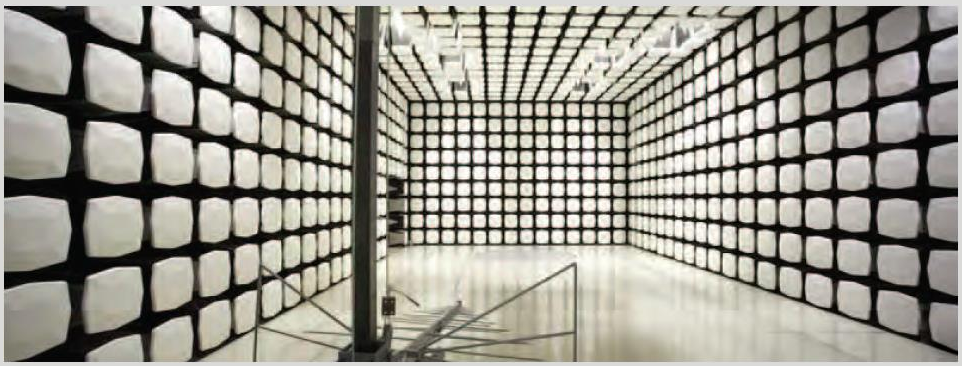
Parallel Wireless Inc.

CWS-3050-04

FCC 27:2017
Cellular

Report # KMWC0079



NVLAP Lab Code: 200676-0

CERTIFICATE OF TEST

2017-1-25

Last Date of Test: June 11, 2017
Parallel Wireless Inc.
Model:CWS-3050-04

Radio Equipment Testing

Standards

Specification	Method
FCC 27:2017	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	PA -Peak To Average Ratio	Yes	Pass	
2.2.2	Frequency Stability	Yes	Pass	
2.2.3	Occupied Bandwidth Emission Mask	Yes	Pass	
2.2.12	Out of Band Emissions - LTE Band 4	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	
2.2.17.2	ERP of Fundamental - LTE Band 4	No	N/A	Not required for base station equipment.

Deviations From Test Standards

None

Approved By:

Kyle Holgate, 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

2017.6.12

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 Element 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 – Within Element, we have a EU Notified Body validated for the EMCD and RED Directives.

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.

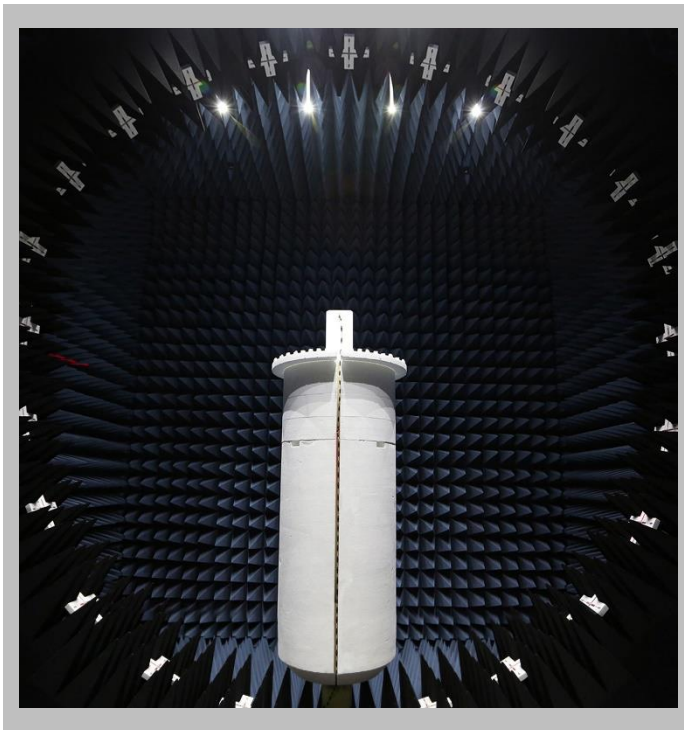
SCOPE

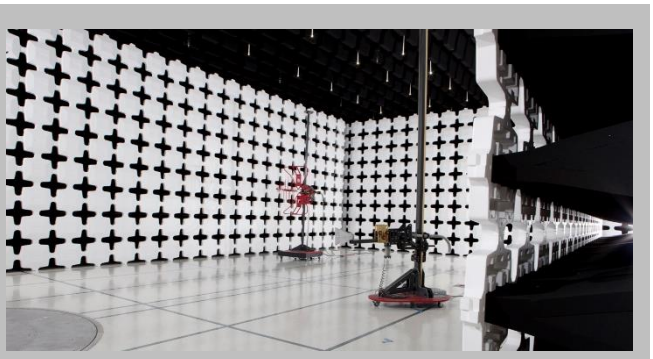
For details on the Scopes of our Accreditations, please visit:
http://portlandcustomer.element.com/ts/scope/scope.htm
http://gsi.nist.gov/global/docs/cabs/designations.html

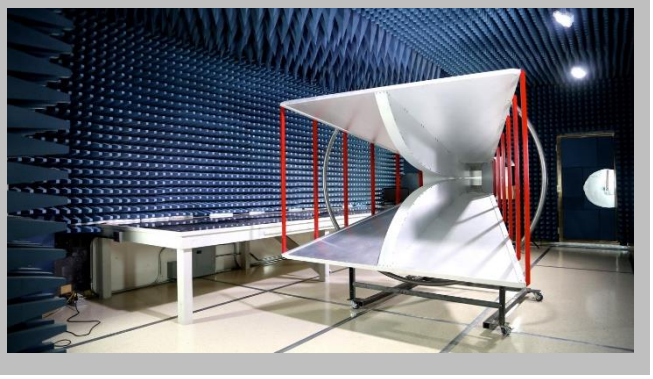
FACILITIES

2017.3.2

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 120th 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







MEASUREMENT UNCERTAINTY

WTD.2016.12.19

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.

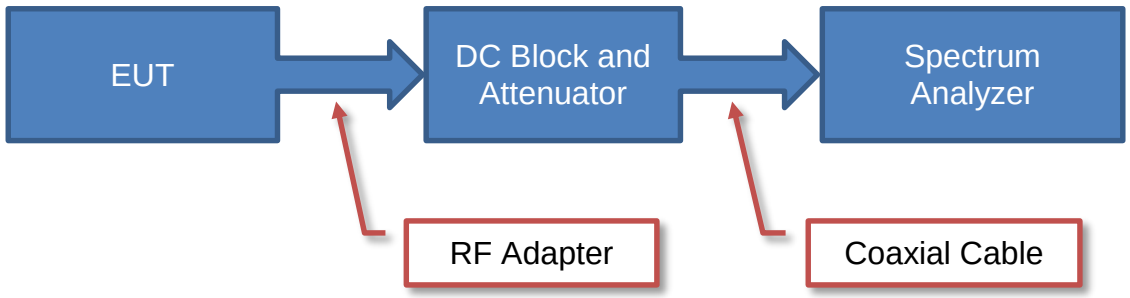
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

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

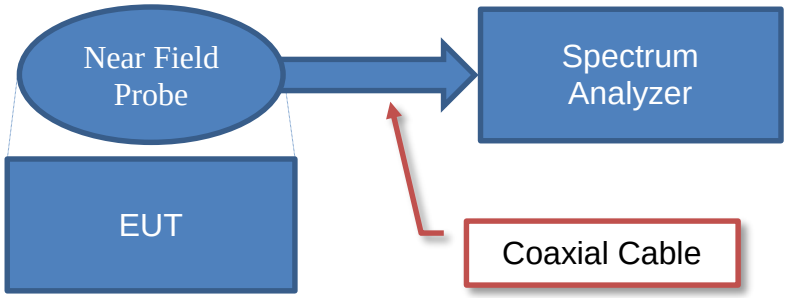
Test Setup Block Diagrams

2017.1.25

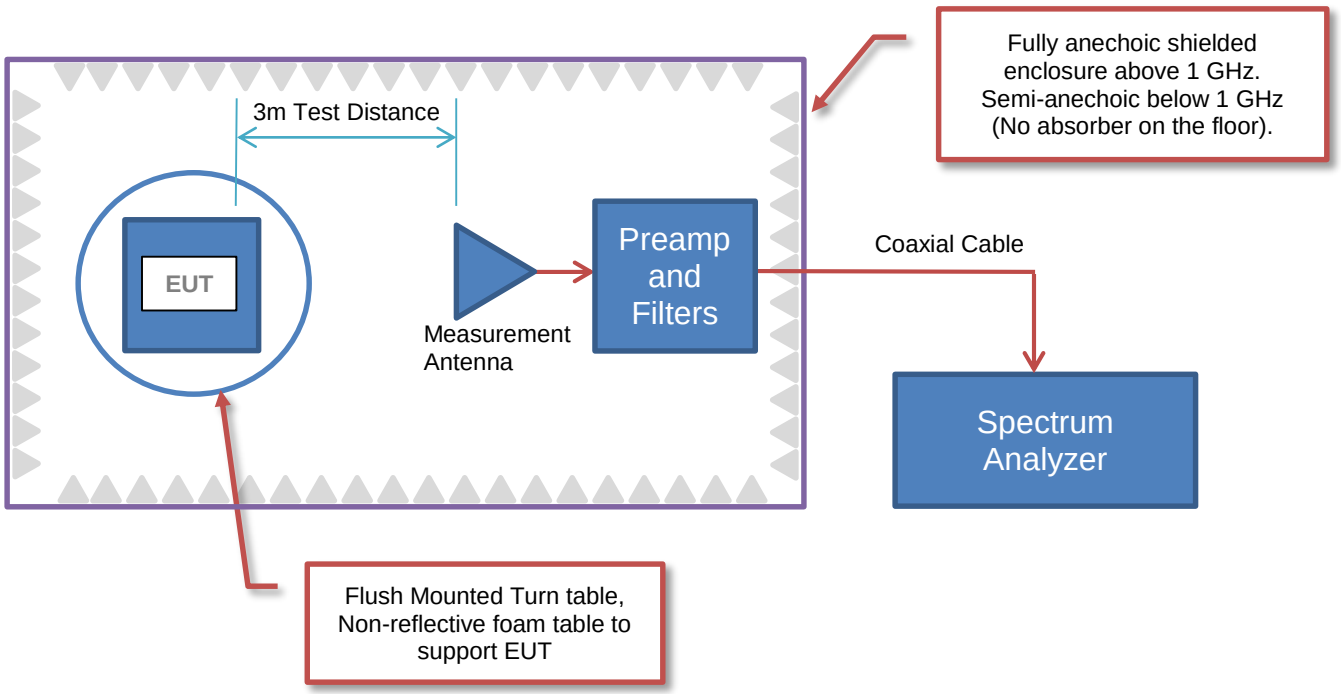
Antenna Port Conducted Measurements



Near Field Test Fixture Measurements



Spurious Radiated Emissions



PRODUCT DESCRIPTION

2017-1-25

Client and Equipment Under Test (EUT) Information

Company Name:	Parallel Wireless Inc.
Address:	100 Innovative Way, Suite #3410
City, State, Zip:	Nashua, NH 03062, USA
Test Requested By:	Daniel Kim
Model:	CWS-3050-04
First Date of Test:	May 8, 2017
Last Date of Test:	May 11, 2017
Receipt Date of Samples:	May 8, 2017
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:
Tower based Converged Wireless System Base Station operating in the LTE Band 4 with 2x2, multiple channel capability, and with 5 MHz, 10 MHz, and 20 MHz channel bandwidths

Testing Objective:
To demonstrate compliance of the Cellular radio to FCC 27 requirements.

CONFIGURATIONS

Configuration KMWC0079- 1

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Converged Wireless System Base Station	Parallel Wireless Inc.	CWS-3050-04	K162300007

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

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AISG (ALM) Cable	Yes	6.1m	No	CWS-3050-04 Tower	Unterminated
AISG Cable	Yes	3m	No	CWS-3050-04 Tower	Unterminated
USB Cable	No	3m	No	CWS-3050-04 Tower	Unterminated
DC Power Cable	No	5.0m	No	CWS-3050-04 Tower	DC Mains
Ethernet Cable	No	2.5m	No	CWS-3050-04 Tower	Unterminated
Ground Braid	No	2m	No	CWS-3050-04 Tower	Ground
Optical Cable	No	10m	No	CWS-3050-04 Tower	Unterminated
RF Output Cable x2	Yes	5m	No	CWS-3050-04 Tower	High Power Terminator

CONFIGURATIONS

Configuration KMWC0079- 2

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Converged Wireless System Base Station	Parallel Wireless Inc.	CWS-3050-04	K162300007

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
High Power Terminator	Telcon	KTMO400800060	1111-0004
High Power Terminator	Telcon	KTMO400800060	1111-0064
Laptop Power Supply	Delta Electronics, Inc.	SADP-90FH D	CNBA4400215ABZ040C18685

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
AC Cable	No	1.5m	No	AC Mains	Laptop Power Supply
DC Power Cable	No	5.0m	No	CWS-3050-04 Tower	DC Mains
Ground Braid	No	2m	No	CWS-3050-04 Tower	Ground
RF Output Cable x2	Yes	5m	No	CWS-3050-04 Tower	High Power Terminator
USB Cable	No	3m	No	CWS-3050-04 Tower	Laptop
Ethernet Cable	No	2.5m	No	CWS-3050-04 Tower	Laptop
DC Cable	No	2.m	Yes	Laptop Power Supply	Laptop

MODIFICATIONS

2017-1-25

Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	5/8/2017	Intermodulation	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
2	5/8/2017	Emissions Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
3	5/8/2017	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 Element following the test.
4	5/8/2017	Peak to Average Ratio	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
5	5/8/2017	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
6	5/9/2017	Out of Band Emissions, LTE Band 4	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
7	5/10/2017	Frequency Stability	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
8	5/11/2017	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

XMit 2017.02.08

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
Thermometer	Omega Engineering, Inc.	HH311	DUC	10/3/2014	10/3/2017
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPHS-32-3.5-SCT/AC	TBE	NCR	NCR
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Fairview Microwave	SD3379	AMV	1/11/2017	1/11/2018
Meter - Power	ETS Lindgren	7002-006	SRB	12/6/2016	12/6/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/2/2016	11/2/2017

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 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.

EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

EUT:	CWS-3050-04			**Work Order:**	KMWC0079
Serial Number:	K162300007			**Date:**	05/08/17
Customer:	Parallel Wireless Inc			**Temperature:**	22.1 °C
Attendees:	Daniel Kim			**Humidity:**	45.6% RH
Project:	None			**Barometric Pres.:**	1013 mbar
Tested by:	Mike Tran	**Power:**	48VDC	**Job Site:**	OC13

TEST SPECIFICATIONS	Test Method
FCC 27:2017	ANSI/TIA/EIA-603-D-2010

COMMENTS

Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 56.7dB total.

DEVIATIONS FROM TEST STANDARD

None

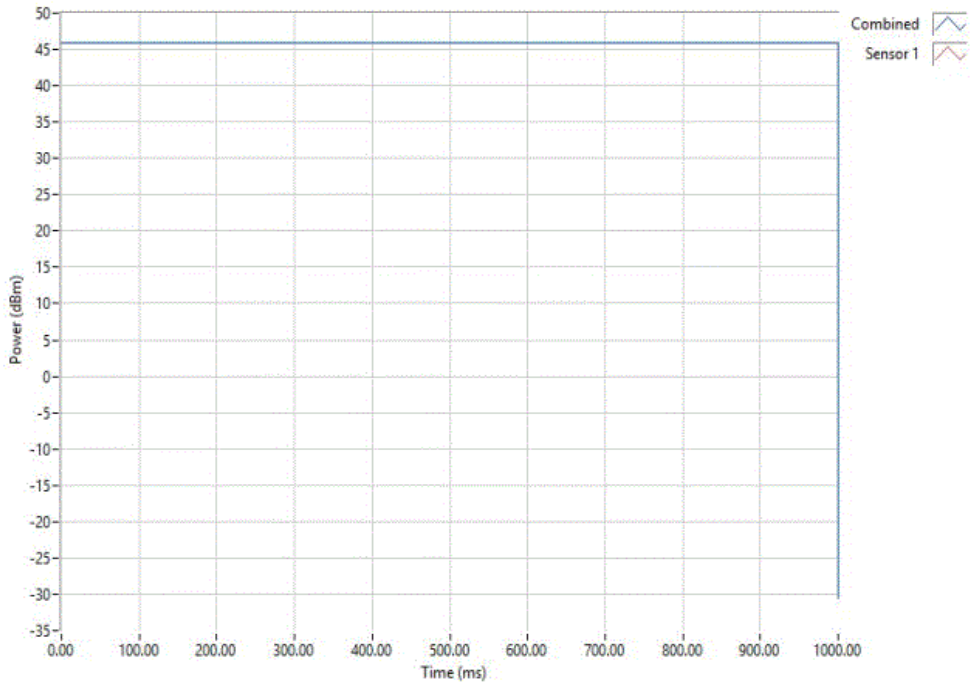
Configuration #	1	Signature

		Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
Antenna Port 1							
	Low Channel LTE5, 2112.5 MHz	45.97	100	0	46	60	Pass
	Mid Channel LTE5, 2132.5 MHz	45.98	100	0	46	60	Pass
	High Channel LTE5, 2152.5 MHz	45.98	100	0	46	60	Pass
	Low Channel LTE10, 2115 MHz	45.99	100	0	46	60	Pass
	Mid Channel LTE10, 2132.5 MHz	45.98	100	0	46	60	Pass
	High Channel LTE10, 2150 MHz	45.96	100	0	46	60	Pass
	Low Channel LTE20, 2120 MHz	45.99	100	0	46	60	Pass
	Mid Channel LTE20, 2132.5 MHz	45.99	100	0	46	60	Pass
	High Channel LTE20, 2145 MHz	45.99	100	0	46	60	Pass
Antenna Port 2							
	Low Channel LTE5, 2112.5 MHz	45.98	100	0	46	60	Pass
	Mid Channel LTE5, 2132.5 MHz	45.99	100	0	46	60	Pass
	High Channel LTE5, 2152.5 MHz	45.98	100	0	46	60	Pass
	Low Channel LTE10, 2115 MHz	45.98	100	0	46	60	Pass
	Mid Channel LTE10, 2132.5 MHz	45.98	100	0	46	60	Pass
	High Channel LTE10, 2150 MHz	45.99	100	0	46	60	Pass
	Low Channel LTE20, 2120 MHz	45.98	100	0	46	60	Pass
	Mid Channel LTE20, 2132.5 MHz	45.98	100	0	46	60	Pass
	High Channel LTE20, 2145 MHz	45.98	100	0	46	60	Pass
Antenna Port 1 MIMO							
	Low Channel LTE5, 2112.5 MHz	45.99	100	0	46	60	Pass
	Mid Channel LTE5, 2132.5 MHz	45.97	100	0	46	60	Pass
	High Channel LTE5, 2152.5 MHz	45.99	100	0	46	60	Pass
	Low Channel LTE10, 2115 MHz	45.99	100	0	46	60	Pass
	Mid Channel LTE10, 2132.5 MHz	45.96	100	0	46	60	Pass
	High Channel LTE10, 2150 MHz	45.97	100	0	46	60	Pass
	Low Channel LTE20, 2120 MHz	45.99	100	0	46	60	Pass
	Mid Channel LTE20, 2132.5 MHz	45.98	100	0	46	60	Pass
	High Channel LTE20, 2145 MHz	45.98	100	0	46	60	Pass
Antenna Port 2 MIMO							
	Low Channel LTE5, 2112.5 MHz	45.99	100	0	46	60	Pass
	Mid Channel LTE5, 2132.5 MHz	45.98	100	0	46	60	Pass
	High Channel LTE5, 2152.5 MHz	45.98	100	0	46	60	Pass
	Low Channel LTE10, 2115 MHz	45.98	100	0	46	60	Pass
	Mid Channel LTE10, 2132.5 MHz	45.96	100	0	46	60	Pass
	High Channel LTE10, 2150 MHz	45.97	100	0	46	60	Pass
	Low Channel LTE20, 2120 MHz	45.98	100	0	46	60	Pass
	Mid Channel LTE20, 2132.5 MHz	45.99	100	0	46	60	Pass
	High Channel LTE20, 2145 MHz	45.99	100	0	46	60	Pass

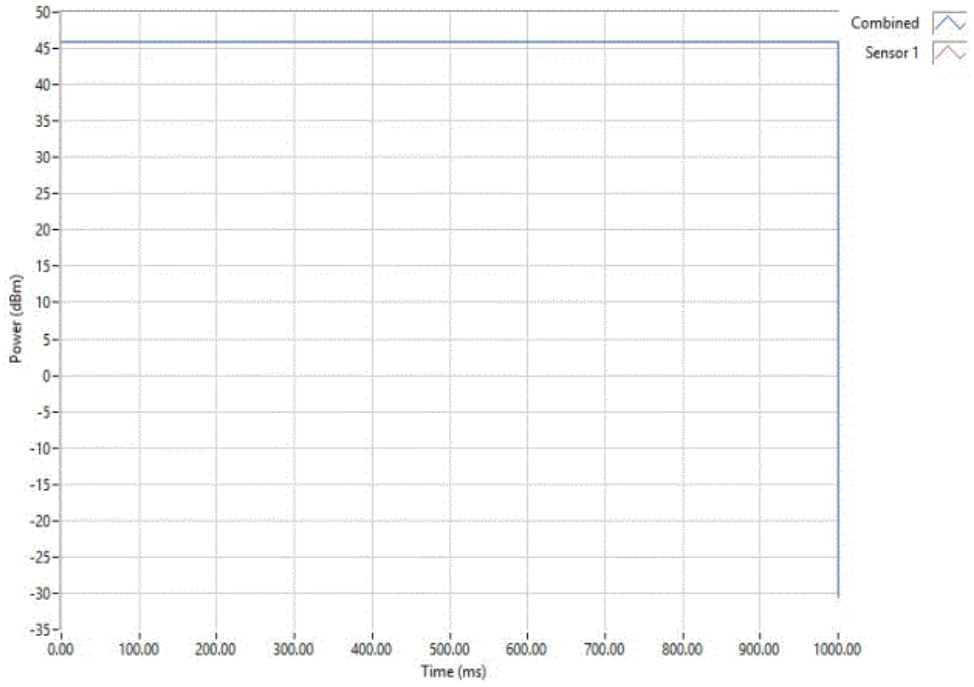
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, Low Channel LTE5, 2112.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.97	100	0	46	1000	Pass



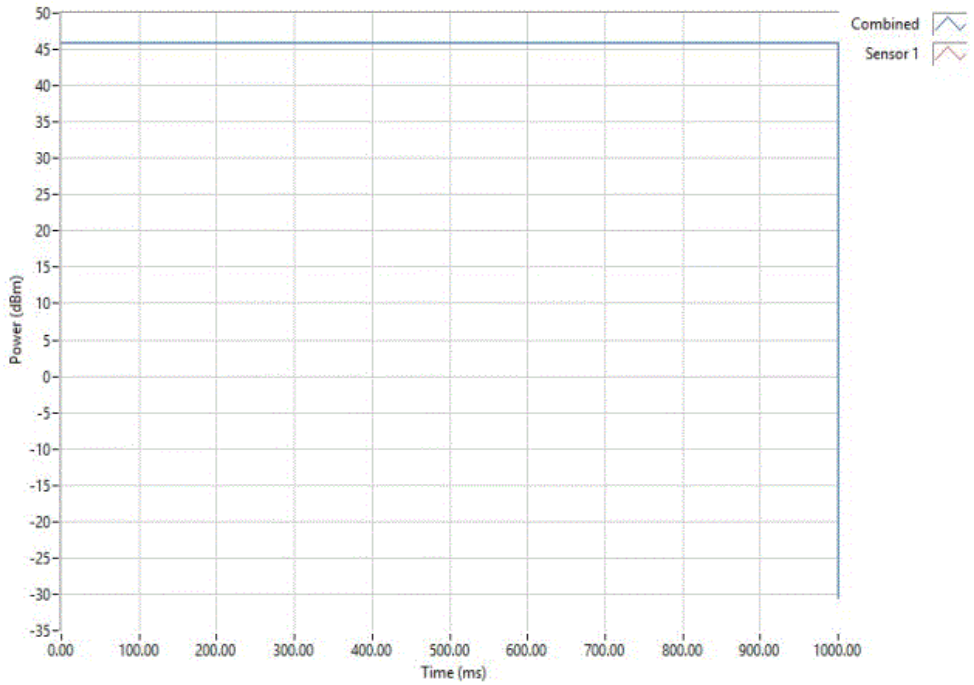
Antenna Port 1, Mid Channel LTE5, 2132.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.98	100	0	46	1000	Pass



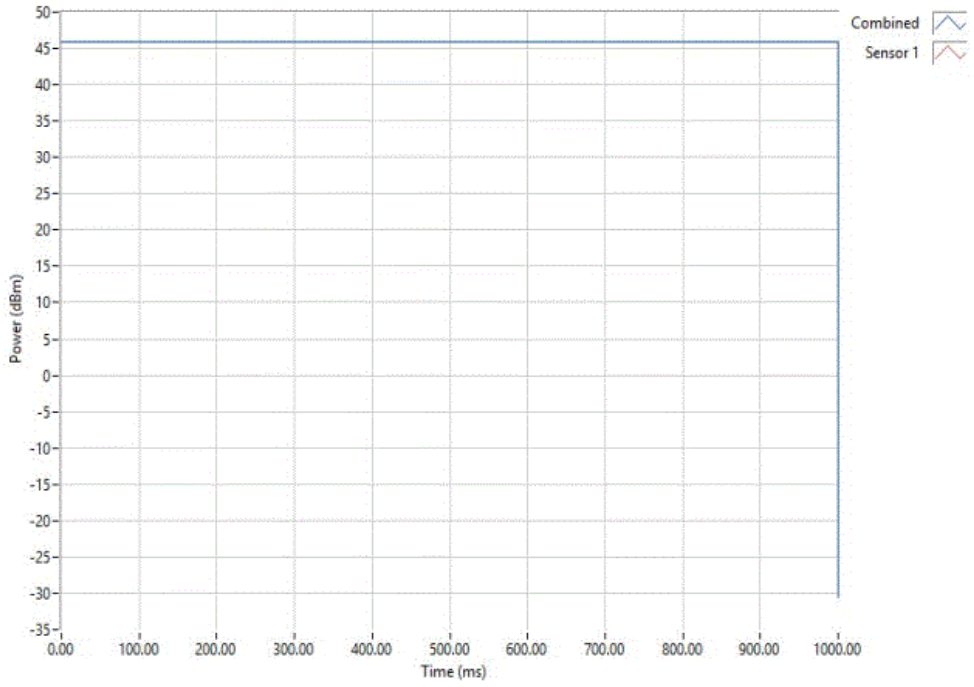
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, High Channel LTE5, 2152.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.98	100	0	46	1000	Pass



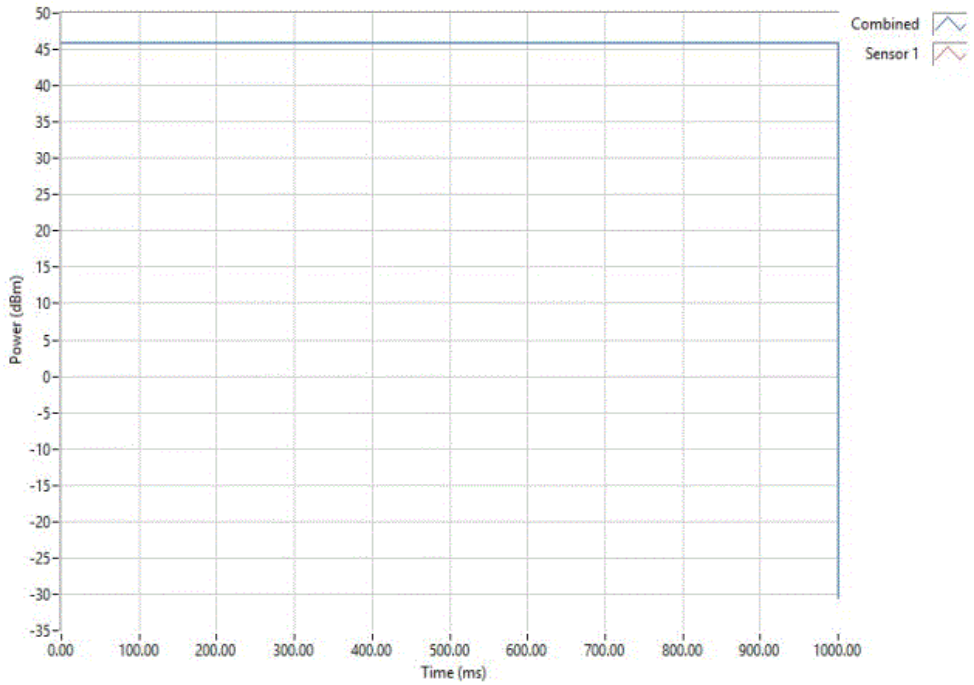
Antenna Port 1, Low Channel LTE10, 2115 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.99	100	0	46	1000	Pass



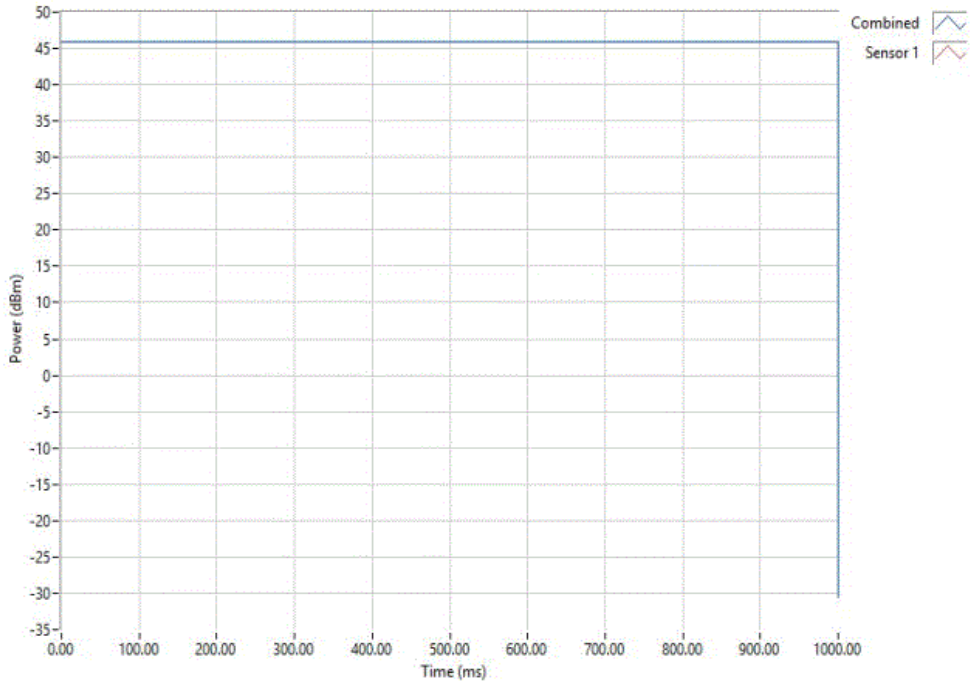
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, Mid Channel LTE10, 2132.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.98	100	0	46	1000	Pass



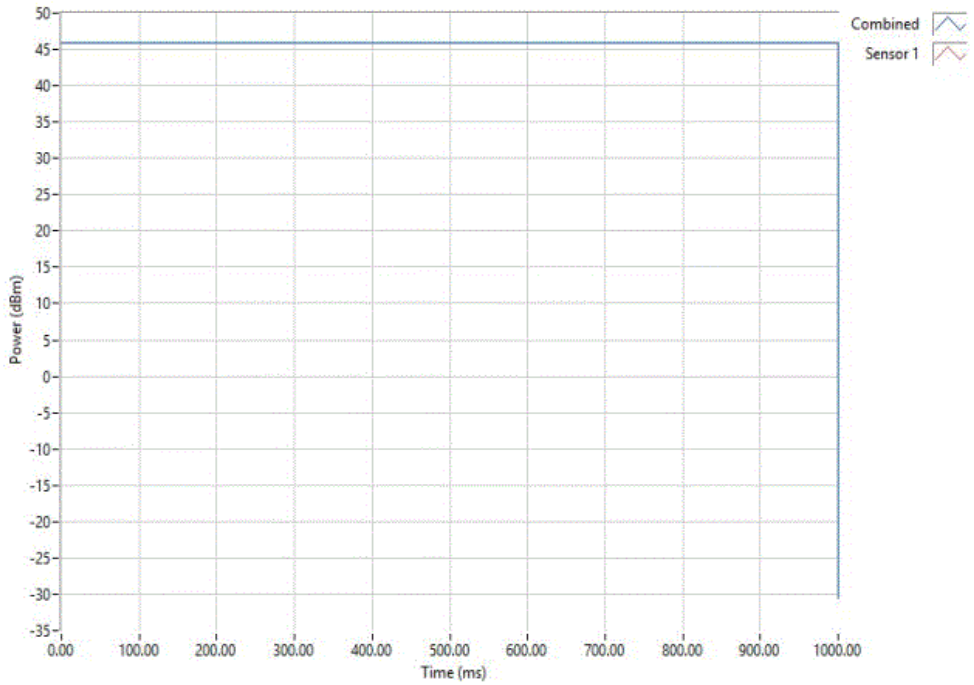
Antenna Port 1, High Channel LTE10, 2150 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.96	100	0	46	1000	Pass



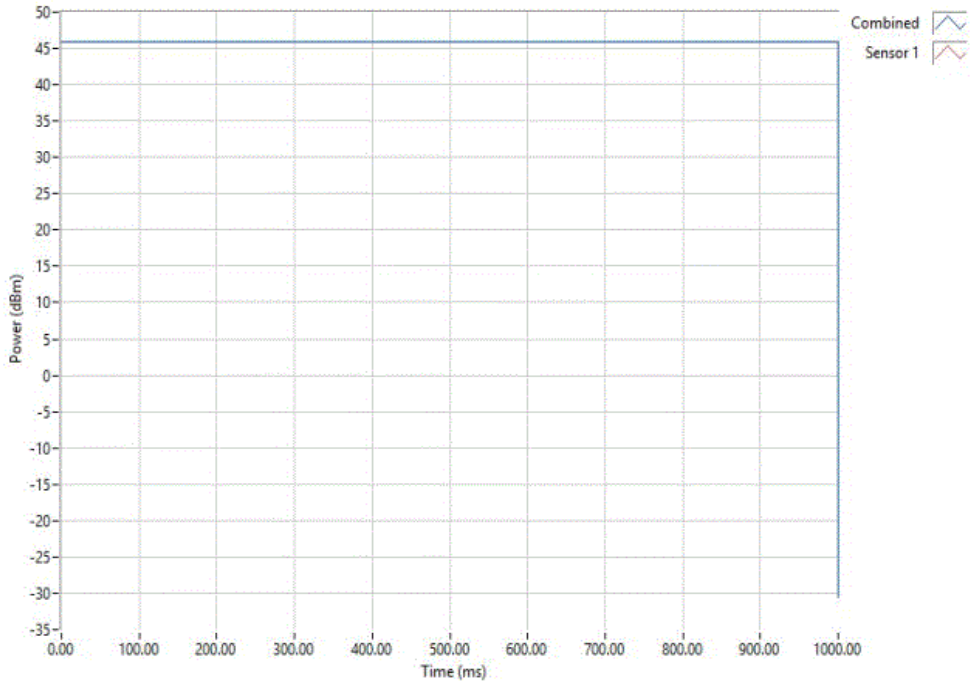
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, Low Channel LTE20, 2120 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.99	100	0	46	1000	Pass



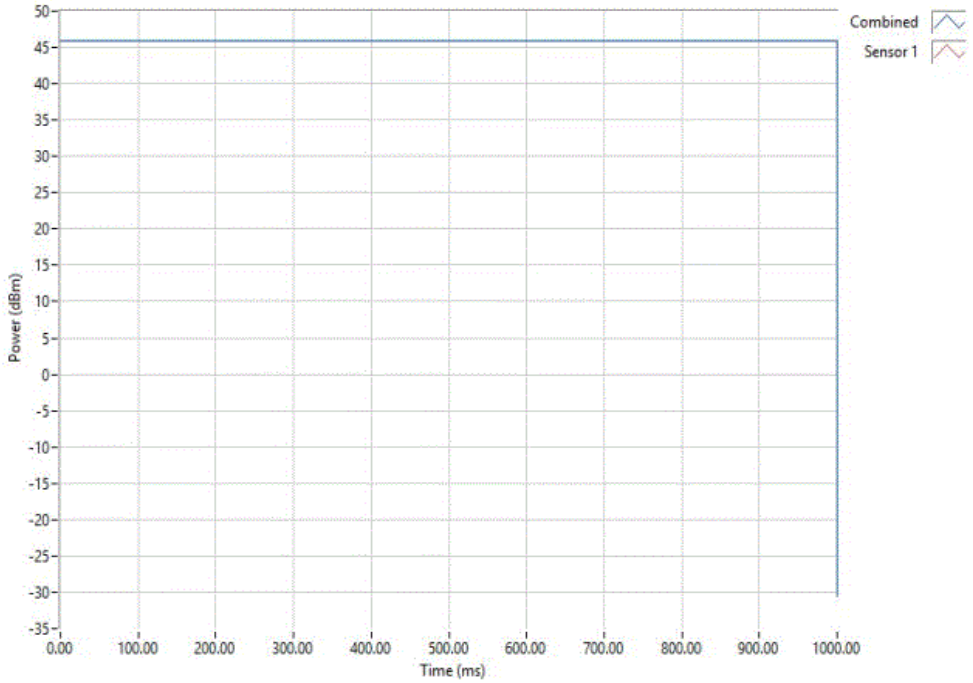
Antenna Port 1, Mid Channel LTE20, 2132.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.99	100	0	46	1000	Pass



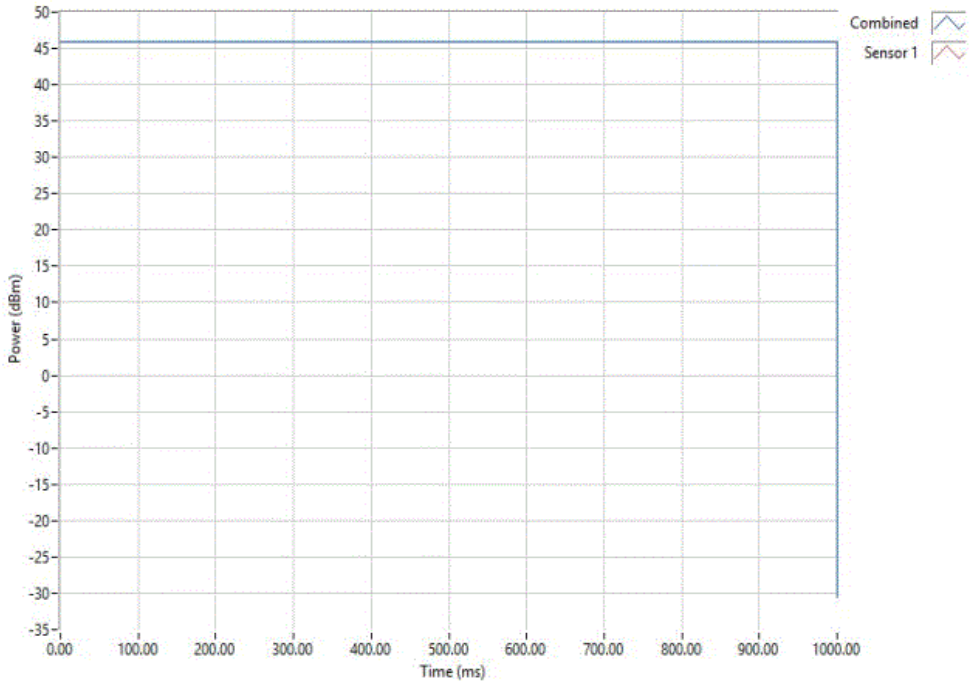
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, High Channel LTE20, 2145 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.99	100	0	46	1000	Pass



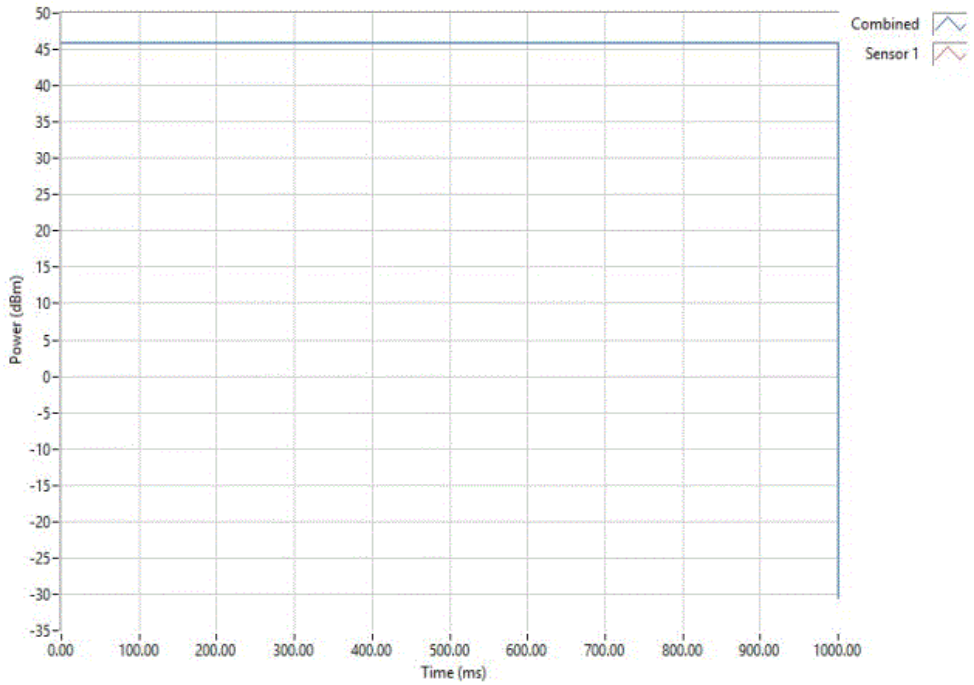
Antenna Port 2, Low Channel LTE5, 2112.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.98	100	0	46	1000	Pass



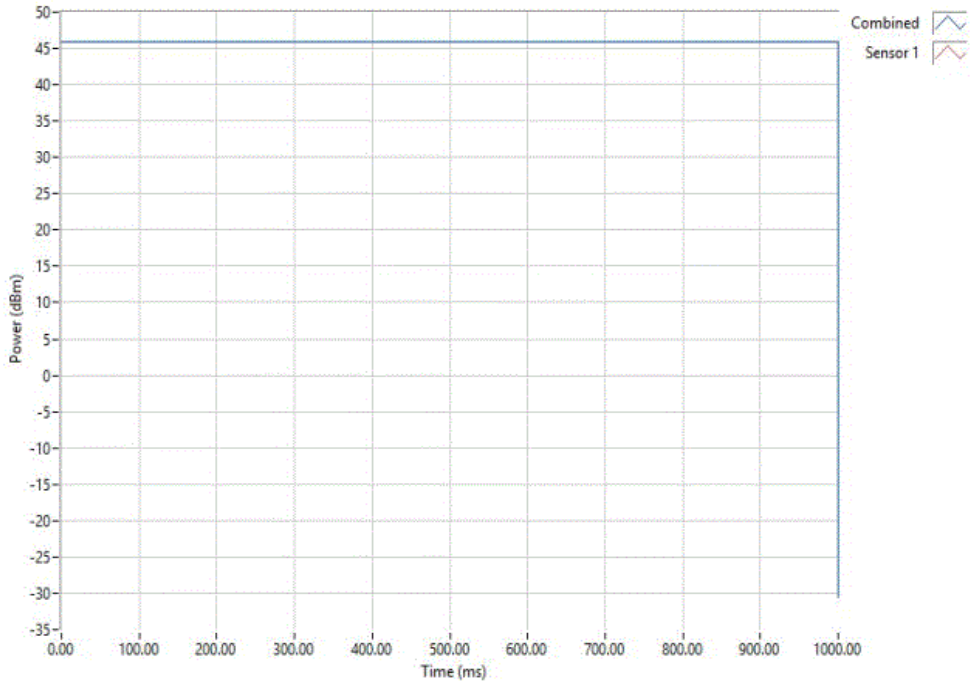
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, Mid Channel LTE5, 2132.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.99	100	0	46	1000	Pass



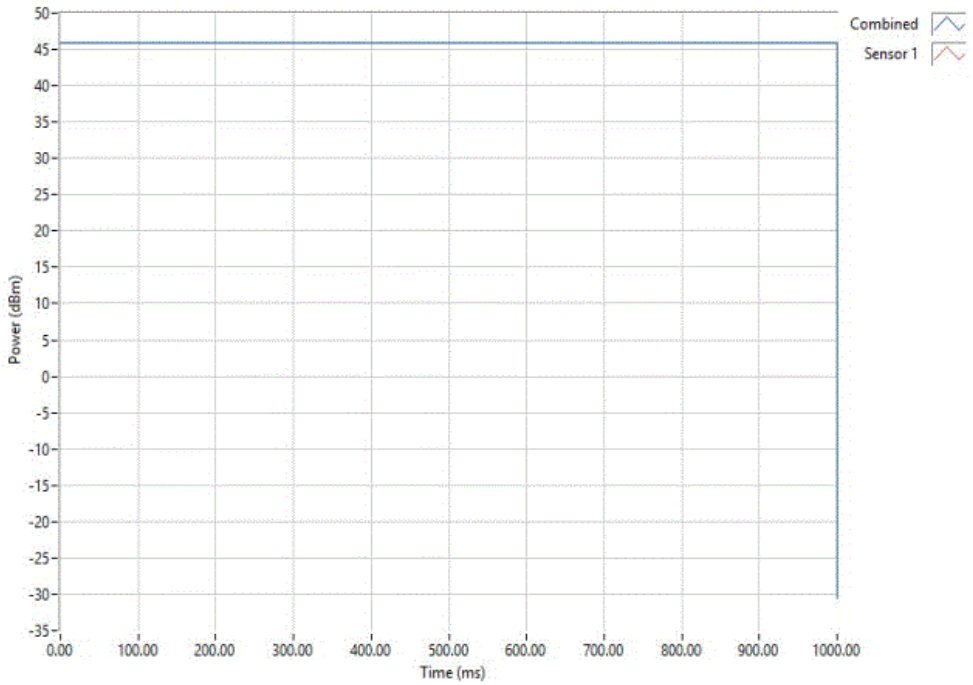
Antenna Port 2, High Channel LTE5, 2152.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.98	100	0	46	1000	Pass



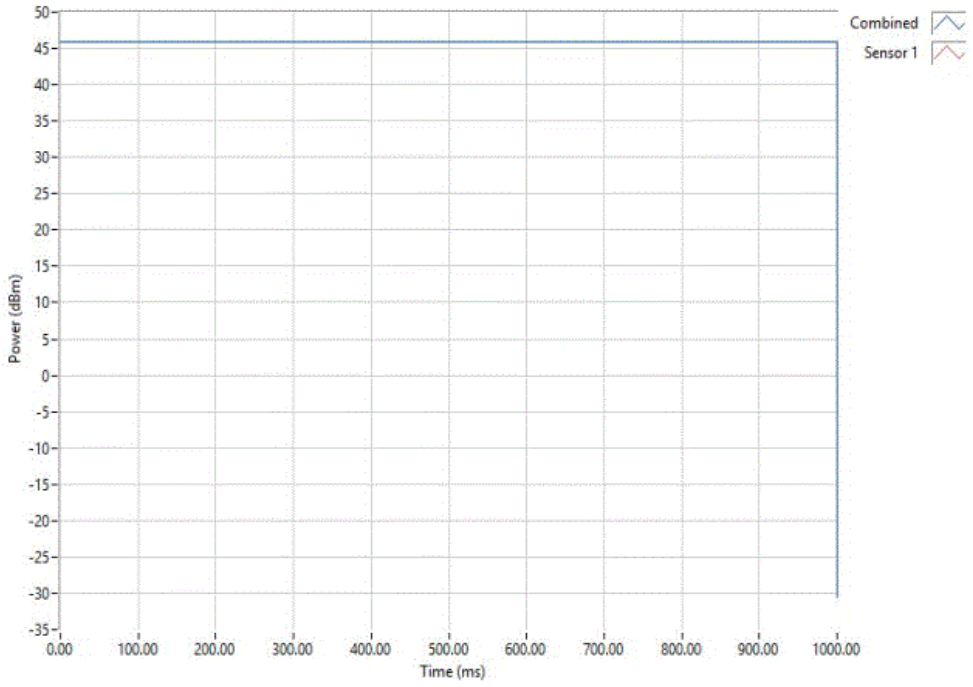
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, Low Channel LTE10, 2115 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.98	100	0	46	1000	Pass



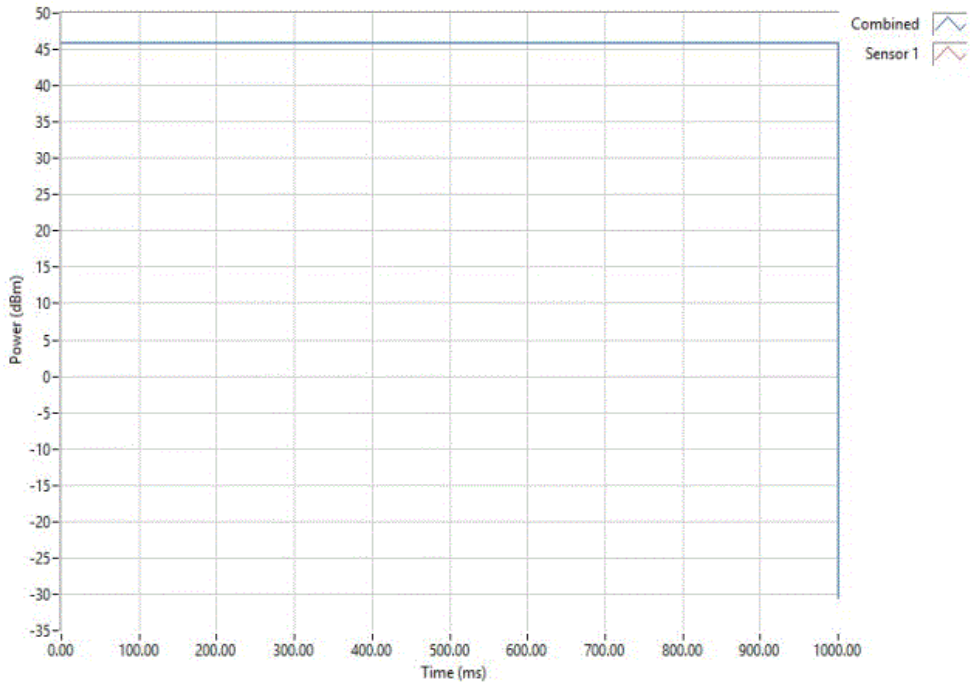
Antenna Port 2, Mid Channel LTE10, 2132.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.98	100	0	46	1000	Pass



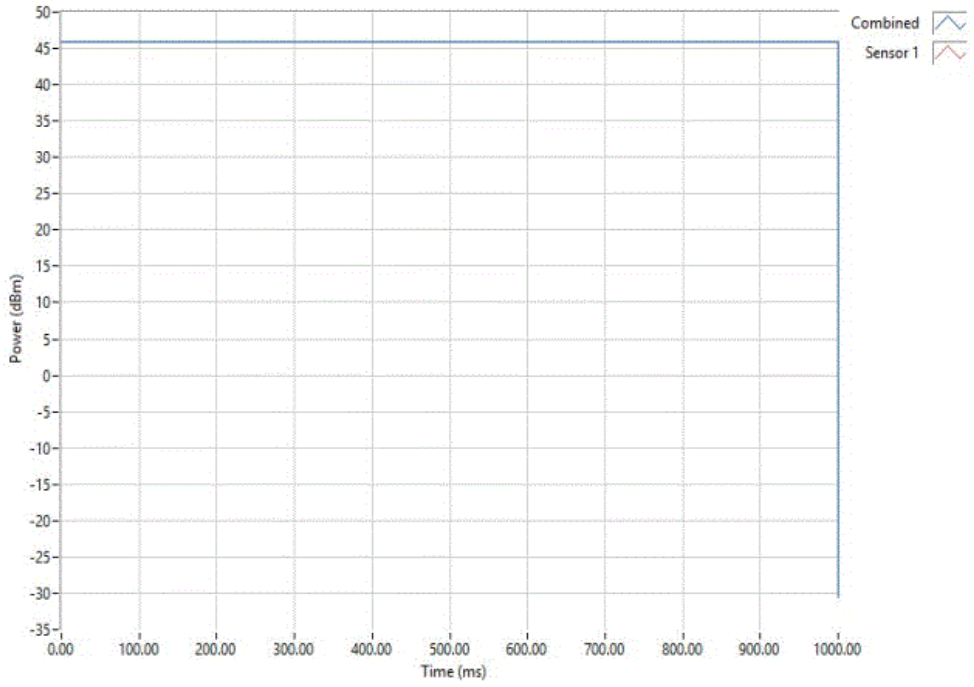
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, High Channel LTE10, 2150 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.99	100	0	46	1000	Pass



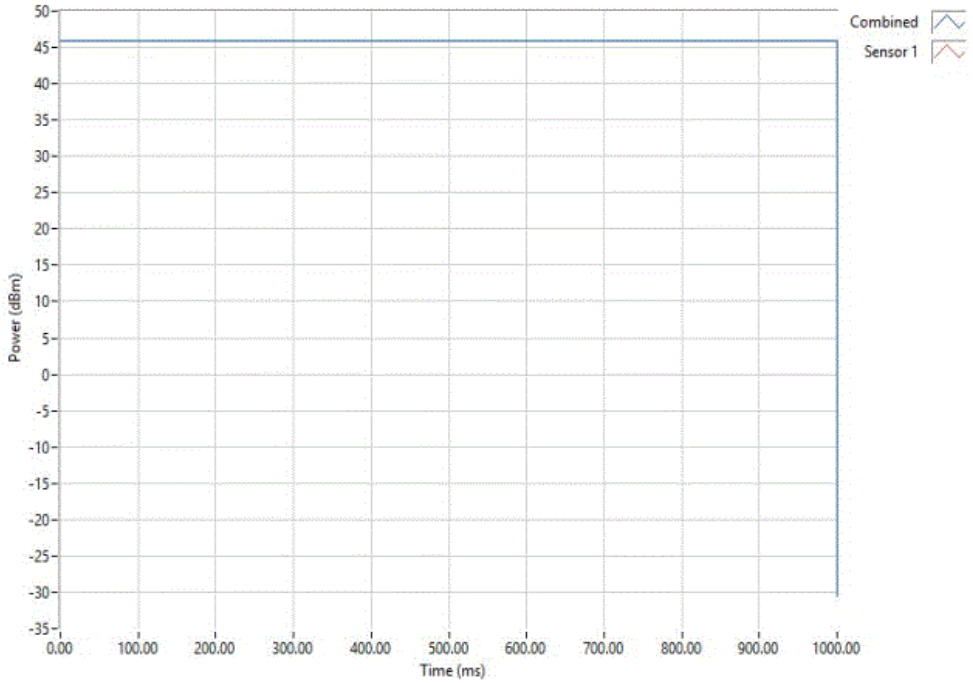
Antenna Port 2, Low Channel LTE20, 2120 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.98	100	0	46	1000	Pass



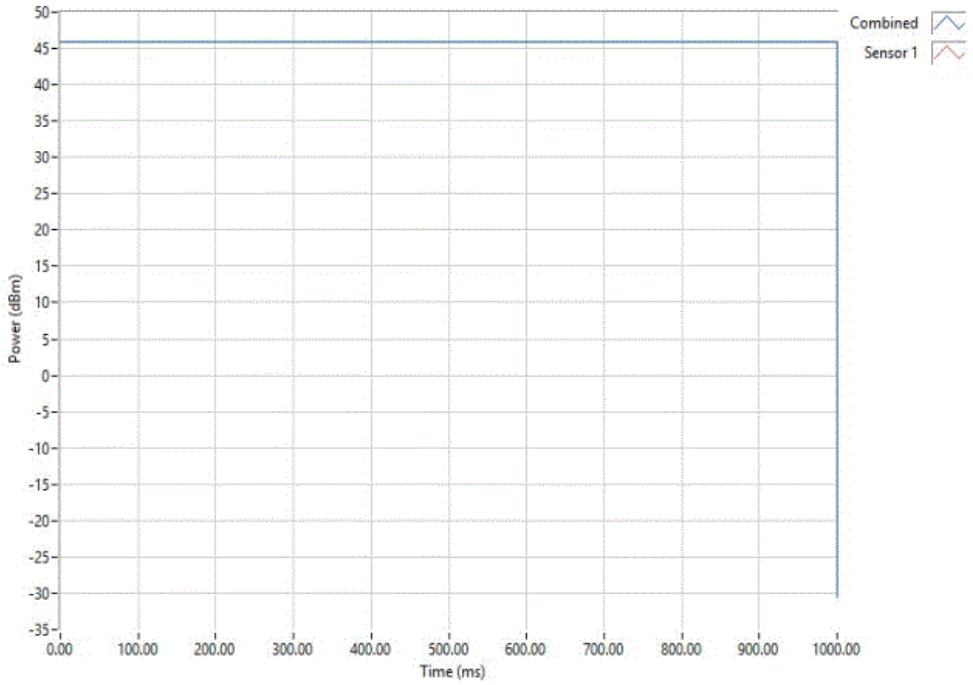
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, Mid Channel LTE20, 2132.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.98	100	0	46	1000	Pass



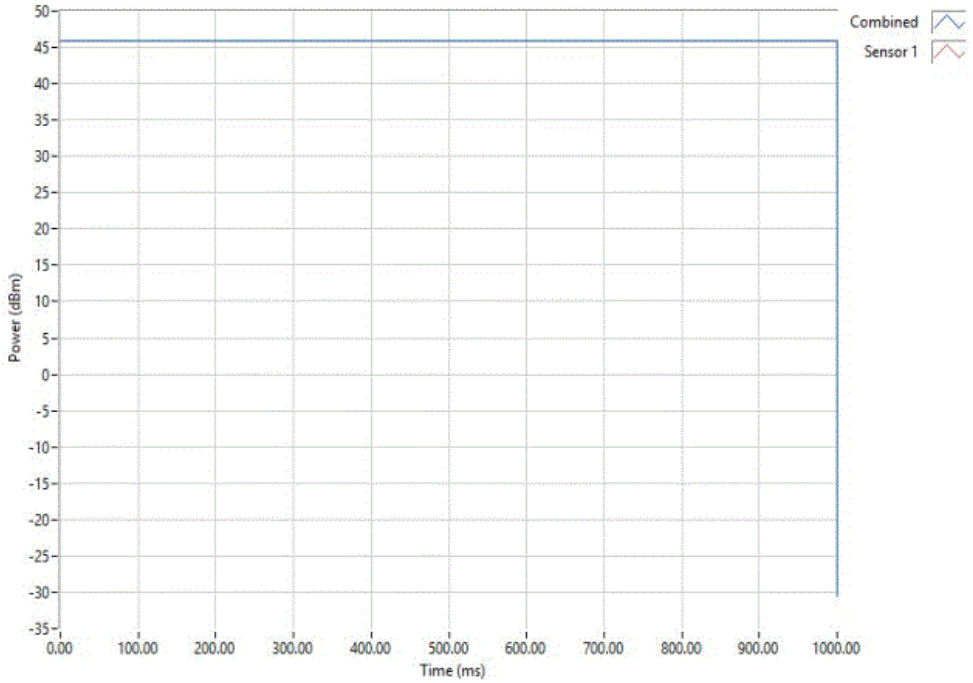
Antenna Port 2, High Channel LTE20, 2145 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.98	100	0	46	1000	Pass



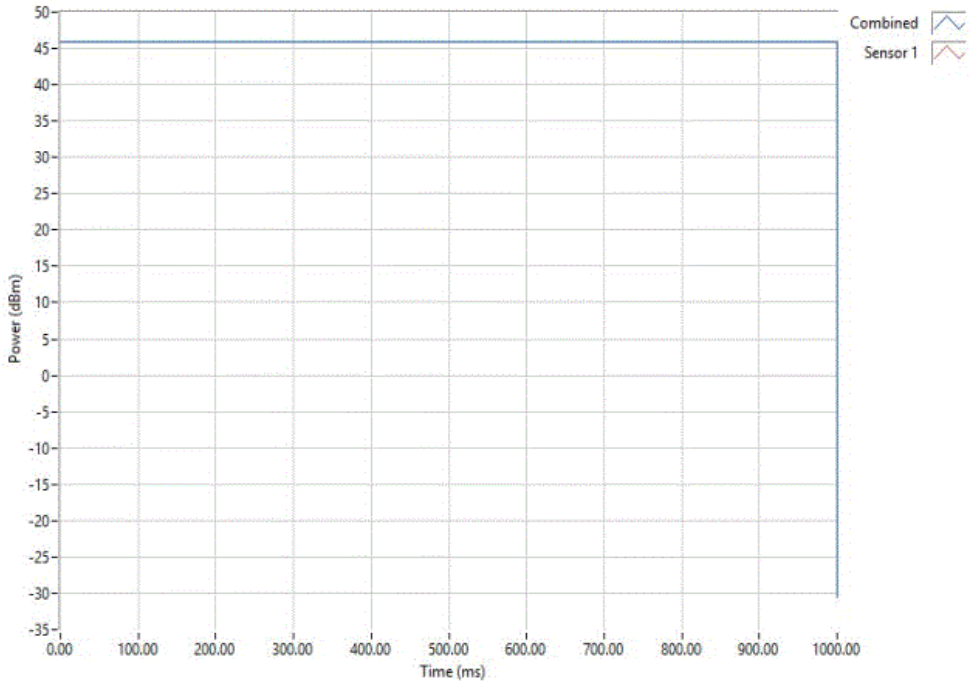
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1 MIMO, Low Channel LTE5, 2112.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.99	100	0	46	1000	Pass



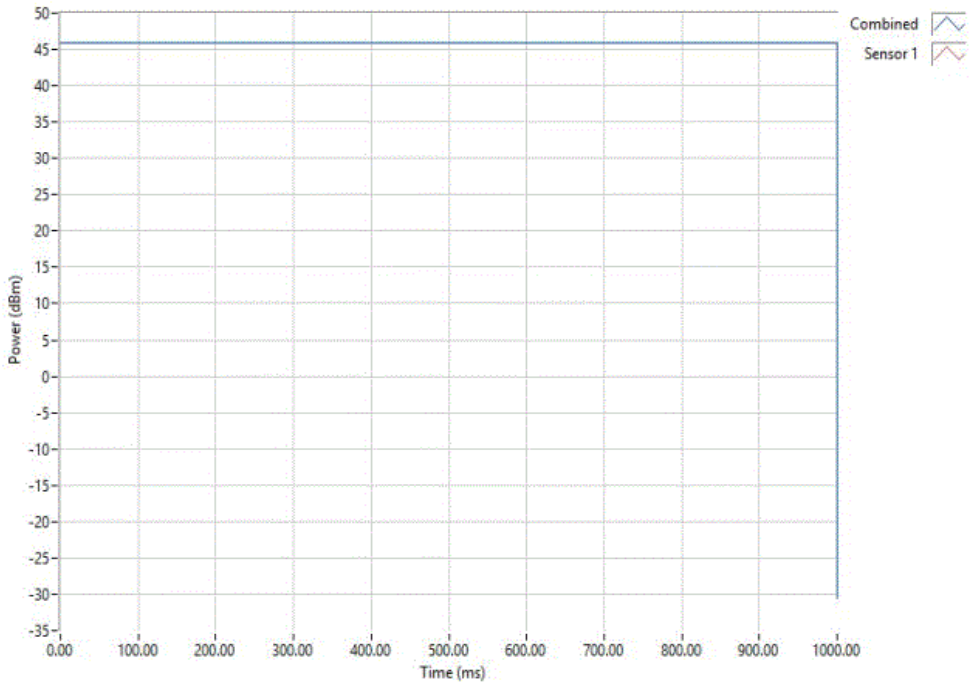
Antenna Port 1 MIMO, Mid Channel LTE5, 2132.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.97	100	0	46	1000	Pass



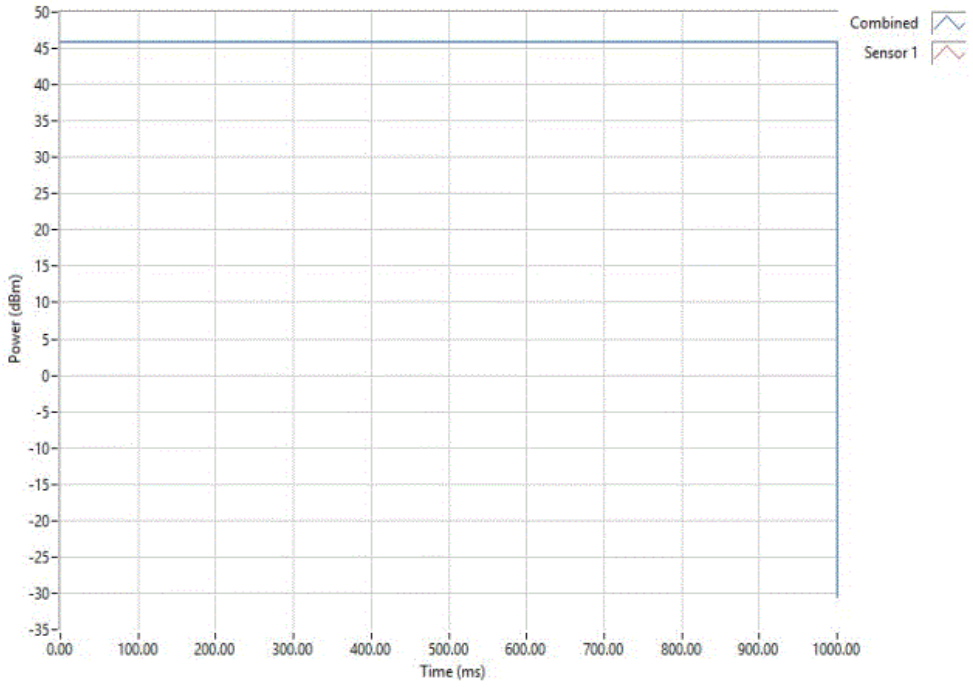
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1 MIMO, High Channel LTE5, 2152.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.99	100	0	46	1000	Pass



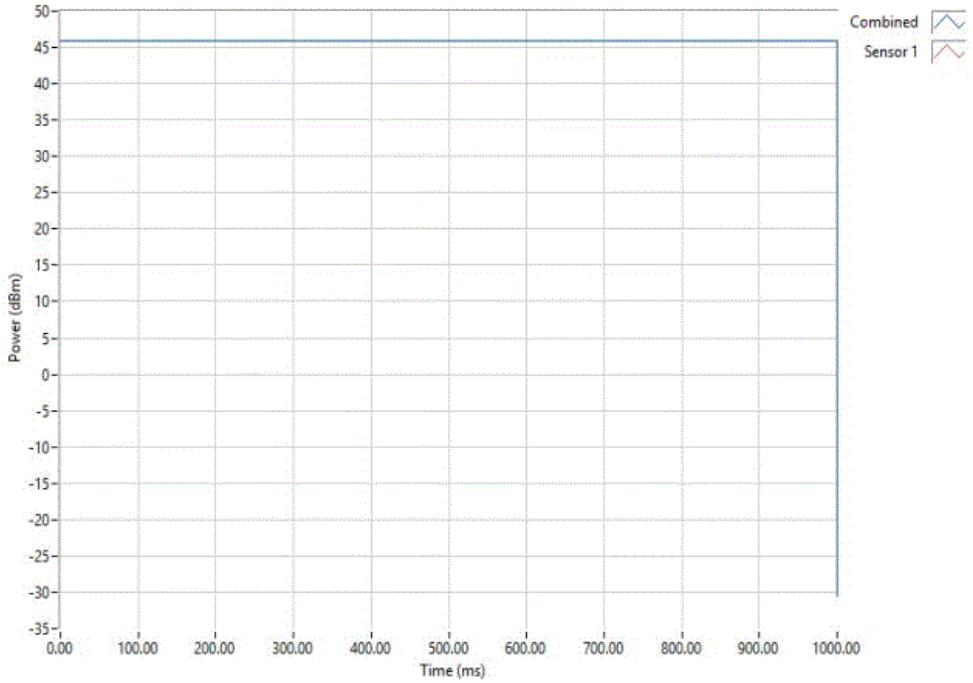
Antenna Port 1 MIMO, Low Channel LTE10, 2115 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.99	100	0	46	1000	Pass



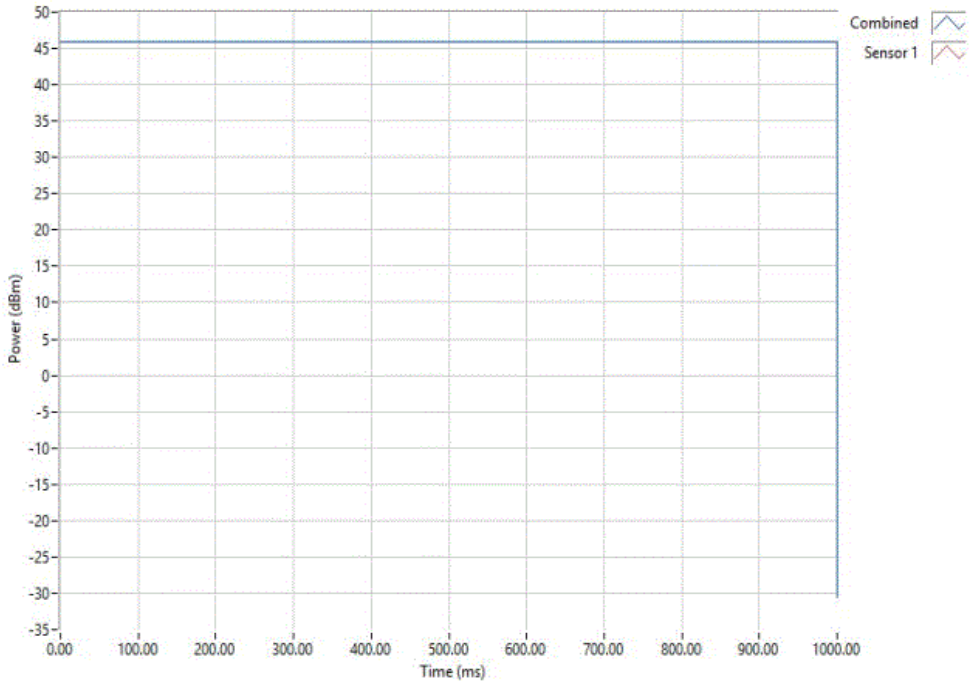
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1 MIMO, Mid Channel LTE10, 2132.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.96	100	0	46	1000	Pass



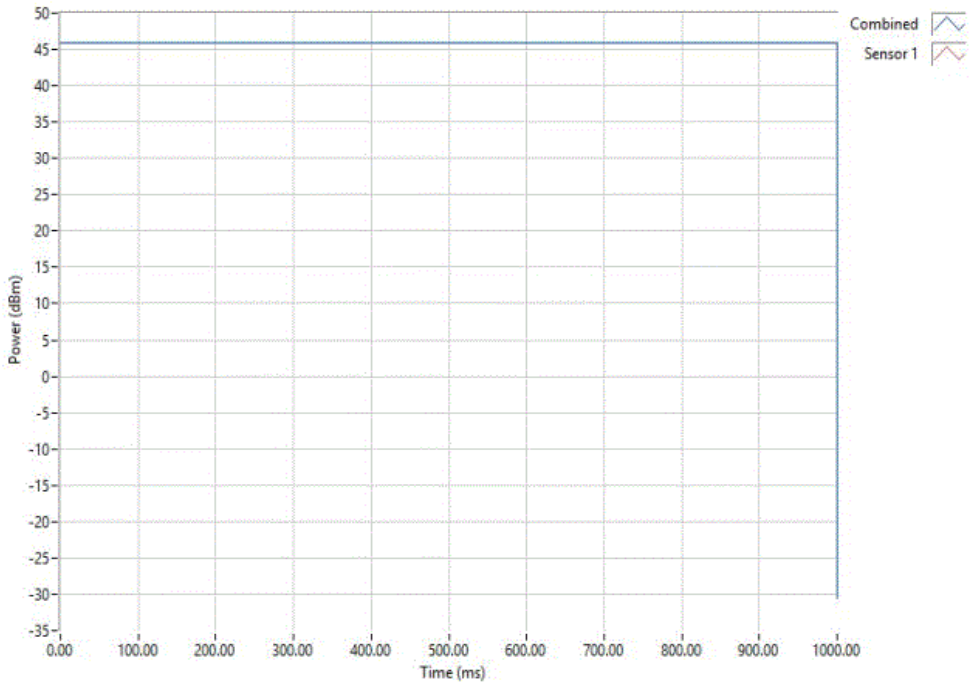
Antenna Port 1 MIMO, High Channel LTE10, 2150 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.97	100	0	46	1000	Pass



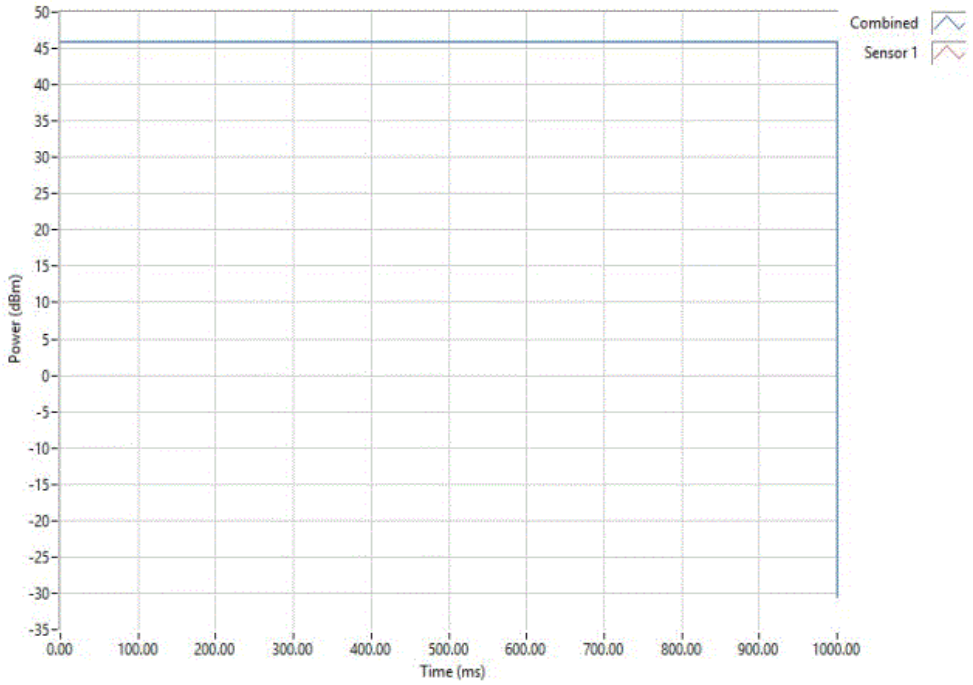
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1 MIMO, Low Channel LTE20, 2120 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.99	100	0	46	1000	Pass



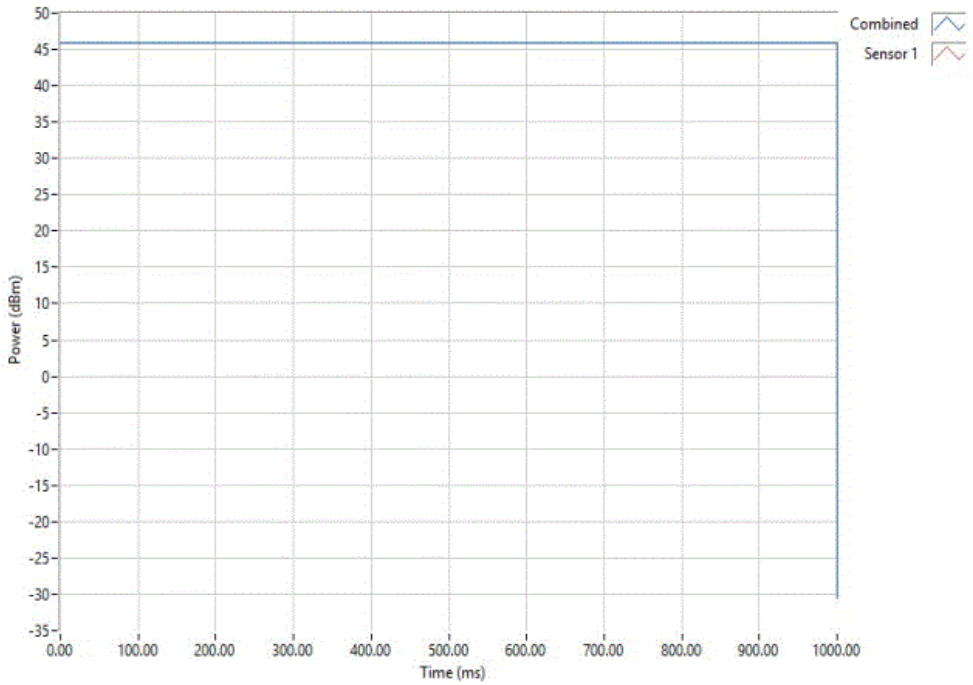
Antenna Port 1 MIMO, Mid Channel LTE20, 2132.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.98	100	0	46	1000	Pass



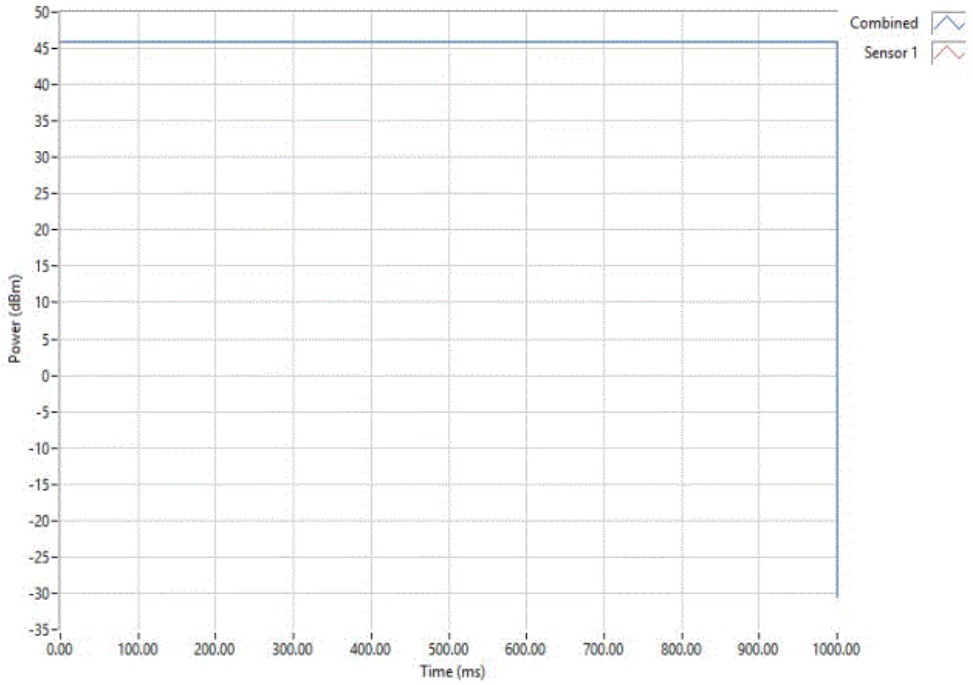
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1 MIMO, High Channel LTE20, 2145 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.98	100	0	46	1000	Pass

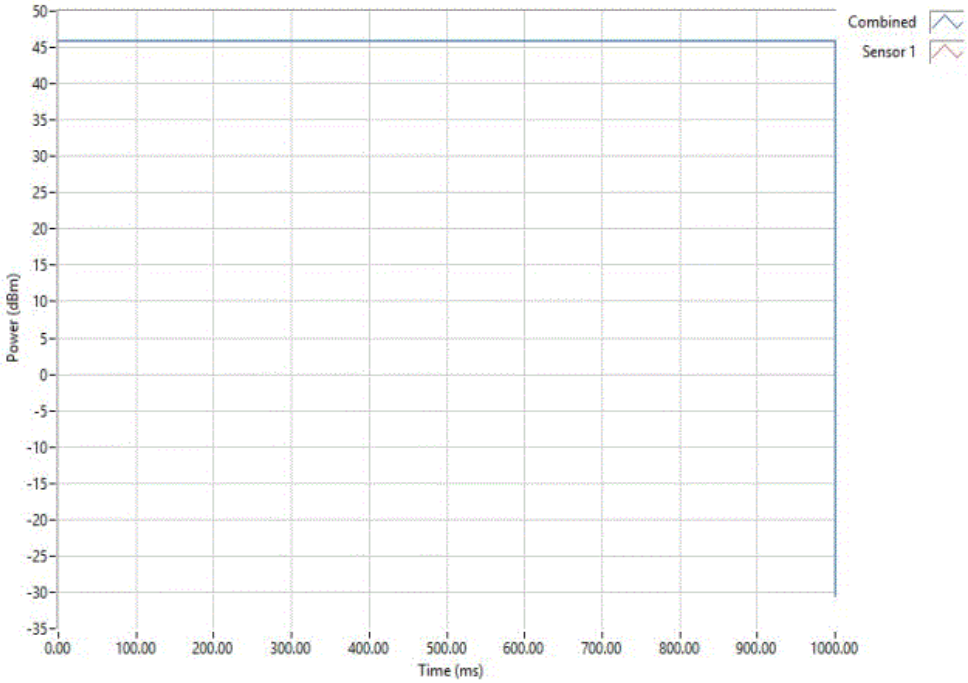


Antenna Port 2 MIMO, Low Channel LTE5, 2112.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.99	100	0	46	1000	Pass

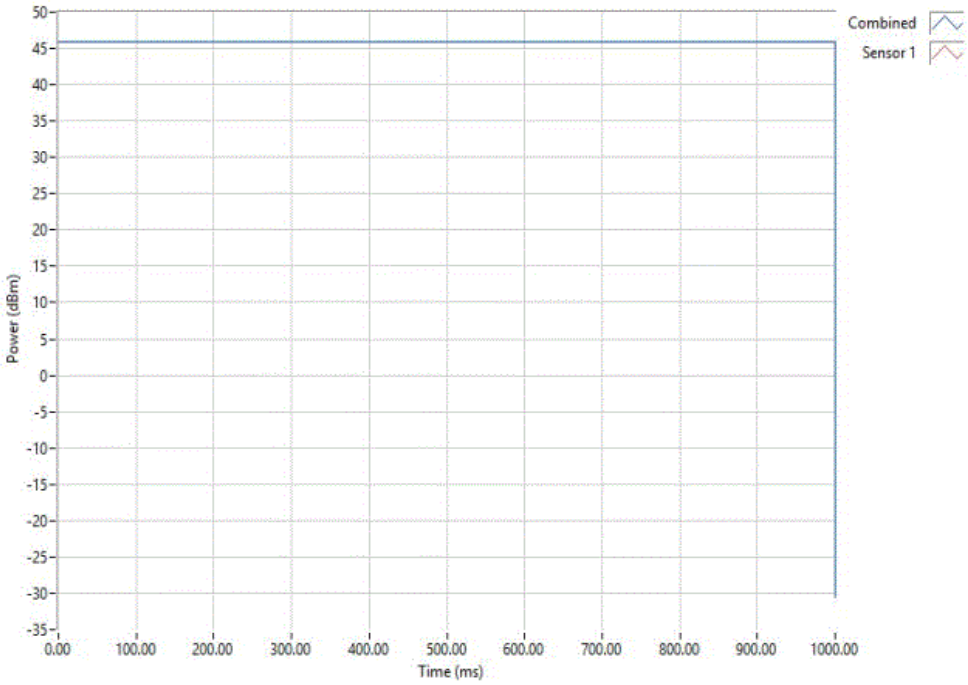


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

Antenna Port 2 MIMO, Mid Channel LTE5, 2132.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.98	100	0	46	1000	Pass



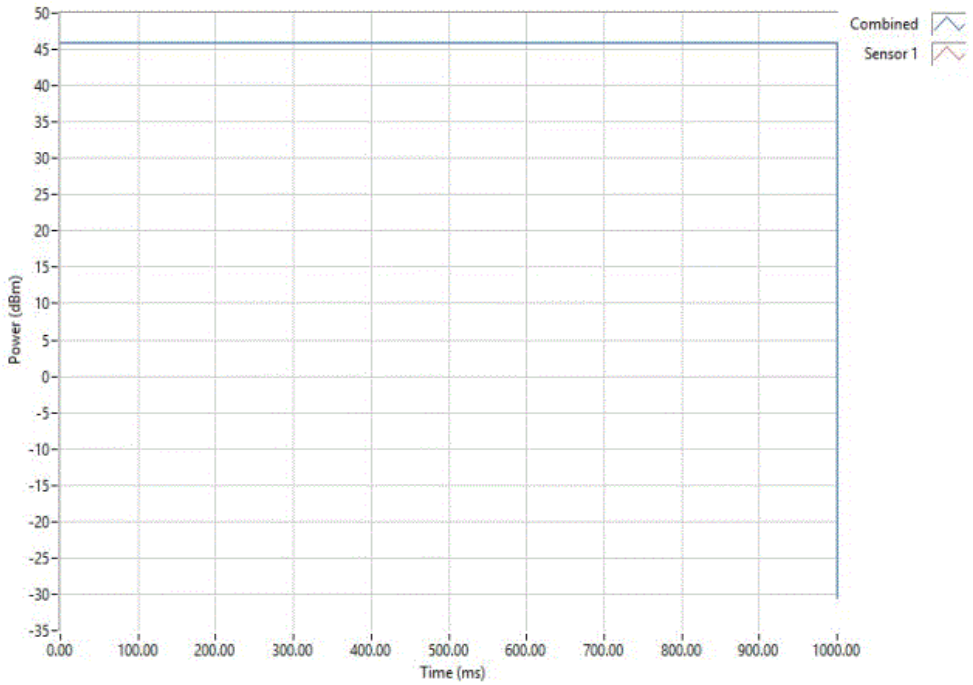
Antenna Port 2 MIMO, High Channel LTE5, 2152.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.98	100	0	46	1000	Pass



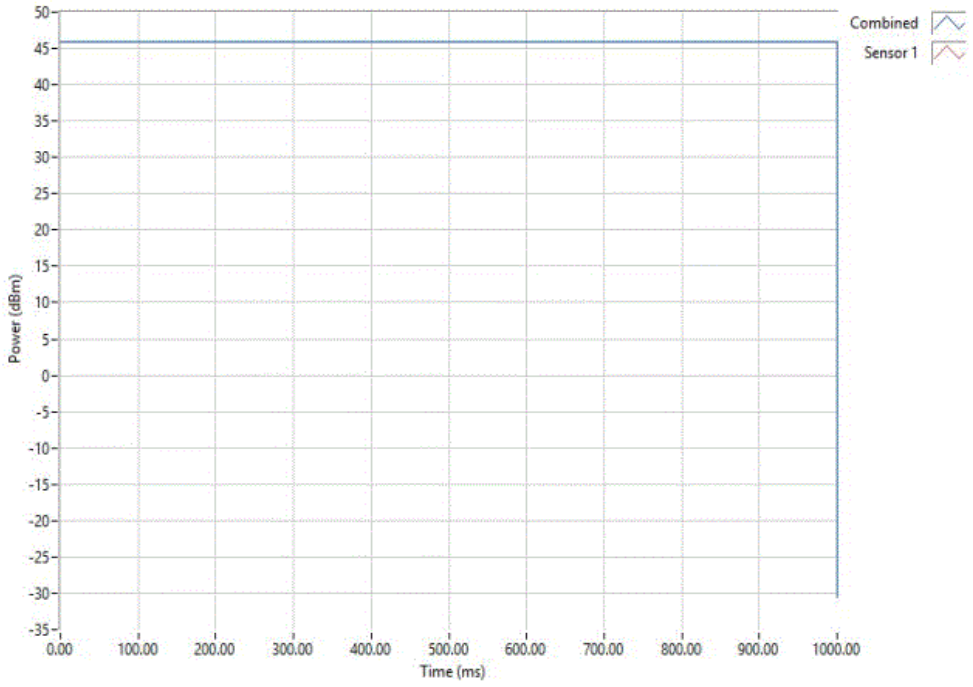
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2 MIMO, Low Channel LTE10, 2115 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.98	100	0	46	1000	Pass



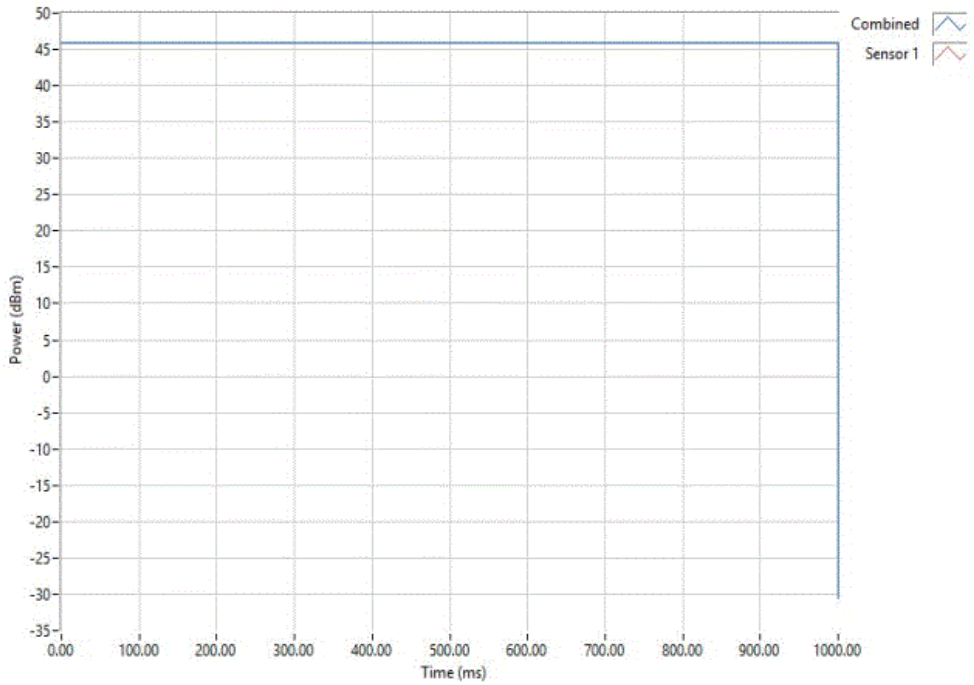
Antenna Port 2 MIMO, Mid Channel LTE10, 2132.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.96	100	0	46	1000	Pass



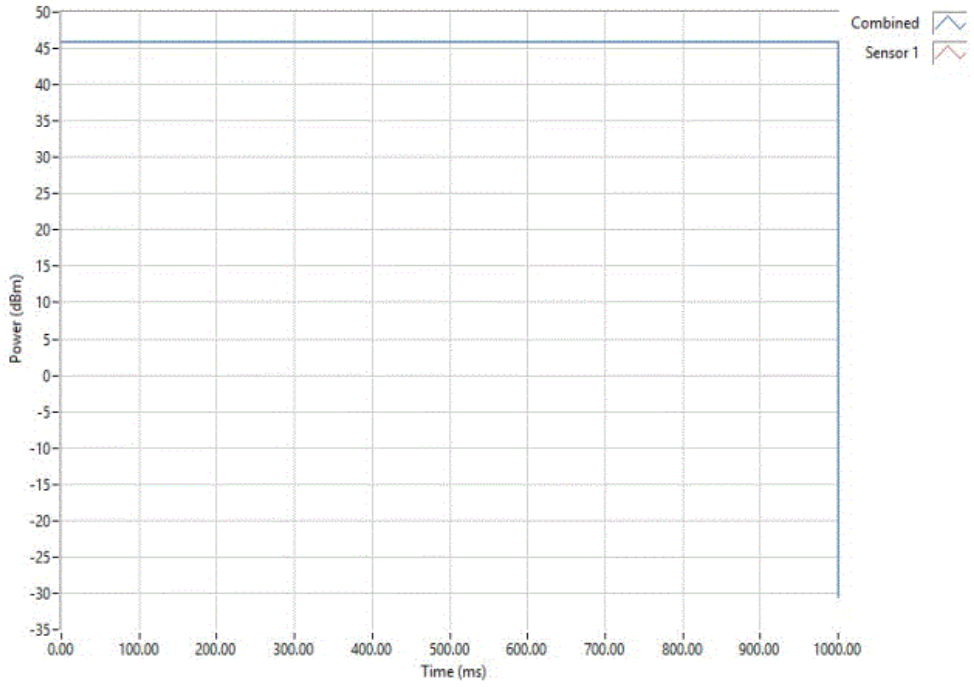
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2 MIMO, High Channel LTE10, 2150 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.97	100	0	46	1000	Pass



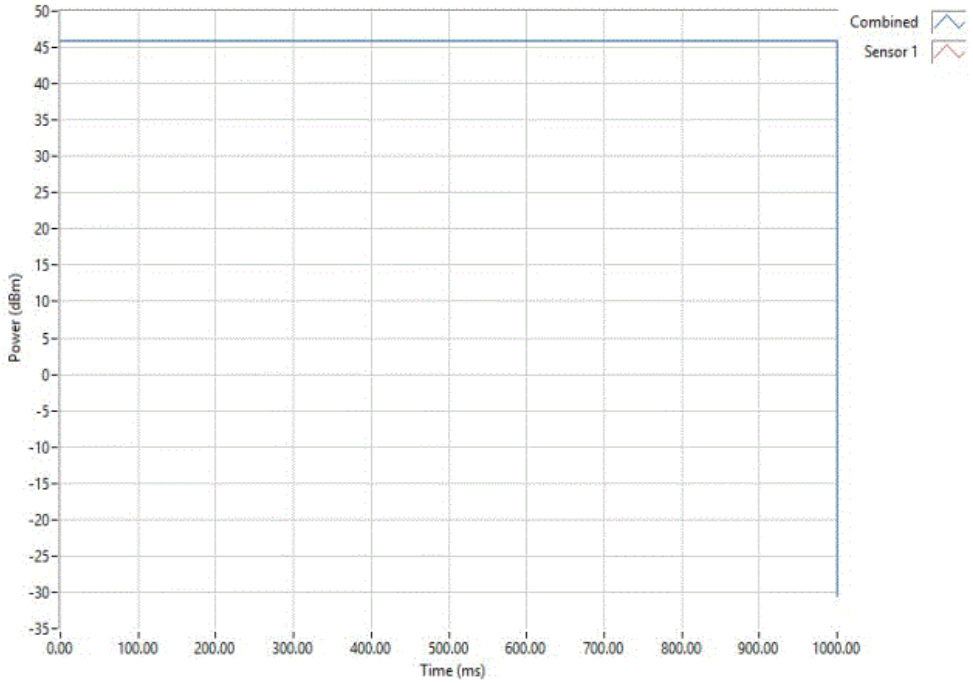
Antenna Port 2 MIMO, Low Channel LTE20, 2120 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.98	100	0	46	1000	Pass



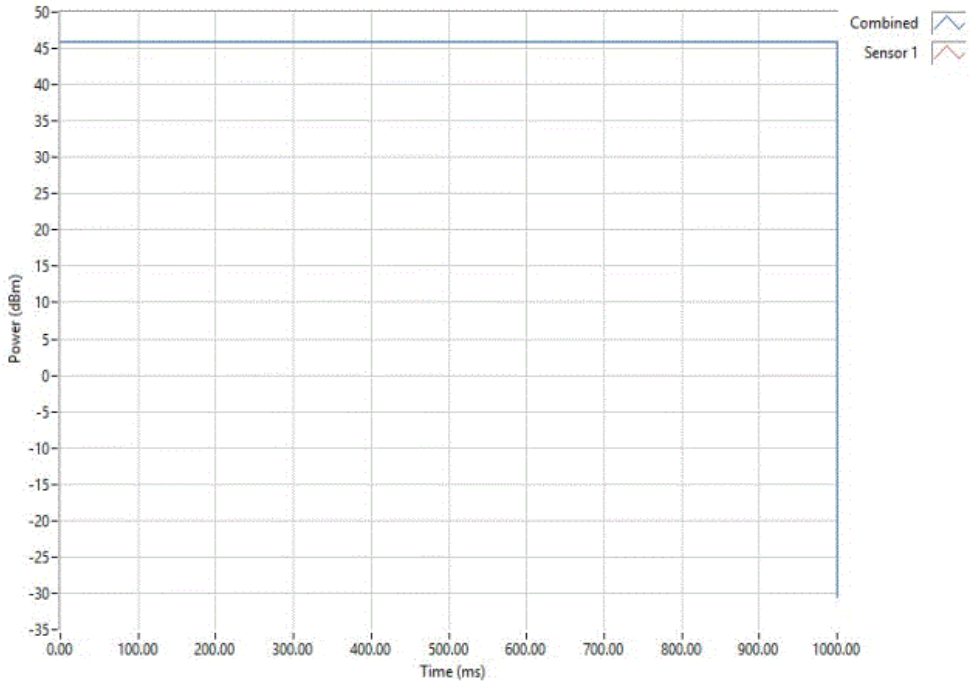
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP)

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2 MIMO, Mid Channel LTE20, 2132.5 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.99	100	0	46	1000	Pass



Antenna Port 2 MIMO, High Channel LTE20, 2145 MHz						
	Avg Cond Pwr (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Results
	45.99	100	0	46	1000	Pass



PEAK TO AVERAGE RATIO

XMit 2017.02.08

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	Fairview Microwave	SD3379	AMV	1/11/2017	1/11/2018
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/2/2016	11/2/2017

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. An RF signal generator was used to create the modulated signal(s) listed in the datasheets. These signals were input into the EUT.

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

TbtTx 2017.01.27 XMit 2017.02.08

EUT:	CWS-3050-04			Work Order:	KMWC0079
Serial Number:	K162300007			Date:	05/08/17
Customer:	Parallel Wireless Inc			Temperature:	22.1 °C
Attendees:	Daniel Kim			Humidity:	45.6% RH
Project:	None			Barometric Pres.:	1013 mbar
Tested by:	Mike Tran	Power:	48VDC	Job Site:	OC13

TEST SPECIFICATIONS	Test Method
FCC 27:2017	ANSI/TIA/EIA-603-D-2010

COMMENTS

Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 56.7dB total.

DEVIATIONS FROM TEST STANDARD

None

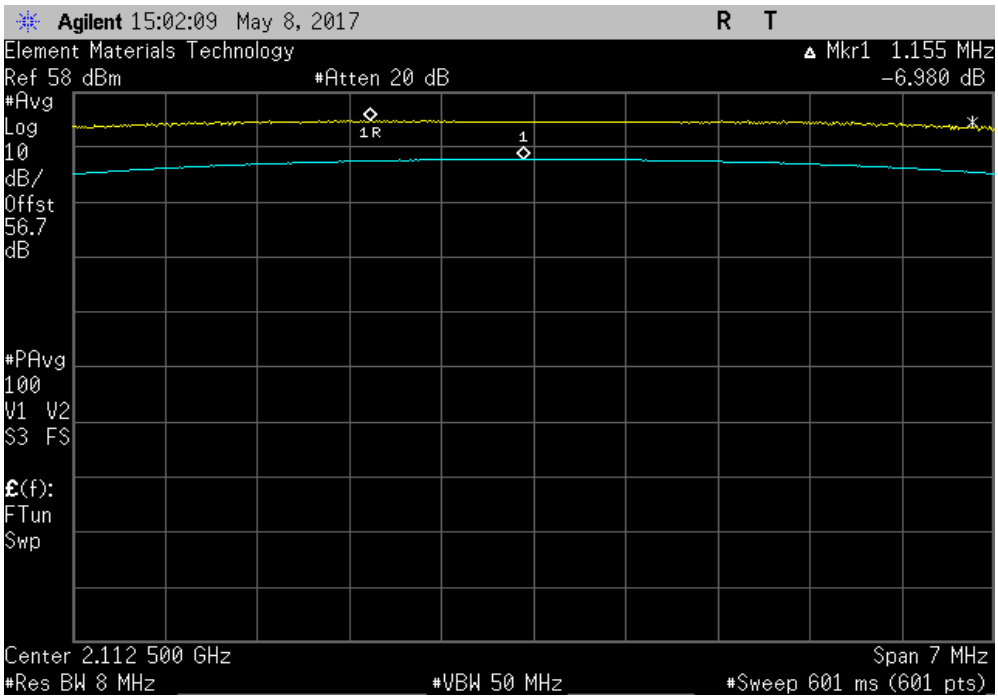
Configuration #	1	Signature

		Value (dB)	Limit < (dB)	Results
Antenna Port 1				
	Low Channel LTE5, 2112.5 MHz	6.98	13	Pass
	Mid Channel LTE5, 2132.5 MHz	7.222	13	Pass
	High Channel LTE5, 2152.5 MHz	7.094	13	Pass
	Low Channel LTE10, 2115 MHz	9.901	13	Pass
	Mid Channel LTE10, 2132.5 MHz	9.129	13	Pass
	High Channel LTE10, 2150 MHz	9.484	13	Pass
	Low Channel LTE20, 2120 MHz	11.112	13	Pass
	Mid Channel LTE20, 2132.5 MHz	11.133	13	Pass
	High Channel LTE20, 2145 MHz	12.495	13	Pass
Antenna Port 2				
	Low Channel LTE5, 2112.5 MHz	7.101	13	Pass
	Mid Channel LTE5, 2132.5 MHz	6.995	13	Pass
	High Channel LTE5, 2152.5 MHz	7.028	13	Pass
	Low Channel LTE10, 2115 MHz	9.615	13	Pass
	Mid Channel LTE10, 2132.5 MHz	9.856	13	Pass
	High Channel LTE10, 2150 MHz	9.884	13	Pass
	Low Channel LTE20, 2120 MHz	11.432	13	Pass
	Mid Channel LTE20, 2132.5 MHz	12.532	13	Pass
	High Channel LTE20, 2145 MHz	11.167	13	Pass

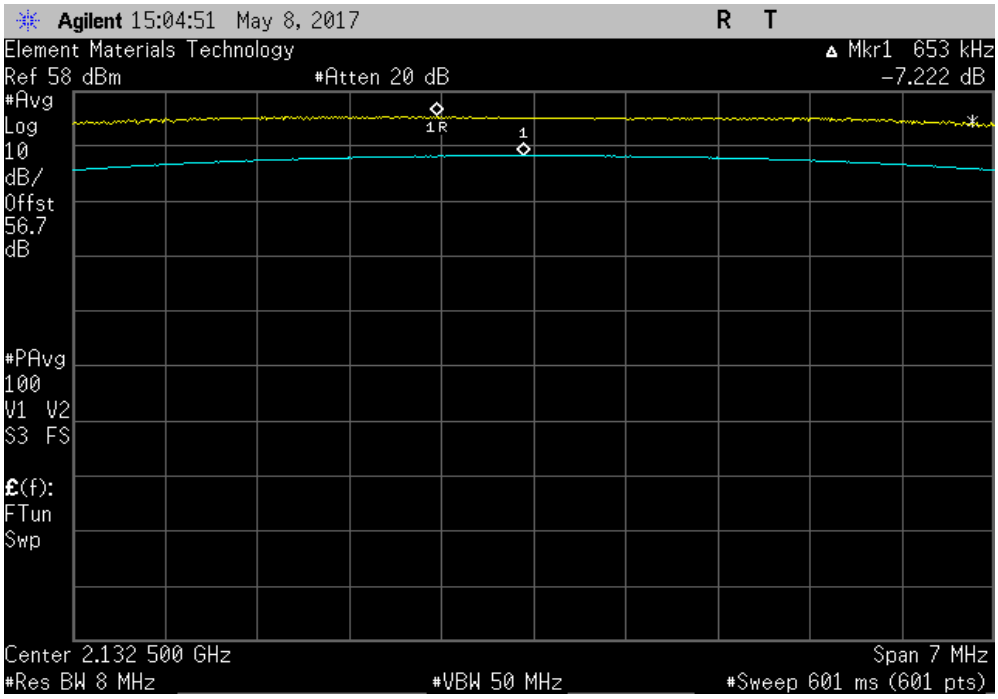
PEAK TO AVERAGE RATIO

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, Low Channel LTE5, 2112.5 MHz						
				Value (dB)	Limit < (dB)	Results
				6.98	13	Pass



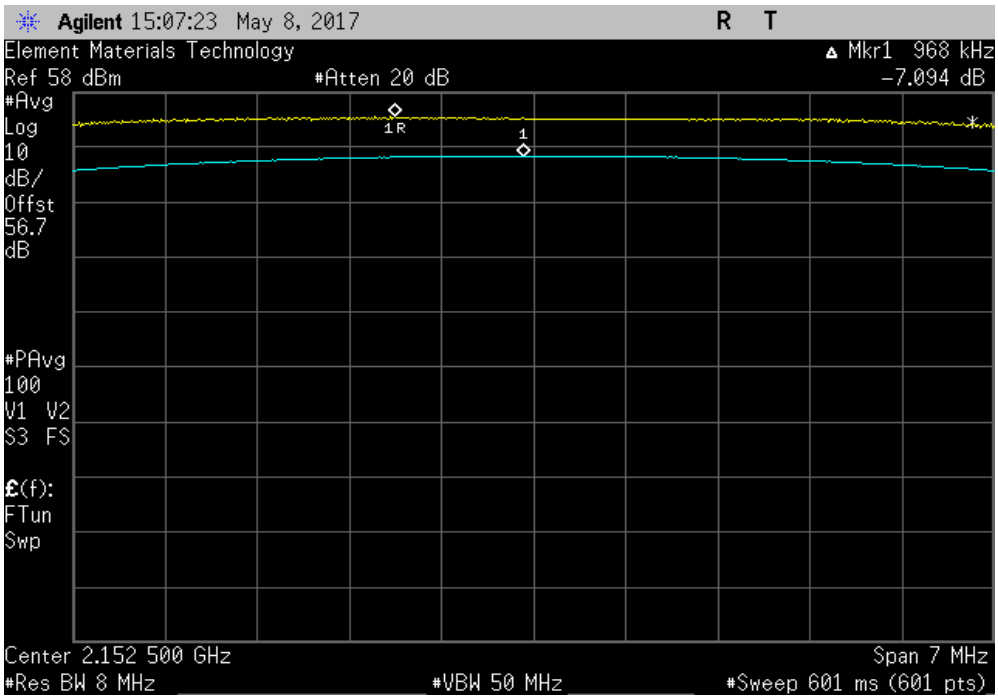
Antenna Port 1, Mid Channel LTE5, 2132.5 MHz						
				Value (dB)	Limit < (dB)	Results
				7.222	13	Pass



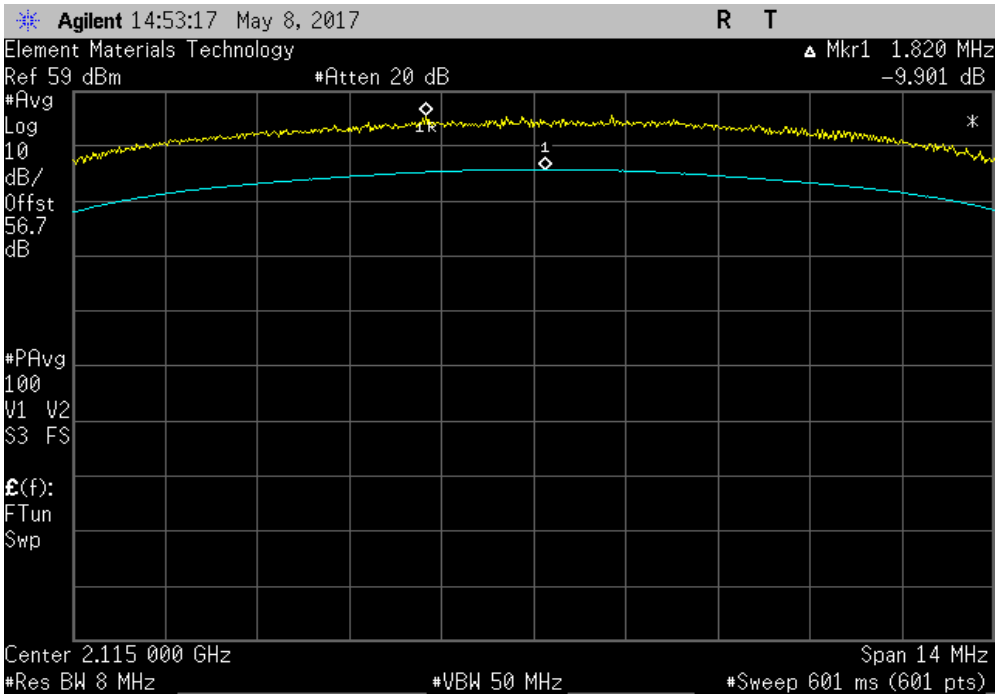
PEAK TO AVERAGE RATIO

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, High Channel LTE5, 2152.5 MHz						
				Value (dB)	Limit < (dB)	Results
				7.094	13	Pass

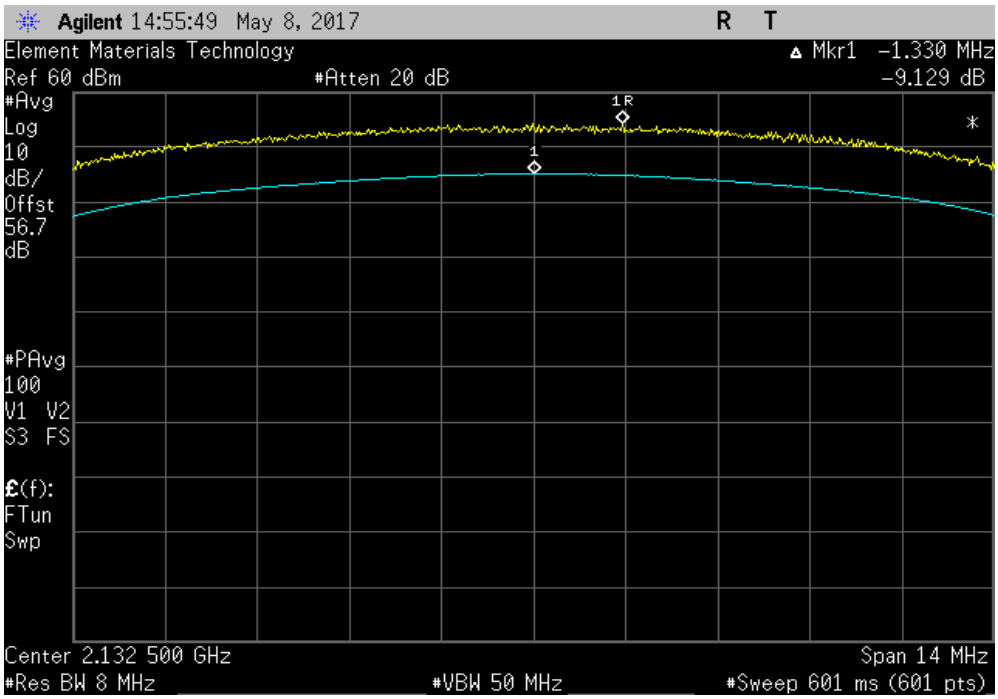


Antenna Port 1, Low Channel LTE10, 2115 MHz						
				Value (dB)	Limit < (dB)	Results
				9.901	13	Pass

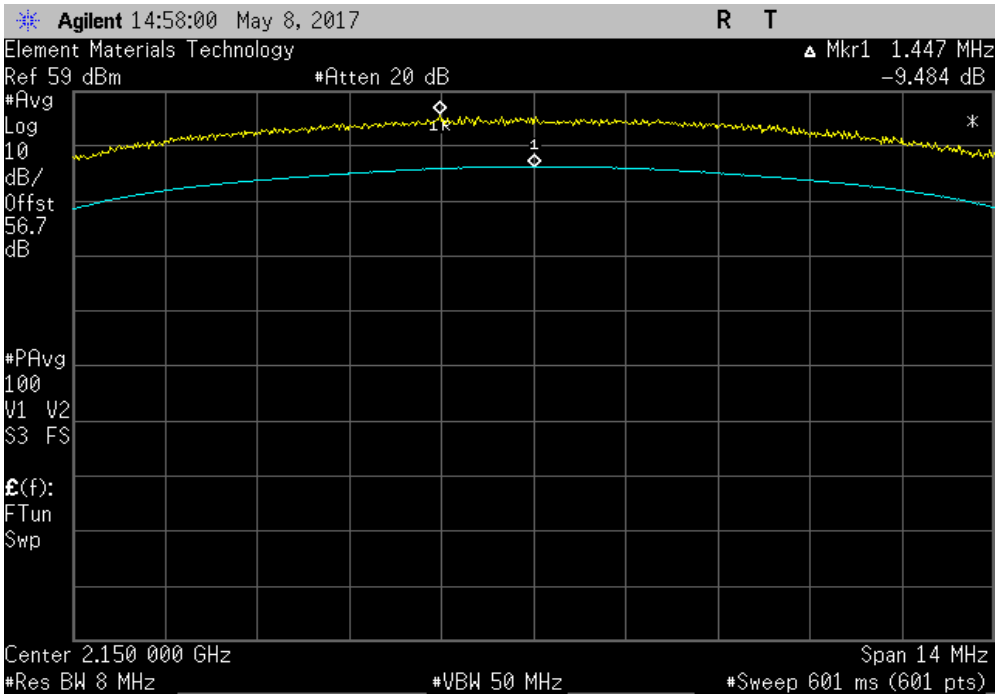


PEAK TO AVERAGE RATIO

Antenna Port 1, Mid Channel LTE10, 2132.5 MHz						
				Value (dB)	Limit < (dB)	Results
				9.129	13	Pass



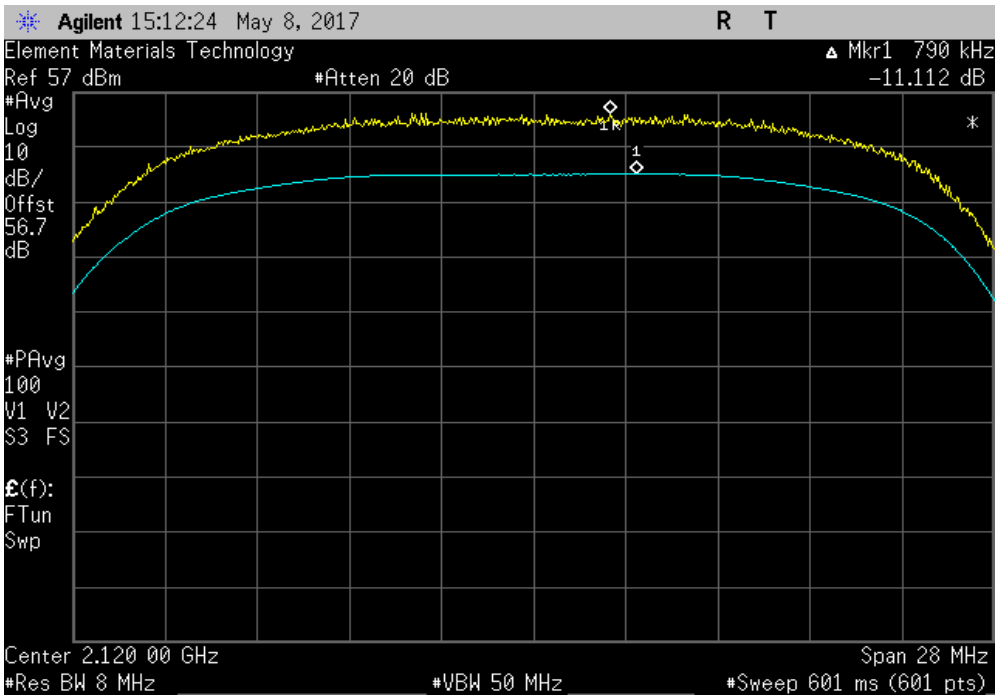
Antenna Port 1, High Channel LTE10, 2150 MHz						
				Value (dB)	Limit < (dB)	Results
				9.484	13	Pass



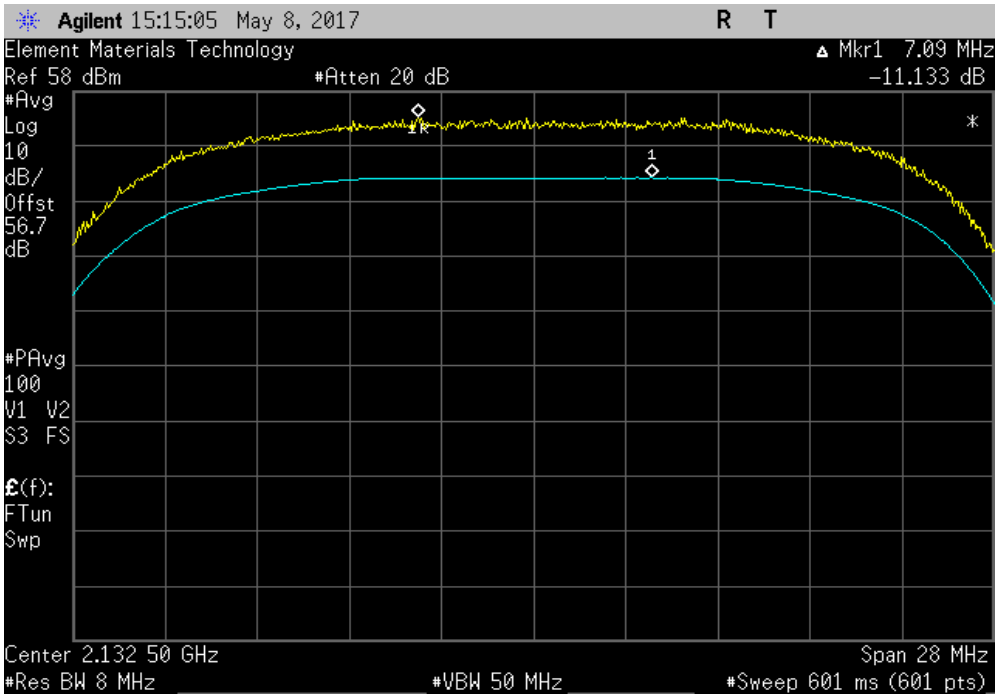
PEAK TO AVERAGE RATIO

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, Low Channel LTE20, 2120 MHz						
				Value (dB)	Limit < (dB)	Results
				11.112	13	Pass



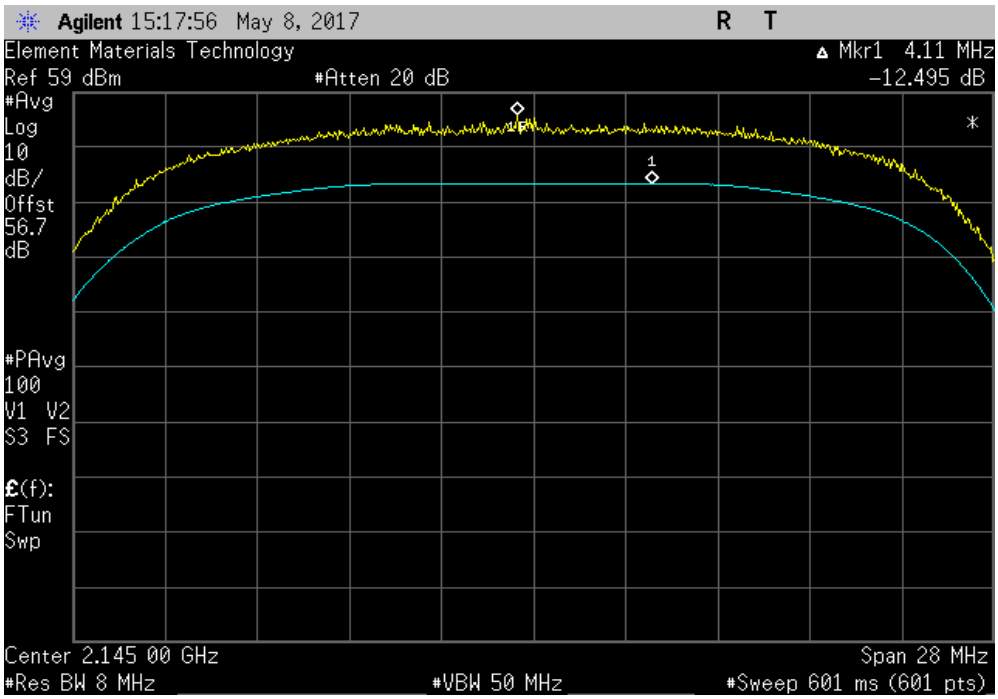
Antenna Port 1, Mid Channel LTE20, 2132.5 MHz						
				Value (dB)	Limit < (dB)	Results
				11.133	13	Pass



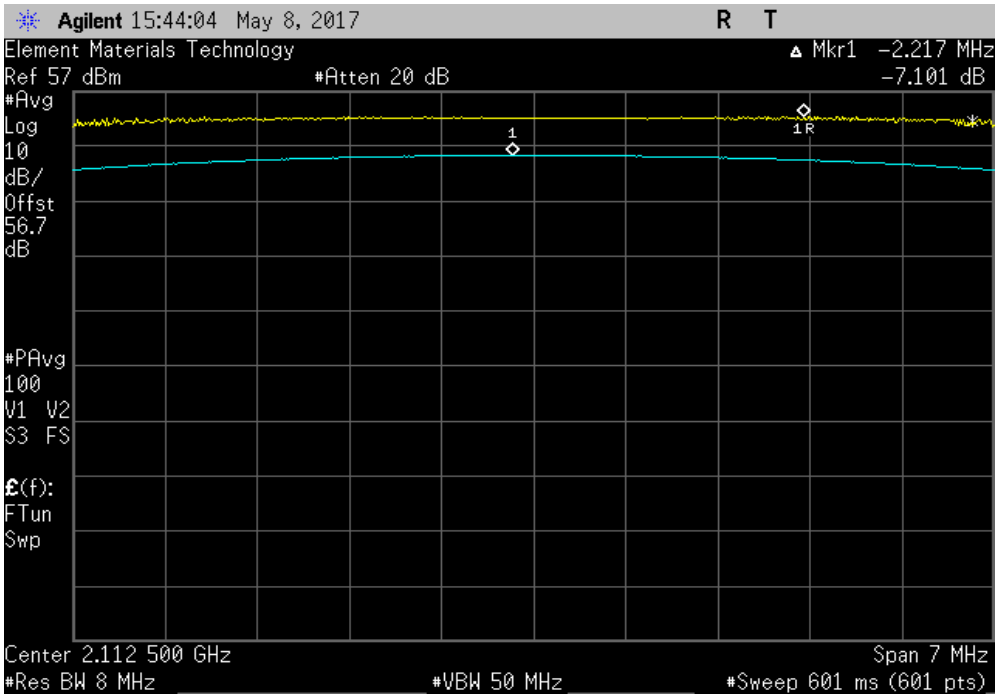
PEAK TO AVERAGE RATIO

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, High Channel LTE20, 2145 MHz						
				Value (dB)	Limit < (dB)	Results
				12.495	13	Pass



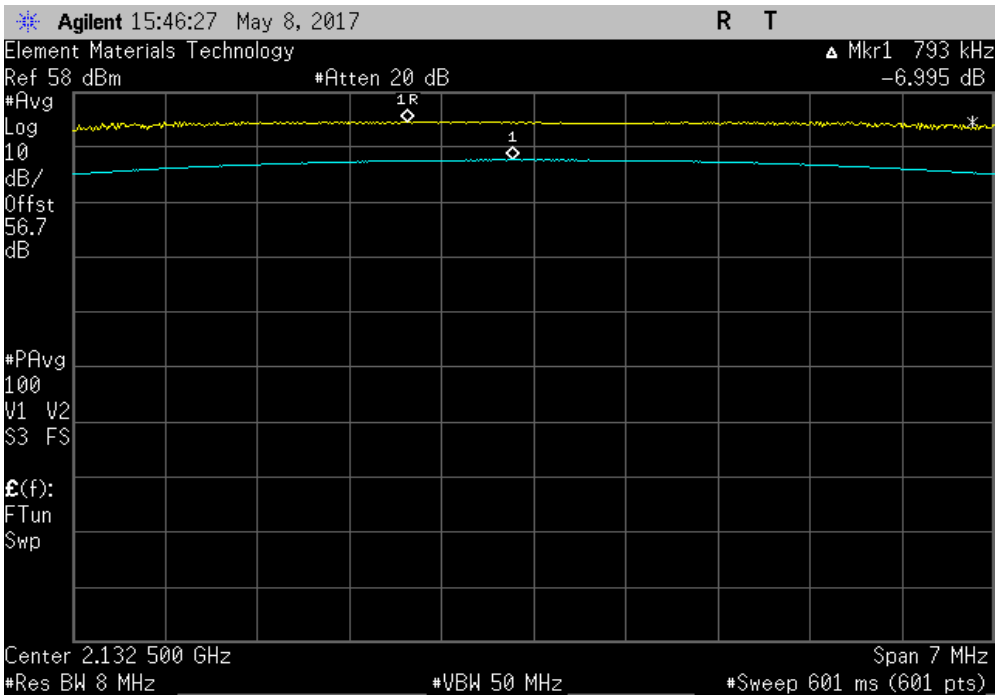
Antenna Port 2, Low Channel LTE5, 2112.5 MHz						
				Value (dB)	Limit < (dB)	Results
				7.101	13	Pass



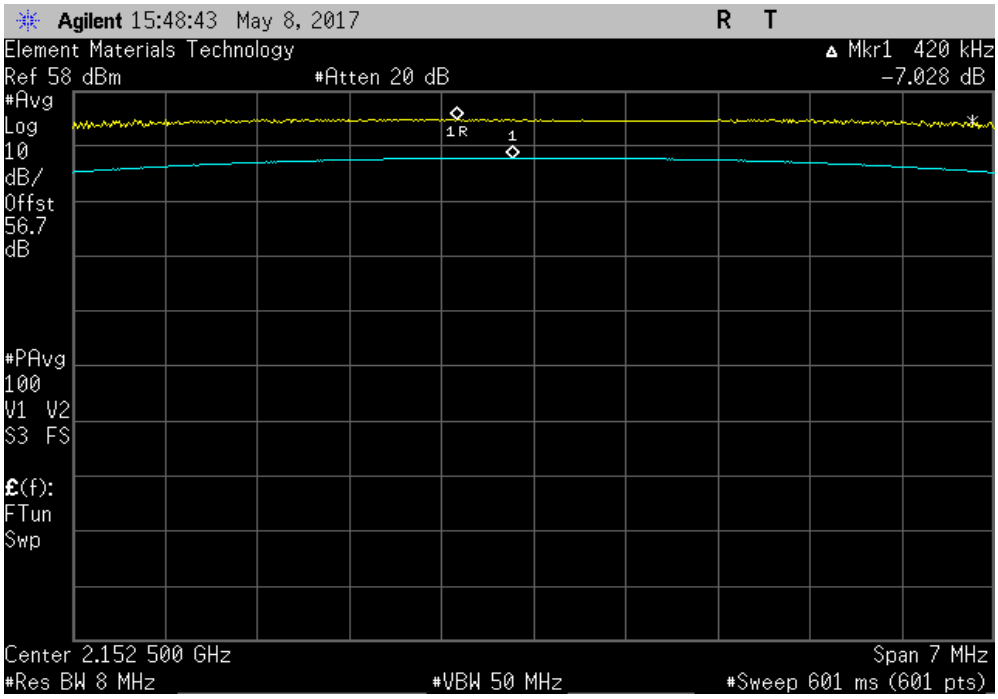
PEAK TO AVERAGE RATIO

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, Mid Channel LTE5, 2132.5 MHz						
				Value (dB)	Limit < (dB)	Results
				6.995	13	Pass

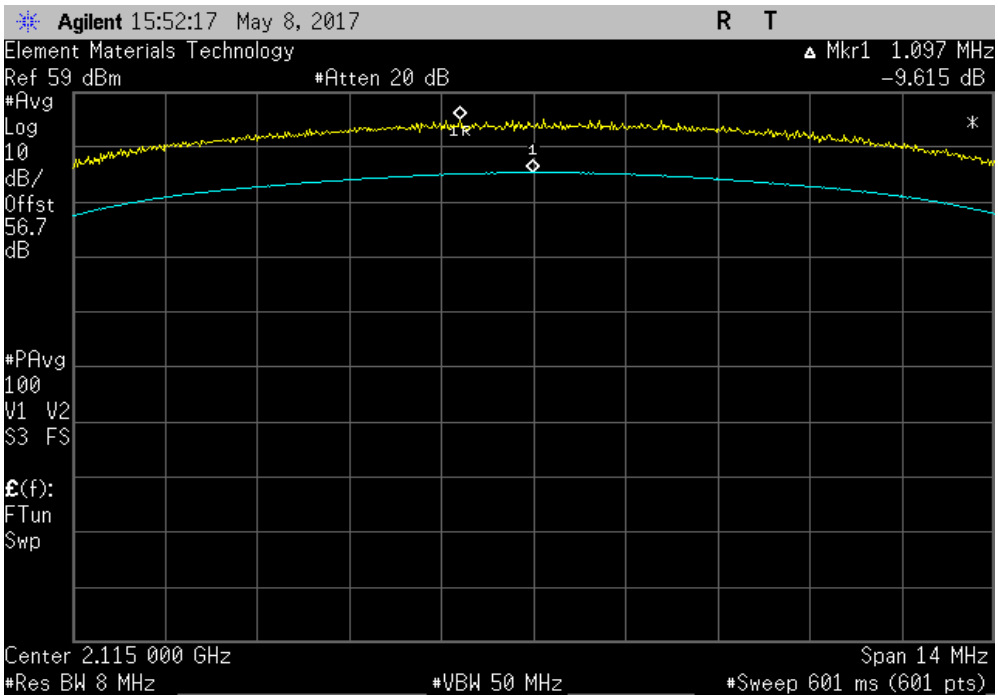


Antenna Port 2, High Channel LTE5, 2152.5 MHz						
				Value (dB)	Limit < (dB)	Results
				7.028	13	Pass

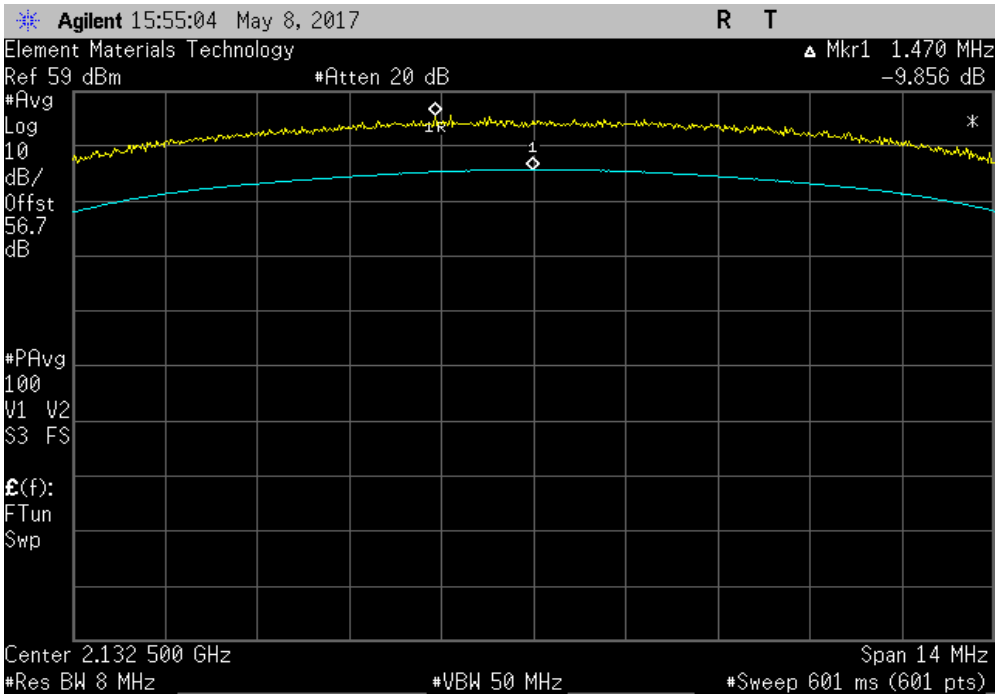


PEAK TO AVERAGE RATIO

Antenna Port 2, Low Channel LTE10, 2115 MHz						
				Value (dB)	Limit < (dB)	Results
				9.615	13	Pass



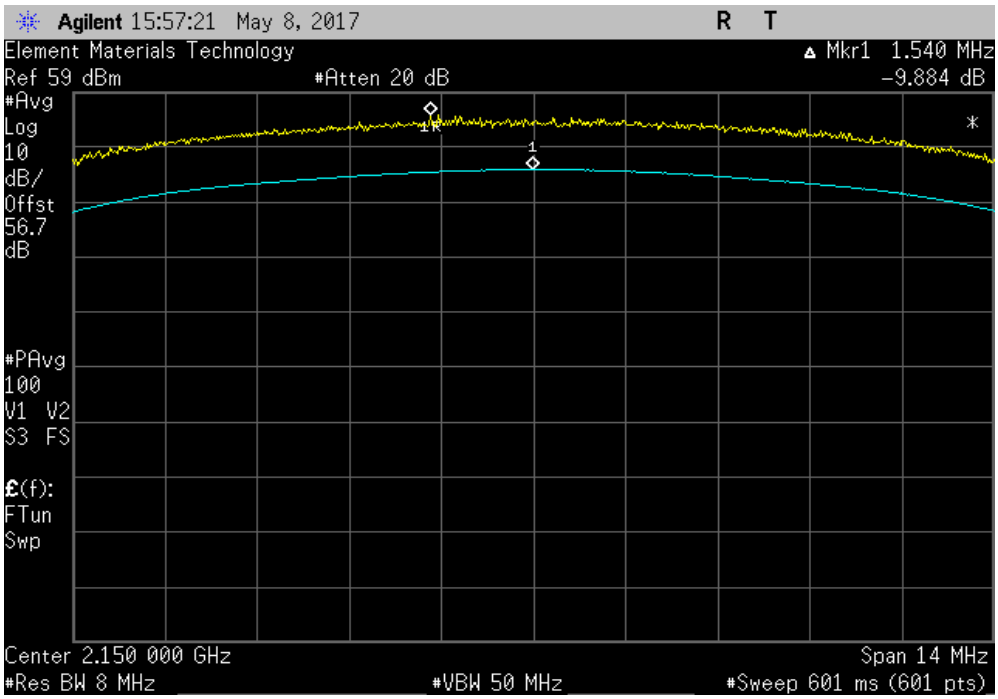
Antenna Port 2, Mid Channel LTE10, 2132.5 MHz						
				Value (dB)	Limit < (dB)	Results
				9.856	13	Pass



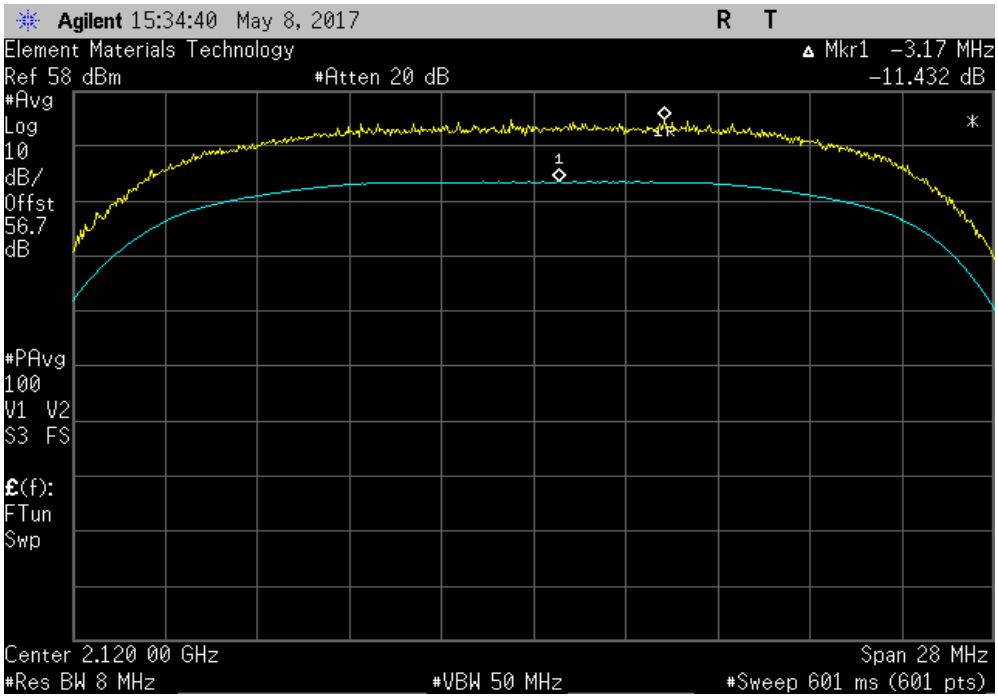
PEAK TO AVERAGE RATIO

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, High Channel LTE10, 2150 MHz						
				Value (dB)	Limit < (dB)	Results
				9.884	13	Pass

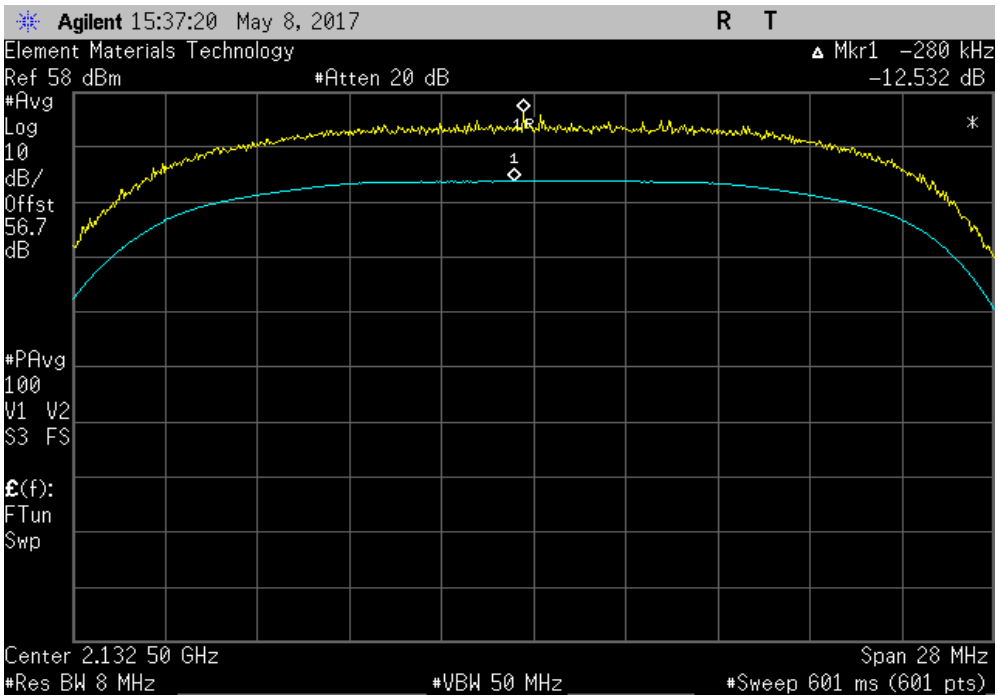


Antenna Port 2, Low Channel LTE20, 2120 MHz						
				Value (dB)	Limit < (dB)	Results
				11.432	13	Pass

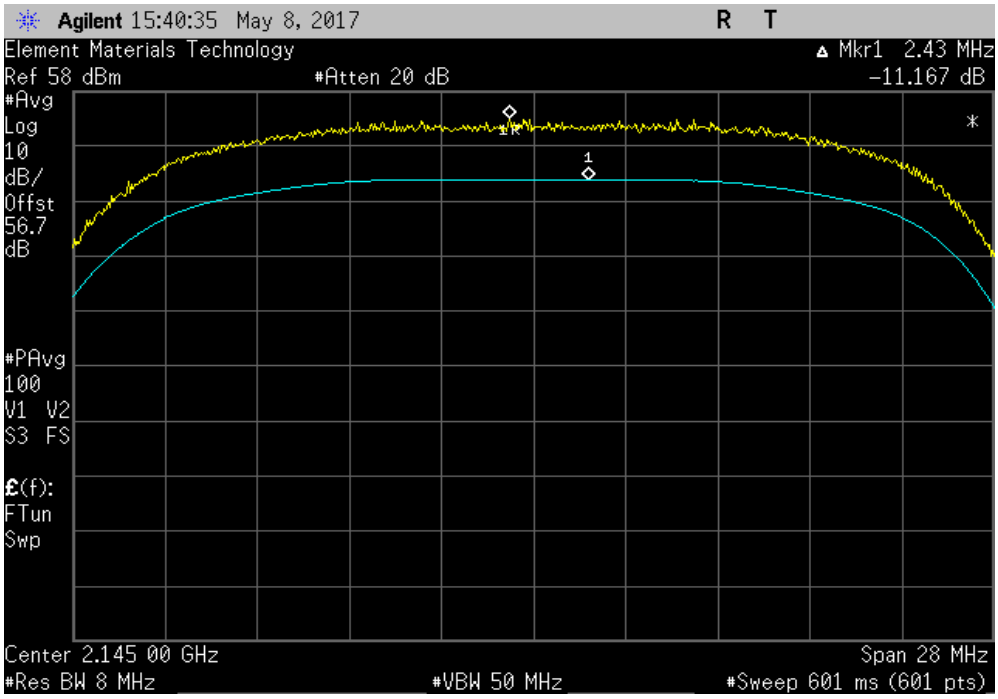


PEAK TO AVERAGE RATIO

Antenna Port 2, Mid Channel LTE20, 2132.5 MHz						
				Value (dB)	Limit < (dB)	Results
				12.532	13	Pass



Antenna Port 2, High Channel LTE20, 2145 MHz						
				Value (dB)	Limit < (dB)	Results
				11.167	13	Pass



FREQUENCY STABILITY

XMit 2017.02.08

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
Thermometer	Omega Engineering, Inc.	HH311	DUC	10/3/2014	10/3/2017
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPHS-32-3.5-SCT/AC	TBE	NCR	NCR
Power Supply - DC	Hewlett Packard	6574A	TPX	NCR	NCR
Generator - Signal	Agilent	E8257D	TGU	2/5/2015	2/5/2018
Cable	Fairview Microwave	SCA1814-0101-120	OCZ	NCR	NCR
Block - DC	Fairview Microwave	SD3379	AMV	1/11/2017	1/11/2018
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/2/2016	11/2/2017

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.

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

TbtTx 2017.01.27 XMit 2017.02.08

EUT:	CWS-3050-04			**Work Order:**	KMWC0079
Serial Number:	K162300007			**Date:**	05/10/17
Customer:	Parallel Wireless Inc			**Temperature:**	21.5 °C
Attendees:	Daniel Kim			**Humidity:**	47.8% RH
Project:	None			**Barometric Pres.:**	1015 mbar
Tested by:	Mike Tran	**Power:**	48VDC	**Job Site:**	OC13

TEST SPECIFICATIONS	Test Method
FCC 27:2017	ANSI/TIA/EIA-603-D-2010

COMMENTS

Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 56.7dB total.

DEVIATIONS FROM TEST STANDARD

None

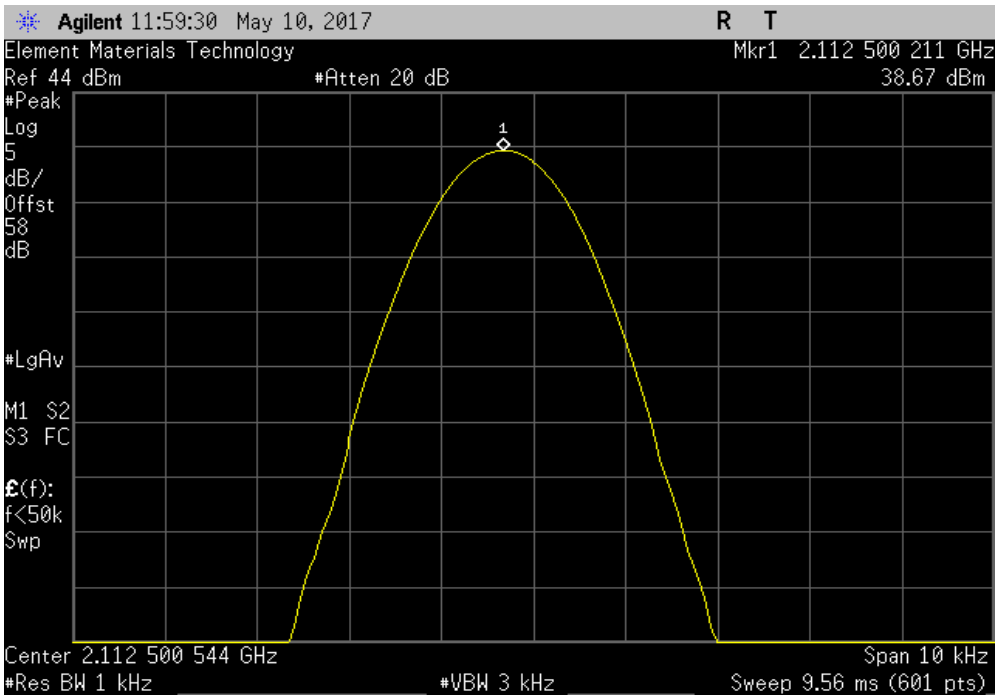
Configuration #	1	Signature

		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
Port 1						
	Normal Temperature and Voltage					
	Low Channel LTE5, 2112.5 MHz	2112.500211	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500219	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500218	2152.5	0.1	1	Pass
	Extreme Voltage, 55.2 VDC					
	Low Channel LTE5, 2112.5 MHz	2112.500978	2112.5	0.5	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500988	2132.5	0.5	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500152	2152.5	0.1	1	Pass
	Extreme Voltage, 40.8 VAC					
	Low Channel LTE5, 2112.5 MHz	2112.500211	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500201	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500202	2152.5	0.1	1	Pass
	Extreme Temperature, -30°C					
	Low Channel LTE5, 2112.5 MHz	2112.49981	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.499819	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.499834	2152.5	0.1	1	Pass
	Extreme Temperature, -20°C					
	Low Channel LTE5, 2112.5 MHz	2112.500111	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500119	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500135	2152.5	0.1	1	Pass
	Extreme Temperature, -10°C					
	Low Channel LTE5, 2112.5 MHz	2112.500211	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500587	2132.5	0.3	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500202	2152.5	0.1	1	Pass
	Extreme Temperature, 0°C					
	Low Channel LTE5, 2112.5 MHz	2112.500945	2112.5	0.5	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500938	2132.5	0.4	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500953	2152.5	0.4	1	Pass
	Extreme Temperature, +10°C					
	Low Channel LTE5, 2112.5 MHz	2112.500983	2112.5	0.5	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.501005	2132.5	0.5	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.501004	2152.5	0.5	1	Pass
	Extreme Temperature, +20°C					
	Low Channel LTE5, 2112.5 MHz	2112.500194	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.50022	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500235	2152.5	0.1	1	Pass
	Extreme Temperature, +30°C					
	Low Channel LTE5, 2112.5 MHz	2112.500211	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500218	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500202	2152.5	0.1	1	Pass
	Extreme Temperature, +40°C					
	Low Channel LTE5, 2112.5 MHz	2112.500211	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500219	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500202	2152.5	0.1	1	Pass
	Extreme Temperature, +50°C					
	Low Channel LTE5, 2112.5 MHz	2112.500211	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500203	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500218	2152.5	0.1	1	Pass
Port 2						
	Normal Temperature and Voltage					
	Low Channel LTE5, 2112.5 MHz	2112.500207	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.50022	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500218	2152.5	0.1	1	Pass
	Extreme Voltage, 55.2 VDC					
	Low Channel LTE5, 2112.5 MHz	2112.500211	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500202	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500185	2152.5	0.1	1	Pass
	Extreme Voltage, 40.8 VAC					
	Low Channel LTE5, 2112.5 MHz	2112.500206	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.50022	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500201	2152.5	0.1	1	Pass
	Extreme Temperature, -30°C					
	Low Channel LTE5, 2112.5 MHz	2112.49981	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.499802	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.499801	2152.5	0.1	1	Pass
	Extreme Temperature, -20°C					
	Low Channel LTE5, 2112.5 MHz	2112.500144	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500136	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500135	2152.5	0.1	1	Pass
	Extreme Temperature, -10°C					
	Low Channel LTE5, 2112.5 MHz	2112.5006	2112.5	0.3	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500186	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500586	2152.5	0.3	1	Pass
	Extreme Temperature, 0°C					
	Low Channel LTE5, 2112.5 MHz	2112.500917	2112.5	0.4	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500938	2132.5	0.4	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500937	2152.5	0.4	1	Pass
	Extreme Temperature, +10°C					
	Low Channel LTE5, 2112.5 MHz	2112.500983	2112.5	0.5	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500988	2132.5	0.5	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500987	2152.5	0.5	1	Pass
	Extreme Temperature, +20°C					
	Low Channel LTE5, 2112.5 MHz	2112.500211	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500219	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500218	2152.5	0.1	1	Pass
	Extreme Temperature, +30°C					
	Low Channel LTE5, 2112.5 MHz	2112.500211	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500218	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500202	2152.5	0.1	1	Pass
	Extreme Temperature, +40°C					
	Low Channel LTE5, 2112.5 MHz	2112.500211	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500203	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500219	2152.5	0.1	1	Pass
	Extreme Temperature, +50°C					
	Low Channel LTE5, 2112.5 MHz	2112.500223	2112.5	0.1	1	Pass
	Mid Channel LTE5, 2132.5 MHz	2132.500218	2132.5	0.1	1	Pass
	High Channel LTE5, 2152.5 MHz	2152.500218	2152.5	0.1	1	Pass

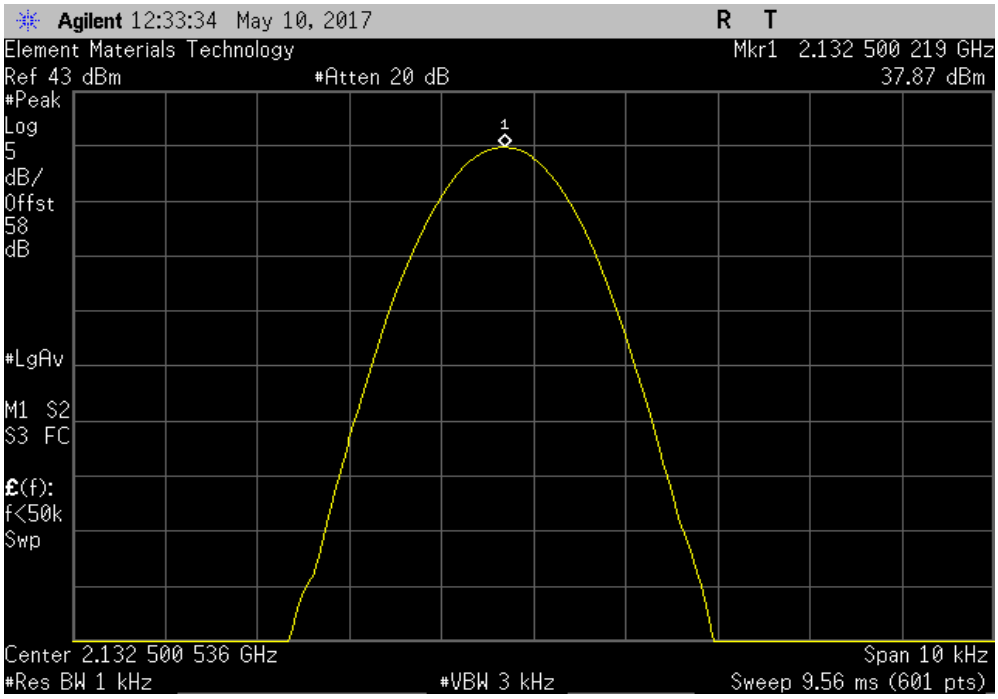
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Normal Temperature and Voltage, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500211	2112.5	0.1	1	Pass



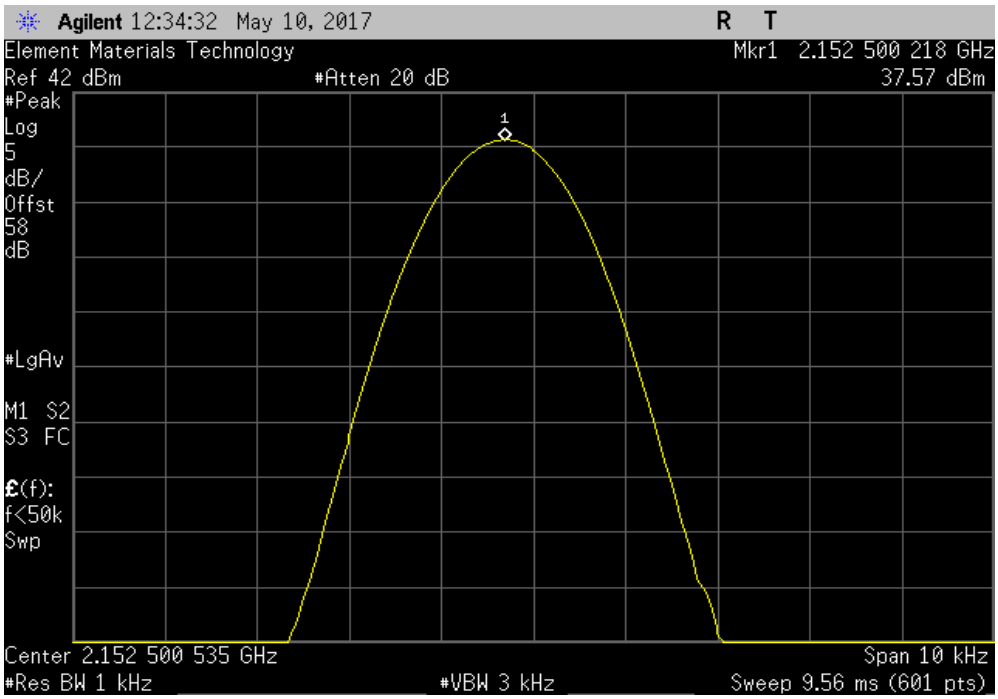
Port 1, Normal Temperature and Voltage, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500219	2132.5	0.1	1	Pass



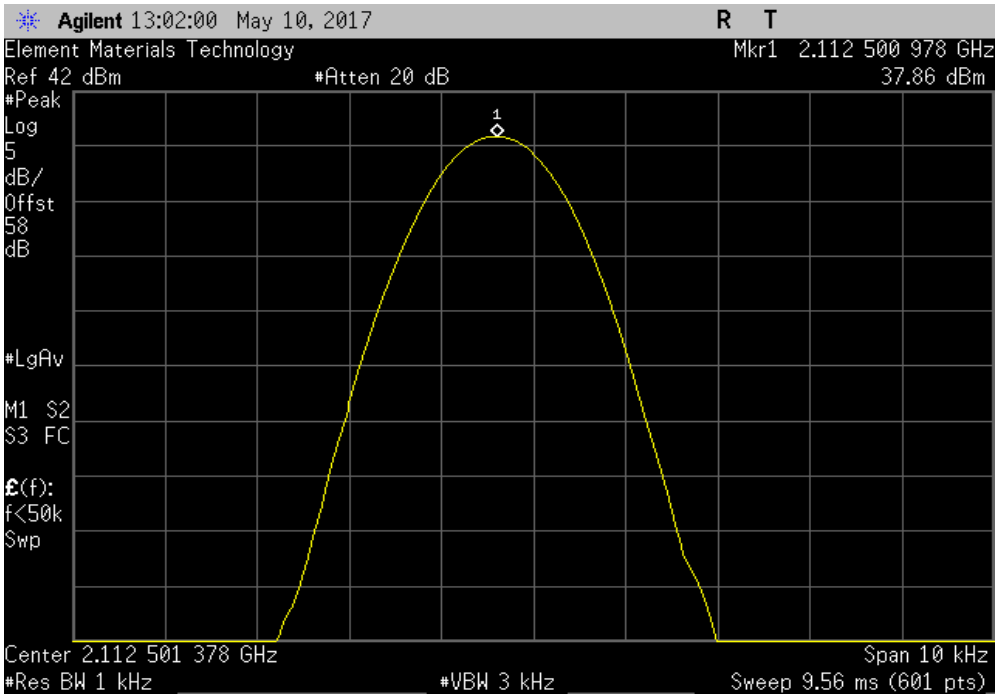
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Normal Temperature and Voltage, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500218	2152.5	0.1	1	Pass



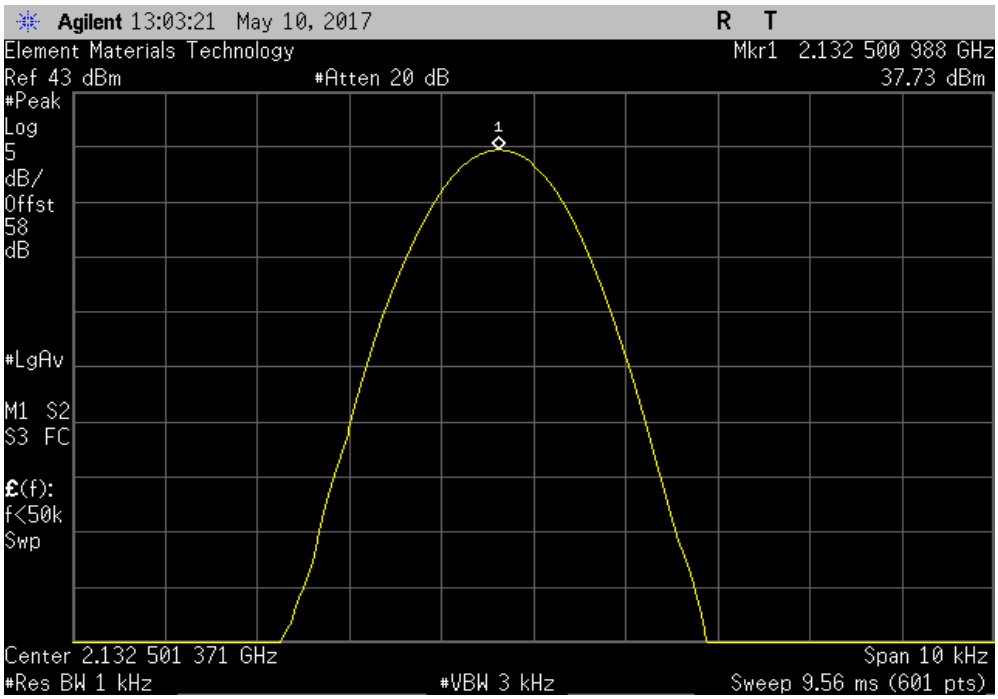
Port 1, Extreme Voltage, 55.2 VDC, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500978	2112.5	0.5	1	Pass



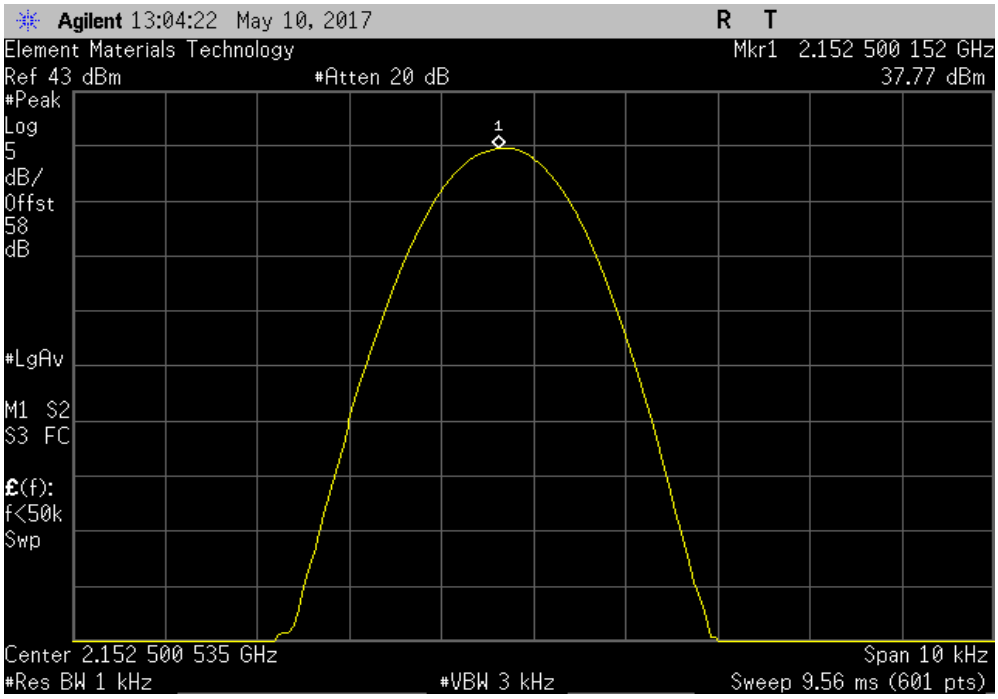
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Extreme Voltage, 55.2 VDC, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500988	2132.5	0.5	1	Pass



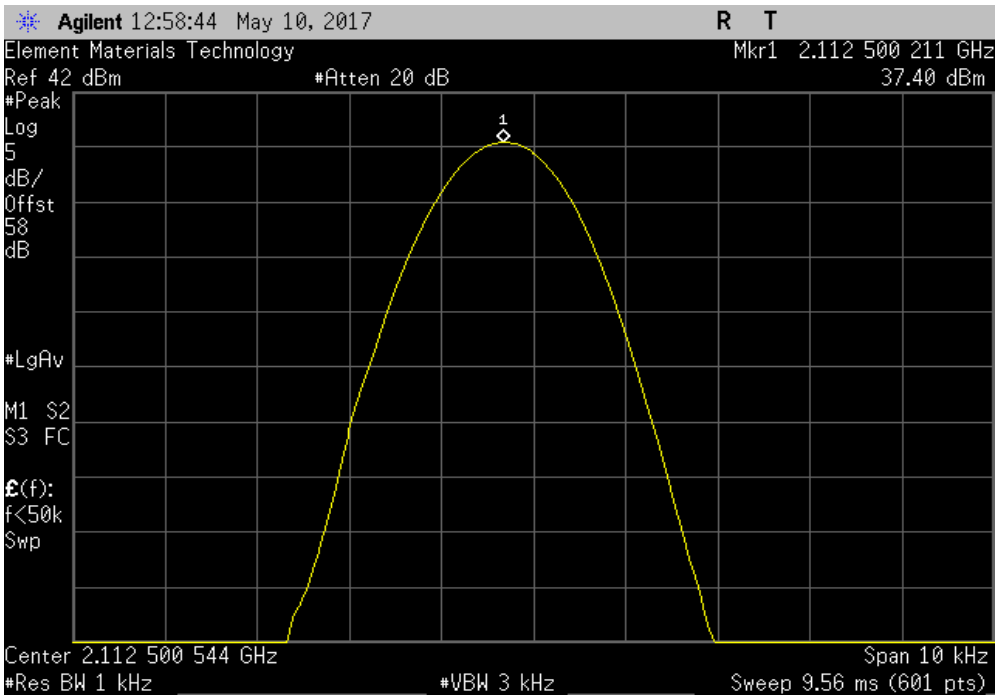
Port 1, Extreme Voltage, 55.2 VDC, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500152	2152.5	0.1	1	Pass



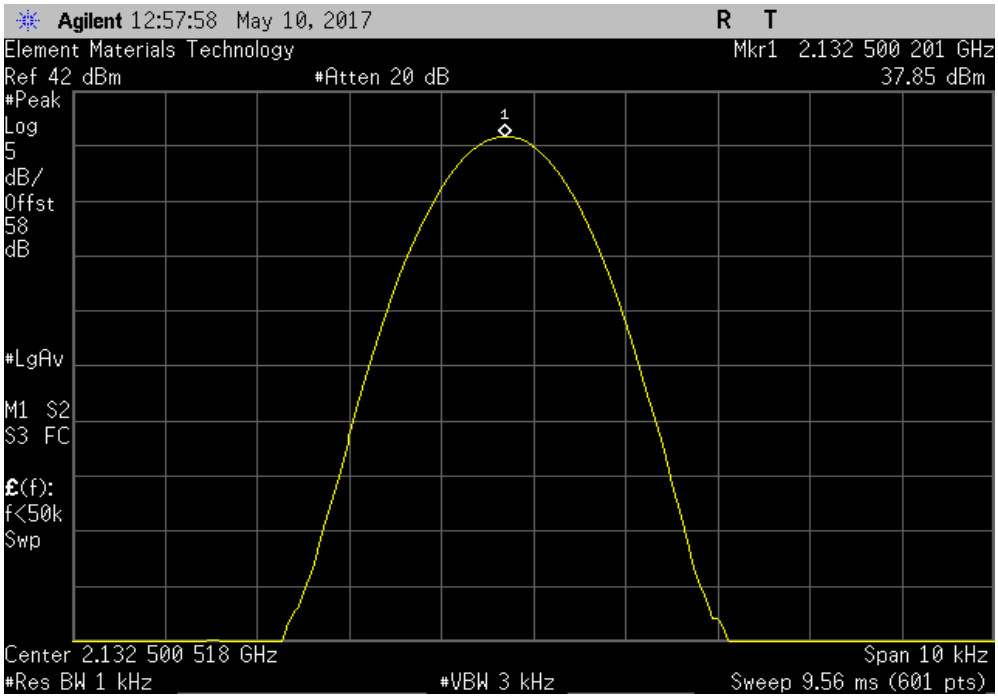
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Extreme Voltage, 40.8 VAC, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500211	2112.5	0.1	1	Pass



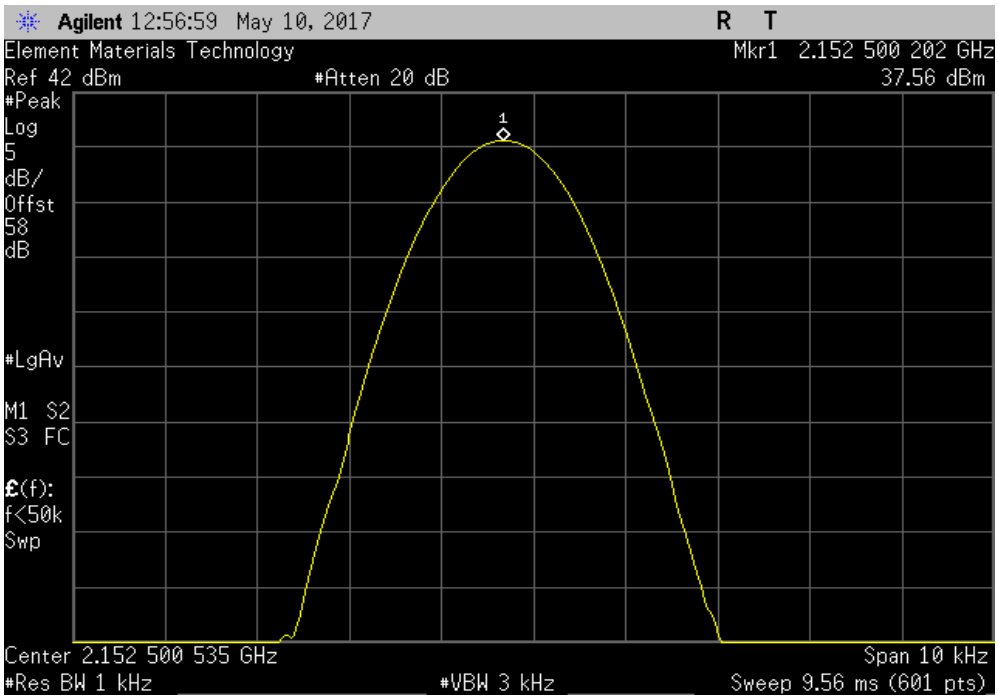
Port 1, Extreme Voltage, 40.8 VAC, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500201	2132.5	0.1	1	Pass



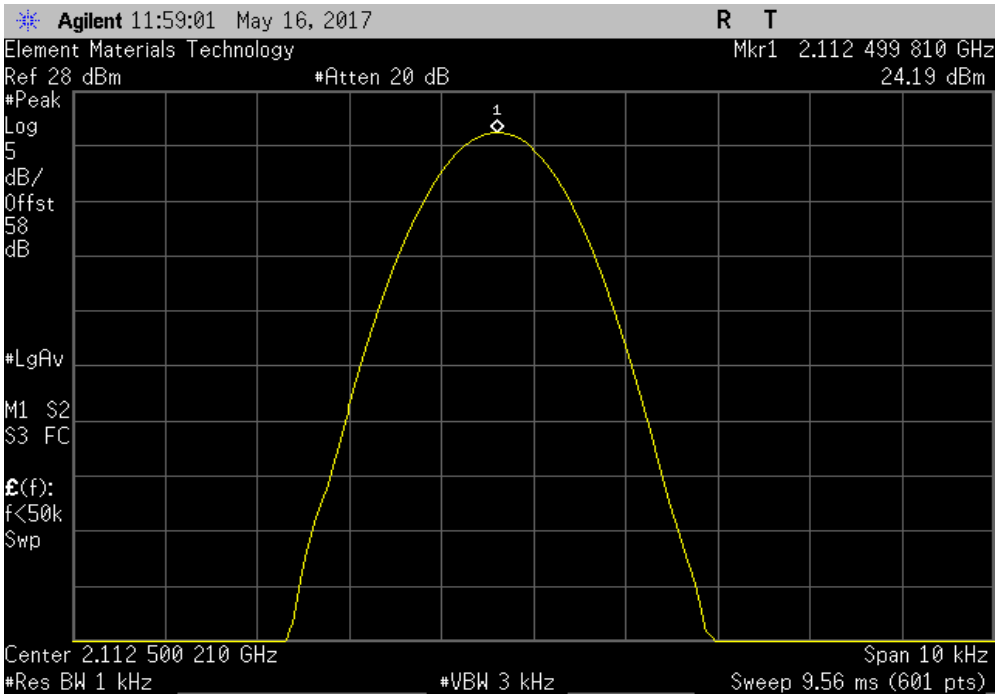
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Extreme Voltage, 40.8 VAC, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500202	2152.5	0.1	1	Pass



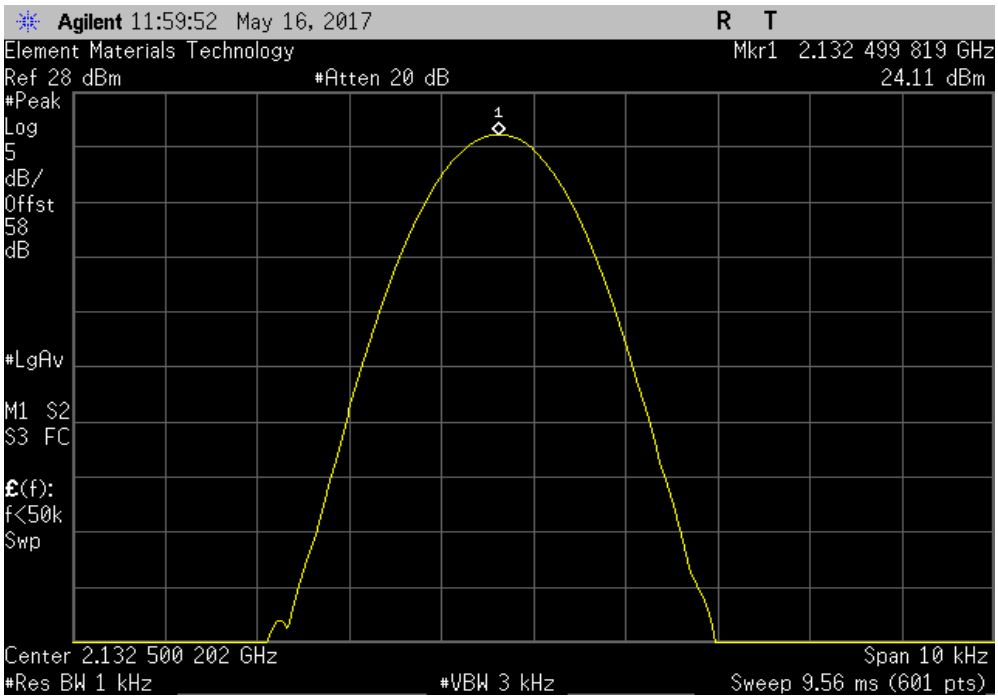
Port 1, Extreme Temperature, -30°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.49981	2112.5	0.1	1	Pass



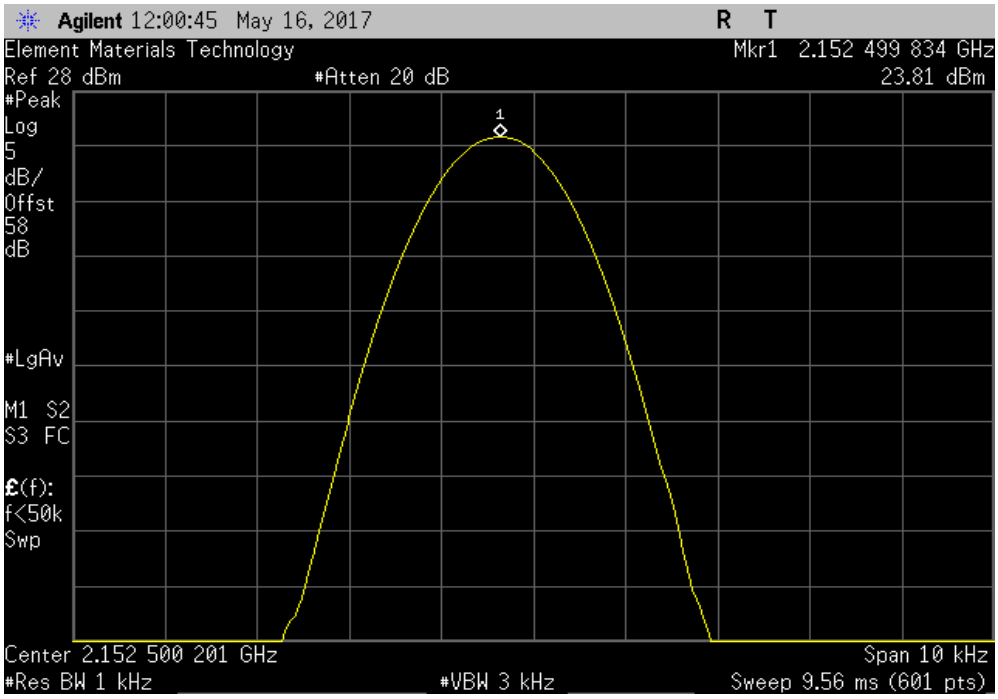
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Extreme Temperature, -30°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.499819	2132.5	0.1	1	Pass



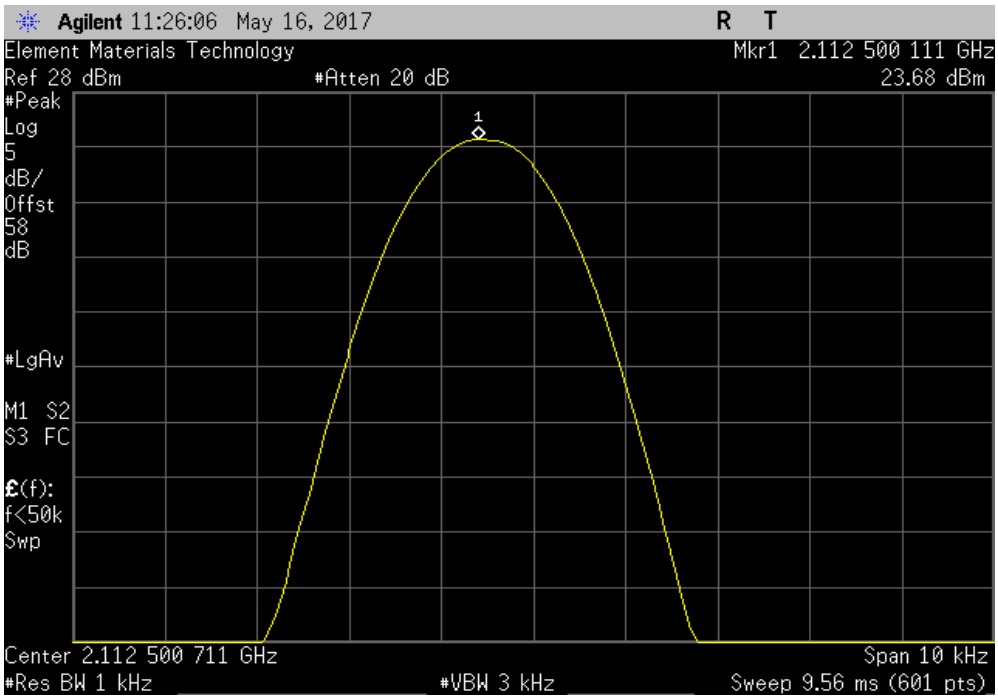
Port 1, Extreme Temperature, -30°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.499834	2152.5	0.1	1	Pass



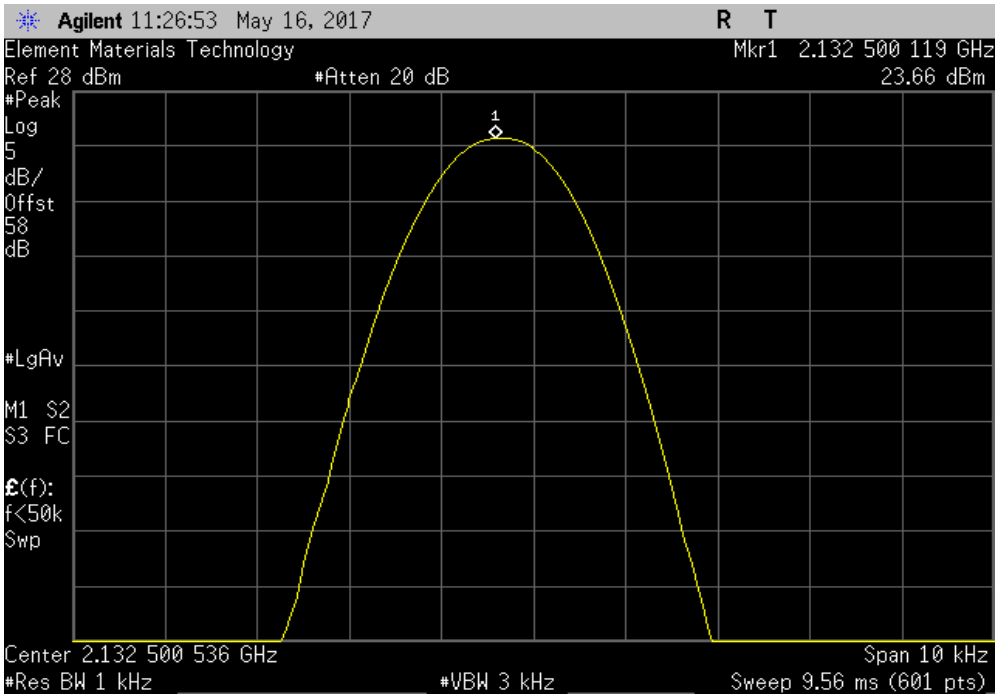
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Extreme Temperature, -20°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500111	2112.5	0.1	1	Pass



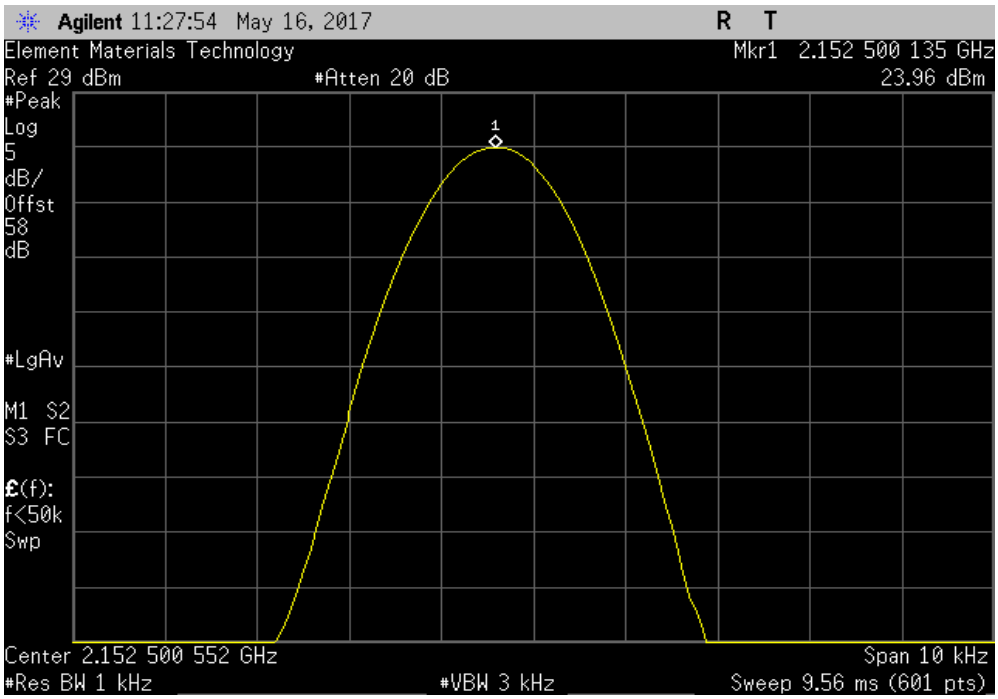
Port 1, Extreme Temperature, -20°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500119	2132.5	0.1	1	Pass



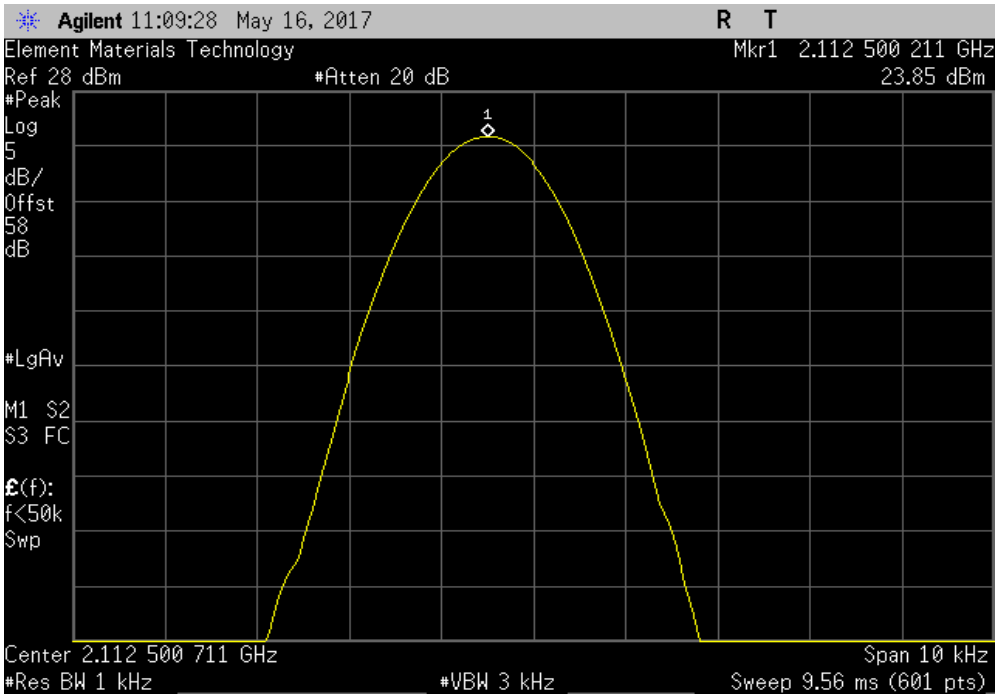
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Extreme Temperature, -20°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500135	2152.5	0.1	1	Pass



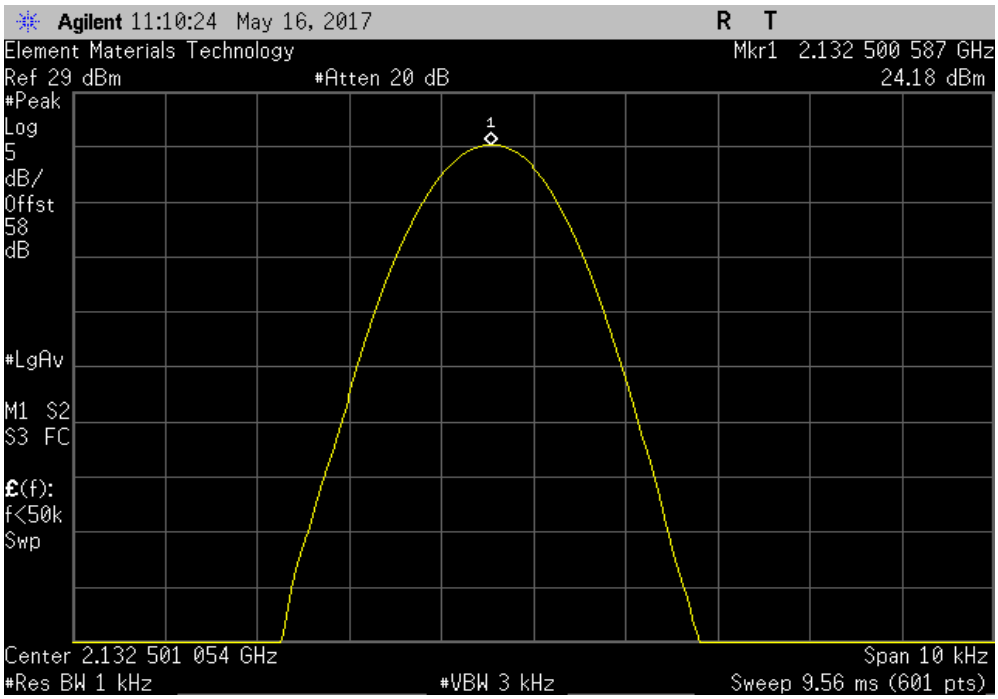
Port 1, Extreme Temperature, -10°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500211	2112.5	0.1	1	Pass



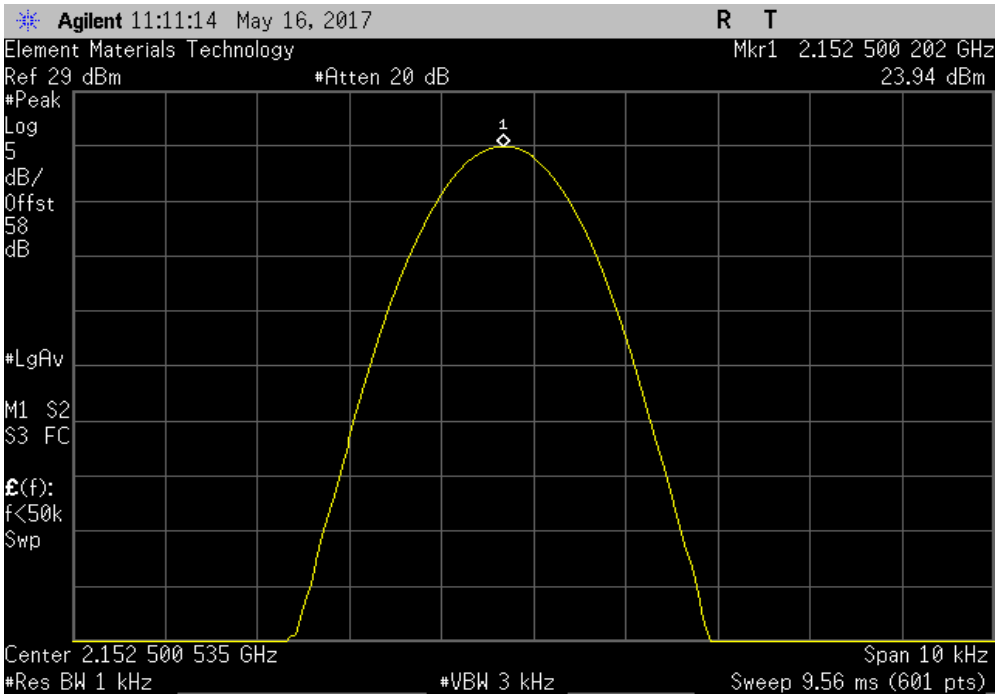
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Extreme Temperature, -10°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500587	2132.5	0.3	1	Pass



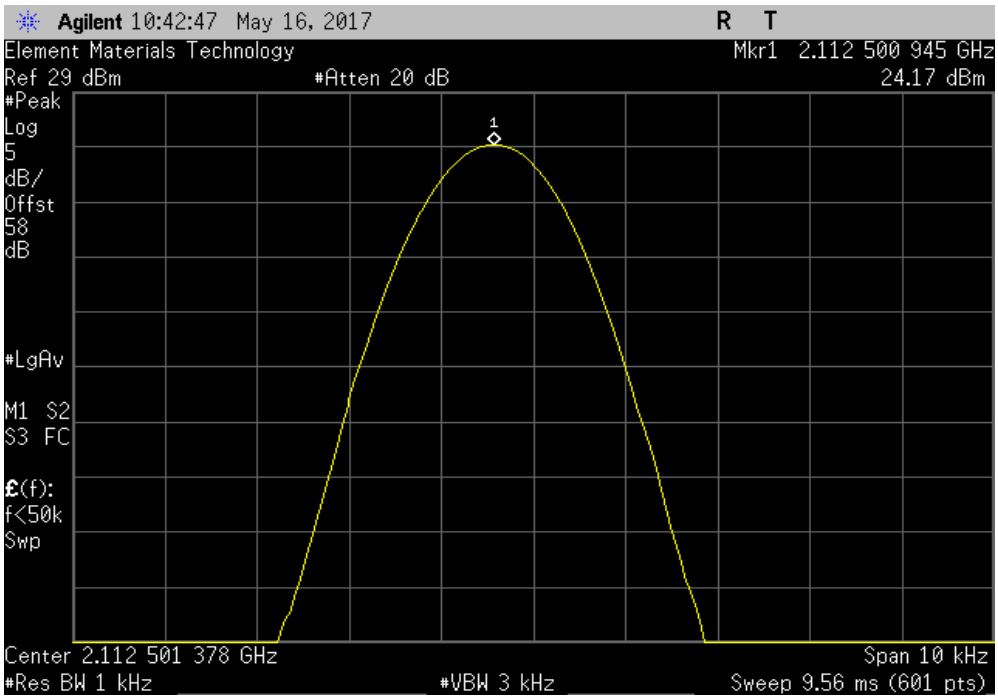
Port 1, Extreme Temperature, -10°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500202	2152.5	0.1	1	Pass



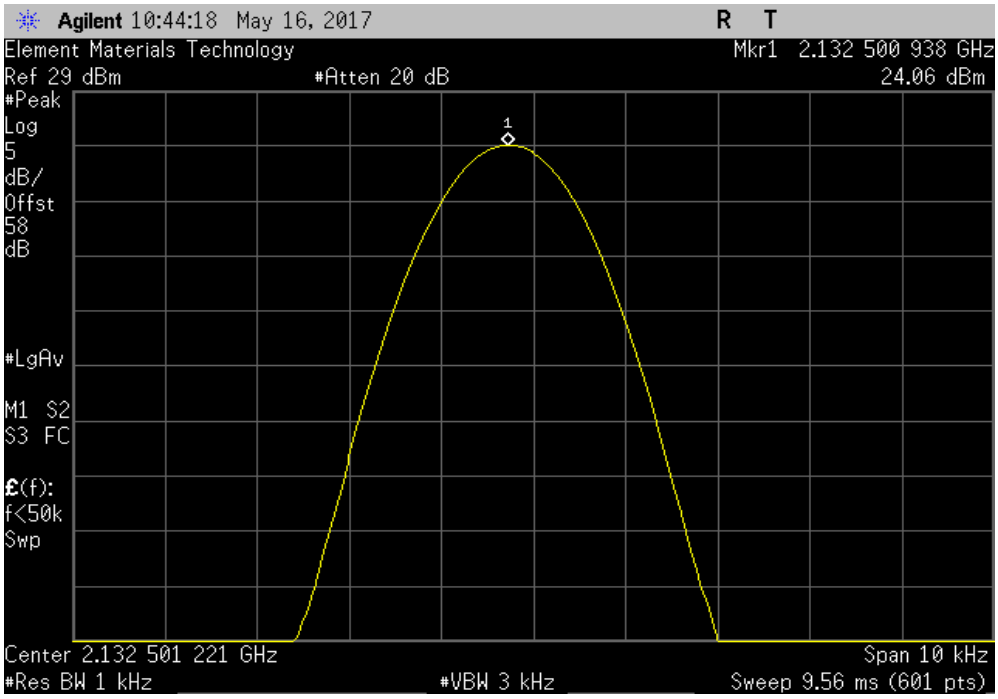
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Extreme Temperature, 0°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500945	2112.5	0.5	1	Pass



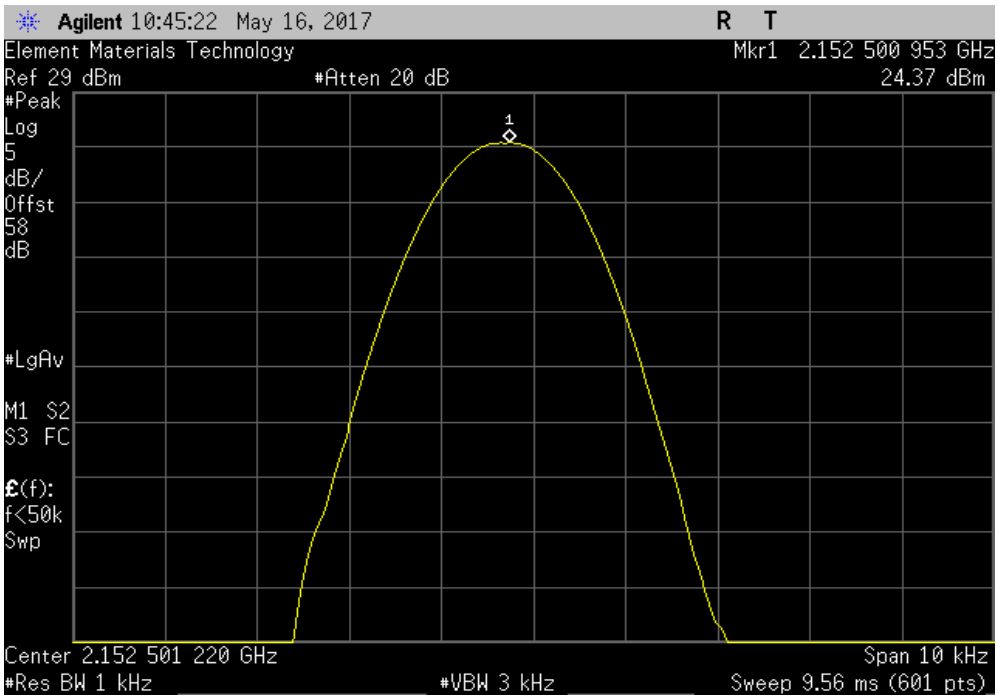
Port 1, Extreme Temperature, 0°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500938	2132.5	0.4	1	Pass



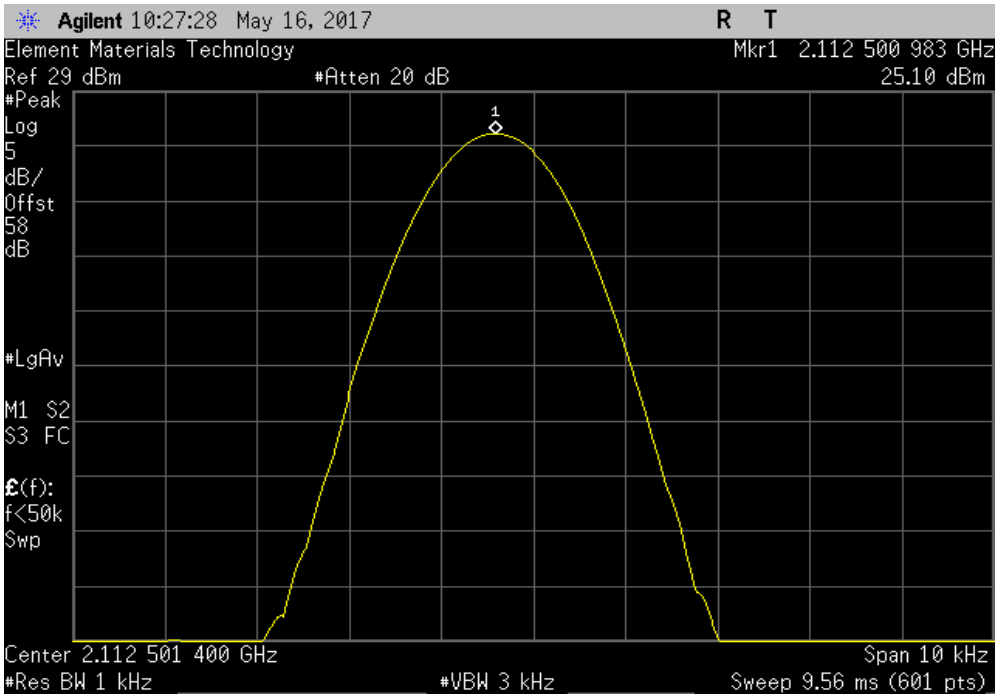
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Extreme Temperature, 0°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500953	2152.5	0.4	1	Pass



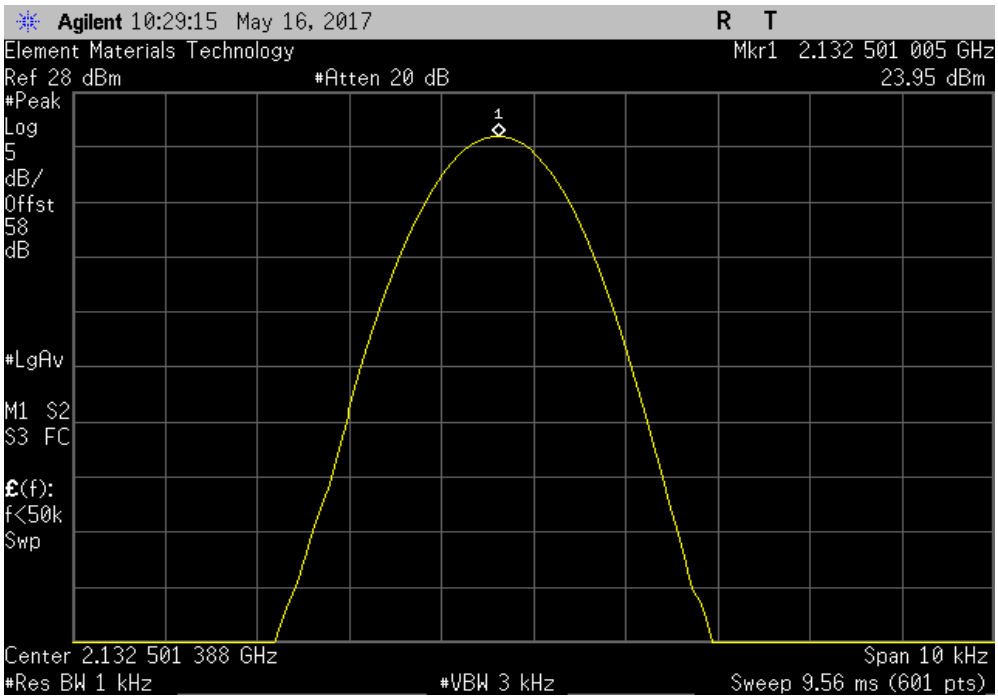
Port 1, Extreme Temperature, +10°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500983	2112.5	0.5	1	Pass



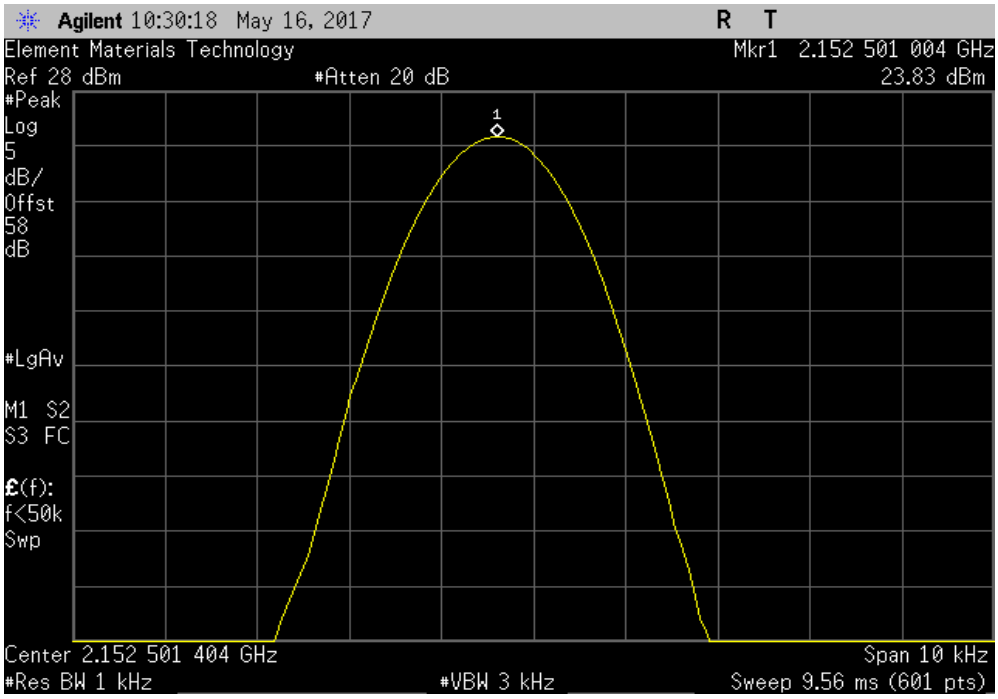
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Extreme Temperature, +10°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.501005	2132.5	0.5	1	Pass



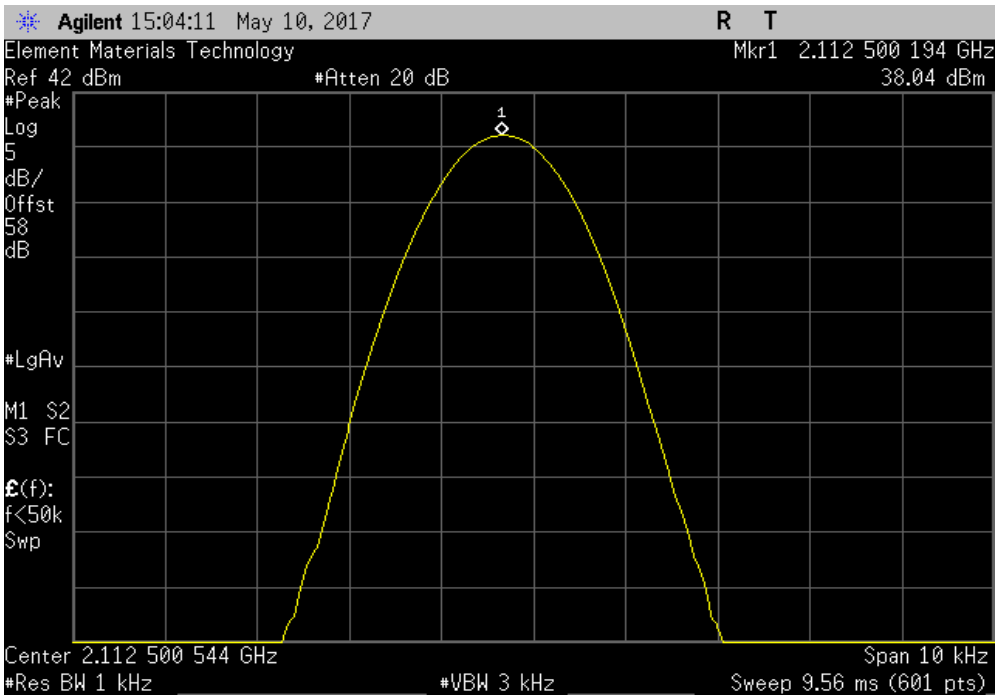
Port 1, Extreme Temperature, +10°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.501004	2152.5	0.5	1	Pass



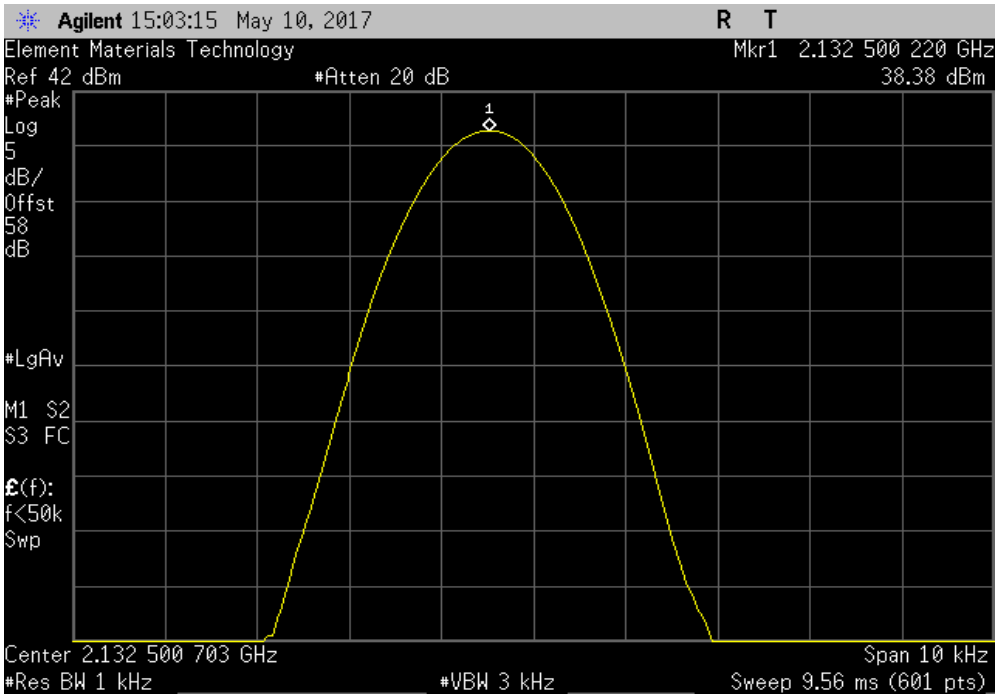
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Extreme Temperature, +20°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500194	2112.5	0.1	1	Pass



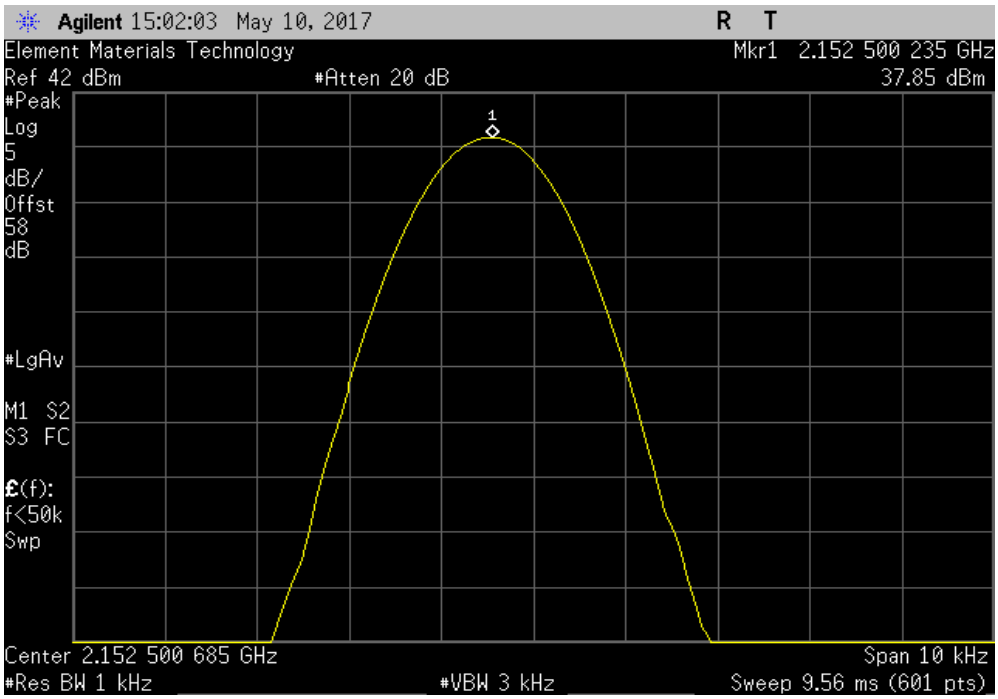
Port 1, Extreme Temperature, +20°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.50022	2132.5	0.1	1	Pass



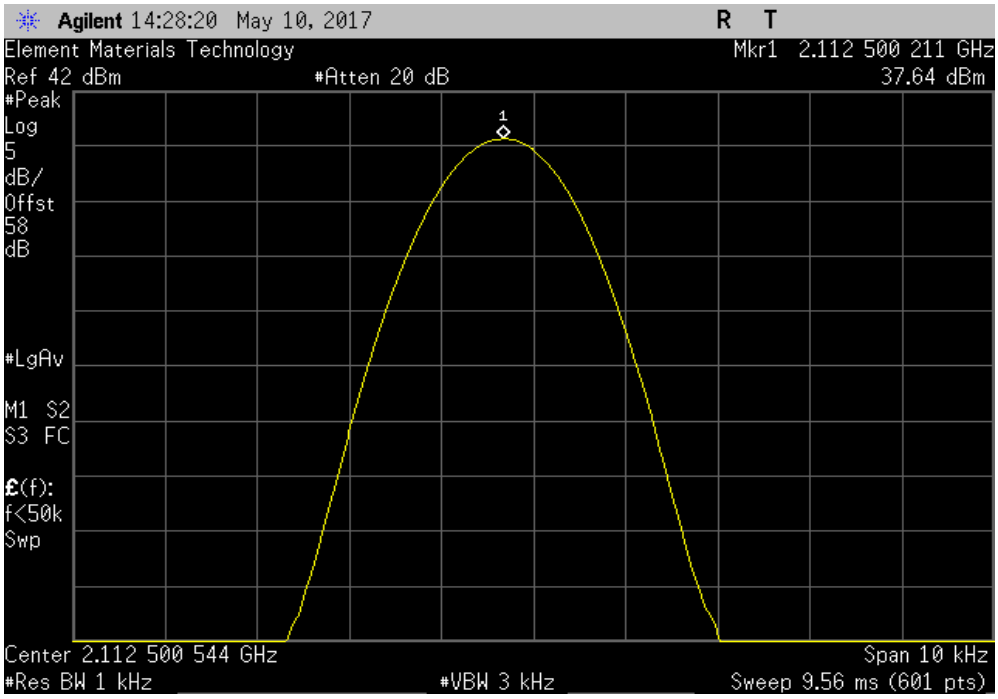
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Extreme Temperature, +20°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500235	2152.5	0.1	1	Pass



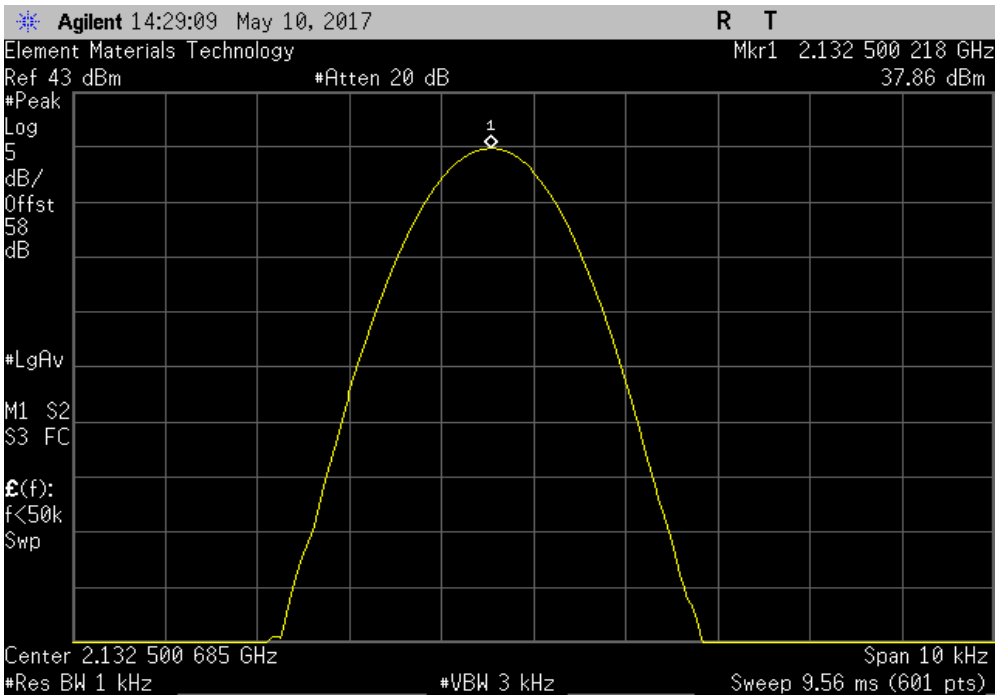
Port 1, Extreme Temperature, +30°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500211	2112.5	0.1	1	Pass



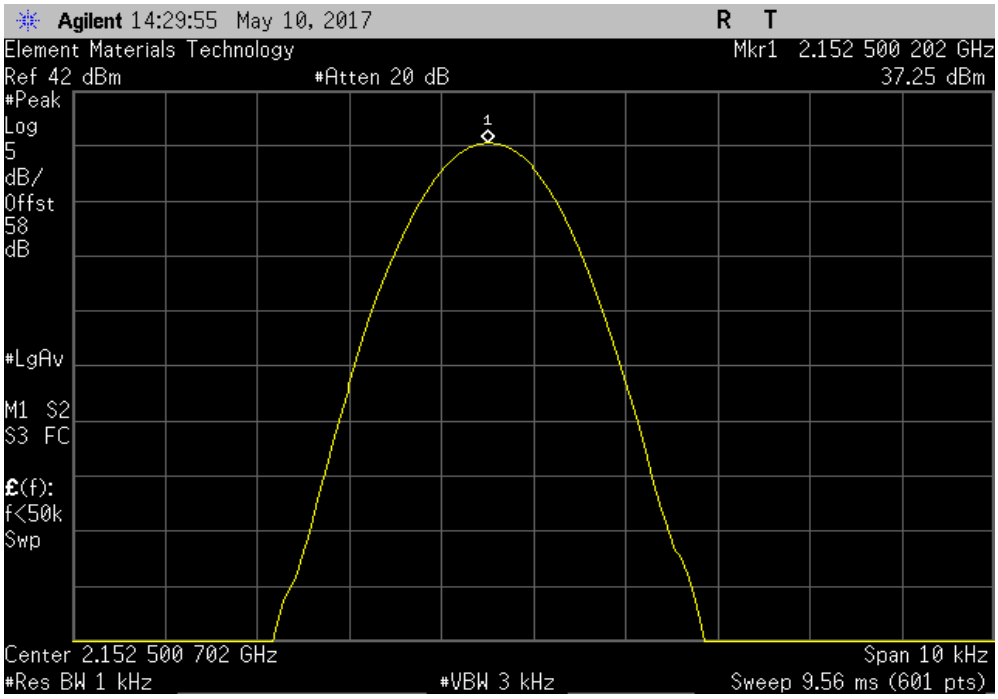
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Extreme Temperature, +30°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500218	2132.5	0.1	1	Pass



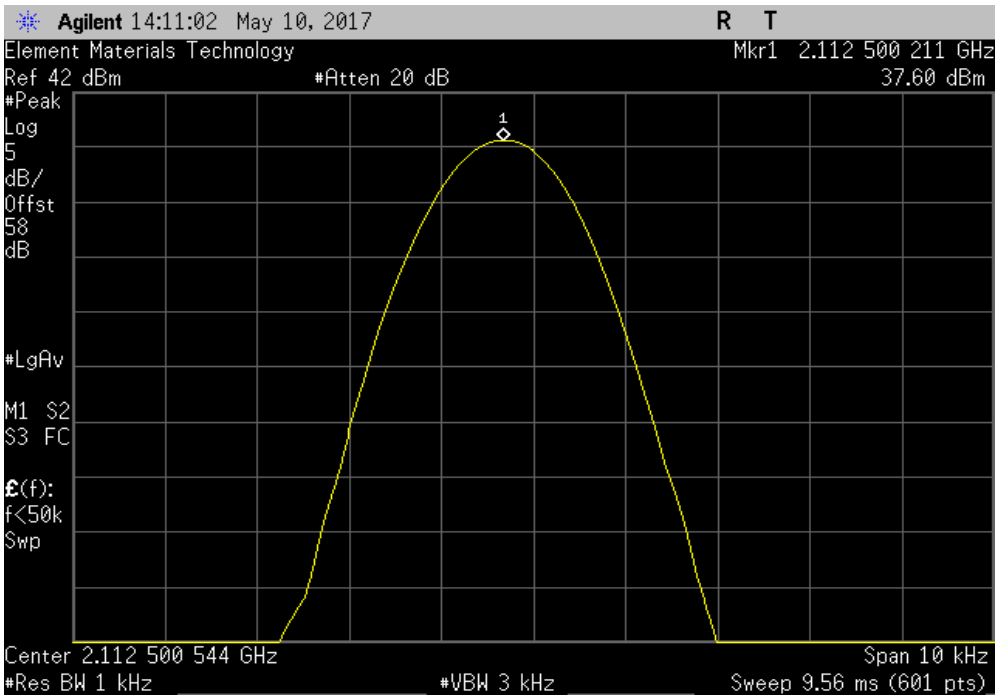
Port 1, Extreme Temperature, +30°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500202	2152.5	0.1	1	Pass



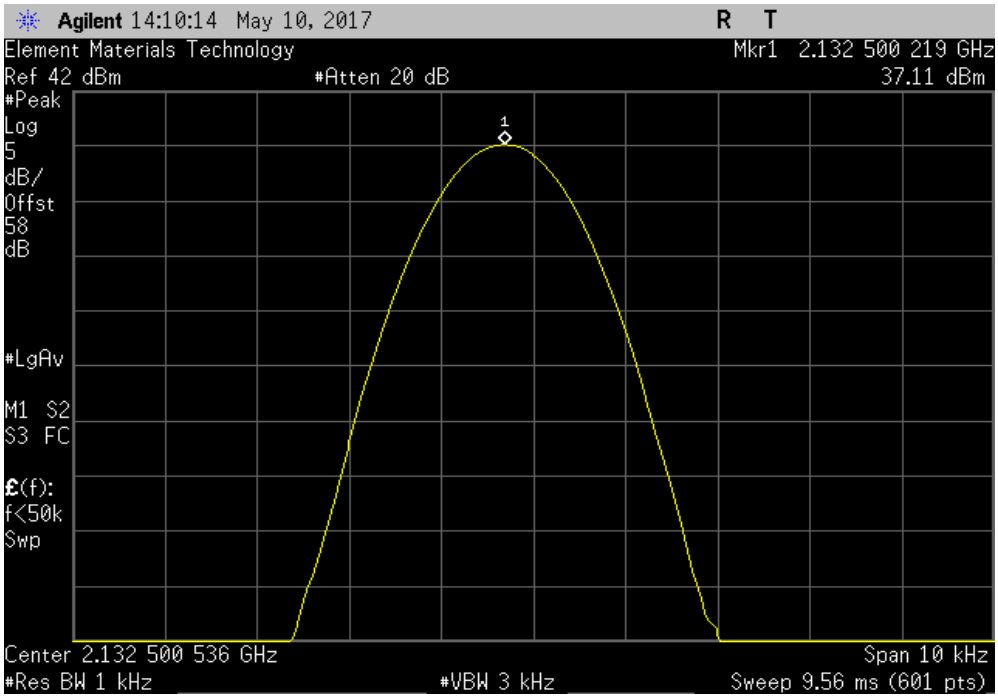
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Extreme Temperature, +40°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500211	2112.5	0.1	1	Pass



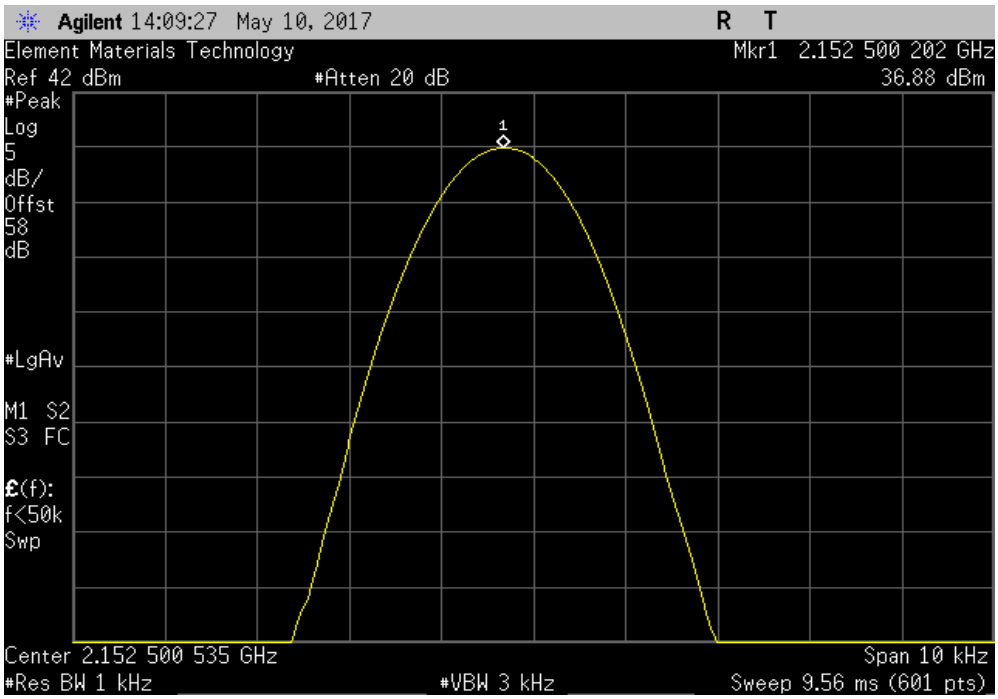
Port 1, Extreme Temperature, +40°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500219	2132.5	0.1	1	Pass



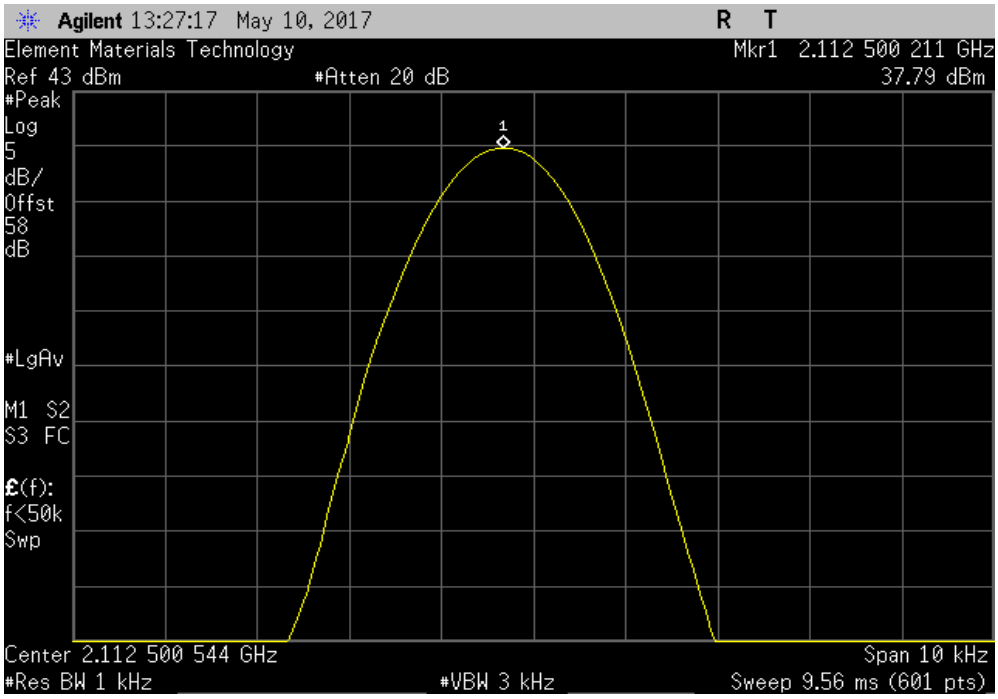
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Extreme Temperature, +40°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500202	2152.5	0.1	1	Pass



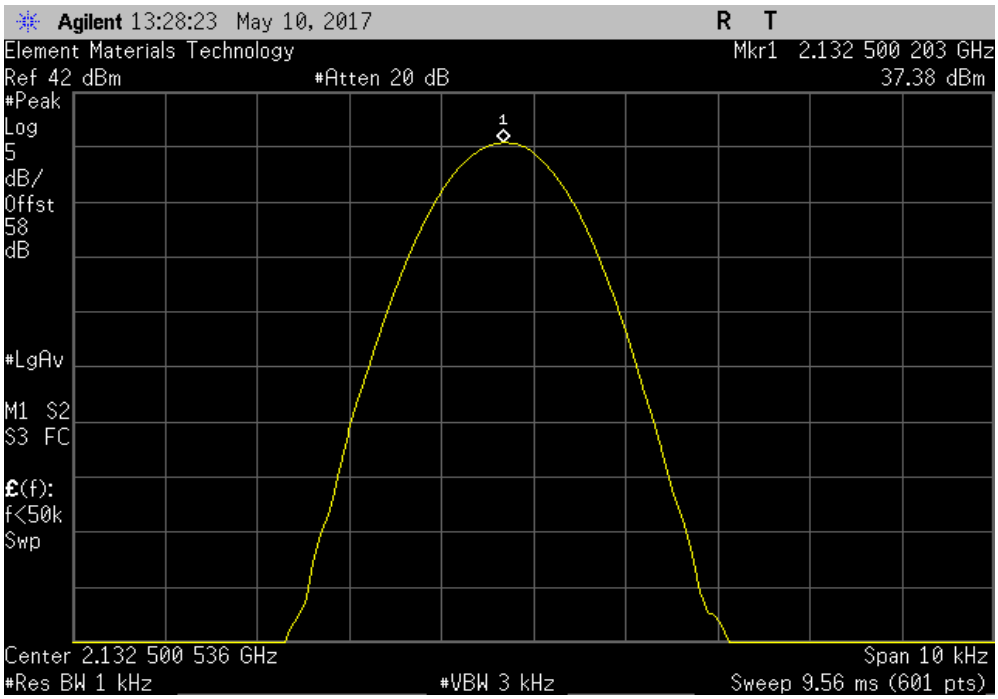
Port 1, Extreme Temperature, +50°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500211	2112.5	0.1	1	Pass



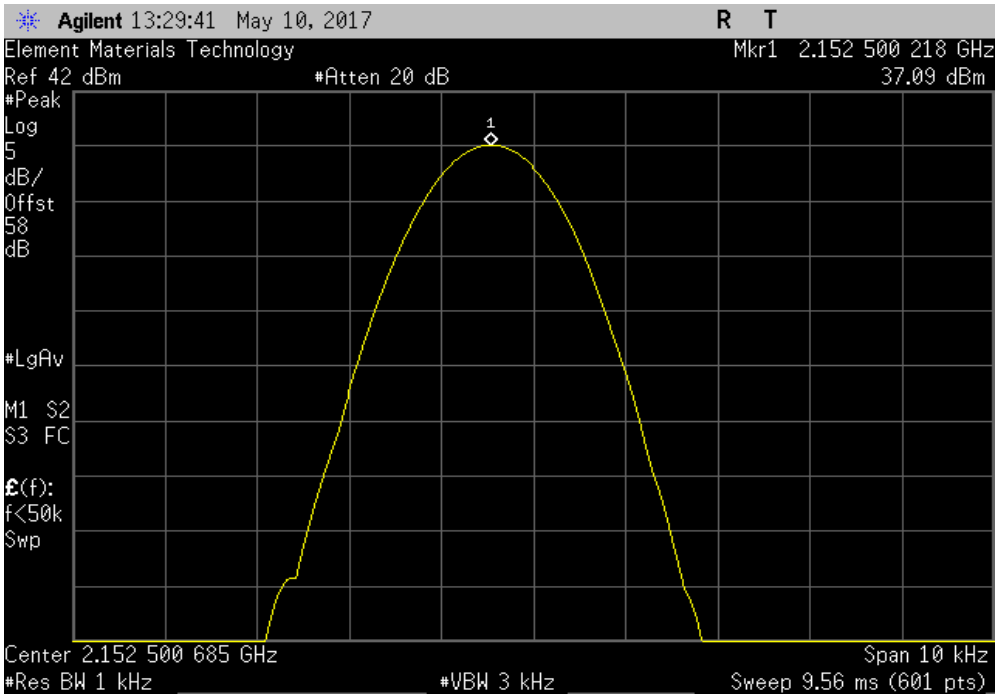
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 1, Extreme Temperature, +50°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500203	2132.5	0.1	1	Pass



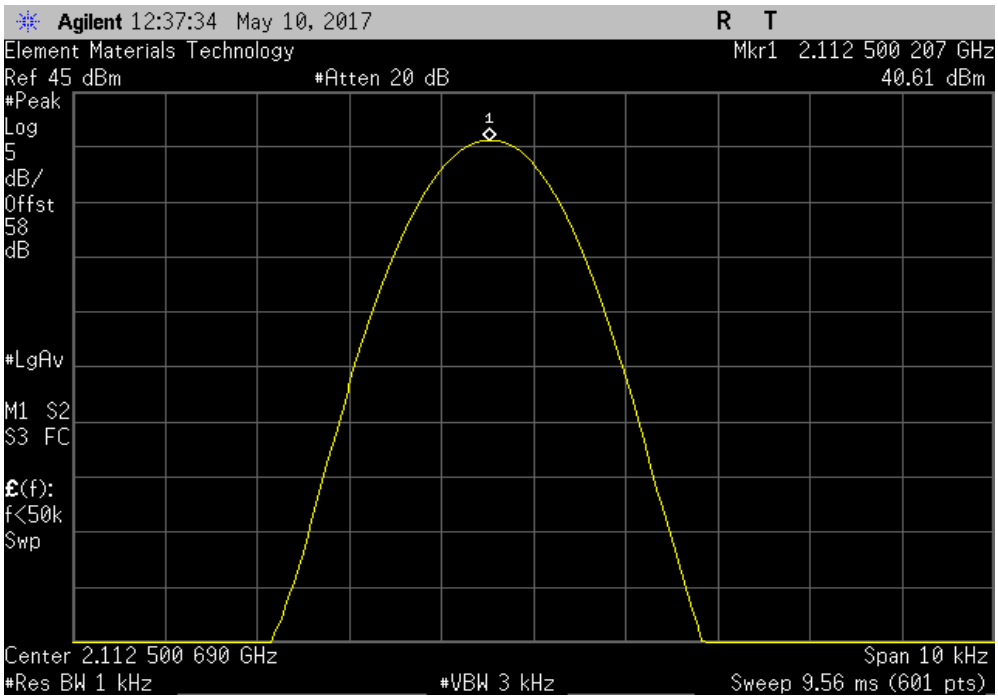
Port 1, Extreme Temperature, +50°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500218	2152.5	0.1	1	Pass



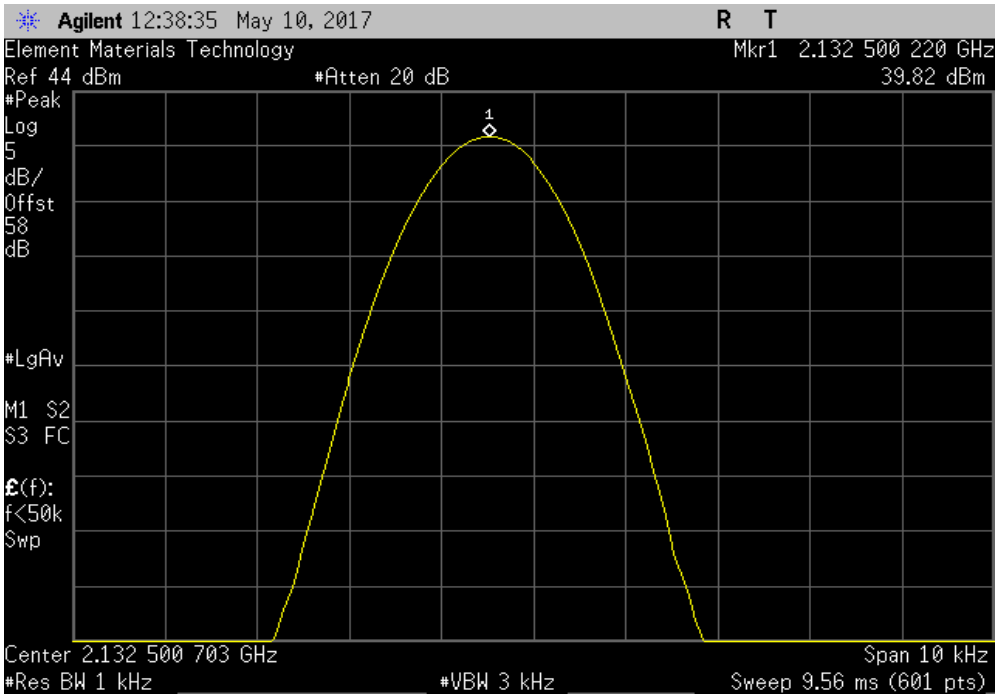
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

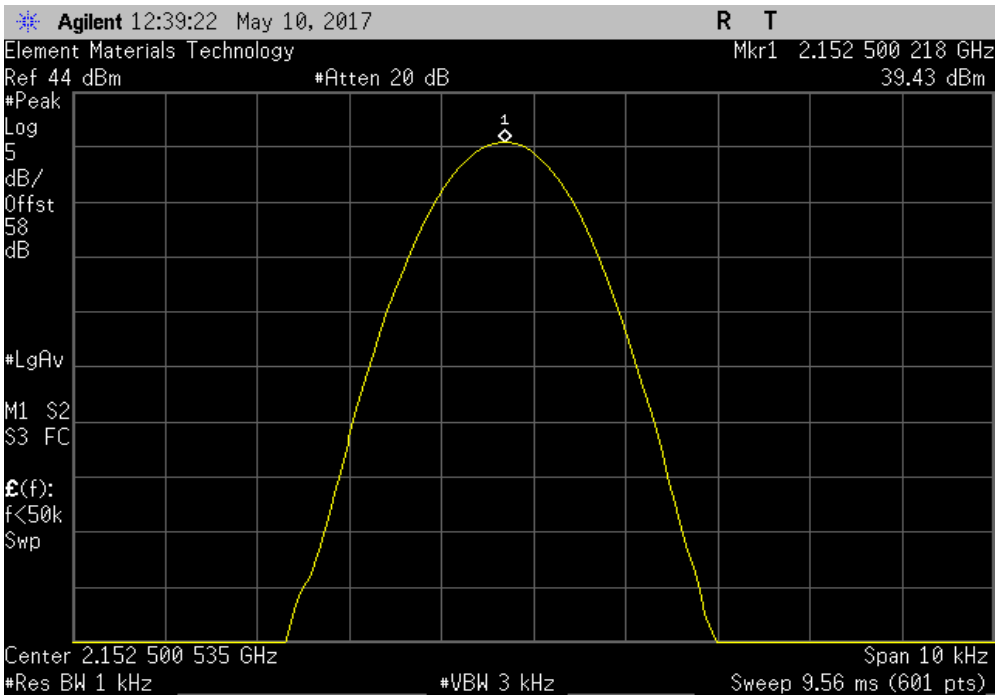
Port 2, Normal Temperature and Voltage, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500207	2112.5	0.1	1	Pass



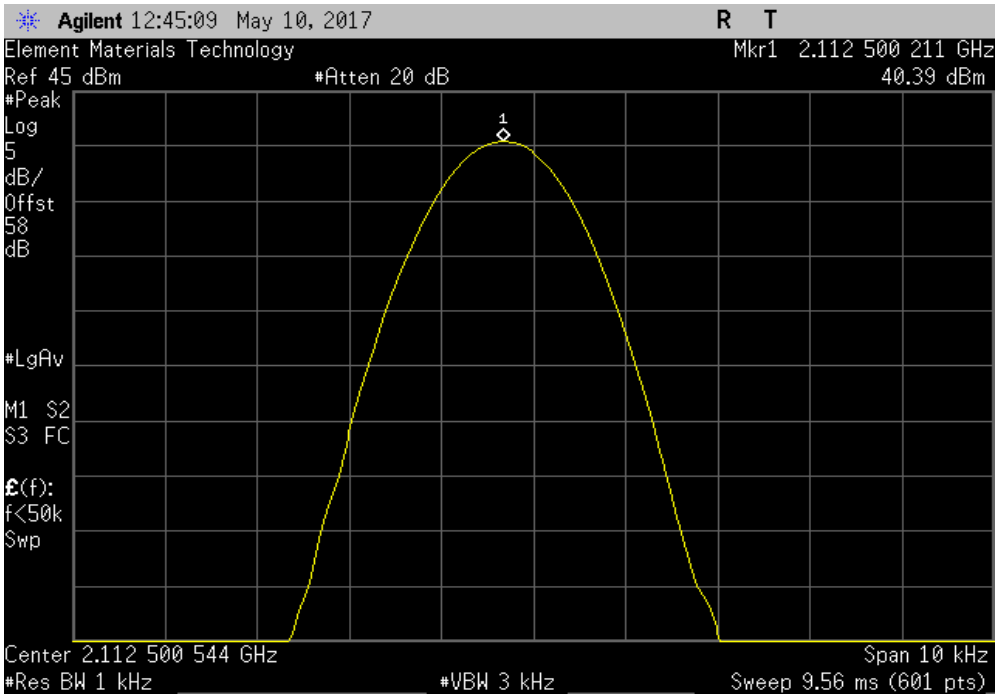
Port 2, Normal Temperature and Voltage, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.50022	2132.5	0.1	1	Pass



Port 2, Normal Temperature and Voltage, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500218	2152.5	0.1	1	Pass



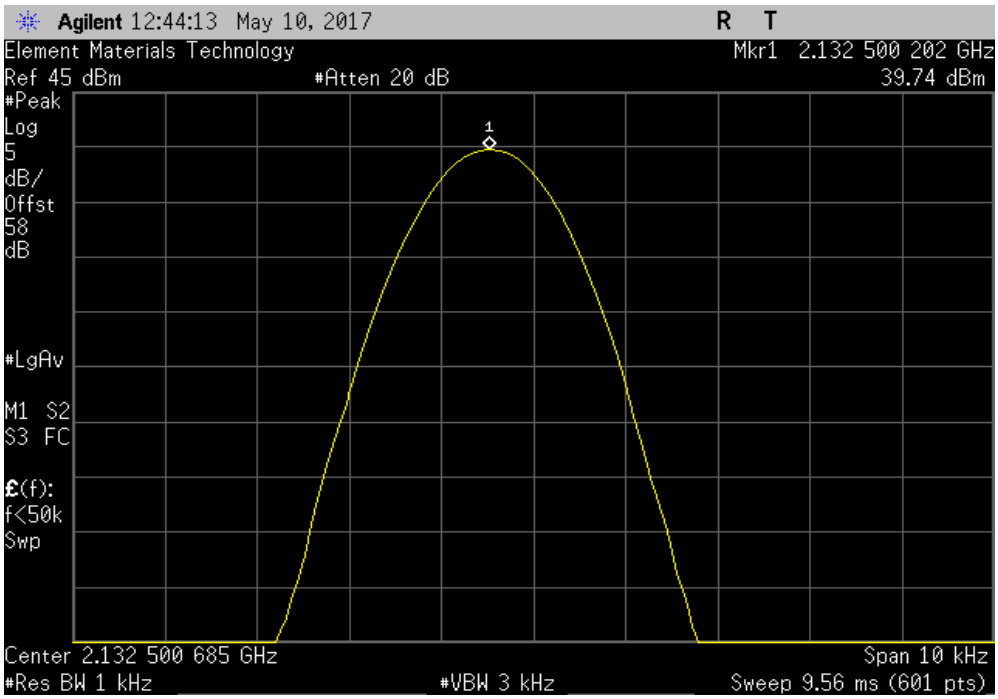
Port 2, Extreme Voltage, 55.2 VDC, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500211	2112.5	0.1	1	Pass



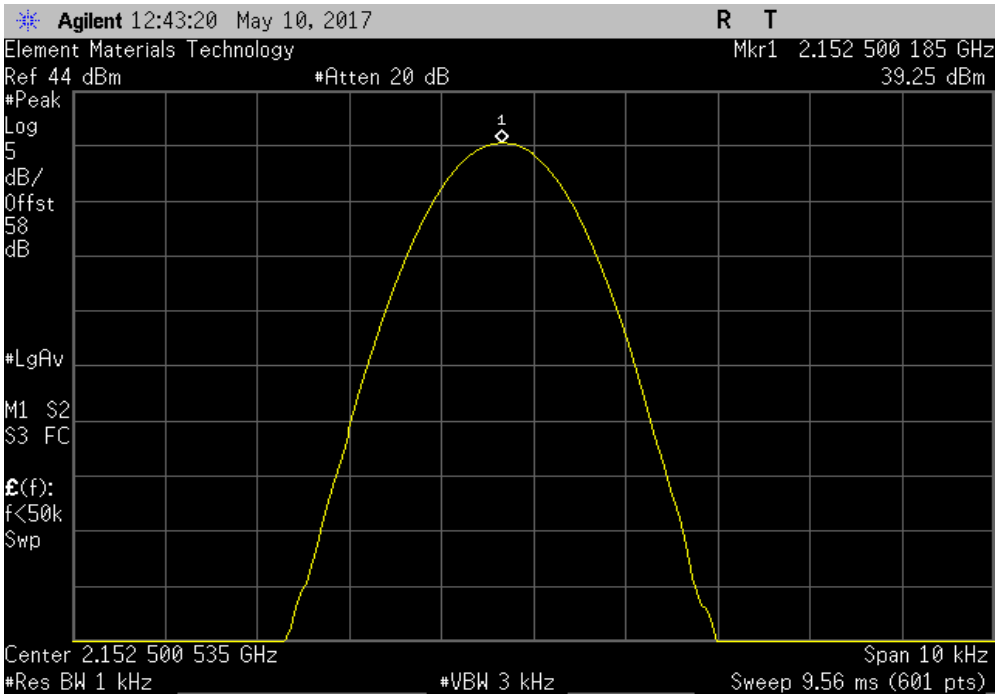
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 2, Extreme Voltage, 55.2 VDC, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500202	2132.5	0.1	1	Pass



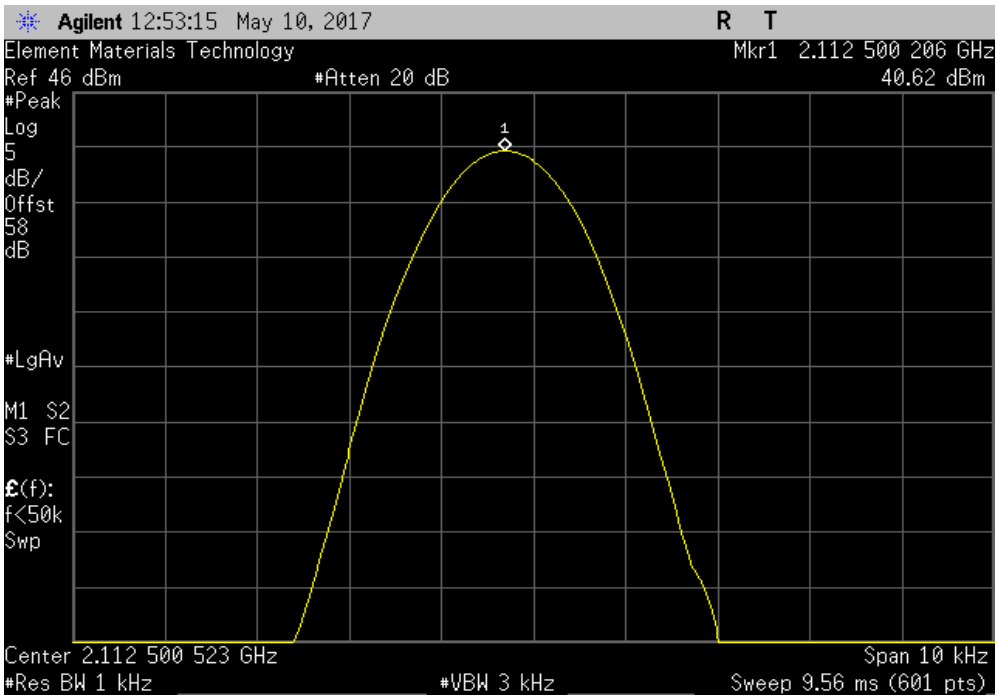
Port 2, Extreme Voltage, 55.2 VDC, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500185	2152.5	0.1	1	Pass



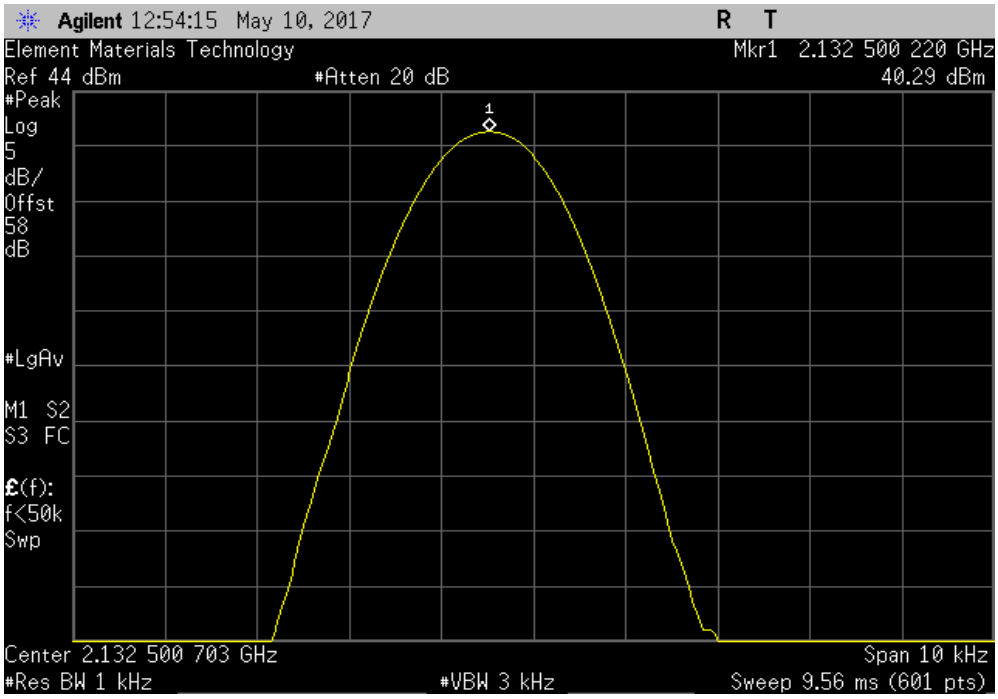
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 2, Extreme Voltage, 40.8 VAC, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500206	2112.5	0.1	1	Pass



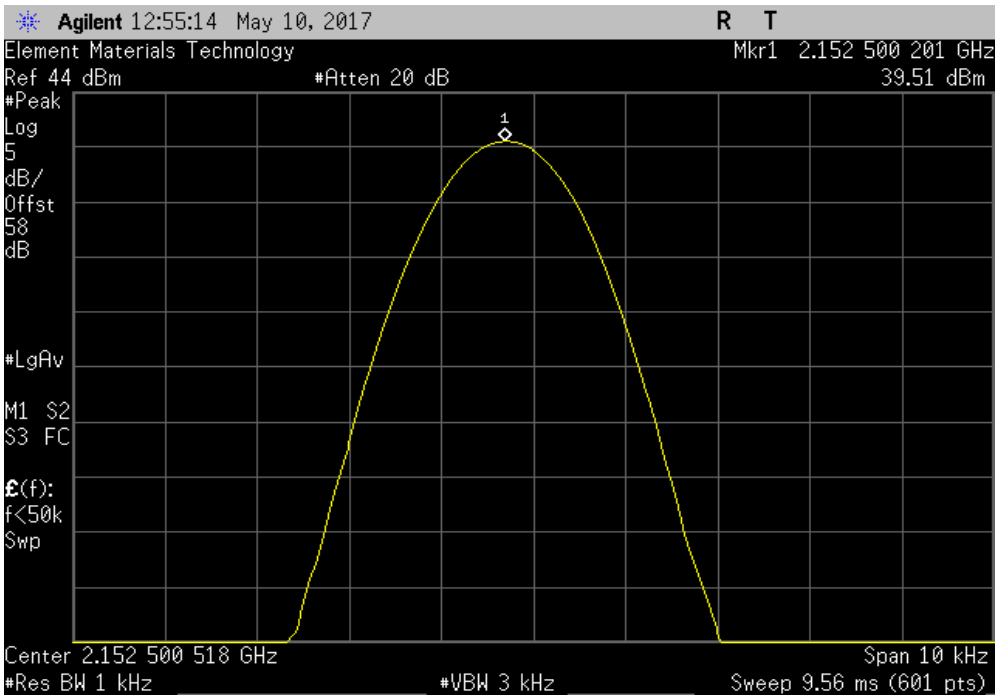
Port 2, Extreme Voltage, 40.8 VAC, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.50022	2132.5	0.1	1	Pass



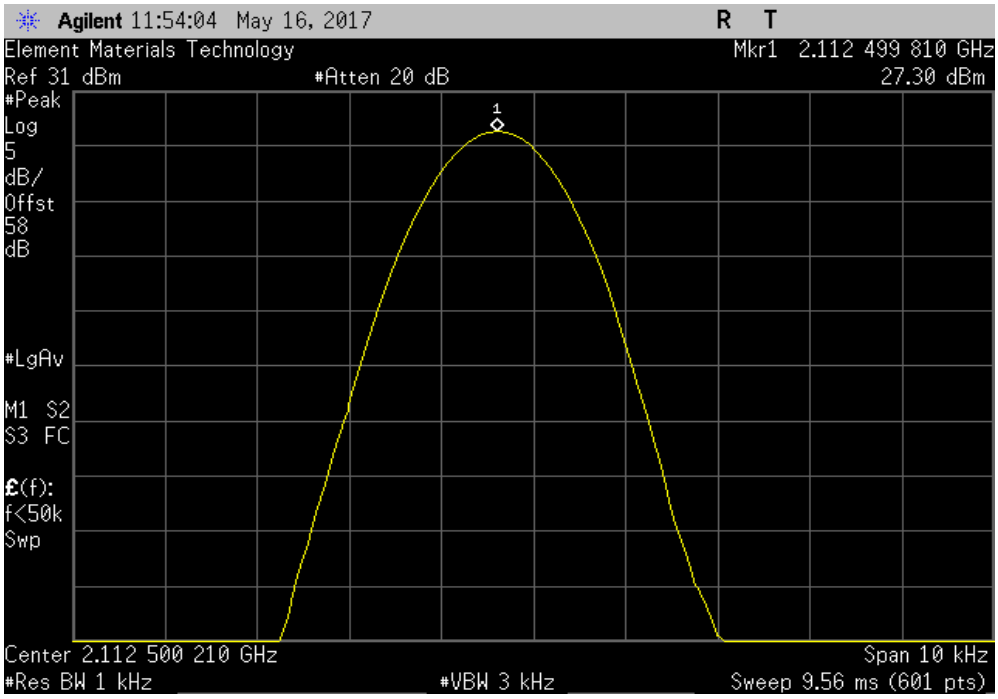
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 2, Extreme Voltage, 40.8 VAC, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500201	2152.5	0.1	1	Pass



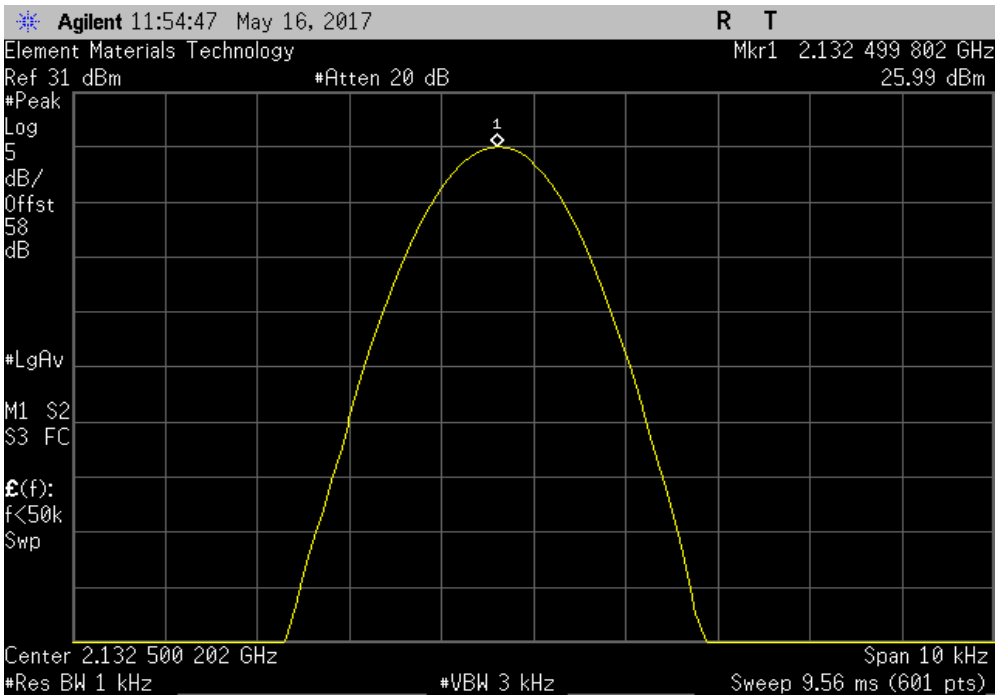
Port 2, Extreme Temperature, -30°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.49981	2112.5	0.1	1	Pass



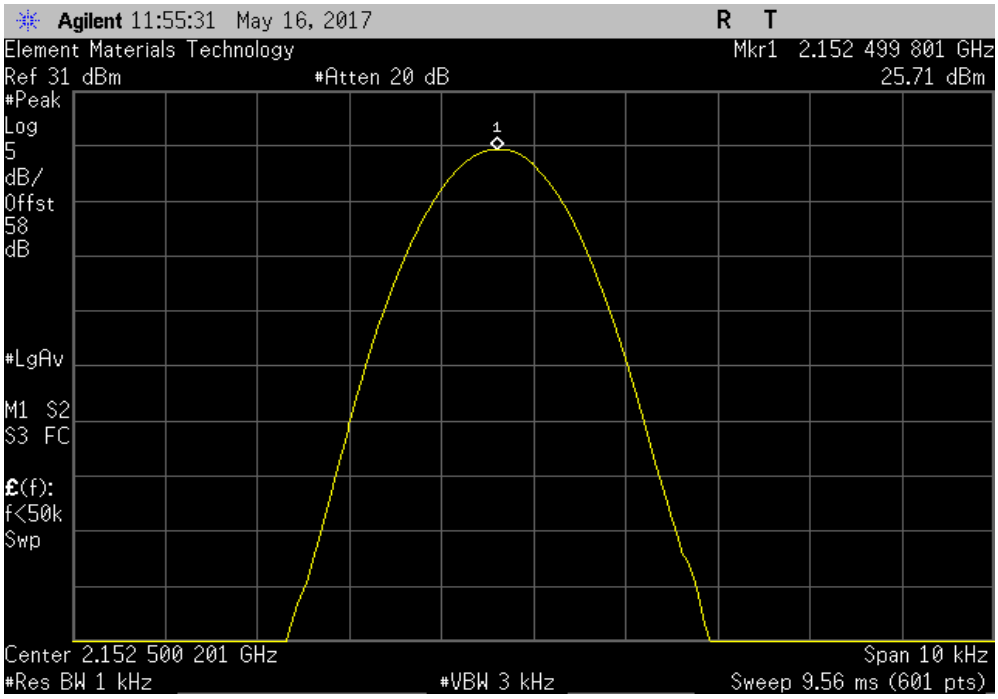
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 2, Extreme Temperature, -30°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.499802	2132.5	0.1	1	Pass



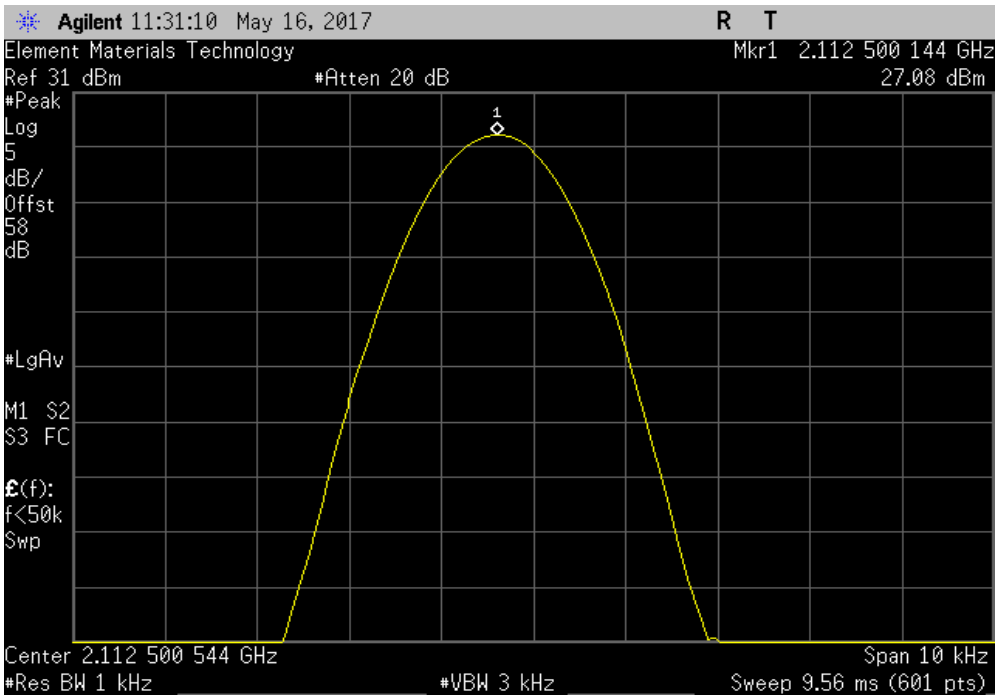
Port 2, Extreme Temperature, -30°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.499801	2152.5	0.1	1	Pass



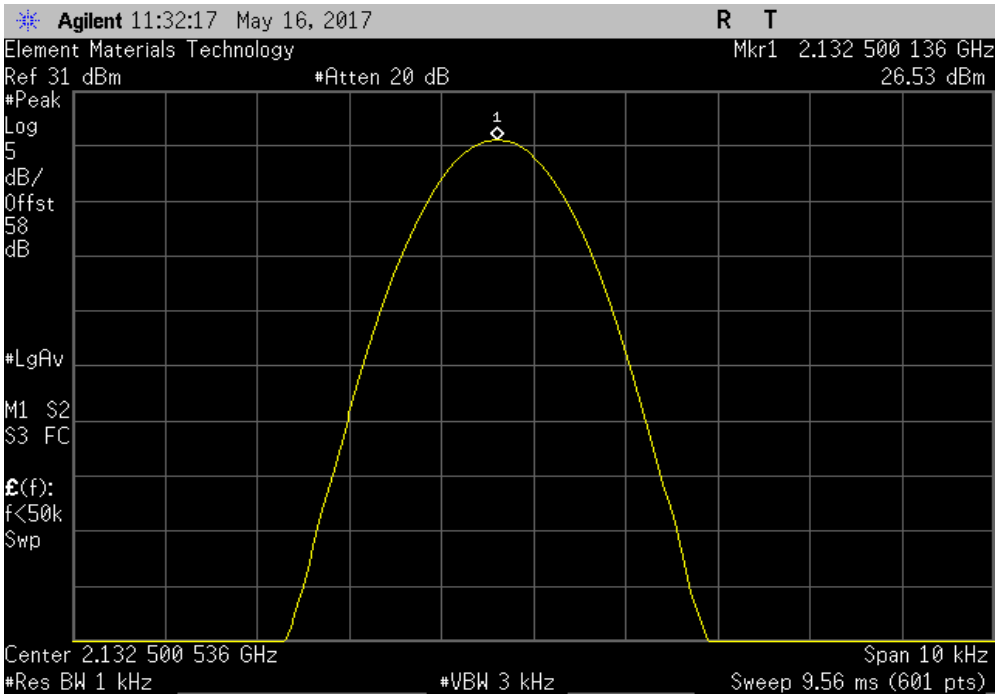
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 2, Extreme Temperature, -20°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500144	2112.5	0.1	1	Pass



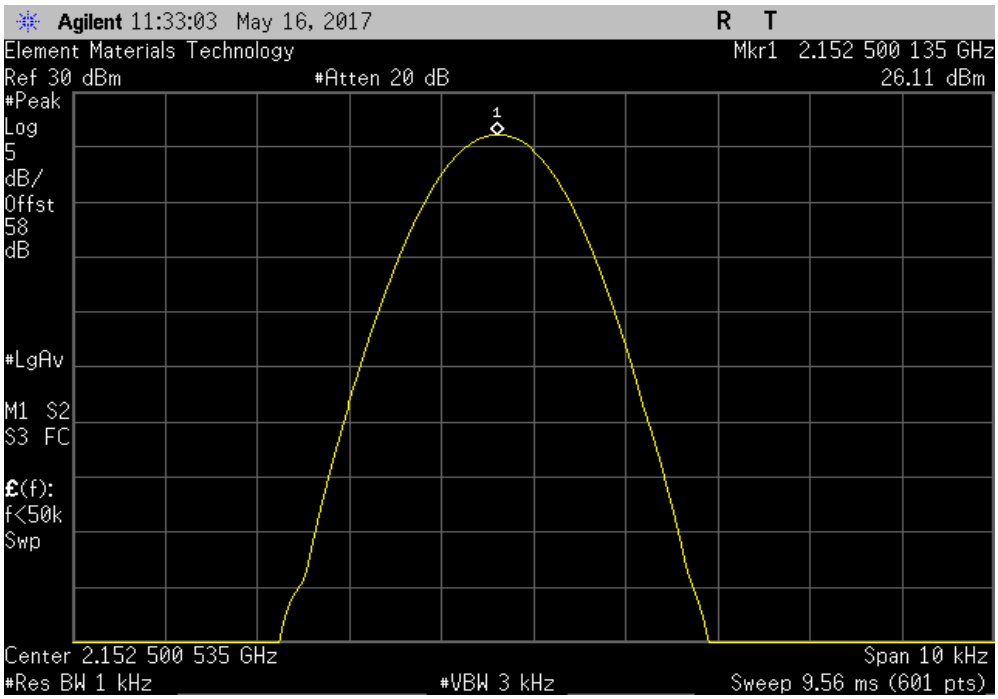
Port 2, Extreme Temperature, -20°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500136	2132.5	0.1	1	Pass



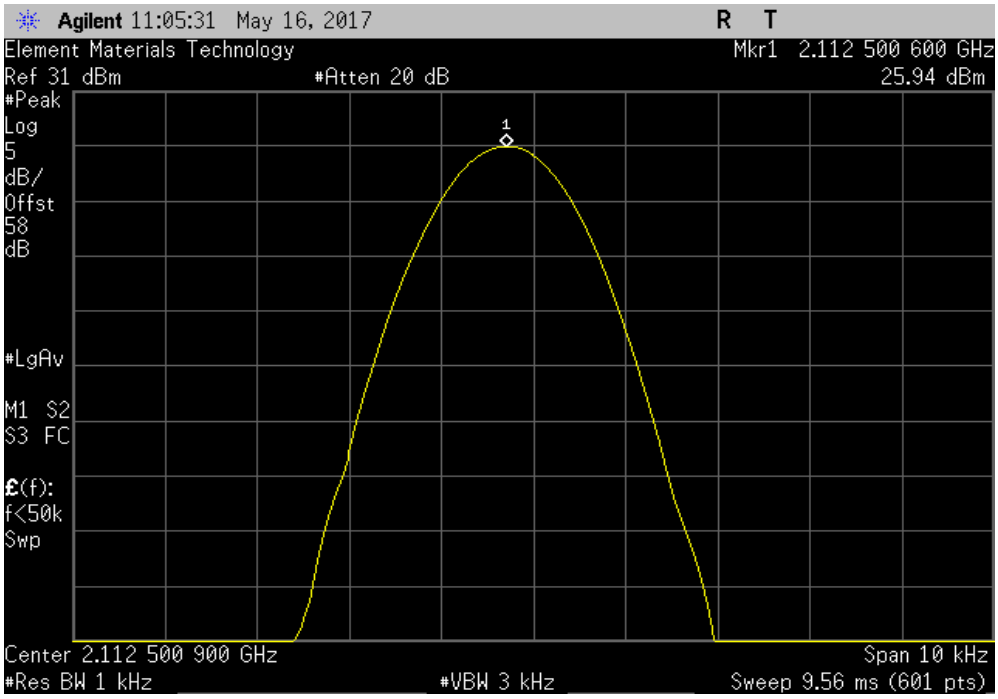
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

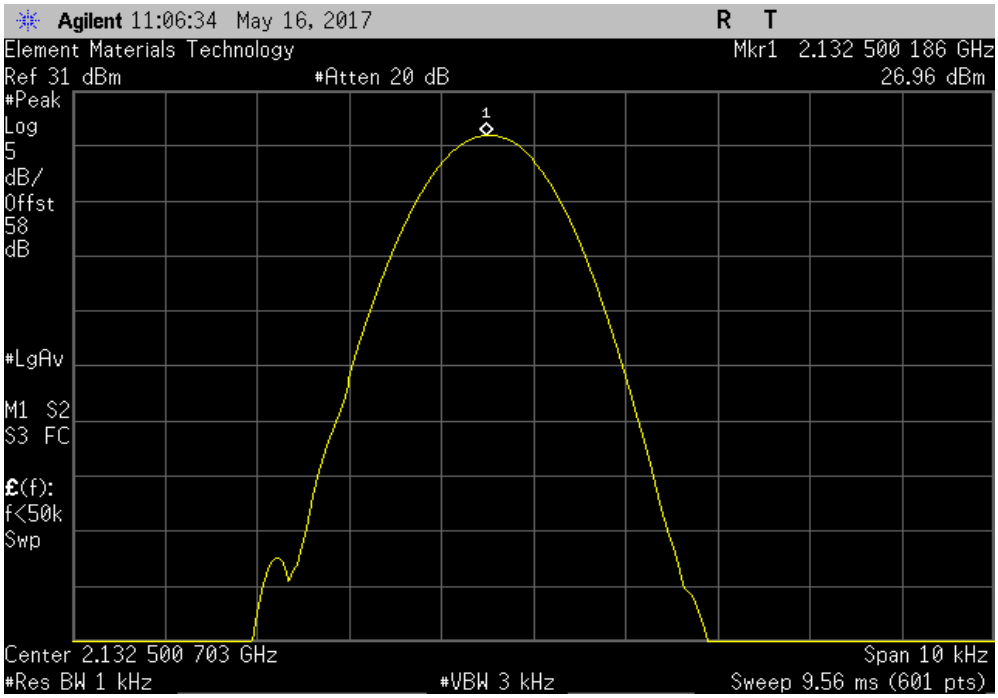
Port 2, Extreme Temperature, -20°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500135	2152.5	0.1	1	Pass



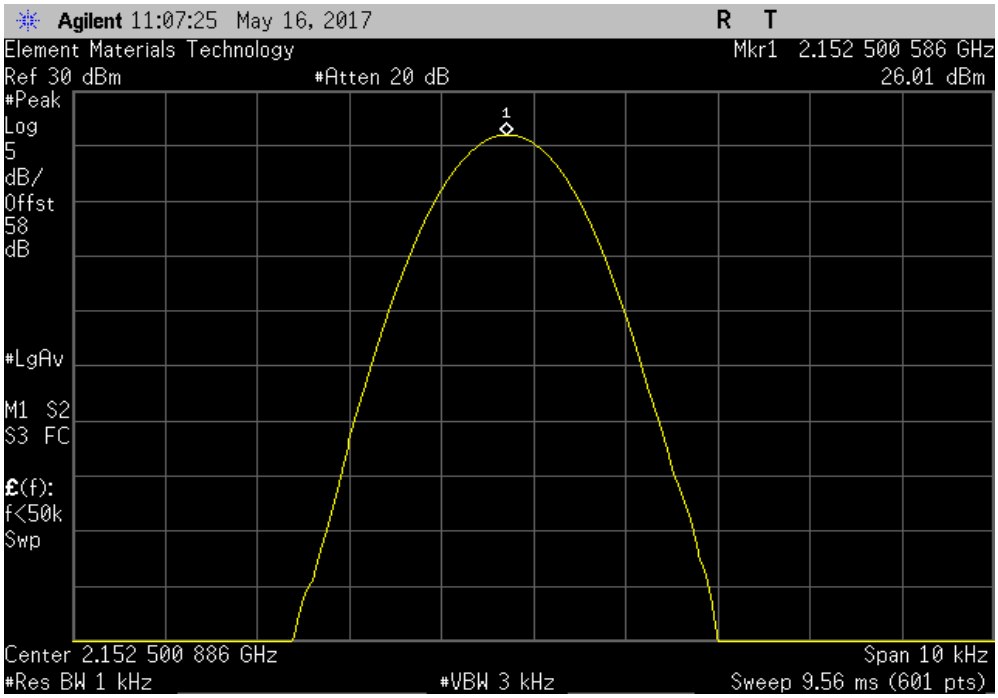
Port 2, Extreme Temperature, -10°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.5006	2112.5	0.3	1	Pass



Port 2, Extreme Temperature, -10°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500186	2132.5	0.1	1	Pass



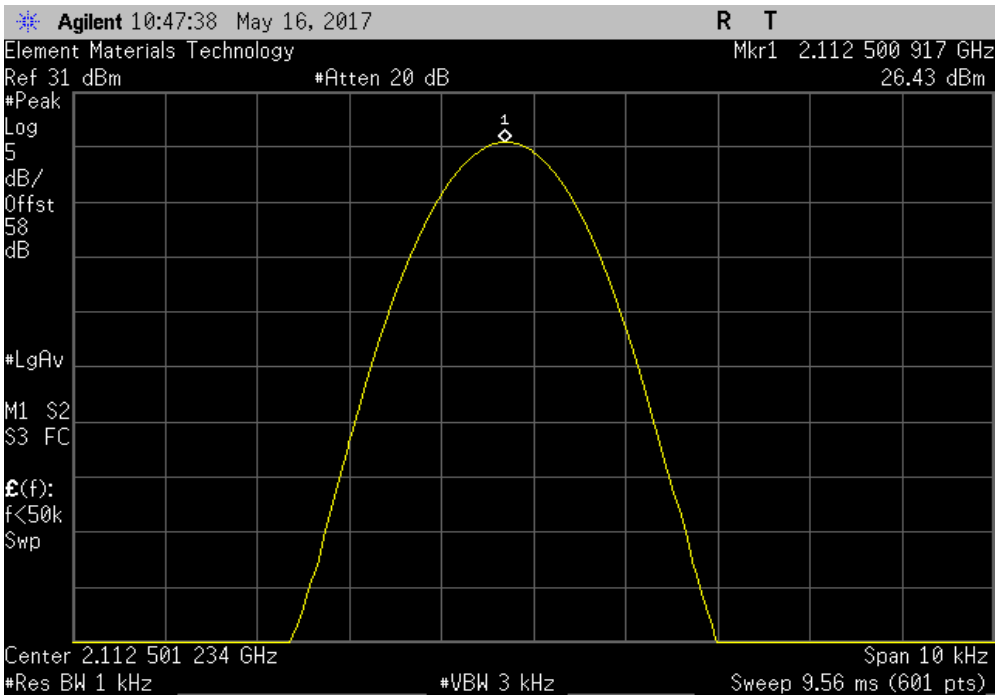
Port 2, Extreme Temperature, -10°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500586	2152.5	0.3	1	Pass



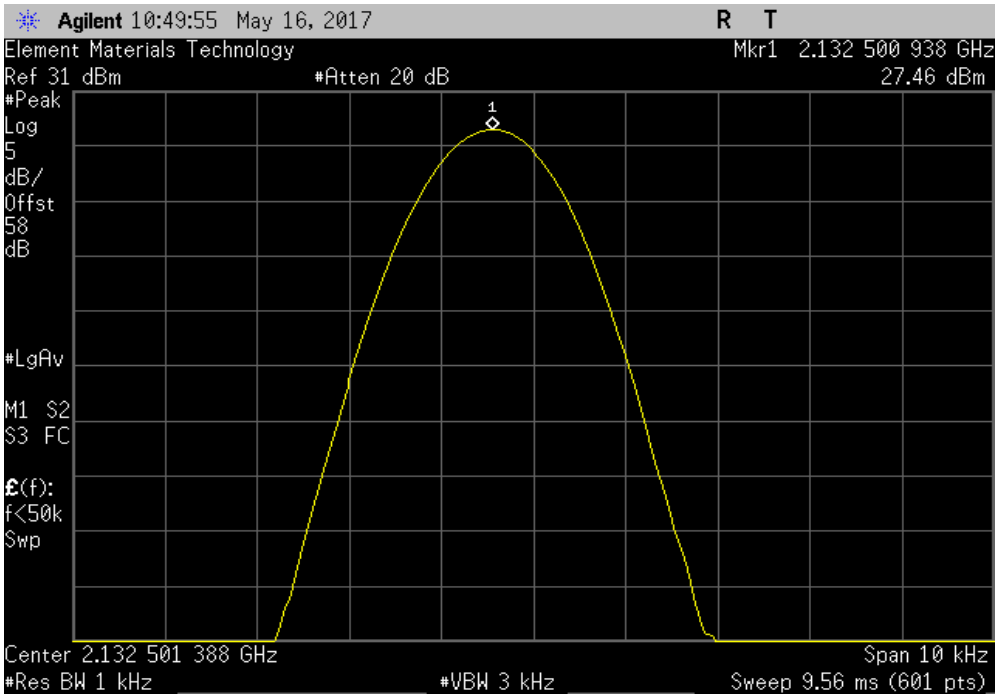
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

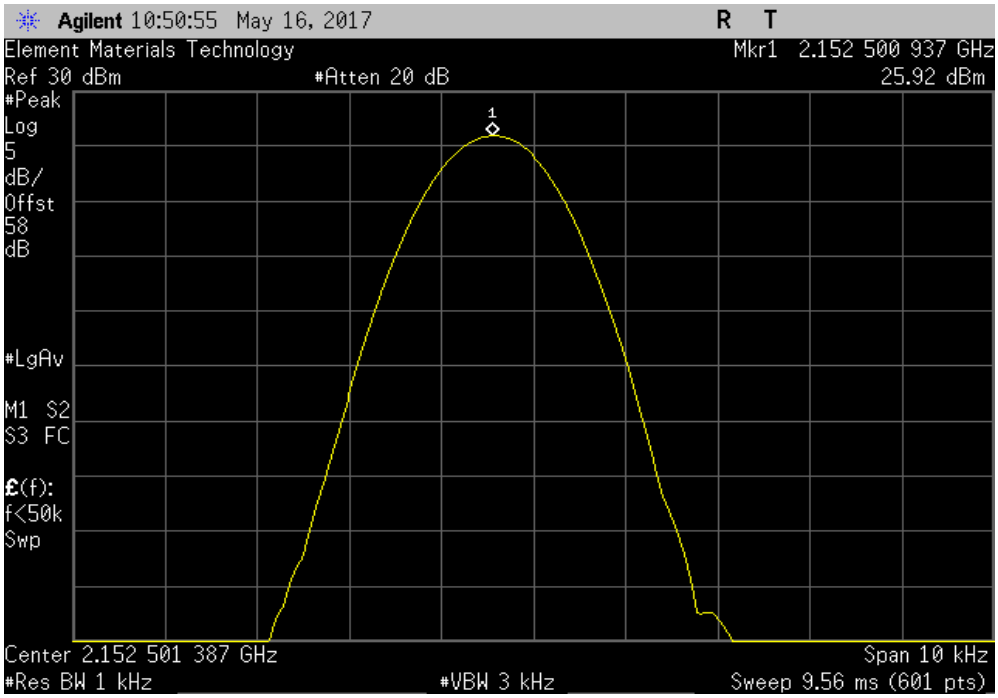
Port 2, Extreme Temperature, 0°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500917	2112.5	0.4	1	Pass



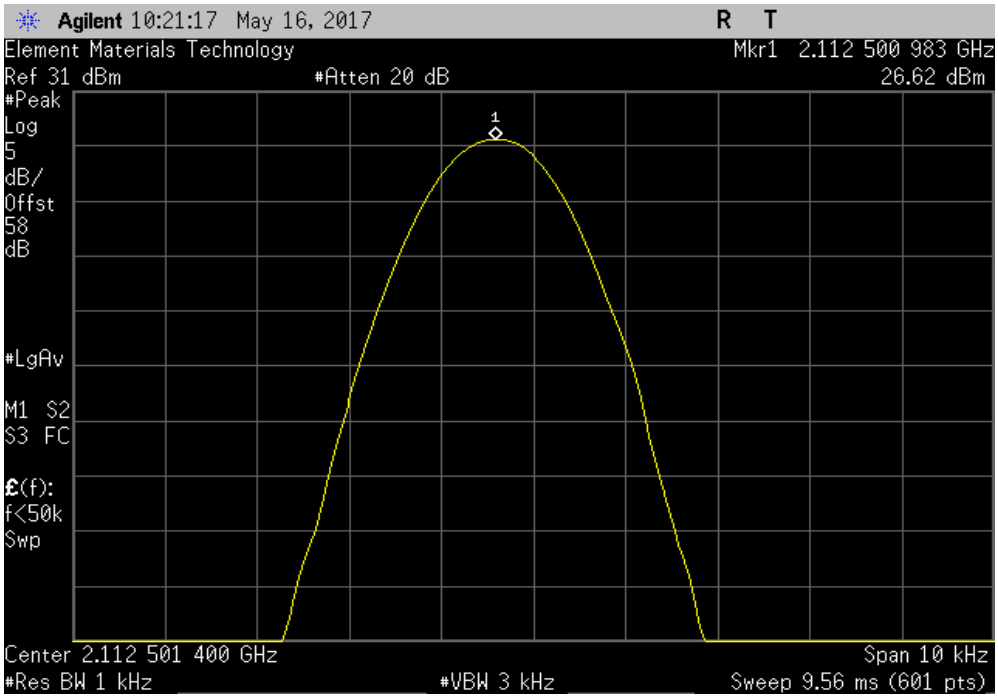
Port 2, Extreme Temperature, 0°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500938	2132.5	0.4	1	Pass



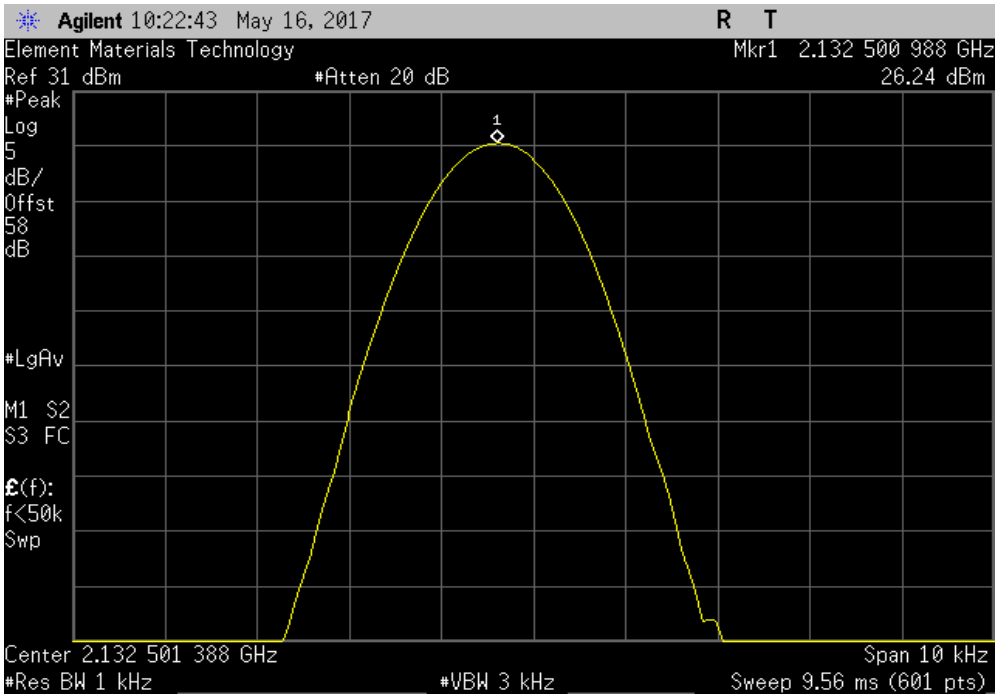
Port 2, Extreme Temperature, 0°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500937	2152.5	0.4	1	Pass



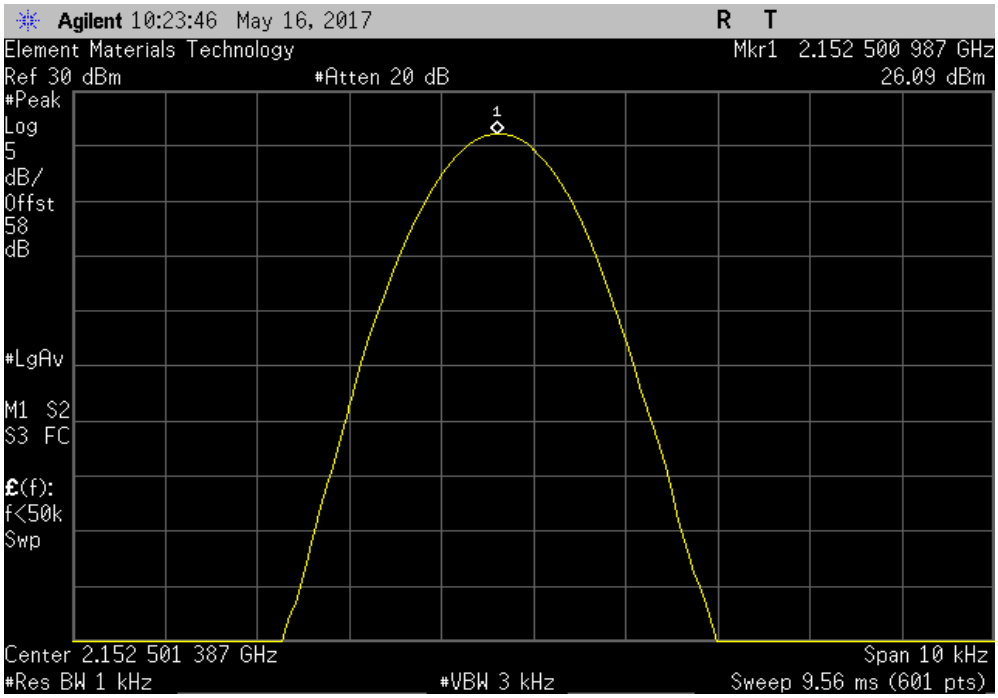
Port 2, Extreme Temperature, +10°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500983	2112.5	0.5	1	Pass



Port 2, Extreme Temperature, +10°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500988	2132.5	0.5	1	Pass



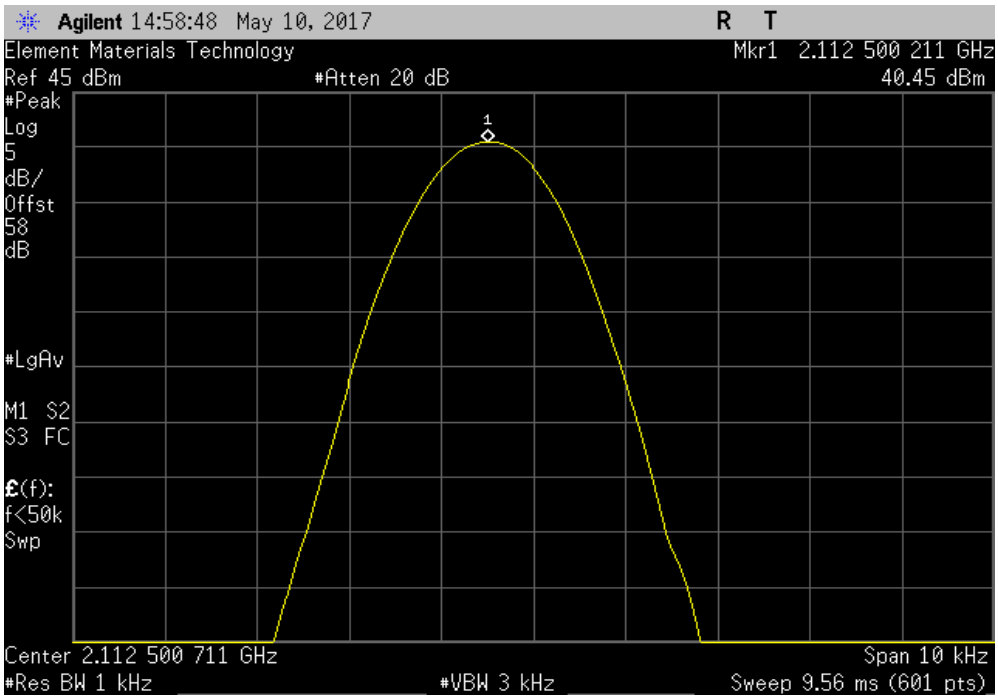
Port 2, Extreme Temperature, +10°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500987	2152.5	0.5	1	Pass



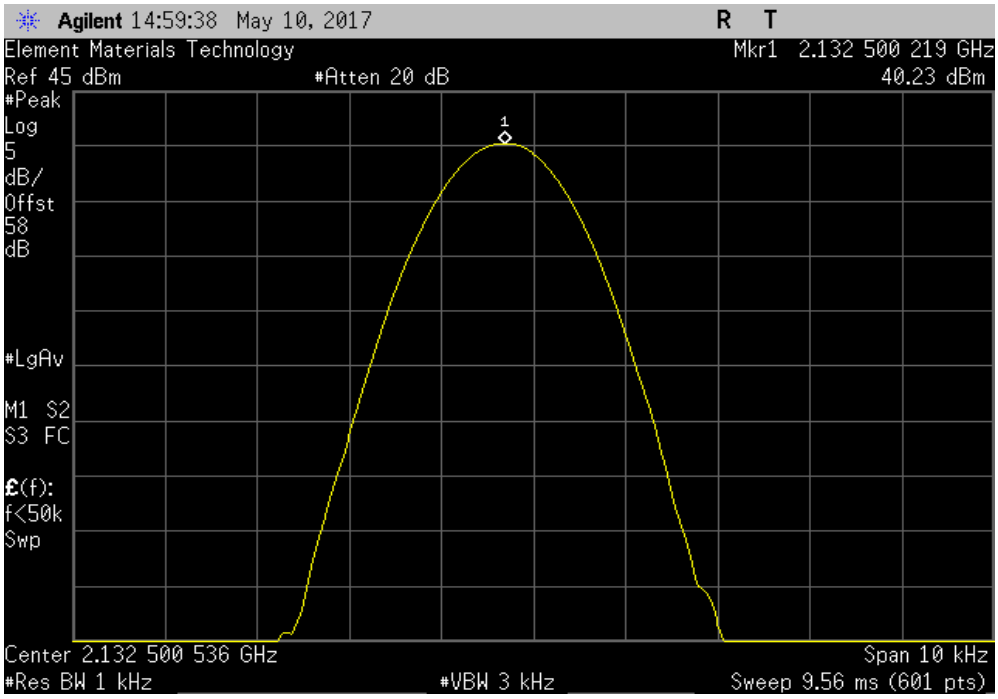
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 2, Extreme Temperature, +20°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500211	2112.5	0.1	1	Pass



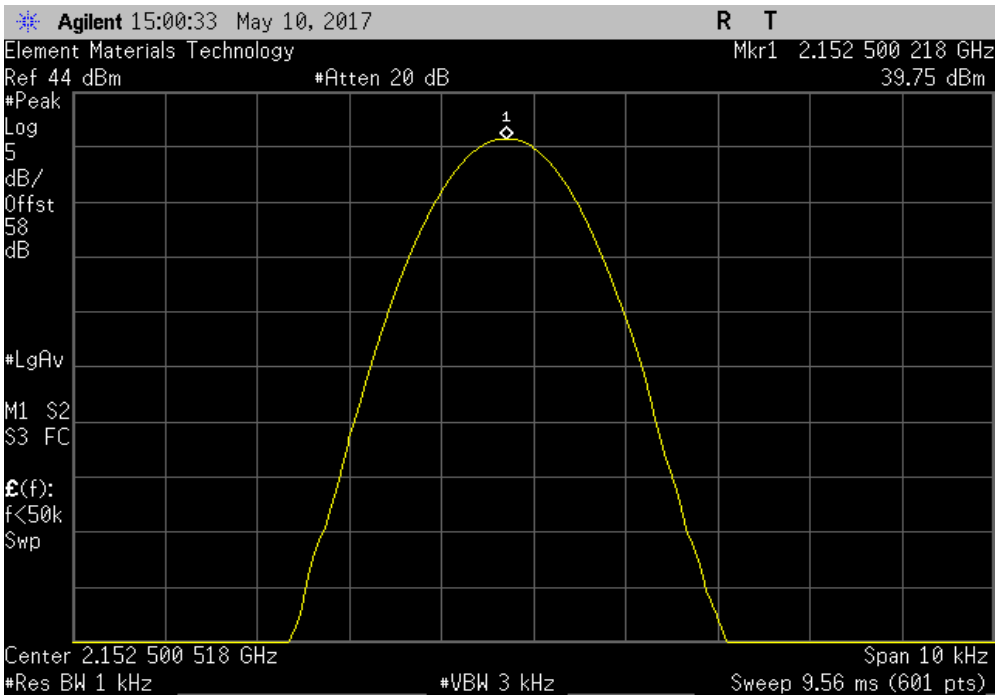
Port 2, Extreme Temperature, +20°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500219	2132.5	0.1	1	Pass



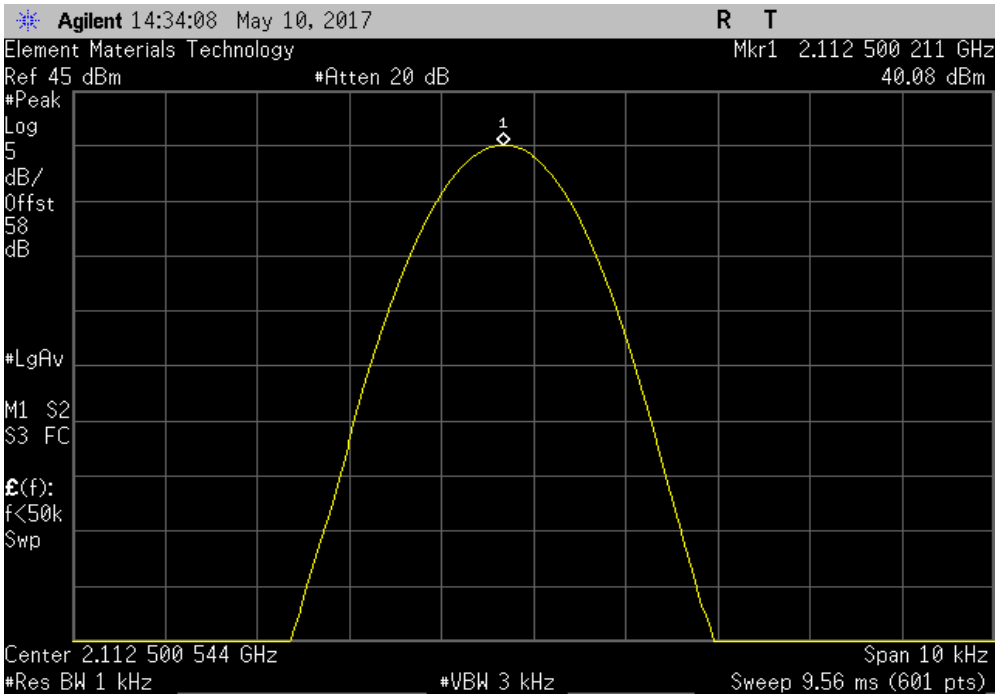
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 2, Extreme Temperature, +20°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500218	2152.5	0.1	1	Pass



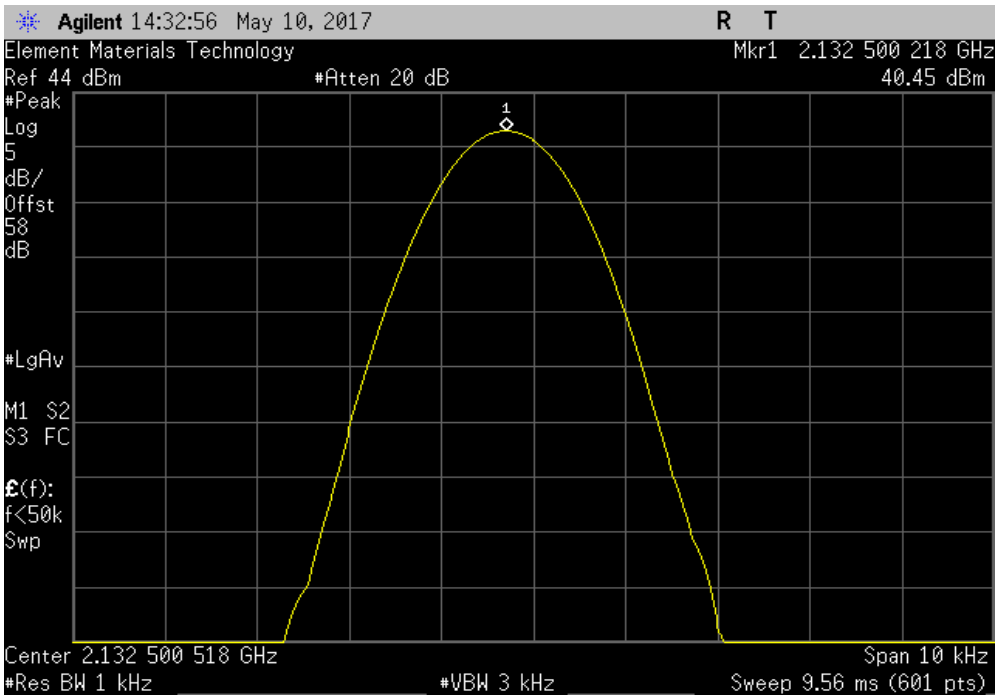
Port 2, Extreme Temperature, +30°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500211	2112.5	0.1	1	Pass



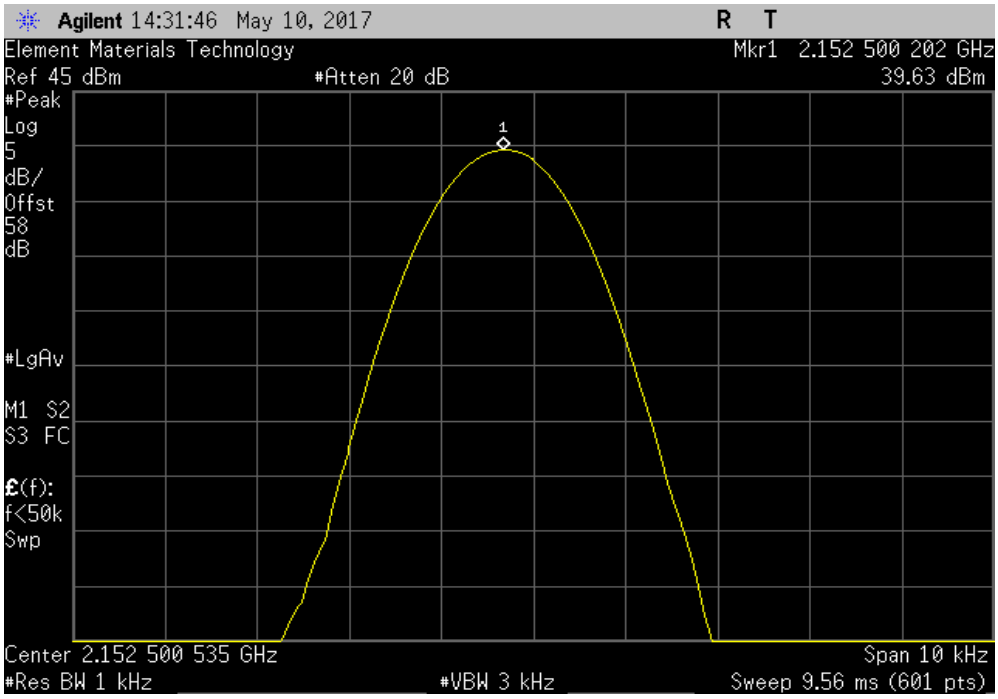
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

Port 2, Extreme Temperature, +30°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500218	2132.5	0.1	1	Pass



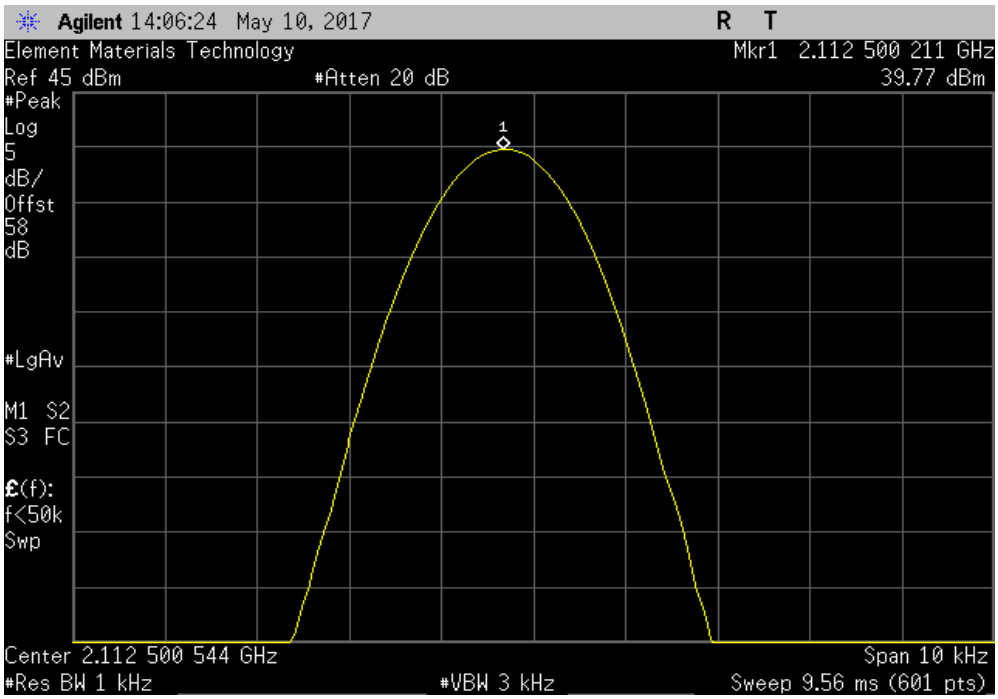
Port 2, Extreme Temperature, +30°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500202	2152.5	0.1	1	Pass



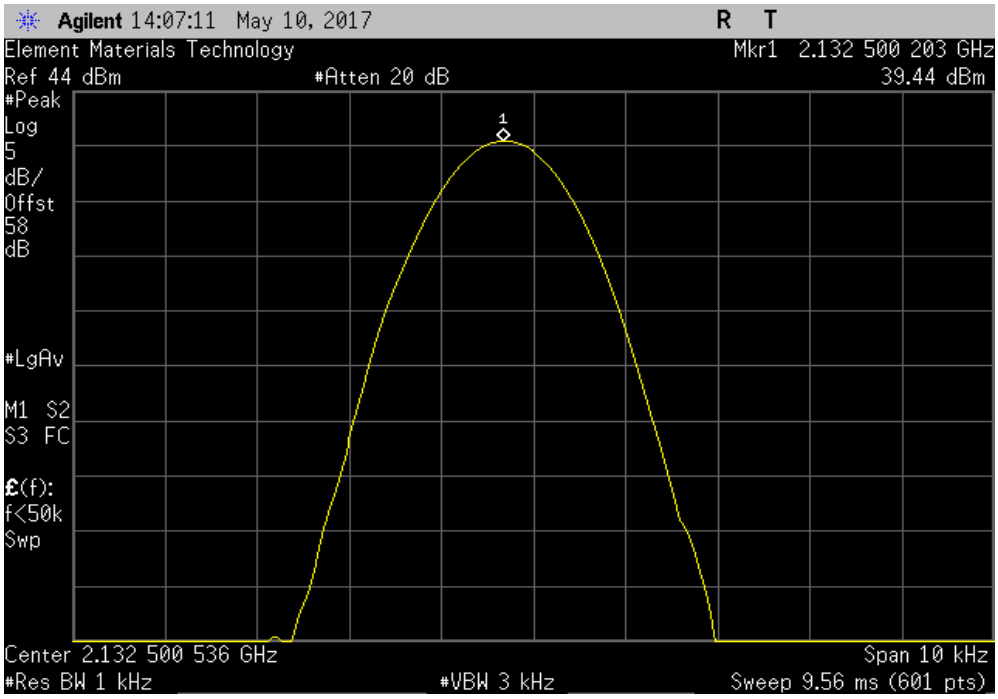
FREQUENCY STABILITY

TbtTx 2017.01.27 XMit 2017.02.08

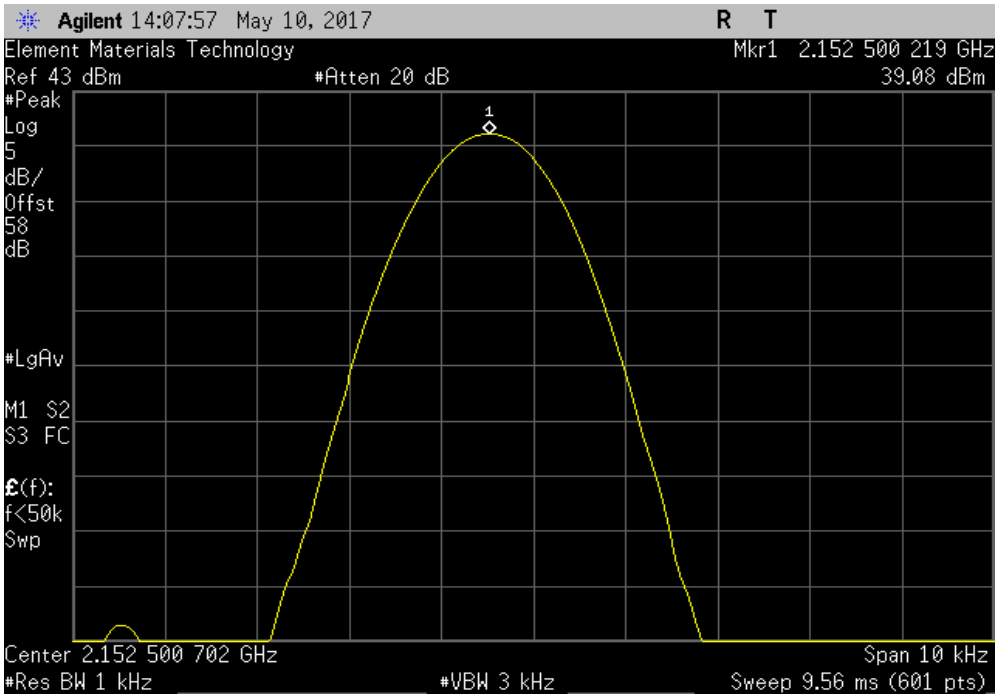
Port 2, Extreme Temperature, +40°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500211	2112.5	0.1	1	Pass



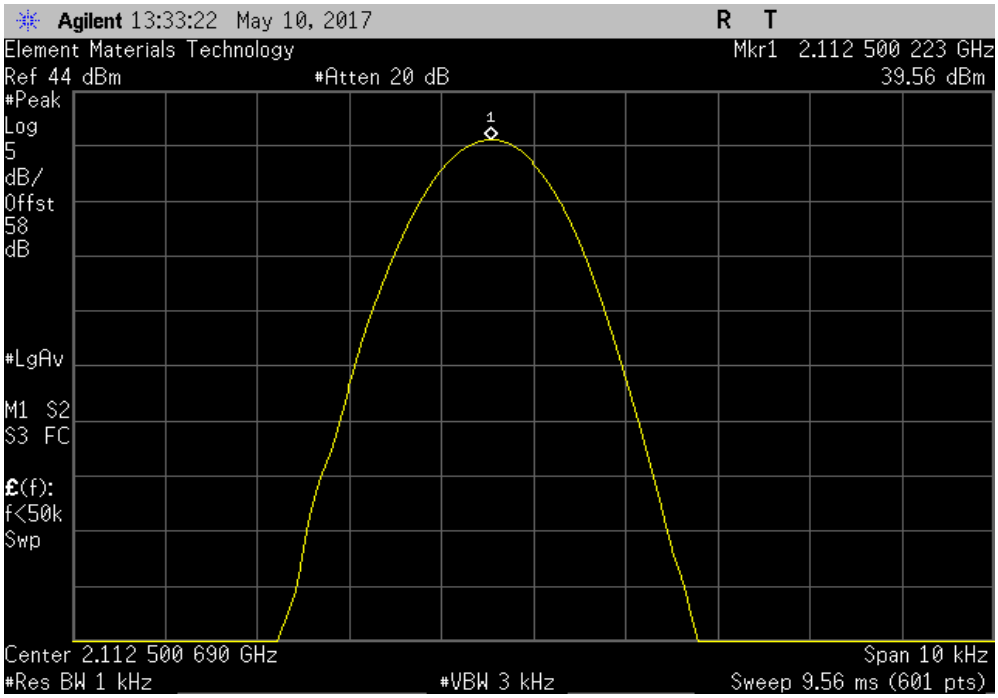
Port 2, Extreme Temperature, +40°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500203	2132.5	0.1	1	Pass



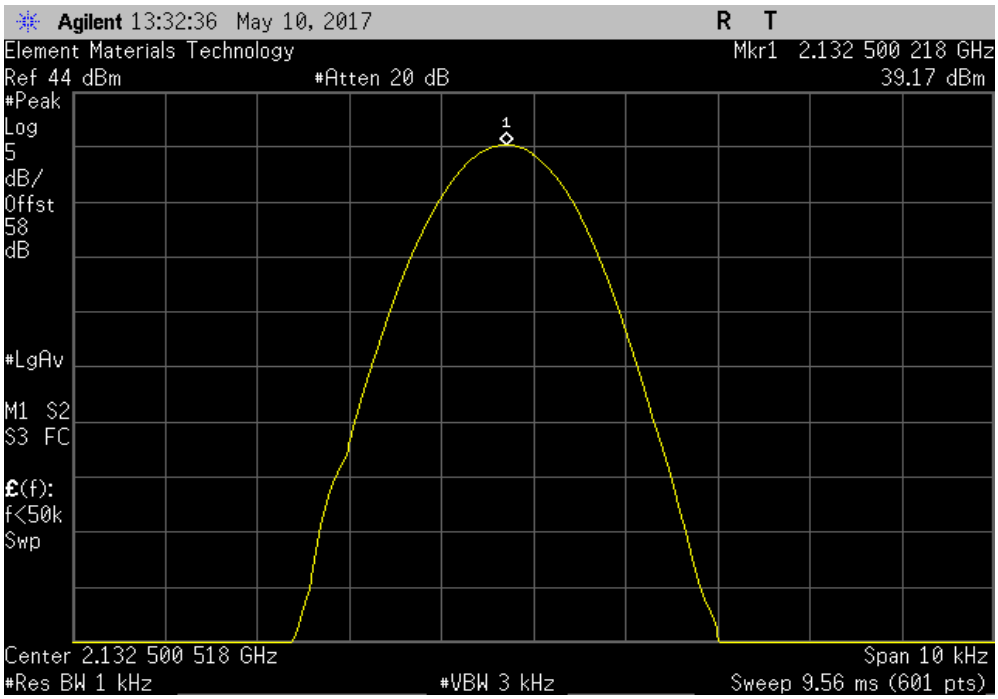
Port 2, Extreme Temperature, +40°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500219	2152.5	0.1	1	Pass



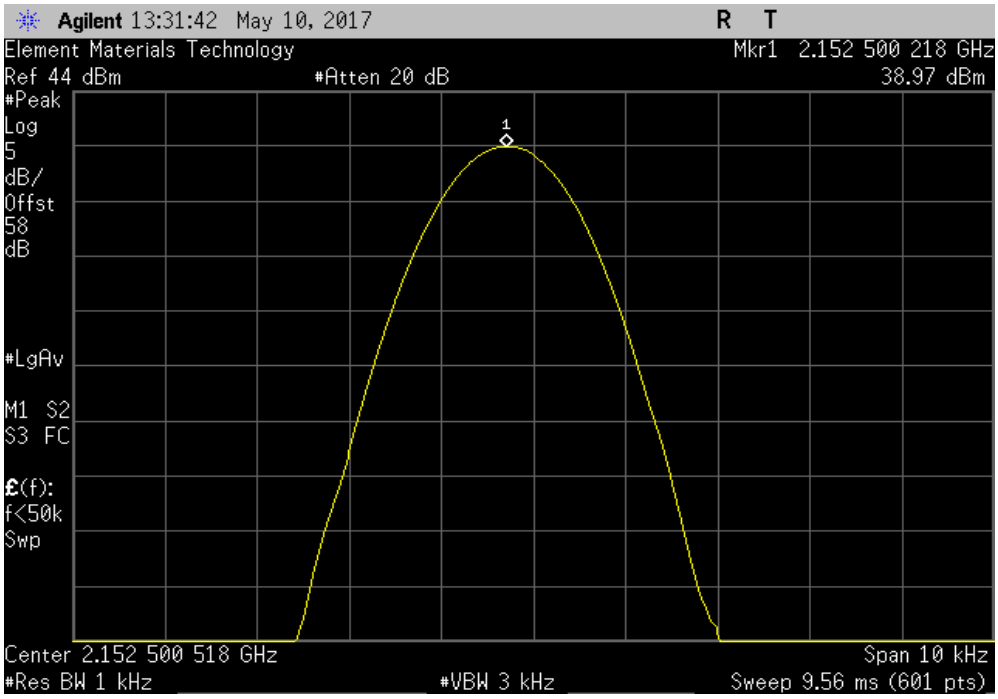
Port 2, Extreme Temperature, +50°C, Low Channel LTE5, 2112.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2112.500223	2112.5	0.1	1	Pass



Port 2, Extreme Temperature, +50°C, Mid Channel LTE5, 2132.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2132.500218	2132.5	0.1	1	Pass



Port 2, Extreme Temperature, +50°C, High Channel LTE5, 2152.5 MHz						
		Measured Value (MHz)	Assigned Value (MHz)	Error (ppm)	Limit (ppm)	Results
		2152.500218	2152.5	0.1	1	Pass



EMISSIONS BANDWIDTH

XMit 2017.02.08

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	Fairview Microwave	SD3379	AMV	1/11/2017	1/11/2018
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/2/2016	11/2/2017

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 99% bandwidth was measured utilizing the analyzer's peak detector and measuring the carrier's 26 dB occupied bandwidth based on the peak output power level measured. A plot was taken to show the occupied bandwidth is contained within the allowable transmit band.

At 3 kHz the spectrum analyzer's resolution bandwidth was sufficiently narrow to plot the actual bandwidth of the signal and not the filter response curve of the spectrum analyzer. The resolution bandwidth was approximately equal to 1% of the 20dB bandwidth and the video bandwidth was greater than or equal to the resolution bandwidth.

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

EMISSIONS BANDWIDTH

TbtTx 2017.01.27 XMit 2017.02.08

EUT:	CWS-3050-04			**Work Order:**	KMWC0079
Serial Number:	K162300007			**Date:**	05/08/17
Customer:	Parallel Wireless Inc			**Temperature:**	22.1 °C
Attendees:	Daniel Kim			**Humidity:**	45.6% RH
Project:	None			**Barometric Pres.:**	1013 mbar
Tested by:	Mike Tran	**Power:**	48VDC	**Job Site:**	OC13

TEST SPECIFICATIONS	Test Method
FCC 27:2017	ANSI/TIA/EIA-603-D-2010

COMMENTS

Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 56.7dB total.

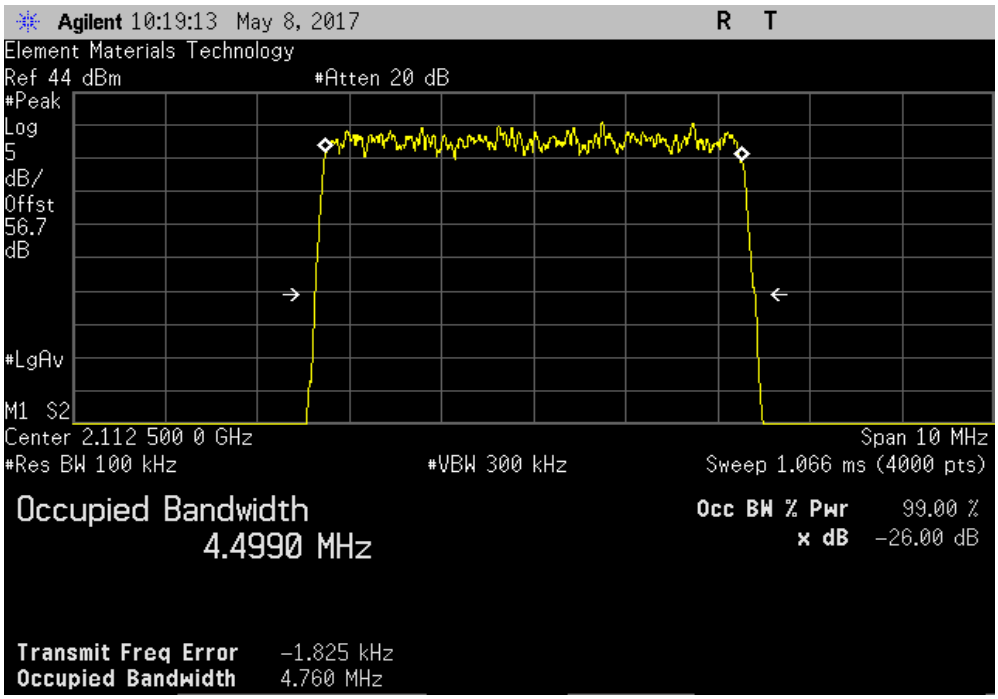
DEVIATIONS FROM TEST STANDARD

None

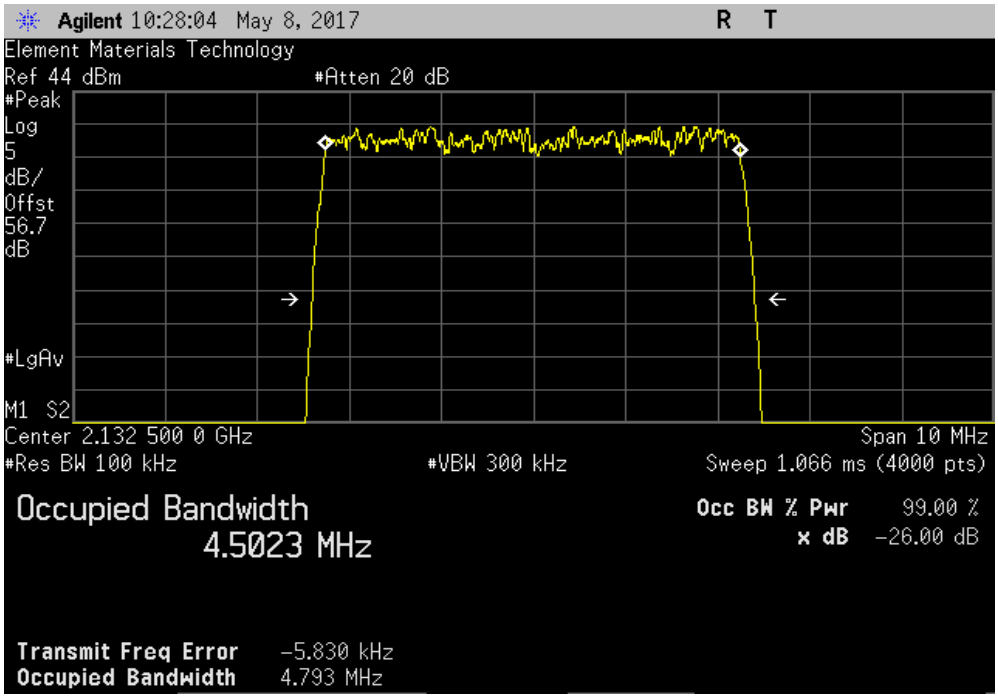
Configuration #	1	Signature

		Value	Limit	Result
Antenna Port 1				
	Low Channel LTE5, 2112.5 MHz	4.76 MHz	N/A	N/A
	Mid Channel LTE5, 2132.5 MHz	4.793 MHz	N/A	N/A
	High Channel LTE5, 2152.5 MHz	4.782 MHz	N/A	N/A
	Low Channel LTE10, 2115 MHz	9.53 MHz	N/A	N/A
	Mid Channel LTE10, 2132.5 MHz	9.532 MHz	N/A	N/A
	High Channel LTE10, 2150 MHz	9.57 MHz	N/A	N/A
	Low Channel LTE20, 2120 MHz	18.872 MHz	N/A	N/A
	Mid Channel LTE20, 2132.5 MHz	18.86 MHz	N/A	N/A
	High Channel LTE20, 2145 MHz	18.836 MHz	N/A	N/A
Antenna Port 2				
	Low Channel LTE5, 2112.5 MHz	4.78 MHz	N/A	N/A
	Mid Channel LTE5, 2132.5 MHz	4.776 MHz	N/A	N/A
	High Channel LTE5, 2152.5 MHz	4.759 MHz	N/A	N/A
	Low Channel LTE10, 2115 MHz	9.512 MHz	N/A	N/A
	Mid Channel LTE10, 2132.5 MHz	9.539 MHz	N/A	N/A
	High Channel LTE10, 2150 MHz	9.503 MHz	N/A	N/A
	Low Channel LTE20, 2120 MHz	18.848 MHz	N/A	N/A
	Mid Channel LTE20, 2132.5 MHz	18.778 MHz	N/A	N/A
	High Channel LTE20, 2145 MHz	18.916 MHz	N/A	N/A

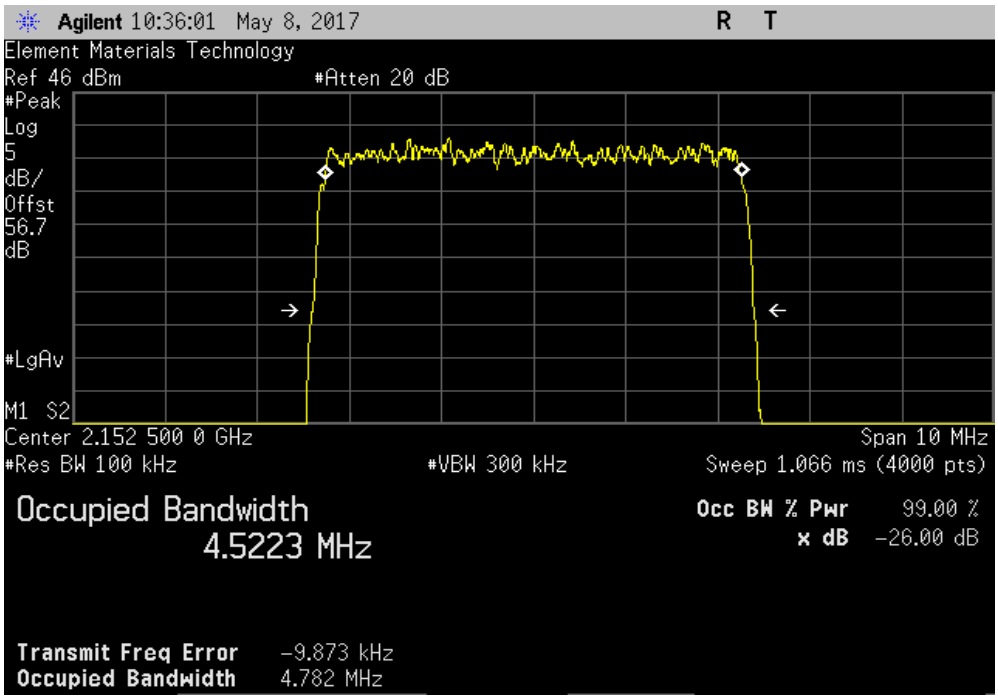
Antenna Port 1, Low Channel LTE5, 2112.5 MHz						
				Value	Limit	Result
				4.76 MHz	N/A	N/A



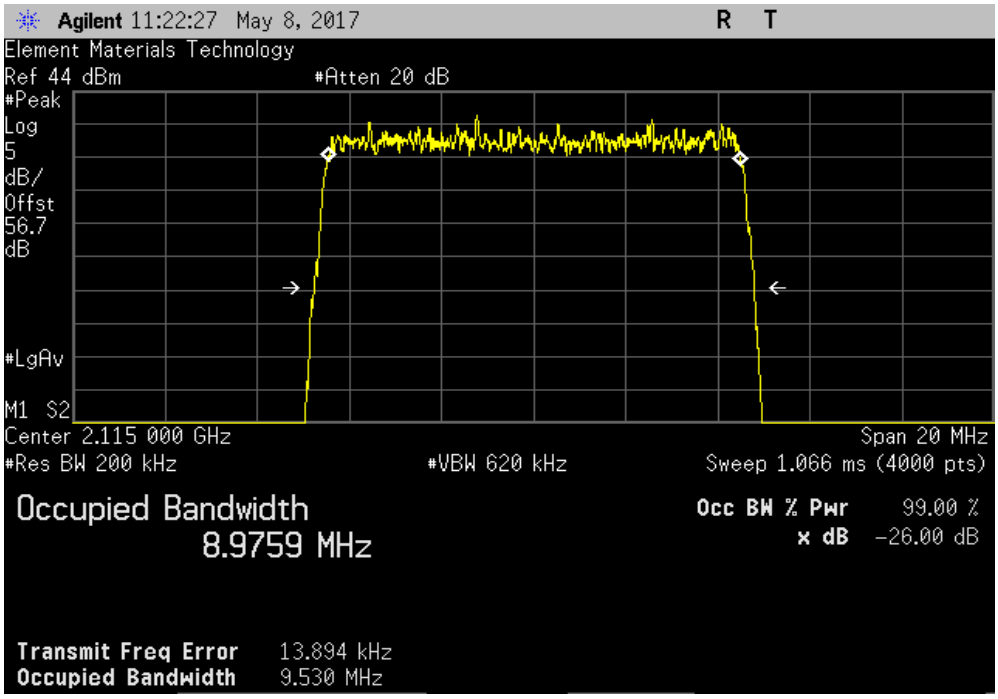
Antenna Port 1, Mid Channel LTE5, 2132.5 MHz						
				Value	Limit	Result
				4.793 MHz	N/A	N/A



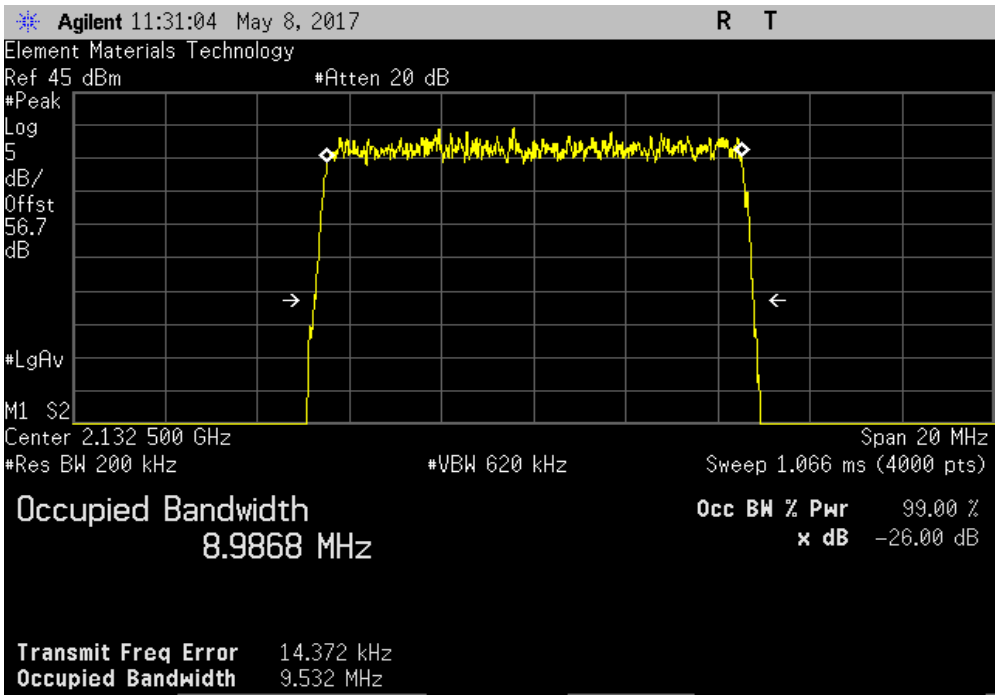
Antenna Port 1, High Channel LTE5, 2152.5 MHz						
				Value	Limit	Result
				4.782 MHz	N/A	N/A



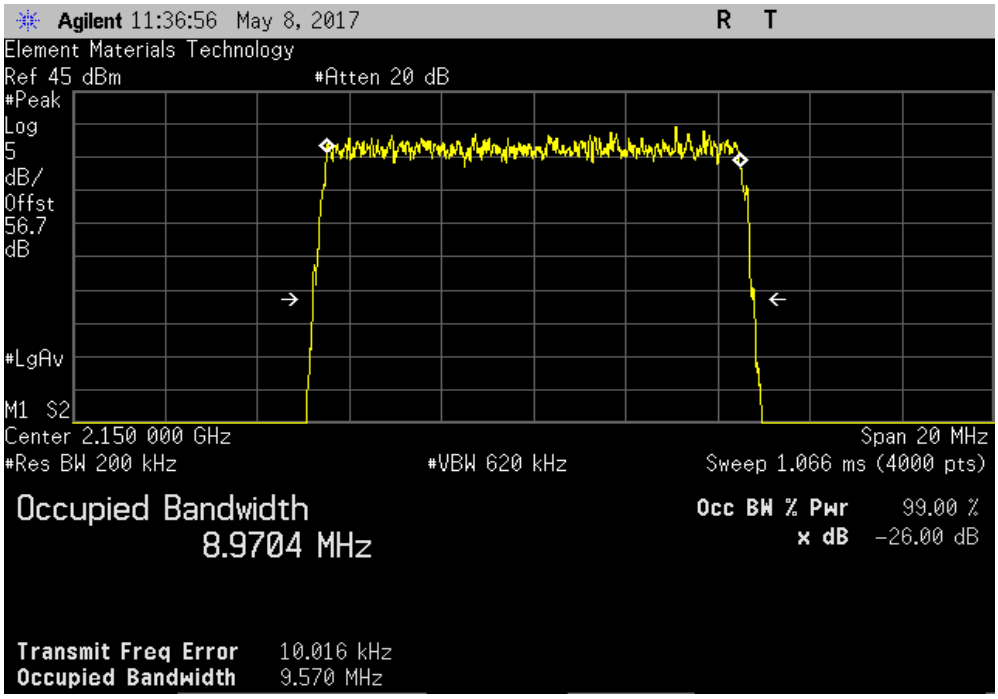
Antenna Port 1, Low Channel LTE10, 2115 MHz						
				Value	Limit	Result
				9.53 MHz	N/A	N/A



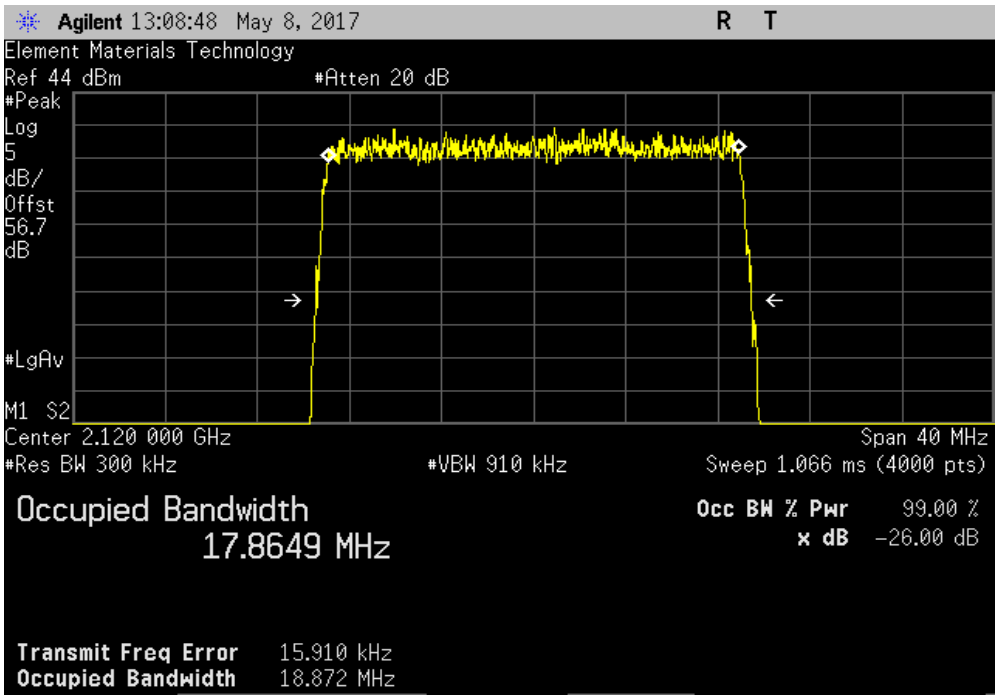
Antenna Port 1, Mid Channel LTE10, 2132.5 MHz						
				Value	Limit	Result
				9.532 MHz	N/A	N/A



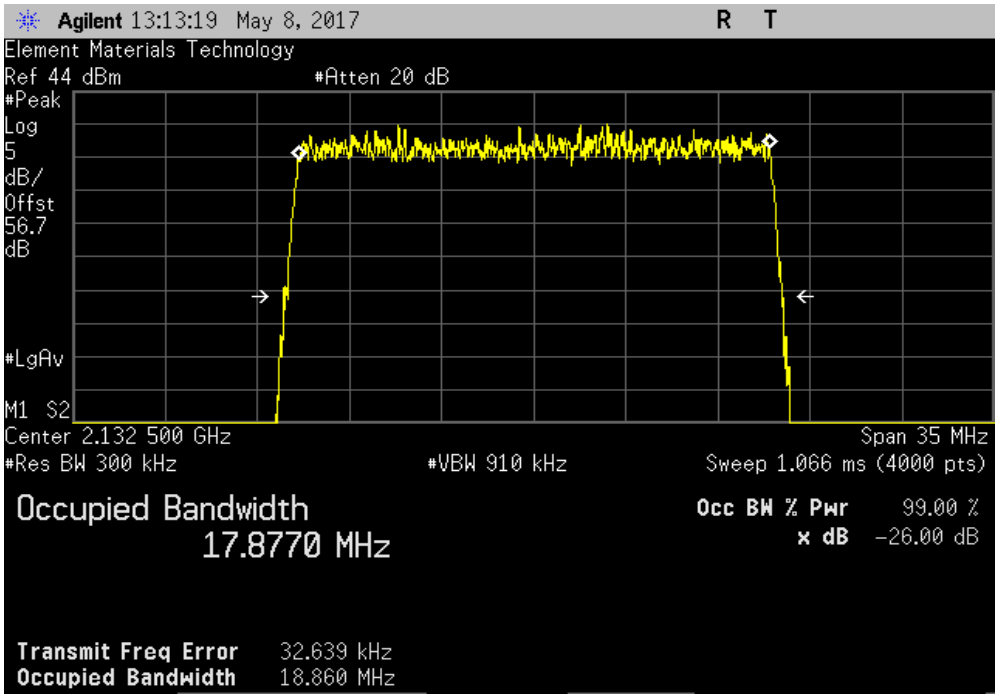
Antenna Port 1, High Channel LTE10, 2150 MHz						
				Value	Limit	Result
				9.57 MHz	N/A	N/A



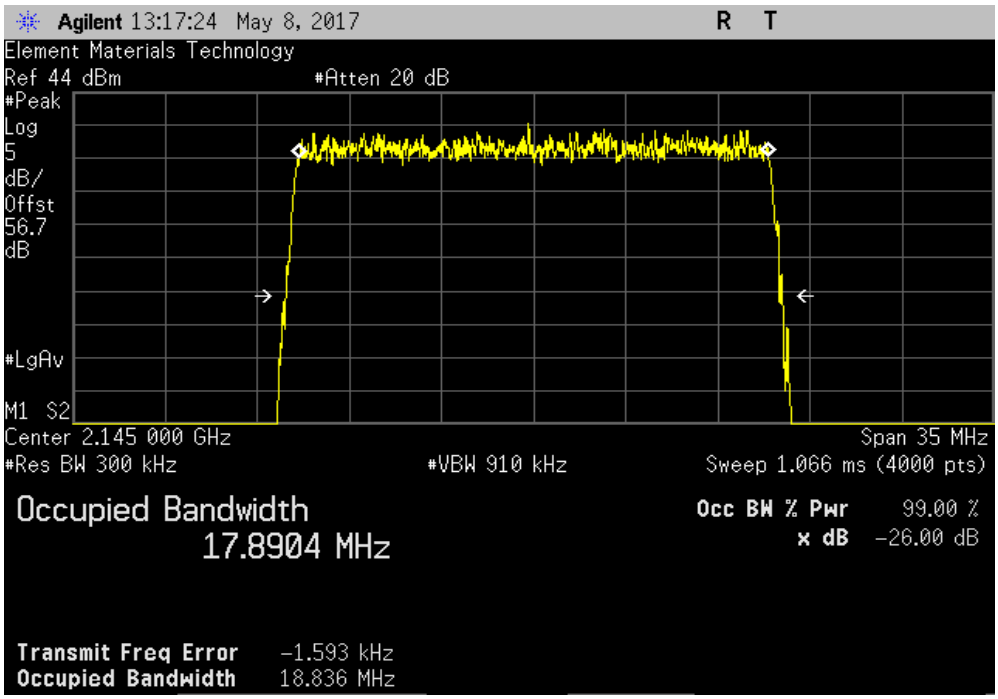
Antenna Port 1, Low Channel LTE20, 2120 MHz						
				Value	Limit	Result
				18.872 MHz	N/A	N/A



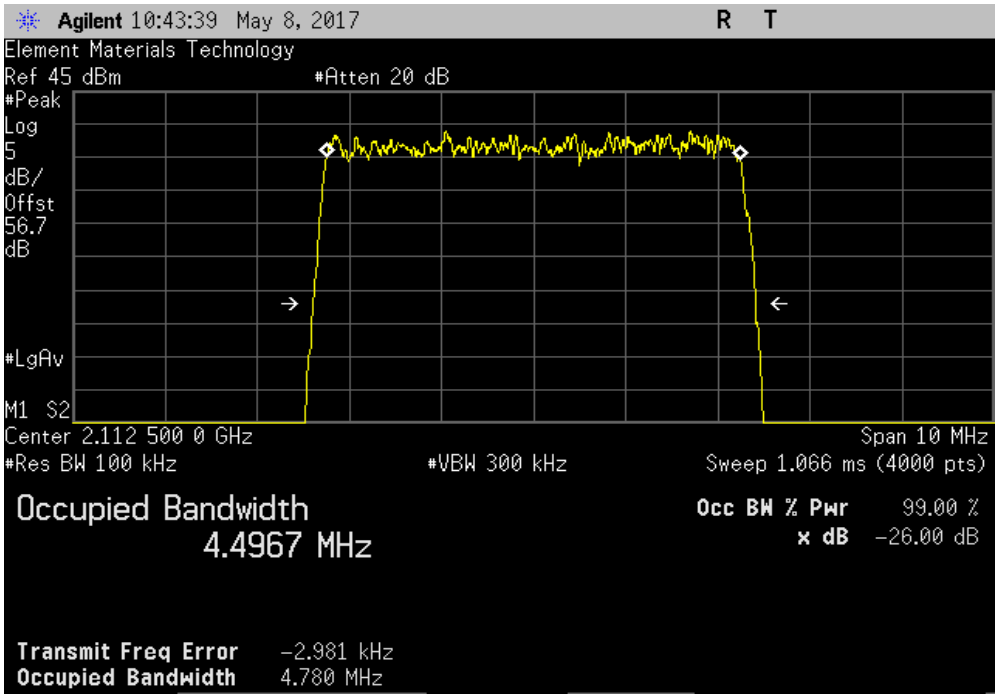
Antenna Port 1, Mid Channel LTE20, 2132.5 MHz						
				Value	Limit	Result
				18.86 MHz	N/A	N/A



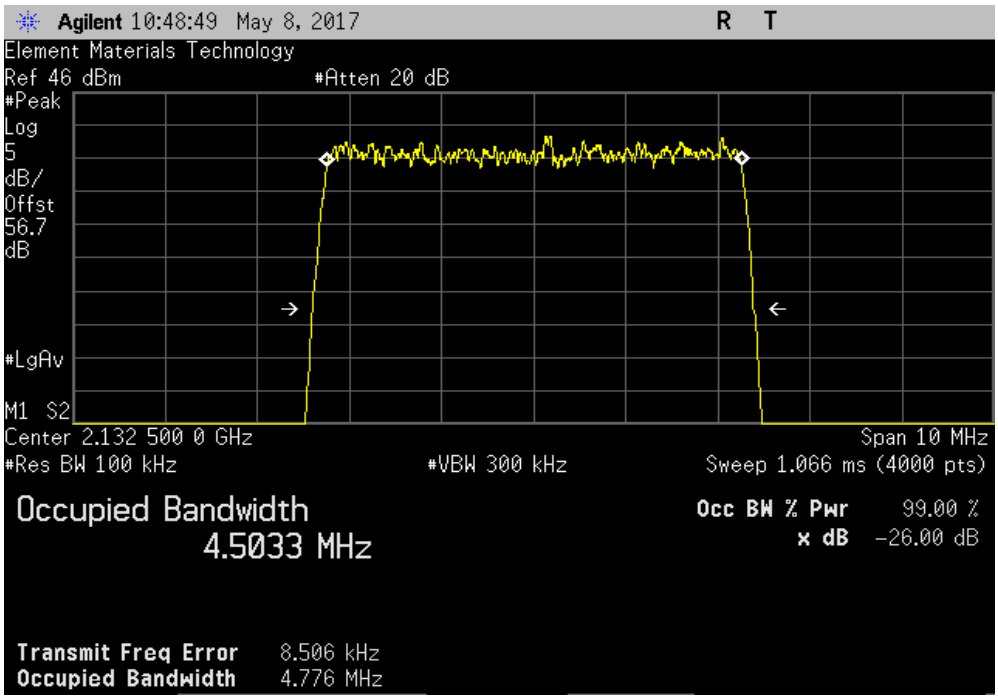
Antenna Port 1, High Channel LTE20, 2145 MHz						
				Value	Limit	Result
				18.836 MHz	N/A	N/A



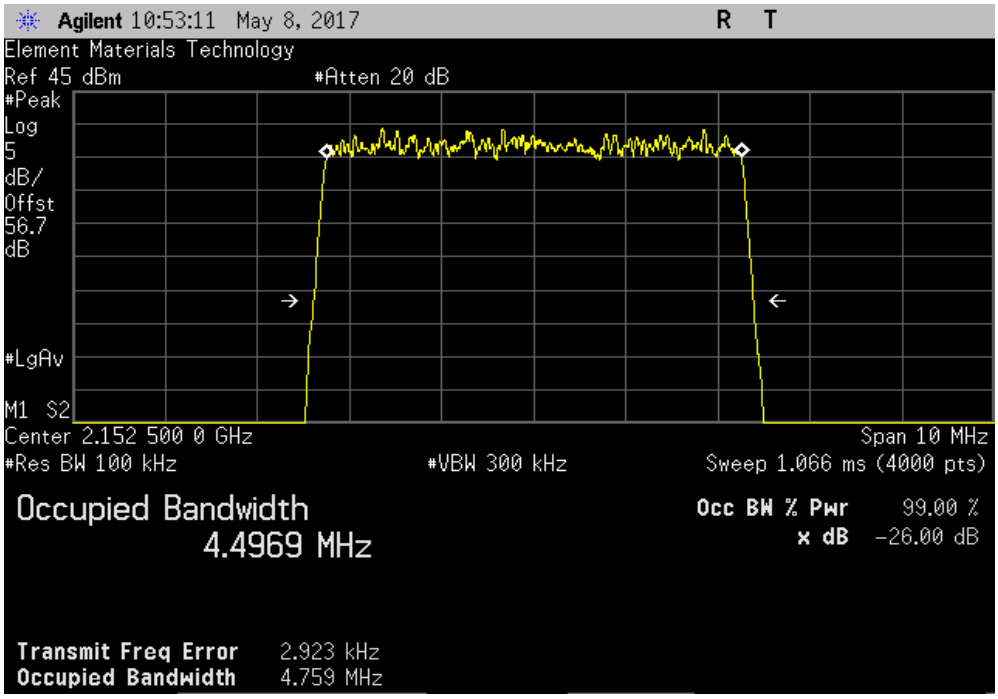
Antenna Port 2, Low Channel LTE5, 2112.5 MHz						
				Value	Limit	Result
				4.78 MHz	N/A	N/A



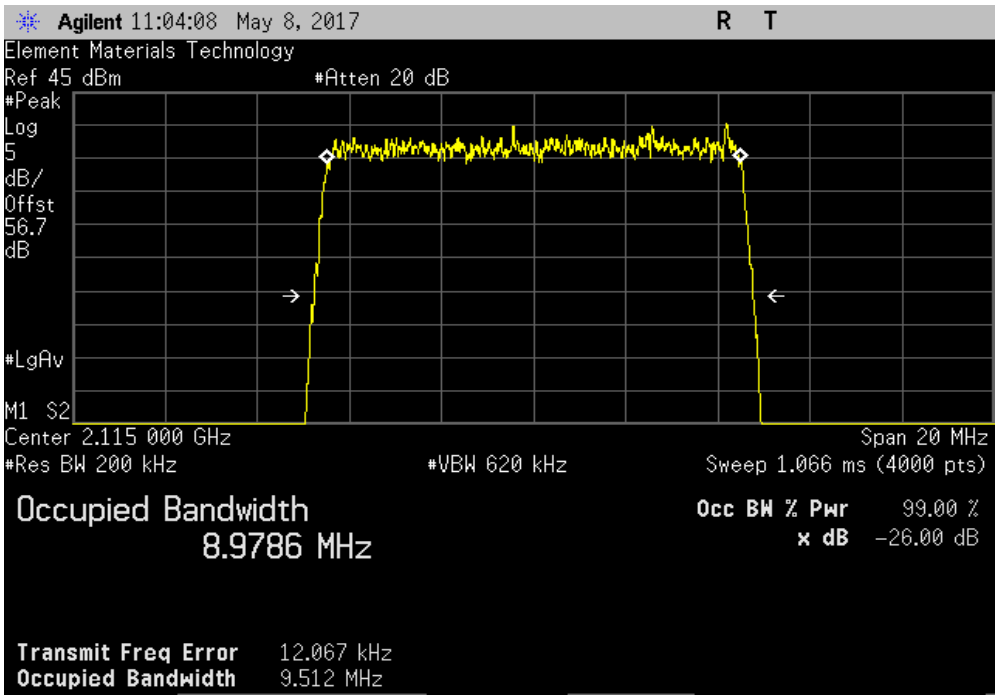
Antenna Port 2, Mid Channel LTE5, 2132.5 MHz						
				Value	Limit	Result
				4.776 MHz	N/A	N/A



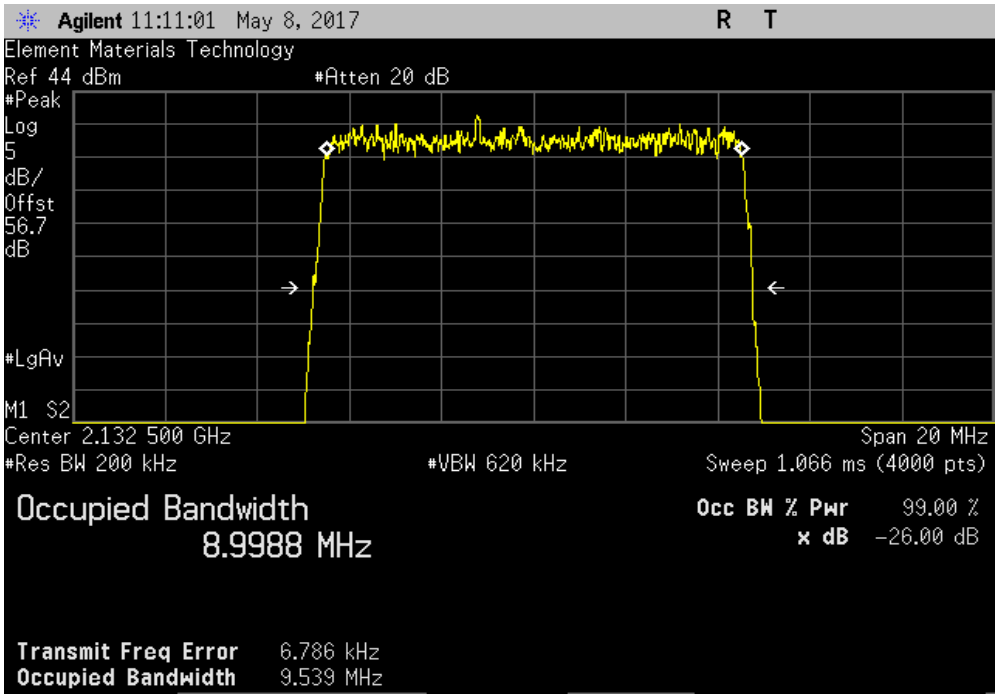
Antenna Port 2, High Channel LTE5, 2152.5 MHz						
				Value	Limit	Result
				4.759 MHz	N/A	N/A



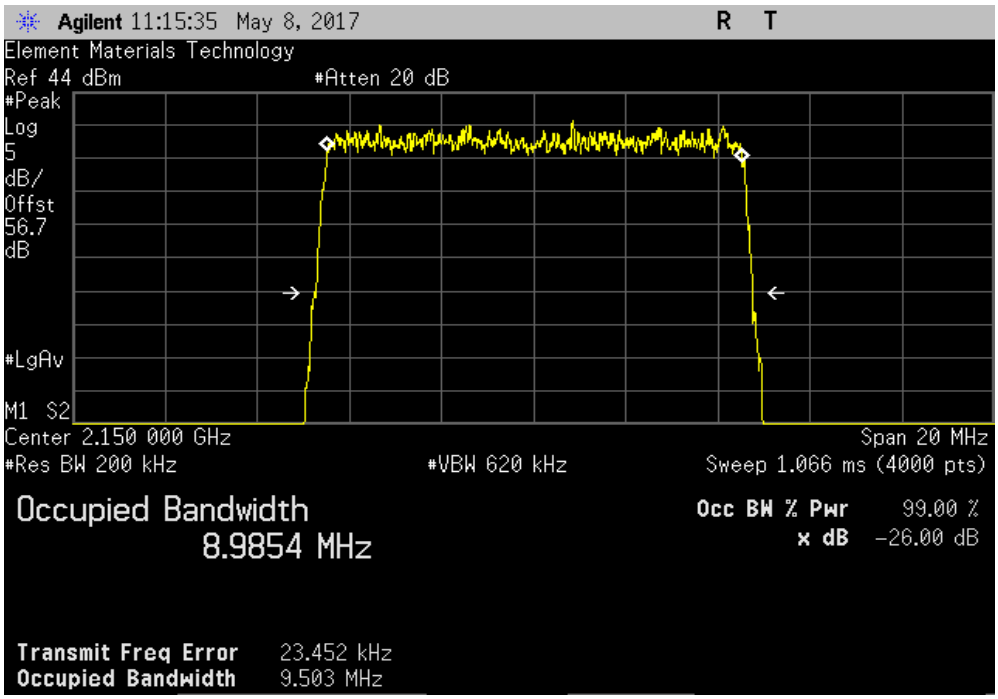
Antenna Port 2, Low Channel LTE10, 2115 MHz						
				Value	Limit	Result
				9.512 MHz	N/A	N/A



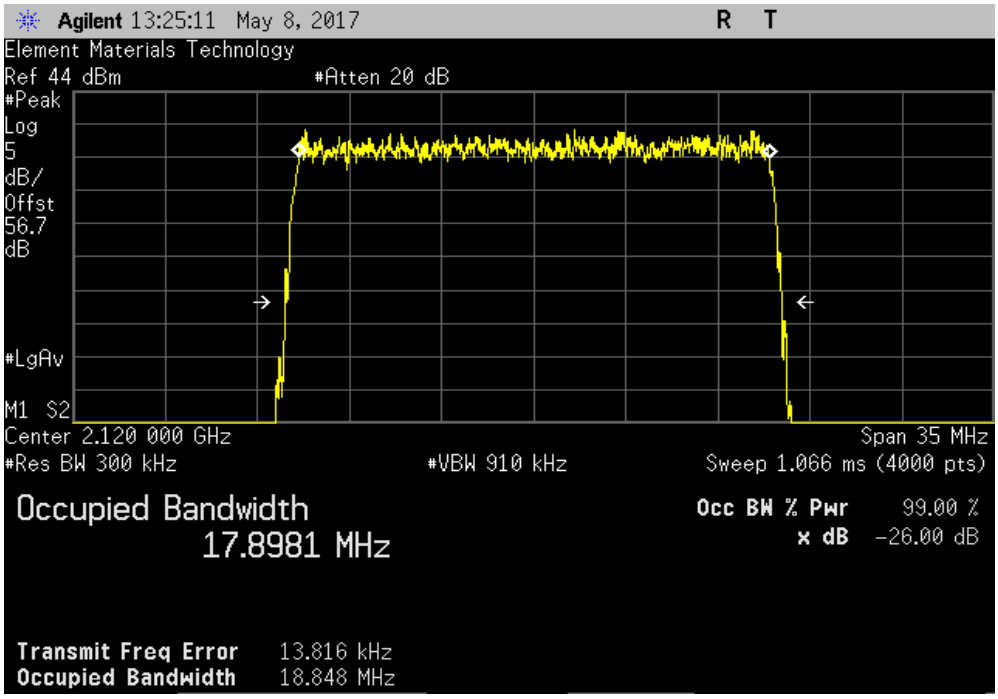
Antenna Port 2, Mid Channel LTE10, 2132.5 MHz						
				Value	Limit	Result
				9.539 MHz	N/A	N/A



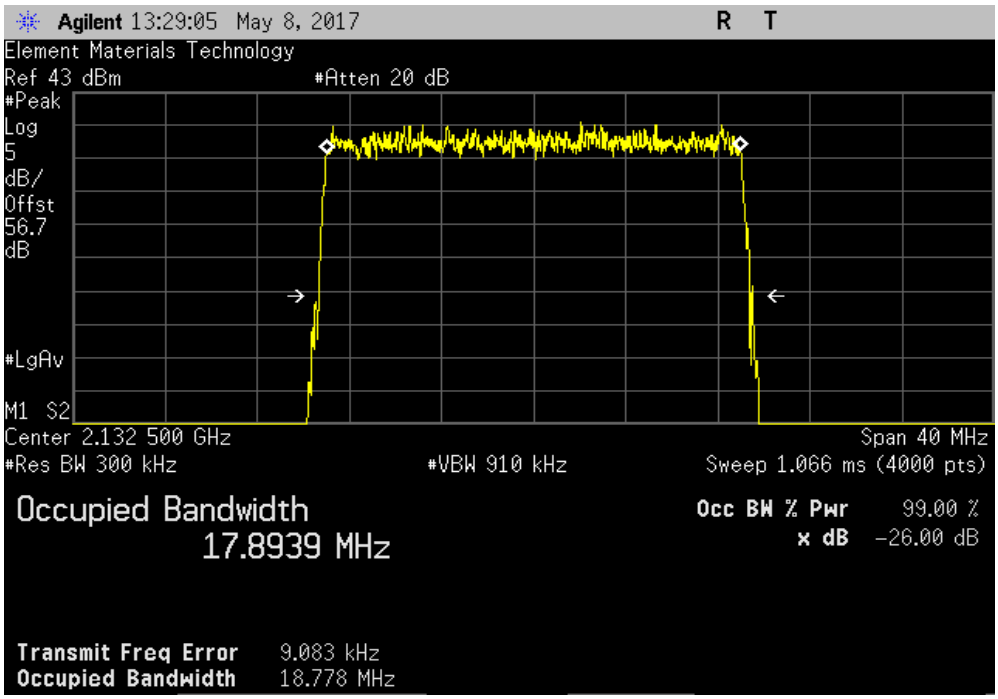
Antenna Port 2, High Channel LTE10, 2150 MHz						
				Value	Limit	Result
				9.503 MHz	N/A	N/A



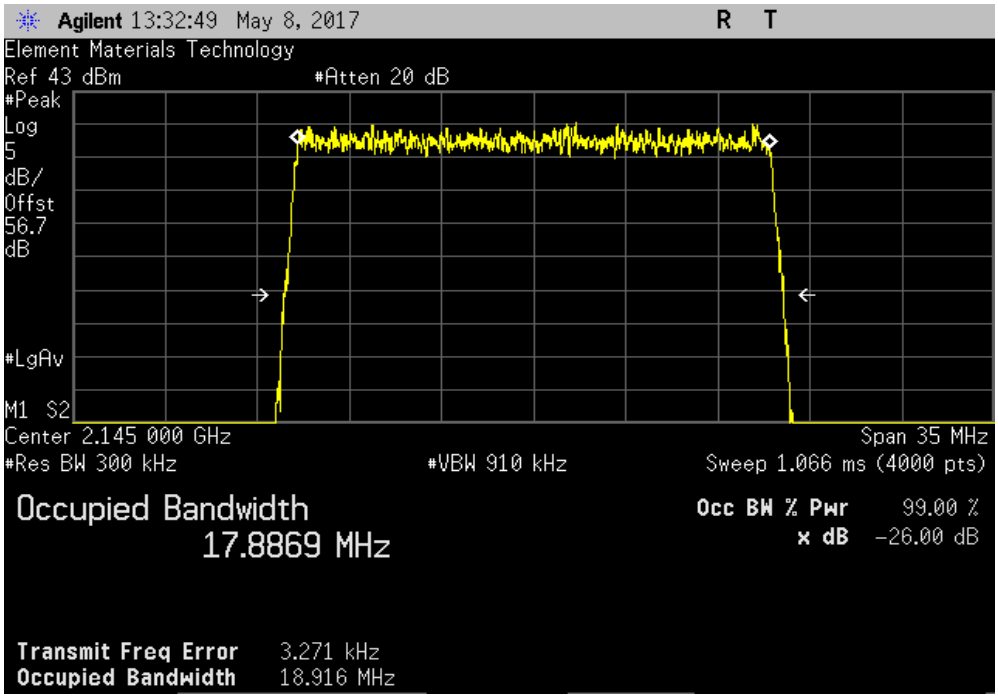
Antenna Port 2, Low Channel LTE20, 2120 MHz						
				Value	Limit	Result
				18.848 MHz	N/A	N/A



Antenna Port 2, Mid Channel LTE20, 2132.5 MHz						
				Value	Limit	Result
				18.778 MHz	N/A	N/A



Antenna Port 2, High Channel LTE20, 2145 MHz						
				Value	Limit	Result
				18.916 MHz	N/A	N/A



OUT OF BAND EMISSIONS - LTE BAND 4

PSA-ESCI 2017.01.26

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(2112.5_MHz), Mid Ch(2132.5_MHz), High Ch(2152.5_MHz)
Transmitting at LTE10, Low Ch(2115_MHz), Mid Ch(2132.5_MHz), High Ch(2150_MHz)
Transmitting at LTE20, Low Ch(2120_MHz), Mid Ch(2132.5_MHz), High Ch(2145_MHz)

POWER SETTINGS INVESTIGATED

48VDC

CONFIGURATIONS INVESTIGATED

KMWC0079 - 2

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	26000 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
Antenna - Biconilog	EMCO	3142	AXB	11/6/2015	24 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AHR	NCR	NCR
Antenna - Standard Gain	ETS Lindgren	3160-08	AHT	NCR	NCR
Antenna - Standard Gain	ETS Lindgren	3160-09	AHN	NCR	NCR
Amplifier - Pre-Amplifier	Miteq	AMF-4D-010120-30-10P-1	AOP	7/13/2017	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AOE	8/10/2016	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AOF	8/10/2016	12 mo
Cable	Northwest EMC	8-18GHz RE Cables	OCO	8/10/2016	12 mo
Cable	Northwest EMC	18-26GHz RE Cables	OCK	1/3/2017	12 mo
Power Sensor	Agilent	E4412A	SQE	1/26/2017	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	3117	AHQ	9/24/2015	24 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-118002650-25-10P	AOI	1/3/2017	12 mo
Filter - Low Pass	Micro-Tronics	LPM50003	HGO	3/28/2016	12 mo
Filter - High Pass	Micro-Tronics	HPM50108	HHW	8/10/2016	12 mo
Amplifier - Pre-Amplifier	Miteq	AM-1402	AOZ	8/10/2016	12 mo
Cable	Northwest EMC	10kHz-1GHz RE Cables	OCH	8/9/2016	12 mo
Cable	Northwest EMC	1-8GHz RE Cables	OCJ	7/13/2017	12 mo
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/2/2016	12 mo

TEST DESCRIPTION

The EUT was tested with shielded terminators 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 place on a remotely controlled turntable, and the measurement antenna is placed 3 meters from the transmitter. The turntable azimuth is varied to maximize the level of spurious emissions. The height of the measurement antenna is also varied from 1 to 4 meters. The amplitude and frequency of the highest emissions are noted. The transmitter is then replaced with a ½ wave dipole that is successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator is connected to the dipole (horn antenna for frequencies above 1 GHz), and its output is adjusted to match the level previously noted for each frequency. The output of the signal generator is recorded, and by factoring in the cable loss to the antenna and its gain; the power (dBm) into an ideal ½ wave dipole antenna is determined for each radiated spurious emission.

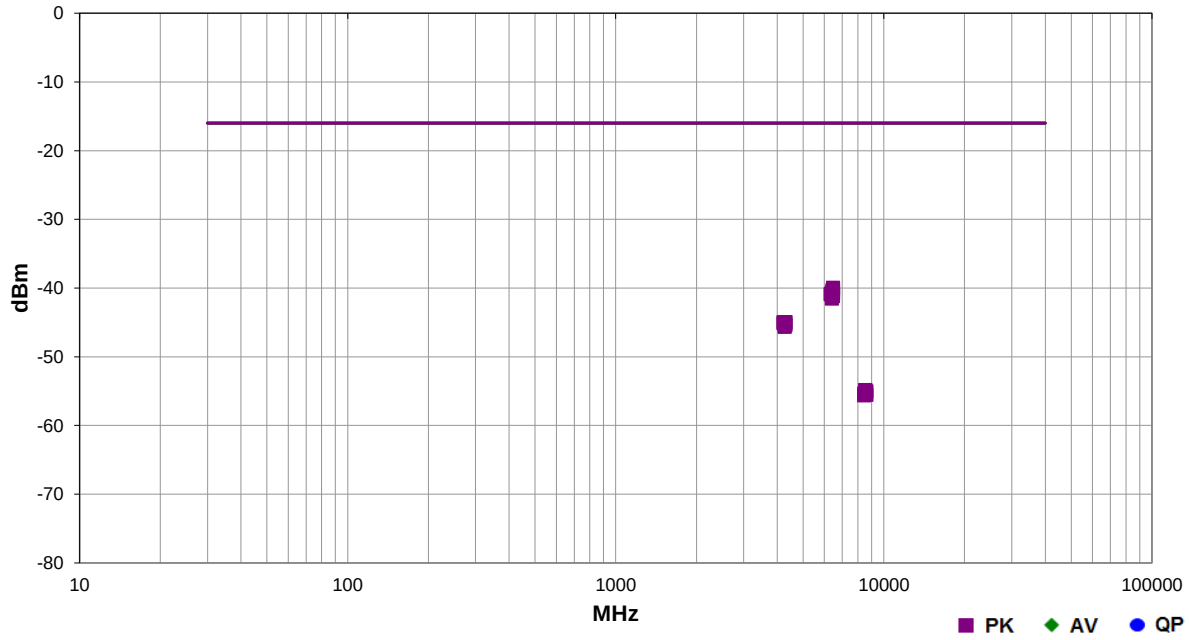
OUT OF BAND EMISSIONS - LTE BAND 4

EmiR5 2017.01.25 PSA-ESCI 2017.01.26

Work Order:	KMWC0079	**Date:**	05/09/17		
Project:	None	**Temperature:**	20.8°C		
Job Site:	OC10	**Humidity:**	50.90%		
Serial Number:	K162300007	**Barometric Pres.:**	1011.1 mbar	**Tested by:**	Mike Tran
EUT:	CWS-3050-04				
Configuration:	2				
Customer:	Parallel Wireless Inc				
Attendees:	Daniel Kim				
EUT Power:	48VDC				
Operating Mode:	Transmitting at LTE5, Low Ch(2112.5_MHz), Mid Ch(2132.5_MHz), High Ch(2152.5_MHz) Transmitting at LTE10, Low Ch(2115_MHz), Mid Ch(2132.5_MHz), High Ch(2150_MHz) Transmitting at LTE20, Low Ch(2120_MHz), Mid Ch(2132.5_MHz), High Ch(2145_MHz)				
Deviations:	None				
Comments:	2x40W Using -16dBm limit instead of -13dBm limit per client request				

Test Specifications	**Test Method**
FCC 27.53:2017	ANSI/TIA/EIA-603-D-2010

Run #	16	**Test Distance (m)**	3	**Antenna Height(s)**	1 to 4(m)	**Results**	Pass



	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
	6458.065	1.0	278.0	Vert	PK	1.02E-07	-39.9	-16.0	-23.9	EUT Ver, High Ch, MIMO LTE5
	6459.125	1.0	145.0	Vert	PK	9.49E-08	-40.2	-16.0	-24.2	EUT Ver, High Ch, LTE5
	6457.740	1.0	126.0	Horz	PK	9.49E-08	-40.2	-16.0	-24.2	EUT on Side, High Ch, LTE5
	6457.725	1.8	210.0	Vert	PK	9.49E-08	-40.2	-16.0	-24.2	EUT Ver, Dual Carriers Adjacent LTE5-LTE5, Right Edge
	6456.840	2.6	113.0	Horz	PK	9.06E-08	-40.4	-16.0	-24.4	EUT Hor, High Ch, LTE5
	6436.375	1.0	259.0	Vert	PK	9.06E-08	-40.4	-16.0	-24.4	EUT Ver, Dual Carriers Adjacent LTE5-LTE20, Right Edge
	6449.350	1.3	72.0	Vert	PK	8.85E-08	-40.5	-16.0	-24.5	EUT Ver, Dual Carriers Adjacent LTE5-LTE10, Right Edge
	6448.570	1.0	217.0	Vert	PK	8.65E-08	-40.6	-16.0	-24.6	EUT Ver, High Ch, LTE10
	6450.505	1.0	209.0	Vert	PK	8.65E-08	-40.6	-16.0	-24.6	EUT Ver, High Ch, MIMO LTE10
	6459.440	3.7	126.0	Vert	PK	8.46E-08	-40.7	-16.0	-24.7	EUT Hor, High Ch, LTE5
	6397.915	1.3	134.0	Vert	PK	8.46E-08	-40.7	-16.0	-24.7	EUT Ver, Mid Ch, LTE5
	6456.810	1.0	171.0	Horz	PK	8.26E-08	-40.8	-16.0	-24.8	EUT Ver, High Ch, LTE5
	6338.665	1.2	258.0	Horz	PK	8.26E-08	-40.8	-16.0	-24.8	EUT on Side, Low Ch, LTE5
	6457.035	1.0	316.0	Vert	PK	8.26E-08	-40.8	-16.0	-24.8	EUT Ver, Dual Carriers Edge to Edge LTE5-LTE5, Right Edge
	6337.620	1.0	293.0	Vert	PK	8.07E-08	-40.9	-16.0	-24.9	EUT Ver, Low Ch, LTE5
	6450.235	2.4	209.0	Vert	PK	8.07E-08	-40.9	-16.0	-24.9	EUT Ver, Dual Carriers Edge to Edge LTE5-LTE10, Right Edge
	6435.900	3.4	69.0	Vert	PK	7.89E-08	-41.0	-16.0	-25.0	EUT Ver, High Ch, LTE20

	Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
	6458.190	1.0	140.0	Vert	PK	7.71E-08	-41.1	-16.0	-25.1	EUT on Side, High Ch, LTE5
	6433.635	1.0	359.0	Vert	PK	7.71E-08	-41.1	-16.0	-25.1	EUT Ver, Dual Carriers Edge to Edge LTE5-LTE20, Right Edge
	6435.445	1.0	257.0	Vert	PK	7.54E-08	-41.2	-16.0	-25.2	EUT Ver, High Ch, MIMO LTE20
	6396.725	1.0	312.0	Horz	PK	7.03E-08	-41.5	-16.0	-25.5	EUT on Side, Mid Ch, LTE5
	4304.270	1.0	163.0	Vert	PK	3.21E-08	-44.9	-16.0	-28.9	EUT Ver, High Ch, LTE5
	4224.240	1.0	88.0	Horz	PK	3.21E-08	-44.9	-16.0	-28.9	EUT on Side, Low Ch, LTE5
	4225.245	1.0	194.0	Vert	PK	3.07E-08	-45.1	-16.0	-29.1	EUT Ver, Low Ch, LTE5
	4303.585	1.0	303.0	Horz	PK	2.93E-08	-45.3	-16.0	-29.3	EUT on Side, High Ch, LTE5
	4265.830	1.7	357.0	Horz	PK	2.80E-08	-45.5	-16.0	-29.5	EUT on Side, Mid Ch, LTE5
	4264.805	1.0	360.0	Vert	PK	2.74E-08	-45.6	-16.0	-29.6	EUT Ver, Mid Ch, LTE5
	8530.030	1.6	0.0	Vert	PK	3.29E-09	-54.8	-16.0	-38.8	EUT Ver, Mid Ch, LTE5
	8531.500	1.0	107.0	Horz	PK	3.29E-09	-54.8	-16.0	-38.8	EUT on Side, Mid Ch, LTE5
	8609.350	2.4	352.0	Horz	PK	3.14E-09	-55.0	-16.0	-39.0	EUT on Side, High Ch, LTE5
	8449.045	3.7	90.0	Horz	PK	2.93E-09	-55.3	-16.0	-39.3	EUT on Side, Low Ch, LTE5
	8610.615	1.0	110.0	Vert	PK	2.80E-09	-55.5	-16.0	-39.5	EUT Ver, High Ch, LTE5
	8448.975	2.3	181.0	Vert	PK	2.74E-09	-55.6	-16.0	-39.6	EUT Ver, Low Ch, LTE5

SPURIOUS CONDUCTED EMISSIONS

XMit 2017.02.08

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	Fairview Microwave	SD3379	AMV	1/11/2017	1/11/2018
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/2/2016	11/2/2017

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. Emissions close to the limit were re-measured using an RMS Average detector to match the method used during output power measurements.

SPURIOUS CONDUCTED EMISSIONS

TbtTx 2017.01.27 XMit 2017.02.08

EUT:	CWS-3050-04			**Work Order:**	KMWC0079
Serial Number:	K162300007			**Date:**	05/08/17
Customer:	Parallel Wireless Inc			**Temperature:**	22.1 °C
Attendees:	Daniel Kim			**Humidity:**	45.6% RH
Project:	None			**Barometric Pres.:**	1013 mbar
Tested by:	Mike Tran	**Power:**	48VDC	**Job Site:**	OC13

TEST SPECIFICATIONS	Test Method
FCC 27:2017	ANSI/TIA/EIA-603-D-2010

COMMENTS

Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 56.7dB total.
Using -16dBm limit instead of -13dBm limit per client request

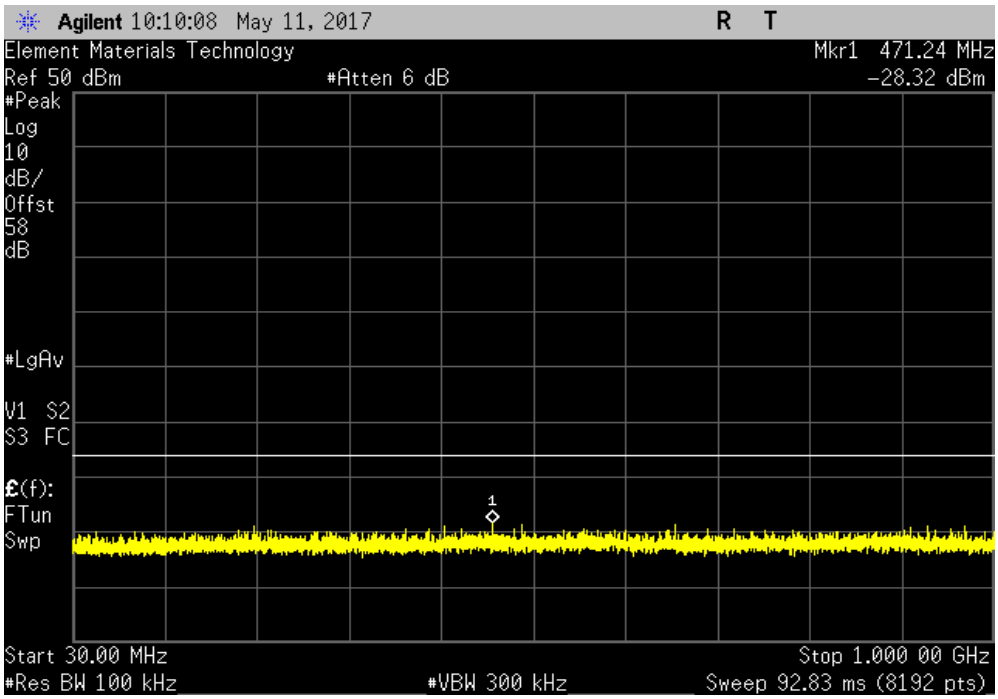
DEVIATIONS FROM TEST STANDARD

None

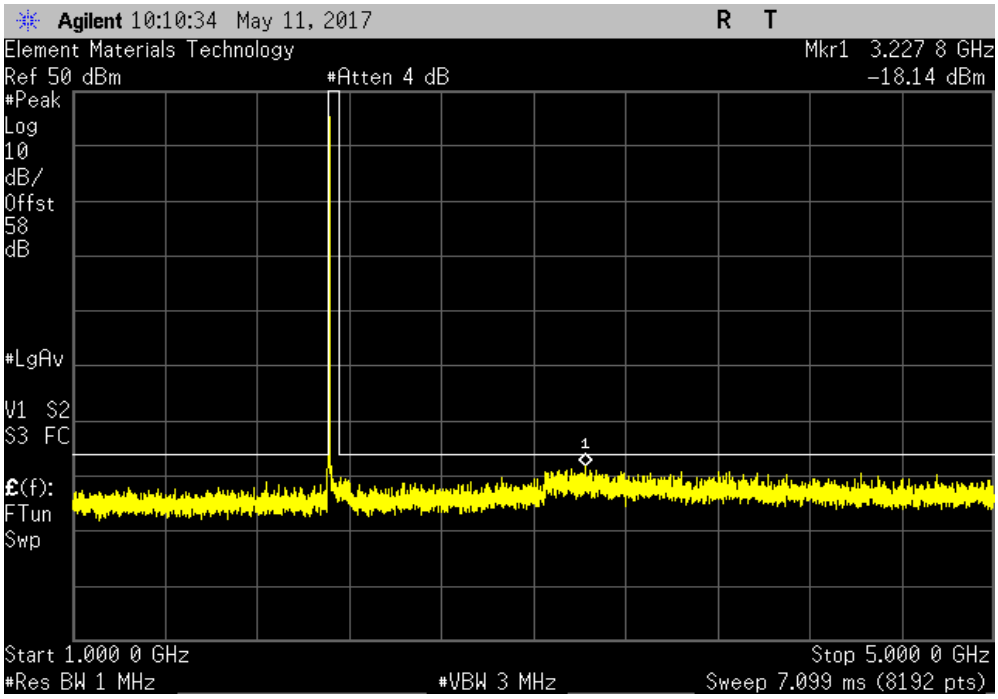
Configuration #	1	Signature

		Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
Antenna Port 1					
	Low Channel LTE5, 2112.5 MHz	30 MHz - 1 GHz	-28.32	-16	Pass
	Low Channel LTE5, 2112.5 MHz	1 GHz - 5 GHz	-18.14	-16	Pass
	Low Channel LTE5, 2112.5 MHz	5 GHz - 22 GHz	-18.68	-16	Pass
	Mid Channel LTE5, 2132.5 MHz	30 MHz - 1 GHz	-28.32	-16	Pass
	Mid Channel LTE5, 2132.5 MHz	1 GHz - 5 GHz	-18.07	-16	Pass
	Mid Channel LTE5, 2132.5 MHz	5 GHz - 22 GHz	-18.81	-16	Pass
	High Channel LTE5, 2152.5 MHz	30 MHz - 1 GHz	-28.39	-16	Pass
	High Channel LTE5, 2152.5 MHz	1 GHz - 5 GHz	-18.58	-16	Pass
	High Channel LTE5, 2152.5 MHz	5 GHz - 22 GHz	-18.5	-16	Pass
	Low Channel LTE10, 2115 MHz	30 MHz - 1 GHz	-28.93	-16	Pass
	Low Channel LTE10, 2115 MHz	1 GHz - 5 GHz	-17.92	-16	Pass
	Low Channel LTE10, 2115 MHz	5 GHz - 22 GHz	-18.68	-16	Pass
	Mid Channel LTE10, 2132.5 MHz	30 MHz - 1 GHz	-28.59	-16	Pass
	Mid Channel LTE10, 2132.5 MHz	1 GHz - 5 GHz	-18.09	-16	Pass
	Mid Channel LTE10, 2132.5 MHz	5 GHz - 22 GHz	-18.72	-16	Pass
	High Channel LTE10, 2150 MHz	30 MHz - 1 GHz	-28.02	-16	Pass
	High Channel LTE10, 2150 MHz	1 GHz - 5 GHz	-18.21	-16	Pass
	High Channel LTE10, 2150 MHz	5 GHz - 22 GHz	-18.6	-16	Pass
	Low Channel LTE20, 2120 MHz	30 MHz - 1 GHz	-28.94	-16	Pass
	Low Channel LTE20, 2120 MHz	1 GHz - 5 GHz	-18.04	-16	Pass
	Low Channel LTE20, 2120 MHz	5 GHz - 22 GHz	-18.35	-16	Pass
	Mid Channel LTE20, 2132.5 MHz	30 MHz - 1 GHz	-27.64	-16	Pass
	Mid Channel LTE20, 2132.5 MHz	1 GHz - 5 GHz	-18.01	-16	Pass
	Mid Channel LTE20, 2132.5 MHz	5 GHz - 22 GHz	-18.74	-16	Pass
	High Channel LTE20, 2145 MHz	30 MHz - 1 GHz	-28.55	-16	Pass
	High Channel LTE20, 2145 MHz	1 GHz - 5 GHz	-18.2	-16	Pass
	High Channel LTE20, 2145 MHz	5 GHz - 22 GHz	-18.7	-16	Pass
Antenna Port 2					
	Low Channel LTE5, 2112.5 MHz	30 MHz - 1 GHz	-29.21	-16	Pass
	Low Channel LTE5, 2112.5 MHz	1 GHz - 5 GHz	-18.59	-16	Pass
	Low Channel LTE5, 2112.5 MHz	5 GHz - 22 GHz	-18.73	-16	Pass
	Mid Channel LTE5, 2132.5 MHz	30 MHz - 1 GHz	-28.25	-16	Pass
	Mid Channel LTE5, 2132.5 MHz	1 GHz - 5 GHz	-18.52	-16	Pass
	Mid Channel LTE5, 2132.5 MHz	5 GHz - 22 GHz	-19.1	-16	Pass
	High Channel LTE5, 2152.5 MHz	30 MHz - 1 GHz	-29.25	-16	Pass
	High Channel LTE5, 2152.5 MHz	1 GHz - 5 GHz	-18.86	-16	Pass
	High Channel LTE5, 2152.5 MHz	5 GHz - 22 GHz	-19.08	-16	Pass
	Low Channel LTE10, 2115 MHz	30 MHz - 1 GHz	-28.89	-16	Pass
	Low Channel LTE10, 2115 MHz	1 GHz - 5 GHz	-18.91	-16	Pass
	Low Channel LTE10, 2115 MHz	5 GHz - 22 GHz	-18.99	-16	Pass
	Mid Channel LTE10, 2132.5 MHz	30 MHz - 1 GHz	-29.45	-16	Pass
	Mid Channel LTE10, 2132.5 MHz	1 GHz - 5 GHz	-18.69	-16	Pass
	Mid Channel LTE10, 2132.5 MHz	5 GHz - 22 GHz	-18.92	-16	Pass
	High Channel LTE10, 2150 MHz	30 MHz - 1 GHz	-28.74	-16	Pass
	High Channel LTE10, 2150 MHz	1 GHz - 5 GHz	-18.27	-16	Pass
	High Channel LTE10, 2150 MHz	5 GHz - 22 GHz	-18.48	-16	Pass
	Low Channel LTE20, 2120 MHz	30 MHz - 1 GHz	-28.94	-16	Pass
	Low Channel LTE20, 2120 MHz	1 GHz - 5 GHz	-18.55	-16	Pass
	Low Channel LTE20, 2120 MHz	5 GHz - 22 GHz	-18.98	-16	Pass
	Mid Channel LTE20, 2132.5 MHz	30 MHz - 1 GHz	-29.19	-16	Pass
	Mid Channel LTE20, 2132.5 MHz	1 GHz - 5 GHz	-18.41	-16	Pass
	Mid Channel LTE20, 2132.5 MHz	5 GHz - 22 GHz	-18.72	-16	Pass
	High Channel LTE20, 2145 MHz	30 MHz - 1 GHz	-29.7	-16	Pass
	High Channel LTE20, 2145 MHz	1 GHz - 5 GHz	-18.5	-16	Pass
	High Channel LTE20, 2145 MHz	5 GHz - 22 GHz	-19.27	-16	Pass

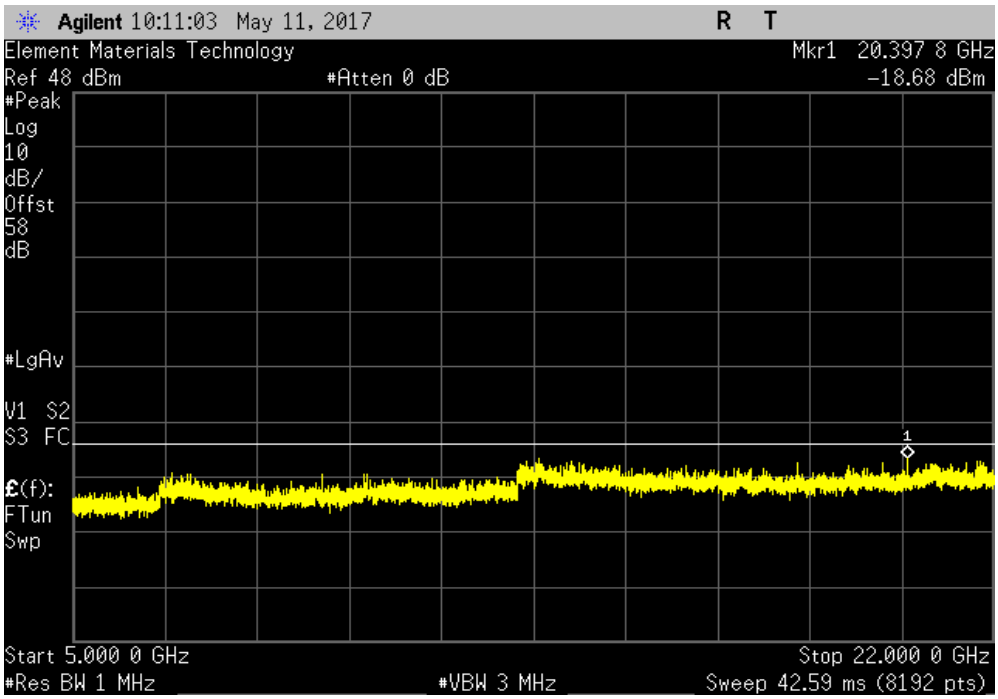
Antenna Port 1, Low Channel LTE5, 2112.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.32	-16	Pass



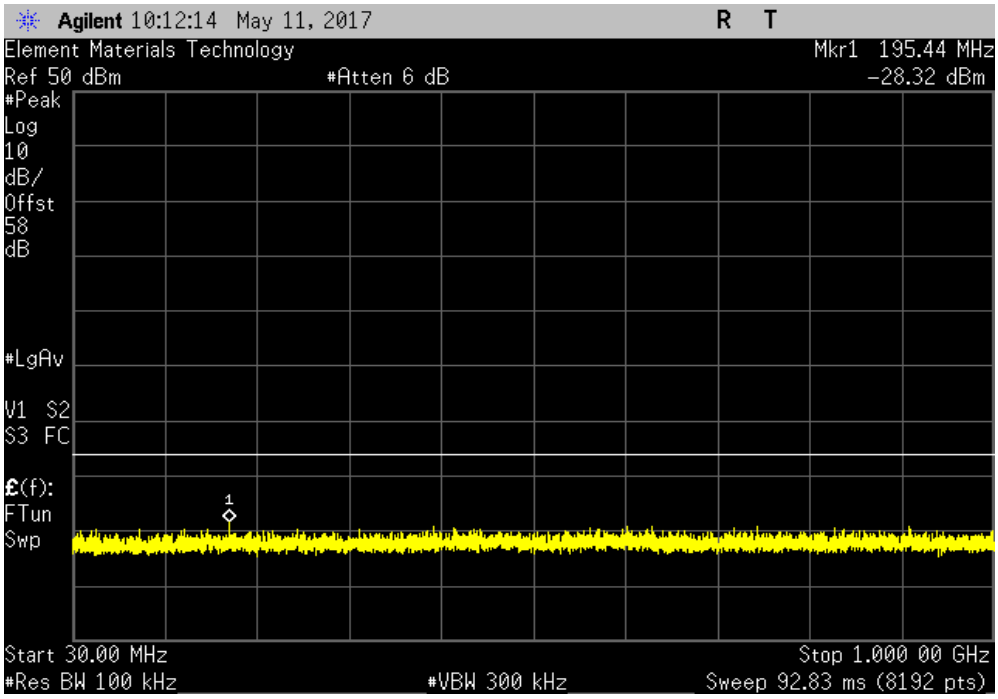
Antenna Port 1, Low Channel LTE5, 2112.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.14	-16	Pass



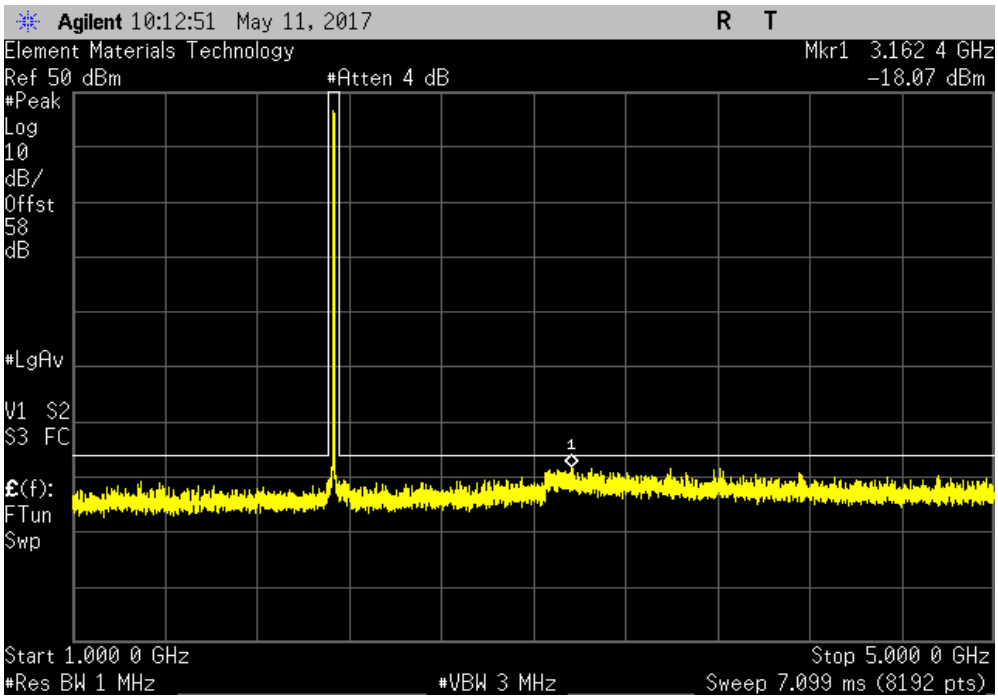
Antenna Port 1, Low Channel LTE5, 2112.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.68	-16	Pass



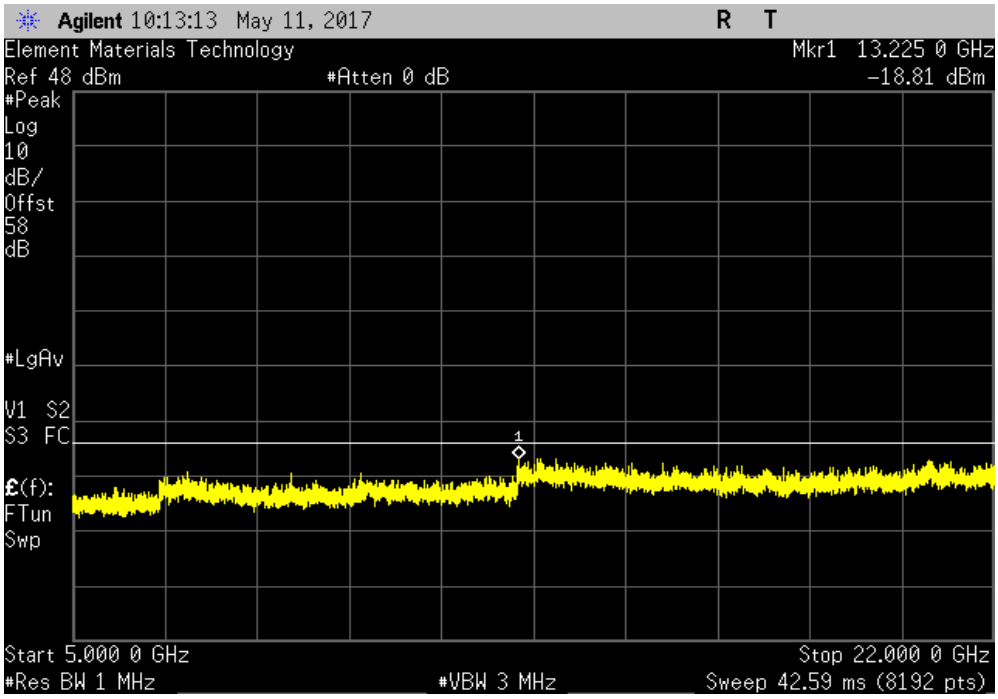
Antenna Port 1, Mid Channel LTE5, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.32	-16	Pass



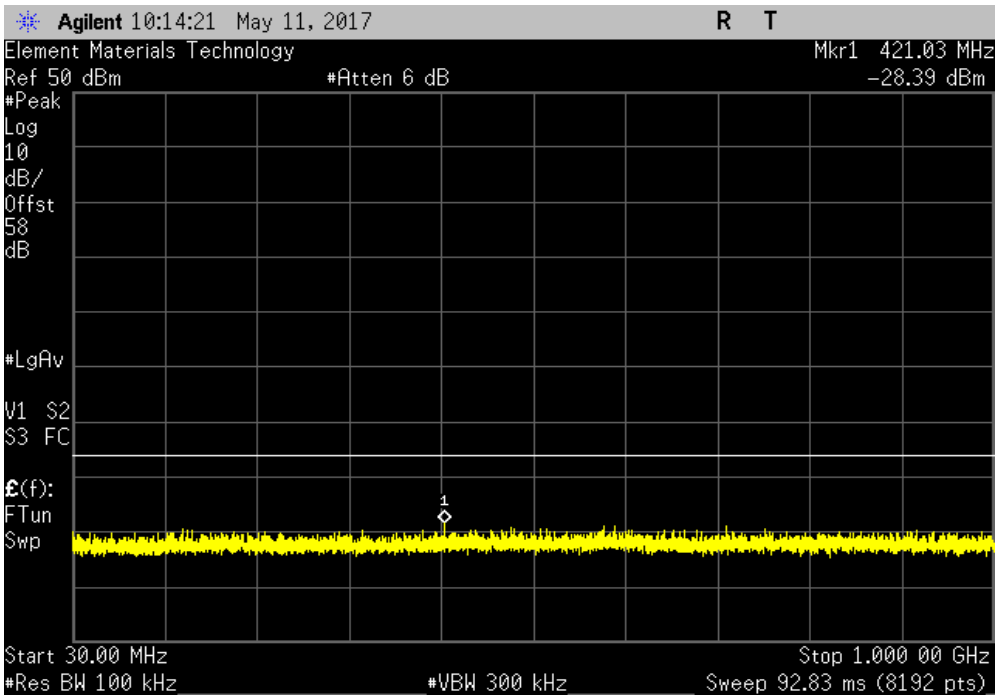
Antenna Port 1, Mid Channel LTE5, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.07	-16	Pass



Antenna Port 1, Mid Channel LTE5, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.81	-16	Pass



Antenna Port 1, High Channel LTE5, 2152.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.39	-16	Pass



Antenna Port 1, High Channel LTE5, 2152.5 MHz						
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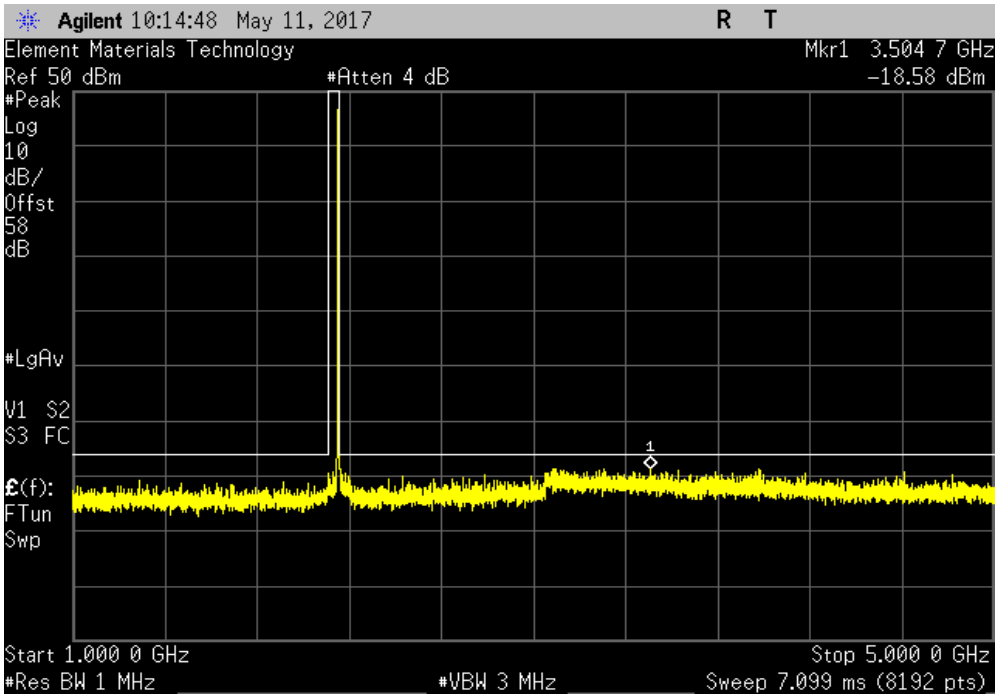
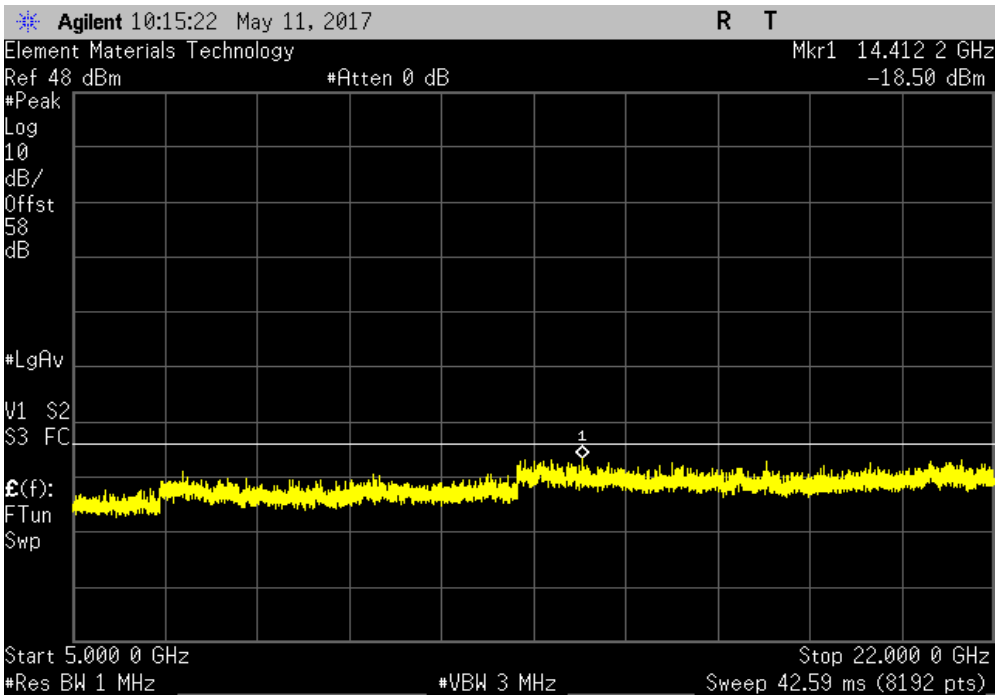
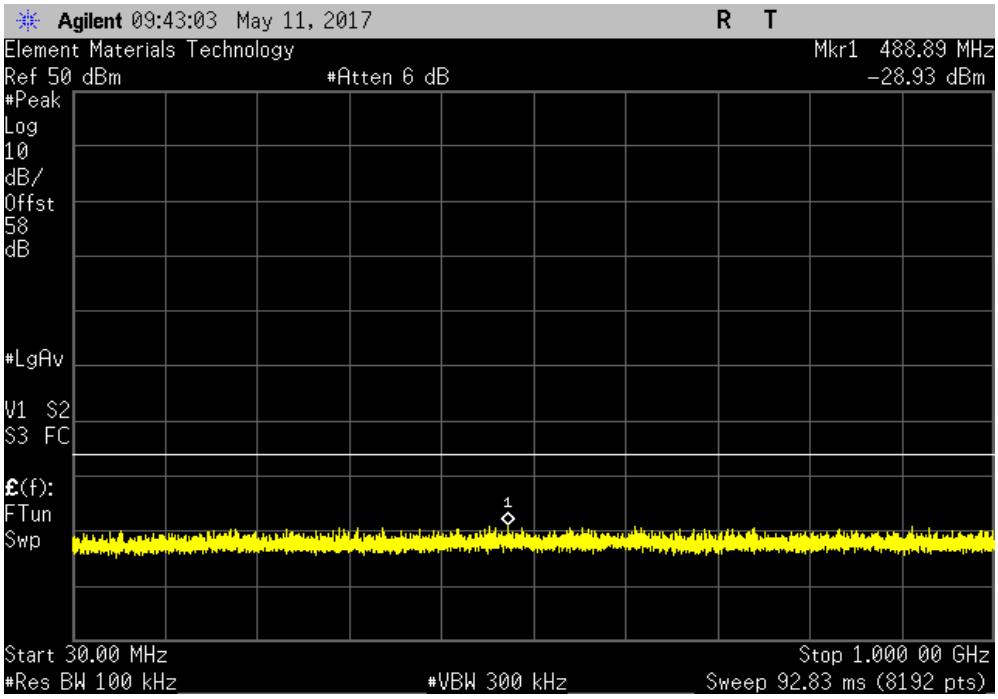
	1 GHz - 5 GHz			-18.58	-16	Pass



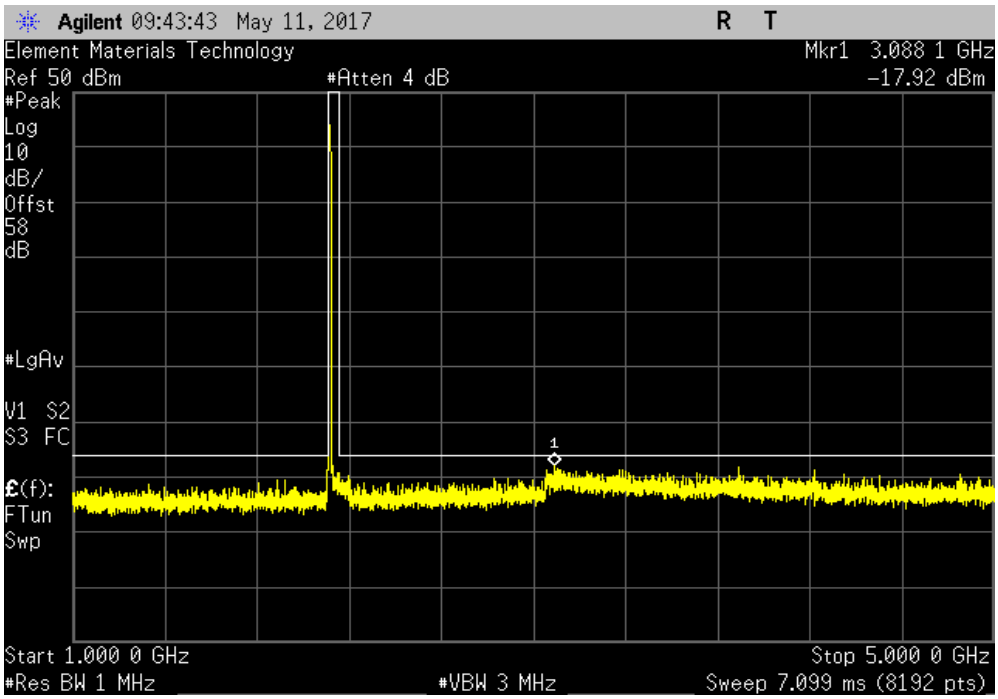
Antenna Port 1, High Channel LTE5, 2152.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.5	-16	Pass



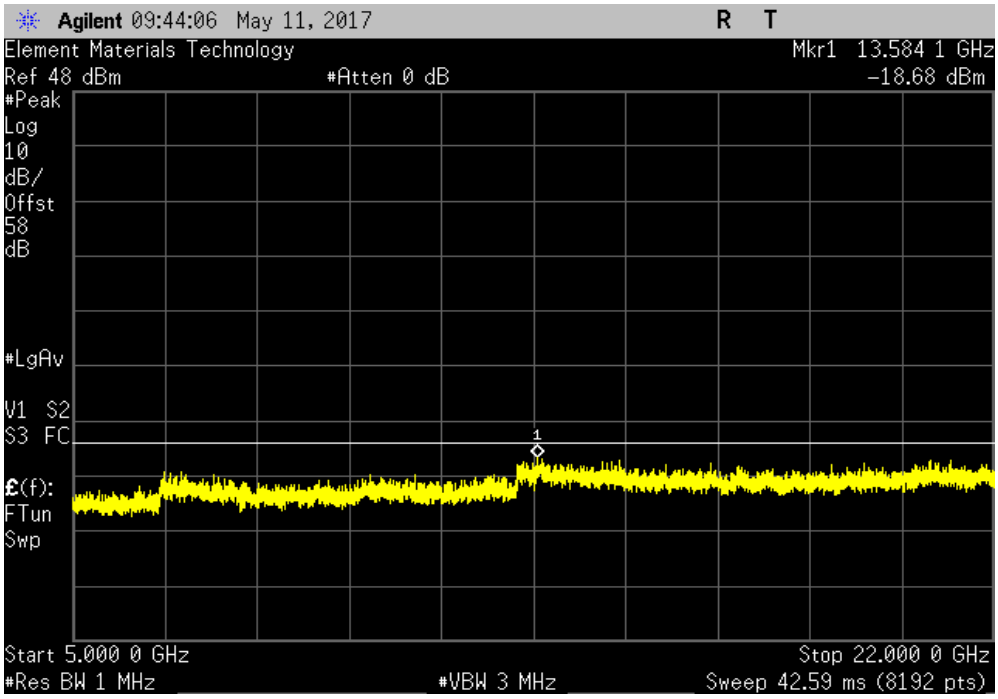
Antenna Port 1, Low Channel LTE10, 2115 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.93	-16	Pass



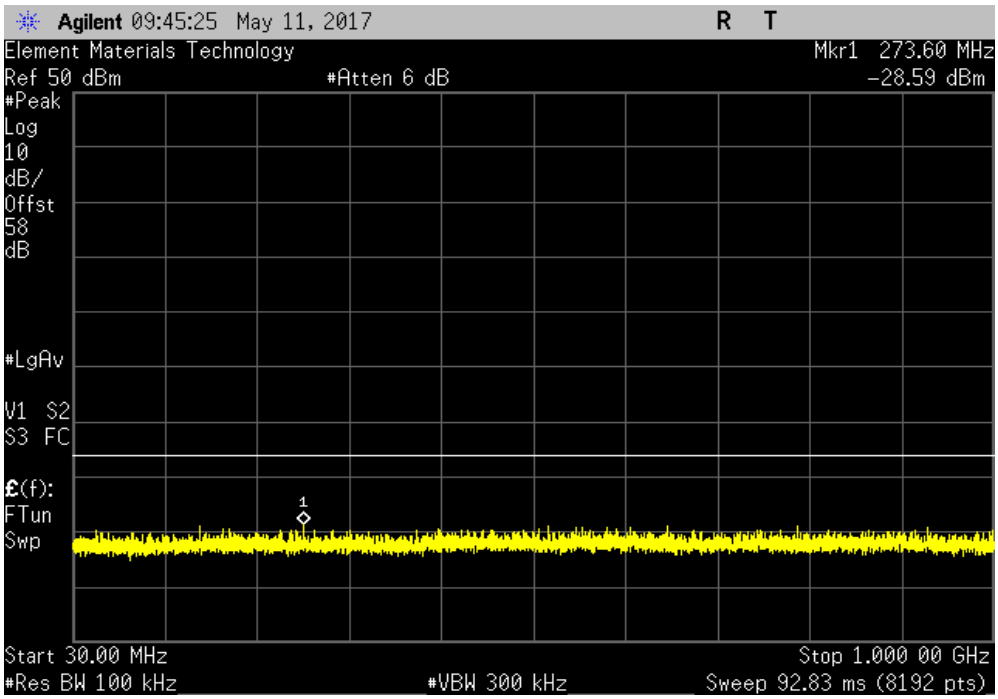
Antenna Port 1, Low Channel LTE10, 2115 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-17.92	-16	Pass



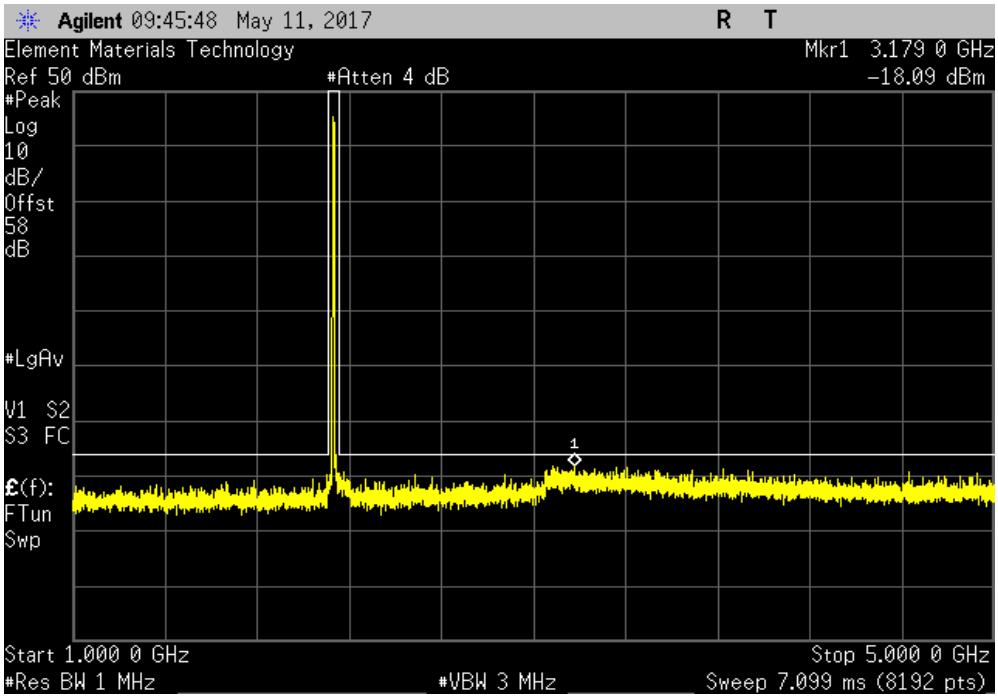
Antenna Port 1, Low Channel LTE10, 2115 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.68	-16	Pass



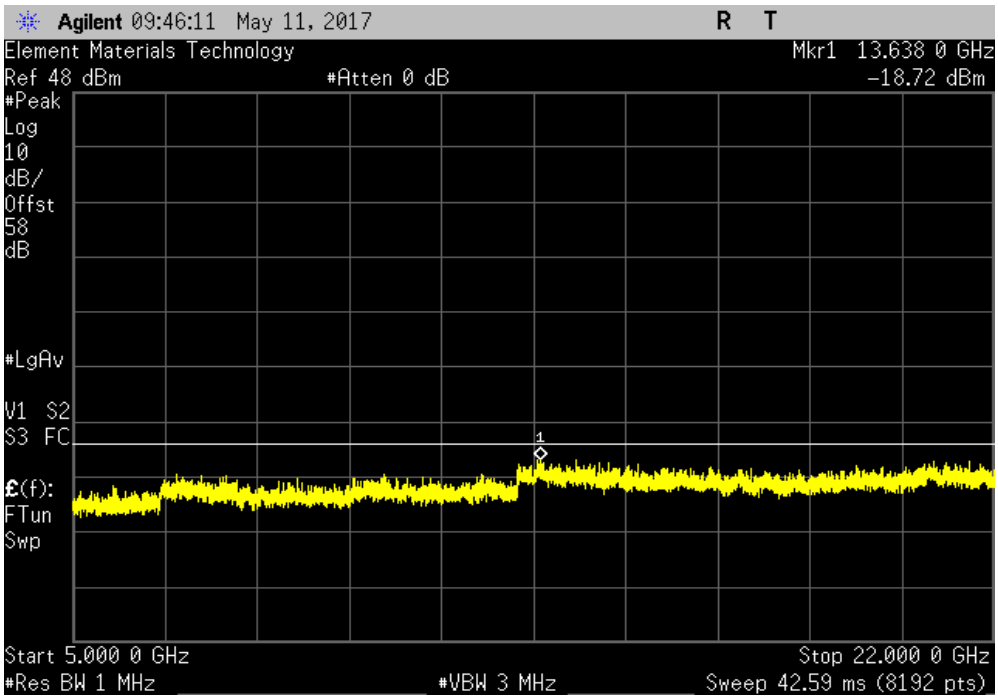
Antenna Port 1, Mid Channel LTE10, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.59	-16	Pass



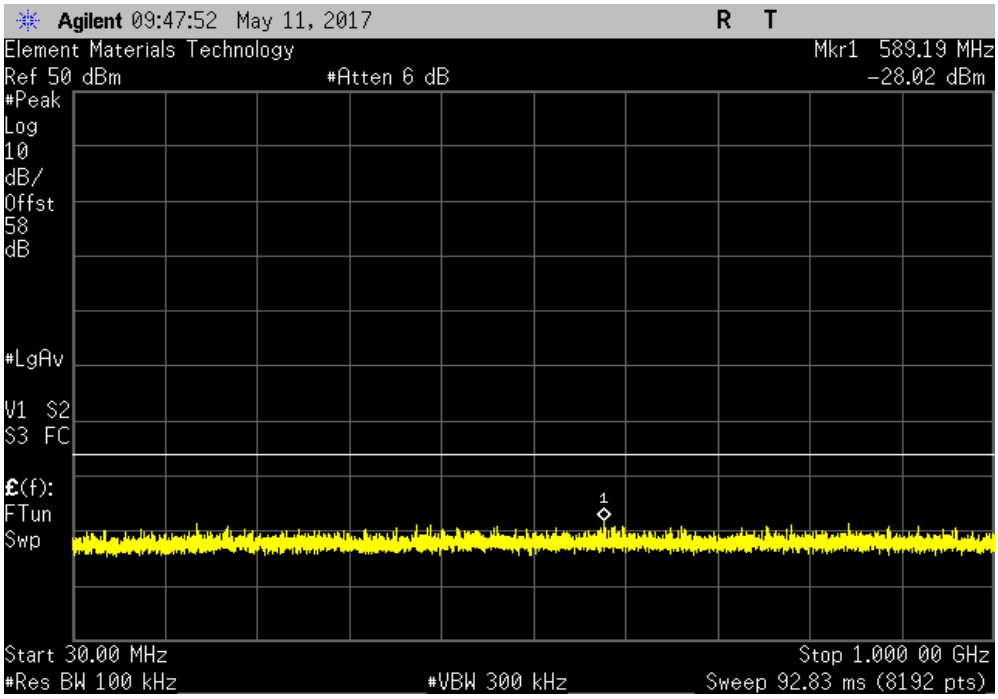
Antenna Port 1, Mid Channel LTE10, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.09	-16	Pass



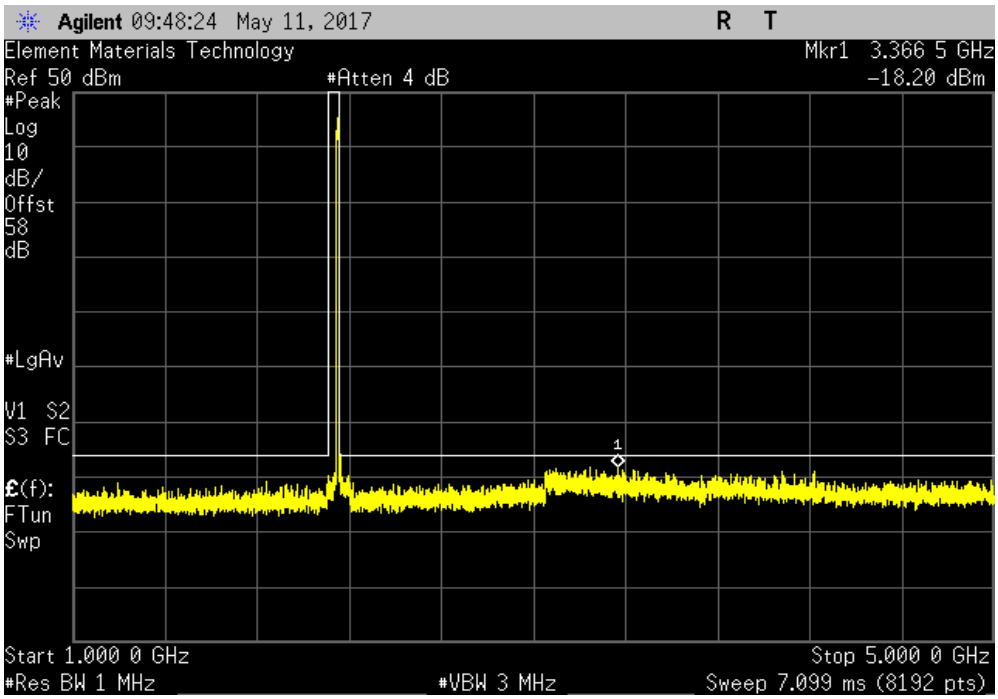
Antenna Port 1, Mid Channel LTE10, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.72	-16	Pass



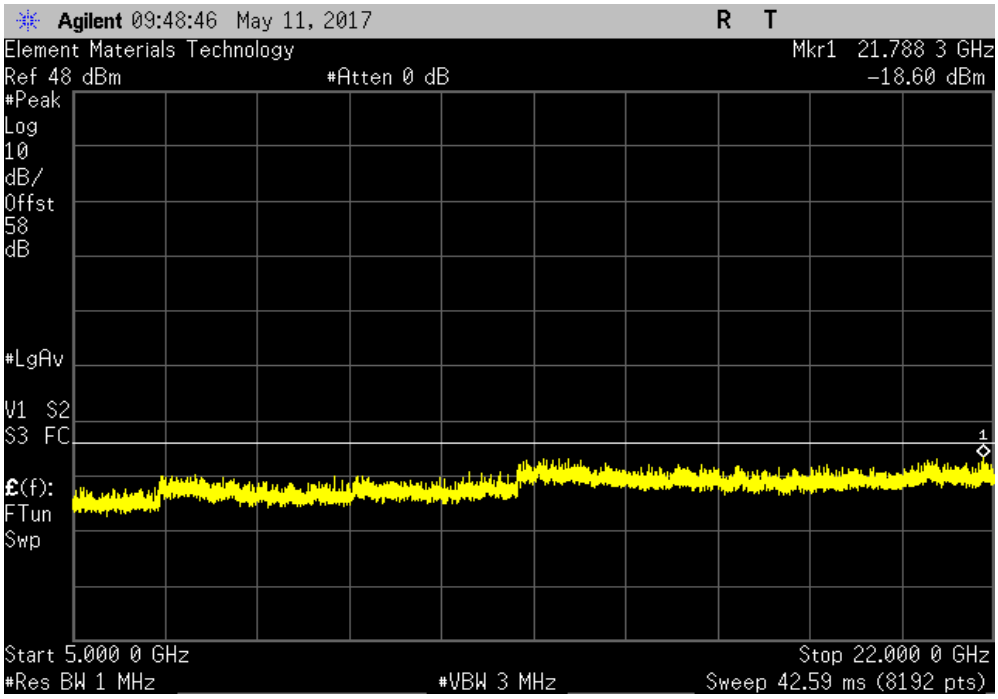
Antenna Port 1, High Channel LTE10, 2150 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.02	-16	Pass



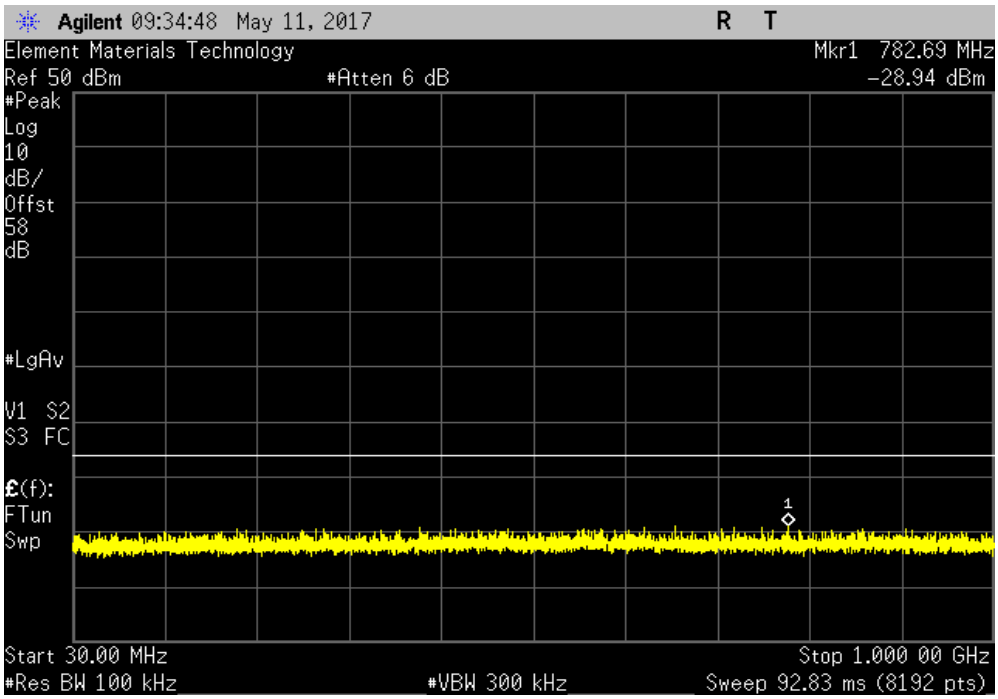
Antenna Port 1, High Channel LTE10, 2150 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.21	-16	Pass



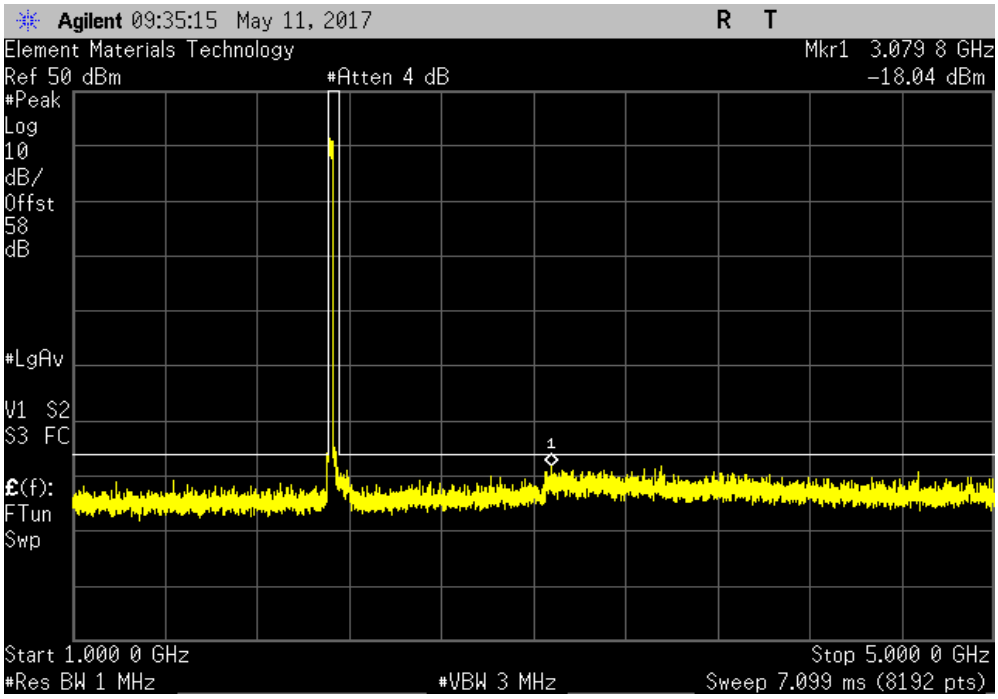
Antenna Port 1, High Channel LTE10, 2150 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.6	-16	Pass



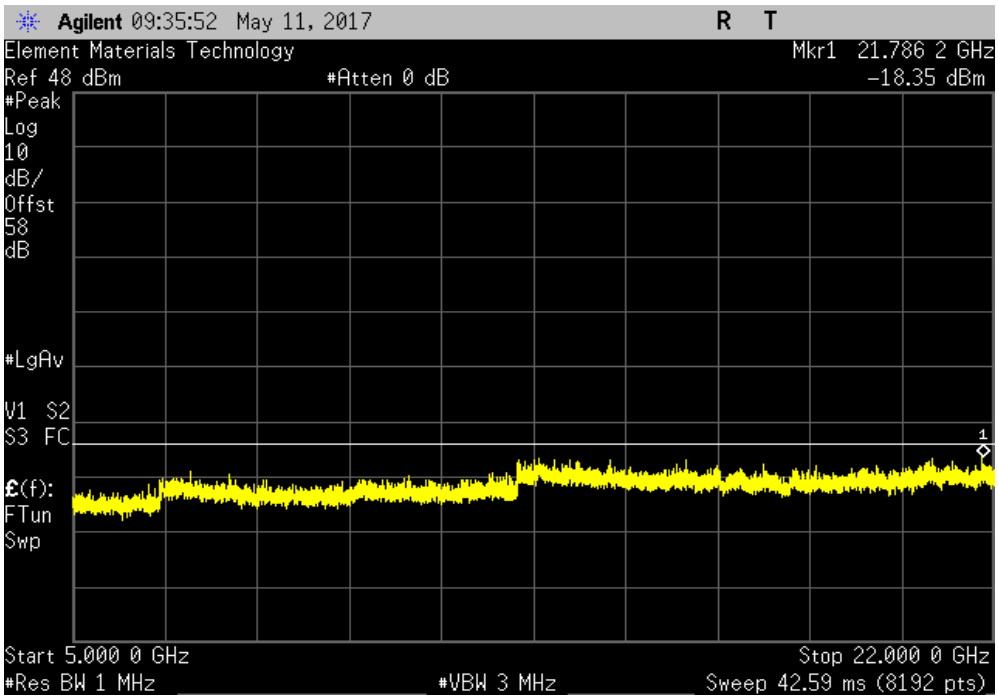
Antenna Port 1, Low Channel LTE20, 2120 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.94	-16	Pass



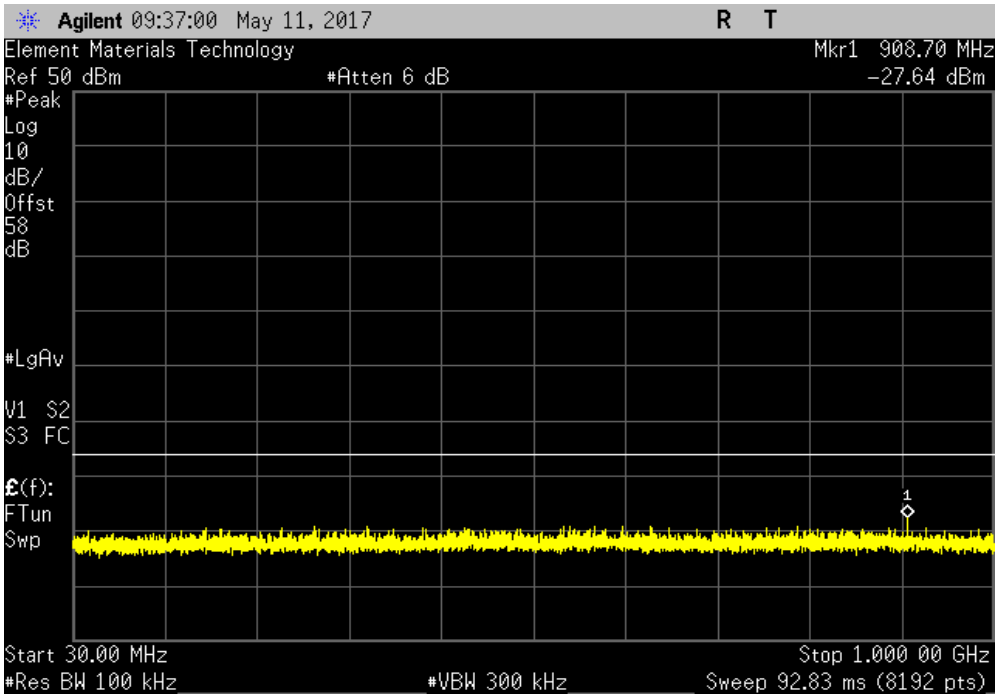
Antenna Port 1, Low Channel LTE20, 2120 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.04	-16	Pass



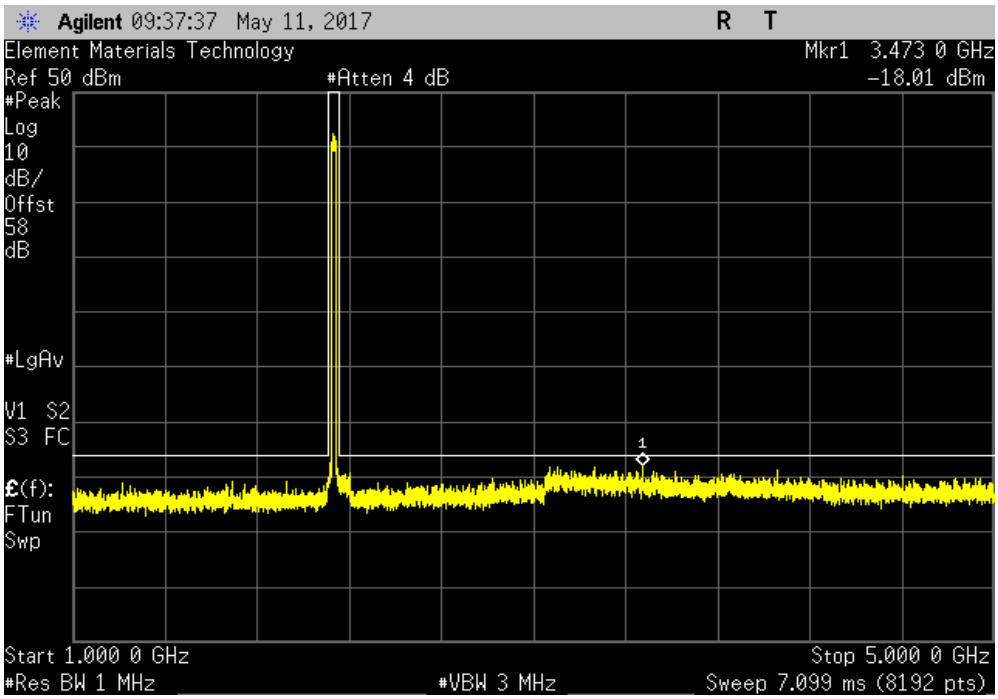
Antenna Port 1, Low Channel LTE20, 2120 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.35	-16	Pass



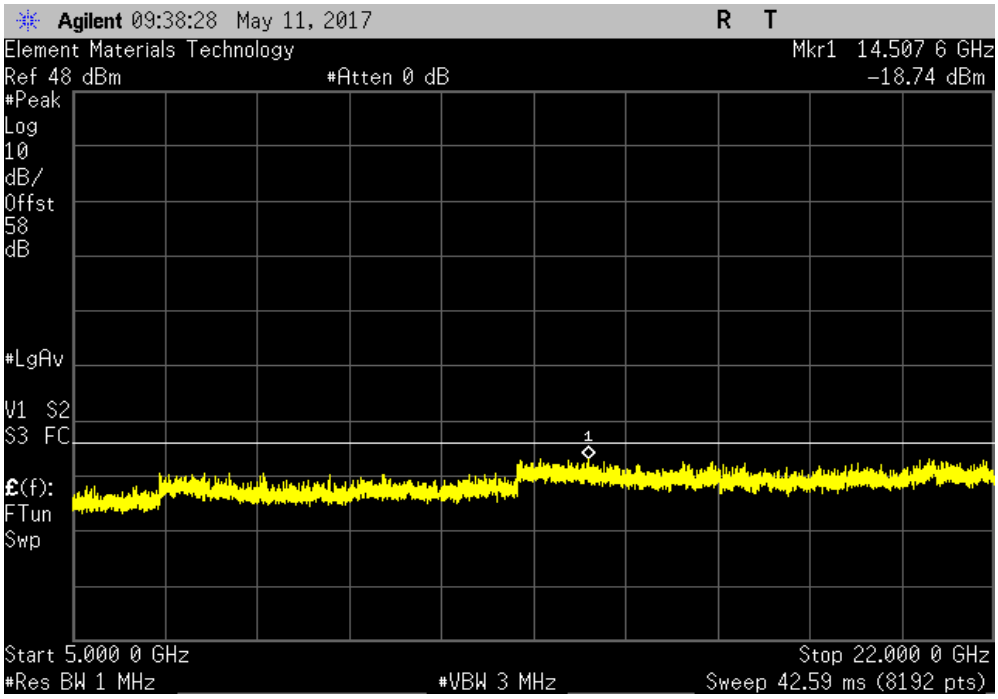
Antenna Port 1, Mid Channel LTE20, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-27.64	-16	Pass



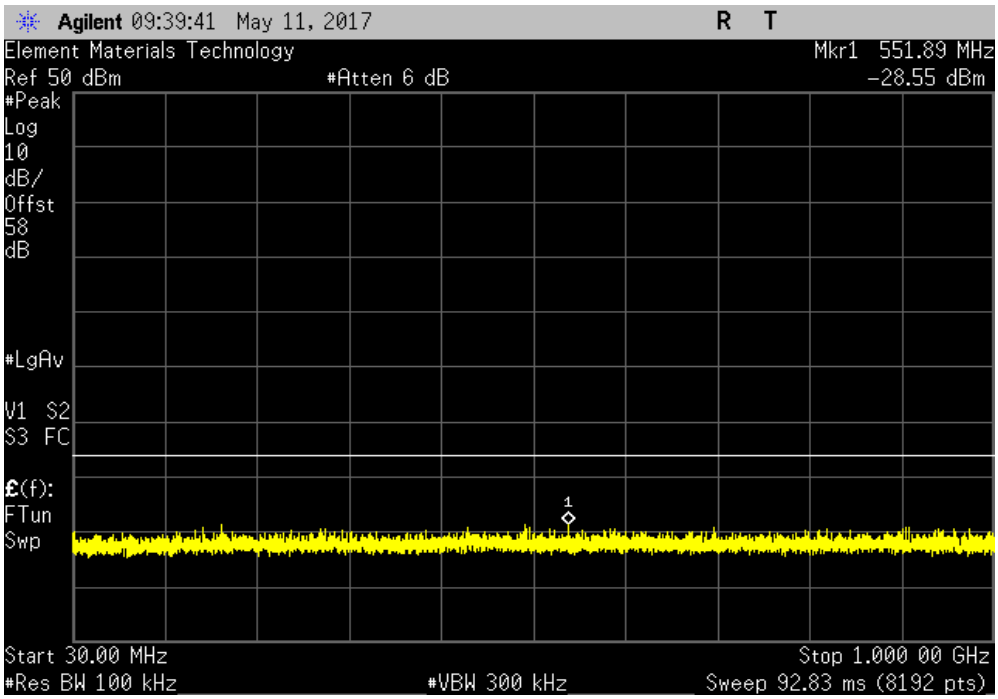
Antenna Port 1, Mid Channel LTE20, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.01	-16	Pass



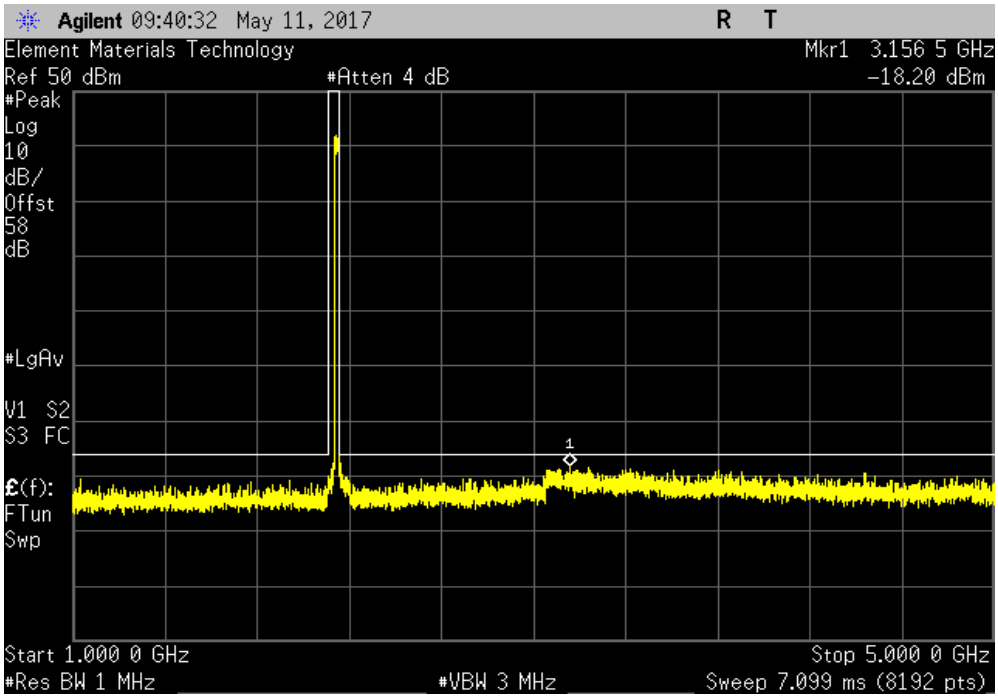
Antenna Port 1, Mid Channel LTE20, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.74	-16	Pass



Antenna Port 1, High Channel LTE20, 2145 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.55	-16	Pass



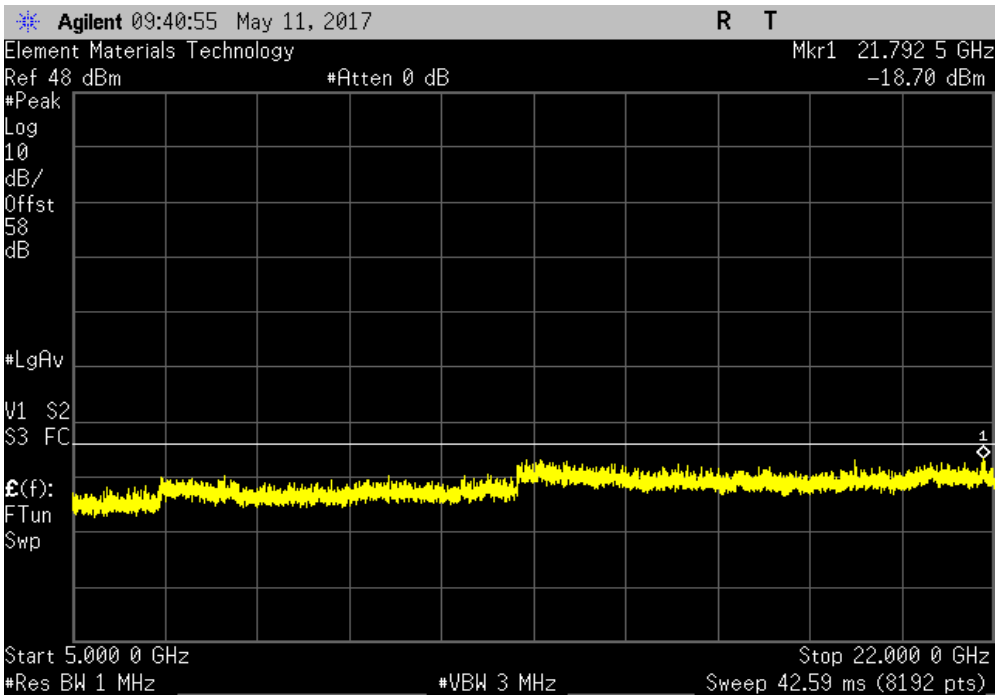
Antenna Port 1, High Channel LTE20, 2145 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.2	-16	Pass



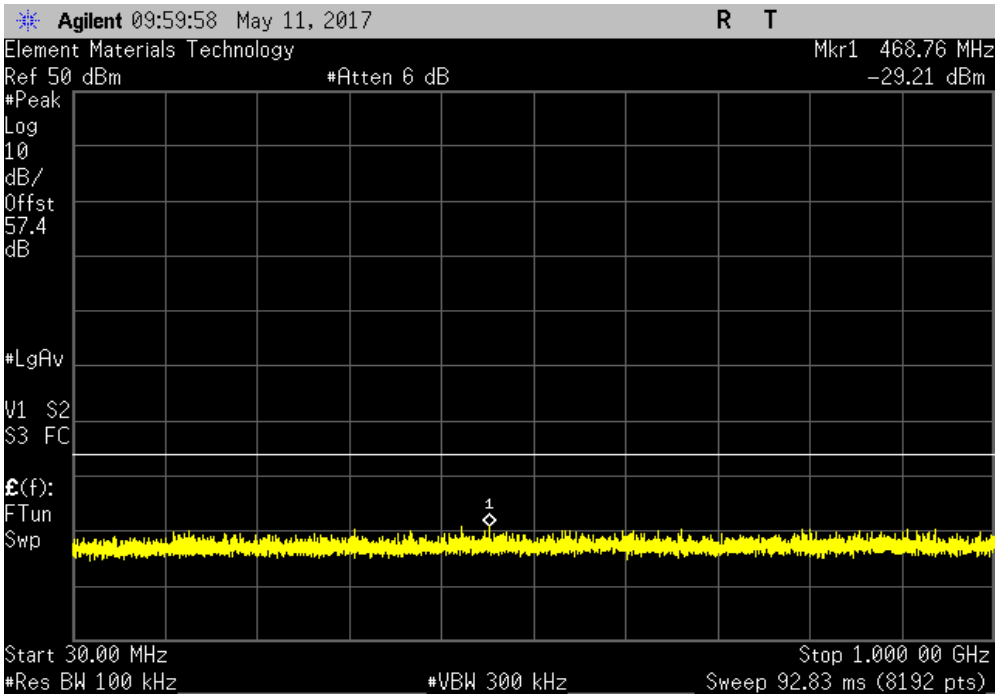
SPURIOUS CONDUCTED EMISSIONS

TbtTx 2017.01.27 XMit 2017.02.08

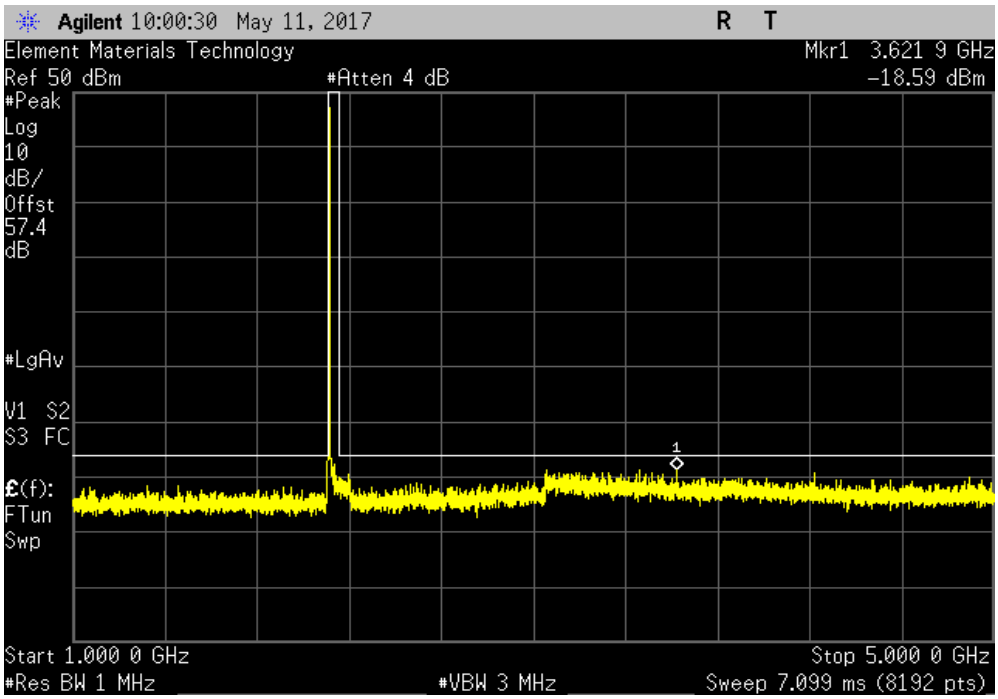
Antenna Port 1, High Channel LTE20, 2145 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.7	-16	Pass



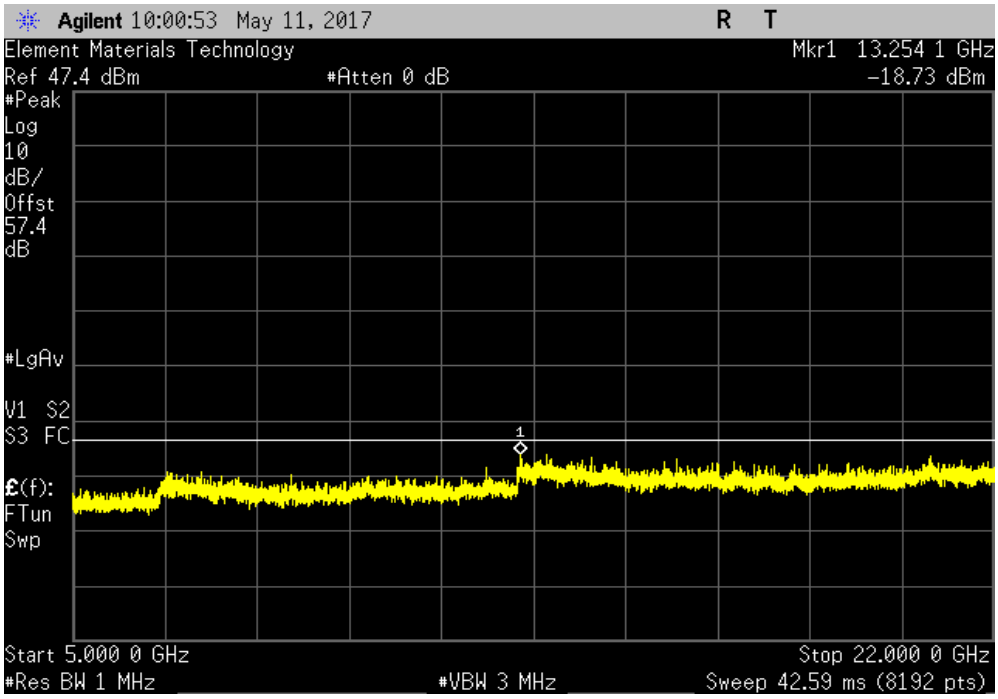
Antenna Port 2, Low Channel LTE5, 2112.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-29.21	-16	Pass



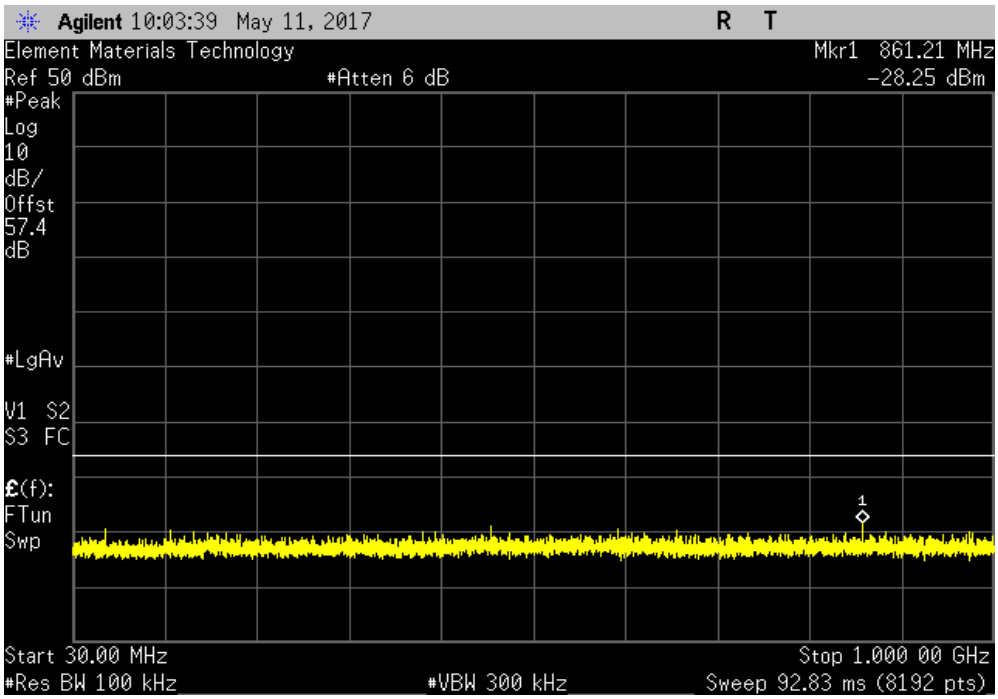
Antenna Port 2, Low Channel LTE5, 2112.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.59	-16	Pass



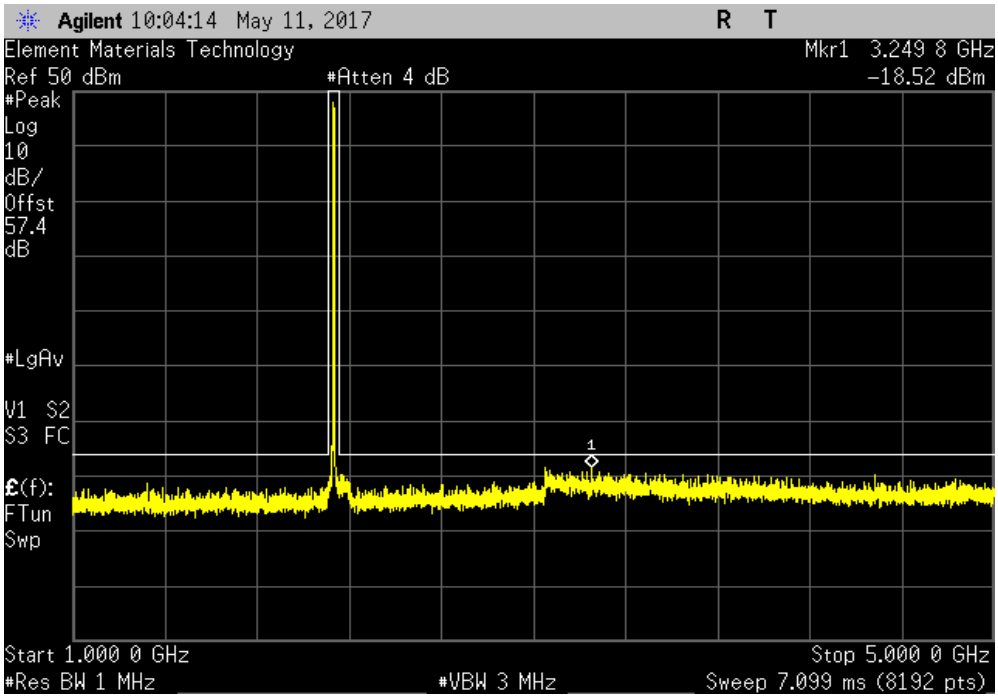
Antenna Port 2, Low Channel LTE5, 2112.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.73	-16	Pass



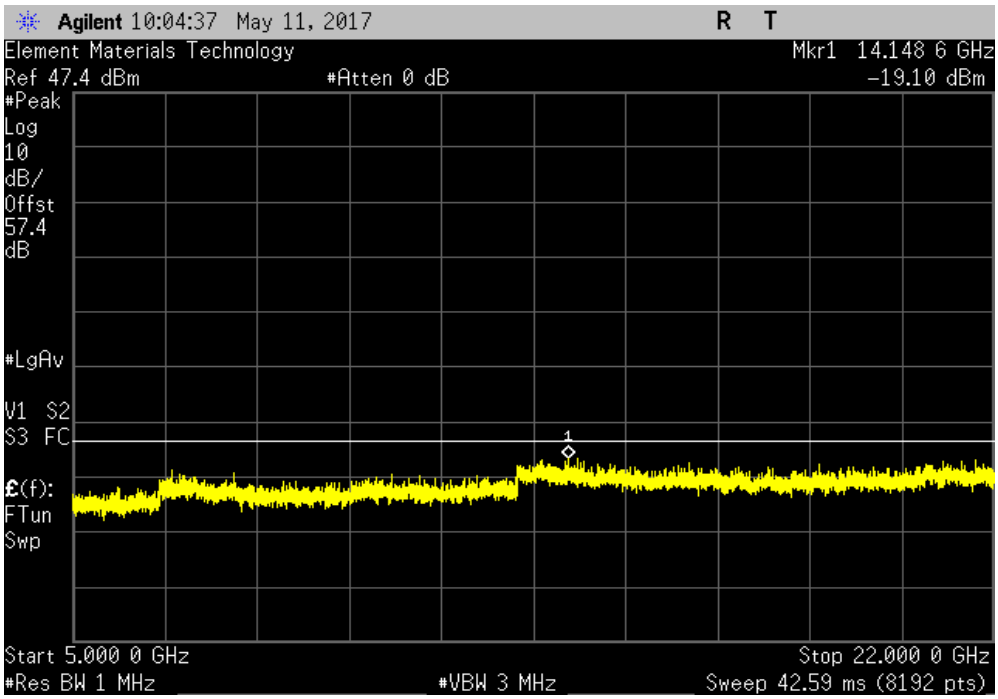
Antenna Port 2, Mid Channel LTE5, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.25	-16	Pass



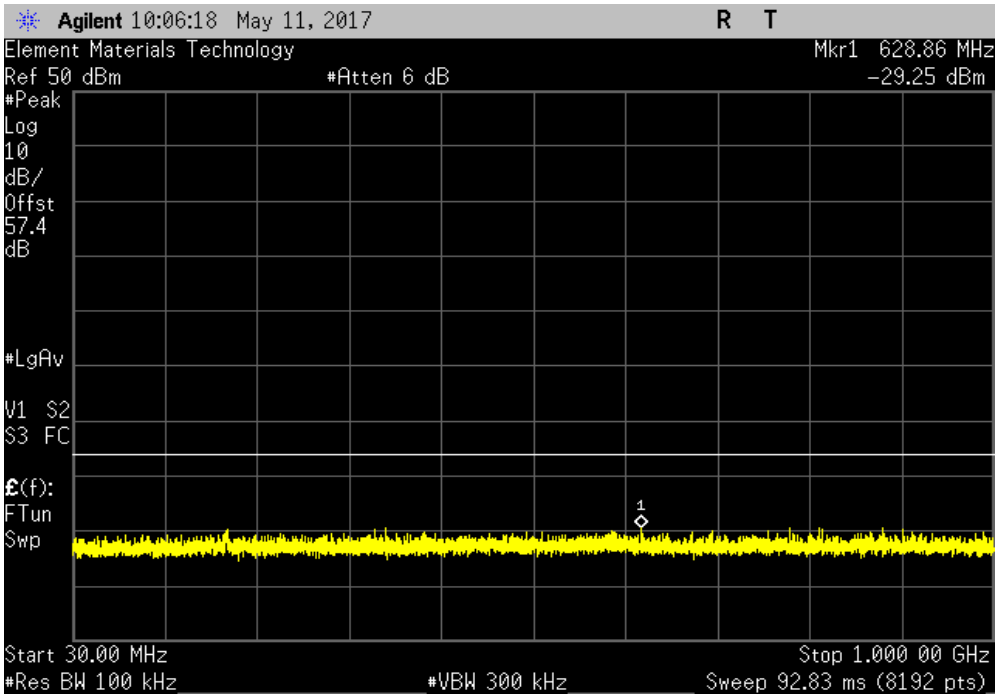
Antenna Port 2, Mid Channel LTE5, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.52	-16	Pass



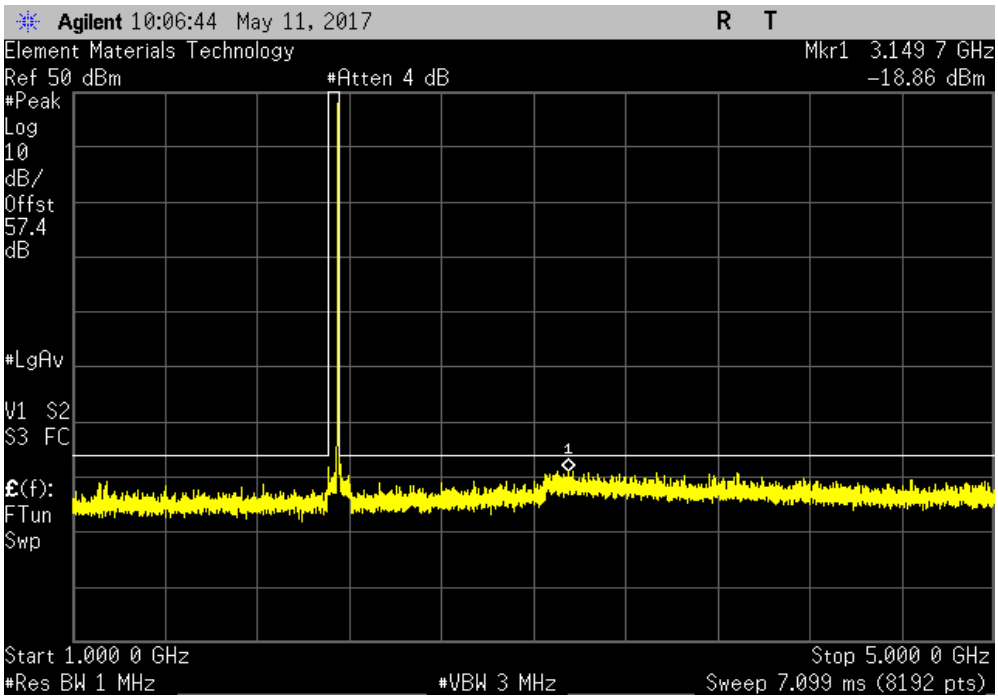
Antenna Port 2, Mid Channel LTE5, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-19.1	-16	Pass



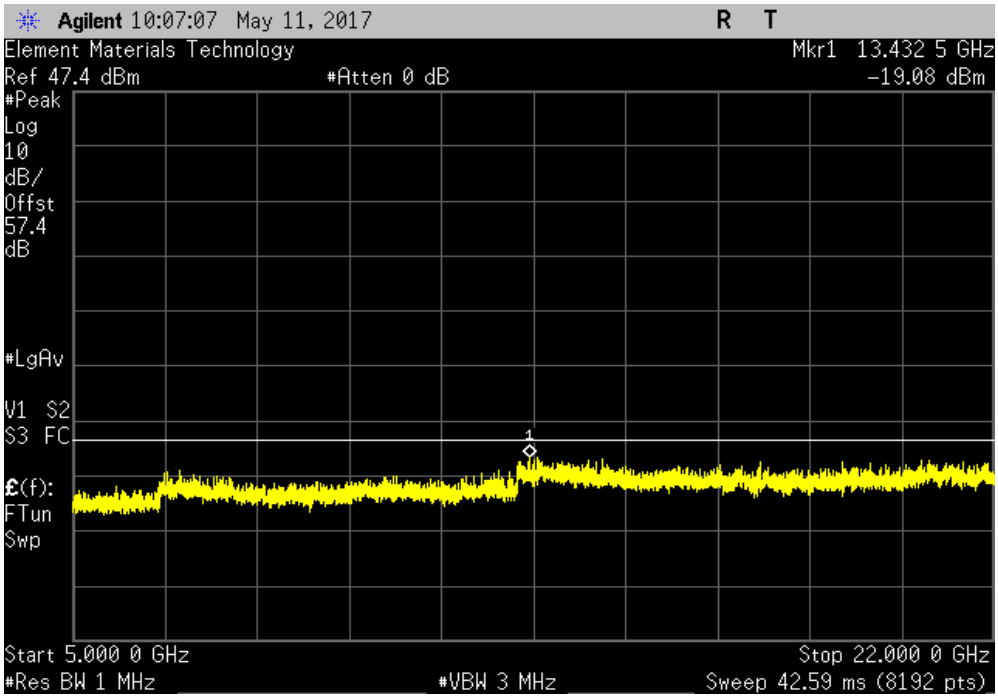
Antenna Port 2, High Channel LTE5, 2152.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-29.25	-16	Pass



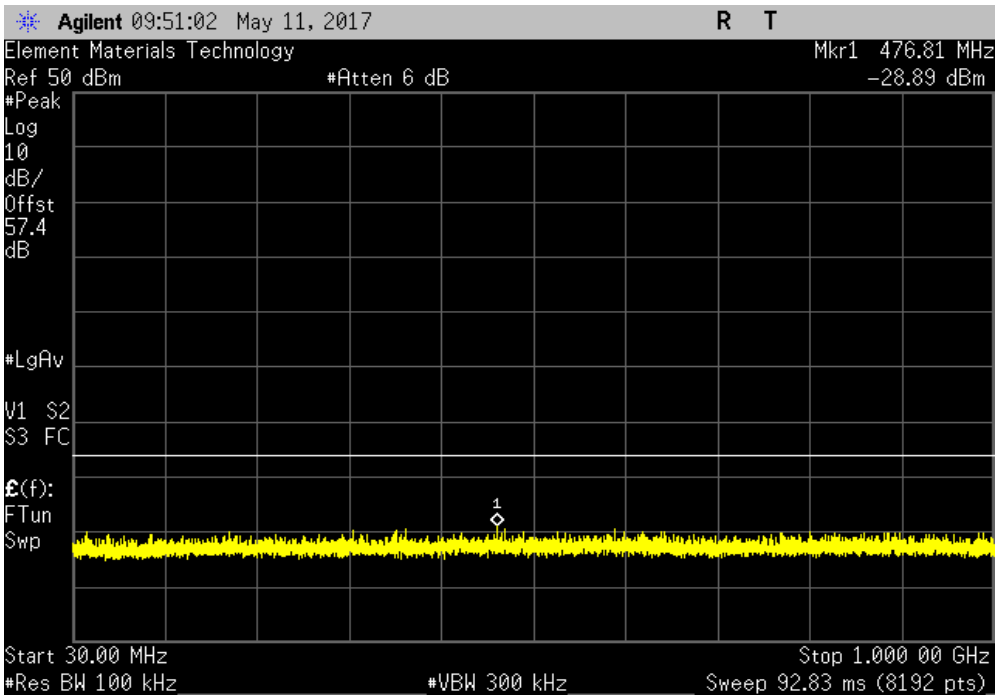
Antenna Port 2, High Channel LTE5, 2152.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.86	-16	Pass



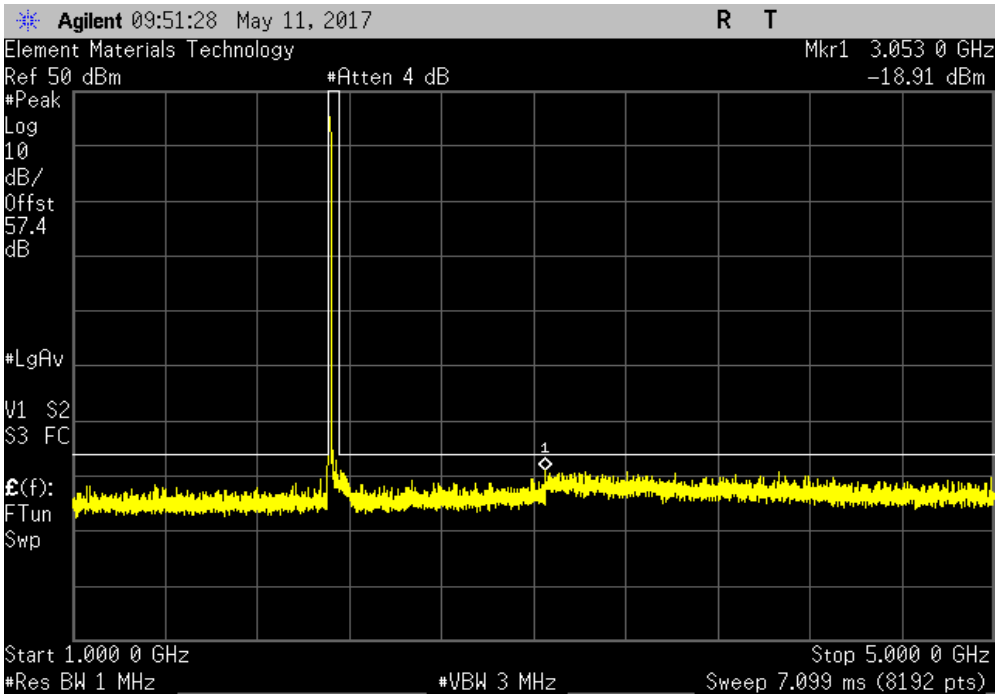
Antenna Port 2, High Channel LTE5, 2152.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-19.08	-16	Pass



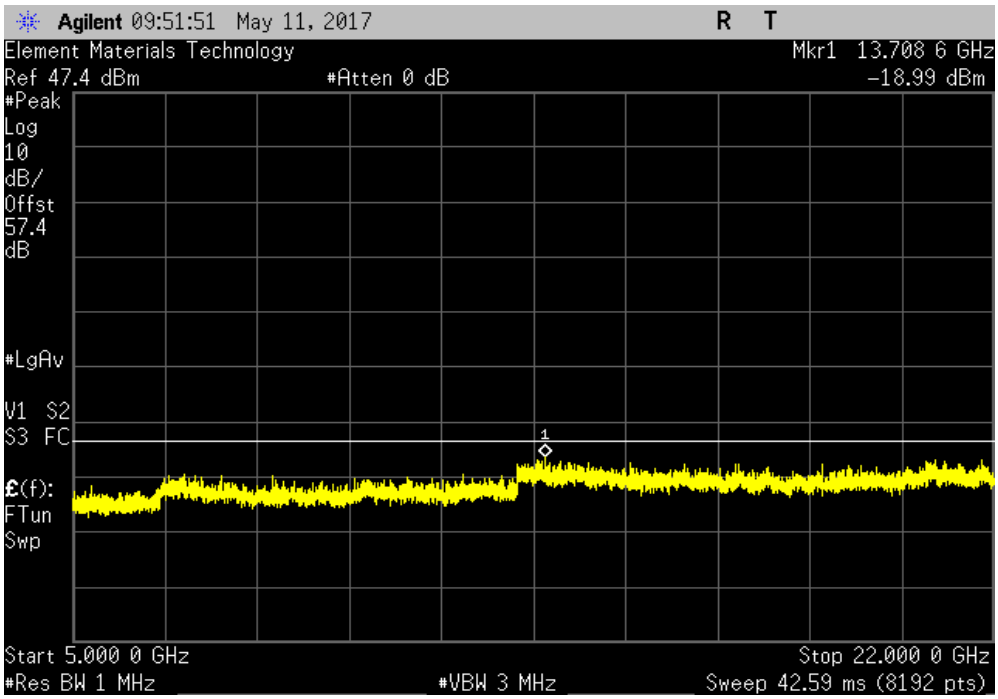
Antenna Port 2, Low Channel LTE10, 2115 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.89	-16	Pass



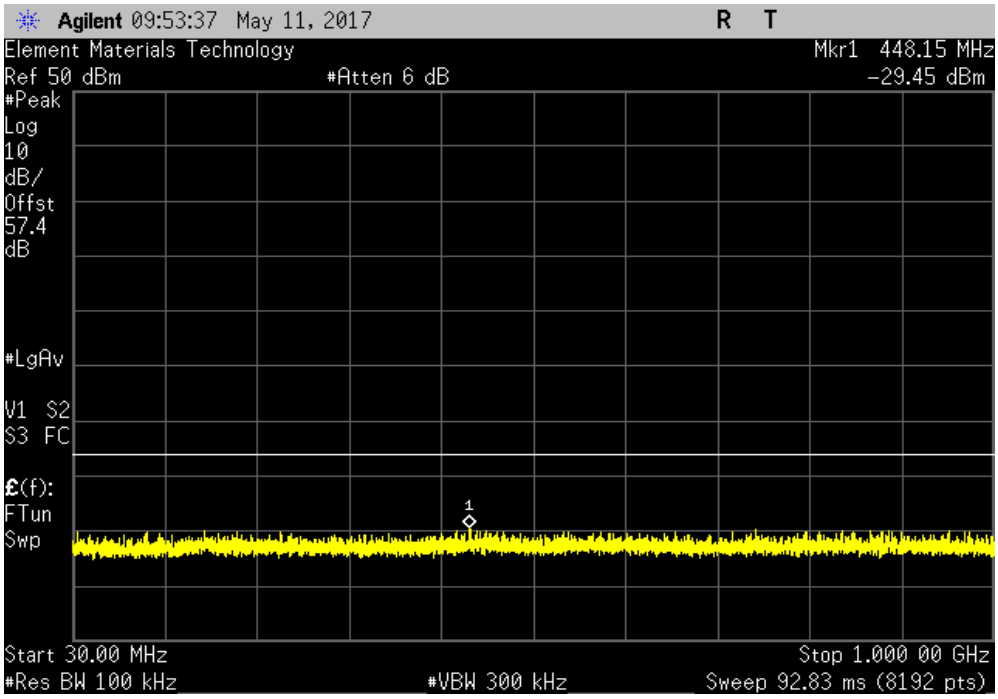
Antenna Port 2, Low Channel LTE10, 2115 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.91	-16	Pass



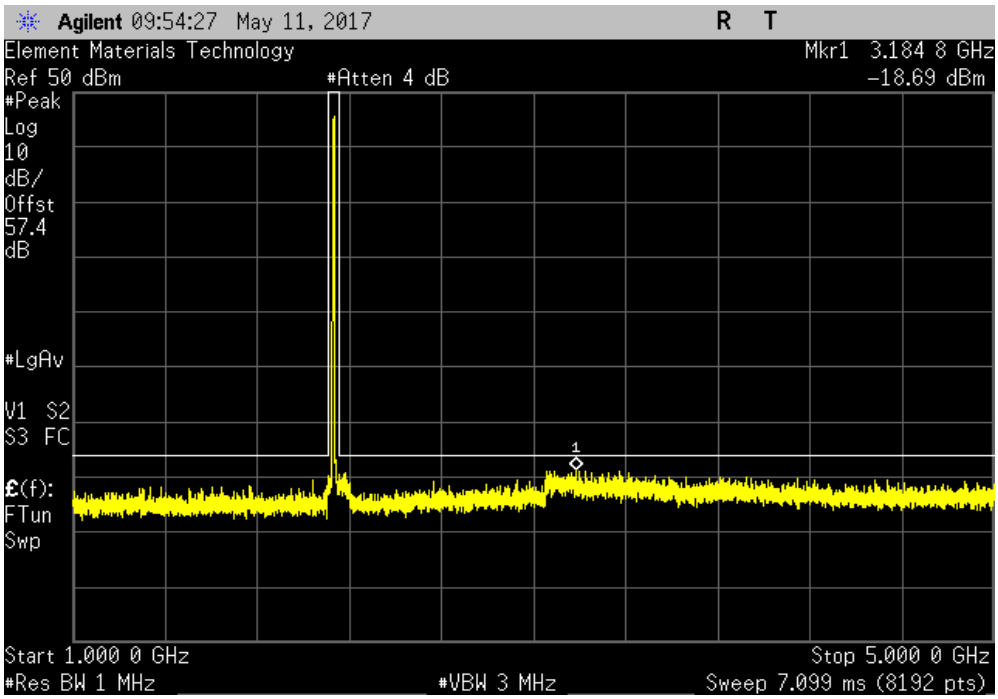
Antenna Port 2, Low Channel LTE10, 2115 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.99	-16	Pass



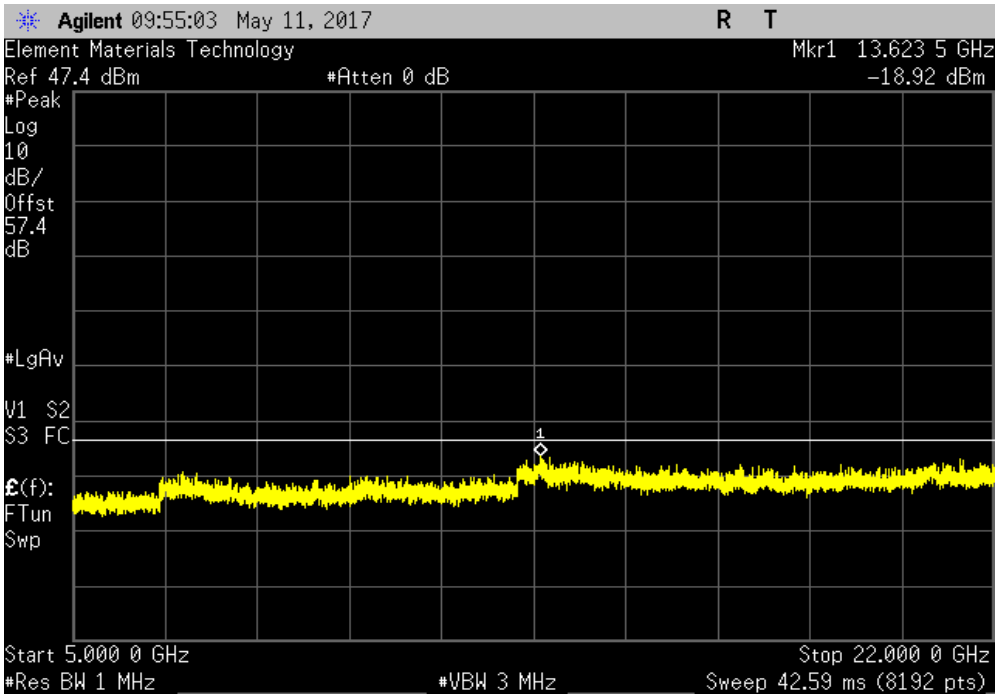
Antenna Port 2, Mid Channel LTE10, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-29.45	-16	Pass



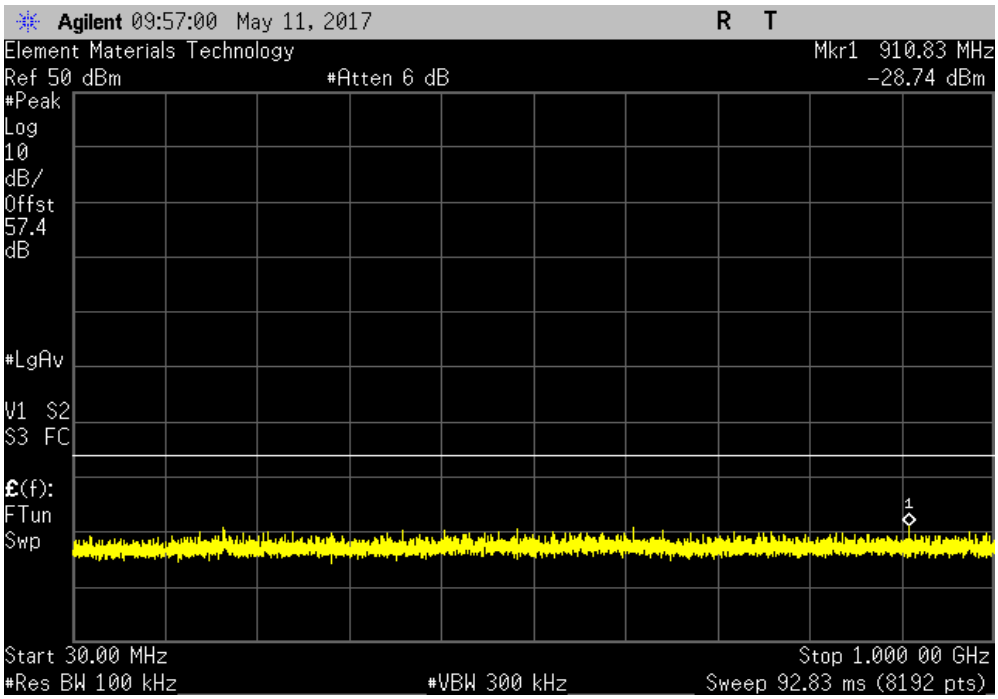
Antenna Port 2, Mid Channel LTE10, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.69	-16	Pass



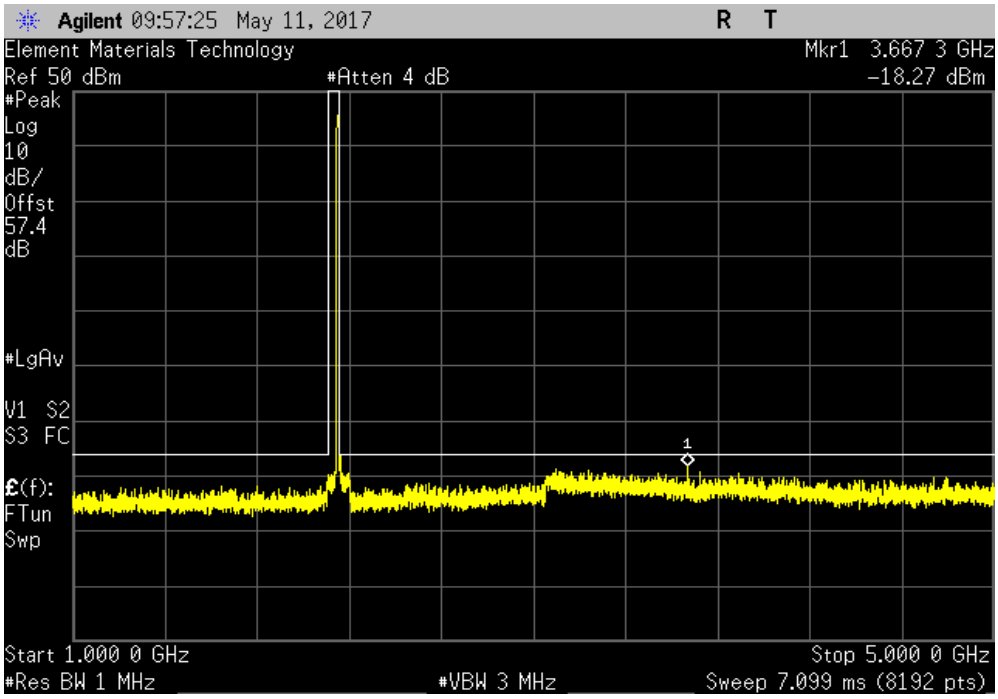
Antenna Port 2, Mid Channel LTE10, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.92	-16	Pass



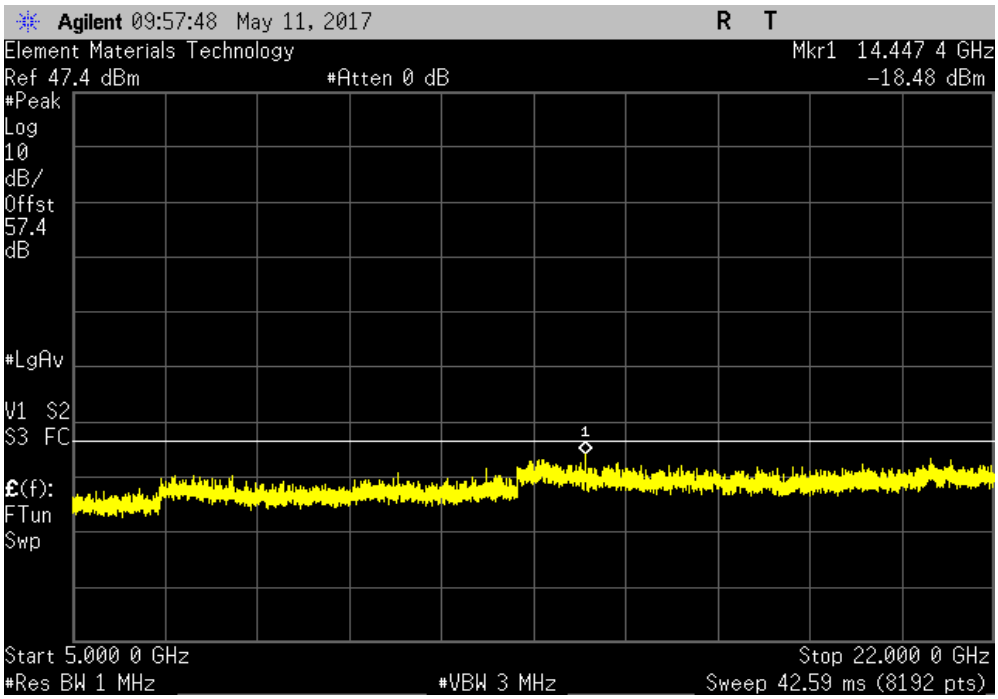
Antenna Port 2, High Channel LTE10, 2150 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.74	-16	Pass



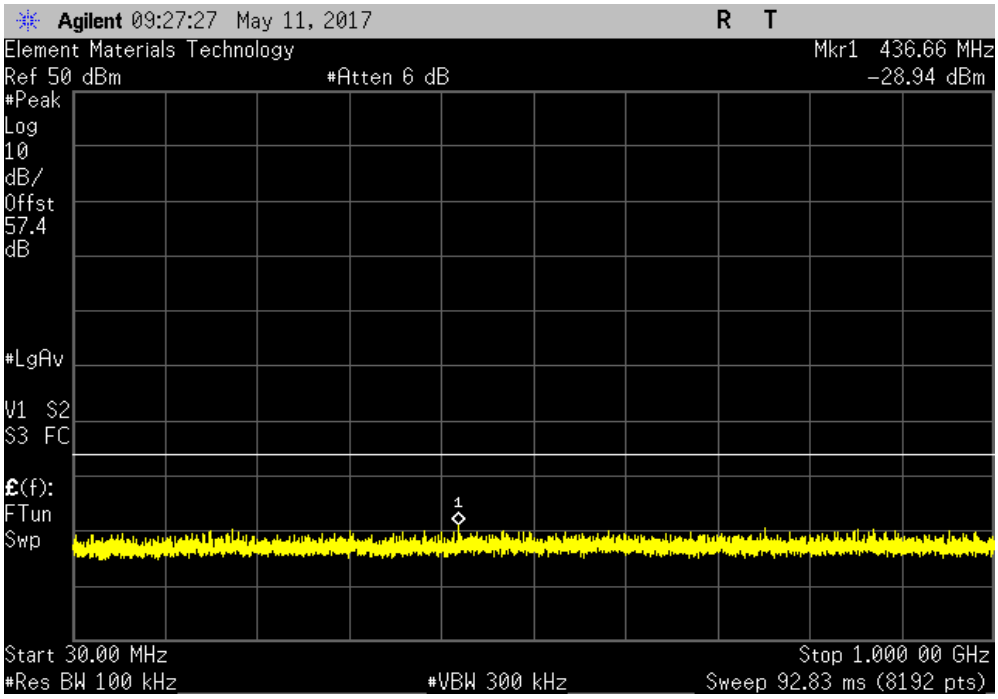
Antenna Port 2, High Channel LTE10, 2150 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.27	-16	Pass



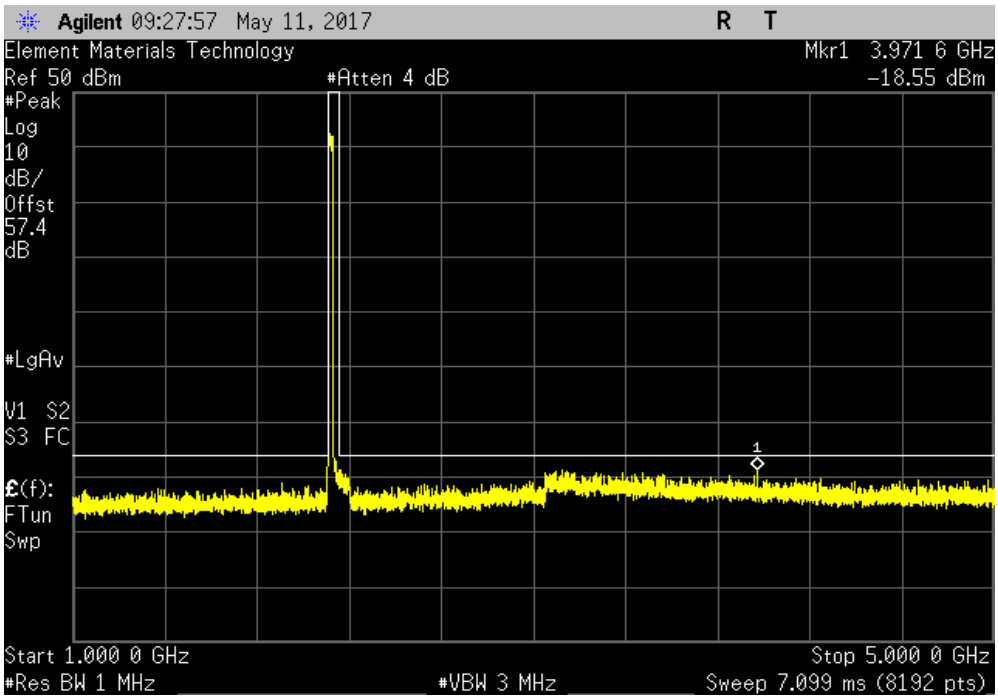
Antenna Port 2, High Channel LTE10, 2150 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.48	-16	Pass



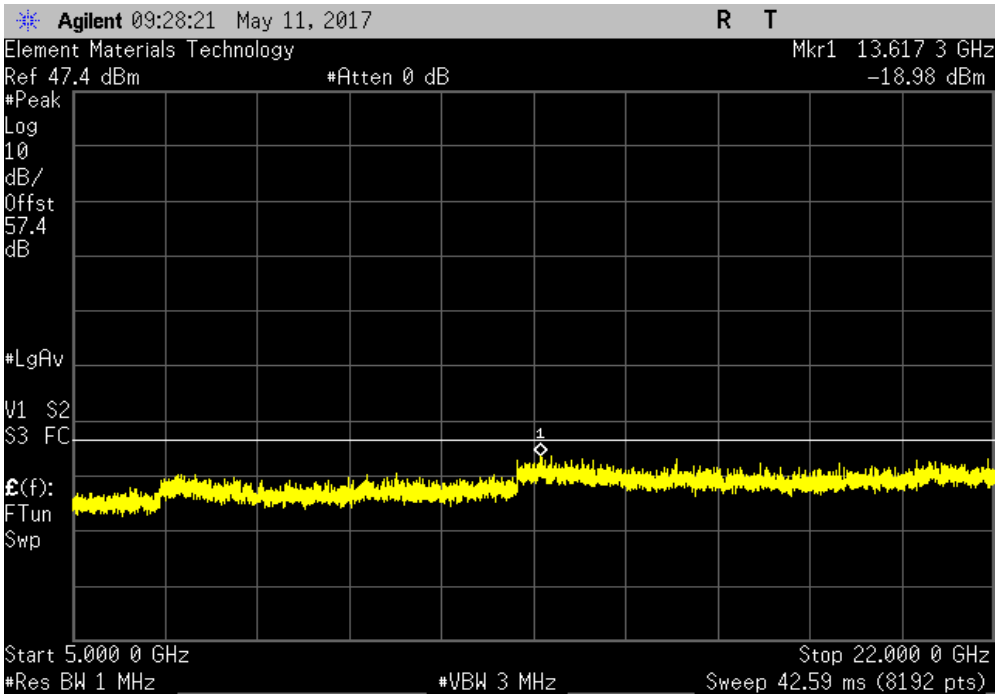
Antenna Port 2, Low Channel LTE20, 2120 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.94	-16	Pass



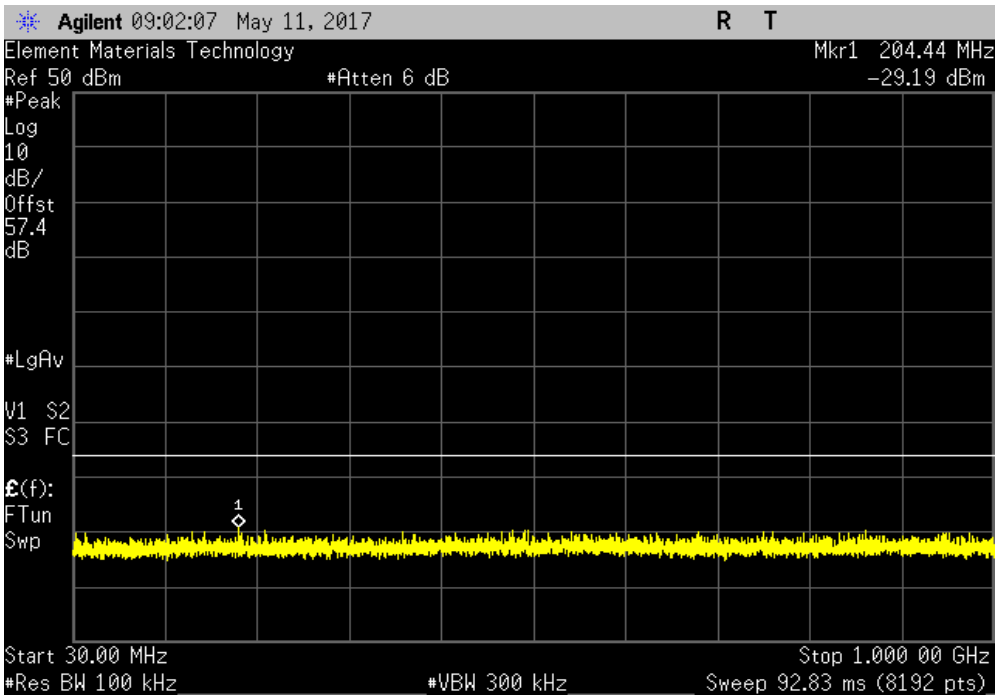
Antenna Port 2, Low Channel LTE20, 2120 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.55	-16	Pass



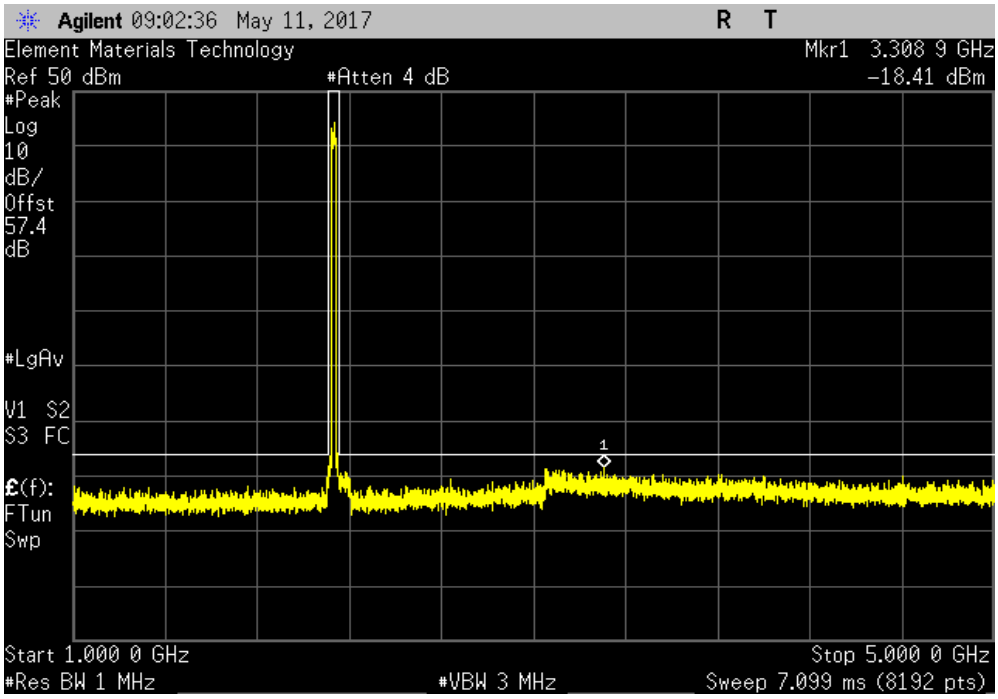
Antenna Port 2, Low Channel LTE20, 2120 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.98	-16	Pass



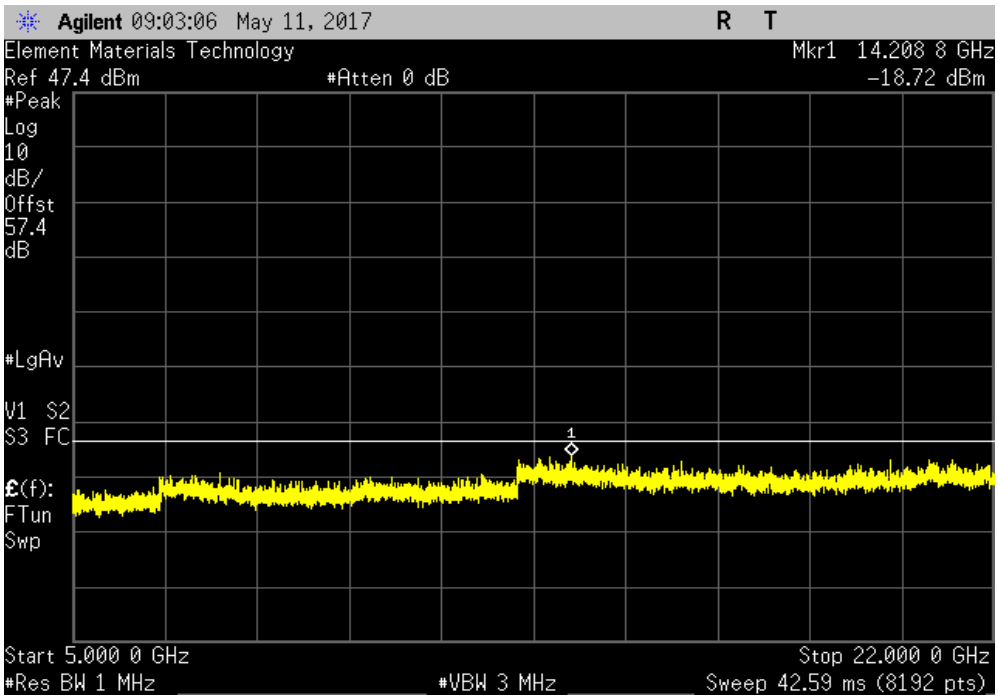
Antenna Port 2, Mid Channel LTE20, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-29.19	-16	Pass



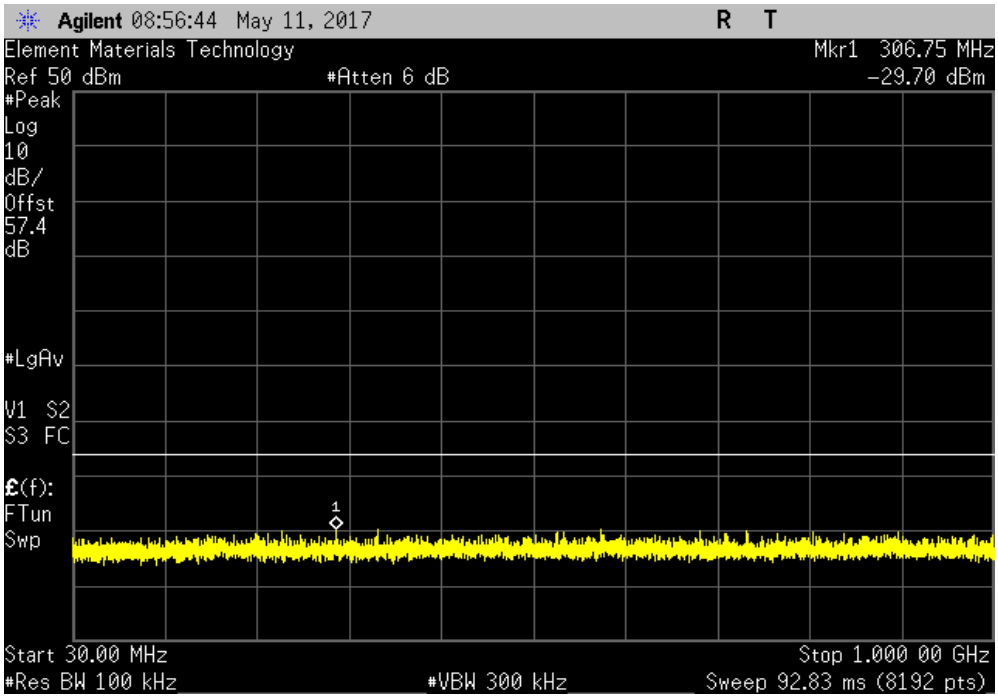
Antenna Port 2, Mid Channel LTE20, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.41	-16	Pass



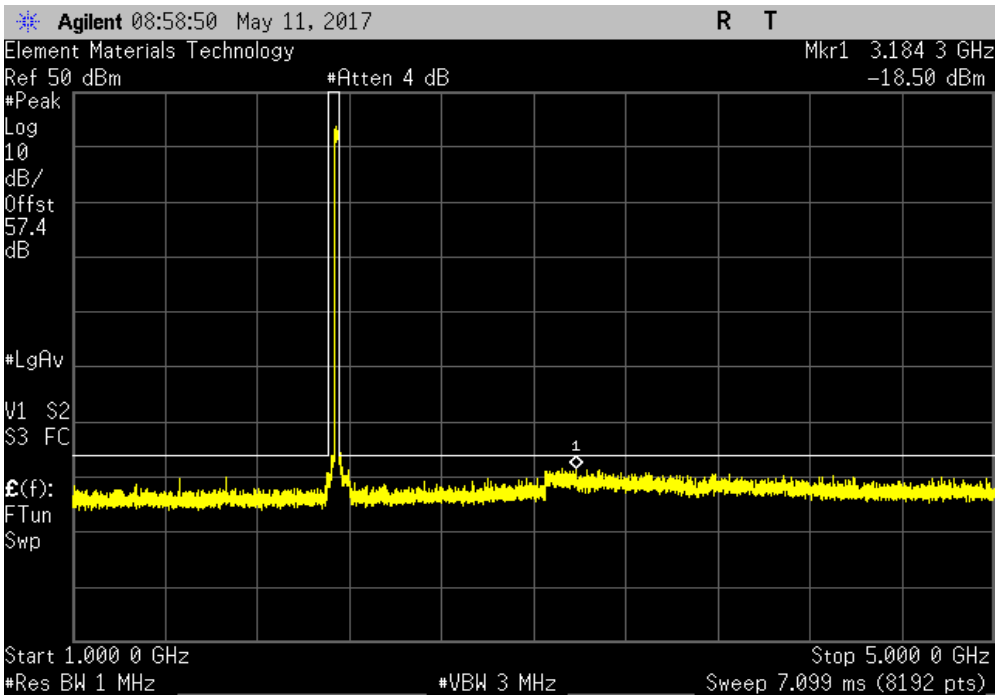
Antenna Port 2, Mid Channel LTE20, 2132.5 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.72	-16	Pass



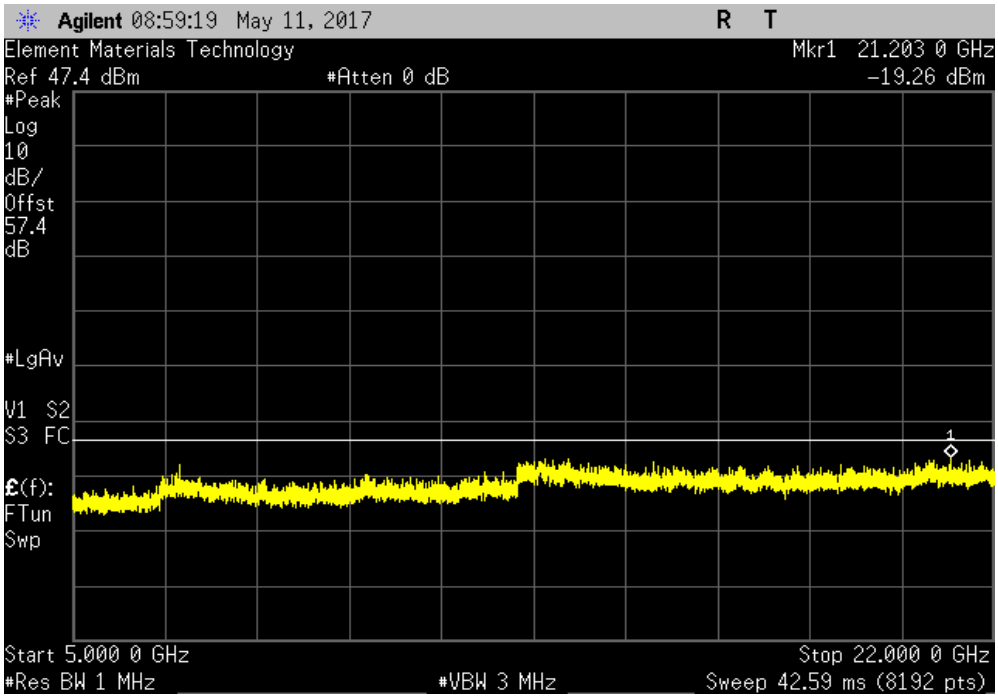
Antenna Port 2, High Channel LTE20, 2145 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-29.7	-16	Pass



Antenna Port 2, High Channel LTE20, 2145 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.5	-16	Pass



Antenna Port 2, High Channel LTE20, 2145 MHz						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-19.27	-16	Pass



BAND EDGE COMPLIANCE

XMit 2017.02.08

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	Fairview Microwave	SD3379	AMV	1/11/2017	1/11/2018
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/2/2016	11/2/2017

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

TbtTx 2017.01.27 XMit 2017.02.08

EUT:	CWS-3050-04			**Work Order:**	KMWC0079
Serial Number:	K162300007			**Date:**	05/11/17
Customer:	Parallel Wireless Inc			**Temperature:**	22.1 °C
Attendees:	Daniel Kim			**Humidity:**	45.6% RH
Project:	None			**Barometric Pres.:**	1013 mbar
Tested by:	Mike Tran	**Power:**	48VDC	**Job Site:**	OC13

TEST SPECIFICATIONS	Test Method
FCC 27:2017	ANSI/TIA/EIA-603-D-2010

COMMENTS

Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 56.7dB total.
Using -16dBm limit instead of -13dBm limit per client request

DEVIATIONS FROM TEST STANDARD

None

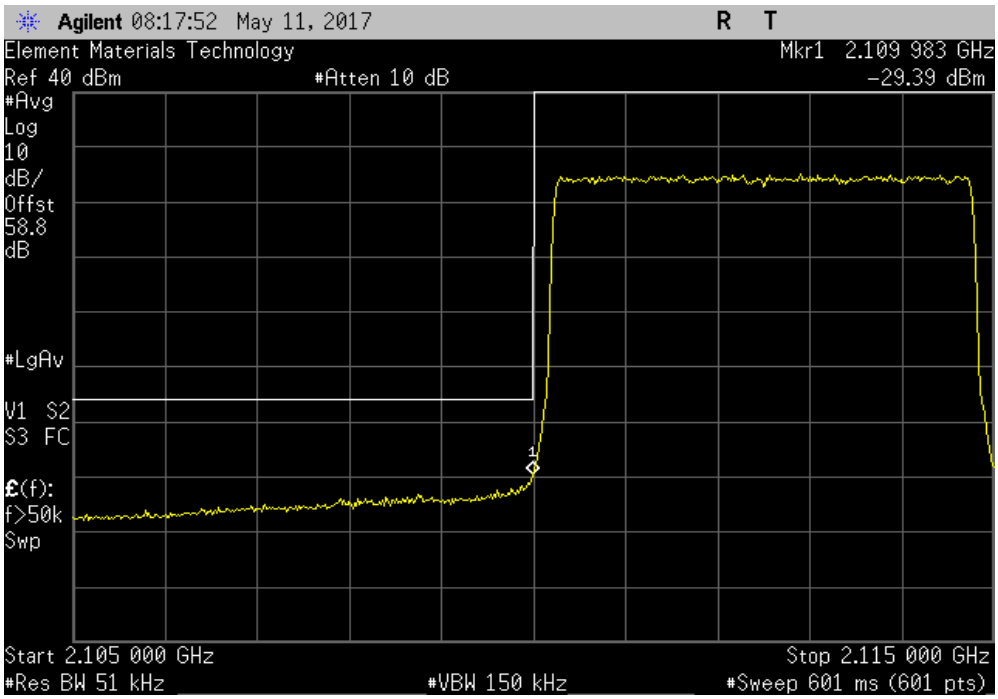
Configuration #	1	Signature

		Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
Antenna Port 1					
	Low Channel LTE5, 2112.5 MHz	105 GHz - 2.115 GH	-29.39	-16	Pass
	High Channel LTE5, 2152.5 MHz	2.15 GHz - 2.16 GH:	-28.57	-16	Pass
	Low Channel LTE10, 2115 MHz	2.1 GHz - 2.12 GHz	-31.85	-16	Pass
	High Channel LTE10, 2150 MHz	145 GHz - 2.165 GH	-32.4	-16	Pass
	Low Channel LTE20, 2120 MHz	2.09 GHz - 2.13 GH:	-31.5	-16	Pass
	High Channel LTE20, 2145 MHz	135 GHz - 2.175 GH	-31.34	-16	Pass
Antenna Port 2					
	Low Channel LTE5, 2112.5 MHz	105 GHz - 2.115 GH	-30.28	-16	Pass
	High Channel LTE5, 2152.5 MHz	2.15 GHz - 2.16 GH:	-26.8	-16	Pass
	Low Channel LTE10, 2115 MHz	2.1 GHz - 2.12 GHz	-31.99	-16	Pass
	High Channel LTE10, 2150 MHz	145 GHz - 2.165 GH	-30.92	-16	Pass
	Low Channel LTE20, 2120 MHz	2.09 GHz - 2.13 GH:	-31.66	-16	Pass
	High Channel LTE20, 2145 MHz	135 GHz - 2.175 GH	-31.81	-16	Pass

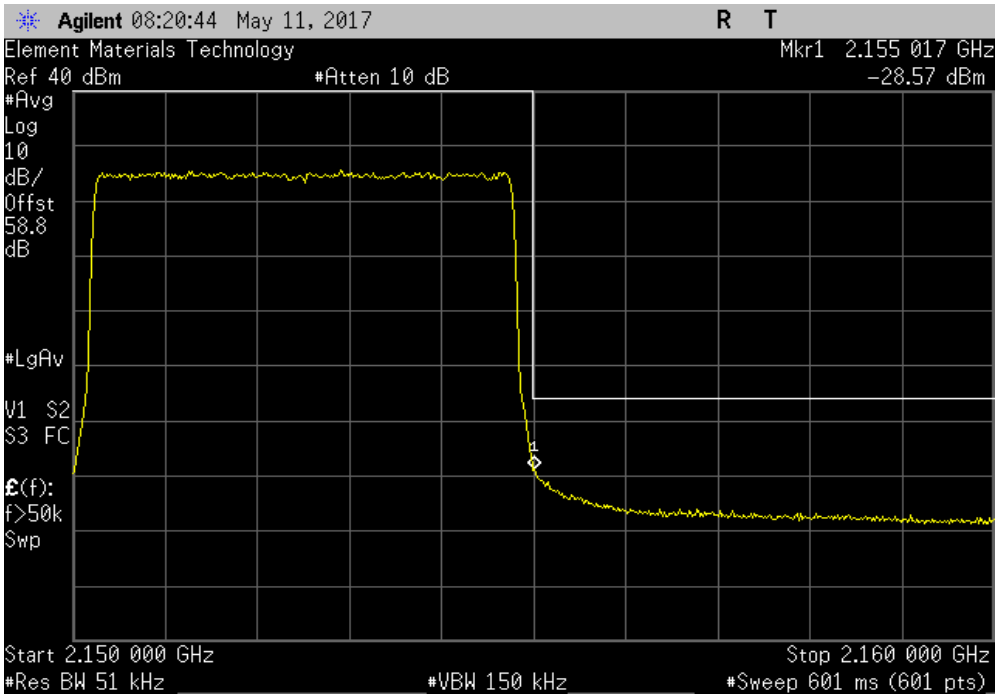
BAND EDGE COMPLIANCE

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, Low Channel LTE5, 2112.5 MHz				
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result
2.105 GHz - 2.115 GHz		-29.39	-16	Pass



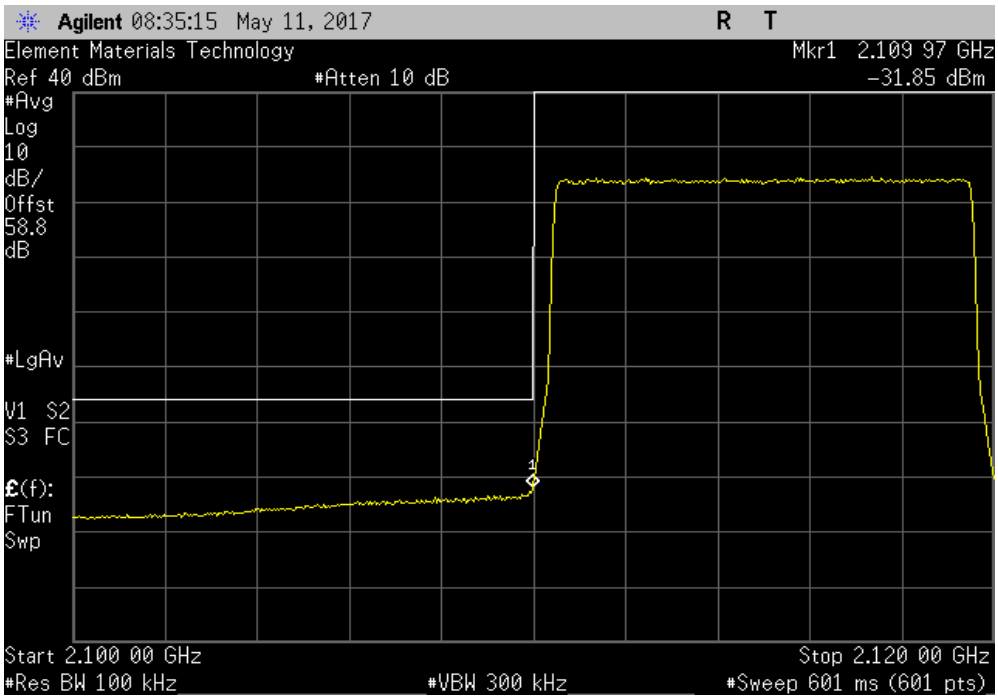
Antenna Port 1, High Channel LTE5, 2152.5 MHz				
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result
2.15 GHz - 2.16 GHz		-28.57	-16	Pass



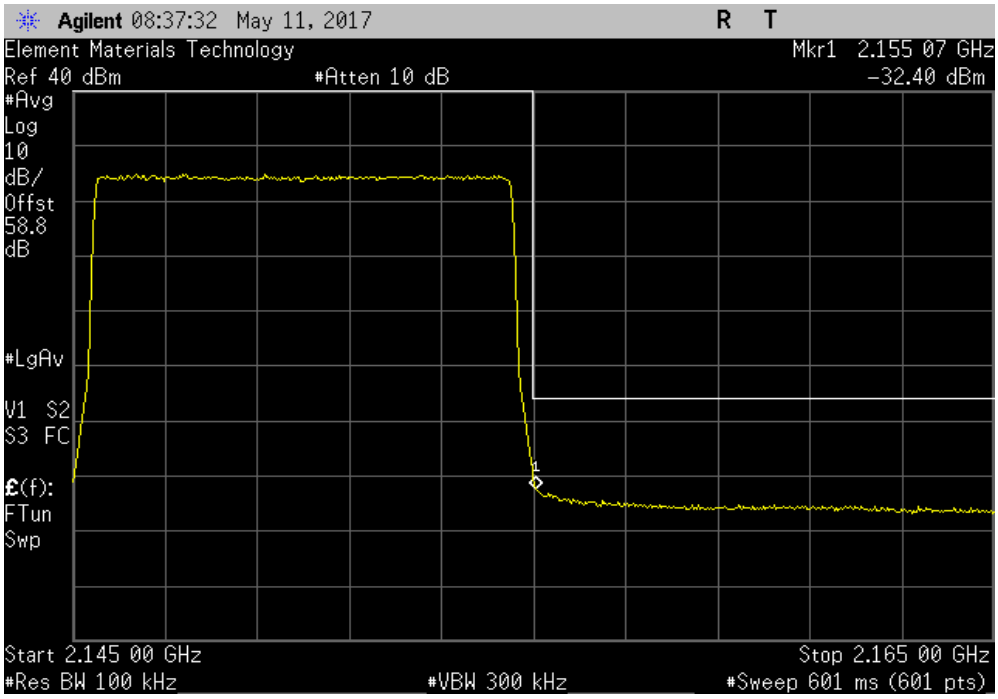
BAND EDGE COMPLIANCE

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, Low Channel LTE10, 2115 MHz				
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result
2.1 GHz - 2.12 GHz		-31.85	-16	Pass



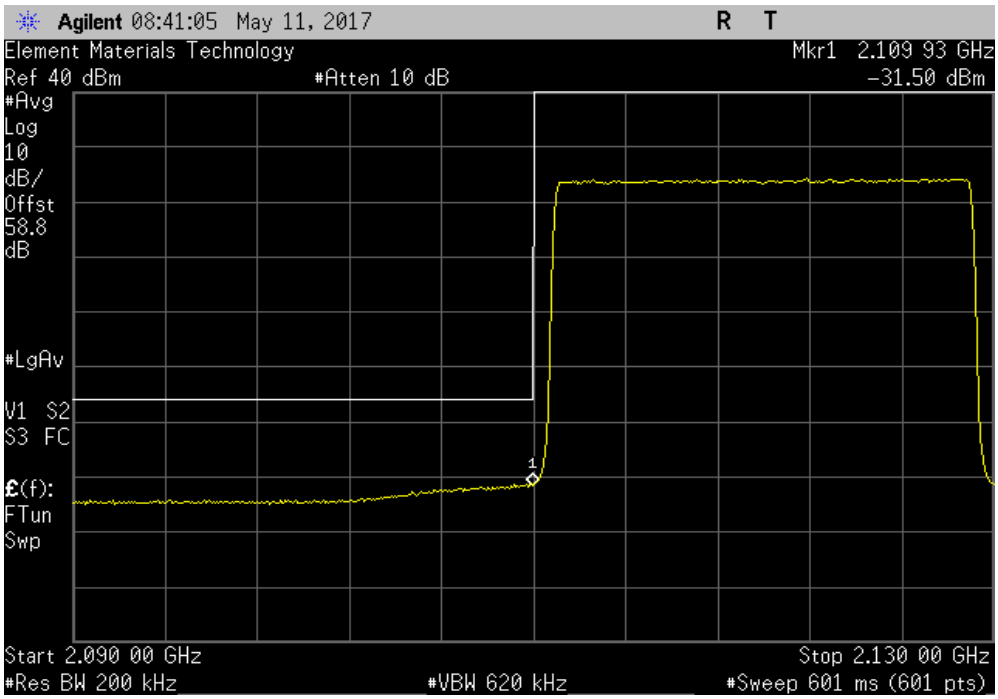
Antenna Port 1, High Channel LTE10, 2150 MHz				
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result
2.145 GHz - 2.165 GHz		-32.4	-16	Pass



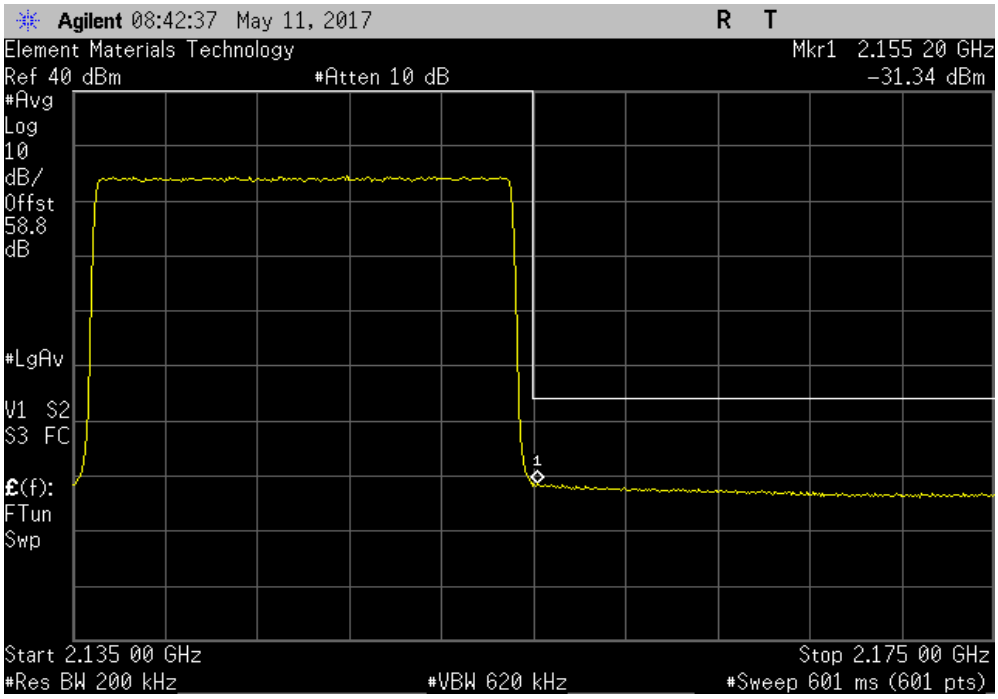
BAND EDGE COMPLIANCE

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, Low Channel LTE20, 2120 MHz				
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result
2.09 GHz - 2.13 GHz		-31.5	-16	Pass

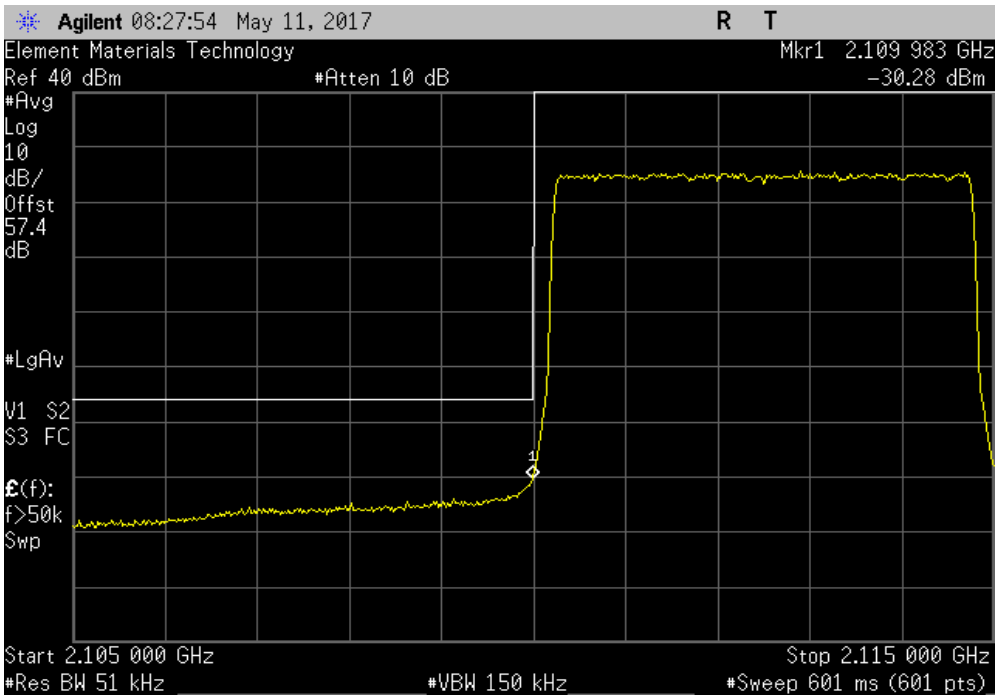


Antenna Port 1, High Channel LTE20, 2145 MHz				
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result
2.135 GHz - 2.175 GHz		-31.34	-16	Pass

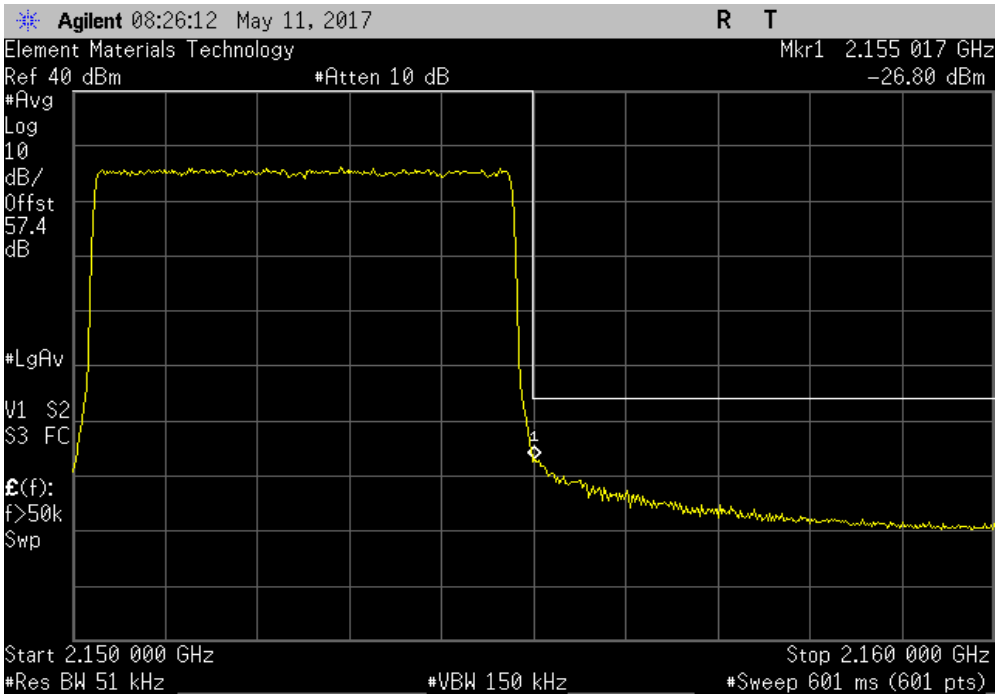


BAND EDGE COMPLIANCE

Antenna Port 2, Low Channel LTE5, 2112.5 MHz				
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result
2.105 GHz - 2.115 GHz		-30.28	-16	Pass



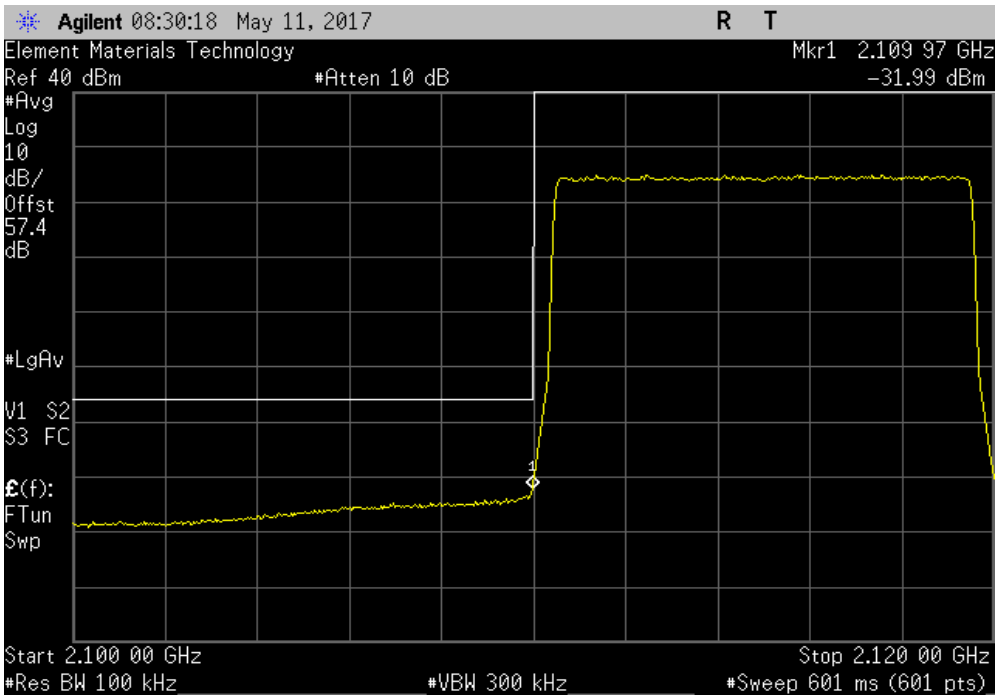
Antenna Port 2, High Channel LTE5, 2152.5 MHz				
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result
2.15 GHz - 2.16 GHz		-26.8	-16	Pass



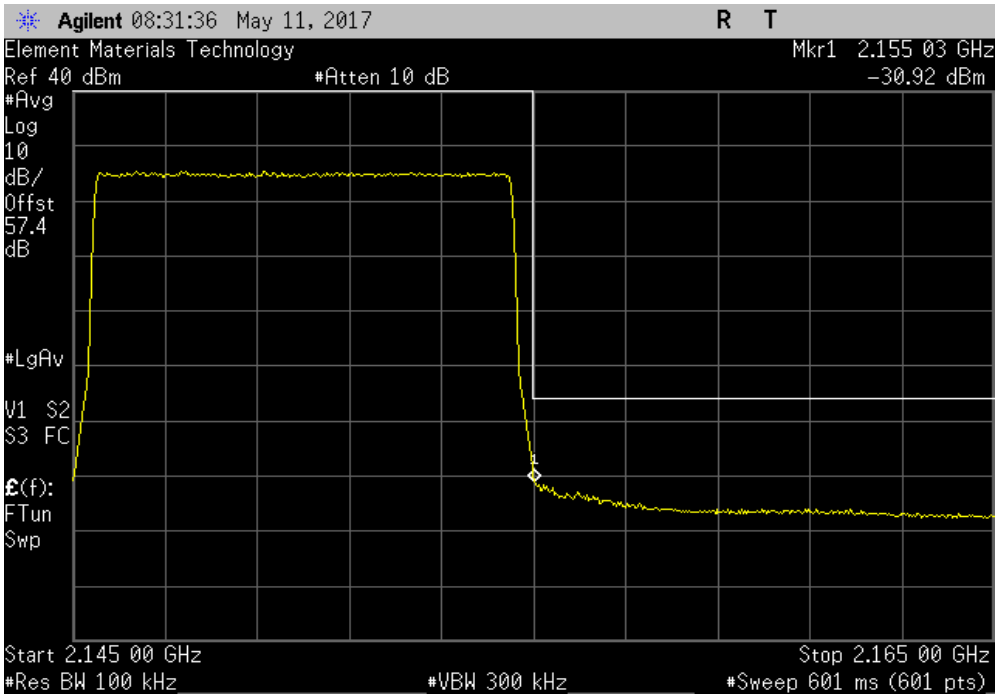
BAND EDGE COMPLIANCE

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, Low Channel LTE10, 2115 MHz				
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result
2.1 GHz - 2.12 GHz		-31.99	-16	Pass



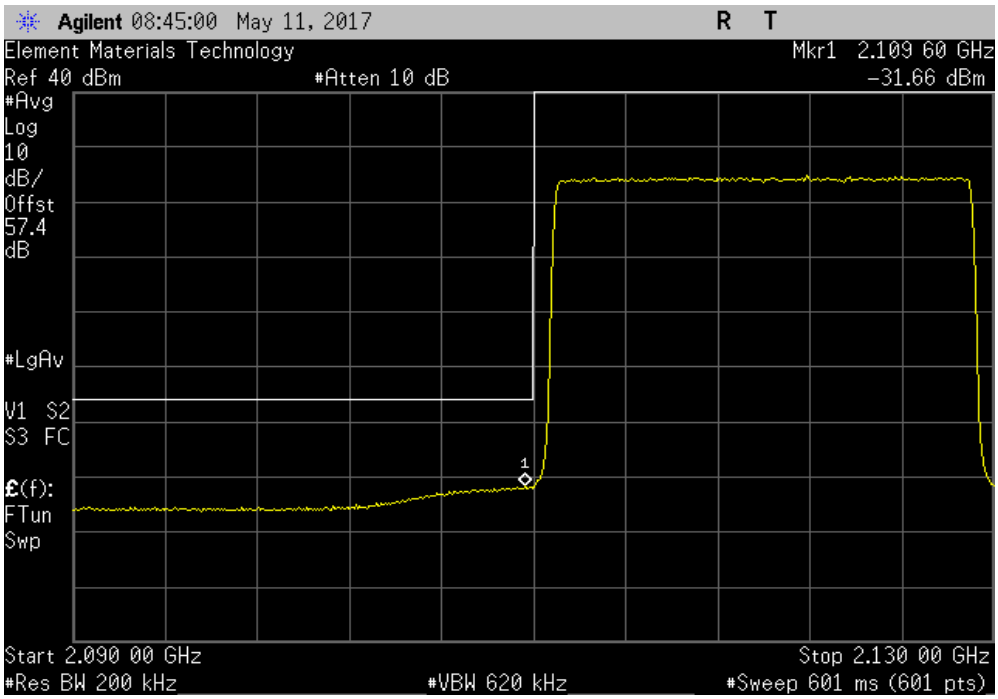
Antenna Port 2, High Channel LTE10, 2150 MHz				
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result
2.145 GHz - 2.165 GHz		-30.92	-16	Pass



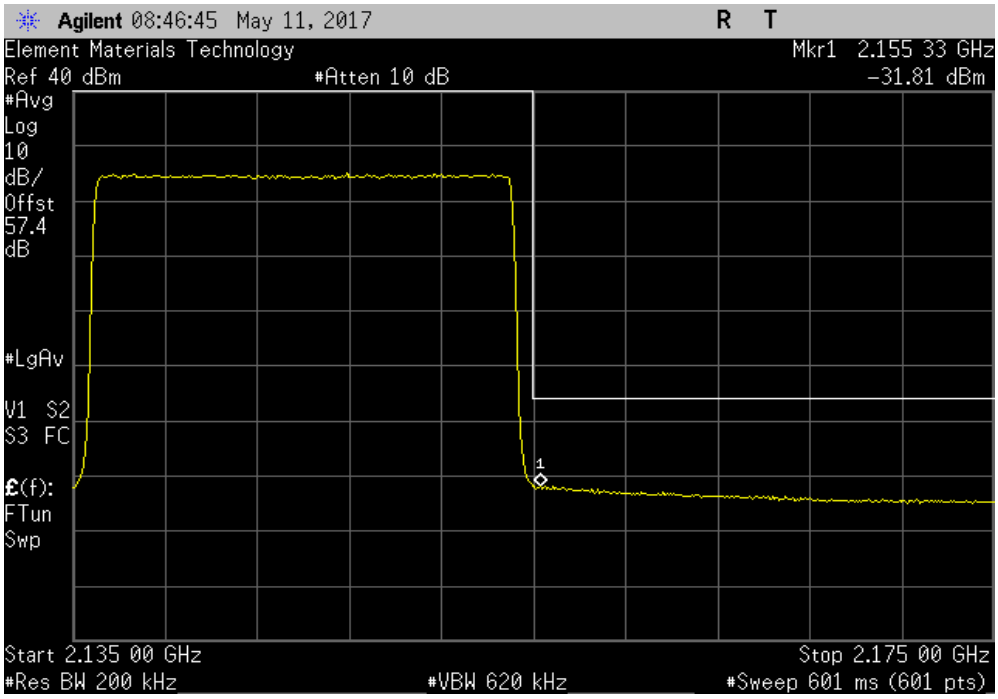
BAND EDGE COMPLIANCE

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, Low Channel LTE20, 2120 MHz				
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result
2.09 GHz - 2.13 GHz		-31.66	-16	Pass



Antenna Port 2, High Channel LTE20, 2145 MHz				
Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result
2.135 GHz - 2.175 GHz		-31.81	-16	Pass



INTERMODULATION

XMit 2017.02.08

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	Fairview Microwave	SD3379	AMV	1/11/2017	1/11/2018
Analyzer - Spectrum Analyzer	Agilent	E4440A	AFA	11/2/2016	11/2/2017

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 1MHz resolution bandwidth and no video filtering were made for each modulation type.

The EUT was configured with an input of two CW pulses at the edges of the band and a modulated pulse in the band. The purpose of the test is to insure that no additional signals are creating by having multiple carriers in the passband of the EUT.

Analyzer plots utilizing a 1MHz resolution bandwidth and no video filtering were made for each modulation type.

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

TbtTx 2017.01.27 XMit 2017.02.08

EUT:	CWS-3050-04	**Work Order:**	KMWC0079
Serial Number:	K162300007	**Date:**	05/08/17
Customer:	Parallel Wireless Inc	**Temperature:**	22.1 °C
Attendees:	Daniel Kim	**Humidity:**	45.6% RH
Project:	None	**Barometric Pres.:**	1013 mbar
Tested by:	Mike Tran	**Power:** 48VDC	**Job Site:** OC13

TEST SPECIFICATIONS	Test Method
FCC 27:2017	ANSI/TIA/EIA-603-D-2010

COMMENTS

Power Level Setting 40W. Reference Level Offset: DC Block + 30dB Attenuator + 20dB Attenuator + Power Divider + Cable Loss = 56.7dB total.
Using -16dBm limit instead of -13dBm limit per client request

DEVIATIONS FROM TEST STANDARD

None

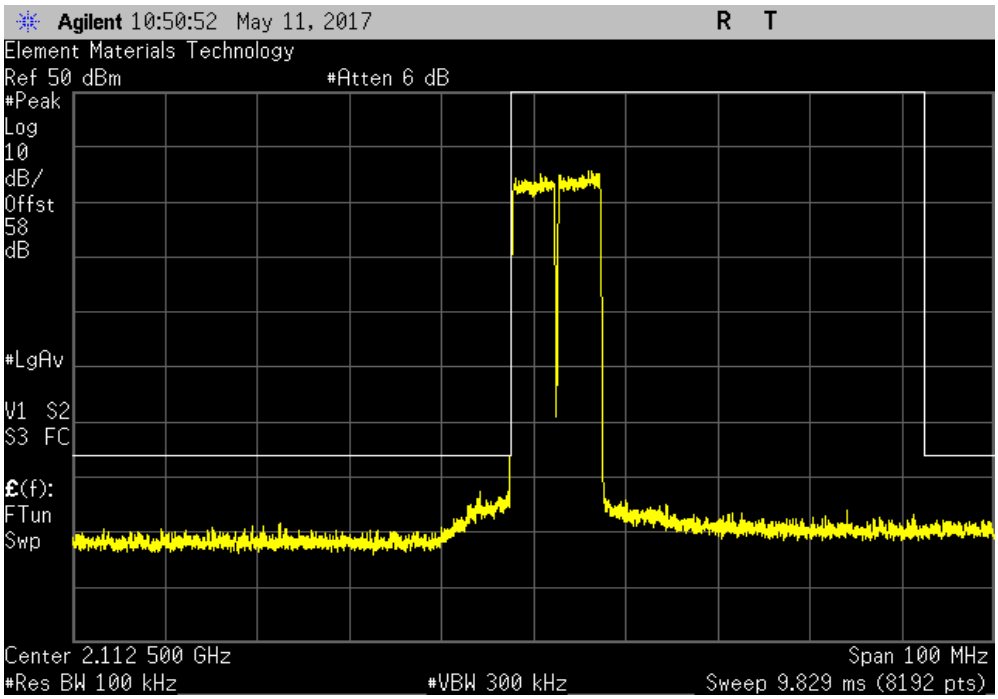
Configuration #	1	Signature

		Frequency Range	Max Value (dBm)	Limit ≤ (dBm)	Result
Antenna Port 1					
	LTE5, 2112.5 MHz, Low Band Edge, adjacent secondary channel	Fundamental	N/A	N/A	N/A
	LTE5, 2112.5 MHz, Low Band Edge, adjacent secondary channel	30 MHz - 1 GHz	-28.71	-16	Pass
	LTE5, 2112.5 MHz, Low Band Edge, adjacent secondary channel	1 GHz - 5 GHz	-18.35	-16	Pass
	LTE5, 2112.5 MHz, Low Band Edge, adjacent secondary channel	5 GHz - 22 GHz	-18.19	-16	Pass
	LTE5, 2112.5 MHz, Low Band Edge, max offset secondary chann	Fundamental	N/A	N/A	N/A
	LTE5, 2112.5 MHz, Low Band Edge, max offset secondary chann	30 MHz - 1 GHz	-28.14	-16	Pass
	LTE5, 2112.5 MHz, Low Band Edge, max offset secondary chann	1 GHz - 5 GHz	-18.3	-16	Pass
	LTE5, 2112.5 MHz, Low Band Edge, max offset secondary chann	5 GHz - 22 GHz	-18.79	-16	Pass
	LTE5, 2152.5 MHz, High Band Edge, adjacent secondary channe	Fundamental	N/A	N/A	N/A
	LTE5, 2152.5 MHz, High Band Edge, adjacent secondary channe	30 MHz - 1 GHz	-28.73	-16	Pass
	LTE5, 2152.5 MHz, High Band Edge, adjacent secondary channe	1 GHz - 5 GHz	-18.34	-16	Pass
	LTE5, 2152.5 MHz, High Band Edge, adjacent secondary channe	5 GHz - 22 GHz	-18.52	-16	Pass
	LTE5, 2152.5 MHz, High Band Edge, max offset secondary chann	Fundamental	N/A	N/A	N/A
	LTE5, 2152.5 MHz, High Band Edge, max offset secondary chann	30 MHz - 1 GHz	-28.01	-16	Pass
	LTE5, 2152.5 MHz, High Band Edge, max offset secondary chann	1 GHz - 5 GHz	-18.3	-16	Pass
	LTE5, 2152.5 MHz, High Band Edge, max offset secondary chann	5 GHz - 22 GHz	-18.69	-16	Pass
	LTE10, 2115 MHz, Low Band Edge, adjacent secondary channel	Fundamental	N/A	N/A	N/A
	LTE10, 2115 MHz, Low Band Edge, adjacent secondary channel	30 MHz - 1 GHz	-29.37	-16	Pass
	LTE10, 2115 MHz, Low Band Edge, adjacent secondary channel	1 GHz - 5 GHz	-18.14	-16	Pass
	LTE10, 2115 MHz, Low Band Edge, adjacent secondary channel	5 GHz - 22 GHz	-19.31	-16	Pass
	LTE10, 2115 MHz, Low Band Edge, max offset secondary channe	Fundamental	N/A	N/A	N/A
	LTE10, 2115 MHz, Low Band Edge, max offset secondary channe	30 MHz - 1 GHz	-28.81	-16	Pass
	LTE10, 2115 MHz, Low Band Edge, max offset secondary channe	1 GHz - 5 GHz	-18.45	-16	Pass
	LTE10, 2115 MHz, Low Band Edge, max offset secondary channe	5 GHz - 22 GHz	-19.29	-16	Pass
	LTE10, 2150 MHz, High Band Edge, adjacent secondary channel	Fundamental	N/A	N/A	N/A
	LTE10, 2150 MHz, High Band Edge, adjacent secondary channel	30 MHz - 1 GHz	-29.2	-16	Pass
	LTE10, 2150 MHz, High Band Edge, adjacent secondary channel	1 GHz - 5 GHz	-18.51	-16	Pass
	LTE10, 2150 MHz, High Band Edge, adjacent secondary channel	5 GHz - 22 GHz	-18.7	-16	Pass
	LTE10, 2150 MHz, High Band Edge, max offset secondary chann	Fundamental	N/A	N/A	N/A
	LTE10, 2150 MHz, High Band Edge, max offset secondary chann	30 MHz - 1 GHz	-28.68	-16	Pass
	LTE10, 2150 MHz, High Band Edge, max offset secondary chann	1 GHz - 5 GHz	-18.46	-16	Pass
	LTE10, 2150 MHz, High Band Edge, max offset secondary chann	5 GHz - 22 GHz	-19.03	-16	Pass
	LTE20, 2120 MHz, Low Band Edge, adjacent secondary channel	Fundamental	N/A	N/A	N/A
	LTE20, 2120 MHz, Low Band Edge, adjacent secondary channel	30 MHz - 1 GHz	-28.54	-16	Pass
	LTE20, 2120 MHz, Low Band Edge, adjacent secondary channel	1 GHz - 5 GHz	-18.11	-16	Pass
	LTE20, 2120 MHz, Low Band Edge, adjacent secondary channel	5 GHz - 22 GHz	-18.68	-16	Pass
	LTE20, 2120 MHz, Low Band Edge, max offset secondary channe	Fundamental	N/A	N/A	N/A
	LTE20, 2120 MHz, Low Band Edge, max offset secondary channe	30 MHz - 1 GHz	-28.34	-16	Pass
	LTE20, 2120 MHz, Low Band Edge, max offset secondary channe	1 GHz - 5 GHz	-17.83	-16	Pass
	LTE20, 2120 MHz, Low Band Edge, max offset secondary channe	5 GHz - 22 GHz	-18.1	-16	Pass
	LTE20, 2145 MHz, High Band Edge, adjacent secondary channel	Fundamental	N/A	N/A	N/A
	LTE20, 2145 MHz, High Band Edge, adjacent secondary channel	30 MHz - 1 GHz	-28.24	-16	Pass
	LTE20, 2145 MHz, High Band Edge, adjacent secondary channel	1 GHz - 5 GHz	-18.03	-16	Pass
	LTE20, 2145 MHz, High Band Edge, adjacent secondary channel	5 GHz - 22 GHz	-18.2	-16	Pass
	LTE20, 2145 MHz, High Band Edge, max offset secondary chann	Fundamental	N/A	N/A	N/A
	LTE20, 2145 MHz, High Band Edge, max offset secondary chann	30 MHz - 1 GHz	-28.18	-16	Pass
	LTE20, 2145 MHz, High Band Edge, max offset secondary chann	1 GHz - 5 GHz	-18.43	-16	Pass
	LTE20, 2145 MHz, High Band Edge, max offset secondary chann	5 GHz - 22 GHz	-18.04	-16	Pass
Antenna Port 2					
	LTE5, 2112.5 MHz, Low Band Edge, adjacent secondary channel	Fundamental	N/A	N/A	N/A
	LTE5, 2112.5 MHz, Low Band Edge, adjacent secondary channel	30 MHz - 1 GHz	-28.84	-16	Pass
	LTE5, 2112.5 MHz, Low Band Edge, adjacent secondary channel	1 GHz - 5 GHz	-18.89	-16	Pass
	LTE5, 2112.5 MHz, Low Band Edge, adjacent secondary channel	5 GHz - 22 GHz	-18.91	-16	Pass
	LTE5, 2112.5 MHz, Low Band Edge, max offset secondary chann	Fundamental	N/A	N/A	N/A
	LTE5, 2112.5 MHz, Low Band Edge, max offset secondary chann	30 MHz - 1 GHz	-28.3	-16	Pass
	LTE5, 2112.5 MHz, Low Band Edge, max offset secondary chann	1 GHz - 5 GHz	-18.18	-16	Pass
	LTE5, 2112.5 MHz, Low Band Edge, max offset secondary chann	5 GHz - 22 GHz	-18.5	-16	Pass
	LTE5, 2152.5 MHz, High Band Edge, adjacent secondary channe	Fundamental	N/A	N/A	N/A
	LTE5, 2152.5 MHz, High Band Edge, adjacent secondary channe	30 MHz - 1 GHz	-29.47	-16	Pass
	LTE5, 2152.5 MHz, High Band Edge, adjacent secondary channe	1 GHz - 5 GHz	-18.42	-16	Pass
	LTE5, 2152.5 MHz, High Band Edge, adjacent secondary channe	5 GHz - 22 GHz	-19.46	-16	Pass
	LTE5, 2152.5 MHz, High Band Edge, max offset secondary chann	Fundamental	N/A	N/A	N/A
	LTE5, 2152.5 MHz, High Band Edge, max offset secondary chann	30 MHz - 1 GHz	-28.33	-16	Pass
	LTE5, 2152.5 MHz, High Band Edge, max offset secondary chann	1 GHz - 5 GHz	-18.77	-16	Pass
	LTE5, 2152.5 MHz, High Band Edge, max offset secondary chann	5 GHz - 22 GHz	-18.4	-16	Pass
	LTE10, 2115 MHz, Low Band Edge, adjacent secondary channel	Fundamental	N/A	N/A	N/A
	LTE10, 2115 MHz, Low Band Edge, adjacent secondary channel	30 MHz - 1 GHz	-28.66	-16	Pass
	LTE10, 2115 MHz, Low Band Edge, adjacent secondary channel	1 GHz - 5 GHz	-17.92	-16	Pass
	LTE10, 2115 MHz, Low Band Edge, adjacent secondary channel	5 GHz - 22 GHz	-18.5	-16	Pass
	LTE10, 2115 MHz, Low Band Edge, max offset secondary channe	Fundamental	N/A	N/A	N/A
	LTE10, 2115 MHz, Low Band Edge, max offset secondary channe	30 MHz - 1 GHz	-29.65	-16	Pass
	LTE10, 2115 MHz, Low Band Edge, max offset secondary channe	1 GHz - 5 GHz	-17.87	-16	Pass
	LTE10, 2115 MHz, Low Band Edge, max offset secondary channe	5 GHz - 22 GHz	-18.87	-16	Pass
	LTE10, 2150 MHz, High Band Edge, adjacent secondary channel	Fundamental	N/A	N/A	N/A
	LTE10, 2150 MHz, High Band Edge, adjacent secondary channel	30 MHz - 1 GHz	-29.15	-16	Pass
	LTE10, 2150 MHz, High Band Edge, adjacent secondary channel	1 GHz - 5 GHz	-18.62	-16	Pass
	LTE10, 2150 MHz, High Band Edge, adjacent secondary channel	5 GHz - 22 GHz	-18.53	-16	Pass
	LTE10, 2150 MHz, High Band Edge, max offset secondary chann	Fundamental	N/A	N/A	N/A
	LTE10, 2150 MHz, High Band Edge, max offset secondary chann	30 MHz - 1 GHz	-28.94	-16	Pass
	LTE10, 2150 MHz, High Band Edge, max offset secondary chann	1 GHz - 5 GHz	-18.48	-16	Pass
	LTE10, 2150 MHz, High Band Edge, max offset secondary chann	5 GHz - 22 GHz	-19.39	-16	Pass
	LTE20, 2120 MHz, Low Band Edge, adjacent secondary channel	Fundamental	N/A	N/A	N/A
	LTE20, 2120 MHz, Low Band Edge, adjacent secondary channel	30 MHz - 1 GHz	-28.75	-16	Pass
	LTE20, 2120 MHz, Low Band Edge, adjacent secondary channel	1 GHz - 5 GHz	-18.37	-16	Pass
	LTE20, 2120 MHz, Low Band Edge, adjacent secondary channel	5 GHz - 22 GHz	-18.66	-16	Pass
	LTE20, 2120 MHz, Low Band Edge, max offset secondary channe	Fundamental	N/A	N/A	N/A
	LTE20, 2120 MHz, Low Band Edge, max offset secondary channe	30 MHz - 1 GHz	-28.9	-16	Pass
	LTE20, 2120 MHz, Low Band Edge, max offset secondary channe	1 GHz - 5 GHz	-18.75	-16	Pass
	LTE20, 2120 MHz, Low Band Edge, max offset secondary channe	5 GHz - 22 GHz	-19.08	-16	Pass
	LTE20, 2145 MHz, High Band Edge, adjacent secondary channel	Fundamental	N/A	N/A	N/A
	LTE20, 2145 MHz, High Band Edge, adjacent secondary channel	30 MHz - 1 GHz	-29.17	-16	Pass
	LTE20, 2145 MHz, High Band Edge, adjacent secondary channel	1 GHz - 5 GHz	-18.7	-16	Pass
	LTE20, 2145 MHz, High Band Edge, adjacent secondary channel	5 GHz - 22 GHz	-18.75	-16	Pass
	LTE20, 2145 MHz, High Band Edge, max offset secondary chann	Fundamental	N/A	N/A	N/A
	LTE20, 2145 MHz, High Band Edge, max offset secondary chann	30 MHz - 1 GHz	-29.39	-16	Pass
	LTE20, 2145 MHz, High Band Edge, max offset secondary chann	1 GHz - 5 GHz	-18.6	-16	Pass
	LTE20, 2145 MHz, High Band Edge, max offset secondary chann	5 GHz - 22 GHz	-18.36	-16	Pass

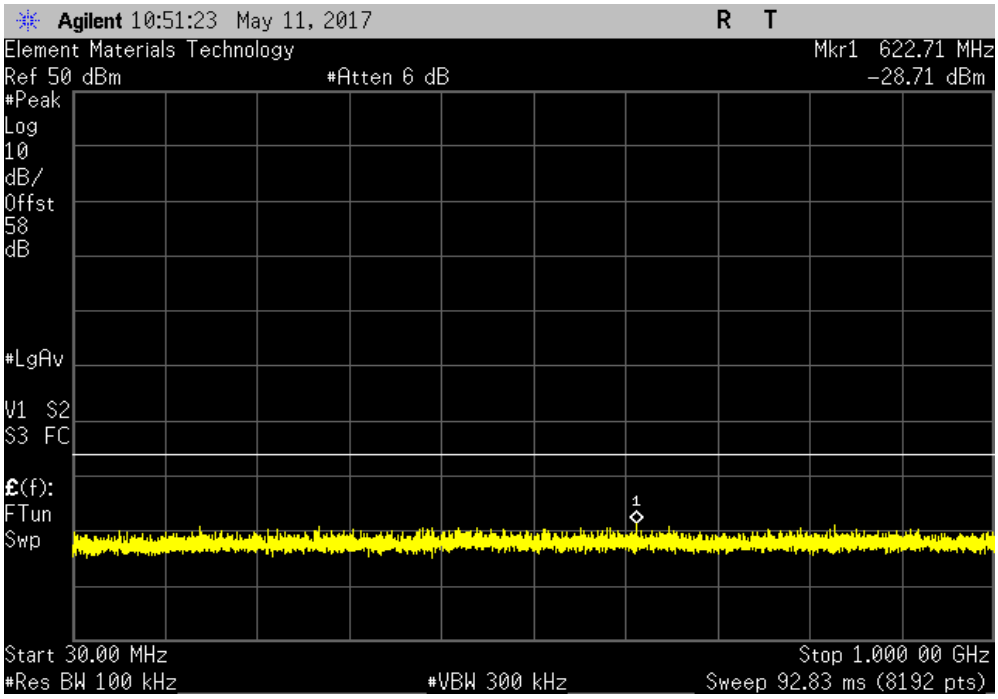
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, LTE5, 2112.5 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A

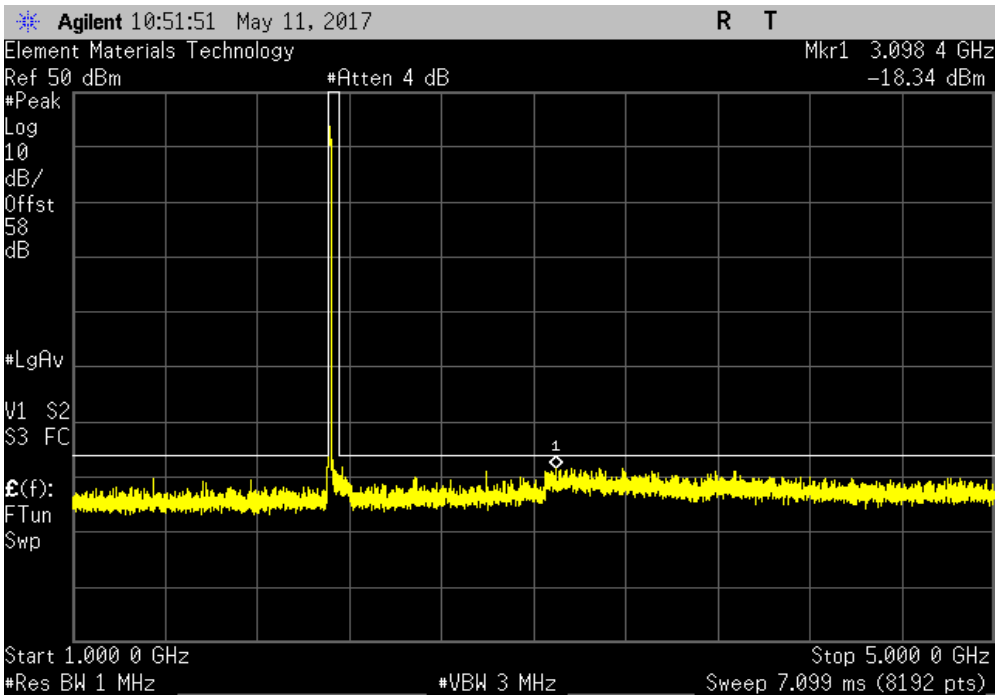


Antenna Port 1, LTE5, 2112.5 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.71	-16	Pass

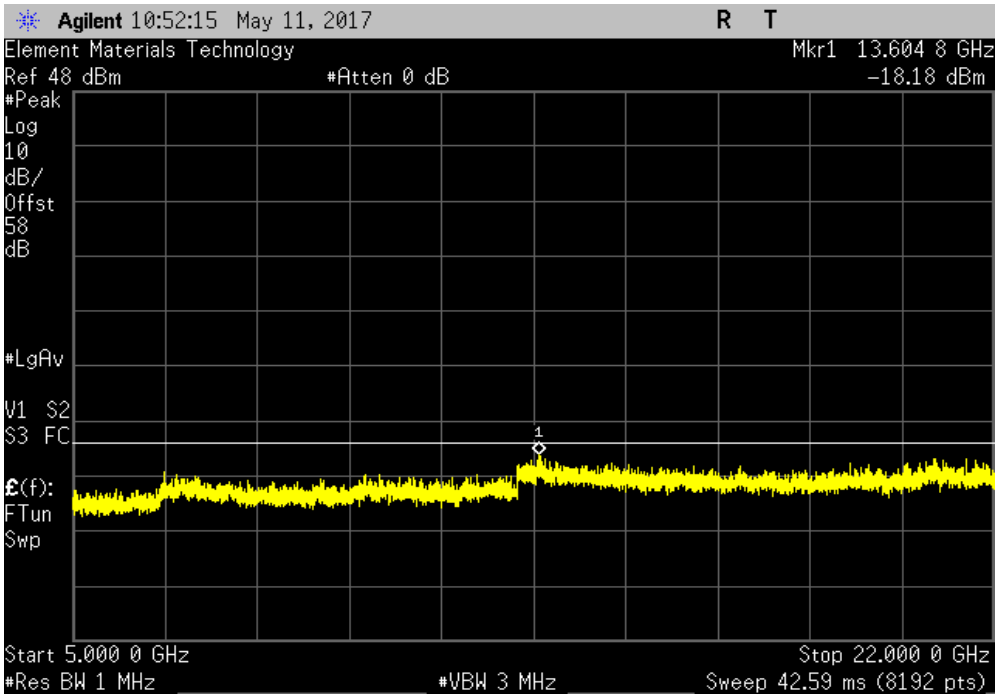


INTERMODULATION

Antenna Port 1, LTE5, 2112.5 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.35	-16	Pass



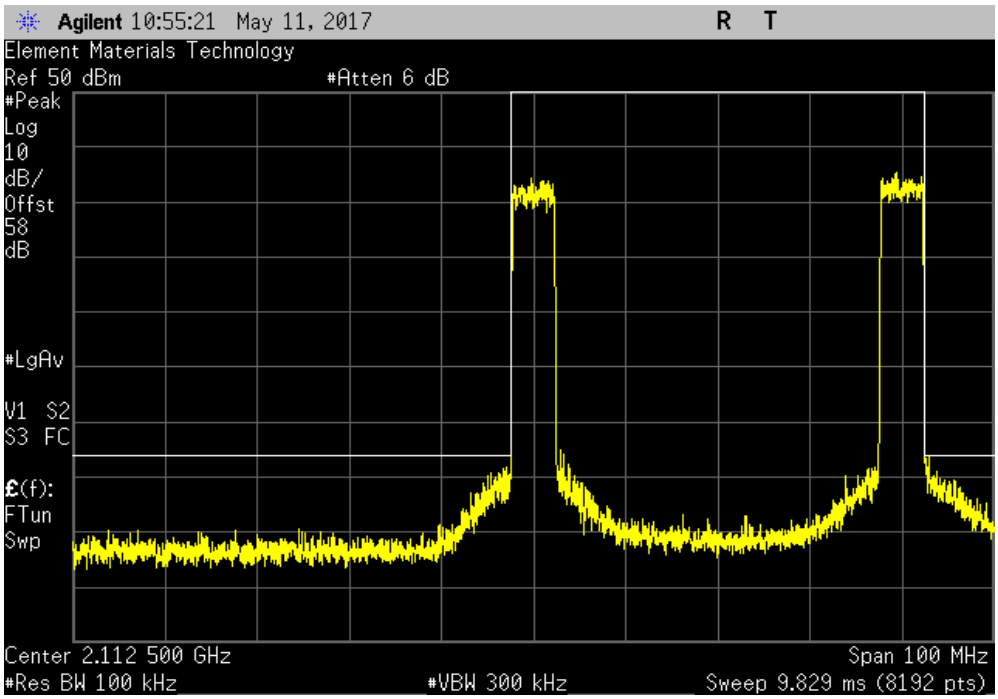
Antenna Port 1, LTE5, 2112.5 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.19	-16	Pass



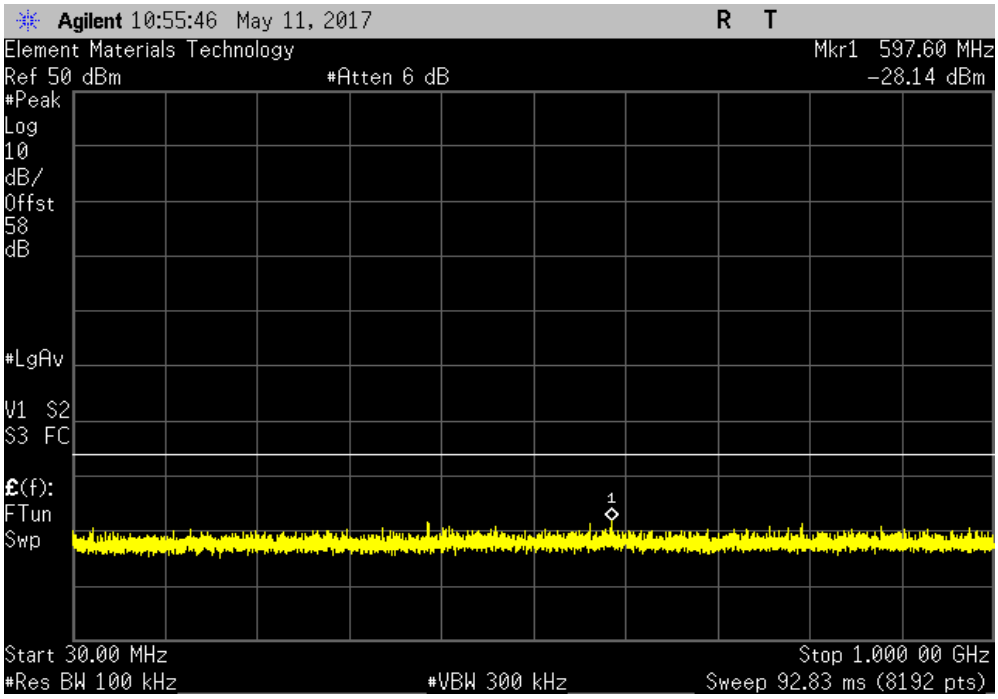
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, LTE5, 2112.5 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A

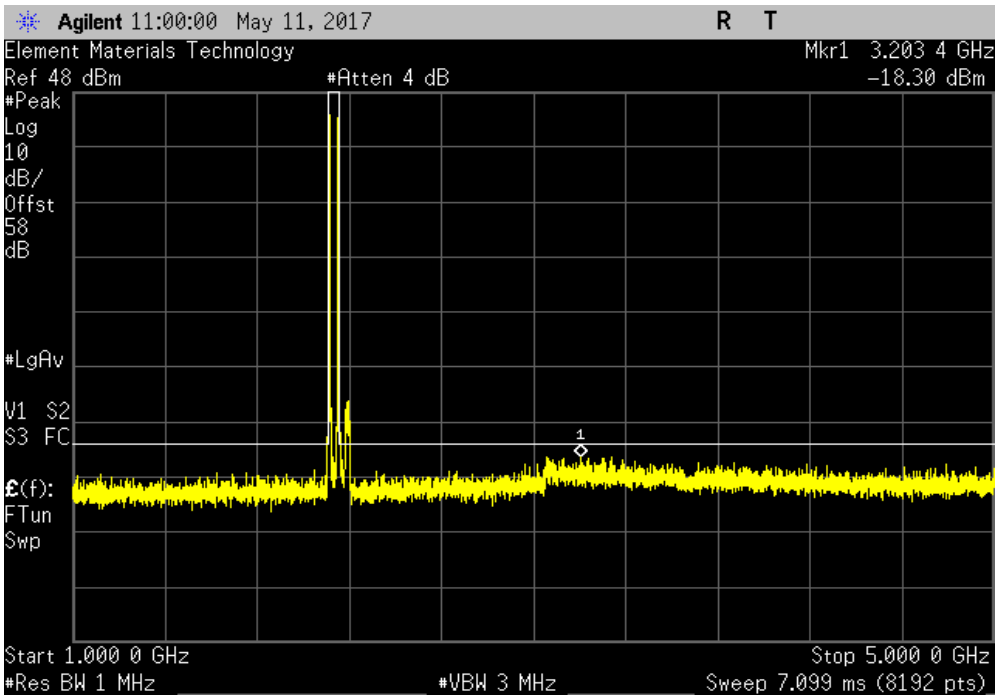


Antenna Port 1, LTE5, 2112.5 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.14	-16	Pass

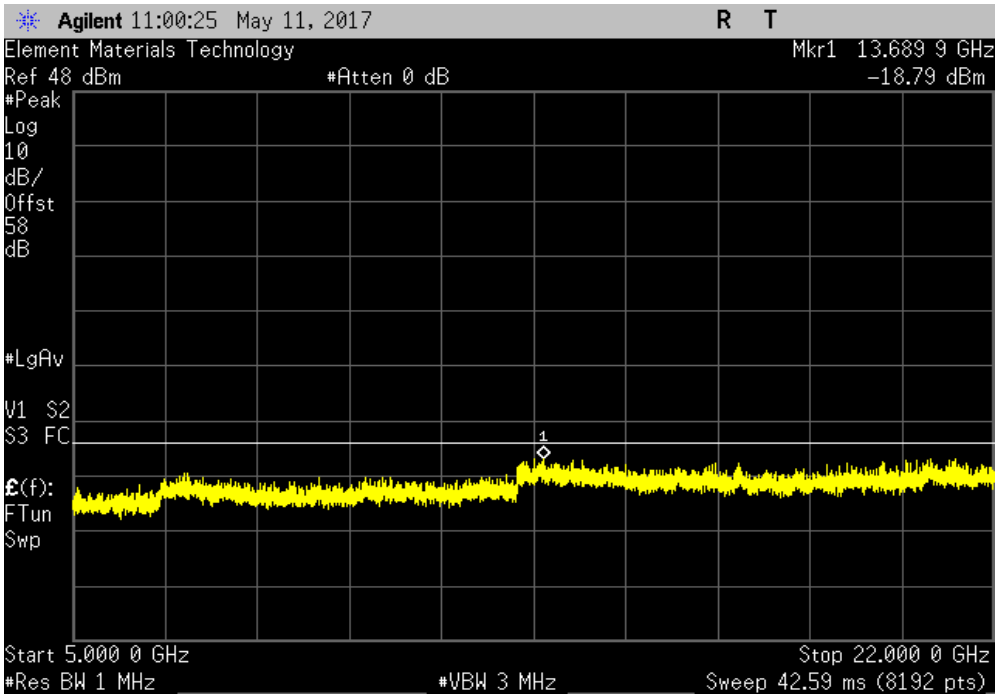


INTERMODULATION

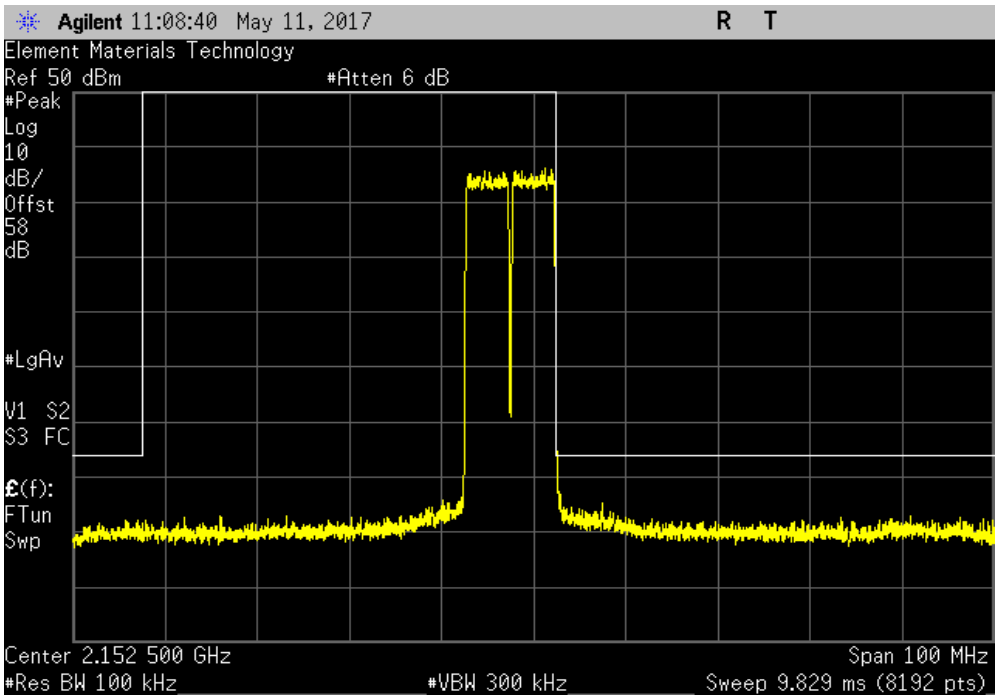
Antenna Port 1, LTE5, 2112.5 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.3	-16	Pass



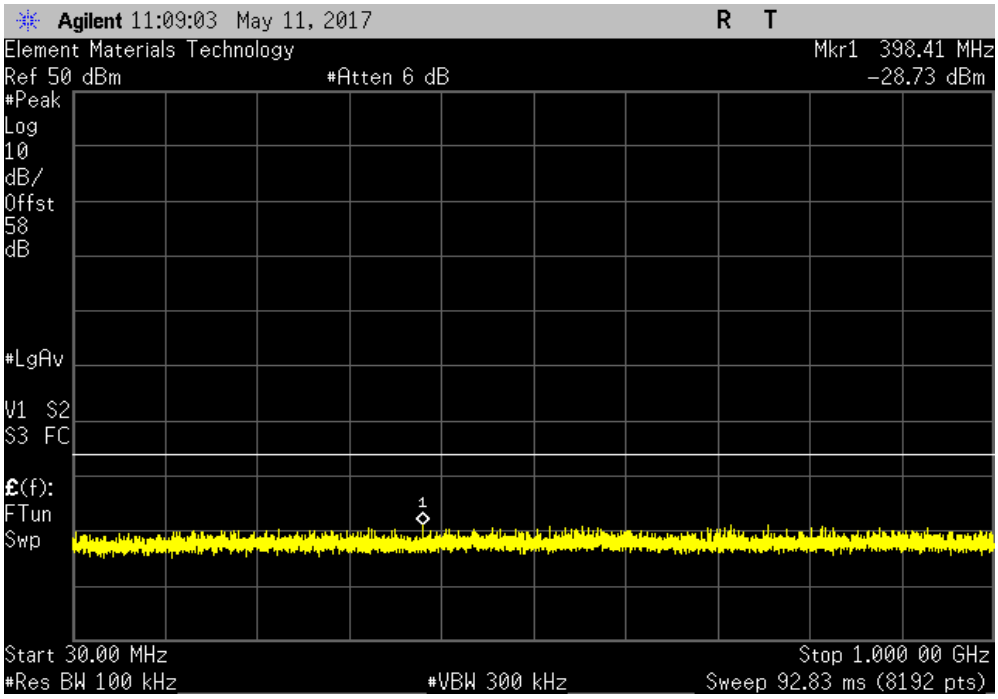
Antenna Port 1, LTE5, 2112.5 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.79	-16	Pass



Antenna Port 1, LTE5, 2152.5 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A



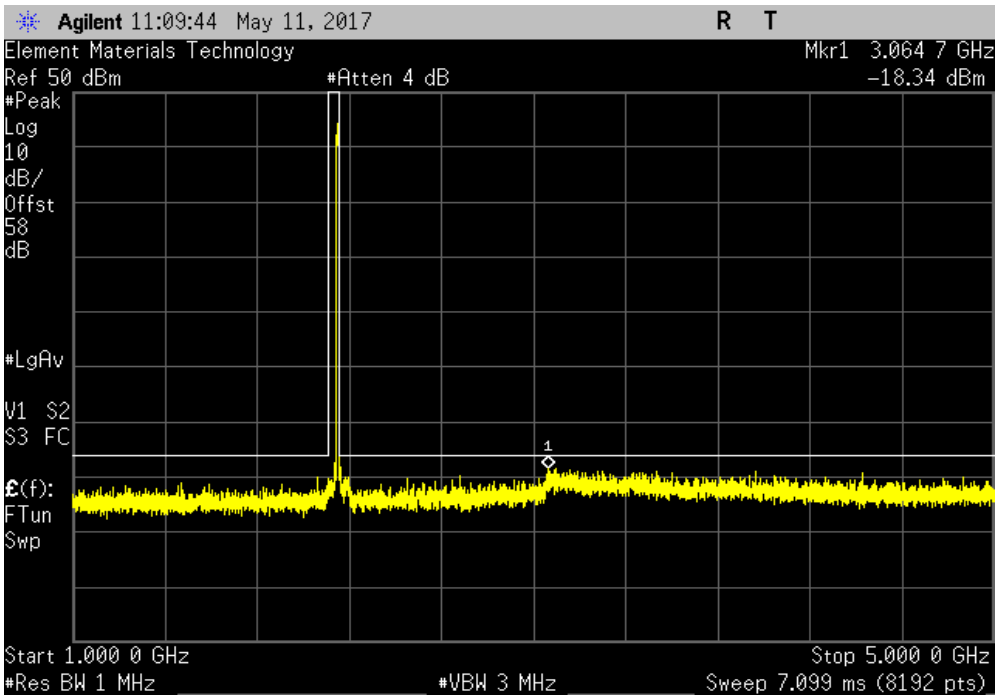
Antenna Port 1, LTE5, 2152.5 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.73	-16	Pass



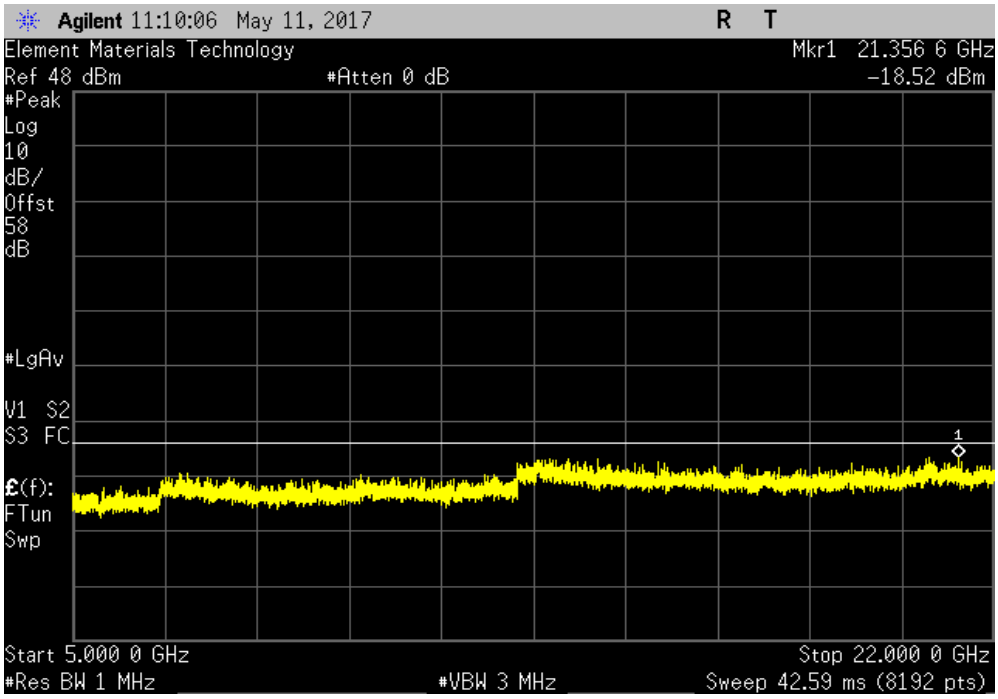
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, LTE5, 2152.5 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.34	-16	Pass



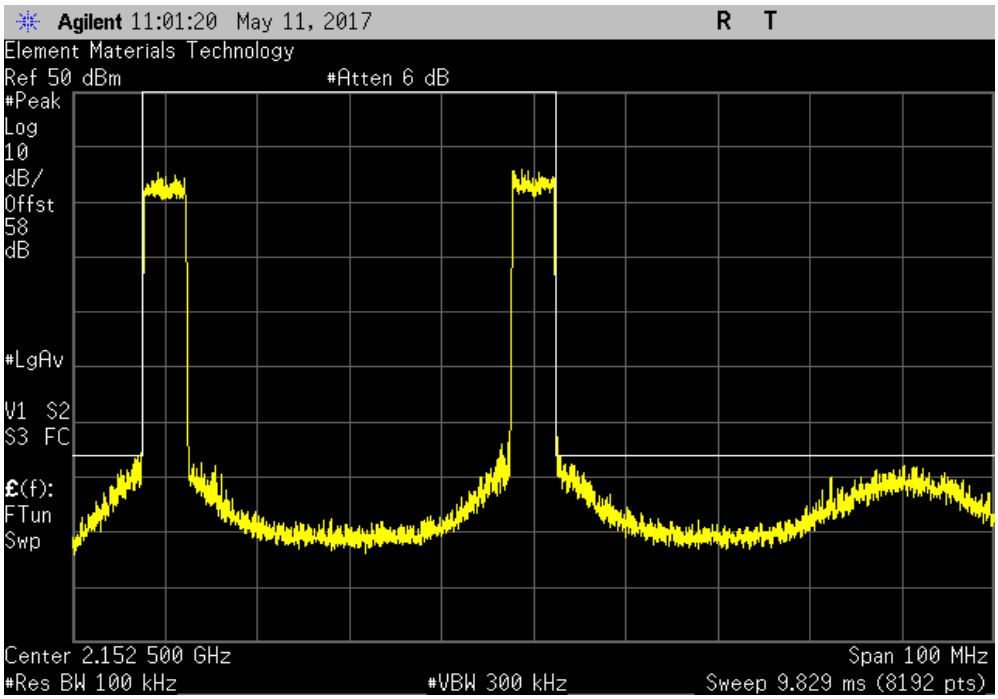
Antenna Port 1, LTE5, 2152.5 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.52	-16	Pass



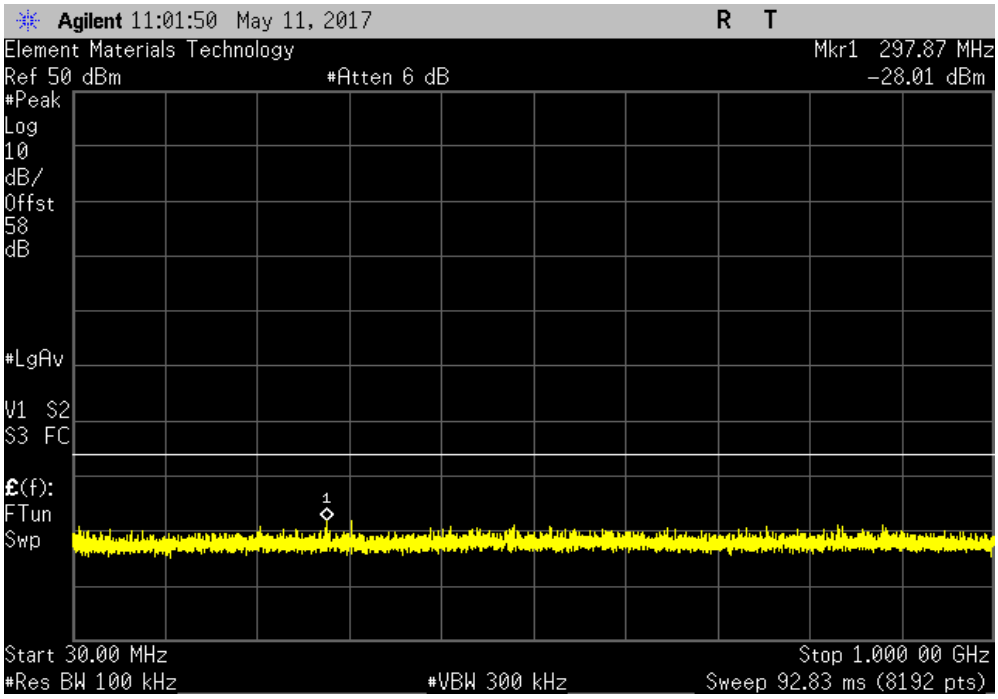
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, LTE5, 2152.5 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A

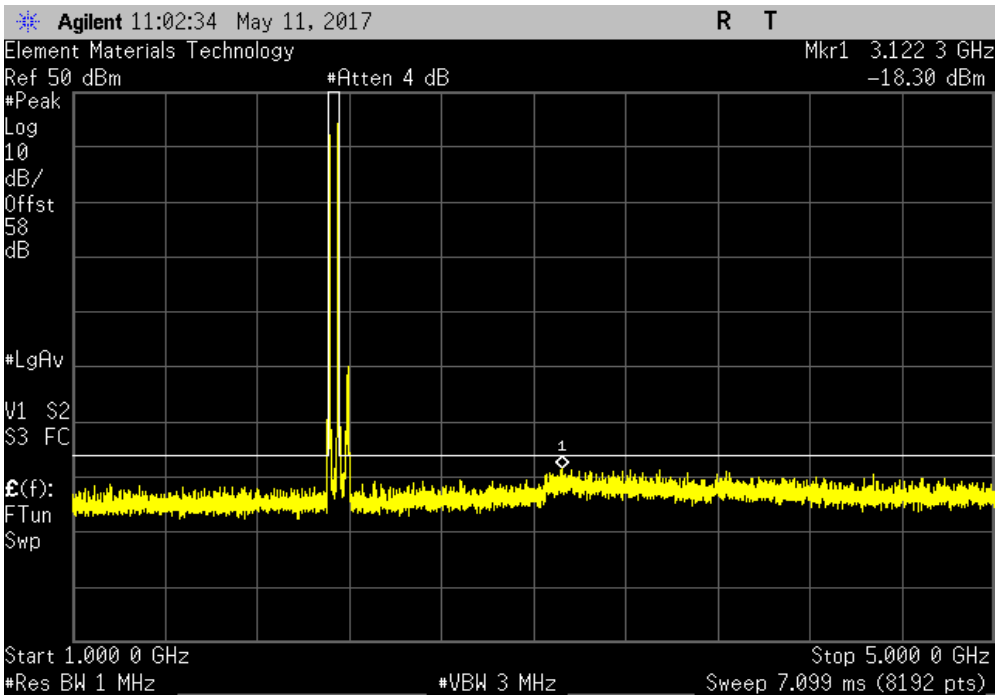


Antenna Port 1, LTE5, 2152.5 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.01	-16	Pass

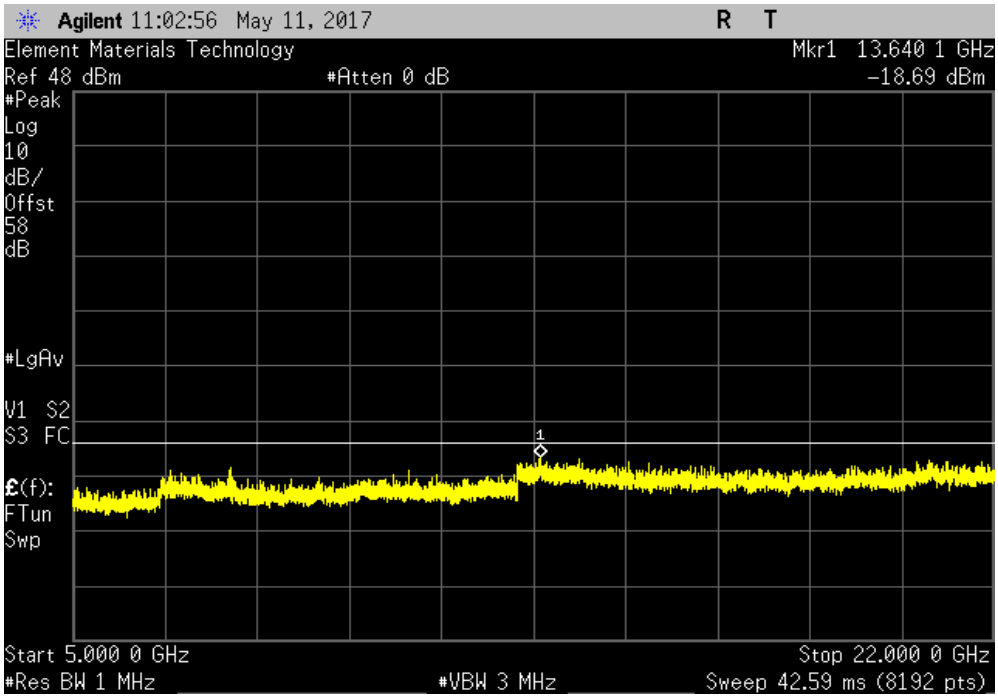


INTERMODULATION

Antenna Port 1, LTE5, 2152.5 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.3	-16	Pass



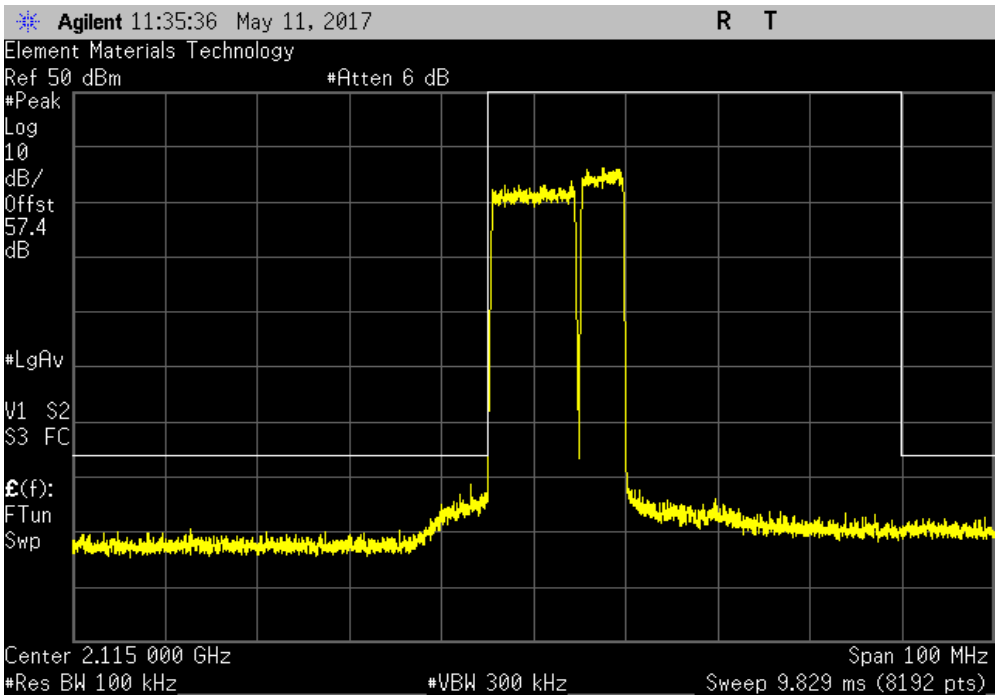
Antenna Port 1, LTE5, 2152.5 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.69	-16	Pass



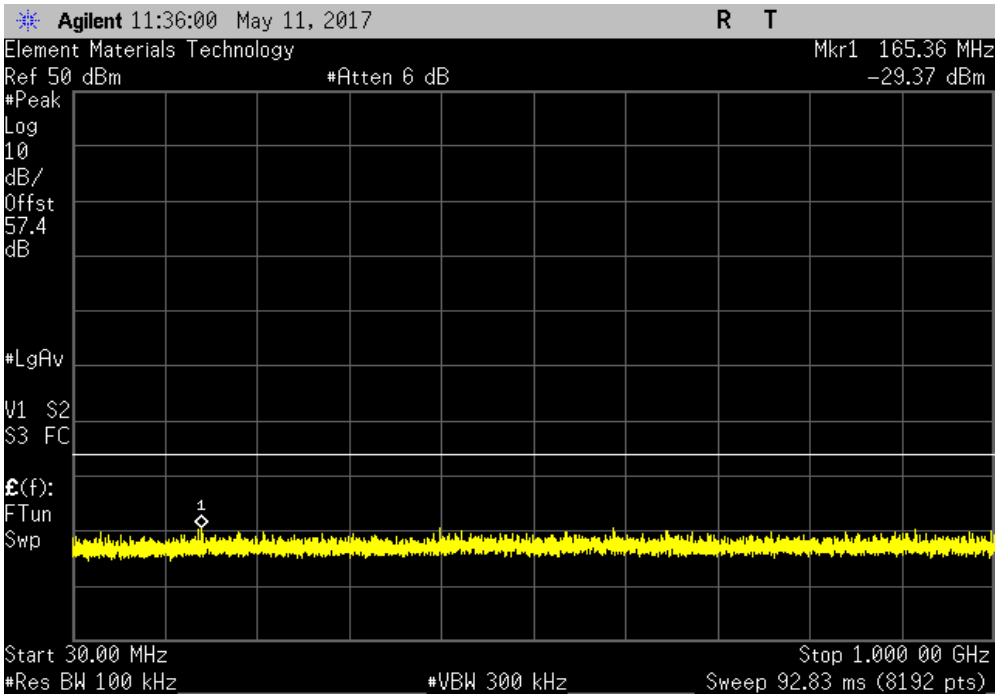
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, LTE10, 2115 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A

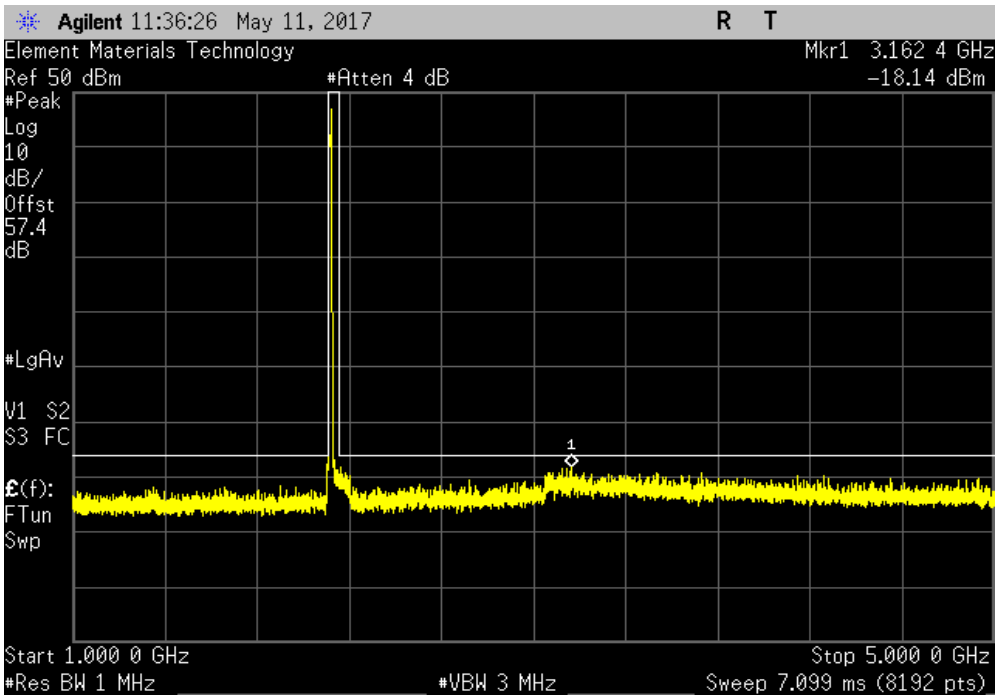


Antenna Port 1, LTE10, 2115 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-29.37	-16	Pass

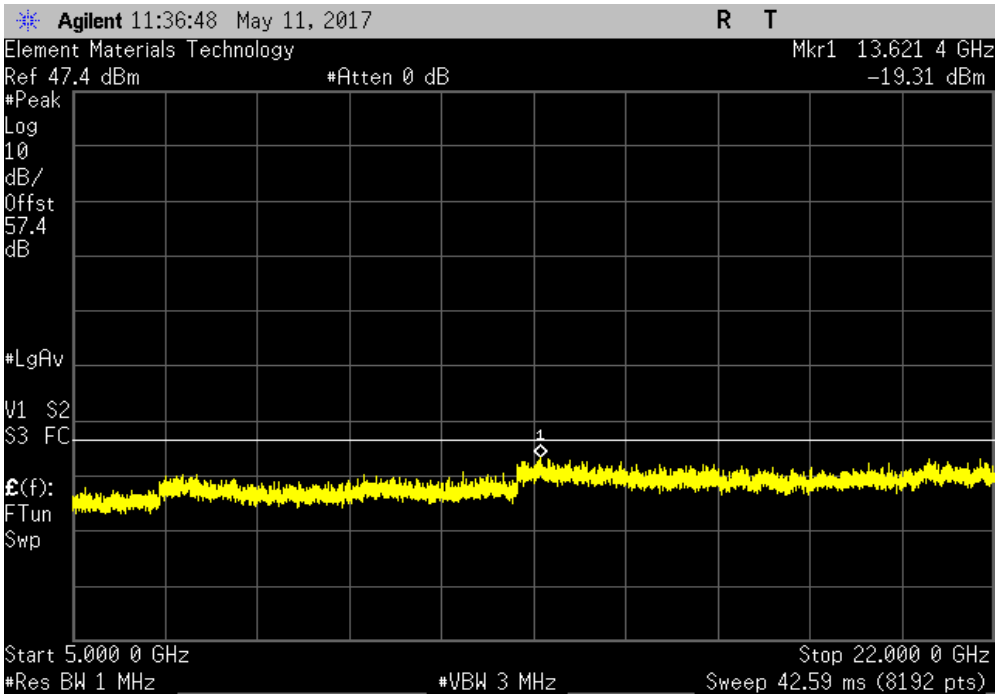


INTERMODULATION

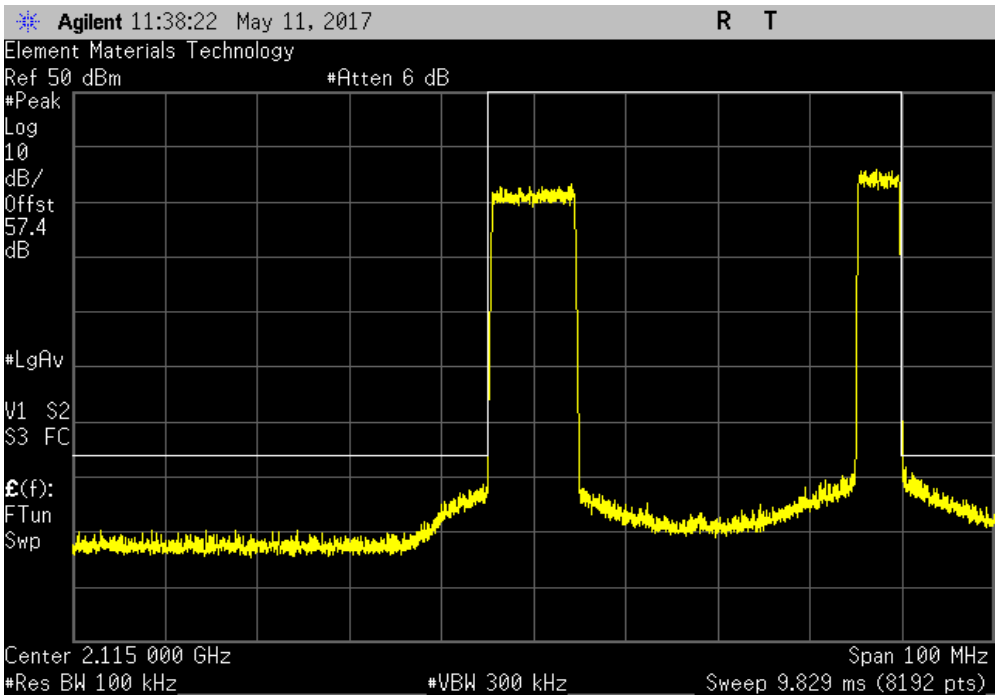
Antenna Port 1, LTE10, 2115 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.14	-16	Pass



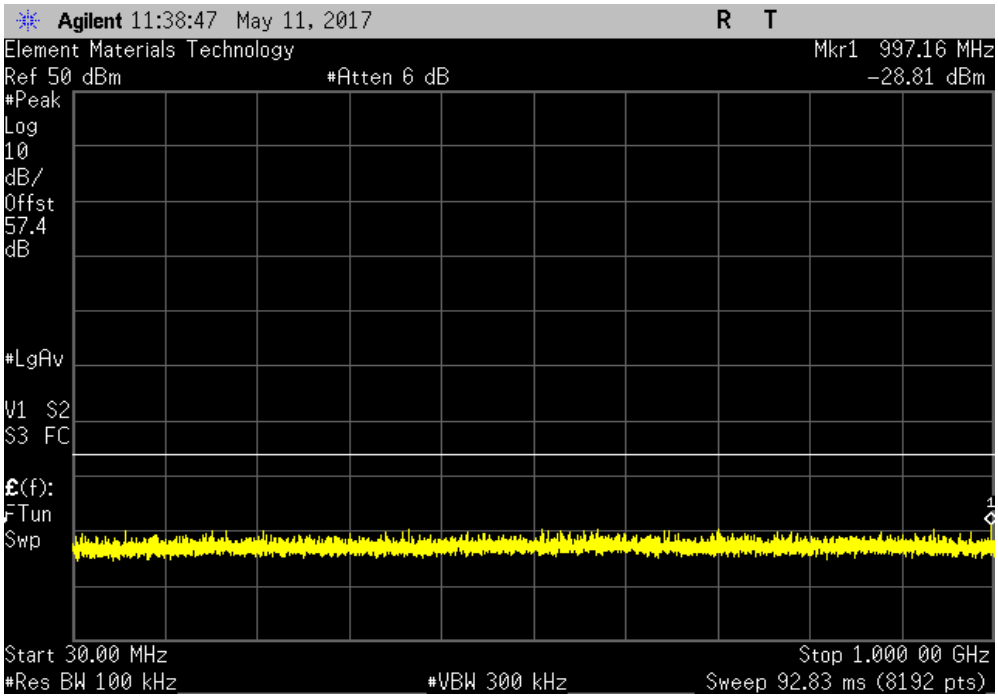
Antenna Port 1, LTE10, 2115 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-19.31	-16	Pass



Antenna Port 1, LTE10, 2115 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			**Max Value (dBm)**	**Limit ≤ (dBm)**	**Result**
	Fundamental			N/A	N/A	N/A



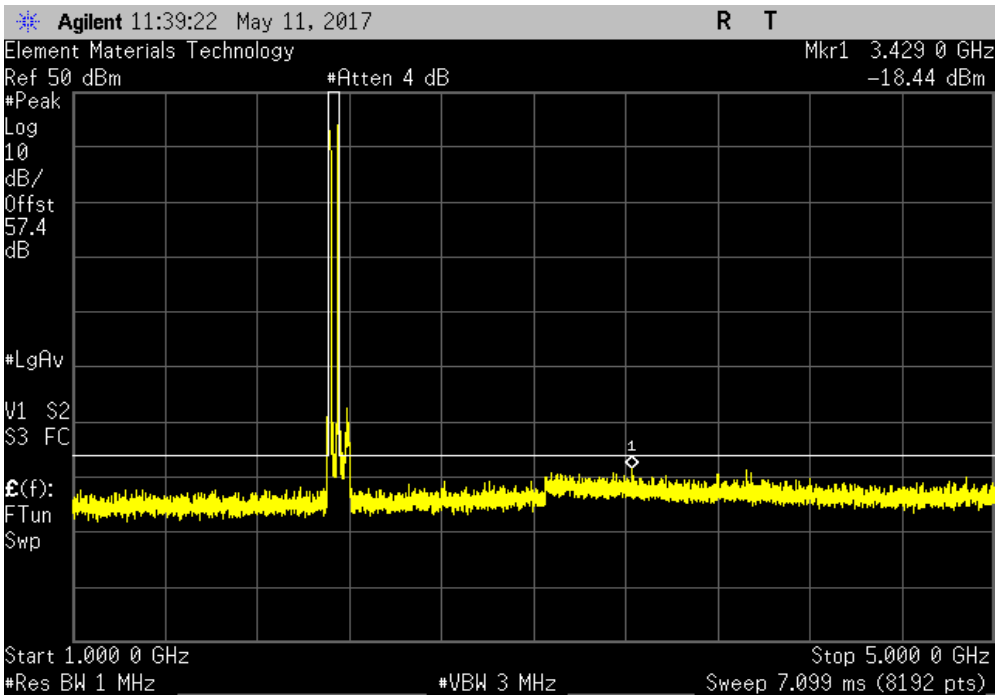
Antenna Port 1, LTE10, 2115 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			**Max Value (dBm)**	**Limit ≤ (dBm)**	**Result**
	30 MHz - 1 GHz			-28.81	-16	Pass



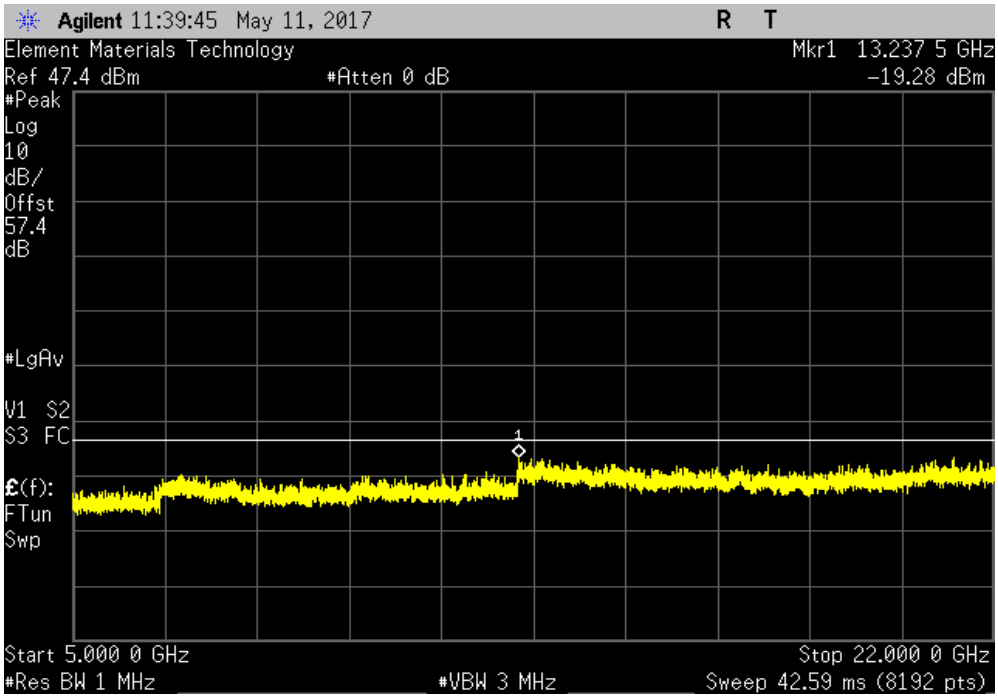
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, LTE10, 2115 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.45	-16	Pass



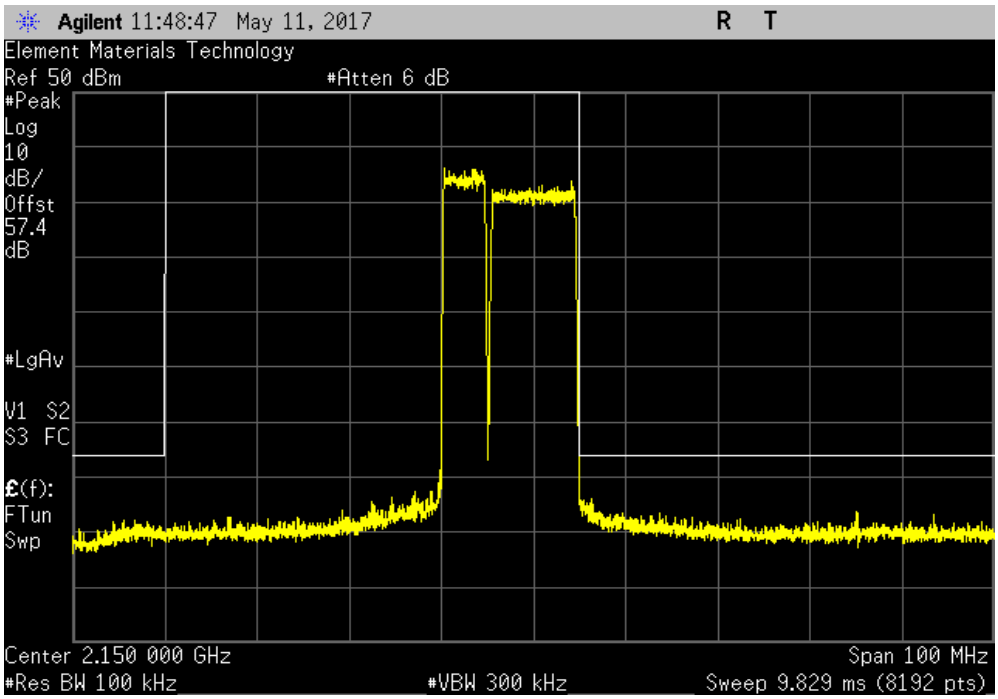
Antenna Port 1, LTE10, 2115 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-19.29	-16	Pass



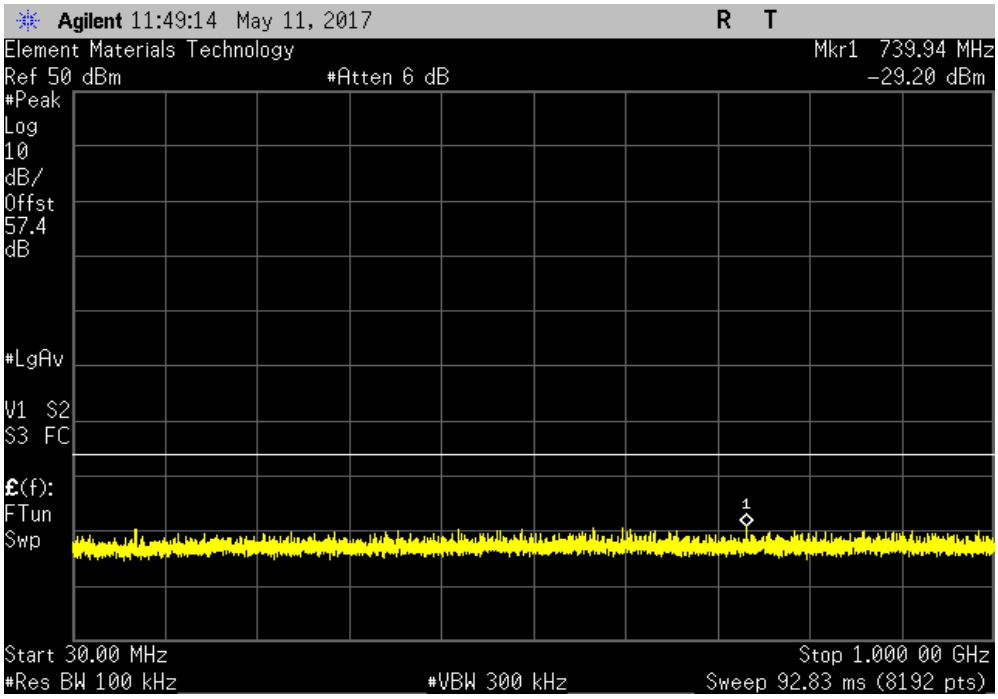
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, LTE10, 2150 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A

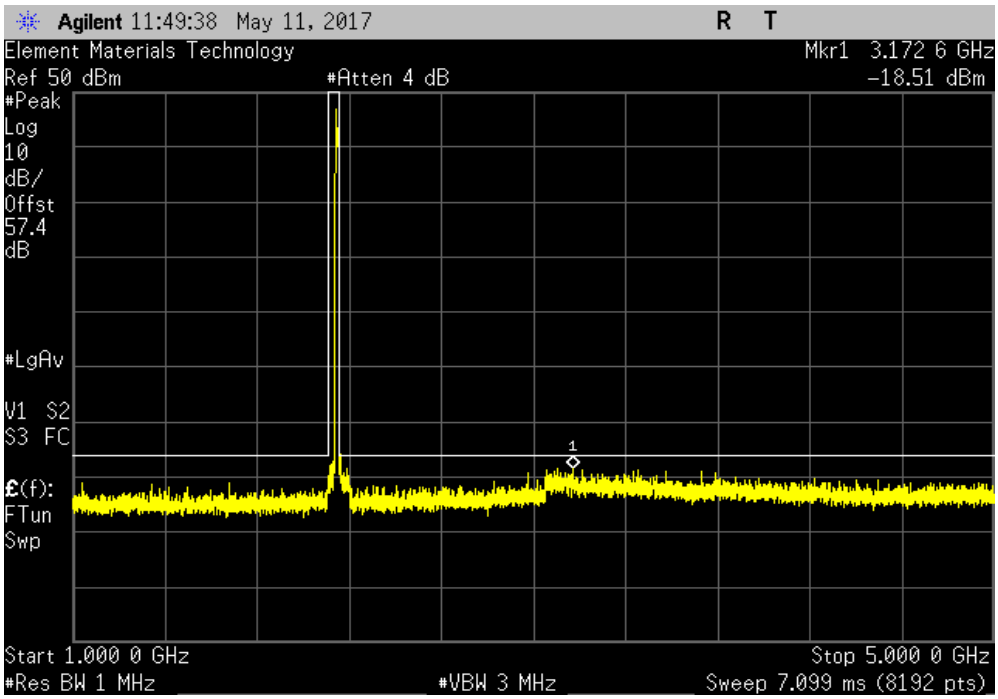


Antenna Port 1, LTE10, 2150 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-29.2	-16	Pass

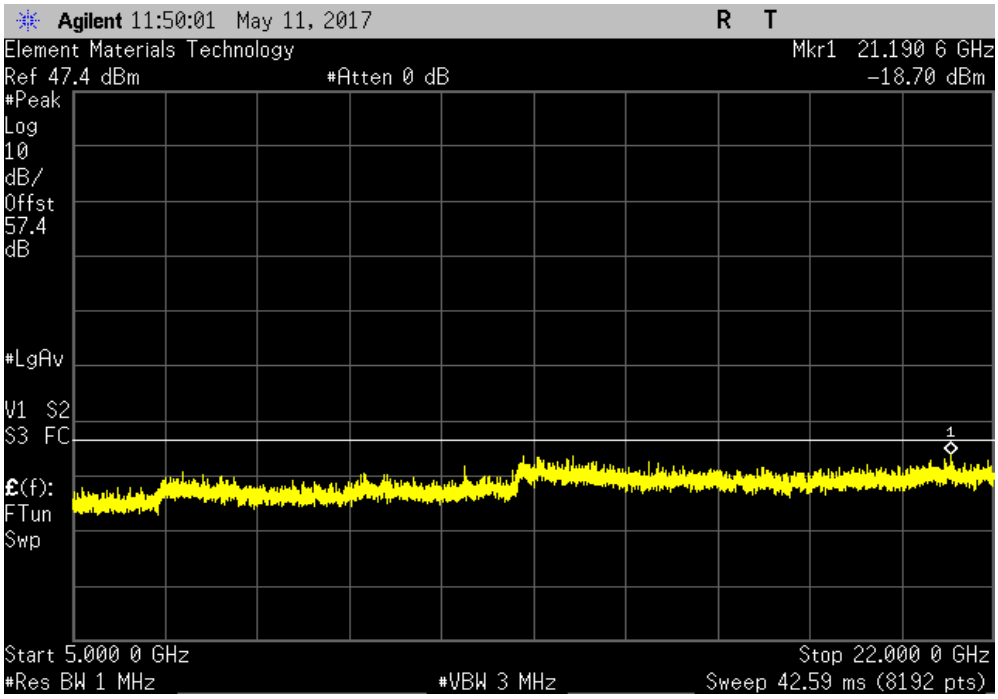


INTERMODULATION

Antenna Port 1, LTE10, 2150 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.51	-16	Pass



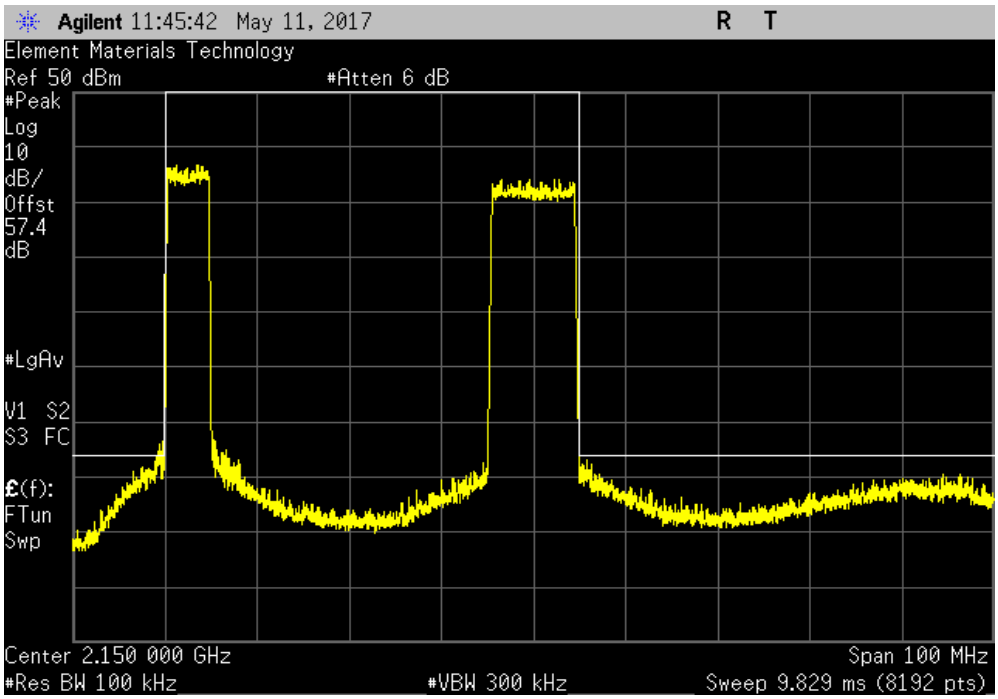
Antenna Port 1, LTE10, 2150 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.7	-16	Pass



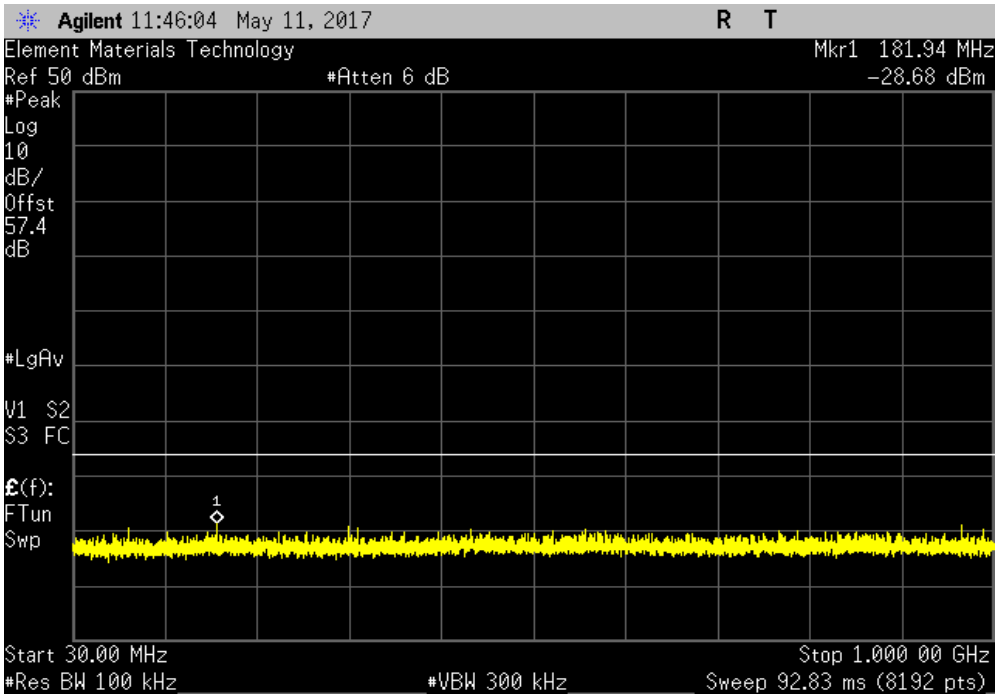
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, LTE10, 2150 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A



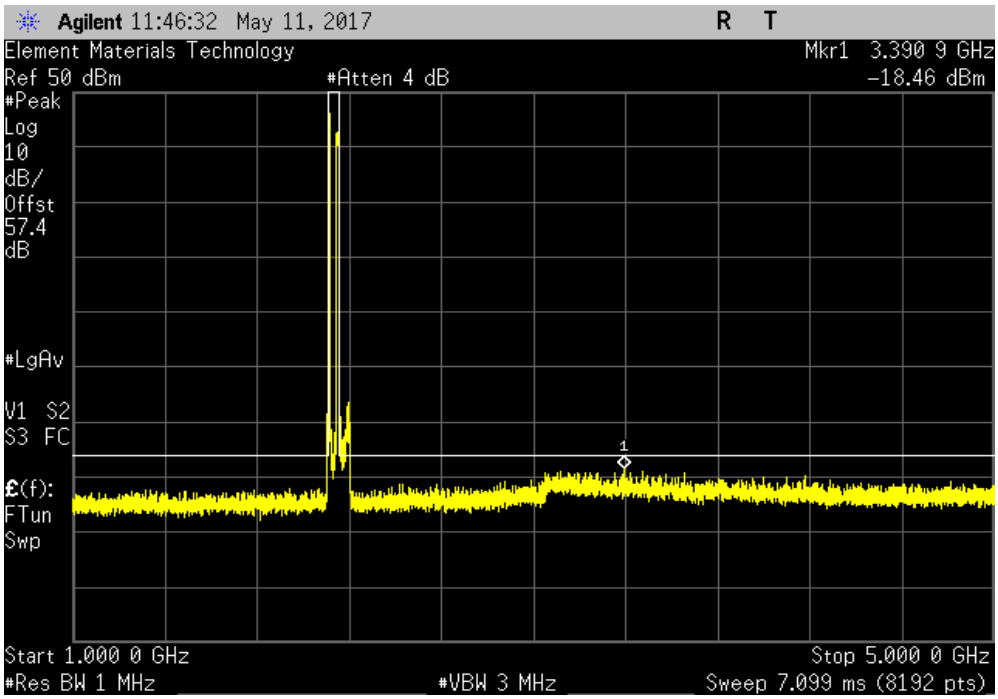
Antenna Port 1, LTE10, 2150 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.68	-16	Pass



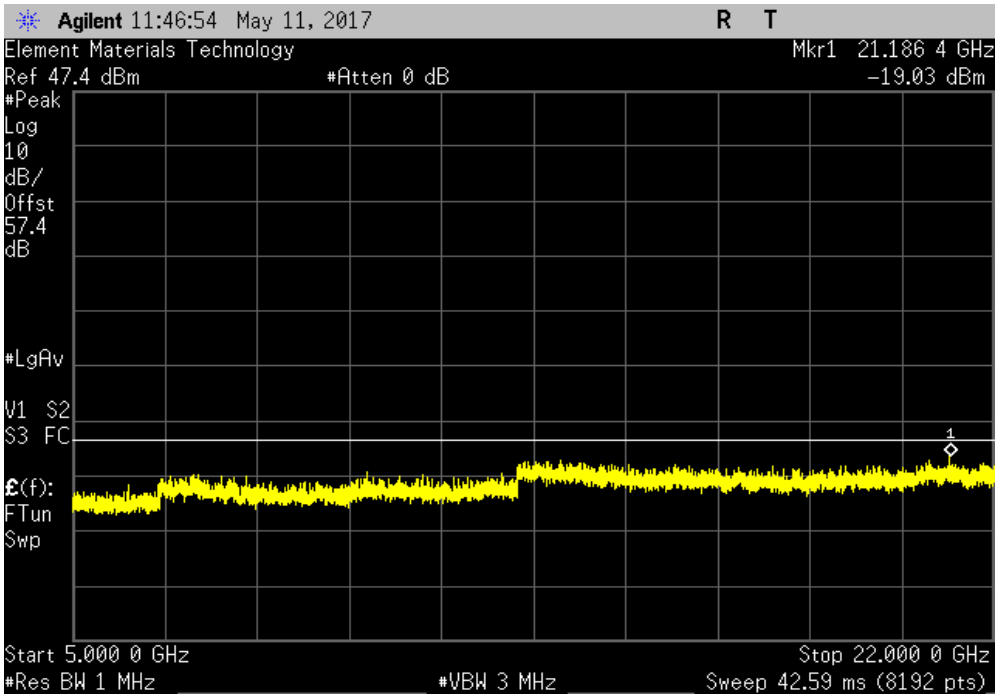
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, LTE10, 2150 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.46	-16	Pass



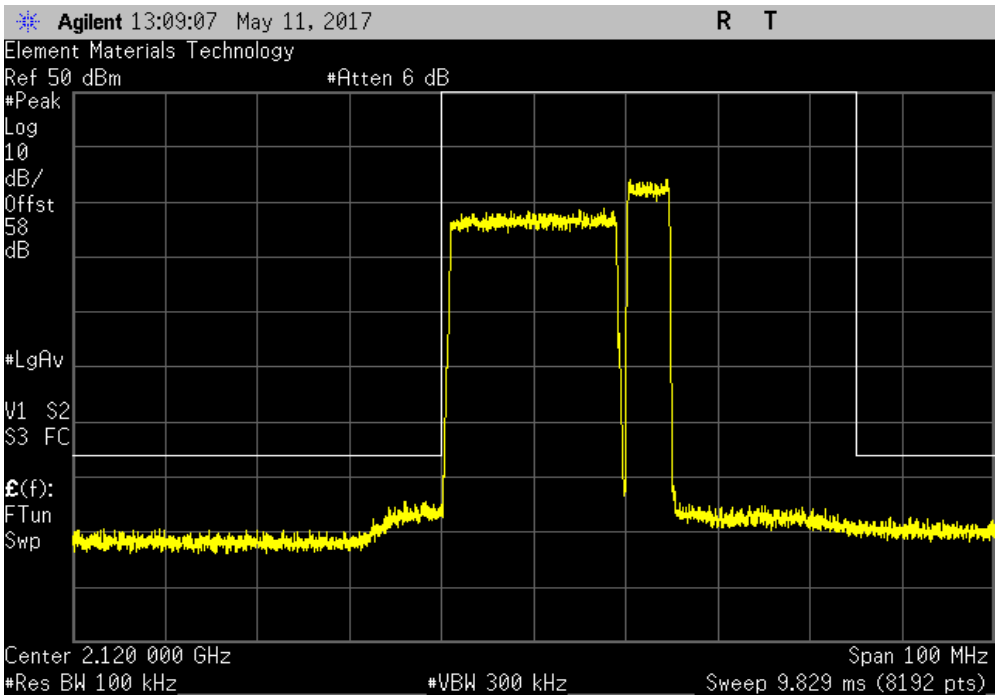
Antenna Port 1, LTE10, 2150 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-19.03	-16	Pass



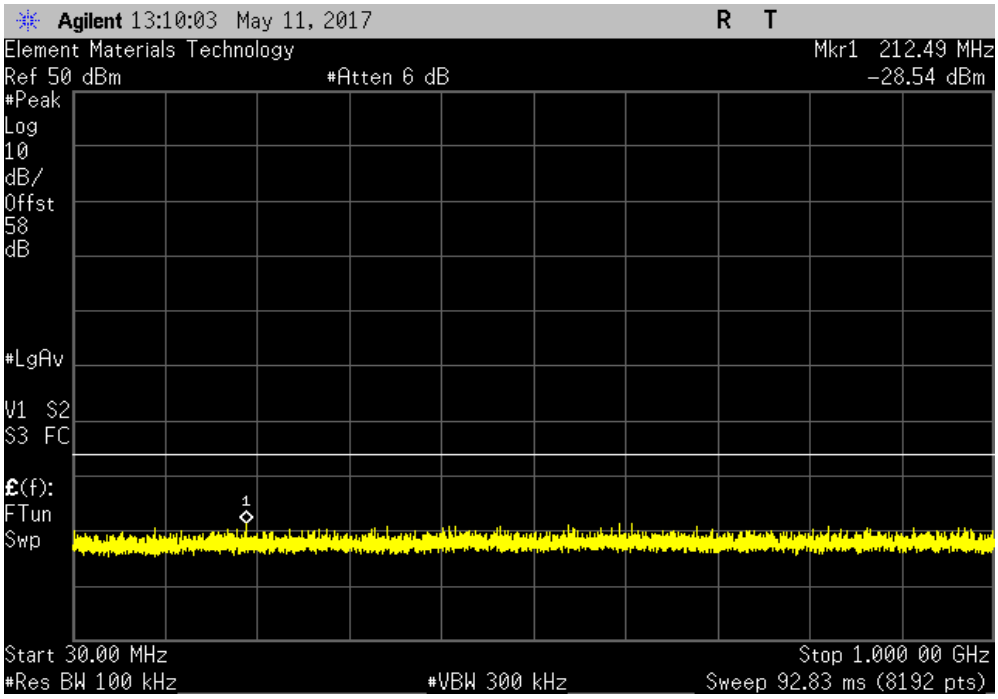
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, LTE20, 2120 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A



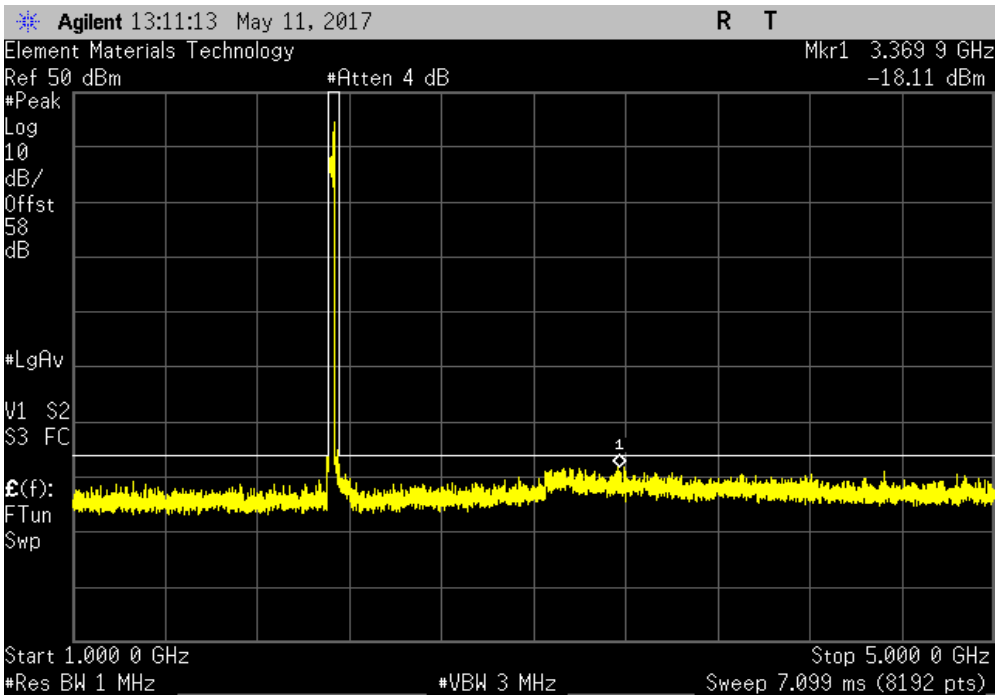
Antenna Port 1, LTE20, 2120 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.54	-16	Pass



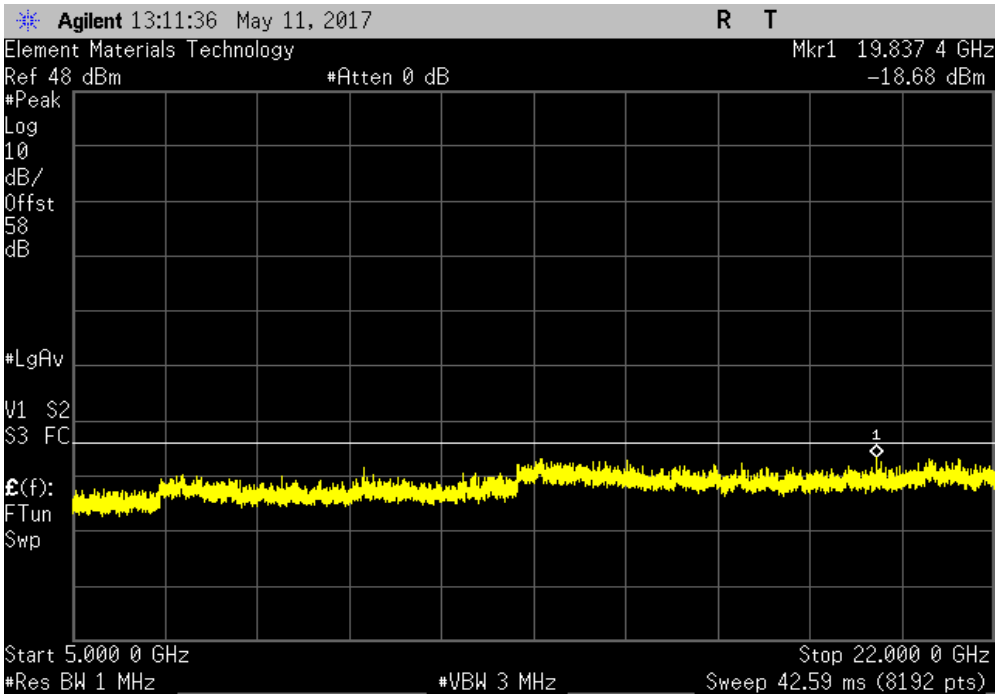
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, LTE20, 2120 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.11	-16	Pass



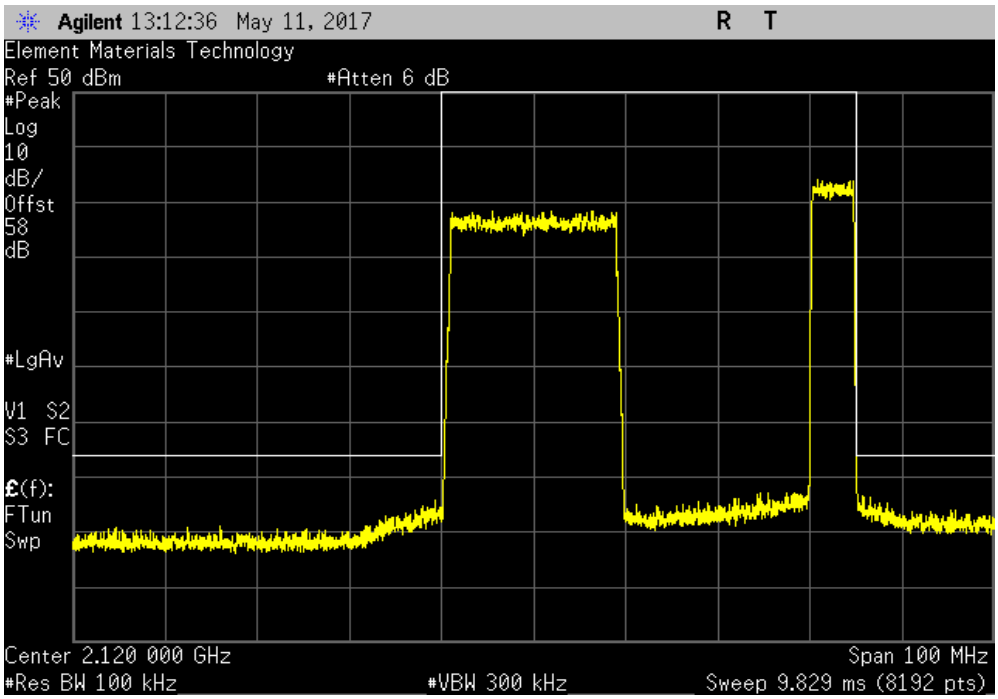
Antenna Port 1, LTE20, 2120 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.68	-16	Pass



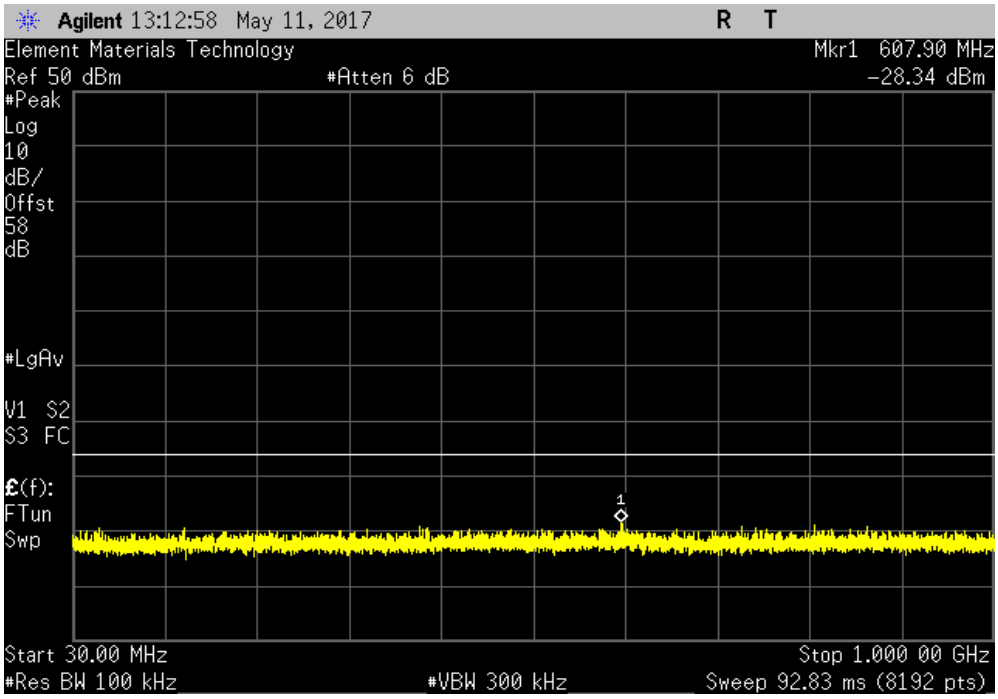
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, LTE20, 2120 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A



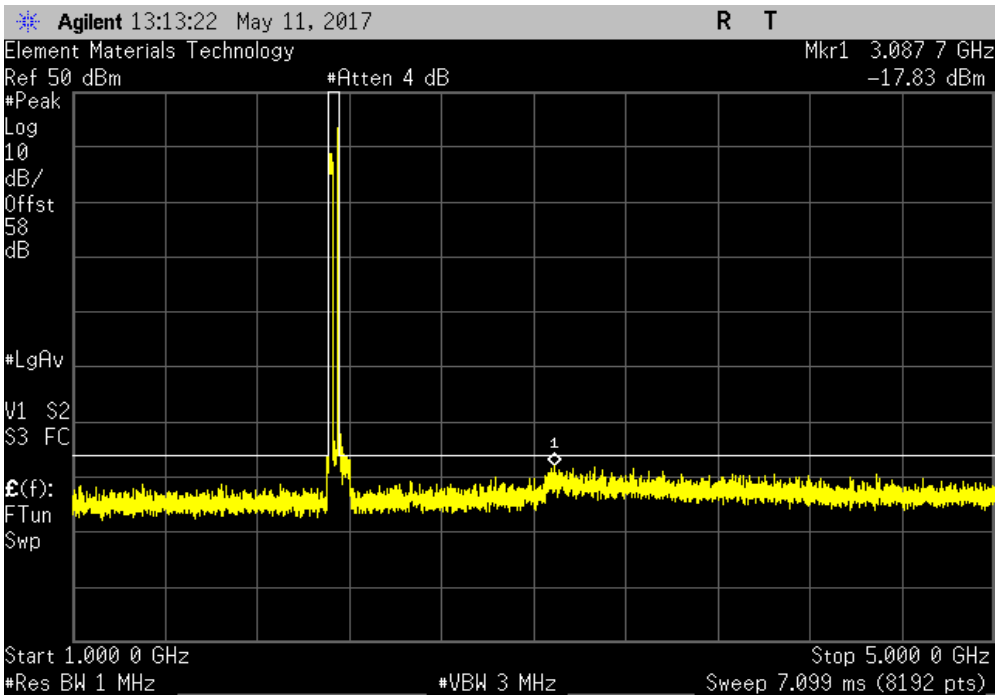
Antenna Port 1, LTE20, 2120 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.34	-16	Pass



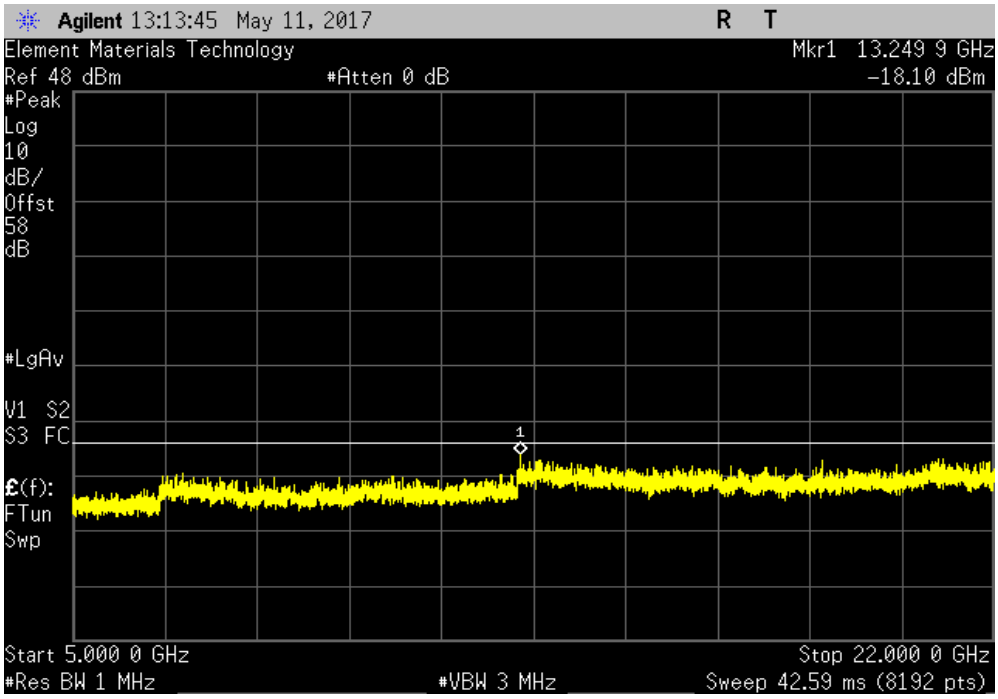
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, LTE20, 2120 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-17.83	-16	Pass



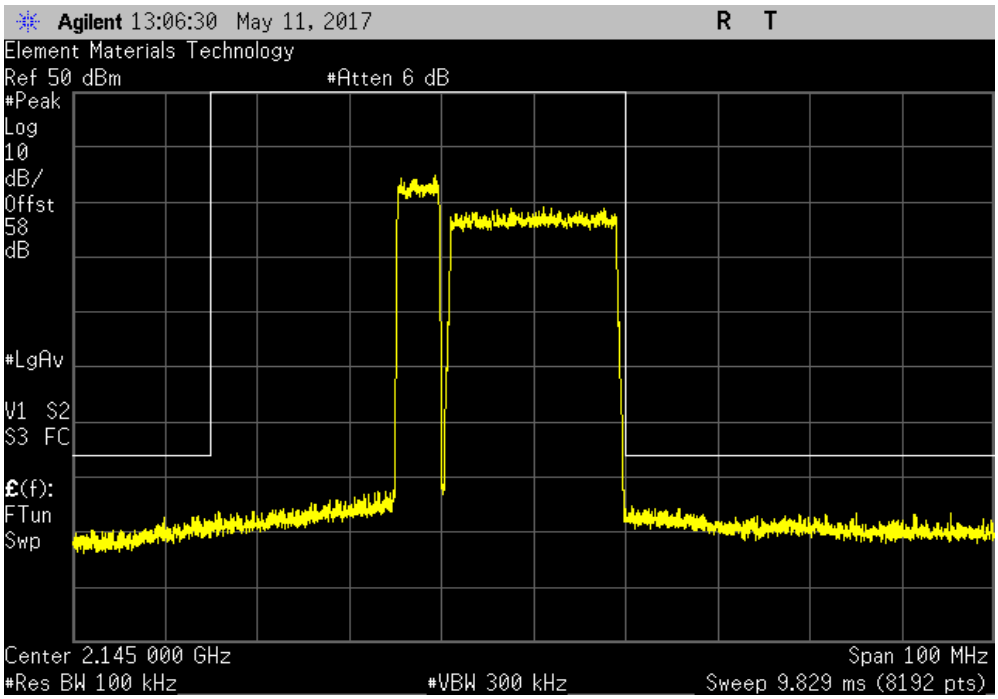
Antenna Port 1, LTE20, 2120 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.1	-16	Pass



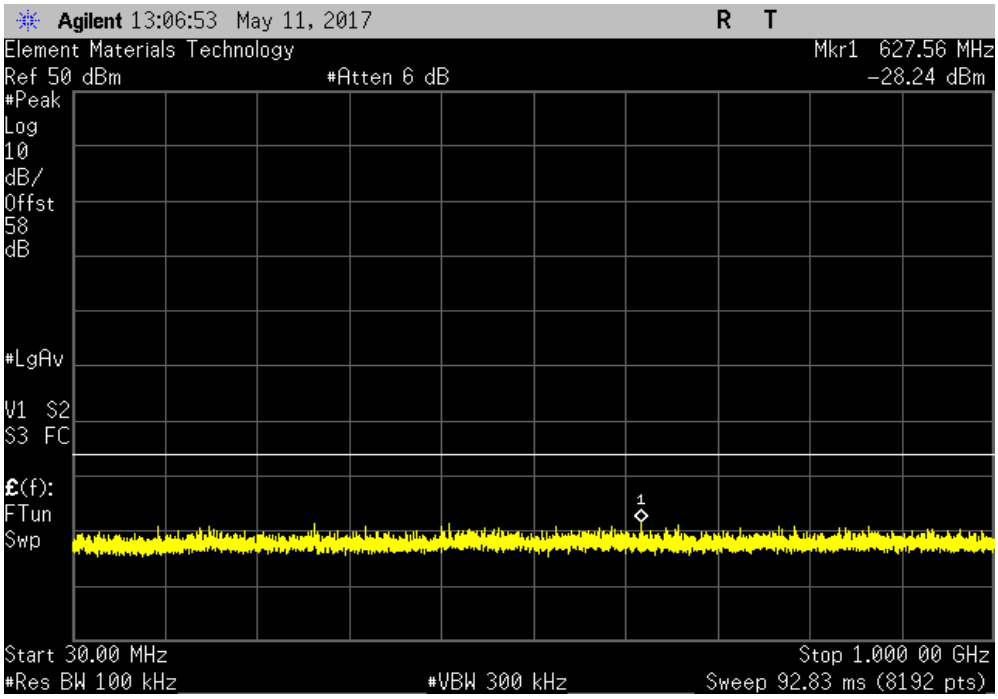
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, LTE20, 2145 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A

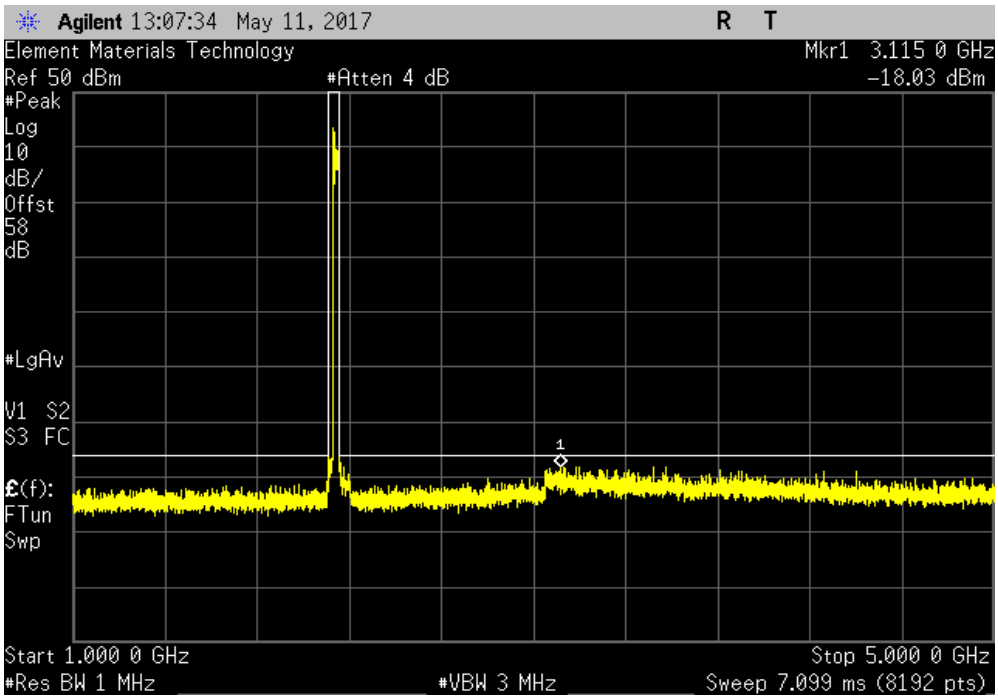


Antenna Port 1, LTE20, 2145 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.24	-16	Pass

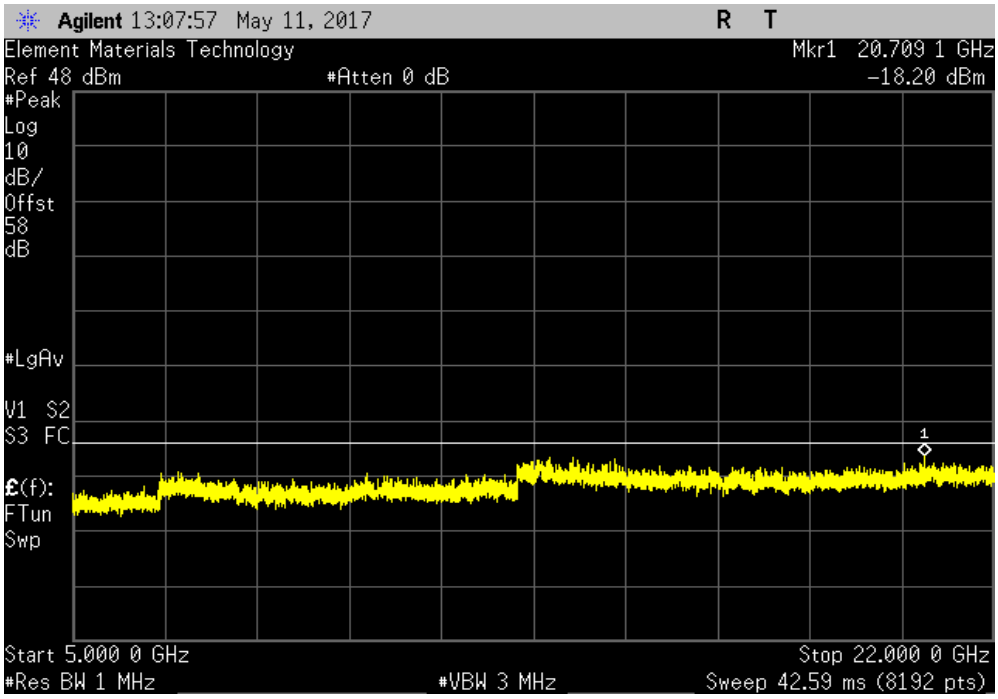


INTERMODULATION

Antenna Port 1, LTE20, 2145 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.03	-16	Pass



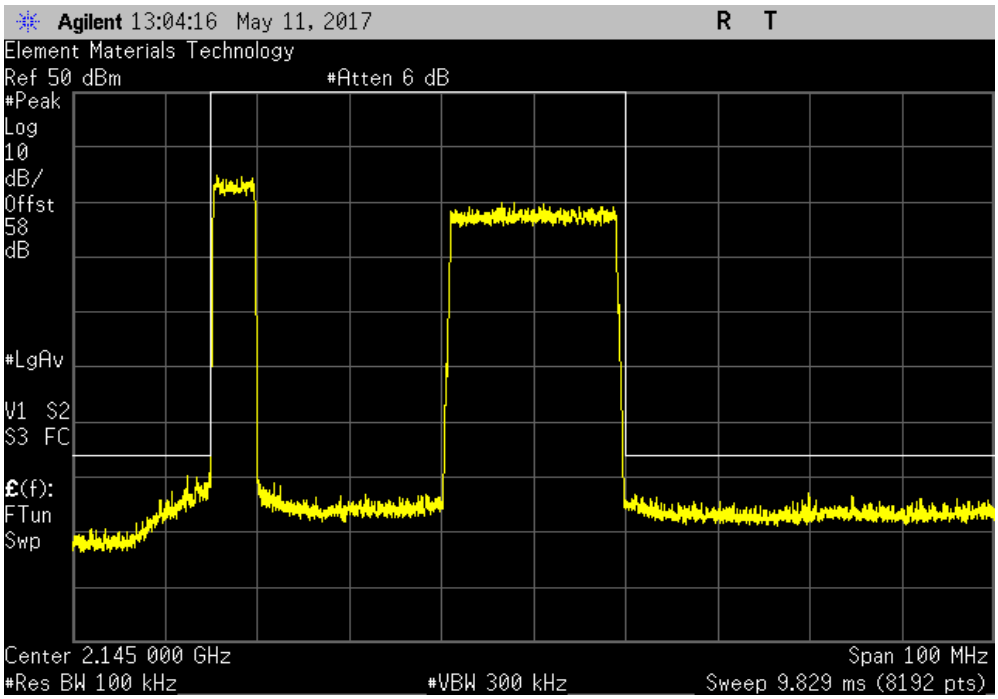
Antenna Port 1, LTE20, 2145 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.2	-16	Pass



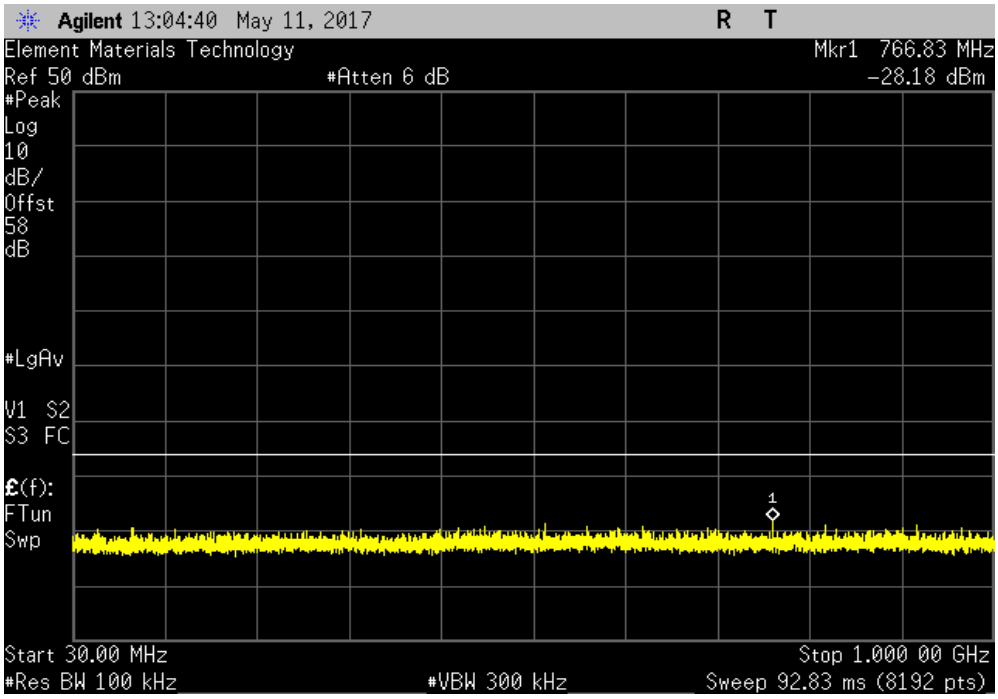
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 1, LTE20, 2145 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A



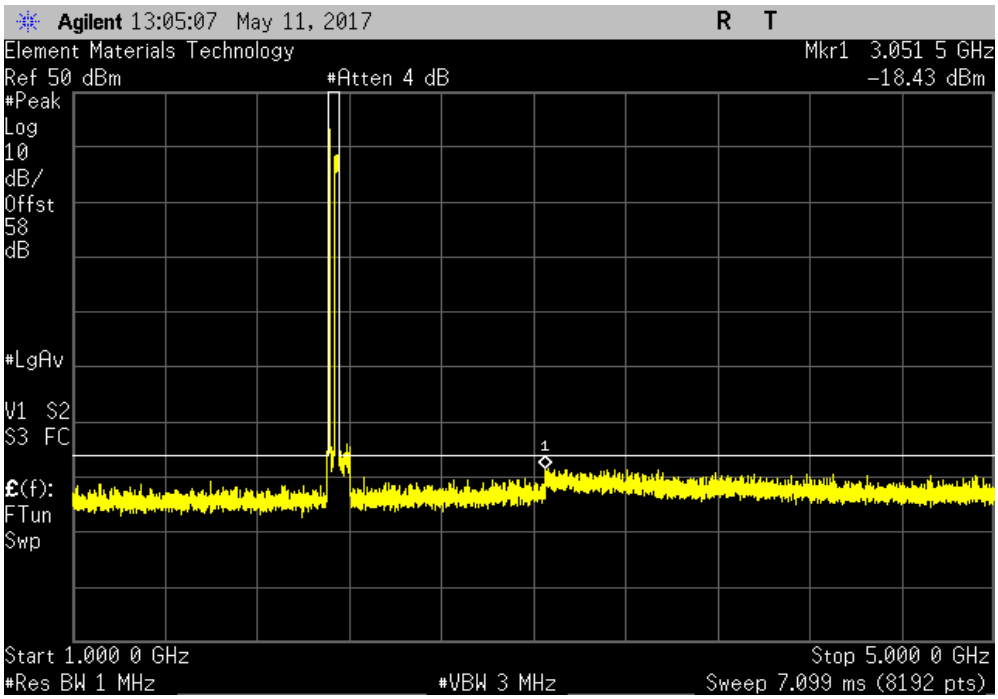
Antenna Port 1, LTE20, 2145 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.18	-16	Pass



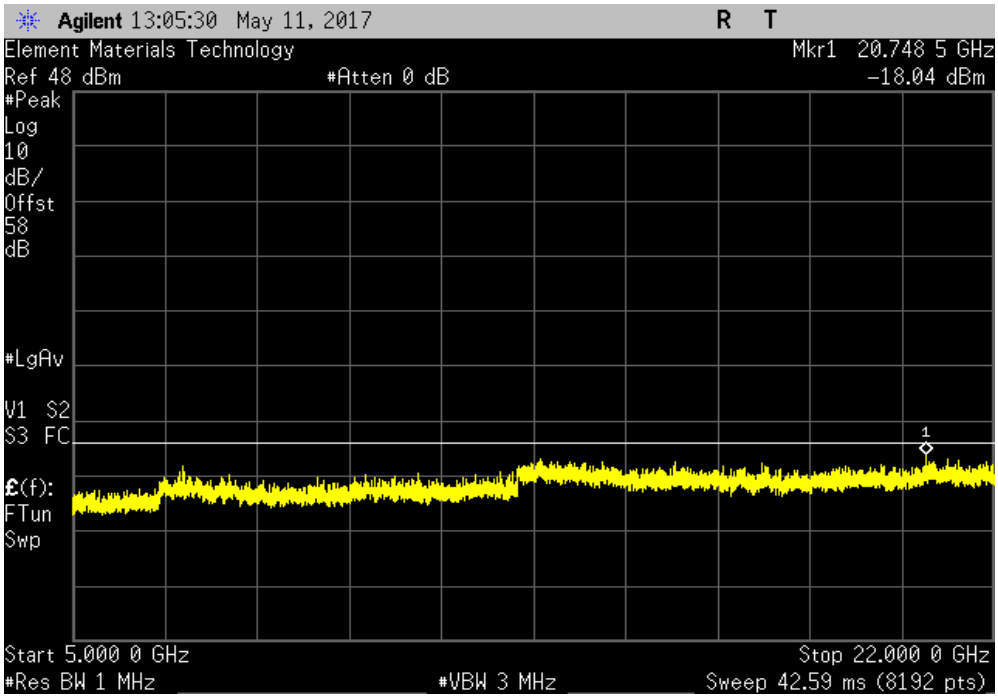
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

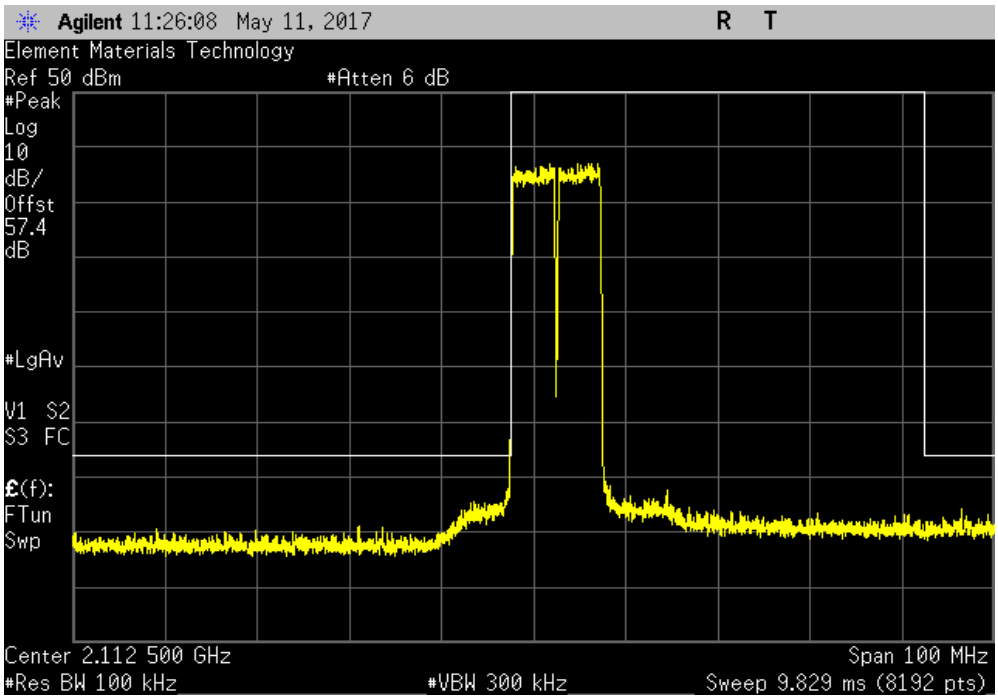
Antenna Port 1, LTE20, 2145 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.43	-16	Pass



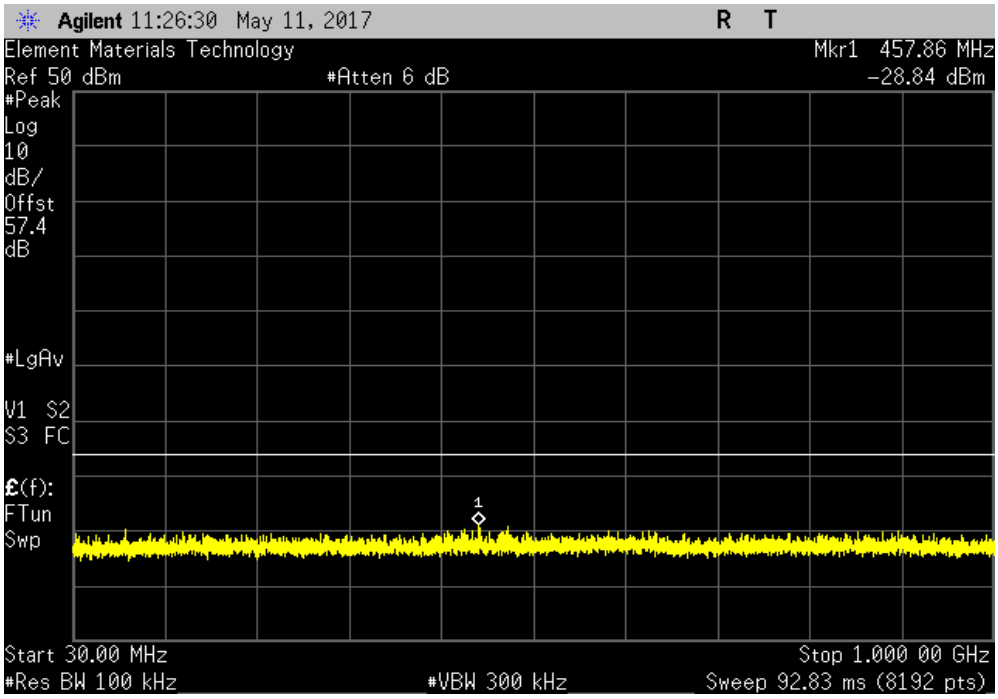
Antenna Port 1, LTE20, 2145 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.04	-16	Pass



Antenna Port 2, LTE5, 2112.5 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A



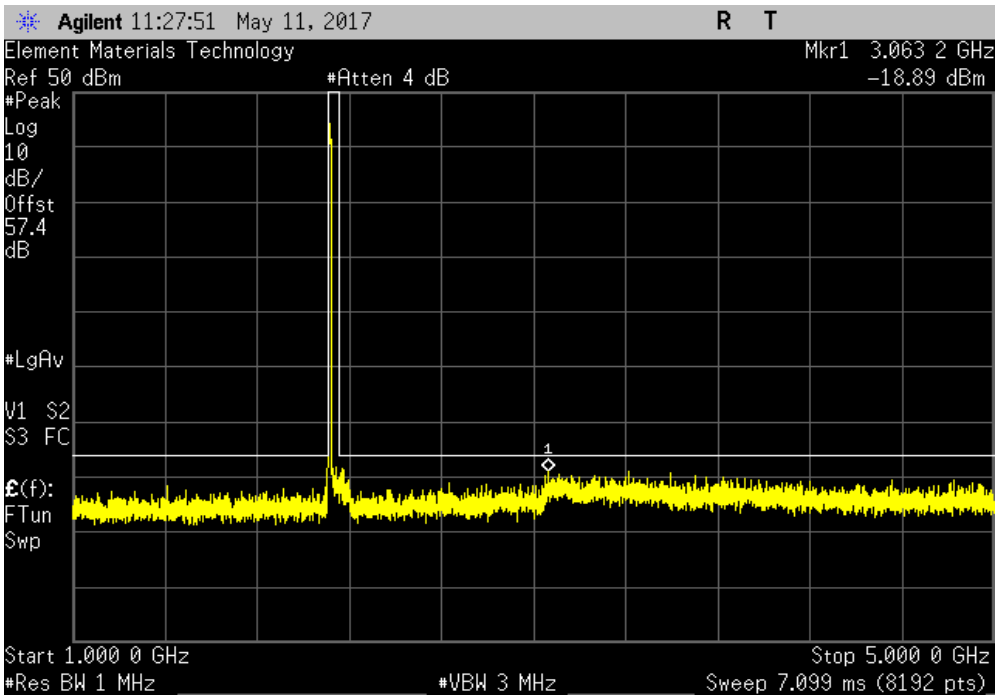
Antenna Port 2, LTE5, 2112.5 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.84	-16	Pass



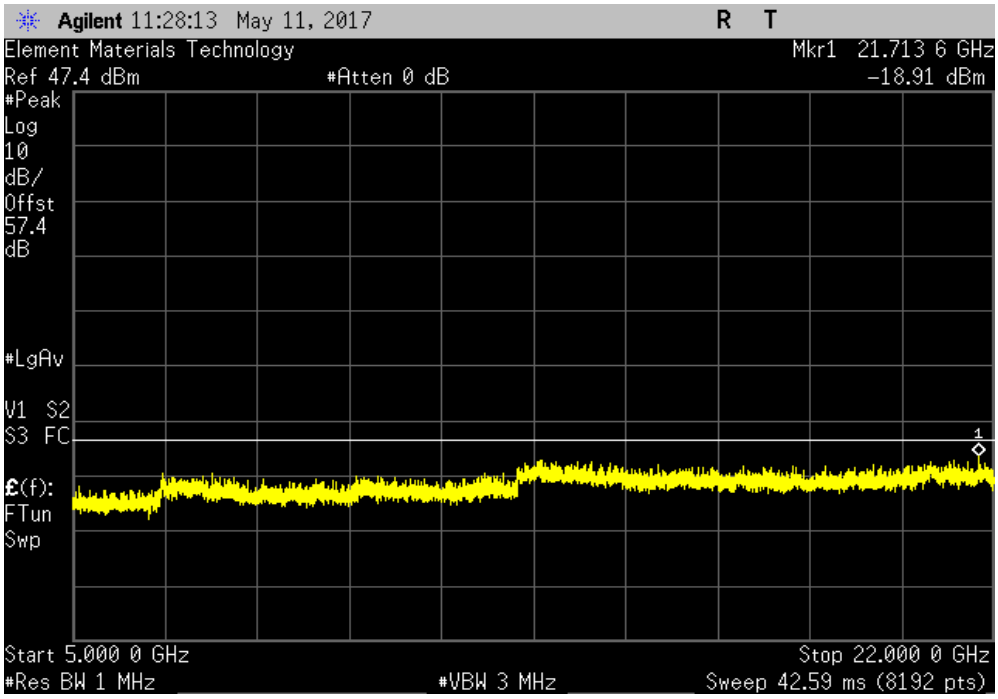
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, LTE5, 2112.5 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.89	-16	Pass



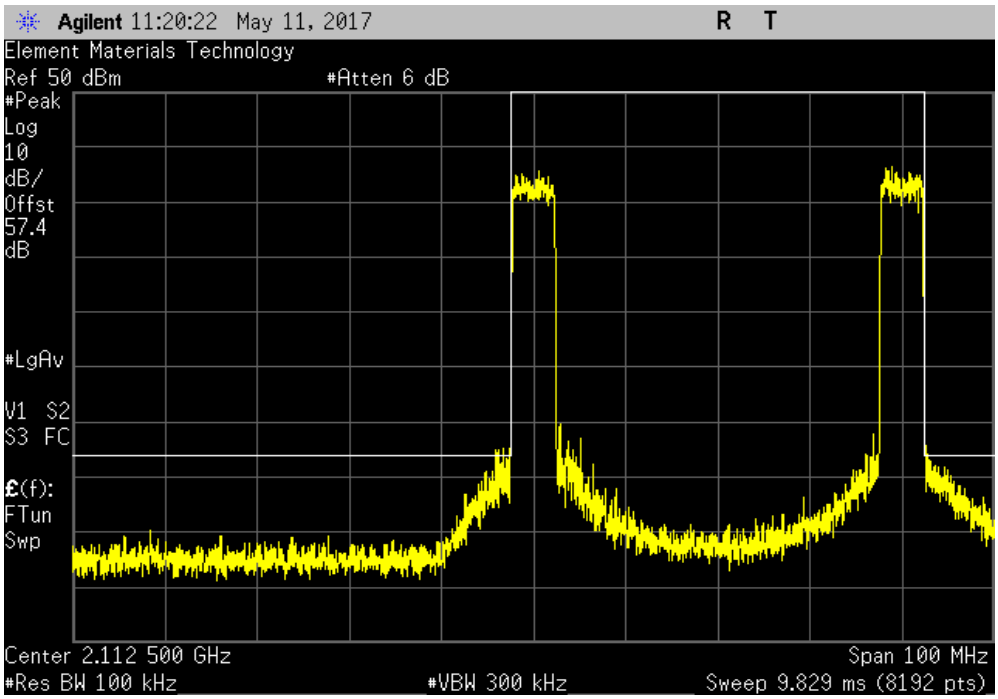
Antenna Port 2, LTE5, 2112.5 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.91	-16	Pass



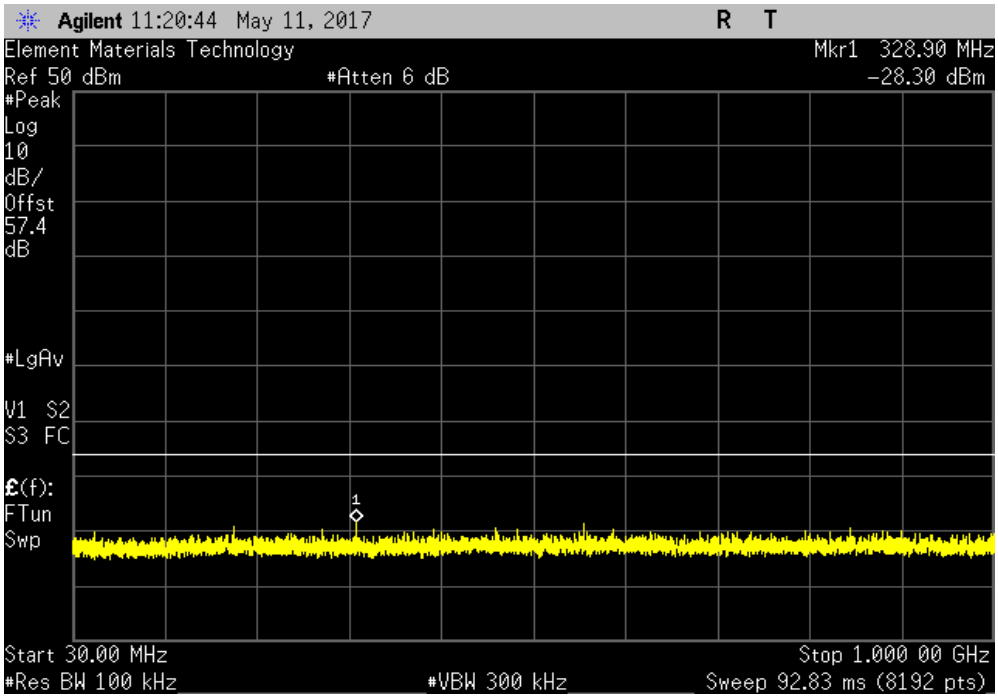
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, LTE5, 2112.5 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A



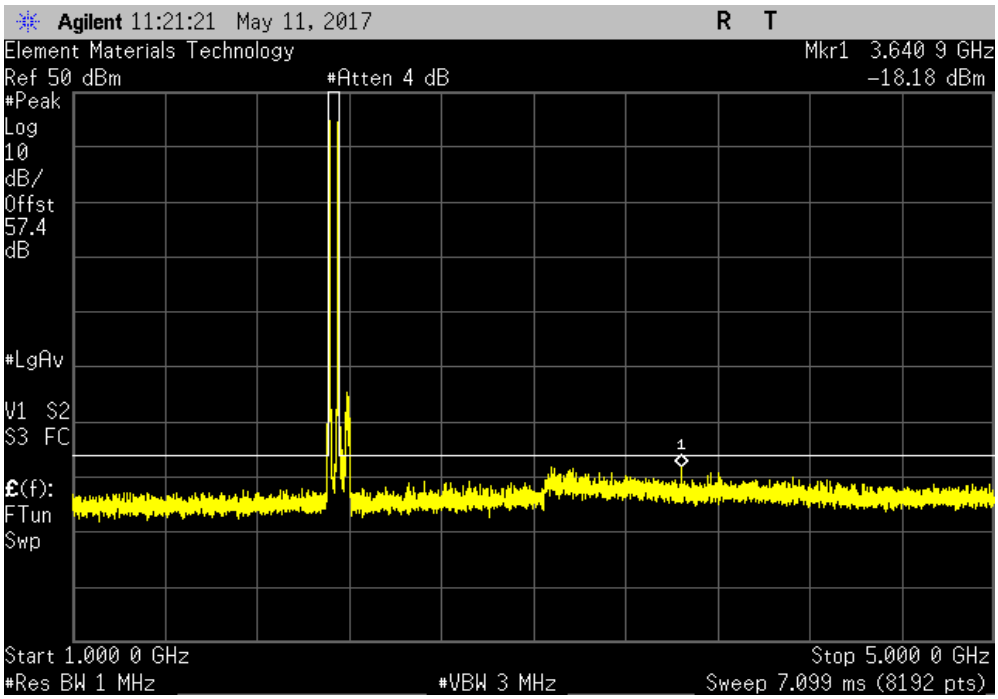
Antenna Port 2, LTE5, 2112.5 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.3	-16	Pass



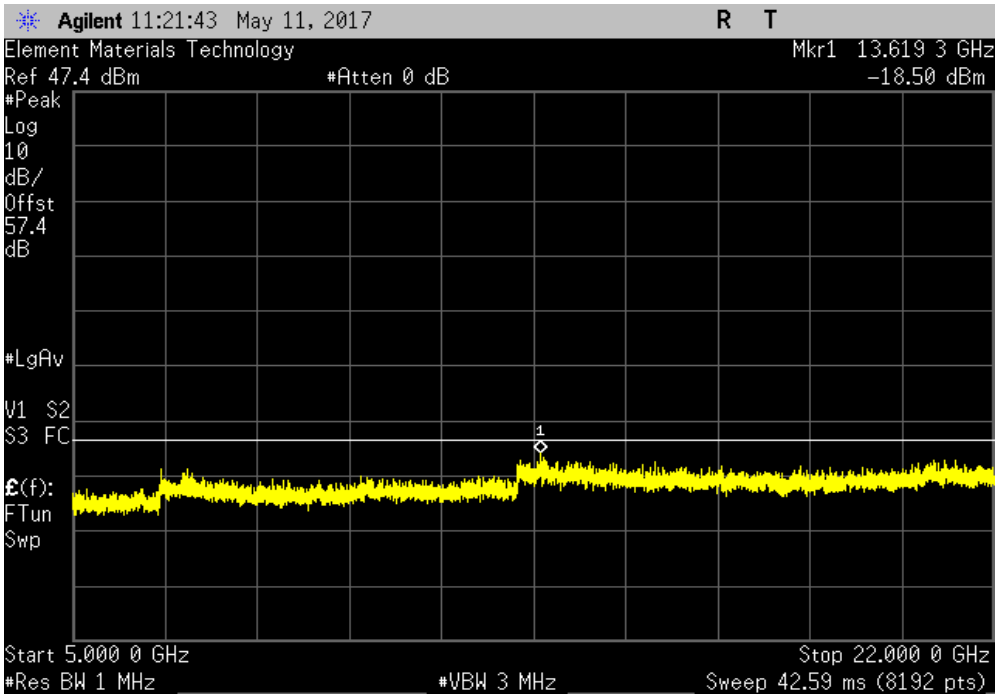
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

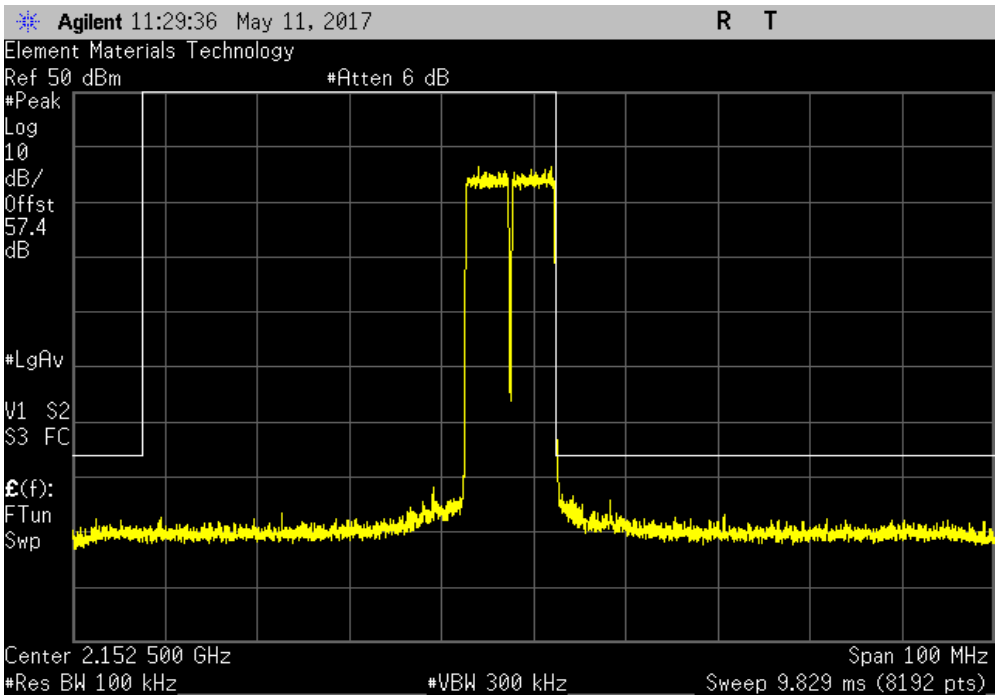
Antenna Port 2, LTE5, 2112.5 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.18	-16	Pass



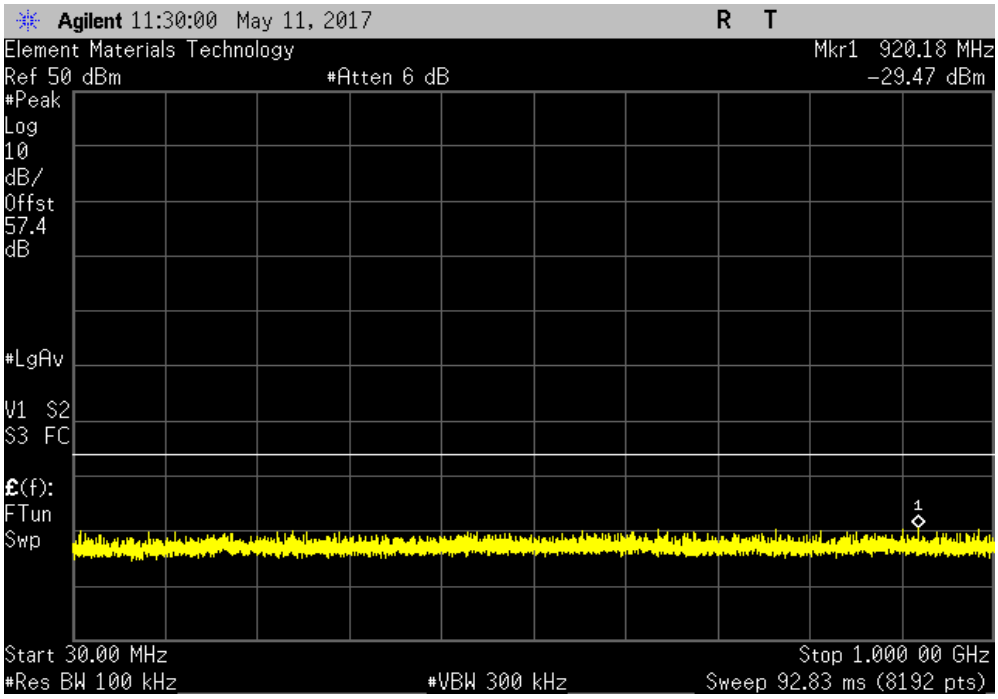
Antenna Port 2, LTE5, 2112.5 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.5	-16	Pass



Antenna Port 2, LTE5, 2152.5 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A

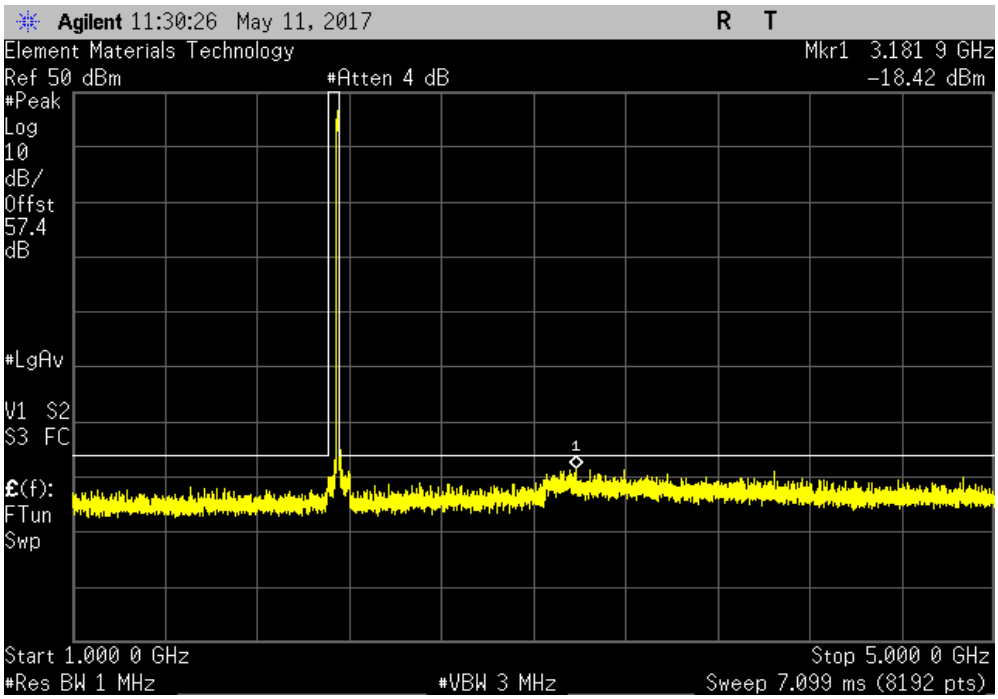


Antenna Port 2, LTE5, 2152.5 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-29.47	-16	Pass

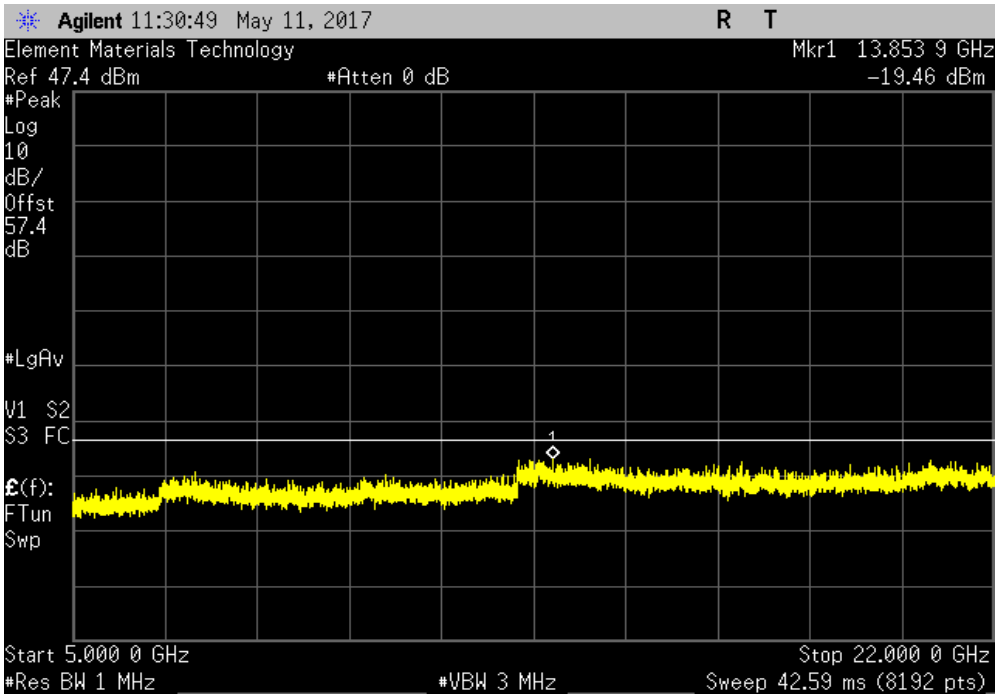


INTERMODULATION

Antenna Port 2, LTE5, 2152.5 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.42	-16	Pass

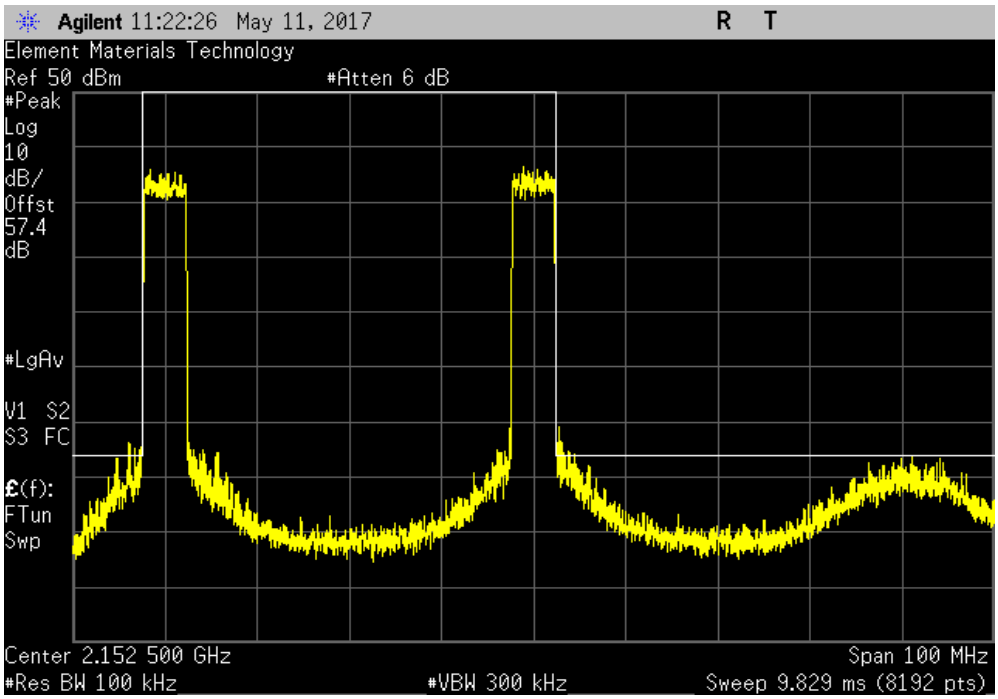


Antenna Port 2, LTE5, 2152.5 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-19.46	-16	Pass

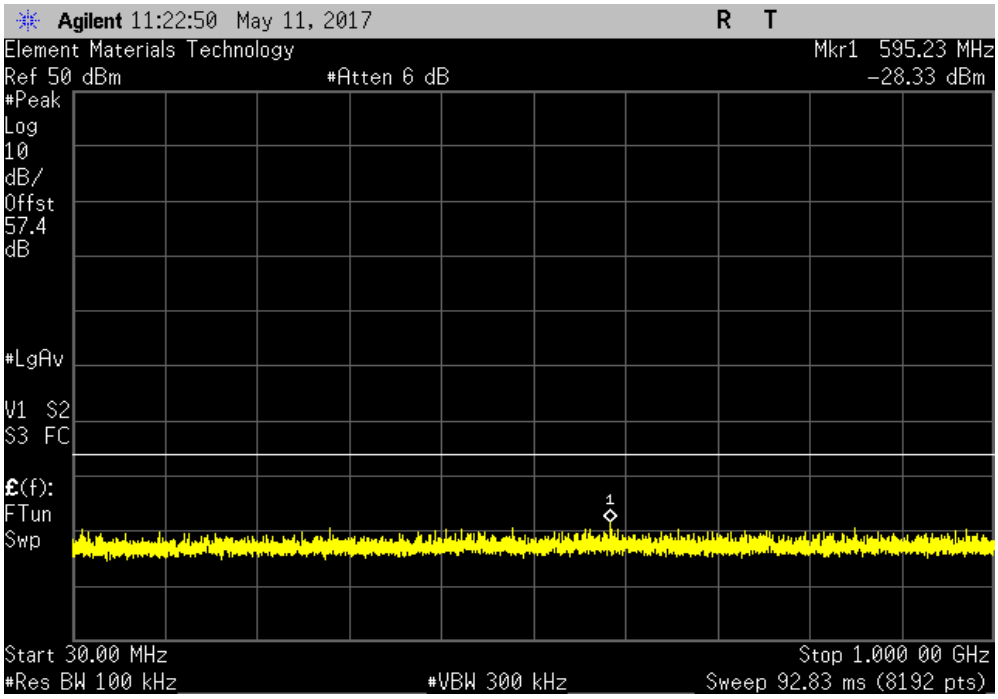


INTERMODULATION

Antenna Port 2, LTE5, 2152.5 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			**Max Value (dBm)**	**Limit ≤ (dBm)**	**Result**
	Fundamental			N/A	N/A	N/A



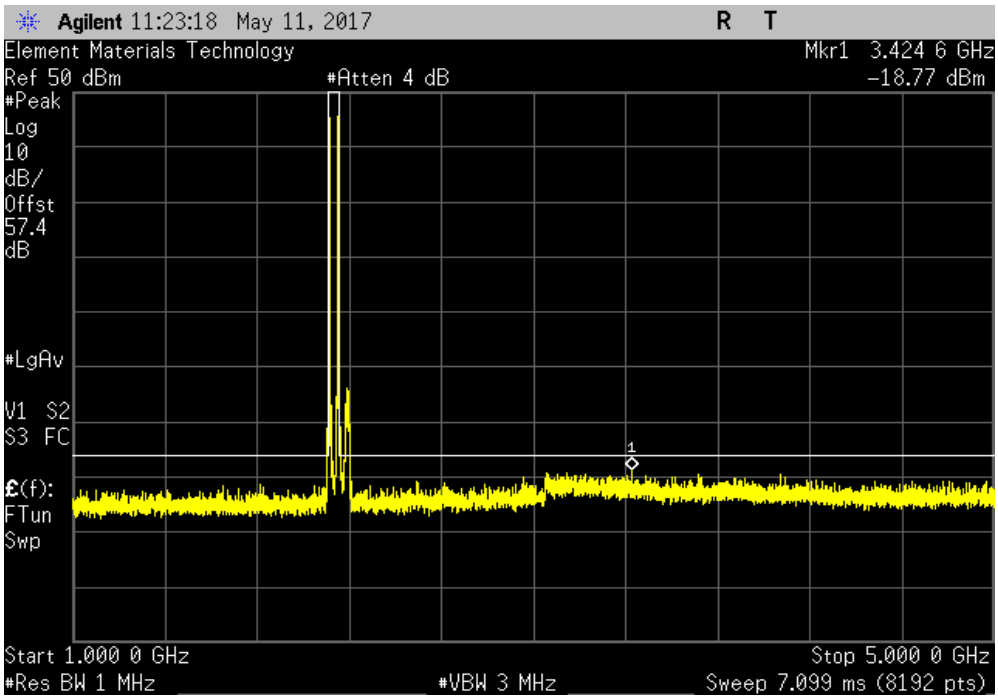
Antenna Port 2, LTE5, 2152.5 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			**Max Value (dBm)**	**Limit ≤ (dBm)**	**Result**
	30 MHz - 1 GHz			-28.33	-16	Pass



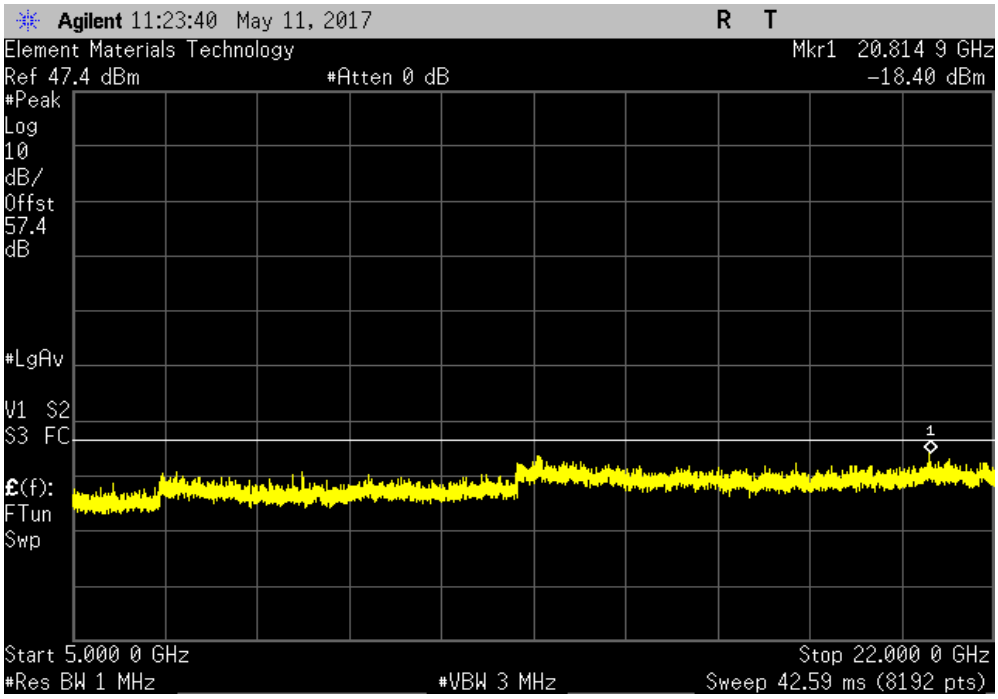
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

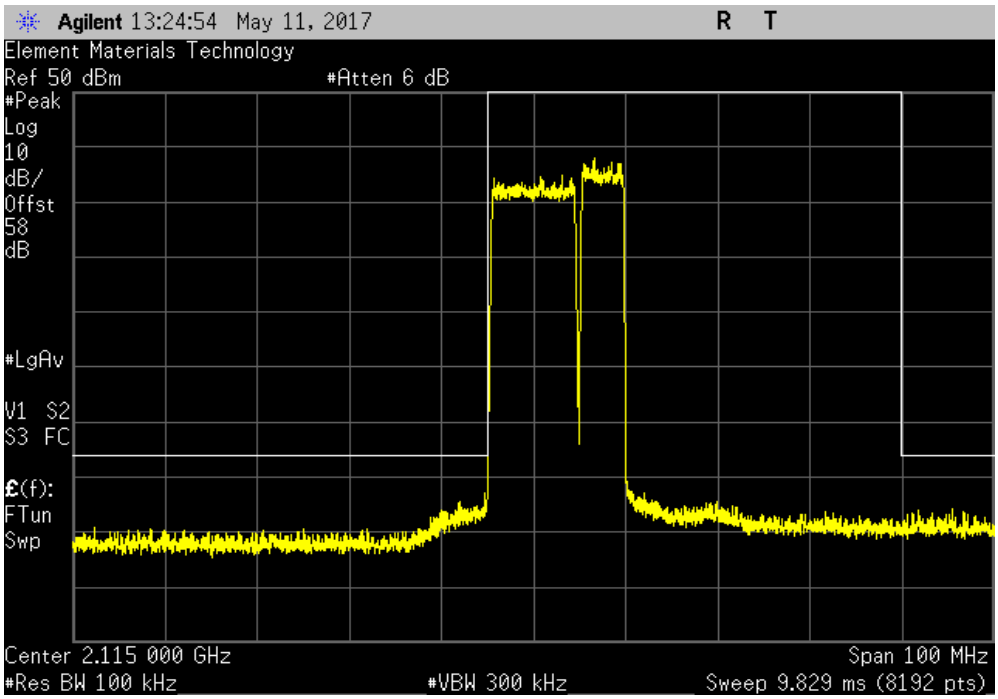
Antenna Port 2, LTE5, 2152.5 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.77	-16	Pass



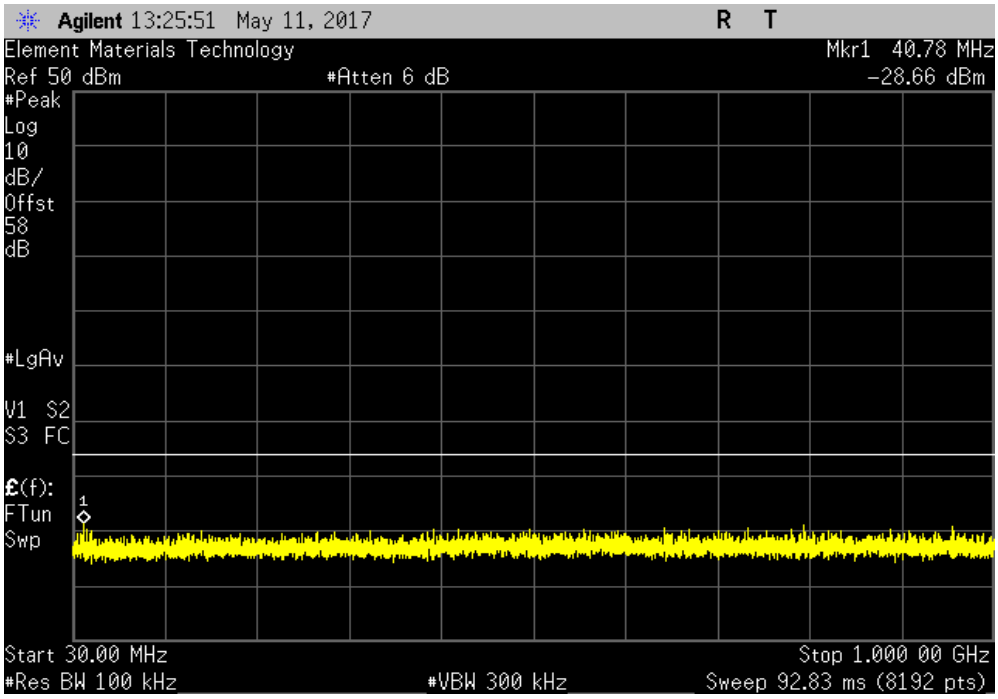
Antenna Port 2, LTE5, 2152.5 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.4	-16	Pass



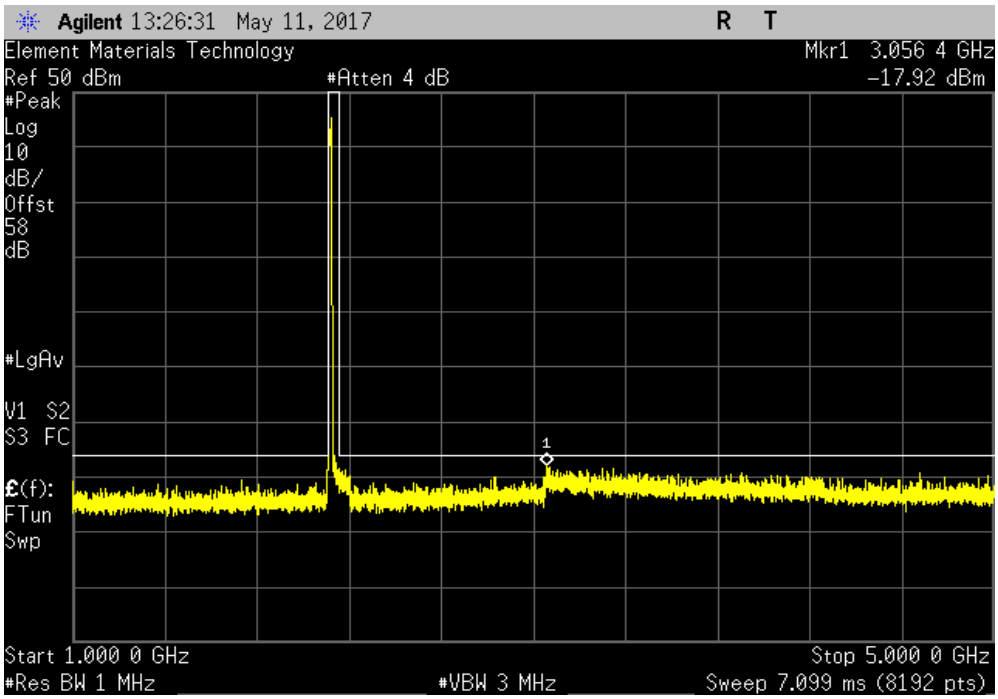
Antenna Port 2, LTE10, 2115 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A



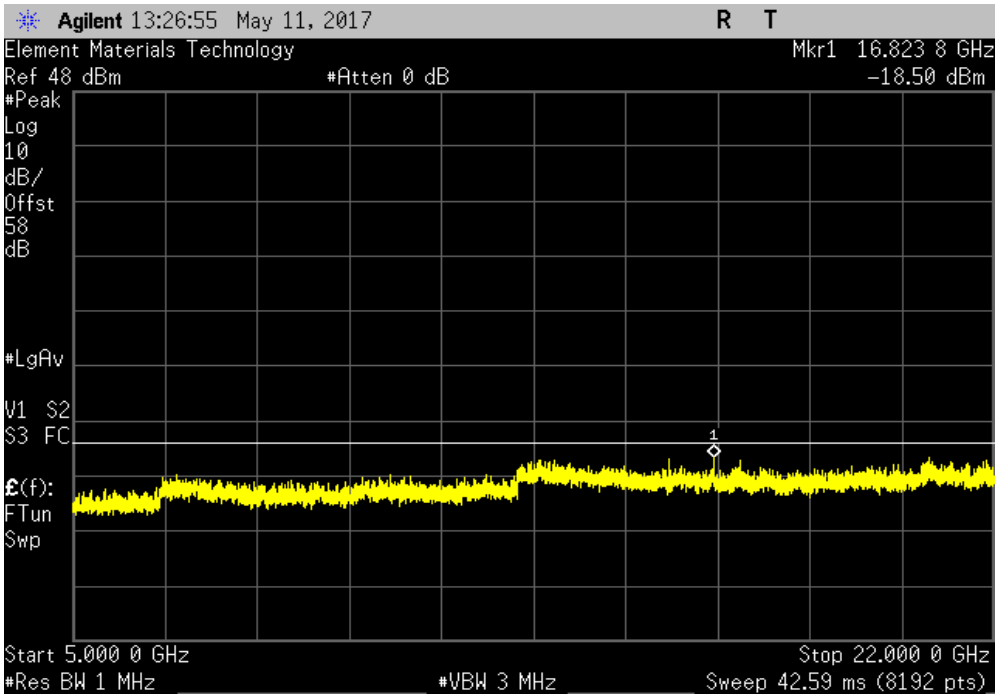
Antenna Port 2, LTE10, 2115 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.66	-16	Pass



Antenna Port 2, LTE10, 2115 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-17.92	-16	Pass



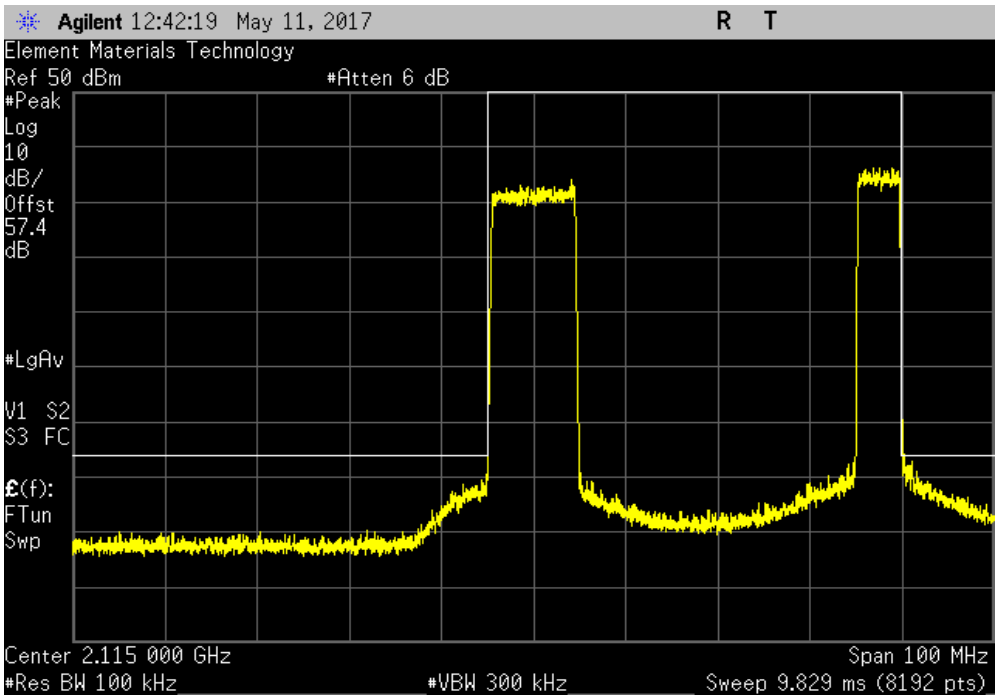
Antenna Port 2, LTE10, 2115 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.5	-16	Pass



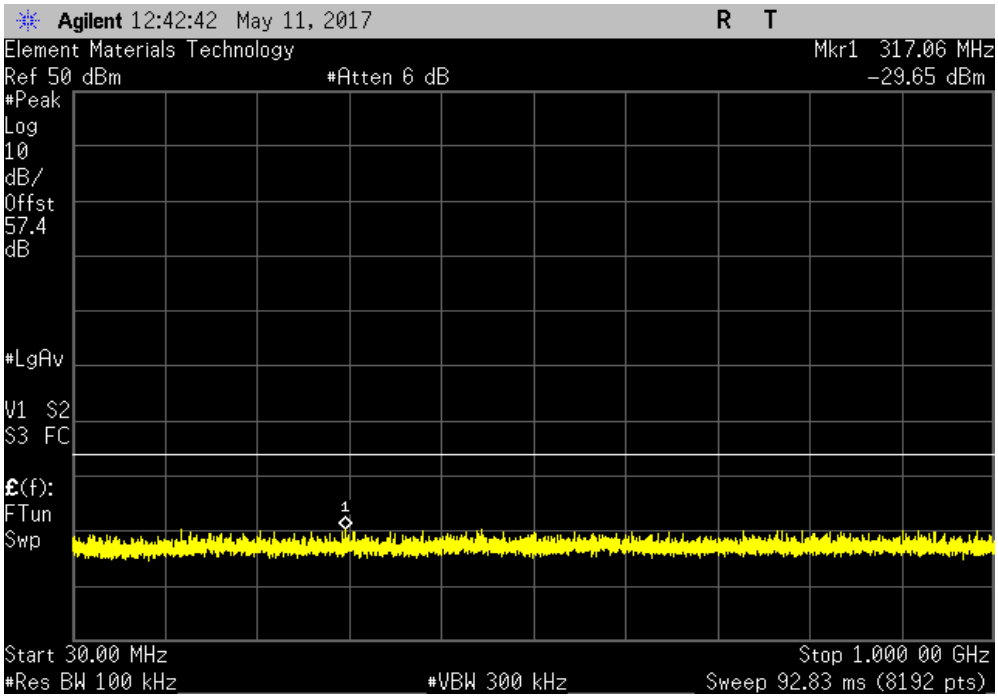
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, LTE10, 2115 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A

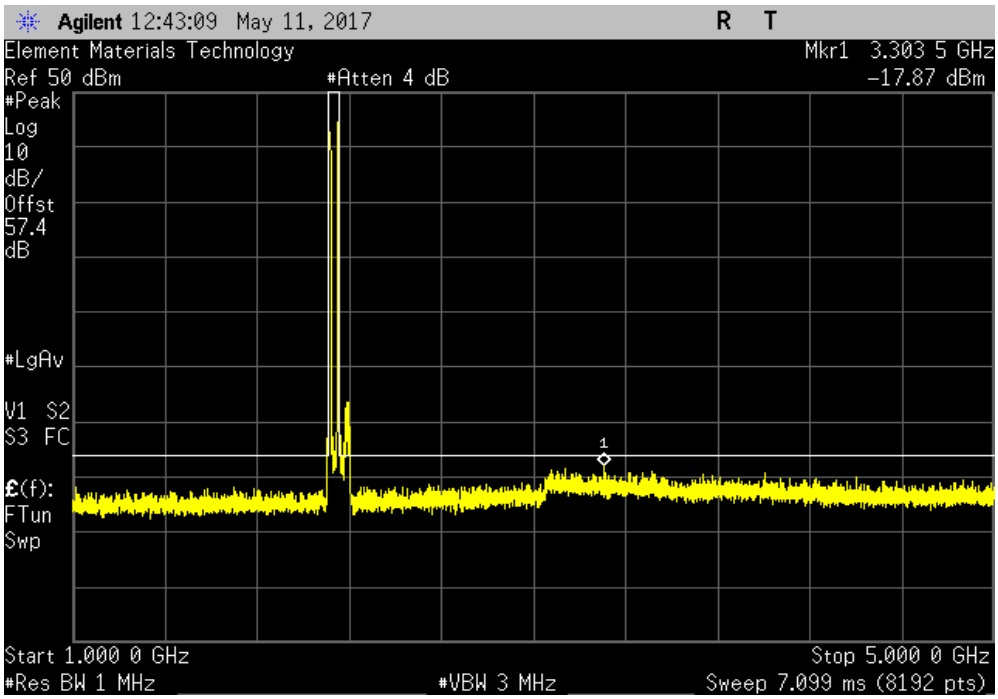


Antenna Port 2, LTE10, 2115 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-29.65	-16	Pass

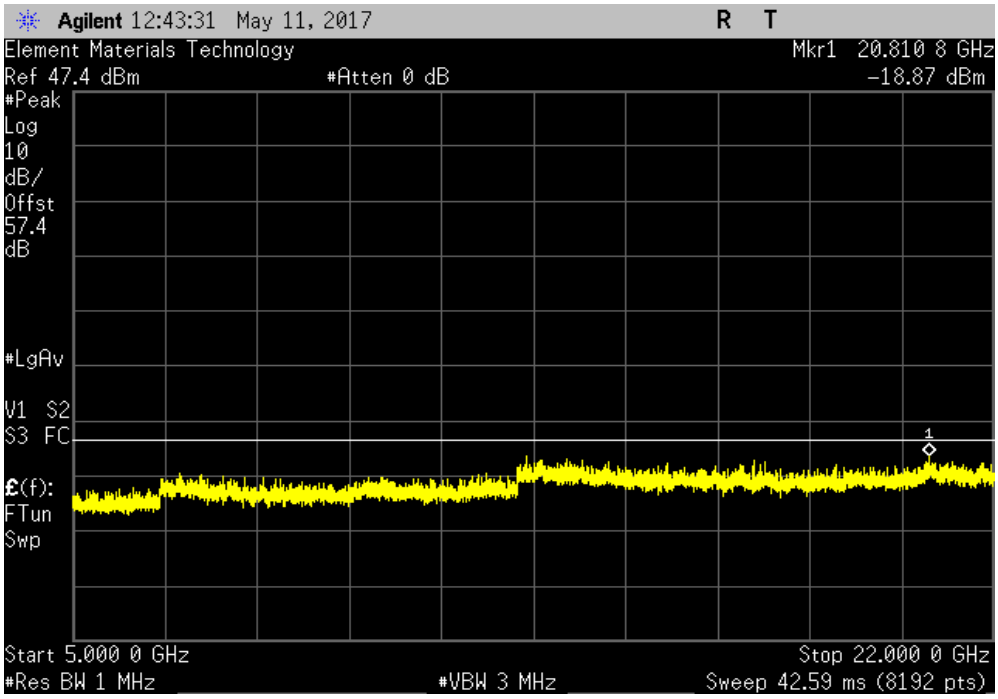


INTERMODULATION

Antenna Port 2, LTE10, 2115 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-17.87	-16	Pass



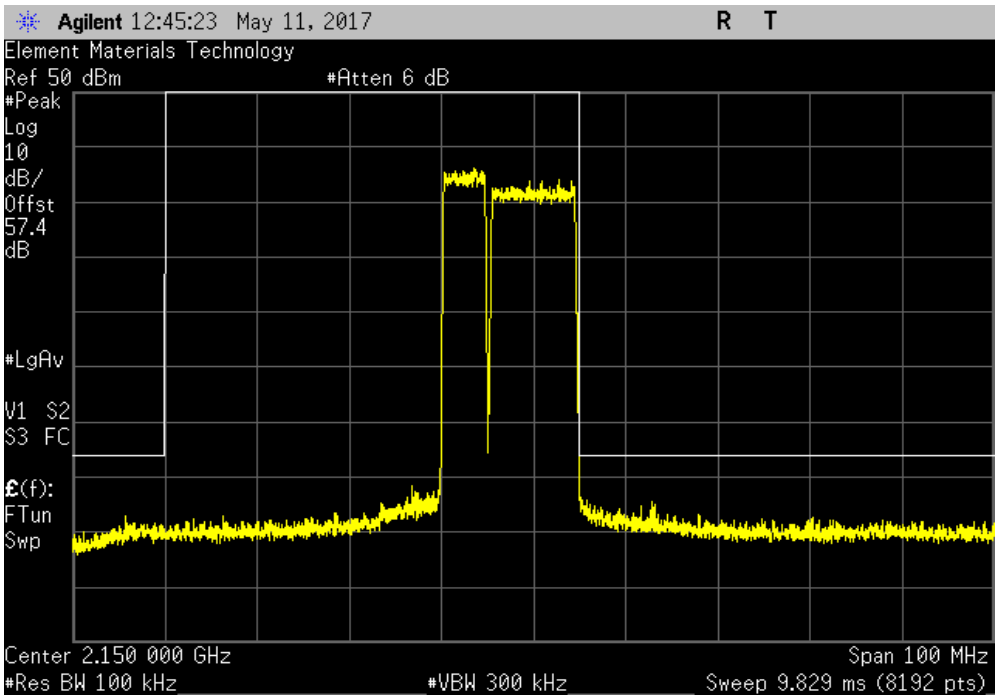
Antenna Port 2, LTE10, 2115 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.87	-16	Pass



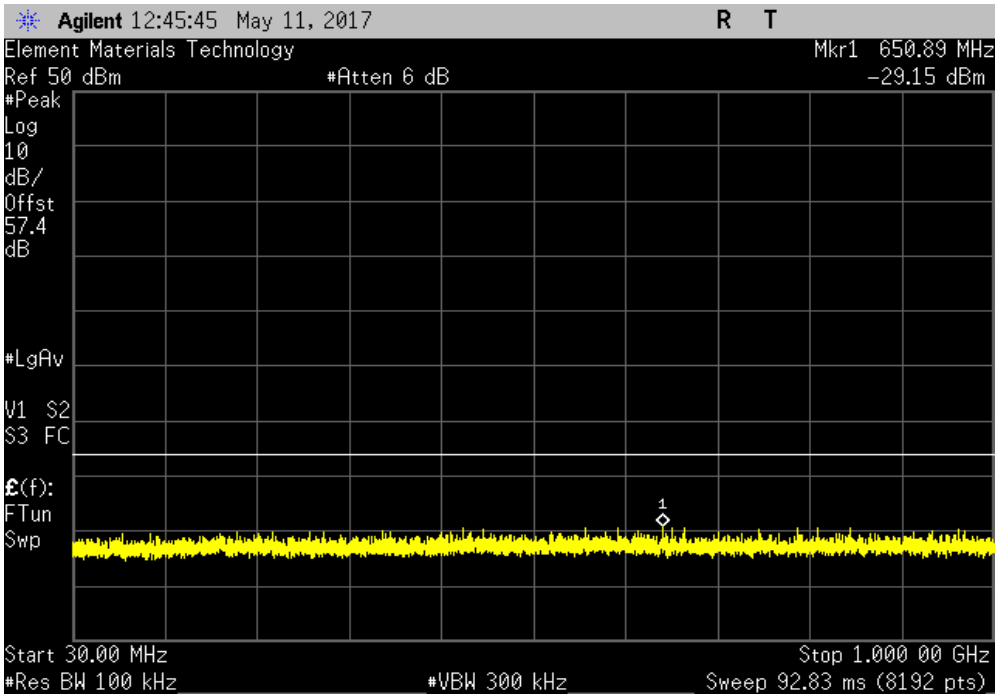
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, LTE10, 2150 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A



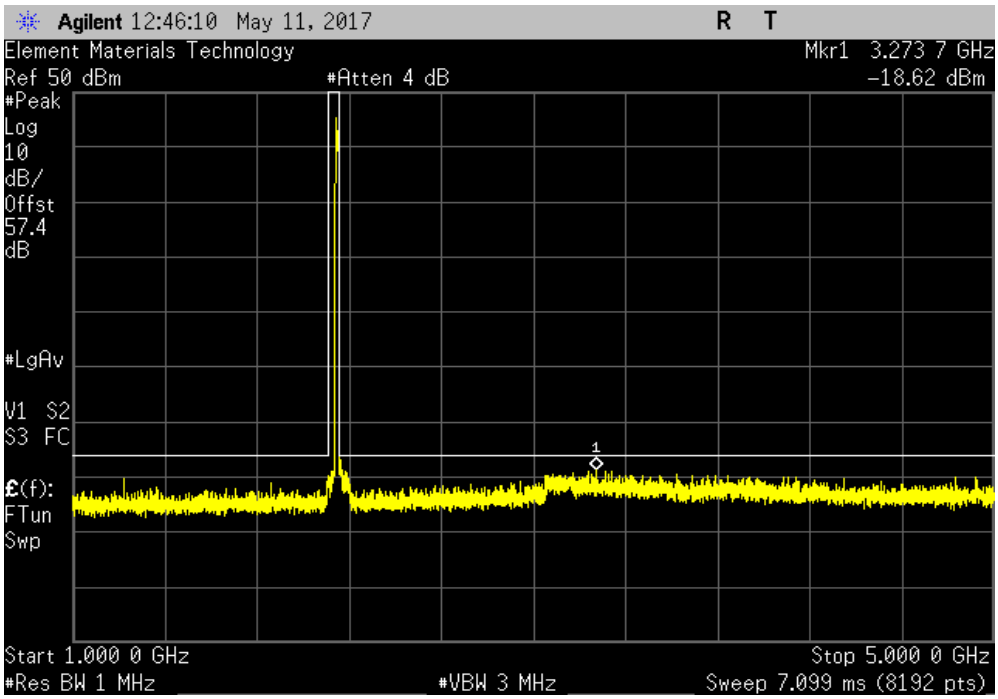
Antenna Port 2, LTE10, 2150 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-29.15	-16	Pass



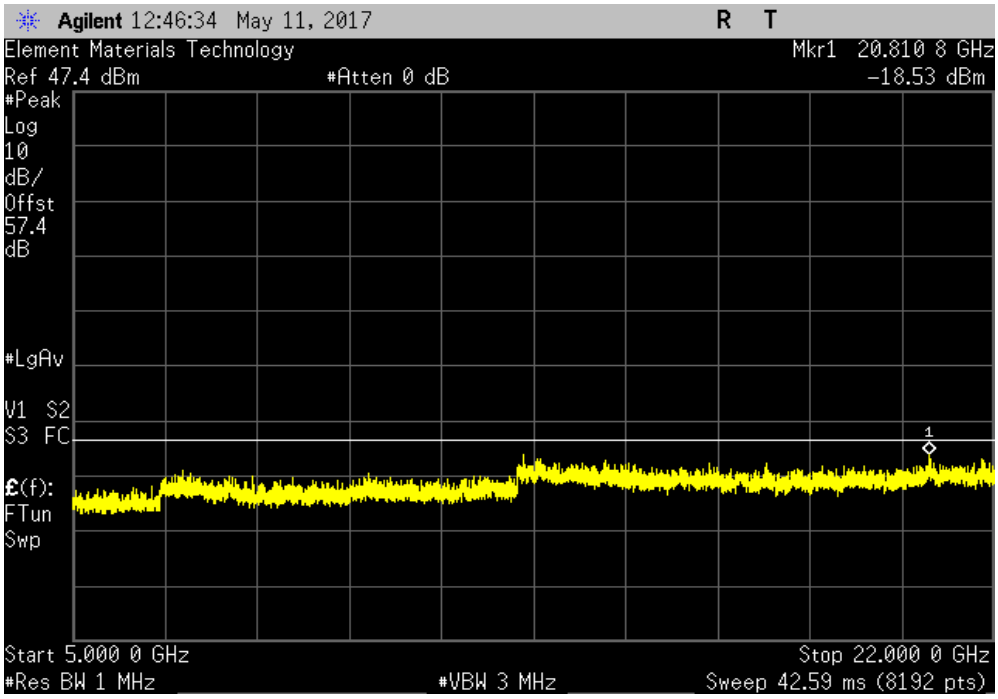
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, LTE10, 2150 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.62	-16	Pass



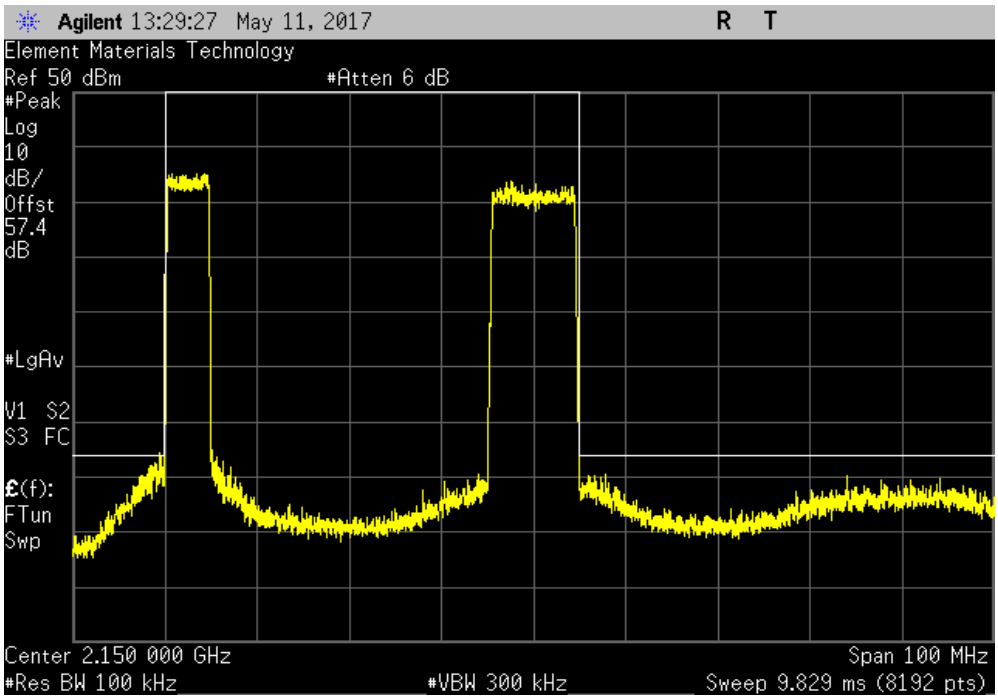
Antenna Port 2, LTE10, 2150 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.53	-16	Pass



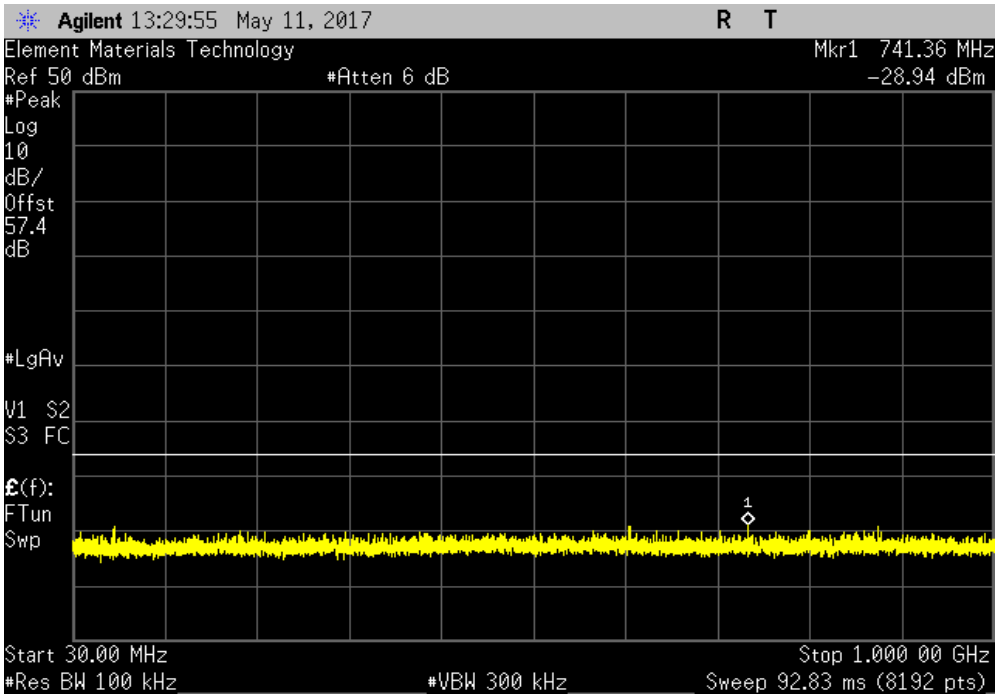
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, LTE10, 2150 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A



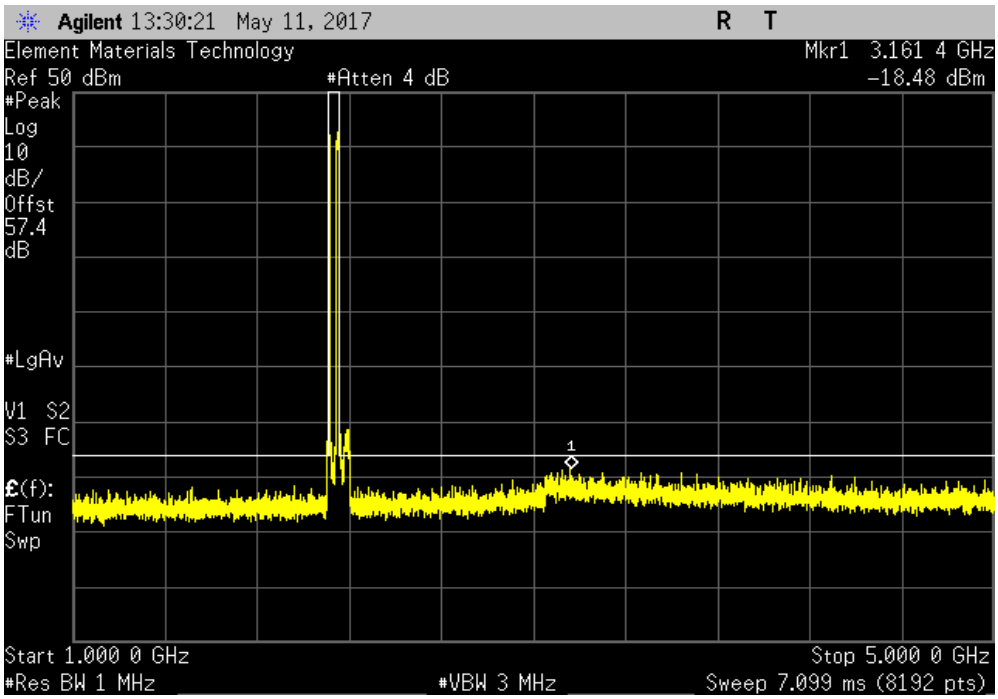
Antenna Port 2, LTE10, 2150 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.94	-16	Pass



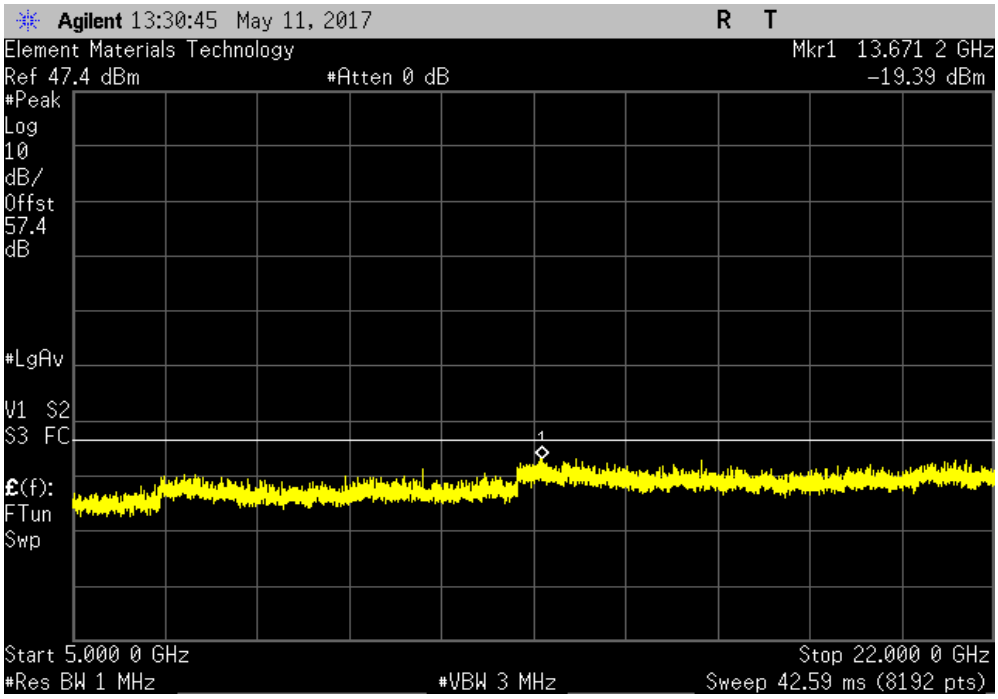
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, LTE10, 2150 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.48	-16	Pass



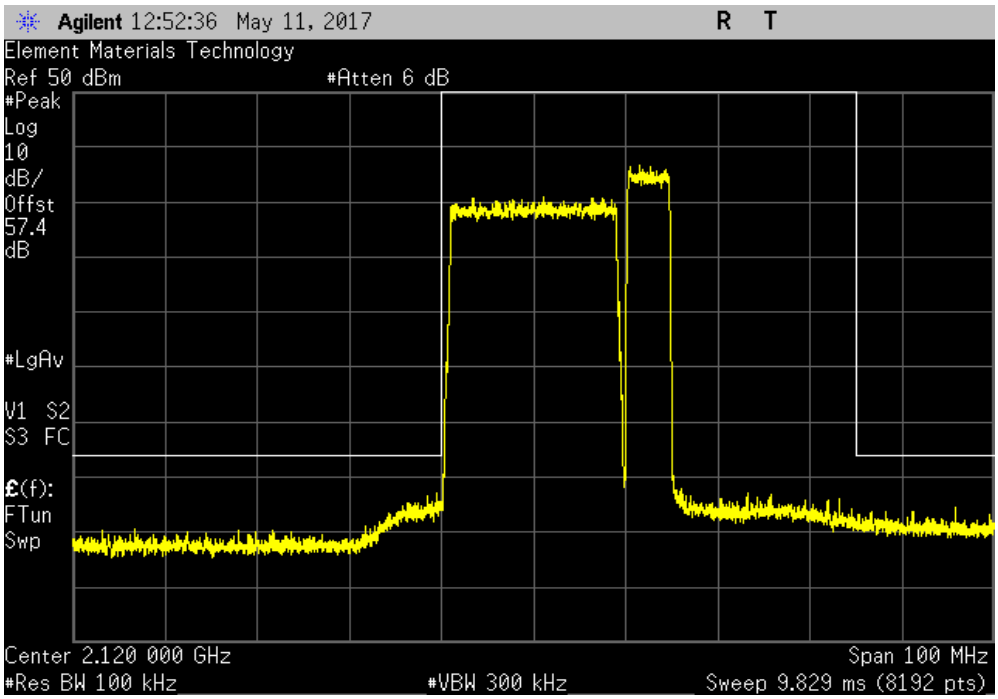
Antenna Port 2, LTE10, 2150 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-19.39	-16	Pass



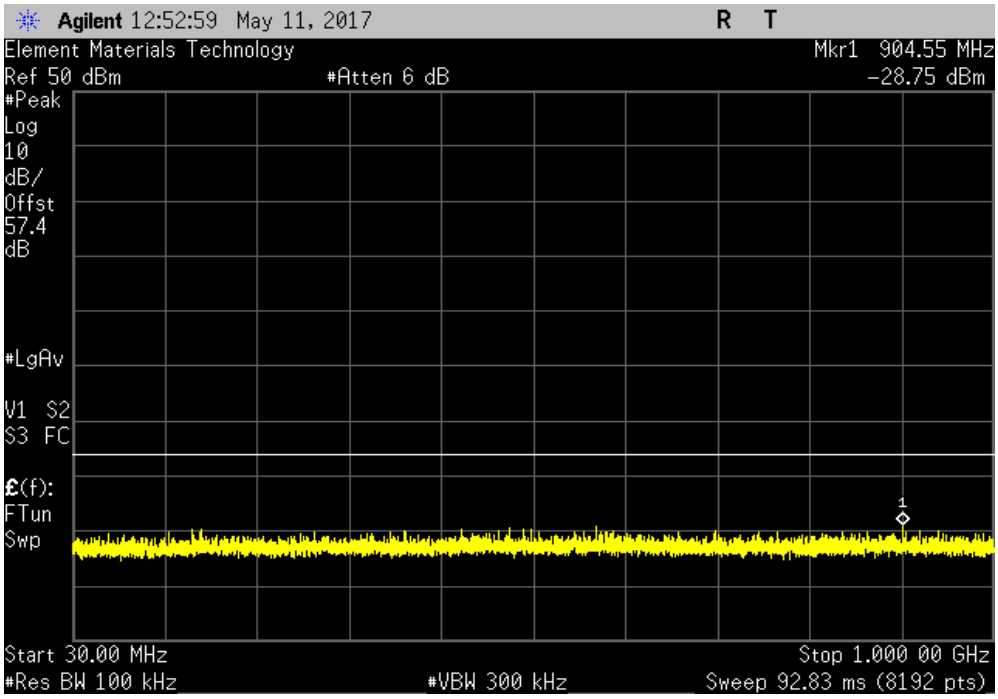
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, LTE20, 2120 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A



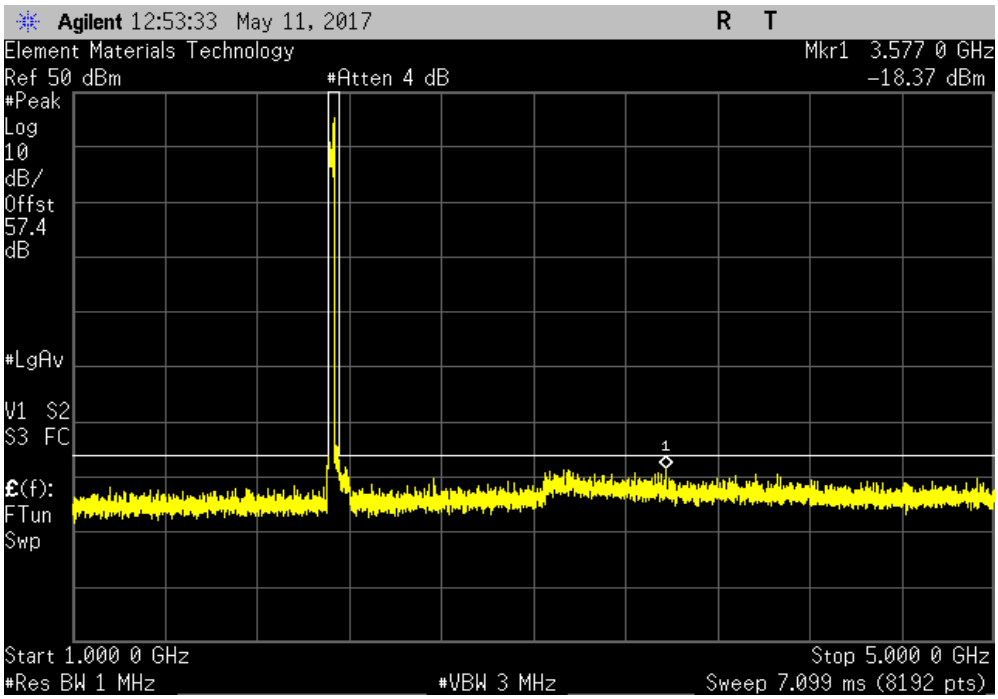
Antenna Port 2, LTE20, 2120 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.75	-16	Pass



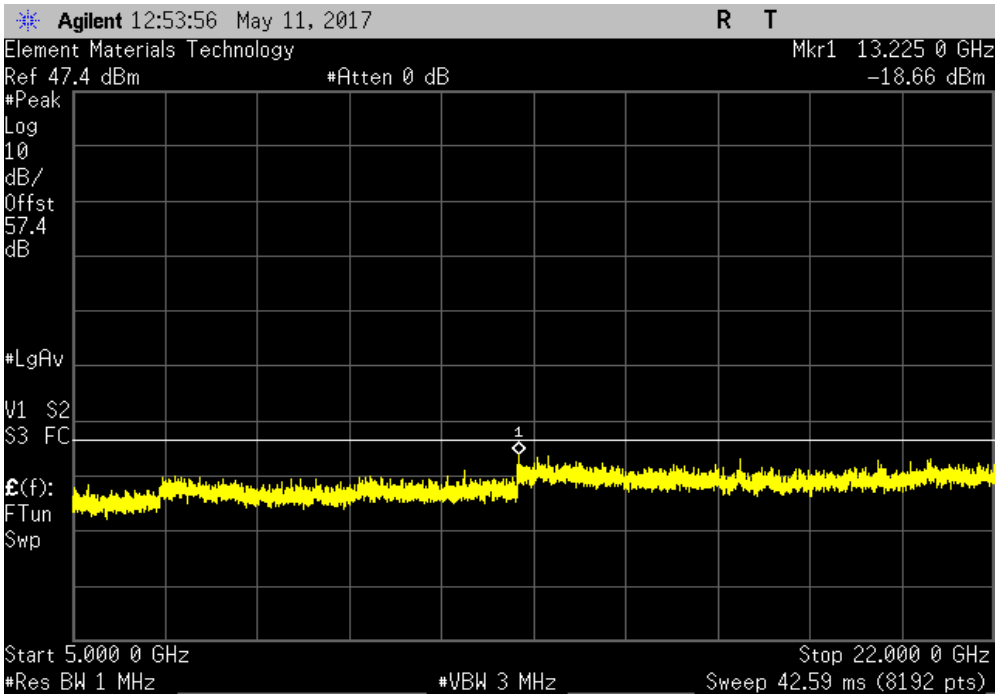
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, LTE20, 2120 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.37	-16	Pass



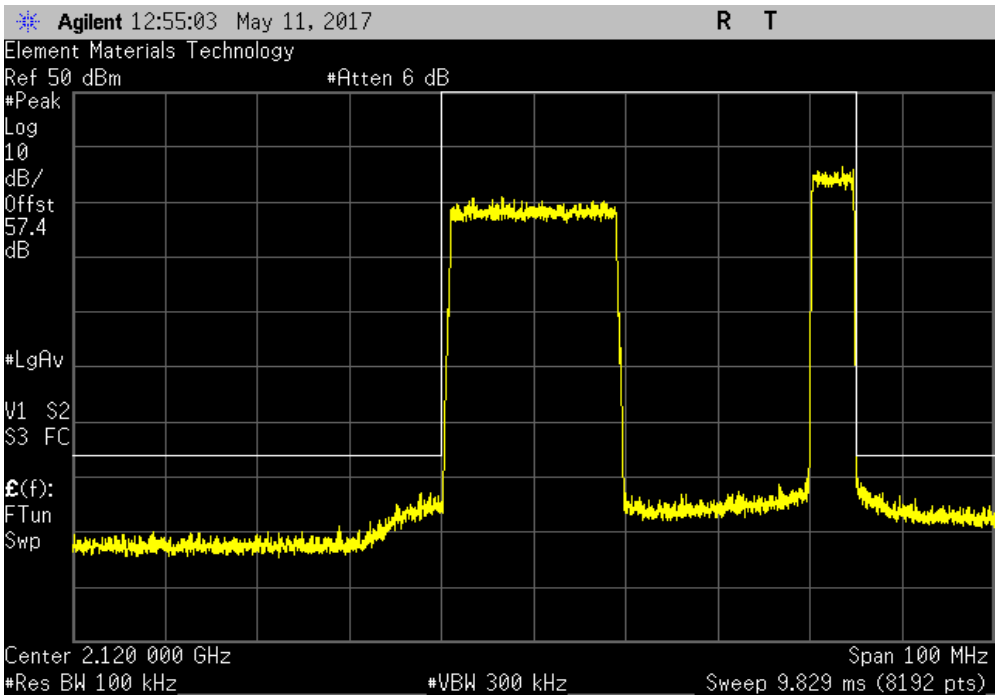
Antenna Port 2, LTE20, 2120 MHz, Low Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.66	-16	Pass



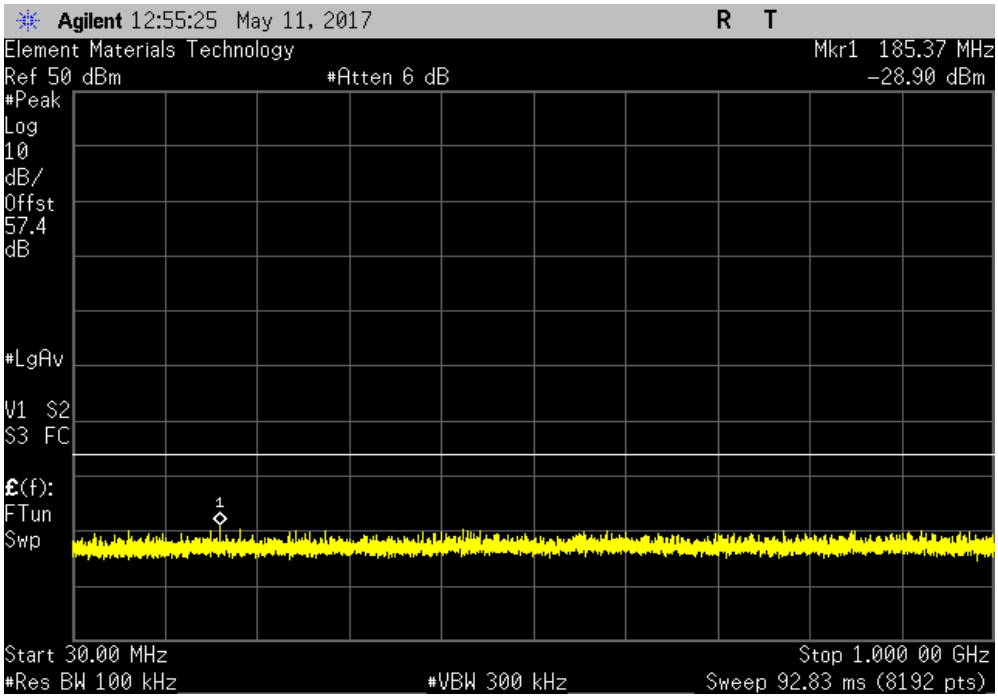
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

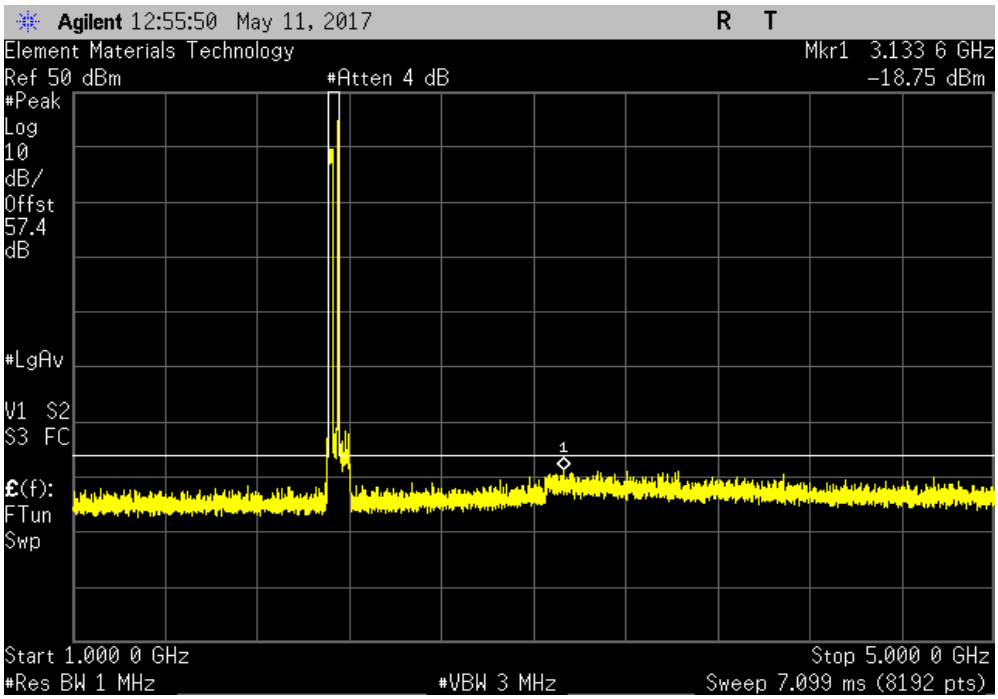
Antenna Port 2, LTE20, 2120 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A



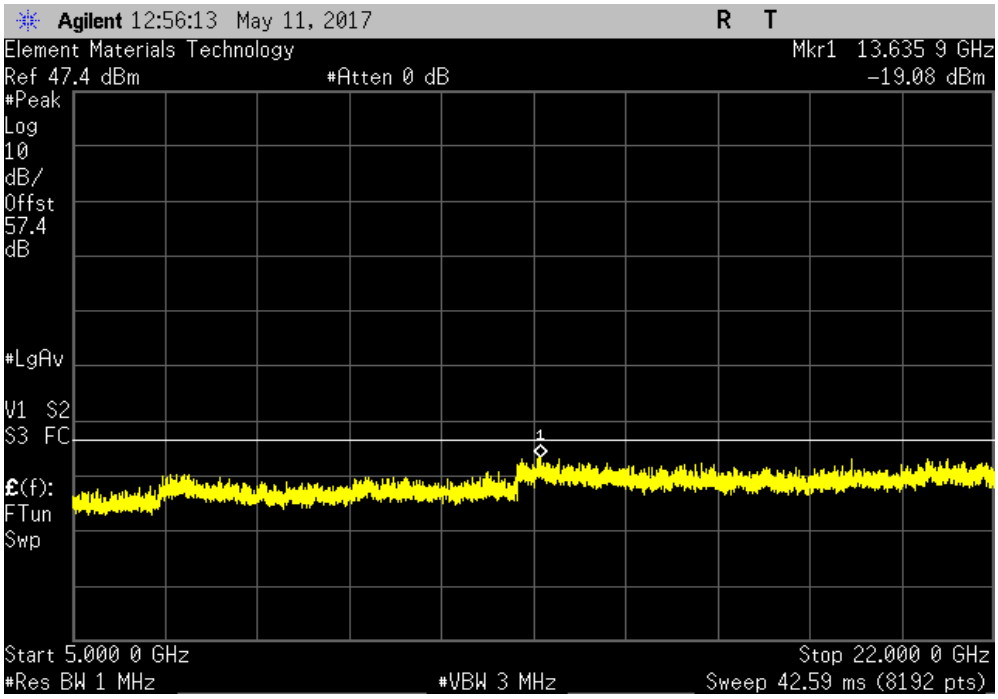
Antenna Port 2, LTE20, 2120 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-28.9	-16	Pass



Antenna Port 2, LTE20, 2120 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.75	-16	Pass



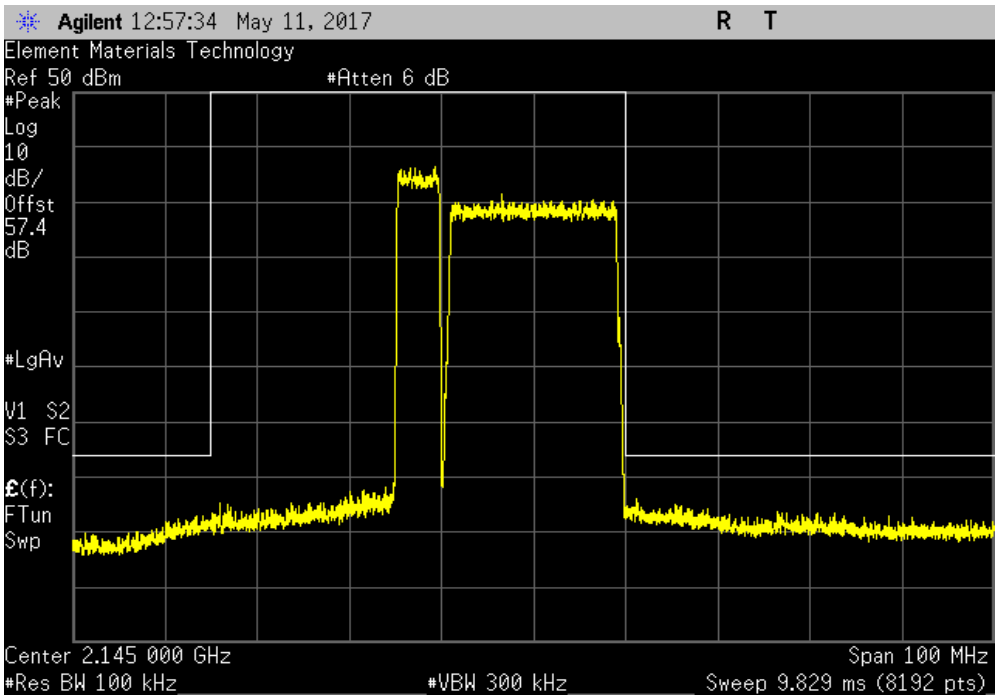
Antenna Port 2, LTE20, 2120 MHz, Low Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-19.08	-16	Pass



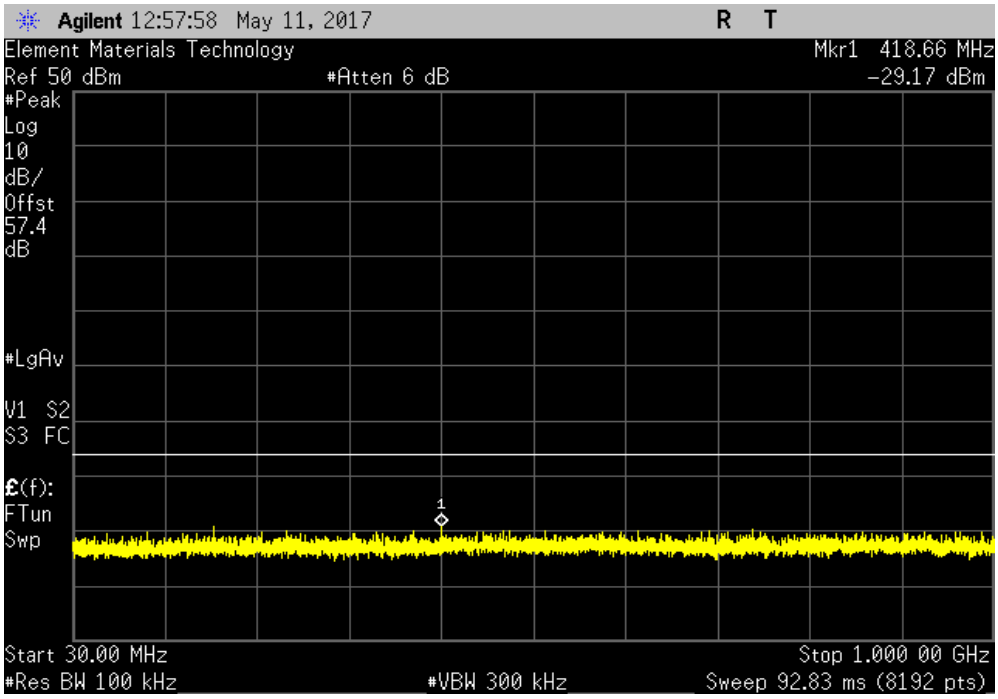
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, LTE20, 2145 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A



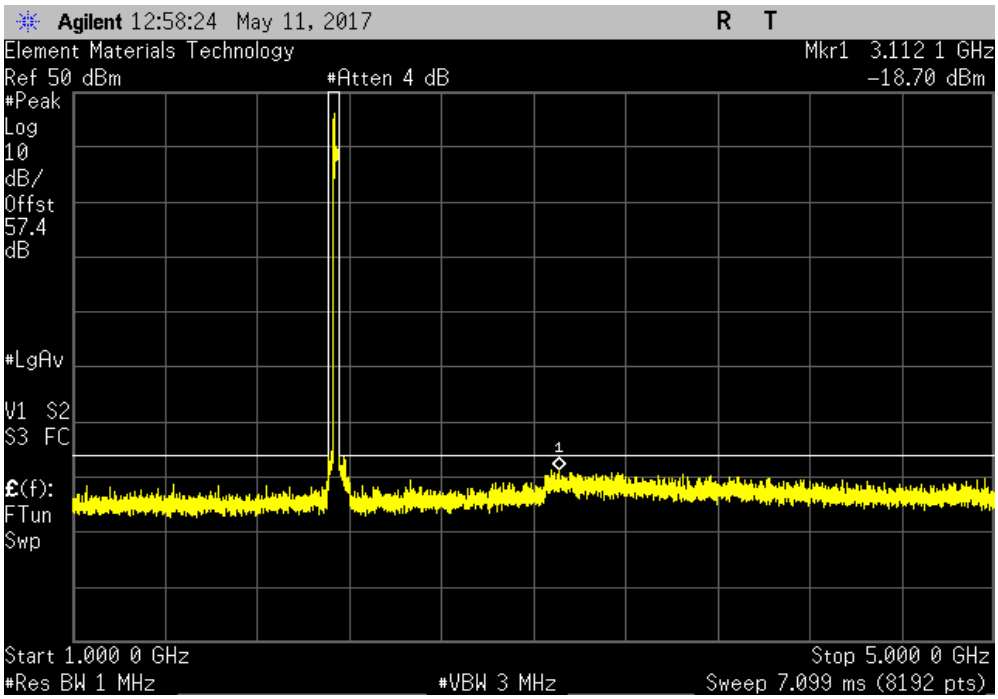
Antenna Port 2, LTE20, 2145 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-29.17	-16	Pass



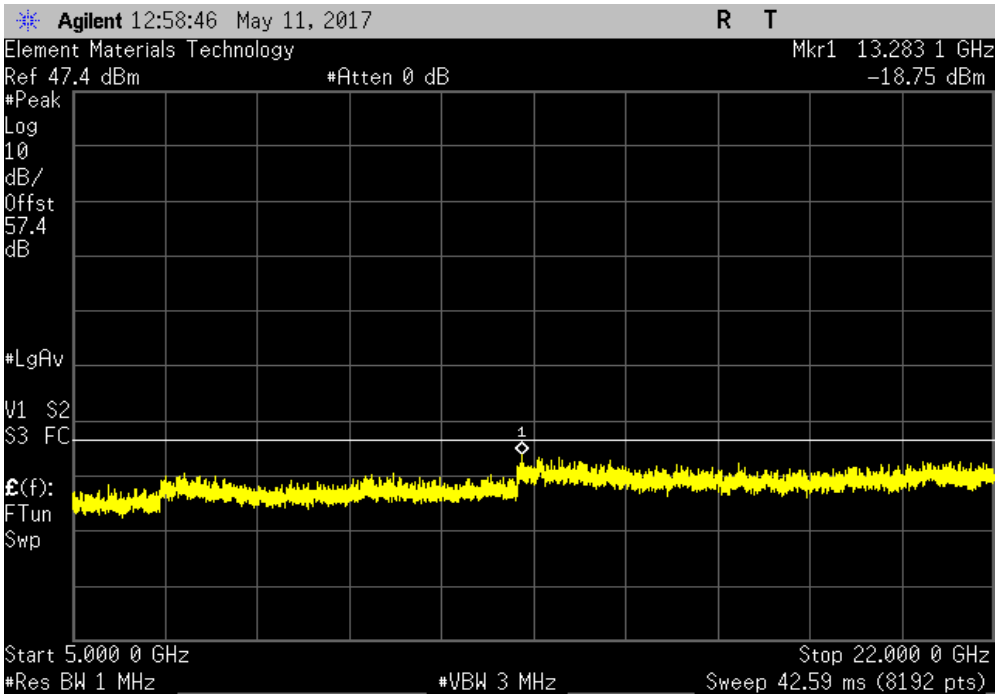
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, LTE20, 2145 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.7	-16	Pass



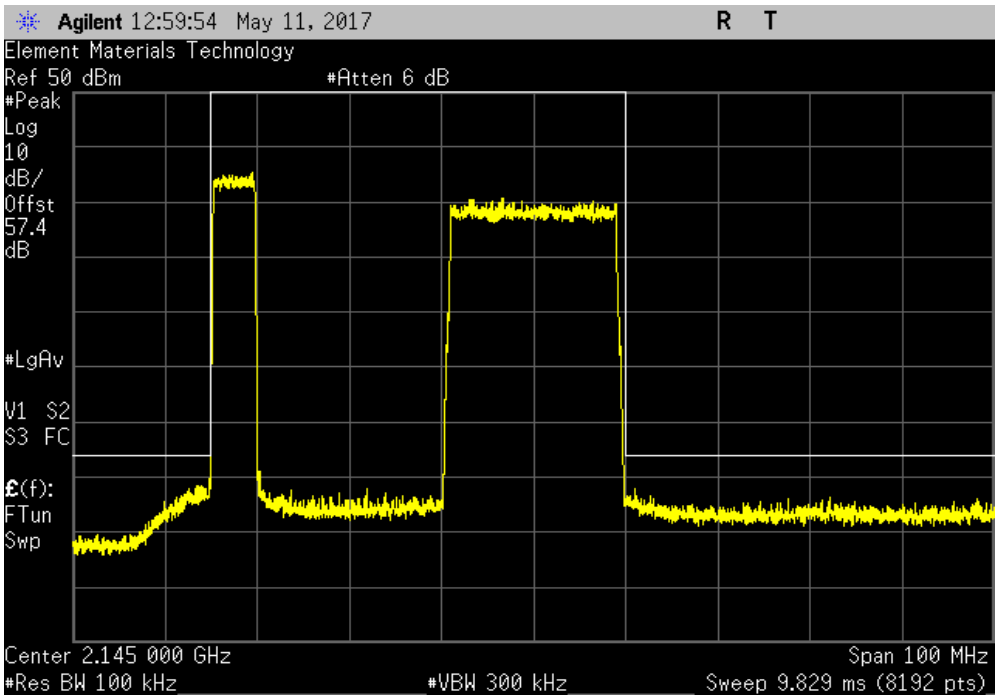
Antenna Port 2, LTE20, 2145 MHz, High Band Edge, adjacent secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.75	-16	Pass



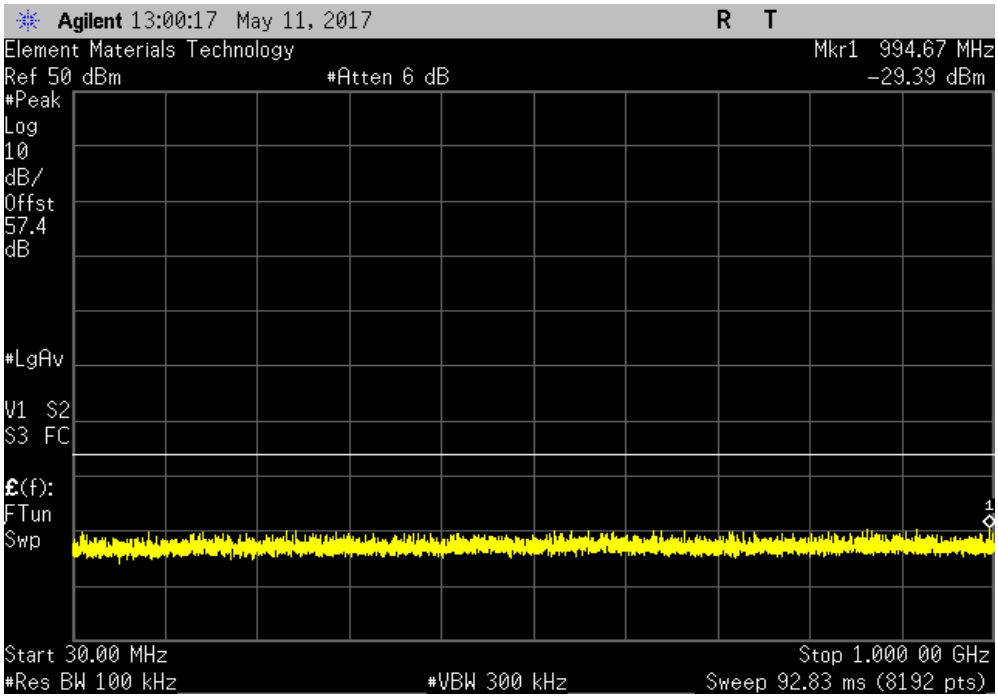
INTERMODULATION

TbtTx 2017.01.27 XMit 2017.02.08

Antenna Port 2, LTE20, 2145 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	Fundamental			N/A	N/A	N/A

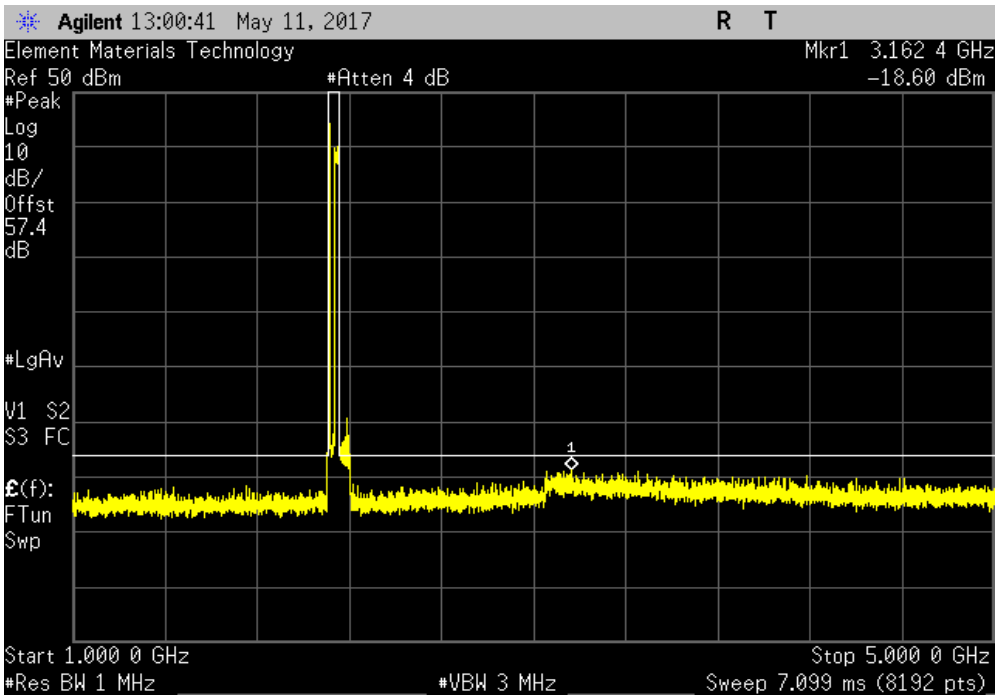


Antenna Port 2, LTE20, 2145 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	30 MHz - 1 GHz			-29.39	-16	Pass



INTERMODULATION

Antenna Port 2, LTE20, 2145 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	1 GHz - 5 GHz			-18.6	-16	Pass



Antenna Port 2, LTE20, 2145 MHz, High Band Edge, max offset secondary channel						
	Frequency Range			Max Value (dBm)	Limit ≤ (dBm)	Result
	5 GHz - 22 GHz			-18.36	-16	Pass