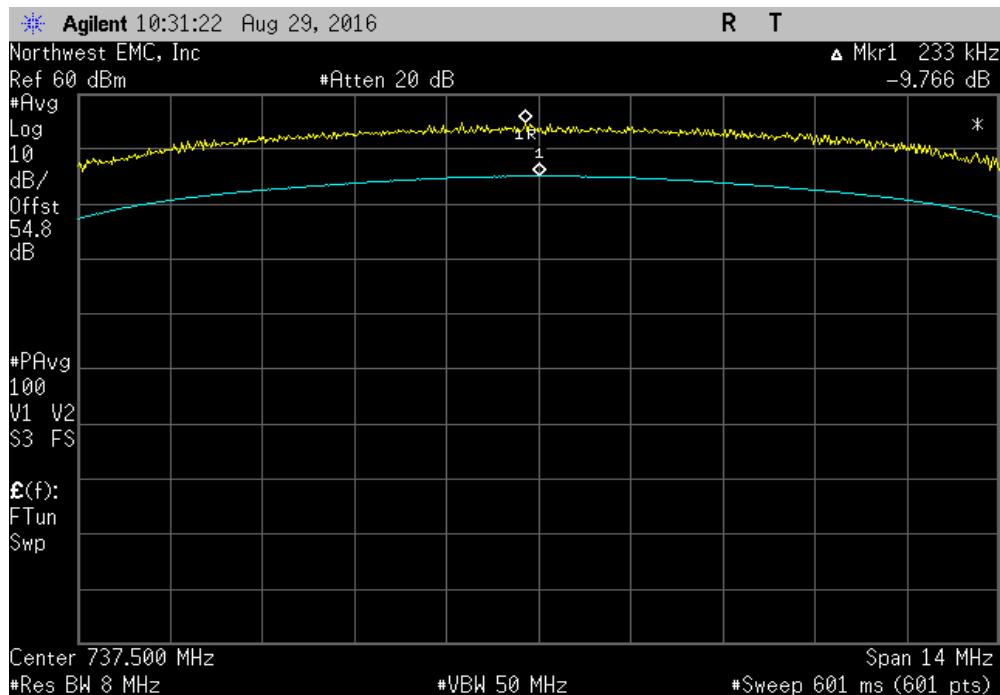


Antenna Port 1, Low Channel LTE10, 734 MHz				Value (dB)	Limit < (dB)	Results
				9.562	13	Pass

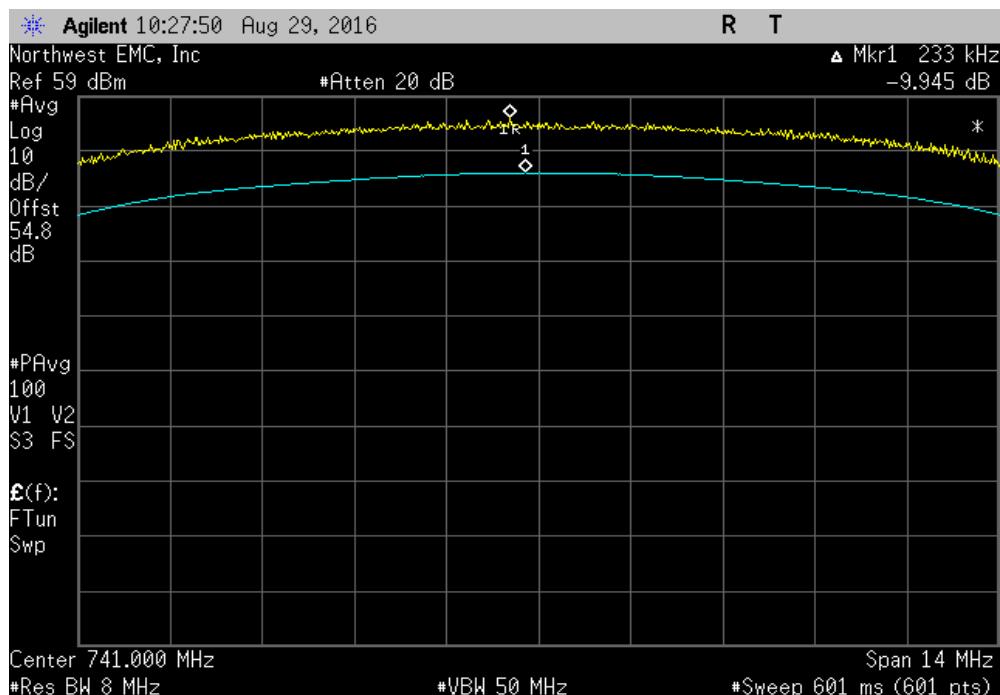


PEAK TO AVERAGE RATIO - BAND 12

Antenna Port 1, Mid Channel LTE10, 737.5 MHz		
	Value (dB)	Limit < (dB)
	9.766	13

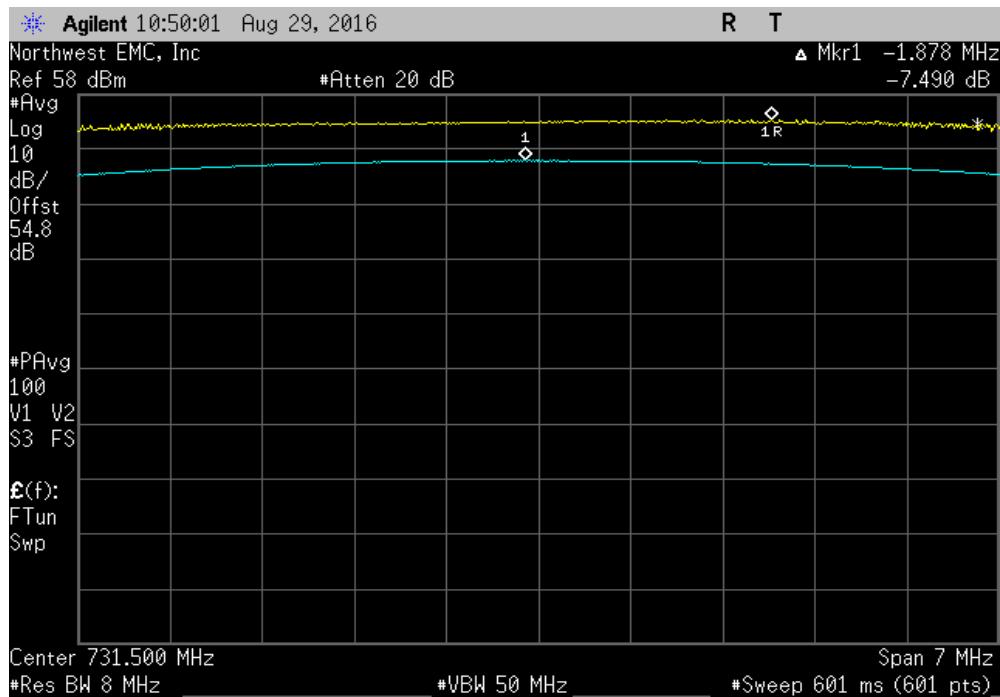


Antenna Port 1, High Channel LTE10, 741 MHz		
	Value (dB)	Limit < (dB)
	9.945	13

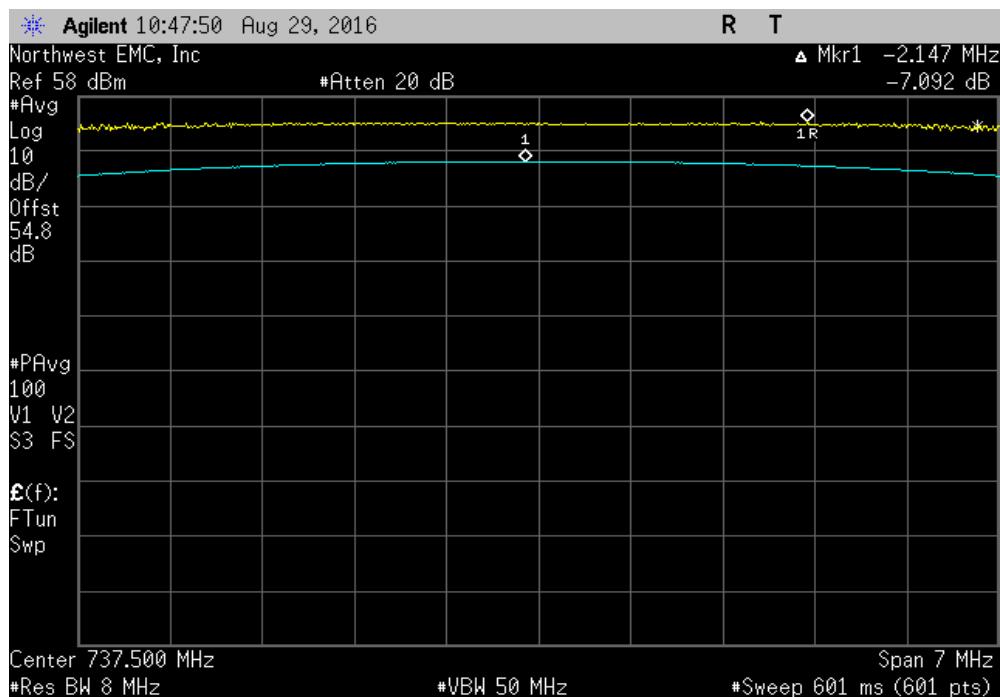


PEAK TO AVERAGE RATIO - BAND 12

Antenna Port 2, Low Channel LTE5, 731.5 MHz		
	Value (dB)	Limit < (dB)
	7.490	13

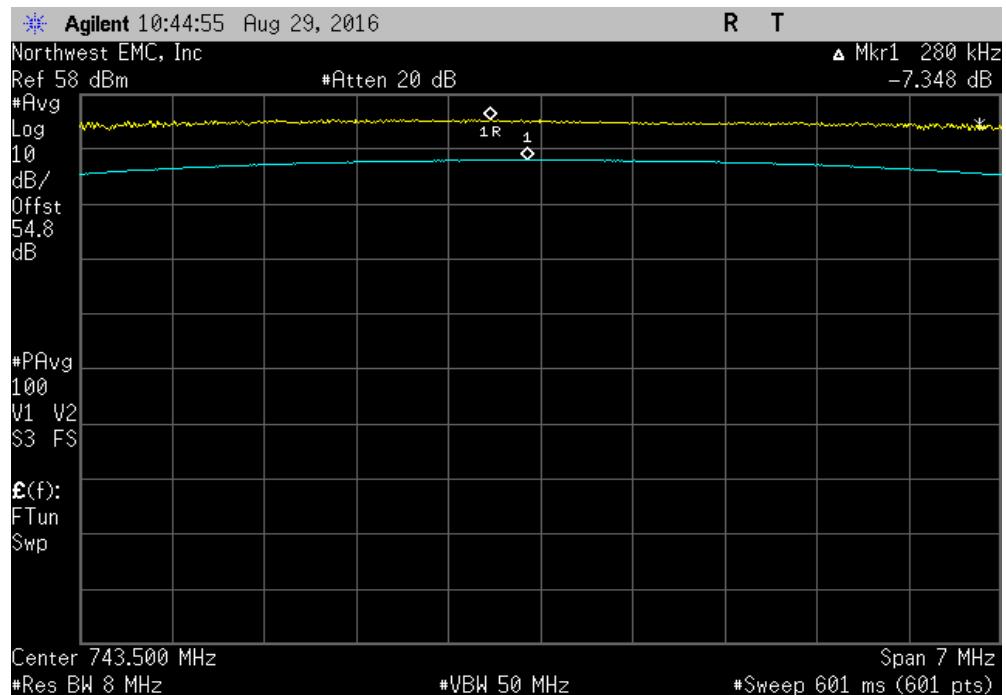


Antenna Port 2, Mid Channel LTE5, 737.5 MHz		
	Value (dB)	Limit < (dB)
	7.092	13

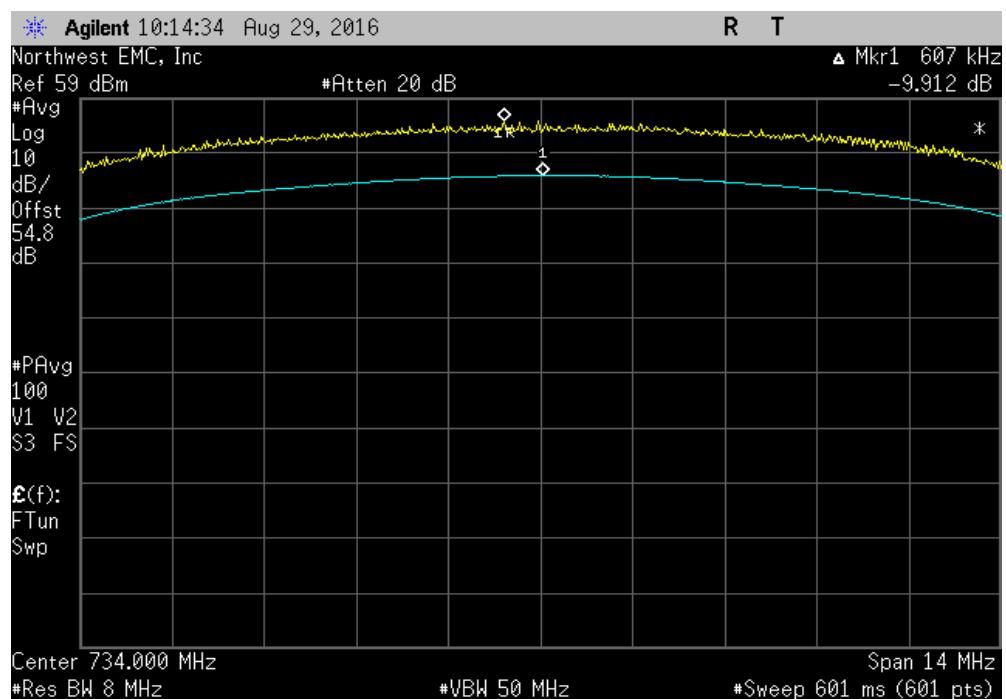


PEAK TO AVERAGE RATIO - BAND 12

Antenna Port 2, High Channel LTE5, 743.5 MHz				Value (dB)	Limit < (dB)	Results
				7.348	13	Pass

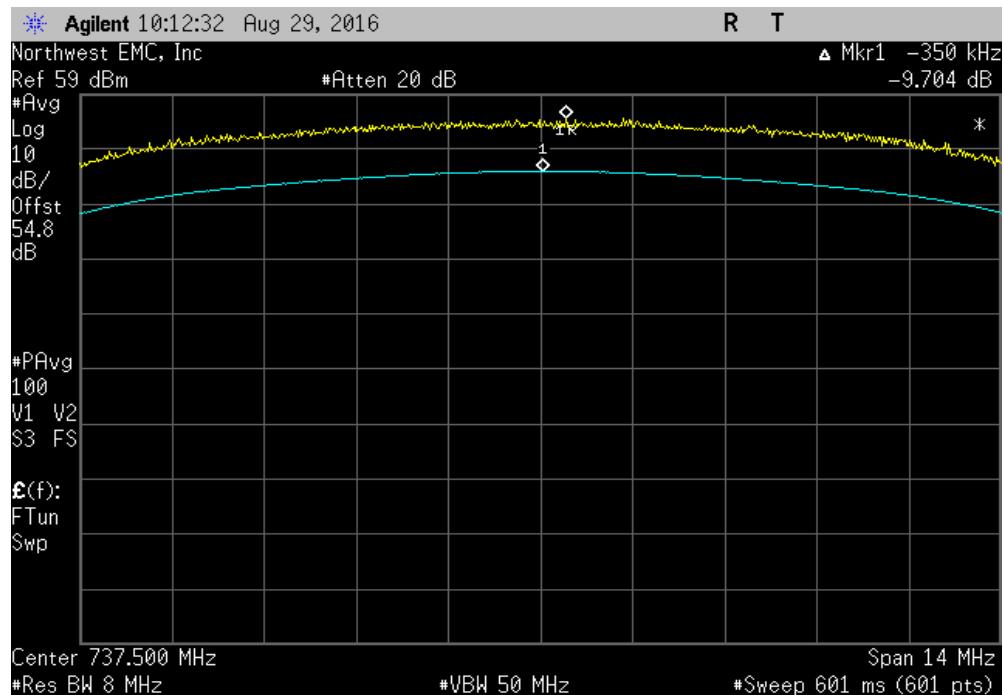


Antenna Port 2, Low Channel LTE10, 734 MHz				Value (dB)	Limit < (dB)	Results
				9.912	13	Pass

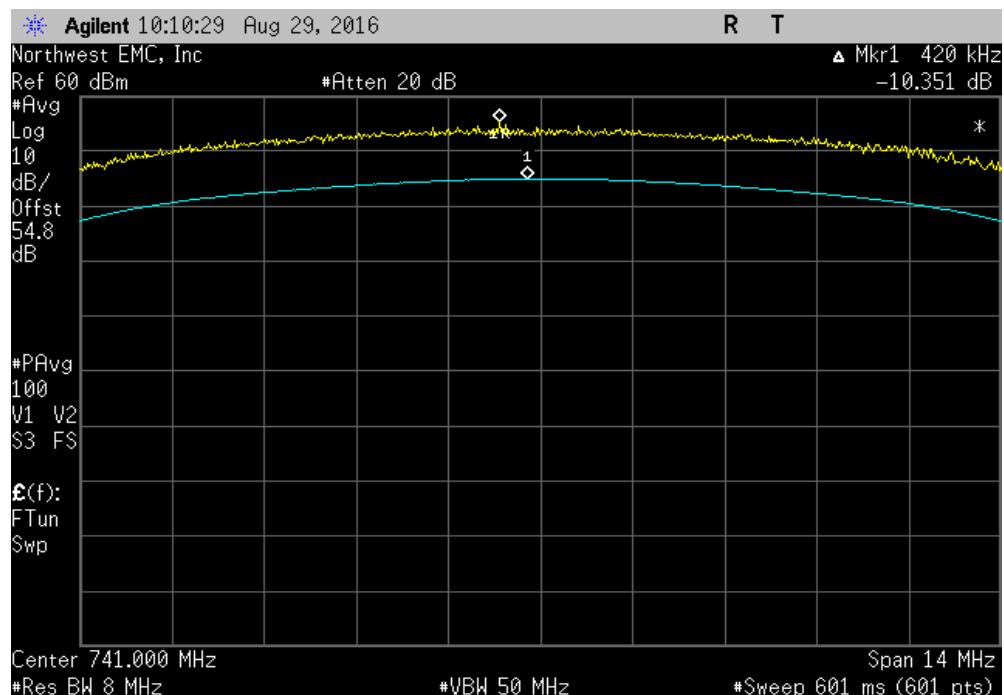


PEAK TO AVERAGE RATIO - BAND 12

Antenna Port 2, Mid Channel LTE10, 737.5 MHz				Value (dB)	Limit < (dB)	Results
				9.704	13	Pass



Antenna Port 2, High Channel LTE10, 741 MHz				Value (dB)	Limit < (dB)	Results
				10.351	13	Pass



PEAK TO AVERAGE RATIO - BAND 17

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	Keysight	N5182B	TFX	4/16/2015	4/16/2018
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	AFD	7/29/2016	7/29/2017

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.

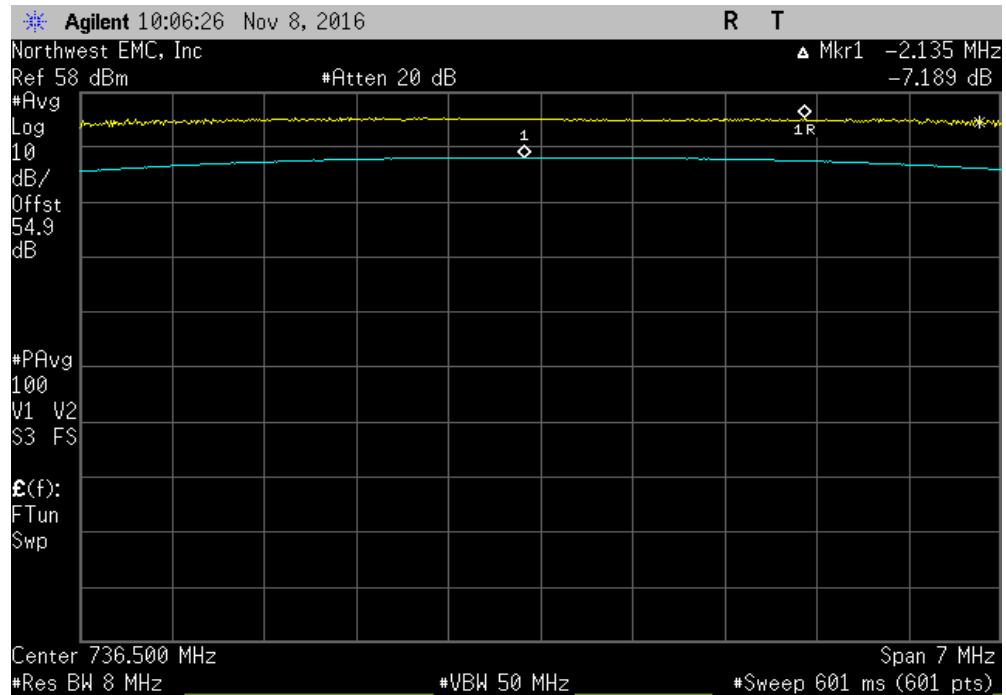
Only the Low Channel for each channel bandwidth was tested, the Mid & High Channels were previously tested in this band.

PEAK TO AVERAGE RATIO - BAND 17

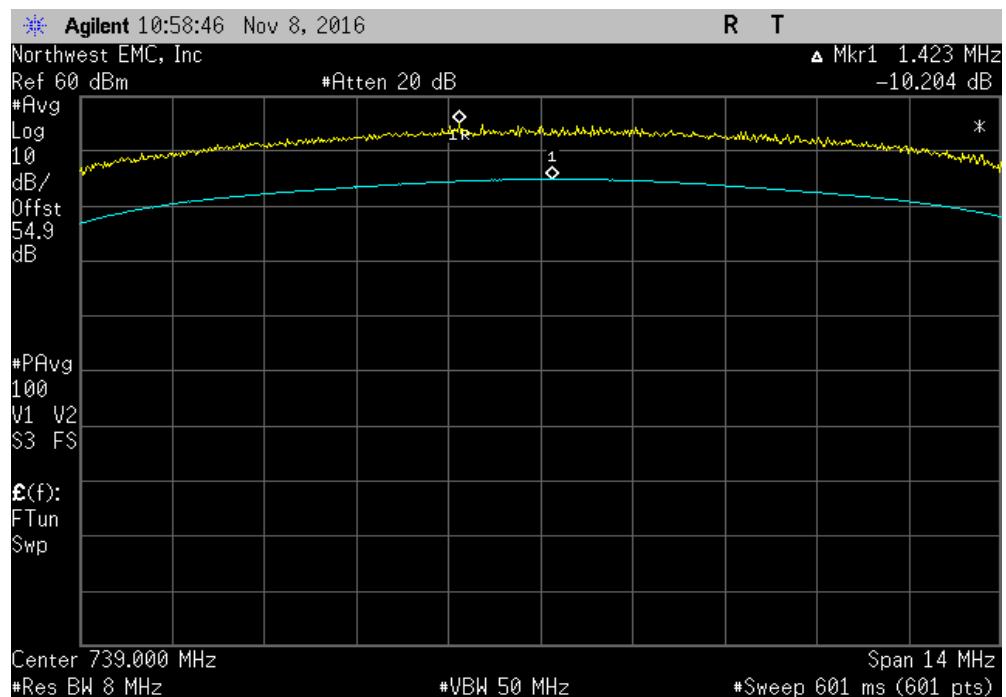
EUT:	CWS-3050-12		Work Order:	KMWG0077	
Serial Number:	K163300001		Date:	11/08/16	
Customer:	Parallel Wireless Inc.		Temperature:	20.8 °C	
Attendees:	Edward Lee		Humidity:	49% RH	
Project:	None		Barometric Pres.:	1018 mbar	
Tested by:	Johnny Candelas	Power:	48 VDC	Job Site:	OC13
TEST SPECIFICATIONS			Test Method		
FCC 27:2016			ANSI/TIA/EIA-603-D-2010		
COMMENTS					
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 54.9dB total.					
DEVIATIONS FROM TEST STANDARD					
None					
Configuration #	1	Signature		Value (dB)	Limit < (dB)
Antenna Port 1					
Low Channel LTE5, 736.5 MHz			7.189	13	Pass
Low Channel LTE10, 739 MHz			10.204	13	Pass
Antenna Port 2					
Low Channel LTE5, 736.5 MHz			7.208	13	Pass
Low Channel LTE10, 739 MHz			9.71	13	Pass

PEAK TO AVERAGE RATIO - BAND 17

Antenna Port 1, Low Channel LTE5, 736.5 MHz				Value (dB)	Limit < (dB)	Results
				7.189	13	Pass

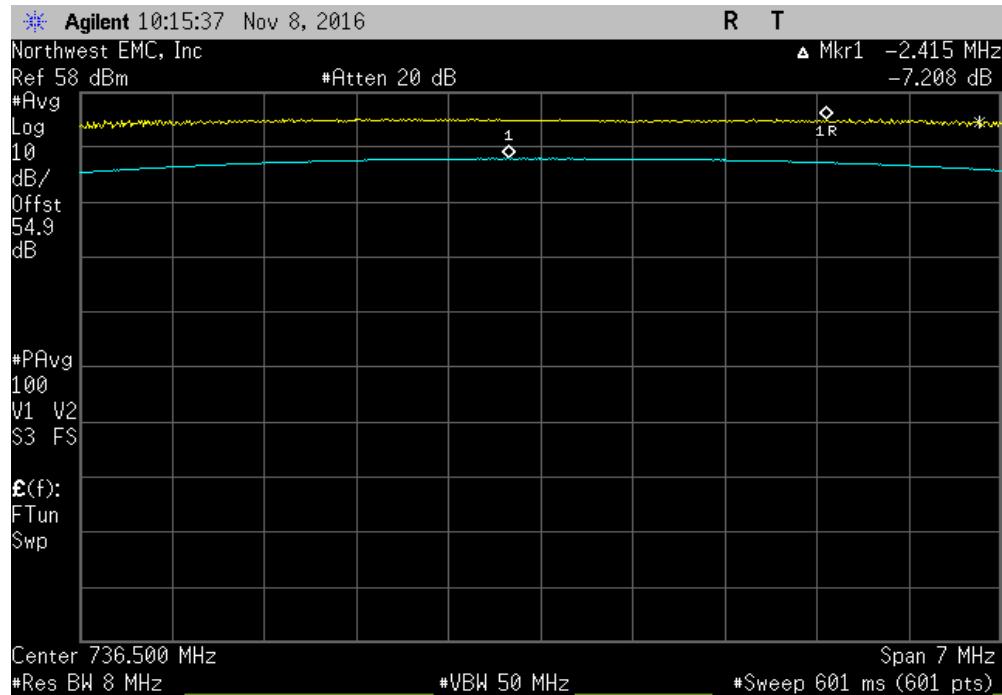


Antenna Port 1, Low Channel LTE10, 739 MHz				Value (dB)	Limit < (dB)	Results
				10.204	13	Pass

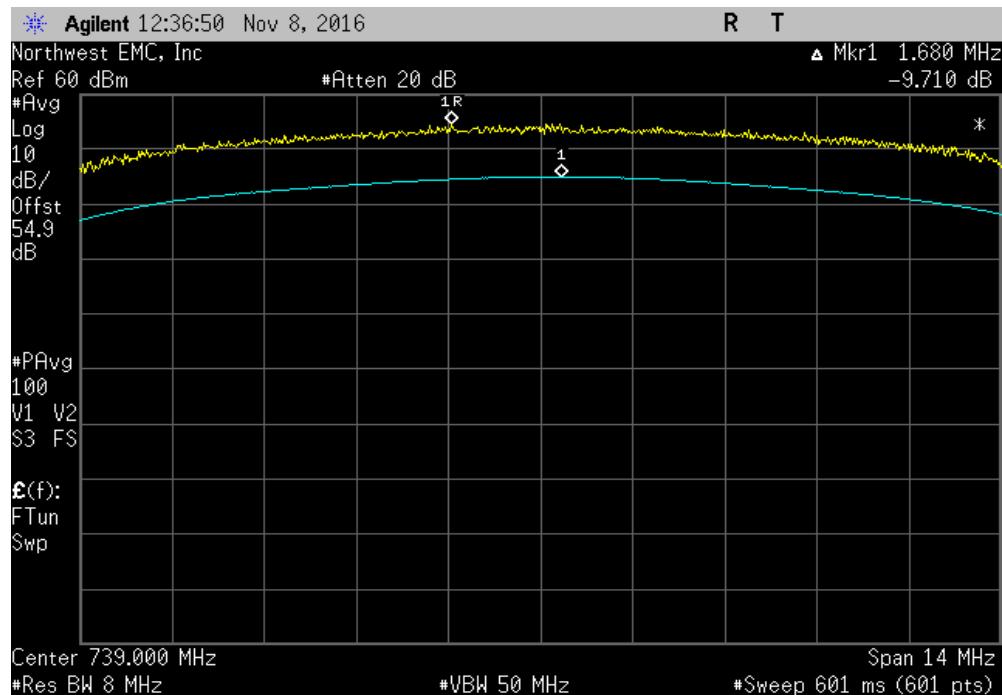


PEAK TO AVERAGE RATIO - BAND 17

Antenna Port 2, Low Channel LTE5, 736.5 MHz				Value (dB)	Limit < (dB)	Results
				7.208	13	Pass



Antenna Port 2, Low Channel LTE10, 739 MHz				Value (dB)	Limit < (dB)	Results
				9.71	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.

Measurements were made at the edges of the main transmit bands as called out on the data sheets. Testing was done with an absence of modulation in a CW mode of operation.

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

Per the requirements of FCC Part 27.54:

"The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation."

No specific limits are provided in either FCC 27.54, the product specific rule part, or FCC 2.1055, the equipment authorization procedure for testing frequency stability. While there are no limits called out, any results less than 1ppm will still allow the radio to be operating within the band.

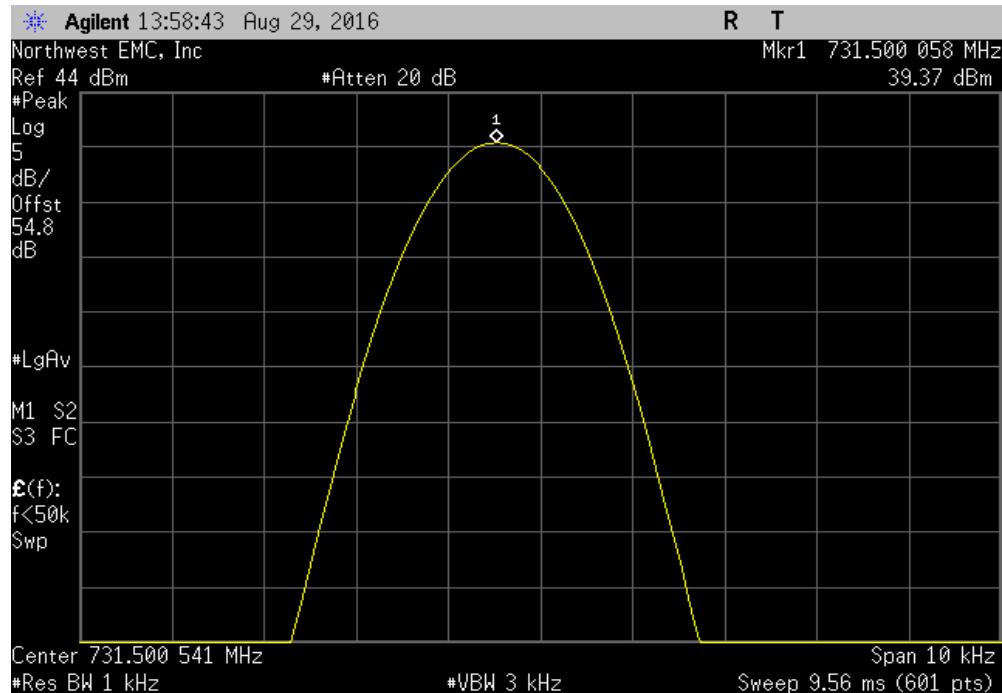
FREQUENCY STABILITY

EUT:	CWS-3050-12		Work Order:	KMW0074	
Serial Number:	K163300001		Date:	08/29/16	
Customer:	Parallel Wireless Inc.		Temperature:	21.4 °C	
Attendees:	Andy Ku		Humidity:	46.4% RH	
Project:	None		Barometric Pres.:	1017 mbars	
Tested by:	Johnny Candelas	Power:	48 VDC	Job Site:	OC13
TEST SPECIFICATIONS			Test Method		
FCC 27:2016			ANSI/TIA/EIA-603-D-2010		
COMMENTS					
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 54.8dB total.					
DEVIATIONS FROM TEST STANDARD					
None					
Configuration #	1	Signature			
			Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)
					Limit (ppm)
Antenna Port 1					
Normal Temperature and Voltage					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.500058 731.5 0.1 1 Pass					
737.500051 737.5 0.1 1 Pass					
743.500055 743.5 0.1 1 Pass					
Extreme Voltage, 55.2 VDC					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.500058 731.5 0.1 1 Pass					
737.500051 737.5 0.1 1 Pass					
743.500054 743.5 0.1 1 Pass					
Extreme Voltage, 40.8 VAC					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.500058 731.5 0.1 1 Pass					
737.50005 737.5 0.1 1 Pass					
743.500055 743.5 0.1 1 Pass					
Extreme Temperature, -30°C					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.500057 731.5 0.1 1 Pass					
737.500051 737.5 0.1 1 Pass					
743.500055 743.5 0.1 1 Pass					
Extreme Temperature, -20°C					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.500058 731.5 0.1 1 Pass					
737.500051 737.5 0.1 1 Pass					
743.500055 743.5 0.1 1 Pass					
Extreme Temperature, -10°C					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.500058 731.5 0.1 1 Pass					
737.500051 737.5 0.1 1 Pass					
743.500055 743.5 0.1 1 Pass					
Extreme Temperature, 0°C					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.500041 731.5 0.1 1 Pass					
737.500051 737.5 0.1 1 Pass					
743.500055 743.5 0.1 1 Pass					
Extreme Temperature, +10°C					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.500058 731.5 0.1 1 Pass					
737.500485 737.5 0.7 1 Pass					
743.500004 743.5 0 1 Pass					
Extreme Temperature, +20°C					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.500058 731.5 0.1 1 Pass					
737.500051 737.5 0.1 1 Pass					
743.500054 743.5 0.1 1 Pass					
Extreme Temperature, +30°C					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.500057 731.5 0.1 1 Pass					
737.500067 737.5 0.1 1 Pass					
743.500054 743.5 0.1 1 Pass					
Extreme Temperature, +40°C					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.50006 731.5 0.1 1 Pass					
737.500051 737.5 0.1 1 Pass					
743.500055 743.5 0.1 1 Pass					
Extreme Temperature, +50°C					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.500043 731.5 0.1 1 Pass					
737.500067 737.5 0.1 1 Pass					
743.500054 743.5 0.1 1 Pass					
Antenna Port 2					
Normal Temperature and Voltage					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.500058 731.5 0.1 1 Pass					
737.500051 737.5 0.1 1 Pass					
743.500055 743.5 0.1 1 Pass					
Extreme Voltage, 55.2 VDC					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.500058 731.5 0.1 1 Pass					
737.50005 737.5 0.1 1 Pass					
743.500055 743.5 0.1 1 Pass					
Extreme Voltage, 40.8 VAC					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.500057 731.5 0.1 1 Pass					
737.50005 737.5 0.1 1 Pass					
743.500055 743.5 0.1 1 Pass					
Extreme Temperature, -30°C					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.500058 731.5 0.1 1 Pass					
737.500051 737.5 0.1 1 Pass					
743.500055 743.5 0.1 1 Pass					
Extreme Temperature, -20°C					
Low Channel, 731.5 MHz					
Mid Channel, 737.5 MHz					
High Channel, 743.5 MHz					
731.500041 731.5 0.1 1 Pass					
737.500051 737.5 0.1 1 Pass					
743.500055 743.5 0.1 1 Pass					

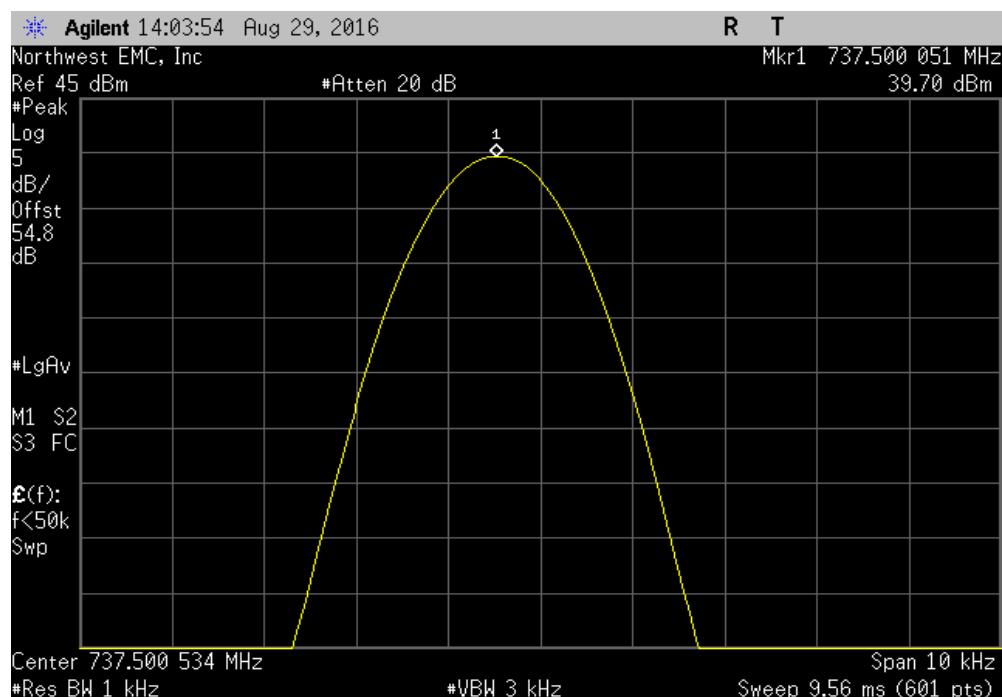
Extreme Temperature, -10°C						
Low Channel, 731.5 MHz	731.500058	731.5	0.1	1	Pass	
Mid Channel, 737.5 MHz	737.500051	737.5	0.1	1	Pass	
High Channel, 743.5 MHz	743.500055	743.5	0.1	1	Pass	
Extreme Temperature, 0°C						
Low Channel, 731.5 MHz	731.500057	731.5	0.1	1	Pass	
Mid Channel, 737.5 MHz	737.500051	737.5	0.1	1	Pass	
High Channel, 743.5 MHz	743.500055	743.5	0.1	1	Pass	
Extreme Temperature, +10°C						
Low Channel, 731.5 MHz	731.500058	731.5	0.1	1	Pass	
Mid Channel, 737.5 MHz	737.500067	737.5	0.1	1	Pass	
High Channel, 743.5 MHz	743.500055	743.5	0.1	1	Pass	
Extreme Temperature, +20°C						
Low Channel, 731.5 MHz	731.500058	731.5	0.1	1	Pass	
Mid Channel, 737.5 MHz	737.500051	737.5	0.1	1	Pass	
High Channel, 743.5 MHz	743.500055	743.5	0.1	1	Pass	
Extreme Temperature, +30°C						
Low Channel, 731.5 MHz	731.500058	731.5	0.1	1	Pass	
Mid Channel, 737.5 MHz	737.500051	737.5	0.1	1	Pass	
High Channel, 743.5 MHz	743.500054	743.5	0.1	1	Pass	
Extreme Temperature, +40°C						
Low Channel, 731.5 MHz	731.50006	731.5	0.1	1	Pass	
Mid Channel, 737.5 MHz	737.500067	737.5	0.1	1	Pass	
High Channel, 743.5 MHz	743.500055	743.5	0.1	1	Pass	
Extreme Temperature, +50°C						
Low Channel, 731.5 MHz	731.500058	731.5	0.1	1	Pass	
Mid Channel, 737.5 MHz	737.50005	737.5	0.1	1	Pass	
High Channel, 743.5 MHz	743.500055	743.5	0.1	1	Pass	

FREQUENCY STABILITY

Antenna Port 1, Normal Temperature and Voltage, Low Channel, 731.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	731.500058	731.5	0.1	1	Pass

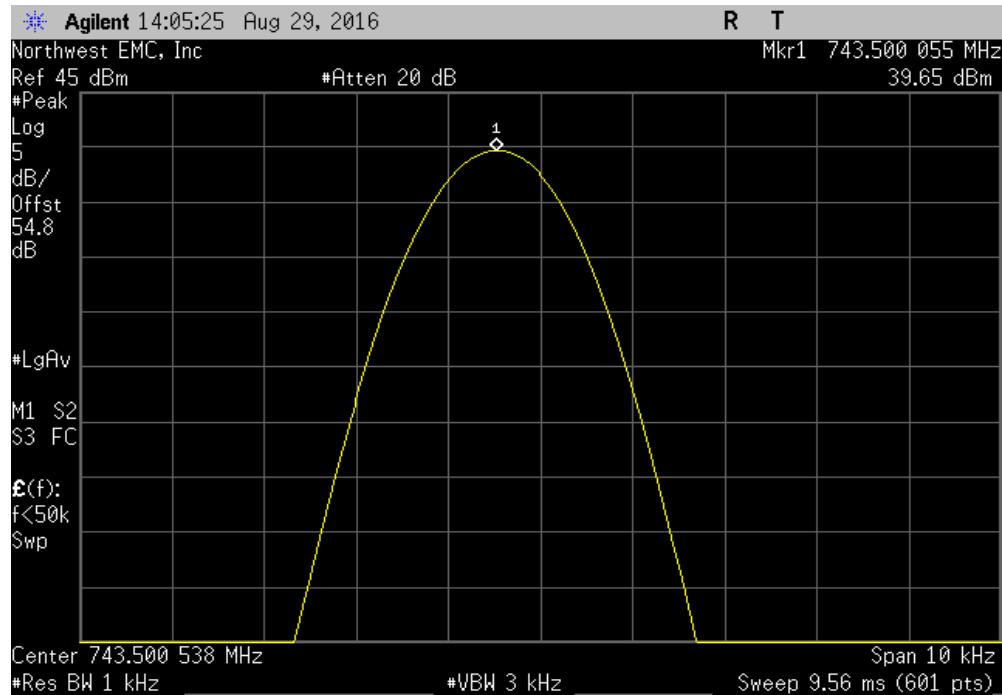


Antenna Port 1, Normal Temperature and Voltage, Mid Channel, 737.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	737.500051	737.5	0.1	1	Pass

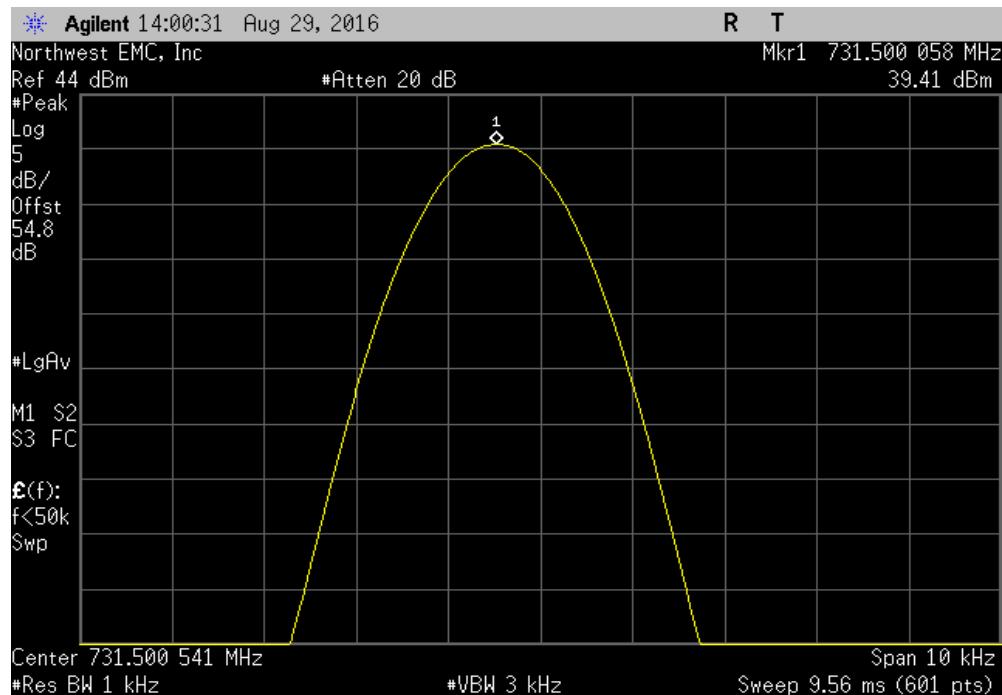


FREQUENCY STABILITY

Antenna Port 1, Normal Temperature and Voltage, High Channel, 743.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	743.500055	743.5	0.1	1	Pass



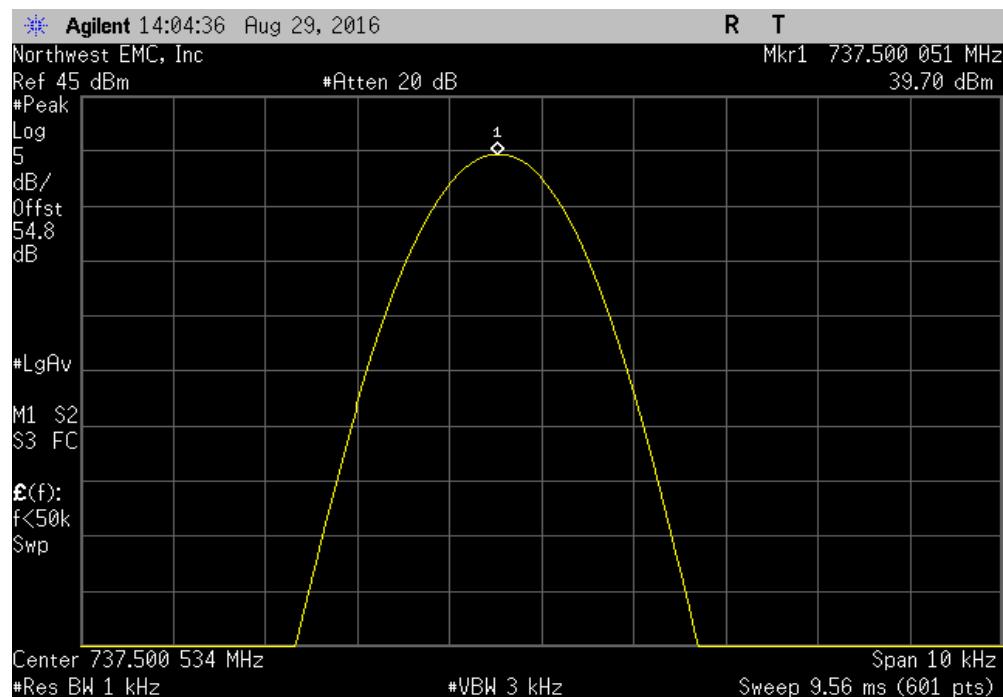
Antenna Port 1, Extreme Voltage, 55.2 VDC, Low Channel, 731.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	731.500058	731.5	0.1	1	Pass



FREQUENCY STABILITY

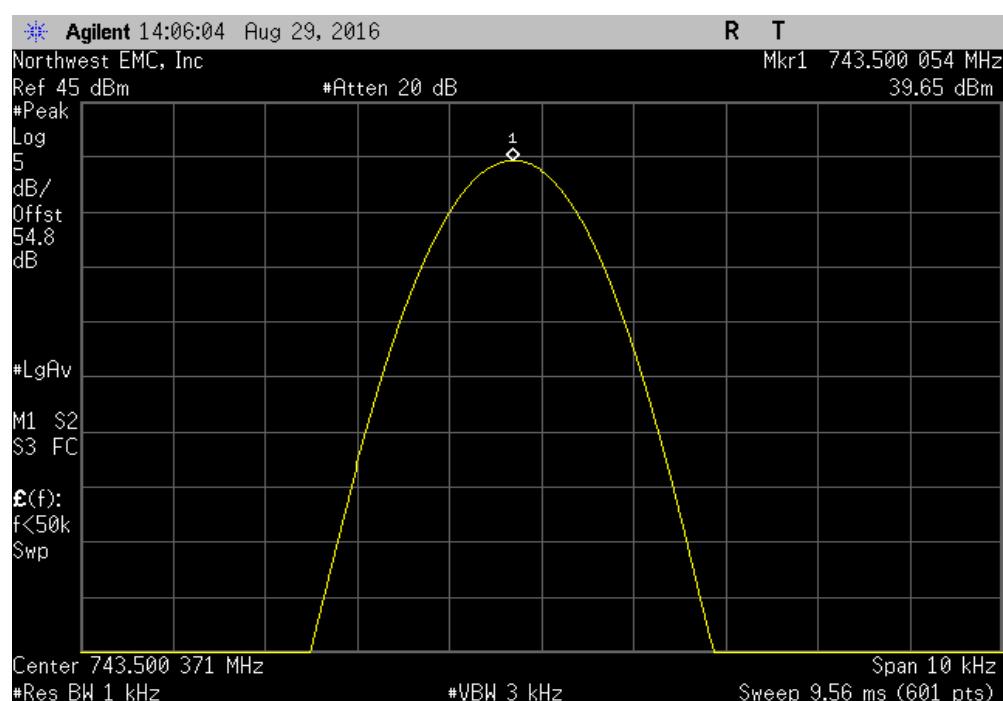
Antenna Port 1, Extreme Voltage, 55.2 VDC, Mid Channel, 737.5 MHz

Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
737.500051	737.5	0.1	1	Pass



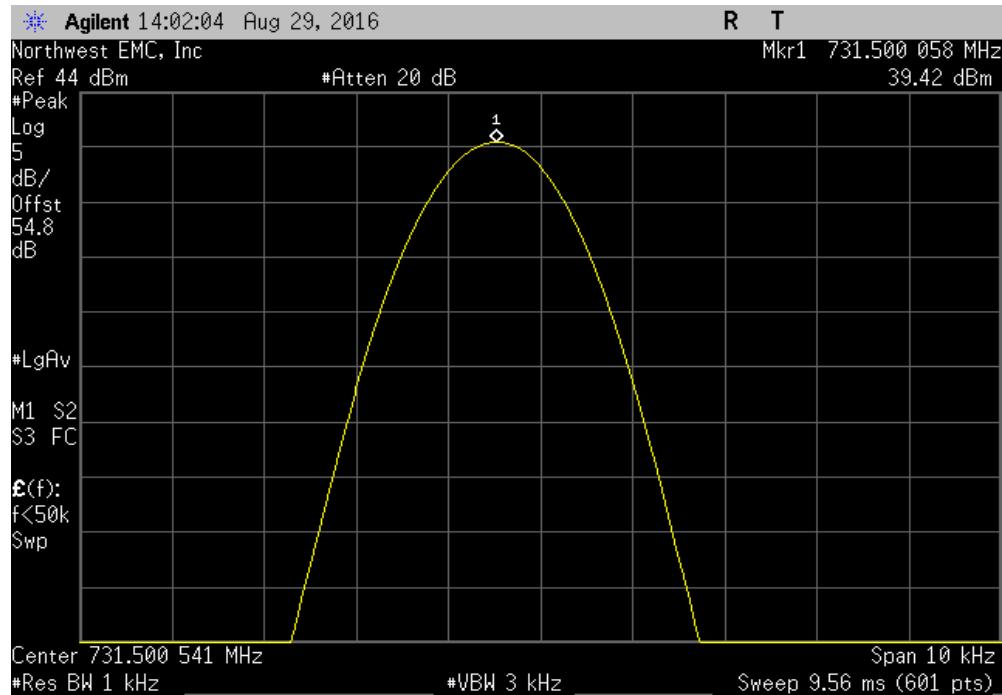
Antenna Port 1, Extreme Voltage, 55.2 VDC, High Channel, 743.5 MHz

Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
743.500054	743.5	0.1	1	Pass

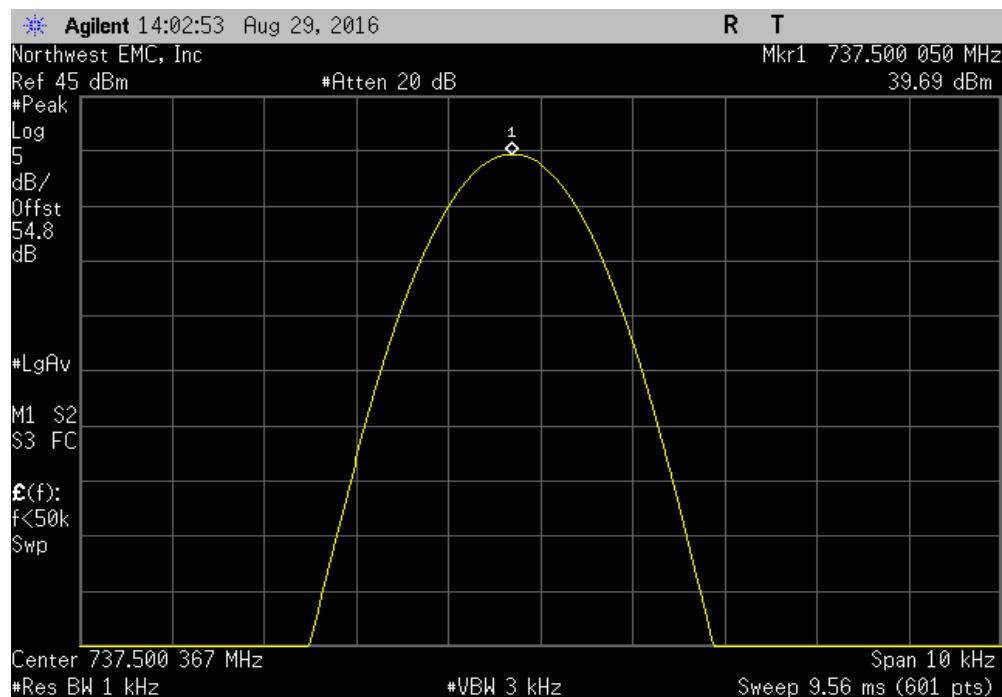


FREQUENCY STABILITY

Antenna Port 1, Extreme Voltage, 40.8 VAC, Low Channel, 731.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
731.500058	731.5	0.1	1	Pass	

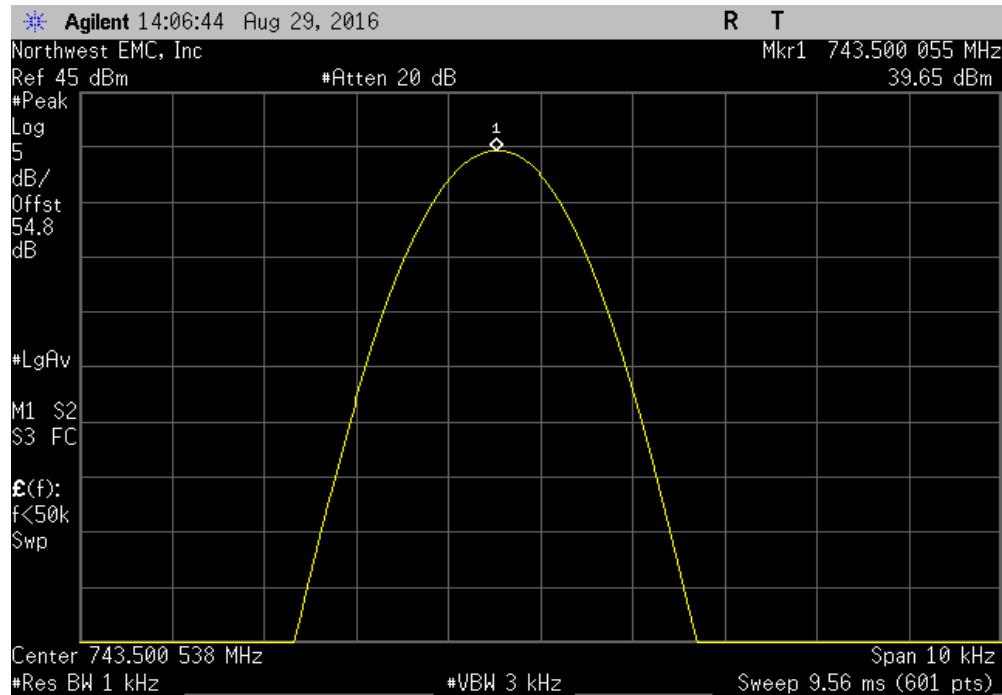


Antenna Port 1, Extreme Voltage, 40.8 VAC, Mid Channel, 737.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
737.50005	737.5	0.1	1	Pass	

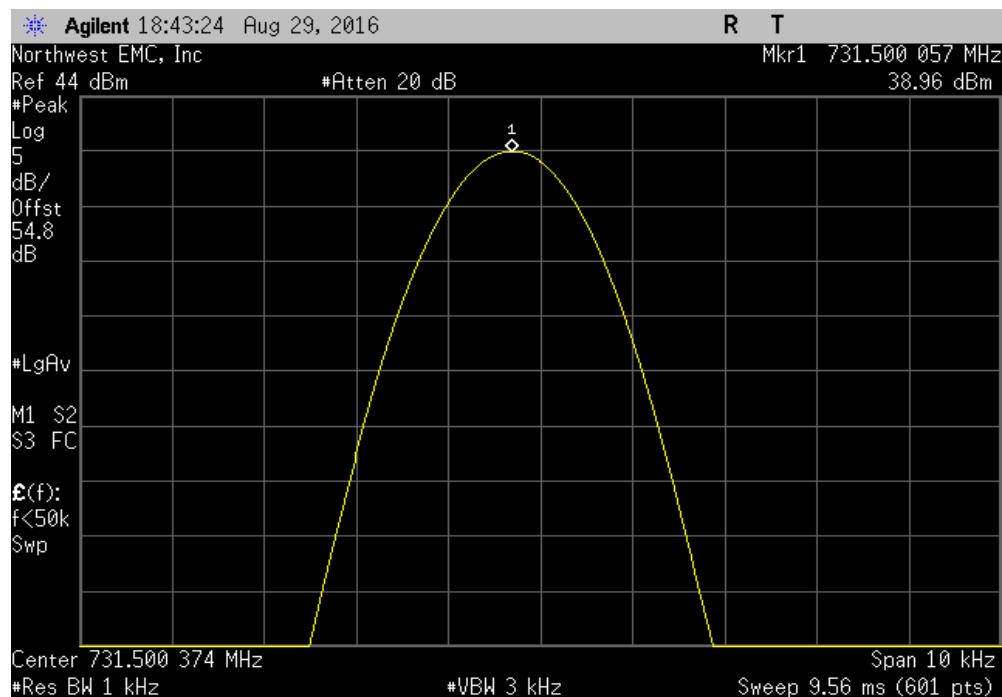


FREQUENCY STABILITY

Antenna Port 1, Extreme Voltage, 40.8 VAC, High Channel, 743.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
743.500055	743.5	0.1	1	Pass	

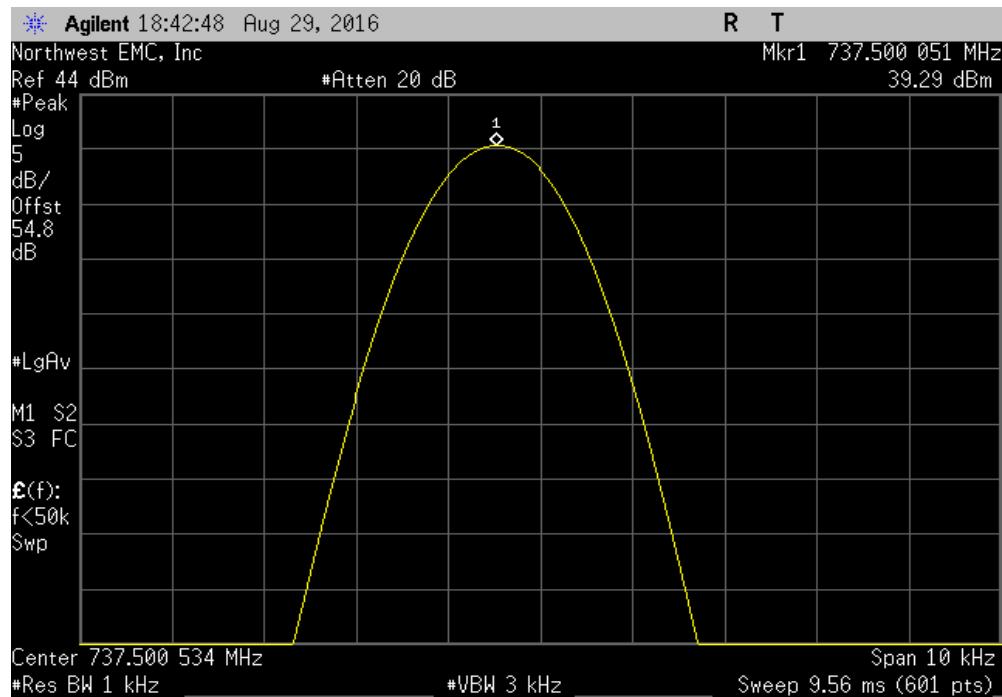


Antenna Port 1, Extreme Temperature, -30°C, Low Channel, 731.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
731.500057	731.5	0.1	1	Pass	

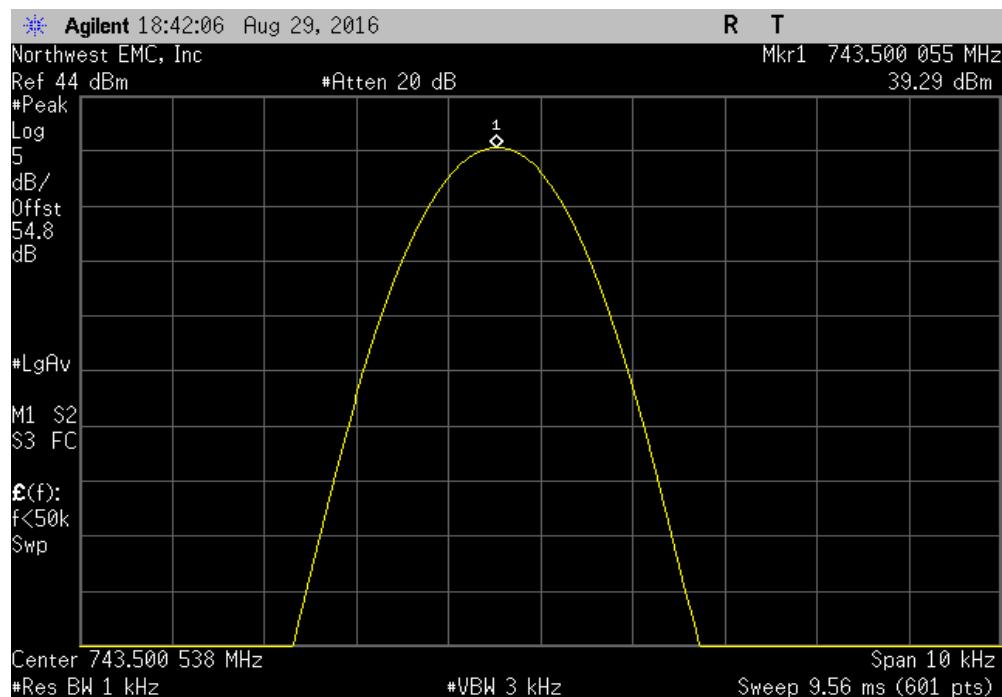


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, -30°C, Mid Channel, 737.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
737.500051	737.5	0.1	1	Pass	

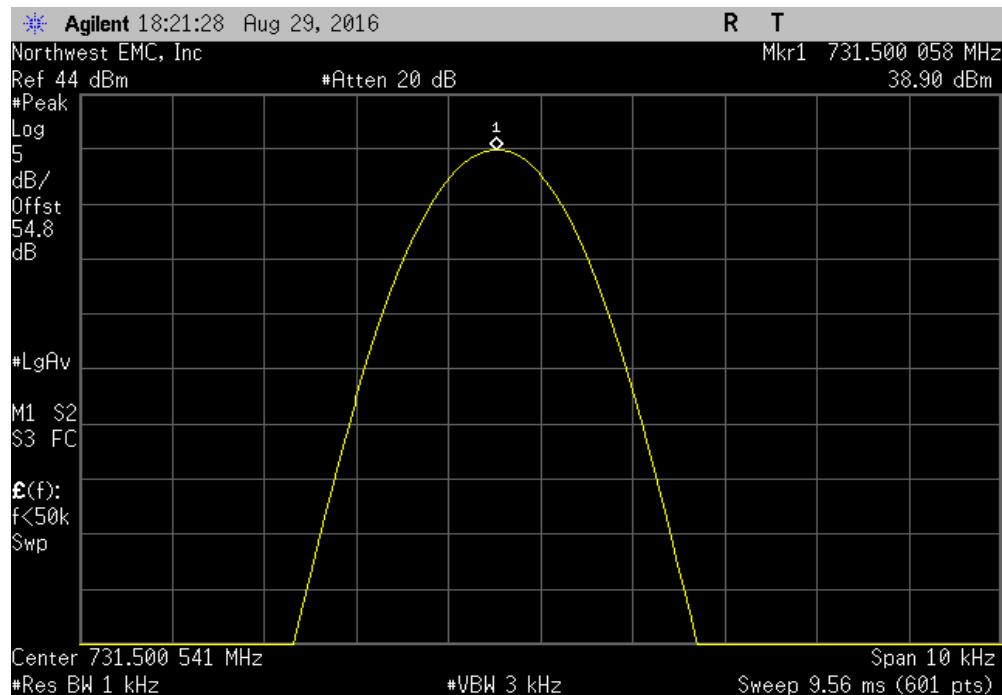


Antenna Port 1, Extreme Temperature, -30°C, High Channel, 743.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
743.500055	743.5	0.1	1	Pass	

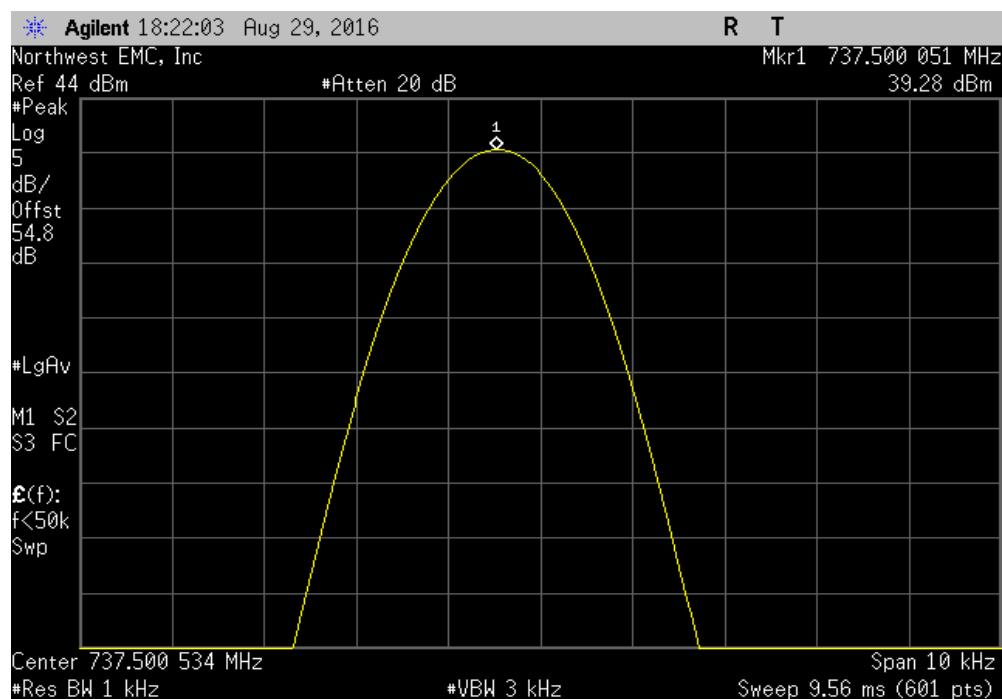


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, -20°C, Low Channel, 731.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
731.500058	731.5	0.1	1	Pass	

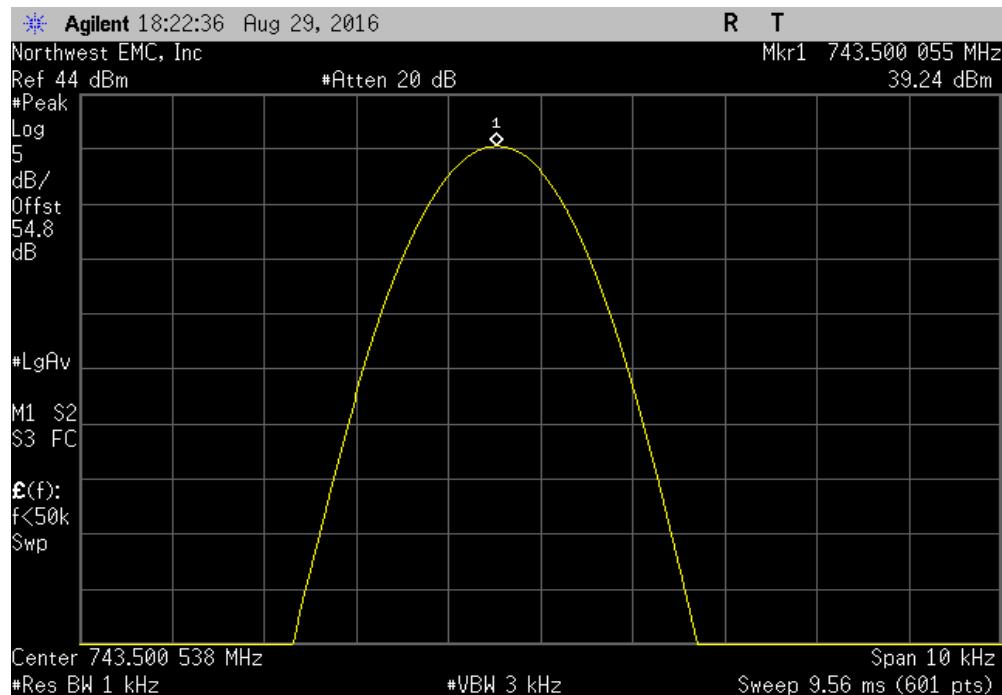


Antenna Port 1, Extreme Temperature, -20°C, Mid Channel, 737.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
737.500051	737.5	0.1	1	Pass	

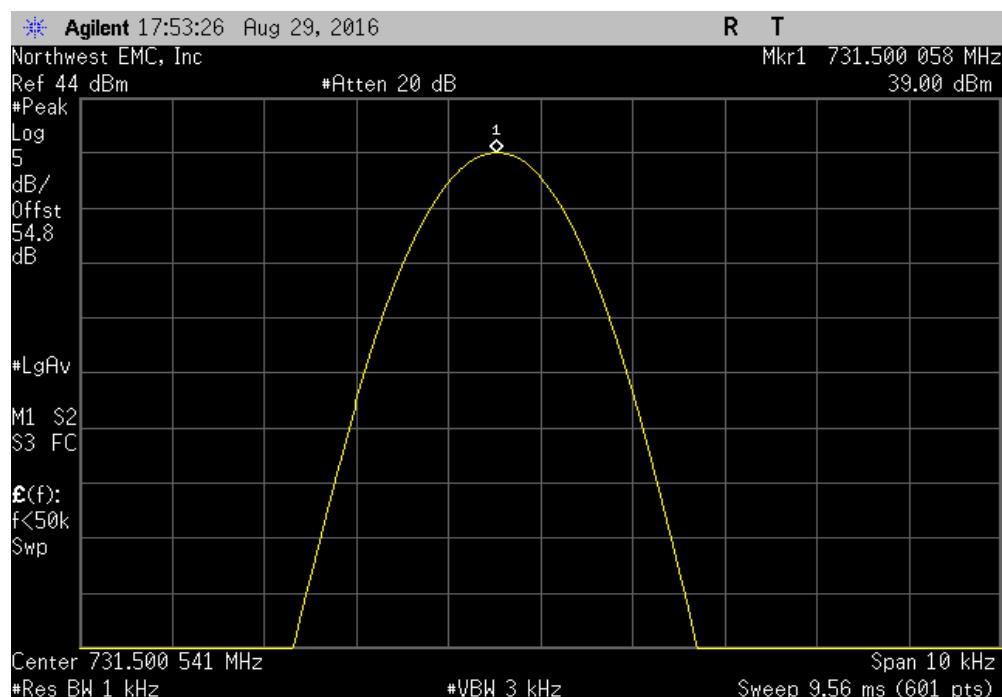


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, -20°C, High Channel, 743.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
743.500055	743.5	0.1	1	Pass	



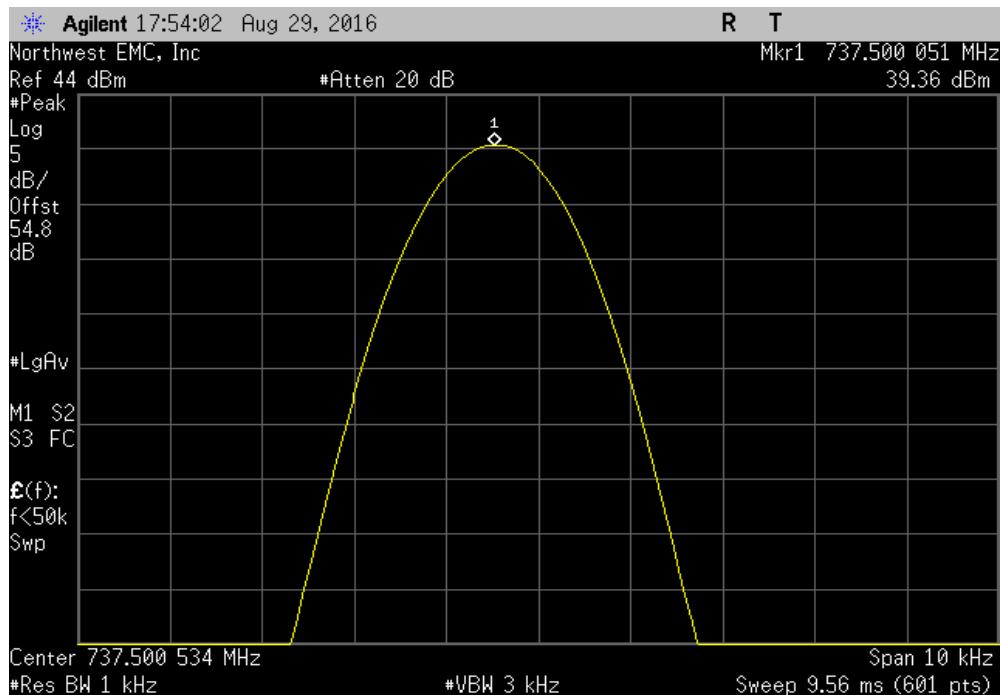
Antenna Port 1, Extreme Temperature, -10°C, Low Channel, 731.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
731.500058	731.5	0.1	1	Pass	



FREQUENCY STABILITY

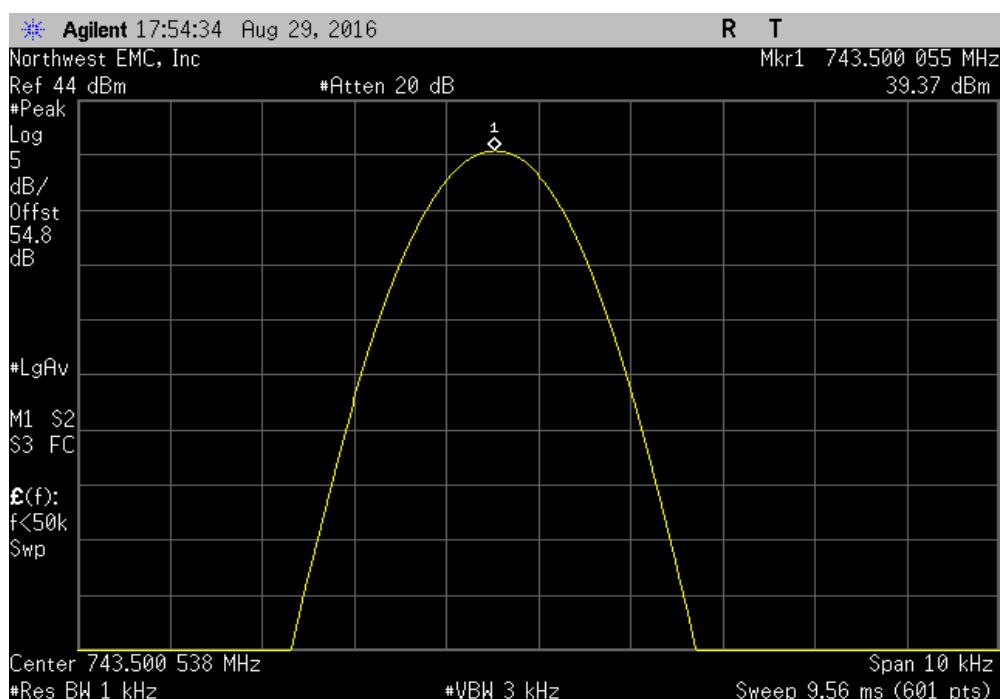
Antenna Port 1, Extreme Temperature, -10°C, Mid Channel, 737.5 MHz

Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
737.500051	737.5	0.1	1	Pass



Antenna Port 1, Extreme Temperature, -10°C, High Channel, 743.5 MHz

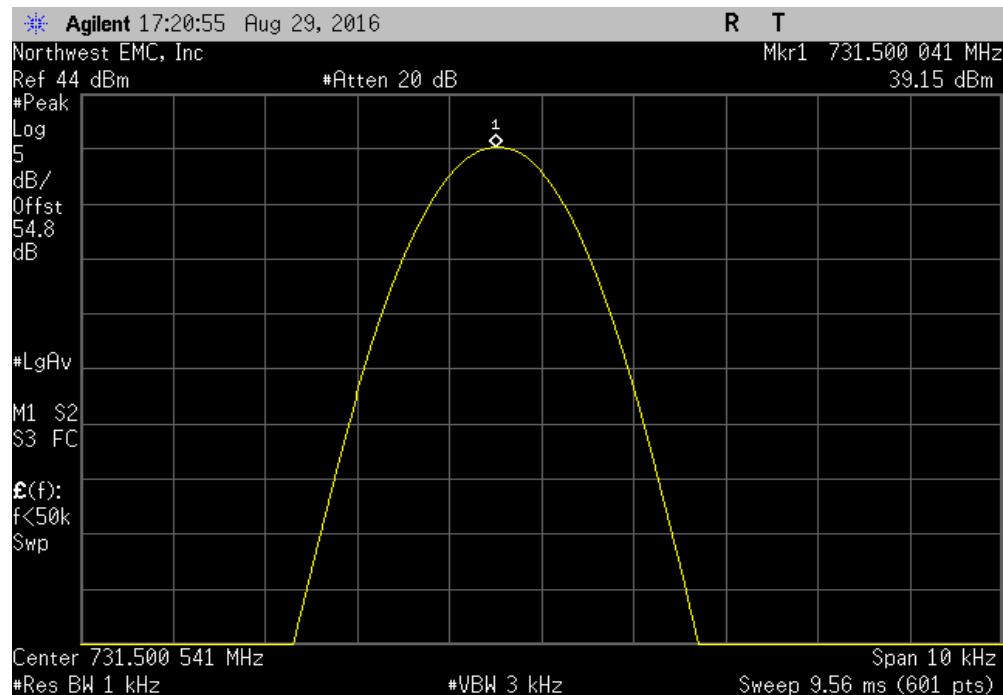
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
743.500055	743.5	0.1	1	Pass



FREQUENCY STABILITY

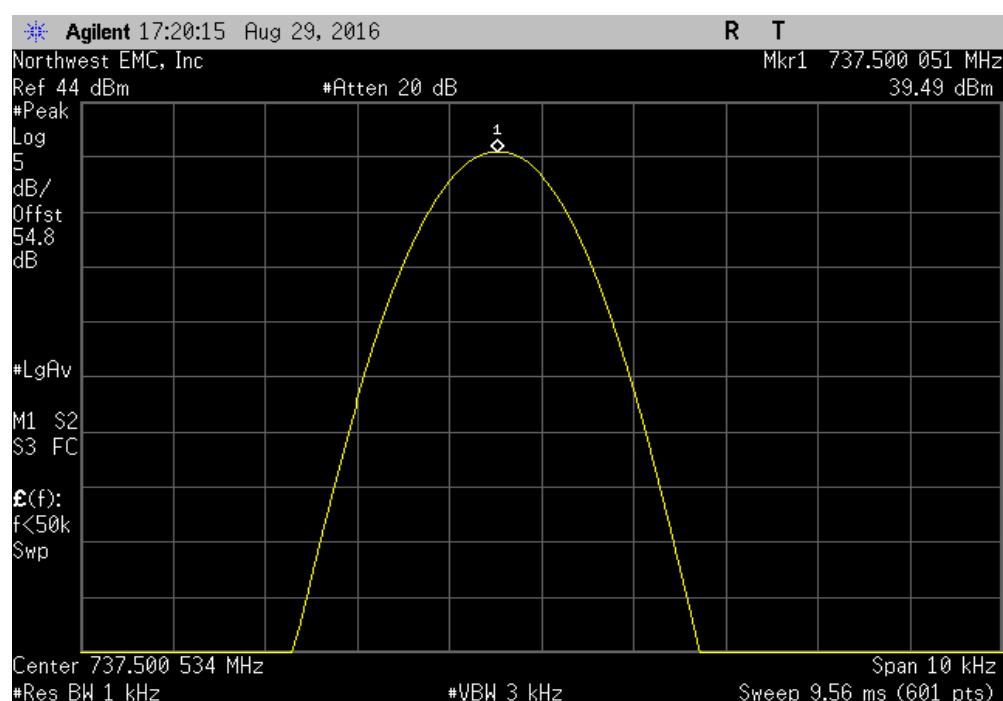
Antenna Port 1, Extreme Temperature, 0°C, Low Channel, 731.5 MHz

Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
731.500041	731.5	0.1	1	Pass



Antenna Port 1, Extreme Temperature, 0°C, Mid Channel, 737.5 MHz

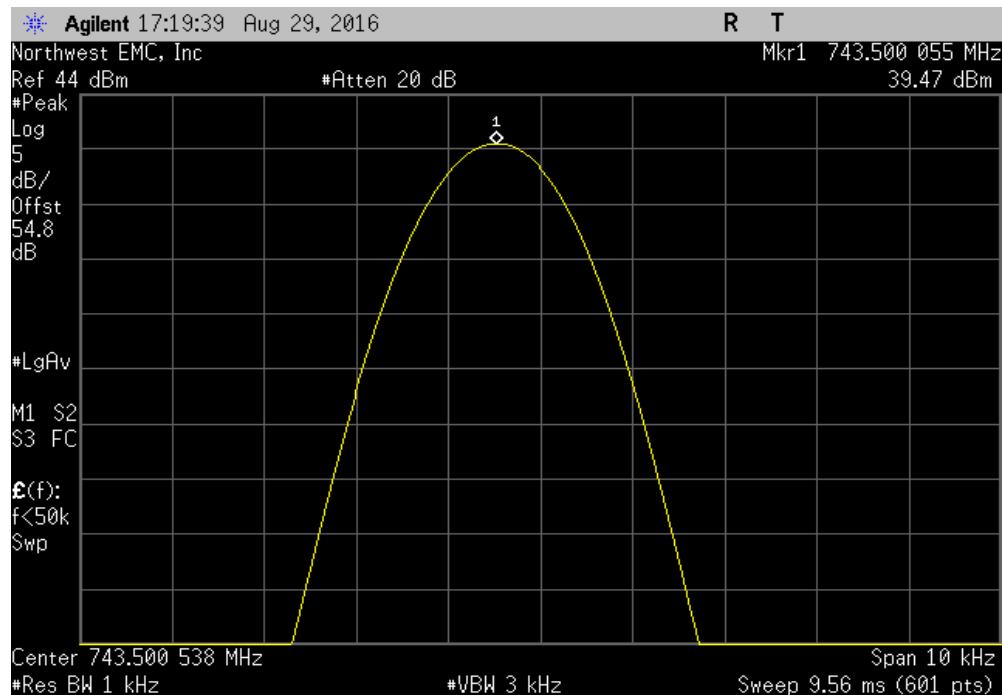
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
737.500051	737.5	0.1	1	Pass



FREQUENCY STABILITY

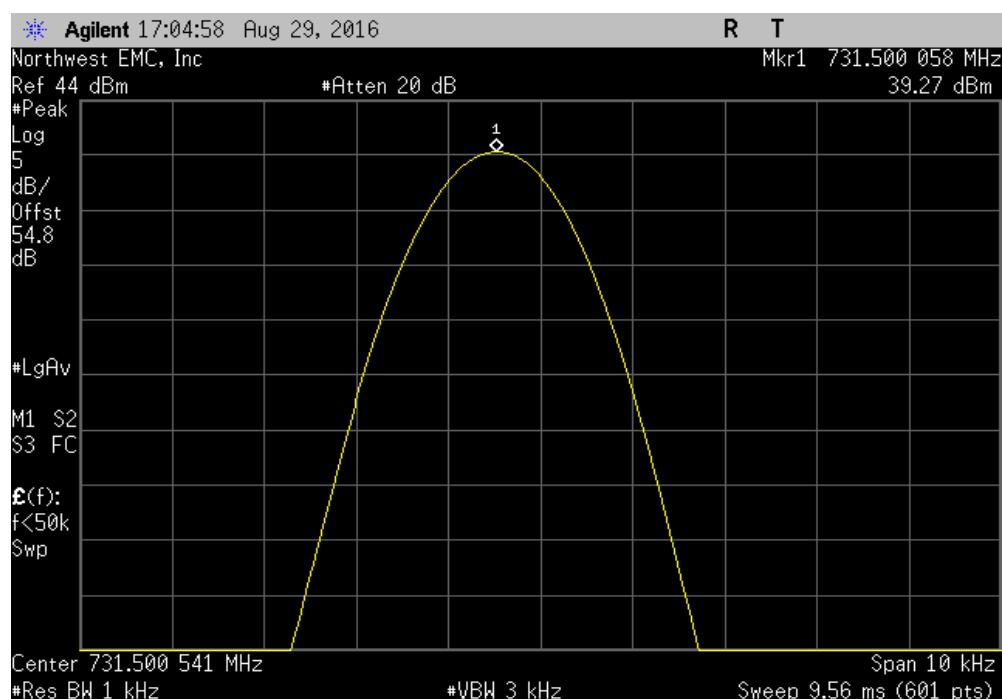
Antenna Port 1, Extreme Temperature, 0°C, High Channel, 743.5 MHz

Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
743.500055	743.5	0.1	1	Pass



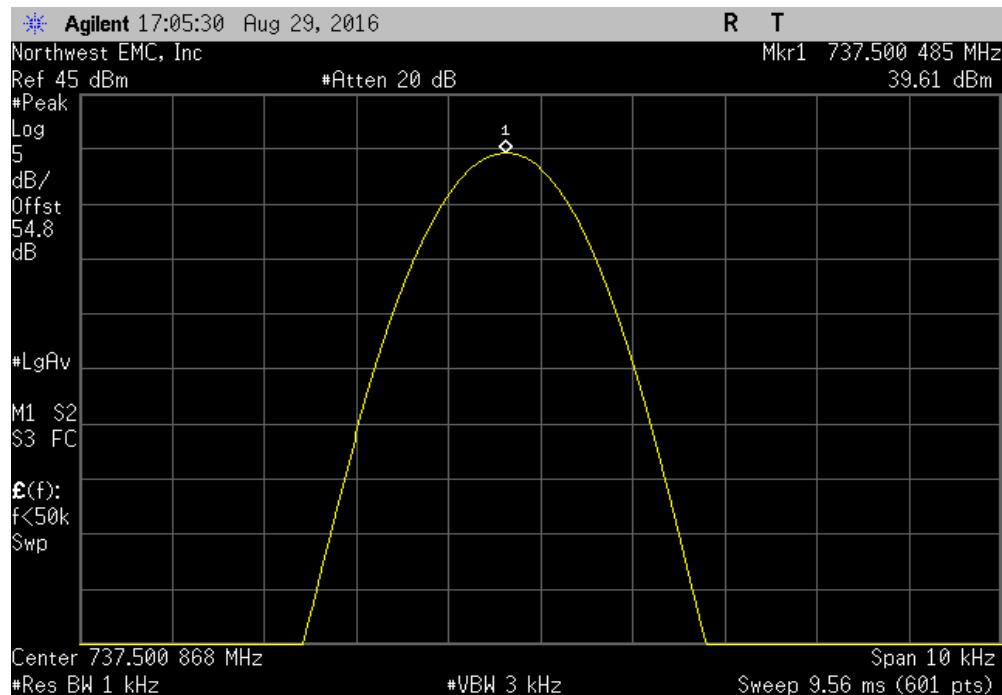
Antenna Port 1, Extreme Temperature, +10°C, Low Channel, 731.5 MHz

Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
731.500058	731.5	0.1	1	Pass

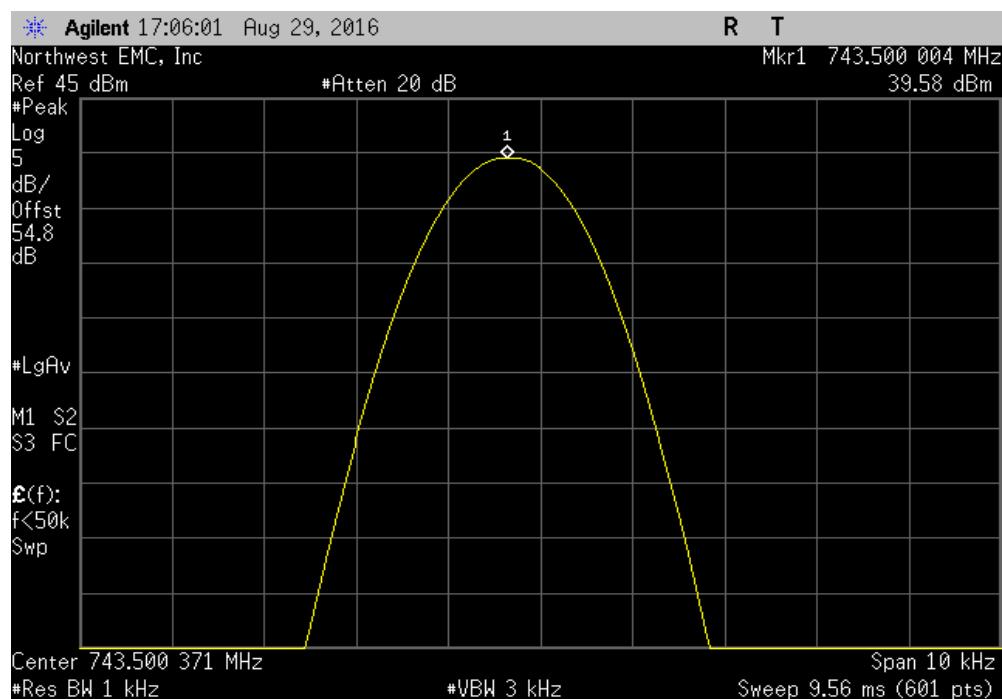


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, +10°C, Mid Channel, 737.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
737.500485	737.5	0.7	1	Pass	

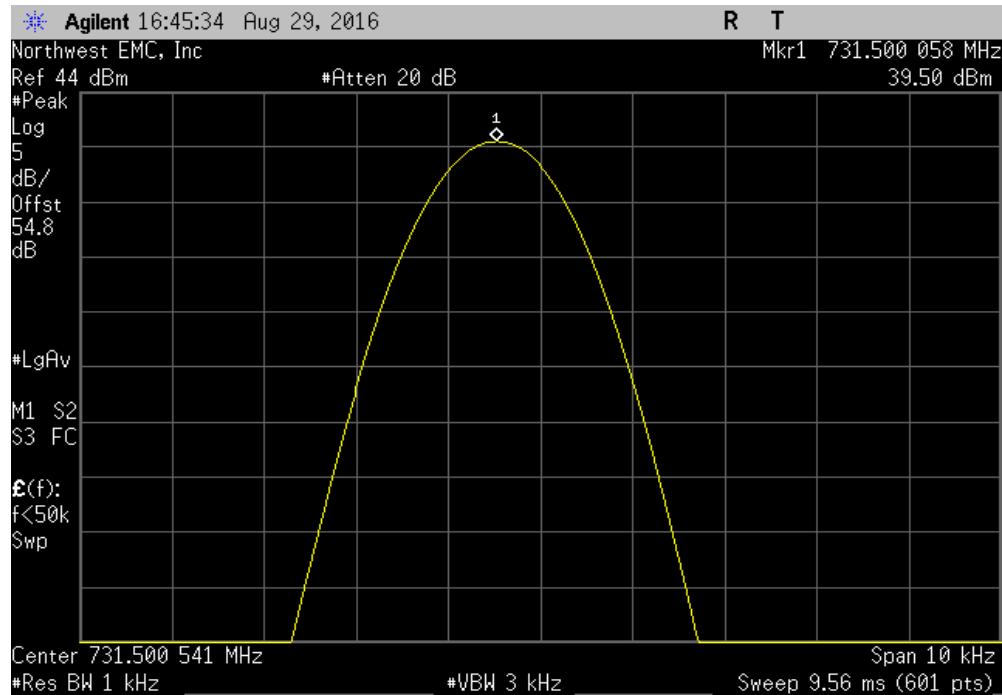


Antenna Port 1, Extreme Temperature, +10°C, High Channel, 743.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
743.500004	743.5	0	1	Pass	

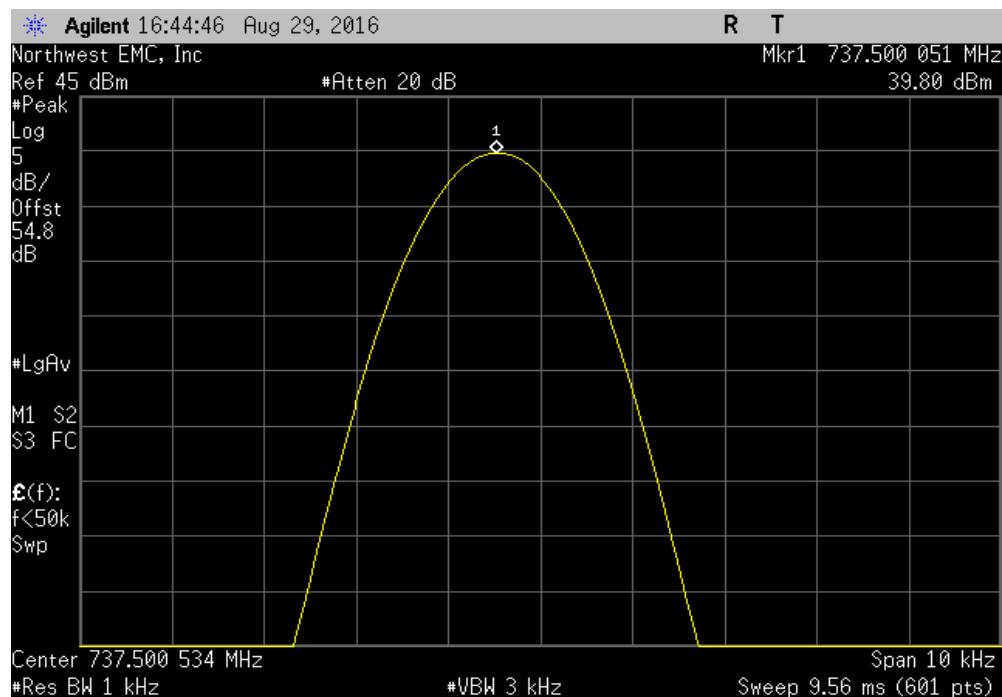


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, +20°C, Low Channel, 731.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
731.500058	731.5	0.1	1	Pass	

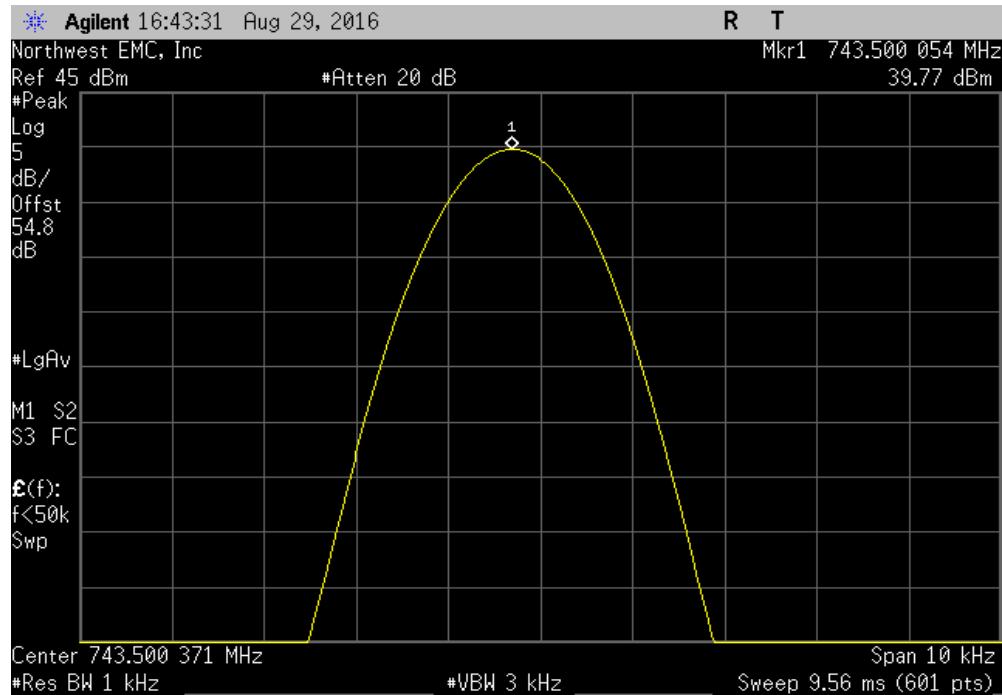


Antenna Port 1, Extreme Temperature, +20°C, Mid Channel, 737.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
737.500051	737.5	0.1	1	Pass	

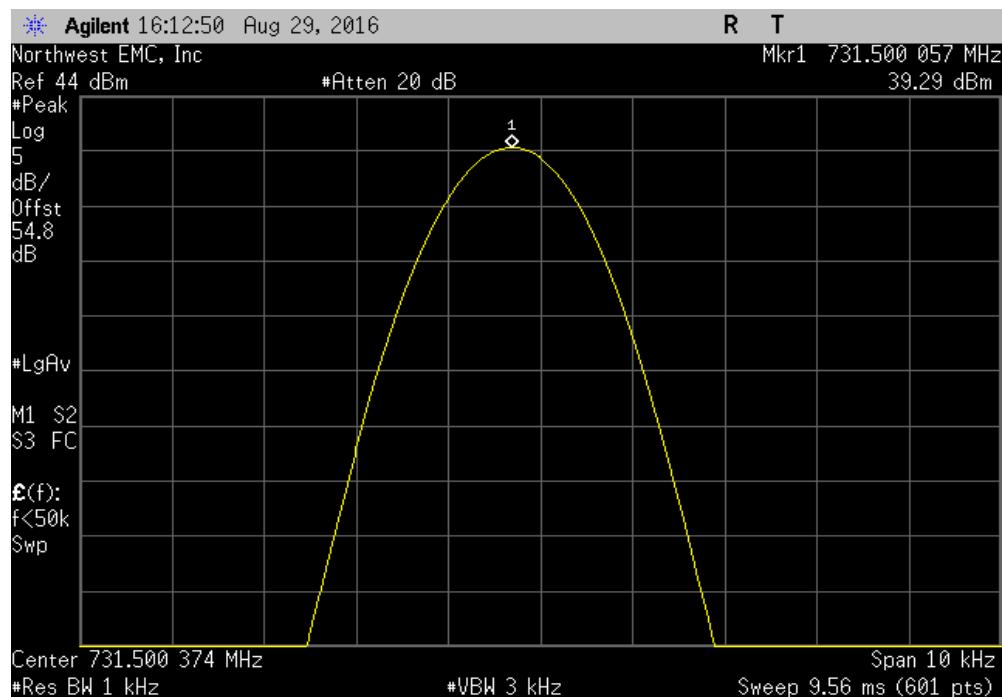


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, +20°C, High Channel, 743.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
743.500054	743.5	0.1	1	Pass	

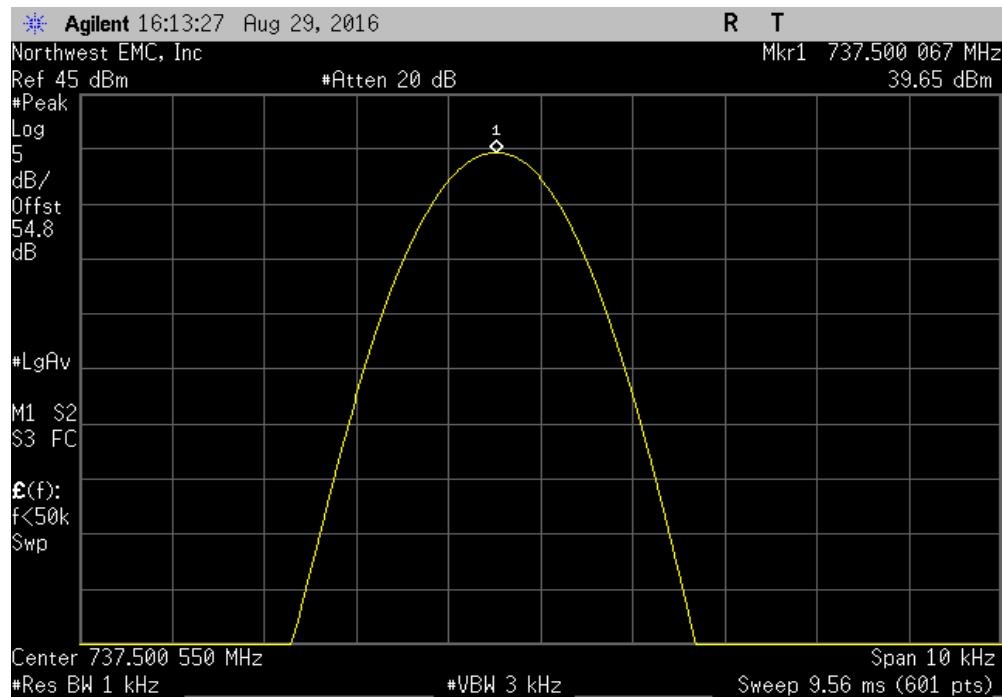


Antenna Port 1, Extreme Temperature, +30°C, Low Channel, 731.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
731.500057	731.5	0.1	1	Pass	

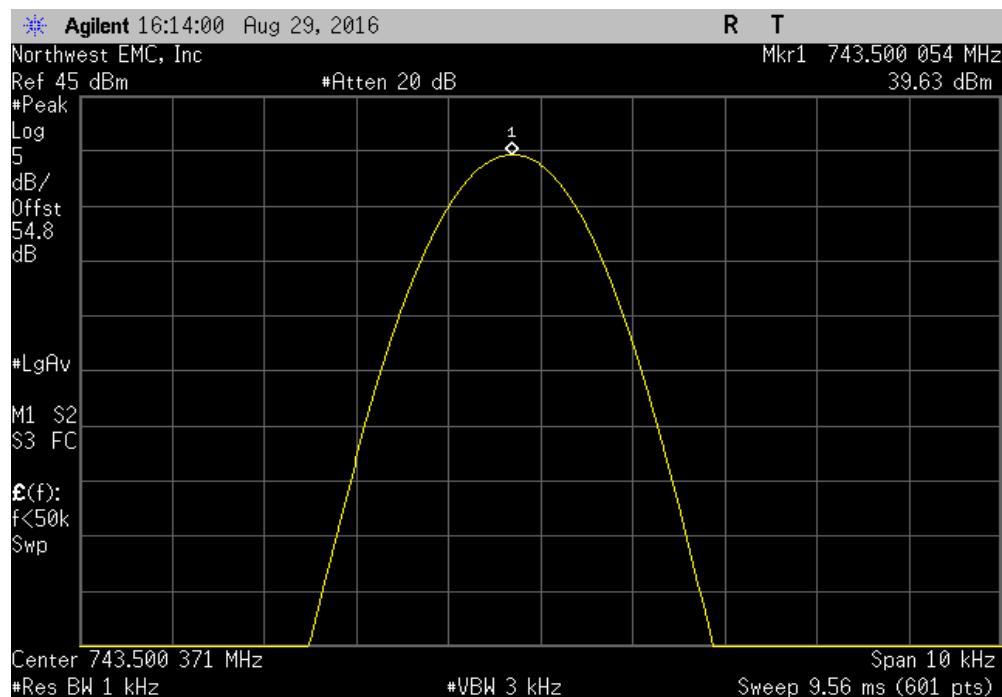


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, +30°C, Mid Channel, 737.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
737.500067	737.5	0.1	1	Pass	

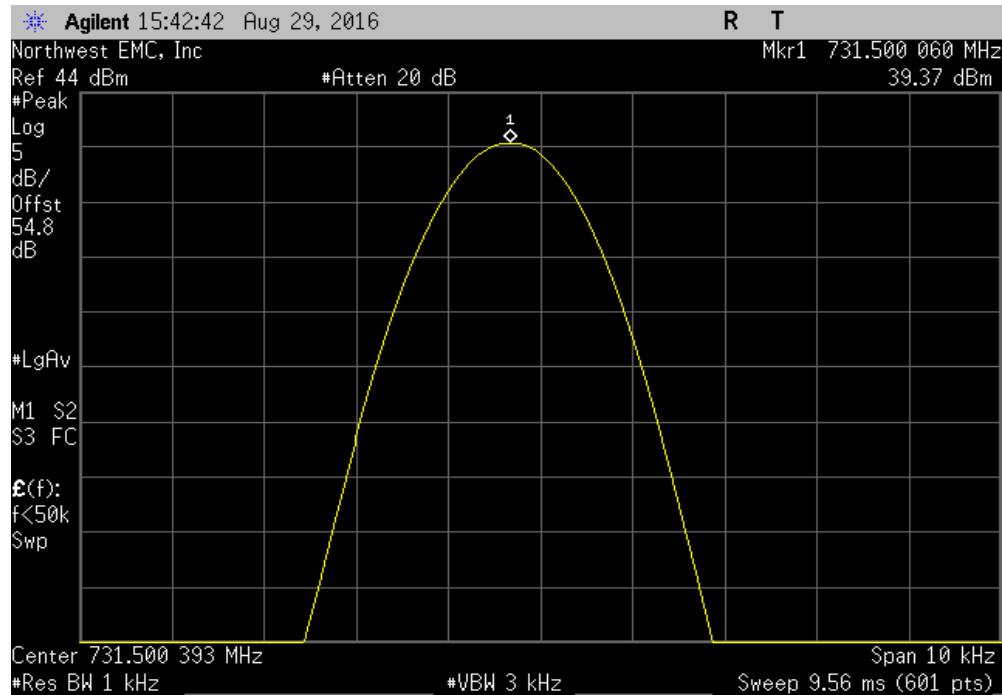


Antenna Port 1, Extreme Temperature, +30°C, High Channel, 743.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
743.500054	743.5	0.1	1	Pass	

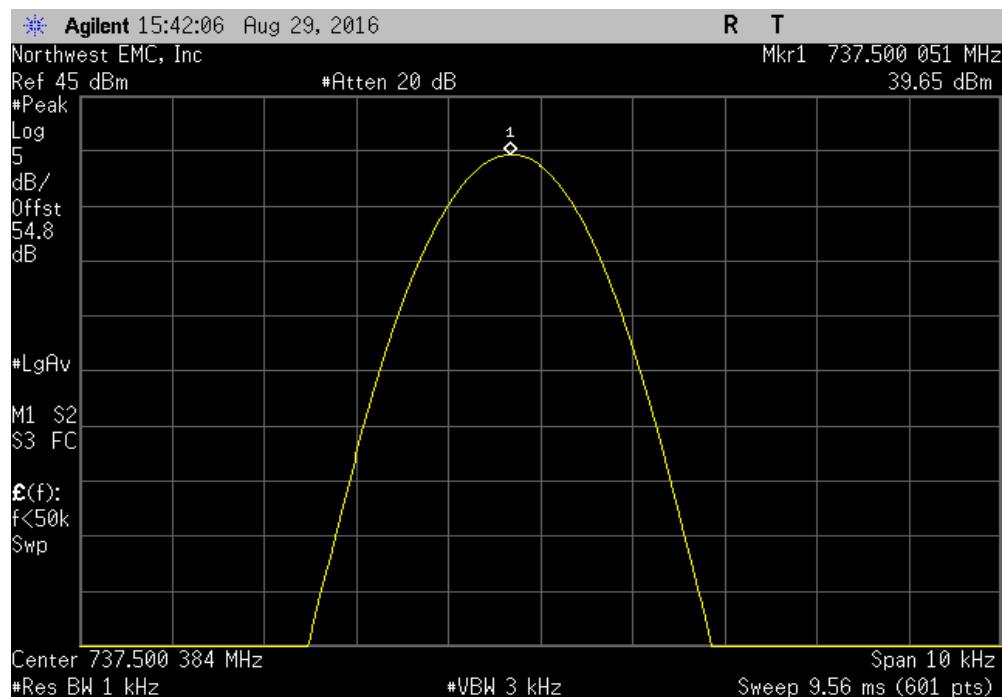


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, +40°C, Low Channel, 731.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	731.50006	731.5	0.1	1	Pass

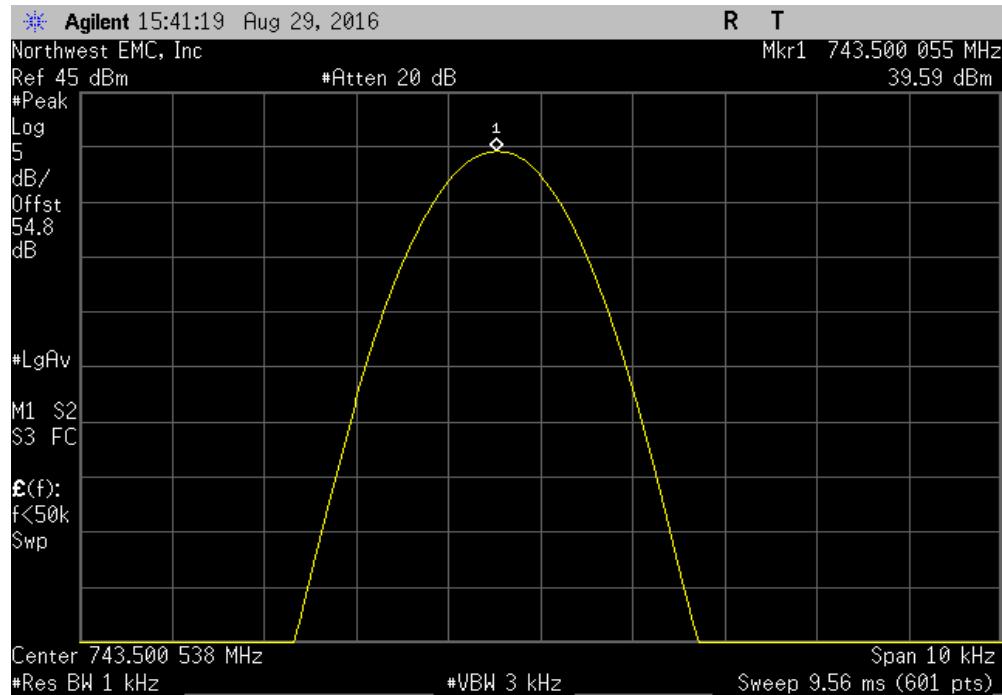


Antenna Port 1, Extreme Temperature, +40°C, Mid Channel, 737.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	737.500051	737.5	0.1	1	Pass

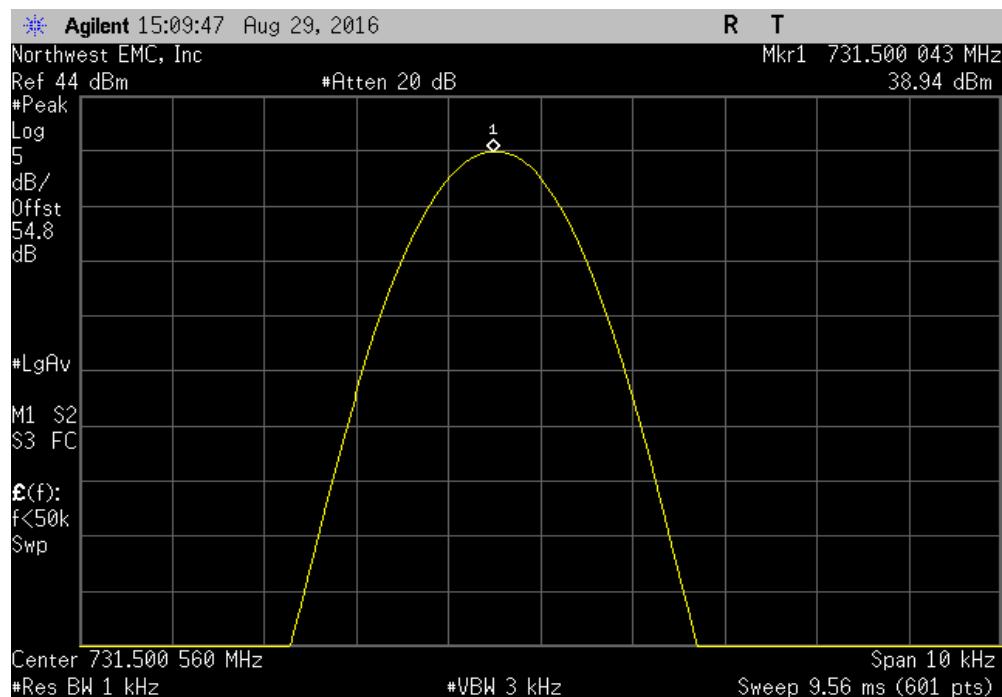


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, +40°C, High Channel, 743.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	743.500055	743.5	0.1	1	Pass

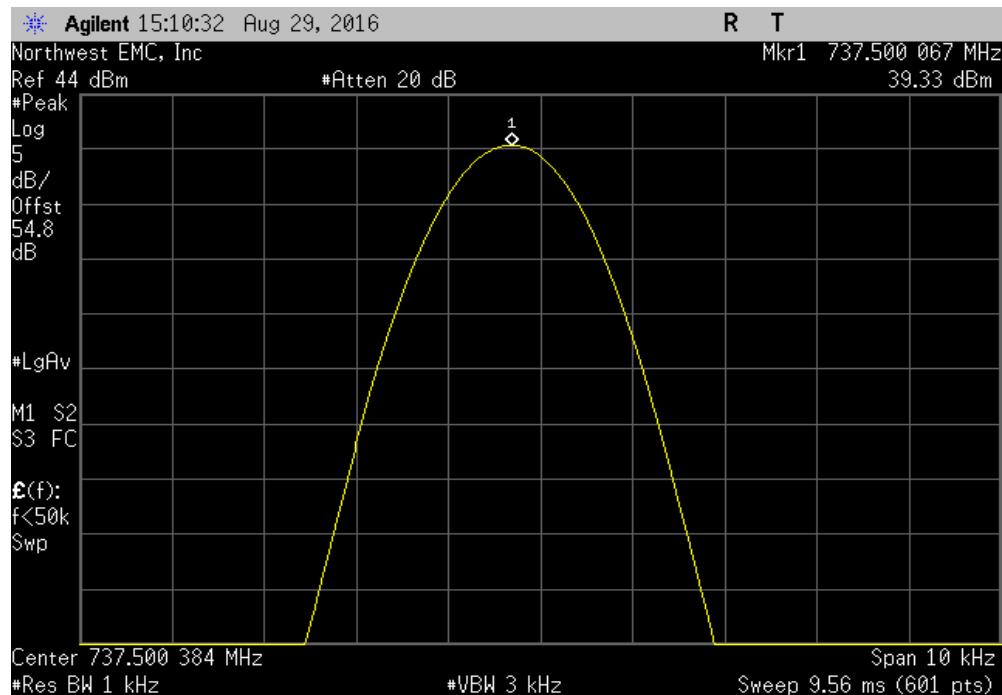


Antenna Port 1, Extreme Temperature, +50°C, Low Channel, 731.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	731.500043	731.5	0.1	1	Pass

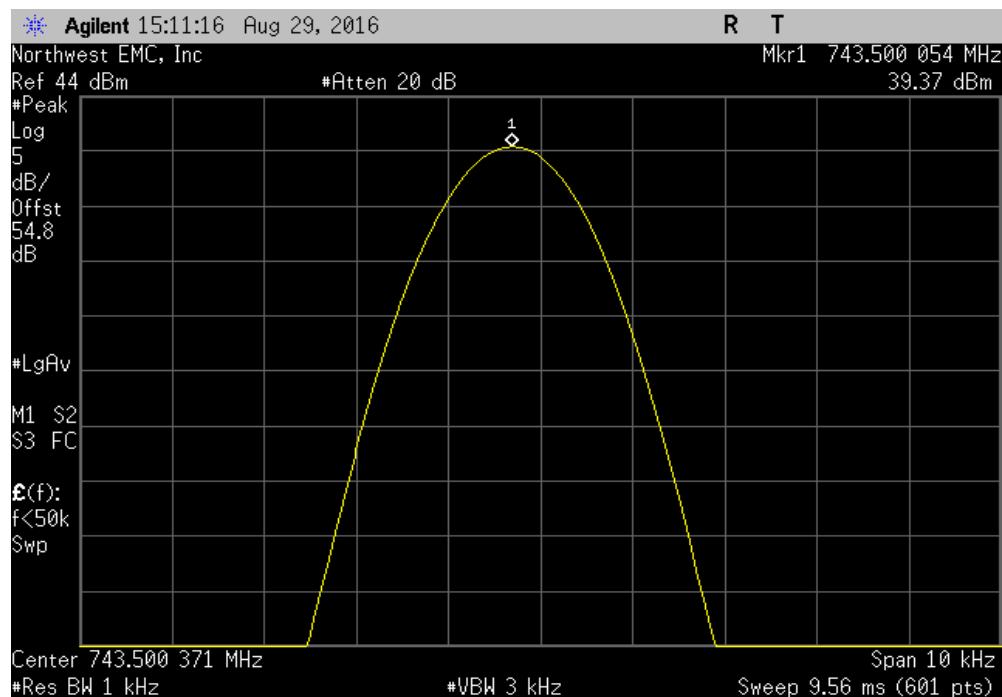


FREQUENCY STABILITY

Antenna Port 1, Extreme Temperature, +50°C, Mid Channel, 737.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	737.500067	737.5	0.1	1	Pass

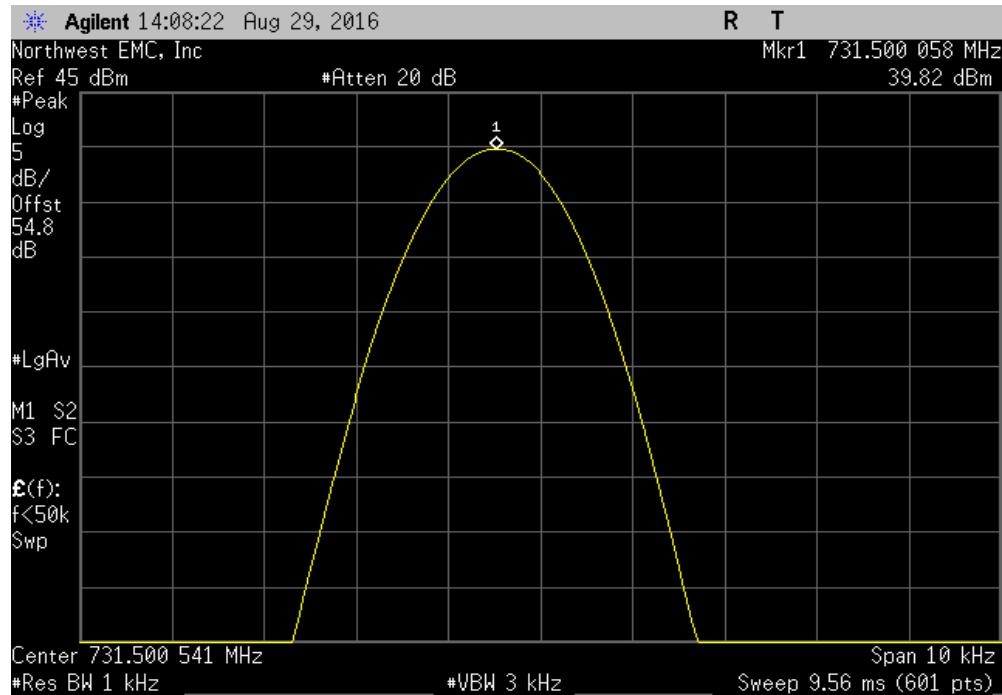


Antenna Port 1, Extreme Temperature, +50°C, High Channel, 743.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	743.500054	743.5	0.1	1	Pass

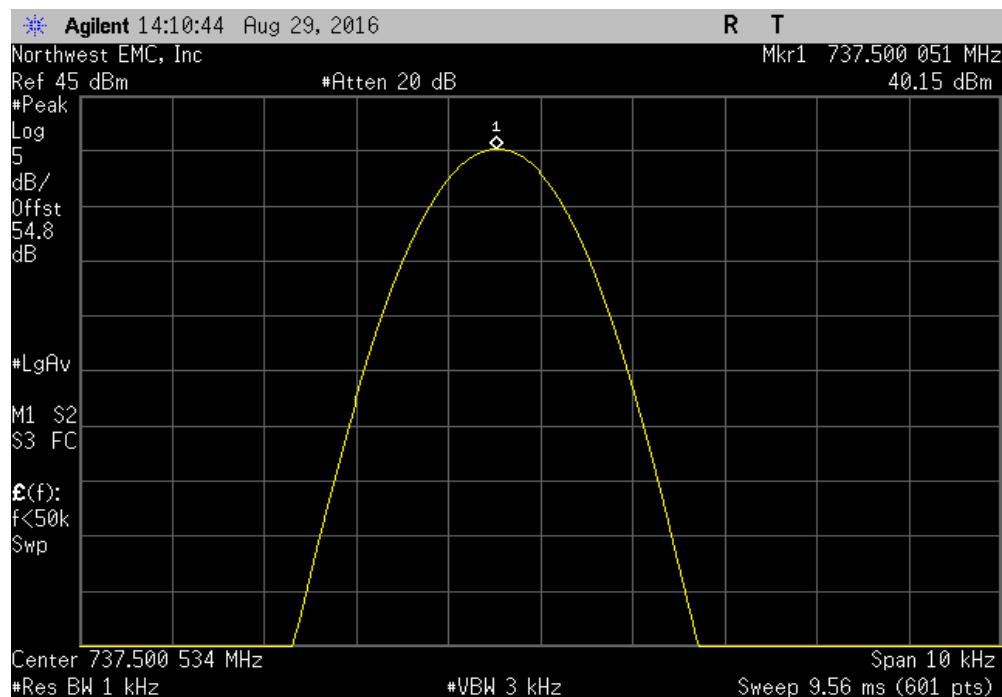


FREQUENCY STABILITY

Antenna Port 2, Normal Temperature and Voltage, Low Channel, 731.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	731.500058	731.5	0.1	1	Pass

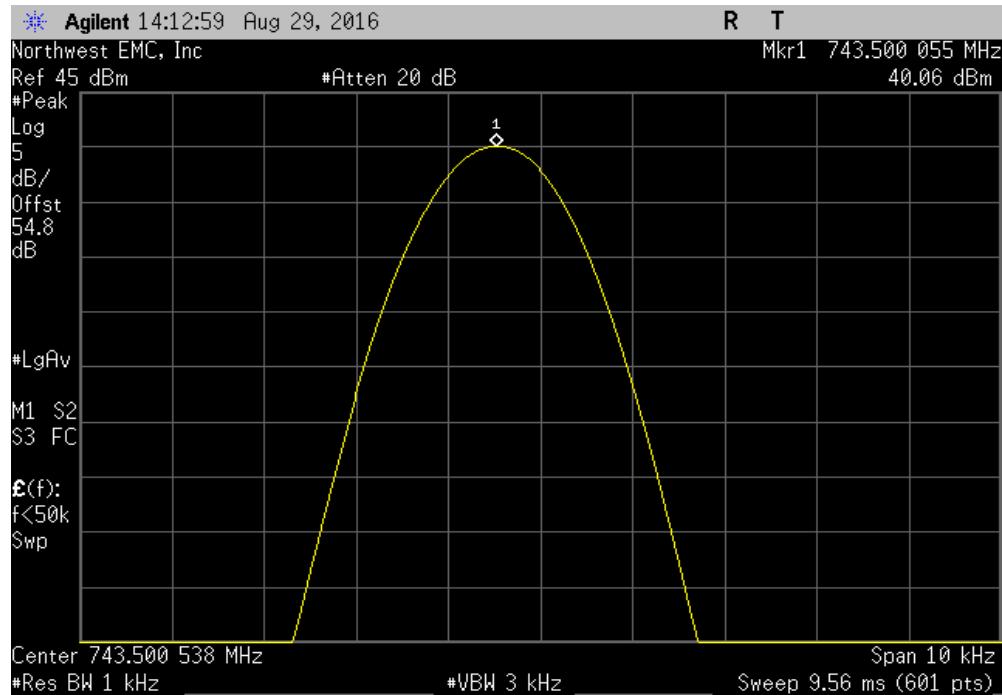


Antenna Port 2, Normal Temperature and Voltage, Mid Channel, 737.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	737.500051	737.5	0.1	1	Pass

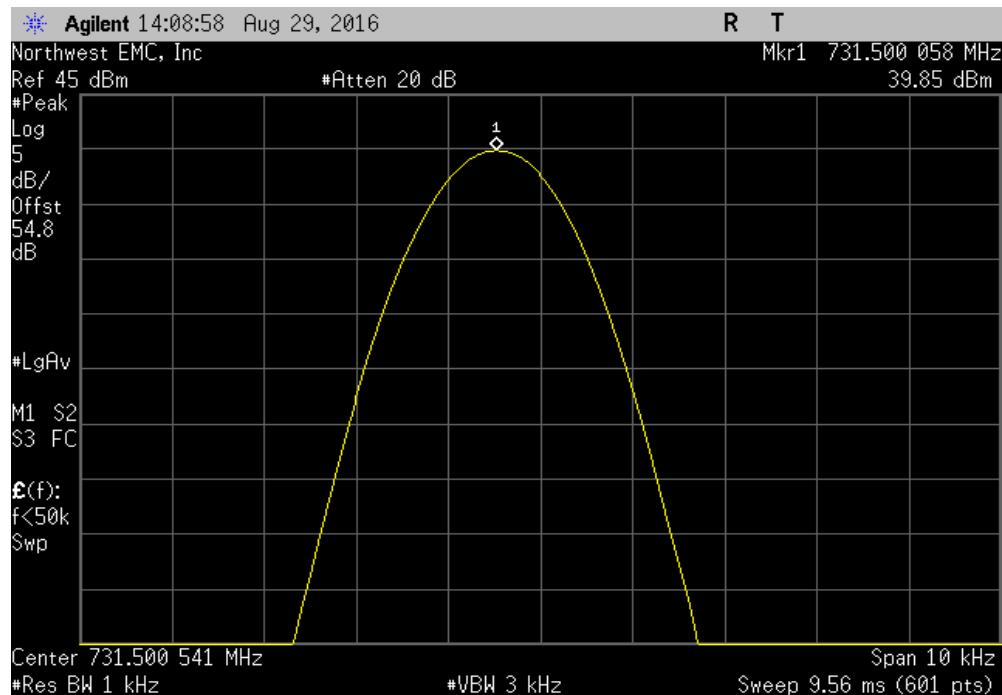


FREQUENCY STABILITY

Antenna Port 2, Normal Temperature and Voltage, High Channel, 743.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
743.500055	743.5	0.1	1	Pass	

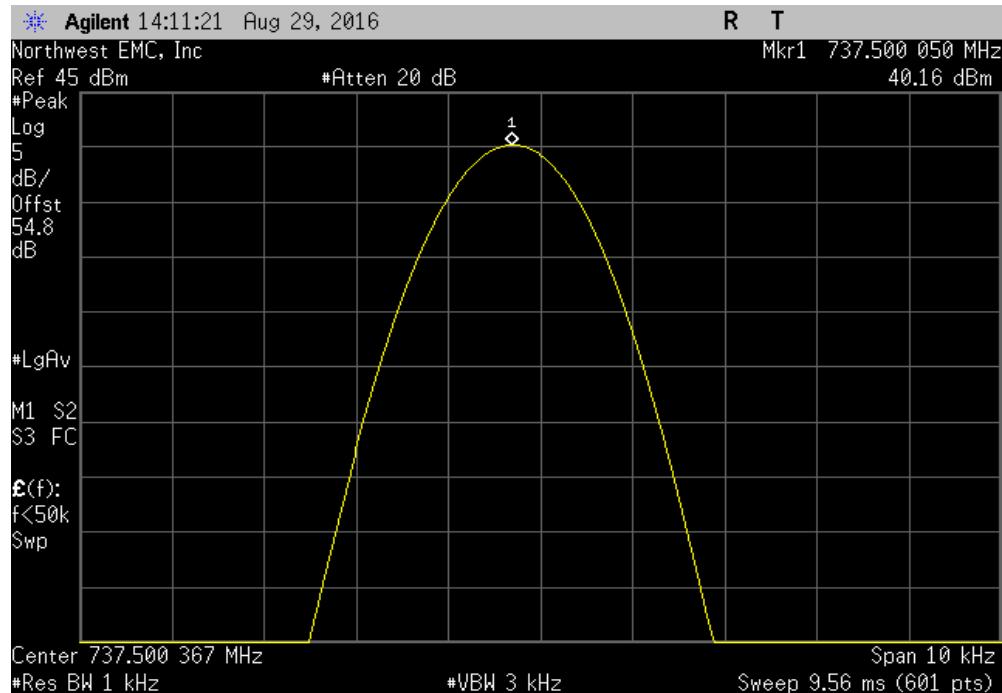


Antenna Port 2, Extreme Voltage, 55.2 VDC, Low Channel, 731.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
731.500058	731.5	0.1	1	Pass	

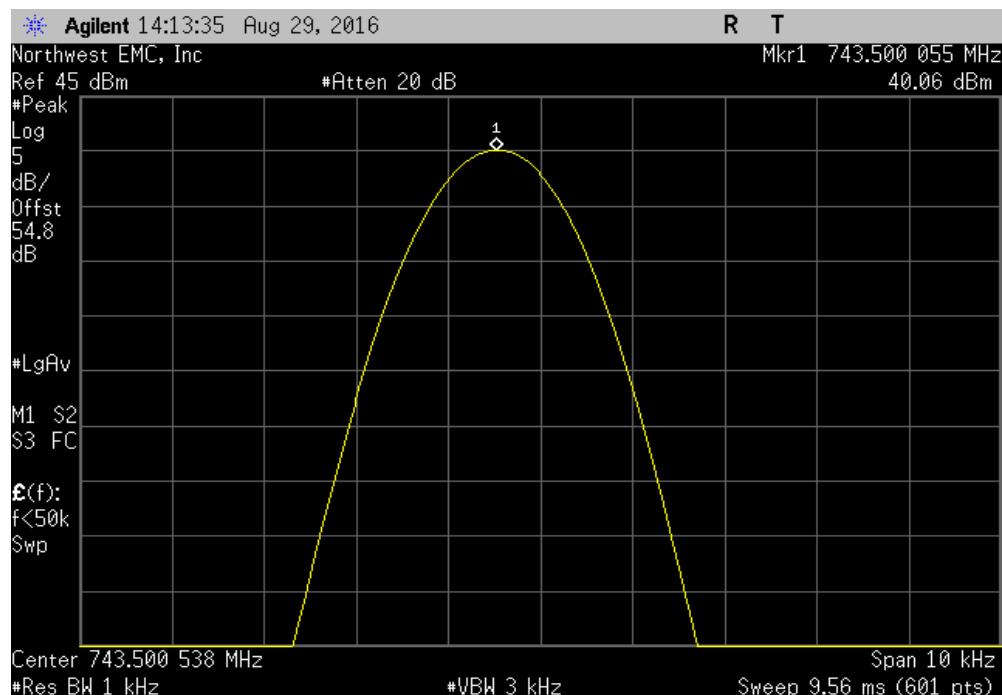


FREQUENCY STABILITY

Antenna Port 2, Extreme Voltage, 55.2 VDC, Mid Channel, 737.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	737.50005	737.5	0.1	1	Pass

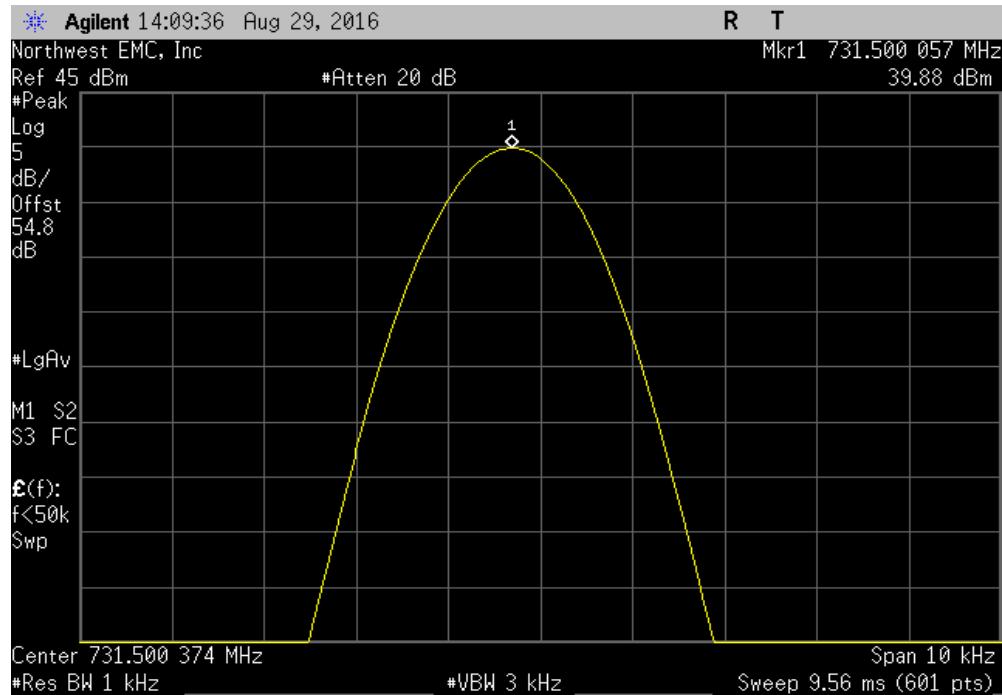


Antenna Port 2, Extreme Voltage, 55.2 VDC, High Channel, 743.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	743.500055	743.5	0.1	1	Pass

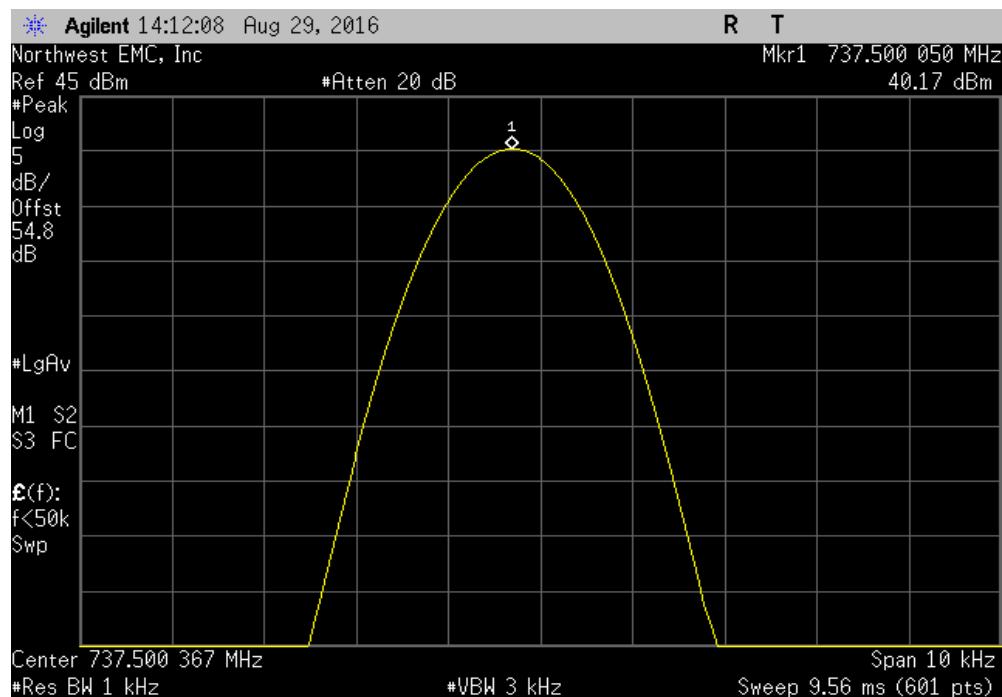


FREQUENCY STABILITY

Antenna Port 2, Extreme Voltage, 40.8 VAC, Low Channel, 731.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	731.500057	731.5	0.1	1	Pass



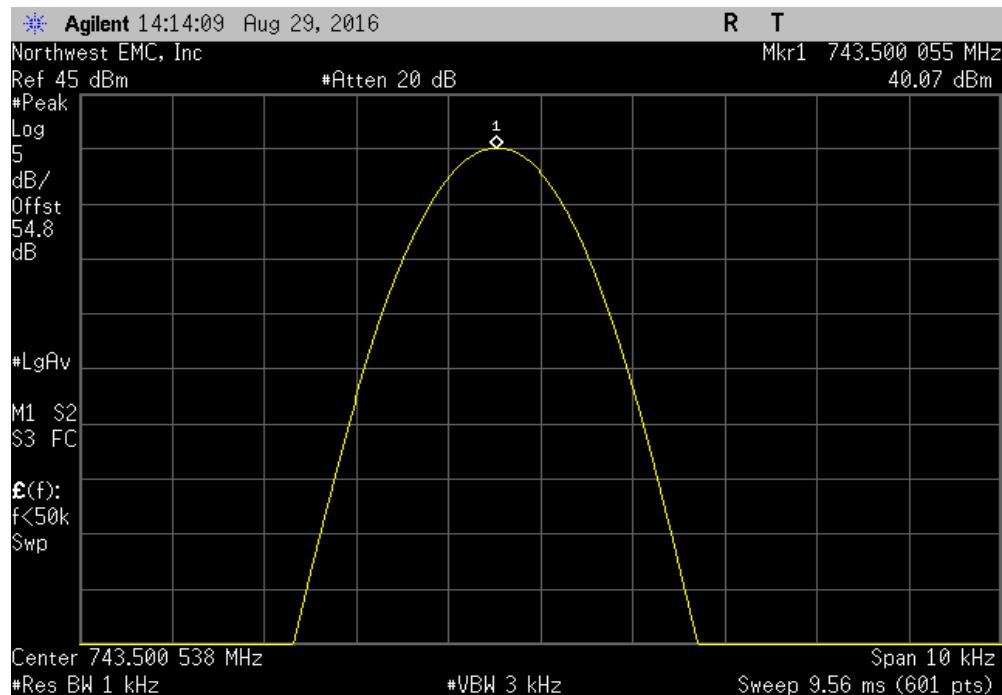
Antenna Port 2, Extreme Voltage, 40.8 VAC, Mid Channel, 737.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	737.50005	737.5	0.1	1	Pass



FREQUENCY STABILITY

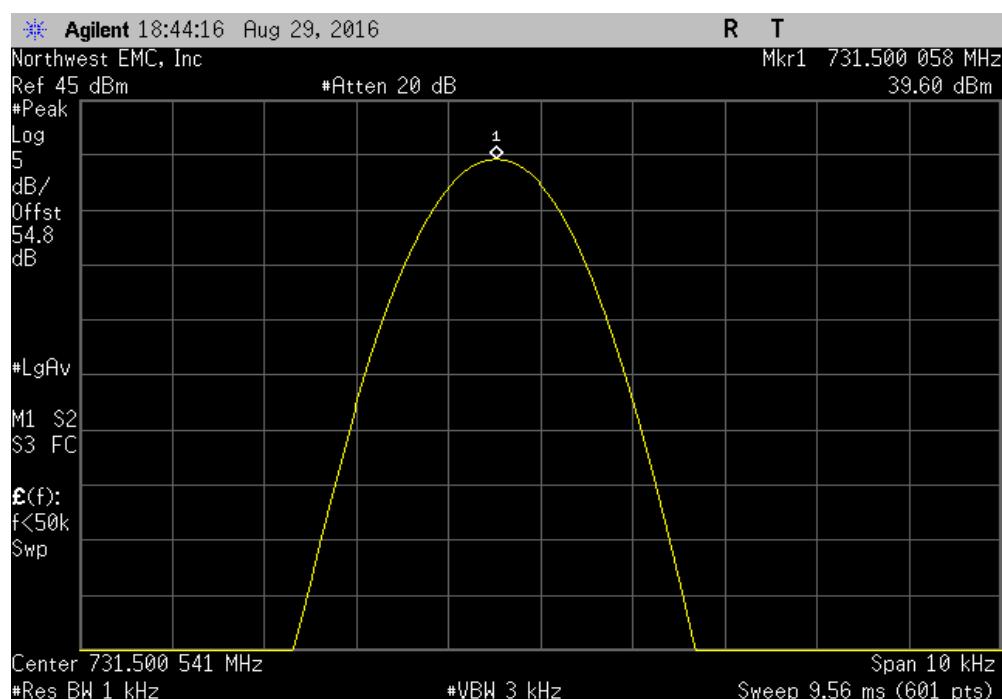
Antenna Port 2, Extreme Voltage, 40.8 VAC, High Channel, 743.5 MHz

Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
743.500055	743.5	0.1	1	Pass



Antenna Port 2, Extreme Temperature, -30°C, Low Channel, 731.5 MHz

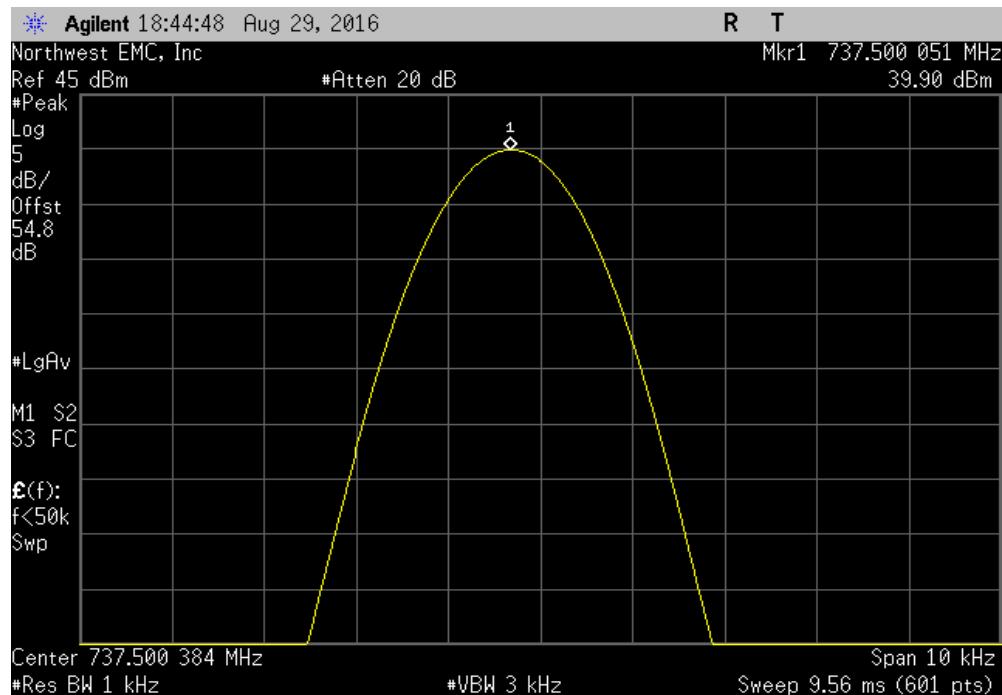
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
731.500058	731.5	0.1	1	Pass



FREQUENCY STABILITY

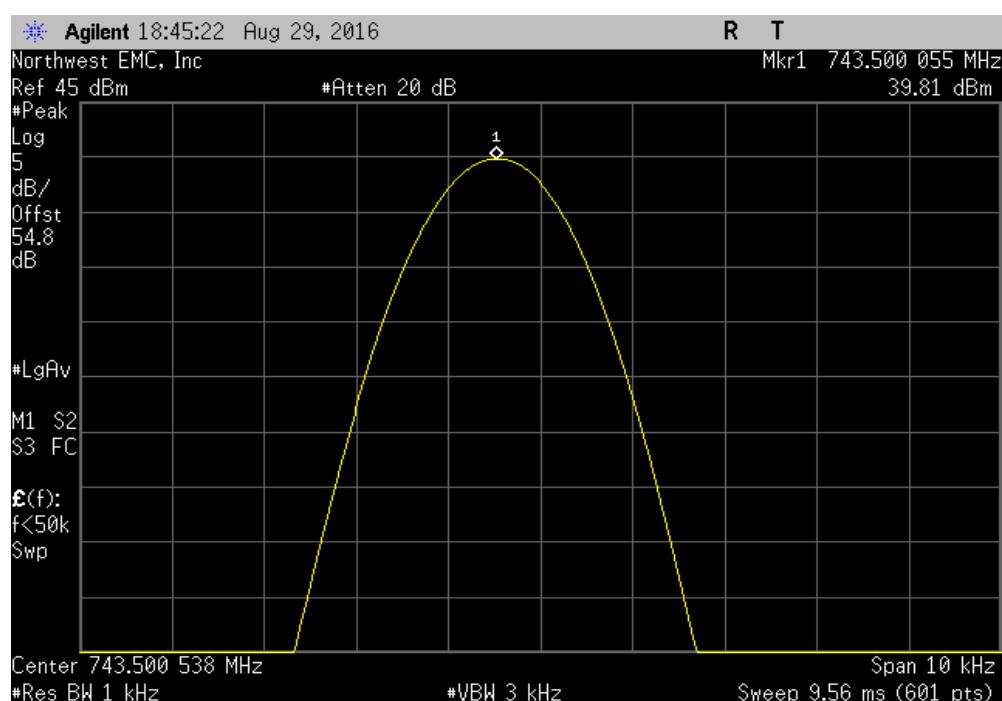
Antenna Port 2, Extreme Temperature, -30°C, Mid Channel, 737.5 MHz

Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
737.500051	737.5	0.1	1	Pass



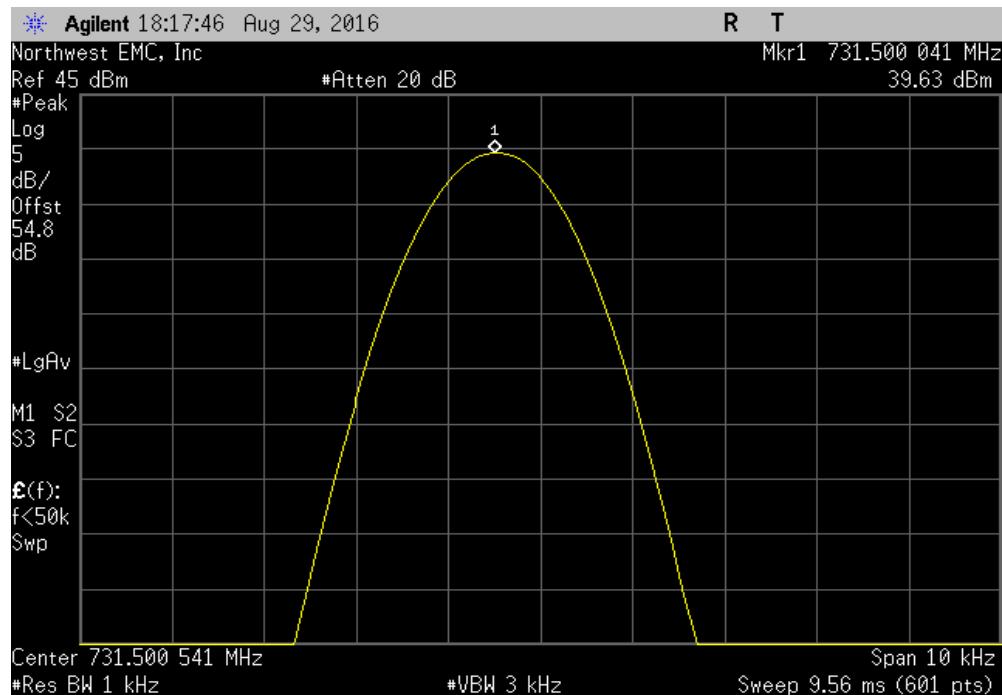
Antenna Port 2, Extreme Temperature, -30°C, High Channel, 743.5 MHz

Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
743.500055	743.5	0.1	1	Pass

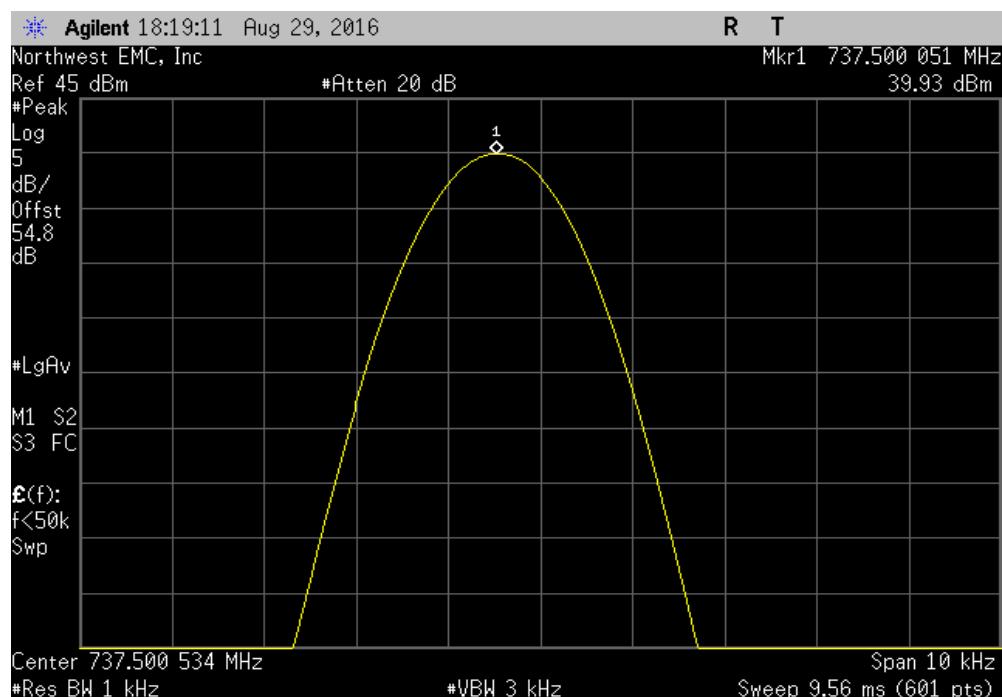


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, -20°C, Low Channel, 731.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
731.500041	731.5	0.1	1	Pass	

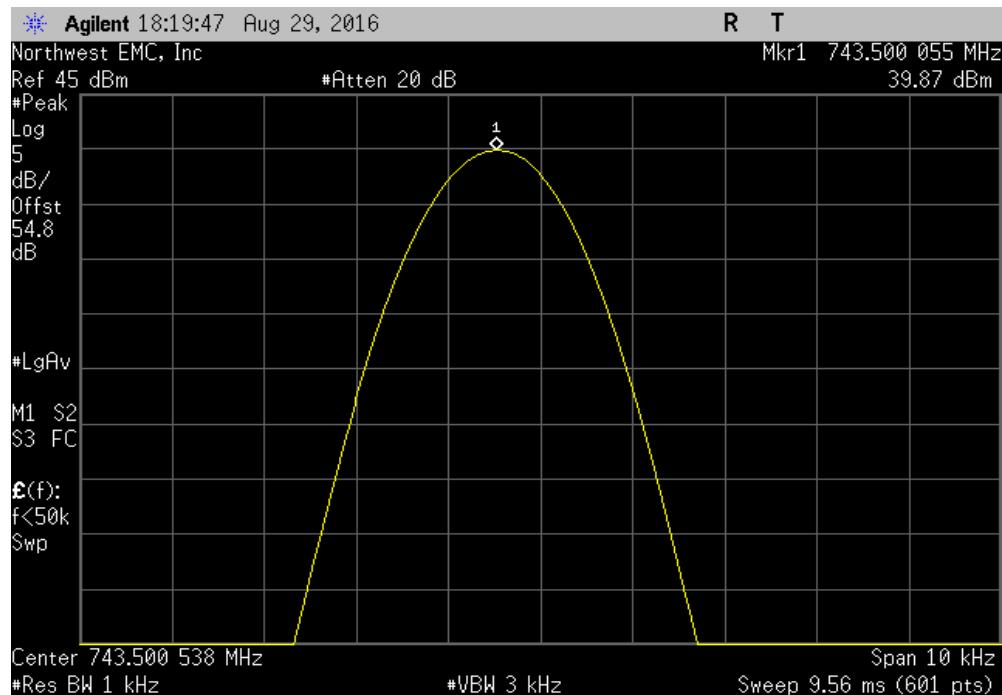


Antenna Port 2, Extreme Temperature, -20°C, Mid Channel, 737.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
737.500051	737.5	0.1	1	Pass	

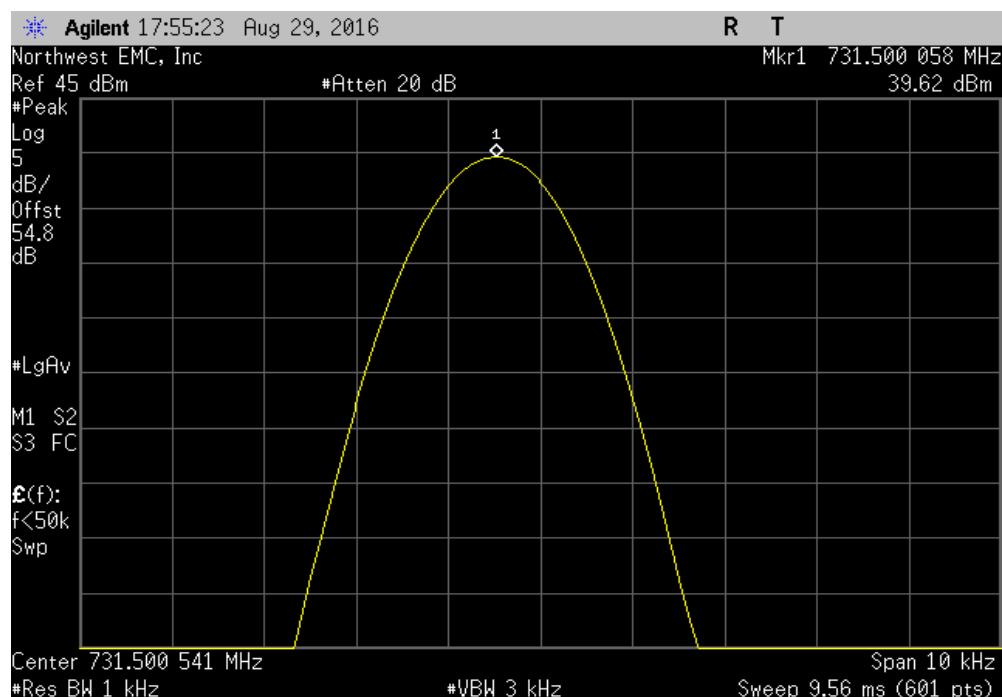


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, -20°C, High Channel, 743.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	743.500055	743.5	0.1	1	Pass

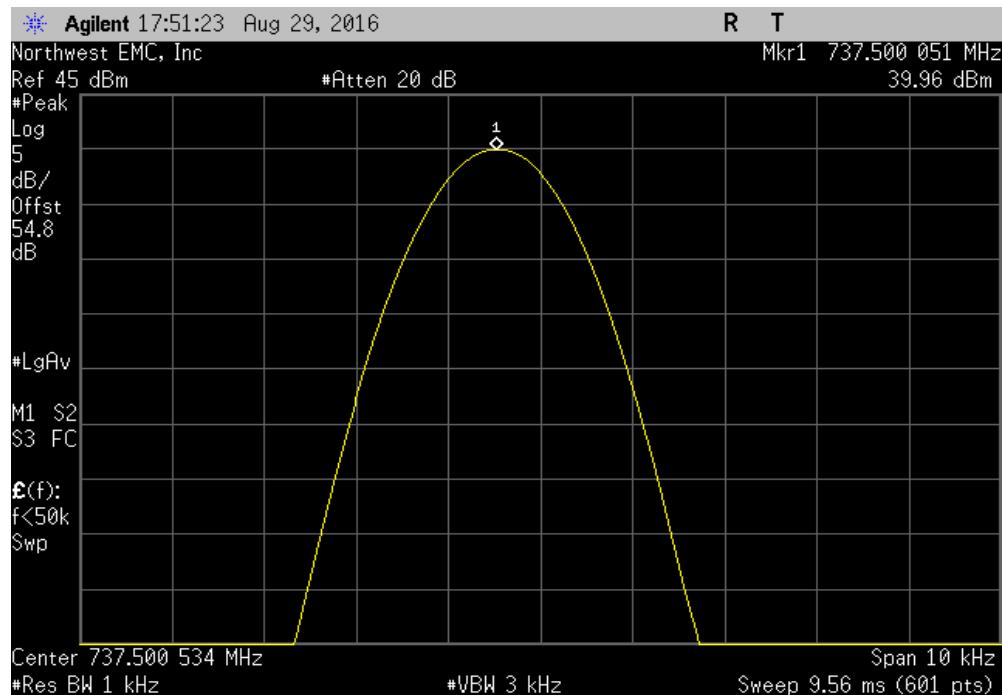


Antenna Port 2, Extreme Temperature, -10°C, Low Channel, 731.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	731.500058	731.5	0.1	1	Pass

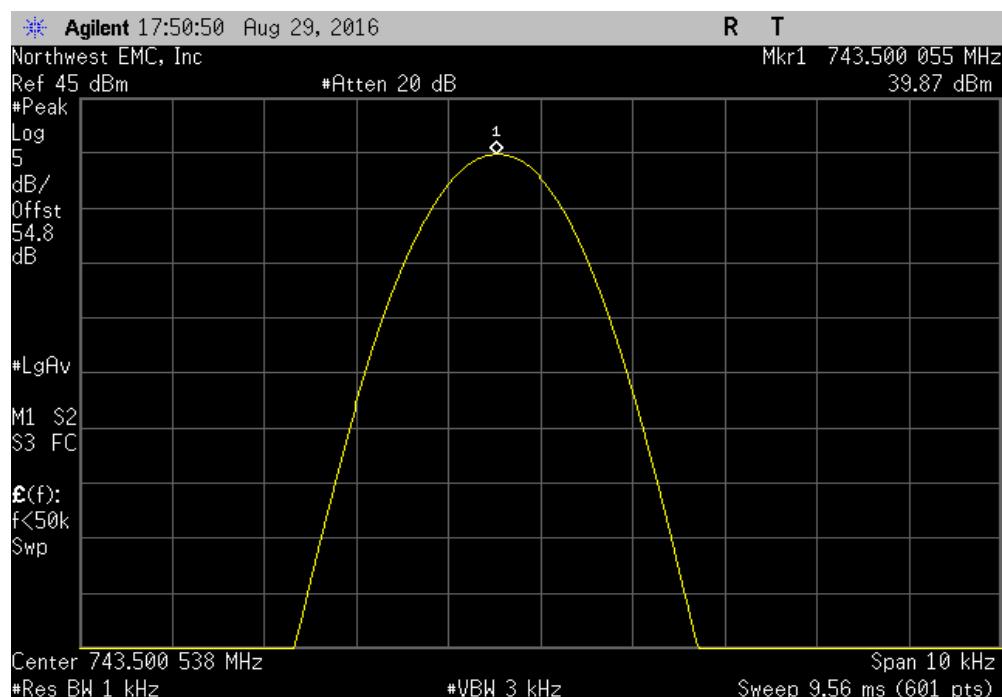


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, -10°C, Mid Channel, 737.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
737.500051	737.5	0.1	1	Pass	



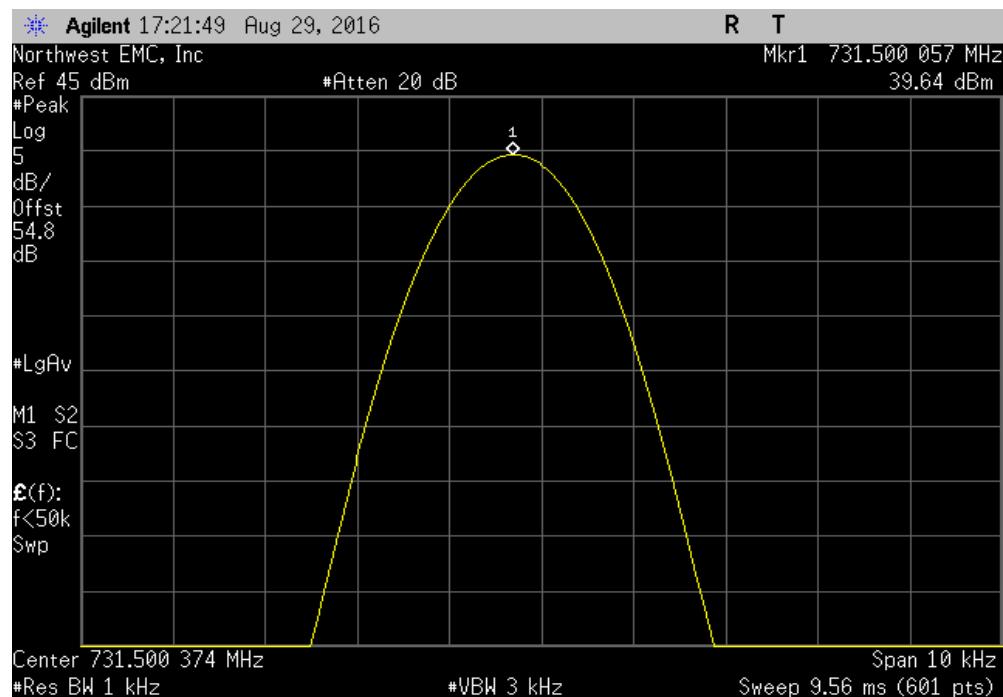
Antenna Port 2, Extreme Temperature, -10°C, High Channel, 743.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
743.500055	743.5	0.1	1	Pass	



FREQUENCY STABILITY

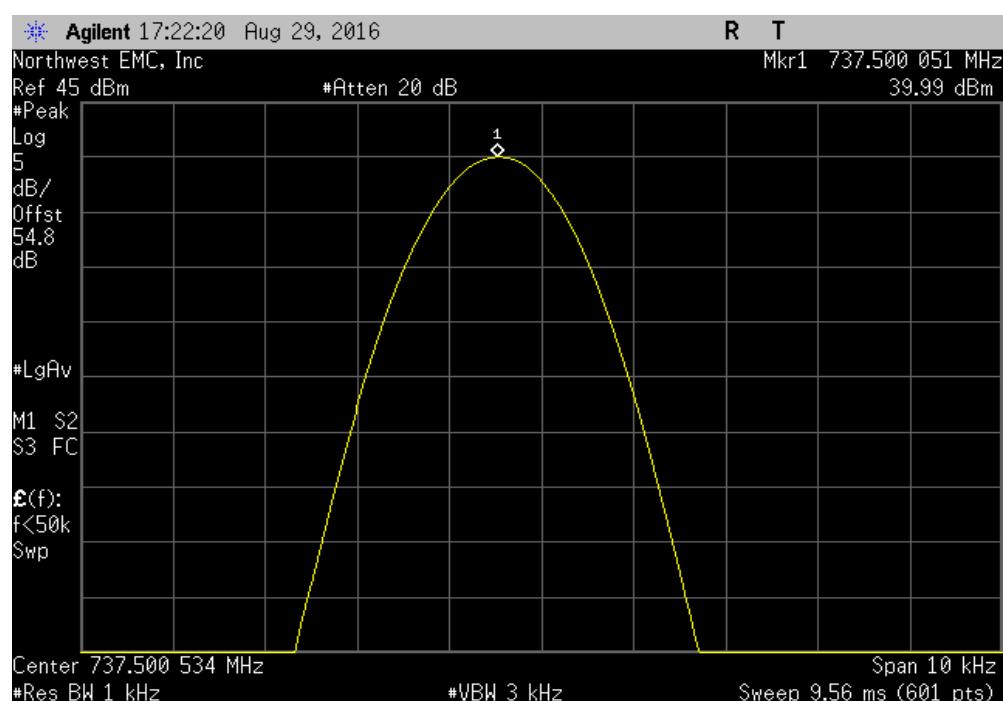
Antenna Port 2, Extreme Temperature, 0°C, Low Channel, 731.5 MHz

Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
731.500057	731.5	0.1	1	Pass



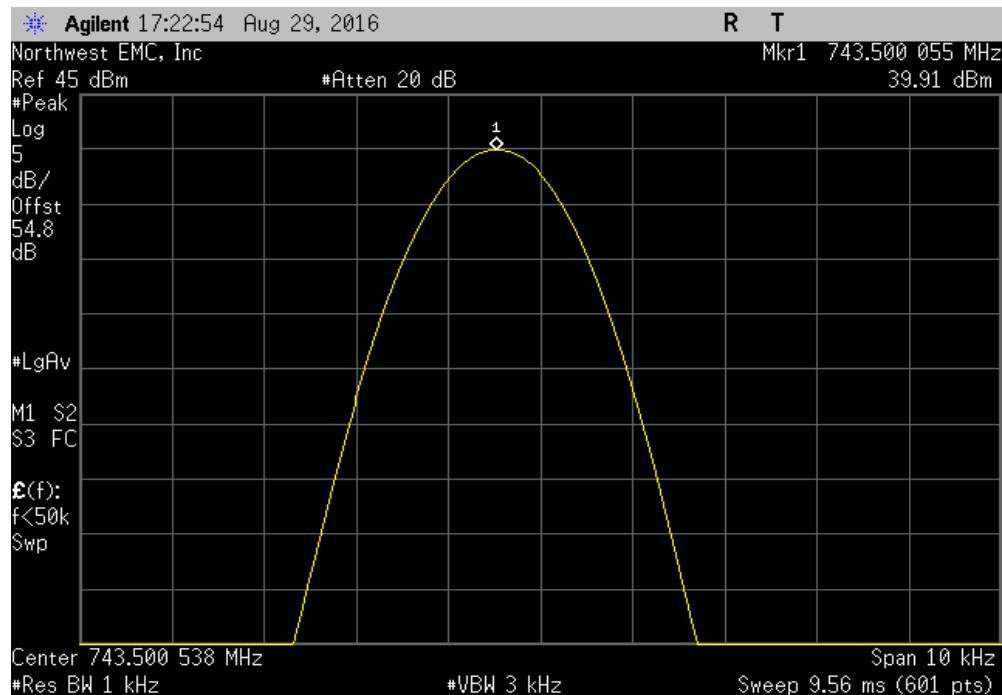
Antenna Port 2, Extreme Temperature, 0°C, Mid Channel, 737.5 MHz

Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
737.500051	737.5	0.1	1	Pass

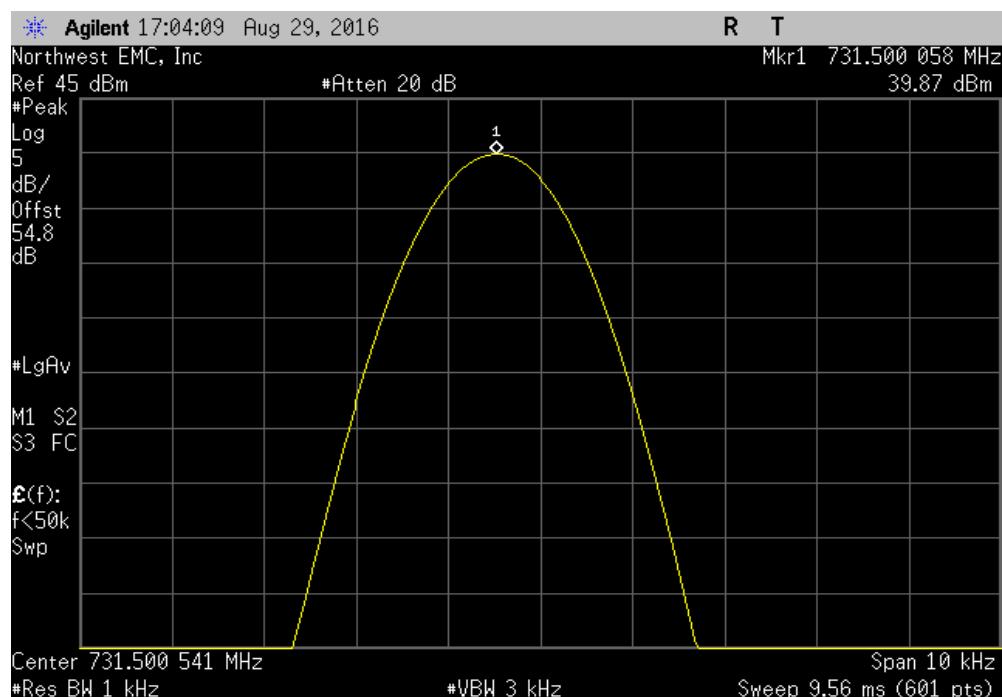


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, 0°C, High Channel, 743.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	743.500055	743.5	0.1	1	Pass

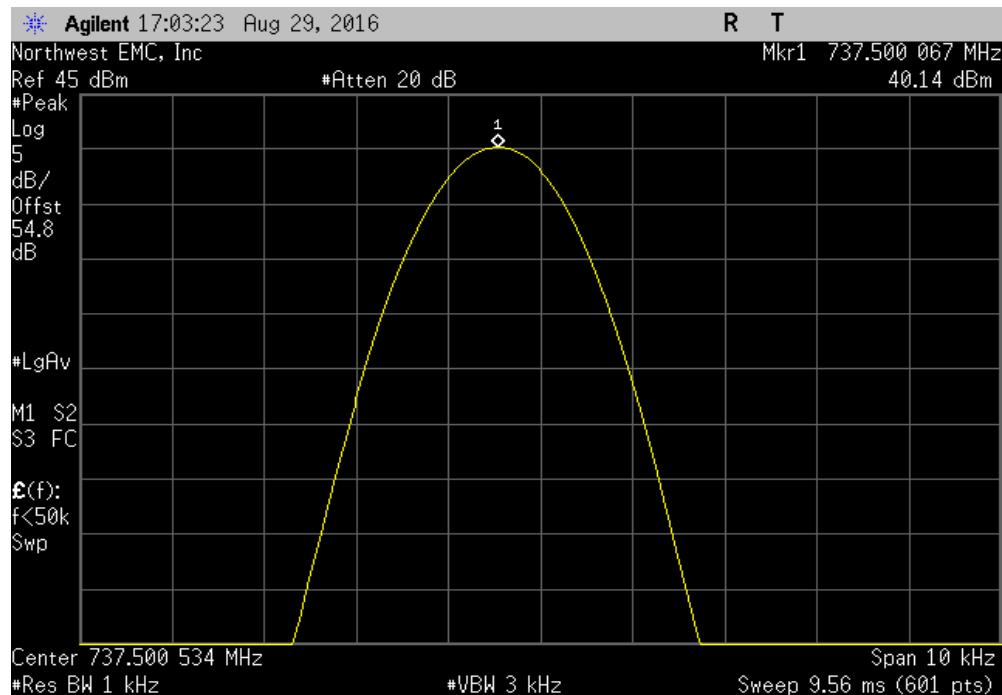


Antenna Port 2, Extreme Temperature, +10°C, Low Channel, 731.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	731.500058	731.5	0.1	1	Pass

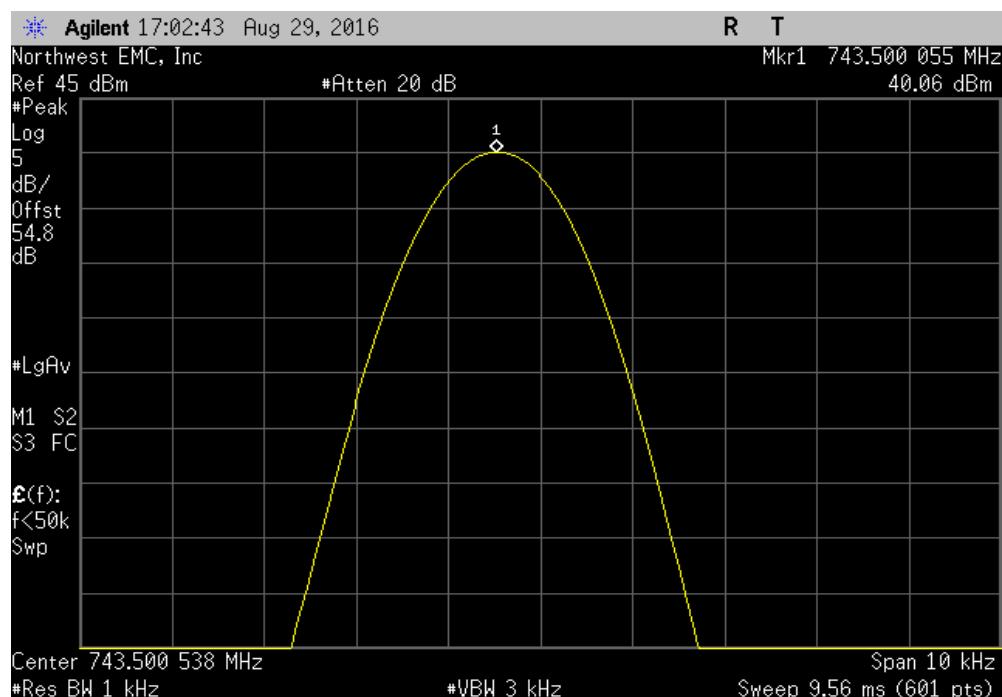


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, +10°C, Mid Channel, 737.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	737.500067	737.5	0.1	1	Pass

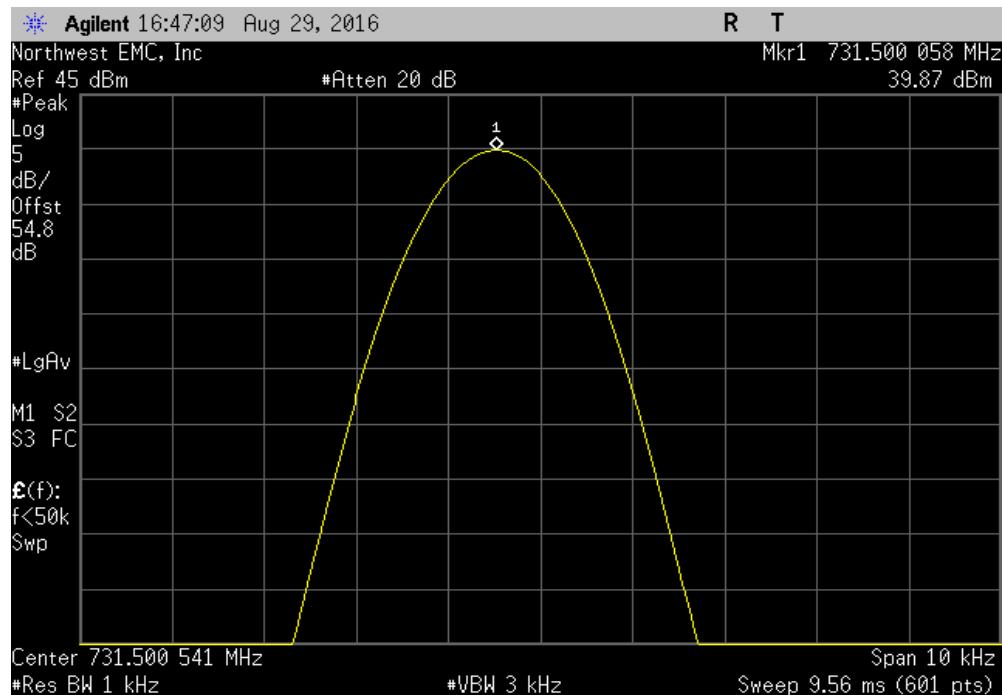


Antenna Port 2, Extreme Temperature, +10°C, High Channel, 743.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	743.500055	743.5	0.1	1	Pass

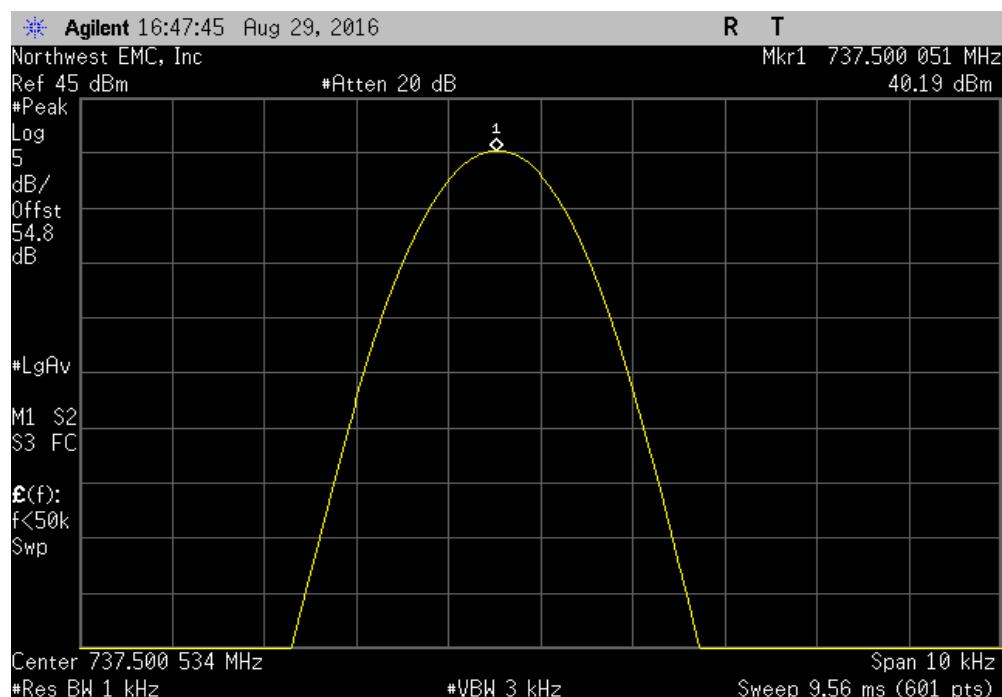


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, +20°C, Low Channel, 731.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
731.500058	731.5	0.1	1	Pass	

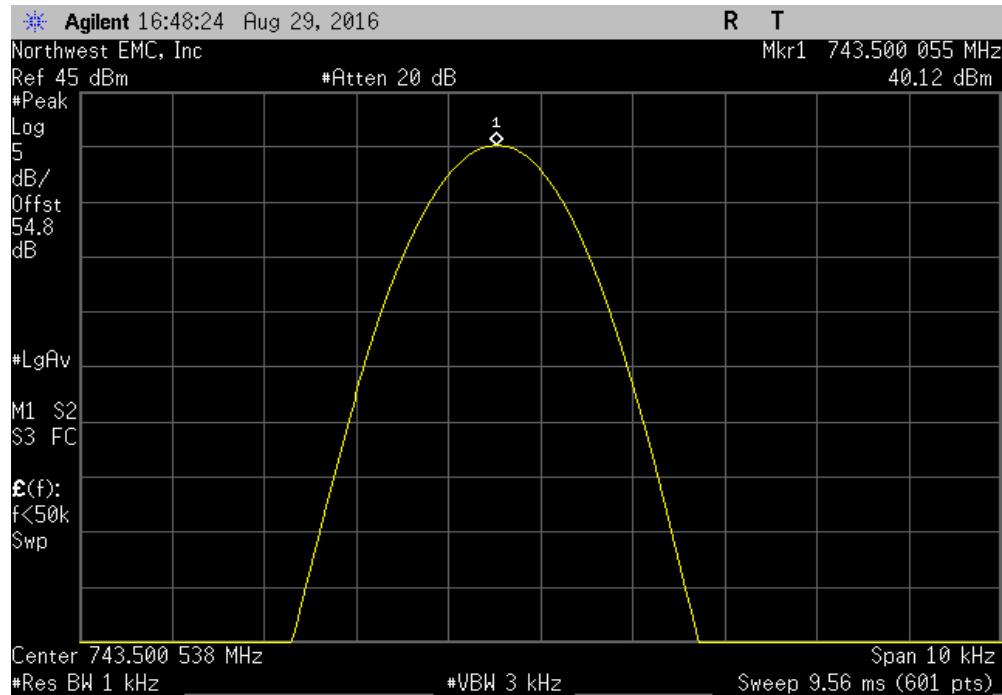


Antenna Port 2, Extreme Temperature, +20°C, Mid Channel, 737.5 MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
737.500051	737.5	0.1	1	Pass	

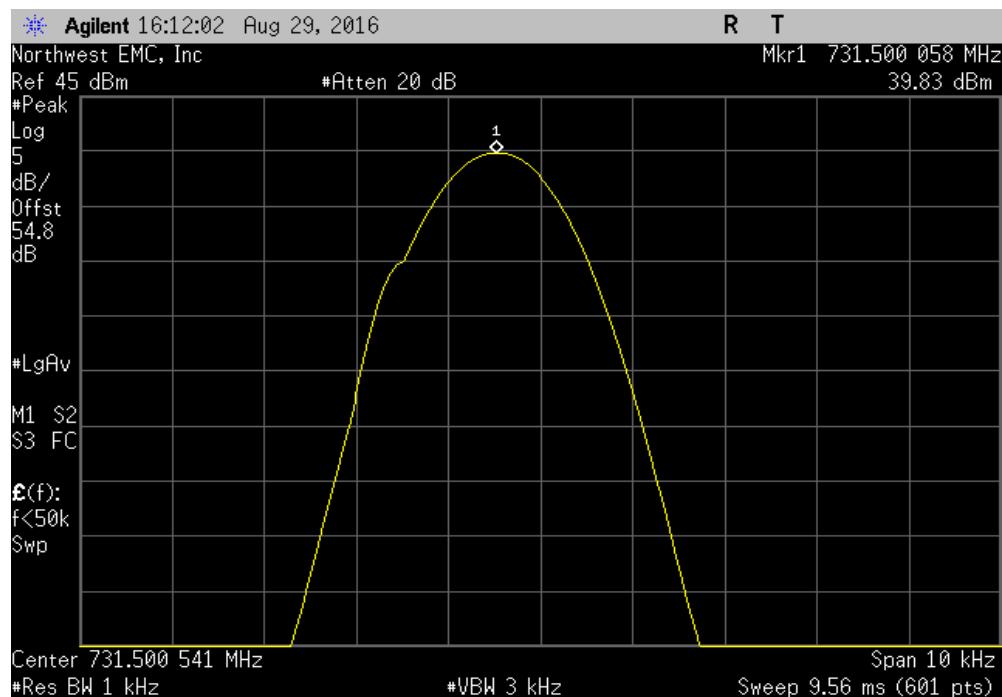


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, +20°C, High Channel, 743.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	743.500055	743.5	0.1	1	Pass

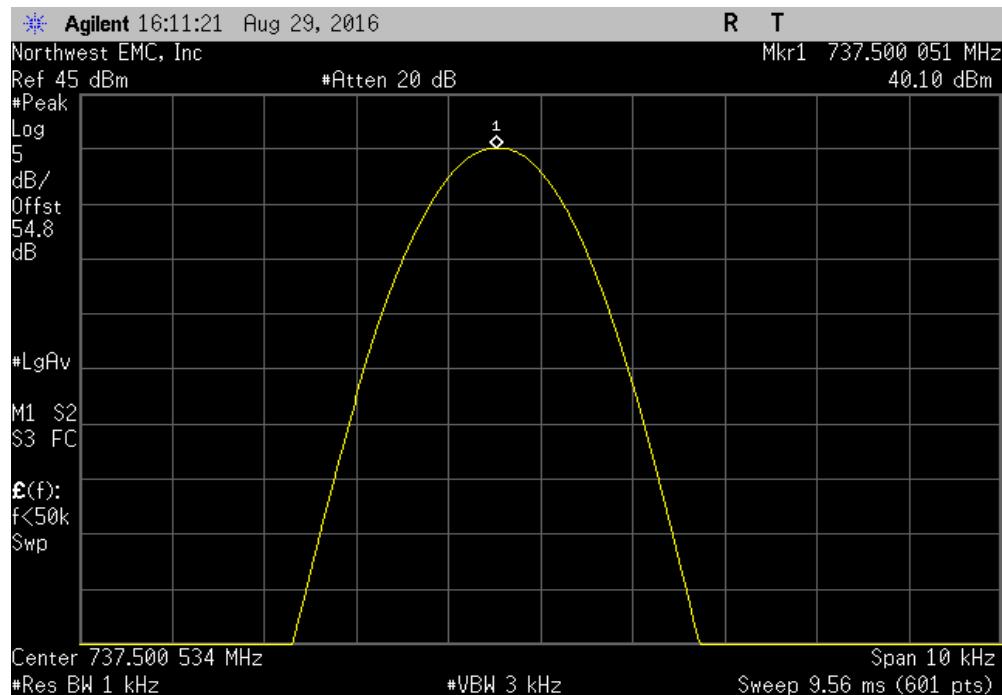


Antenna Port 2, Extreme Temperature, +30°C, Low Channel, 731.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	731.500058	731.5	0.1	1	Pass

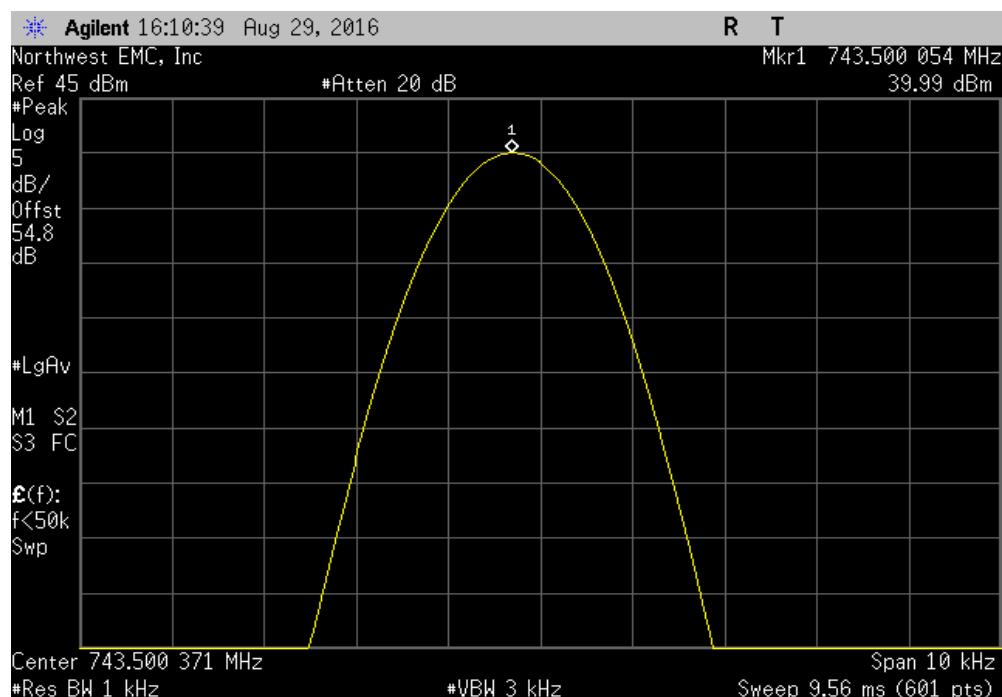


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, +30°C, Mid Channel, 737.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	737.500051	737.5	0.1	1	Pass

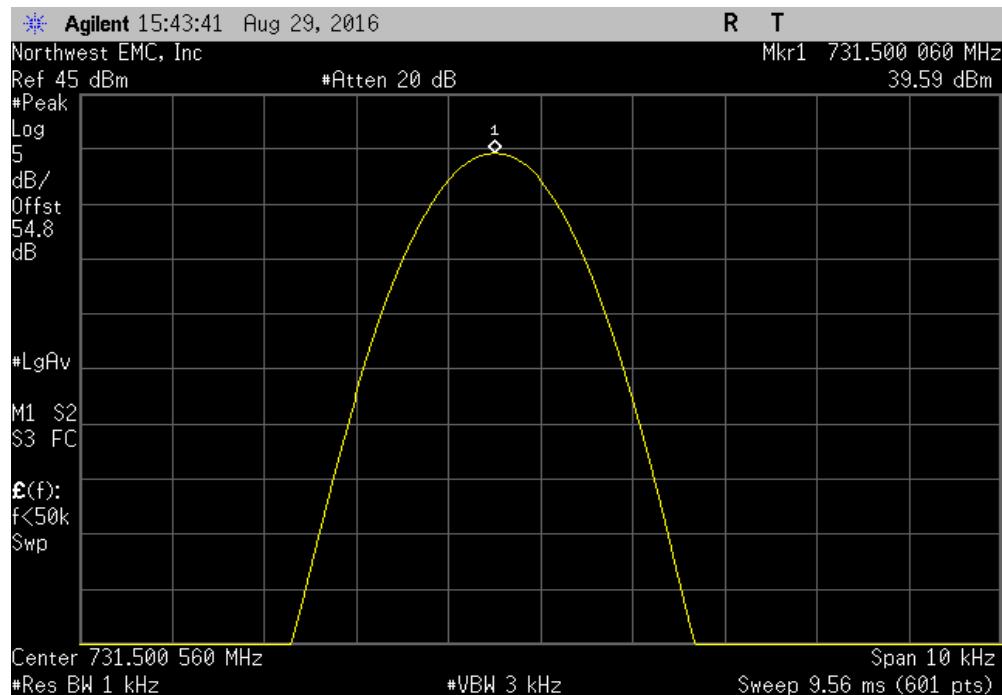


Antenna Port 2, Extreme Temperature, +30°C, High Channel, 743.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	743.500054	743.5	0.1	1	Pass

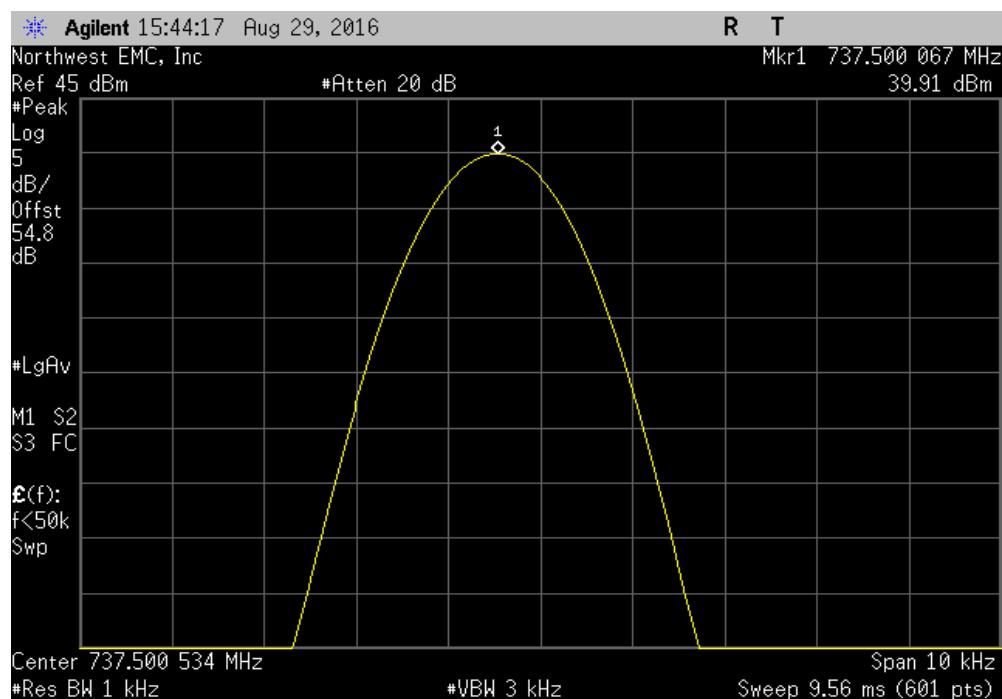


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, +40°C, Low Channel, 731.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	731.50006	731.5	0.1	1	Pass

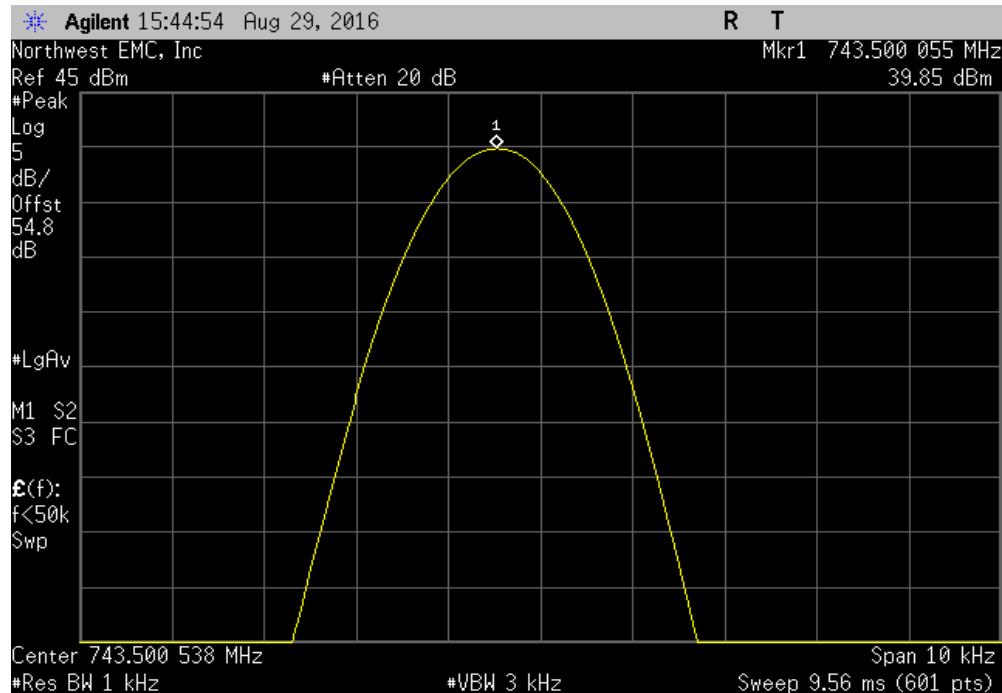


Antenna Port 2, Extreme Temperature, +40°C, Mid Channel, 737.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	737.500067	737.5	0.1	1	Pass

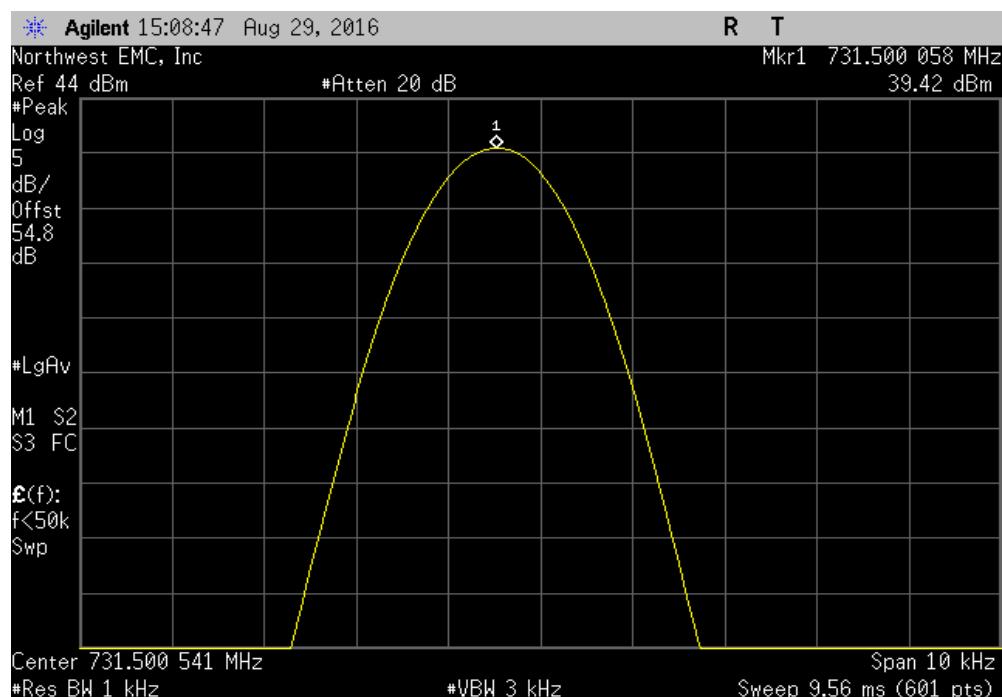


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, +40°C, High Channel, 743.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	743.500055	743.5	0.1	1	Pass

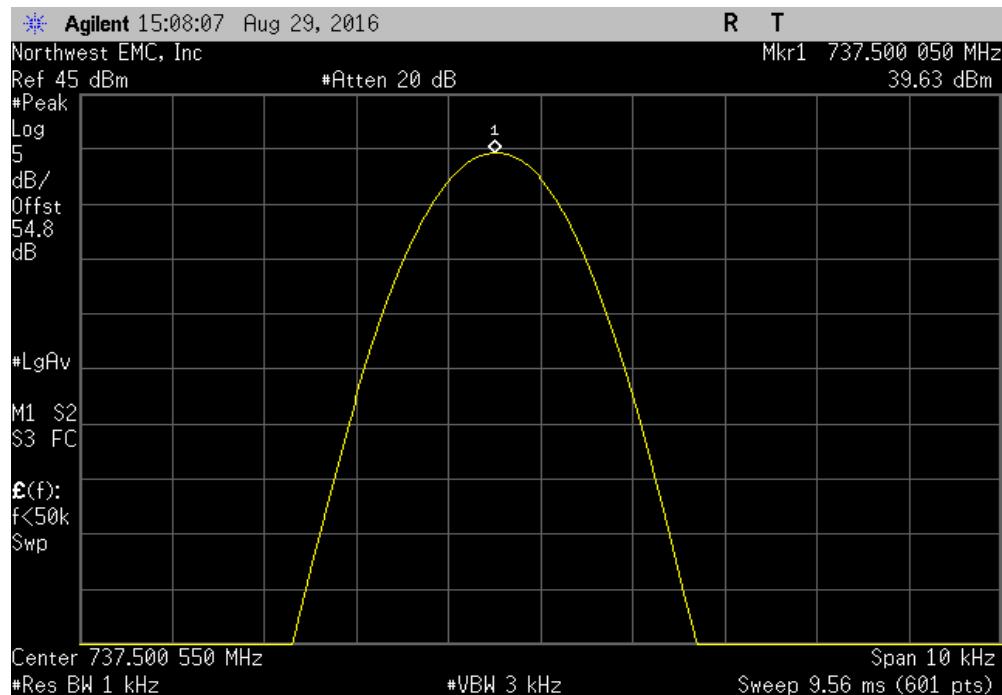


Antenna Port 2, Extreme Temperature, +50°C, Low Channel, 731.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	731.500058	731.5	0.1	1	Pass

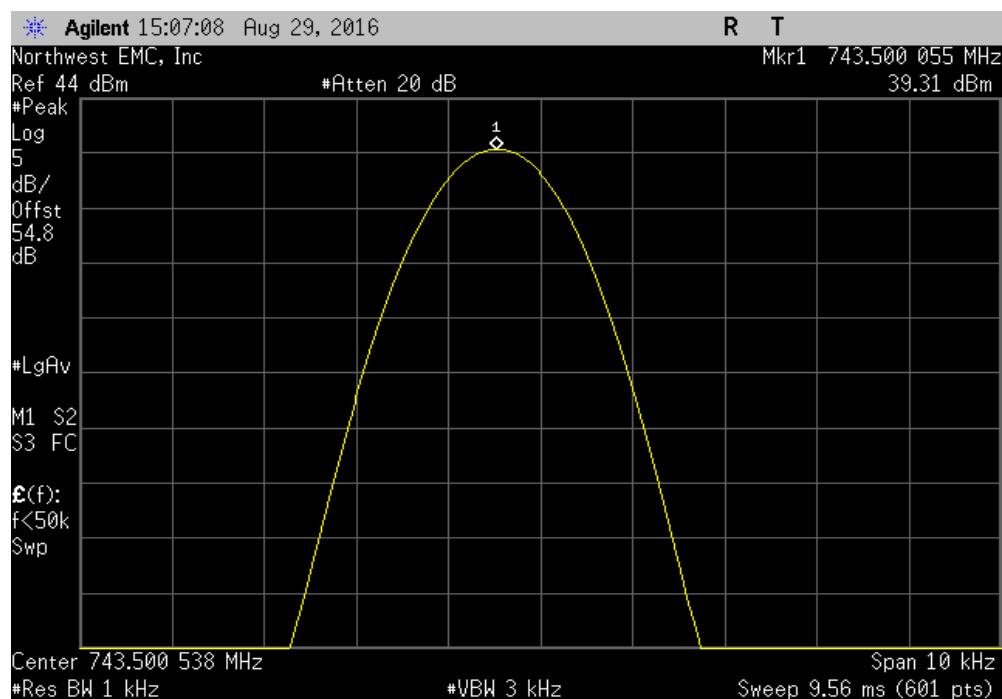


FREQUENCY STABILITY

Antenna Port 2, Extreme Temperature, +50°C, Mid Channel, 737.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	737.50005	737.5	0.1	1	Pass



Antenna Port 2, Extreme Temperature, +50°C, High Channel, 743.5 MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	743.500055	743.5	0.1	1	Pass



OCCUPIED BANDWIDTH - BAND 12

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.

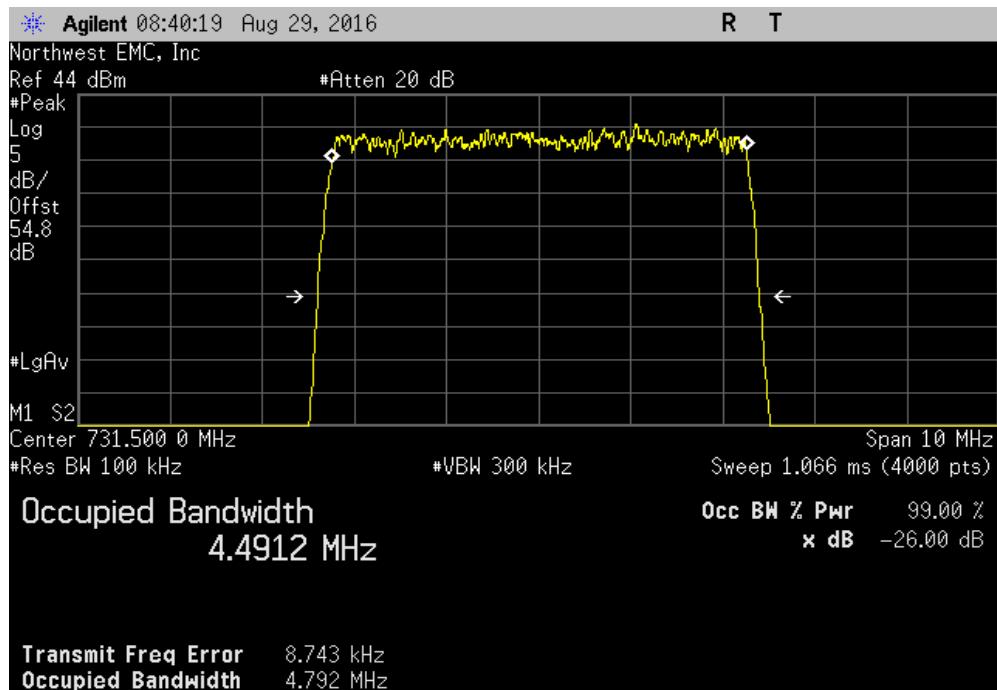
There is no required limit to be met in the rule part for this test. The purpose of the test is to report the results.

OCCUPIED BANDWIDTH - BAND 12

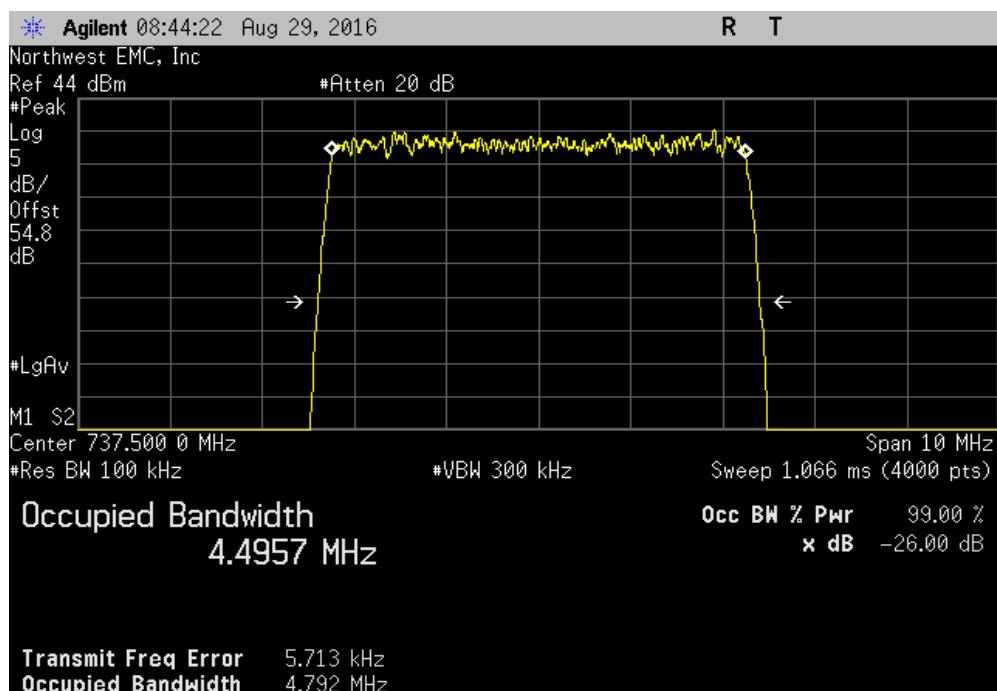
EUT:	CWS-3050-12		Work Order:	KMW0074																																																																																											
Serial Number:	K163300001		Date:	08/29/16																																																																																											
Customer:	Parallel Wireless Inc.		Temperature:	21.4 °C																																																																																											
Attendees:	Andy Ku		Humidity:	46.4% RH																																																																																											
Project:	None		Barometric Pres.:	1017 mbar																																																																																											
Tested by:	Johnny Candelas	Power:	48 VDC	Job Site:	OC13																																																																																										
TEST SPECIFICATIONS			Test Method																																																																																												
FCC 27:2016			ANSI/TIA/EIA-603-D-2010																																																																																												
COMMENTS																																																																																															
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 54.8dB total.																																																																																															
DEVIATIONS FROM TEST STANDARD																																																																																															
None																																																																																															
Configuration #	1	Signature																																																																																													
<table border="1"> <thead> <tr> <th></th> <th></th> <th></th> <th>Value</th> <th>Limit</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td colspan="3">Antenna Port 1</td> <td>4.792 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td colspan="3">Low Channel LTE5, 731.5 MHz</td> <td>4.792 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td colspan="3">Mid Channel LTE5, 737.5 MHz</td> <td>4.784 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td colspan="3">High Channel LTE5, 743.5 MHz</td> <td>9.562 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td colspan="3">Low Channel LTE10, 734 MHz</td> <td>9.556 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td colspan="3">Mid Channel LTE10, 737.5 MHz</td> <td>9.550 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td colspan="3">High Channel LTE10, 741 MHz</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="3">Antenna Port 2</td> <td>4.826 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td colspan="3">Low Channel LTE5, 731.5 MHz</td> <td>4.805 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td colspan="3">Mid Channel LTE5, 737.5 MHz</td> <td>4.786 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td colspan="3">High Channel LTE5, 743.5 MHz</td> <td>9.609 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td colspan="3">Low Channel LTE10, 734 MHz</td> <td>9.554 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td colspan="3">Mid Channel LTE10, 737.5 MHz</td> <td>9.582 MHz</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td colspan="3">High Channel LTE10, 741 MHz</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>									Value	Limit	Result	Antenna Port 1			4.792 MHz	N/A	N/A	Low Channel LTE5, 731.5 MHz			4.792 MHz	N/A	N/A	Mid Channel LTE5, 737.5 MHz			4.784 MHz	N/A	N/A	High Channel LTE5, 743.5 MHz			9.562 MHz	N/A	N/A	Low Channel LTE10, 734 MHz			9.556 MHz	N/A	N/A	Mid Channel LTE10, 737.5 MHz			9.550 MHz	N/A	N/A	High Channel LTE10, 741 MHz						Antenna Port 2			4.826 MHz	N/A	N/A	Low Channel LTE5, 731.5 MHz			4.805 MHz	N/A	N/A	Mid Channel LTE5, 737.5 MHz			4.786 MHz	N/A	N/A	High Channel LTE5, 743.5 MHz			9.609 MHz	N/A	N/A	Low Channel LTE10, 734 MHz			9.554 MHz	N/A	N/A	Mid Channel LTE10, 737.5 MHz			9.582 MHz	N/A	N/A	High Channel LTE10, 741 MHz					
			Value	Limit	Result																																																																																										
Antenna Port 1			4.792 MHz	N/A	N/A																																																																																										
Low Channel LTE5, 731.5 MHz			4.792 MHz	N/A	N/A																																																																																										
Mid Channel LTE5, 737.5 MHz			4.784 MHz	N/A	N/A																																																																																										
High Channel LTE5, 743.5 MHz			9.562 MHz	N/A	N/A																																																																																										
Low Channel LTE10, 734 MHz			9.556 MHz	N/A	N/A																																																																																										
Mid Channel LTE10, 737.5 MHz			9.550 MHz	N/A	N/A																																																																																										
High Channel LTE10, 741 MHz																																																																																															
Antenna Port 2			4.826 MHz	N/A	N/A																																																																																										
Low Channel LTE5, 731.5 MHz			4.805 MHz	N/A	N/A																																																																																										
Mid Channel LTE5, 737.5 MHz			4.786 MHz	N/A	N/A																																																																																										
High Channel LTE5, 743.5 MHz			9.609 MHz	N/A	N/A																																																																																										
Low Channel LTE10, 734 MHz			9.554 MHz	N/A	N/A																																																																																										
Mid Channel LTE10, 737.5 MHz			9.582 MHz	N/A	N/A																																																																																										
High Channel LTE10, 741 MHz																																																																																															

OCCUPIED BANDWIDTH - BAND 12

Antenna Port 1, Low Channel LTE5, 731.5 MHz		
	Value	Limit
	4.792 MHz	N/A

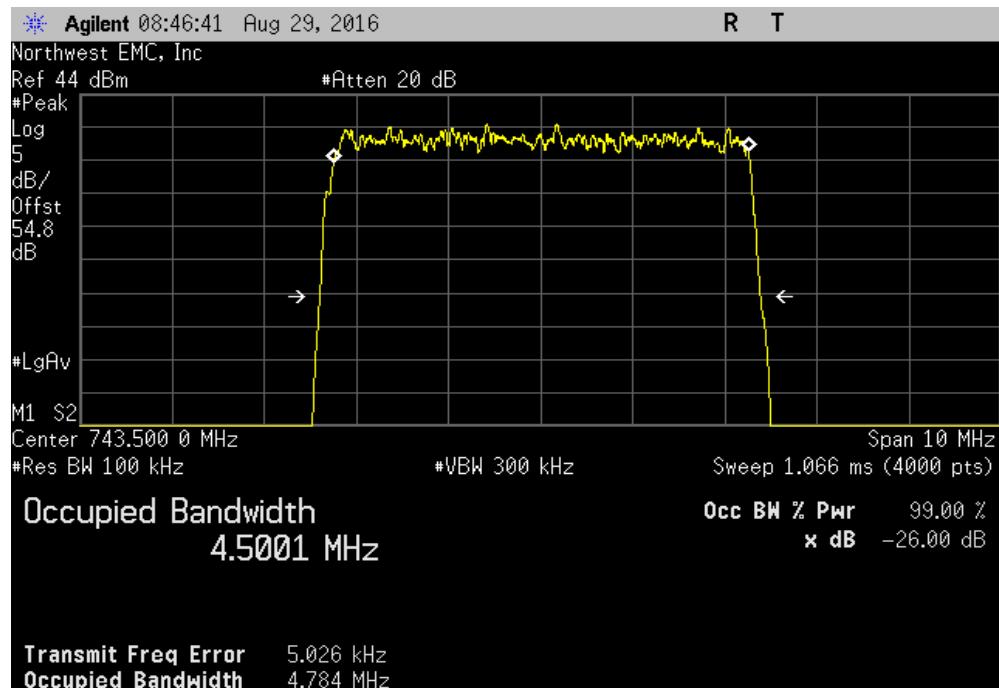


Antenna Port 1, Mid Channel LTE5, 737.5 MHz		
	Value	Limit
	4.792 MHz	N/A

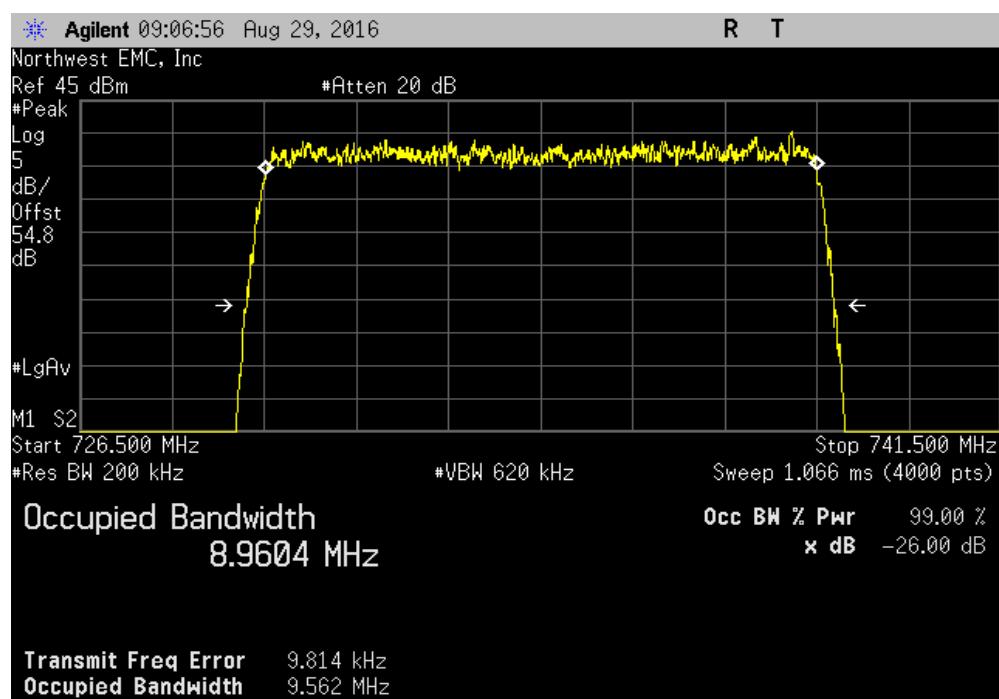


OCCUPIED BANDWIDTH - BAND 12

Antenna Port 1, High Channel LTE5, 743.5 MHz		
	Value	Limit
	4.784 MHz	N/A

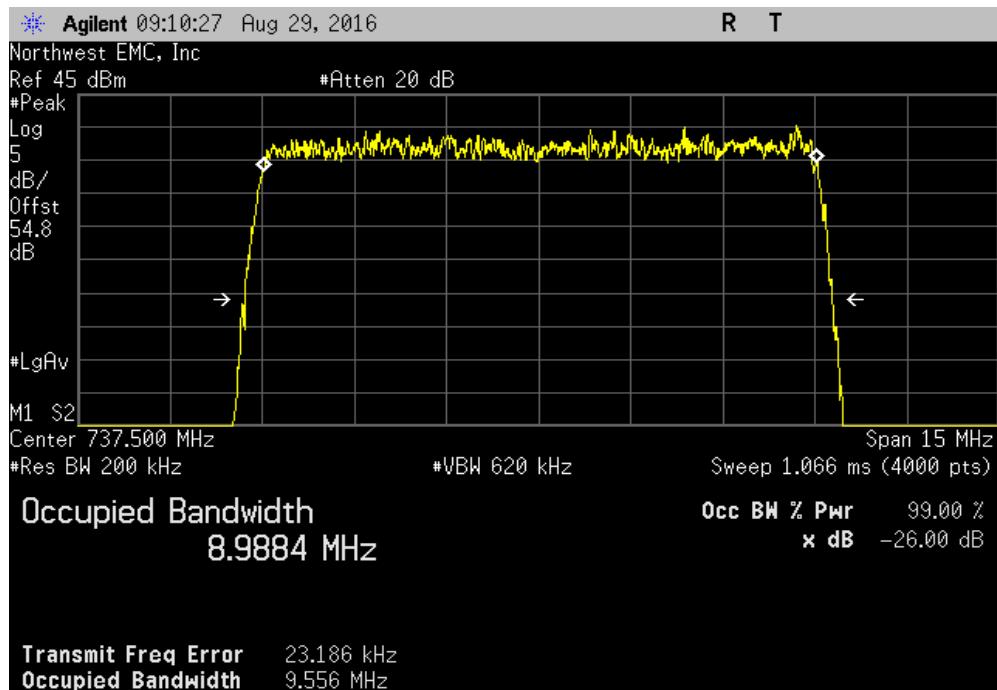


Antenna Port 1, Low Channel LTE10, 734 MHz		
	Value	Limit
	9.562 MHz	N/A

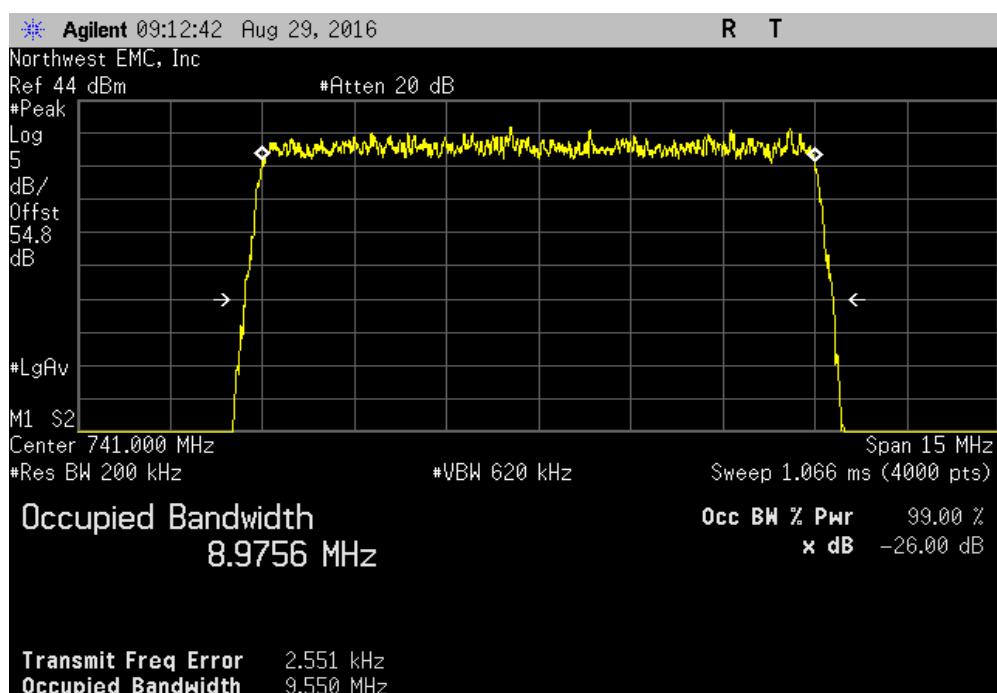


OCCUPIED BANDWIDTH - BAND 12

Antenna Port 1, Mid Channel LTE10, 737.5 MHz		
	Value	Limit
	9.556 MHz	N/A

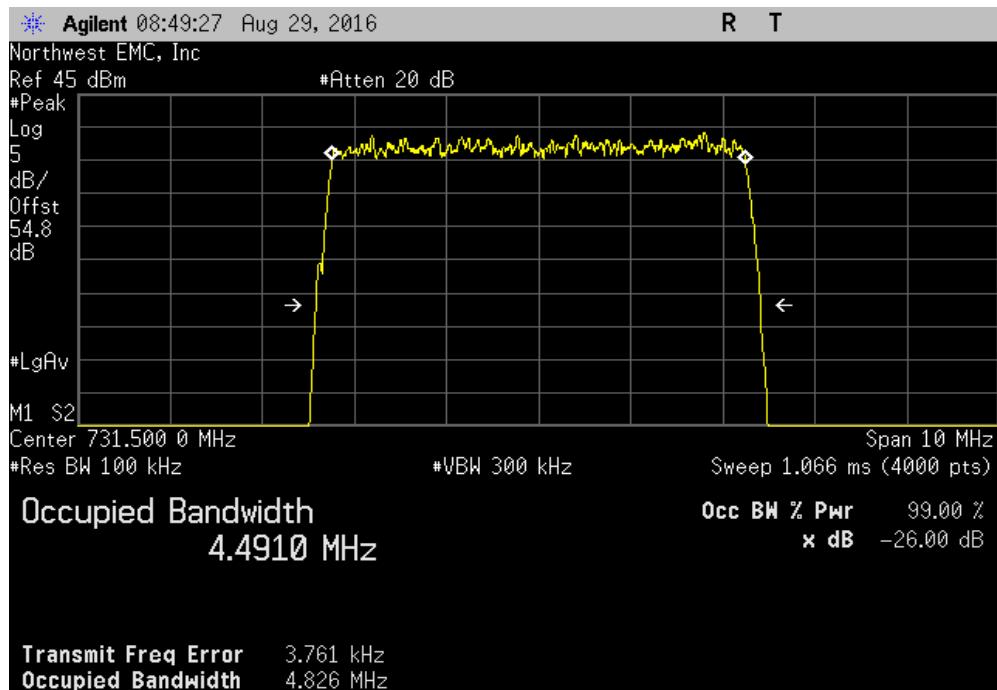


Antenna Port 1, High Channel LTE10, 741 MHz		
	Value	Limit
	9.550 MHz	N/A

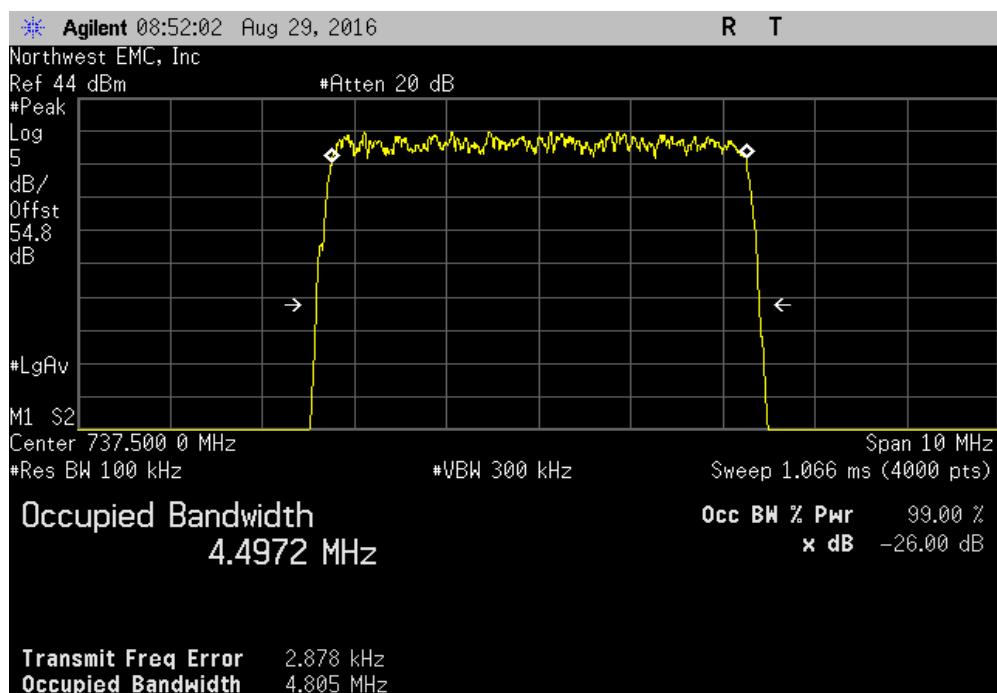


OCCUPIED BANDWIDTH - BAND 12

Antenna Port 2, Low Channel LTE5, 731.5 MHz		
	Value	Limit
	4.826 MHz	N/A

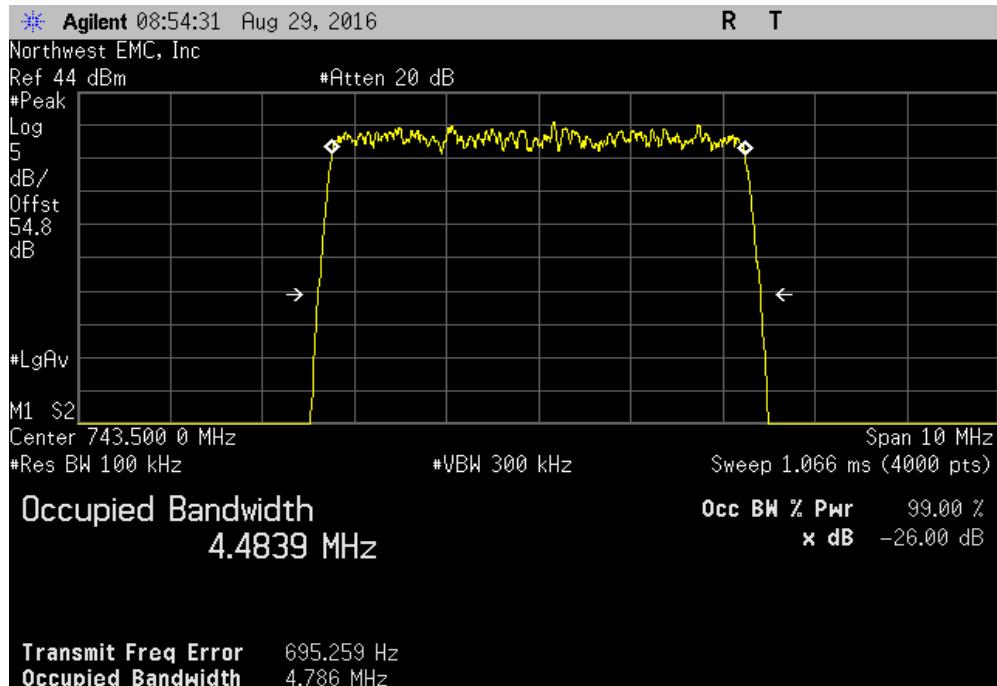


Antenna Port 2, Mid Channel LTE5, 737.5 MHz		
	Value	Limit
	4.805 MHz	N/A

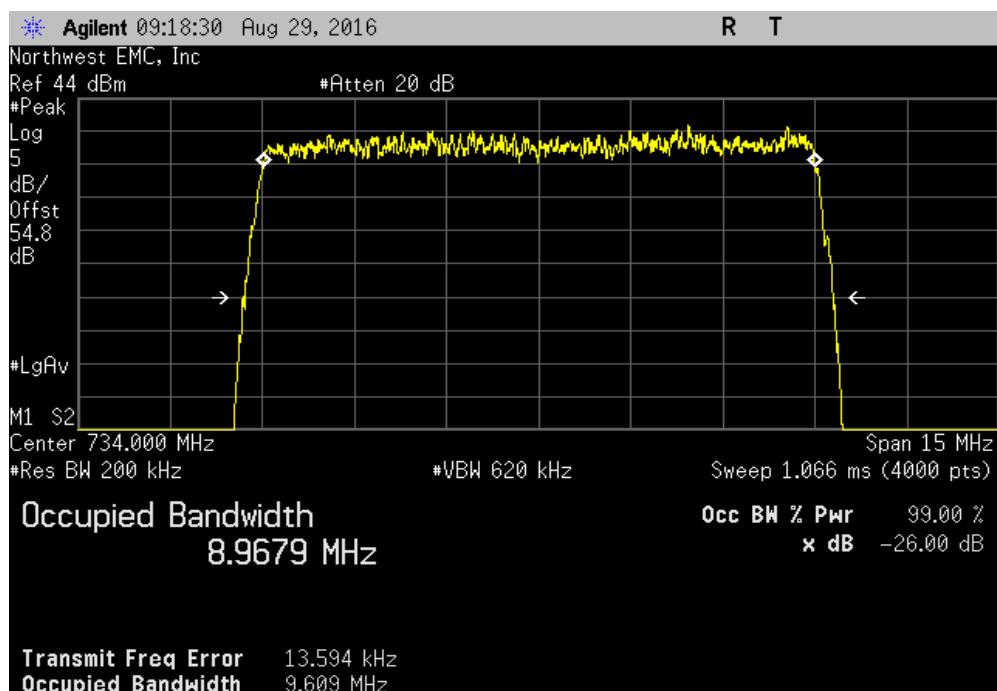


OCCUPIED BANDWIDTH - BAND 12

Antenna Port 2, High Channel LTE5, 743.5 MHz		
	Value	Limit
	4.786 MHz	N/A

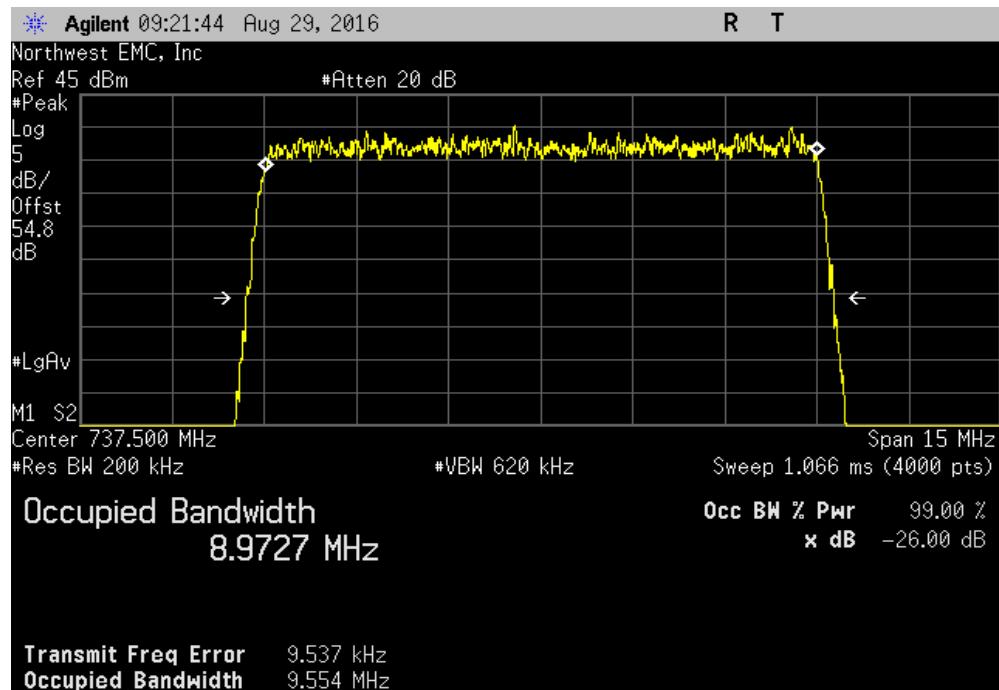


Antenna Port 2, Low Channel LTE10, 734 MHz		
	Value	Limit
	9.609 MHz	N/A

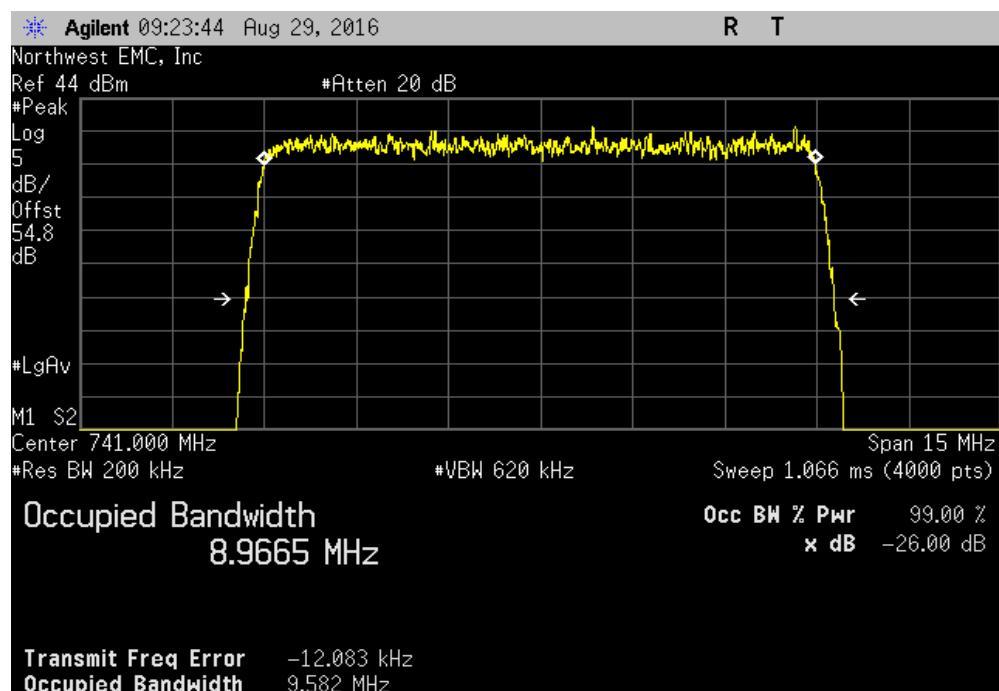


OCCUPIED BANDWIDTH - BAND 12

Antenna Port 2, Mid Channel LTE10, 737.5 MHz		
	Value	Limit
	9.554 MHz	N/A



Antenna Port 2, High Channel LTE10, 741 MHz		
	Value	Limit
	9.582 MHz	N/A



OCCUPIED BANDWIDTH - BAND 17

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	Keysight	N5182B	TFX	4/16/2015	4/16/2018
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	AFD	7/29/2016	7/29/2017

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.

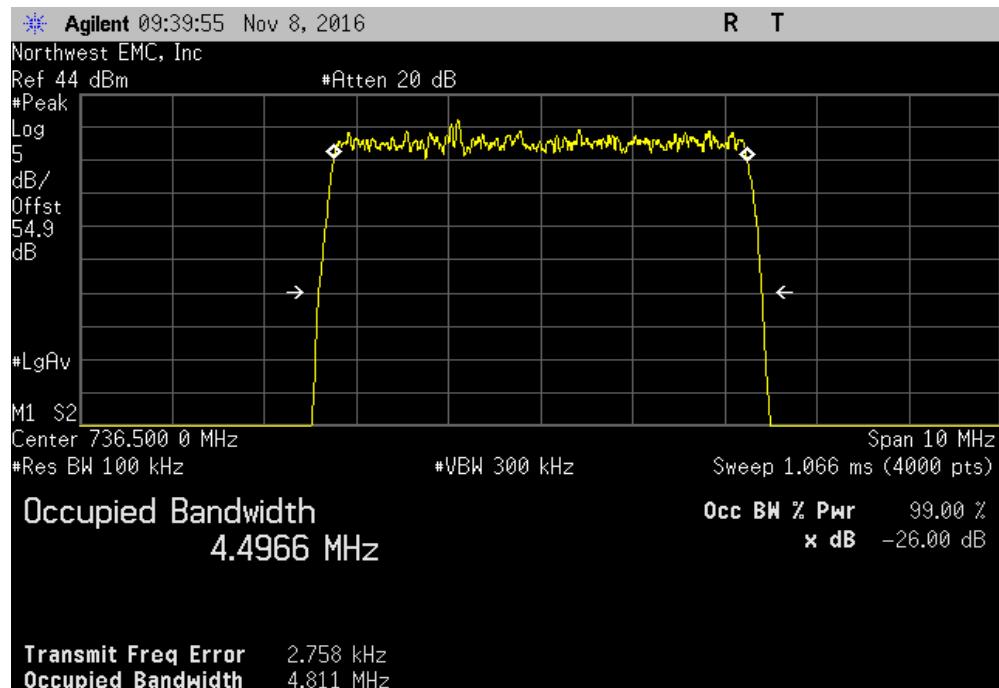
Only the Low Channel for each channel bandwidth was tested, the Mid & High Channels were previously tested in this band.

OCCUPIED BANDWIDTH - BAND 17

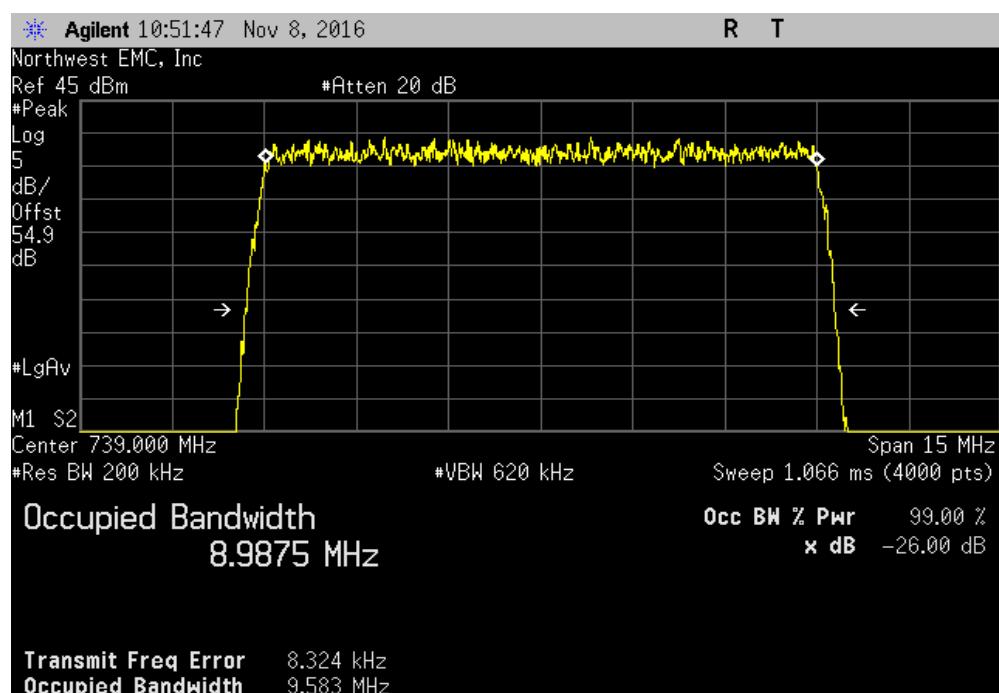
EUT:	CWS-3050-12		Work Order:	KMWG0077	
Serial Number:	K163300001		Date:	11/08/16	
Customer:	Parallel Wireless Inc.		Temperature:	20.8 °C	
Attendees:	Edward Lee		Humidity:	49% RH	
Project:	None		Barometric Pres.:	1018 mbar	
Tested by:	Johnny Candelas	Power:	48 VDC	Job Site:	OC13
TEST SPECIFICATIONS			Test Method		
FCC 27:2016			ANSI/TIA/EIA-603-D-2010		
COMMENTS					
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 54.9dB total.					
DEVIATIONS FROM TEST STANDARD					
None					
Configuration #	1	Signature			
			Value	Limit	Result
Antenna Port 1					
Low Channel LTE5, 736.5 MHz			4.811 MHz	N/A	N/A
Low Channel LTE10, 739 MHz			9.583 MHz	N/A	N/A
Antenna Port 2					
Low Channel LTE5, 736.5 MHz			4.796 MHz	N/A	N/A
Low Channel LTE10, 739 MHz			9.577 MHz	N/A	N/A

OCCUPIED BANDWIDTH - BAND 17

Antenna Port 1, Low Channel LTE5, 736.5 MHz		
	Value	Limit
	4.811 MHz	N/A

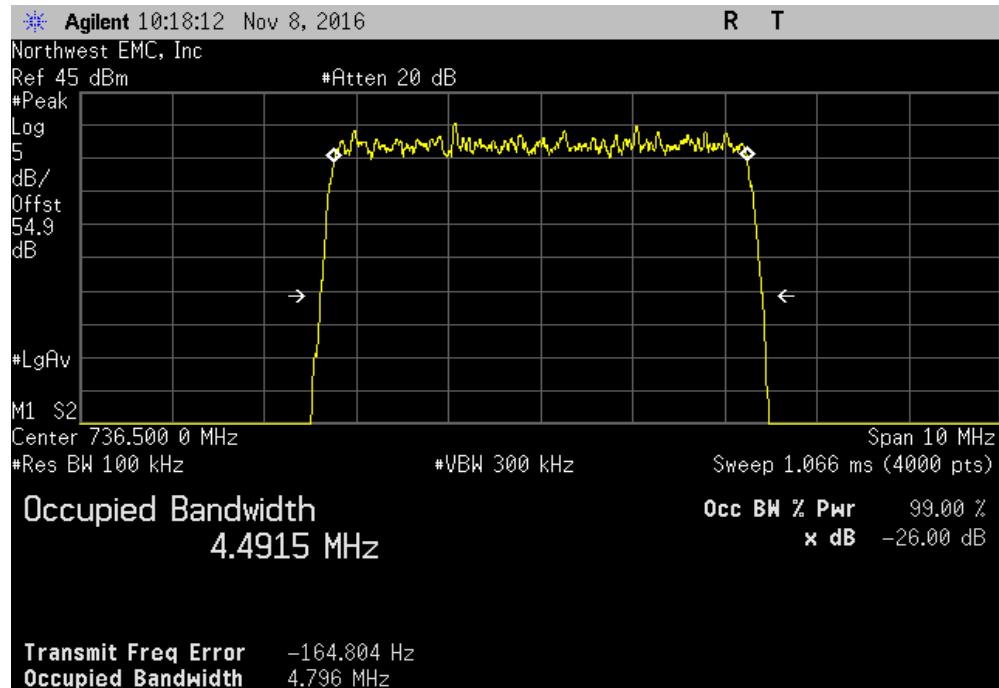


Antenna Port 1, Low Channel LTE10, 739 MHz		
	Value	Limit
	9.583 MHz	N/A

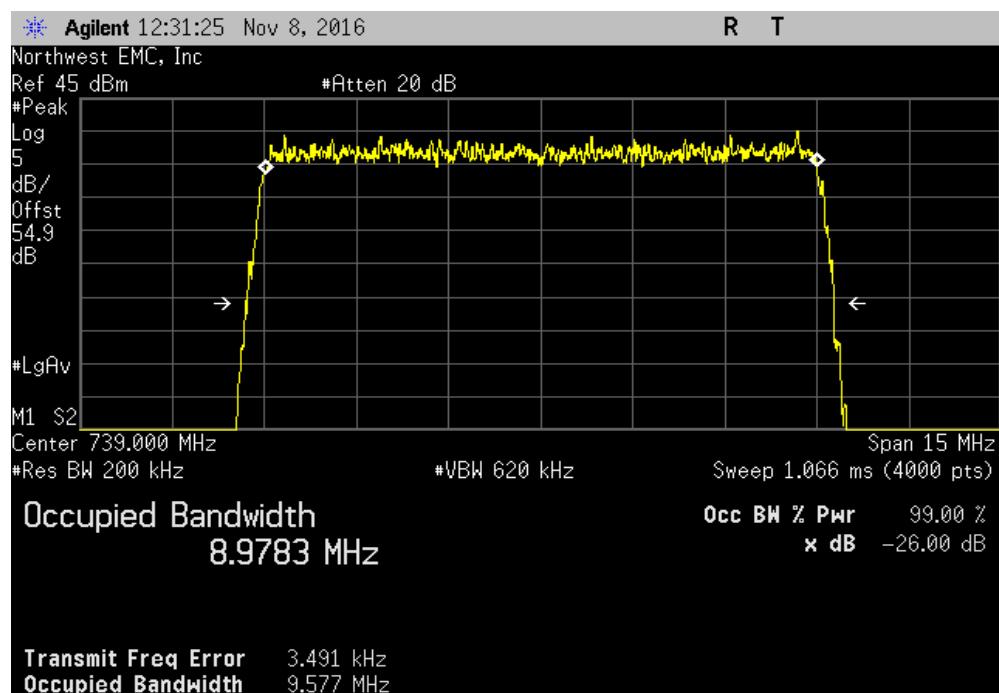


OCCUPIED BANDWIDTH - BAND 17

Antenna Port 2, Low Channel LTE5, 736.5 MHz		
	Value	Limit
	4.796 MHz	N/A



Antenna Port 2, Low Channel LTE10, 739 MHz		
	Value	Limit
	9.577 MHz	N/A



OUT OF BAND EMISSIONS - LTE BAND 12

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 (731.5MHz), Mid Ch (737.5MHz), and High Ch (743.5MHz)

Transmitting at LTE10, Low Ch (734MHz), Mid Ch (737.5MHz), and High Ch (741MHz)

POWER SETTINGS INVESTIGATED

48 VDC

CONFIGURATIONS INVESTIGATED

KMWC0074 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	8000 MHz
-----------------	--------	----------------	----------

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
Attenuator	S.M. Electronics	SA18H-10	REN	3/28/2016	12 mo
Attenuator	S.M. Electronics	SA6-20	REO	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	8/15/2016	12 mo
Cable	ESM Cable Corp.	30-1GHz cables	OCW	8/15/2016	12 mo
Filter - High Pass	Micro-Tronics	HPM50108	HGP	3/28/2016	12 mo
Filter - Low Pass	Micro-Tronics	LPM50004	HGK	3/28/2016	12 mo
Filter - Band Pass/Notch	K&L Microwave	3TNF-500/1000-N/N	HFR	3/3/2016	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 EUT was tested with shielded terminations on the RF output ports instead of antennas.

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

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

OUT OF BAND EMISSIONS - LTE BAND 12

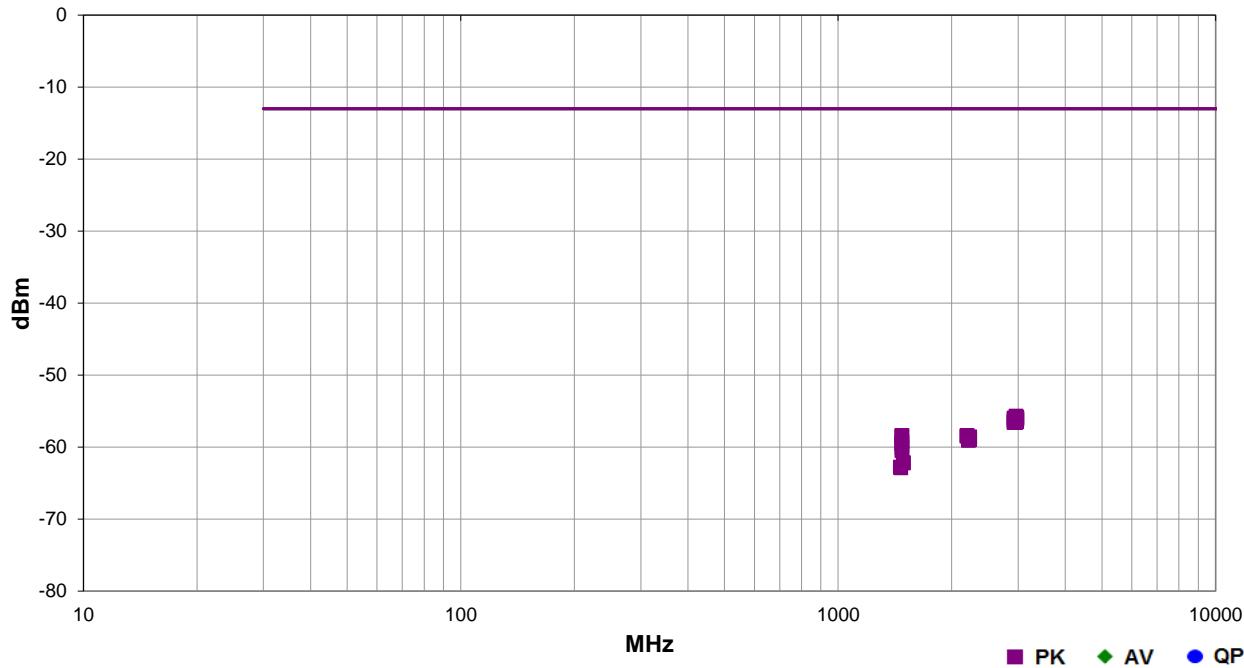
**NORTHWEST
EMC**

PSA-ESCI 2016.07.22
EmiR5 2016.07.22.1

Work Order:	KMWC0074	Date:	08/31/16	
Project:	None	Temperature:	19 °C	
Job Site:	OC07	Humidity:	42% RH	
Serial Number:	K163300001	Barometric Pres.:	1011 mbar	Tested by: Mike Tran
EUT:	CWS-3050-12			
Configuration:	2			
Customer:	Parallel Wireless Inc.			
Attendees:	Andy Ku			
EUT Power:	48 VDC			
Operating Mode:	Transmitting at LTE5, Low Ch (731.5MHz), Mid Ch (737.5MHz), and High Ch (743.5MHz) Transmitting at LTE10, Low Ch (734MHz), Mid Ch (737.5MHz), and High Ch (741MHz)			
Deviations:	None			
Comments:	2x40W			

Test Specifications	Test Method
FCC 27.53:2016	ANSI/TIA/EIA-603-D-2010

Run #	15	Test Distance (m)	3	Antenna Height(s)	1 to 4(m)	Results	Pass



	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/Transducer Type	Detector	ERP (Watts)	ERP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
2961.950	3.1	0.0	Vert	PK	2.70E-09	-55.7	-13.0	-42.7		Dual Carrier Edge to Edge LTE5-LTE10, EUT Horz
2975.983	1.0	52.0	Vert	PK	2.58E-09	-55.9	-13.0	-42.9		Dual Carrier Edge to Edge LTE5, EUT Horz
2964.358	3.3	32.0	Horz	PK	2.58E-09	-55.9	-13.0	-42.9		Dual Carrier Edge to Edge LTE5-LTE10, EUT on Side
2926.158	2.6	91.0	Vert	PK	2.52E-09	-56.0	-13.0	-43.0		Low Ch, EUT Horz, LTE5
2962.833	1.0	122.0	Vert	PK	2.52E-09	-56.0	-13.0	-43.0		High Ch, EUT Horz, LTE10
2949.833	1.0	21.0	Horz	PK	2.52E-09	-56.0	-13.0	-43.0		Dual Carrier Edge to Edge LTE5, EUT on Side
2974.925	1.0	256.0	Horz	PK	2.47E-09	-56.1	-13.0	-43.1		Dual Carrier Edge to Edge LTE5, EUT on Side
2926.933	1.0	82.0	Horz	PK	2.47E-09	-56.1	-13.0	-43.1		Dual Carrier Edge to Edge LTE5-LTE10, EUT on Side
2938.108	2.2	0.0	Horz	PK	2.41E-09	-56.2	-13.0	-43.2		Low Ch, EUT on Side, LTE10
2952.358	1.0	255.0	Horz	PK	2.41E-09	-56.2	-13.0	-43.2		Mid Ch, EUT on Side, LTE10
2972.433	1.0	310.0	Horz	PK	2.36E-09	-56.3	-13.0	-43.3		High Ch, EUT on Side, LTE5
2935.850	1.4	240.0	Vert	PK	2.36E-09	-56.3	-13.0	-43.3		Low Ch, EUT Horz, LTE10
2965.442	1.0	68.0	Horz	PK	2.36E-09	-56.3	-13.0	-43.3		High Ch, EUT on Side, LTE10
2948.308	1.0	65.0	Vert	PK	2.36E-09	-56.3	-13.0	-43.3		Dual Carrier Edge to Edge LTE5, EUT Horz

	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	ERP (Watts)	ERP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
	2927.900	2.7	219.0	Horz	PK	2.36E-09	-56.3	-13.0	-43.3	Dual Carrier Edge to Edge LTE5, EUT on Side
	2947.808	1.0	305.0	Vert	PK	2.25E-09	-56.5	-13.0	-43.5	Mid Ch, EUT Horz, LTE5
	2926.975	2.0	10.0	Horz	PK	2.25E-09	-56.5	-13.0	-43.5	Low Ch, EUT on Side, LTE5
	2972.833	1.0	34.0	Vert	PK	2.25E-09	-56.5	-13.0	-43.5	High Ch, EUT Horz, LTE5
	2927.167	2.4	272.0	Vert	PK	2.25E-09	-56.5	-13.0	-43.5	Dual Carrier Edge to Edge LTE5, EUT Horz
	2949.958	1.0	275.0	Horz	PK	2.20E-09	-56.6	-13.0	-43.6	Mid Ch, EUT on Side, LTE5
	2951.808	3.2	168.0	Vert	PK	2.20E-09	-56.6	-13.0	-43.6	Mid Ch, EUT Horz, LTE10
	2926.508	1.9	349.0	Vert	PK	2.20E-09	-56.6	-13.0	-43.6	Dual Carrier Edge to Edge LTE5-LTE10, EUT Horz
	1475.217	2.0	183.0	Vert	PK	1.45E-09	-58.4	-13.0	-45.4	Mid Ch, EUT Horz, LTE5
	2195.100	3.5	1.0	Horz	PK	1.45E-09	-58.4	-13.0	-45.4	Low Ch, EUT on Side, LTE5
	1474.750	2.4	264.0	Vert	PK	1.42E-09	-58.5	-13.0	-45.5	Mid Ch, EUT on Side, LTE5
	2194.000	2.8	238.0	Vert	PK	1.42E-09	-58.5	-13.0	-45.5	Low Ch, EUT Horz, LTE5
	2230.850	1.0	347.0	Vert	PK	1.39E-09	-58.6	-13.0	-45.6	High Ch, EUT Horz, LTE5
	2214.058	1.0	191.0	Vert	PK	1.26E-09	-59.0	-13.0	-46.0	Mid Ch, EUT Horz, LTE5
	2231.117	3.7	344.0	Horz	PK	1.26E-09	-59.0	-13.0	-46.0	High Ch, EUT on Side, LTE5
	2214.567	1.0	217.0	Horz	PK	1.24E-09	-59.1	-13.0	-46.1	Mid Ch, EUT on Side, LTE5
	1475.108	1.0	67.0	Horz	PK	1.18E-09	-59.3	-13.0	-46.3	Mid Ch, EUT on Side, LTE5
	1474.792	1.0	237.0	Horz	PK	1.10E-09	-59.6	-13.0	-46.6	Mid Ch, EUT Horz, LTE5
	1475.042	1.0	229.0	Vert	PK	9.82E-10	-60.1	-13.0	-47.1	Mid Ch, EUT Vert, LTE5
	1475.250	1.0	132.0	Horz	PK	8.95E-10	-60.5	-13.0	-47.5	Mid Ch, EUT Vert, LTE5
	1488.333	1.0	107.0	Horz	PK	6.05E-10	-62.2	-13.0	-49.2	High Ch, EUT on Side, LTE5
	1488.717	1.0	346.0	Vert	PK	6.05E-10	-62.2	-13.0	-49.2	High Ch, EUT Horz, LTE5
	1461.233	1.0	52.0	Horz	PK	5.27E-10	-62.8	-13.0	-49.8	Low Ch, EUT on Side, LTE5
	1465.092	1.0	311.0	Vert	PK	5.15E-10	-62.9	-13.0	-49.9	Low Ch, EUT Horz, LTE5

OUT OF BAND EMISSIONS - LTE Band 17

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(736.5MHz) and LTE10: Low Ch(739MHz)

POWER SETTINGS INVESTIGATED

48 VDC

CONFIGURATIONS INVESTIGATED

KMWC0077 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	8000 MHz
-----------------	--------	----------------	----------

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
Generator - Signal	Keysight	N5182B	TFX	4/16/2015	36 mo
Antenna - Double Ridge	EMCO	3115	AHB	3/21/2016	24 mo
Filter - Low Pass	Micro-Tronics	LPM50003	LFA	10/17/2016	12 mo
Filter - Band Pass/Notch	K&L Microwave	3TNF-500/1000-N/N	HFR	3/3/2016	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIR	6/23/2016	24 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVP	8/15/2016	12 mo
Filter - Low Pass	Micro-Tronics	LPM50003	HGO	3/28/2016	12 mo
Filter - High Pass	Micro-Tronics	HPM50108	HGP	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
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	4/11/2016	12 mo

MEASUREMENT BANDWIDTHS

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

TEST DESCRIPTION

The EUT was tested with shielded terminations on the RF output ports instead of antennas.

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. 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. 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 $\frac{1}{2}$ wave dipole that is successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator is connected to the dipole (horn antenna for frequencies above 1 GHz), and its output is adjusted to match the level previously noted for each frequency. The output of the signal generator is recorded, and by factoring in the cable loss to the antenna and its gain; the power (dBm) into an ideal $\frac{1}{2}$ wave dipole antenna is determined for each radiated spurious emission.

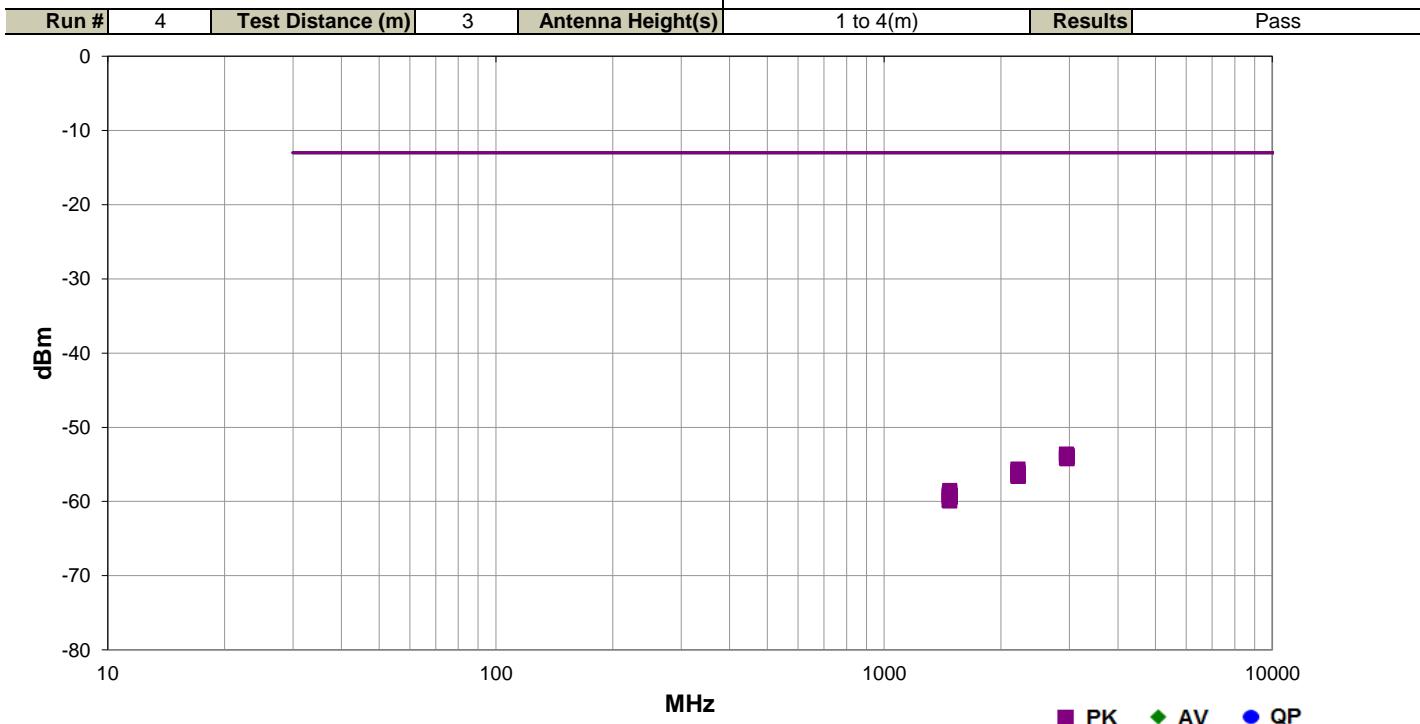
OUT OF BAND EMISSIONS - LTE Band 17

NORTHWEST
EMC

PSA-ESCI 2016.07.22
EmiR5 2016.08.26

Work Order:	KMWC0077	Date:	11/08/16	
Project:	None	Temperature:	21.5 °C	
Job Site:	OC07	Humidity:	48.4% RH	
Serial Number:	K163300001	Barometric Pres.:	1017 mbar	Tested by: Mark Baytan
EUT:	CWS-3050-12			
Configuration:	2			
Customer:	Parallel Wireless Inc.			
Attendees:	Edward Lee			
EUT Power:	48 VDC			
Operating Mode:	Transmitting at LTE5: Low Ch(736.5MHz) and LTE10: Low Ch(739MHz)			
Deviations:	None			
Comments:	Power Level Setting 40W.			

Test Specifications	Test Method
FCC 27.53:2016	ANSI/TIA/EIA-603-D-2010



	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
	2947.950	1.0	360.0	Horz	PK	4.34E-09	-53.6	-13.0	-40.6	EUT on Side, LTE5 Low Ch
	2954.908	1.0	283.0	Vert	PK	4.24E-09	-53.7	-13.0	-40.7	EUT on Side, LTE10 Low Ch
	2958.820	4.0	211.0	Horz	PK	4.14E-09	-53.8	-13.0	-40.8	EUT on Side, Dual Carrier Narrowband LTE5
	2953.575	2.4	173.0	Horz	PK	4.05E-09	-53.9	-13.0	-40.9	EUT on Side, LTE10 Low Ch
	2955.120	1.0	243.0	Horz	PK	4.05E-09	-53.9	-13.0	-40.9	EUT on Side, Dual Carrier Wideband LTE5
	2957.400	1.0	348.0	Vert	PK	3.95E-09	-54.0	-13.0	-41.0	EUT on Side, Dual Carrier Narrowband LTE5
	2948.483	1.0	114.0	Vert	PK	3.86E-09	-54.1	-13.0	-41.1	EUT on Side, LTE5 Low Ch
	2957.870	3.8	344.0	Vert	PK	3.78E-09	-54.2	-13.0	-41.2	EUT on Side, Dual Carrier Wideband LTE5
	2211.300	1.0	169.0	Horz	PK	2.74E-09	-55.6	-13.0	-42.6	EUT on Side, LTE5 Low Ch
	2209.542	1.0	179.0	Vert	PK	2.50E-09	-56.0	-13.0	-43.0	EUT on Side, LTE5 Low Ch
	2217.058	1.0	287.0	Horz	PK	2.44E-09	-56.1	-13.0	-43.1	EUT on Side, LTE10 Low Ch

	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
	2215.000	1.0	98.0	Vert	PK	2.28E-09	-56.4	-13.0	-43.4	EUT on Side, LTE10 Low Ch
	2214.320	1.0	199.0	Vert	PK	2.28E-09	-56.4	-13.0	-43.4	EUT on Side, Dual Carrier Narrowband LTE5
	2217.860	1.0	173.0	Vert	PK	2.28E-09	-56.4	-13.0	-43.4	EUT on Side, Dual Carrier Wideband LTE5
	2215.010	1.0	316.0	Horz	PK	2.22E-09	-56.5	-13.0	-43.5	EUT on Side, Dual Carrier Wideband LTE5
	2214.010	1.0	57.0	Horz	PK	2.17E-09	-56.6	-13.0	-43.6	EUT on Side, Dual Carrier Narrowband LTE5
	1475.110	3.8	123.0	Vert	PK	1.40E-09	-58.5	-13.0	-45.5	EUT on Side, Dual Carrier Narrowband LTE5
	1475.700	1.0	83.0	Horz	PK	1.31E-09	-58.8	-13.0	-45.8	EUT on Side, Dual Carrier Narrowband LTE5
	1471.400	1.0	157.0	Vert	PK	1.28E-09	-58.9	-13.0	-45.9	EUT on Side, LTE5 Low Ch
	1470.650	1.0	13.0	Horz	PK	1.19E-09	-59.2	-13.0	-46.2	EUT on Side, LTE5 Low Ch
	1474.983	3.1	185.0	Horz	PK	1.19E-09	-59.2	-13.0	-46.2	EUT Vert, LTE5 Low Ch
	1480.530	1.8	217.0	Horz	PK	1.19E-09	-59.2	-13.0	-46.2	EUT on Side, Dual Carrier Wideband LTE5
	1471.475	1.3	349.0	Vert	PK	1.17E-09	-59.3	-13.0	-46.3	EUT Vert, LTE5 Low Ch
	1479.542	1.0	6.0	Horz	PK	1.17E-09	-59.3	-13.0	-46.3	EUT on Side, LTE10 Low Ch
	1478.140	3.4	61.0	Vert	PK	1.17E-09	-59.3	-13.0	-46.3	EUT on Side, Dual Carrier Wideband LTE5
	1478.350	1.1	155.0	Vert	PK	1.14E-09	-59.4	-13.0	-46.4	EUT on Side, LTE10 Low Ch
	1470.633	1.0	179.0	Horz	PK	1.04E-09	-59.8	-13.0	-46.8	EUT Horz, LTE5 Low Ch
	1475.417	1.0	195.0	Vert	PK	1.02E-09	-59.9	-13.0	-46.9	EUT Horz, LTE5 Low Ch

SPURIOUS EMISSIONS AT THE ANTENNA TERMINALS - BAND 12

**NORTHWEST
EMC**
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

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.

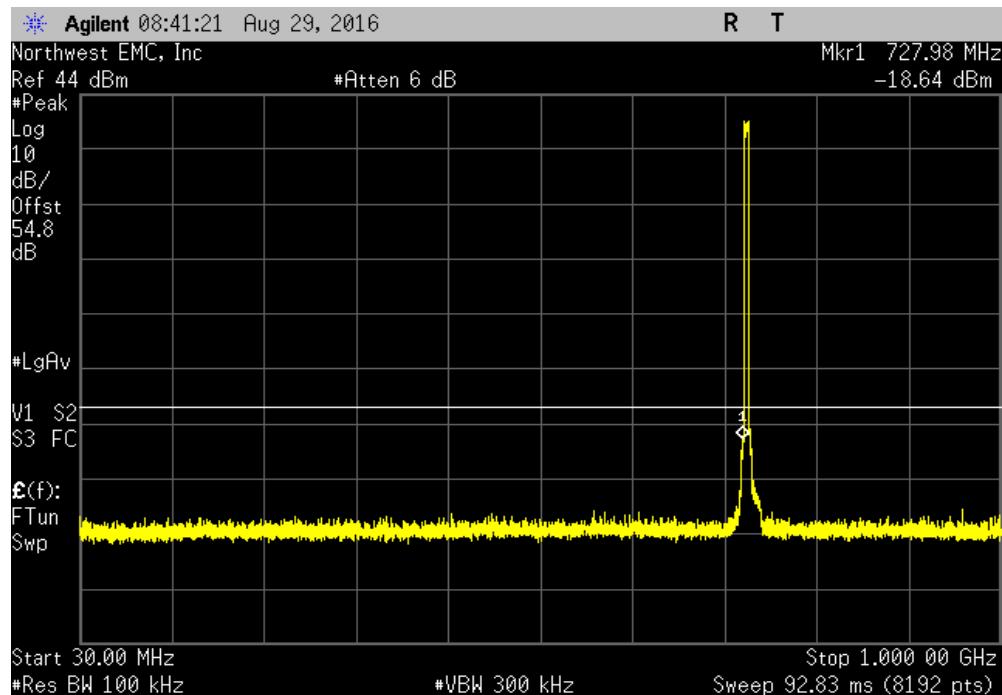
The peak conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than or equal to the limit.

SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 12

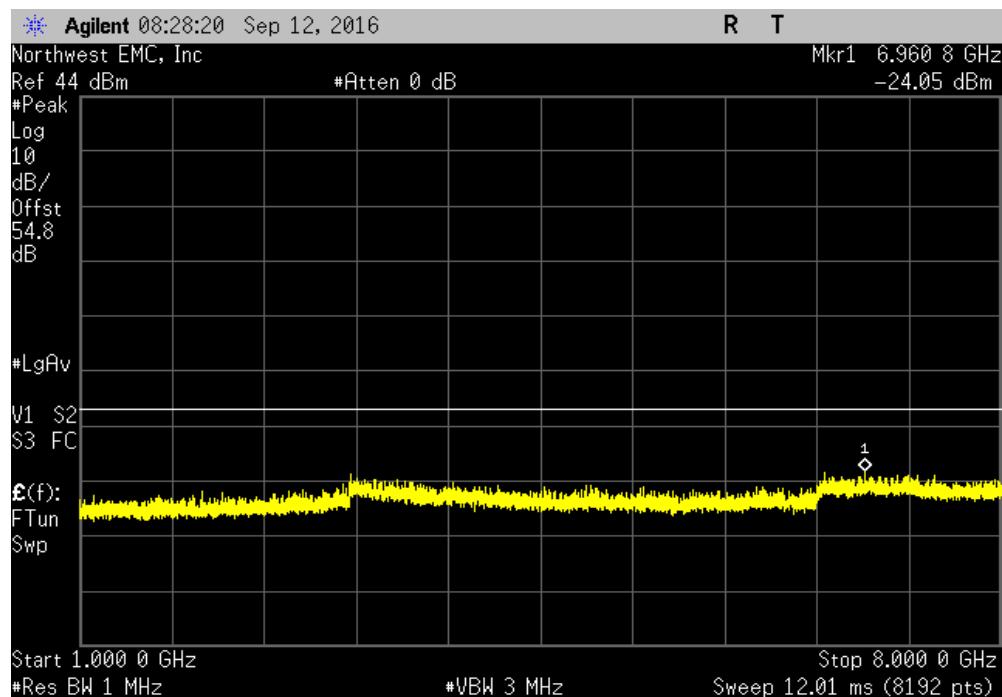
EUT:	CWS-3050-12	Work Order:	KMWC0074			
Serial Number:	K163300001	Date:	09/12/16			
Customer:	Parallel Wireless Inc.	Temperature:	21.1 °C			
Attendees:	Andy Ku	Humidity:	50.2% RH			
Project:	None	Barometric Pres.:	1015 mbar			
Tested by:	Johnny Candelas	Power:	48 VDC			
TEST SPECIFICATIONS		Test Method	ANSI/TIA/EIA-603-D-2010			
FCC 27:2016						
COMMENTS	Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 54.8dB total.					
DEVIATIONS FROM TEST STANDARD						
None						
Configuration #	1	Signature				
						
		Frequency Range	Max Value (dBm) Limit ≤ (dBm) Result			
Antenna Port 1						
Low Channel LTE5, 731.5 MHz	30 MHz - 1 GHz	-18.64	-13 Pass			
Low Channel LTE5, 731.5 MHz	1 GHz - 8 GHz	-24.05	-13 Pass			
Mid Channel LTE5, 737.5 MHz	30 MHz - 1 GHz	-27.37	-13 Pass			
Mid Channel LTE5, 737.5 MHz	1 GHz - 8 GHz	-24.21	-13 Pass			
High Channel LTE5, 743.5 MHz	30 MHz - 1 GHz	-17.95	-13 Pass			
High Channel LTE5, 743.5 MHz	1 GHz - 8 GHz	-24.51	-13 Pass			
Low Channel LTE10, 734 MHz	30 MHz - 1 GHz	-21.67	-13 Pass			
Low Channel LTE10, 734 MHz	1 GHz - 8 GHz	-24.52	-13 Pass			
Mid Channel LTE10, 737.5 MHz	30 MHz - 1 GHz	-26.87	-13 Pass			
Mid Channel LTE10, 737.5 MHz	1 GHz - 8 GHz	-24.5	-13 Pass			
High Channel LTE10, 741 MHz	30 MHz - 1 GHz	-22.74	-13 Pass			
High Channel LTE10, 741 MHz	1 GHz - 8 GHz	-24.5	-13 Pass			
Antenna Port 2						
Low Channel LTE5, 731.5 MHz	30 MHz - 1 GHz	-23.70	-13 Pass			
Low Channel LTE5, 731.5 MHz	1 GHz - 8 GHz	-24.25	-13 Pass			
Mid Channel LTE5, 737.5 MHz	30 MHz - 1 GHz	-28.49	-13 Pass			
Mid Channel LTE5, 737.5 MHz	1 GHz - 8 GHz	-24.19	-13 Pass			
High Channel LTE5, 743.5 MHz	30 MHz - 1 GHz	-17.71	-13 Pass			
High Channel LTE5, 743.5 MHz	1 GHz - 8 GHz	-24.52	-13 Pass			
Low Channel LTE10, 734 MHz	30 MHz - 1 GHz	-21.25	-13 Pass			
Low Channel LTE10, 734 MHz	1 GHz - 8 GHz	-23.96	-13 Pass			
Mid Channel LTE10, 737.5 MHz	30 MHz - 1 GHz	-26.08	-13 Pass			
Mid Channel LTE10, 737.5 MHz	1 GHz - 8 GHz	-24.45	-13 Pass			
High Channel LTE10, 741 MHz	30 MHz - 1 GHz	-22.67	-13 Pass			
High Channel LTE10, 741 MHz	1 GHz - 8 GHz	-24.77	-13 Pass			

SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 12

Antenna Port 1, Low Channel LTE5, 731.5 MHz					
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-18.64	-13	Pass	

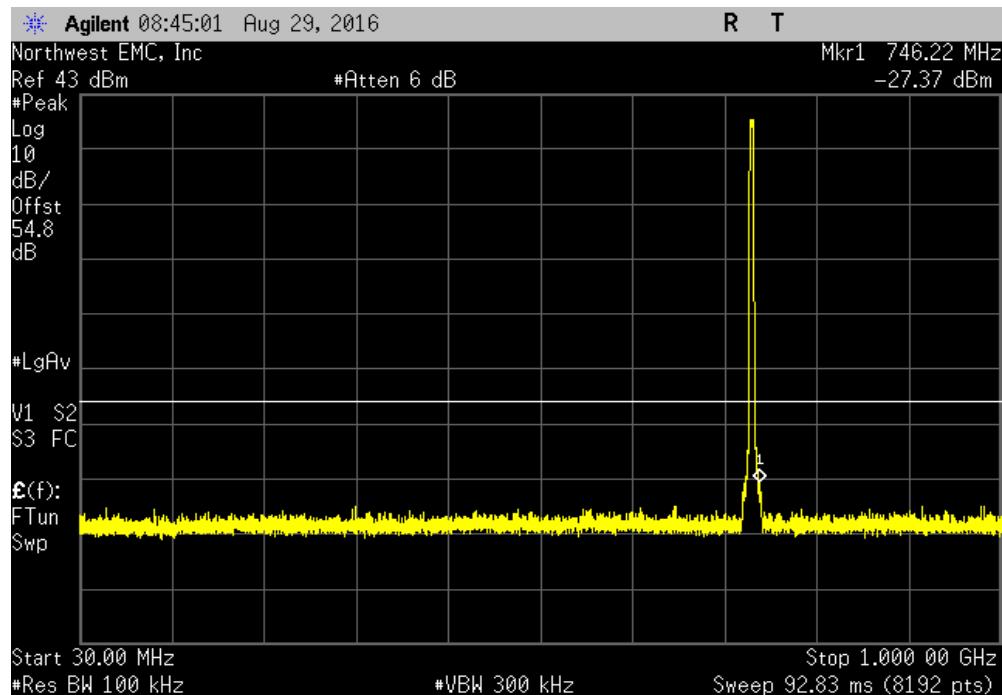


Antenna Port 1, Low Channel LTE5, 731.5 MHz					
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 8 GHz		-24.05	-13	Pass	

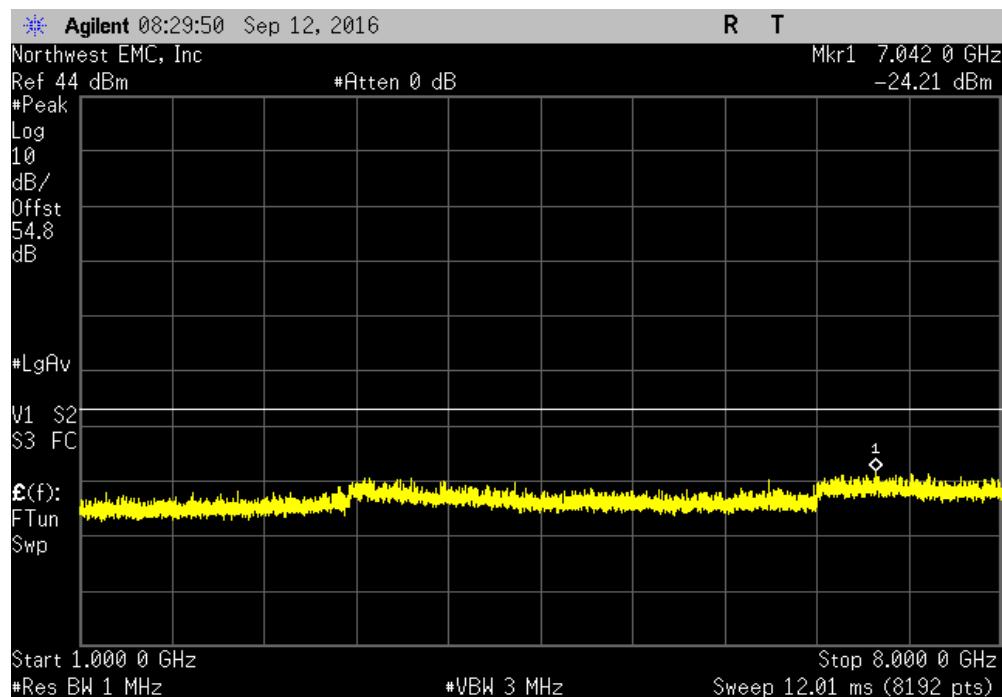


SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 12

Antenna Port 1, Mid Channel LTE5, 737.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
30 MHz - 1 GHz	-27.37	-13	Pass	

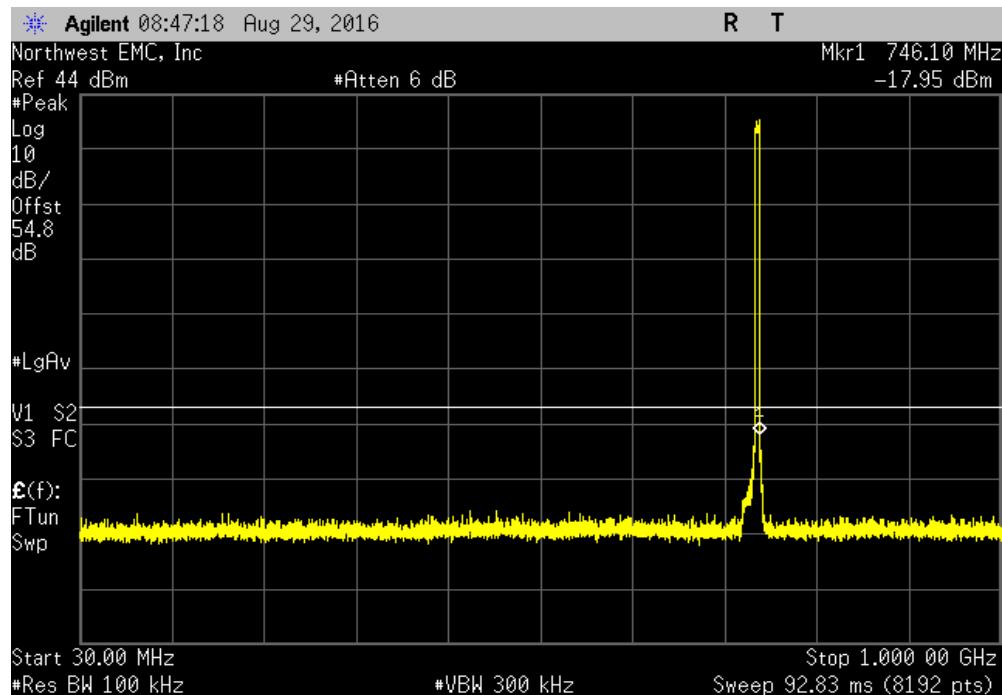


Antenna Port 1, Mid Channel LTE5, 737.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 8 GHz	-24.21	-13	Pass	

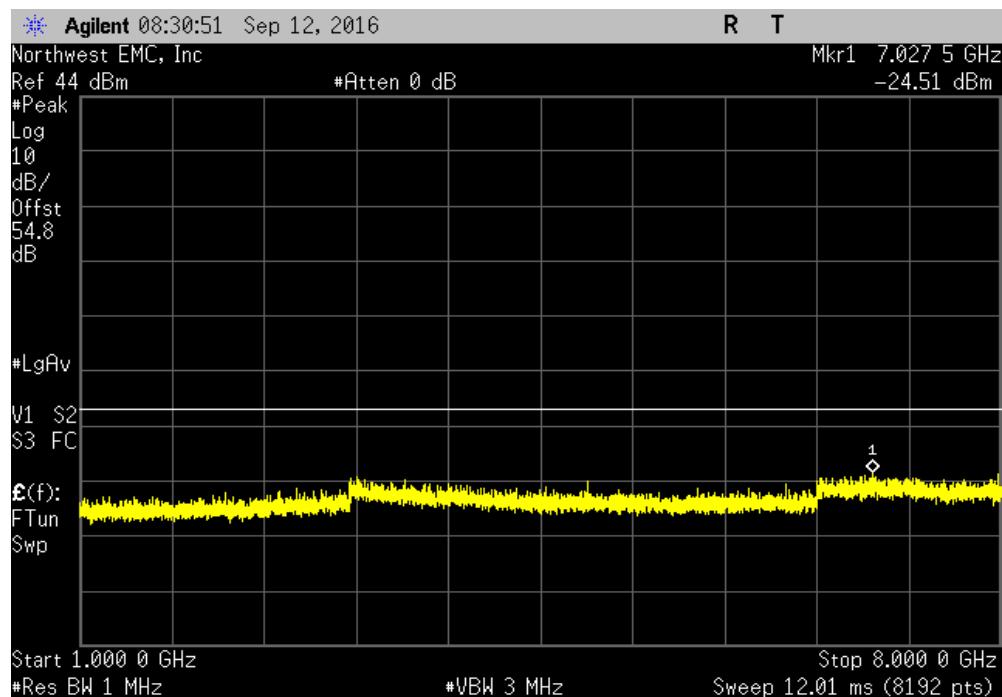


SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 12

Antenna Port 1, High Channel LTE5, 743.5 MHz					
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-17.95	-13	Pass	

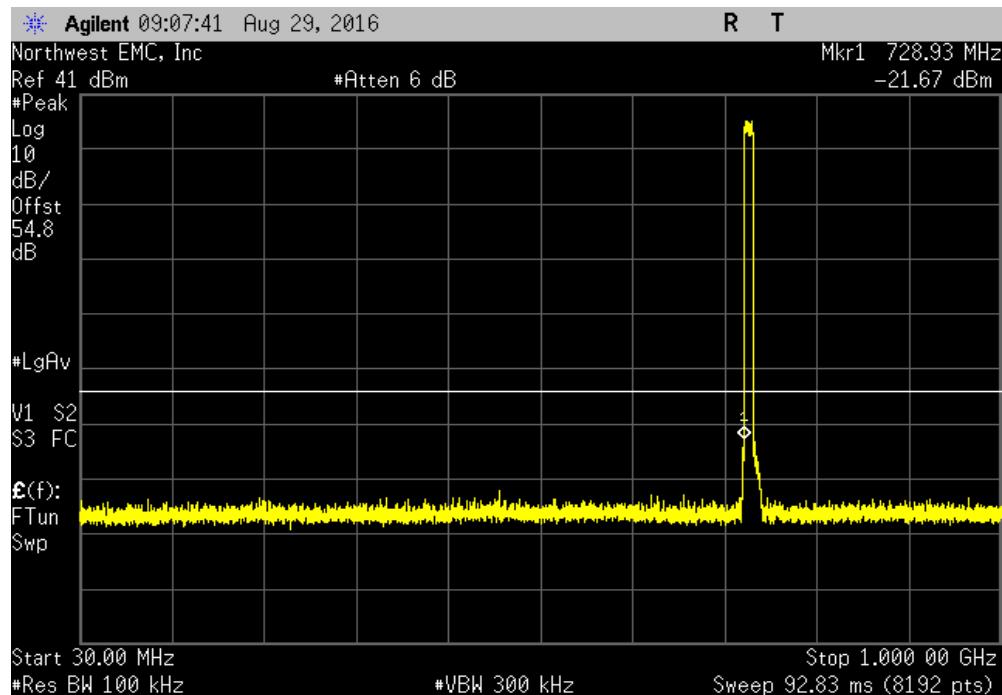


Antenna Port 1, High Channel LTE5, 743.5 MHz					
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 8 GHz		-24.51	-13	Pass	

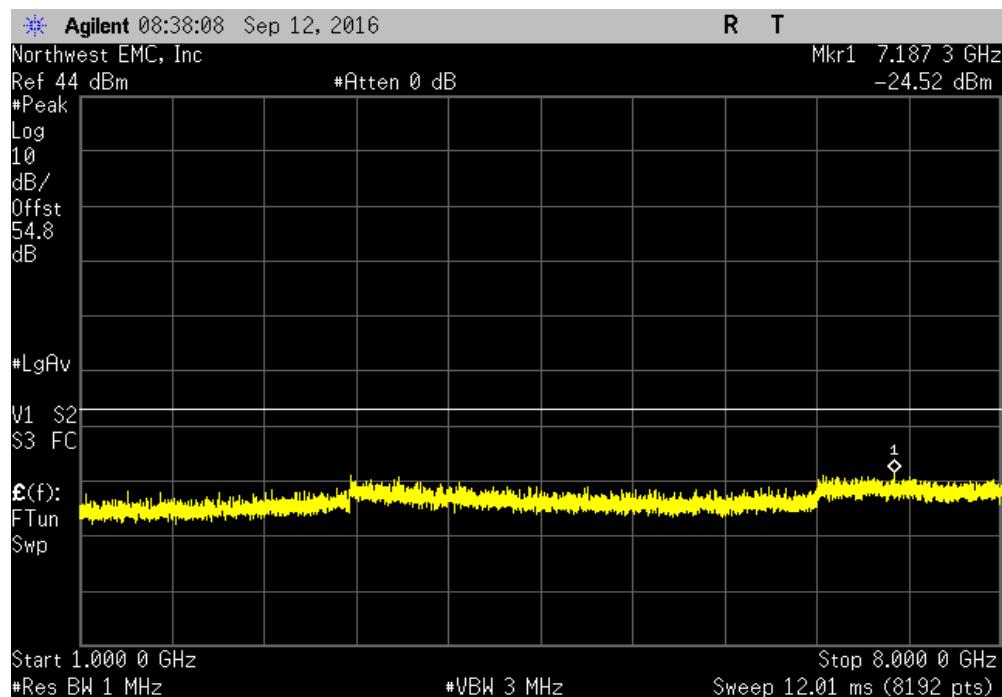


SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 12

Antenna Port 1, Low Channel LTE10, 734 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
30 MHz - 1 GHz	-21.67	-13	Pass	

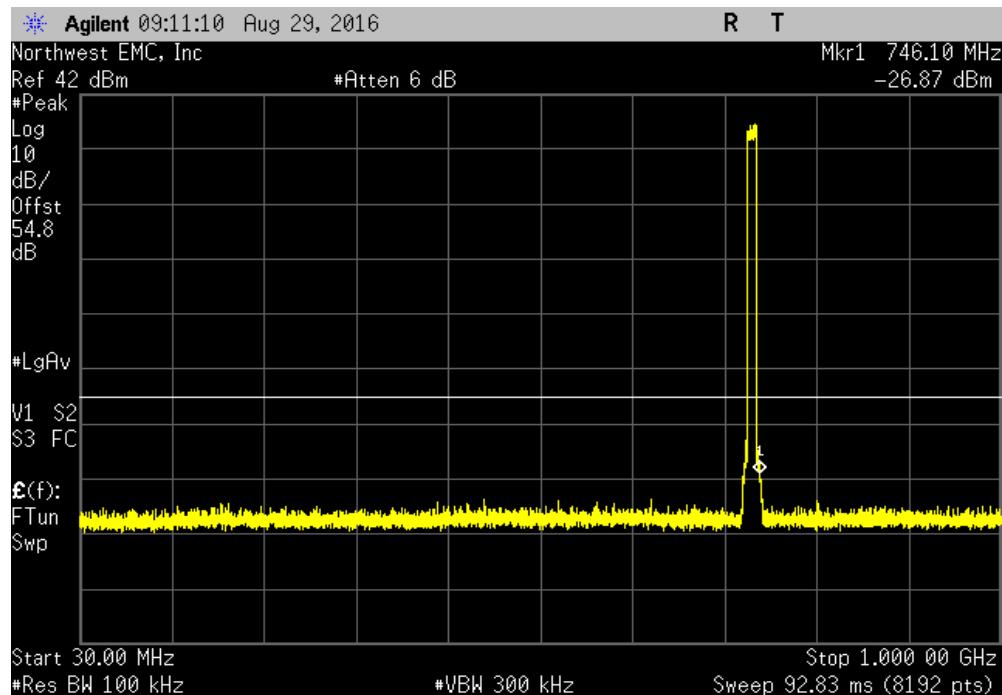


Antenna Port 1, Low Channel LTE10, 734 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 8 GHz	-24.52	-13	Pass	

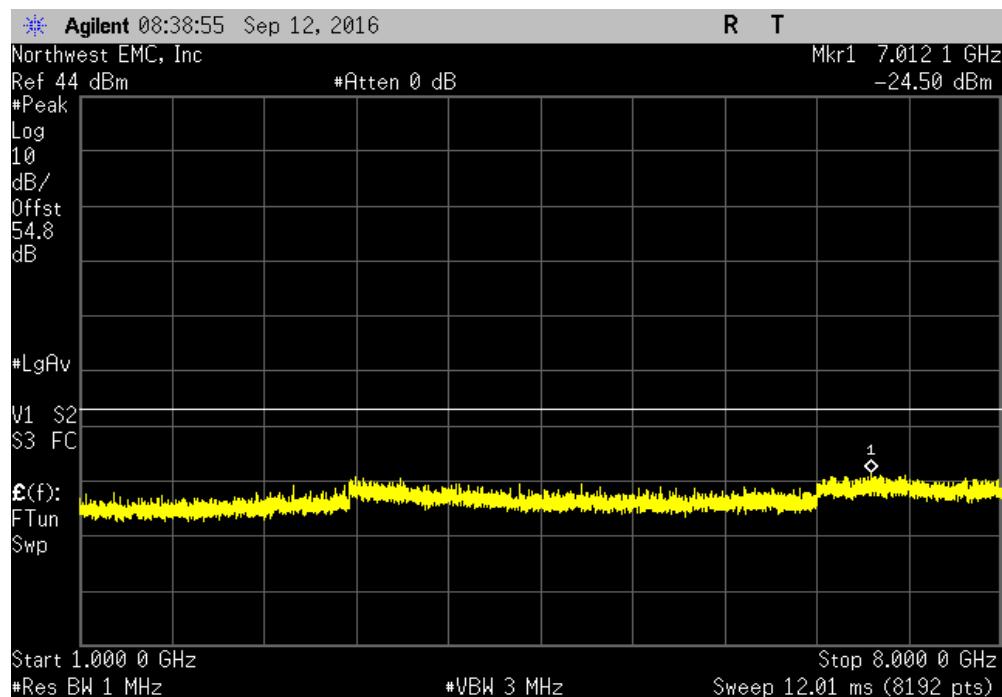


SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 12

Antenna Port 1, Mid Channel LTE10, 737.5 MHz				
Frequency Range	Max Value (dBm)	Limit \leq (dBm)	Result	
30 MHz - 1 GHz	-26.87	-13	Pass	

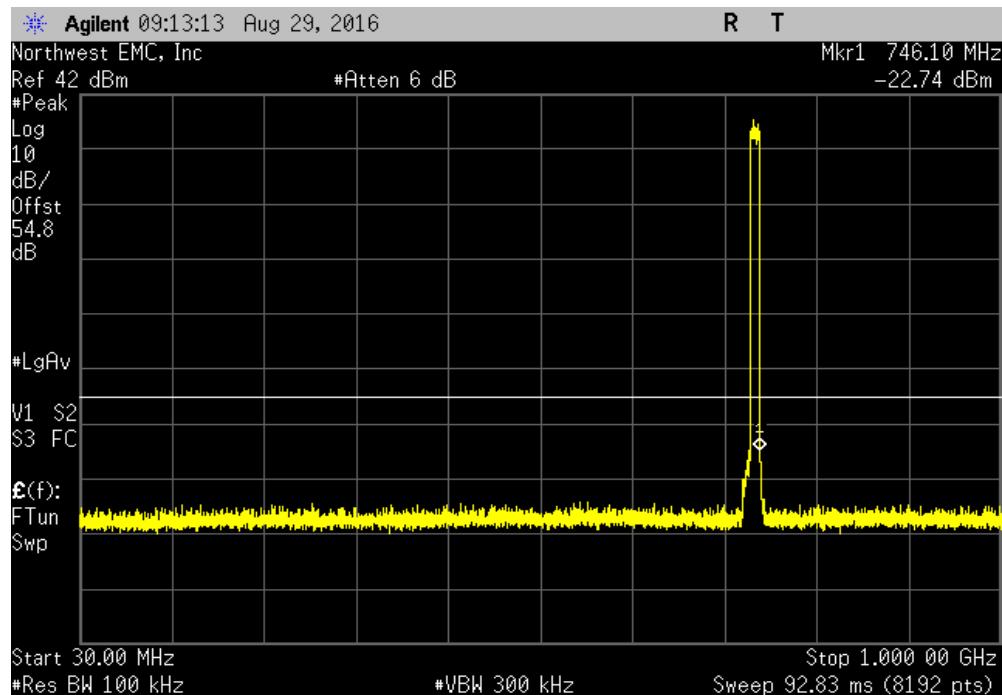


Antenna Port 1, Mid Channel LTE10, 737.5 MHz				
Frequency Range	Max Value (dBm)	Limit \leq (dBm)	Result	
1 GHz - 8 GHz	-24.50	-13	Pass	

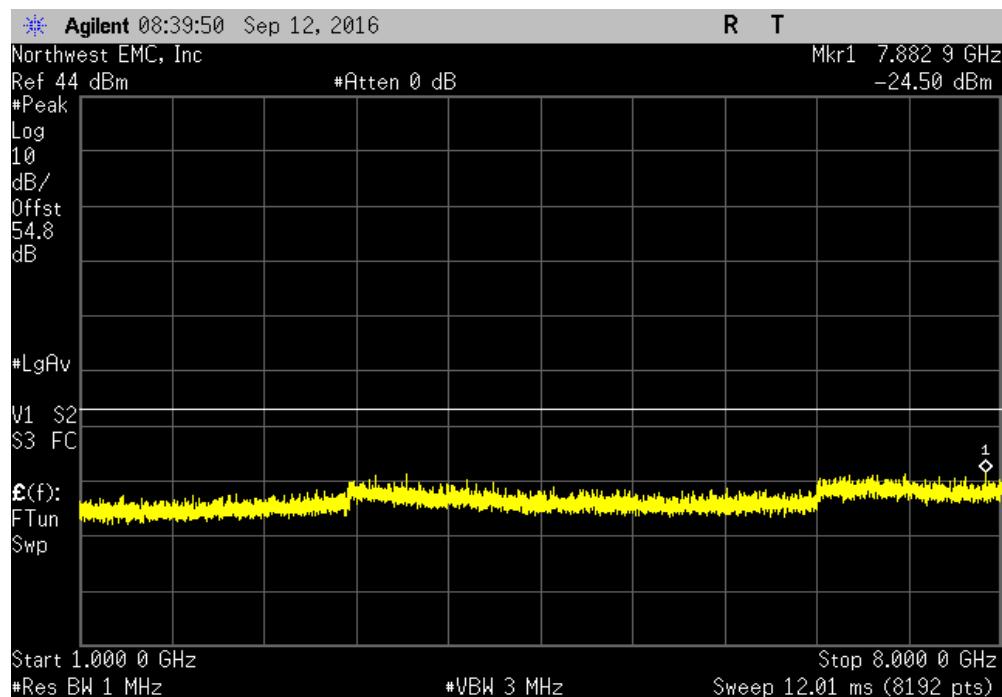


SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 12

Antenna Port 1, High Channel LTE10, 741 MHz					
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-22.74	-13	Pass	

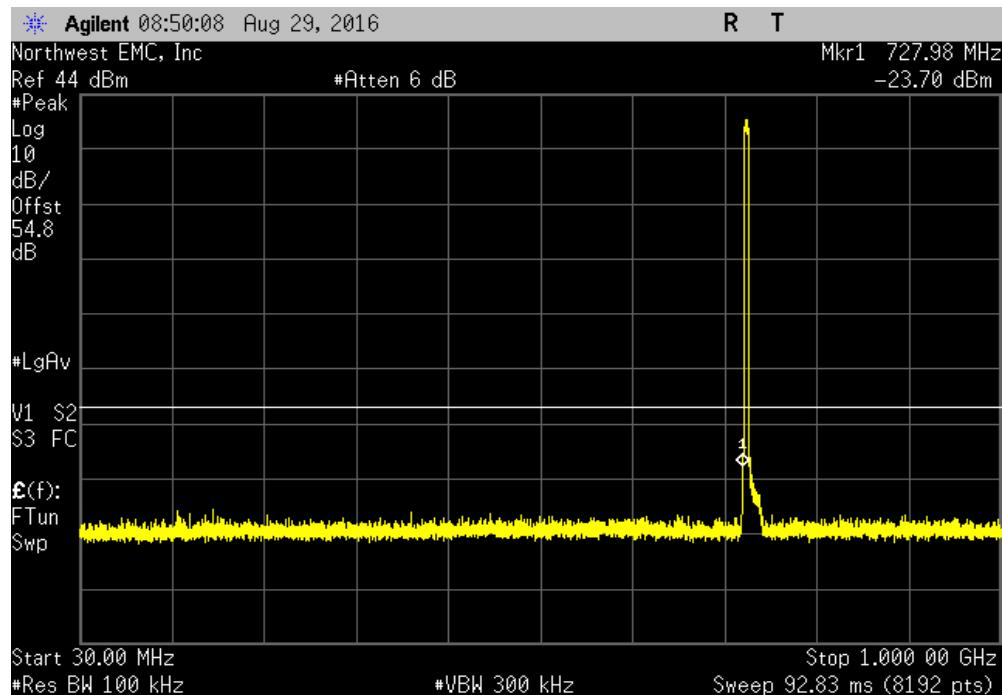


Antenna Port 1, High Channel LTE10, 741 MHz					
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 8 GHz		-24.50	-13	Pass	

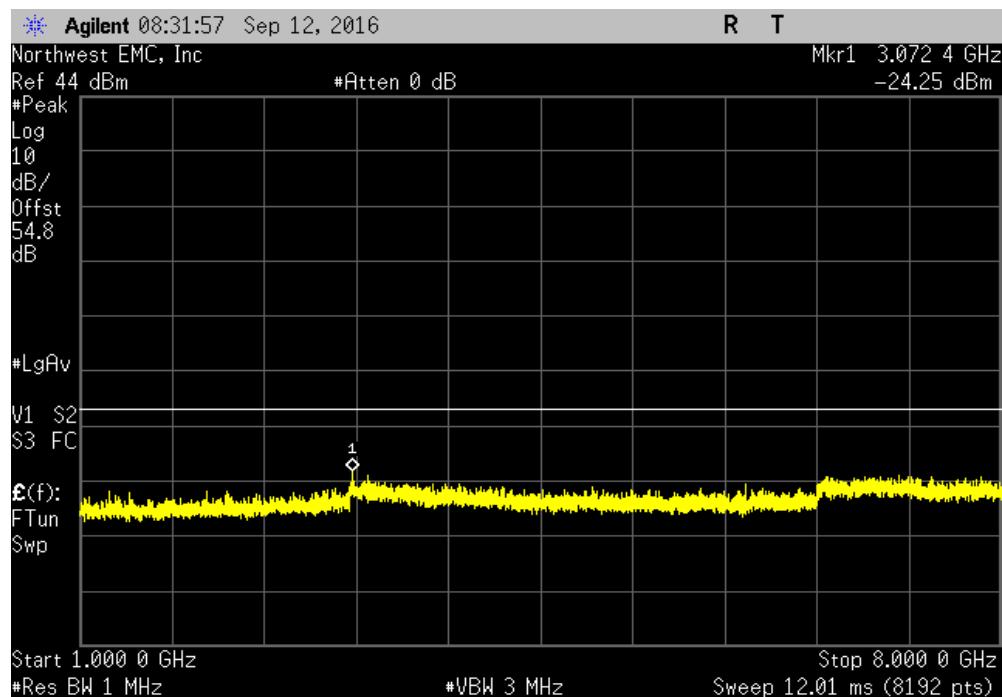


SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 12

Antenna Port 2, Low Channel LTE5, 731.5 MHz				
Frequency Range	Max Value (dBm)	Limit \leq (dBm)	Result	
30 MHz - 1 GHz	-23.70	-13	Pass	

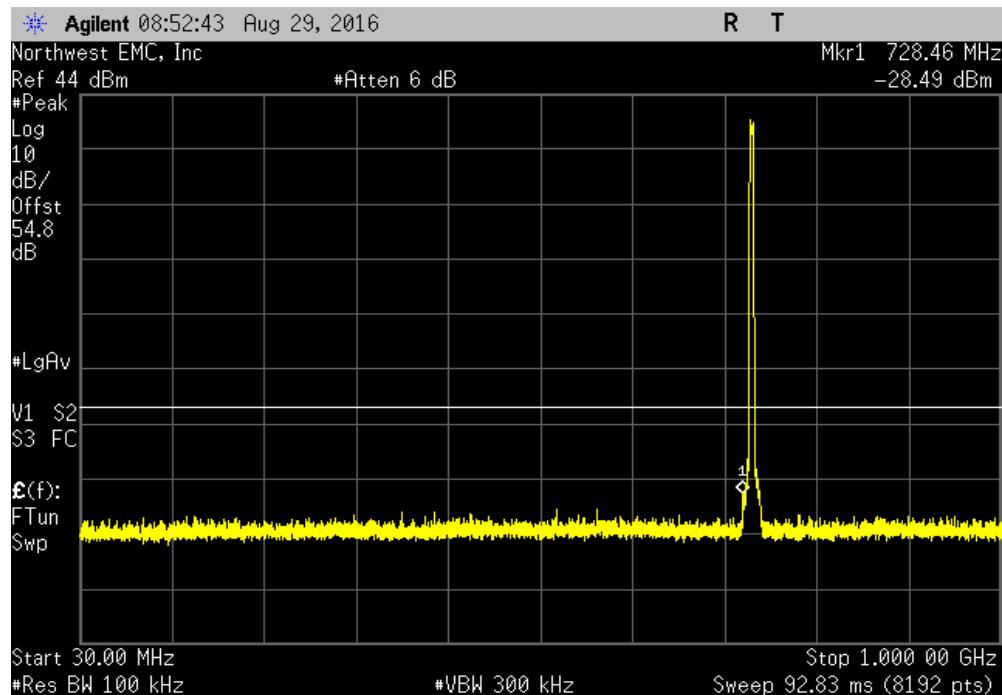


Antenna Port 2, Low Channel LTE5, 731.5 MHz				
Frequency Range	Max Value (dBm)	Limit \leq (dBm)	Result	
1 GHz - 8 GHz	-24.25	-13	Pass	

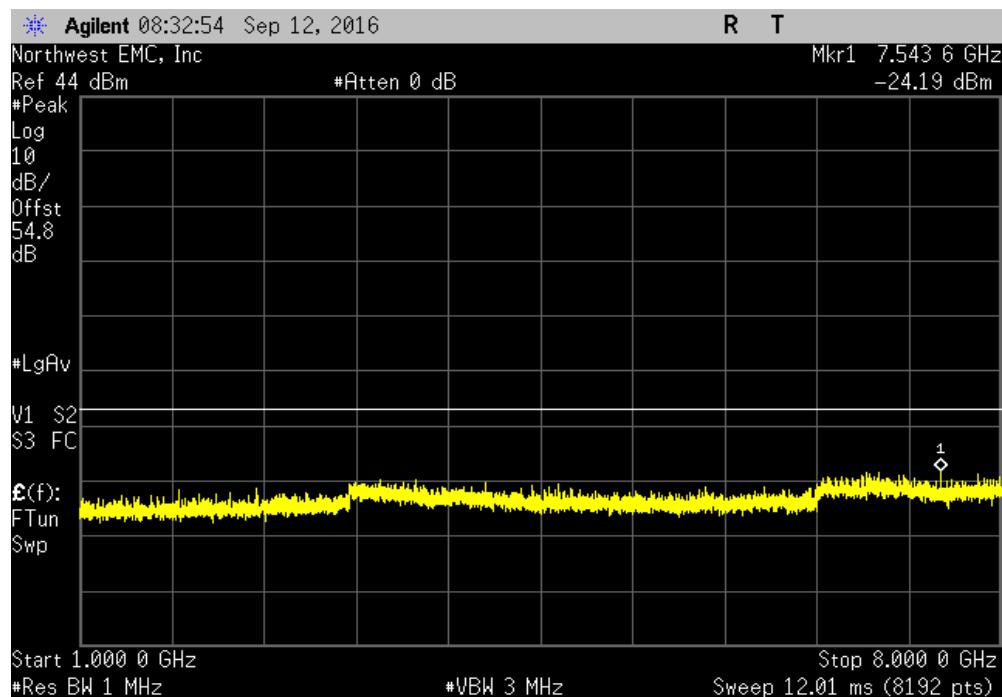


SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 12

Antenna Port 2, Mid Channel LTE5, 737.5 MHz				
Frequency Range	Max Value (dBm)	Limit \leq (dBm)	Result	
30 MHz - 1 GHz	-28.49	-13	Pass	

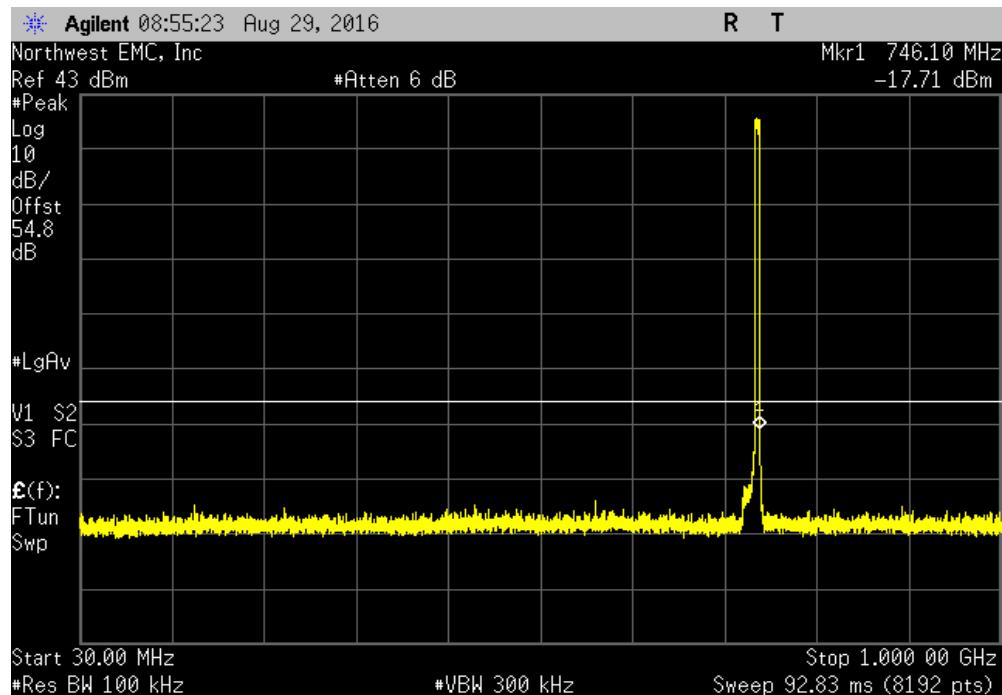


Antenna Port 2, Mid Channel LTE5, 737.5 MHz				
Frequency Range	Max Value (dBm)	Limit \leq (dBm)	Result	
1 GHz - 8 GHz	-24.19	-13	Pass	

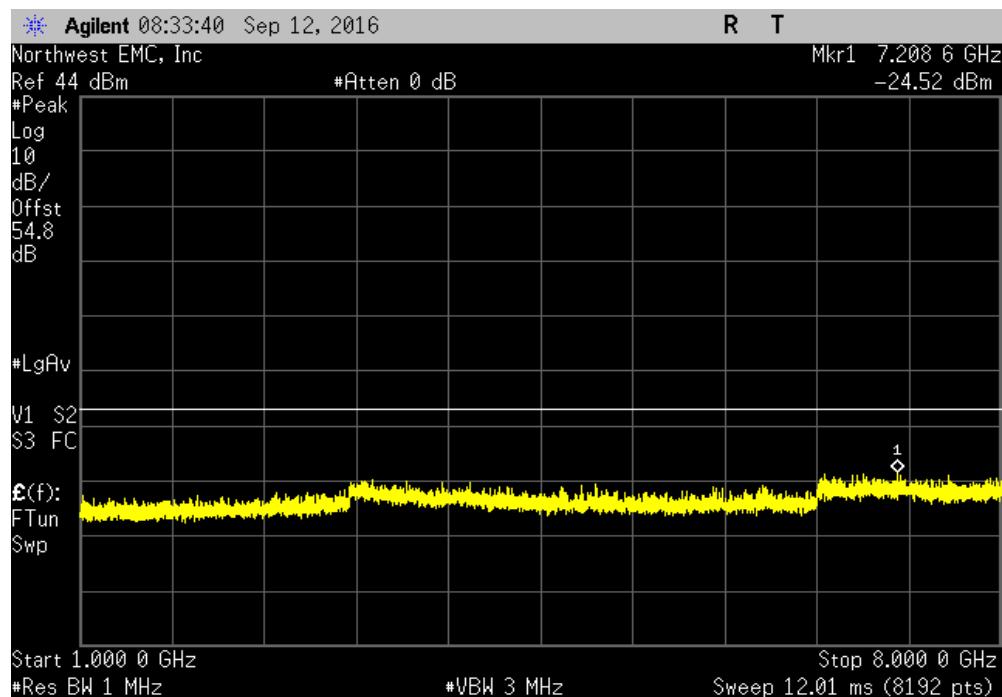


SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 12

Antenna Port 2, High Channel LTE5, 743.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
30 MHz - 1 GHz	-17.71	-13	Pass	

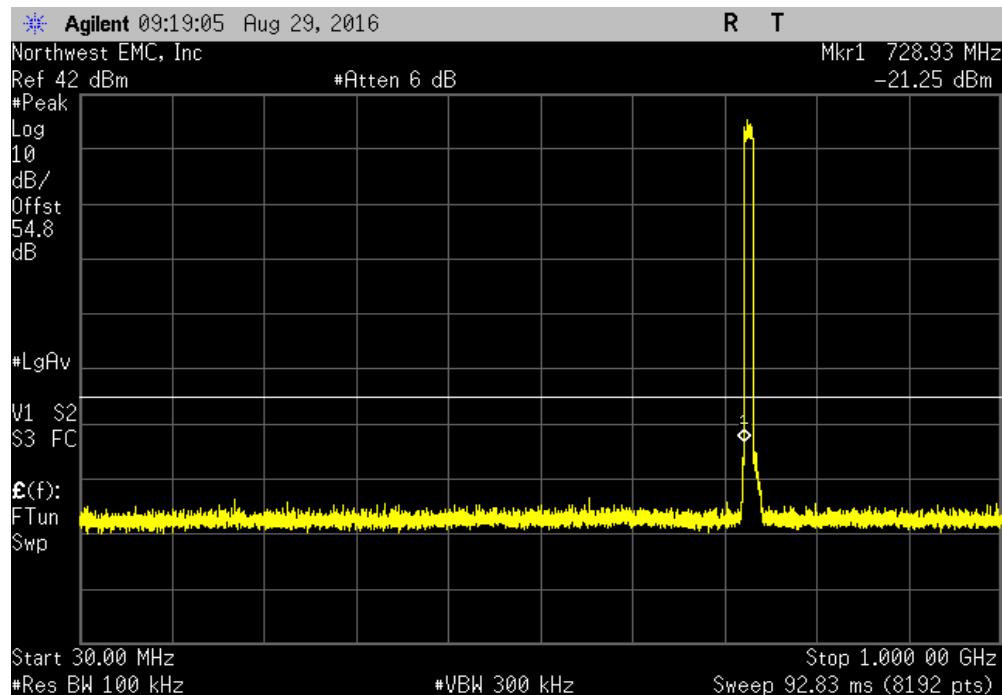


Antenna Port 2, High Channel LTE5, 743.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 8 GHz	-24.52	-13	Pass	

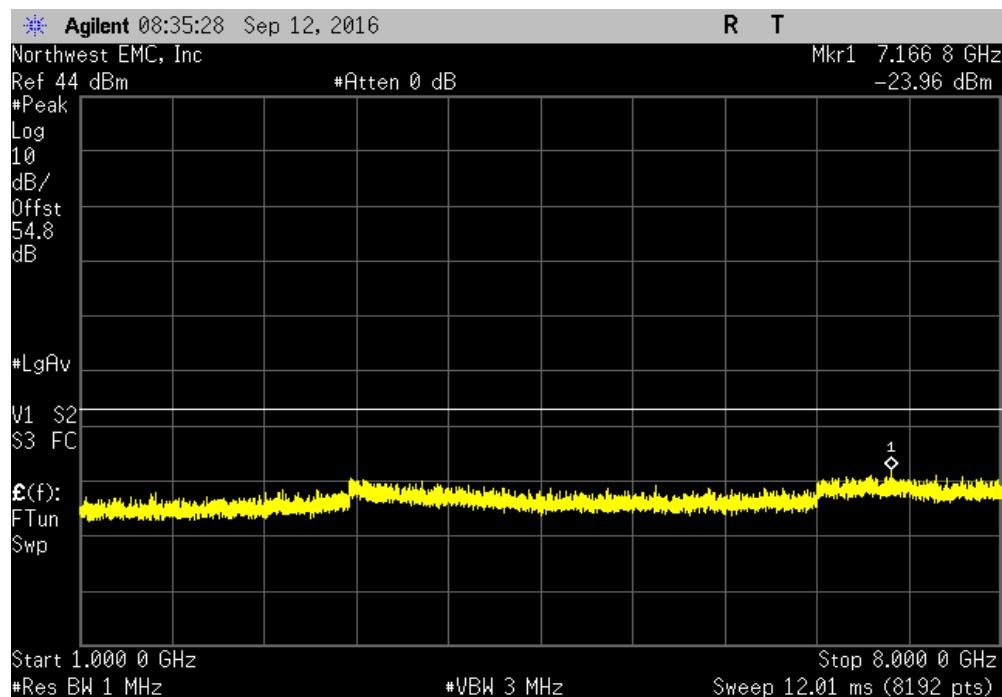


SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 12

Antenna Port 2, Low Channel LTE10, 734 MHz				
Frequency Range	Max Value (dBm)	Limit \leq (dBm)	Result	
30 MHz - 1 GHz	-21.25	-13	Pass	

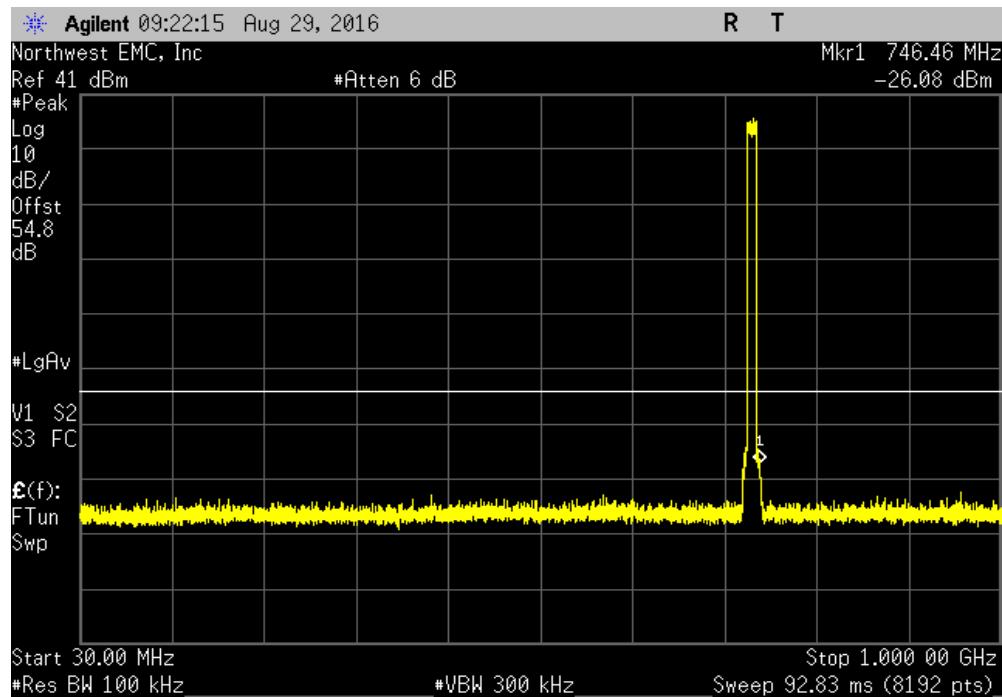


Antenna Port 2, Low Channel LTE10, 734 MHz				
Frequency Range	Max Value (dBm)	Limit \leq (dBm)	Result	
1 GHz - 8 GHz	-23.96	-13	Pass	

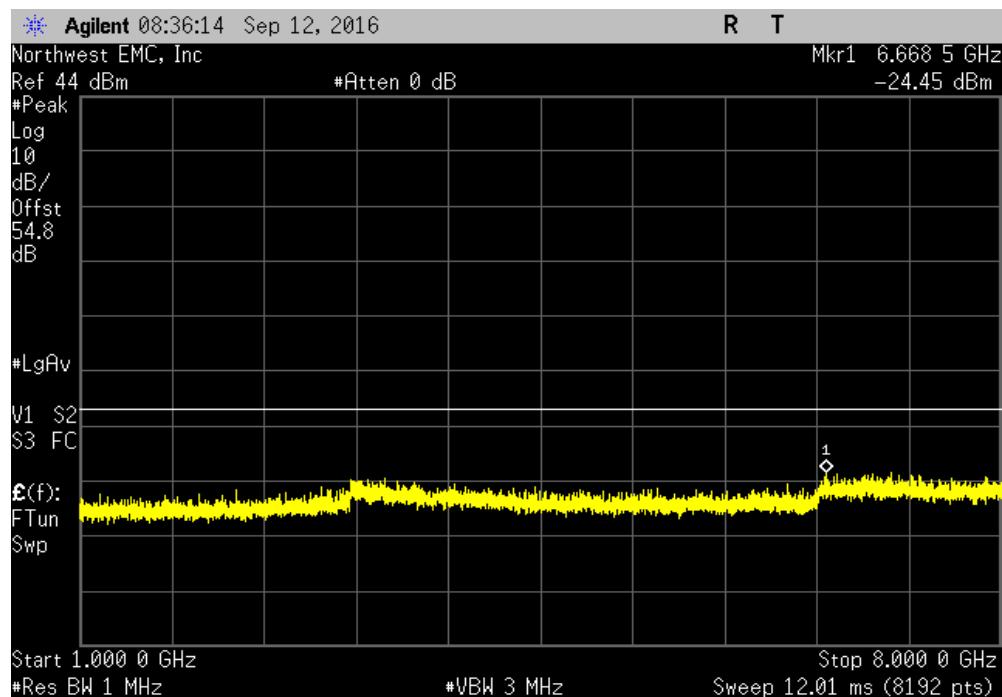


SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 12

Antenna Port 2, Mid Channel LTE10, 737.5 MHz					
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-26.08	-13	Pass	

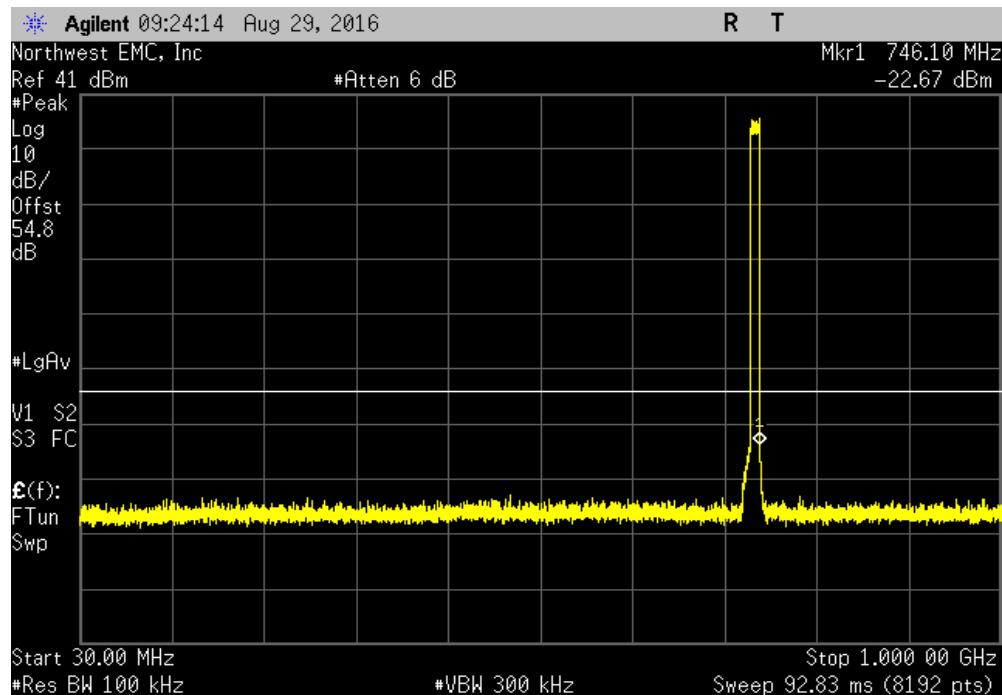


Antenna Port 2, Mid Channel LTE10, 737.5 MHz					
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 8 GHz		-24.45	-13	Pass	

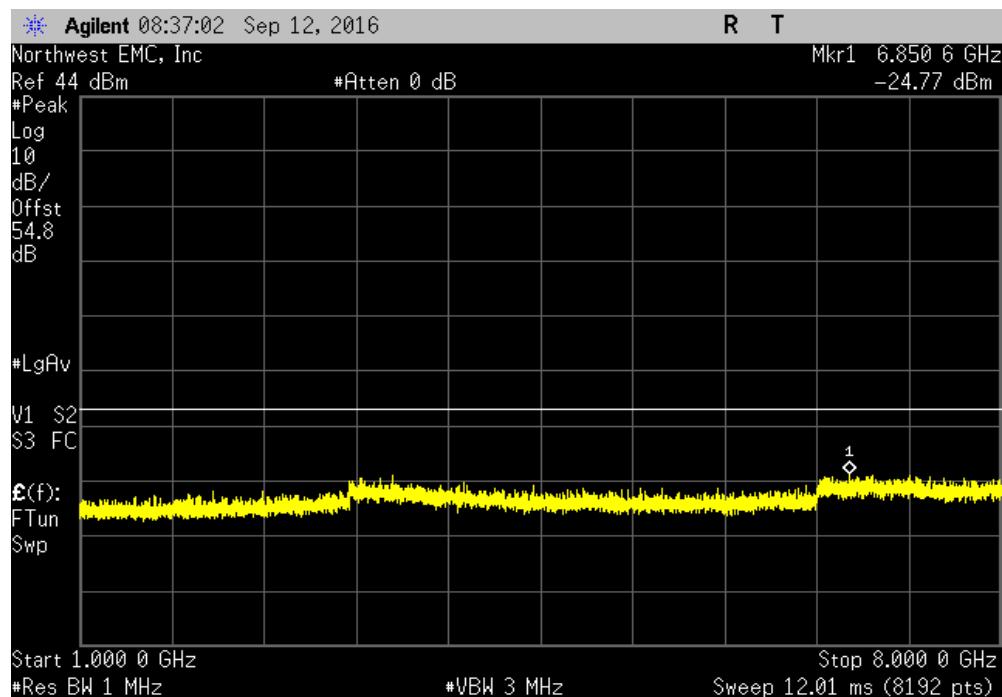


SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 12

Antenna Port 2, High Channel LTE10, 741 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
30 MHz - 1 GHz	-22.67	-13	Pass	



Antenna Port 2, High Channel LTE10, 741 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 8 GHz	-24.77	-13	Pass	



SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 17

**NORTHWEST
EMC**
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	Keysight	N5182B	TFX	4/16/2015	4/16/2018
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	AFD	7/29/2016	7/29/2017

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.

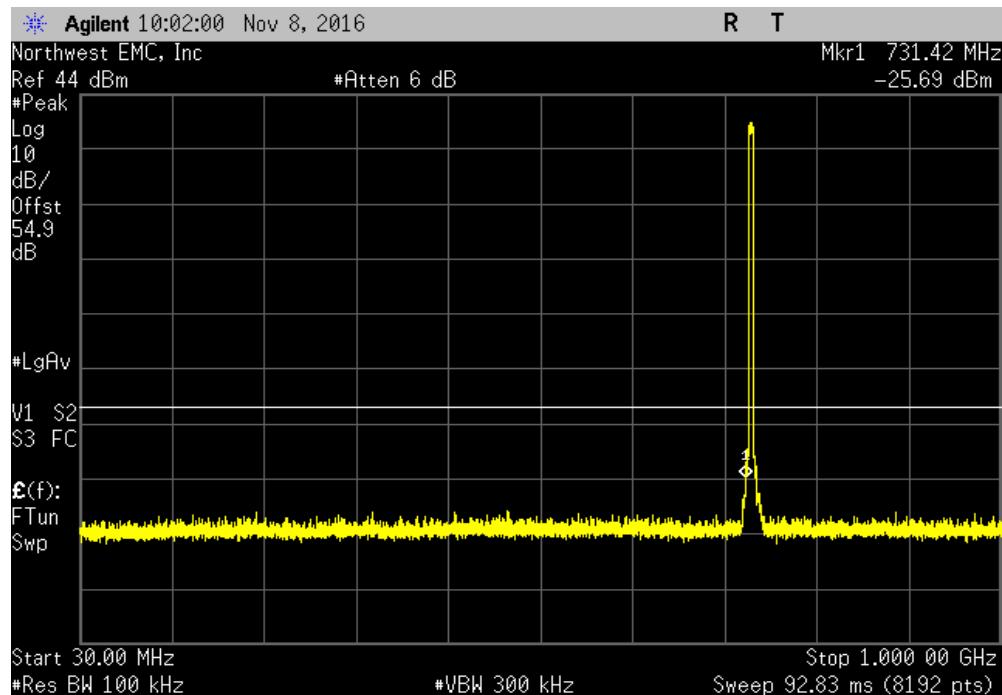
Only the Low Channel for each channel bandwidth was tested, the Mid & High Channels were previously tested in this band.

SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 17

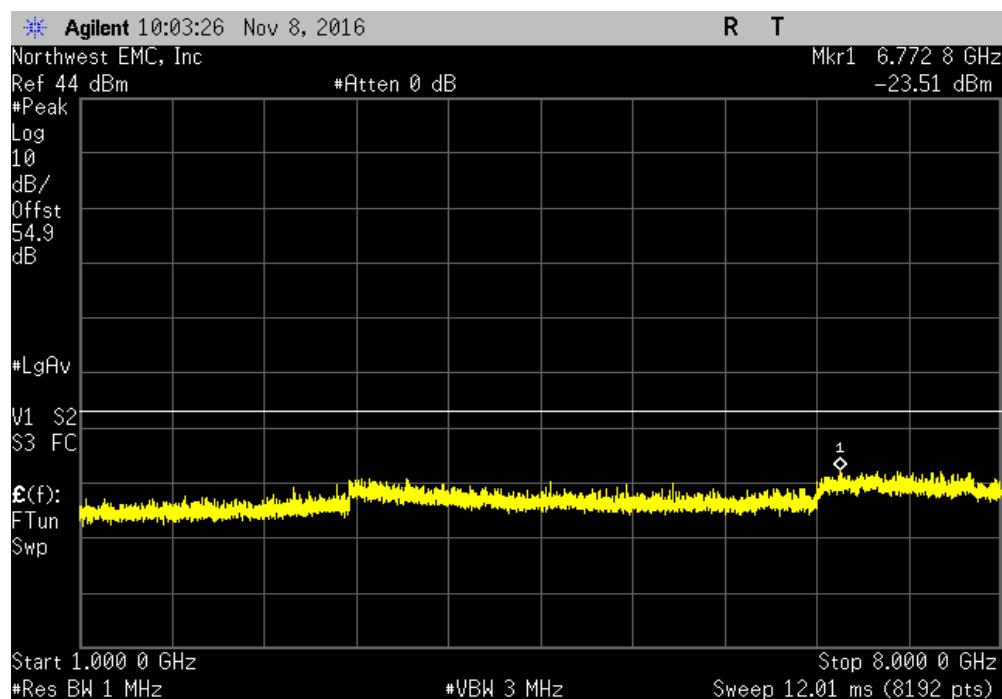
EUT:	CWS-3050-12		Work Order:	KMW0077		
Serial Number:	K163300001		Date:	11/08/16		
Customer:	Parallel Wireless Inc.		Temperature:	20.8 °C		
Attendees:	Edward Lee		Humidity:	49% RH		
Project:	None		Barometric Pres.:	1018 mbar		
Tested by:	Johnny Candelas	Power:	48 VDC	Job Site:	OC13	
TEST SPECIFICATIONS			Test Method			
FCC 27:2016			ANSI/TIA/EIA-603-D-2010			
COMMENTS						
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 54.9dB total.						
DEVIATIONS FROM TEST STANDARD						
None						
Configuration #	1	Signature	Frequency Range	Max Value (dBm)	Limit \leq (dBm)	Result
Antenna Port 1						
Low Channel LTE5, 736.5 MHz	30 MHz - 1 GHz	-25.69	-13	Pass		
Low Channel LTE5, 736.5 MHz	1 GHz - 8 GHz	-23.51	-13	Pass		
Low Channel LTE10, 739 MHz	30 MHz - 1 GHz	-26.01	-13	Pass		
Low Channel LTE10, 739 MHz	1 GHz - 8 GHz	-23.53	-13	Pass		
Antenna Port 2						
Low Channel LTE5, 736.5 MHz	30 MHz - 1 GHz	-26.74	-13	Pass		
Low Channel LTE5, 736.5 MHz	1 GHz - 8 GHz	-22.95	-13	Pass		
Low Channel LTE10, 739 MHz	30 MHz - 1 GHz	-25.08	-13	Pass		
Low Channel LTE10, 739 MHz	1 GHz - 8 GHz	-23.19	-13	Pass		

SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 17

Antenna Port 1, Low Channel LTE5, 736.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
30 MHz - 1 GHz	-25.69	-13	Pass	

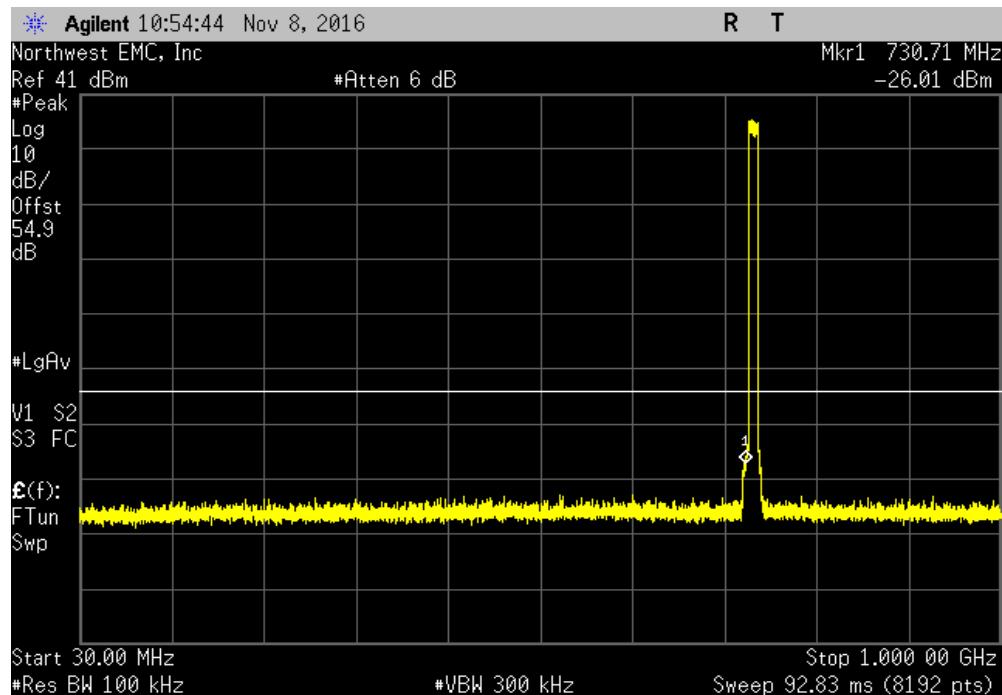


Antenna Port 1, Low Channel LTE5, 736.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 8 GHz	-23.51	-13	Pass	

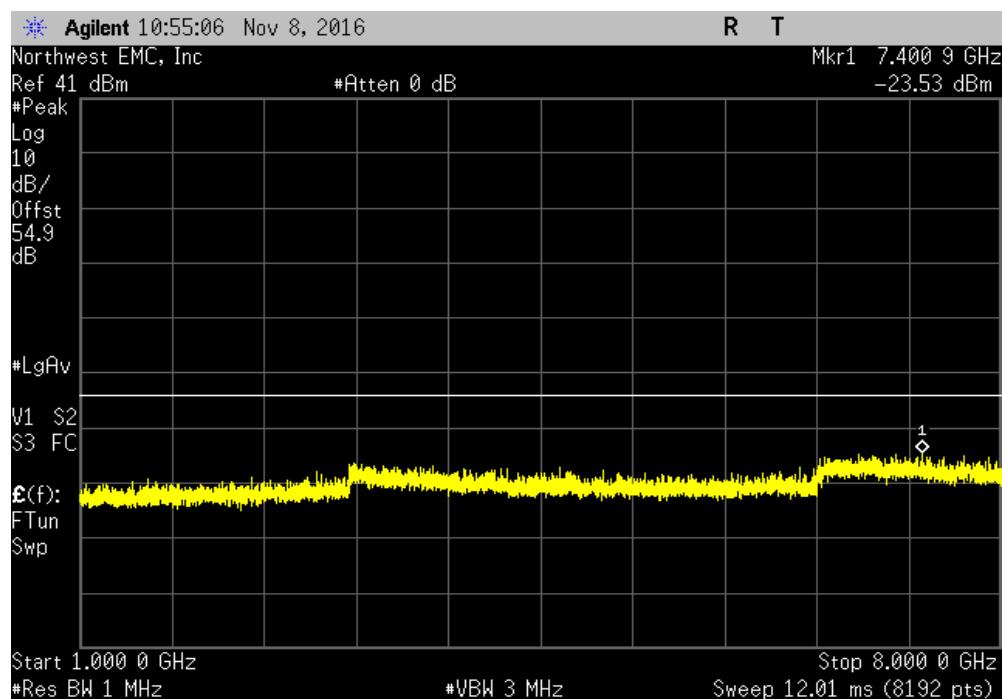


SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 17

Antenna Port 1, Low Channel LTE10, 739 MHz					
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-26.01	-13	Pass	

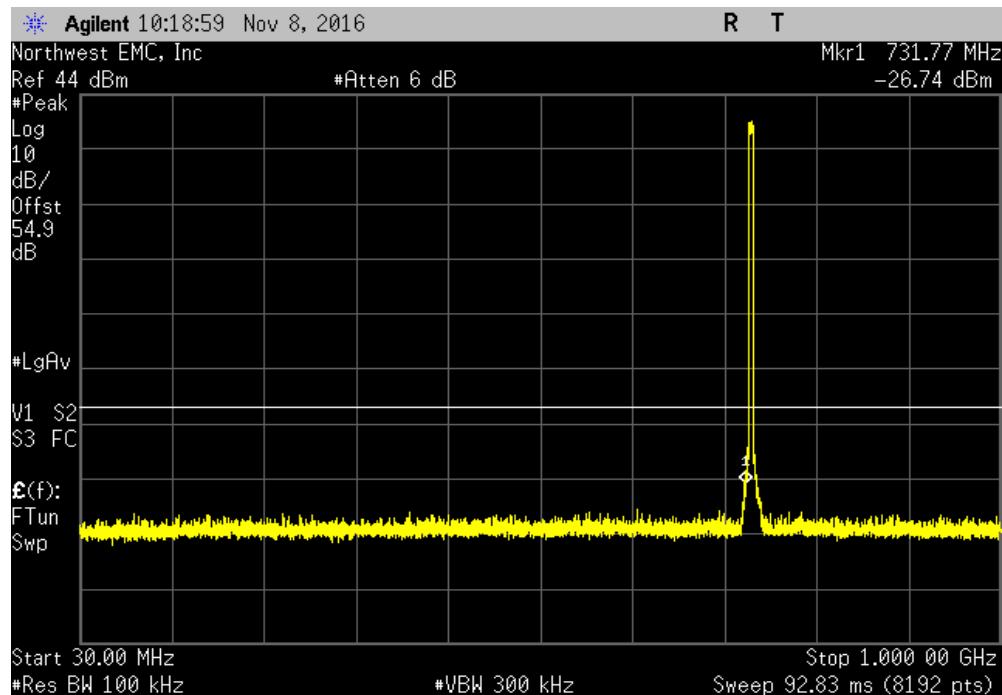


Antenna Port 1, Low Channel LTE10, 739 MHz					
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 8 GHz		-23.53	-13	Pass	

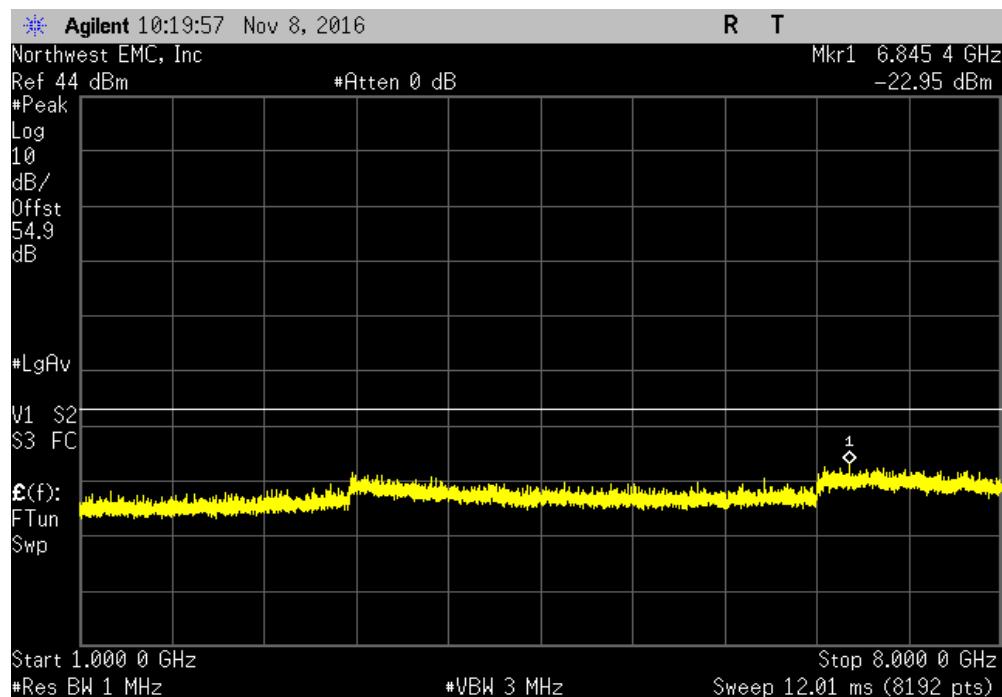


SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 17

Antenna Port 2, Low Channel LTE5, 736.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
30 MHz - 1 GHz	-26.74	-13	Pass	

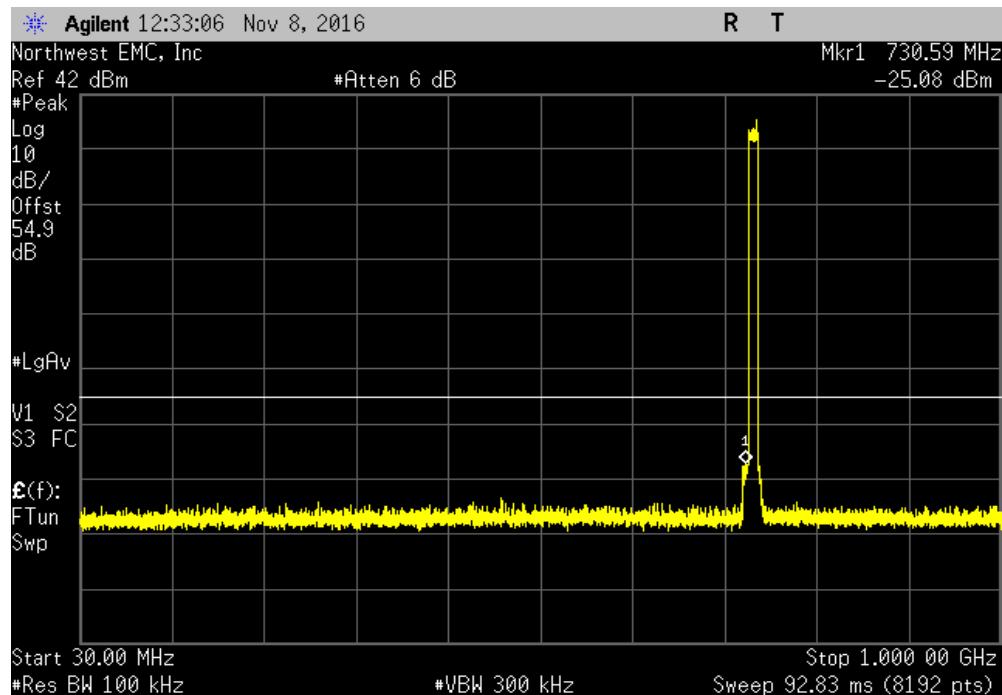


Antenna Port 2, Low Channel LTE5, 736.5 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 8 GHz	-22.95	-13	Pass	

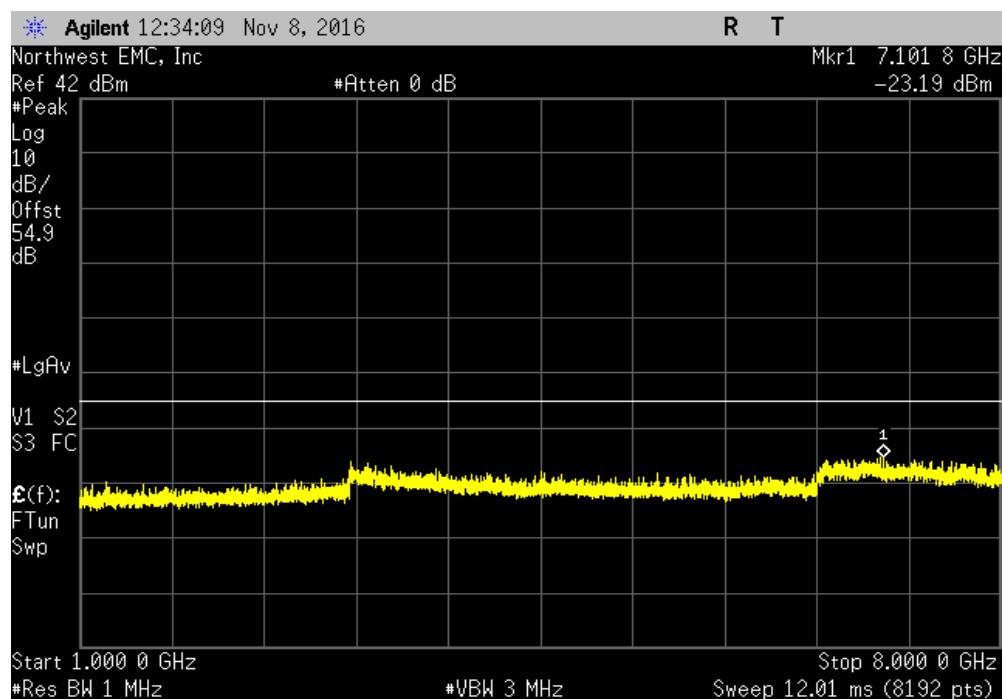


SPURIOUS EMISSIONS OF THE ANTENNA TERMINALS - BAND 17

Antenna Port 2, Low Channel LTE10, 739 MHz					
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result	
30 MHz - 1 GHz		-25.08	-13	Pass	



Antenna Port 2, Low Channel LTE10, 739 MHz					
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 8 GHz		-23.19	-13	Pass	



BAND EDGE COMPLIANCE - BAND 12

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 edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in the available band. The channels closest to the band edges were selected. The EUT was transmitting at the data rate(s) listed in the datasheet.

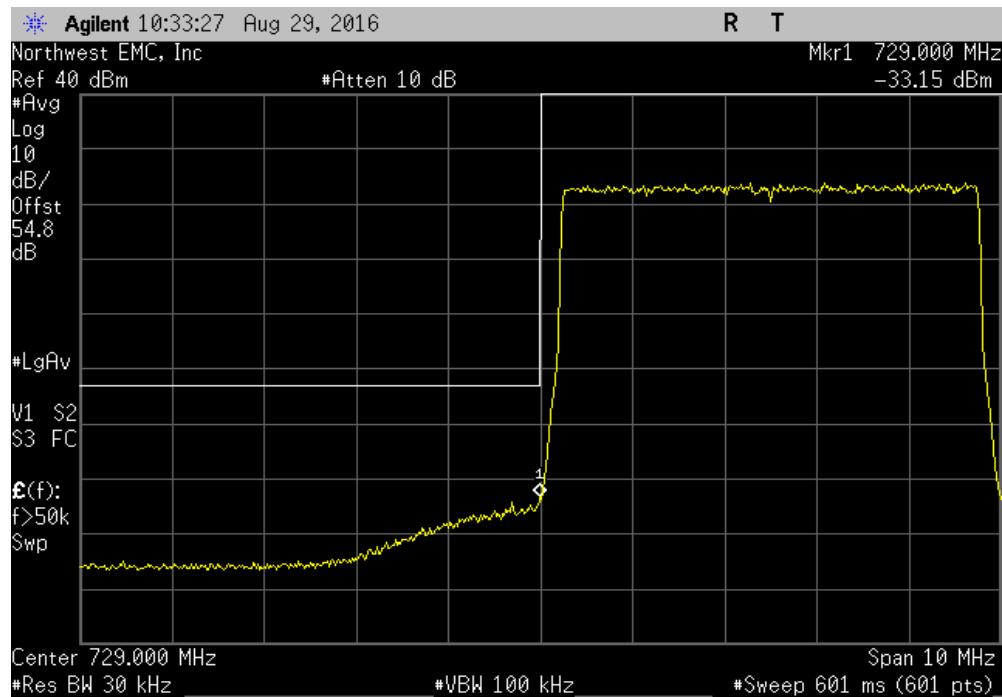
The spectrum was scanned below the lower band edge and above the higher band edge. The resolution bandwidth was set to 30 kHz per the specification. An average RMS detector was used to match the method used during Output Power. The screen capture shows the margin between the measured value and the limit at the band edge.

BAND EDGE COMPLIANCE - BAND 12

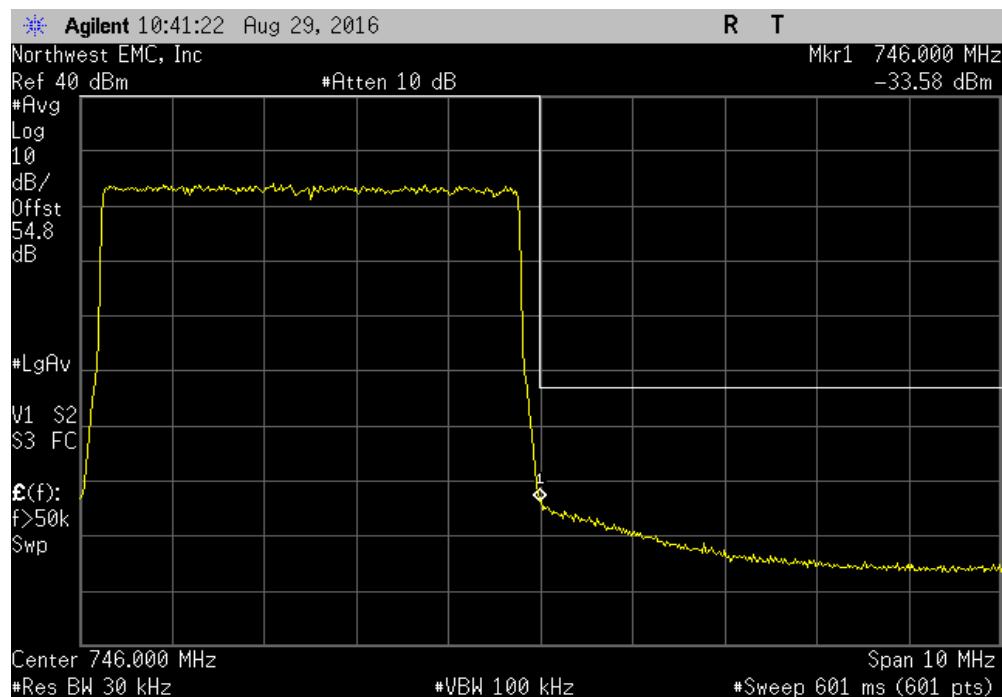
EUT:	CWS-3050-12		Work Order:	KMW0074																						
Serial Number:	K163300001		Date:	08/29/16																						
Customer:	Parallel Wireless Inc.		Temperature:	21.4 °C																						
Attendees:	Andy Ku		Humidity:	46.4% RH																						
Project:	None		Barometric Pres.:	1017 mbar																						
Tested by:	Johnny Candelas	Power:	48 VDC	Job Site:	OC13																					
TEST SPECIFICATIONS			Test Method																							
FCC 27:2016			ANSI/TIA/EIA-603-D-2010																							
COMMENTS																										
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 54.8dB total.																										
DEVIATIONS FROM TEST STANDARD																										
None																										
Configuration #	1	Signature	Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result																				
Antenna Port 1																										
<table border="1"> <tr> <td>Low Channel LTE5, 731.5 MHz</td> <td>724 MHz - 734 MHz</td> <td>-33.15</td> <td>-13</td> <td>Pass</td> </tr> <tr> <td>High Channel LTE5, 743.5 MHz</td> <td>741 MHz - 751 MHz</td> <td>-33.58</td> <td>-13</td> <td>Pass</td> </tr> <tr> <td>Low Channel LTE10, 734 MHz</td> <td>719 MHz - 739 MHz</td> <td>-38.33</td> <td>-13</td> <td>Pass</td> </tr> <tr> <td>High Channel LTE10, 741 MHz</td> <td>736 MHz - 756 MHz</td> <td>-37.40</td> <td>-13</td> <td>Pass</td> </tr> </table>							Low Channel LTE5, 731.5 MHz	724 MHz - 734 MHz	-33.15	-13	Pass	High Channel LTE5, 743.5 MHz	741 MHz - 751 MHz	-33.58	-13	Pass	Low Channel LTE10, 734 MHz	719 MHz - 739 MHz	-38.33	-13	Pass	High Channel LTE10, 741 MHz	736 MHz - 756 MHz	-37.40	-13	Pass
Low Channel LTE5, 731.5 MHz	724 MHz - 734 MHz	-33.15	-13	Pass																						
High Channel LTE5, 743.5 MHz	741 MHz - 751 MHz	-33.58	-13	Pass																						
Low Channel LTE10, 734 MHz	719 MHz - 739 MHz	-38.33	-13	Pass																						
High Channel LTE10, 741 MHz	736 MHz - 756 MHz	-37.40	-13	Pass																						
Antenna Port 2																										
<table border="1"> <tr> <td>Low Channel LTE5, 731.5 MHz</td> <td>724 MHz - 734 MHz</td> <td>-32.92</td> <td>-13</td> <td>Pass</td> </tr> <tr> <td>High Channel LTE5, 743.5 MHz</td> <td>741 MHz - 751 MHz</td> <td>-34.00</td> <td>-13</td> <td>Pass</td> </tr> <tr> <td>Low Channel LTE10, 734 MHz</td> <td>719 MHz - 739 MHz</td> <td>-37.52</td> <td>-13</td> <td>Pass</td> </tr> <tr> <td>High Channel LTE10, 741 MHz</td> <td>736 MHz - 756 MHz</td> <td>-37.08</td> <td>-13</td> <td>Pass</td> </tr> </table>							Low Channel LTE5, 731.5 MHz	724 MHz - 734 MHz	-32.92	-13	Pass	High Channel LTE5, 743.5 MHz	741 MHz - 751 MHz	-34.00	-13	Pass	Low Channel LTE10, 734 MHz	719 MHz - 739 MHz	-37.52	-13	Pass	High Channel LTE10, 741 MHz	736 MHz - 756 MHz	-37.08	-13	Pass
Low Channel LTE5, 731.5 MHz	724 MHz - 734 MHz	-32.92	-13	Pass																						
High Channel LTE5, 743.5 MHz	741 MHz - 751 MHz	-34.00	-13	Pass																						
Low Channel LTE10, 734 MHz	719 MHz - 739 MHz	-37.52	-13	Pass																						
High Channel LTE10, 741 MHz	736 MHz - 756 MHz	-37.08	-13	Pass																						

BAND EDGE COMPLIANCE - BAND 12

Antenna Port 1, Low Channel LTE5, 731.5 MHz			
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
724 MHz - 734 MHz	-33.15	-13	Pass

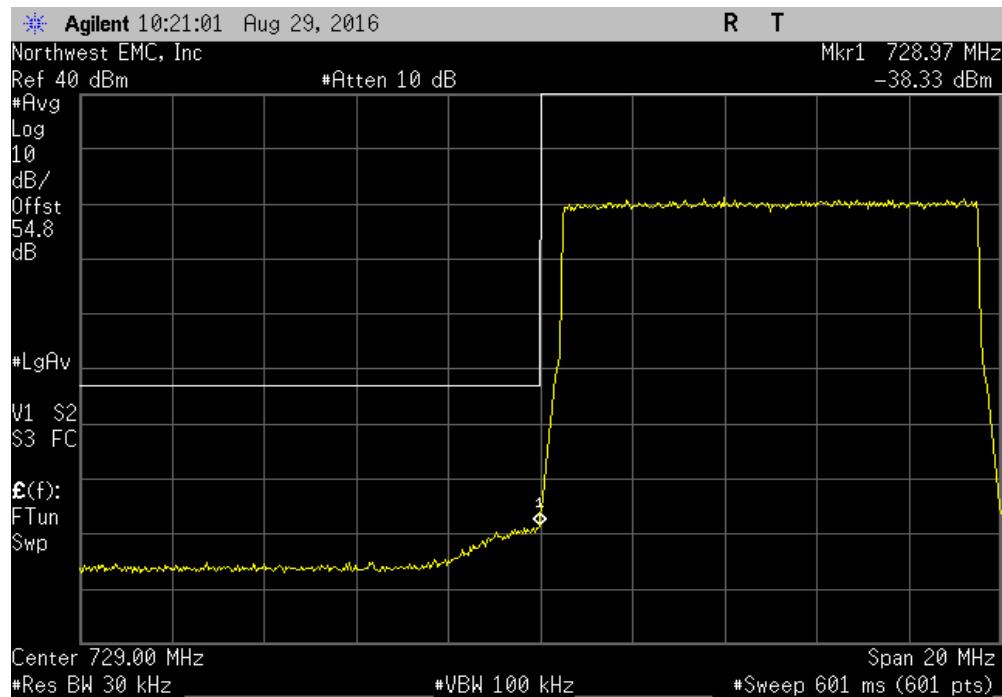


Antenna Port 1, High Channel LTE5, 743.5 MHz			
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
741 MHz - 751 MHz	-33.58	-13	Pass

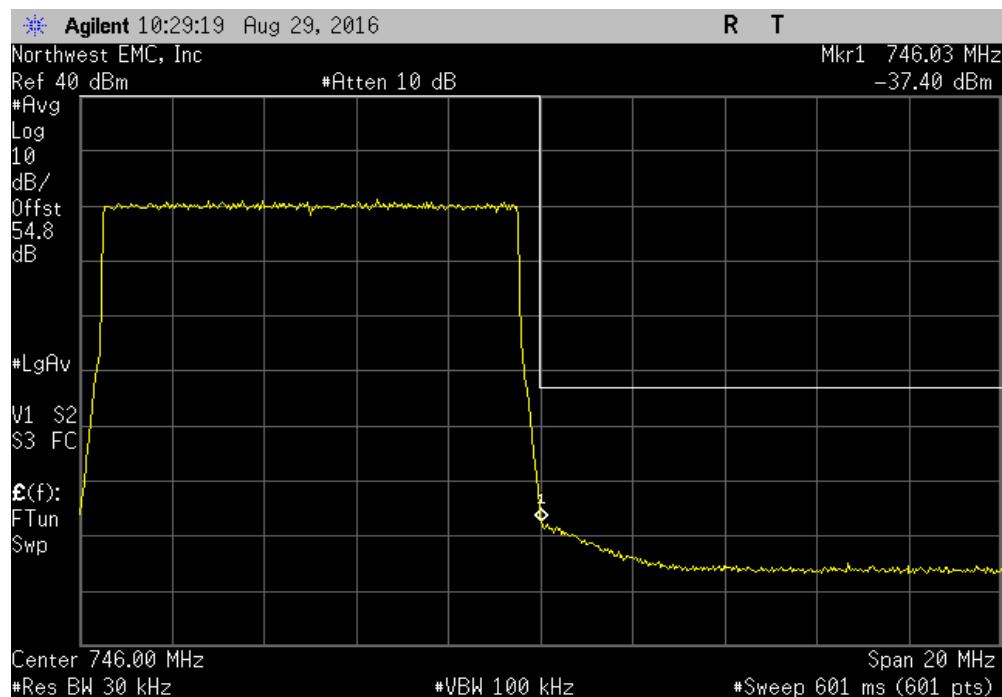


BAND EDGE COMPLIANCE - BAND 12

Antenna Port 1, Low Channel LTE10, 734 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
719 MHz - 739 MHz	-38.33	-13	Pass	

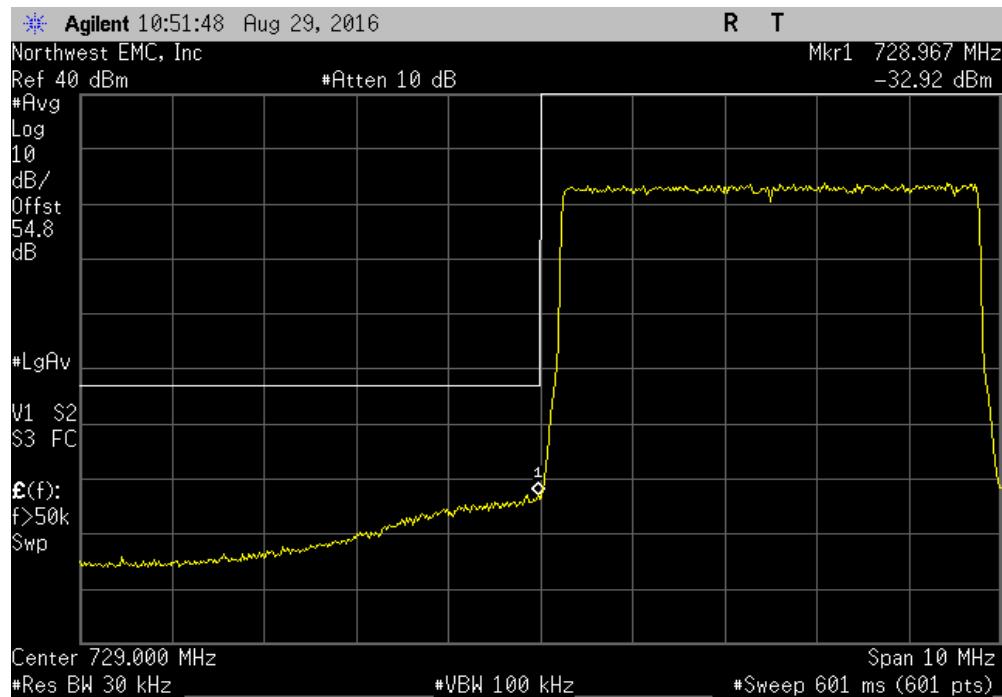


Antenna Port 1, High Channel LTE10, 741 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
736 MHz - 756 MHz	-37.40	-13	Pass	

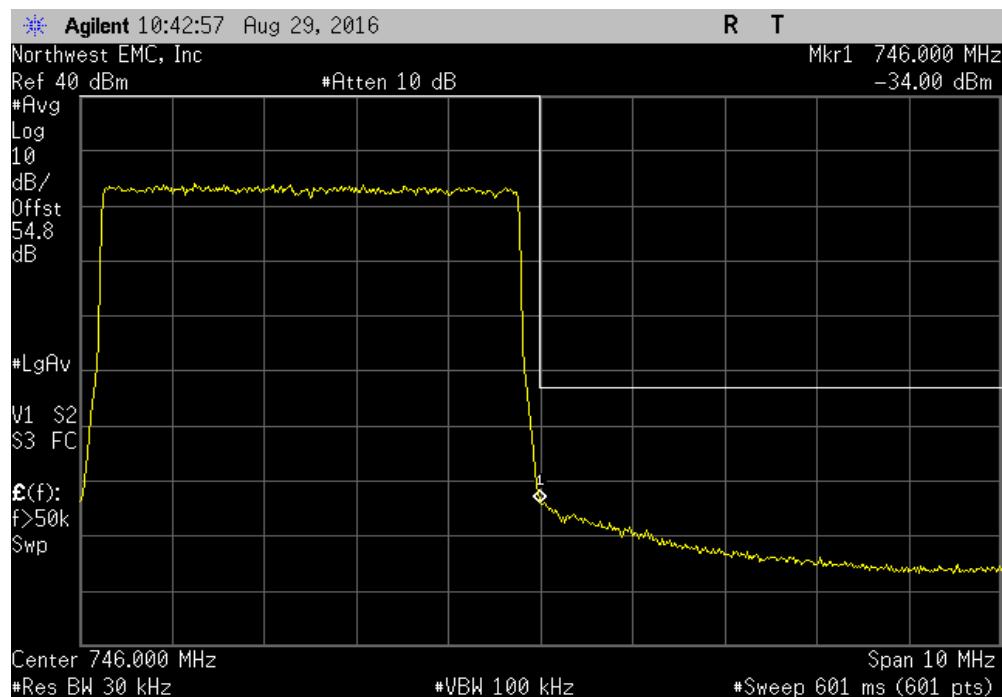


BAND EDGE COMPLIANCE - BAND 12

Antenna Port 2, Low Channel LTE5, 731.5 MHz			
Frequency Range	Max Value (dBm)	Limit \leq (dBm)	Result
724 MHz - 734 MHz	-32.92	-13	Pass

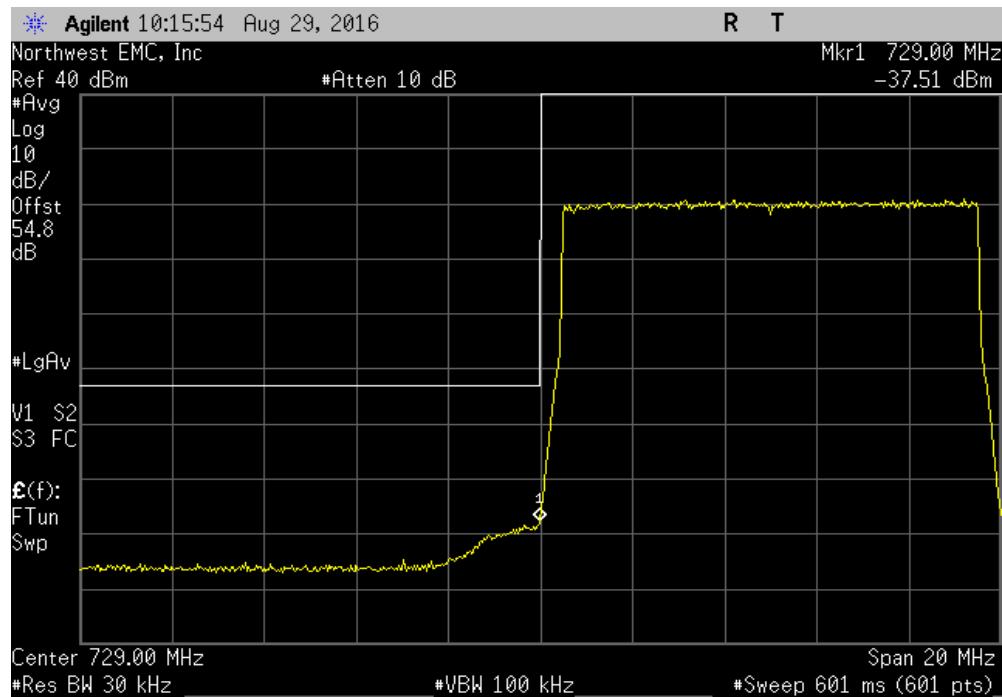


Antenna Port 2, High Channel LTE5, 743.5 MHz			
Frequency Range	Max Value (dBm)	Limit \leq (dBm)	Result
741 MHz - 751 MHz	-34.00	-13	Pass

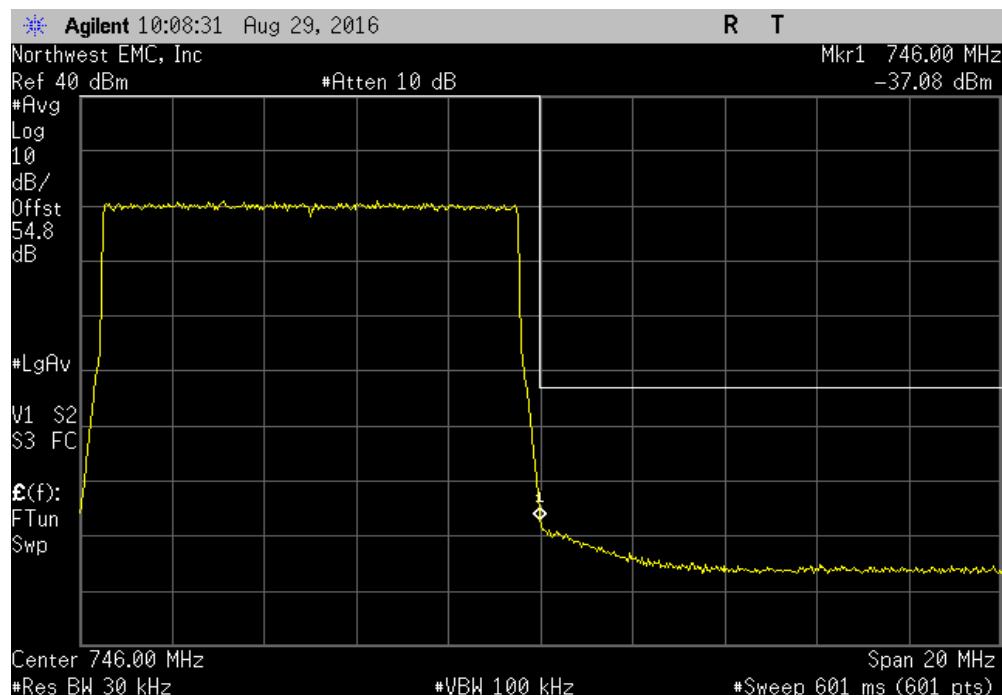


BAND EDGE COMPLIANCE - BAND 12

Antenna Port 2, Low Channel LTE10, 734 MHz			
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
719 MHz - 739 MHz	-37.52	-13	Pass



Antenna Port 2, High Channel LTE10, 741 MHz			
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
736 MHz - 756 MHz	-37.08	-13	Pass



BAND EDGE COMPLIANCE - BAND 17

**NORTHWEST
EMC**
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
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Keysight	N5182B	TFX	4/16/2015	4/16/2018
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	AFD	7/29/2016	7/29/2017

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 edges of the authorized bands were measured with the EUT set to low and high transmit frequencies in the available band. The channels closest to the band edges were selected. The EUT was transmitting at the data rate(s) listed in the datasheet.

The spectrum was scanned below the lower band edge and above the higher band edge. The resolution bandwidth was set to 30 kHz per the specification. 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.

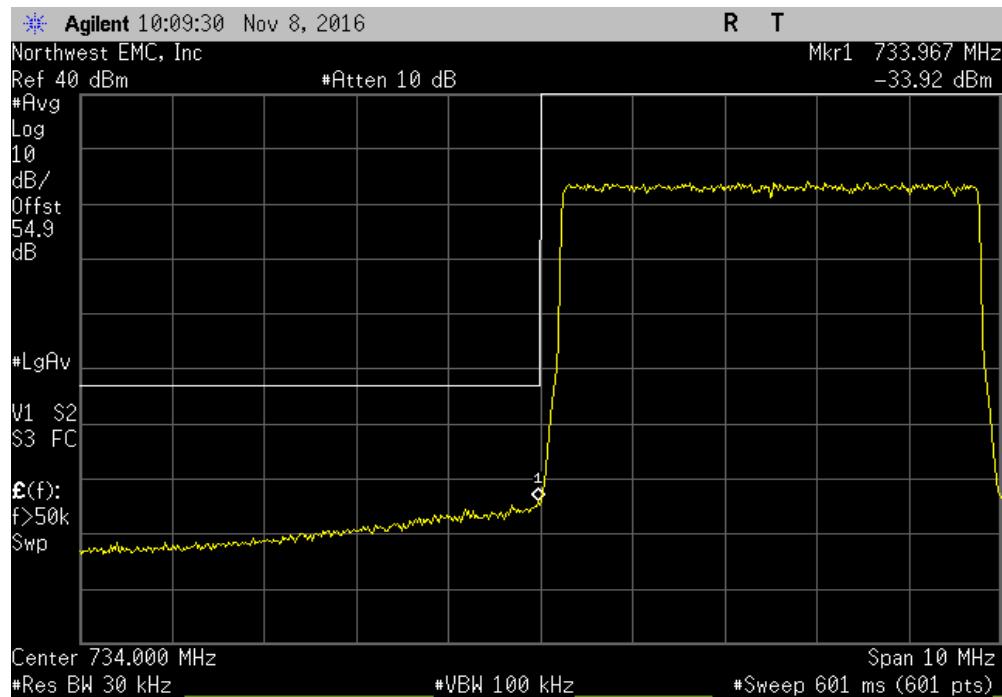
Only the Low Channel for each channel bandwidth was tested, the High Channel was previously tested in this band.

BAND EDGE COMPLIANCE - BAND 17

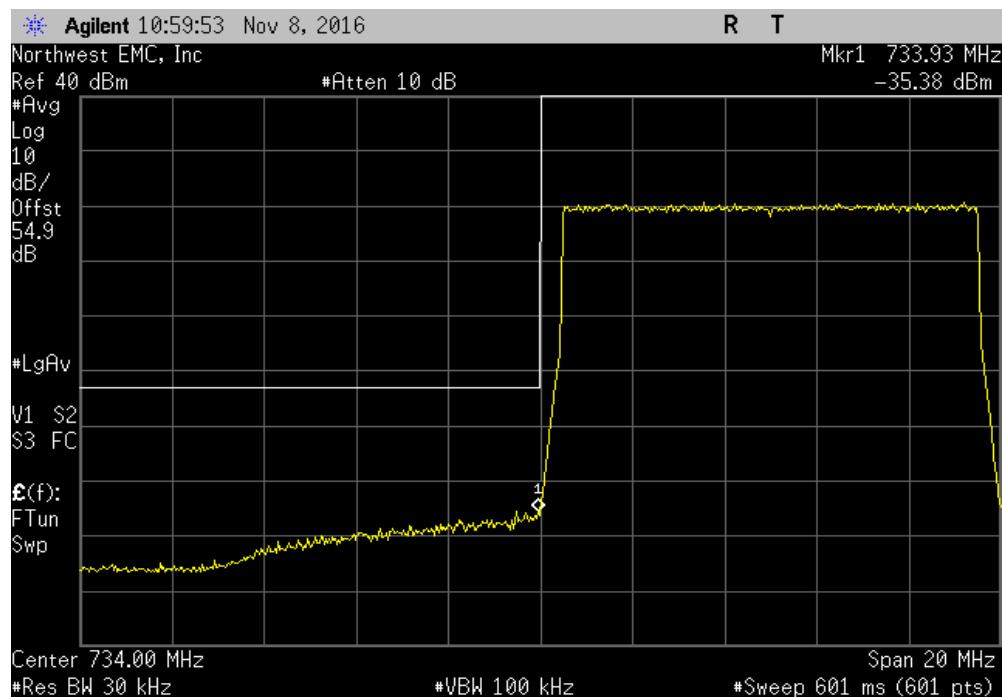
EUT:	CWS-3050-12		Work Order:	KMWG0077		
Serial Number:	K163300001		Date:	11/08/16		
Customer:	Parallel Wireless Inc.		Temperature:	20.8 °C		
Attendees:	Edward Lee		Humidity:	49% RH		
Project:	None		Barometric Pres.:	1018 mbar		
Tested by:	Johnny Candelas	Power:	48 VDC	Job Site:	OC13	
TEST SPECIFICATIONS			Test Method			
FCC 27:2016			ANSI/TIA/EIA-603-D-2010			
COMMENTS						
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 54.9dB total.						
DEVIATIONS FROM TEST STANDARD						
None						
Configuration #	1	Signature	Frequency Range	Max Value (dBm)	Limit \leq (dBm)	Result
Antenna Port 1						
Low Channel LTE5, 736.5 MHz			729 MHz - 739 MHz	-33.92	-13	Pass
Low Channel LTE10, 739 MHz			724 MHz - 744 MHz	-35.38	-13	Pass
Antenna Port 2						
Low Channel LTE5, 736.5 MHz			729 MHz - 739 MHz	-35.38	-13	Pass
Low Channel LTE10, 739 MHz			724 MHz - 744 MHz	-36.88	-13	Pass

BAND EDGE COMPLIANCE - BAND 17

Antenna Port 1, Low Channel LTE5, 736.5 MHz			
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
729 MHz - 739 MHz	-33.92	-13	Pass

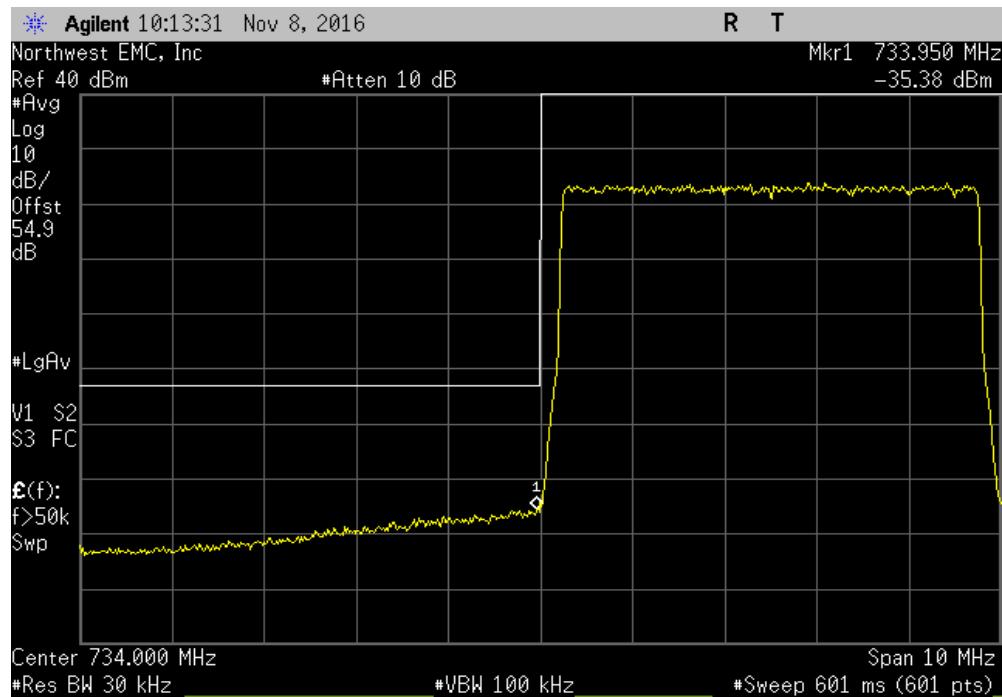


Antenna Port 1, Low Channel LTE10, 739 MHz			
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
724 MHz - 744 MHz	-35.38	-13	Pass

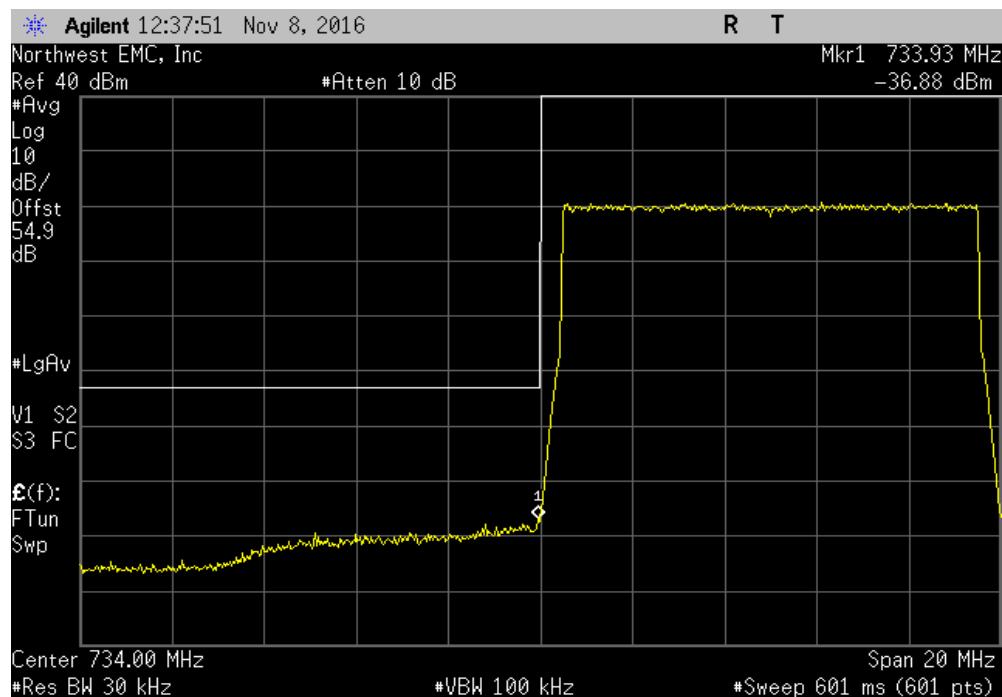


BAND EDGE COMPLIANCE - BAND 17

Antenna Port 2, Low Channel LTE5, 736.5 MHz			
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
729 MHz - 739 MHz	-35.38	-13	Pass



Antenna Port 2, Low Channel LTE10, 739 MHz			
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
724 MHz - 744 MHz	-36.88	-13	Pass



INTERMODULATION - BAND 12

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 appropriate resolution bandwidth and no video filtering were made for each modulation type.

Since the EUT does not have an RF Input, the EUT was configured with two modulated carriers, 1 at the edge of the band and the 2nd either adjacent or at max separation possible. The purpose of the test is to insure that no additional signals are creating by having multiple carriers in the passband of the EUT.

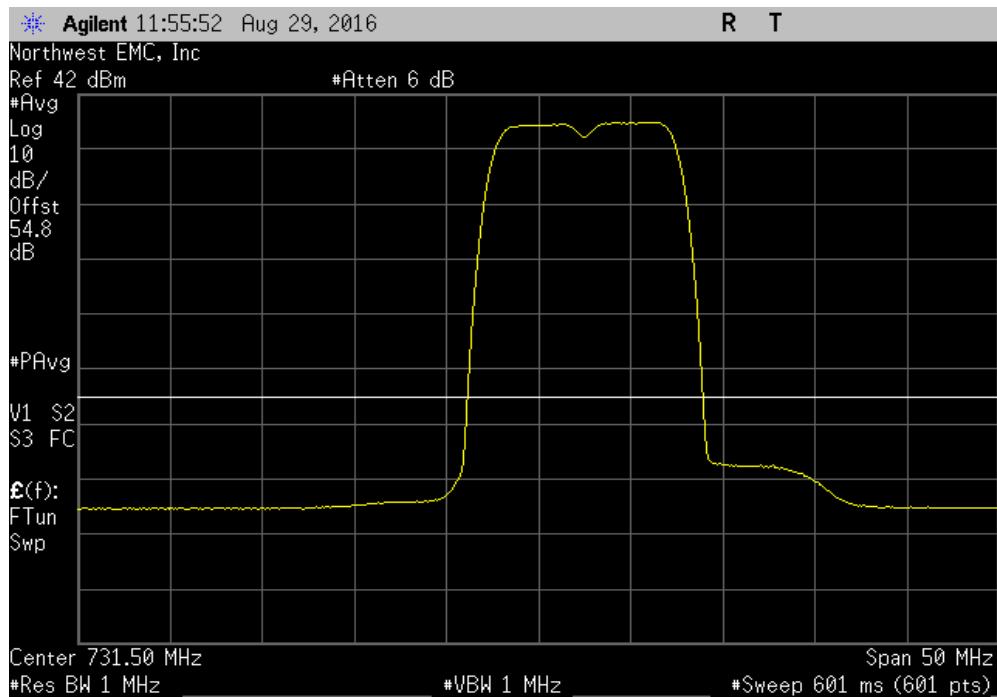
The peak conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than or equal to the spurious conducted emissions limits. Measurements close to the limit were re-measured using a RMS average detector.

INTERMODULATION - BAND 12

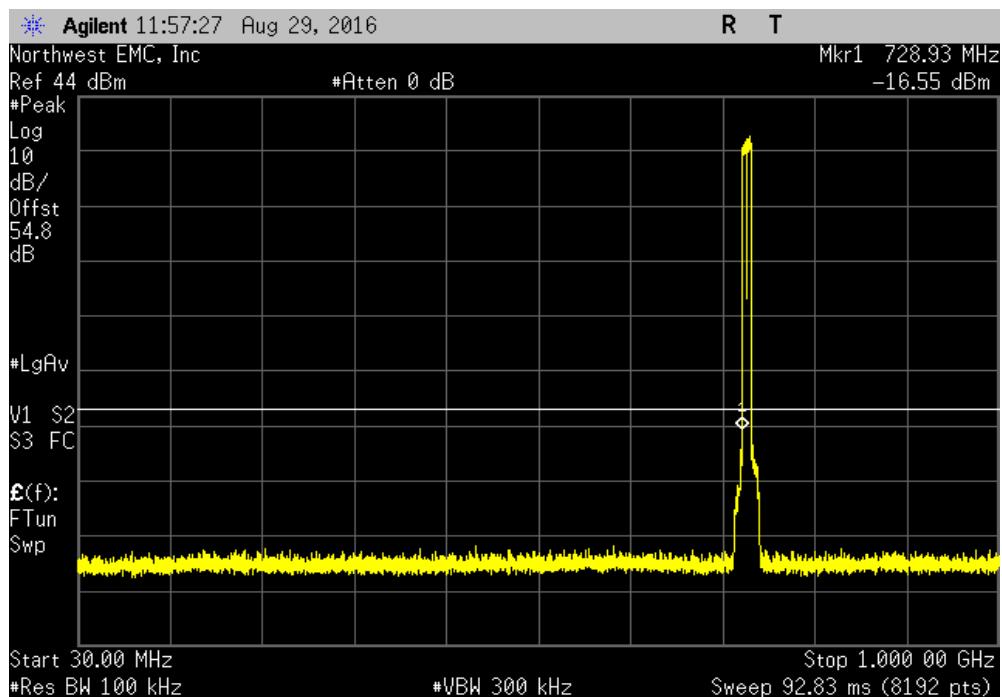
EUT:	CWS-3050-12	Work Order:	KMWC0074
Serial Number:	K163300001	Date:	09/12/16
Customer:	Parallel Wireless Inc.	Temperature:	21.1 °C
Attendees:	Andy Ku	Humidity:	50.2% RH
Project:	None	Barometric Pres.:	1015 mbar
Tested by:	Johnny Candelas	Power:	48 VDC
TEST SPECIFICATIONS		Test Method	ANSI/TIA/EIA-603-D-2010
FCC 27:2016			
COMMENTS			
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 54.8dB total. LTE5, 743.5 MHz, High Band Edge, max offset secondary channel was not performed because it is the exact same as LTE5, 731.5 MHz, Low Band Edge, max offset secondary channel.			
DEVIATIONS FROM TEST STANDARD			
None			
Configuration #	1	Signature	
		Frequency Range	Max Value (dBm) Limit ≤ (dBm) Result
Antenna Port 1			
LTE5, 731.5 MHz, Low Band Edge, adjacent secondary channel		Fundamental	N/A N/A N/A
LTE5, 731.5 MHz, Low Band Edge, adjacent secondary channel		30 MHz - 1 GHz	-16.55 -13 Pass
LTE5, 731.5 MHz, Low Band Edge, adjacent secondary channel		1 GHz - 8 GHz	-23.80 -13 Pass
LTE5, 731.5 MHz, Low Band Edge, max offset secondary channel		Fundamental	N/A N/A N/A
LTE5, 731.5 MHz, Low Band Edge, max offset secondary channel		30 MHz - 1 GHz	-16.84 -13 Pass
LTE5, 731.5 MHz, Low Band Edge, max offset secondary channel		1 GHz - 8 GHz	-24.23 -13 Pass
LTE5, 743.5 MHz, High Band Edge, adjacent secondary channel		Fundamental	N/A N/A N/A
LTE5, 743.5 MHz, High Band Edge, adjacent secondary channel		30 MHz - 1 GHz	-20.22 -13 Pass
LTE5, 743.5 MHz, High Band Edge, adjacent secondary channel		1 GHz - 8 GHz	-23.90 -13 Pass
LTE10, 734 MHz, Low Band Edge, adjacent secondary channel		Fundamental	N/A N/A N/A
LTE10, 734 MHz, Low Band Edge, adjacent secondary channel		30 MHz - 1 GHz	-21.72 -13 Pass
LTE10, 734 MHz, Low Band Edge, adjacent secondary channel		1 GHz - 8 GHz	-24.12 -13 Pass
LTE10, 734 MHz, Low Band Edge, max offset secondary channel		Fundamental	N/A N/A N/A
LTE10, 734 MHz, Low Band Edge, max offset secondary channel		30 MHz - 1 GHz	-22.65 -13 Pass
LTE10, 734 MHz, Low Band Edge, max offset secondary channel		1 GHz - 8 GHz	-24.27 -13 Pass
LTE10, 741 MHz, High Band Edge, adjacent secondary channel		Fundamental	N/A N/A N/A
LTE10, 741 MHz, High Band Edge, adjacent secondary channel		30 MHz - 1 GHz	-23.94 -13 Pass
LTE10, 741 MHz, High Band Edge, adjacent secondary channel		1 GHz - 8 GHz	-24.44 -13 Pass
LTE10, 741 MHz, High Band Edge, max offset secondary channel		Fundamental	N/A N/A N/A
LTE10, 741 MHz, High Band Edge, max offset secondary channel		30 MHz - 1 GHz	-21.94 -13 Pass
LTE10, 741 MHz, High Band Edge, max offset secondary channel		1 GHz - 8 GHz	-24.08 -13 Pass
Antenna Port 2			
LTE5, 731.5 MHz, Low Band Edge, adjacent secondary channel		Fundamental	N/A N/A N/A
LTE5, 731.5 MHz, Low Band Edge, adjacent secondary channel		30 MHz - 1 GHz	-16.45 -13 Pass
LTE5, 731.5 MHz, Low Band Edge, adjacent secondary channel		1 GHz - 8 GHz	-24.04 -13 Pass
LTE5, 731.5 MHz, Low Band Edge, max offset secondary channel		Fundamental	N/A N/A N/A
LTE5, 731.5 MHz, Low Band Edge, max offset secondary channel		30 MHz - 1 GHz	-16.64 -13 Pass
LTE5, 731.5 MHz, Low Band Edge, max offset secondary channel		1 GHz - 8 GHz	-24.43 -13 Pass
LTE5, 743.5 MHz, High Band Edge, adjacent secondary channel		Fundamental	N/A N/A N/A
LTE5, 743.5 MHz, High Band Edge, adjacent secondary channel		30 MHz - 1 GHz	-19.11 -13 Pass
LTE5, 743.5 MHz, High Band Edge, adjacent secondary channel		1 GHz - 8 GHz	-23.34 -13 Pass
LTE10, 734 MHz, Low Band Edge, adjacent secondary channel		Fundamental	N/A N/A N/A
LTE10, 734 MHz, Low Band Edge, adjacent secondary channel		30 MHz - 1 GHz	-24.83 -13 Pass
LTE10, 734 MHz, Low Band Edge, adjacent secondary channel		1 GHz - 8 GHz	-24.14 -13 Pass
LTE10, 734 MHz, Low Band Edge, max offset secondary channel		Fundamental	N/A N/A N/A
LTE10, 734 MHz, Low Band Edge, max offset secondary channel		30 MHz - 1 GHz	-22.47 -13 Pass
LTE10, 734 MHz, Low Band Edge, max offset secondary channel		1 GHz - 8 GHz	-24.47 -13 Pass
LTE10, 741 MHz, High Band Edge, adjacent secondary channel		Fundamental	N/A N/A N/A
LTE10, 741 MHz, High Band Edge, adjacent secondary channel		30 MHz - 1 GHz	-23.14 -13 Pass
LTE10, 741 MHz, High Band Edge, adjacent secondary channel		1 GHz - 8 GHz	-24.24 -13 Pass
LTE10, 741 MHz, High Band Edge, max offset secondary channel		Fundamental	N/A N/A N/A
LTE10, 741 MHz, High Band Edge, max offset secondary channel		30 MHz - 1 GHz	-24.58 -13 Pass
LTE10, 741 MHz, High Band Edge, max offset secondary channel		1 GHz - 8 GHz	-24.26 -13 Pass

INTERMODULATION - BAND 12

Antenna Port 1, LTE5, 731.5 MHz, Low Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
Fundamental	N/A	N/A	N/A	N/A	N/A

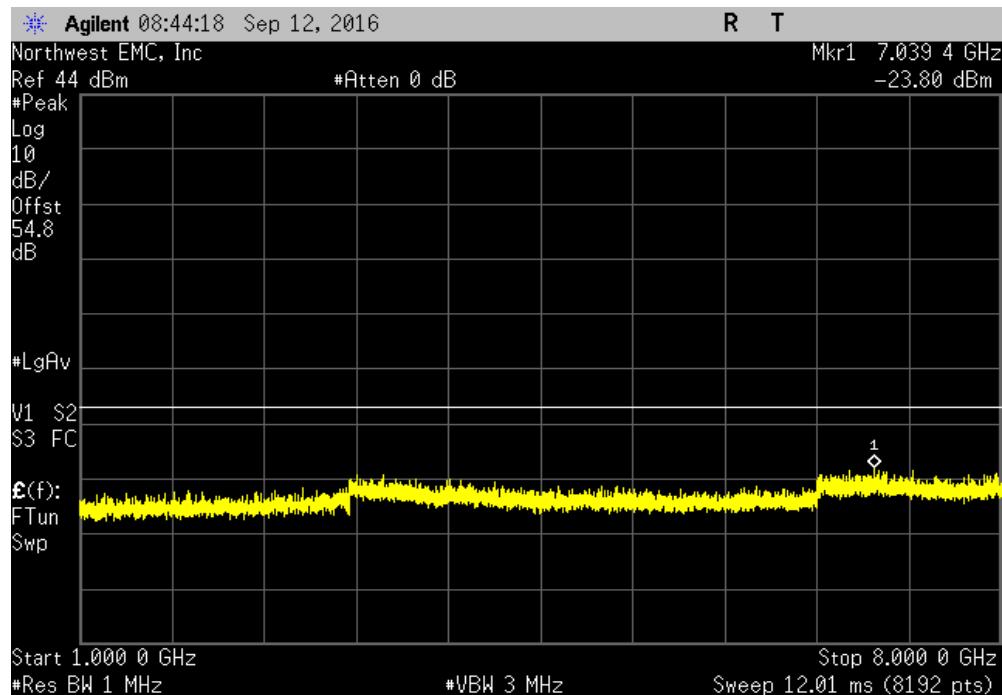


Antenna Port 1, LTE5, 731.5 MHz, Low Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-16.55	-13	Pass		

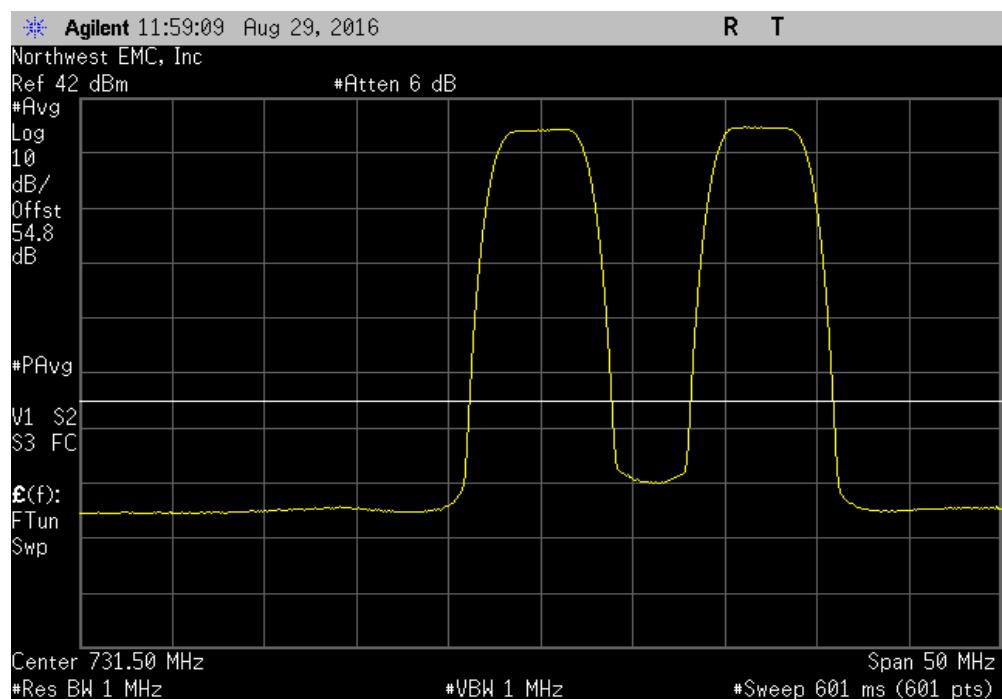


INTERMODULATION - BAND 12

Antenna Port 1, LTE5, 731.5 MHz, Low Band Edge, adjacent secondary channel					
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 8 GHz		-23.80	-13	Pass	

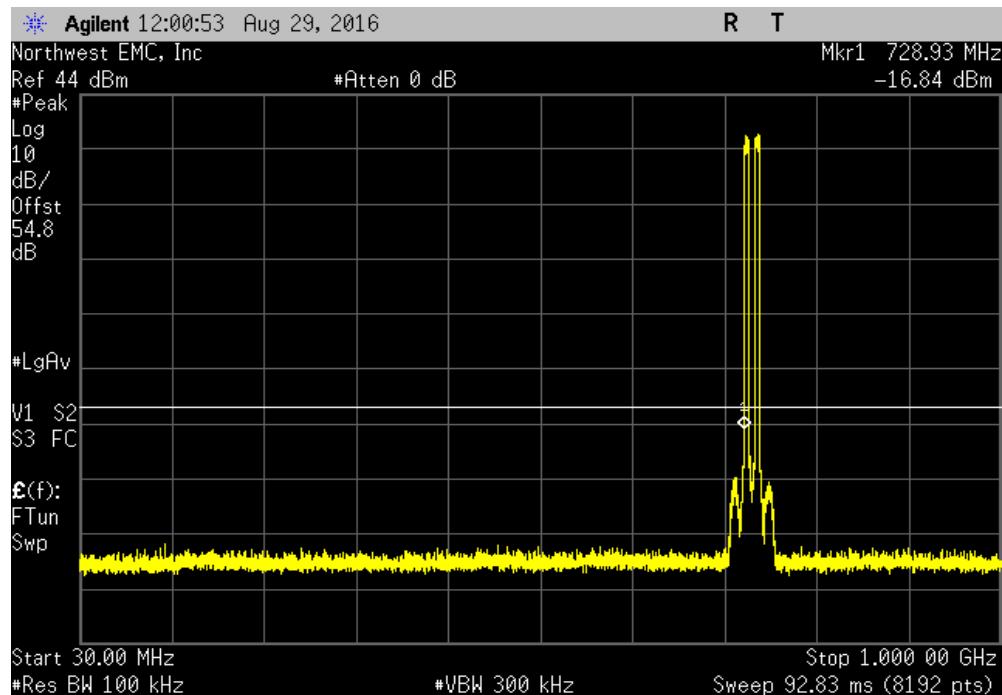


Antenna Port 1, LTE5, 731.5 MHz, Low Band Edge, max offset secondary channel					
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result	
Fundamental		N/A	N/A	N/A	

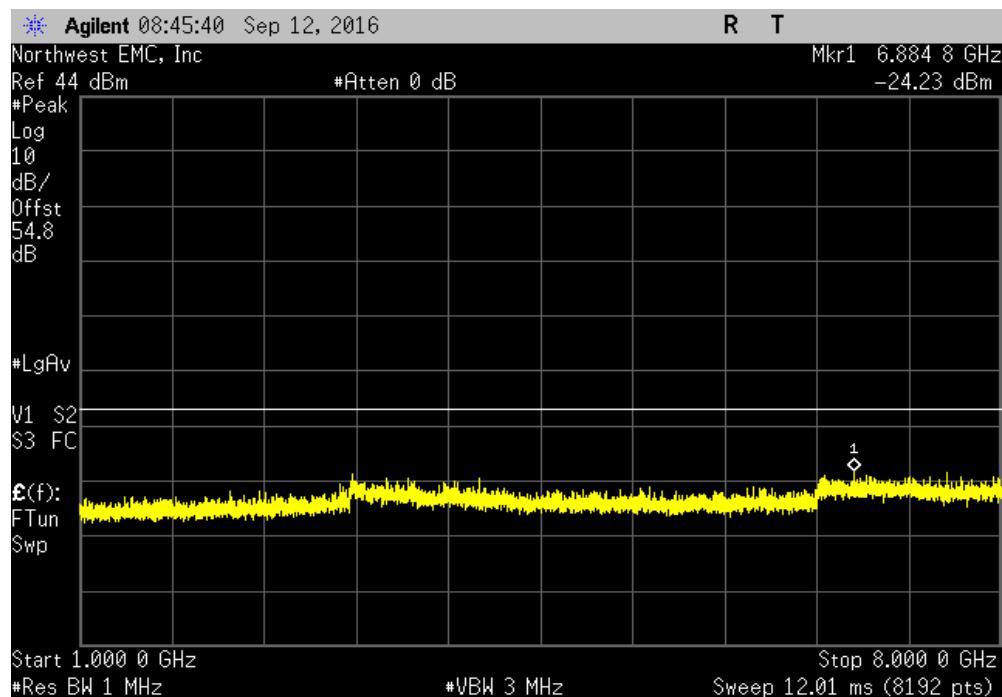


INTERMODULATION - BAND 12

Antenna Port 1, LTE5, 731.5 MHz, Low Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-16.84	-13	Pass		

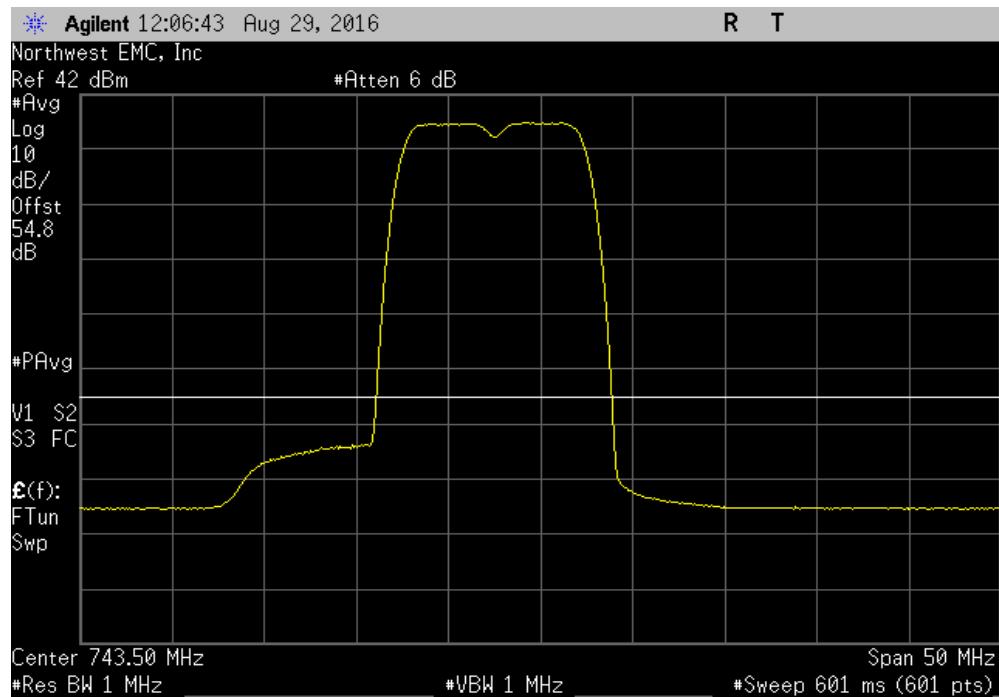


Antenna Port 1, LTE5, 731.5 MHz, Low Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 8 GHz	-24.23	-13	Pass		

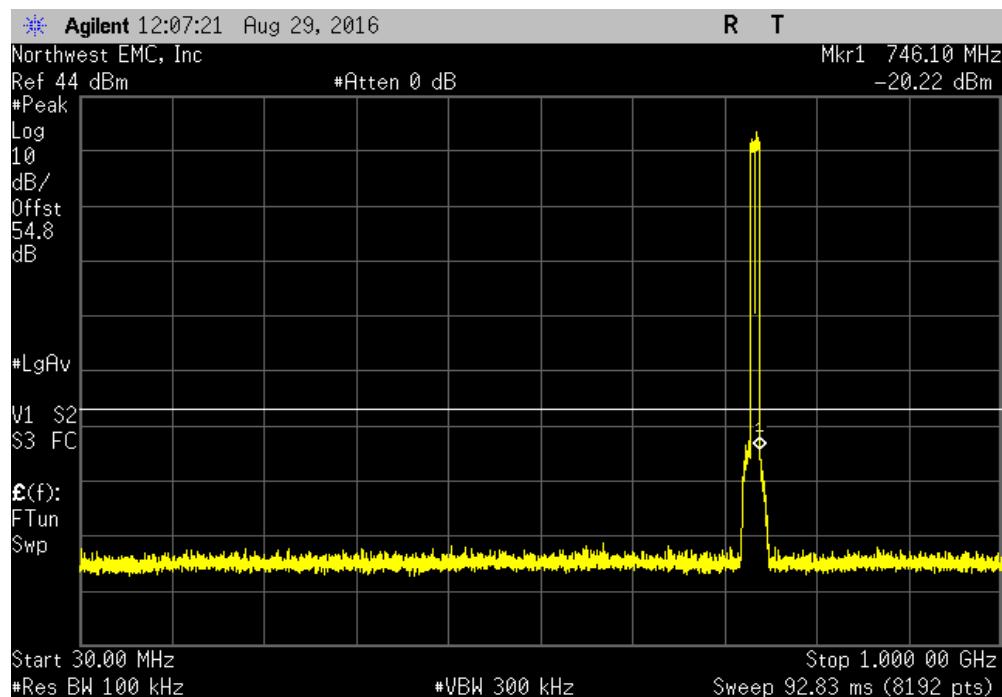


INTERMODULATION - BAND 12

Antenna Port 1, LTE5, 743.5 MHz, High Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
Fundamental	N/A	N/A			N/A

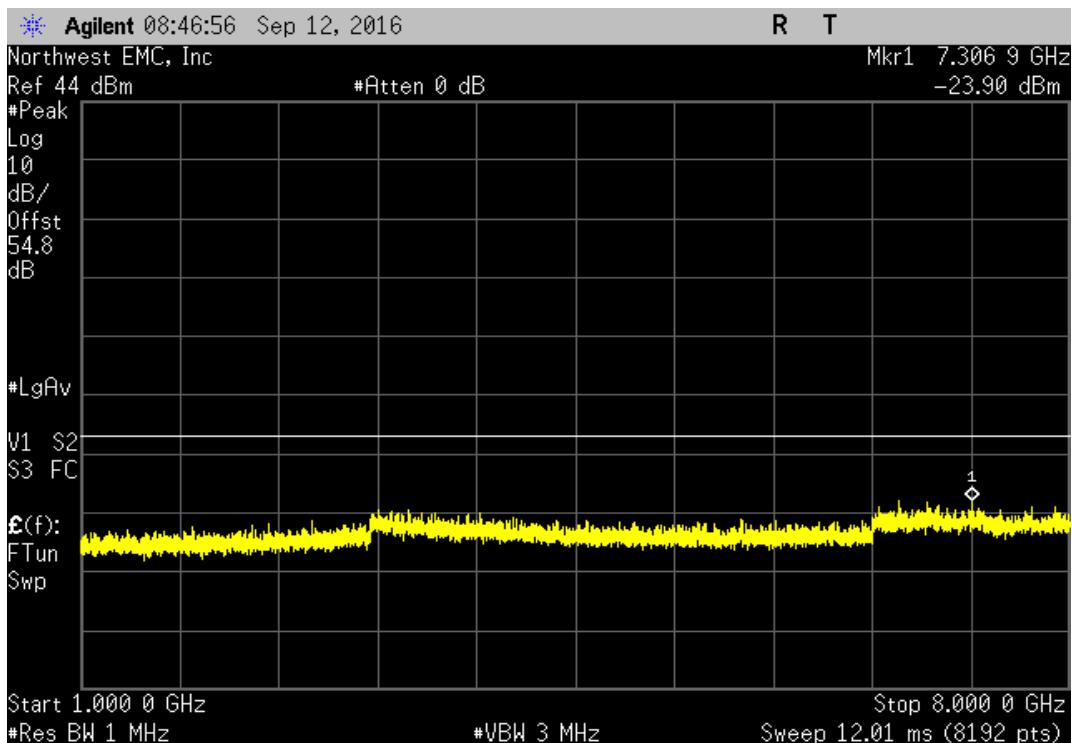


Antenna Port 1, LTE5, 743.5 MHz, High Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-20.22	-13			Pass



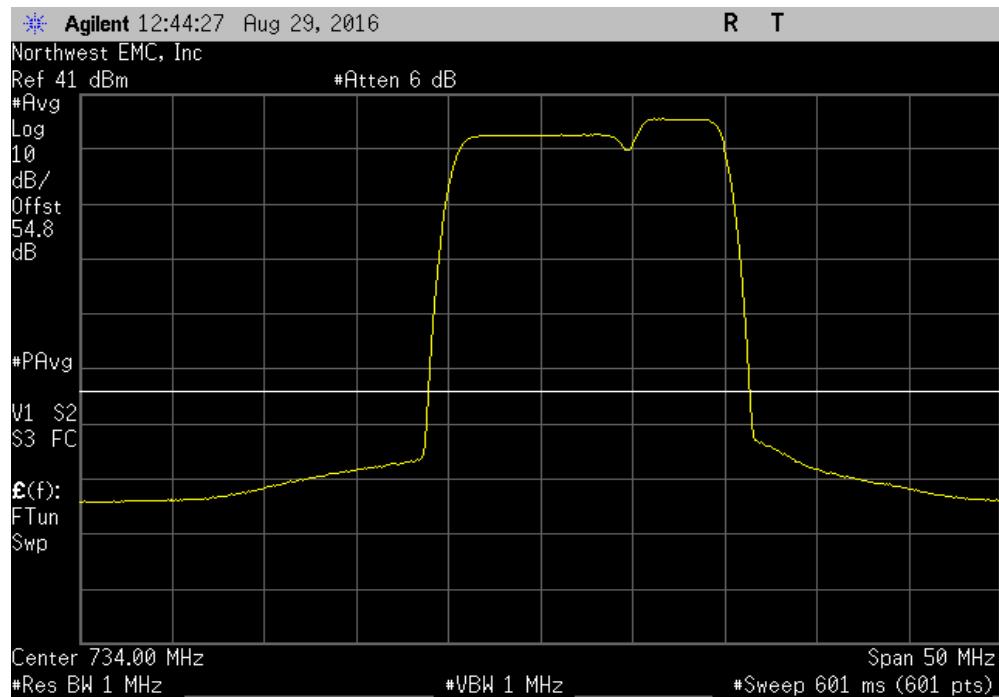
INTERMODULATION - BAND 12

Antenna Port 1, LTE5, 743.5 MHz, High Band Edge, adjacent secondary channel					
Frequency	Max Value	Limit			
Range	(dBm)	≤ (dBm)			Result
1 GHz - 8 GHz	-23.90	-13			Pass

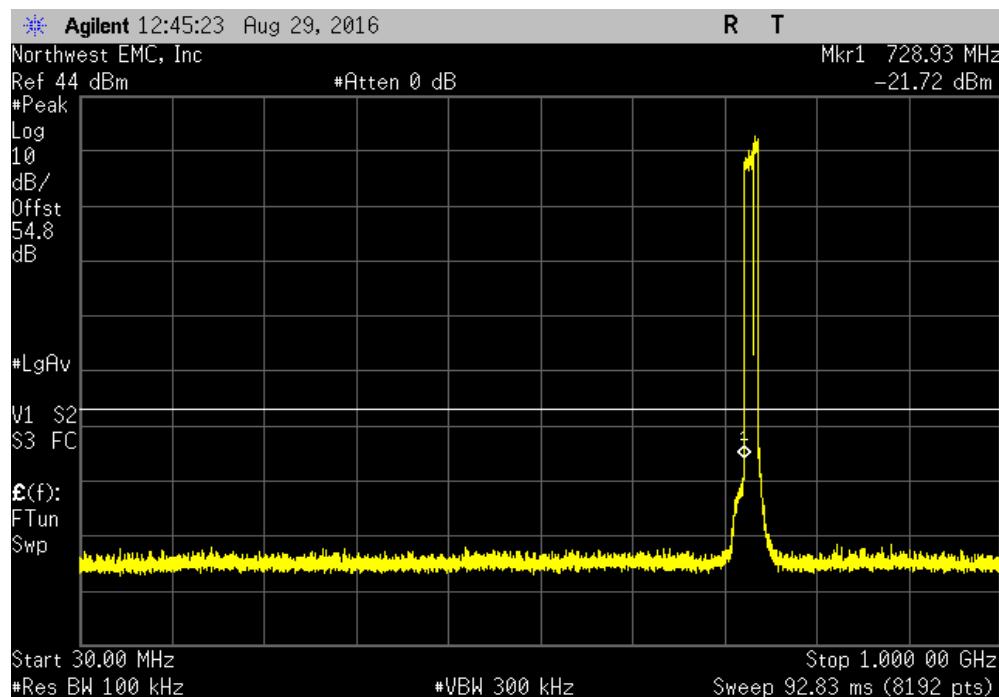


INTERMODULATION - BAND 12

Antenna Port 1, LTE10, 734 MHz, Low Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
Fundamental	N/A	N/A			N/A

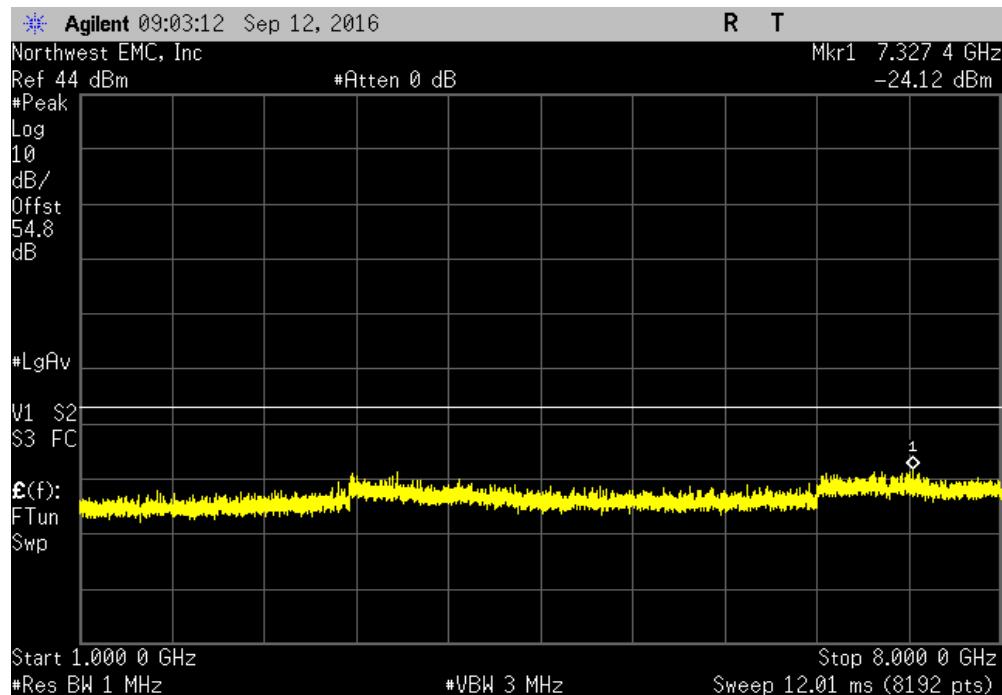


Antenna Port 1, LTE10, 734 MHz, Low Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-21.72	-13			Pass

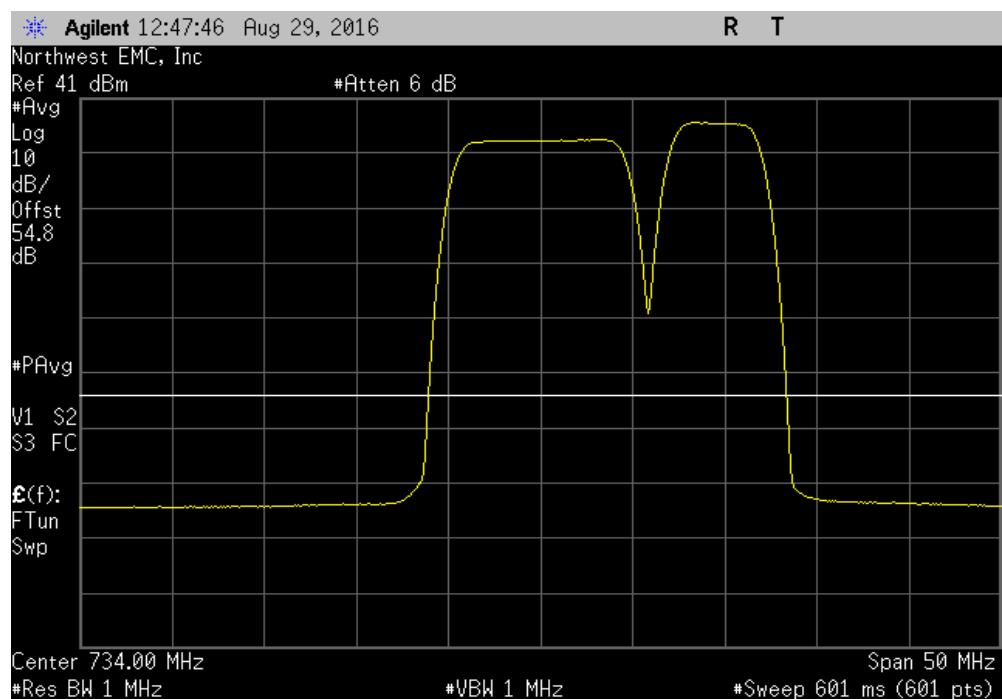


INTERMODULATION - BAND 12

Antenna Port 1, LTE10, 734 MHz, Low Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 8 GHz	-24.12	-13	Pass		

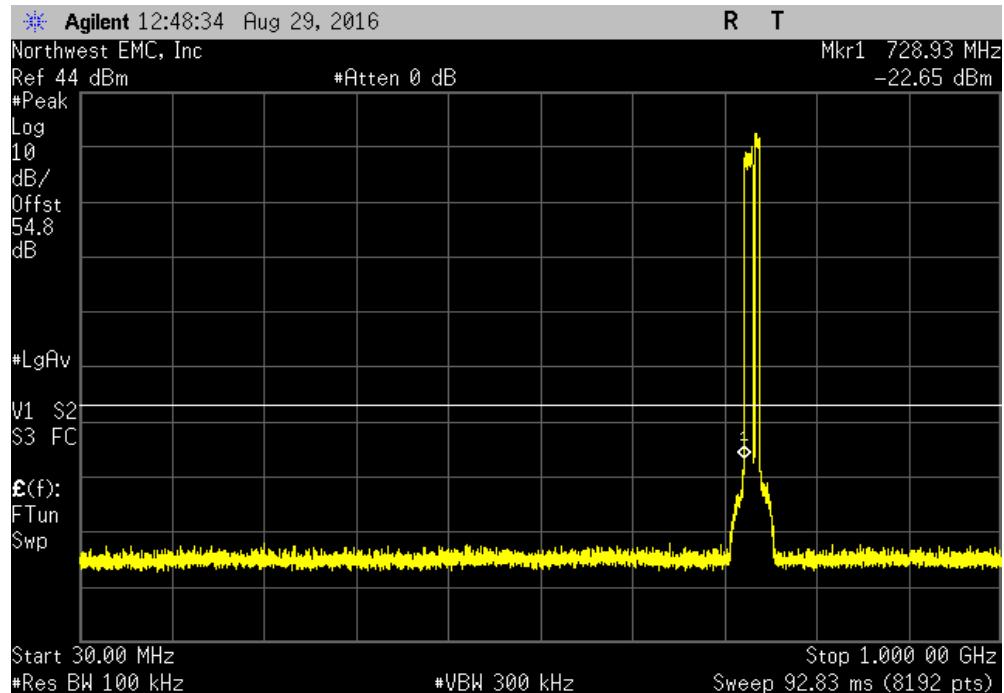


Antenna Port 1, LTE10, 734 MHz, Low Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
Fundamental	N/A	N/A	N/A	N/A	N/A

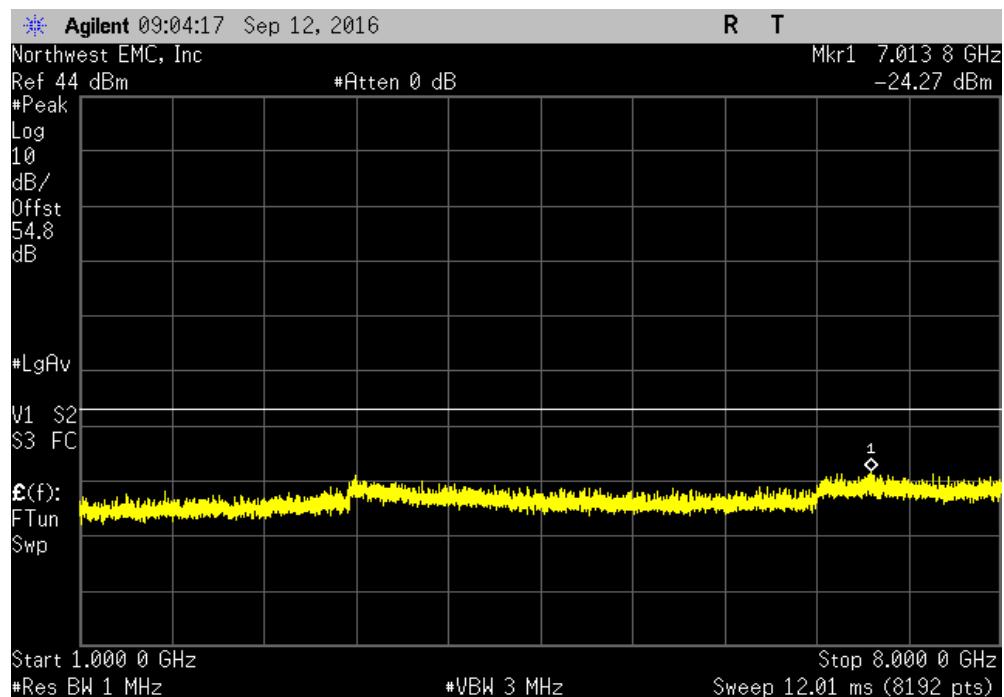


INTERMODULATION - BAND 12

Antenna Port 1, LTE10, 734 MHz, Low Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-22.65	-13	Pass		

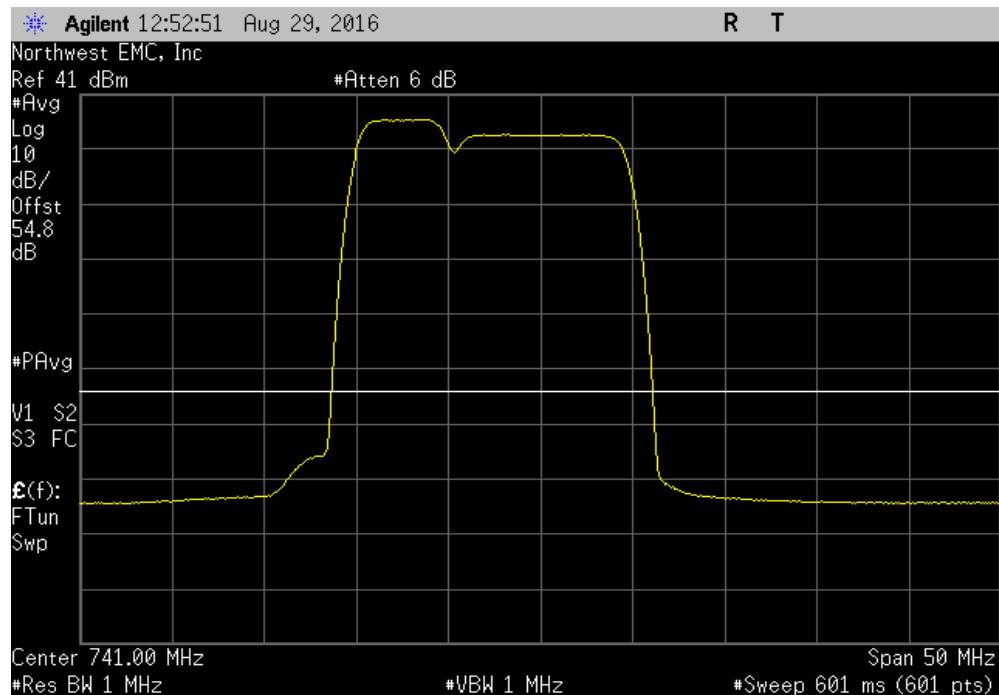


Antenna Port 1, LTE10, 734 MHz, Low Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 8 GHz	-24.27	-13	Pass		

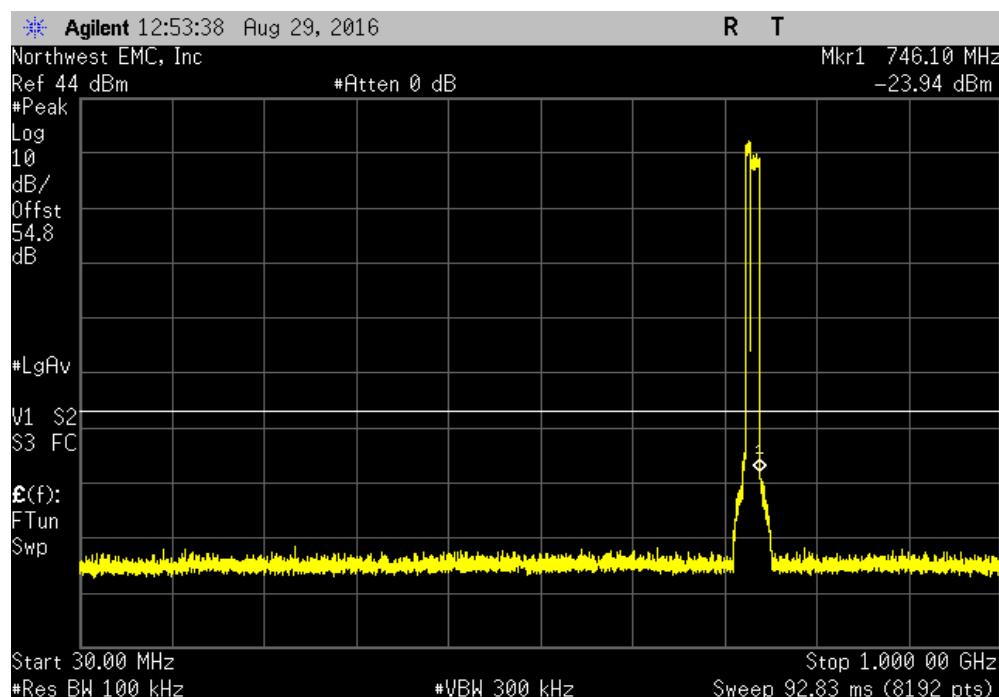


INTERMODULATION - BAND 12

Antenna Port 1, LTE10, 741 MHz, High Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
Fundamental	N/A	N/A	N/A		

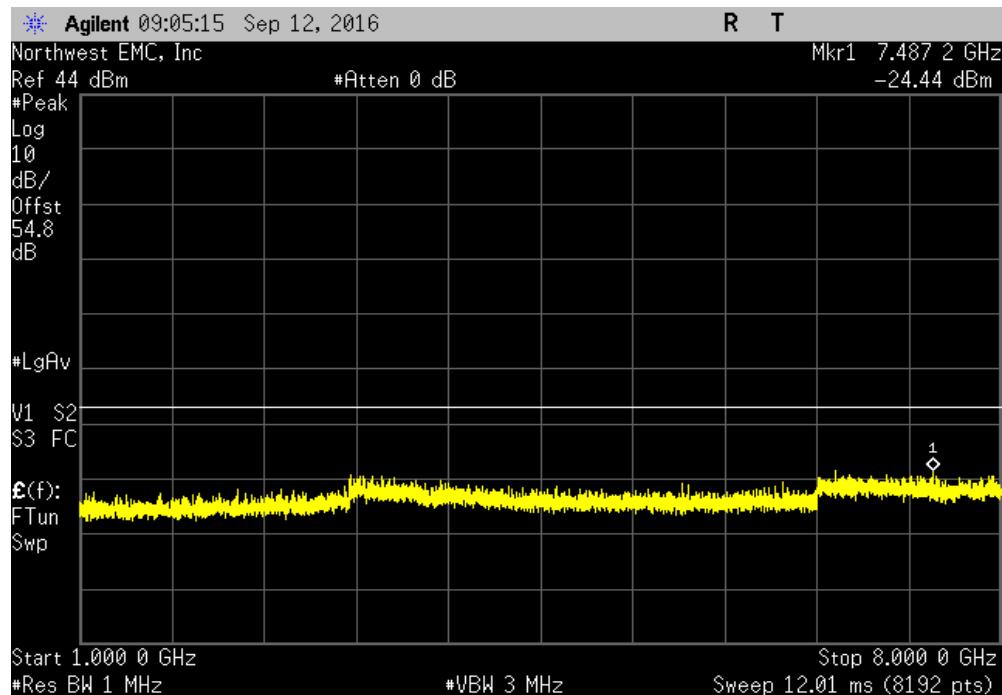


Antenna Port 1, LTE10, 741 MHz, High Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-23.94	-13	Pass		

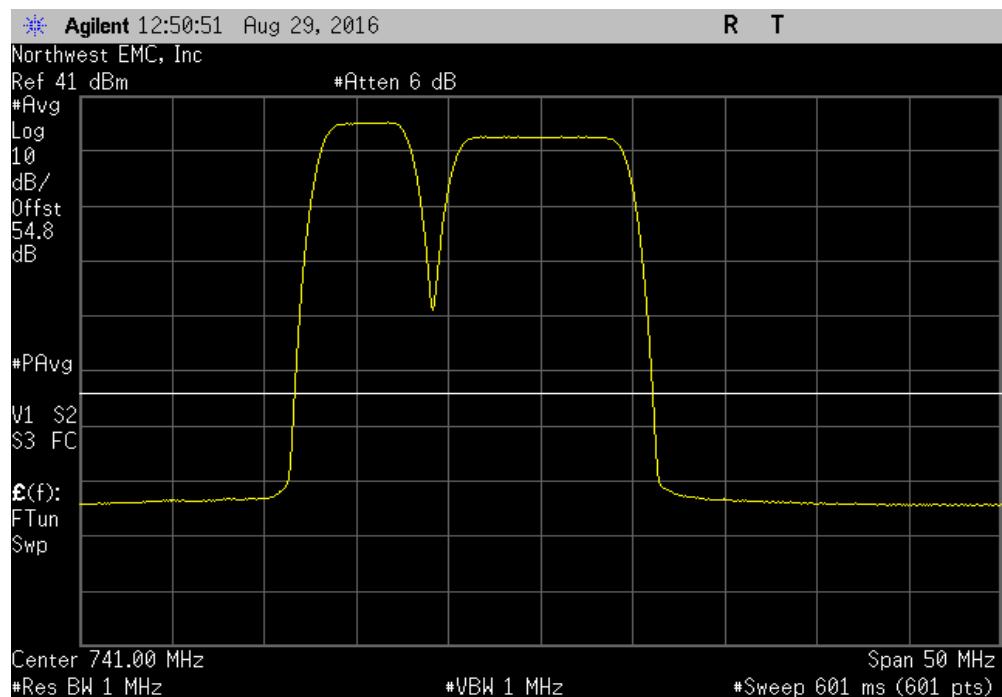


INTERMODULATION - BAND 12

Antenna Port 1, LTE10, 741 MHz, High Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 8 GHz	-24.44	-13	Pass		

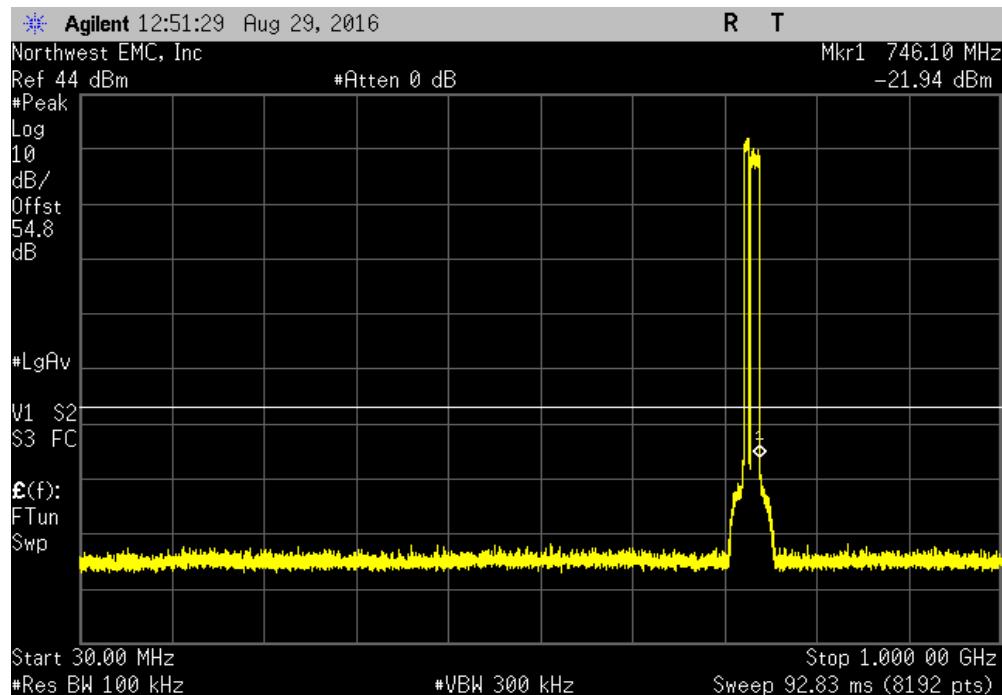


Antenna Port 1, LTE10, 741 MHz, High Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
Fundamental	N/A	N/A	N/A	N/A	N/A

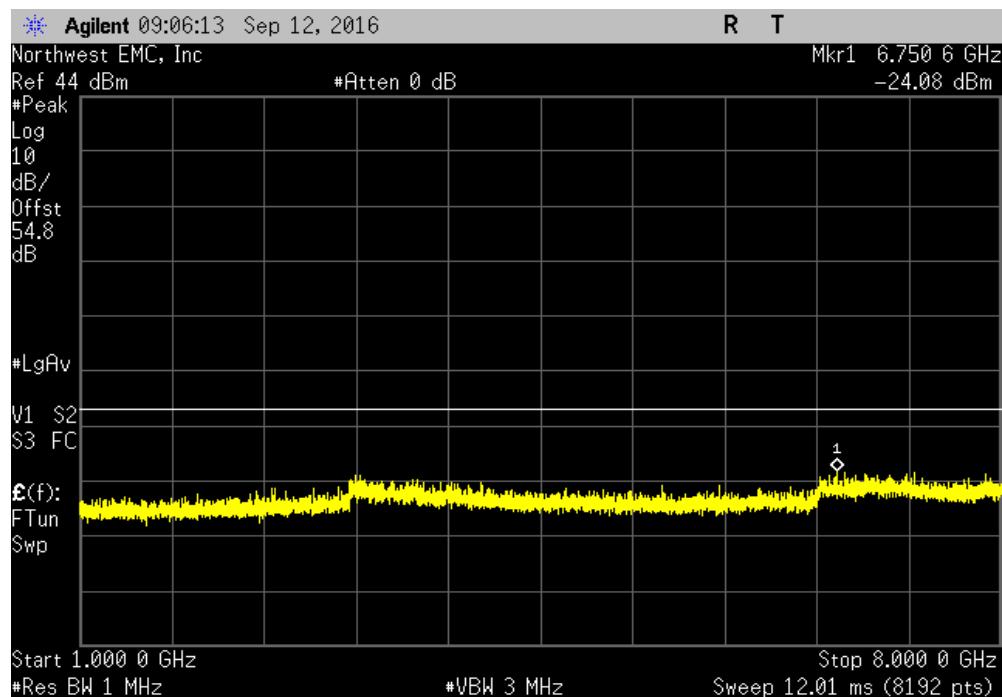


INTERMODULATION - BAND 12

Antenna Port 1, LTE10, 741 MHz, High Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-21.94	-13	Pass		

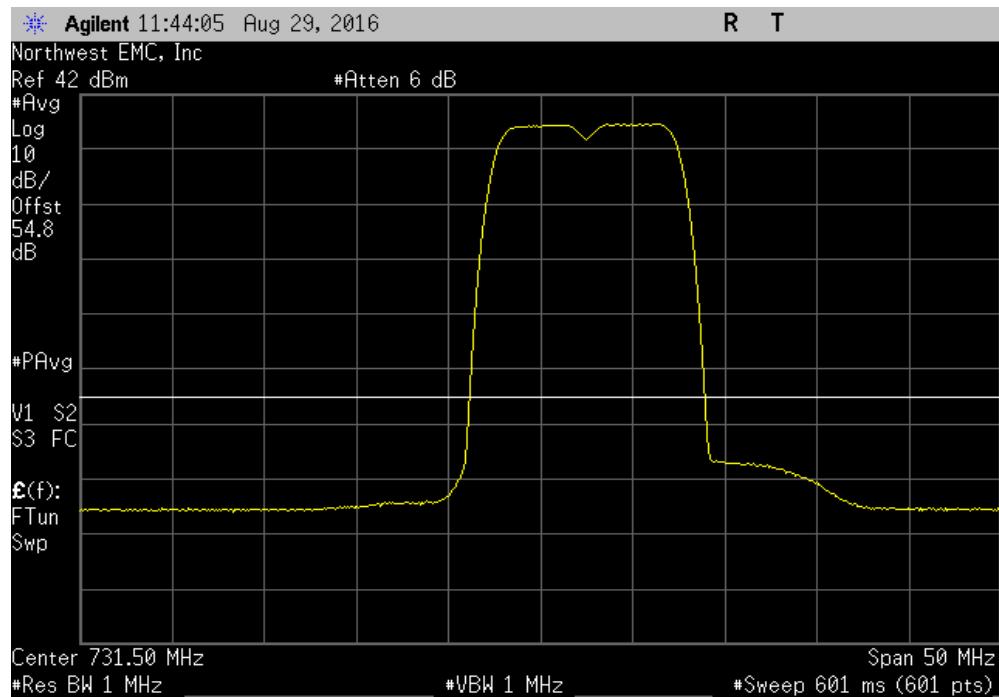


Antenna Port 1, LTE10, 741 MHz, High Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 8 GHz	-24.08	-13	Pass		

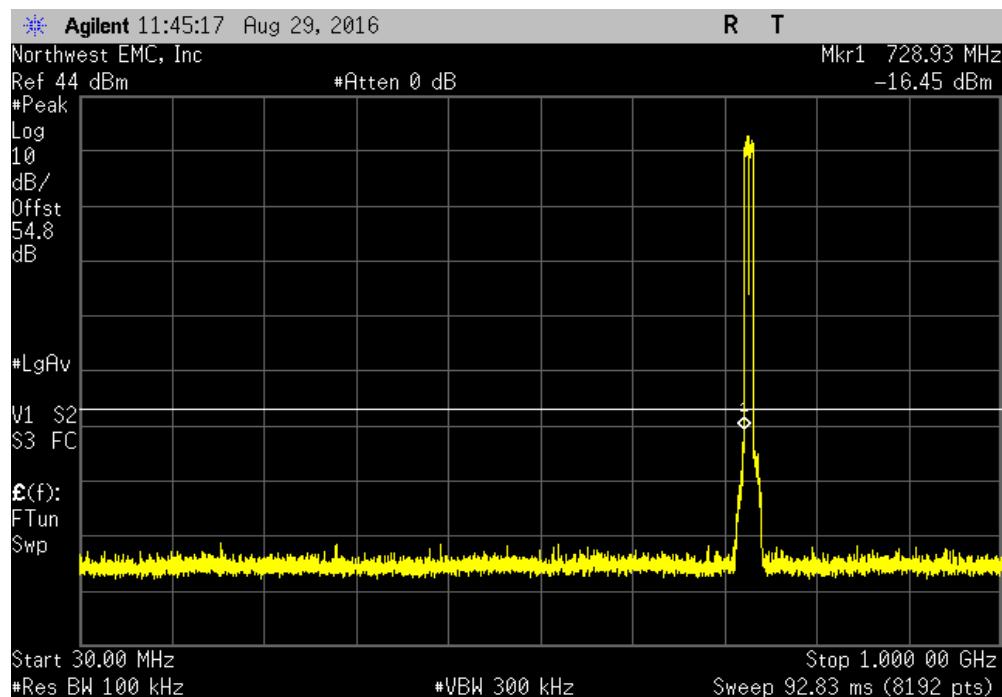


INTERMODULATION - BAND 12

Antenna Port 2, LTE5, 731.5 MHz, Low Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
Fundamental	N/A	N/A			N/A

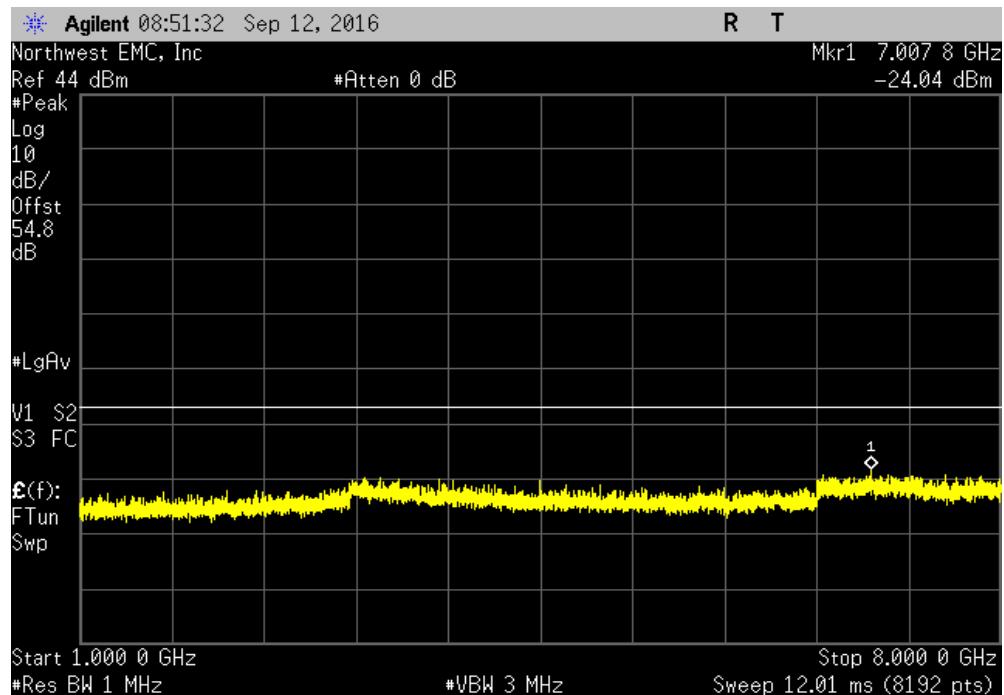


Antenna Port 2, LTE5, 731.5 MHz, Low Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-16.45	-13			Pass

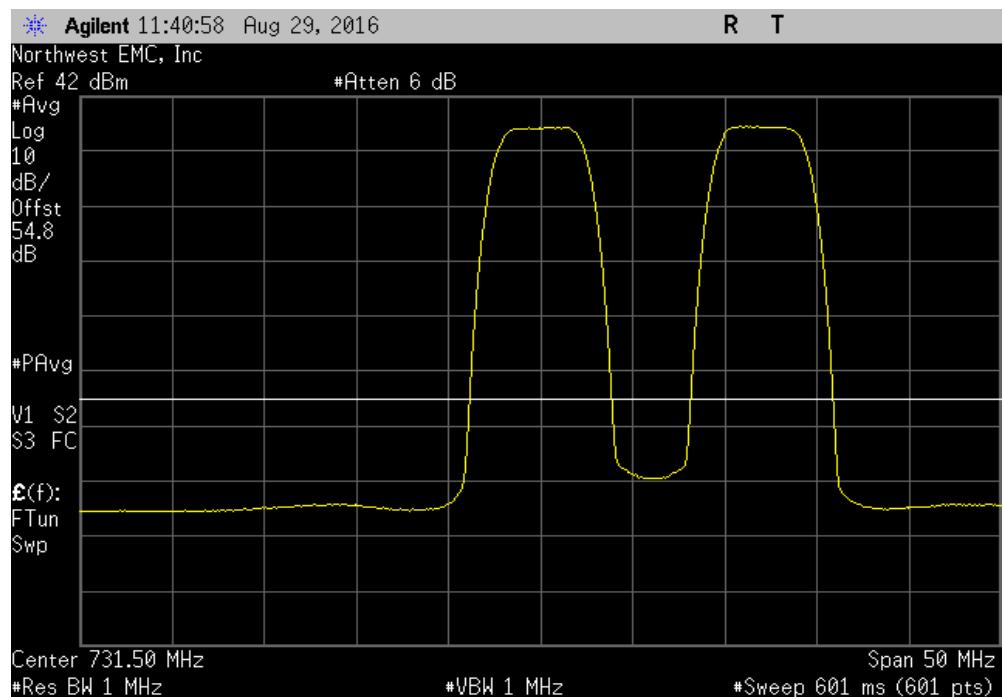


INTERMODULATION - BAND 12

Antenna Port 2, LTE5, 731.5 MHz, Low Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 8 GHz	-24.04	-13	Pass		

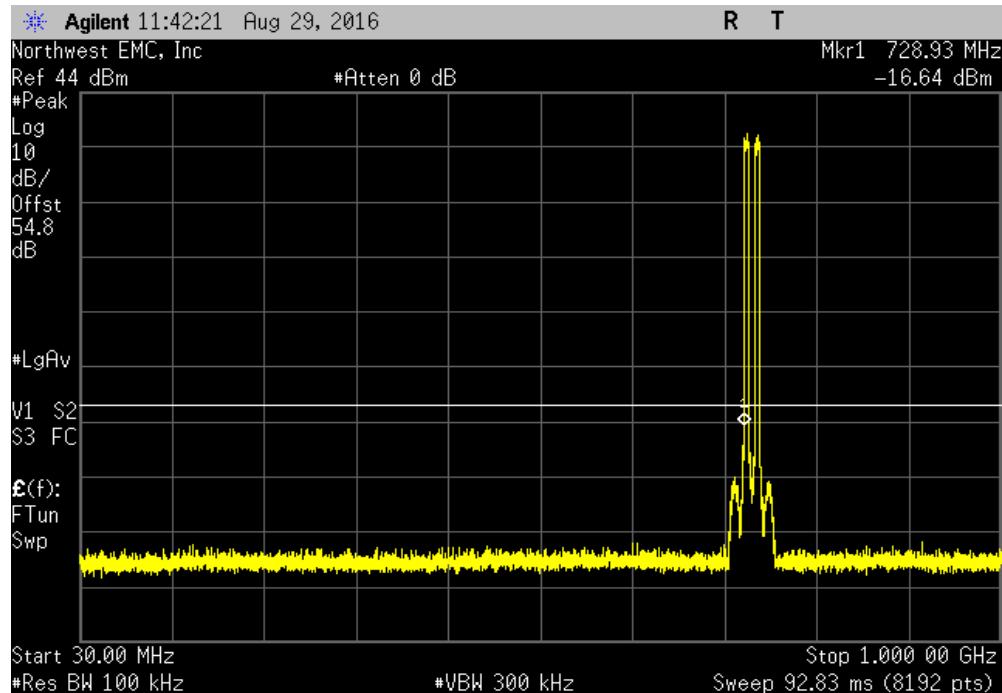


Antenna Port 2, LTE5, 731.5 MHz, Low Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
Fundamental	N/A	N/A	N/A	N/A	N/A

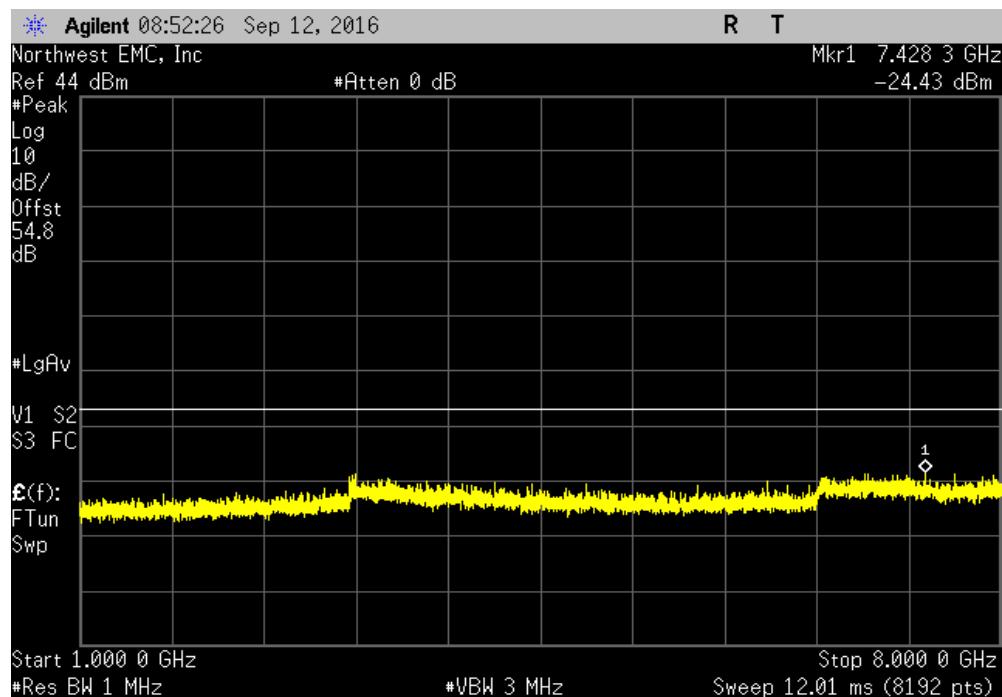


INTERMODULATION - BAND 12

Antenna Port 2, LTE5, 731.5 MHz, Low Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-16.64	-13	Pass		

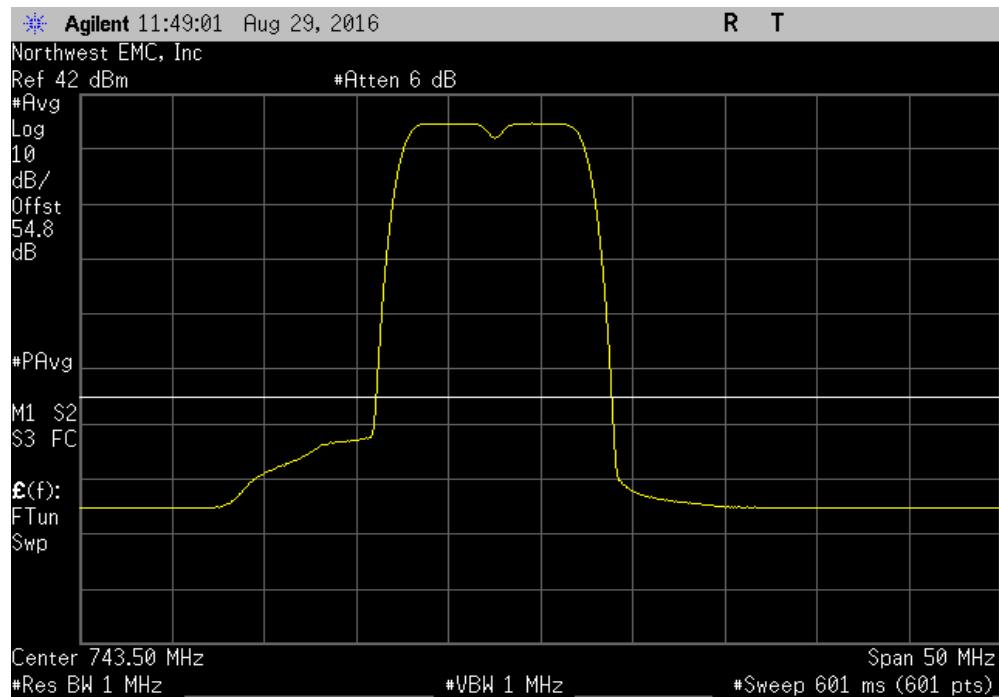


Antenna Port 2, LTE5, 731.5 MHz, Low Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 8 GHz	-24.43	-13	Pass		

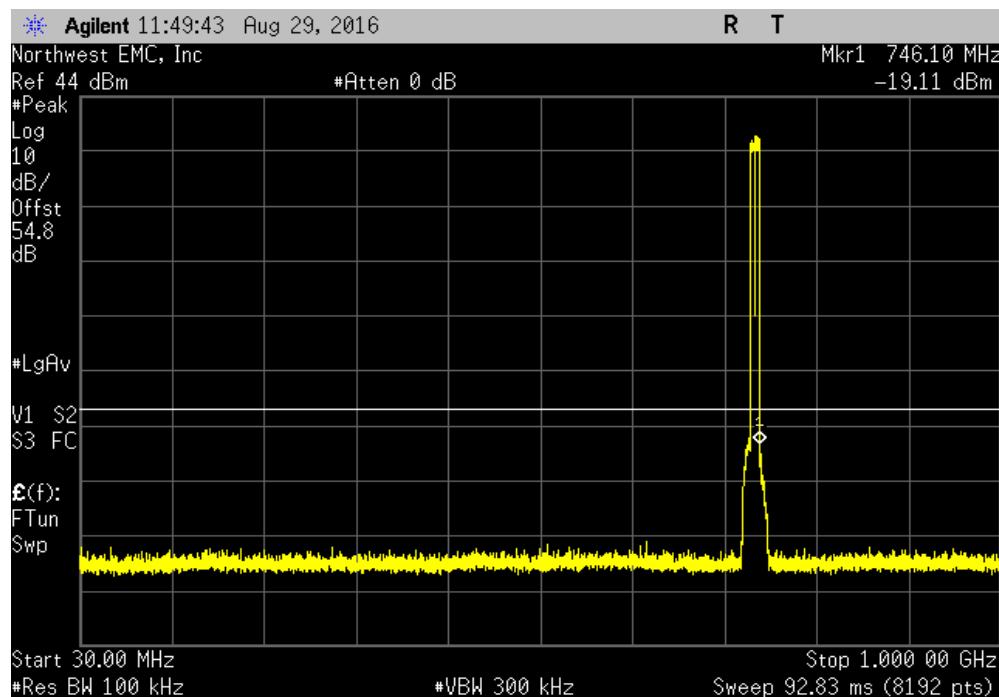


INTERMODULATION - BAND 12

Antenna Port 2, LTE5, 743.5 MHz, High Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
Fundamental	N/A	N/A			N/A

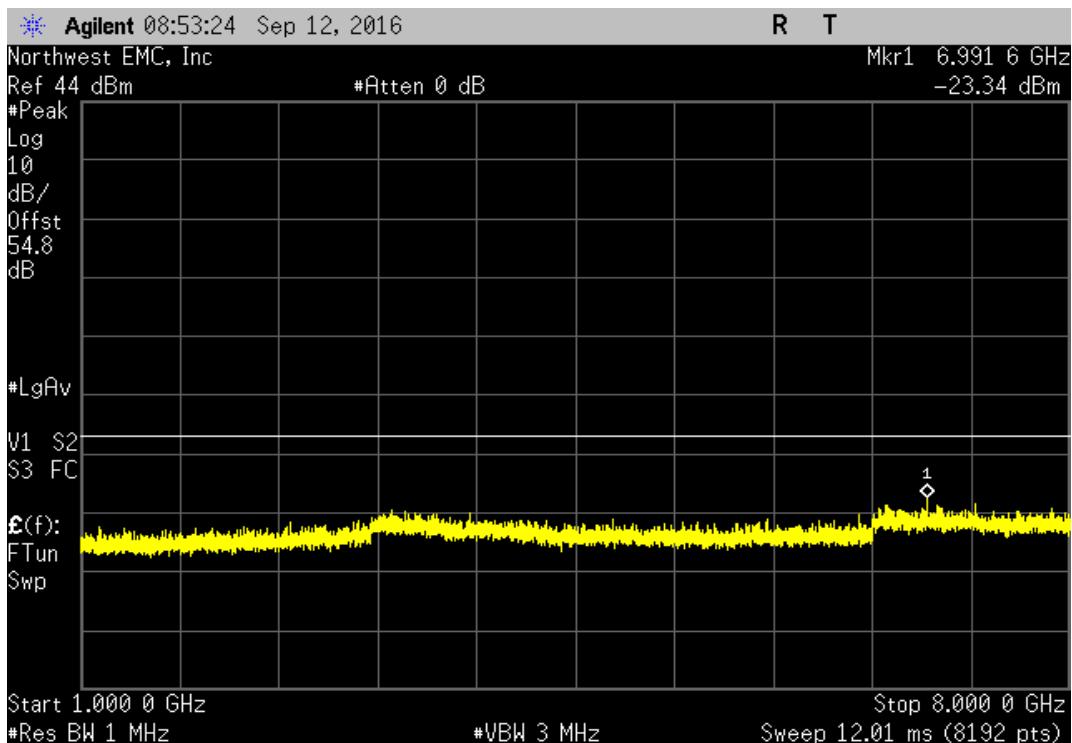


Antenna Port 2, LTE5, 743.5 MHz, High Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-19.11	-13			Pass



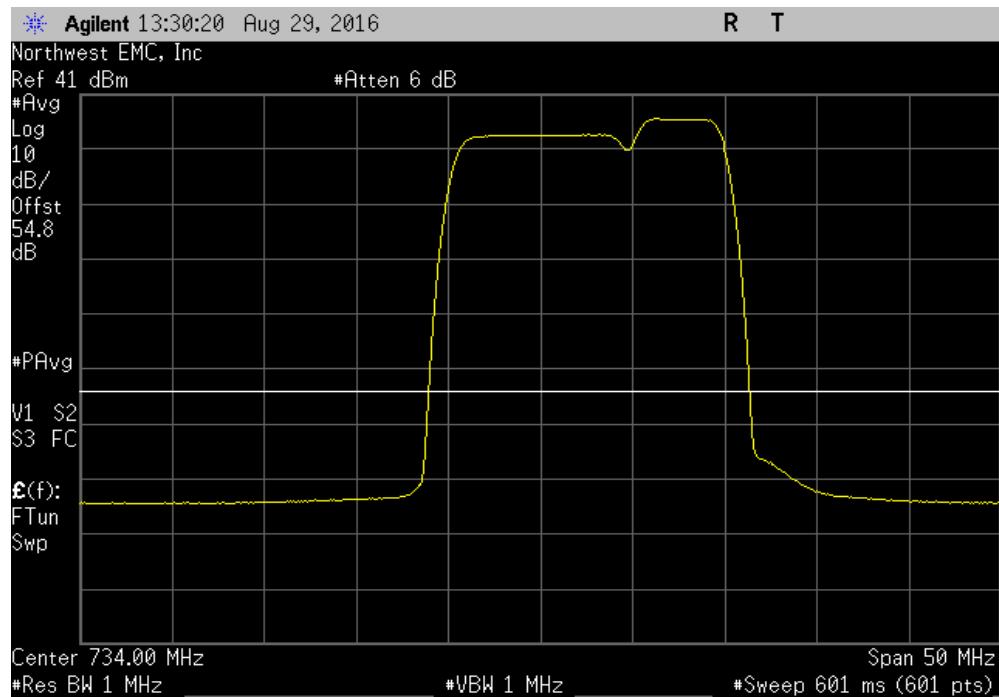
INTERMODULATION - BAND 12

Antenna Port 2, LTE5, 743.5 MHz, High Band Edge, adjacent secondary channel					
Frequency	Max Value	Limit			
Range	(dBm)	≤ (dBm)			Result
1 GHz - 8 GHz	-23.34	-13			Pass

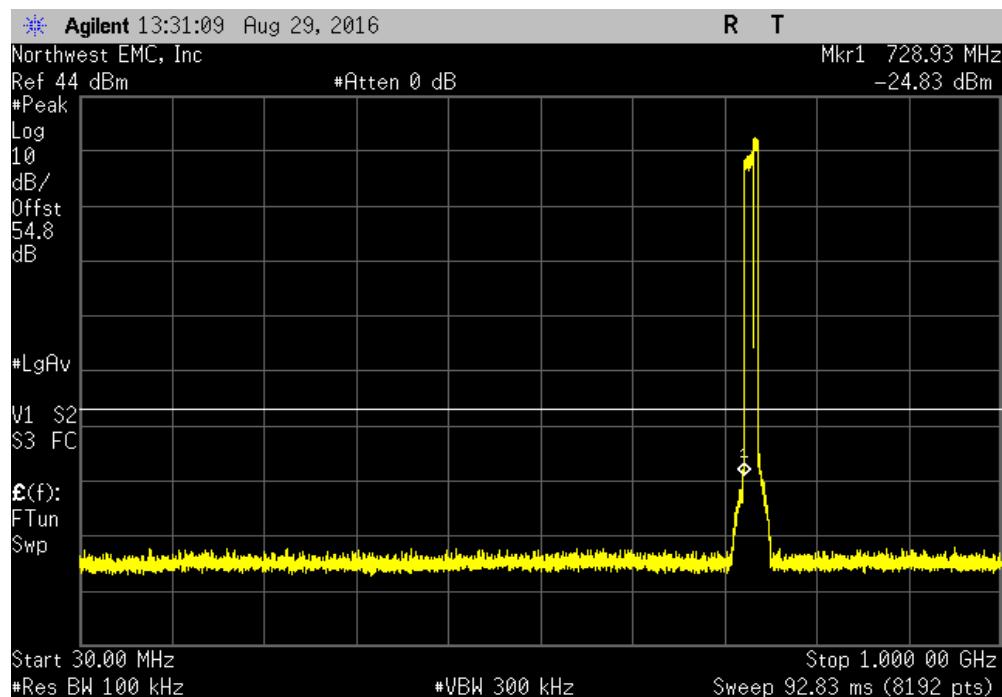


INTERMODULATION - BAND 12

Antenna Port 2, LTE10, 734 MHz, Low Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
Fundamental	N/A	N/A			N/A

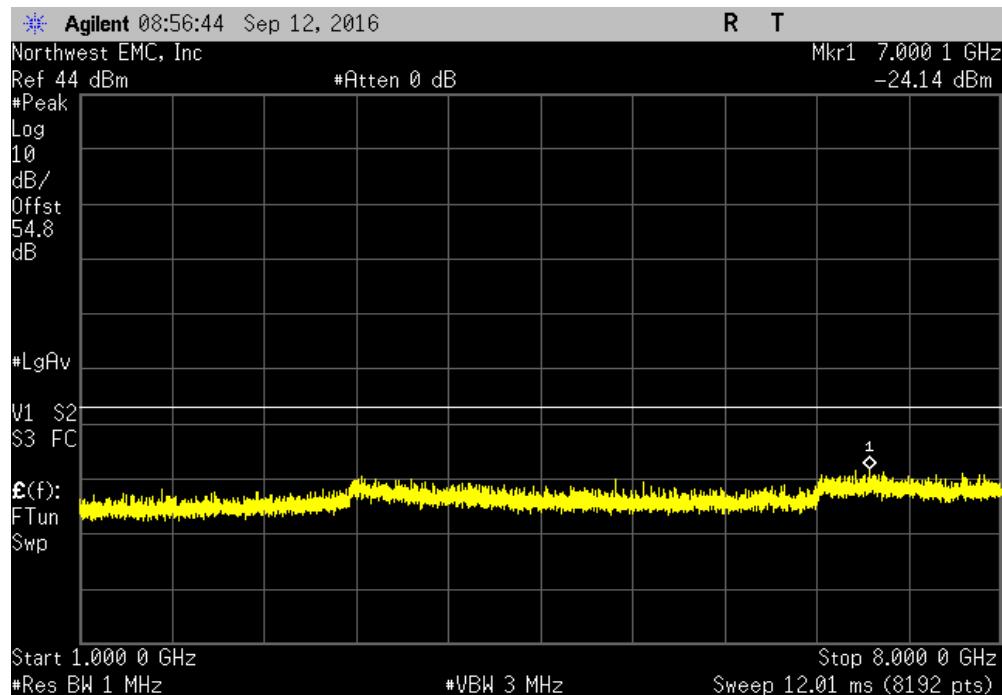


Antenna Port 2, LTE10, 734 MHz, Low Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-24.83	-13			Pass

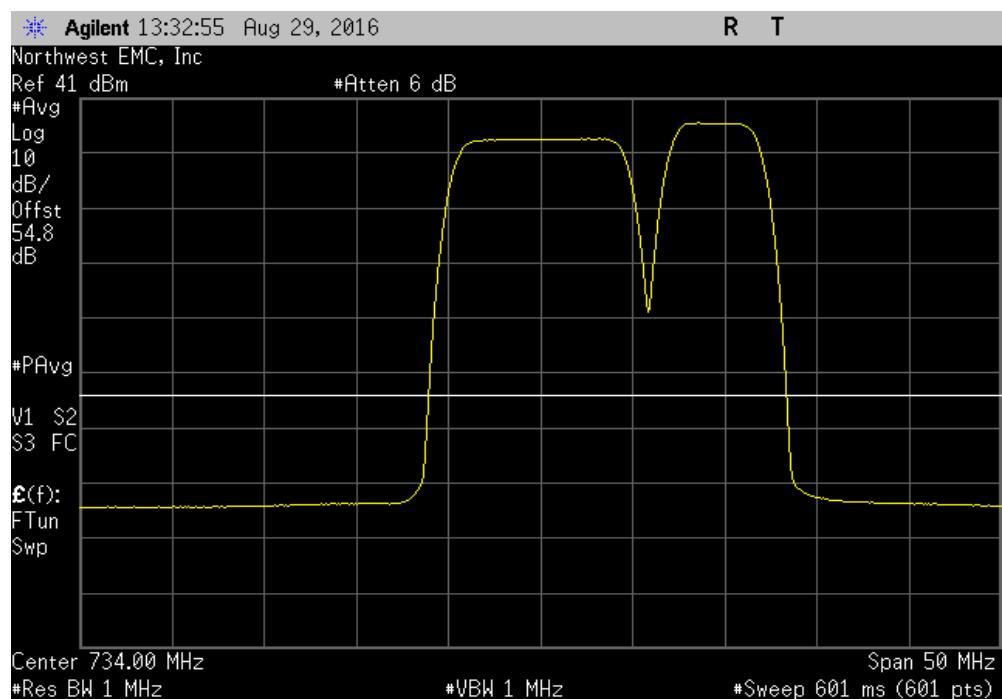


INTERMODULATION - BAND 12

Antenna Port 2, LTE10, 734 MHz, Low Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 8 GHz	-24.14	-13	Pass		

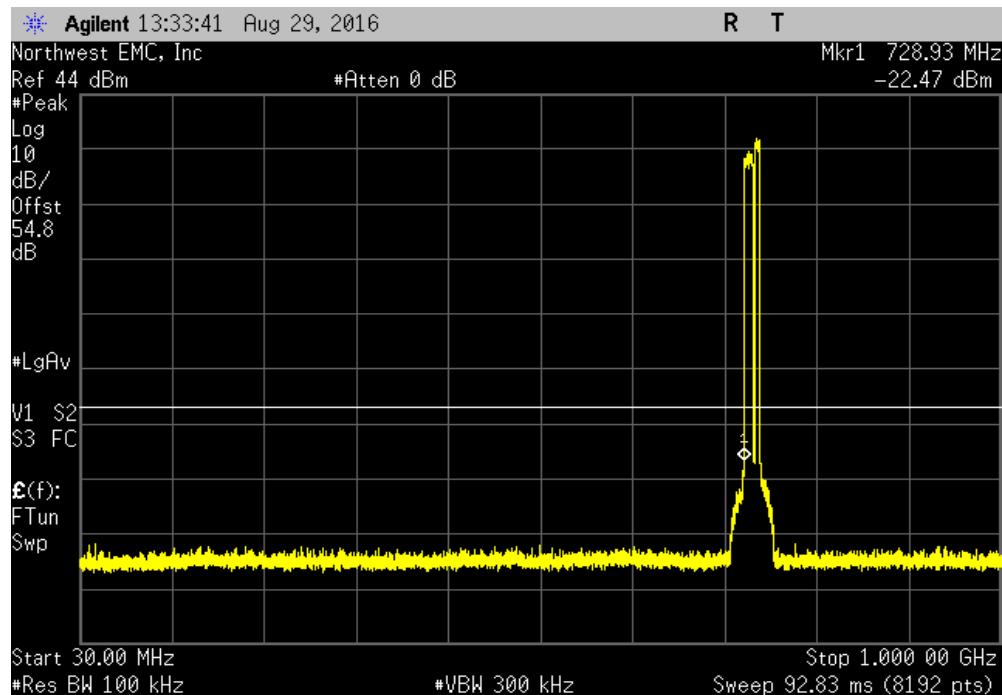


Antenna Port 2, LTE10, 734 MHz, Low Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
Fundamental	N/A	N/A	N/A	N/A	N/A

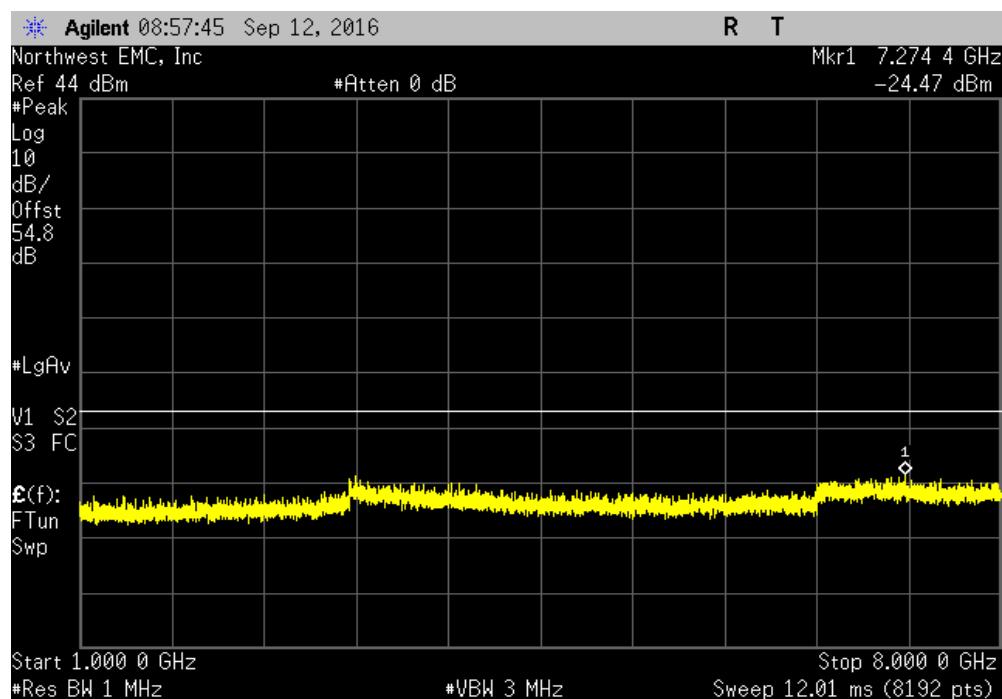


INTERMODULATION - BAND 12

Antenna Port 2, LTE10, 734 MHz, Low Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-22.47	-13	Pass		

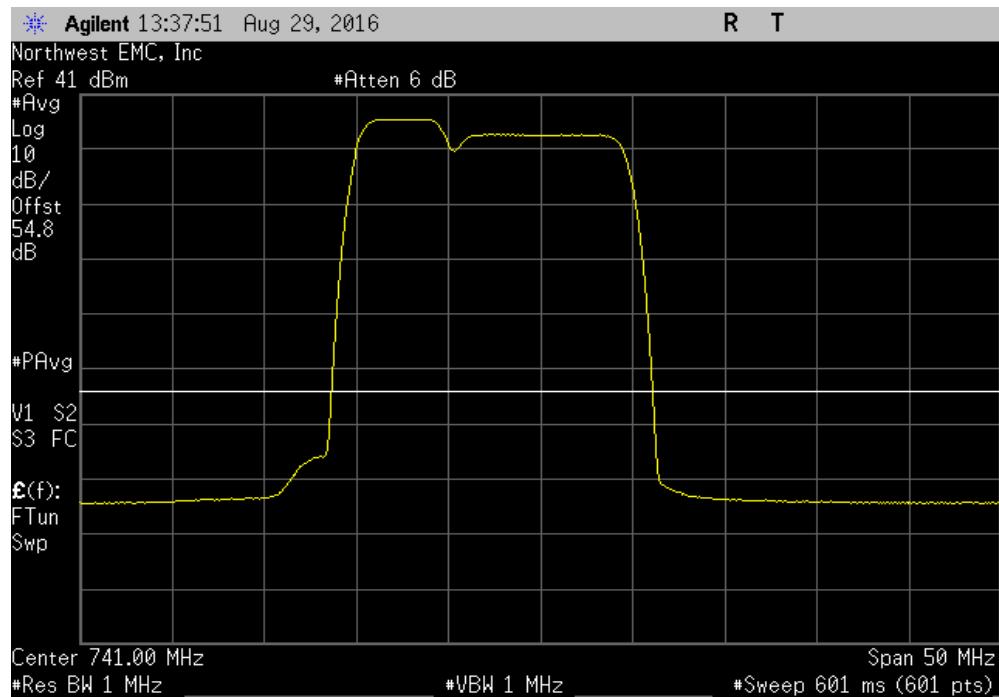


Antenna Port 2, LTE10, 734 MHz, Low Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 8 GHz	-24.47	-13	Pass		

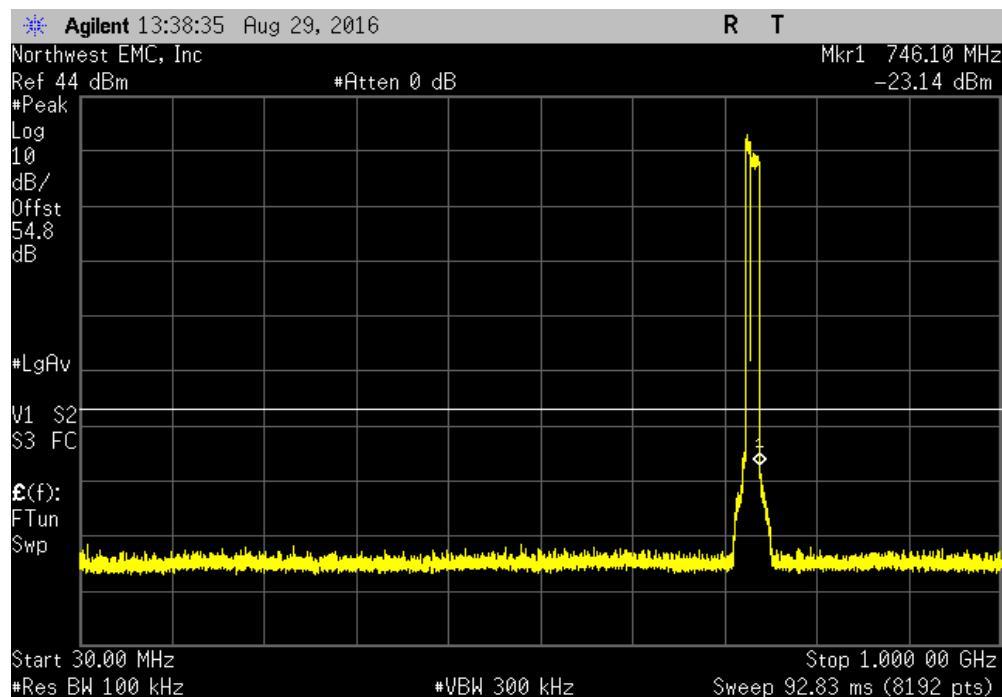


INTERMODULATION - BAND 12

Antenna Port 2, LTE10, 741 MHz, High Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
Fundamental	N/A	N/A			N/A

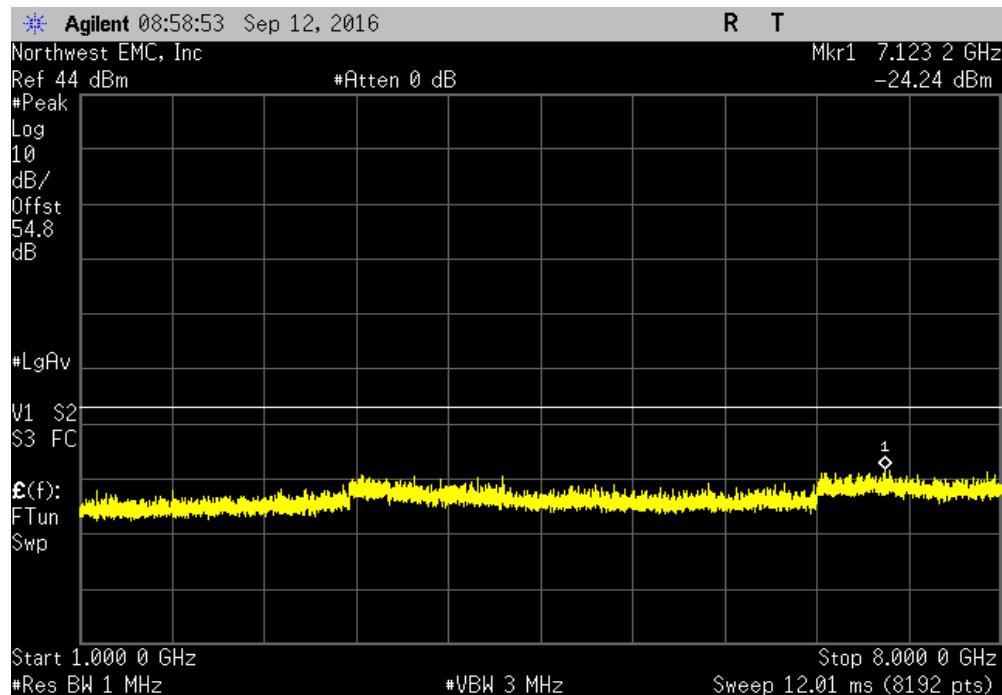


Antenna Port 2, LTE10, 741 MHz, High Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-23.14	-13			Pass

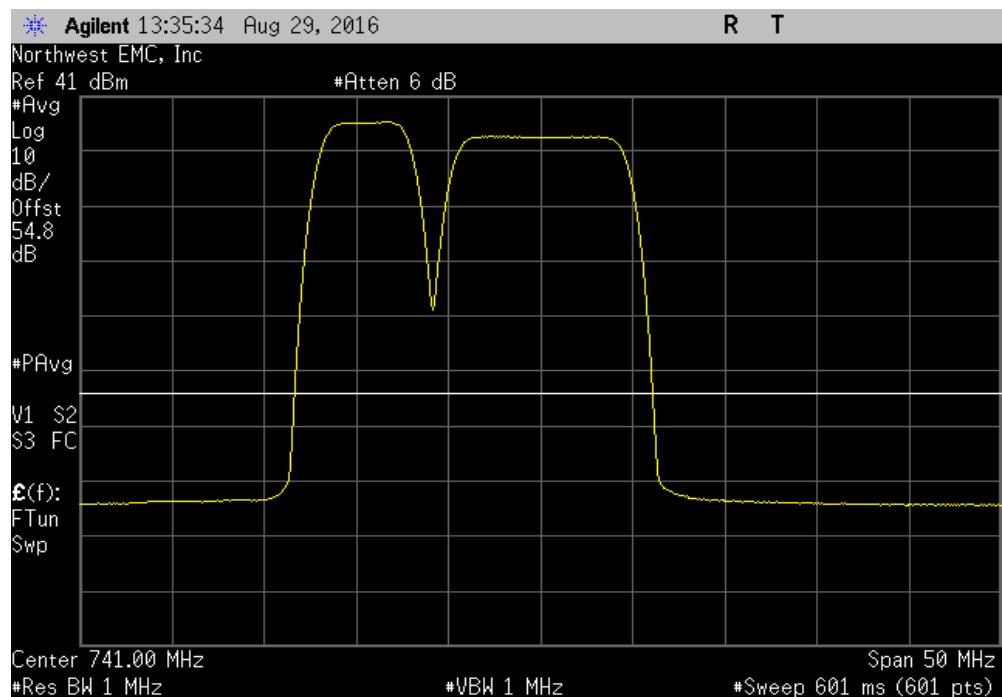


INTERMODULATION - BAND 12

Antenna Port 2, LTE10, 741 MHz, High Band Edge, adjacent secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 8 GHz	-24.24	-13	Pass		

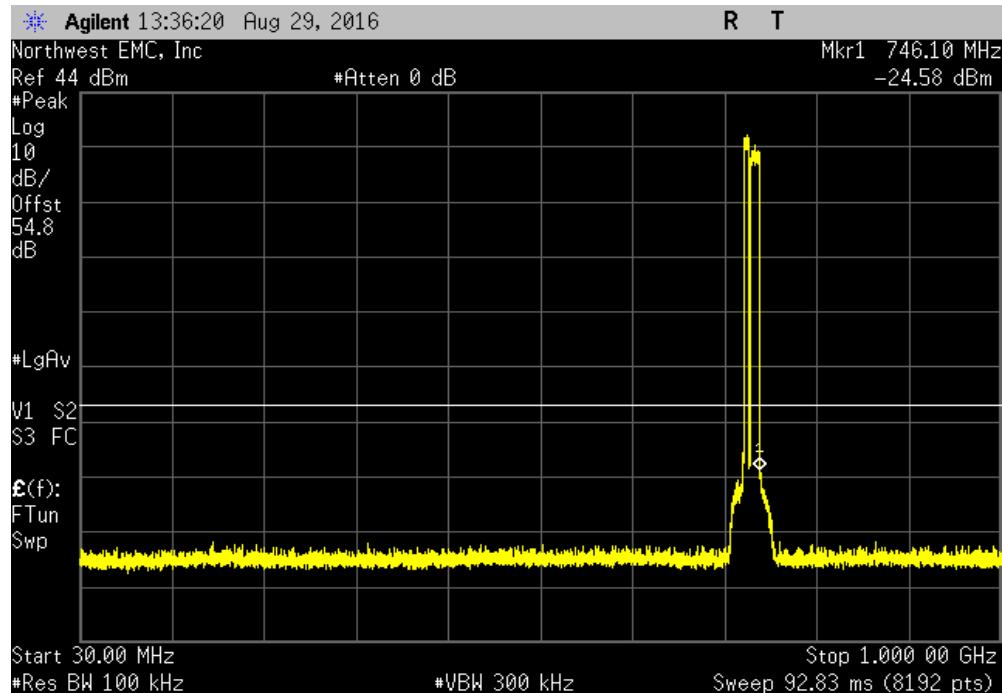


Antenna Port 2, LTE10, 741 MHz, High Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
Fundamental	N/A	N/A	N/A	N/A	N/A

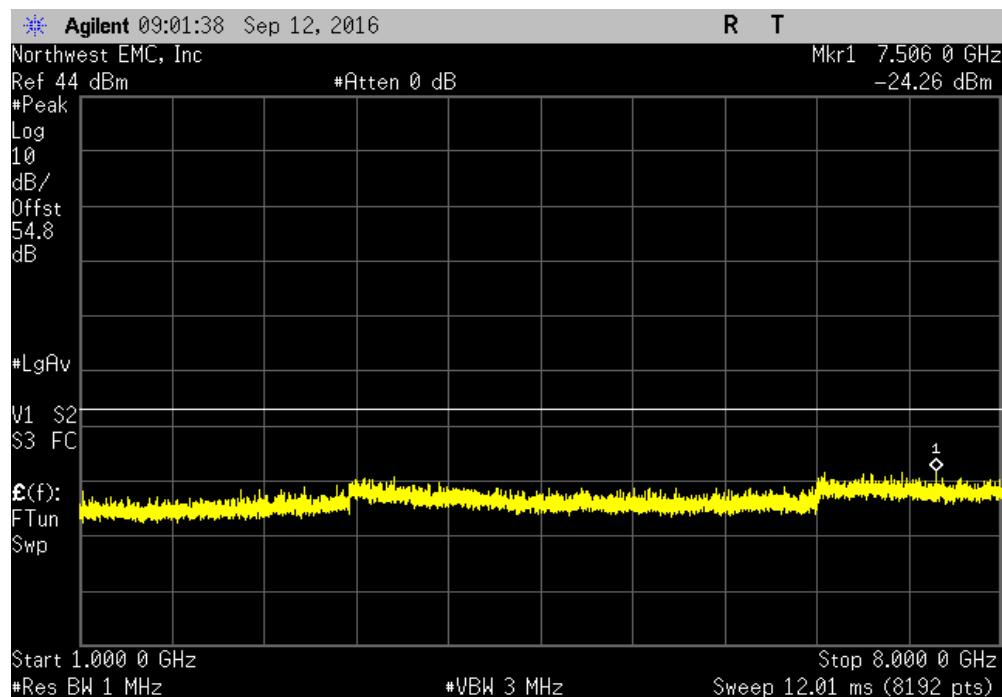


INTERMODULATION - BAND 12

Antenna Port 2, LTE10, 741 MHz, High Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
30 MHz - 1 GHz	-24.58	-13	Pass		



Antenna Port 2, LTE10, 741 MHz, High Band Edge, max offset secondary channel					
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result		
1 GHz - 8 GHz	-24.26	-13	Pass		



INTERMODULATION - BAND 17

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	Keysight	N5182B	TFX	4/16/2015	4/16/2018
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	AFD	7/29/2016	7/29/2017

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 appropriate resolution bandwidth and no video filtering were made for each modulation type.

Since the EUT does not have an RF Input, the EUT was configured with two modulated carriers, 1 at the edge of the band and the 2nd either adjacent or at max separation possible. The purpose of the test is to insure that no additional signals are creating by having multiple carriers in the passband of the EUT.

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 spurious conducted emissions limits. Measurements close to the limit were re-measured using a RMS average detector.

Only the Low Channel for LTE5 channel bandwidth was tested. The High Channel was previously tested in this band. Also no LTE10 was tested since band is only 12MHz wide cannot fit more than 1(ea) 10MHz channel at a time.

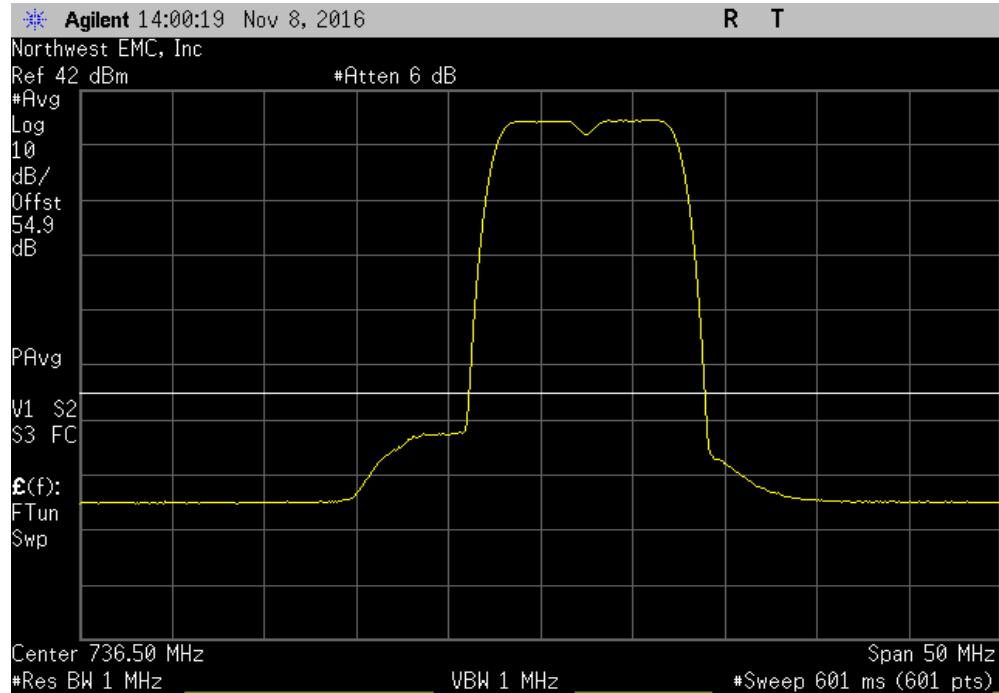
INTERMODULATION - BAND 17

EUT:	CWS-3050-12		Work Order:	KMW0077		
Serial Number:	K163300001		Date:	11/08/16		
Customer:	Parallel Wireless Inc.		Temperature:	20.8 °C		
Attendees:	Edward Lee		Humidity:	49% RH		
Project:	None		Barometric Pres.:	1018 mbar		
Tested by:	Johnny Candelas	Power:	48 VDC	Job Site:	OC13	
TEST SPECIFICATIONS			Test Method			
FCC 27:2016			ANSI/TIA/EIA-603-D-2010			
COMMENTS						
Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 54.9dB total.						
DEVIATIONS FROM TEST STANDARD						
None						
Configuration #	1	Signature	Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
Antenna Port 1						
LTE5, 736.5 MHz, Low Band Edge, adjacent secondary channel at 741.5 MHz	Fundamental		N/A	N/A	N/A	
LTE5, 736.5 MHz, Low Band Edge, adjacent secondary channel at 741.5 MHz	30 MHz - 1 GHz		-23.55	-13	Pass	
LTE5, 736.5 MHz, Low Band Edge, adjacent secondary channel at 741.5 MHz	1 GHz - 8 GHz		-22.42	-13	Pass	
LTE5, 736.5 MHz, Low Band Edge, max offset secondary channel at 743.5 MHz	Fundamental		N/A	N/A	N/A	
LTE5, 736.5 MHz, Low Band Edge, max offset secondary channel at 743.5 MHz	30 MHz - 1 GHz		-21.07	-13	Pass	
LTE5, 736.5 MHz, Low Band Edge, max offset secondary channel at 743.5 MHz	1 GHz - 8 GHz		-23.12	-13	Pass	
Antenna Port 2						
LTE5, 736.5 MHz, Low Band Edge, adjacent secondary channel at 741.5 MHz	Fundamental		N/A	N/A	N/A	
LTE5, 736.5 MHz, Low Band Edge, adjacent secondary channel at 741.5 MHz	30 MHz - 1 GHz		-21.54	-13	Pass	
LTE5, 736.5 MHz, Low Band Edge, adjacent secondary channel at 741.5 MHz	1 GHz - 8 GHz		-23.34	-13	Pass	
LTE5, 736.5 MHz, Low Band Edge, max offset secondary channel at 743.5 MHz	Fundamental		N/A	N/A	N/A	
LTE5, 736.5 MHz, Low Band Edge, max offset secondary channel at 743.5 MHz	30 MHz - 1 GHz		-22.41	-13	Pass	
LTE5, 736.5 MHz, Low Band Edge, max offset secondary channel at 743.5 MHz	1 GHz - 8 GHz		-23.5	-13	Pass	

INTERMODULATION - BAND 17

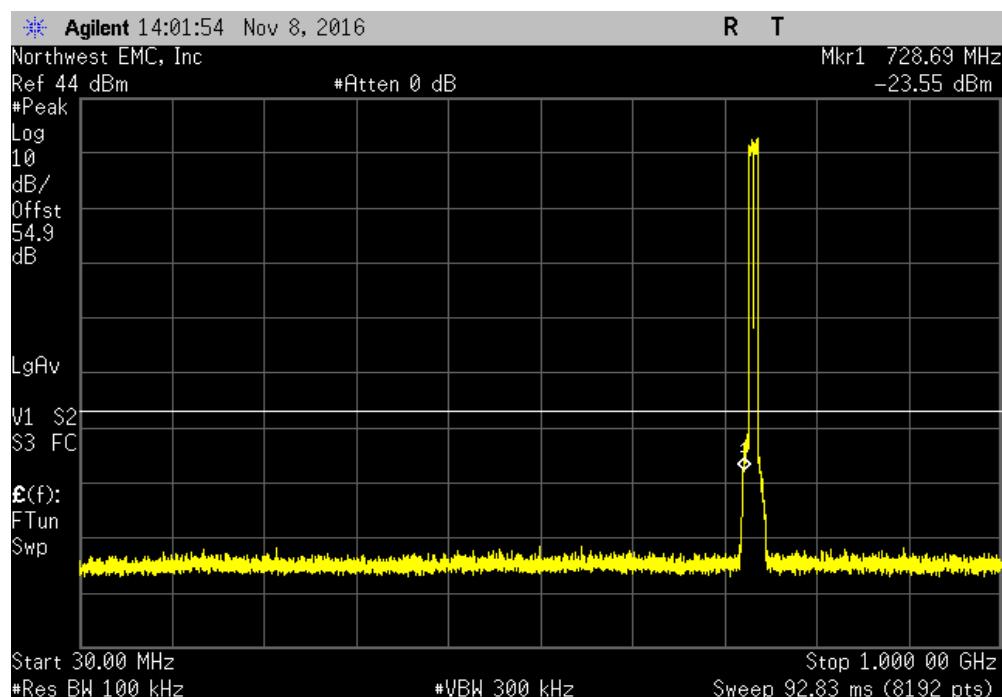
Antenna Port 1, LTE5, 736.5 MHz, Low Band Edge, adjacent secondary channel at 741.5 MHz

Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
Fundamental	N/A	N/A	N/A



Antenna Port 1, LTE5, 736.5 MHz, Low Band Edge, adjacent secondary channel at 741.5 MHz

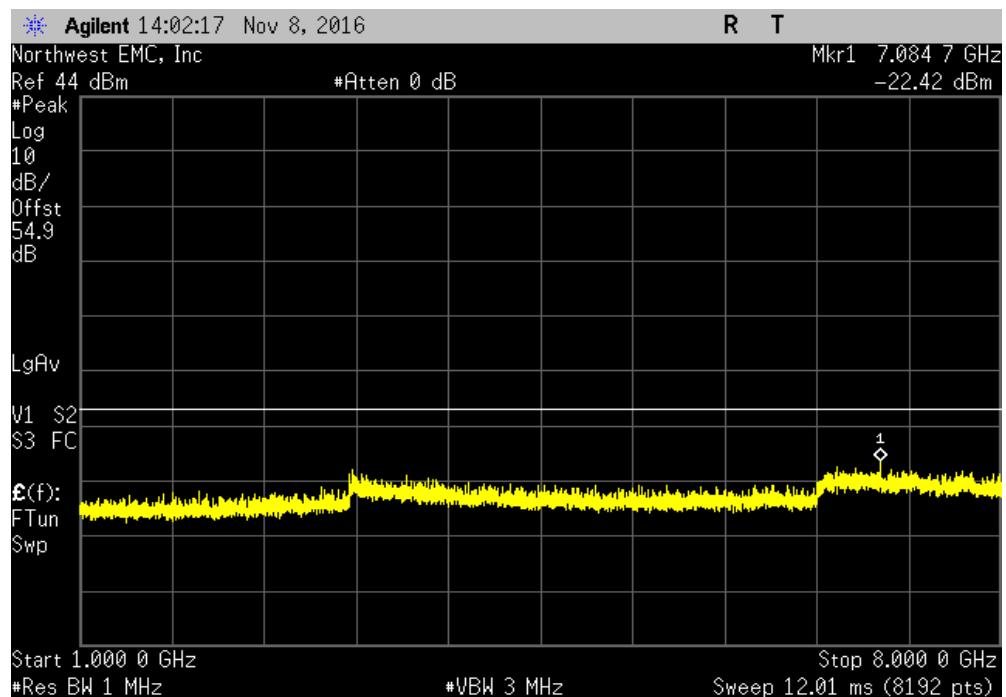
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
30 MHz - 1 GHz	-23.55	-13	Pass



INTERMODULATION - BAND 17

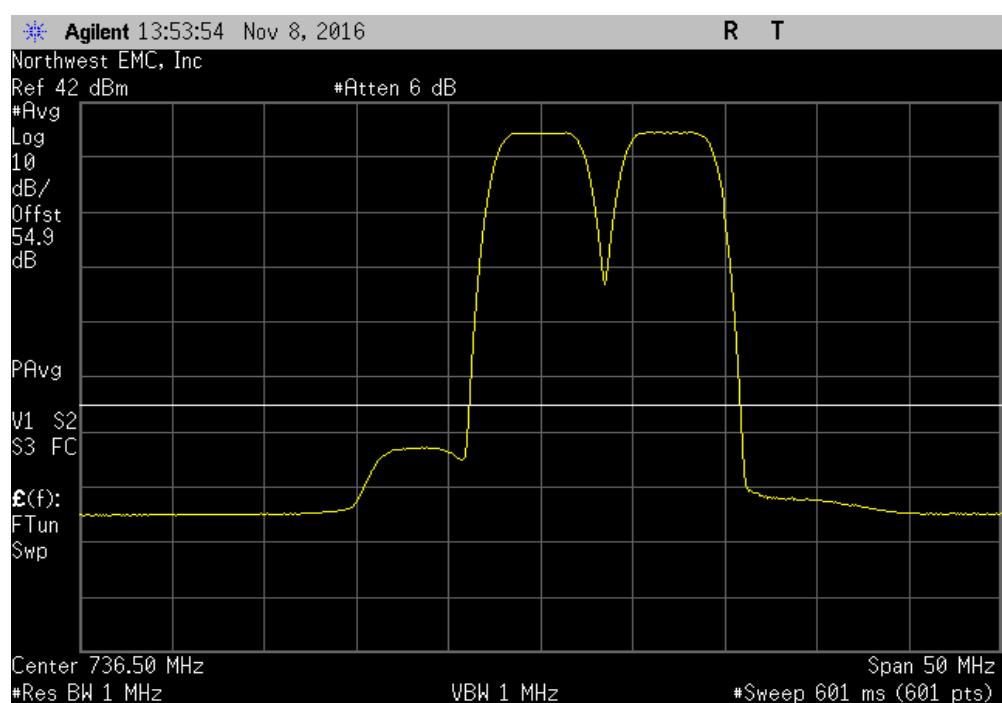
Antenna Port 1, LTE5, 736.5 MHz, Low Band Edge, adjacent secondary channel at 741.5 MHz

Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
1 GHz - 8 GHz	-22.42	-13	Pass



Antenna Port 1, LTE5, 736.5 MHz, Low Band Edge, max offset secondary channel at 743.5 MHz

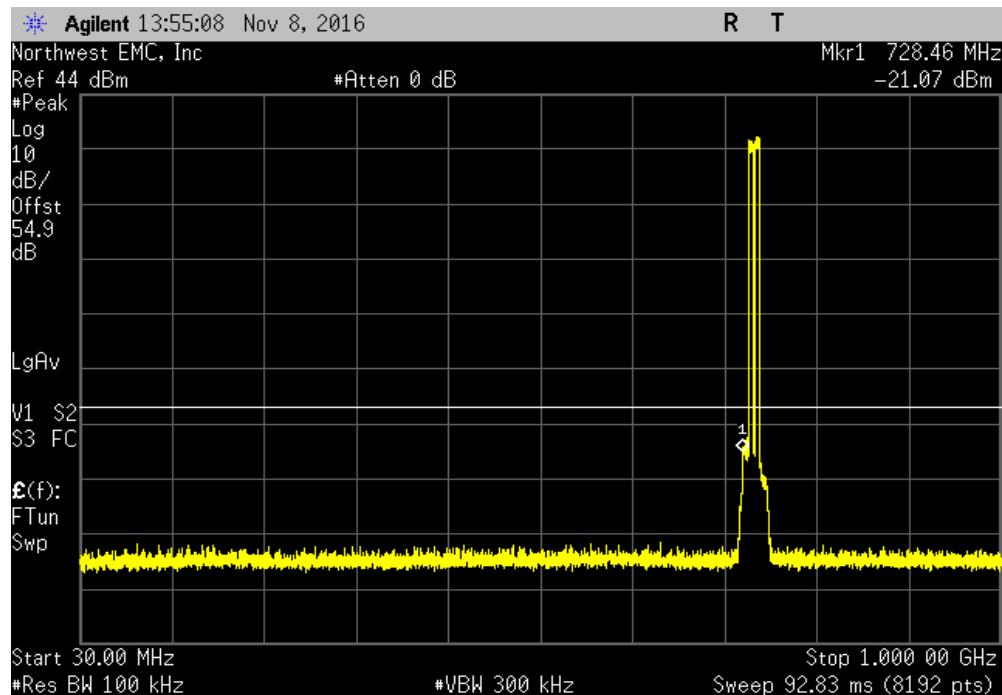
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
Fundamental	N/A	N/A	N/A



INTERMODULATION - BAND 17

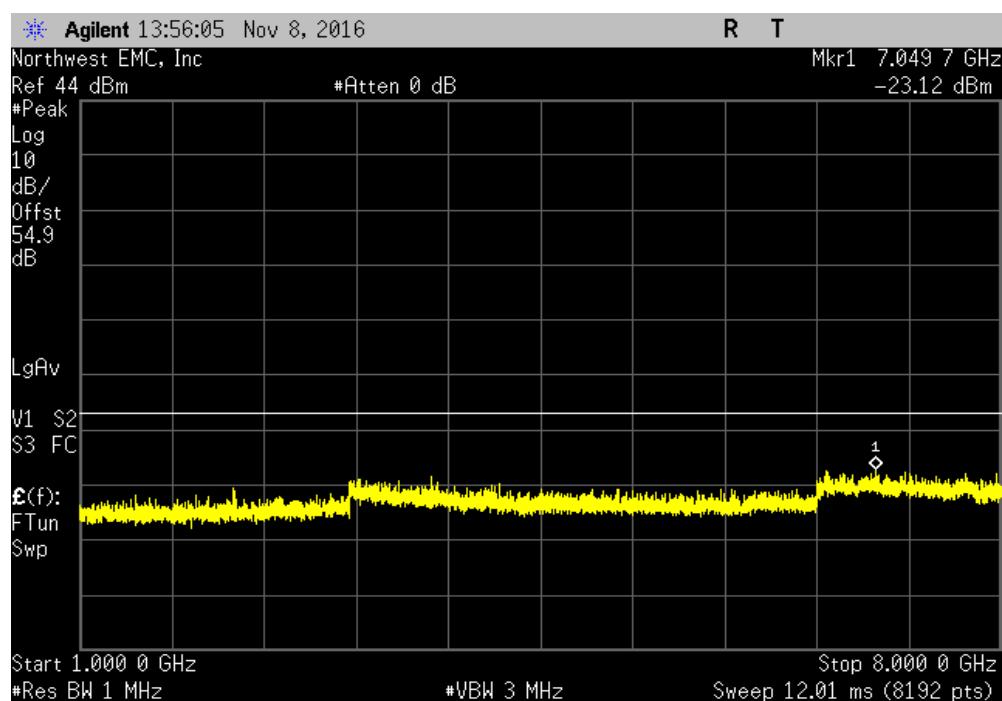
Antenna Port 1, LTE5, 736.5 MHz, Low Band Edge, max offset secondary channel at 743.5 MHz

Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
30 MHz - 1 GHz	-21.07	-13	Pass



Antenna Port 1, LTE5, 736.5 MHz, Low Band Edge, max offset secondary channel at 743.5 MHz

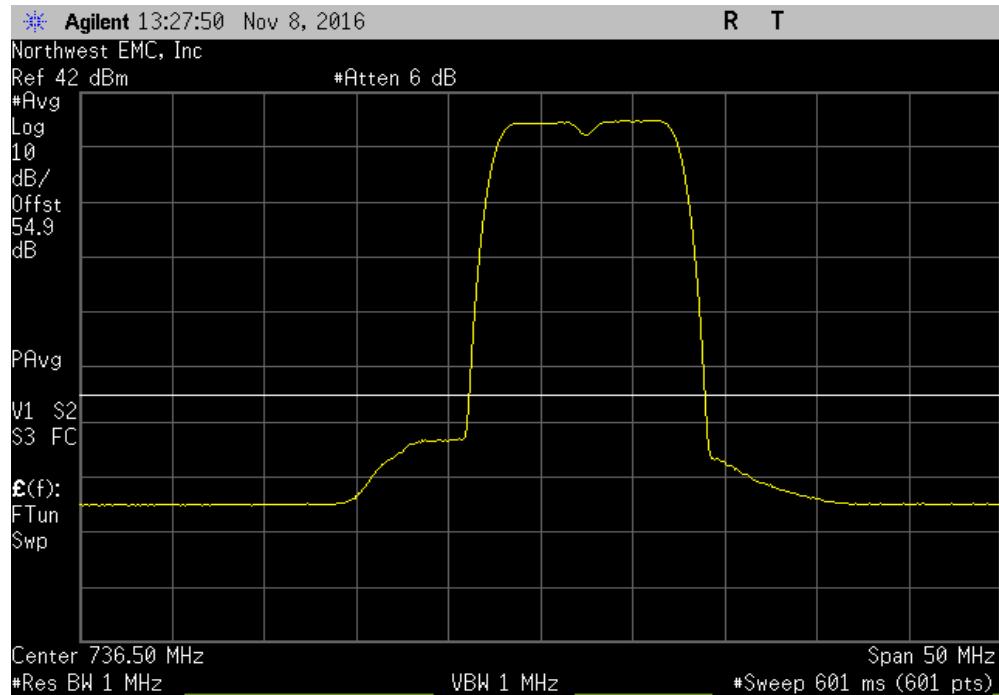
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
1 GHz - 8 GHz	-23.12	-13	Pass



INTERMODULATION - BAND 17

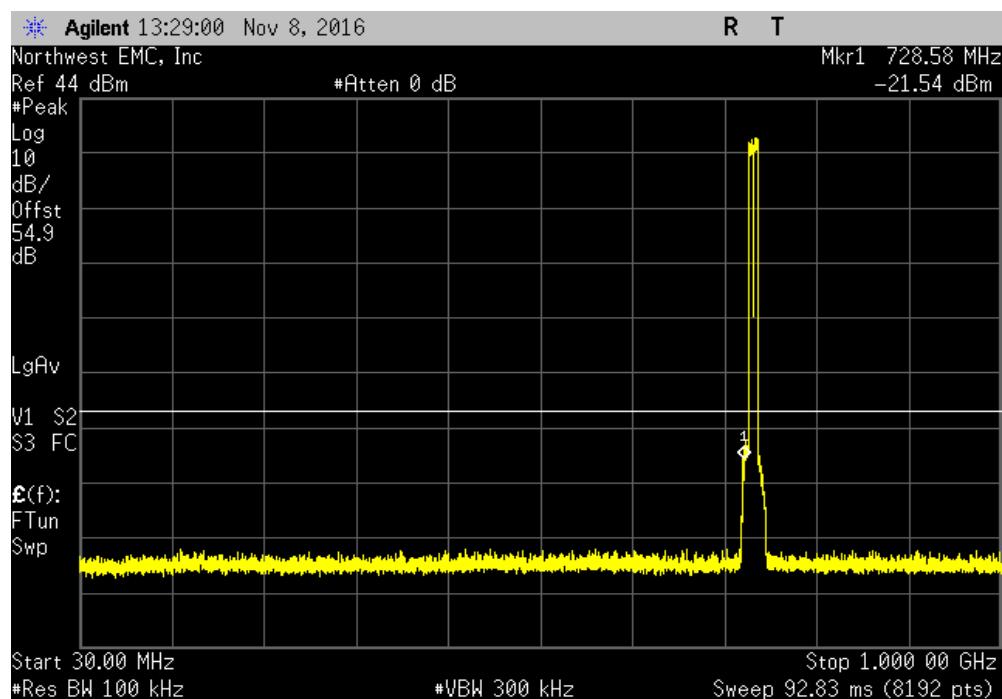
Antenna Port 2, LTE5, 736.5 MHz, Low Band Edge, adjacent secondary channel at 741.5 MHz

Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
Fundamental	N/A	N/A	N/A



Antenna Port 2, LTE5, 736.5 MHz, Low Band Edge, adjacent secondary channel at 741.5 MHz

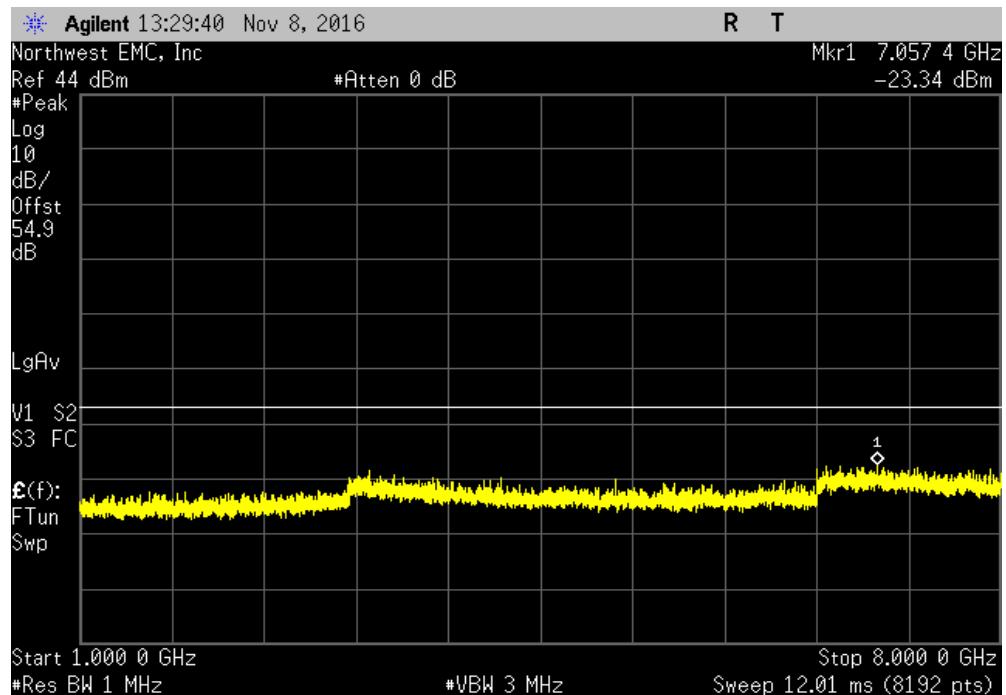
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
30 MHz - 1 GHz	-21.54	-13	Pass



INTERMODULATION - BAND 17

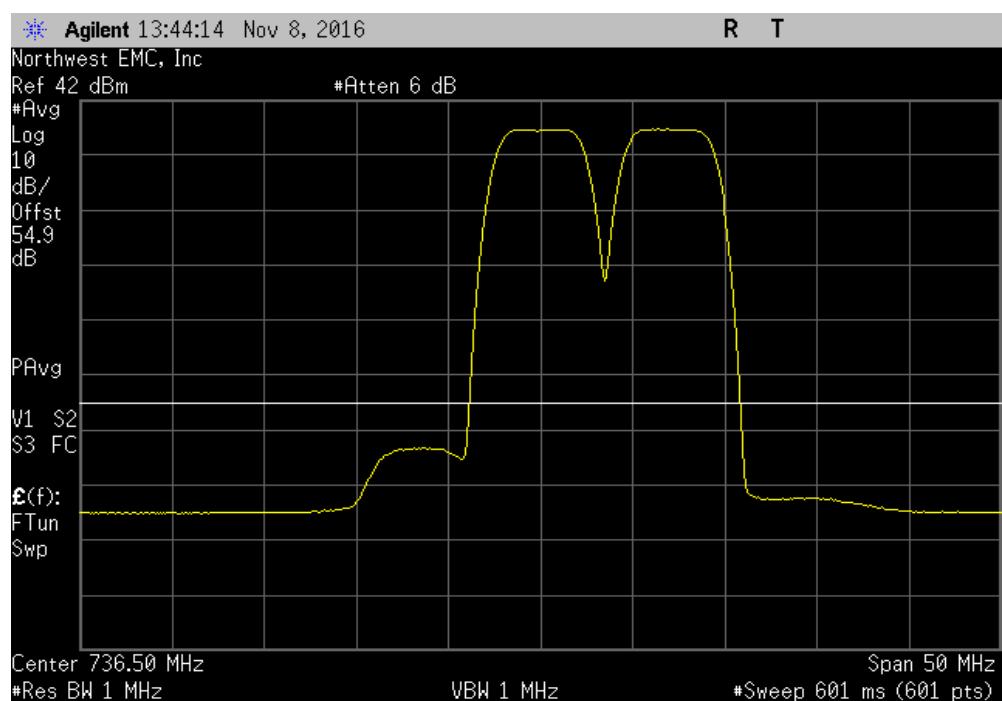
Antenna Port 2, LTE5, 736.5 MHz, Low Band Edge, adjacent secondary channel at 741.5 MHz

Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
1 GHz - 8 GHz	-23.34	-13	Pass



Antenna Port 2, LTE5, 736.5 MHz, Low Band Edge, max offset secondary channel at 743.5 MHz

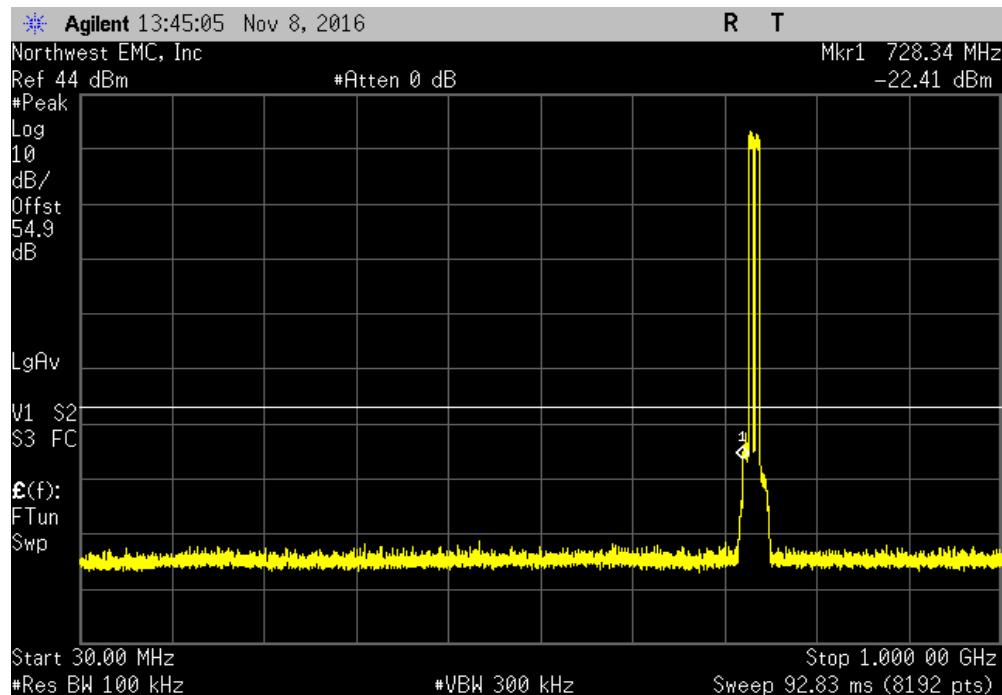
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
Fundamental	N/A	N/A	N/A



INTERMODULATION - BAND 17

Antenna Port 2, LTE5, 736.5 MHz, Low Band Edge, max offset secondary channel at 743.5 MHz

Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
30 MHz - 1 GHz	-22.41	-13	Pass



Antenna Port 2, LTE5, 736.5 MHz, Low Band Edge, max offset secondary channel at 743.5 MHz

Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
1 GHz - 8 GHz	-23.5	-13	Pass

