

# NORTHWEST EMC

**Parallel Wireless Inc.**

**CWS-3050-14**

**FCC 90R:2016**

**Converged Wireless System**

**Report # KMWC0070**



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. This Report may only be duplicated in its entirety*

# CERTIFICATE OF TEST

Last Date of Test: August 11, 2016

Parallel Wireless Inc.

Model: CWS-3050-14

## Radio Equipment Testing

### Standards

Specification	Method
FCC 90R:2016	ANSI/TIA/EIA-603-D-2010

### Results

Method Clause	Test Description	Applied	Results	Comments
2.2.1	Effective Radiated Power (ERP)	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 Band 14	Yes	Pass	
2.2.13	Band Edge Compliance	Yes	Pass	
2.2.13	Spurious Emissions at the Antenna Terminals	Yes	Pass	
2.2.13	Intermodulation	No	N/A	Not required for single channel band
2.2.17.2	ERP of Fundamental - LTE Band 14	No	N/A	Not required since taking direct connect

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

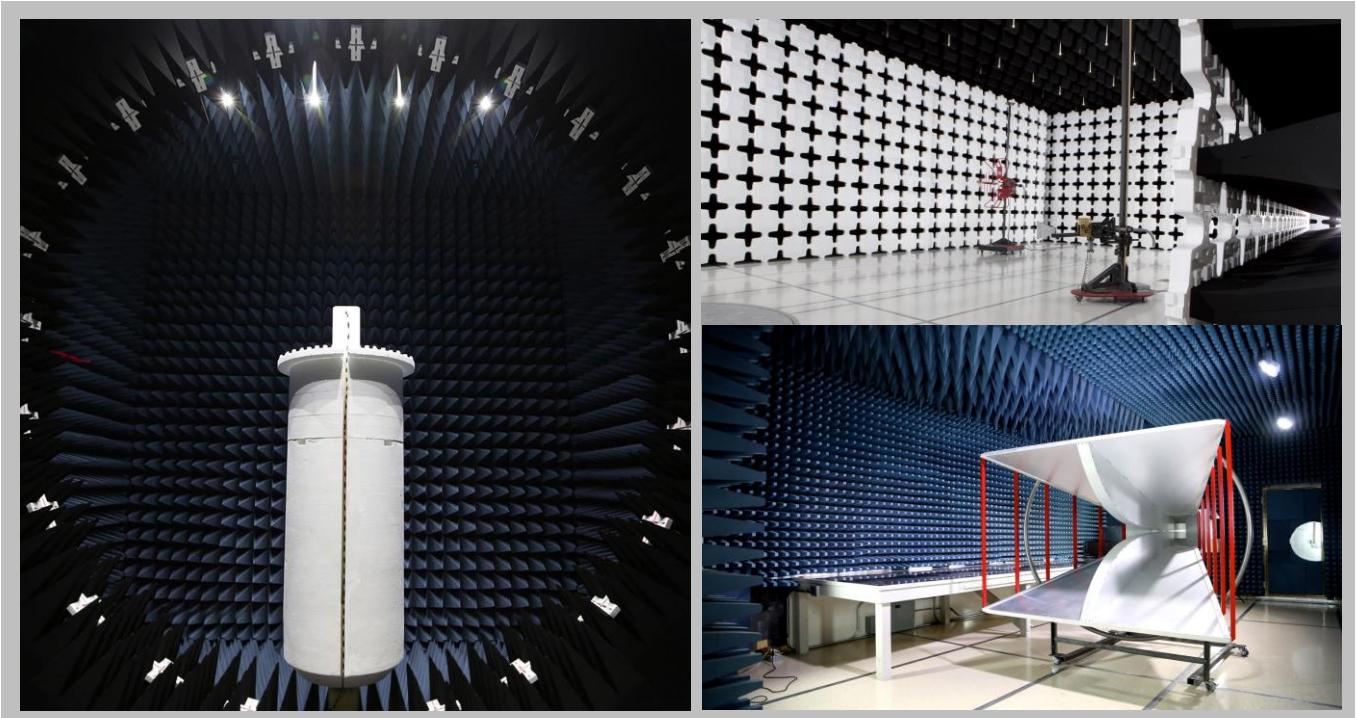
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

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

# FACILITIES



California	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 <sup>th</sup> Ave NE Bothell, WA 98011 (425)984-6600
<b>NVLAP</b>					
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
<b>Innovation, Science and Economic Development Canada</b>					
2834B-1, 2834B-3	2834E-1	N/A	2834D-1, 2834D-2	2834G-1	2834F-1
<b>BSMI</b>					
SL2-IN-E-1154R	SL2-IN-E-1152R	N/A	SL2-IN-E-1017	SL2-IN-E-1158R	SL2-IN-E-1153R
<b>VCCI</b>					
A-0029	A-0109	N/A	A-0108	A-0201	A-0110
<b>Recognized Phase I CAB for ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA</b>					
US0158	US0175	N/A	US0017	US0191	US0157



# PRODUCT DESCRIPTION

## Client and Equipment Under Test (EUT) Information

<b>Company Name:</b>	Parallel Wireless Inc.
<b>Address:</b>	1 Tara Blvd, Suite #404
<b>City, State, Zip:</b>	Nashua, NH 03062
<b>Test Requested By:</b>	Edward Lee
<b>Model:</b>	CWS-3050-14
<b>First Date of Test:</b>	August 10, 2016
<b>Last Date of Test:</b>	August 11, 2016
<b>Receipt Date of Samples:</b>	August 10, 2016
<b>Equipment Design Stage:</b>	Production
<b>Equipment Condition:</b>	No Damage

## Information Provided by the Party Requesting the Test

<b>Functional Description of the EUT:</b>
Tower based Converged Wireless System Base Station operating in LTE Band 14 with 10 MHz channel bandwidth.
<b>Testing Objective:</b>
To demonstrate compliance of the Cellular radio to FCC 90R requirements.

# CONFIGURATIONS

## Configuration KMWC0070- 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-3050-14	K162300007

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

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

## Configuration KMWC0070- 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-3050-14	K162300007

Peripherals in test setup boundary				
Description	Manufacturer	Model/Part Number	Serial Number	
High Power Terminator	Telcon	KTMO400800060	1111-0064	
High Power Terminator	Telcon	KTMO400800060	1111-0004	

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Cable	No	5m	No	CWS-3050 Tower	DC Mains
Ethernet Cable	No	2.5m	No	CWS-3050 Tower	Unterminated
AISG Cable	Yes	3m	No	CWS-3050 Tower	Unterminated
AISG (ALM) Cable	Yes	6.1m	No	CWS-3050 Tower	Unterminated
RF Output Cable x2	Yes	5m	No	CWS-3050 Tower	High Power Terminator
Optical Cable	No	10m	No	CWS-3050 Tower	Unterminated
Ground Braid	No	2m	No	CWS-3050 Tower	Ground

# MODIFICATIONS

## Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	8/10/2016	Equivalent Isotropic Radiated Power (EIRP)	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	8/10/2016	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	8/10/2016	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
4	8/10/2016	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	8/10/2016	Spurious Emissions at the Antenna Terminals	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
6	8/10/2016	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.
7	8/11/2016	Out of Band Emissions - LTE Band 14	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

# OUT OF BAND EMISSIONS - LTE BAND 14

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 763MHz, LTE10, Band 14

## POWER SETTINGS INVESTIGATED

48VDC

## CONFIGURATIONS INVESTIGATED

KMWC0070 - 2

## FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	8000 MHz
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## SAMPLE CALCULATIONS

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

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
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	3/28/2016	12 mo
Cable	ESM Cable Corp.	1-8GHz cables	OCX	3/28/2016	12 mo
Cable	ESM Cable Corp.	30-1GHz cables	OCW	3/28/2016	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	3/28/2016	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..

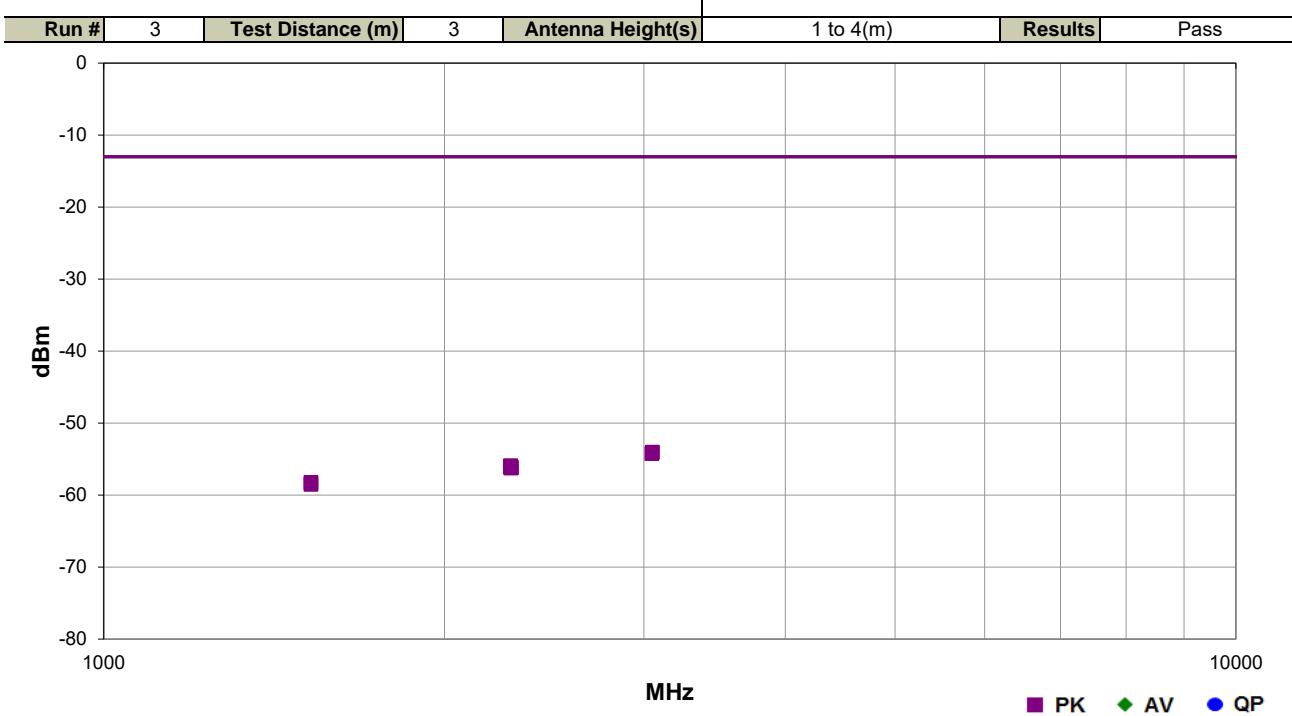
For licensed transmitters, the FCC references TIA/EIA-603 as the measurement procedure standard. TIA/EIA-603 Section 2.2.12 describes a method for measuring radiated spurious emissions that utilizes an antenna substitution method:

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 14

Work Order:	KMWC0070	Date:	08/11/16	
Project:	None	Temperature:	21.8 °C	
Job Site:	OC07	Humidity:	45.6% RH	
Serial Number:	K162300007	Barometric Pres.:	1019 mbar	Tested by: Mike Tran
EUT:	CWS-3050-14			
Configuration:	2			
Customer:	Parallel Wireless Inc.			
Attendees:	Edward Lee			
EUT Power:	48VDC			
Operating Mode:	Transmitting at 763MHz, LTE10, Band 14			
Deviations:	None			
Comments:	None			

Test Specifications	Test Method
FCC 90R: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
3052.975	1.0	25.0	Vert	PK	3.95E-09	-54.0	-13.0	-41.0	EUT Vert	
3050.025	1.0	30.0	Horz	PK	3.78E-09	-54.2	-13.0	-41.2	EUT Vert	
2287.717	1.0	327.0	Horz	PK	2.55E-09	-55.9	-13.0	-42.9	EUT on Side	
2287.283	1.3	127.0	Vert	PK	2.50E-09	-56.0	-13.0	-43.0	EUT Vert	
2291.000	1.7	119.0	Horz	PK	2.44E-09	-56.1	-13.0	-43.1	EUT Vert	
2288.333	1.0	3.0	Vert	PK	2.44E-09	-56.1	-13.0	-43.1	EUT Horz	
2289.342	1.0	151.0	Vert	PK	2.38E-09	-56.2	-13.0	-43.2	EUT on Side	
2290.258	1.0	0.0	Horz	PK	2.38E-09	-56.2	-13.0	-43.2	EUT Horz	
1524.517	1.0	69.0	Vert	PK	1.50E-09	-58.2	-13.0	-45.2	EUT Vert	
1524.467	2.9	326.0	Horz	PK	1.40E-09	-58.5	-13.0	-45.5	EUT Vert	

# EFFECTIVE RADIATED POWER (ERP)

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 Power Meter.

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)

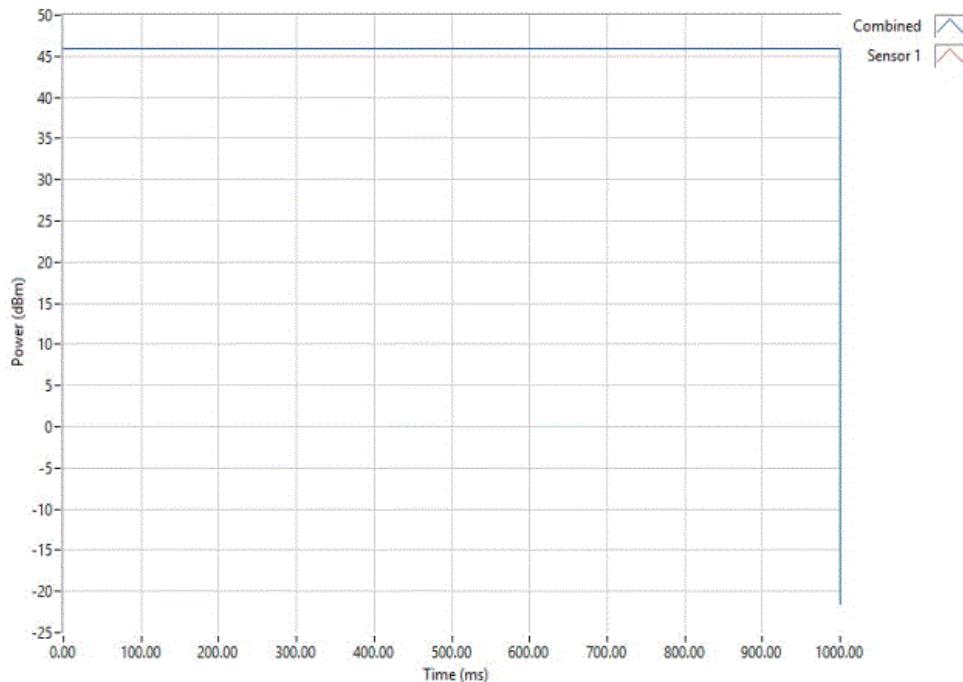
The measurements from Port 1 and Port 2 were summed to determine the total average power in ERP.

# EFFECTIVE RADIATED POWER (ERP)

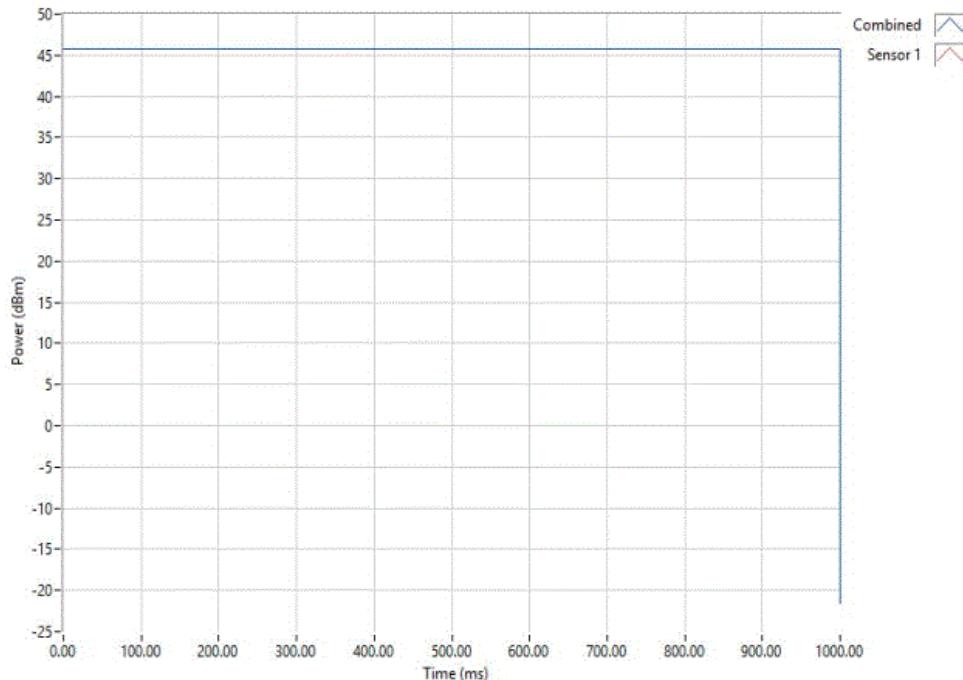
EUT:	CWS-3050-14		Work Order:	KMW0070						
Serial Number:	K162300007		Date:	08/10/16						
Customer:	Parallel Wireless Inc.		Temperature:	22.7 °C						
Attendees:	Edward Lee		Humidity:	50.8% RH						
Project:	None		Barometric Pres.:	1016 mbar						
Tested by:	Johnny Candelas	Power:	48VDC	Job Site:	OC13					
TEST SPECIFICATIONS			Test Method							
FCC 90R: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 = 54.85dB 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)	ERP (dBm)				
SISO					Limit (dBm)	Results				
Antenna Port 1		Single Channel LTE10, 763 MHz	45.95	100	0	46.0	60	Pass		
Antenna Port 2		Single Channel LTE10, 763 MHz	45.75	100	0	45.8	60	Pass		
MIMO										
Antenna Port 1		Single Channel LTE10, 763 MHz	45.90	100	0	45.9	60	Pass		
Antenna Port 2		Single Channel LTE10, 763 MHz	45.69	100	0	45.7	60	Pass		
Linear Sum of the Power		Port 1 (mW)	Port 2 (mW)	Sum (mW)	Sum (dBm)					
		Single Channel LTE10, 763 MHz	38904.5	37068.1	75972.6	48.80	0	48.8	60	Pass

# EFFECTIVE RADIATED POWER (ERP)

SISO, Antenna Port 1, Single Channel LTE10, 763 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	ERP (dBm)	Limit (dBm)	Results	
45.95	100	0	46.0	60	Pass	

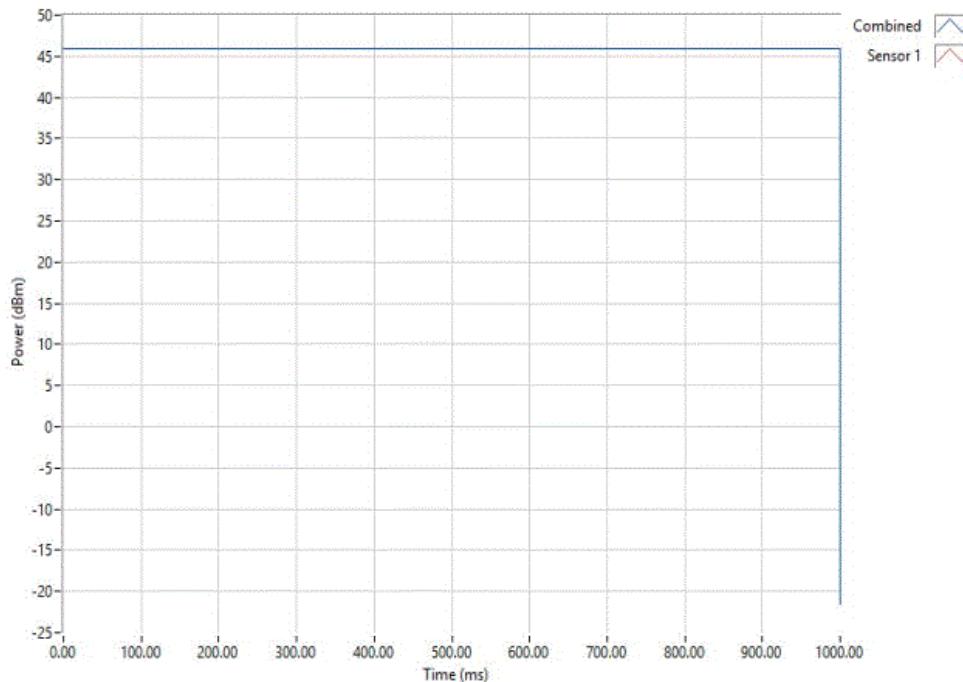


SISO, Antenna Port 2, Single Channel LTE10, 763 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	ERP (dBm)	Limit (dBm)	Results	
45.75	100	0	45.8	60	Pass	

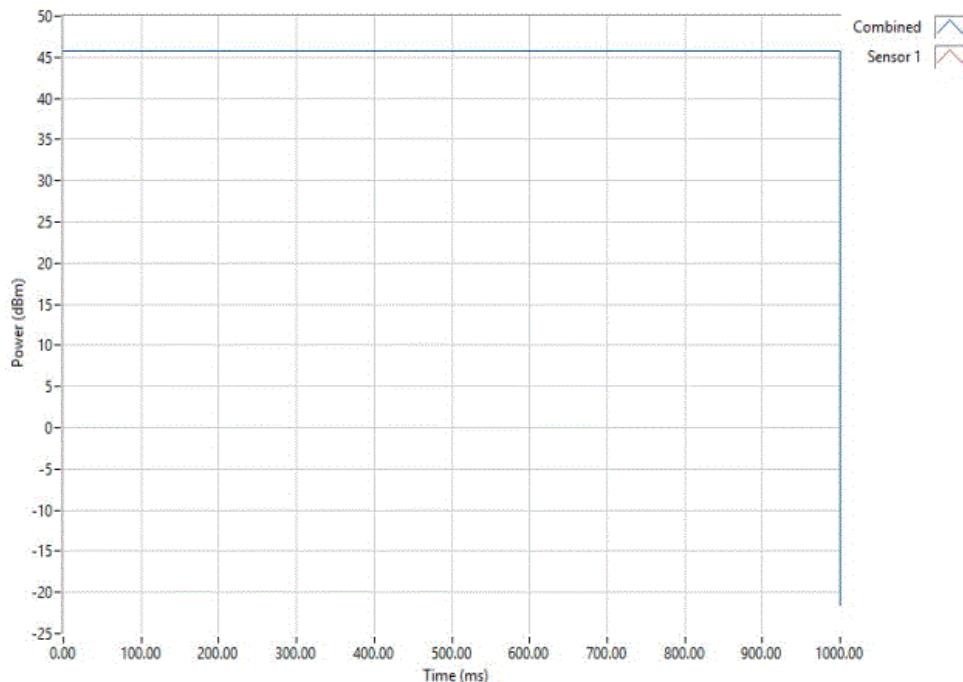


# EFFECTIVE RADIATED POWER (ERP)

MIMO, Antenna Port 1, Single Channel LTE10, 763 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	ERP (dBm)	Limit (dBm)	Results	
45.90	100	0	45.9	60	Pass	



MIMO, Antenna Port 2, Single Channel LTE10, 763 MHz						
Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	ERP (dBm)	Limit (dBm)	Results	
45.69	100	0	45.7	60	Pass	



# PEAK TO AVERAGE RATIO

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

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	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	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.

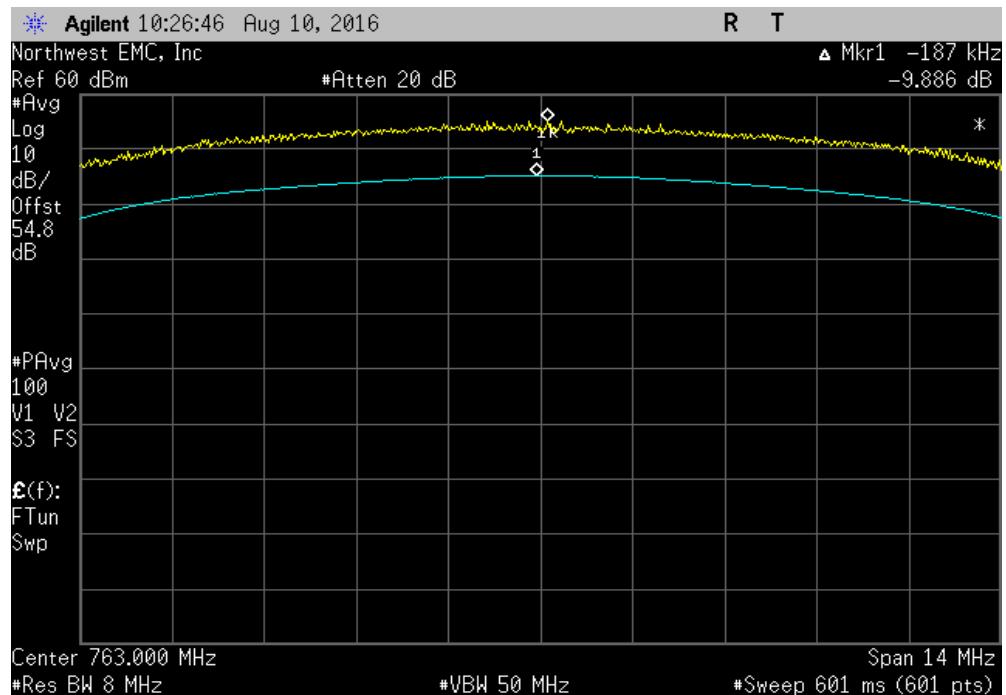
➤2nd Trace: The same procedure and settings as was used for conducted Output Power.

# PEAK TO AVERAGE RATIO

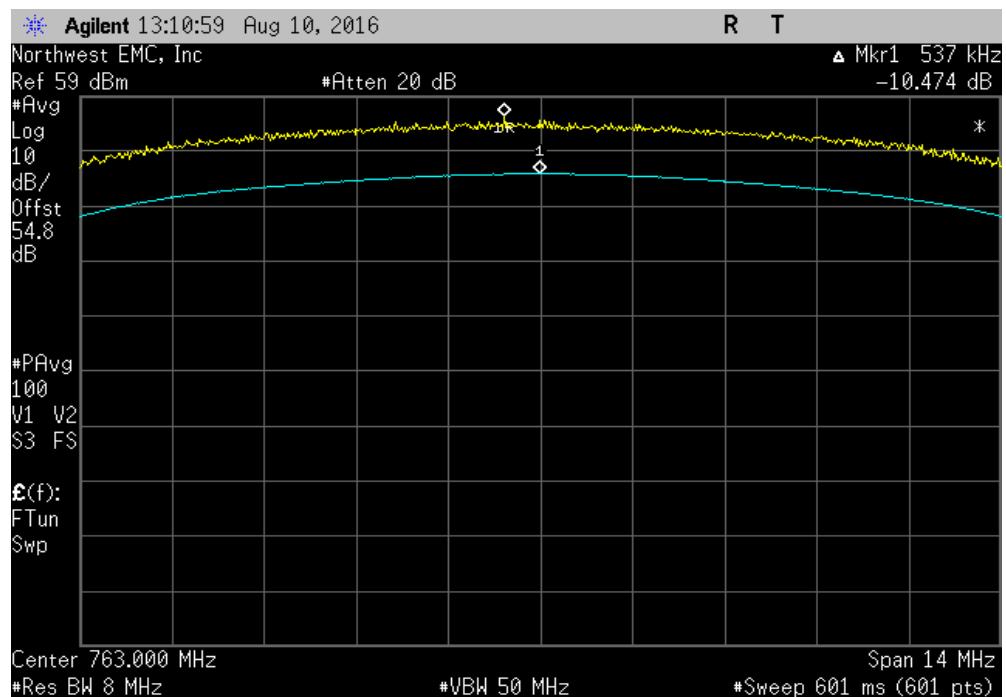
EUT:	CWS-3050-14		Work Order:	KMW0070	
Serial Number:	K162300007		Date:	08/10/16	
Customer:	Parallel Wireless Inc.		Temperature:	22.7 °C	
Attendees:	Edward Lee		Humidity:	50.8% RH	
Project:	None		Barometric Pres.:	1016 mbar	
Tested by:	Johnny Candelas	Power:	48VDC	Job Site:	OC13
TEST SPECIFICATIONS			Test Method		
FCC 90R: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 = 54.85dB total.					
DEVIATIONS FROM TEST STANDARD					
None					
Configuration #	1	Signature		Value (dB)	Limit < (dB)
Antenna Port 1	Single Channel LTE10, 763 MHz		9.886	13	Pass
Antenna Port 2	Single Channel LTE10, 763 MHz		10.474	13	Pass

# PEAK TO AVERAGE RATIO

Antenna Port 1, Single Channel LTE10, 763 MHz		
Value (dB)	Limit < (dB)	Results
9.886	13	Pass



Antenna Port 2, Single Channel LTE10, 763 MHz		
Value (dB)	Limit < (dB)	Results
10.474	13	Pass



# BAND EDGE COMPLIANCE

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

## TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	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	AFA	11/19/2015	11/19/2016

## CLIENT PROVIDED EQUIPMENT

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

## TEST DESCRIPTION

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

The spurious RF conducted emissions at the authorized bands per FCC 90.543(e)(1) were measured with the EUT transmitting at the data rate(s) listed in the datasheet.

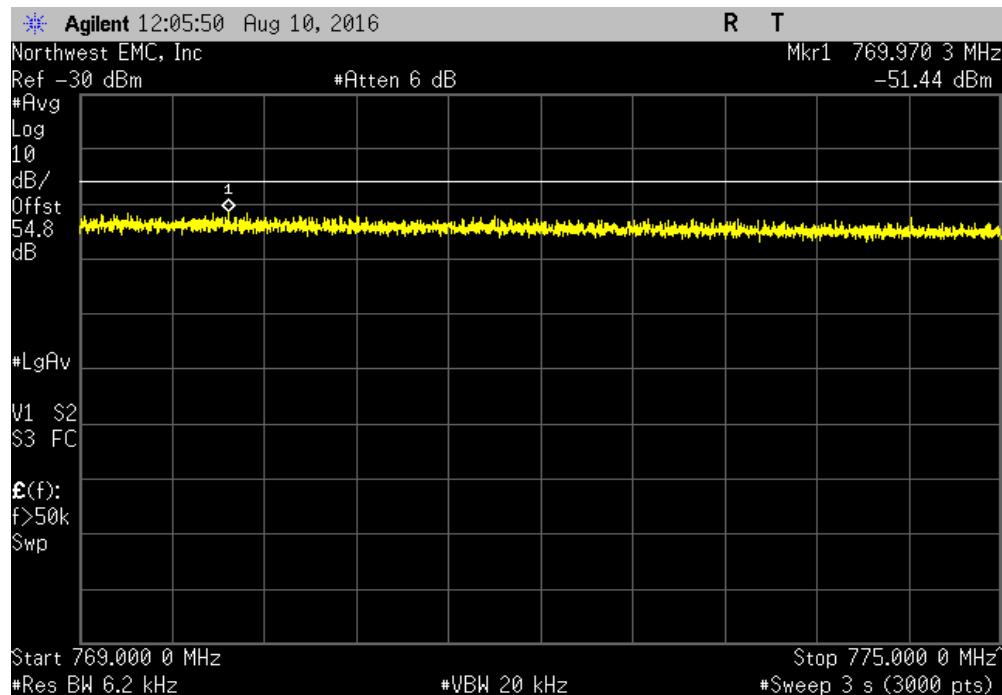
An average RMS detector was used to match the method used during Output Power. The screen capture shows the margin between the measured value and the limit at the band edge.

# BAND EDGE COMPLIANCE

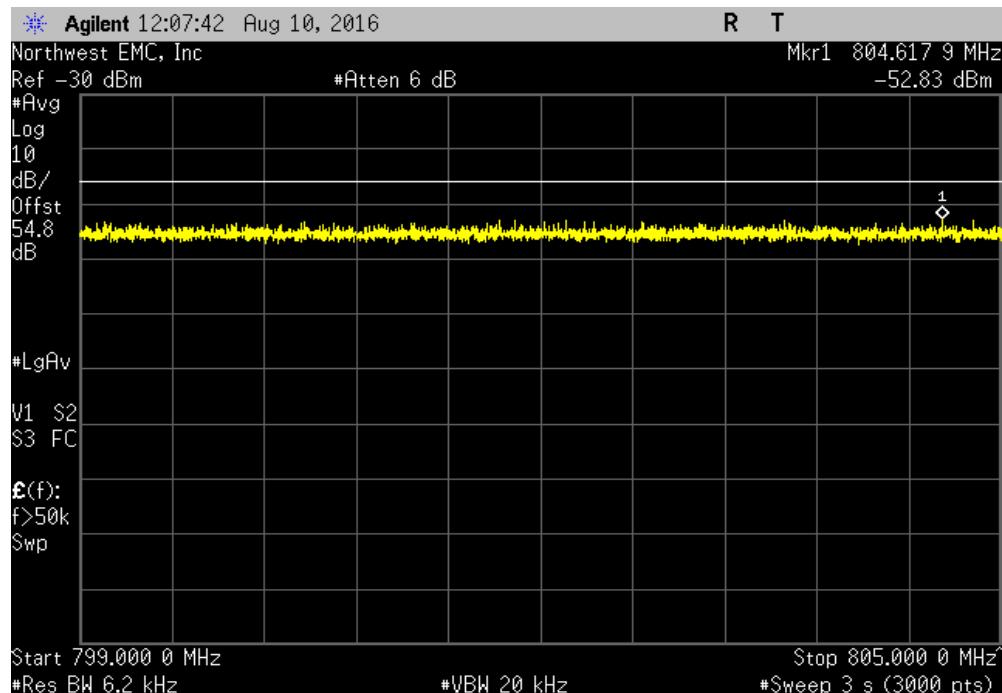
EUT:	CWS-3050-14		Work Order:	KMW0070		
Serial Number:	K162300007		Date:	08/10/16		
Customer:	Parallel Wireless Inc.		Temperature:	22.7 °C		
Attendees:	Edward Lee		Humidity:	50.8% RH		
Project:	None		Barometric Pres.:	1016 mbar		
Tested by:	Johnny Candelas	Power:	48VDC	Job Site:	OC13	
TEST SPECIFICATIONS			Test Method			
FCC 90R: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 = 54.85dB total.						
DEVIATIONS FROM TEST STANDARD						
None						
Configuration #	1	Signature	Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
Antenna Port 1						
Single Channel LTE10, 763 MHz			769 MHz - 775 MHz 799 MHz - 805 MHz	-51.44 -52.83	-46 -46	Pass Pass
Antenna Port 2						
Single Channel LTE10, 763 MHz			769 MHz - 775 MHz 799 MHz - 805 MHz	-51.32 -52.7	-46 -46	Pass Pass

# BAND EDGE COMPLIANCE

Antenna Port 1, Single Channel LTE10, 763 MHz			
Frequency Range	Max Value (dBm)	Limit $\leq$ (dBm)	Result
769 MHz - 775 MHz	-51.44	-46	Pass

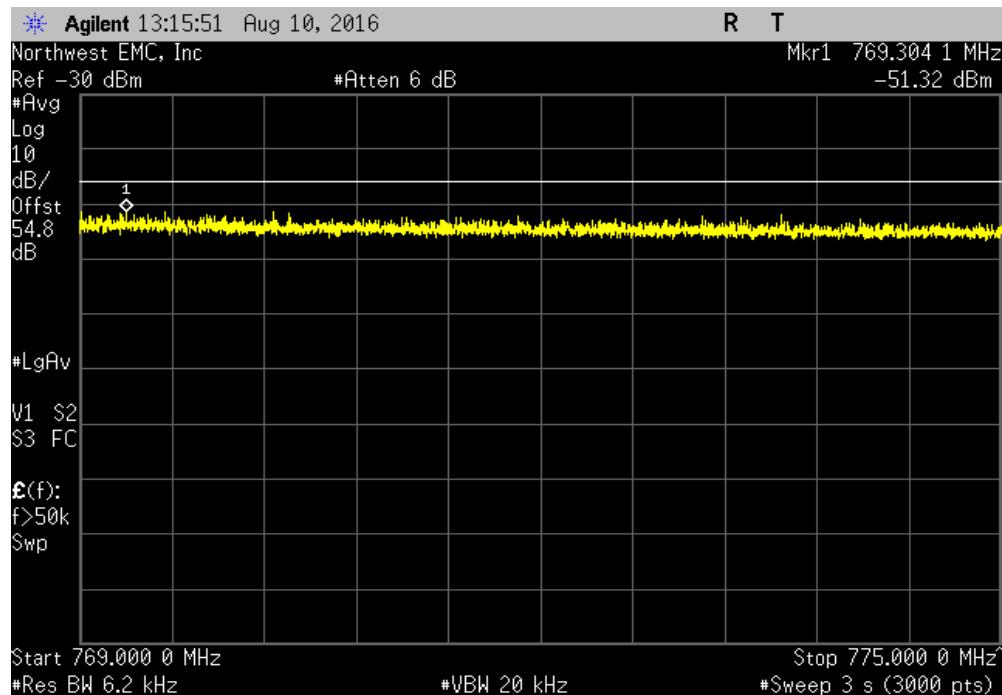


Antenna Port 1, Single Channel LTE10, 763 MHz			
Frequency Range	Max Value (dBm)	Limit $\leq$ (dBm)	Result
799 MHz - 805 MHz	-52.83	-46	Pass

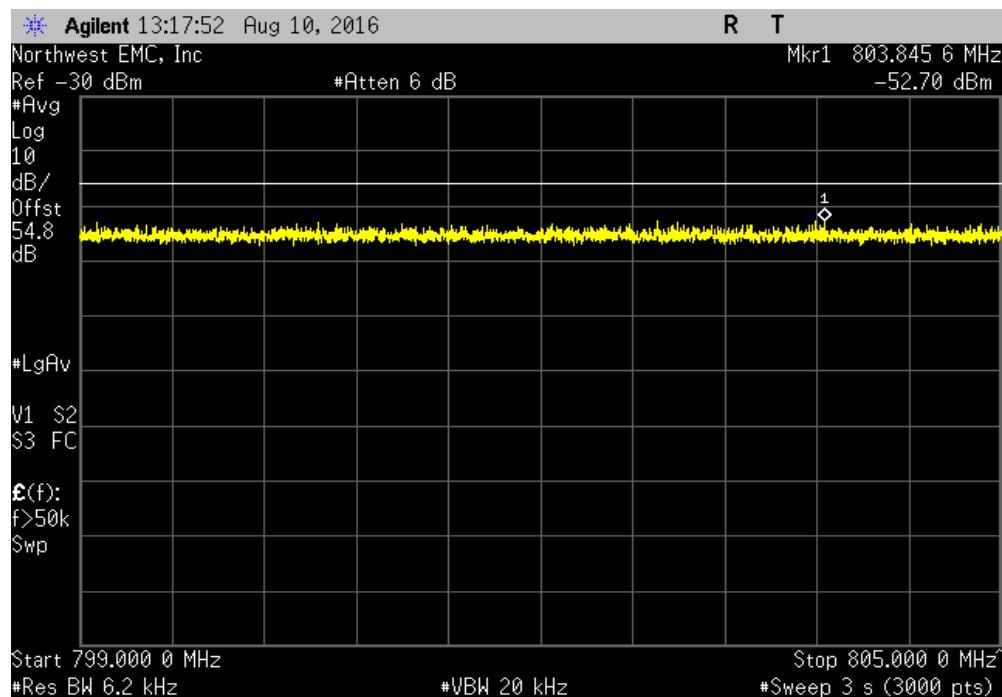


# BAND EDGE COMPLIANCE

Antenna Port 2, Single Channel LTE10, 763 MHz			
Frequency Range	Max Value (dBm)	Limit $\leq$ (dBm)	Result
769 MHz - 775 MHz	-51.32	-46	Pass



Antenna Port 2, Single Channel LTE10, 763 MHz			
Frequency Range	Max Value (dBm)	Limit $\leq$ (dBm)	Result
799 MHz - 805 MHz	-52.7	-46	Pass



# OCCUPIED BANDWIDTH

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	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.

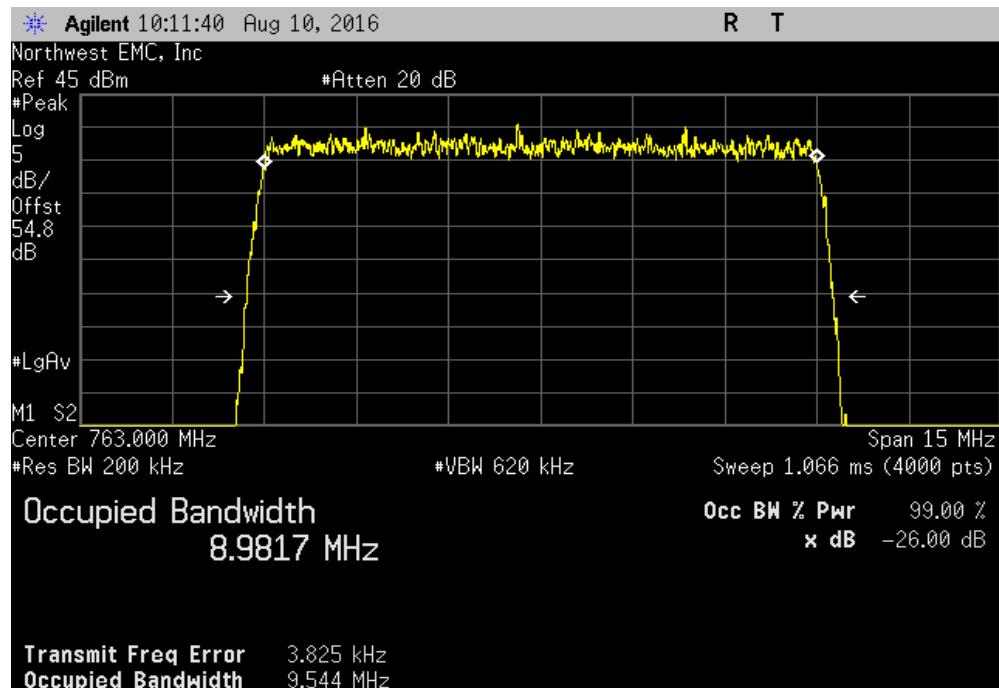
There is no required limit to be met in the rule part for this test. The purpose of the test is to report the results.

# OCCUPIED BANDWIDTH

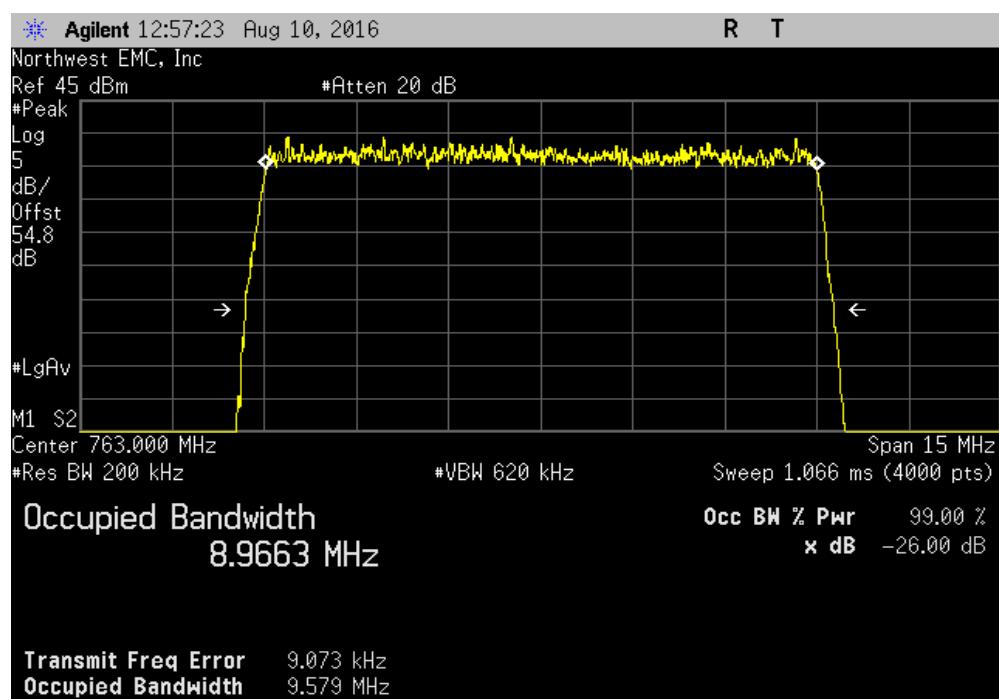
EUT:	CWS-3050-14		Work Order:	KMW0070	
Serial Number:	K162300007		Date:	08/10/16	
Customer:	Parallel Wireless Inc.		Temperature:	22.7 °C	
Attendees:	Edward Lee		Humidity:	50.8% RH	
Project:	None		Barometric Pres.:	1016 mbar	
Tested by:	Johnny Candelas	Power:	48VDC	Job Site:	OC13
TEST SPECIFICATIONS			Test Method		
FCC 90R: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 = 54.85dB total.					
DEVIATIONS FROM TEST STANDARD					
None					
Configuration #	1	Signature			
			Value	Limit	Result
Antenna Port 1			9.544 MHz	N/A	N/A
Single Channel LTE10, 763 MHz					
Antenna Port 2			9.579 MHz	N/A	N/A
Single Channel LTE10, 763 MHz					

# OCCUPIED BANDWIDTH

Antenna Port 1, Single Channel LTE10, 763 MHz		
	Value	Limit
	9.544 MHz	N/A



Antenna Port 2, Single Channel LTE10, 763 MHz		
	Value	Limit
	9.579 MHz	N/A



# SPURIOUS EMISSIONS AT THE ANTENNA TERMINALS

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	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 (frequency dependant) and no video filtering were made for each mode listed in the datasheet.

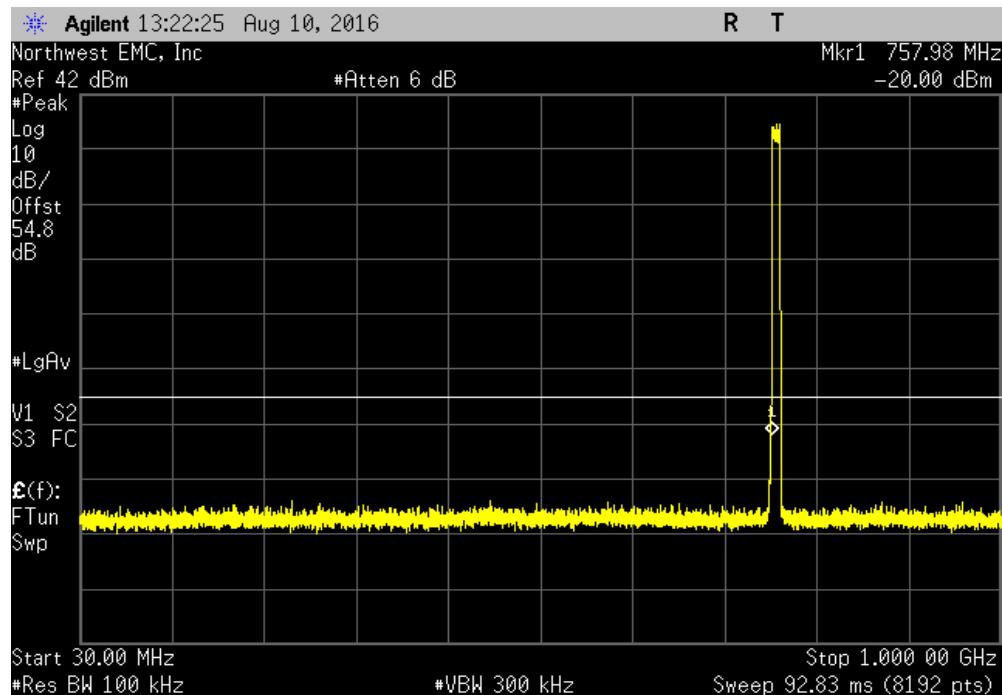
The peak conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than or equal to the limit.

# SPURIOUS EMISSIONS AT THE ANTENNA TERMINALS

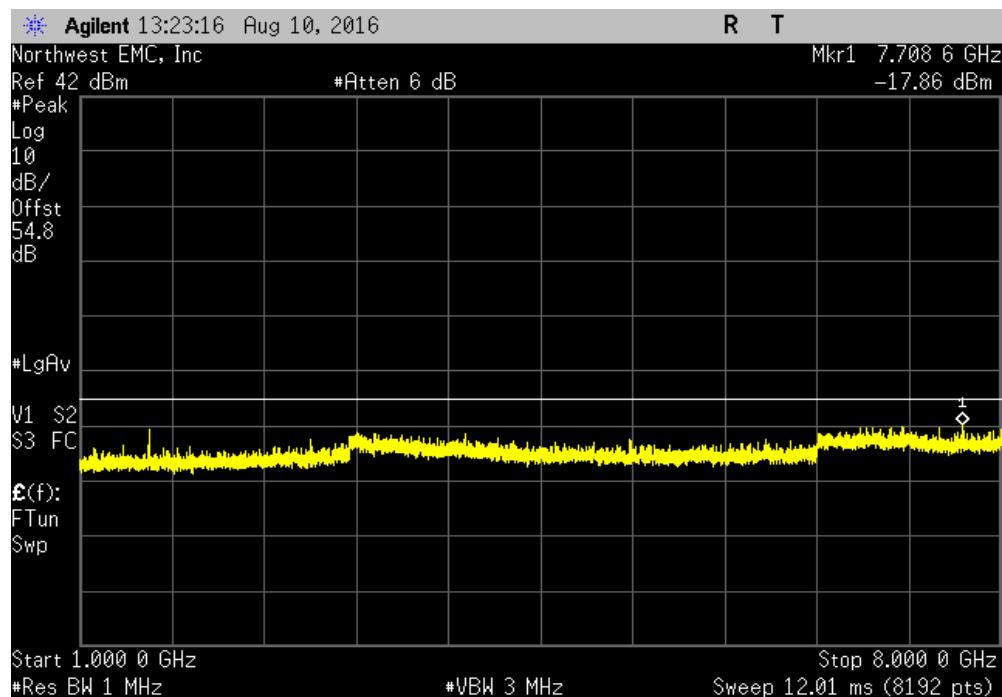
EUT:	CWS-3050-14		Work Order:	KMWG0070		
Serial Number:	K162300007		Date:	08/10/16		
Customer:	Parallel Wireless Inc.		Temperature:	22.7 °C		
Attendees:	Edward Lee		Humidity:	50.8% RH		
Project:	None		Barometric Pres.:	1016 mbar		
Tested by:	Johnny Candelas	Power:	48VDC	Job Site:	OC13	
TEST SPECIFICATIONS			Test Method			
FCC 90R:2016			ANSI/TIA/EIA-603-D-2010			
COMMENTS						
Transmitting at 763MHz, Single Channel LTE10						
DEVIATIONS FROM TEST STANDARD						
None						
Configuration #	1	Signature	Frequency Range	Max Value (dBm)	Limit $\leq$ (dBm)	Result
Antenna Port 1						
Single Channel LTE10, 763 MHz			30 MHz - 1 GHz	-20.01	-13	Pass
Single Channel LTE10, 763 MHz			1 GHz - 8 GHz	-17.86	-13	Pass
Antenna Port 2						
Single Channel LTE10, 763 MHz			30 MHz - 1 GHz	-17.74	-13	Pass
Single Channel LTE10, 763 MHz			1 GHz - 8 GHz	-17.9	-13	Pass

# SPURIOUS EMISSIONS AT THE ANTENNA TERMINALS

Antenna Port 1, Single Channel LTE10, 763 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
30 MHz - 1 GHz	-20.01	-13	Pass	

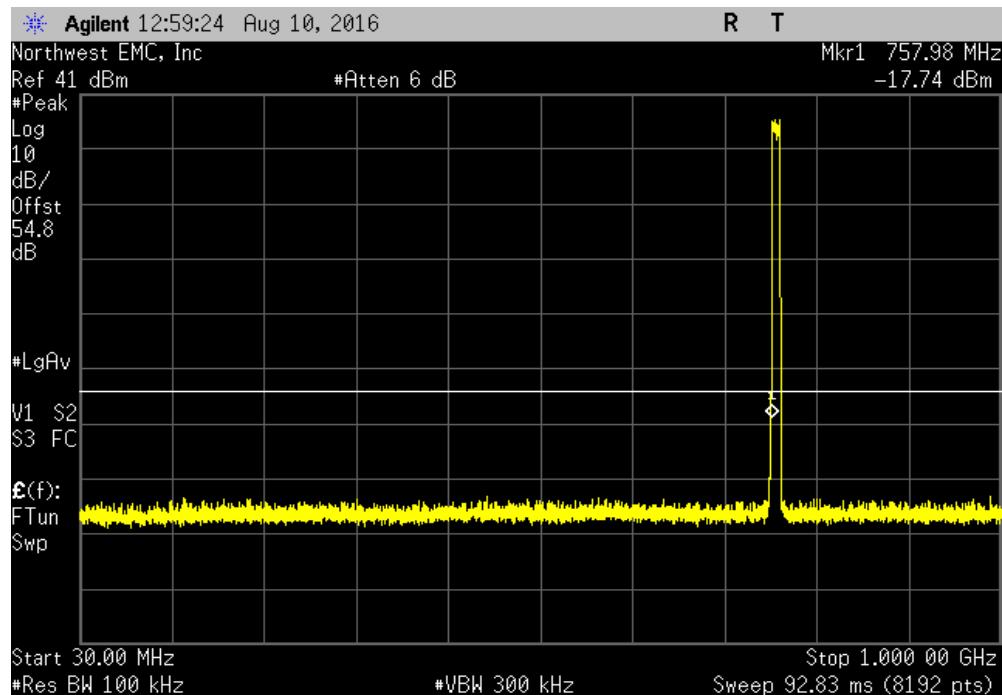


Antenna Port 1, Single Channel LTE10, 763 MHz				
Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result	
1 GHz - 8 GHz	-17.86	-13	Pass	

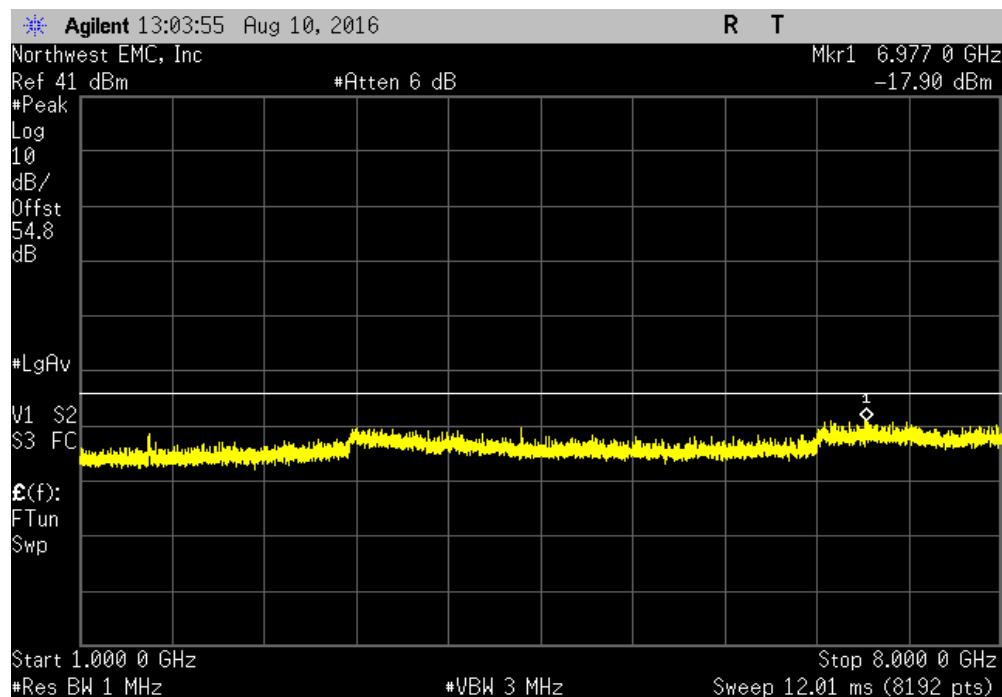


# SPURIOUS EMISSIONS AT THE ANTENNA TERMINALS

Antenna Port 2, Single Channel LTE10, 763 MHz				
Frequency Range	Max Value (dBm)	Limit $\leq$ (dBm)	Result	
30 MHz - 1 GHz	-17.74	-13	Pass	



Antenna Port 2, Single Channel LTE10, 763 MHz				
Frequency Range	Max Value (dBm)	Limit $\leq$ (dBm)	Result	
1 GHz - 8 GHz	-17.9	-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
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Aeroflex	INMET 8535	AMO	4/4/2016	4/4/2017
Generator - Signal	Keysight	N5182B	TFX	4/16/2015	4/16/2018
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
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 is configured with a precision frequency reference that exceeds the stability requirement of the transmitter. The EUT was placed inside a temperature / humidity chamber.

### Variation of Supply Voltage

The primary supply voltage was varied from 85% to 115% of the nominal voltage. A DC lab supply was used to vary the supply voltage.

### Variation of Ambient Temperature

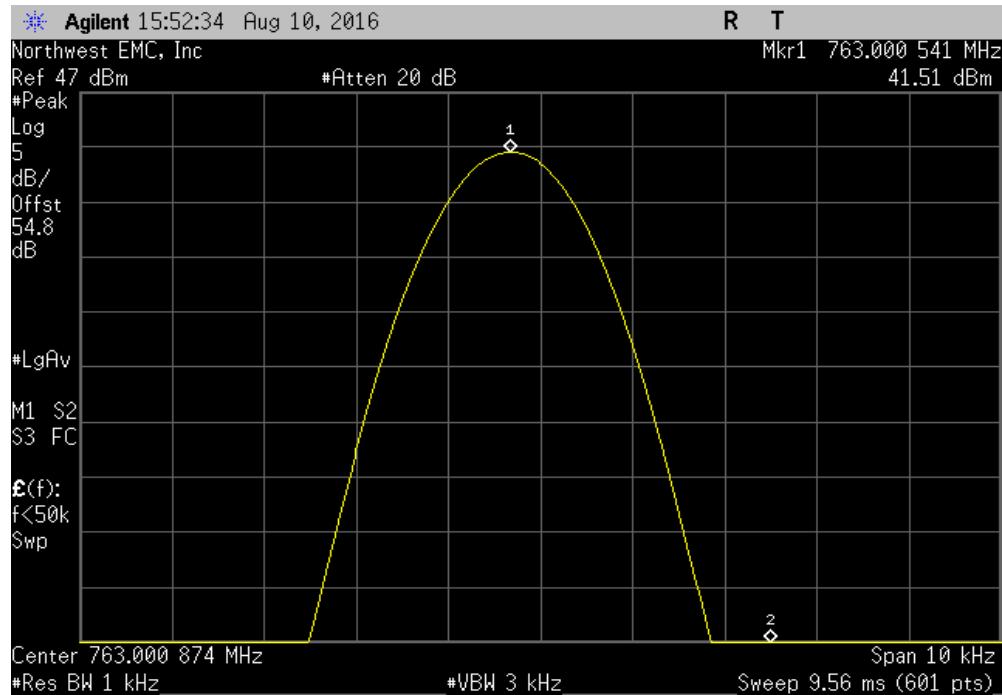
Using a temperature chamber, the transmit frequency was recorded at the extremes of the specified temperature range

# FREQUENCY STABILITY

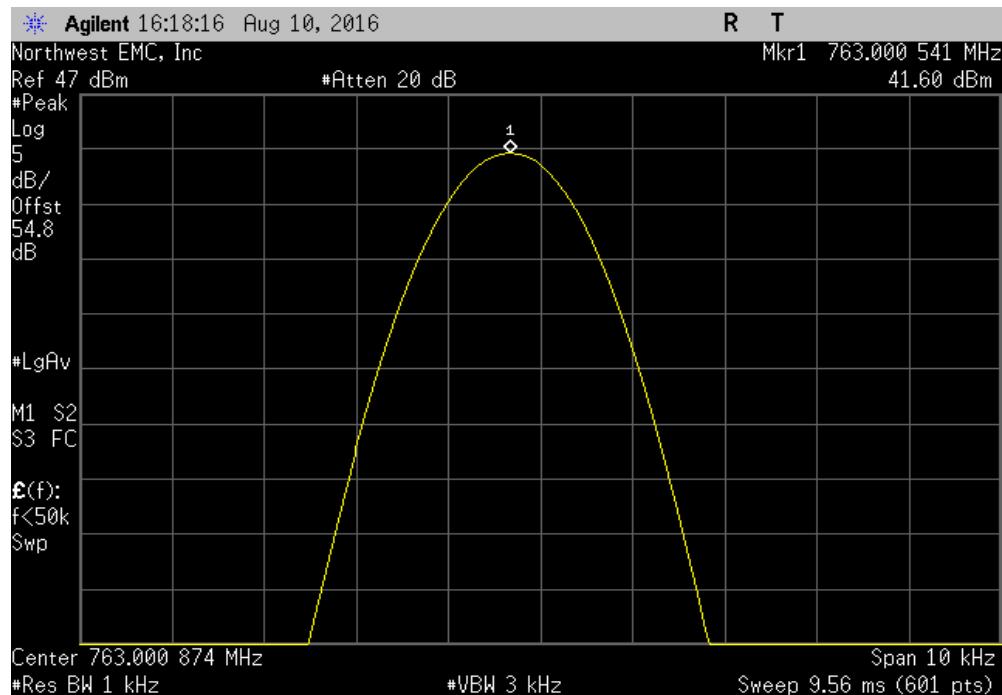
EUT:	CWS-3050-14		Work Order:	KMW0070	
Serial Number:	K162300007		Date:	08/10/16	
Customer:	Parallel Wireless Inc.		Temperature:	22.7 °C	
Attendees:	Edward Lee		Humidity:	50.8% RH	
Project:	None		Barometric Pres.:	1016 mbar	
Tested by:	Johnny Candelas	Power:	48VDC	Job Site:	OC13
TEST SPECIFICATIONS			Test Method		
FCC 90R:2016			ANSI/TIA/EIA-603-D-2010		
COMMENTS					
Transmitting at 763MHz, Single Channel LTE10					
DEVIATIONS FROM TEST STANDARD					
None					
Configuration #	1	Signature			
			Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)
Port 1					Limit (ppm)
					Results
Normal Temperature and Voltage					
Single Channel LTE10, 763MHz					
Extreme Voltage, 55.2 VDC		763.000541	763	0.7	1
Single Channel LTE10, 763MHz					Pass
Extreme Voltage, 40.8 VDC		763.000541	763	0.7	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, -30°C		763.000541	763	0.7	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, -20°C		763.000223	763	0.3	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, -10°C		763.00039	763	0.5	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, 0°C		763.000557	763	0.7	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, +10°C		763.00064	763	0.8	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, +20°C		763.000657	763	0.9	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, +30°C		763.000624	763	0.8	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, +40°C		763.000623	763	0.8	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, +50°C		763.000592	763	0.8	1
Single Channel LTE10, 763MHz					Pass
Port 2					
Normal Temperature and Voltage					
Single Channel LTE10, 763MHz					
Extreme Voltage, 55.2 VDC		763.000541	763	0.7	1
Single Channel LTE10, 763MHz					Pass
Extreme Voltage, 40.8 VDC		763.000541	763	0.7	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, -30°C		763.000541	763	0.7	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, -20°C		763.00019	763	0.3	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, -10°C		763.00039	763	0.5	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, 0°C		763.000559	763	0.7	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, +10°C		763.000642	763	0.8	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, +20°C		763.000659	763	0.9	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, +30°C		763.000623	763	0.8	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, +40°C		763.000623	763	0.8	1
Single Channel LTE10, 763MHz					Pass
Extreme Temperature, +50°C		763.000607	763	0.8	1
Single Channel LTE10, 763MHz					Pass
		763.000623	763	0.8	1
					Pass

# FREQUENCY STABILITY

Port 1, Normal Temperature and Voltage, Single Channel LTE10, 763MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	763.000541	763	0.7	1	Pass

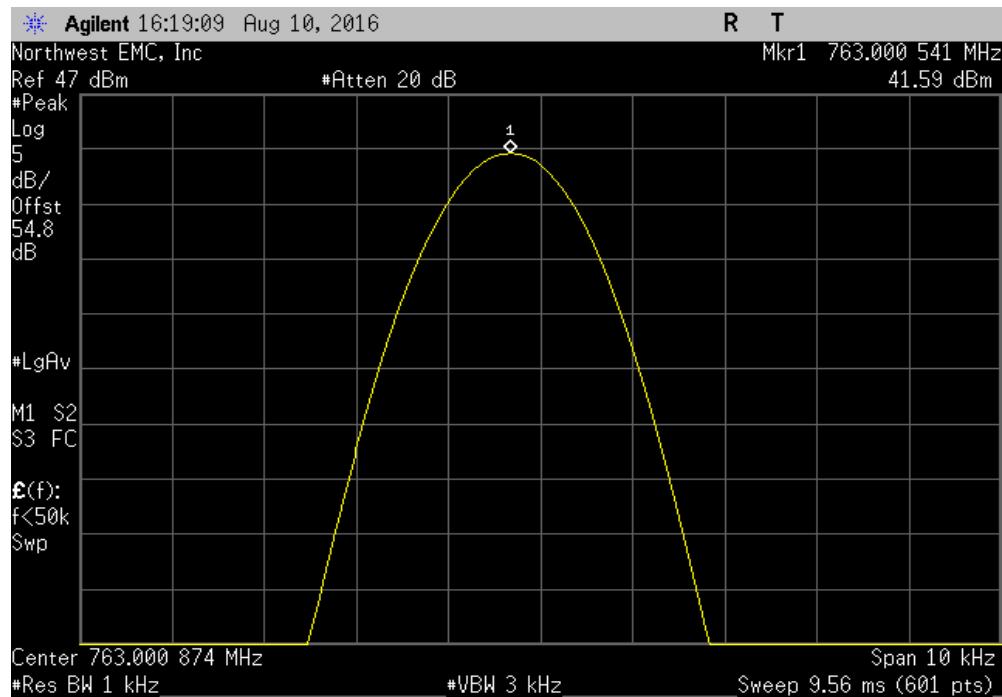


Port 1, Extreme Voltage, 55.2 VDC, Single Channel LTE10, 763MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	763.000541	763	0.7	1	Pass

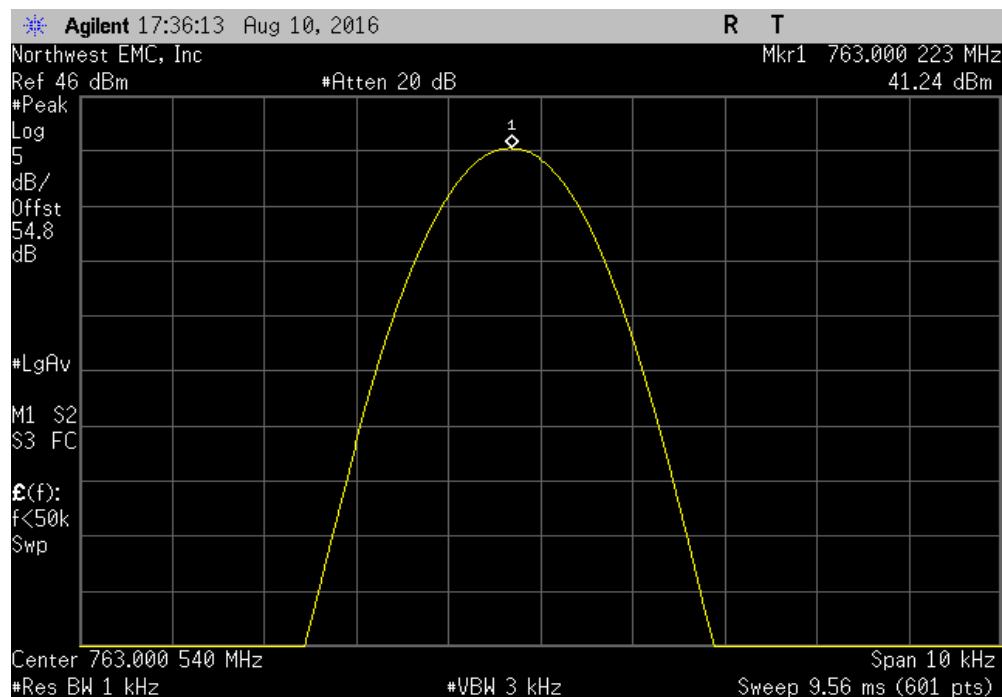


# FREQUENCY STABILITY

Port 1, Extreme Voltage, 40.8 VDC, Single Channel LTE10, 763MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
763.000541	763	0.7	1	Pass	

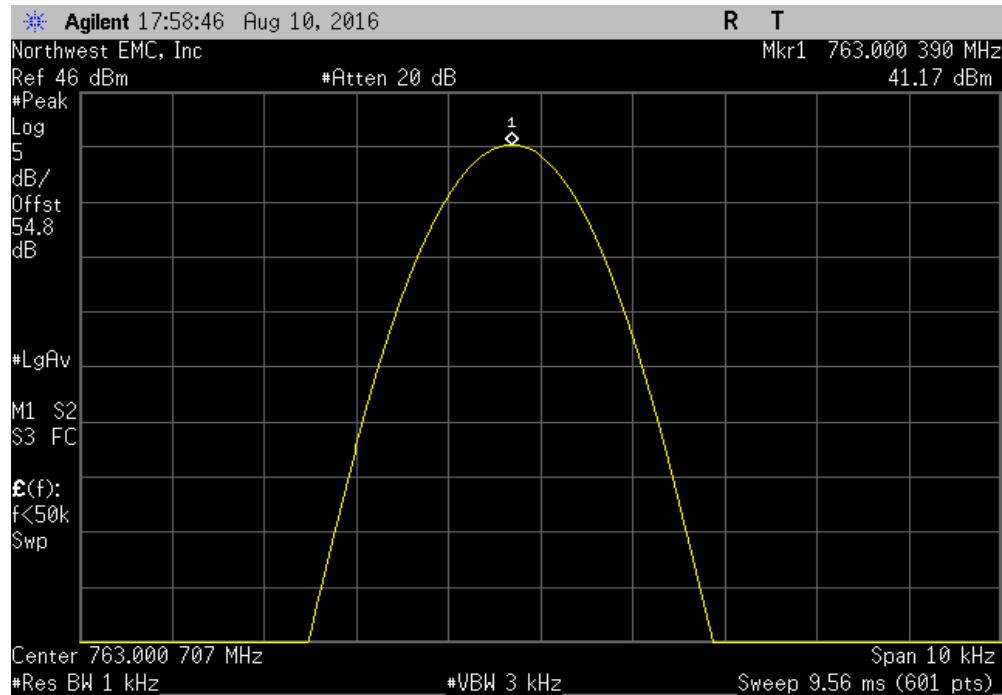


Port 1, Extreme Temperature, -30°C, Single Channel LTE10, 763MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
763.000223	763	0.3	1	Pass	

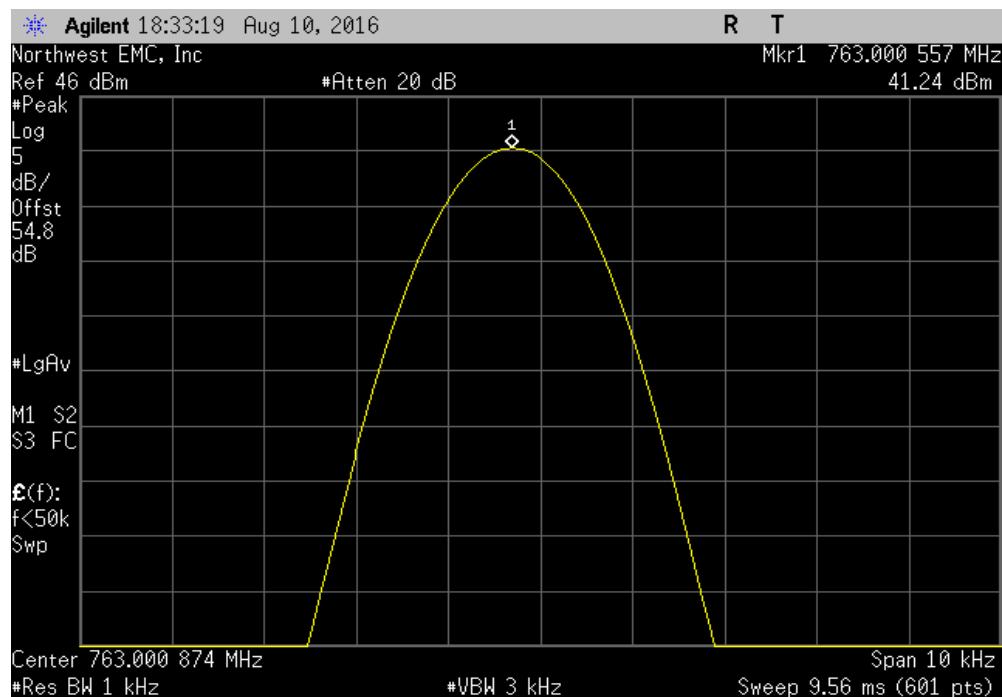


# FREQUENCY STABILITY

Port 1, Extreme Temperature, -20°C, Single Channel LTE10, 763MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
763.00039	763	0.5	1	Pass	



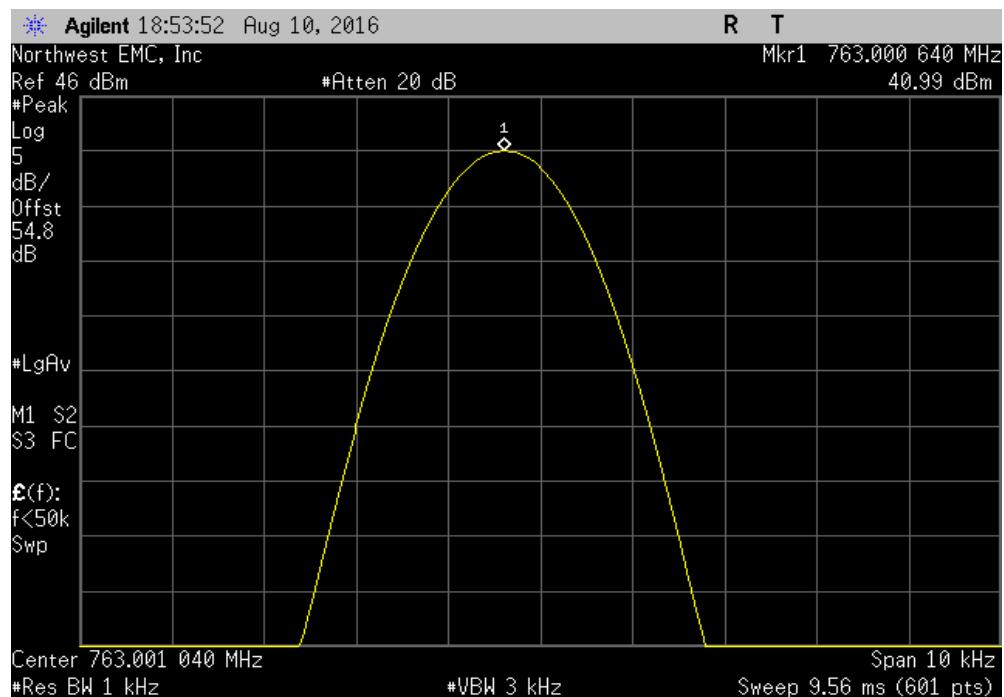
Port 1, Extreme Temperature, -10°C, Single Channel LTE10, 763MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
763.000557	763	0.7	1	Pass	



# FREQUENCY STABILITY

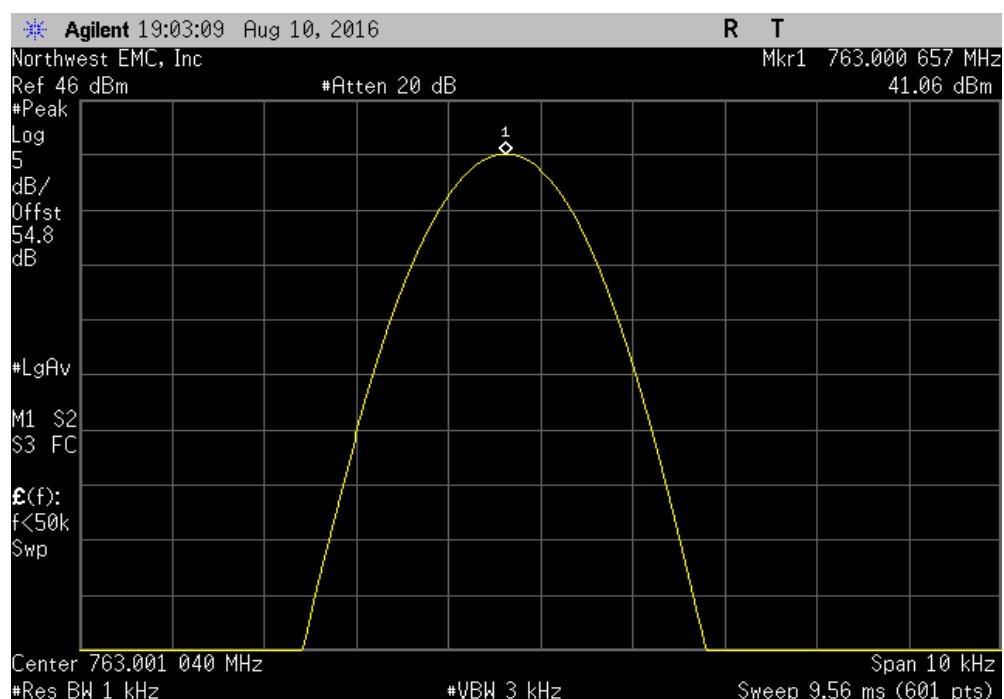
Port 1, Extreme Temperature, 0°C, Single Channel LTE10, 763MHz

	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	763.00064	763	0.8	1	Pass



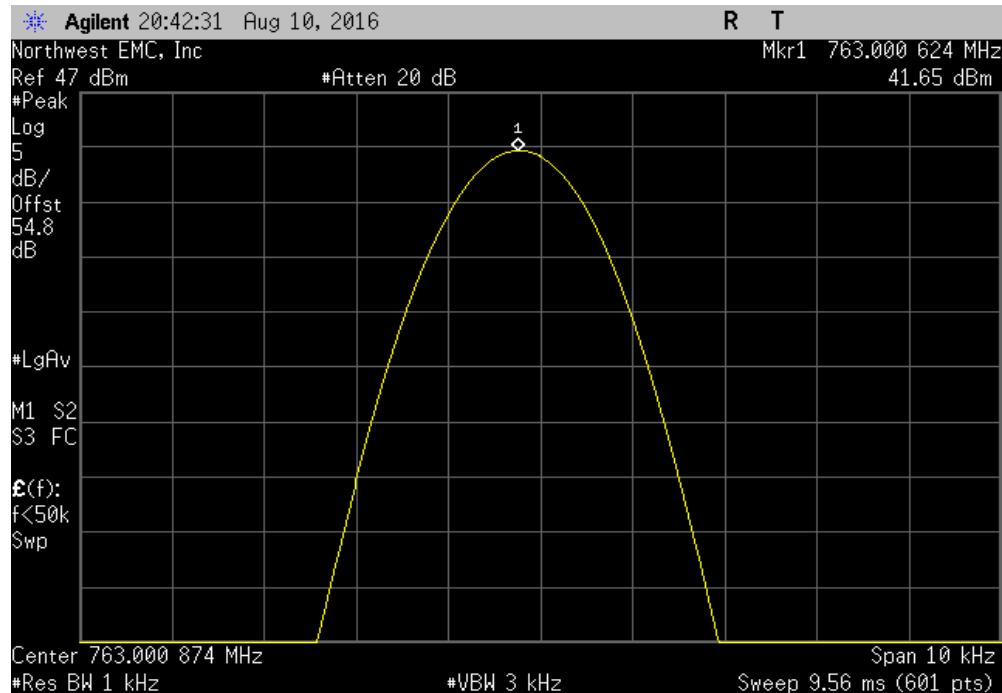
Port 1, Extreme Temperature, +10°C, Single Channel LTE10, 763MHz

	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	763.000657	763	0.9	1	Pass

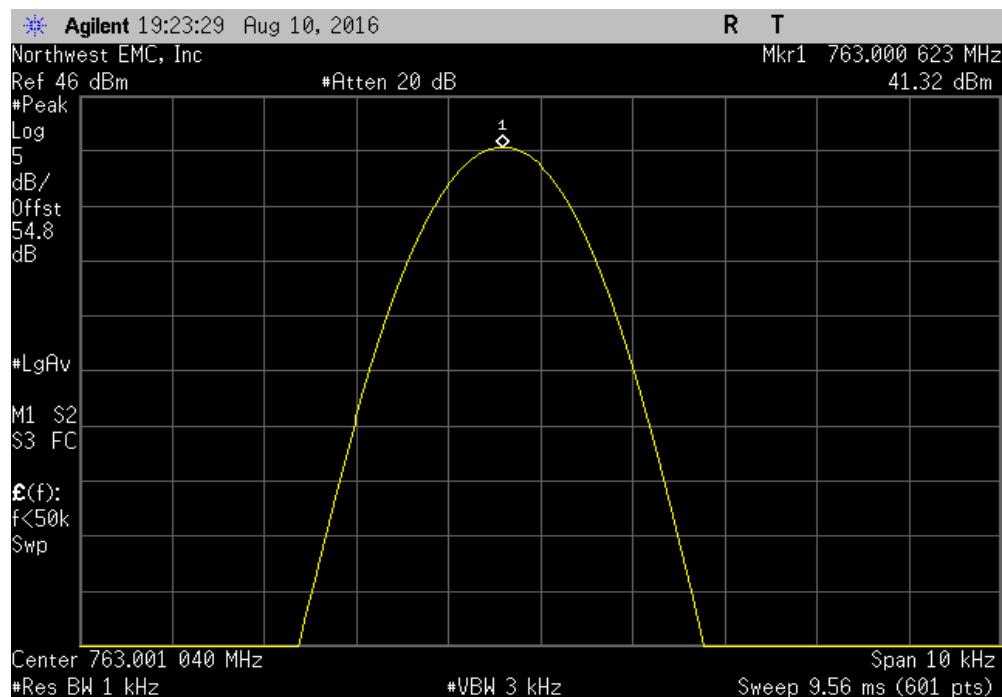


# FREQUENCY STABILITY

Port 1, Extreme Temperature, +20°C, Single Channel LTE10, 763MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	763.000624	763	0.8	1	Pass

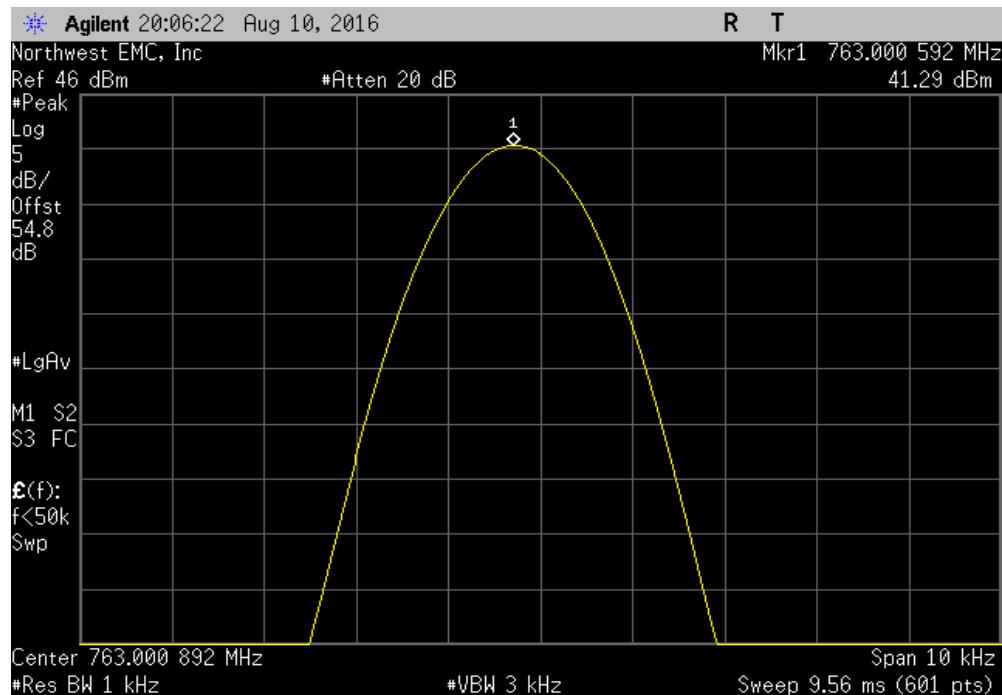


Port 1, Extreme Temperature, +30°C, Single Channel LTE10, 763MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	763.000623	763	0.8	1	Pass

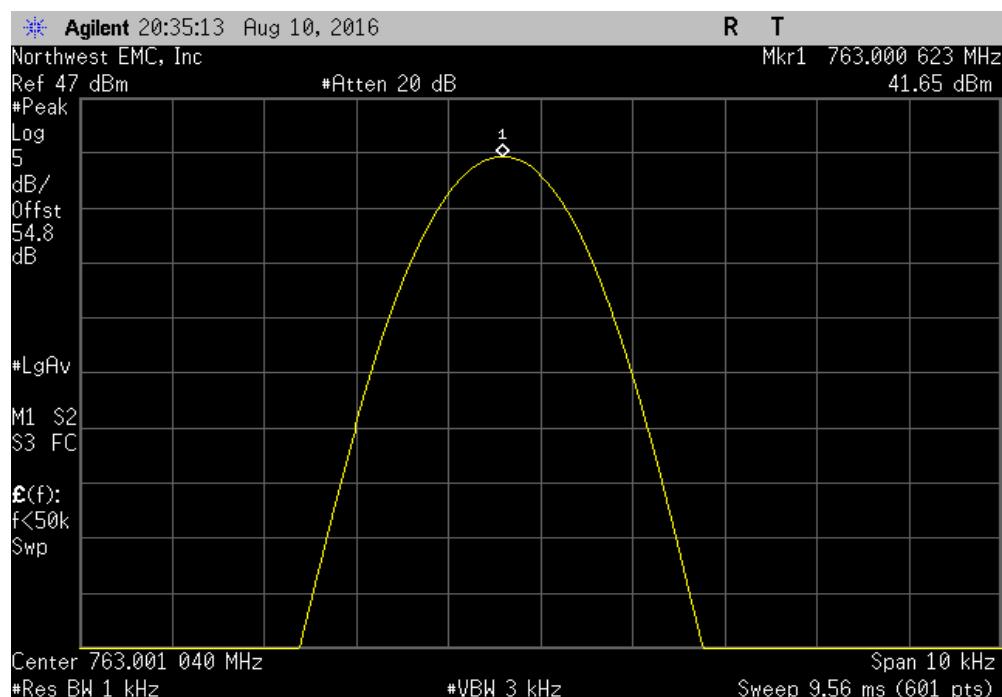


# FREQUENCY STABILITY

Port 1, Extreme Temperature, +40°C, Single Channel LTE10, 763MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
763.000592	763	0.8	1	Pass	

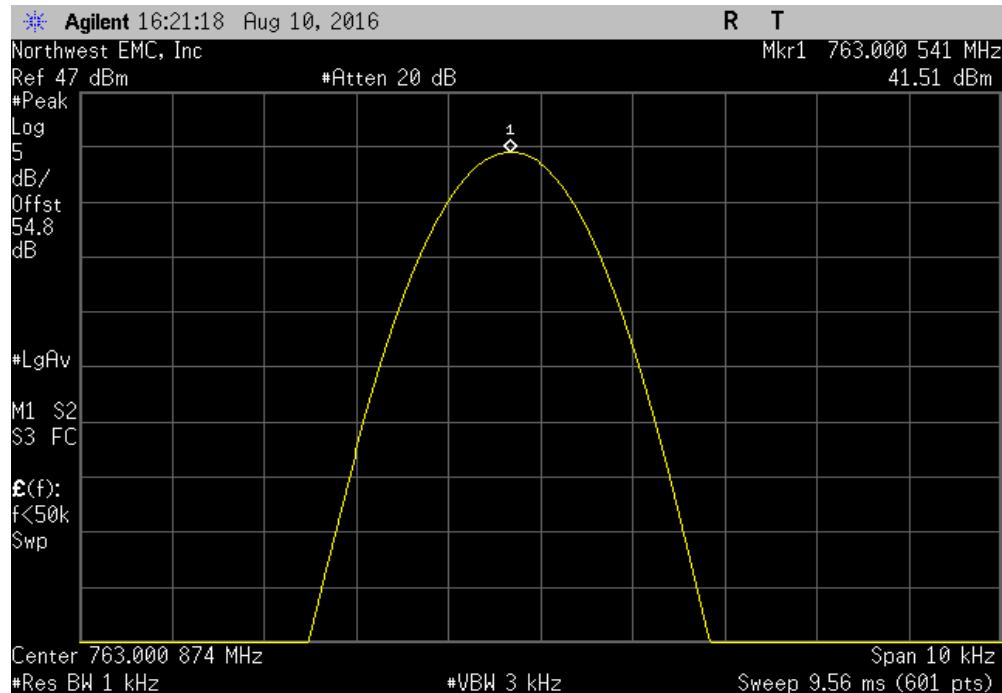


Port 1, Extreme Temperature, +50°C, Single Channel LTE10, 763MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
763.000623	763	0.8	1	Pass	

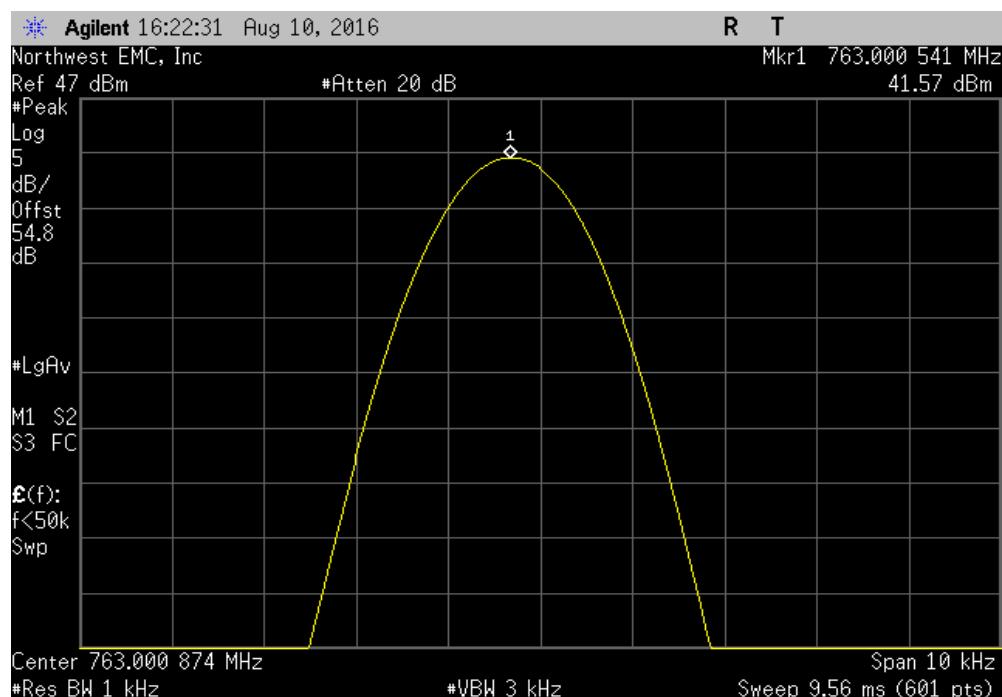


# FREQUENCY STABILITY

Port 2, Normal Temperature and Voltage, Single Channel LTE10, 763MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	763.000541	763	0.7	1	Pass

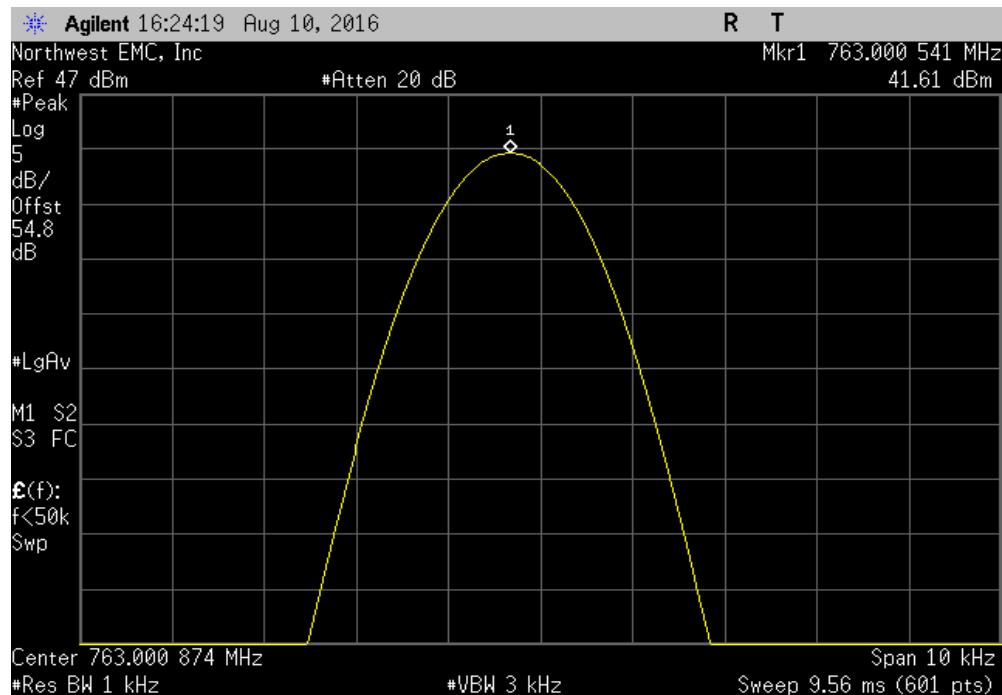


Port 2, Extreme Voltage, 55.2 VDC, Single Channel LTE10, 763MHz					
	Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
	763.000541	763	0.7	1	Pass

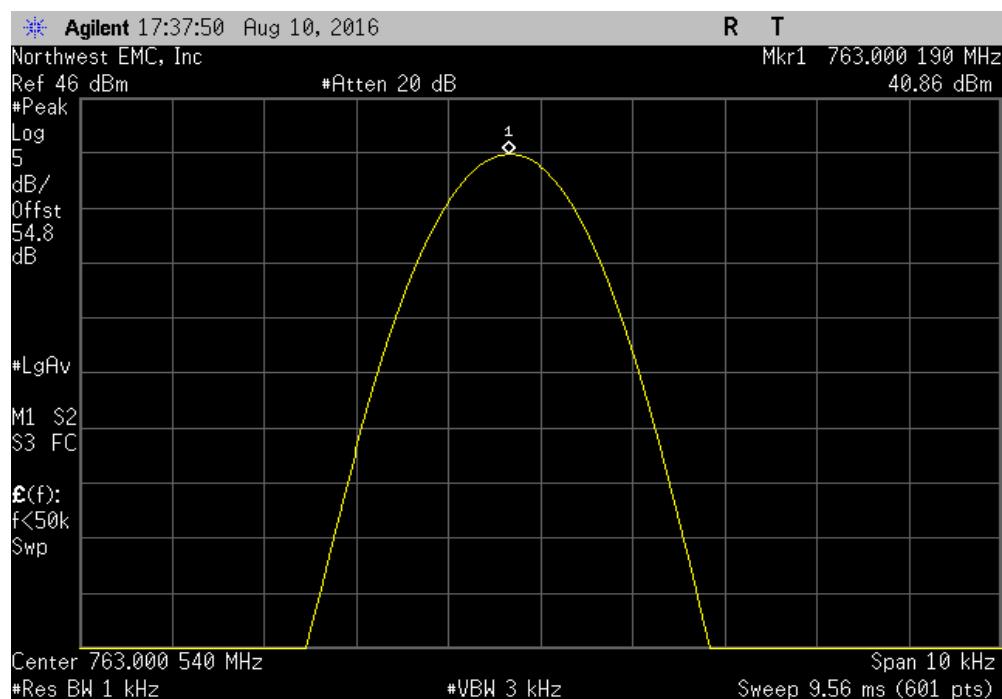


# FREQUENCY STABILITY

Port 2, Extreme Voltage, 40.8 VDC, Single Channel LTE10, 763MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
763.000541	763	0.7	1	Pass	

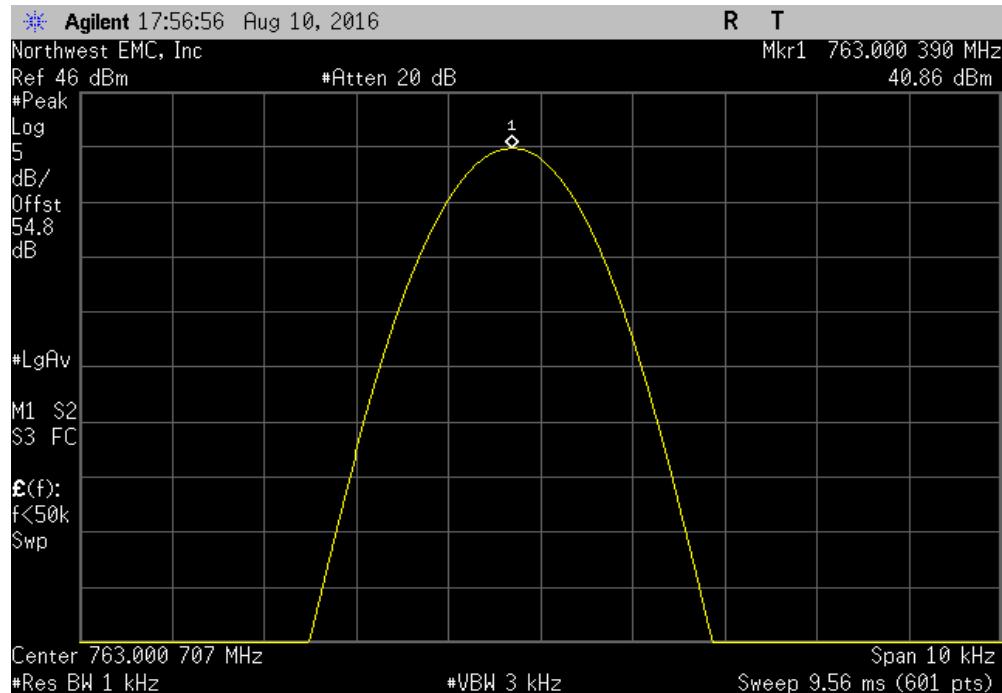


Port 2, Extreme Temperature, -30°C, Single Channel LTE10, 763MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
763.00019	763	0.3	1	Pass	

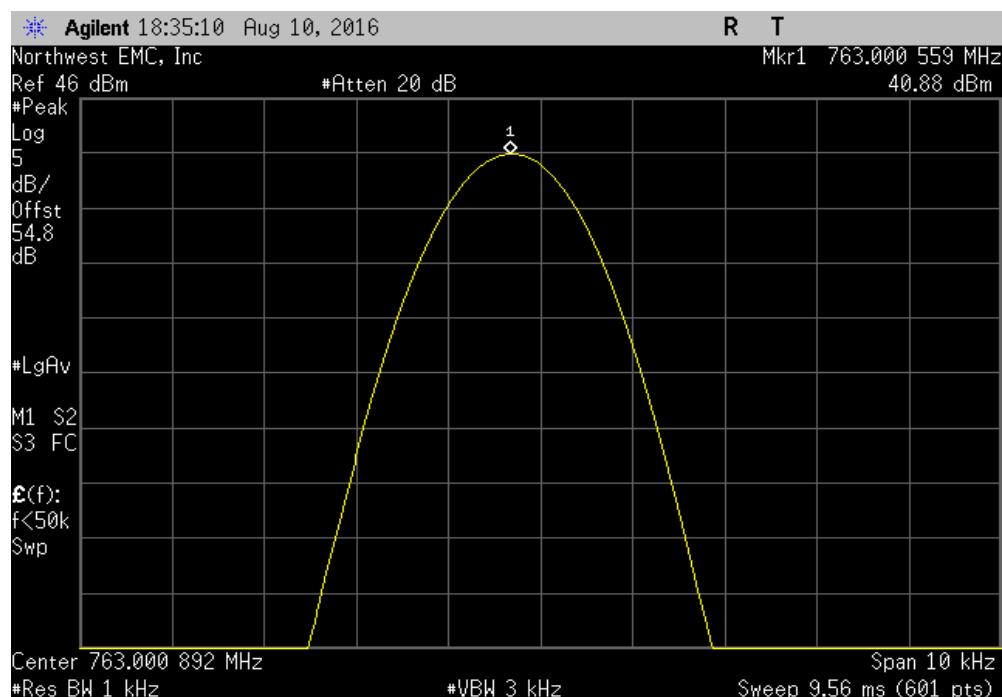


# FREQUENCY STABILITY

Port 2, Extreme Temperature, -20°C, Single Channel LTE10, 763MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
763.00039	763	0.5	1	Pass	



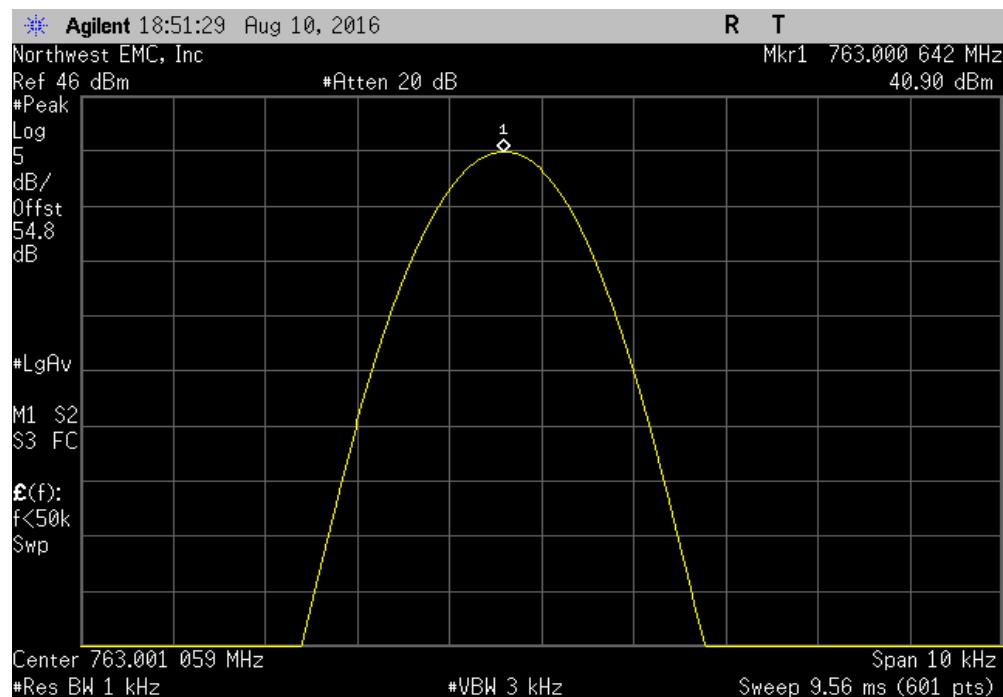
Port 2, Extreme Temperature, -10°C, Single Channel LTE10, 763MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
763.000559	763	0.7	1	Pass	



# FREQUENCY STABILITY

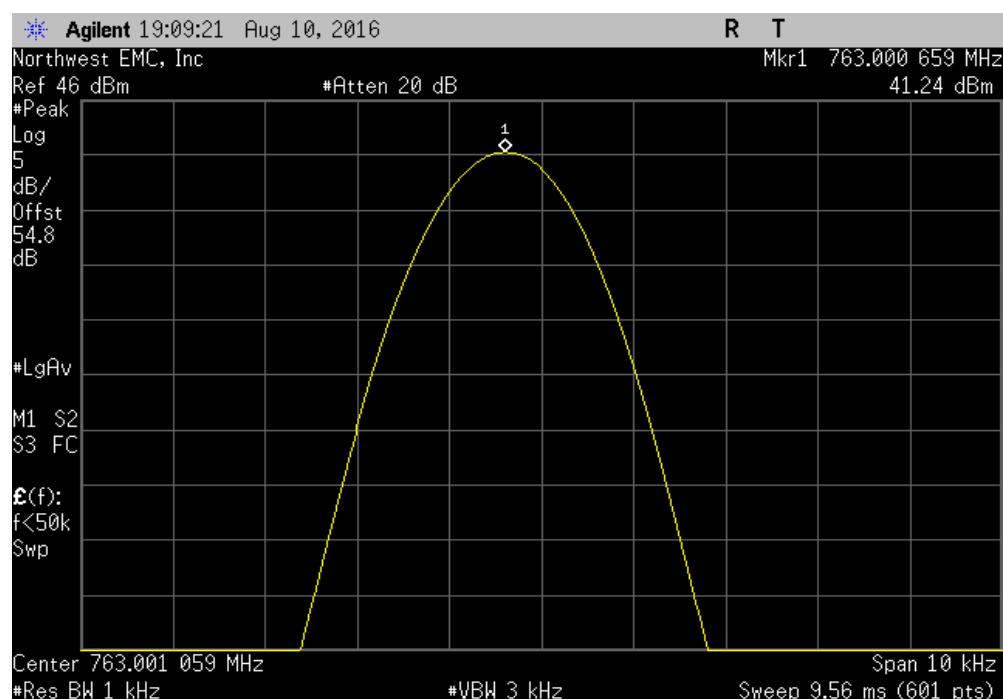
Port 2, Extreme Temperature, 0°C, Single Channel LTE10, 763MHz

Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
763.000642	763	0.8	1	Pass



Port 2, Extreme Temperature, +10°C, Single Channel LTE10, 763MHz

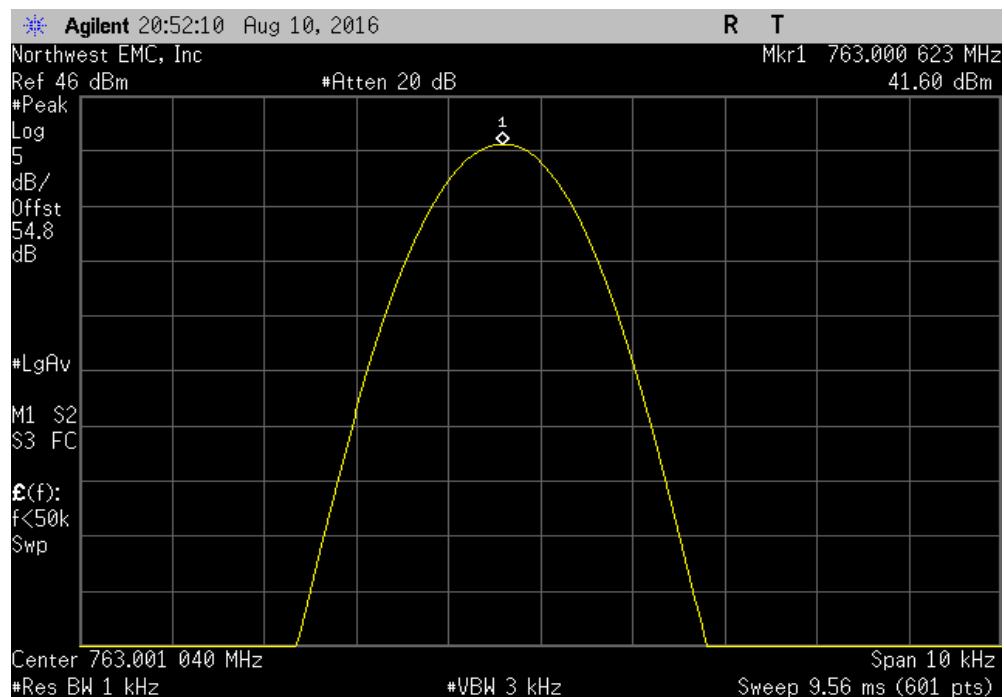
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
763.000659	763	0.9	1	Pass



# FREQUENCY STABILITY

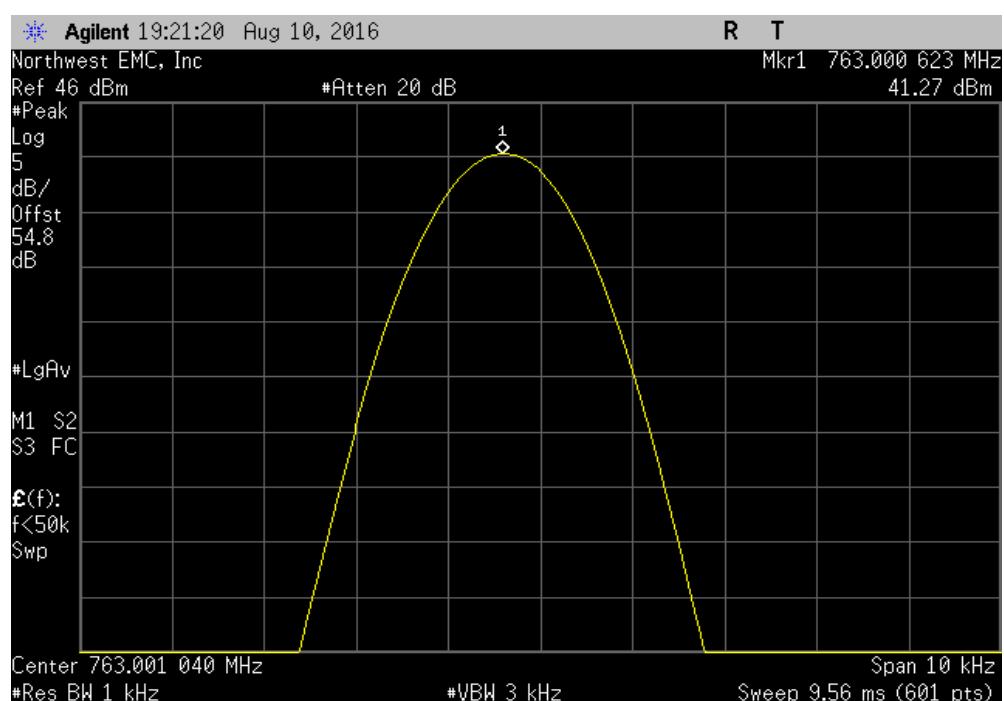
Port 2, Extreme Temperature, +20°C, Single Channel LTE10, 763MHz

Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
763.000623	763	0.8	1	Pass



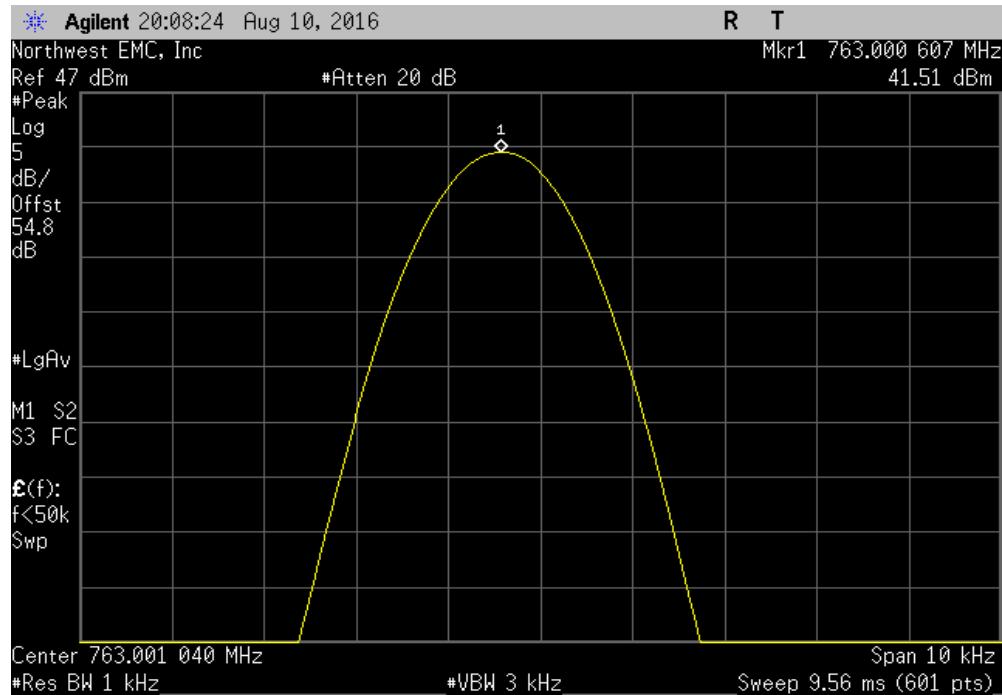
Port 2, Extreme Temperature, +30°C, Single Channel LTE10, 763MHz

Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
763.000623	763	0.8	1	Pass



# FREQUENCY STABILITY

Port 2, Extreme Temperature, +40°C, Single Channel LTE10, 763MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
763.000607	763	0.8	1	Pass	



Port 2, Extreme Temperature, +50°C, Single Channel LTE10, 763MHz					
Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results	
763.000623	763	0.8	1	Pass	

