

# CommScope

Prism AWS3 SISO HDM 20 Watt
FCC 27:2018
FCC 27.53:2018
20W SISO Cellular Repeater

Report # TECO0046







NVLAP Lab Code: 200881-0

# **CERTIFICATE OF TEST**



Last Date of Test: February 16, 2018 CommScope

Model: Prism AWS3 SISO HDM 20 Watt

# **Radio Equipment Testing**

#### **Standards**

Specification	Method
FCC 27:2018	ANSI/TIA/EIA-603-D-2010
FCC 27.53:2018	ANSI C63.26:2015

#### Results

Method Clause	Test Description	Applied	Results	Comments
2.2.1	Equivalent Isotropic Radiated Power (EIRP)	Yes	Pass	
2.2.1	Peak To Average Ratio	Yes	Pass	
2.2.2	Frequency Stability	Yes	Pass	
2.2.3	Emissions Bandwidth	Yes	Pass	
2.2.12	Spurious Radiated Emissions	Yes	Pass	
2.2.13	Spurious Conducted Emissions	Yes	Pass	
2.2.13	Band Edge Compliance	Yes	Pass	
2.2.13	Intermodulation	Yes	Pass	

### **Deviations From Test Standards**

None

Approved By:

Matt Nuernberg, 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.

Report No. TECO0046 2/86

# **REVISION HISTORY**



Revision Number	I Description		Page Number
00	None		

Report No. TECO0046 3/86

# ACCREDITATIONS AND AUTHORIZATIONS



### **United States**

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

**A2LA** - Accredited by A2LA to ISO / IEC 17065 as a product certifier. This allows 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

Report No. TECO0046 4/86

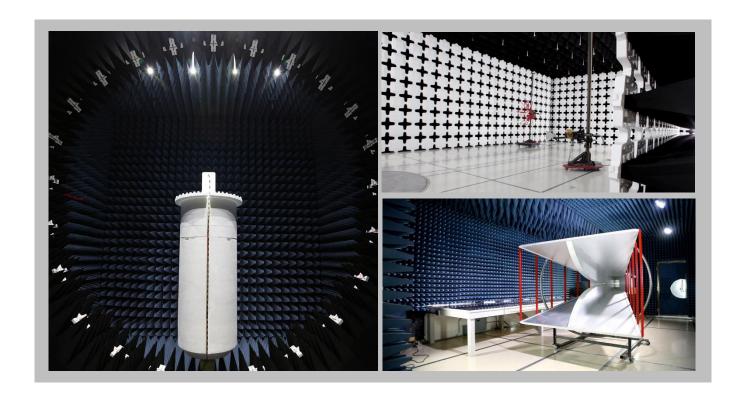
# **FACILITIES**







California Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918	Minnesota Labs MN01-10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612)-638-5136	New York Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 554-8214	Oregon Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066	<b>Texas</b> Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Washington Labs NC01-05 19201 120 <sup>th</sup> Ave NE Bothell, WA 98011 (425)984-6600	
		NV	LAP			
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, 2834E-3	N/A	2834D-1, 2834D-2	2834G-1	2834F-1	
		BS	МІ			
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	



Report No. TECO0046 5/86

# MEASUREMENT UNCERTAINTY



## **Measurement Uncertainty**

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

A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found included as part of the applicable test description page. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable), and are available upon request.

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

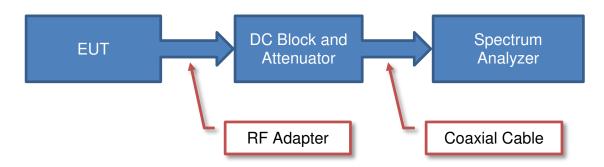
Test	+ MU	- MU
Frequency Accuracy (Hz)	0.0007%	-0.0007%
Amplitude Accuracy (dB)	1.2 dB	-1.2 dB
Conducted Power (dB)	0.3 dB	-0.3 dB
Radiated Power via Substitution (dB)	0.7 dB	-0.7 dB
Temperature (degrees C)	0.7°C	-0.7°C
Humidity (% RH)	2.5% RH	-2.5% RH
Voltage (AC)	1.0%	-1.0%
Voltage (DC)	0.7%	-0.7%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

Report No. TECO0046 6/86

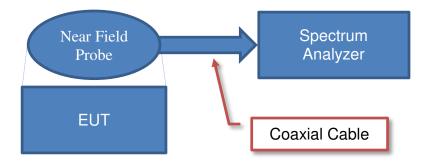
# **Test Setup Block Diagrams**



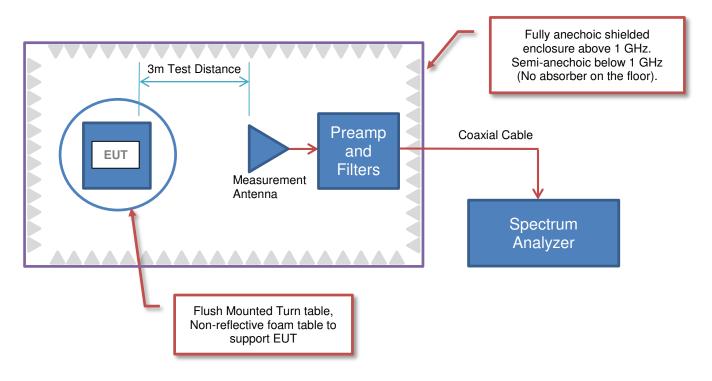
## **Antenna Port Conducted Measurements**



## **Near Field Test Fixture Measurements**



## **Spurious Radiated Emissions**



Report No. TECO0046 7/86

# PRODUCT DESCRIPTION



## **Client and Equipment Under Test (EUT) Information**

Company Name:	CommScope
Address:	501 Shenandoah Drive
City, State, Zip:	Shakopee, MN 55379
Test Requested By:	Joshua Wittman
Model:	Prism AWS3 SISO HDM 20 Watt
First Date of Test:	May 23, 2017
Last Date of Test:	February 16, 2018
Receipt Date of Samples:	May 23, 2017
Equipment Design Stage:	Production
<b>Equipment Condition:</b>	No Damage
Purchase Authorization:	Verified

# **Information Provided by the Party Requesting the Test**

Functional Description of the EUT:	
20 Watt RF Repeater	
Testing Objective:	

To demonstrate compliance of the Cellular repeater requirements of FCC Part 27

Report No. TECO0046 8/86

# **CONFIGURATIONS**



# Configuration TECO0042- 1

EUT					
Description	Manufacturer	Model/Part Number	Serial Number		
Prism AWS3 SISO HDM 20 Watt (EUT)	CommScope Connectivity LLC	7761388-00-11	459644002		

Peripherals in test setup boundary					
Description Manufacturer Model/Part Number Serial Number					
Attenuator 1	Inmet Corporation	2N75W-30-296	None		
Attenuator 2	Aeroflex / Weinschel	57-30-43	QY541		

Remote Equipment Outside of Test Setup Boundary						
Description	n Manufacturer		Serial Number			
Signal Generator 1	Aeroflex	IFR 3413	341007/003			
Signal Generator 2	Aeroflex	IFR 3413	341006/056			
48V DC Power Supply	TDK-Lambda	SWS300A-48	3LR-140Y11-0106HO411			
Laptop	Lenovo	T510	431436U			
Power Supply (Laptop)	Lenovo	92P1156	11S92P1156Z1ZDXN8A81AZ			
I/O Control Device	CommScope/ADC Telecommunications	1673542-21	MR222P8C			

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Mains Cable (Laptop)	No	1.8m	No	AC Mains	Power Supply (Laptop)
DC Power Cable (Laptop)	No	1.8m	Yes	Power Supply (Laptop)	Laptop
DC Power Cable (I/O Control Device)	No	2.8m	Yes	48V DC Power Supply	I/O Control Device
Fiber Optic Cable	No	>3.0m	No	I/O Control Device	Prism AWS3 SISO HDM 20 Watt
AC Mains Cable (Prism AWS3 SISO HDM 20 Watt)	No	5.0m	No	Prism AWS3 SISO HDM 20 Watt	AC Mains
Output Cable 1	No	1.5m	No	Prism AWS3 SISO HDM 20 Watt	Attenuator 1
Output Cable 2	No	0.9m	No	Prism AWS3 SISO HDM 20 Watt	Attenuator 2
Ethernet Cable	No	1.0m	No	I/O Control Device	Laptop
Coaxial Cable 1	No	1.8m	No	Signal Generator 1	I/O Control Device
Coaxial Cable 2	No	1.8m	No	Signal Generator 2	I/O Control Device
AC Mains Cable (Signal Generator 1)	No	1.8m	No	Signal Generator 1	AC Mains
AC Mains Cable (Signal Generator 2)	No	1.8m	No	Signal Generator 2	AC Mains

Report No. TECO0046 9/86

# **CONFIGURATIONS**



# Configuration TECO0042- 2

EUT						
Description	Manufacturer	Model/Part Number	Serial Number			
Prism AWS3 SISO HDM 20 Watt (EUT)	CommScope Connectivity LLC	7761388-00-11	459644002			

Peripherals in test	setup boundary		
Description	Manufacturer	Model/Part Number	Serial Number
Attenuator 1	Inmet Corporation	2N75W-30-296	None
Attenuator 2	Aeroflex	48-30-34	RCU

Remote Equipment Out	side of Test Setup Bound	ary	
Description	Manufacturer	Model/Part Number	Serial Number
Signal Generator 1	Aeroflex	IFR 3413	341007/003
Signal Generator 2	Aeroflex	IFR 3413	341006/056
48V DC Power Supply	TDK-Lambda	SWS300A-48	3LR-140Y11-0106HO411
Laptop	Lenovo	T510	431436U
Power Supply (Laptop)	Lenovo	92P1156	11S92P1156Z1ZDXN8A81AZ
I/O Control Device	CommScope/ADC Telecommunications	1673542-21	MR222P8C

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Mains Cable (Laptop)	No	1.8m	No	AC Mains	Power Supply (Laptop)
DC Power Cable (Laptop)	No	1.8m	Yes	Power Supply (Laptop)	Laptop
DC Power Cable (I/O Control Device)	No	2.8m	Yes	48V DC Power Supply	I/O Control Device
Fiber Optic Cable	No	>3.0m	No	I/O Control Device	Prism AWS3 SISO HDM 20 Watt
AC Mains Cable (Prism AWS3 SISO HDM 20 Watt)	No	5.0m	No	Prism AWS3 SISO HDM 20 Watt	AC Mains
Output Cable 1	No	1.5m	No	Prism AWS3 SISO HDM 20 Watt	Attenuator 1
Output Cable 2	No	0.9m	No	Prism AWS3 SISO HDM 20 Watt	Attenuator 2
Ethernet Cable	No	1.0m	No	I/O Control Device	Laptop
Coaxial Cable 1	No	1.8m	No	Signal Generator 1	I/O Control Device
Coaxial Cable 2	No	1.8m	No	Signal Generator 2	I/O Control Device
AC Mains Cable (Signal Generator 1)	No	1.8m	No	Signal Generator 1	AC Mains
AC Mains Cable (Signal Generator 2)	No	1.8m	No	Signal Generator 2	AC Mains

Report No. TECO0046 10/86

# **CONFIGURATIONS**



# **Configuration TECO0046-1**

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Prism AWS3 SISO HDM 20 Watt (EUT)	CommScope Connectivity LLC	7780038-00-11	45087200002

Peripherals in test se	etup boundary		
Description	Manufacturer	Model/Part Number	Serial Number
Attenuator (1)	Aeroflex	49-30-33	MZ078
Attenuator (2)	Inmet Corp.	75 Watt	2N75W-30-296

Remote Equipment C	outside of Test Setup	o Boundary	
Description	Manufacturer	Model/Part Number	Serial Number
Comm Box	ADC	1673542-21	MR222P8C
AC Converter	TDK	SWS300A-48 EHFP	3LR-140Y11-0105H0411
Signal Generator	Aeroflex	IFR 3414	341007/003

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Cable (EUT)	No	3 m	No	EUT	AC Mains
Fiber Cable	No	10 m	No	EUT	Comm Box
DC Cable (Comm Box)	No	2 m	No	Comm Box	AC Converter
AC Cable (Conm Bos)	No	3 m	No	AC Converter	AC Mains
AC Cable (Sig Gen)	No	1.5 m	No	Sig Gen	AC Mains
RF Cable	No	1 m	No	Sig Gen	Comm Box
RF Cable	No	1 m	No	EÚT	Attenuator (1)
RF Cable	No	1 m	No	EUT	Attenuator (2)

Report No. TECO0046 11/86

# **MODIFICATIONS**



# **Equipment Modifications**

Item	Date	Test	Modification	Note	Disposition of EUT
1	5/22/2017	Spurious Radiated 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.
2	5/23/2017	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.
3	5/23/2017	Band Edge Compliance	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	5/24/2017	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.
5	5/24/2017	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.
6	5/24/2017	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.
7	5/24/2017	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.
8	5/24/2017	Intermodulation	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT was taken home by the client following the test.
9	2/16/2018	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

Report No. TECO0046 12/86



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
Meter - Power	ETS Lindgren	7002-006	SRE	7/21/2016	7/21/2017
Meter - Power	ETS Lindgren	7002-006	SRA	3/20/2017	3/20/2018
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Cable	ESM Cable Corp	TTBJ141 KMKM-72	MNP	NCR	NCR
Attenuator	S.M. Electronics	SA26B-20	RFW	2/14/2017	2/14/2018
Block - DC	Fairview Microwave	SD3379	AMI	9/15/2016	9/15/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/16/2017	3/16/2018

#### **TEST DESCRIPTION**

The measurement was made using a direct connection between the RF output of the EUT and an RF Power Sensor. The spectrum analyzer and signal generator were used to generate an offset for the cables and attenuators. An RF signal generator was used to create the modulated signal(s) listed in the datasheets. These signals were input into the EUT.

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 EIRP.

EIRP = Max Measured Power + Antenna gain (dBi)

Report No. TECO0046 13/86



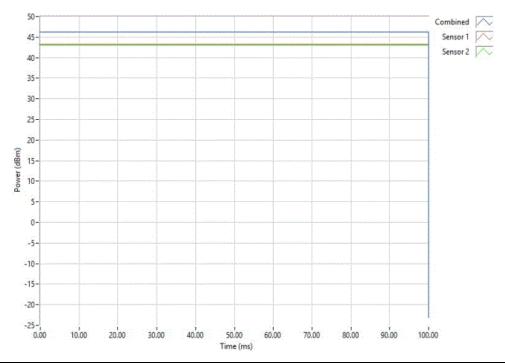
					TbtTx 2017.01.27	
EUT: Prism AWS3 SISO HDM 20 Watt				Work Order:	TECO0042	
Serial Number: 459644002				Date:	05/23/17	
Customer: CommScope				Temperature:	22.3 °C	
Attendees: Josh Wittman				Humidity:	42.7% RH	
Project: None				Barometric Pres.:	1013 mbar	
Tested by: Dustin Sparks	Power: 110VAC/60Hz			Job Site:	MN08	
TEST SPECIFICATIONS	Test Method					
FCC 27:2017	ANSI/TIA/EIA-603-D-	-2010				
COMMENTS						
i .						
None	DustinSparls					
None Configuration # 1	Avg Cond Pwr Sens 1 (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	Avg Pwr EIRP (dBm)	Limit (dBm)	Results
None Configuration # 1 Signature	Avg Cond Pwr					Results Pass
None  Configuration # 1 Signature  Low Channel (2112.5 MHz) WCDMA	Avg Cond Pwr Sens 1 (dBm)	Cycle (%)		EIRP (dBm)	(dBm)	
None  Configuration # 1 Signature  Low Channel (2112.5 MHz) WCDMA Mid Channel (2145 MHz) WCDMA	Avg Cond Pwr Sens 1 (dBm) 43.27	Cycle (%) 100		EIRP (dBm) 43.27	(dBm) 62.2	Pass
None  Configuration # 1 Signature  Low Channel (2112.5 MHz) WCDMA Mid Channel (2145 MHz) WCDMA High Channel (2177.5 MHz) WCDMA	Avg Cond Pwr Sens 1 (dBm) 43.27 43.35	100 100		43.27 43.35	(dBm) 62.2 62.2	Pass Pass
DEVIATIONS FROM TEST STANDARD  None  Configuration # 1 Signature  Low Channel (2112.5 MHz) WCDMA Mid Channel (2145 MHz) WCDMA High Channel (2175 MHz) WCDMA Low Channel (2115 MHz) LTE 10MHz Mid Channel (2145 MHz) LTE 10MHz	Avg Cond Pwr Sens 1 (dBm) 43.27 43.35 43.03	100 100 100 100		43.27 43.35 43.03	(dBm) 62.2 62.2 62.2	Pass Pass Pass

Report No. TECO0046 14/86

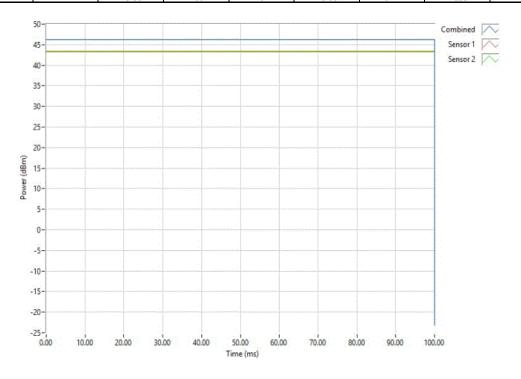


TbtTx 2017.01.27

		Low Char	nel (2112.5 MHz	) WCDMA			
	Avg Cond Pwr Sens 1 (dBm)	Duty Cycle (%)	Antenna Gain (dBi)	Avg Pwr EIRP (dBm)	Limit (dBm)	Doculto	
	Sens i (abiii)	Cycle (%)	Gain (GDI)	EIRP (UDIII)	(ubiii)	Results	
	43.27	100	0	43.27	62.2	Pass	



Mid Channel (2145 MHz) WCDMA						
	Avg Cond Pwr	Duty	Antenna	Avg Pwr	Limit	
	Sens 1 (dBm)	Cycle (%)	Gain (dBi)	EIRP (dBm)	(dBm)	Results
	43.35	100	0	43.35	62.2	Pass

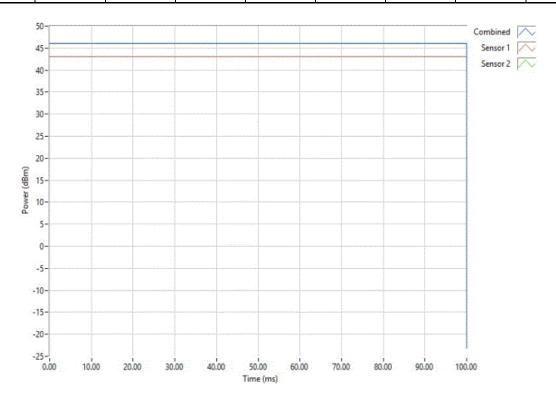


Report No. TECO0046 15/86



TbtTx 2017.01.27 XMit 2017.02.08

	High Cha	nnel (2177.5 MHz	z) WCDMA		
Avg Cond Pwr	Duty	Antenna	Avg Pwr	Limit	
Sens 1 (dBm)	Cycle (%)	Gain (dBi)	EIRP (dBm)	(dBm)	Results
43.03	100	0	43.03	62.2	Pass

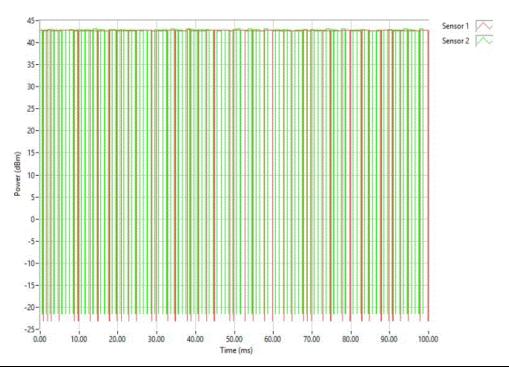


Report No. TECO0046 16/86

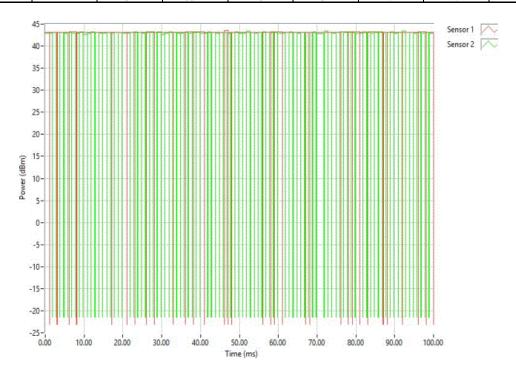


TbtTx 2017.01.27

		Low Chan	nel (2115 MHz) L	TE 10MHz			
	Avg Cond Pwr	Duty	Antenna	Avg Pwr	Limit	Desults	
	Sens 1 (dBm)	Cycle (%)	Gain (dBi)	EIRP (dBm)	(dBm)	Results	
	43.12	99.228	0	43.12	N/A	N/A	



	Mid Chani	nel (2145 MHz) L	TE 10MHz		
Avg Cond Pwr	Duty	Antenna	Avg Pwr	Limit	
 Sens 1 (dBm)	Cycle (%)	Gain (dBi)	EIRP (dBm)	(dBm)	Results
43.47	99.44	0	43.47	N/A	N/A

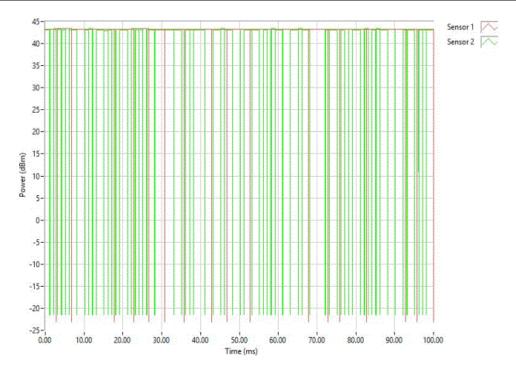


Report No. TECO0046 17/86



TbtTx 2017.01.27

		High Chan	nel (2175 MHz) L	TE 10MHz		
	Avg Cond Pwr Sens 1 (dBm)	Duty Cvcle (%)	Antenna Gain (dBi)	Avg Pwr EIRP (dBm)	Limit (dBm)	Results
	Selis I (ubili)	Cycle (78)	Gaill (GDI)	LINF (UDIII)	(ubiii)	nesuits
	43.33	100	0	43.33	N/A	N/A



Report No. TECO0046 18/86

## **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
Attenuator	Aeroflex	48-30-34	RCU	9/15/2016	9/15/2017
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Cable	ESM Cable Corp	TTBJ141 KMKM-72	MNP	NCR	NCR
Attenuator	S.M. Electronics	SA26B-20	RFW	2/14/2017	2/14/2018
Block - DC	Fairview Microwave	SD3379	AMI	9/15/2016	9/15/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/16/2017	3/16/2018

#### **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 screen captures/traces was calculated:

▶1st Screen Capture/Trace: Peak detector and trace max-hold.

>2nd Screen Capture/Trace: The same procedure and settings as was used for conducted Output Power.

Report No. TECO0046 19/86

# **PEAK TO AVERAGE RATIO**



EUT	: Prism AWS3 SISO HDM 2	0 Watt								Work Order	: TECO00	)42		
Serial Number	: 459644002									Date	: 05/24/17	,		
Customer	: CommScope									Temperature	: 21.6 °C			
Attendees	: Josh Wittman									Humidity	: 47.3% R	Н		
Project	: None								Baı	ometric Pres.	: 1008 mb	oar		
Tested by	: Dustin Sparks			P	ower: 110VA	AC/60Hz				Job Site	: MN08			
TEST SPECIFICAT	TIONS				Test N	Method								
FCC 27:2017					ANSI/	TIA/EIA-603-I	0-2010							
-														
COMMENTS														
Antonna gain ie ac	selimed to be 0 - per clietoi	nor the antenna gain will be	roovaluat	tad during in	etallation S	vetom je rato	4 at 20W (+A	3 dRm) nor no	rt Roth norte	wara tarminat	ad hut an	ly one nor	t ie activ	۵.
-		mer, the antenna gain will be	reevaluat	ted during in	nstallation. S	ystem is rate	d at 20W (+4	3 dBm) per po	rt. Both ports	were terminat	ed but on	lly one por	t is activ	e.
-	M TEST STANDARD	mer, the antenna gain will be	reevaluat	ted during in	nstallation. S	ystem is rate	d at 20W (+4	3 dBm) per po	rt. Both ports	were terminat	ed but on	ly one por	t is activ	e.
DEVIATIONS FRO		mer, the antenna gain will be	e reevaluat	-	nstallation. Sy			3 dBm) per po	rt. Both ports	were terminat	ed but on	ly one por	t is activ	е.
DEVIATIONS FRO	M TEST STANDARD		e reevaluat	-				3 dBm) per po	rt. Both ports	Value	L	imit		
DEVIATIONS FROM None Configuration #	M TEST STANDARD		e reevaluat	-				3 dBm) per po	rt. Both ports		L			e. sults
DEVIATIONS FRO	M TEST STANDARD		e reevaluat	-				3 dBm) per po	rt. Both ports	Value (dB)	L	imit (dB)	Re	sults
DEVIATIONS FROM None  Configuration #	M TEST STANDARD		reevaluat	-				3 dBm) per po	rt. Both ports	Value	L	imit	Re	
DEVIATIONS FROM None Configuration #	M TEST STANDARD		e reevaluat	-				3 dBm) per po	rt. Both ports	Value (dB)	L <	imit (dB)	Re	sults

Report No. TECO0046 20/86

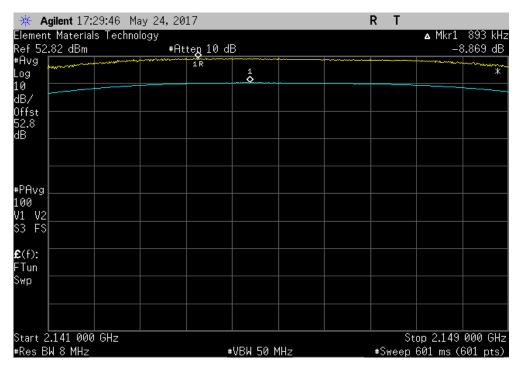
# **PEAK TO AVERAGE RATIO**



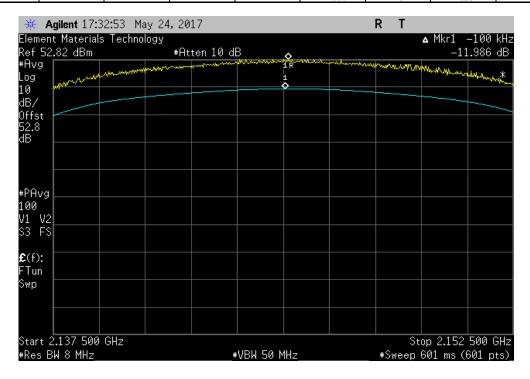
WCDMA, Mid Channel, 2145 MHz

Value Limit
(dB) < (dB) Results

8.869 13 Pass



	LTE 10M	Hz, Mid Channel,	2145 MHz		
			Value	Limit	
			(dB)	< (dB)	Results
			11.986	13	Pass



Report No. TECO0046 21/86



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
Meter - Multimeter	Fluke	117	MLS	1/23/2017	1/23/2020
Attenuator	Aeroflex	48-30-34	RCU	9/15/2016	9/15/2017
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPH-32-3.5-	TBF	NCR	NCR
Thermometer	Omega Engineering, Inc.	HH311	DUB	11/3/2014	11/3/2017
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Cable	ESM Cable Corp	TTBJ141 KMKM-72	MNP	NCR	NCR
Attenuator	S.M. Electronics	SA26B-20	RFW	2/14/2017	2/14/2018
Block - DC	Fairview Microwave	SD3379	AMI	9/15/2016	9/15/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/16/2017	3/16/2018

#### **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.

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.

Report No. TECO0046 22/86



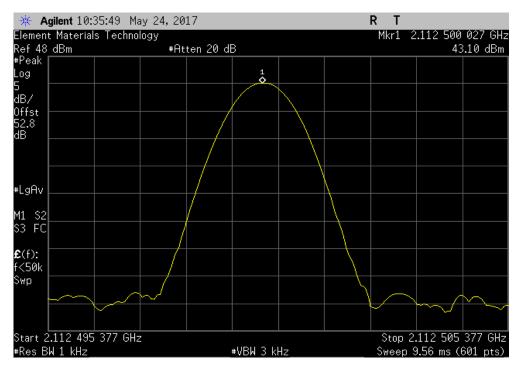
FIIT-	Prism AWS3 SISO HDM 20	Watt			Work Order:	TbtTx 2017.01.27	XMit 20
Serial Number:		ratt				05/24/17	
	: CommScope				Temperature:		
	: Josh Wittman				Humidity:	47% DH	
Project:					Barometric Pres.:		
	: Dustin Sparks	Power: 120VAC/	60Hz		Job Site:		
ST SPECIFICAT		Test Met					
C 27:2017		ANSI/TIA	VEIA-603-D-2010				
MMENTS							
stem is rated at	20W (+43 dBm) per port. Bot	h ports were terminated but only one port is active.					
VIATIONS FROM	M TEST STANDARD						
ne							
		200	2				
nfiguration #	2	Signature	do				
		Oignature	Measured	Assigned	Error	Limit	
°C			Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
-0	2112.5 MHz		2112.500027	2112.5	0.013	1	Pass
	2115 MHz		2115.000027	2115.0	0.022	1	Pass
	2145 MHz		2145.000047	2145.0	0.022	1	Pass
	2175 MHz		2175.000036	2175.0	0.017	1	Pass
	2177.5 MHz		2177.500038	2177.5	0.017	1	Pass
l°C			2		5.0		. 403
	2112.5 MHz		2112.500011	2112.5	0.005	1	Pass
	2115 MHz		2115.000025	2115.0	0.012	1	Pass
	2145 MHz		2145.000009	2145.0	0.004	1	Pass
	2175 MHz		2175.000019	2175.0	0.009	1	Pass
	2177.5 MHz		2177.500021	2177.5	0.010	1	Pass
°C	0440 5 1411-		0110 5000 : :	0446.5	0.001		
	2112.5 MHz		2112.500044	2112.5	0.021	1	Pass
	2115 MHz		2115.000046	2115.0	0.022	1	Pass
	2145 MHz		2145.000043	2145.0	0.020	1	Pass
	2175 MHz		2175.000003	2175.0	0.001	1	Pass
90	2177.5 MHz		2177.500038	2177.5	0.017	1	Pass
°C	2112.5 MHz		2112.500044	2112.5	0.021	1	Pass
	2115 MHz		2115.000044	2115.0	0.021	1	Pass
	2145 MHz		2145.000043	2145.0	0.020	1	Pass
	2175 MHz		2175.000053	2175.0	0.024	1	Pass
	2177.5 MHz		2177.500038	2177.5	0.017	1	Pass
°C							
	2112.5 MHz		2112.500027	2112.5	0.013	1	Pass
	2115 MHz		2115.000046	2115.0	0.022	1	Pass
	2145 MHz		2145.000043	2145.0	0.020	1	Pass
	2175 MHz		2175.000052	2175.0	0.024	1	Pass
	2177.5 MHz		2177.500038	2177.5	0.017	1	Pass
	2112.5 MHz		0110 500044	2112.5	0.021	1	Pass
	2112.5 MHz		2112.500044 2115.000046	2115.0	0.021	1	Pass
	2145 MHz		2145.000048	2145.0	0.022	1	Pass
	2175 MHz		2175.000043	2175.0	0.024	1	Pass
	2177.5 MHz		2177.500033	2177.5	0.024	1	Pass
С							
	2112.5 MHz		2112.500044	2112.5	0.021	1	Pass
	2115 MHz		2115.000042	2115.0	0.020	1	Pass
	2145 MHz		2145.00001	2145.0	0.005	1	Pass
	2175 MHz		2175.000036	2175.0	0.017	1	Pass
	2177.5 MHz		2177.500055	2177.5	0.025	1	Pass
С	0110 F MII-		0440 500011	0110.5	0.004		n
	2112.5 MHz 2115 MHz		2112.500044 2115.000042	2112.5 2115.0	0.021 0.020	1	Pass Pass
	2115 MHz 2145 MHz		2115.000042 2145.000009	2115.0 2145.0	0.020	1	Pass
	2175 MHz		2175.000009	2175.0	0.004	1	Pass
	2177.5 MHz		2177.500038	2177.5	0.017	1	Pass
С							50
	2112.5 MHz		2112.500044	2112.5	0.021	1	Pass
	2115 MHz		2115.000046	2115.0	0.022	1	Pass
	2145 MHz		2145.000043	2145.0	0.020	1	Pass
	2175 MHz		2175.000036	2175.0	0.017	1	Pass
nal Voltage	2177.5 MHz		2177.500038	2177.5	0.017	1	Pass
nai voltage	2112.5 MHz		2112.500044	2112.5	0.021	1	Pass
	2115 MHz		2115.000044	2115.0	0.012	1	Pass
	2145 MHz		2145.000043	2145.0	0.020	1	Pass
	2175 MHz		2175.000053	2175.0	0.024	i	Pass
	2177.5 MHz		2177.500055	2177.5	0.025	1	Pass
eme Voltage (10	02VAC/60Hz)						
	2112.5 MHz		2112.500044	2112.5	0.021	1	Pass
	2115 MHz		2115.000042	2115.0	0.020	1	Pass
	2145 MHz		2145.000043	2145.0	0.020	1	Pass
	2175 MHz		2175.000036	2175.0	0.017	1	Pass
., .	2177.5 MHz		2177.500038	2177.5	0.017	1	Pass
eme Voltage (13			0110 5000 : :	0446.5	0.001		
	2112.5 MHz		2112.500044	2112.5	0.021	1	Pass
	2115 MHz		2115.000042	2115.0	0.020	1	Pass
	2145 MHz		21/15/0000/10				
	2145 MHz 2175 MHz		2145.000043 2175.000036	2145.0 2175.0	0.020 0.017	1 1	Pass Pass

Report No. TECO0046 23/86

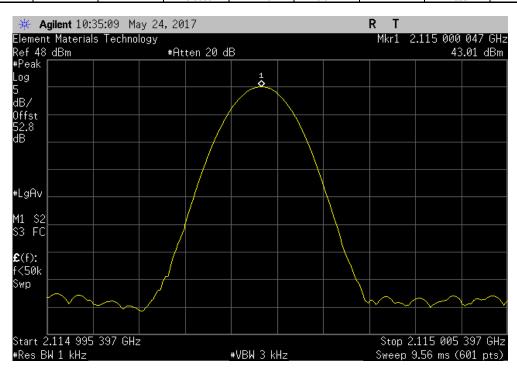


+50°C, 2112.5 MHz

| Measured Assigned Error Limit | Value (MHz) (ppm) (ppm) | Results |
| 2112.500027 | 2112.5 | 0.013 | 1 | Pass



			+50°C, 2115 MH;	7		
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		2115.000047	2115	0.022	1	Pass

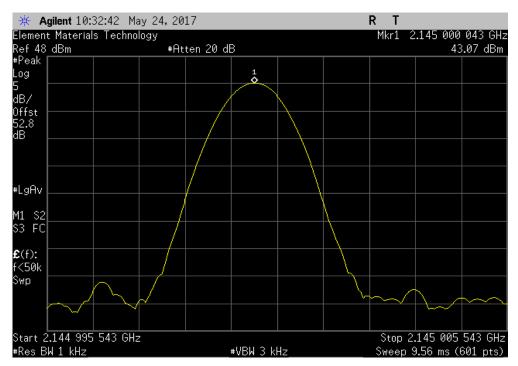


Report No. TECO0046 24/86

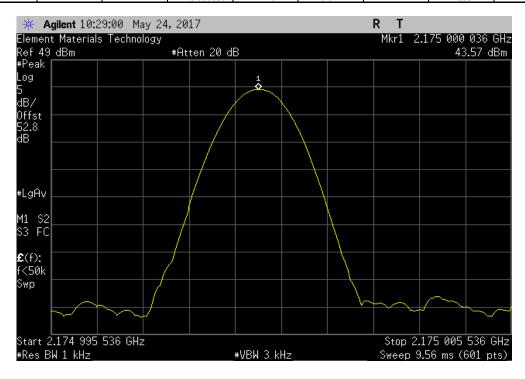


+50°C, 2145 MHz

| Measured Assigned Error Limit | Value (MHz) Value (MHz) (ppm) (ppm) | Results |
| 2145.000043 | 2145 | 0.020 | 1 | Pass |



			+50°C, 2175 MHz	Z		
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		2175.000036	2175	0.017	1	Pass

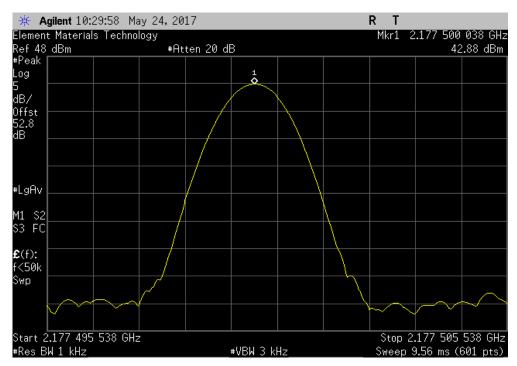


Report No. TECO0046 25/86

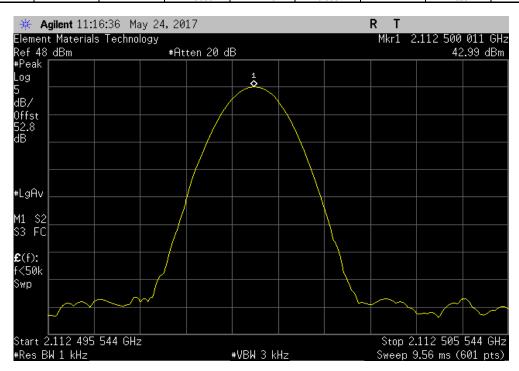


+50°C, 2177.5 MHz

| Measured Assigned Error Limit | Value (MHz) Value (MHz) (ppm) (ppm) | Results |
| 2177.500038 | 2177.5 | 0.017 | 1 | Pass

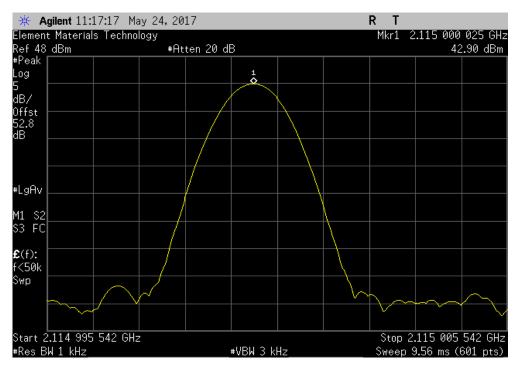


		+	40°C, 2112.5 MF	lz		
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		2112.500011	2112.5	0.005	1	Pass

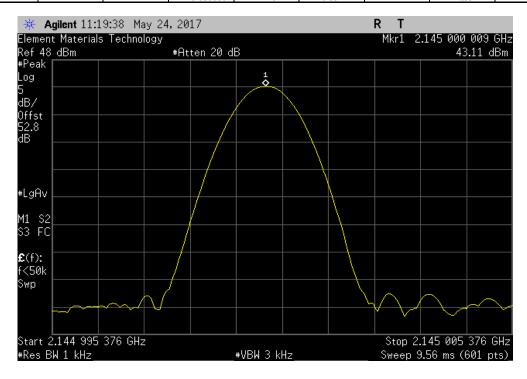


Report No. TECO0046 26/86





			+40°C, 2145 MH	7		
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		2145.000009	2145	0.004	1	Pass

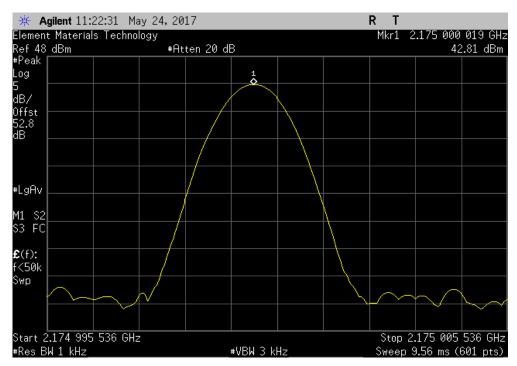


Report No. TECO0046 27/86

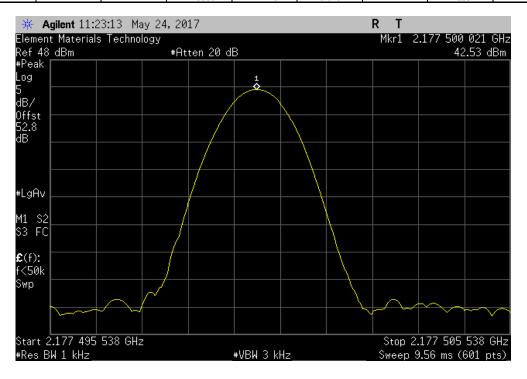


+40°C, 2175 MHz

| Measured Assigned Error Limit | Value (MHz) Value (MHz) (ppm) (ppm) | Results |
| 2175.000019 | 2175 | 0.009 | 1 | Pass



	+	40°C, 2177.5 MH	lz		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2177.500021	2177.5	0.010	1	Pass

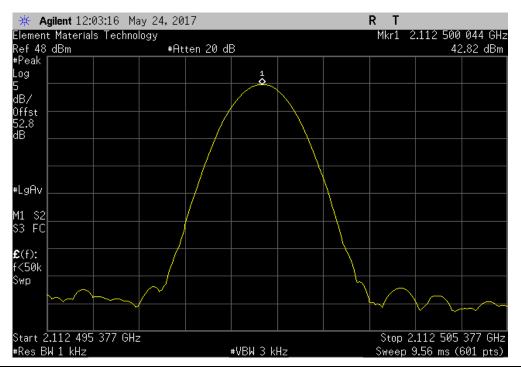


Report No. TECO0046 28/86

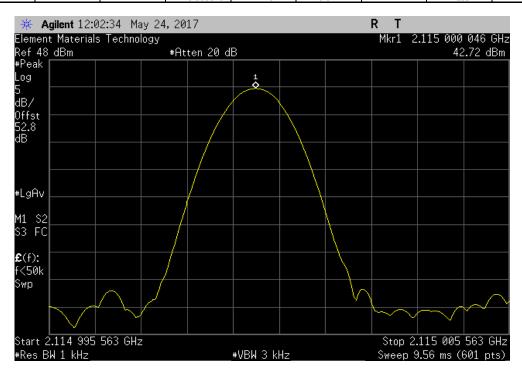


+30°C, 2112.5 MHz

| Measured Assigned Error Limit | Value (MHz) | Value (MHz) | (ppm) | (ppm) | Results | (pm) |



		+30°C, 2115 MH	Z		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2115.000046	2115	0.022	1	Pass



Report No. TECO0046 29/86

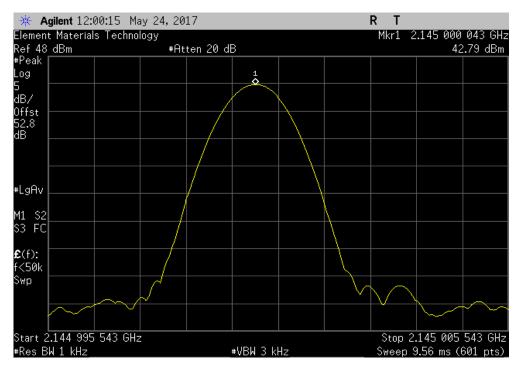


+30°C, 2145 MHz

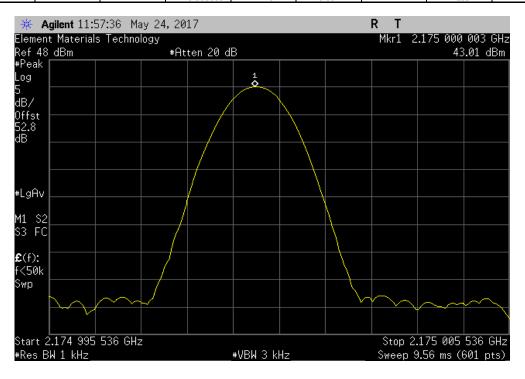
Measured Assigned Error Limit

Value (MHz) Value (MHz) (ppm) (ppm) Results

2145.000043 2145 0.020 1 Pass



			+30°C, 2175 MHz	Z		
		Measured	Assigned	Error	Limit	
_		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
l [	<u> </u>	2175.000003	2175	0.001	1	Pass

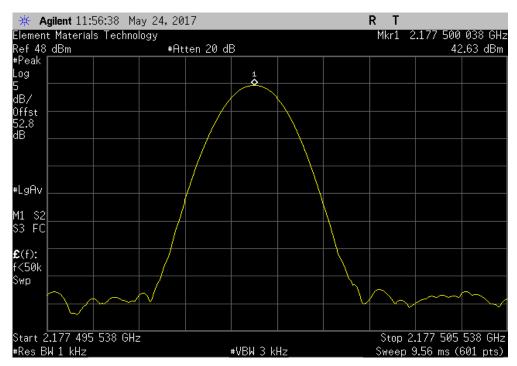


Report No. TECO0046 30/86

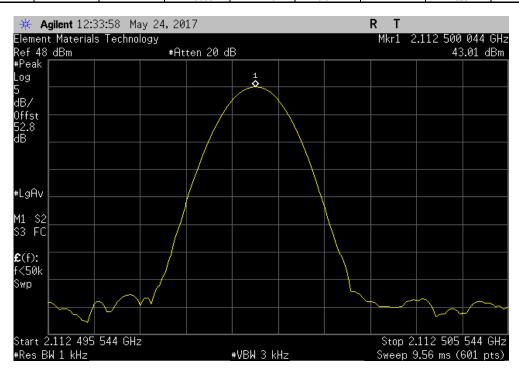


+30°C, 2177.5 MHz

| Measured Assigned Error Limit | Value (MHz) Value (MHz) (ppm) (ppm) | Results |
| 2177.500038 | 2177.5 | 0.017 | 1 | Pass



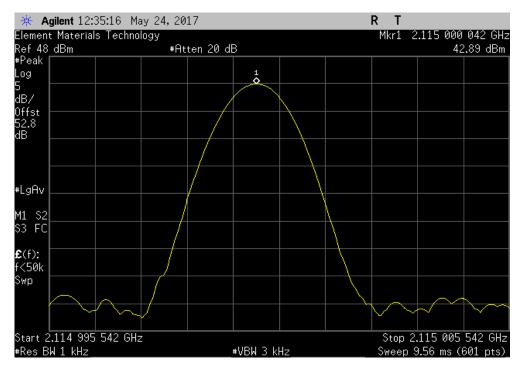
	+	20°C, 2112.5 MF	łz		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2112.500044	2112.5	0.021	1	Pass



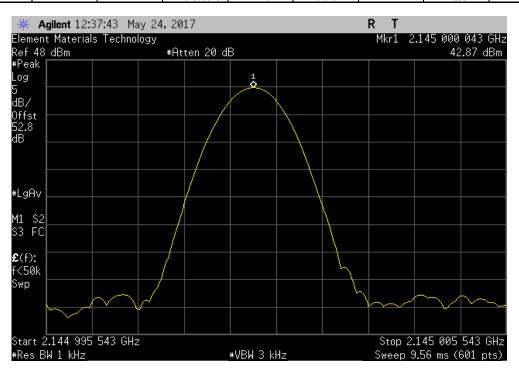
Report No. TECO0046 31/86



		+20°C, 2115 MH	Z		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2115.000042	2115	0.020	1	Pass



			+20°C, 2145 MHz	Z		
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		2145.000043	2145	0.020	1	Pass

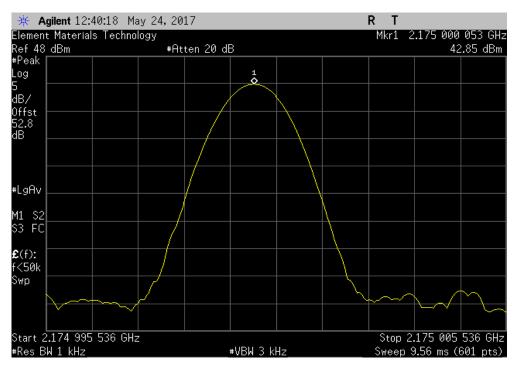


Report No. TECO0046 32/86

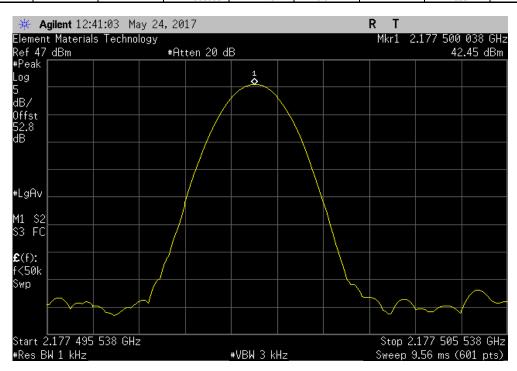


+20°C, 2175 MHz

| Measured Assigned Error Limit | Value (MHz) Value (MHz) (ppm) (ppm) | Results |
| 2175.000053 | 2175 | 0.024 | 1 | Pass



		+	20°C, 2177.5 MF	łz		
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		2177.500038	2177.5	0.017	1	Pass

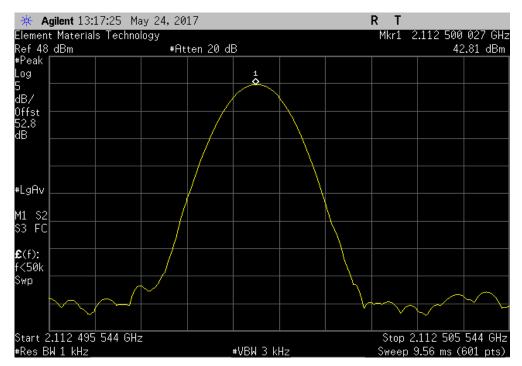


Report No. TECO0046 33/86

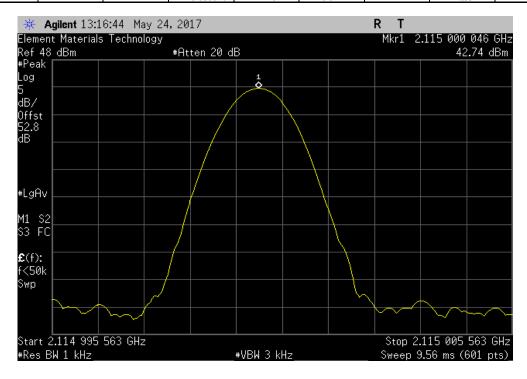


+10°C, 2112.5 MHz

| Measured Assigned Error Limit | Value (MHz) (ppm) (ppm) | Results |
| 2112.500027 | 2112.5 | 0.013 | 1 | Pass



			+10°C, 2115 MH	Z		
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		2115.000046	2115	0.022	1	Pass

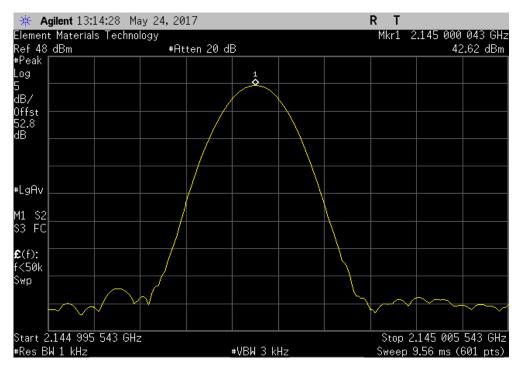


Report No. TECO0046 34/86

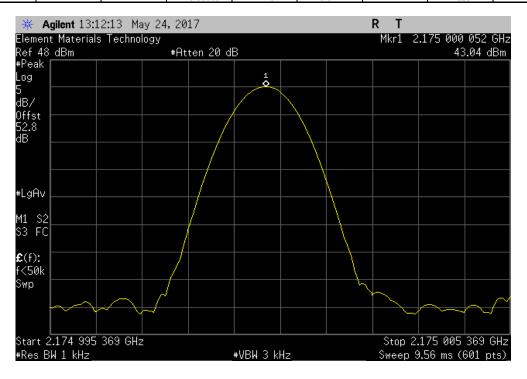


+10°C, 2145 MHz

| Measured Assigned Error Limit | Value (MHz) Value (MHz) (ppm) (ppm) | Results |
| 2145.000043 | 2145 | 0.020 | 1 | Pass



			+10°C, 2175 MH	Z		
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
1		2175.000052	2175	0.024	1	Pass

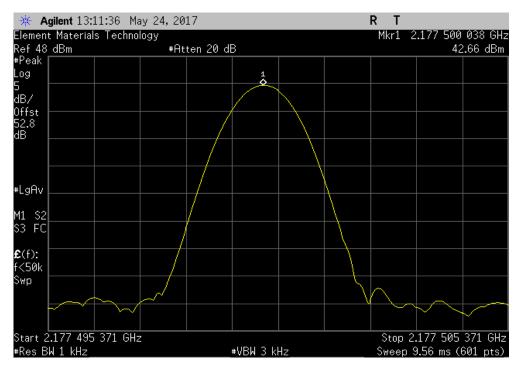


Report No. TECO0046 35/86

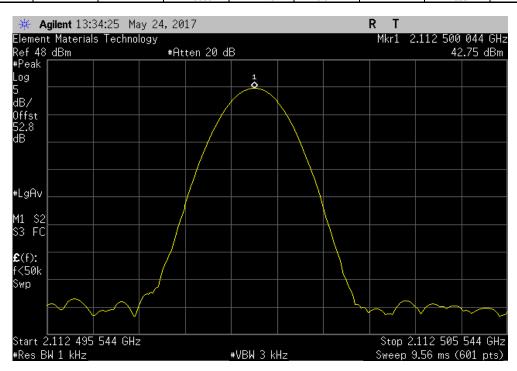


+10°C, 2177.5 MHz

| Measured Assigned Error Limit | Value (MHz) Value (MHz) (ppm) (ppm) | Results |
| 2177.500038 | 2177.5 | 0.017 | 1 | Pass



			0°C, 2112.5 MHz			
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		2112.500044	2112.5	0.021	1	Pass



Report No. TECO0046 36/86

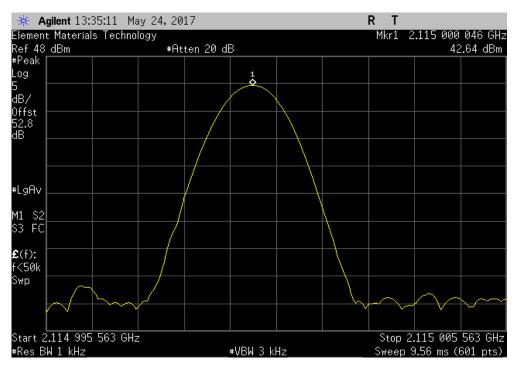


 0°C, 2115 MHz

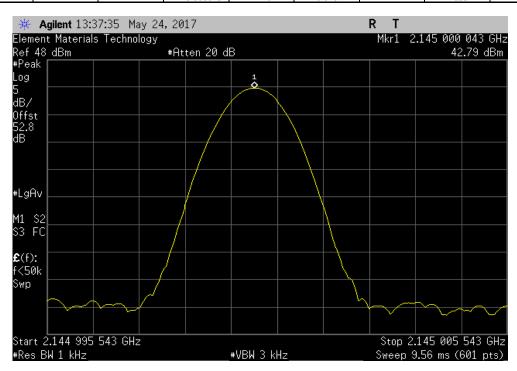
 Measured
 Assigned
 Error
 Limit

 Value (MHz)
 Value (MHz)
 (ppm)
 (ppm)
 Results

 2115.000046
 2115
 0.022
 1
 Pass



			0°C, 2145 MHz			
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		2145.000043	2145	0.020	1	Pass

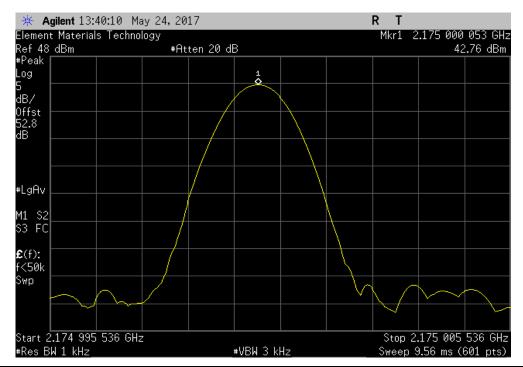


Report No. TECO0046 37/86

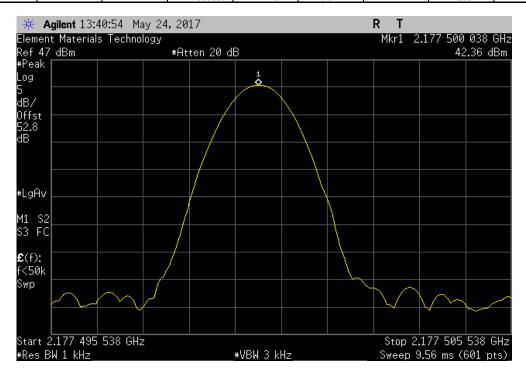


0°C, 2175 MHz

Measured	Assigned	Error	Limit	
Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
2175.000053	2175	0.024	1	Pass



		0°C, 2177.5 MHz	Z		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2177.500038	2177.5	0.017	1	Pass

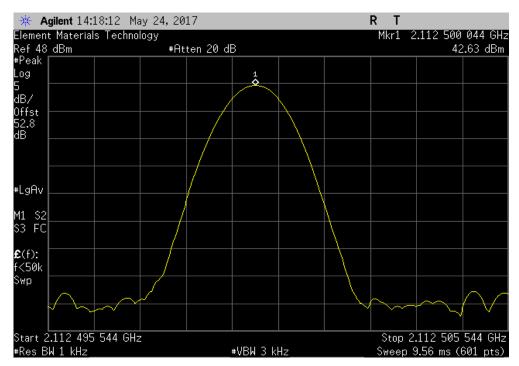


Report No. TECO0046 38/86

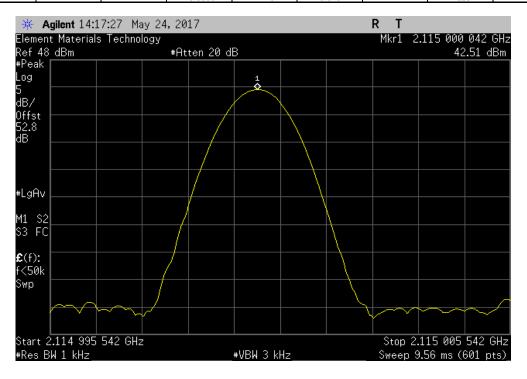


-10°C, 2112.5 MHz

| Measured Assigned Error Limit | Value (MHz) | Value (MHz) | (ppm) | (ppm) | Results | (pm) |



			-10°C, 2115 MHz	1		
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
1 [		2115.000042	2115	0.020	1	Pass

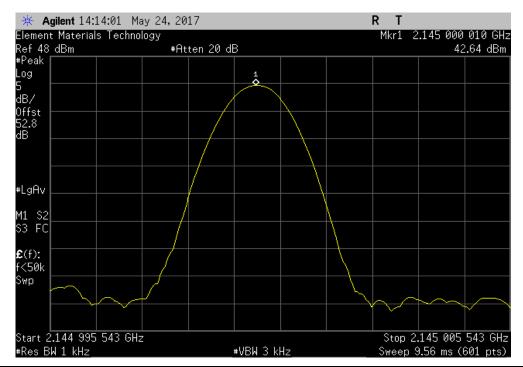


Report No. TECO0046 39/86

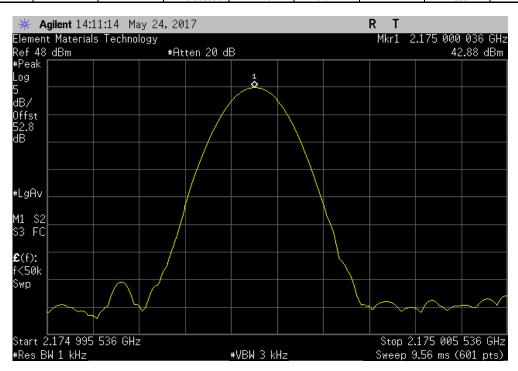


TbtTx 2017.01.27

		-10°C, 2145 MHz	!		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2145.00001	2145	0.005	1	Pass



		-10°C, 2175 MHz	Z		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2175.000036	2175	0.017	1	Pass

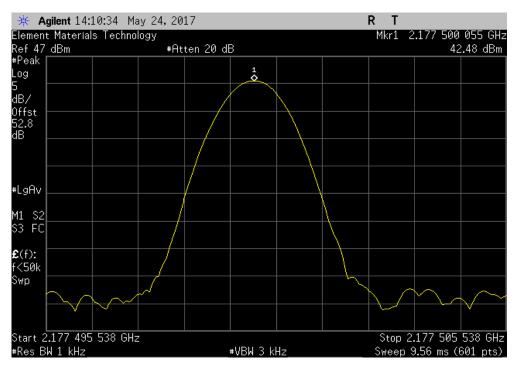


Report No. TECO0046 40/86

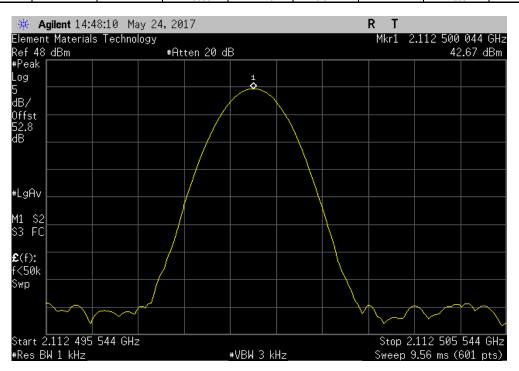


-10°C, 2177.5 MHz

| Measured Assigned Error Limit | Value (MHz) | Value (MHz) | (ppm) | Results | (ppm) | Pass |



		-:	20°C, 2112.5 MH	Z		
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		2112.500044	2112.5	0.021	1	Pass

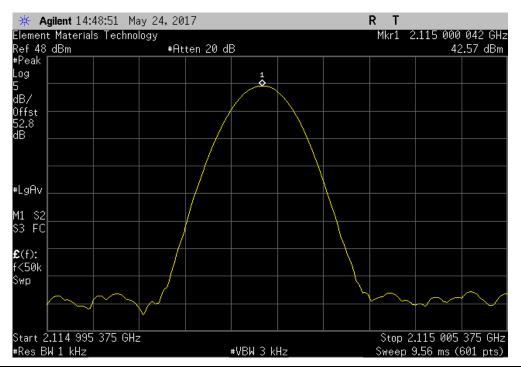


Report No. TECO0046 41/86

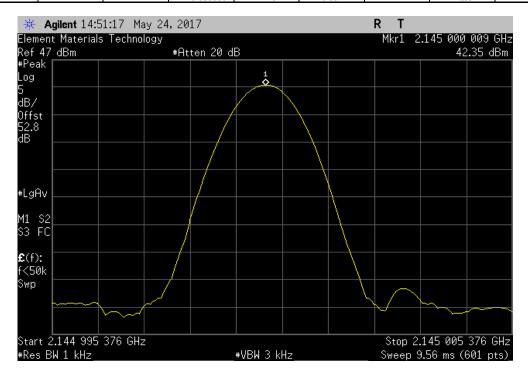


-20°C, 2115 MHz

| Measured Assigned Error Limit | Value (MHz) Value (MHz) (ppm) (ppm) | Results |
| 2115.000042 | 2115 | 0.020 | 1 | Pass



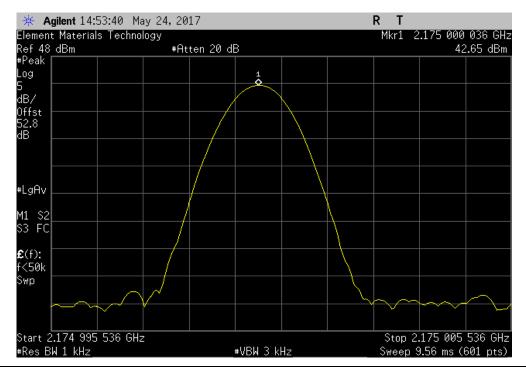
		-20°C, 2145 MHz	Z		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2145.000009	2145	0.004	1	Pass



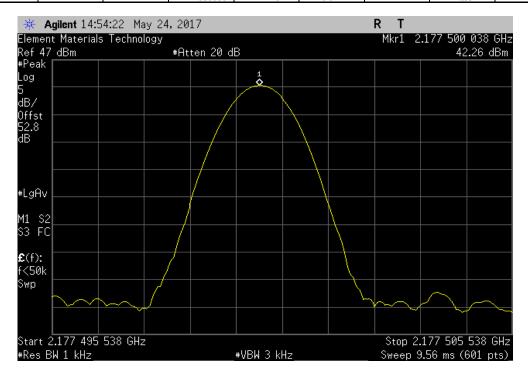
Report No. TECO0046 42/86



		-20°C, 2175 MHz			
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2175.000036	2175	0.017	1	Pass



	-	-20°C, 2177.5 MH	·lz		
	Measured	Assigned	Error	Limit	
_	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
I	2177.500038	2177.5	0.017	1	Pass

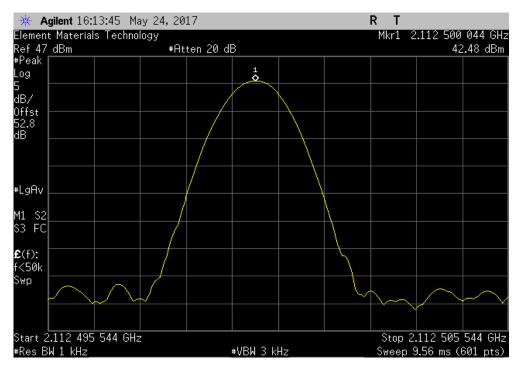


Report No. TECO0046 43/86

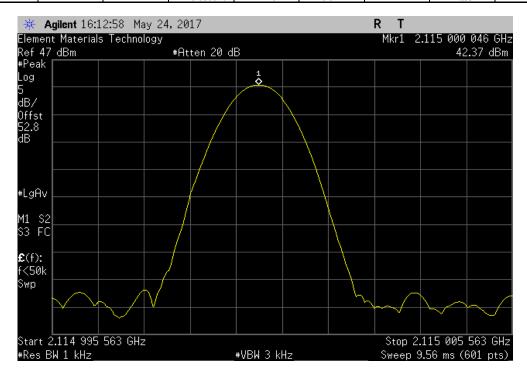


-30°C, 2112.5 MHz

| Measured Assigned Error Limit | Value (MHz) Value (MHz) (ppm) (ppm) | Results |
| 2112.500044 | 2112.5 | 0.021 | 1 | Pass



			-30°C, 2115 MHz	1		
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		2115.000046	2115	0.022	1	Pass

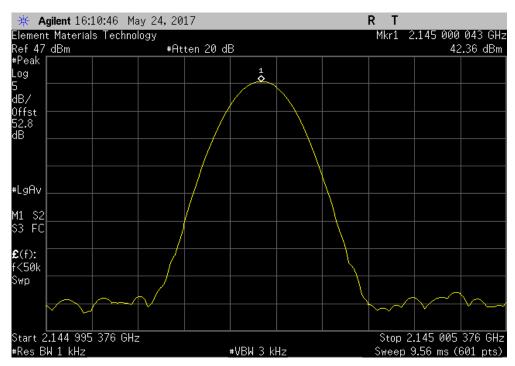


Report No. TECO0046 44/86

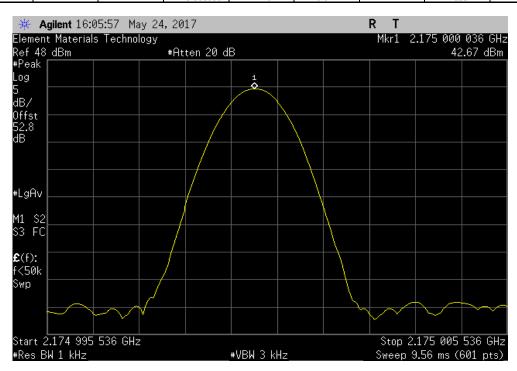


-30°C, 2145 MHz

| Measured Assigned Error Limit | Value (MHz) Value (MHz) (ppm) (ppm) | Results |
| 2145.000043 | 2145 | 0.020 | 1 | Pass



			-30°C, 2175 MHz	1		
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		2175.000036	2175	0.017	1	Pass

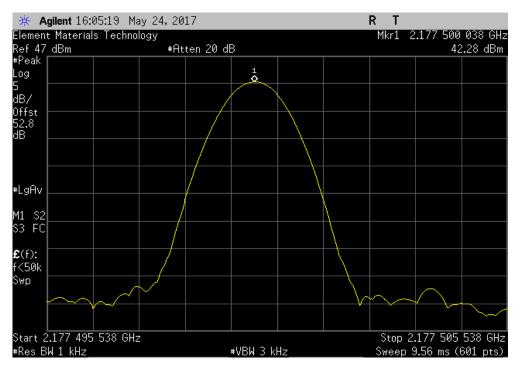


Report No. TECO0046 45/86

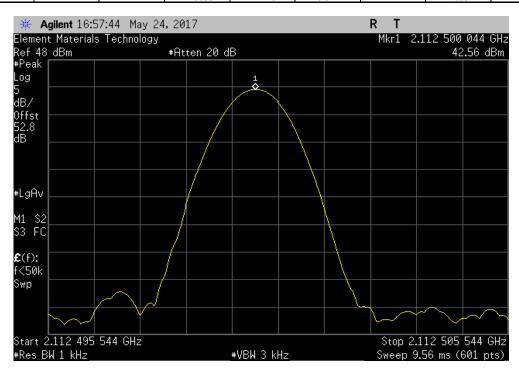


-30°C, 2177.5 MHz

| Measured Assigned Error Limit | Value (MHz) Value (MHz) (ppm) (ppm) | Results |
| 2177.500038 | 2177.5 | 0.017 | 1 | Pass



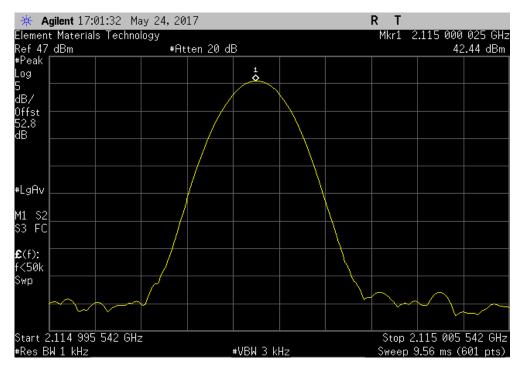
Normal Voltage, 2112.5 MHz							
		Measured	Assigned	Error	Limit		
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results	
		2112.500044	2112.5	0.021	1	Pass	



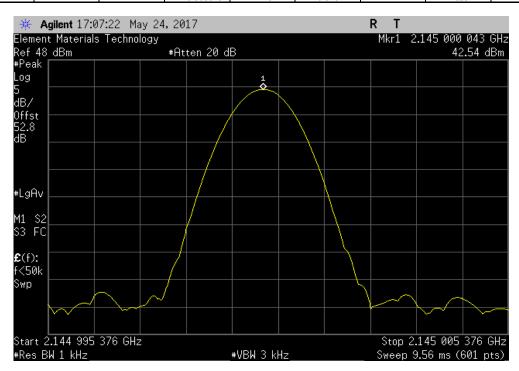
Report No. TECO0046 46/86



| Normal Voltage, 2115 MHz
| Measured Assigned Error Limit
| Value (MHz) Value (MHz) (ppm) (ppm) Results
| 2115.000025 2115 0.012 1 Pass



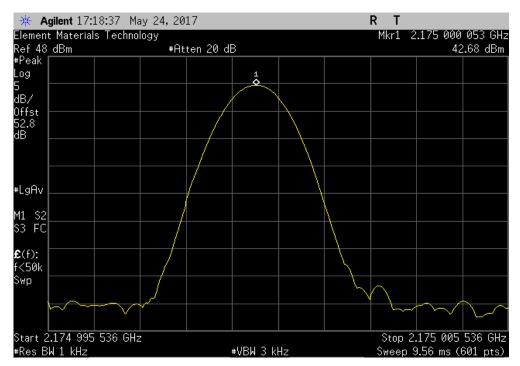
Normal Voltage, 2145 MHz								
		Measured	Assigned	Error	Limit			
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results		
		2145.000043	2145	0.020	1	Pass		



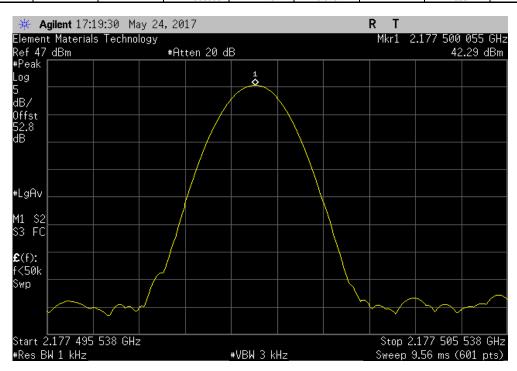
Report No. TECO0046 47/86



| Normal Voltage, 2175 MHz
| Measured Assigned Error Limit |
| Value (MHz) Value (MHz) (ppm) (ppm) Results |
| 2175.000053 2175 0.024 1 Pass

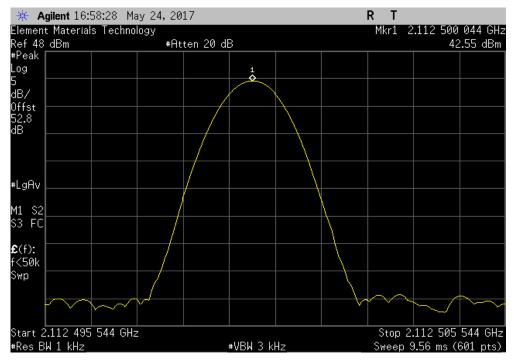


Normal Voltage, 2177.5 MHz								
		Measured	Assigned	Error	Limit			
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results		
		2177.500055	2177.5	0.025	1	Pass		

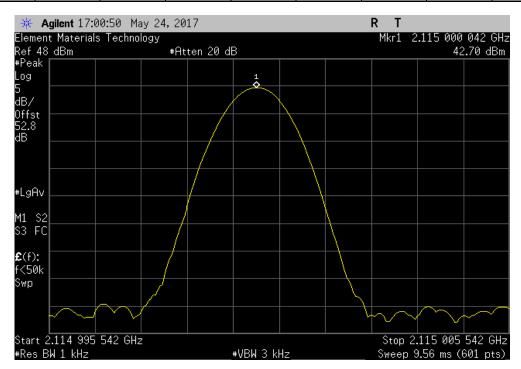


Report No. TECO0046 48/86





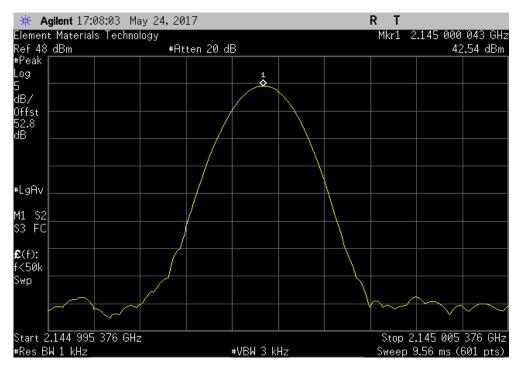
Extreme Voltage (102VAC/60Hz), 2115 MHz								
		Measured	Assigned	Error	Limit			
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results		
		2115.000042	2115	0.020	1	Pass		



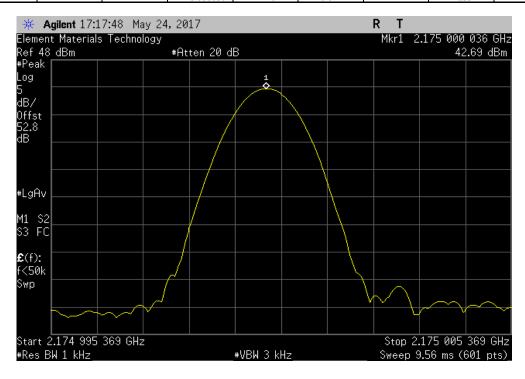
Report No. TECO0046 49/86



| Extreme Voltage (102VAC/60Hz), 2145 MHz
| Measured Assigned Error Limit
| Value (MHz) Value (MHz) (ppm) (ppm) Results
| 2145.000043 2145 0.020 1 Pass



	Extreme Voltage (102VAC/60Hz), 2175 MHz								
			Measured	Assigned	Error	Limit			
			Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results		
1			2175.000036	2175	0.017	1	Pass		

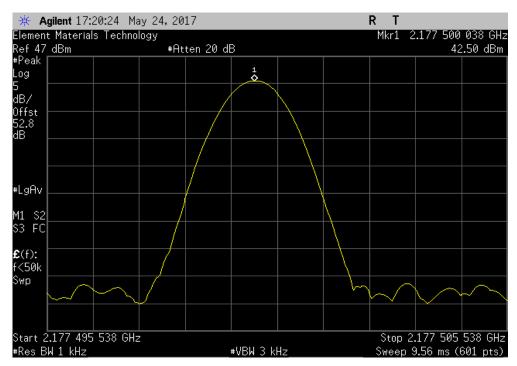


Report No. TECO0046 50/86

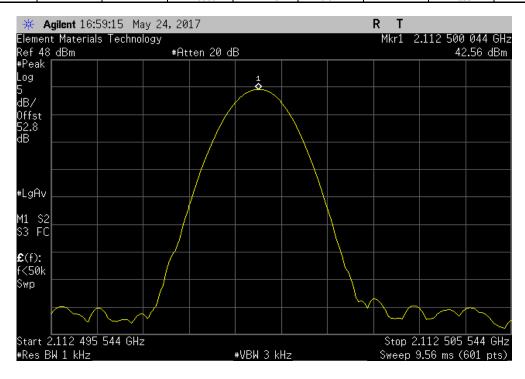


Extreme Voltage (102VAC/60Hz), 2177.5 MHz

| Measured Assigned Error Limit | Value (MHz) Value (MHz) (ppm) (ppm) Results | 2177.500038 | 2177.5 | 0.017 | 1 Pass | Pass |

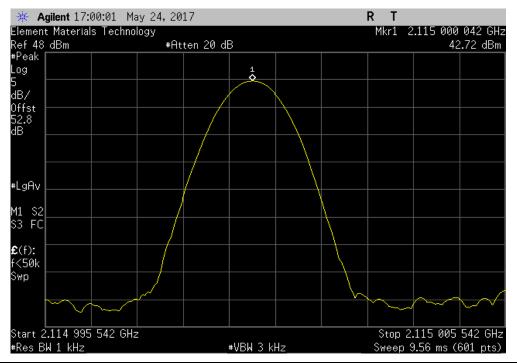


Extreme Voltage (138VAC/60Hz), 2112.5 MHz							
		Measured	Assigned	Error	Limit		
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results	
		2112.500044	2112.5	0.021	1	Pass	

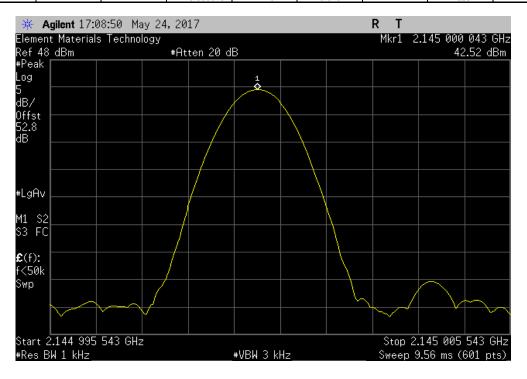


Report No. TECO0046 51/86



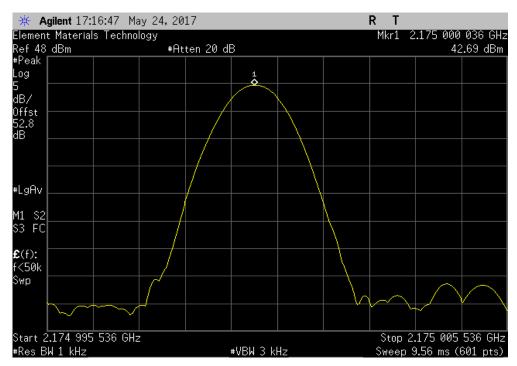


Extreme Voltage (138VAC/60Hz), 2145 MHz									
	Measured	Assigned	Error	Limit					
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results				
	2145.000043	2145	0.020	1	Pass				

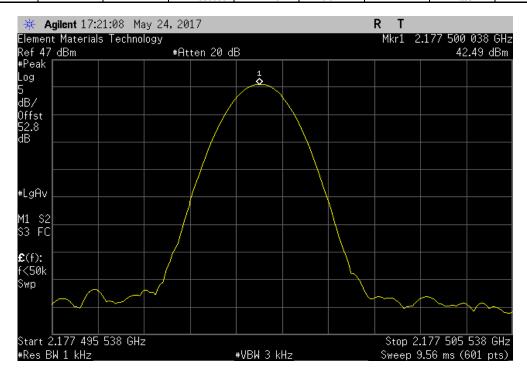


Report No. TECO0046 52/86





	Extreme Voltage (138VAC/60Hz), 2177.5 MHz								
			Measured	Assigned	Error	Limit			
			Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results		
İ			2177.500038	2177.5	0.017	1	Pass		



Report No. TECO0046 53/86



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
Attenuator	Aeroflex	48-30-34	RCU	9/15/2016	9/15/2017
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Cable	ESM Cable Corp	TTBJ141 KMKM-72	MNP	NCR	NCR
Attenuator	S.M. Electronics	SA26B-20	RFW	2/14/2017	2/14/2018
Block - DC	Fairview Microwave	SD3379	AMI	9/15/2016	9/15/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/16/2017	3/16/2018

#### **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.

The spectrum analyzer settings were as follows:

> RBW = Approx. 1% of the emission bandwidth (B). This was an iterative process to determine the RBW based on the emissions bandwidth (B).

>VBW= > RBW

>A peak detector was used

➤Trace max hold.

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

There is no required limit to be met in the rule part for this test. The purpose of the test is to both report the results and to utilize the emission bandwidth for setting the channel power integration bandwidth during conducted output power testing.

Report No. TECO0046



						TbtTx 2017.01.27	XMit 2017.02.08			
	Prism AWS3 SISO HDM 2	20 WATT			Work Order:	TECO0042				
Serial Number:	459644002				Date:	05/24/17				
Customer:	CommScope				Temperature:	21.6 °C				
Attendees:	Josh Wittman				Humidity:	46.4% RH				
Project:	None				Barometric Pres.:	1008 mbar				
Tested by:	Dustin Sparks		Power:	110VAC/60Hz	Job Site:	MN08				
TEST SPECIFICATI	ONS			Test Method						
FCC 27:2017				ANSI/TIA/EIA-603-D-2010						
COMMENTS										
	System is rated at 20W (+43 dBm) per port. Both ports were terminated but only one port is active.									
DEVIATIONS FROM	I TEST STANDARD									
None										
Configuration #	2	Signature	Dustins	Spalo						
					Value	Limit	Result			
Low Channel (2112.	5 MHz) WCDMA				4.675 MHz	N/A	N/A			
Mid Channel (2145 N	MHz) WCDMA				4.659 MHz	N/A	N/A			
Mid Channel (2145 N	MHz) WCDMA, Input Signal				5.48 MHz	N/A	N/A			
High Channel (2177.	5 MHz) WCDMA				4.667 MHz	N/A	N/A			
Low Channel (2115					9.46 MHz	N/A	N/A			
Mid Channel (2145 M					9.484 MHz	N/A	N/A			
	MHz) LTE 10 MHz, Input Sig	ınal	10.985 MHz	N/A	N/A					
	MHz) LTE 10 MHz, Input Si		9.466 MHz	N/A	N/A					

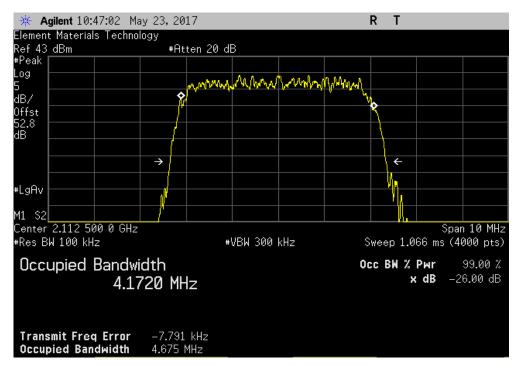
Report No. TECO0046 55/86



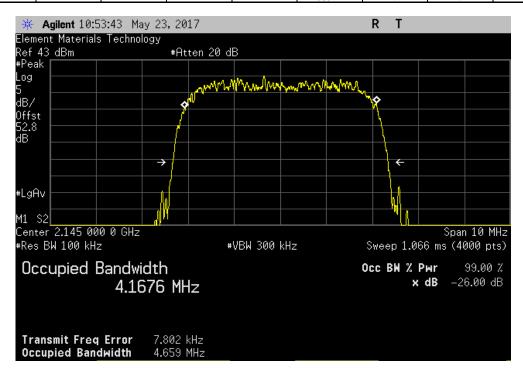
 Low Channel (2112.5 MHz) WCDMA

 Value
 Limit
 Result

 4.675 MHz
 N/A
 N/A



Mid Channel (2145 MHz) WCDMA									
				Value	Limit	Result			
				4.659 MHz	N/A	N/A			



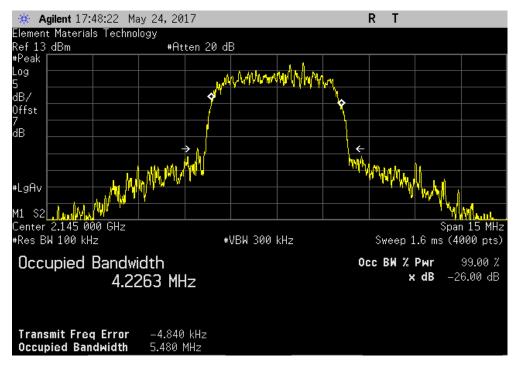
Report No. TECO0046 56/86

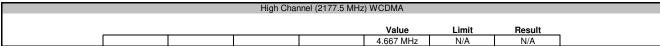


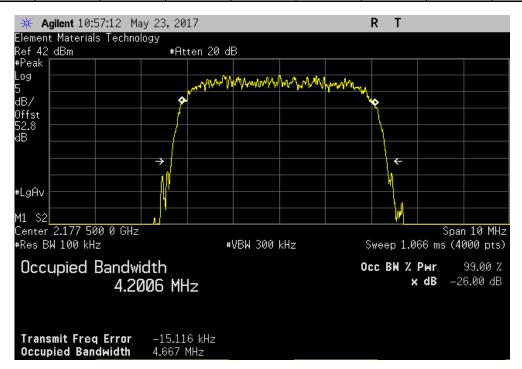
Mid Channel (2145 MHz) WCDMA, Input Signal

Value Limit Result

5.48 MHz N/A N/A





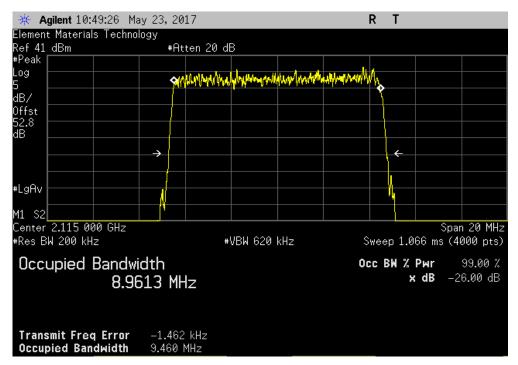


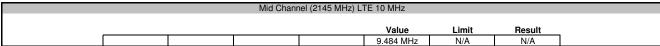
Report No. TECO0046 57/86

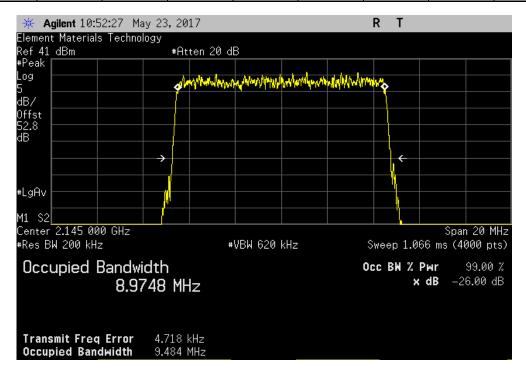


Low Channel (2115 MHz) LTE 10 MHz

| Value | Limit | Result |
| 9.46 MHz | N/A | N/A |







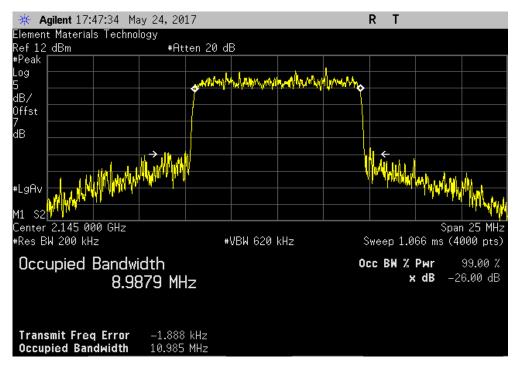
Report No. TECO0046 58/86

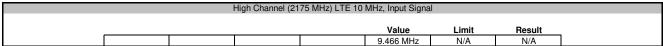


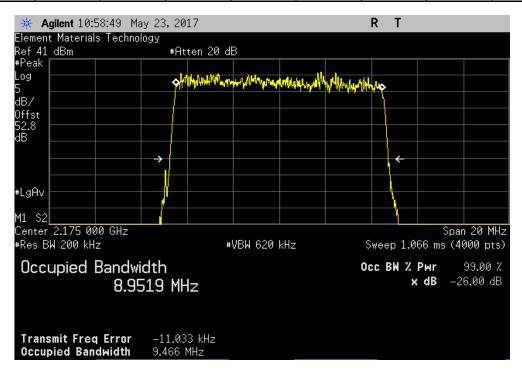
Mid Channel (2145 MHz) LTE 10 MHz, Input Signal

Value Limit Result

10.985 MHz N/A N/A







Report No. TECO0046 59/86

# SPURIOUS RADIATED EMISSIONS



PSA-ESCI 2017.09.1

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 Low Channel (2112.5 MHz, WCDMA/LTE-5, and 2115 MHz, LTE-10), Mid Channel (2145 MHz, WCDMA, LTE-5/10), High Channel (2177.5 MHz, WCDMA/LTE-5, and 2175 MHz, LTE-10)

#### **POWER SETTINGS INVESTIGATED**

110VAC/60Hz

#### **CONFIGURATIONS INVESTIGATED**

TECO0046 - 1

#### FREQUENCY RANGE INVESTIGATED

Start Frequency 30 MHz	Stop Frequency	26500 MHz
Start Frequency (30 MHz	Stop Frequency	20000 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
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	16-Mar-2017	12 mo
Amplifier - Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	12-Sep-2017	12 mo
Cable	ESM Cable Corp.	TTBJ141 KMKM-72	MNU	11-Sep-2017	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-09	AHG	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVW	23-Feb-2017	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AIQ	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	23-Feb-2017	12 mo
Cable	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	12-Jul-2017	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AXP	NCR	0 mo
Filter - High Pass	Micro-Tronics	HPM50111	LFN	20-Sep-2017	12 mo
Attenuator	Fairview Microwave	SA18E-20	TWZ	20-Sep-2017	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVT	23-Feb-2017	12 mo
Cable	ESM Cable Corp.	Double Ridge Guide Horn Cables	MNI	21-Nov-2017	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AJA	23-Jun-2016	24 mo
Amplifier - Pre-Amplifier	Miteq	AM-1616-1000	AVO	9-Nov-2017	12 mo
Cable	ESM Cable Corp.	Bilog Cables	MNH	9-Nov-2017	12 mo
Antenna - Biconilog	Teseq	CBL 6141B	AYD	25-Jan-2018	24 mo

### **MEASUREMENT BANDWIDTHS**

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

Report No. TECO0046 60/86

#### **TEST DESCRIPTION**

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

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.

Report No. TECO0046 61/86

# **SPURIOUS RADIATED EMISSIONS**



										EmiR5 2017.09.18.2		PSA-ESCI 2017.09.
Wo	ork Order:	TECC	00046		Date:		o-2018	1	7		11_	
	Project:				perature:				0	1/	U	
	Job Site:	MN	105		<b>Humidity:</b>	15.39	% RH					
Seria	l Number:	450872	200002	Barome	tric Pres.:	1031	mbar	-	Tested by:	Chris Patters	son	
	EUT:	Prism AWS	S3 SISO HI	DM 20 Watt				•		•		
Conf	iguration:	1										
		CommSco	pe									
		Joshua Wi										
		110VAC/60										
	ing Mode:	Transmittir	g at Low C	hannel (21	12.5 MHz, \	WCDMA/LT	E-5, and 2	2115 MHz, L	TE-10), Mi	d Channel (2 <sup>-</sup>	145 MHz	, WCDMA,
	eviations:	LIE-5/10),	High Chan	nel (2177.5	MHz, WC	DMA/LTE-5	, and 2175	MHz, LTE-	10)			
		Both ports	were termi	nated but or	nly one por	t is active.						
C	omments:											
Test Speci							Test Meth					
FCC 27.53	:2018						ANSI C63	.26:2015	•			
D #1	4	Took Die	torse (m)	2	Antonna	. Hoisekia)		1 to 4/20)		Beaute		
Run#	4	rest Dis	stance (m)	3	Antenna	a Height(s)		1 to 4(m)		Results	Р	ass
-5 -												
15											+	
-15 -												
-25												
25												
-35												
_												
표 <b>연</b> -45												
<b>3</b> -45												+++
									1			
-55												
-65												
00												
-75												
-85 <sup>_1</sup>												
10	0		100			1000			10000			100000
						MHz				■ DIZ	<u>Α</u> Δ1/	<ul><li>QP</li></ul>
										■ PK	◆ AV	<u> </u>
				Polarity/								
	Freq	Antenna Height	Azimuth	Transducer Type	Detector	EIRP	EIRP	Spec. Limit	Compared to Spec.		Comments	
	(MHz)	(meters)	(degrees)	туре	Detector	(Watts)	(dBm)	(dBm)	(dB)		Johnnenis	
	(					,			V- /			
	6435.342	1.0	282.9	Vert	PK	3.86E-08	-44.1	-13.0	-31.1	Mid Channel, L		
	6335.533	1.0	258.9	Horz	PK	3.21E-08	-44.9	-13.0	-31.9	Low Channel, N		
	6436.350	1.0	243.0	Vert	PK	3.21E-08	-44.9 45.1	-13.0	-31.9	Mid Channel, L		
	6435.208 6532.758	1.0 1.0	355.9 336.9	Vert Vert	PK PK	3.07E-08 3.07E-08	-45.1 -45.1	-13.0 -13.0	-32.1 -32.1	Mid Channel, V High Channel,		
	0552.758	1.0	330.9	v en t	L IV	3.01 E-00	- <del>4</del> 0.1	-13.0	-JZ. I	riigii Onaililei,	MINIOPA	

Report No. TECO0046 62/86

Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
6338.225	1.2	90.0	Vert	PK	2.86E-08	-45.4	-13.0	-32.4	Low Channel, WCDMA
6531.500	1.0	157.0	Horz	PK	2.86E-08	-45.4	-13.0	-32.4	High Channel, LTE-5
6432.517	1.2	189.0	Horz	PK	2.86E-08	-45.4	-13.0	-32.4	Mid Channel, LTE-10
6343.675	1.0	235.0	Vert	PK	2.86E-08	-45.4	-13.0	-32.4	Low Channel (2115 MHz), LTE-10
6530.883	1.0	185.1	Horz	PK	2.86E-08	-45.4	-13.0	-32.4	High Channel, WCDMA
6534.158	3.5	97.0	Vert	PK	2.80E-08	-45.5	-13.0	-32.5	High Channel, LTE-5
6523.283	2.9	0.0	Vert	PK	2.80E-08	-45.5	-13.0	-32.5	High Channel (2175 MHz), LTE-10
6434.883	1.0	171.0	Horz	PK	2.74E-08	-45.6	-13.0	-32.6	Mid Channel, LTE-5
6336.608	1.0	126.0	Horz	PK	2.67E-08	-45.7	-13.0	-32.7	Low Channel, LTE-5
6336.458	1.0	360.0	Vert	PK	2.67E-08	-45.7	-13.0	-32.7	Low Channel, LTE-5
6524.525	2.6	343.0	Horz	PK	2.50E-08	-46.0	-13.0	-33.0	High Channel (2175 MHz), LTE-10
6342.517	3.5	253.0	Horz	PK	2.50E-08	-46.0	-13.0	-33.0	Low Channel (2115 MHz), LTE-10
6435.375	1.0	306.0	Horz	PK	2.38E-08	-46.2	-13.0	-33.2	Mid Channel, WCDMA
4289.692	1.0	216.0	Vert	PK	1.19E-08	-49.2	-13.0	-36.2	Mid Channel, WCDMA
4291.500	1.0	30.1	Horz	PK	1.11E-08	-49.5	-13.0	-36.5	Mid Channel, WCDMA
4226.500	1.0	202.1	Vert	PK	9.93E-09	-50.0	-13.0	-37.0	Low Channel, WCDMA
4227.167	1.0	219.0	Horz	PK	9.49E-09	-50.2	-13.0	-37.2	Low Channel, WCDMA
4356.833	1.0	293.9	Vert	PK	9.27E-09	-50.3	-13.0	-37.3	High Channel, WCDMA
4355.942	1.0	325.9	Horz	PK	9.06E-09	-50.4	-13.0	-37.4	High Channel, WCDMA
8707.967	1.1	231.0	Horz	PK	2.93E-09	-55.3	-13.0	-42.3	High Channel, WCDMA
8711.917	1.0	169.0	Vert	PK	2.38E-09	-56.2	-13.0	-43.2	High Channel, WCDMA
8447.667	2.5	11.1	Horz	PK	2.28E-09	-56.4	-13.0	-43.4	Low Channel, WCDMA
8580.658	1.0	297.0	Horz	PK	2.28E-09	-56.4	-13.0	-43.4	Mid Channel, WCDMA
8450.917	1.0	227.1	Vert	PK	2.17E-09	-56.6	-13.0	-43.6	Low Channel, WCDMA
8578.367	1.0	310.0	Vert	PK	2.03E-09	-56.9	-13.0	-43.9	Mid Channel, WCDMA

Report No. TECO0046 63/86



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
Attenuator	Aeroflex	48-30-34	RCU	9/15/2016	9/15/2017
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Cable	ESM Cable Corp	TTBJ141 KMKM-72	MNP	NCR	NCR
Attenuator	S.M. Electronics	SA26B-20	RFW	2/14/2017	2/14/2018
Block - DC	Fairview Microwave	SD3379	AMI	9/15/2016	9/15/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/16/2017	3/16/2018

#### **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.

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

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.

Report No. TECO0046 64/86



							TbtTx 2017.01.27	
	Prism AWS3 SISO HDM 2	0 Watt			Worl		TECO0042	
Serial Number:							05/24/17	
	CommScope					erature:		
	Josh Wittman						43% RH	
Project:							1011 mbar	
	Dustin Sparks			10VAC/60Hz	J	ob Site:	MN08	
EST SPECIFICATI	ONS			est Method				
CC 27:2017			Al	NSI/TIA/EIA-603-D-2010				
COMMENTS								
EVEL A TIONIO ED ON								
	I TEST STANDARD							
DEVIATIONS FROM None	TEST STANDARD							
	1 TEST STANDARD	Signature	Tusting	palo				
one		Signature	Frequency Range	pads	Max V (dBr		Limit ≤ (dBm)	Result
one onfiguration #	2	Signature	Frequency	parlo		n)		Result Pass
onfiguration #	2 5 MHz) WCDMA	Signature	Frequency Range	pado	(dBr	<b>n)</b> 58	≤ (dBm)	
one onfiguration #  ow Channel (2112.5 ow Channel (2112.5	2 5 MHz) WCDMA 5 MHz) WCDMA	Signature	Frequency Range 30 MHz - 12.5 GHz	pads	(dBr -19.5 -16. -20.6	<b>n)</b> 58 6	≤ <b>(dBm)</b> -13	Pass
onfiguration #  ow Channel (2112.5  w Channel (2112.5  id Channel (2145 N	2 5 MHz) WCDMA 5 MHz) WCDMA MHz) WCDMA	Signature	Frequency Range 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz	pula	( <b>dB</b> r -19.5 -16.	<b>n)</b> 58 6	≤ (dBm) -13 -13	Pass Pass
one onfiguration #  ow Channel (2112.9 ow Channel (2112.9 ow Channel (2145 N ow Channel (2145 N ow Channel (2145 N ow Channel (2145 N	2 5 MHz) WCDMA 5 MHz) WCDMA MHz) WCDMA MHz) WCDMA 5 MHz) WCDMA	Signature	Frequency Range 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz 30 MHz - 12.5 GHz	pado	(dBr -19.5 -16. -20.6 -17.7 -20.0	n) 58 .6 .6 .63 .07	≤ (dBm) -13 -13 -13	Pass Pass Pass
one onfiguration # w Channel (2112.3 w Channel (2112.5 d Channel (2145 N d Channel (2147 N gh Channel (2177.	2  5 MHz) WCDMA 5 MHz) WCDMA MHz) WCDMA MHz) WCDMA 5 MHZ) WCDMA 5 MHZ) WCDMA		Frequency Range 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz	pads	(dBr -19.9 -16. -20.0 -17.7 -20.0 -16.8	58 6 63 07 07	≤ (dBm) -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass
one onfiguration # w Channel (2112.5 w Channel (2145 N d Channel (2145 N gh Channel (2177. w Channel (2177) w Channel (2115 I	2 5 MHz) WCDMA 5 MHz) WCDMA MHz) WCDMA JS MHz) WCDMA 5 MHz) WCDMA 5 MHz) WCDMA MHz) LTE 10MHz		Frequency Range 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz 30 MHz - 12.5 GHz	pulo	(dBr -19.1 -16. -20.0 -17.0 -20.0 -16.3 -20.3	m) 58 6 63 07 07 07 33	≤ (dBm)  -13 -13 -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass Pass
one on Grannel (2112.9 ow Channel (2112.9 ow Channel (2115.9 ow Channel (2145 N gh Channel (2177.9 gh Channel (2177.9 ow Channel (2115 I	2 5 MHz) WCDMA 5 MHz) WCDMA MHz) WCDMA MHz) WCDMA 5 MHz) WCDMA 5 MHz) WCDMA MHz) LTE 10MHz MHz) LTE 10MHz		Frequency Range 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz 12.5 GHz - 22 GHz	pado	(dBr -19.9 -16.6 -20.6 -17.7 -20.6 -16.6 -20.3 -16.6	m) 58 6 63 07 07 33 31	≤ (dBm) -13 -13 -13 -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass Pass
one onfiguration #  ow Channel (2112.5 ow Channel (2145 N iid Channel (2145 N iigh Channel (2177.7 ow Channel (2115 I ow Channel (2115 I iid Channel (2115 I iid Channel (2115 I	2 5 MHz) WCDMA 5 MHz) WCDMA MHz) WCDMA 5 MHZ) WCDMA 5 MHz) WCDMA 5 MHz) UCDMA MHz) LTE 10MHz MHz) LTE 10MHz		Frequency Range 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz 30 MHz - 12.5 GHz	pads	(dBr -19.1 -16. -20.0 -17.0 -20.0 -16.3 -20.3	m) 58 6 63 07 07 33 31	≤ (dBm)  -13 -13 -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass Pass
one onfiguration #  ow Channel (2112.5 ow Channel (2145 N id Channel (2145 N igh Channel (2177. ow Channel (2115 I ow Channel (2115 I ow Channel (2145 N id Channel (2145 N id Channel (2145 N	2 5 MHz) WCDMA 5 MHz) WCDMA MHz) WCDMA 5 MHz) WCDMA 5 MHz) WCDMA 5 MHz) WCDMA MHz) LTE 10MHz MHz) LTE 10MHz MHz) LTE 10MHz MHz) LTE 10MHz		Frequency Range 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz 12.5 GHz - 22 GHz	pula	(dBr -19.1 -16. -20.0 -17.7 -20.0 -16. -19.3 -16.	n) 58 6 6 63 07 07 63 31 4 97 43	≤ (dBm) -13 -13 -13 -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass Pass
lone	2  5 MHz) WCDMA 5 MHz) WCDMA 65 MHz) WCDMA MHz) WCDMA 5 MHz) WCDMA 5 MHz) WCDMA MHz) LTE 10MHz		Frequency Range 30 MHz - 12.5 GHz 12.5 GHz - 22 GHz 30 MHz - 12.5 GHz	pado	(dBr -19.9 -16.6 -20.6 -17.7 -20.1 -16.8 -20.3 -16.9	n) 58 6 6 63 07 07 63 31 4 97 43	≤ (dBm) -13 -13 -13 -13 -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass Pass

Report No. TECO0046 65/86

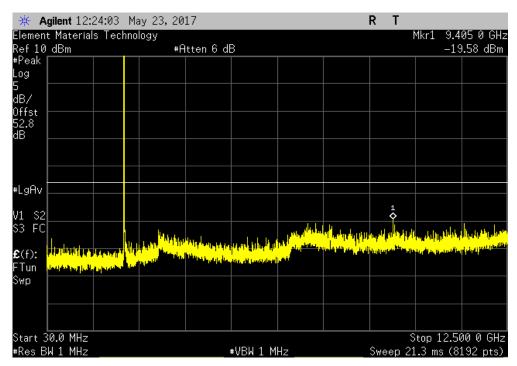


 Low Channel (2112.5 MHz) WCDMA

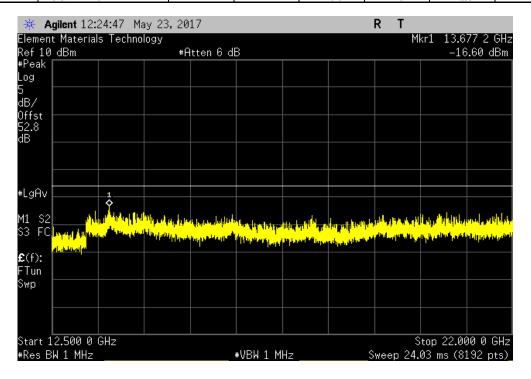
 Frequency
 Max Value
 Limit

 Range
 (dBm)
 ≤ (dBm)
 Result

 30 MHz - 12.5 GHz
 -19.58
 -13
 Pass



	Low Channel (2112.5 MHz) WCDMA					
Frequency			Max Value	Limit		
Range			(dBm)	≤ (dBm)	Result	
12.5 GHz - 22 GHz			-16.6	-13	Pass	

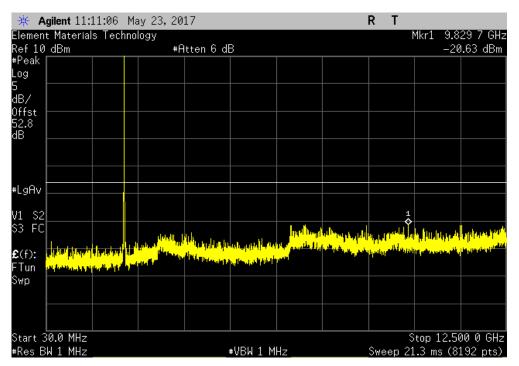


Report No. TECO0046 66/86

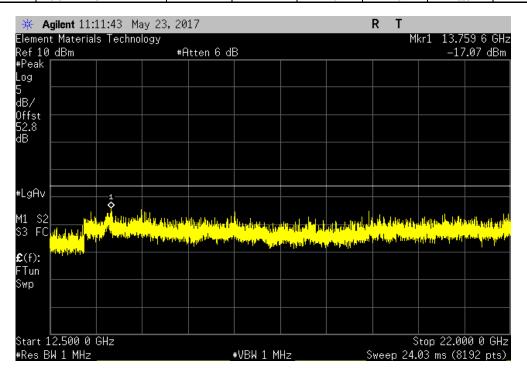


TbtTx 2017.01.27

	Mid Chan	nel (2145 MHz) '	WCDMA		
Frequency			Max Value	Limit	
Range			(dBm)	≤ (dBm)	Result
30 MHz - 12.5 GHz			-20.63	-13	Pass



	Mid Channel (2145 MHz) WCDMA						
Frequency			Max Value	Limit			
Range			(dBm)	≤ (dBm)	Result		
12.5 GHz - 22 GHz			-17.07	-13	Pass		

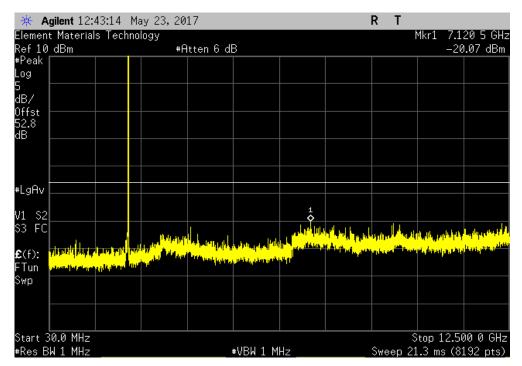


Report No. TECO0046 67/86

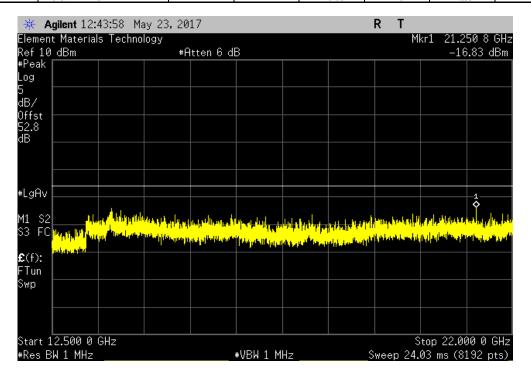


TbtTx 2017.01.27

	High Channel (2177.5 M	Hz) WCDMA		
Frequency		Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
30 MHz - 12.5 GHz		-20.07	-13	Pass



	High Channel (2177.5 MHz) WCDMA					
Frequency			Max Value	Limit		
Range			(dBm)	≤ (dBm)	Result	
12.5 GHz - 22 GHz			-16.83	-13	Pass	

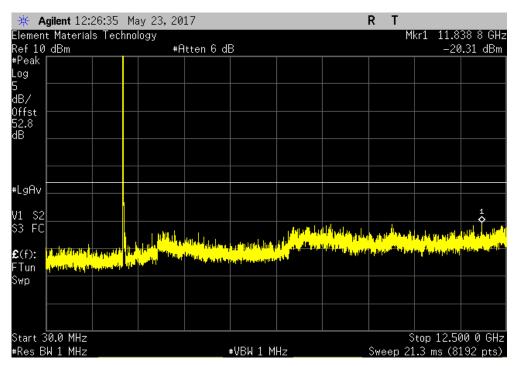


Report No. TECO0046 68/86

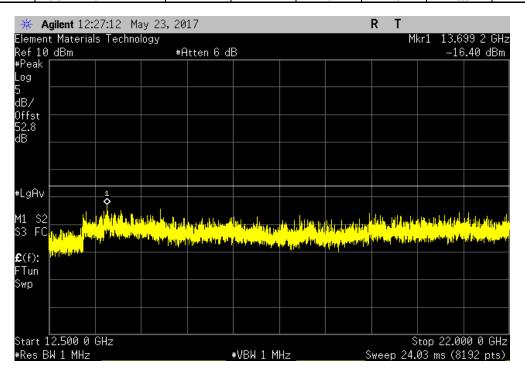


TbtTx 2017.01.27

	Low Chan	nel (2115 MHz) L'	TE 10MHz		
Frequency			Max Value	Limit	
Range			(dBm)	≤ (dBm)	Result
30 MHz - 12.5 GHz			-20.31	-13	Pass



	Low Channel (2115 MHz) LTE 10MHz						
Frequency		Max Value	Limit				
Range		(dBm)	≤ (dBm)	Result			
12.5 GHz - 22 GHz		-16.4	-13	Pass			

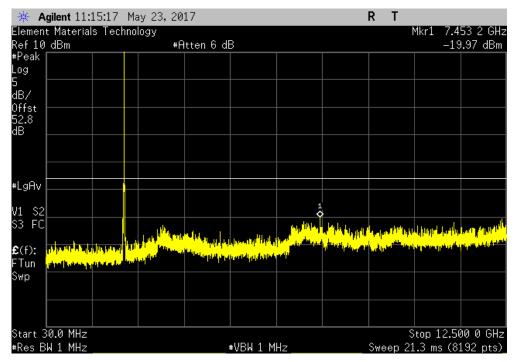


Report No. TECO0046 69/86

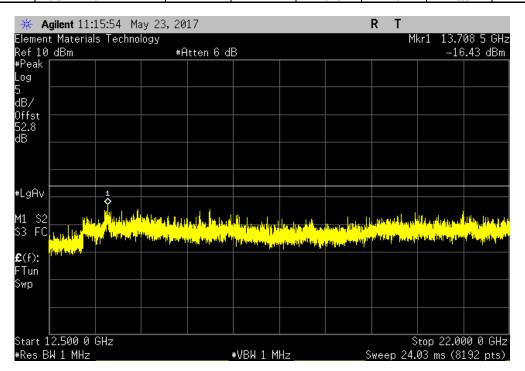


TbtTx 2017.01.27

Mid Channel (2145 MHz) LTE 10MHz					
Frequency		Max Value	Limit		
Range		(dBm)	≤ (dBm)	Result	
30 MHz - 12.5 GHz		-19.97	-13	Pass	



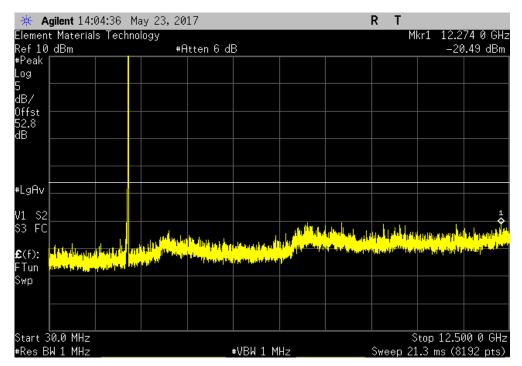
	Mid Chann	el (2145 MHz) L	TE 10MHz		
Frequency			Max Value	Limit	
Range			(dBm)	≤ (dBm)	Result
12.5 GHz - 22 GHz			-16.43	-13	Pass



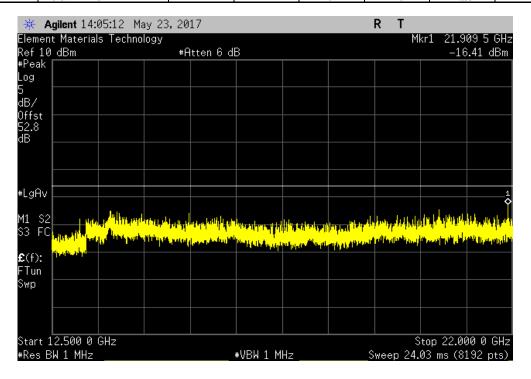
Report No. TECO0046 70/86



					TbtTx 2017.01.27	XMit 2017.02.08		
High Channel (2175 MHz) LTE 10MHz								
Frequency		Max Value	Limit					
Range		(dBm)	≤ (dBm)	Result				
30 MHz - 12 5 GHz		-20.49	-13	Pass				



	High Chanr	nel (2175 MHz) L	TE 10MHz		
Frequency			Max Value	Limit	
Range			(dBm)	≤ (dBm)	Result
12.5 GHz - 22 GHz			-16.41	-13	Pass



Report No. TECO0046 71/86

# **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
Attenuator	Aeroflex	48-30-34	RCU	9/15/2016	9/15/2017
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Cable	ESM Cable Corp	TTBJ141 KMKM-72	MNP	NCR	NCR
Attenuator	S.M. Electronics	SA26B-20	RFW	2/14/2017	2/14/2018
Block - DC	Fairview Microwave	SD3379	AMI	9/15/2016	9/15/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/16/2017	3/16/2018

#### **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.

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 approximately 1% of the measured emissions bandwidth within the first 1 MHz block adjacent to the transmit band. 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. Failing measurements were re-measured using the channel power integration method as called out in the standard.

Report No. TECO0046 72/86

# **BAND EDGE COMPLIANCE**



EUT: Pris	m AWS3 SISO HDM	20 Watt				Work Order:	TECO0042	
Serial Number: 459	644002					Date:	05/23/17	
Customer: Con	nmScope					Temperature:	24.2 °C	
Attendees: Jos	h Wittman					Humidity:	40% RH	
Project: Non	ne					Barometric Pres.:	1012 mbar	
Tested by: Dus	tin Sparks			Power: 110VAC/60Hz		Job Site:	MN08	
TEST SPECIFICATIONS	3			Test Method				
CC 27:2017				ANSI/TIA/EIA-603-D-2	2010			
COMMENTS								
	ed to be 0 - per custo	mer, the antenna gain will be rec	evaluated duri	ing installation. System is rated	at 20W (+43 dBm) per	port. Both ports were terminate	ed but only one por	rt is active.
Antenna gain is assume		mer, the antenna gain will be ree	evaluated duri	ing installation. System is rated	at 20W (+43 dBm) per	port. Both ports were terminate	ed but only one por	rt is active.
Antenna gain is assume		mer, the antenna gain will be ree		ing installation. System is rated	at 20W (+43 dBm) per	port. Both ports were terminate	ed but only one por	rt is active.
Antenna gain is assume DEVIATIONS FROM TES None	ST STANDARD				at 20W (+43 dBm) per	port. Both ports were terminate  Value (dBm)	Limit (dBm)	rt is active.
DEVIATIONS FROM TES	ST STANDARD				at 20W (+43 dBm) per	Value	Limit	
DEVIATIONS FROM TESTIONE Configuration #  ow Channel (2112.5 MF)	ST STANDARD  2 Hz) WCDMA				at 20W (+43 dBm) per	Value (dBm)	Limit (dBm)	Result
Antenna gain is assume DEVIATIONS FROM TES	2 Hz) WCDMA Hz) WCDMA				at 20W (+43 dBm) per	Value (dBm) -18.37	Limit (dBm)	Result Pass

Report No. TECO0046 73/86

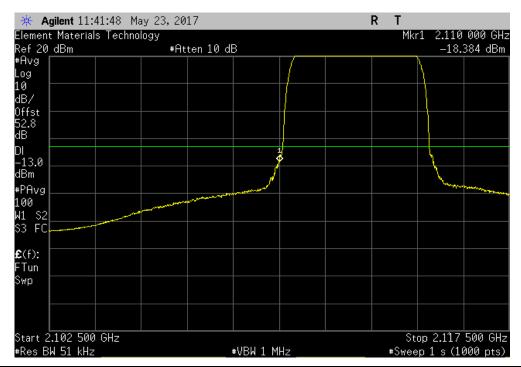
# **BAND EDGE COMPLIANCE**



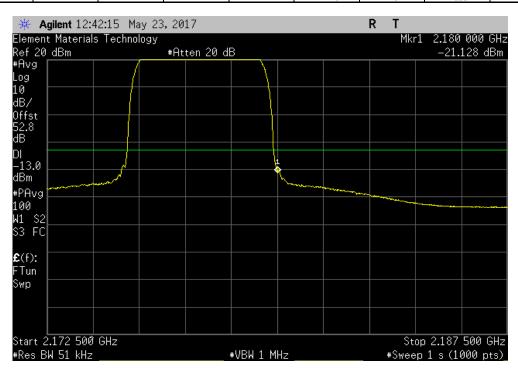
Low Channel (2112.5 MHz) WCDMA

Value Limit
(dBm) (dBm) Result

-18.37 -13 Pass



	High Channel (2177.5 MHz) WCDMA							
					Value	Limit		
					(dBm)	(dBm)	Result	
1					-21.15	-13	Pass	



Report No. TECO0046 74/86

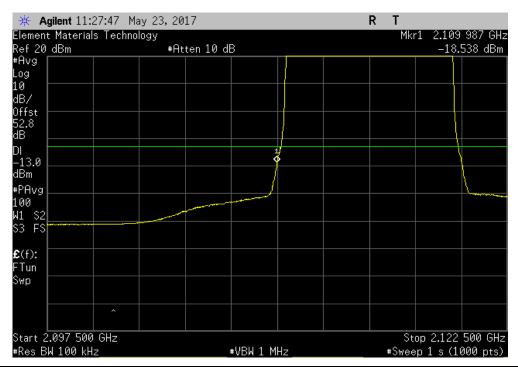
# **BAND EDGE COMPLIANCE**



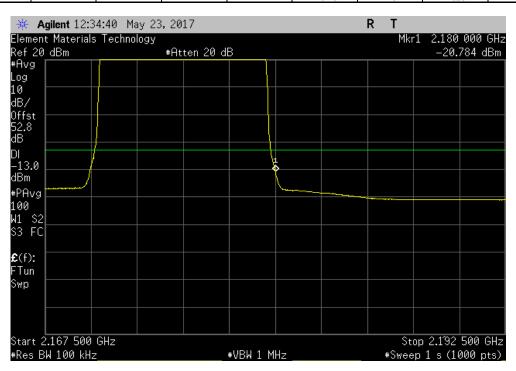
Low Channel (2115 MHz) LTE 10MHz

Value Limit
(dBm) (dBm) Result

-18.54 -13 Pass



High Channel (2175 MHz) LTE 10MHz							
				Value	Limit		
				(dBm)	(dBm)	Result	
				-20.78	-13	Pass	1



Report No. TECO0046 75/86



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
Attenuator	Aeroflex	48-30-34	RCU	9/15/2016	9/15/2017
Power Divider/Combiner	Fairview Microwave	MP0208-2	IAF	NCR	NCR
Power Divider/Combiner	Fairview Microwave	MP0208-2	IAE	NCR	NCR
Generator - Signal	Agilent	N5183A	TIK	10/17/2014	10/17/2017
Cable	ESM Cable Corp	TTBJ141 KMKM-72	MNP	NCR	NCR
Attenuator	S.M. Electronics	SA26B-20	RFW	2/14/2017	2/14/2018
Block - DC	Fairview Microwave	SD3379	AMI	9/15/2016	9/15/2017
Analyzer - Spectrum Analyzer	Agilent	E4440A	AAX	3/16/2017	3/16/2018

#### **TEST DESCRIPTION**

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

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

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.

Report No. TECO0046 76/86



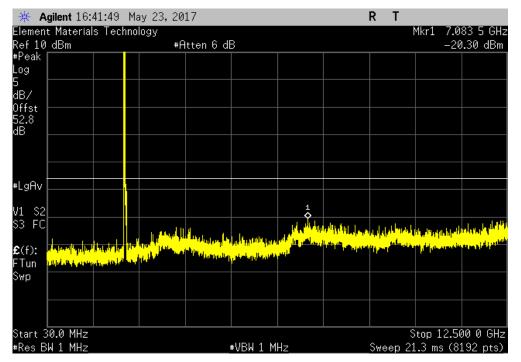
EUT.						TbtTx 2017.01.27	XMit 2017.02
	Prism AWS3 SISO HDM 2	0 Watt			Work Order		
Serial Number:						05/24/17	
Customer:	CommScope				Temperature	21.6 °C	
	Josh Wittman					43.6% RH	
Project:					Barometric Pres.		
	Dustin Sparks			0VAC/60Hz	Job Site	MN08	
TEST SPECIFICATION	ONS			est Method			
FCC 27:2017			1A	NSI/TIA/EIA-603-D-2010			
COMMENTS							
Antenna gain is ass	sumed to be 0 - per custon	ner, the antenna gain will be reevaluate	ed during installation	n. System is rated at 20W (+43 dBn	n) per port. Both ports were terminate	ed but only one por	t is active.
leasurements mad	le outside of the Passband	d, but within the allowable band were n	nade to show that a	II Intermodulation emissions were	below the spurious limit.		
DEVIATIONS FROM	I TEST STANDARD						
None							
		<i>x</i>	× . 0	~			
Configuration #	2	$\sim$	usting	2			
		Signature		/ *			
			Frequency		Max Value	Limit	
			Frequency Range		Max Value (dBm)	Limit ≤ (dBm)	Result
ow Passband (2110	0-2145 MHz) WCDMA	3					Result Pass
	0-2145 MHz) WCDMA 0-2145 MHz) WCDMA		Range		(dBm)	≤ (dBm)	
ow Passband (2110			Range 0 MHz - 12.5 GHz		(dBm) -20.3	<b>≤ (dBm)</b> -13	Pass
ow Passband (2110 ow Passband (2110	)-2145 MHz) WCDMA	i	Range 0 MHz - 12.5 GHz 2.5 GHz - 22 GHz		(dBm) -20.3 -17.23	≤ (dBm) -13 -13	Pass Pass
Low Passband (2110 Low Passband (2110 Mid Passband (2130	0-2145 MHz) WCDMA 0-2145 MHz) WCDMA	3	Range 10 MHz - 12.5 GHz 2.5 GHz - 22 GHz Fundamental		(dBm) -20.3 -17.23 -21.76	≤ (dBm) -13 -13 -13	Pass Pass Pass
Low Passband (2110 Low Passband (2110 Mid Passband (2130 Mid Passband (2130	0-2145 MHz) WCDMA 0-2145 MHz) WCDMA -2160 MHz) WCDMA	3	Range 10 MHz - 12.5 GHz 2.5 GHz - 22 GHz Fundamental 10 MHz - 12.5 GHz		(dBm) -20.3 -17.23 -21.76 -20.34	≤ (dBm) -13 -13 -13 -13	Pass Pass Pass Pass
Low Passband (2110 Low Passband (2110 Mid Passband (2130 Mid Passband (2130 Mid Passband (2130	0-2145 MHz) WCDMA 0-2145 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA	3 1	Range 10 MHz - 12.5 GHz 2.5 GHz - 22 GHz Fundamental 10 MHz - 12.5 GHz 2.5 GHz - 22 GHz		(dBm) -20.3 -17.23 -21.76 -20.34 -16.81	≤ (dBm) -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass
ow Passband (2110) ow Passband (2110) Mid Passband (2130) Mid Passband (2130) Mid Passband (2130) High Passband (214)	0-2145 MHz) WCDMA 0-2145 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA	1 3 1	Range  10 MHz - 12.5 GHz 2.5 GHz - 22 GHz Fundamental 10 MHz - 12.5 GHz 2.5 GHz - 22 GHz Fundamental		(dBm) -20.3 -17.23 -21.76 -20.34 -16.81 -18.36	≤ (dBm) -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass
ow Passband (2110) ow Passband (2110) Aid Passband (2130) Aid Passband (2130) Aid Passband (2130) Aigh Passband (214) Aigh Passband (214)	0-2145 MHz) WCDMA 0-2145 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA 5-2180 MHz) WCDMA	1 3 1	Range  10 MHz - 12.5 GHz 2.5 GHz - 22 GHz Fundamental  10 MHz - 12.5 GHz 2.5 GHz - 22 GHz Fundamental  10 MHz - 12.5 GHz Hundamental		(dBm) -20.3 -17.23 -21.76 -20.34 -16.81 -18.36 -20.11	≤ (dBm) -13 -13 -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass Pass
ow Passband (2110, ow Passband (2110) ow Passband (2110) did Passband (2130) did Passband (2130) did Passband (2144) digh Passband (2144) digh Passband (2144) digh Passband (2144) digh Passband (2144)	0-2145 MHz) WCDMA 0-2145 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA 5-2180 MHz) WCDMA 5-2180 MHz) WCDMA	3 1 3 1	Range  10 MHz - 12.5 GHz 2.5 GHz - 22 GHz Fundamental 10 MHz - 12.5 GHz 2.5 GHz - 22 GHz Fundamental 10 MHz - 12.5 GHz 2.5 GHz - 12.5 GHz 2.5 GHz - 22 GHz		(dBm) -20.3 -17.23 -21.76 -20.34 -16.81 -18.36 -20.11 -16.09	≤ (dBm)  -13 -13 -13 -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass Pass
ow Passband (2110 ow Passband (2110 flid Passband (2130 flid Passband (2130 flid Passband (2130 fligh Passband (214 fligh Passband (214 fligh Passband (214 ow Passband (2110	0-2145 MHz) WCDMA 0-2145 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA 5-2180 MHz) WCDMA 5-2180 MHz) WCDMA 5-2180 MHz) WCDMA	1 3 1 3 1	Range  10 MHz - 12.5 GHz 2.5 GHz - 22 GHz Fundamental 10 MHz - 12.5 GHz 2.5 GHz - 22 GHz Fundamental 10 MHz - 12.5 GHz 2.5 GHz - 22 GHz Fundamental 2.5 GHz - 22 GHz Fundamental		(dBm) -20.3 -17.23 -21.76 -20.34 -16.81 -18.36 -20.11 -16.09 -19.6	≤ (dBm)  -13 -13 -13 -13 -13 -13 -13 -13 -13 -1	Pass Pass Pass Pass Pass Pass Pass Pass
ow Passband (2110, ow Passband (2110)	0-2145 MHz) WCDMA 0-2145 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA 5-2180 MHz) WCDMA 5-2180 MHz) WCDMA 5-2180 MHz) WCDMA 0-2145 MHz) LTE 10 MHz	1 3 1 3 1	Range 10 MHz - 12.5 GHz 2.5 GHz - 22 GHz Fundamental 10 MHz - 12.5 GHz 2.5 GHz - 22 GHz Fundamental 10 MHz - 12.5 GHz 2.5 GHz - 22 GHz Fundamental 10 MHz - 12.5 GHz 2.5 GHz - 22 GHz Fundamental 10 MHz - 12.5 GHz - 12.5 G		(dBm) -20.3 -17.23 -21.76 -20.34 -16.81 -18.36 -20.11 -16.09 -19.6 -20.31	≤ (dBm)  -13 -13 -13 -13 -13 -13 -13 -13 -13 -1	Pass Pass Pass Pass Pass Pass Pass Pass
ow Passband (2110) ow Passband (2110) ilid Passband (2130) ilid Passband (2130) ilid Passband (2130) ilid Passband (2140) iligh Passband (2141) iligh Passband (2140) ow Passband (2110) ow Passband (2111) ow Passband (2111)	0-2145 MHz) WCDMA 0-2145 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA 5-2180 MHz) WCDMA 5-2180 MHz) WCDMA 5-2180 MHz) WCDMA 0-2145 MHz) LTE 10 MHz 0-2145 MHz) LTE 10 MHz	3 1 3 1	Range 1 2.5 GHz - 22 GHz Fundamental 1 2.5 GHz - 22 GHz Fundamental 1 2.5 GHz - 22 GHz Fundamental 1 0 MHz - 12.5 GHz - 22 GHz Fundamental 1 0 MHz - 12.5 GHz - 22 GHz Fundamental 1 0 MHz - 12.5 GHz - 22 GHz Fundamental 2 2.5 GHz - 22 GHz		(dBm) -20.3 -17.23 -21.76 -20.34 -16.81 -18.36 -20.11 -16.09 -19.6 -20.31	≤ (dBm)  -13 -13 -13 -13 -13 -13 -13 -13 -13 -1	Pass Pass Pass Pass Pass Pass Pass Pass
.cow Passband (2110 .cow Passband (2130 Mid Passband (2130 Mid Passband (2130 Mid Passband (2130 Mid Passband (2144 High Passband (2144 .cow Passband (21162) .cow Passband (21162) .cow Passband (21162) .cow Passband (21162)	0-2145 MHz) WCDMA 0-2145 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA 5-2180 MHz) WCDMA 5-2180 MHz) WCDMA 5-2180 MHz) WCDMA 5-2180 MHz) UCDMA 0-2145 MHz) LTE 10 MHz 0-2145 MHz) LTE 10 MHz	1 3 1 3 1 3 1	Range  Range  Range  2.5 GHz - 22 GHz Fundamental  0.0 MHz - 12.5 GHz Fundamental		(dBm) -20.3 -17.23 -21.76 -20.34 -16.81 -18.36 -20.11 -16.09 -19.6 -20.31 -17.44 -22.58	≤ (dBm)  -13 -13 -13 -13 -13 -13 -13 -13 -13 -1	Pass Pass Pass Pass Pass Pass Pass Pass
ow Passband (2110 ow Passband (2130 flid Passband (2130 flid Passband (2130 flid Passband (2130 flid Passband (2144 fligh Passband (2144 fligh Passband (2110 ow Passband (2110 ow Passband (2110 idi Passband (2130 flid Passband (2130	0-2145 MHz) WCDMA 0-2145 MHz) WCDMA 0-2165 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA 5-2180 MHz) WCDMA 5-2180 MHz) WCDMA 5-2180 MHz) WCDMA 0-2145 MHz) LTE 10 MHz	1 3 1 3 1 3 1	Range 10 Haber 2 12:5 GHz 2 GHz 12:5		(dBm) -20.3 -17.23 -21.76 -20.34 -16.81 -18.36 -20.11 -16.09 -19.6 -20.31 -17.44 -22.58	≤ (dBm)  -13 -13 -13 -13 -13 -13 -13 -13 -13 -1	Pass Pass Pass Pass Pass Pass Pass Pass
ow Passband (2116 (id) Passband (2150 (2150 Passband (2130 Mid Passband (2130 Mid Passband (21430 Passband (21445) Passband (21445) Passband (21450 Passband (21450 Passband (21450 Passband (2150 Passba	0-2145 MHz) WCDMA 0-2145 MHz) WCDMA 0-2160 MHz) WCDMA 0-2180 MHz) WCDMA 0-2145 MHz) WCDMA 0-2145 MHz) LTE 10 MHz 0-2145 MHz) LTE 10 MHz 0-2160 MHz) LTE 10 MHz 0-2160 MHz) LTE 10 MHz 0-2160 MHz) LTE 10 MHz	1 3 1 3 1 3 1	Range 1 2.5 GHz - 22 GHz Fundamental 1 0.0 MHz - 12.5 GHz - 22 GHz		(dBm) -20.3 -17.23 -21.76 -20.34 -16.81 -18.36 -20.11 -16.09 -19.6 -20.31 -17.44 -22.58 -20.28 -16.62	≤ (dBm)  -13 -13 -13 -13 -13 -13 -13 -13 -13 -1	Pass Pass Pass Pass Pass Pass Pass Pass
cow Passband (2110) cow Passband (2130) diid Passband (2130) diid Passband (2130) diid Passband (2130) diid Passband (2144) diigh Passband (2144) diigh Passband (2144) diigh Passband (21410) cow Passband (21110) cow Passband (21110) diid Passband (2130)	0-2145 MHz) WCDMA 0-2145 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA -2160 MHz) WCDMA 5-2180 MHz) WCDMA 5-2180 MHz) WCDMA 5-2180 MHz) WCDMA 5-2145 MHz) LTE 10 MHz 0-2145 MHz) LTE 10 MHz 0-2145 MHz) LTE 10 MHz -2160 MHz) LTE 10 MHz	1 3 1 3 1 3 1 3 1	Range  Range  2.5 GHz - 22 GHz Fundamental  0. MHz - 12.5 GHz Fundamental		(dBm) -20.3 -17.23 -21.76 -20.34 -16.81 -18.36 -20.11 -16.09 -19.6 -20.31 -17.44 -22.58 -20.28 -16.62 -22.61	≤ (dBm)  -13 -13 -13 -13 -13 -13 -13 -13 -13 -1	Pass Pass Pass Pass Pass Pass Pass Pass

Report No. TECO0046 77/86

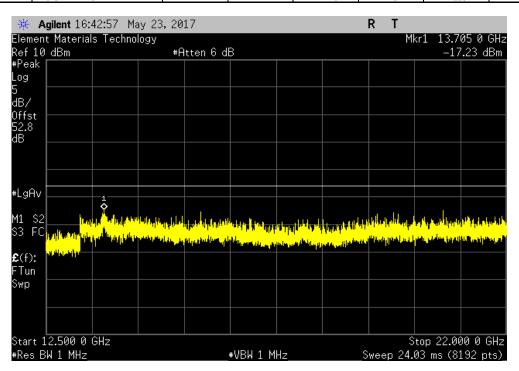


TbtTx 2017.01.27

	Low Passband (21	10-2145 MHz) WCDMA		
Frequency		Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
30 MHz - 12 5 GHz		-20.3	-13	Pass



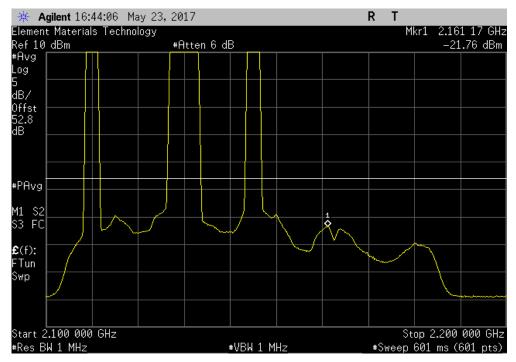
	Low Passband (2110-2145 MHz) WCDMA						
Frequency			Max Value	Limit			
Range			(dBm)	≤ (dBm)	Result		
12.5 GHz - 22 GHz			-17.23	-13	Pass		



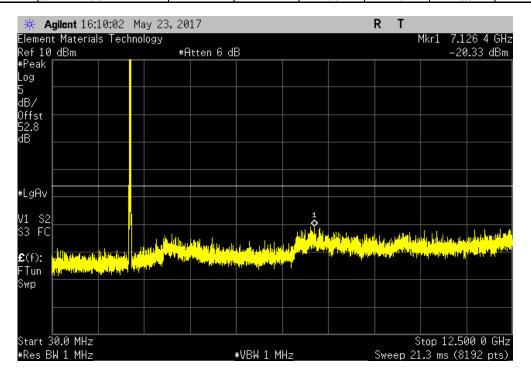
Report No. TECO0046 78/86



| Low Passband (2110-2145 MHz) WCDMA | Frequency | Max Value | Limit | Range | (dBm) | ≤ (dBm) | Result | Fundamental | -21.76 | -13 | Pass |



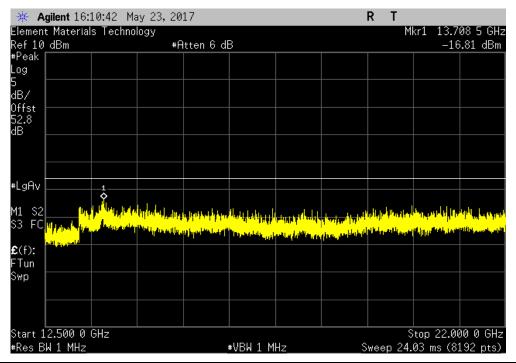
	Mid Passband (2130-2160 MHz) WCDMA						
Frequency			Max Value	Limit			
Range			(dBm)	≤ (dBm)	Result		
30 MHz - 12.5 GHz			-20.34	-13	Pass		



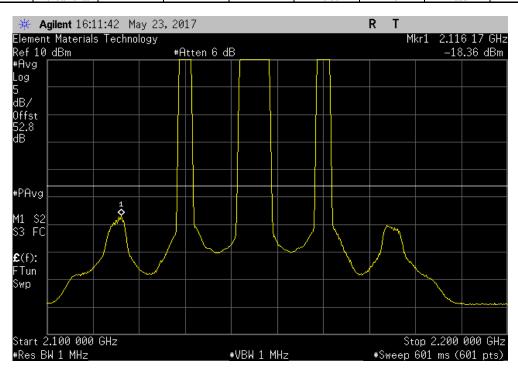
Report No. TECO0046 79/86



	Mid Passbar	nd (2130-2160 MI	Hz) WCDMA			
Frequency			Max Value	Limit		
Range			(dBm)	≤ (dBm)	Result	
12.5 GHz - 22 GHz			-16.81	-13	Pass	



	Mid Passband (2130-2160 MHz) WCDMA						
Frequency	Frequency						
Range		(dBm)	≤ (dBm)	Result			
Fundamental		-18.36	-13	Pass			

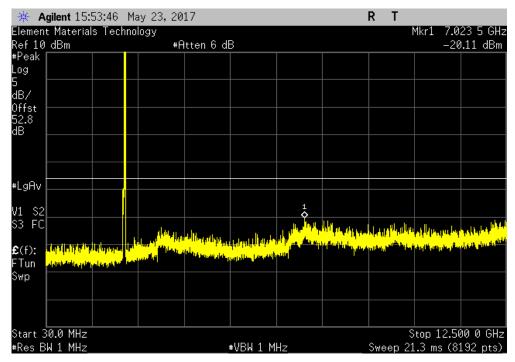


Report No. TECO0046 80/86

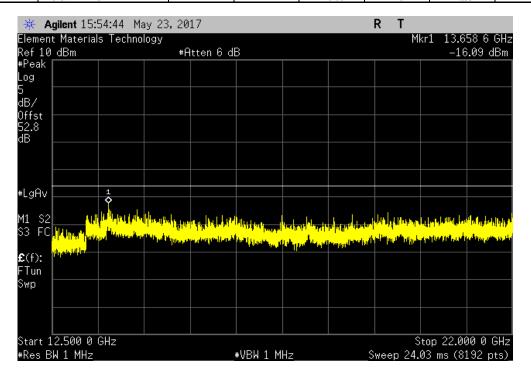


TbtTx 2017.01.27 XMit 2017.02.08

	High Passband (2145-2180 MHz) WCDMA					
Frequency	Frequency			Limit		
Range			(dBm)	≤ (dBm)	Result	
30 MHz - 12.5 GHz			-20.11	-13	Pass	

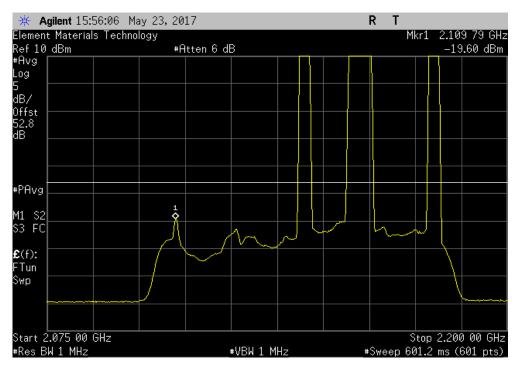


	High Passband (2145-2180 MHz) WCDMA					
Frequency			Max Value	Limit		
Range			(dBm)	≤ (dBm)	Result	
12.5 GHz - 22 GHz			-16.09	-13	Pass	

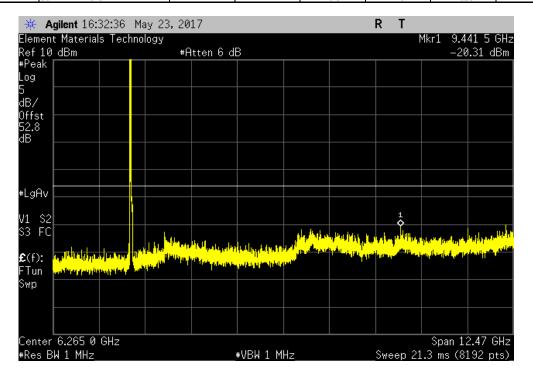


Report No. TECO0046 81/86





	Low Passband (2110-2145 MHz) LTE 10 MHz				
Frequency			Max Value	Limit	
Range			(dBm)	≤ (dBm)	Result
30 MHz - 12.5 GHz			-20.31	-13	Pass



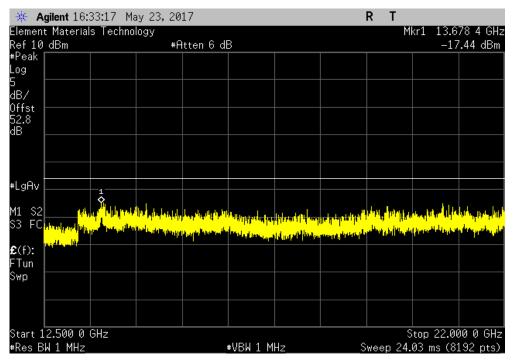
Report No. TECO0046 82/86



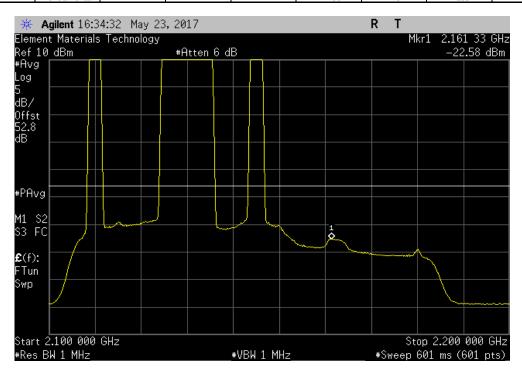
TbtTx 2017.01.27 XMM 2017.02.08

Low Passband (2110-2145 MHz) LTE 10 MHz

	Low Passband (2110-2145 MHz) LTE 10 MHz				
Frequency			Max Value	Limit	
Range			(dBm)	≤ (dBm)	Result
12.5 GHz - 22 GHz			-17.44	-13	Pass



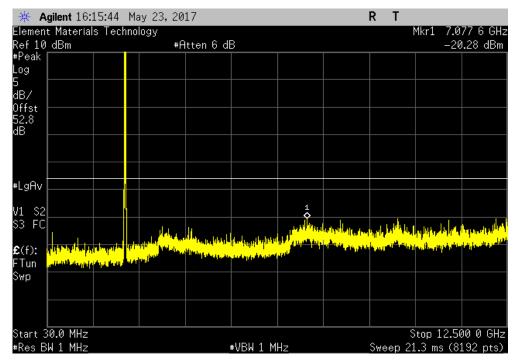
	Low Passband (2110-2145 MHz) LTE 10 MHz					
Frequency		Max Value	Limit			
Range		(dBm)	≤ (dBm)	Result		
Fundamental		-22.58	-13	Pass		



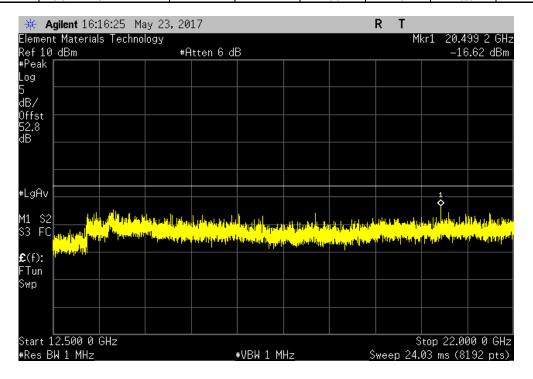
Report No. TECO0046 83/86



	Mid Passband (2130-2160 MHz) LTE 10 MHz		
Frequency	Max Value	Limit	
Range	(dBm)	≤ (dBm)	Result
30 MHz - 12 5 GHz	-20.28	-13	Pass



	Mid Passband (2130-2160 MHz) LTE 10 MHz				
Frequency			Max Value	Limit	
Range			(dBm)	≤ (dBm)	Result
12.5 GHz - 22 GHz			-16.62	-13	Pass

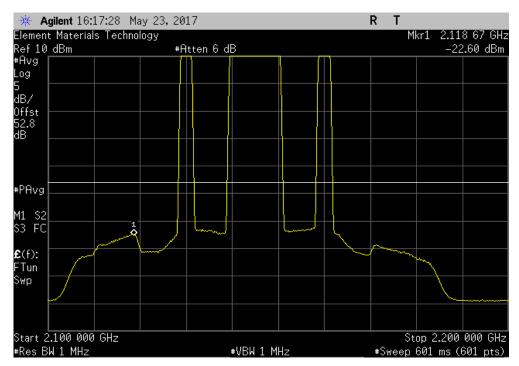


Report No. TECO0046 84/86

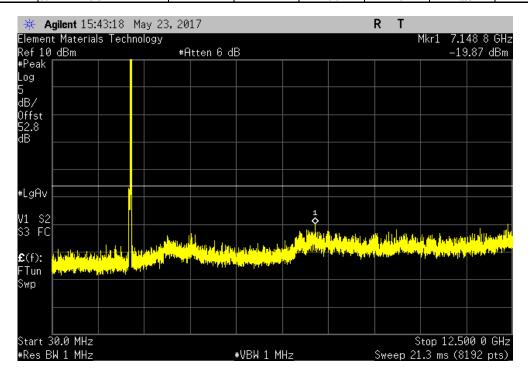


Tb(Tx 2017.01.27 XMit 2017.02.08

	Mid Passband	(2130-2160 MHz) LTE 10 MHz		
Frequency		Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
Fundamental		-22.61	-13	Pass



	High Passband (2145-2180 MHz) LTE 10 MHz				
Frequency			Max Value	Limit	
Range			(dBm)	≤ (dBm)	Result
30 MHz - 12.5 GHz			-19.87	-13	Pass



Report No. TECO0046 85/86



High Passband (2145-2180 MHz) LTE 10 MHz

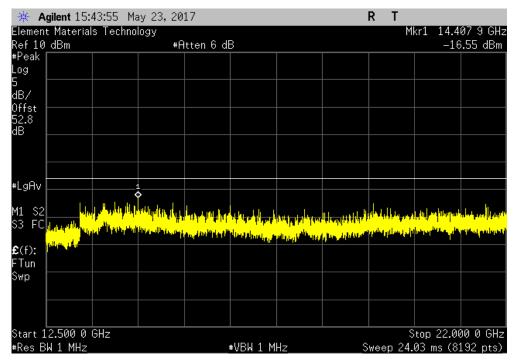
Frequency

Range

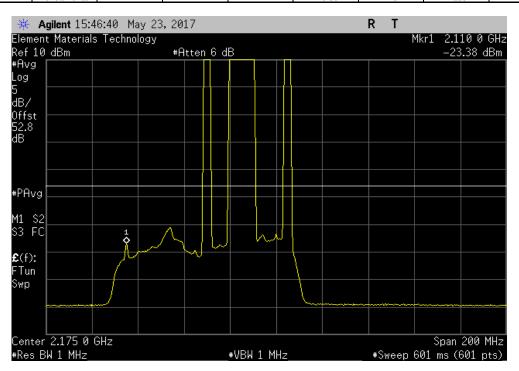
(dBm) ≤ (dBm) Result

12.5 GHz - 22 GHz

-16.55 -13 Pass



	High Passband	(2145-2180 MHz) LTE 10 MHz		
Frequency		Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
Fundamental		-23.38	-13	Pass



Report No. TECO0046 86/86