

CommScope

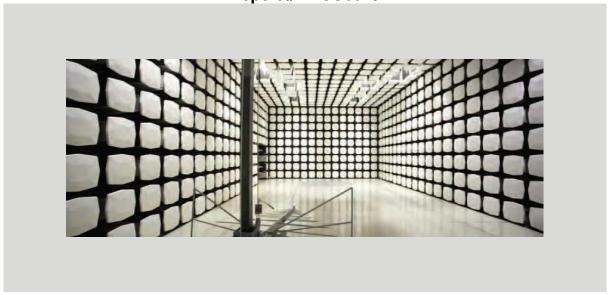
Prism 1900/2100AWS3 Dual HDM 20 Watt

FCC 24E:2018

FCC 27:2018

20W Dual SISO Cellular RF Repeater/Industrial Booster

Report # TECO0048







NVLAP Lab Code: 200881-0

CERTIFICATE OF TEST



Last Date of Test: February 20, 2018 CommScope

Model: Prism 1900/2100AWS3 Dual HDM 20 Watt

Radio Equipment Testing

Standards

Specification	Method
FCC 24E:2018	ANCI/TIA/FIA COO D 0010
FCC 27:2018	ANSI/TIA/EIA-603-D-2010 ANSI C63.26:2015
FCC 2:2018	ANSI 003.20.2013

Results

Method				
Clause	Test Description	Applied	Results	Comments
2.2.1	Equivalent Isotropic Radiated Power (EIRP) (1900)	Yes	Pass	
2.2.1	Peak To Average Ratio (1900)	Yes	Pass	
2.2.3	Emissions Bandwidth (1900)	Yes	Pass	
2.2.13	Spurious Conducted Emissions (1900)	Yes	Pass	
2.2.13	Band Edge Compliance (1900)	Yes	Pass	
2.2.13	Band Edge Compliance (2100)	Yes	Pass	
2.2.13	Intermodulation (1900)	Yes	Pass	
2.2.2	Frequency Stability (1900)	Yes	Pass	
2.2.12	Spurious Radiated Emissions (1900)	Yes	Pass	
2.1046	Equivalent Isotropic Radiated Power (EIRP) (2100)	Yes	Pass	
2.1051	Spurious Conducted Emissions (2100)	Yes	Pass	
2.1051	Intermodulation (2100)	Yes	Pass	
2.1055	Frequency Stability (2100)	Yes	Pass	
2.1049	Emissions Bandwidth (2100)	Yes	Pass	
2.1053	Spurious Radiated Emissions (2100)	Yes	Pass	
2.1053	Peak to Average Ratio (2100)	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.

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REVISION HISTORY



Revision Number	Description	Date	Page Number
00	None		

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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

MSIT / 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

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MEASUREMENT UNCERTAINTY



Measurement Uncertainty

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

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

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

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

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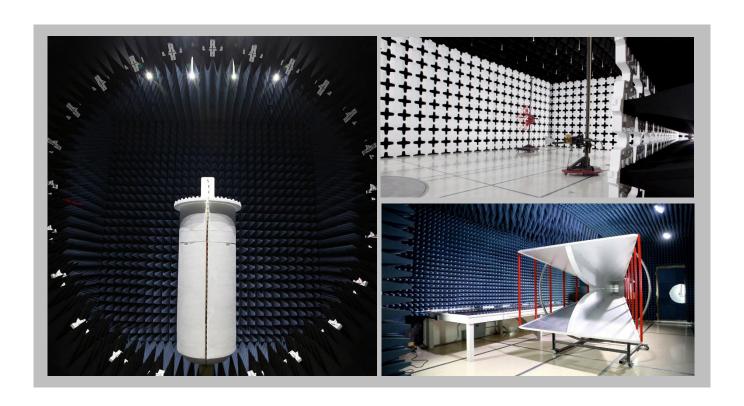
FACILITIES







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	Texas Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255	Washington Labs NC01-05 19201 120 th Ave NE Bothell, WA 98011 (425)984-6600		
		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		
	Innov	ation, Science and Eco	nomic Development Can	ada			
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		
		VC	CI				
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		

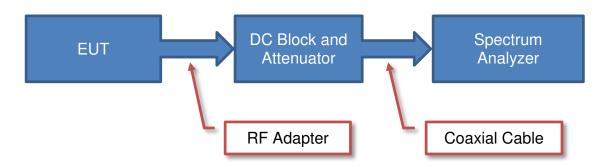


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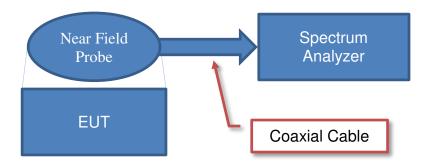
Test Setup Block Diagrams



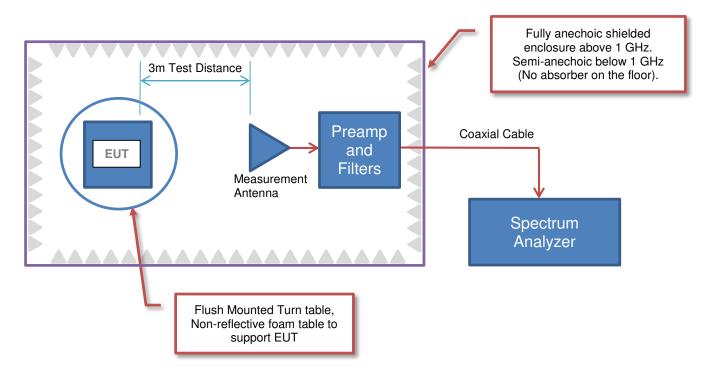
Antenna Port Conducted Measurements



Near Field Test Fixture Measurements



Spurious Radiated Emissions



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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 1900/2100AWS3 Dual HDM 20 Watt
First Date of Test:	April 9, 2014
Last Date of Test:	February 20, 2018
Receipt Date of Samples:	April 9, 2014
Equipment Design Stage:	Production
Equipment Condition:	No Damage
Purchase Authorization:	Verified

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

HDM 1900 PCS/2100 AWS3 Cellular RF Repeater/Industrial Booster

Testing Objective:

To demonstrate compliance of the Cellular repeater requirements of FCC Parts 24 & 27

Client Provided Information:

RF module FWP-84MTZ4MMOD evaluated in this test report includes previously FCC certified hardware for the 1900 Band portion of the DUT. This hardware is identical as the 1900 Band hardware tested in the following NWEMC/Element projects:

- TECO0013 Prism HDM 800/1900
- TECO0017 Prism 1900/2100 MHz RF Module
- TECO0042 AWS3 MIMO RF Module

Since the 1900 Band hardware is identical, the conducted measurement data in these projects was used in the FCC evaluation for FWP-84MTZ4MMOD.

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Configuration TECO0013- 1

EUT					
Description	Manufacturer	Model/Part Number	Serial Number		
Prism 1900/2100AWS3 Dual HDM 20 Watt	TE Connectivity / ADC Telecommunications	FWP-441T841MOD	None		

Peripherals in test setup boundary						
Description	Manufacturer	Model/Part Number	Serial Number			
RF Signal Generator	Aeroflex	IFR 3413	341006/252			
Power Supply	Mean Well	SE-600-48	EB11101765			
IO Control Device	TE Connectivity / ADC Telecommunications	SVT-GU-1011	None			
30 dB attenuator	Aeroflex	57-30-43	RA434			
RF Signal Generator	Aeroflex	IFR 3413	341006/056			
30 dB attenuator	Aeroflex	86-30-12 DC -22 GHz	369			
Laptop	Lenovo	T500	L3-AFD7K 09/04			
Laptop Supply	Lenovo	42T4418	11S42T4418Z1ZGWG19659N			

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
AC Power	No	> 3m	No	Prism 1900/2100AWS3 Dual HDM 20 Watt	AC Mains
Fiber	No	> 3m	No	Prism 1900/2100AWS3 Dual HDM 20 Watt	IO Control Device
RF	Yes	0.8m	No	Prism 1900/2100AWS3 Dual HDM 20 Watt	30 dB attenuator
RF	Yes	1.8m	No	IO Control Device	RF Signal Generator
AC Power x2	No	1.8m	No	RF Signal Generator	AC Mains
AC Power	No	1.8m	No	Power Supply	AC Mains
DC Power	No	2.8m	Yes	IO Control Device	Power Supply
AC Power	No	1.8m	No	Laptop Supply	AC Mains
DC Power	No	1.8m	Yes	Laptop	Laptop Supply
Ethernet	No	1.5m	No	Laptop	IO Control Device
RF	Yes	0.8m	No	Prism 1900/2100AWS3 Dual HDM 20 Watt	30 dB attenuator
RF	Yes	0.9m	No	IO Control Device	RF Signal Generator
PA = Ca	ble is perma	nently attached to	the device	 Shielding and/or presence of ferrite ma 	y be unknown.

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Configuration TECO0017- 1

EUT						
Description	Manufacturer	Model/Part Number	Serial Number			
Prism 1900/2100AWS3 Dual HDM 20 Watt	TE Connectivitiy / ADC Telecommunications	FWP-84MTA4MMOD	None			

Peripherals in test setup boundary						
Description	Manufacturer	Model/Part Number	Serial Number			
Signal Generator	Tektronix	Aeroflex IFR 3413	341006/252			
Laptop	Dell	Latitude D630	34562243089			
IO Control Device	TE Connectivitiy / ADC Telecommunications	SVT-GU-1011	MIN-1301041310-002			
Laptop AC Adapter	Dell	PA-1900-02D	CN-09T215-55R-0526			
DC Power Supply	Mean Well	SE-600-48	EB11101765			
30 dB Attenuator 1	Aeroflex / Weinschel	57-30-43	RA434			
30 dB Attenuator 2	Aeroflex / Weinschel	40-0052	N/A			

Cables						
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2	
Fiber Optic Cable	No	>3m	No	IO Control Device	Prism	
AC Power Cable (Laptop)	No	85cm	No	AC Mains	Laptop AC Adapter	
DC Power Cable (Laptop)	No	1.8m	No	Laptop AC Adapter	Laptop	
Ethernet Cable	No	160cm	No	Laptop	IO Control Device	
AC Power Cable (DC Power Supply)	No	225cm	No	AC Mains	DC Power Supply	
AC Power Cable (Signal Generator)	No	180cm	No	AC Mains	Signal Generator	
DC Power Cable	No	290cm	No	DC Power Supply	IO Control Device	
Coaxial Cable	Yes	150cm	No	Signal Generator	IO Control Device	
AC Power Cable (Prism)	No	500cm	No	Prism	AC Mains	
Coaxial Cable	Yes	0.8m	No	Prism	30 dB Attenuator 1	
Coaxial Cable	Yes	0.9m	No	Prism	30 dB Attenuator 2	
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.						

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Configuration TECO0042- 1

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Prism 1900/2100AWS3 Dual HDM 20 Watt	CommScope	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	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 1900/2100AWS3 Dual HDM 20 Watt
AC Mains Cable (AWS3 Dual RF Module)	No	5.0m	No	Prism 1900/2100AWS3 Dual HDM 20 Watt	AC Mains
Output Cable 1	No	1.5m	No	Prism 1900/2100AWS3 Dual HDM 20 Watt	Attenuator 1
Output Cable 2	No	0.9m	No	Prism 1900/2100AWS3 Dual 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

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Configuration TECO0042- 2

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Prism 1900/2100AWS3 Dual HDM 20 Watt	CommScope	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 Outside of Test Setup Boundary					
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	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 1900/2100AWS3 Dual HDM 20 Watt	
AC Mains Cable (AWS3 Dual RF Module)	No	5.0m	No	Prism 1900/2100AWS3 Dual HDM 20 Watt	AC Mains	
Output Cable 1	No	1.5m	No	Prism 1900/2100AWS3 Dual HDM 20 Watt	Attenuator 1	
Output Cable 2	No	0.9m	No	Prism 1900/2100AWS3 Dual 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	

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Configuration TECO0048- 1

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
Prism 1900/2100AWS3 Dual HDM 20 Watt	CommScope Connectivity LLC	7780060-00-11	4608740003

Peripherals in test setup boundary						
Description	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 Outside of Test Setup Boundary						
Description Manufacturer Model/Part Number Serial Number						
Signal Generator	Aeroflex	IFR 3414	341007/003			
Comm Box	ADC	1673542-21	MR222P8C			
AC Converter	TDK	SWS300A-48 EHFP	3LR-140Y11-0105H0411			
Laptop	Lenovo	SL510	LR-ZZMRO 10/05			

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

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MODIFICATIONS



Equipment Modifications

Item	Date	Test	Modification	Note	Disposition of EUT
1	4/9/2014	Emissions Bandwidth	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.
2	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.
3	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.
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	Intermodulation	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Element following the test.
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 was taken home by the client following the test.
8	2/20/2018	Spurious Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

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EQUIVALENT ISOTROPIC RADIATED POWER (EIRP) 1900 LTE10

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.	Interval
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	24

TEST DESCRIPTION

The Average (RMS) output power was measured with the EUT set to the parameters called out in the data sheets. The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. Prior to making the measurements the setup, including cables and attenuators were calibrated and added into the reference level offset.



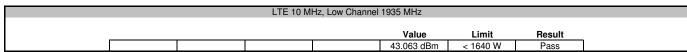
EQUIVALENT ISOTROPIC RADIATED POWER (EIRP) 1900 LTE10

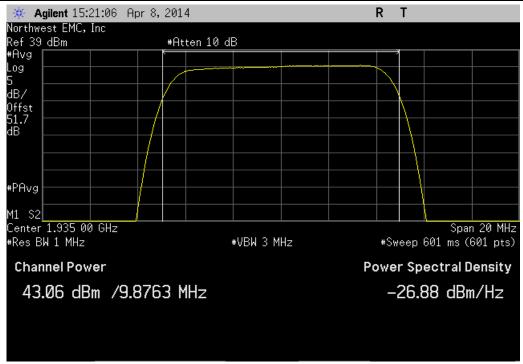
EU.	T: Prism 1900/2100AWS3 Du	al HDM 20 Watt				Work Order:	TECO0013			
Serial Number	er: None					Date:	04/09/14			
Custome	er: TE Connectivity / ADC Tel	ecommunications				Temperature:	24.2°C			
Attendee	s: None					Humidity:	21%			
Projec	t: None				E	Barometric Pres.: 1013.5				
Tested b	y: Trevor Buls		Power:	110VAC/60Hz		Job Site:	MN08			
TEST SPECIFICA	TIONS			Test Method						
FCC 24E:2014				ANSI/TIA/EIA-603-C-2004						
COMMENTS										
DEVIATIONS FRO	OM TEST STANDARD	nuator that was added into the r		·	, , 					
None										
Configuration #	1	- Signature	Trevor	Buls						
						Value	Limit	Result		
LTE 10 MHz										
	Low Channel 1935 MHz					43.063 dBm	< 1640 W	Pass		
	Mid Channel 1962.5 MHz					42.809 dBm	< 1640 W	Pass		
	High Channel 1990 MHz					41.772 dBm	< 1640 W	Pass		

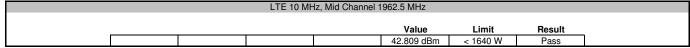
Report No. TECO0048 16/165

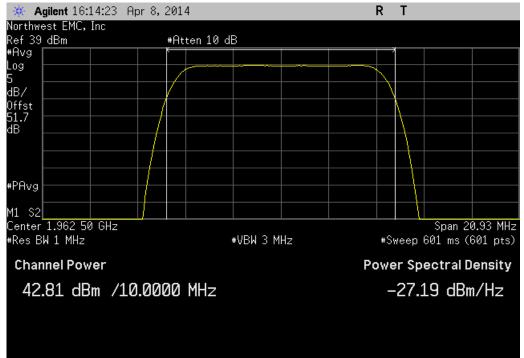


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP) 1900 LTE10





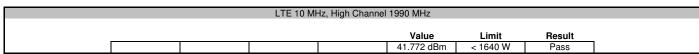


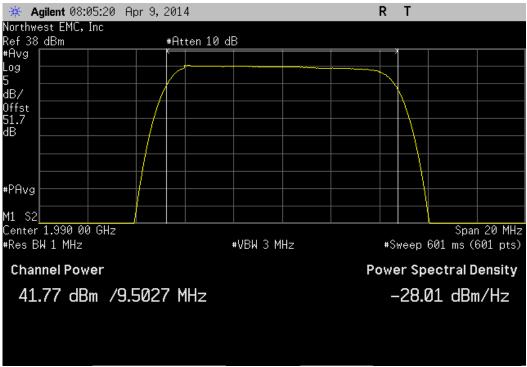


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EQUIVALENT ISOTROPIC RADIATED POWER (EIRP) 1900 LTE10







EQUIVALENT ISOTROPIC RADIATED POWER (EIRP) 1900 WCDMA

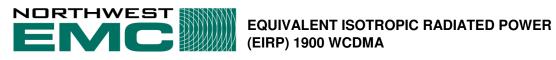
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TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	4/28/2014	12

TEST DESCRIPTION

The Average (RMS) output power was measured with the EUT set to the Parameters called out in the data sheets. The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. Prior to making the measurements, the setup, including cables and attenuators were calibrated and added into the reference level offset.

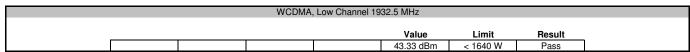


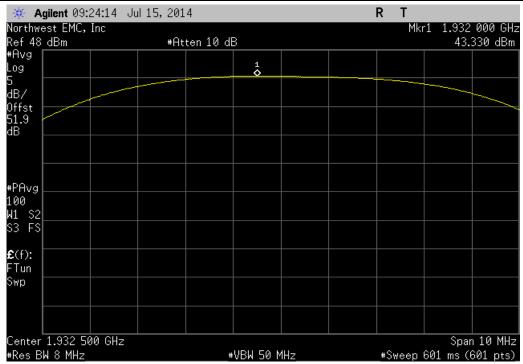
EU	T: Prism 1900/2100AWS3 Dual H	HDM 20 Watt				Work Order:				
Serial Number	er: None						07/15/14			
Custome	er: TE Connectivitiy / ADC Telec	ommunications				Temperature:	23.1°C			
Attendee	s: Josh Wittman				Humidity: 45%					
Projec	ct: None				E	Barometric Pres.: 1021.6				
Tested b	Tested by: Trevor Buls Power: 110VAC/60Hz					Job Site:	MN08			
TEST SPECIFICA	ATIONS			Test Method						
FCC 24E:2014				ANSI/TIA/EIA-603-C-2004						
COMMENTS										
_		y the customer. Both antenna por	ts were terminated	but only one port is active						
	OM TEST STANDARD									
None										
Configuration #	1	Signature	revor	Buls						
						Value	Limit	Result		
WCDMA										
	Low Channel 1932.5 MHz					43.33 dBm	< 1640 W	Pass		
	Mid Channel 1962.5 MHz					43.291 dBm	< 1640 W	Pass		
	High Channel 1992.5 MHz					43.165 dBm	< 1640 W	Pass		

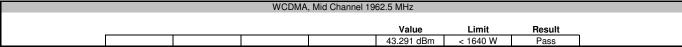
Report No. TECO0048 20/165

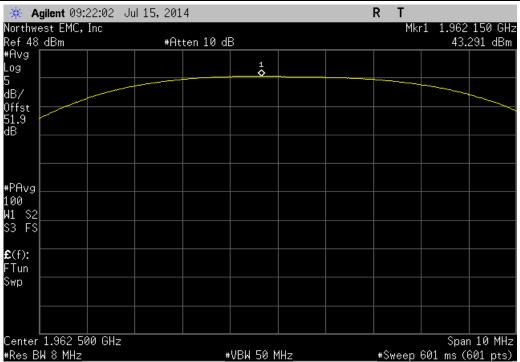


EQUIVALENT ISOTROPIC RADIATED POWER (EIRP) 1900 WCDMA





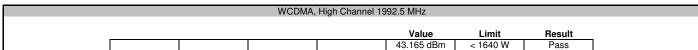


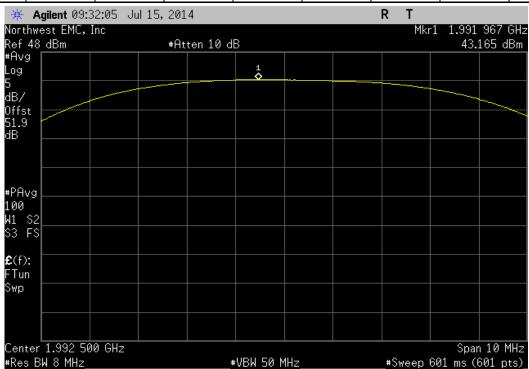


Report No. TECO0048 21/165



EQUIVALENT ISOTROPIC RADIATED POWER (EIRP) 1900 WCDMA







PEAK TO AVERAGE RATIO 1900 LTE

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.	Interval
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	24

TEST DESCRIPTION

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 dBm.

A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

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 was calculated:

>1st Screen Capture: The same procedure and settings as was used for conducted Output Power.

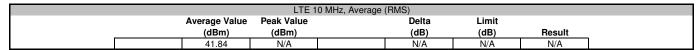
>2nd Screen Capture: Same as Screen capture 1 except using a peak detector and trace max-hold.

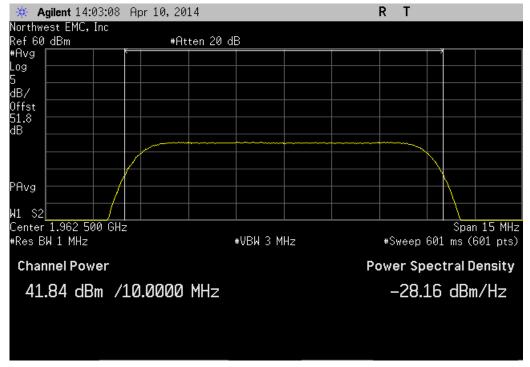


	m 1900/2100AWS3 Dual HDM	20 Watt			Work Order:		
Serial Number: None						04/09/14	
Customer: TE C	Connectivity / ADC Telecomm	unications			Temperature:		
Attendees: None					Humidity:	21%	
Project: None	e				Barometric Pres.:	1013.5	
Tested by: Trev	or Buls		Power: 110VAC/60Hz		Job Site:	MN08	
EST SPECIFICATIONS			Test Method				
CC 24E:2014			ANSI/TIA/EIA-603-0	C-2004			
COMMENTS							
DEVIATIONS FROM TES	ST STANDARD						
DEVIATIONS FROM TES	ST STANDARD						
	ST STANDARD 1	Signature	revor Buli	2			
one	ST STANDARD	Signature	Levor Bul	Peak Value (dBm)	Delta (dB)	Limit (dB)	Result
onfiguration #	ST STANDARD	Signature	Average Value	Peak Value			Result
configuration #	1 age (RMS)	Signature 5	Average Value	Peak Value			Result N/A

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PEAK TO AVERAGE RATIO 1900 LTE





	l	LTE 10 MHz, Peak			
Average Value	Peak Value		Delta	Limit	
(dBm)	(dBm)		(dB)	(dB)	Result
N/A	45.22		2 20	12	Page



Report No. TECO0048 25/165



PEAK TO AVERAGE RATIO 1900 WCDMA

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	4/28/2014	12

TEST DESCRIPTION

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 dBm.

A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

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 was calculated:

>1st Screen Capture: The same procedure and settings as was used for conducted Output Power.

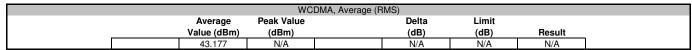
>2nd Screen Capture: Same as Screen capture 1 except using a peak detector and trace max-hold.

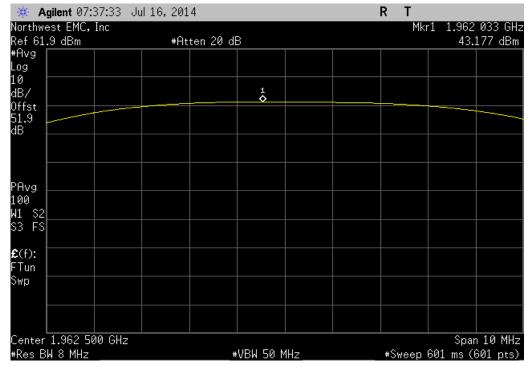


CUT. In	Prism 1900/2100AWS3 Dual F	IDM 00 West				Work Ore	er: TECO0017			
		ADINI 20 Wall								
Serial Number: N							te: 07/16/14			
	TE Connectivitiy / ADC Telecon	ommunications				Temperatu				
Attendees: N							ty: 43%			
Project: N	None					Barometric Pro	s.: 1020.6	1020.6		
Tested by: T	by: Trevor Buls Power: 110VAC/60Hz					Job S	te: MN08			
TEST SPECIFICATION	INS			Test Method						
FCC 24E:2014			-2004							
COMMENTS										
A 30 GD High Wallage	e attenuator was provided by	y the customer. Both antenna	ports were terminated	but only one port is	active					
		y the customer. Both antenna	ports were terminated	but only one port is	active					
DEVIATIONS FROM 1		y the customer. Both antenna	ports were terminated	but only one port is	active					
DEVIATIONS FROM 1			Trevor							
DEVIATIONS FROM 1 None Configuration #						Delta (dB)	Limit (dB)	Result		
DEVIATIONS FROM 1 lone Configuration #				B uls Average	Peak Value			Result		
DEVIATIONS FROM Thomas Configuration #				B uls Average	Peak Value			Result N/A		

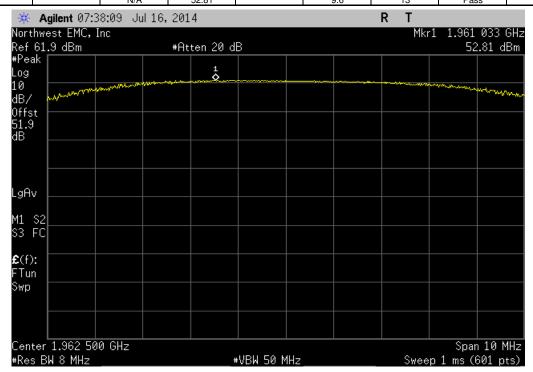
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PEAK TO AVERAGE RATIO 1900 WCDMA





			WCDMA, Peak			
	Average	Peak Value		Delta	Limit	
	Value (dBm)	(dBm)		(dB)	(dB)	Result
	N/A	52.81		9.6	13	Pacc



Report No. TECO0048 28/165



EMISSIONS BANDWIDTH 1900 LTE10

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.	Interval
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	24

TEST DESCRIPTION

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

A direct connection was made between the EUT and a spectrum analyzer. The resolution bandwidth was approximately equal to 1% of the 26 dB bandwidth and the video bandwidth was greater than or equal to the resolution bandwidth.

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

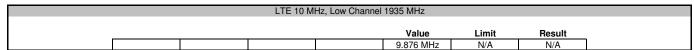


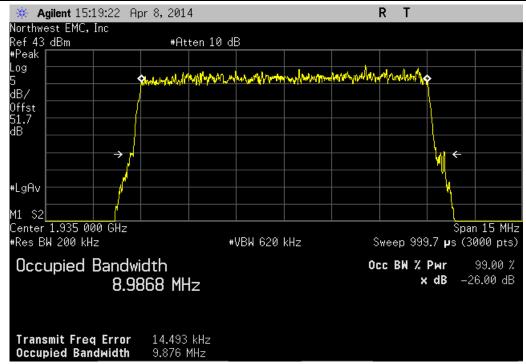
EMISSIONS BANDWIDTH 1900 LTE10

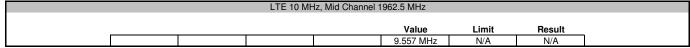
	Prism 1900/2100AWS3 De	ual HDM 20 Watt				Work Order:		
Serial Number:	None						04/09/14	
Customer:	TE Connectivity / ADC Te	lecommunications				Temperature: 2	24.2°C	
Attendees:	None					Humidity: 2	21%	
Project:	None					Barometric Pres.: 1	1013.5	
Tested by:	Trevor Buls		Power:	110VAC/60Hz		Job Site:	MN08	
TEST SPECIFICAT	IONS			Test Method				
FCC 24E:2014				ANSI/TIA/EIA-603-C-2004	1			
COMMENTS								
·		enuator that was added into the refere	ence level offset. Be	oth antenna ports were t	erminated but only one port is	active		
DEVIATIONS FROM	M TEST STANDARD							
None								
Configuration #	1	Signature	revor	Buls				
						Value	Limit	Result
LTE 10 MHz								
	Low Channel 1935 MHz					9.876 MHz	N/A	N/A
	Mid Channel 1962.5 MHz							
	WIIG CHAILIEL 1302.3 WII IZ					9.557 MHz	N/A	N/A
	High Channel 1990 MHz					9.557 MHz 9.503 MHz	N/A N/A	N/A N/A
Input Signal - LTE 1	High Channel 1990 MHz							

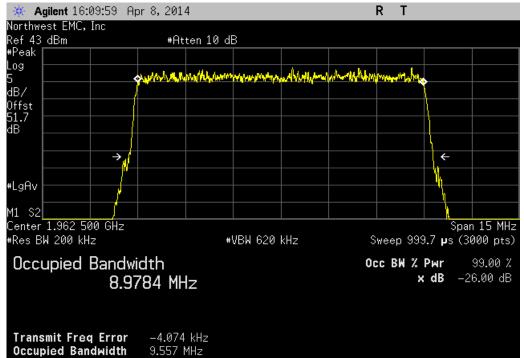
Report No. TECO0048 30/165







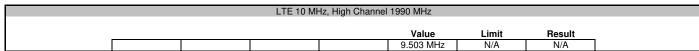


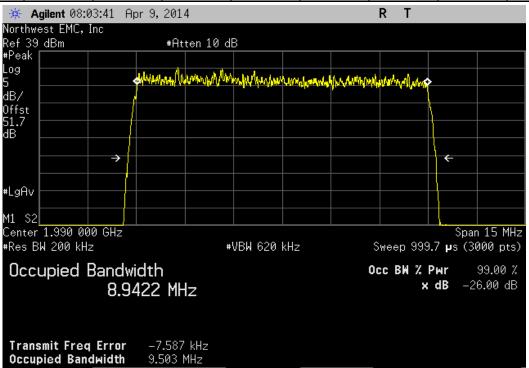


Report No. TECO0048 31/165

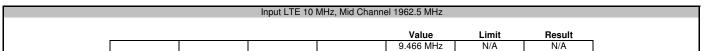


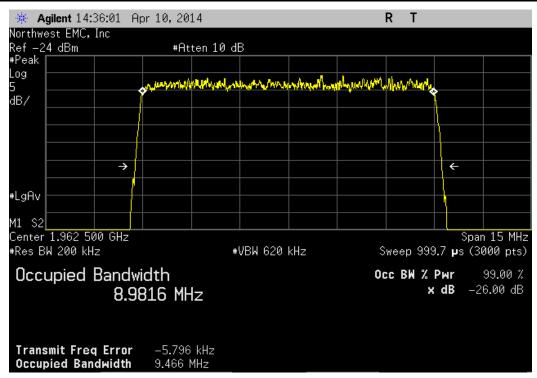
EMISSIONS BANDWIDTH 1900 LTE10











Report No. TECO0048 33/165



EMISSIONS BANDWIDTH 1900 WCDMA

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	4/28/2014	12

TEST DESCRIPTION

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

A direct connection was made between the EUT and a spectrum analyzer. The resolution bandwidth was approximately equal to 1% of the 26dB bandwidth and the video bandwidth was greater than or equal to the resolution bandwidth.

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



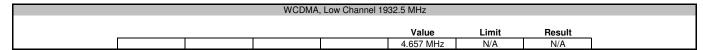
EMISSIONS BANDWIDTH 1900 WCDMA

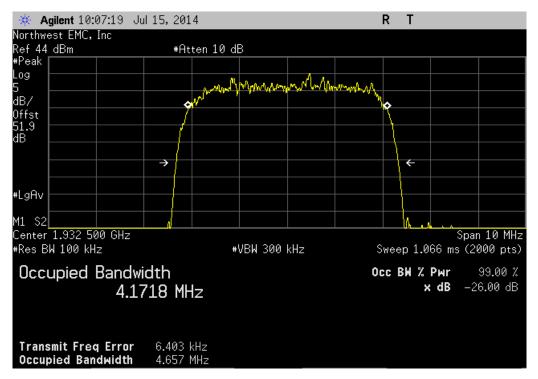
COMMENTS A 30 dB high wattage attenuator was provided by the customer. Both antenna ports were terminated but only one port is active DEVIATIONS FROM TEST STANDARD None Configuration # 1 Signature Value Limit Result								
Customer: TE Connectivitly / ADC Telecommunications Attendees: Josh Wittman Project: None Project: None Tested by: Trevor Buls Test SPECIFICATIONS Test Method FCC 24E:2014 COMMENTS A 30 dB high wattage attenuator was provided by the customer. Both antenna ports were terminated but only one port is active Comment			ual HDM 20 Watt					
Attendees: Josh Wittman								
Project: None Tested by: Trevor Buls Power: 110VAC/60Hz Job Site: MN08 TEST SPECIFICATIONS Test Method FCC 24E:2014 ANSI/TIA/EIA-603-C-2004 COMMENTS A 30 dB high wattage attenuator was provided by the customer. Both antenna ports were terminated but only one port is active DEVIATIONS FROM TEST STANDARD None Configuration # 1 Signature Value Limit Result WCDMA Low Channel 1932.5 MHz Mid Channel 1962.5 MHz High Channel 1992.5 MHz High Channel 1992.5 MHz High Channel 1992.5 MHz WCDMA Input Signal			elecommunications					
Tested by: Trevor Buls						Humidity:	45%	
TEST SPECIFICATIONS FCC 24E:2014 ANSI/TIA/EIA-603-C-2004 COMMENTS A 30 dB high wattage attenuator was provided by the customer. Both antenna ports were terminated but only one port is active DEVIATIONS FROM TEST STANDARD None Configuration # 1 Signature Value Limit Result WCDMA Low Channel 1932.5 MHz Mid Channel 1932.5 MHz High Channel 1992.5 MHz High Channel 1992.5 MHz High Channel 1992.5 MHz WCDMA Input Signal								
FCC 24E:2014 ANSI/TIA/EIA-603-C-2004 COMMENTS A 30 dB high wattage attenuator was provided by the customer. Both antenna ports were terminated but only one port is active DEVIATIONS FROM TEST STANDARD None Configuration # 1 Signature Value Limit Result WCDMA Low Channel 1932.5 MHz Mid Channel 1932.5 MHz High Channel 1992.5 MHz High Channel 1992.5 MHz High Channel 1992.5 MHz WCDMA Input Signal						Job Site:	MN08	
COMMENTS A 30 dB high wattage attenuator was provided by the customer. Both antenna ports were terminated but only one port is active DEVIATIONS FROM TEST STANDARD None Configuration # 1 Signature Bulbs Value Limit Result WCDMA Low Channel 1932.5 MHz Mid Channel 1932.5 MHz High Channel 1992.5 MHz High Channel 1992.5 MHz High Channel 1992.5 MHz WCDMA Input Signal	TEST SPECIFICAT	IONS			Test Method			
A 30 dB high wattage attenuator was provided by the customer. Both antenna ports were terminated but only one port is active DEVIATIONS FROM TEST STANDARD	FCC 24E:2014				ANSI/TIA/EIA-603-C-2004			
A 30 dB high wattage attenuator was provided by the customer. Both antenna ports were terminated but only one port is active DEVIATIONS FROM TEST STANDARD								
DEVIATIONS FROM TEST STANDARD	COMMENTS							
DEVIATIONS FROM TEST STANDARD	A 30 dB high watta	ge attenuator was provide	ed by the customer. Both antenna por	ts were terminated	but only one port is active			
None Signature Signature	Ĭ	•						
None Signature Signature								
Signature Sign	DEVIATIONS FROM	II TEST STANDARD						
Value Limit Result	None							
Value Limit Result	Cantinumation #	4	_		0 1 -			
Value Limit Result	Configuration #	'	Signature	revor	10 mes			
WCDMA Low Channel 1932.5 MHz 4.657 MHz N/A N/A Mid Channel 1962.5 MHz 4.686 MHz N/A N/A High Channel 1992.5 MHz 4.66 MHz N/A N/A WCDMA Input Signal WCDMA Input Signal N/A N/A								
Low Channel 1932.5 MHz 4.657 MHz N/A N/A Mid Channel 1962.5 MHz 4.686 MHz N/A N/A High Channel 1992.5 MHz 4.66 MHz N/A N/A WCDMA Input Signal						Value	Limit	Result
Mid Channel 1962.5 MHz 4.686 MHz N/A N/A High Channel 1992.5 MHz 4.66 MHz N/A N/A WCDMA Input Signal WCDMA Input Signal N/A N/A	WCDMA							
High Channel 1992.5 MHz 4.66 MHz N/A N/A WCDMA Input Signal		Low Channel 1932.5 MHz				4.657 MHz	N/A	N/A
WCDMA Input Signal		Mid Channel 1962.5 MHz				4.686 MHz	N/A	N/A
		High Channel 1992.5 MHz				4.66 MHz	N/A	N/A
Mid Channel 1962.5 MHz	WCDMA Input Signa	al						
		Mid Channel 1962.5 MHz				4.683 MHz	N/A	N/A

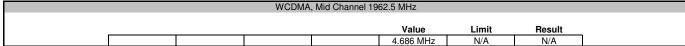
Report No. TECO0048 35/165

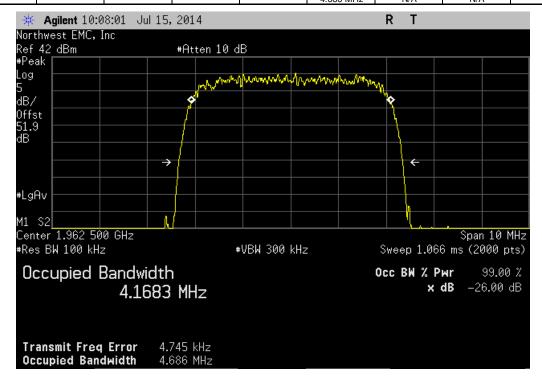








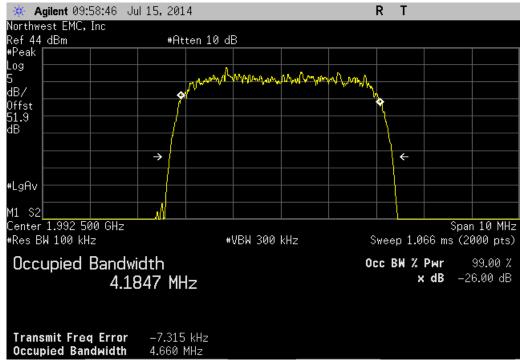


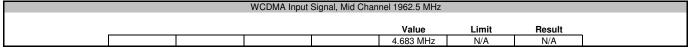


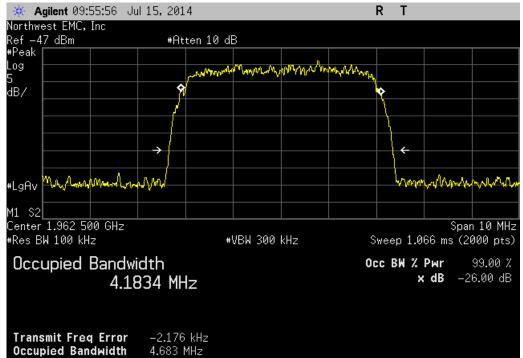
Report No. TECO0048 36/165











Report No. TECO0048 37/165



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.	Interval
Low Pass Filter 0-1000 MHz	Micro-Tronics	LPM50004	HGV	10/5/2012	24
High Pass Filter 2.8 GHz	Micro-Tronics	HPM50111	HGY	10/5/2012	24
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	24

TEST DESCRIPTION

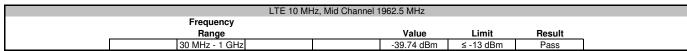
The antenna port spurious emissions were measured at the RF output terminal of the EUT with external attenuation on the RF input of the spectrum analyzer. Analyzer plots utilizing a 1 MHz resolution bandwidth and no video filtering were made for each modulation type from 30 MHz to 9 GHz. The peak conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than or equal to –13 dBm.

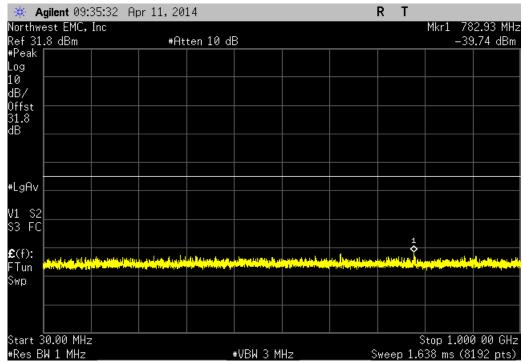


EUT:	Prism 1900/2100AWS3 Du	ual HDM 20 Watt		Work Order:	TECO0013	
Serial Number:				Date:	04/11/14	
Customer:	TE Connectivity / ADC Te	elecommunications		Temperature:		
Attendees:	None			Humidity:	25%	
Project:				Barometric Pres.:		
	Trevor Buls		Power: 110VAC/60Hz	Job Site:	MN08	
TEST SPECIFICATI	IONS		Test Method			
FCC 24E:2014			ANSI/TIA/EIA-603-C-2004			
COMMENTS						
Sustomer provided	d a high wattage 30 dB atte	enuator that was added into	the reference level offset. Both antenna ports were terminated	d but only one port is active		
				, ,		
DEVIATIONS FROM	M TEST STANDARD					
DEVIATIONS FROM None	M TEST STANDARD					
None	M TEST STANDARD	Signature	Trevor Buls			
	M TEST STANDARD	Signature	Trevor Buls Frequency			
None	M TEST STANDARD	Signature		Value	Limit	Result
Configuration #	1	Signature	Frequency Range			
None Configuration # TE 10 MHz	1 Mid Channel 1962.5 MHz	Signature	Frequency Range 30 MHz - 1 GHz	-39.74 dBm	≤ -13 dBm	Pass
None Configuration # TE 10 MHz	1	Signature	Frequency Range 30 MHz - 1 GHz 1 GHz - 3 GHz	-39.74 dBm -19.76 dBm		Pass Pass
Configuration #	Mid Channel 1962.5 MHz Mid Channel 1962.5 MHz Mid Channel 1962.5 MHz	Signature	Frequency Range 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 20 GHz	-39.74 dBm -19.76 dBm -29.45 dBm	≤ -13 dBm ≤ -13 dBm ≤ -13 dBm	Pass Pass Pass
Configuration #	Mid Channel 1962.5 MHz Mid Channel 1962.5 MHz Mid Channel 1962.5 MHz Low Channel 1935 MHz	Signature	Frequency Range 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 20 GHz 30 MHz - 1 GHz	-39.74 dBm -19.76 dBm -29.45 dBm -39.88 dBm	≤ -13 dBm ≤ -13 dBm ≤ -13 dBm ≤ -13 dBm	Pass Pass Pass Pass
Configuration #	Mid Channel 1962.5 MHz Mid Channel 1962.5 MHz Mid Channel 1962.5 MHz	Signature	Frequency Range 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 20 GHz	-39.74 dBm -19.76 dBm -29.45 dBm	≤ -13 dBm ≤ -13 dBm ≤ -13 dBm	Pass Pass Pass
Configuration #	Mid Channel 1962.5 MHz Mid Channel 1962.5 MHz Mid Channel 1962.5 MHz Low Channel 1935 MHz	Signature	Frequency Range 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 20 GHz 30 MHz - 1 GHz	-39.74 dBm -19.76 dBm -29.45 dBm -39.88 dBm	≤ -13 dBm ≤ -13 dBm ≤ -13 dBm ≤ -13 dBm	Pass Pass Pass Pass
Configuration #	Mid Channel 1962.5 MHz Mid Channel 1962.5 MHz Mid Channel 1962.5 MHz Low Channel 1935 MHz Low Channel 1935 MHz	Signature	Frequency Range 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 20 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz	-39.74 dBm -19.76 dBm -29.45 dBm -39.88 dBm -19.51 dBm	≤ -13 dBm ≤ -13 dBm ≤ -13 dBm ≤ -13 dBm ≤ -13 dBm	Pass Pass Pass Pass Pass
None Configuration #	Mid Channel 1962.5 MHz Mid Channel 1962.5 MHz Mid Channel 1962.5 MHz Low Channel 1935 MHz Low Channel 1935 MHz Low Channel 1935 MHz	Signature	Frequency Range 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 20 GHz 30 MHz - 1 GHz 1 GHz 3 GHz - 20 GHz	-39.74 dBm -19.76 dBm -29.45 dBm -39.88 dBm -19.51 dBm -29.2 dBm	≤ -13 dBm ≤ -13 dBm ≤ -13 dBm ≤ -13 dBm ≤ -13 dBm ≤ -13 dBm	Pass Pass Pass Pass Pass Pass

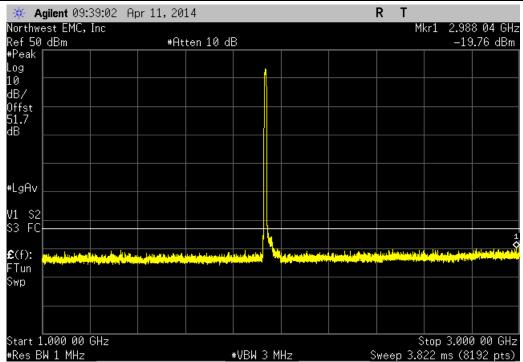
Report No. TECO0048 39/165





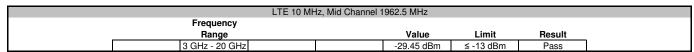


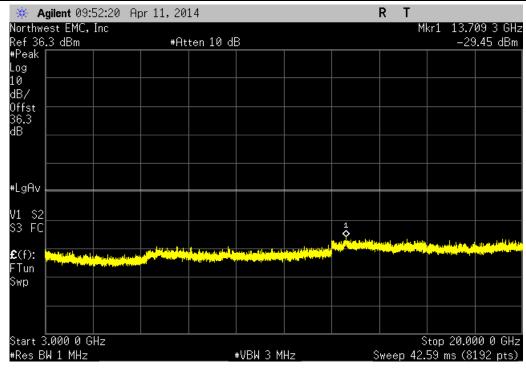
LTE 10 M	Hz, Mid Channel 1962.5 MHz			
Frequency				
Range	Value	Limit	Result	
1 GHz - 3 GHz	-19.76 dBm	≤ -13 dBm	Pass	



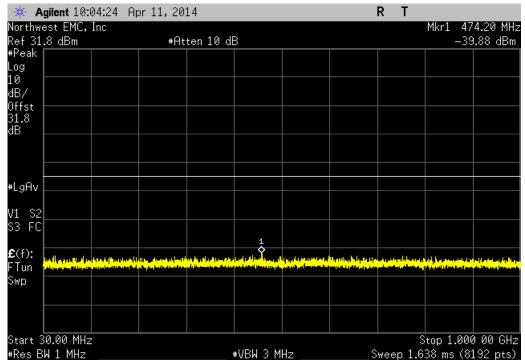
Report No. TECO0048 40/165





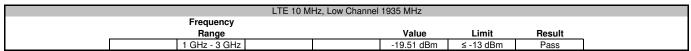


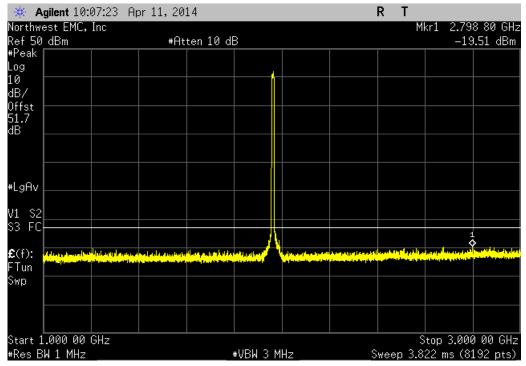
LTE 10 MHz, Low Channel 1935 MHz						
Frequency						
Range	Value	Limit	Result			
30 MHz - 1 GHz	-39.88 dBm	≤ -13 dBm	Pass			

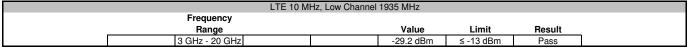


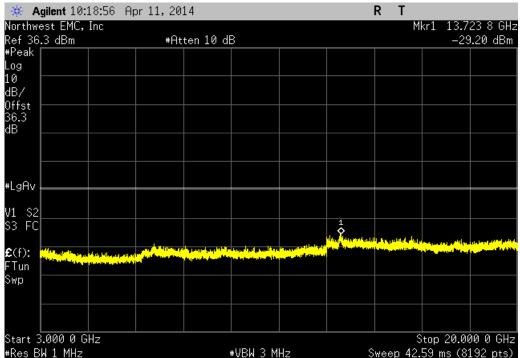
Report No. TECO0048 41/165





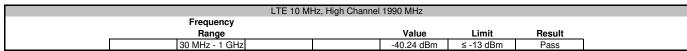


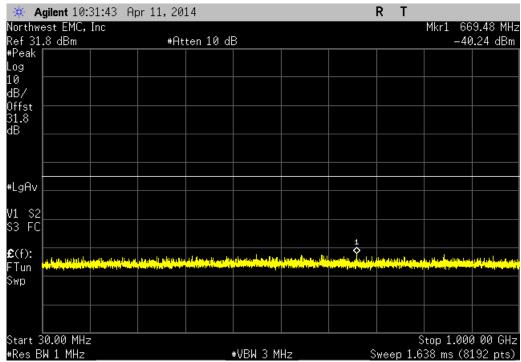




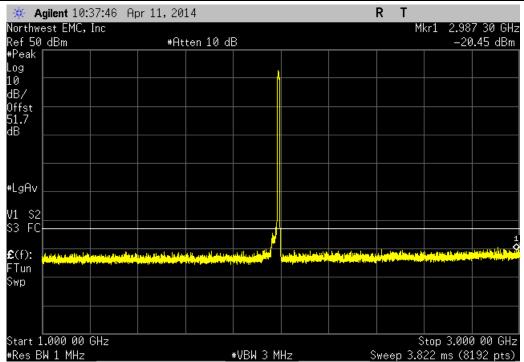
Report No. TECO0048 42/165





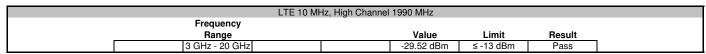


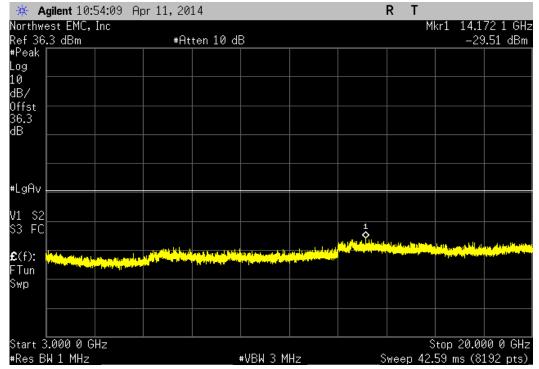
LTE 10 M	Hz, High Channel 1990 MHz			
Frequency				
Range	Value	Limit	Result	
1 GHz - 3 GHz	-20.45 dBm	≤ -13 dBm	Pass	



Report No. TECO0048 43/165







Report No. TECO0048 44/165

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SPURIOUS CONDUCTED EMISSIONS 1900 WCDMA

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Low Pass Filter 0-1000 MHz	Micro-Tronics	LPM50004	HGV	10/5/2012	24
High Pass Filter 2.8-18 GHz	Micro-Tronics	HPM50111	HGY	10/5/2012	24
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	4/28/2014	12

TEST DESCRIPTION

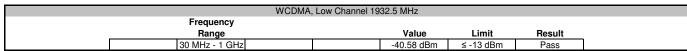
The antenna port spurious emissions were measured at the RF output terminal of the EUT with external attenuation on the RF input of the spectrum analyzer. Analyzer plots utilizing a 1 MHz resolution bandwidth and no video filtering were made for each modulation type from 30 MHz to 20 GHz. The peak conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than or equal to –13 dBm.

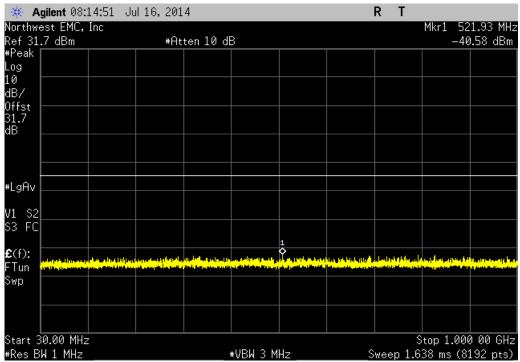


EUT							
	Prism 1900/2100AWS3 Du	ıal HDM 20 Watt			Work Order:		
Serial Number:	None					07/16/14	
	TE Connectivitiy / ADC To	elecommunications			Temperature:	23.3°C	
Attendees:	None				Humidity:	43%	
Project:	None				Barometric Pres.:		
	Trevor Buls		Power:	110VAC/60Hz	Job Site:	MN08	
TEST SPECIFICATI	IONS			Test Method			
FCC 24E:2014				ANSI/TIA/EIA-603-C-2004			
COMMENTS		_					
A 30 dB high watta	ge attenuator was provide	d by the customer. Both antenna	ports were terminated	but only one port is active			
	g	,	,	, p			
DEVIATIONS FROM	// TEST STANDARD						
None							
Configuration #	1	_		2 0			
		Signature	Irevor	Buls			
		Signature	Irevor				
		Signature	Irevor	Frequency Range	Value	Limit	Result
WCDMA		Signature <	Irevor	Frequency	Value	Limit	Result
WCDMA	Low Channel 1932.5 MHz	Signature <)revor	Frequency	Value -40.58 dBm	Limit ≤ -13 dBm	Result
WCDMA	Low Channel 1932.5 MHz Low Channel 1932.5 MHz	Signature <)revor	Frequency Range			
WCDMA		Signature <	Irevor	Frequency Range 30 MHz - 1 GHz	-40.58 dBm	≤ -13 dBm	Pass
	Low Channel 1932.5 MHz	Signature <)revor	Frequency Range 30 MHz - 1 GHz 1 GHz - 3 GHz	-40.58 dBm -19.2 dBm	≤ -13 dBm ≤ -13 dBm	Pass Pass
	Low Channel 1932.5 MHz Low Channel 1932.5 MHz	Signature <)revor	Frequency Range 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 20 GHz	-40.58 dBm -19.2 dBm -32.81 dBm	≤ -13 dBm ≤ -13 dBm ≤ -13 dBm	Pass Pass Pass
	Low Channel 1932.5 MHz Low Channel 1932.5 MHz Mid Channel 1962.5 MHz	Signature <)revor	Frequency Range 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 20 GHz 30 MHz - 1 GHz	-40.58 dBm -19.2 dBm -32.81 dBm -40.4 dBm	≤ -13 dBm ≤ -13 dBm ≤ -13 dBm ≤ -13 dBm	Pass Pass Pass Pass
	Low Channel 1932.5 MHz Low Channel 1932.5 MHz Mid Channel 1962.5 MHz Mid Channel 1962.5 MHz	Signature <)revor	Frequency Range 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 20 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz	-40.58 dBm -19.2 dBm -32.81 dBm -40.4 dBm -19.12 dBm	≤ -13 dBm ≤ -13 dBm ≤ -13 dBm ≤ -13 dBm ≤ -13 dBm	Pass Pass Pass Pass Pass
	Low Channel 1932.5 MHz Low Channel 1932.5 MHz Mid Channel 1962.5 MHz Mid Channel 1962.5 MHz Mid Channel 1962.5 MHz Mid Channel 1962.5 MHz	Signature «)revor	Frequency Range 30 MHz - 1 GHz 1 GHz - 3 GHz 2 GHz - 20 GHz 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 3 GHz 3 GHz - 3 GHz	-40.58 dBm -19.2 dBm -32.81 dBm -40.4 dBm -19.12 dBm -32.46 dBm	≤ -13 dBm ≤ -13 dBm ≤ -13 dBm ≤ -13 dBm ≤ -13 dBm ≤ -13 dBm	Pass Pass Pass Pass Pass Pass

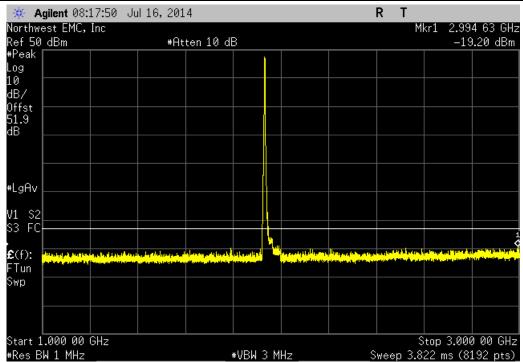
Report No. TECO0048 46/165





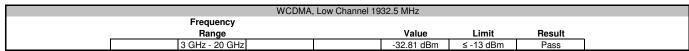


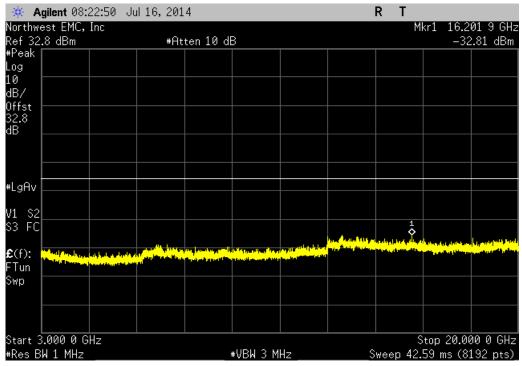
WCDMA	N, Low Channel 1932.5 MHz					
Frequency						
Range	Value	Limit	Result			
1 GHz - 3 GHz	-19.2 dBm	≤ -13 dBm	Pass	l		



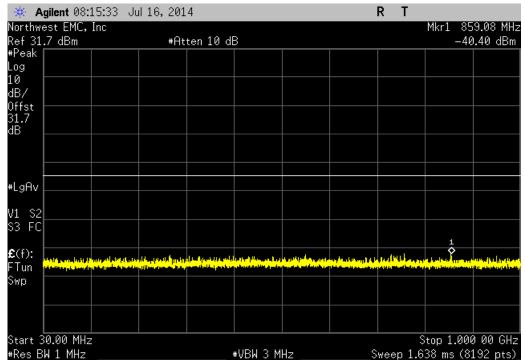
Report No. TECO0048 47/165





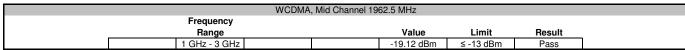


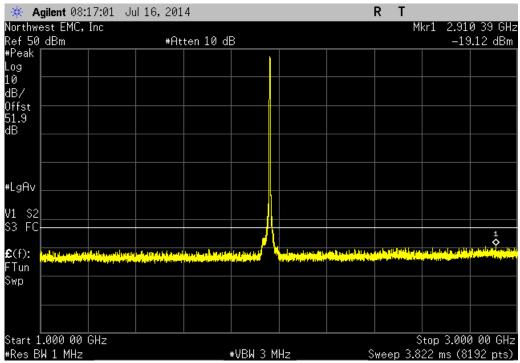
WCDMA	N, Mid Channel 1962.5 MHz			
Frequency				
Range	Value	Limit	Result	
30 MHz - 1 GHz	-40.4 dBm	≤ -13 dBm	Pass	



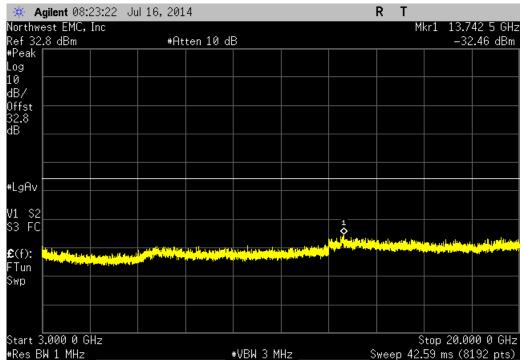
Report No. TECO0048 48/165





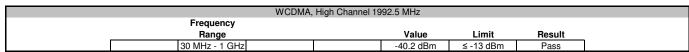


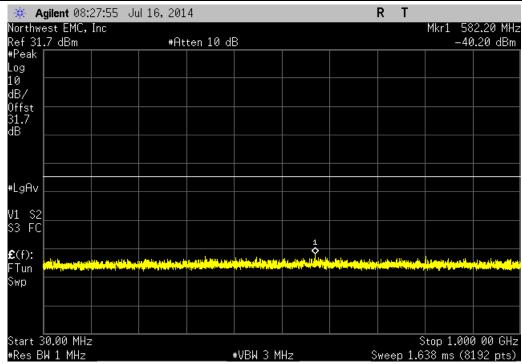
WCDMA, Mid Channel 1962.5 MHz							
	Frequency						
	Range	Value	Limit	Result			
3 GHz - 20 GHz -32.46 dBm ≤ -13 dBm Pass							



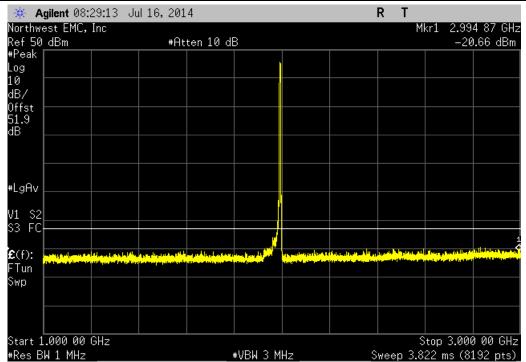
Report No. TECO0048 49/165





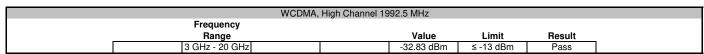


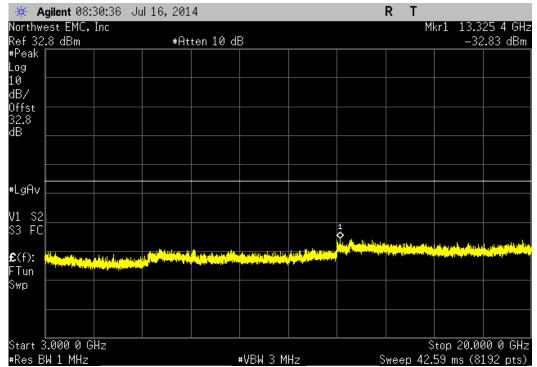
WCDMA	, High Channel 1992.5 MHz			
Frequency				
Range	Value	Limit	Result	
1 GHz - 3 GHz	-20.66 dBm	≤ -13 dBm	Pass	



Report No. TECO0048 50/165









BAND EDGE COMPLIANCE 1900 LTE10

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.	Interval
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	24

TEST DESCRIPTION

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 measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at the data rate(s) listed in the datasheet.

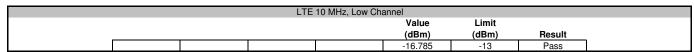
The spectrum was scanned below the lower band edge and above the higher band edge. The resolution bandwidth was set to approximately 1% of the measured emissions bandwidth. An average RMS detector was used to match the method used during Output Power. The screen capture shows the margin between the measured value and the -13 dBm limit at the band edge.

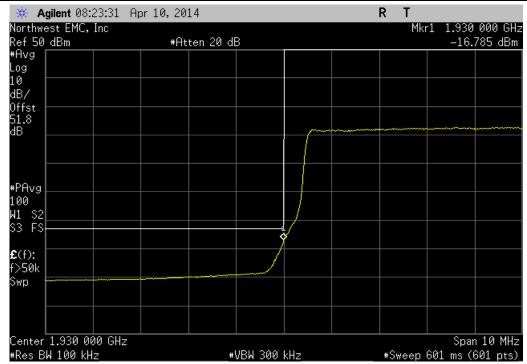


EUT:	Prism 1900/2100AWS3 Du	al HDM 20 Watt			Wo	rk Order:	TECO0013	
Serial Number:							04/10/14	
Customer:	TE Connectivity / ADC Tel	ecommunications			Tem	perature:	26.5°C	
Attendees:	None					lumidity:	21%	
Project:						ric Pres.:		
Tested by:	Trevor Buls		Power:	110VAC/60Hz		Job Site:	MN08	
EST SPECIFICATION	ONS			Test Method				
CC 24E:2014	•	•		ANSI/TIA/EIA-603-C-2004	•			
OMMENTS								
	TEST STANDARD							
lone								
Configuration #	1	Signature	Trev	or Buls				
					Va	lue	Limit	
					(dl	3m)	(dBm)	Result
TE 10 MHz								
	Low Channel					.785	-13	Pass
	High Channel				10	.474	-13	Pass

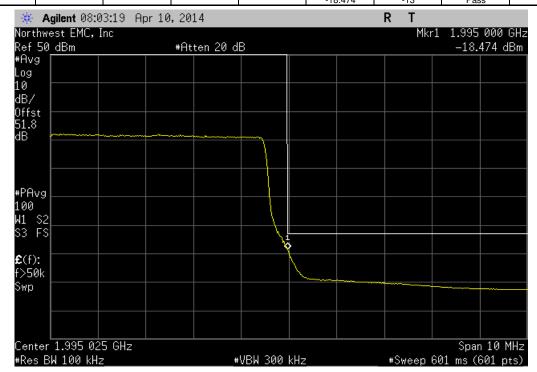
Report No. TECO0048 53/165

BAND EDGE COMPLIANCE 1900 LTE10





	LTE	10 MHz, High Ch	annel		
			Value	Limit	
			(dBm)	(dBm)	Result
			-18 474	-13	Pacc



Report No. TECO0048 54/165



BAND EDGE COMPLIANCE 1900 WCDMA

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	4/28/2014	12

TEST DESCRIPTION

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 measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at the data rate(s) listed in the datasheet.

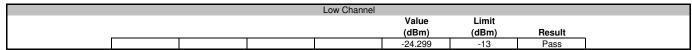
The spectrum was scanned below the lower band edge and above the higher band edge. The resolution bandwidth was set to approximately 1% of the measured emissions bandwidth. An average RMS detector was used to match the method used during Output Power. The screen capture shows the margin between the measured value and the -13 dBm limit at the band edge.

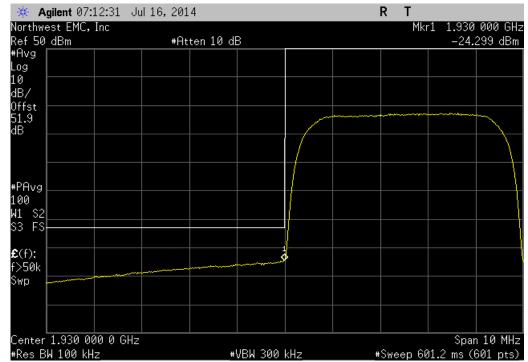


EUT:	Prism 1900/2100AWS3 D	ual HDM 20 Watt			Work Order:	TECO0017	
Serial Number:	None				Date:	07/16/14	
Customer:	TE Connectivitiy / ADC T	elecommunications			Temperature:	23.3°C	
Attendees:	None				Humidity:	43%	
Project:	None				Barometric Pres.:		
Tested by:	Trevor Buls		Power:	110VAC/60Hz	Job Site:	MN08	
TEST SPECIFICATI	IONS			Test Method			
FCC 24E:2014				ANSI/TIA/EIA-603-C-2004			
COMMENTS							
A 30 dB high watta	ge attenuator was provide	ed by the customer. WCDMA. Both an	tenna ports were t	terminated but only one port is active			
DEVIATIONS FROM	M TEST STANDARD						
None							
Configuration #	1	Signature	revor	Buls			
					Value (dBm)	Limit (dBm)	Result
Low Channel		_		_	-24.299	-13	Pass
High Channel					-25.946	-13	Pass

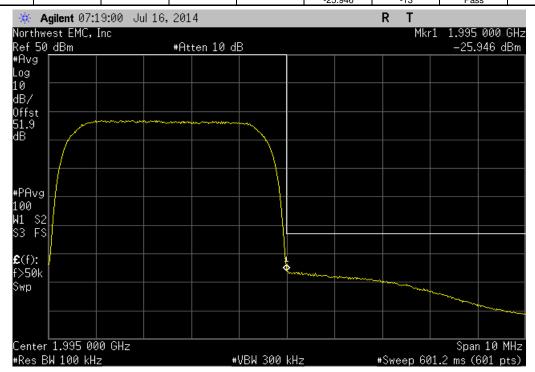
Report No. TECO0048 56/165

BAND EDGE COMPLIANCE 1900 WCDMA





		High Channel			
			Value	Limit	
			(dBm)	(dBm)	Result
			-25 946	-13	Pace



Report No. TECO0048 57/165



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.

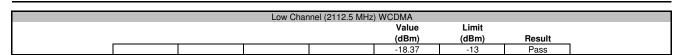
Report No. TECO0048 58/165

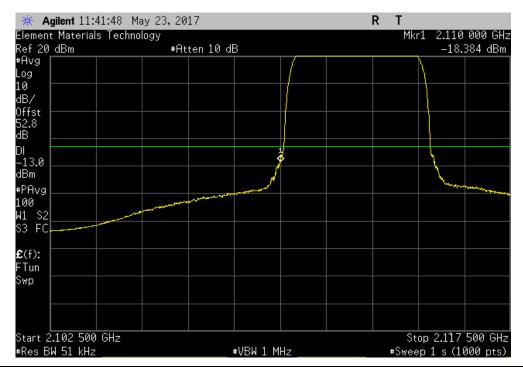


					TbtTx 2017.01.27	XMit 2017.02.08
EUT: Pris	m 1900/2100AWS3 D	ual HDM 20 Watt		Work Order:	TECO0042	
Serial Number: 4596	644002				05/23/17	
Customer: Con	nmScope			Temperature:	24.2 °C	
Attendees: Josi	h Wittman			Humidity:	40% RH	
Project: Non	ne			Barometric Pres.:	1012 mbar	
Tested by: Dus			Power: 110VAC/60Hz	Job Site:	MN08	
TEST SPECIFICATIONS	3		Test Method			
FCC 27:2017			ANSI/TIA/EIA-603-D-2010			
				<u> </u>		
COMMENTS						
DEVIATIONS FROM TES	ST STANDARD					
None	1					
Configuration #	2	Signature	Tustin & parks			
				Value	Limit	
				(dBm)	(dBm)	Result
Low Channel (2112.5 MH	łz) WCDMA			-18.37	-13	Pass
High Channel (2177.5 MF	Hz) WCDMA			-21.15	-13	Pass
Low Channel (2115 MHz)) LTE 10MHz			-18.54	-13	Pass
High Channel (2175 MHz) LTE 10MHz			-20.78	-13	Pass

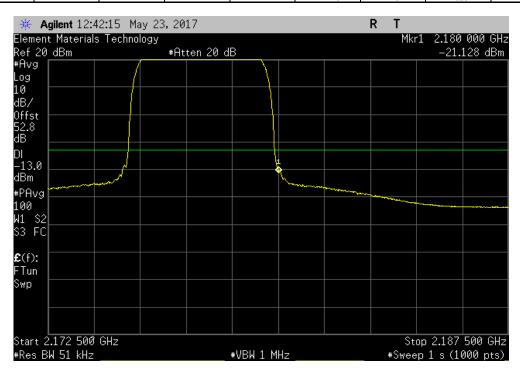
Report No. TECO0048 59/165







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



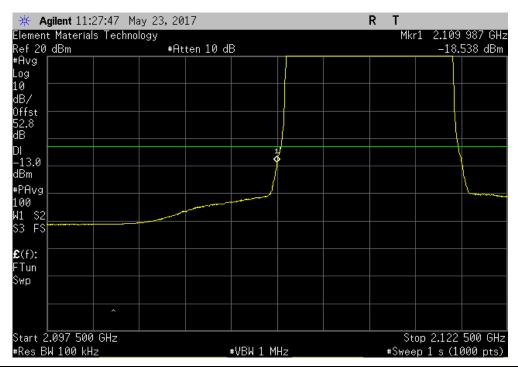
Report No. TECO0048 60/165



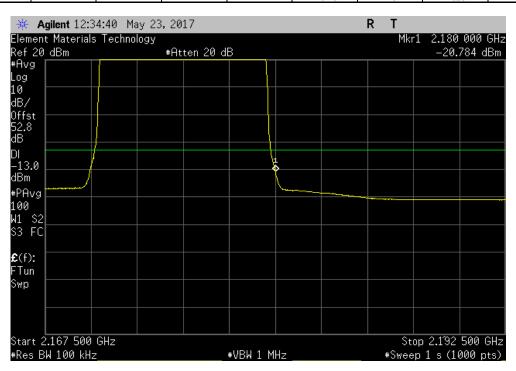
Low Channel (2115 MHz) LTE 10MHz

Value Limit
(dBm) (dBm) Result

-18.54 -13 Pass



	High Chan	nel (2175 MHz) L	TE 10MHz			
			Value	Limit		
			(dBm)	(dBm)	Result	
			-20.78	-13	Pass	



Report No. TECO0048 61/165



INTERMODULATION 1900 LTE10

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.	Interval
Power Divider/Combiner	Fairview Microwave Inc (SM electronics)	MP8451-2	IAD	NCR	0
Power Divider/Combiner	Fairview Microwave Inc (SM electronics)	MP8451-2	IAC	NCR	0
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	24

TEST DESCRIPTION

The EUT was configured with an input of a CW pulse at the bottom of the band, a CW pulse at the bottom of the band, and a modulated pulse near the edge of the band.

The antenna port spurious emissions were measured at the RF output terminal of the EUT with external attenuation on the RF input of the spectrum analyzer. Analyzer plots utilizing a 1MHz resolution bandwidth and no video filtering were made for each modulation type from 30 MHz to 20 GHz. 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 –13 dBm.



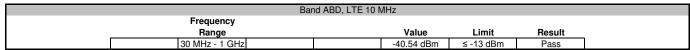
INTERMODULATION 1900 LTE10

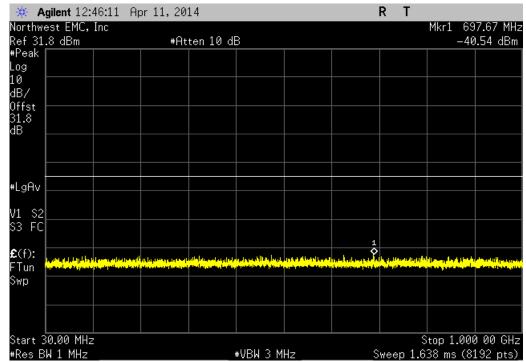
	: Prism 1900/2100AWS3 D	ual HDM 20 Watt			Work Order:		
Serial Number						04/11/14	
Customer	TE Connectivity / ADC Te	elecommunications			Temperature:	25°C	
Attendees					Humidity:		
	t: None				Barometric Pres.:		
	r: Trevor Buls		Power: 11	0VAC/60Hz	Job Site:	MN08	
TEST SPECIFICAT	TIONS		Te	st Method			
FCC 24E:2014			1A	ISI/TIA/EIA-603-C-2004			
COMMENTS							
Customer provide	ed a high wattage 30 dB att	enuator that was added into the refe	rence level offset. Both	antenna ports were terminate	ed but only one port is active		
	.				, , ,		
DEVIATIONS FRO	M TEST STANDARD						
None							
Configuration #	1	Signature	revor	Buls			
		-		Frequency			
				Range	Value	Limit	Result
Band ABD							
	LTE 10 MHz		3	0 MHz - 1 GHz	-40.54 dBm	≤ -13 dBm	Pass
	LTE 10 MHz			1 GHz - 3 GHz	-19.82 dBm	≤ -13 dBm	Pass
	LTE 10 MHz		(GHz - 20 GHz	-29.52 dBm	≤ -13 dBm	Pass
Band CEFG							
	LTE 10 MHz			0 MHz - 1 GHz	-40.53 dBm	≤ -13 dBm	Pass
	LTE 10 MHz			1 GHz - 3 GHz	-19.04 dBm	≤ -13 dBm	Pass
	LTE 10 MHz			GHz - 20 GHz	-28.86 dBm	≤ -13 dBm	Pass
				0112 - 20 0112			

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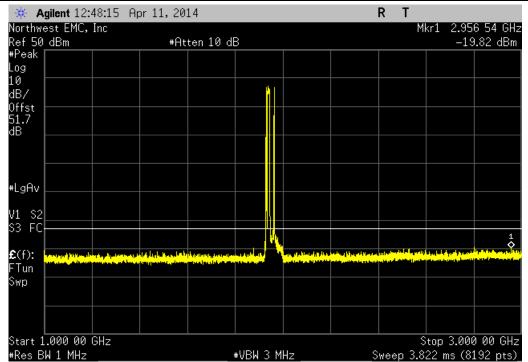
INTERMODULATION 1900 LTE10







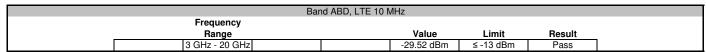
Ba	nd ABD, LTE 10 MHz		
Frequency			
Range	Value	Limit	Result
1 GHz - 3 GHz	-19.82 dBm	≤ -13 dBm	Pass

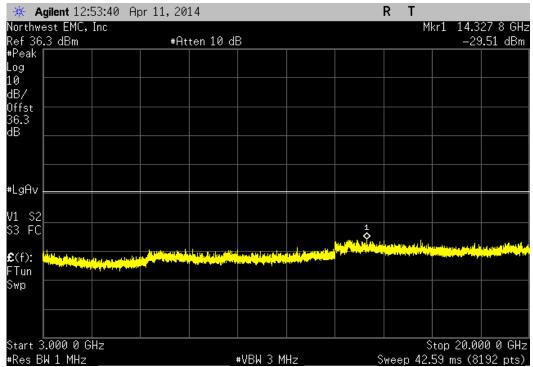


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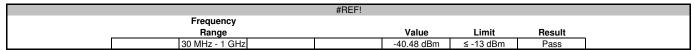


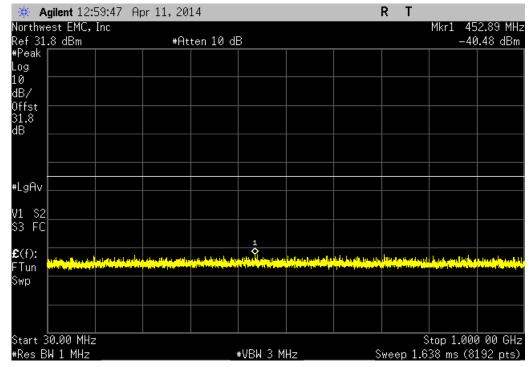
INTERMODULATION 1900 LTE10



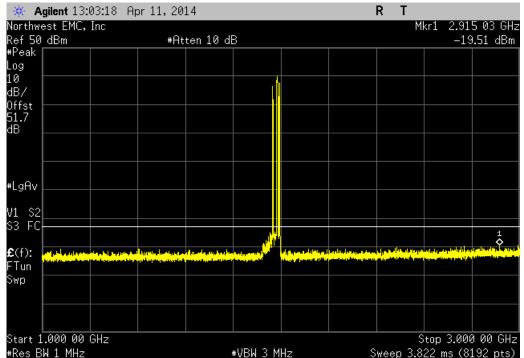








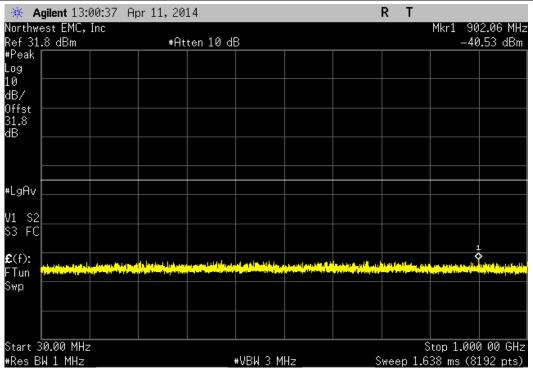




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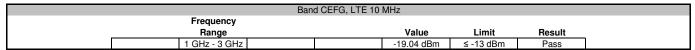


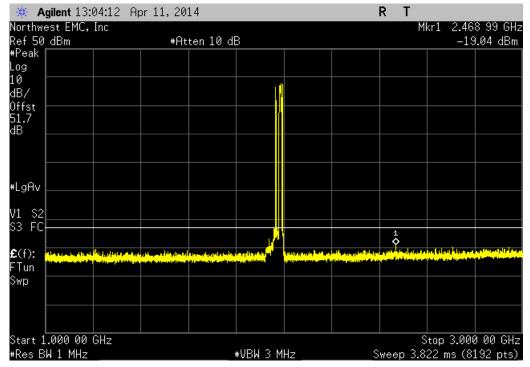
ı	Band	d CEFG, LTE 10 MHz			
I	Frequency				
	Range	Value	Limit	Result	
1	30 MHz - 1 GHz	-40.53 dBm	≤ -13 dBm	Pass	



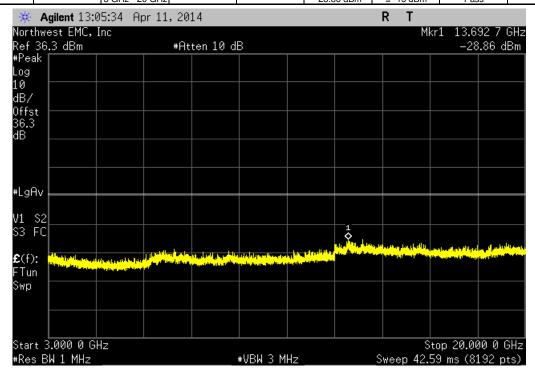
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Band CEFG, LTE 10 MHz				
Frequency				
Range	Value	Limit	Result	
3 GHz - 20 GHz	-28 86 dBm	< -13 dBm	Pass	



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INTERMODULATION 1900 WCDMA

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Power Divider/Combiner	Fairview Microwave	MP0208-2	IAE	NCR	0
Low Pass Filter 0-1000 MHz	Micro-Tronics	LPM50004	HGV	10/5/2012	24
High Pass Filter 2.8-18 GHz	Micro-Tronics	HPM50111	HGY	10/5/2012	24
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	4/28/2014	12

TEST DESCRIPTION

The EUT was configured with an input of a CW pulse at the bottom of the band, a CW pulse at the bottom of the band, and a modulated pulse near the edge of the band.

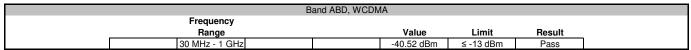
The antenna port spurious emissions were measured at the RF output terminal of the EUT with external attenuation on the RF input of the spectrum analyzer. Analyzer plots utilizing a 1MHz resolution bandwidth and no video filtering were made for each modulation type from 30 MHz to 20 GHz. The peak conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than or equal to –13 dBm.

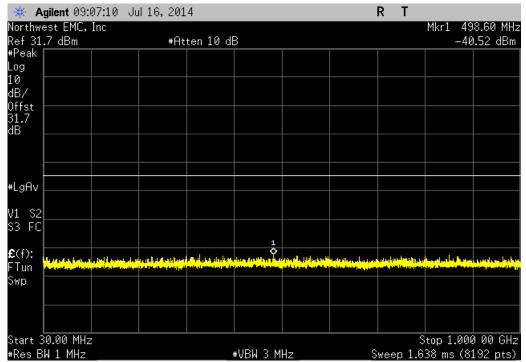


	Prism 1900/2100AWS3 D	ual HDM 20 Watt			Work Order:		
Serial Number				07/16/14			
Custome	r: TE Connectivitiy / ADC T	elecommunications			Temperature:		
Attendees	: None				Humidity:	43%	
Projec	t: None				Barometric Pres.:	1020.6	
Tested by	/: Trevor Buls		Power:	110VAC/60Hz	Job Site:	MN08	
TEST SPECIFICAT	TIONS			Test Method			
FCC 24E:2014				ANSI/TIA/EIA-603-C-2004			
COMMENTS							
A 30 dB high watt	age attenuator was provide	ed by the customer. Both anten	na ports were terminated	but only one port is active			
_	-	-	-				
DEVIATIONS FRO	M TEST STANDARD						
None							
Configuration #	1		Trevor	Bulb			
		Signature	Drevol	ous			
		Signature	Drevol				
		Signature	Drevol	Frequency Range	Value	Limit	Result
Band ABD		Signature	Drevo	Frequency	Value	Limit	Result
Band ABD	WCDMA	Signature	Drevo	Frequency	Value -40.52 dBm	Limit ≤ -13 dBm	Result Pass
Band ABD	WCDMA WCDMA	Signature	Drevo C	Frequency Range			
Band ABD		Signature	Drewo C	Frequency Range 30 MHz - 1 GHz	-40.52 dBm	≤ -13 dBm	Pass
	WCDMA	Signature	Drevo	Frequency Range 30 MHz - 1 GHz 1 GHz - 3 GHz	-40.52 dBm -19.64 dBm	≤ -13 dBm ≤ -13 dBm	Pass Pass
	WCDMA	Signature	Drevo C	Frequency Range 30 MHz - 1 GHz 1 GHz - 3 GHz	-40.52 dBm -19.64 dBm	≤ -13 dBm ≤ -13 dBm	Pass Pass
Band ABD Band CEFG	WCDMA WCDMA	Signature	Drievo C	Frequency Range 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 20 GHz 30 MHz - 1 GHz	-40.52 dBm -19.64 dBm -33.1 dBm -40.53 dBm	≤ -13 dBm ≤ -13 dBm ≤ -13 dBm ≤ -13 dBm	Pass Pass Pass
	WCDMA WCDMA	Signature	SHEVOL	Frequency Range 30 MHz - 1 GHz 1 GHz - 3 GHz 3 GHz - 20 GHz	-40.52 dBm -19.64 dBm -33.1 dBm	≤ -13 dBm ≤ -13 dBm ≤ -13 dBm	Pass Pass Pass

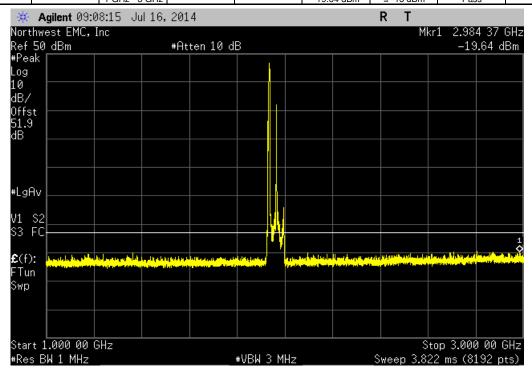
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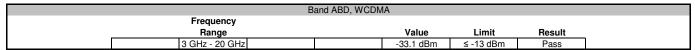


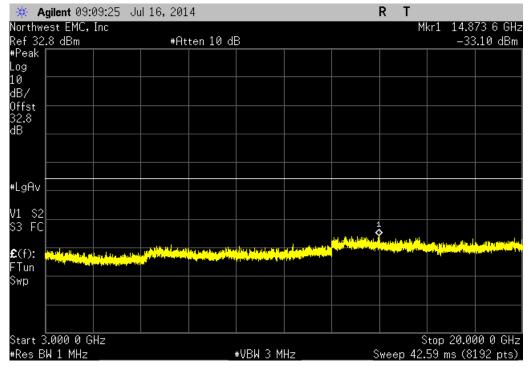
	Band ABD, V	VCDMA		
Frequency				
Range		Value	Limit	Result
1 GHz - 3 GHz		-19 64 dRm	< -13 dRm	Pass



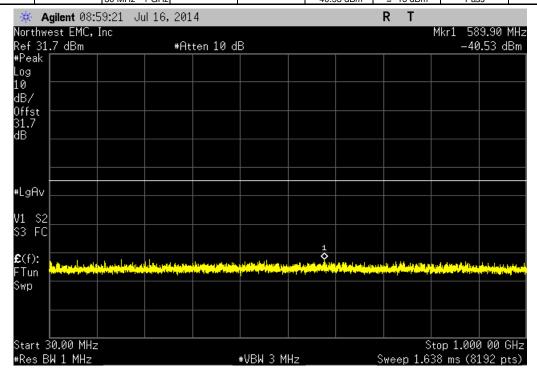
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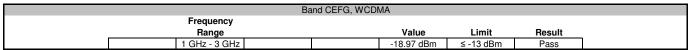


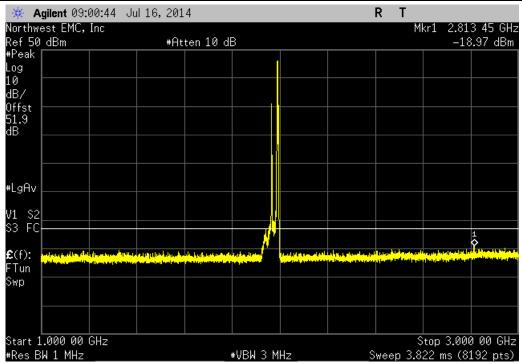
Band CEFG, WCDMA				
Frequency				
Range		Value	Limit	Result
30 MHz - 1 GHz		-40 53 dBm	< -13 dBm	Pass



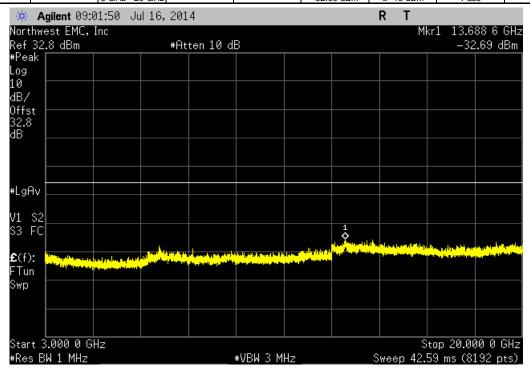
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B	and CEFG, WCDMA		
Frequency			
Range	Value	Limit	Result
3 GHz - 20 GHz	-32 69 dBm	≤ -13 dBm	Pass



Report No. TECO0048 73/165



FREQUENCY STABILITY 1900

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.	Interval
Multimeter	Fluke	117	MNN	1/20/2014	36
Variable Transformer	Powerstat	246	XFR	NCR	0
Humidity Temperature Meter	Omega Engineering, Inc.	HH31	DUB	10/25/2011	36
Temp./Humidity Chamber	Cincinnati Sub Zero (CSZ)	ZPH-32-3.5-SCT/AC	TBF	NCR	0
Attenuator - 20db, 'SMA'	SM Electronics	SA26B-20	RFW	4/3/2014	12
40 GHz DC block	Fairview Microwave	SD3379	AMI	9/26/2013	12
Signal Generator MXG	Agilent	N5183A	TIK	6/7/2012	36
Spectrum Analyzer	Agilent	E4440A	AAX	5/15/2012	24

TEST DESCRIPTION

A direct connect measurement was made between the EUT's antenna cable and a spectrum analyzer. The spectrum analyzer is equipped with a precision frequency reference that exceeds the stability requirement of the EUT. 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.

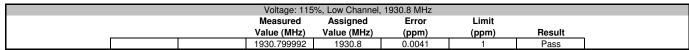
Report No. TECO0048

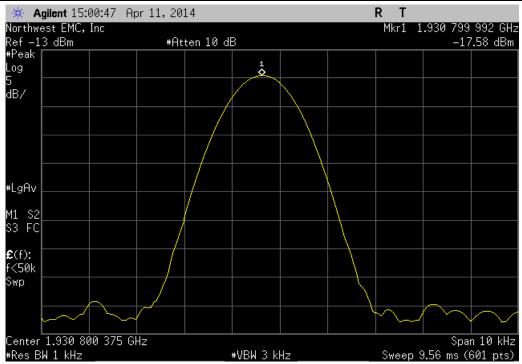


FUT:	Prism 1900/2100AWS3 Dual HDM 20 Watt				Work Order:	TFCO0013	
Serial Number:						04/14/14	
	TE Connectivity / ADC Telecommunication	s			Temperature:		
Attendees:		-			Humidity:		
Project:	None				Barometric Pres.:	1020.6	
	Trevor Buls	Power: 110VAC/6	0Hz		Job Site:	MN08	
TEST SPECIFICATI	IONS	Test Meth	od				
FCC 24E:2014		ANSI/TIA/E	EIA-603-C-2004				
COMMENTS							
Customer provided	d a high wattage 30 dB attenuator. Voltage	ange varied from 126.5 to 93.5 VAC. Both antenna	a ports were terminated bu	t only one port is ac	tive		
<u>DEVIATIONS FROM</u> None	M TEST STANDARD						
		2	0				
Configuration #	1 Sia	nature Trevor B.	uls				
	0.9	interior	Measured	Assigned	Error	Limit	
			Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result
oltage: 115%	Law Observat 4000 0.1111		4000 70000	4000.0	0.0011		
	Low Channel, 1930.8 MHz		1930.799992	1930.8	0.0041	1	Pass
	Mid Channel, 1962.5 MHz		1962.499988 1994.199984	1962.5 1994.2	0.0061 0.0080	1	Pass Pass
Voltage: 100%	High Channel, 1994.2 MHz		1994.199984	1994.2	0.0080		Pass
voltage. 100%	Low Channel, 1930.8 MHz		1930.799992	1930.8	0.0041	1	Pass
	Mid Channel, 1962.5 MHz		1962.499988	1962.5	0.0041	1	Pass
	High Channel, 1994.2 MHz		1994.199984	1994.2	0.0080	1	Pass
Voltage: 85%	nigii Chainei, 1994.2 MHZ		1994.199904	1334.2	0.0060	· · ·	FdSS
7011age. 65%	Low Channel, 1930.8 MHz		1930.799992	1930.8	0.0041	1	Pass
	Mid Channel, 1962.5 MHz		1962.499988	1962.5	0.0041	1	Pass
Fammaratura, FOO	High Channel, 1994.2 MHz		1994.2	1994.2	0.0000	1	Pass
Temperature: +50°	L Ob		1000 70000	4000.0	0.0044	4	D
	Low Channel, 1930.8 MHz		1930.799992	1930.8	0.0041	1	Pass
	Mid Channel, 1962.5 MHz		1962.499988	1962.5	0.0061	1	Pass
T 400	High Channel, 1994.2 MHz		1994.199984	1994.2	0.0080	1	Pass
Temperature: +40°	Law Channel 1000 0 MHz		1020 700000	1930.8	0.0041	4	Dees
	Low Channel, 1930.8 MHz		1930.799992		0.0041	1	Pass
	Mid Channel, 1962.5 MHz High Channel, 1994.2 MHz		1962.499987 1994.199984	1962.5 1994.2	0.0066 0.0080	1 1	Pass Pass
Temperature: +30°	nigii Cilailiei, 1994.2 Minz		1994.199904	1334.2	0.0000	'	газэ
remperature. +30°	Low Channel, 1930.8 MHz		1930.799988	1930.8	0.0062	1	Pass
	Mid Channel, 1962.5 MHz		1962.499988	1962.5	0.0062	1	Pass
	High Channel, 1994.2 MHz		1994.199984	1994.2	0.0080	1	Pass
Temperature: +20°	nigh Channel, 1994.2 MHZ		1994.199964	1994.2	0.0060	<u> </u>	Pass
remperature. +20	Lew Channel 1000 0 MHz		1020 700000	1000.0	0.0000	4	Dono
	Low Channel, 1930.8 MHz		1930.799988	1930.8	0.0062	1	Pass
	Mid Channel, 1962.5 MHz		1962.500003	1962.5	0.0015	1 1	Pass
Farmer and trues at 200	High Channel, 1994.2 MHz		1994.199985	1994.2	0.0075	1	Pass
Temperature: +10°	Low Channel, 1930.8 MHz		1020 70000	1930.8	0.0057	1	Page
			1930.799989		0.0057		Pass
	Mid Channel, 1962.5 MHz		1962.499988	1962.5	0.0061	1	Pass
Tammarati 20	High Channel, 1994.2 MHz		1994.199984	1994.2	0.0080	1	Pass
Femperature: 0°	Law Observation 4000 0 MHz		1000 70000	1000.0	0.0044		D
	Low Channel, 1930.8 MHz		1930.799992	1930.8	0.0041	1	Pass
	Mid Channel, 1962.5 MHz		1962.499988	1962.5	0.0061	1	Pass
	High Channel, 1994.2 MHz		1994.2	1994.2	0.0000	1	Pass
emperature: -10°			1000 700	1000	0.0044		
	Low Channel, 1930.8 MHz		1930.799992	1930.8	0.0041	1	Pass
	Mid Channel, 1962.5 MHz		1962.499986	1962.5	0.0071	1	Pass
	High Channel, 1994.2 MHz		1994.199984	1994.2	0.0080	1	Pass
Femperature: -20°							
	Low Channel, 1930.8 MHz		1930.799992	1930.8	0.0041	1	Pass
	Mid Channel, 1962.5 MHz		1962.499988	1962.5	0.0061	1	Pass
	High Channel, 1994.2 MHz		1994.199984	1994.2	0.0080	1	Pass
	nigii Chaillei, 1994.2 Minz						
Temperature: -30°							
Femperature: -30°	Low Channel, 1930.8 MHz		1930.799992	1930.8	0.0041	1	Pass
Cemperature: -30°						1 1	Pass Pass

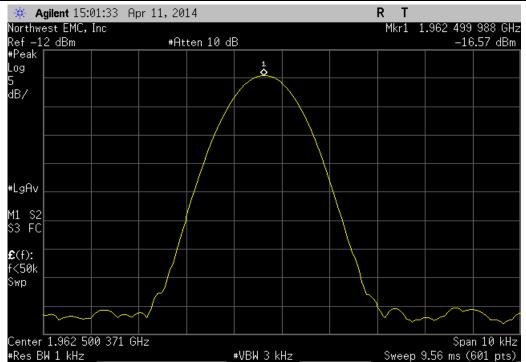
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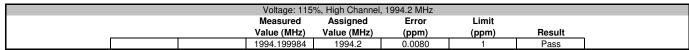


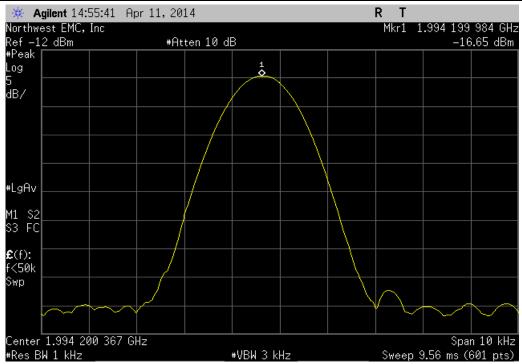
Voltage: 115%, Mid Channel, 1962.5 MHz									
		Measured	Assigned	Error	Limit				
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result			
		1962.499988	1962.5	0.0061	1	Pass			



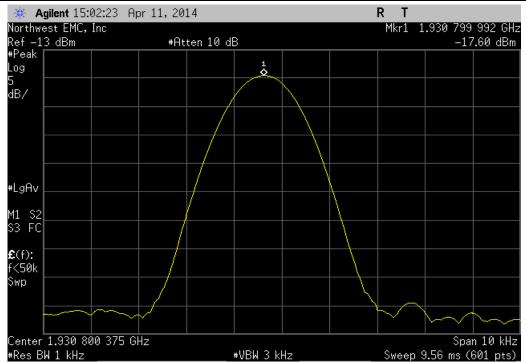
Report No. TECO0048 76/165





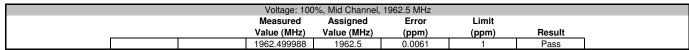


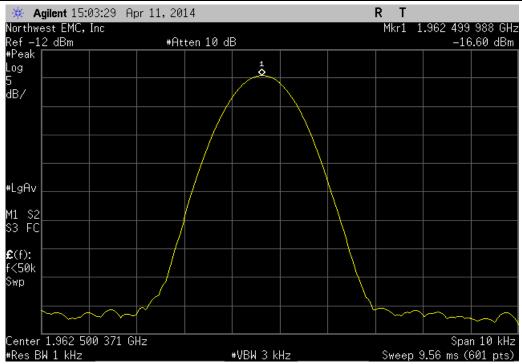
Voltage: 100%, Low Channel, 1930.8 MHz									
		Measured	Assigned	Error	Limit				
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result			
		1930.799992	1930.8	0.0041	1	Pass			



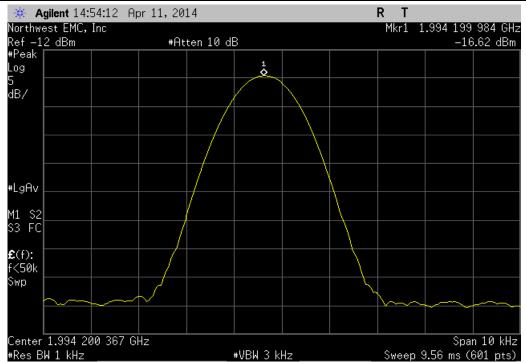
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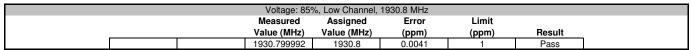


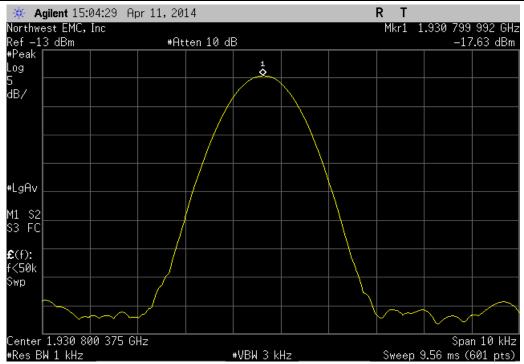
Voltage: 100%, High Channel, 1994.2 MHz									
		Measured	Assigned	Error	Limit				
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result			
		1994.199984	1994.2	0.0080	1	Pass			



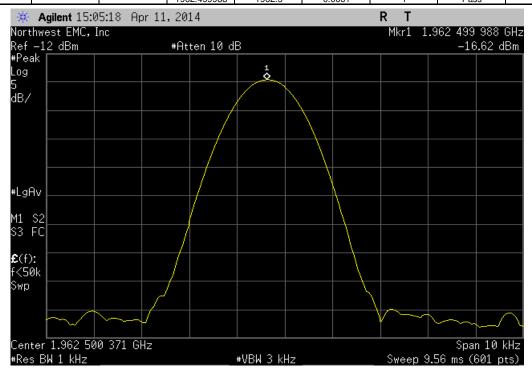
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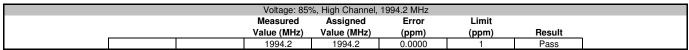


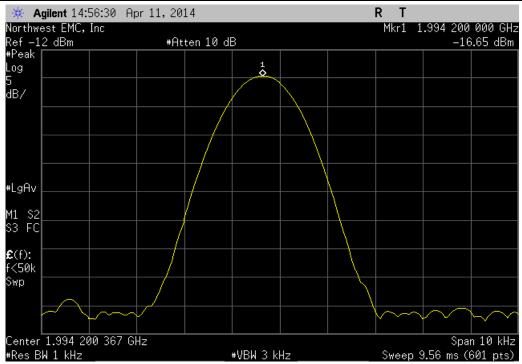
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result
İ		1962 499988	1962 5	0.0061	1	Page



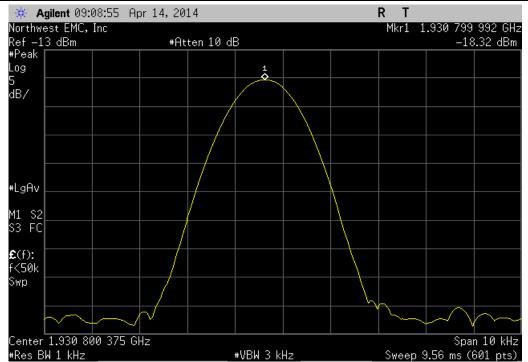
Report No. TECO0048 79/165





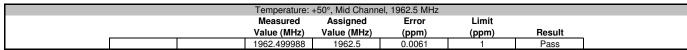


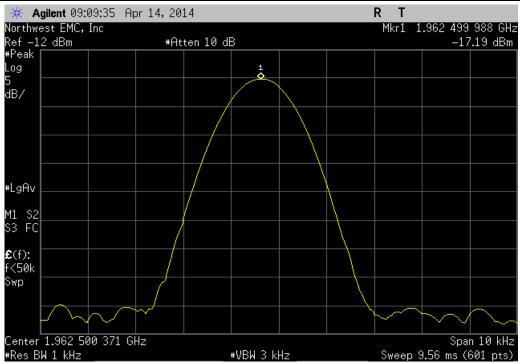
	Temperature: +50°, Low Channel, 1930.8 MHz									
			Measured	Assigned	Error	Limit				
			Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result			
I			1930.799992	1930.8	0.0041	1	Pass			



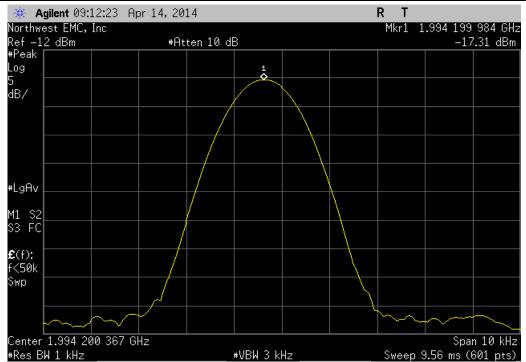
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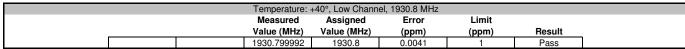


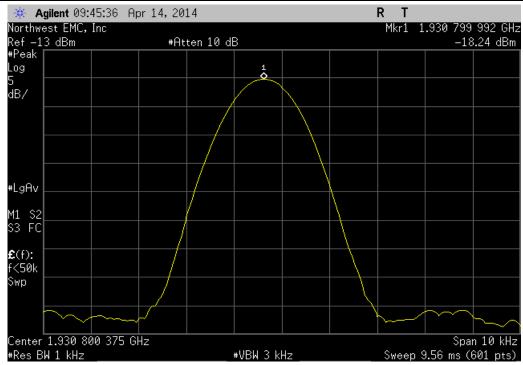
	Temperature: +	⊦50°, High Chann	el, 1994.2 MHz		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result
	1994.199984	1994.2	0.0080	1	Pass



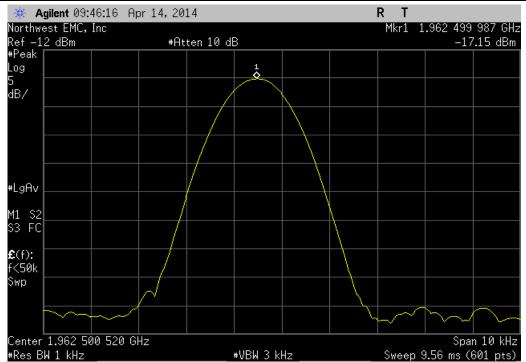
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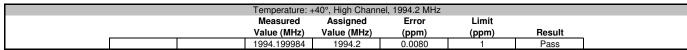


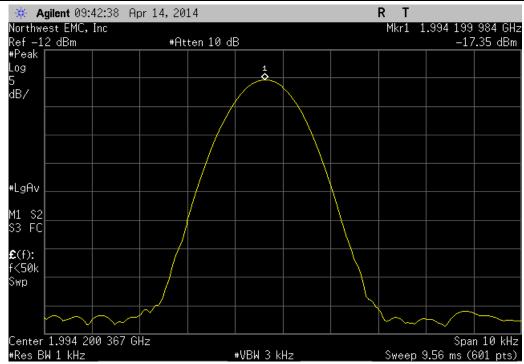
Temperature: +40°, Mid Channel, 1962.5 MHz									
		Measured	Assigned	Error	Limit				
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result			
		1962.499987	1962.5	0.0066	1	Pass			



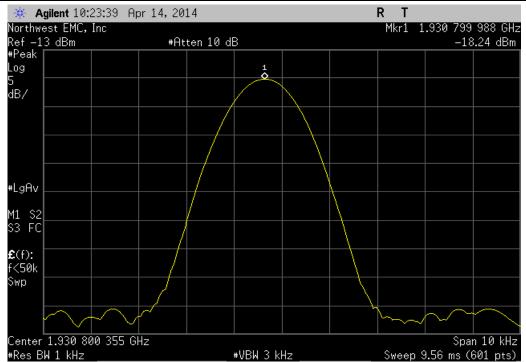
Report No. TECO0048 82/165





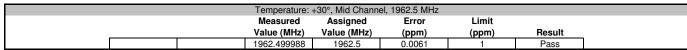


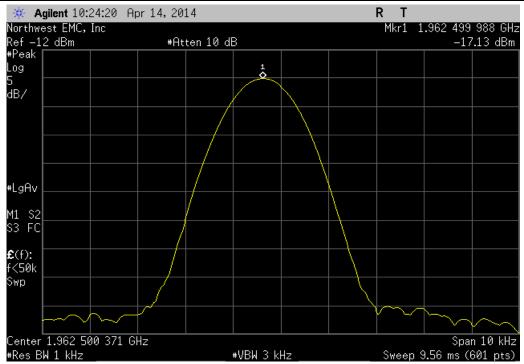
	Temperature: +30°, Low Channel, 1930.8 MHz									
			Measured	Assigned	Error	Limit				
			Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result			
1			1930.799988	1930.8	0.0062	1	Pass			



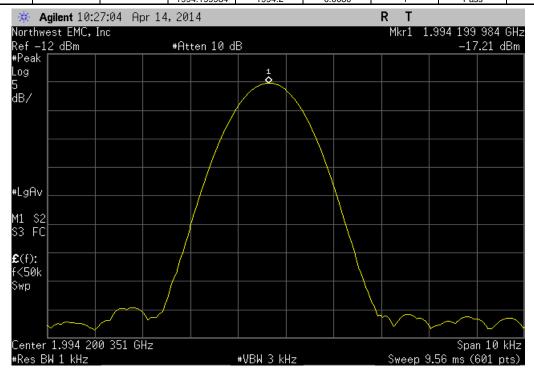
Report No. TECO0048 83/165





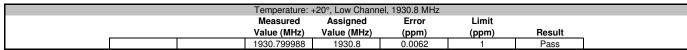


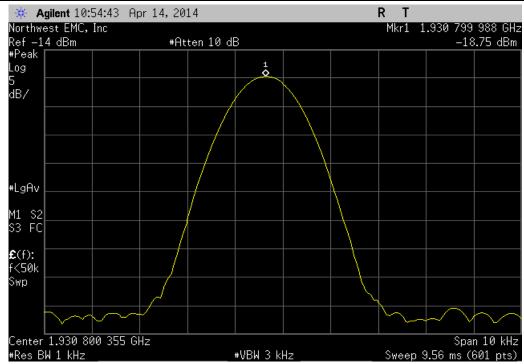
Temperature: +30°, High Channel, 1994.2 MHz								
		Measured	Assigned	Error	Limit			
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result		
		1994 199984	1994.2	0.0080	1	Pass		



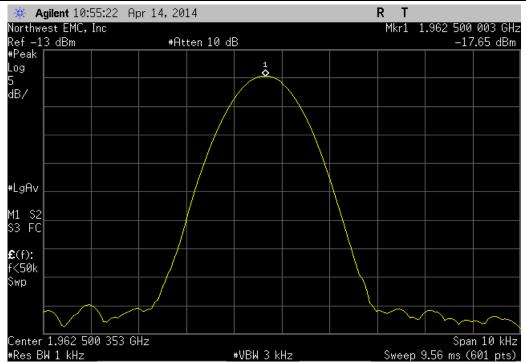
Report No. TECO0048 84/165





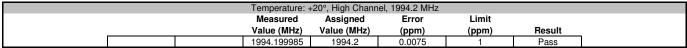


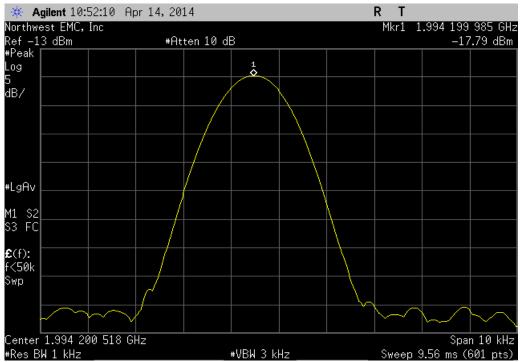
	Temperature: +20°, Mid Channel, 1962.5 MHz									
			Measured	Assigned	Error	Limit				
			Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result			
I			1962.500003	1962.5	0.0015	1	Pass			



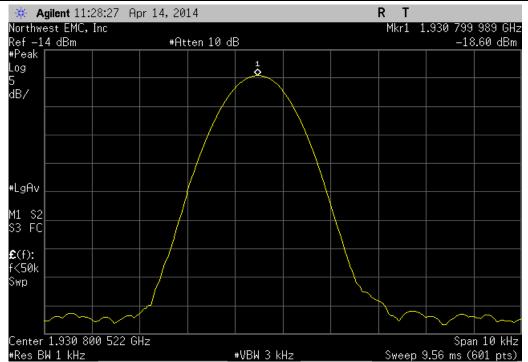
Report No. TECO0048 85/165





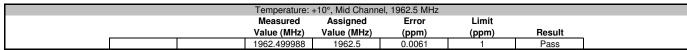


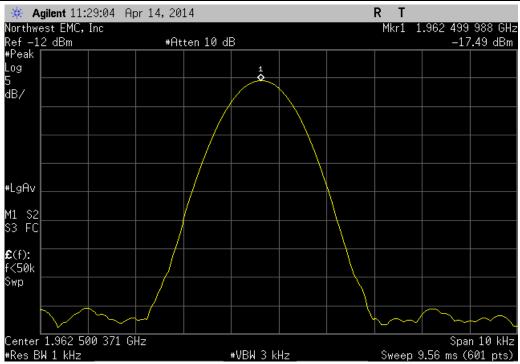
Temperature: +10°, Low Channel, 1930.8 MHz									
		Measured	Assigned	Error	Limit				
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result			
		1930.799989	1930.8	0.0057	1	Pass			



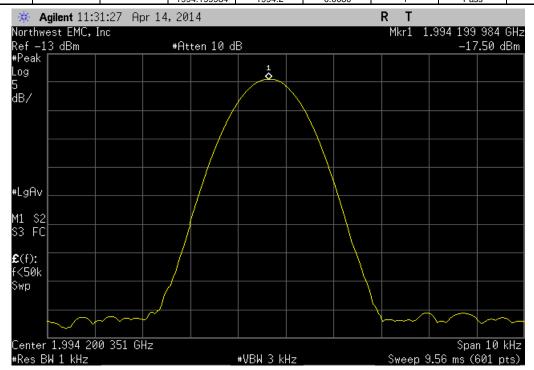
Report No. TECO0048 86/165





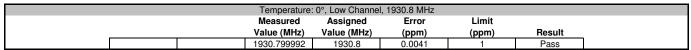


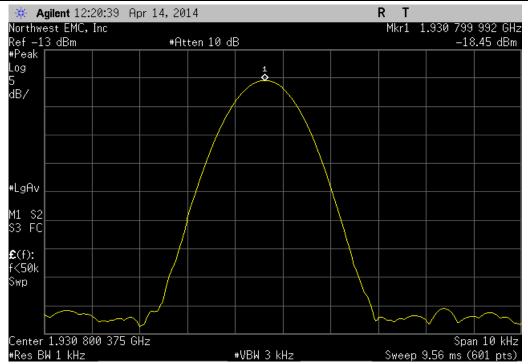
	Temperature: +10°, High Channel, 1994.2 MHz									
			Measured	Assigned	Error	Limit				
			Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result			
Í			1994 199984	1994.2	0.0080	1	Pass			



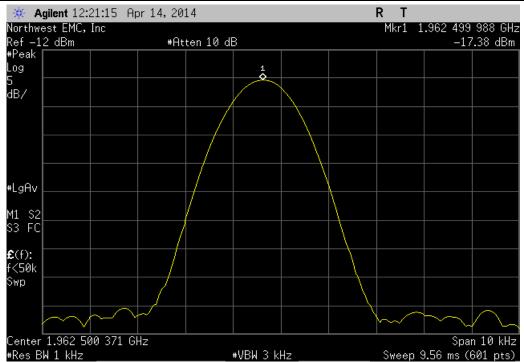
Report No. TECO0048 87/165





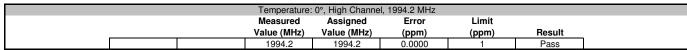


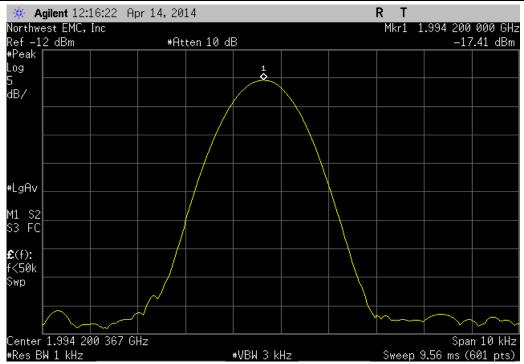
Temperature: 0°, Mid Channel, 1962.5 MHz									
		Measured	Assigned	Error	Limit				
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result			
		1962.499988	1962.5	0.0061	1	Pass			



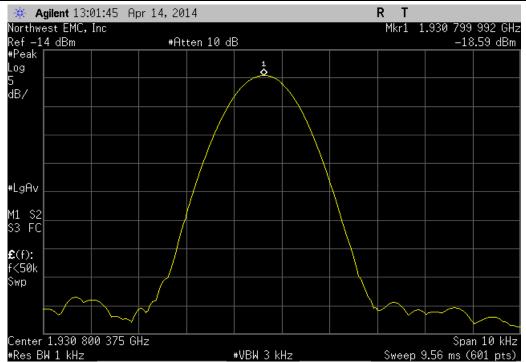
Report No. TECO0048 88/165





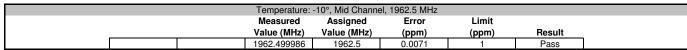


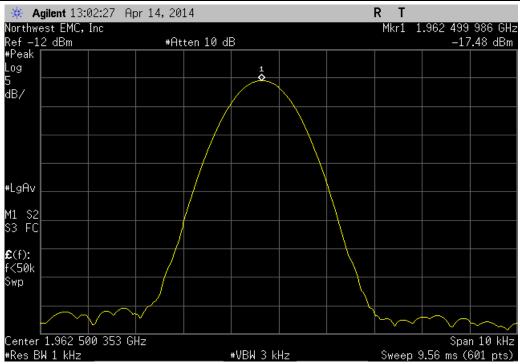
	Temperature: -10°, Low Channel, 1930.8 MHz									
			Measured	Assigned	Error	Limit				
			Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result			
I			1930.799992	1930.8	0.0041	1	Pass			



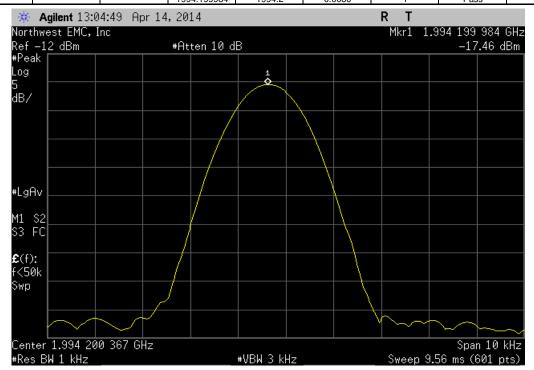
Report No. TECO0048 89/165





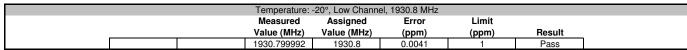


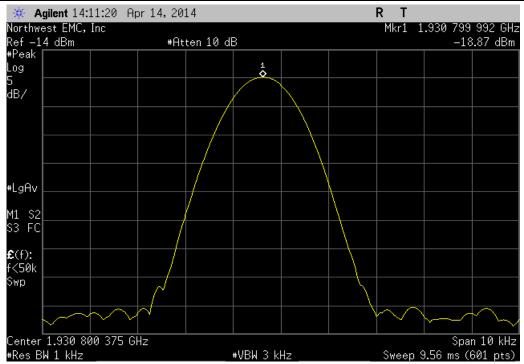
Temperature: -10°, High Channel, 1994.2 MHz								
		Measured	Assigned	Error	Limit			
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result		
		1994 199984	1994.2	0.0080	1	Pass		



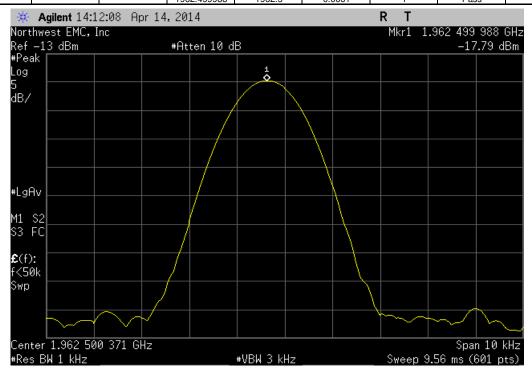
Report No. TECO0048 90/165





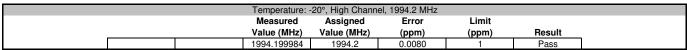


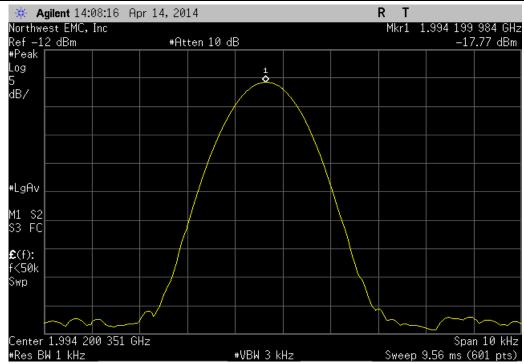
Temperature: -20°, Mid Channel, 1962.5 MHz								
		Measured	Assigned	Error	Limit			
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result		
		1962 499988	1962 5	0.0061	1	Page		



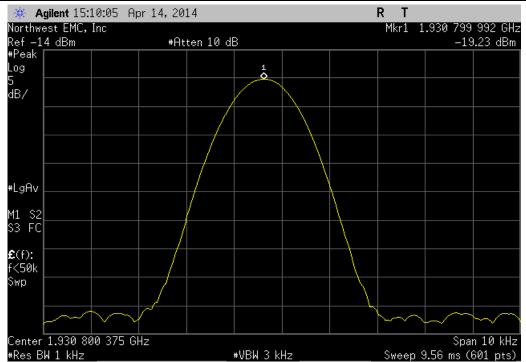
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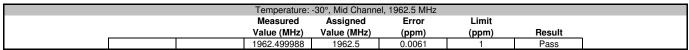


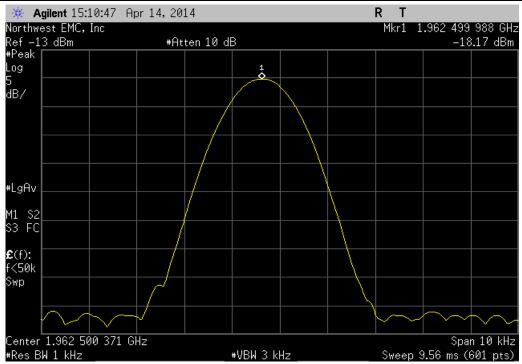
	Temperature: -30°, Low Channel, 1930.8 MHz									
			Measured	Assigned	Error	Limit				
			Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result			
i			1930.799992	1930.8	0.0041	1	Pass			



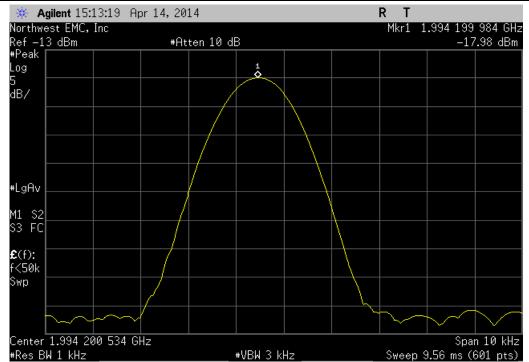
Report No. TECO0048 92/165







Temperature: -30°, High Channel, 1994.2 MHz									
		Measured	Assigned	Error	Limit				
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Result			
		1994.199984	1994.2	0.0080	1	Pass			



Report No. TECO0048 93/165

SPURIOUS RADIATED EMISSIONS



PSA-ESCI 2017.09.18

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 WCDMA and LTE 5 MHz - low channel (2112.5 MHz), mid channel (2145 MHz), and high channel (2177.5 MHz); LTE 10 MHz - high channel (2175 MHz).

Transmitting WCDMA and LTE 5 MHz - low channel (1932.5 MHz), mid channel (1962.5 MHz), and high channel (1992.5 MHz); LTE 10 MHz - high channel (1990 MHz).

POWER SETTINGS INVESTIGATED

110VAC/60Hz

CONFIGURATIONS INVESTIGATED

TECO0048 - 1

FREQUENCY RANGE INVESTIGATED

Start Frequency 30 MHz	Stop Frequency	26500 MHz
Start i requericy 130 Mil 12	Stop i requericy	[20300 WI IZ

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
Power Sensor	Agilent	N8481A	SQN	17-Jul-2017	12 mo
Meter - Power	Agilent	N1913A	SQL	17-Jul-2017	12 mo
Antenna - Double Ridge	ETS Lindgren	3115	AIB	25-Aug-2016	24 mo
Generator - Signal	Keysight	N5171B (EXG)	TEY	23-Oct-2016	36 mo
Filter - Band Pass/Notch	K&L Microwave	3TNF-1000/2000-N/N	HGT	7-Aug-2017	12 mo
Attenuator	Fairview Microwave	SA18E-20	TWZ	20-Sep-2017	12 mo
Filter - High Pass	Micro-Tronics	HPM50111	LFN	20-Sep-2017	12 mo
Filter - Low Pass	Micro-Tronics	LPM50004	LFK	20-Sep-2017	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVW	13-Feb-2018	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-08	AIQ	NCR	0 mo
Cable	ESM Cable Corp.	Standard Gain Horn Cables	MNJ	12-Jul-2017	12 mo
Amplifier - Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVV	13-Feb-2018	12 mo
Antenna - Standard Gain	ETS Lindgren	3160-07	AXP	NCR	0 mo
Amplifier - Pre-Amplifier	Miteq	AMF-3D-00100800-32-13P	AVT	13-Feb-2018	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
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

MEASUREMENT BANDWIDTHS

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

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Above 1000	1000.0	N/A	1000.0

TEST DESCRIPTION

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

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

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

SPURIOUS RADIATED EMISSIONS



EmiR5 2017.09.18.2

V	Vork Order:			т	Date:		o-2018	10) d		0
	Project: Job Site:				perature: Humidity:		S °C 5 RH		ust	my som	ards
Sori	ial Number:				tric Pres.:		mbar		Toetod by:	Dustin Sparks	
Jen		Prism 1900				1013	IIIDai		rested by.	Dustin oparks	
Cor	nfiguration:		<i>7,</i> 2100,1110	50 Baai 11B1	11 LO TTAIL						
		CommSco	pe								
		Josh Wittm									
E	EUT Power:	110VAC/60									
Opera	ating Mode:			and LTE 5			932.5 MHz)	, mid chanı	nel (1962.5	MHz), and high	n channel (1992.5
	Deviations:	None									
(Comments:		na ports we	ere terminat	ed but only	one port is	active				
Test Spe	cifications						Test Meth	od			
FCC 24.2	238:2018	-					ANSI C63				
Run	# 11	Test Dis	stance (m)	3	Antenna	a Height(s)		1 to 4(m)		Results	Pass
		100.21	X		7					Hoodile	. 400
_											
-5											
-15											
-25	+										
-35											
щ 9 -45											
8 -45	+										
-55											
-55											
-65											
-75											
75											
-85											
	10		100			1000 MHz			10000	■ PK ◆	100000 AV • QP
	Freq	Antenna Height	Azimuth	Polarity/ Transducer Type	Detector	EIRP	EIRP	Spec. Limit	Compared to Spec.	Co	mments
	(MHz)	(meters)	(degrees)	,,,,	2 2 3 3 0 10 1	(Watts)	(dBm)	(dBm)	(dB)		
		10	205.0	Hor-	DIV	2 61E 00	05.0	12.0	10.0	High ch, WCDMA	
	3986.917 3986.142	1.8 1.7	325.0 343.0	Horz Horz	PK PK	2.61E-06 1.69E-06	-25.8 -27.7	-13.0 -13.0	-12.8 -14.7	High ch, LTE 5 M	
	3926.833	2.1	56.1	Horz	PK	8.26E-07	-30.8	-13.0	-17.8	Mid ch, WCDMA	
	3980.408	1.8	11.1	Horz	PK	7.20E-07	-31.4	-13.0	-18.4	High ch, LTE 10 M	
	3982.808	1.0	41.1	Vert	PK	4.87E-07	-33.1	-13.0	-20.1	High ch, WCDMA	

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Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
3864.800	1.9	64.0	Horz	PK	3.86E-07	-34.1	-13.0	-21.1	Low ch, WCDMA
3925.008	1.0	240.9	Vert	PK	1.81E-07	-37.4	-13.0	-24.4	Mid ch, WCDMA
3864.842	1.0	318.9	Vert	PK	1.73E-07	-37.6	-13.0	-24.6	Low ch, WCDMA
7969.850	1.0	239.0	Horz	PK	7.20E-08	-41.4	-13.0	-28.4	High ch, WCDMA
7851.725	4.0	124.1	Horz	PK	6.72E-08	-41.7	-13.0	-28.7	Mid ch, WCDMA
7971.350	1.0	62.1	Vert	PK	6.56E-08	-41.8	-13.0	-28.8	High ch, WCDMA
7852.317	1.0	98.1	Vert	PK	6.27E-08	-42.0	-13.0	-29.0	Mid ch, WCDMA
7728.192	1.0	196.1	Vert	PK	5.85E-08	-42.3	-13.0	-29.3	Low ch, WCDMA
7728.158	1.0	25.0	Horz	PK	5.59E-08	-42.5	-13.0	-29.5	Low ch, WCDMA
5795.242	1.0	75.0	Horz	PK	3.86E-08	-44.1	-13.0	-31.1	Low ch, WCDMA
5799.775	3.1	333.9	Vert	PK	3.07E-08	-45.1	-13.0	-32.1	Low ch, WCDMA
5887.025	1.0	6.0	Vert	PK	2.93E-08	-45.3	-13.0	-32.3	Mid ch, WCDMA
5979.358	1.0	113.1	Horz	PK	2.86E-08	-45.4	-13.0	-32.4	High ch, WCDMA
5888.817	1.0	173.1	Horz	PK	2.74E-08	-45.6	-13.0	-32.6	Mid ch, WCDMA
5978.592	3.6	196.1	Vert	PK	2.61E-08	-45.8	-13.0	-32.8	High ch, WCDMA

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SPURIOUS RADIATED EMISSIONS



										EmiR5 2017.09.18.2		PSA-ESCI 2017
Wo	rk Order:		00048		Date:		b-2018	1	7 01			2
	Project:				nperature:		o°C		tust	mx	Sara	20
	Job Site:				Humidity:		RH		X-1-1-1	(
Serial	Number:				tric Pres.:	1015	mbar		Tested by:	Dustin Spark	.S	
		Prism 1900	0/2100AWS	33 Dual HD	M 20 Watt							
	iguration:											
С	ustomer:	CommSco	ре									
A	ttendees:	Josh Wittm	nan									
EU	JT Power:	110VAC/60	OHz									
0		Transmittin	na WCDMA	- low chan	nel (2112.5	MHz), mid	channel (2	2145 MHz).	and high ch	nannel (2177.5	MHz):	LTE 10
Operati	ng Mode:	MHz - high			`	,,	`	,,	Ü	`	,,	
		Mana	,	,								
De	eviations:											
Co	omments:		na ports we	ere terminat	ted but only	one port is	active					
oct Casoi	fications						Test Meth	and				
CC 27.53:							ANSI C63		Ļ			
Run#	24	Test Dis	stance (m)	3	Antenna	a Height(s)		1 to 4(m)		Results	P	ass
Γ												
-5												
-15												
-25												
-35												
_												
변 명 -45												
8 -45 +												
-55 +												
-65												
-00												
-75												$\perp \perp \mid$
-85 ⊥												
10)		100			1000			10000			100000
						MHz						
						1411 12				■ PK	◆ AV	QP
				Polarity/					Correct			
	Freq	Antenna Height	Azimuth	Transducer Type	Detector	EIRP	EIRP	Spec. Limit	Compared to Spec.		Comments	
	(MHz)	(meters)	(degrees)	1,700	Detector	(Watts)	(dBm)	(dBm)	(dB)		Cimilents	
	((13.5)	()			(5)	, ,		()			
	6530.092	2.3	83.1	Vert	PK	3.07E-08	-45.1	-13.0	-32.1	High ch, WCDN		
	6337.250	1.4	134.1	Horz	PK	2.80E-08	-45.5	-13.0	-32.5	High ch, LTE 10		
	6531.908	1.0	239.9	Horz	PK	2.74E-08	-45.6	-13.0	-32.6	High ch, WCDN		
	6436.850	3.2	52.1	Vert	PK	2.55E-08	-45.9	-13.0	-32.9	Mid ch, WCDM		
	6338.083	1.0	226.0	Vert	PK	2.55E-08	-45.9	-13.0	-32.9	Low ch, WCDM	.A	

Report No. TECO0048 98/165

Freq (MHz)	Antenna Height (meters)	Azimuth (degrees)	Polarity/ Transducer Type	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
6433.375	1.0	148.1	Horz	PK	2.44E-08	-46.1	-13.0	-33.1	Mid ch, WCDMA
6337.458	1.0	246.9	Horz	PK	2.38E-08	-46.2	-13.0	-33.2	Low ch, WCDMA
4225.083	1.9	275.0	Vert	PK	1.11E-08	-49.5	-13.0	-36.5	Low ch, WCDMA
4357.233	2.7	12.1	Horz	PK	1.06E-08	-49.7	-13.0	-36.7	High ch, WCDMA
4357.075	1.0	123.1	Vert	PK	1.04E-08	-49.8	-13.0	-36.8	High ch, WCDMA
4288.817	1.0	24.0	Horz	PK	9.93E-09	-50.0	-13.0	-37.0	Mid ch, WCDMA
4288.892	1.4	311.0	Vert	PK	9.93E-09	-50.0	-13.0	-37.0	Mid ch, WCDMA
4227.433	1.0	19.1	Horz	PK	9.27E-09	-50.3	-13.0	-37.3	Low ch, WCDMA
8711.633	1.0	245.0	Vert	PK	2.38E-09	-56.2	-13.0	-43.2	High ch, WCDMA
8449.017	1.0	197.0	Vert	PK	2.33E-09	-56.3	-13.0	-43.3	Low ch, WCDMA
8711.567	1.0	340.9	Horz	PK	2.33E-09	-56.3	-13.0	-43.3	High ch, WCDMA
8450.425	1.0	113.1	Horz	PK	2.28E-09	-56.4	-13.0	-43.4	Low ch, WCDMA
8578.833	1.0	205.0	Vert	PK	2.12E-09	-56.7	-13.0	-43.7	Mid ch, WCDMA
8577.608	1.0	191.1	Horz	PK	2.03E-09	-56.9	-13.0	-43.9	Mid ch, WCDMA

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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)

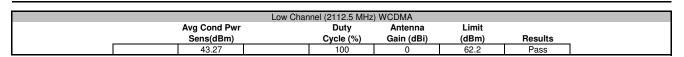
Report No. TECO0048 100/165

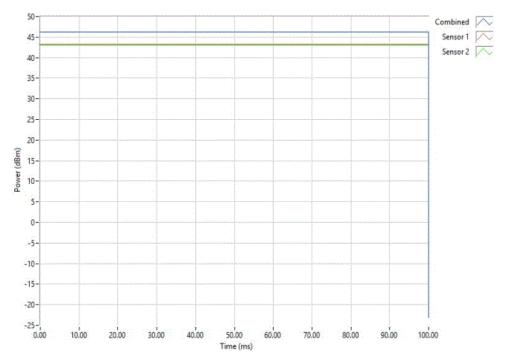


EUT: Prism 1900/2100AWS3 Dual HDM 20 Watt			Work Order:	TECO0042	
Serial Number: 459644002			Date:	05/23/17	
Customer: CommScope			Temperature:	22.3 °C	
Attendees: Josh Wittman			Humidity:	42.7% RH	
Project: None			Barometric Pres.:	1013 mbar	
Tested by: Dustin Sparks	Power: 110VAC/60Hz		Job Site:	MN08	
TEST SPECIFICATIONS	Test Method				
FCC 27:2017	ANSI/TIA/EIA-603-D-2010				
			_		
COMMENTS					
only one port is active					
DEVIATIONS FROM TEST STANDARD None Configuration # 1 Signature	DustinSparls				
DEVIATIONS FROM TEST STANDARD None Configuration # 1	Sustinguals Avg Cond Pwr	Duty	Antenna	Limit	
DEVIATIONS FROM TEST STANDARD None Configuration # 1	-(Duty Cycle (%)	Antenna Gain (dBi)	Limit (dBm)	Results
None Configuration # 1 Signature	Avg Cond Pwr				Results Pass
DEVIATIONS FROM TEST STANDARD None Configuration # 1 Signature Low Channel (2112.5 MHz) WCDMA	Avg Cond Pwr Sens(dBm)	Cycle (%)		(dBm)	
DEVIATIONS FROM TEST STANDARD None Configuration # 1 Signature Low Channel (2112.5 MHz) WCDMA Mid Channel (2145 MHz) WCDMA	Avg Cond Pwr Sens(dBm) 43.27	Cycle (%) 100		(dBm) 62.2	Pass
DEVIATIONS FROM TEST STANDARD 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(dBm) 43.27 43.35	Cycle (%) 100 100		(dBm) 62.2 62.2	Pass Pass
DEVIATIONS FROM TEST STANDARD None Configuration # 1	Avg Cond Pwr Sens(dBm) 43.27 43.35 43.03	Cycle (%) 100 100 100		(dBm) 62.2 62.2 62.2	Pass Pass Pass

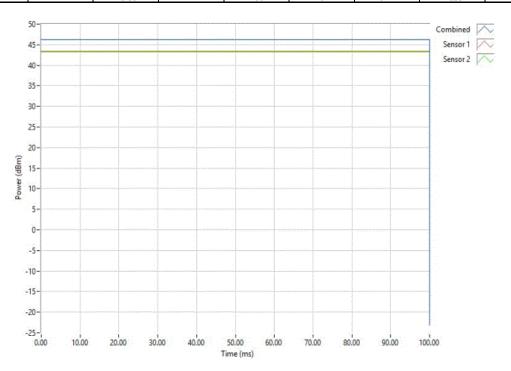
Report No. TECO0048 101/165







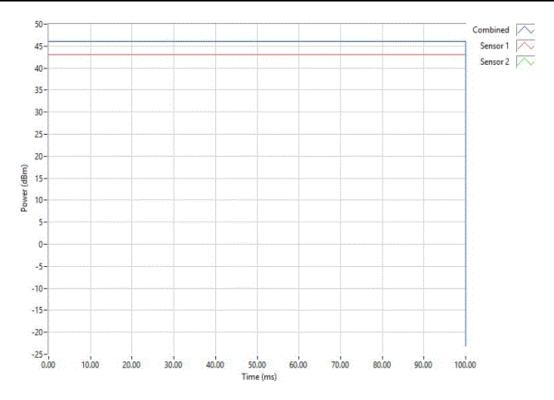
	Mid Channel (2	145 MHz) V	VCDMA		
Avg Cond Pwr		Outy	Antenna	Limit	
Sens(dBm)	Сус	cle (%)	Gain (dBi)	(dBm)	Results
43.35		100	0	62.2	Pass



Report No. TECO0048 102/165

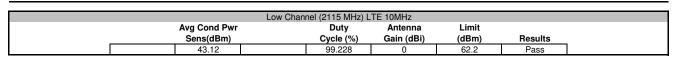


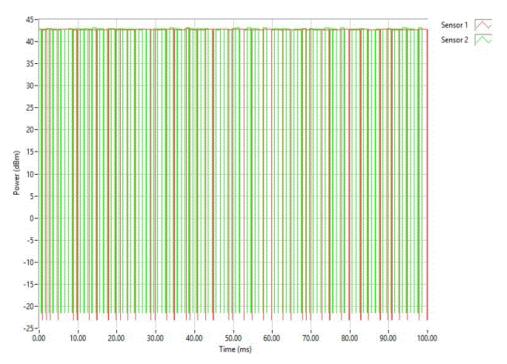
	High Char	nnel (2177.5 MHz) WCDMA		
Avg Cond Pwr		Duty	Antenna	Limit	
Sens(dBm)		Cycle (%)	Gain (dBi)	(dBm)	Results
43.03		100	0	62.2	Pass



Report No. TECO0048 103/165





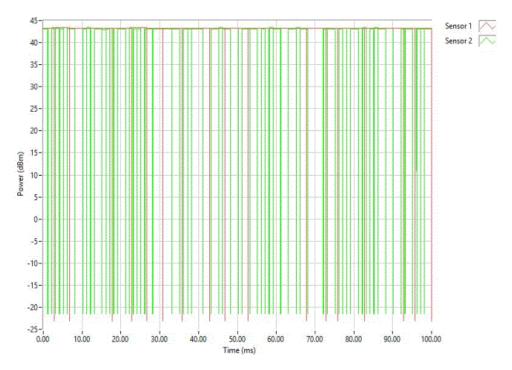


	Mid Chann	el (2145 MHz) L	TE 10MHz			
Avg Cond Pwr		Duty	Antenna	Limit		
Sens(dBm)		Cycle (%)	Gain (dBi)	(dBm)	Results	
43.47		99.44	0	62.2	Pass	



Report No. TECO0048 104/165





Report No. TECO0048 105/165

SPURIOUS CONDUCTED EMISSIONS 2100



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

. 20 : 200 ::2. : :					
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 EUT.

The peak conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than or equal to the 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. TECO0048 106/165

SPURIOUS CONDUCTED EMISSIONS 2100



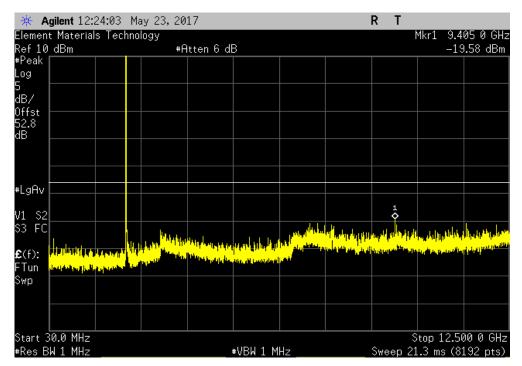
						TbtTx 2017.01.27	
	Prism 1900/2100AWS3 Du	ıal HDM 20 Watt				TECO0042	
Serial Number:						05/24/17	
	CommScope				Temperature		
	Josh Wittman					43% RH	
Project:					Barometric Pres.		
	Dustin Sparks		Power: 110VAC/60Hz		Job Site	MN08	
TEST SPECIFICATI	ONS		Test Method				
FCC 27:2017			ANSI/TIA/EIA-603-D-2010				
COMMENTS							
Antenna gain is ass	sumed to be 0 - per custor	ner, the antenna gain will be reevaluated	d during installation. System is rated at 20	W (+43 dBm).	Both antenna ports were terminal	ed but only one por	t is active
DEVIATIONS FROM	I TEST STANDARD						
	I TEST STANDARD						
	I TEST STANDARD	6					
None Configuration #	1 TEST STANDARD	2)	intin Don la				
None		Signature	istinSports				
None		Signature	requency		Max Value	Limit	
None		Signature	-(Max Value (dBm)	Limit ≤ (dBm)	Result
None Configuration #	2	Signature	Frequency				Result Pass
None Configuration # Low Channel (2112.3	2 5 MHz) WCDMA	Signature 30	Frequency Range		(dBm)	≤ (dBm)	
None Configuration # Low Channel (2112.5 Low Channel (2112.5	2 5 MHz) WCDMA 5 MHz) WCDMA	Signature 30 12	Frequency Range) MHz - 12.5 GHz		(dBm) -19.58	≤ (dBm) -13	Pass
None Configuration # Low Channel (2112.8 Low Channel (2112.9 Mid Channel (2145 N	2 5 MHz) WCDMA 5 MHz) WCDMA MHz) WCDMA	Signature 31 12 30	Frequency Range) MHz - 12.5 GHz 2.5 GHz - 22 GHz		(dBm) -19.58 -16.6	≤ (dBm) -13 -13	Pass Pass
None Configuration # Low Channel (2112.9 Low Channel (2112.9 Mid Channel (2145 N Mid Channel (2145 N	2 5 MHz) WCDMA 5 MHz) WCDMA MHz) WCDMA MHz) WCDMA	Signature 30 12 30 12	Frequency Range MHz - 12.5 GHz 2.5 GHz - 22 GHz MHz - 12.5 GHz		(dBm) -19.58 -16.6 -20.63	≤ (dBm) -13 -13 -13	Pass Pass Pass
None Configuration # Low Channel (2112.9 Low Channel (2112.9 Mid Channel (2145 None) (2 5 MHz) WCDMA 5 MHz) WCDMA MHz) WCDMA MHz) WCDMA 5 MHz) WCDMA	Signature 30 12 34 12 30	Frequency Range) MHz - 12.5 GHz 2.5 GHz - 22 GHz MHz - 12.5 GHz 5.5 GHz - 22 GHz		(dBm) -19.58 -16.6 -20.63 -17.07	≤ (dBm) -13 -13 -13 -13 -13	Pass Pass Pass Pass
None Configuration # Low Channel (2112.: Low Channel (2145. Nid Channel (2145. Nid Channel (2145. Nid Channel (2145. Night) Channel (2177. High Channel (2177.	2 5 MHz) WCDMA 5 MHz) WCDMA MHz) WCDMA 5 MHz) WCDMA 5 MHz) WCDMA	Signature 31 12 30 12 31 12	Frequency Range 3 MHz - 12.5 GHz 5.5 GHz - 22 GHz MHz - 12.5 GHz 2.5 GHz - 22 GHz 1.5 GHz - 22 GHz 1.5 GHz - 25 GHz		(dBm) -19.58 -16.6 -20.63 -17.07 -20.07	≤ (dBm) -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass
None Configuration # Low Channel (2112.5 Low Channel (2145 N Mid Channel (2145 N Mid Channel (2147 N Ligh Channel (2177.5 Low Channel (2177.5 Low Channel (2175 N	2 5 MHz) WCDMA 5 MHz) WCDMA MHz) WCDMA JS MHz) WCDMA 5 MHz) WCDMA 5 MHz) WCDMA MHz) LTE 10MHz	Signature 30 12 31 12 30 12 30 12 30 12 30 12	Frequency Range MHz - 12.5 GHz 2.5 GHz - 22 GHz MHz - 12.5 GHz 2.5 GHz - 22 GHz MHz - 12.5 GHz 2.5 GHz - 22 GHz MHz - 12.5 GHz 3.5 GHz - 22 GHz		(dBm) -19.58 -16.6 -20.63 -17.07 -20.07 -16.83	≤ (dBm) -13 -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass
Ow Channel (2112.9 Cow Channel (2112.9 Cow Channel (2112.9 Cow Channel (2145 North Channel (2177.9 Cow Channel (2115 Low	2 5 MHz) WCDMA 5 MHz) WCDMA MHz) WCDMA MHz) WCDMA 5 MHz) WCDMA 5 MHz) WCDMA MHz) LTE 10MHz MHz) LTE 10MHz	Signature 30 11 30 12 30 12 31 14 31 15 31 15 31 16 31 31	Frequency Range MHz - 12.5 GHz 2.5 GHz - 22 GHz MHz - 12.5 GHz 2.5 GHz - 22 GHz MHz - 12.5 GHz		(dBm) -19.58 -16.6 -20.63 -17.07 -20.07 -16.83 -20.31	≤(dBm) -13 -13 -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass
None Configuration # Low Channel (2112.: Low Channel (2145 N Mid Channel (2145 N Mid Channel (2145 N Channel (2157 Channel (2157 Channel (2151 N Low Channel (2151 N Mid Channel (2151 N Mid Channel (2151 N	2 5 MHz) WCDMA 5 MHz) WCDMA MHz) WCDMA 5 MHZ) WCDMA 5 MHz) WCDMA 5 MHz) UCDMA MHz) LTE 10MHz MHz) LTE 10MHz	Signature 31 32 33 12 30 12 30 31 30 31	Frequency Range MHz - 12.5 GHz S. GHz - 22 GHz MHz - 12.5 GHz S. GHz - 22 GHz MHz - 12.5 GHz S. GHz - 22 GHz MHz - 12.5 GHz S. GHz - 22 GHz MHz - 12.5 GHz S. GHz - 22 GHz		(dBm) -19.58 -16.6 -20.63 -17.07 -20.07 -16.83 -20.31	≤ (dBm) -13 -13 -13 -13 -13 -13 -13 -13 -13	Pass Pass Pass Pass Pass Pass Pass Pass
None	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	Signature 3(12 3(12 3(12 3(12 3(12 3(12 3(12 3(12 3(12 3(12) 3(12) 3(12) 3(12) 3(12) 3(12) 3(12) 3(12) 3(12)	Frequency Range MHz - 12.5 GHz 2.5 GHz - 22 GHz MHz - 12.5 GHz 2.5 GHz - 22 GHz MHz - 12.5 GHz 3.5 GHz - 22 GHz MHz - 12.5 GHz 5.5 GHz - 22 GHz MHz - 12.5 GHz 2.5 GHz - 22 GHz MHz - 12.5 GHz 2.5 GHz - 22 GHz		(dBm) -19.58 -16.6 -20.63 -17.07 -20.07 -16.83 -20.31 -16.4 -19.97	≤ (dBm) -13 -13 -13 -13 -13 -13 -13 -13 -13 -1	Pass Pass Pass Pass Pass Pass Pass Pass

Report No. TECO0048 107/165

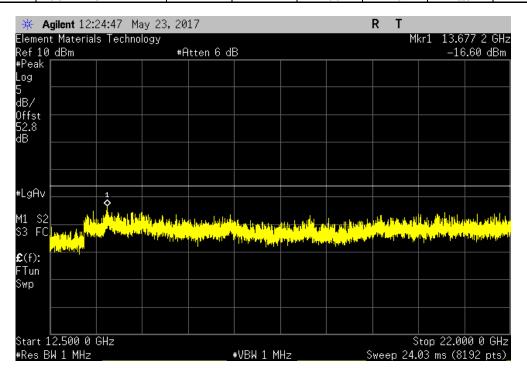
SPURIOUS CONDUCTED EMISSIONS 2100



					TbtTx 2017.01.27	XMit 2017.02.08
	Low Channel (2112.5 MHz	z) WCDMA				
Frequency		Max Value	Limit			
Range		(dBm)	≤ (dBm)	Result		
30 MHz - 12.5 GHz		-19.58	-13	Pass		ļ



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. TECO0048 108/165

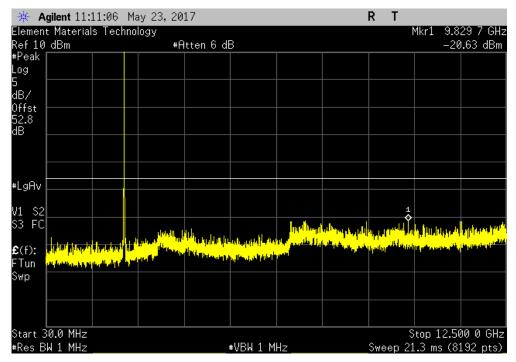


 Mid Channel (2145 MHz) WCDMA

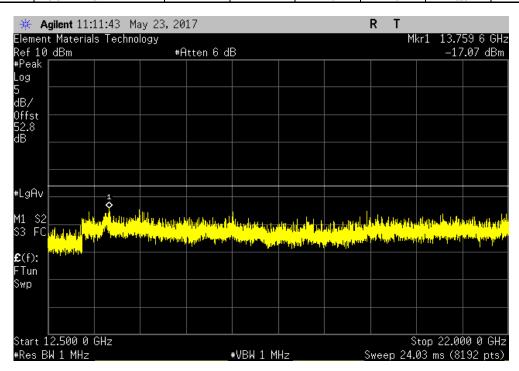
 Frequency
 Max Value
 Limit

 Range
 (dBm)
 ≤ (dBm)
 Result

 30 MHz - 12.5 GHz
 -20.63
 -13
 Pass



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

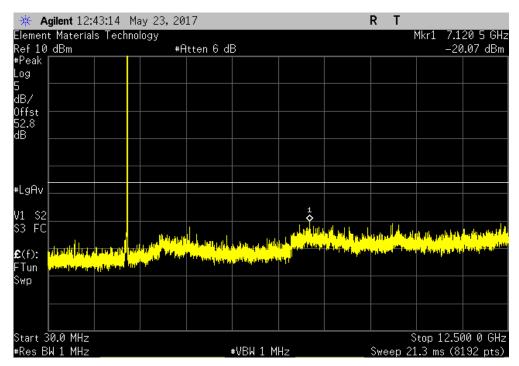


Report No. TECO0048 109/165

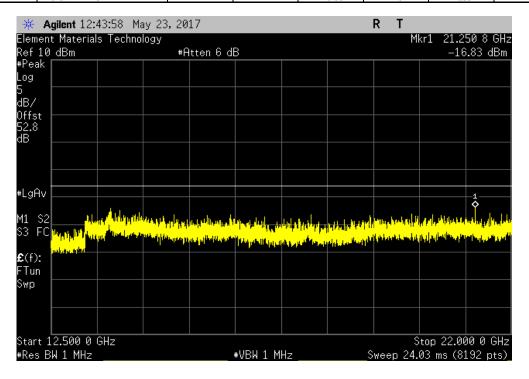


TbtTx 2017.01.27

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



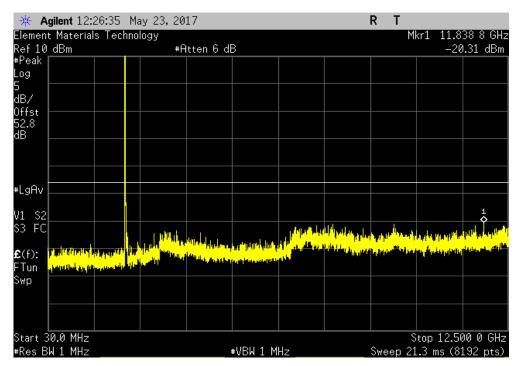
	High Char	nnel (2177.5 MHz) WCDMA		
Frequency			Max Value	Limit	
Range			(dBm)	≤ (dBm)	Result
12.5 GHz - 22 GHz			-16.83	-13	Pass



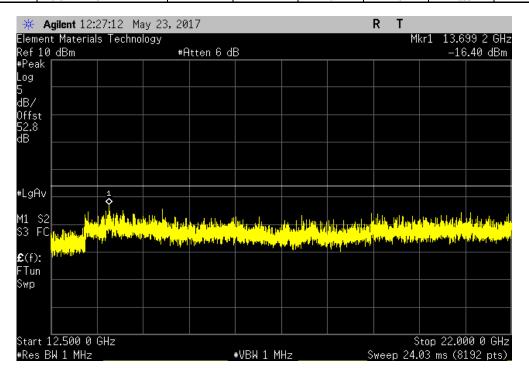
Report No. TECO0048 110/165



	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	



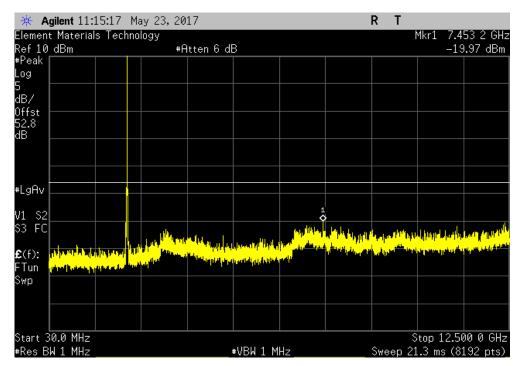
	Low Channel (211	5 MHz) LTE 10MHz		
Frequency		Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
12.5 GHz - 22 GHz		-16.4	-13	Pass



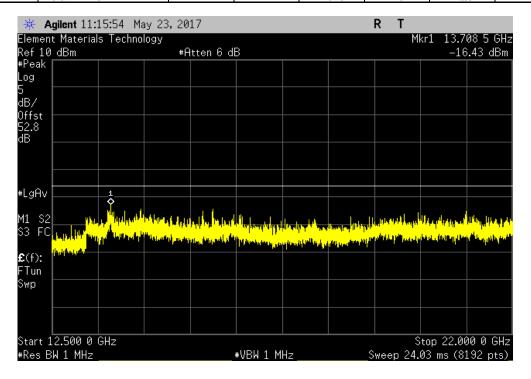
Report No. TECO0048 111/165



					TbtTx 2017.01.27	XMit 2017.02.08
	Mid Channel (2145 MHz)	LTE 10MHz				
Frequency		Max Value	Limit			
Range		(dBm)	≤ (dBm)	Result		
30 MHz - 12 5 GHz		-19 97	-13	Pass		



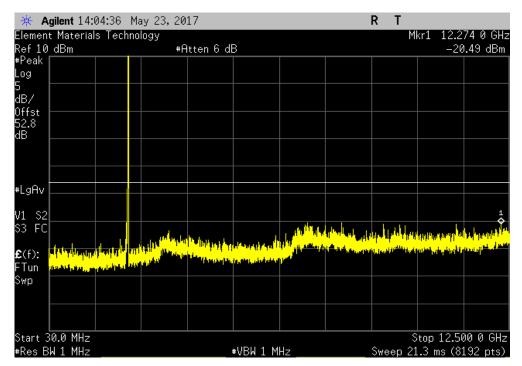
	Mid Chann	el (2145 MHz) L	TE 10MHz		
Frequency			Max Value	Limit	
Range			(dBm)	≤ (dBm)	Result
12.5 GHz - 22 GHz			-16.43	-13	Pass



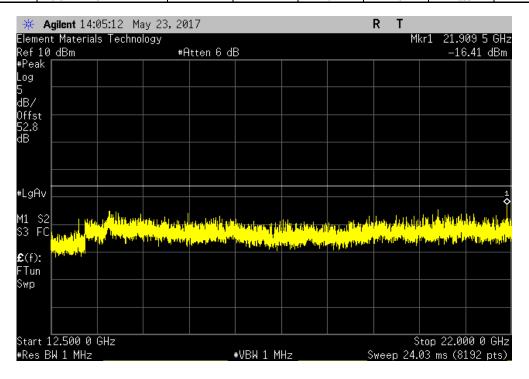
Report No. TECO0048 112/165



					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 Chan	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. TECO0048 113/165



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. TECO0048 114/165

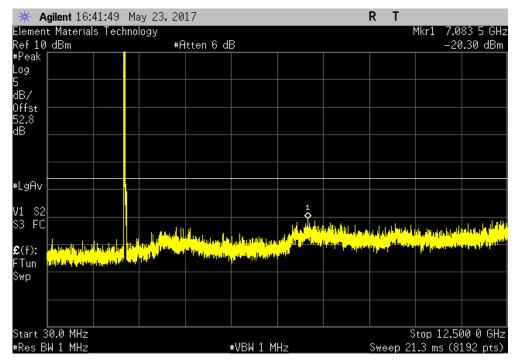


FIIT. Delem 4000/0400 11100 D. 1	HDM 00 W-H	W- 1 0 1	TbtTx 2017.01.27	XMit 2
EUT: Prism 1900/2100AWS3 Dual Serial Number: 459644002	MDIM 20 WATT	Work Order:		
			05/24/17	
Customer: CommScope		Temperature:		
Attendees: Josh Wittman		Humidity:		
Project: None	B 440V40/00U	Barometric Pres.:		
Tested by: Dustin Sparks EST SPECIFICATIONS	Power: 110VAC/60Hz	Job Site:	MN08	
	Test Method			
CC 27:2017	ANSI/TIA/EIA-603-D-2010			
OMMENTS				
	; the antenna gain will be reevaluated during installation. System is rated at 20W (+43 modulation emissions were below the spurious limit. Both antenna ports were termina		de of the Passban	d, but within
VIATIONS FROM TEST STANDARD				
one				
onfiguration # 2	Dustin Souls			
miligaration #	Signature			
	Frequency	Max Value	Limit	
	Range	(dBm)	≤ (dBm)	Resu
w Passband (2110-2145 MHz) WCDMA	30 MHz - 12.5 GHz	-20.3	-13	Pas
v Passband (2110-2145 MHz) WCDMA	12.5 GHz - 22 GHz	-17.23	-13	Pas
w Passband (2110-2145 MHz) WCDMA	Fundamental	-21.76	-13	Pas
d Passband (2130-2160 MHz) WCDMA	30 MHz - 12.5 GHz	-20.34	-13	Pass
d Passband (2130-2160 MHz) WCDMA	12.5 GHz - 22 GHz	-16.81	-13	Pas
d Passband (2130-2160 MHz) WCDMA	Fundamental	-18.36	-13	Pas
gh Passband (2145-2180 MHz) WCDMA	30 MHz - 12.5 GHz	-20.11	-13	Pas
gh Passband (2145-2180 MHz) WCDMA	12.5 GHz - 22 GHz	-16.09	-13	Pass
gh Passband (2145-2180 MHz) WCDMA	Fundamental	-19.6	-13	Pas
w Passband (2110-2145 MHz) LTE 10 MHz	30 MHz - 12.5 GHz	-20.31	-13	Pass
w Passband (2110-2145 MHz) LTE 10 MHz	12.5 GHz - 22 GHz	-17.44	-13	Pas
w Passband (2110-2145 MHz) LTE 10 MHz	Fundamental	-22.58	-13	Pas
d Passband (2130-2160 MHz) LTE 10 MHz	30 MHz - 12.5 GHz	-20.28	-13	Pas
d Passband (2130-2160 MHz) LTE 10 MHz	12.5 GHz - 22 GHz	-16.62	-13	Pas
d Passband (2130-2160 MHz) LTE 10 MHz	Fundamental	-22.61	-13	Pas
gh Passband (2145-2180 MHz) LTE 10 MHz	30 MHz - 12.5 GHz	-19.87	-13	Pas
gh Passband (2145-2180 MHz) LTE 10 MHz	12.5 GHz - 22 GHz	-16.55	-13	Pas

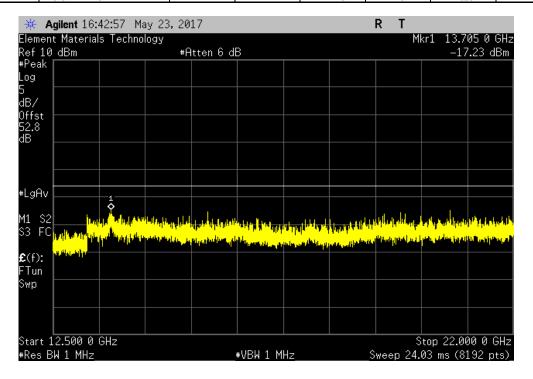
Report No. TECO0048 115/165



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

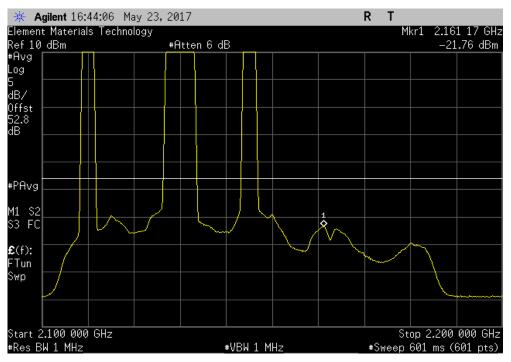


Low Passband (2110-2145 MHz) WCDMA						
Frequency			Max Value	Limit		
Range			(dBm)	≤ (dBm)	Result	
12.5 GHz - 22 GHz			-17.23	-13	Pass	

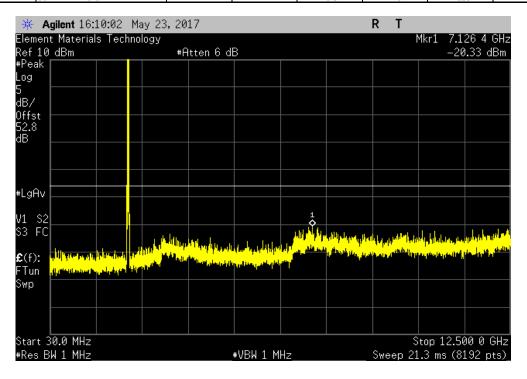


Report No. TECO0048 116/165





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

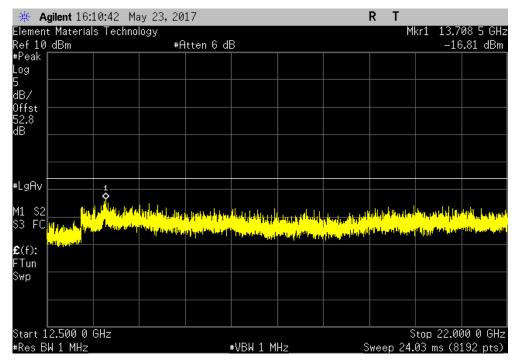


Report No. TECO0048 117/165

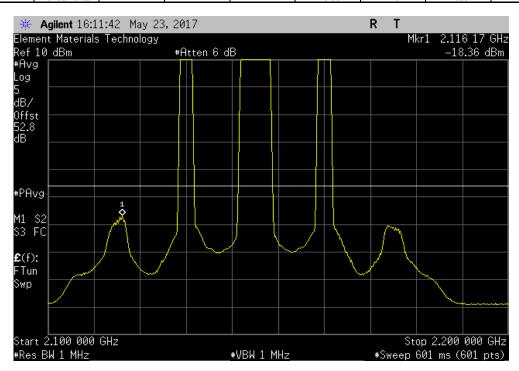


TbtTx 2017.01.27

	Mid Passban	nd (2130-2160 MF	lz) WCDMA		
Frequency			Max Value	Limit	
Range			(dBm)	≤ (dBm)	Result
12.5 GHz - 22 GHz			-16.81	-13	Pass



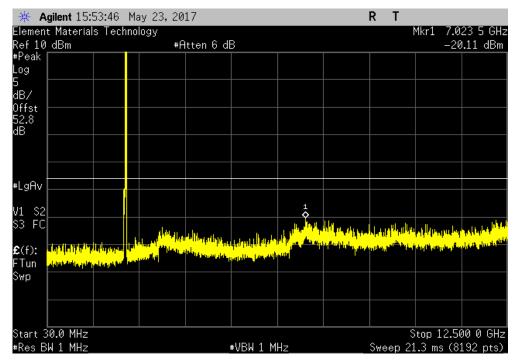
Mid Passband (2130-2160 MHz) WCDMA						
Frequency		Max Value	Limit			
Range		(dBm)	≤ (dBm)	Result		
Fundamental		-18.36	-13	Pass		



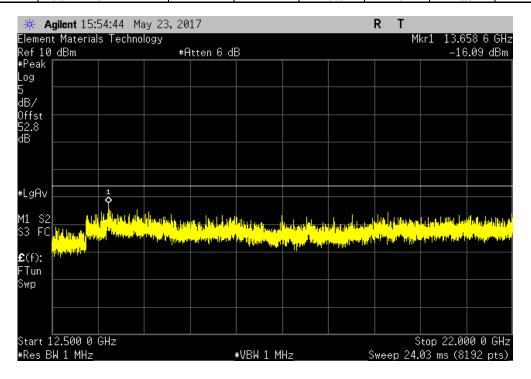
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	High Passband (2	2145-2180 MHz) WCDMA		
Frequency		Max Value	Limit	
Range		(dBm)	≤ (dBm)	Result
30 MHz - 12.5 GHz		-20.11	-13	Pass

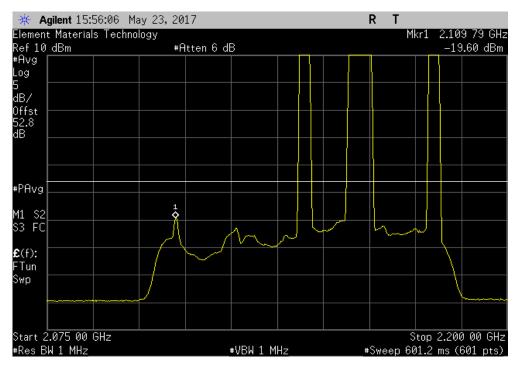


High Passband (2145-2180 MHz) WCDMA						
Frequency		Max Value	Limit			
Range		(dBm)	≤ (dBm)	Result		
12.5 GHz - 22 GHz		-16.09	-13	Pass		

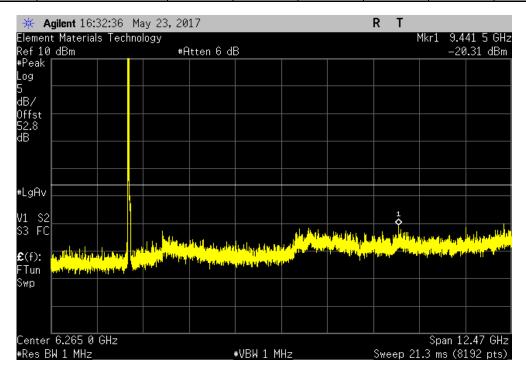


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Low Passband (2110-2145 MHz) LTE 10 MHz						
Frequency			Max Value	Limit		
Range			(dBm)	≤ (dBm)	Result	
30 MHz - 12.5 GHz			-20.31	-13	Pass	

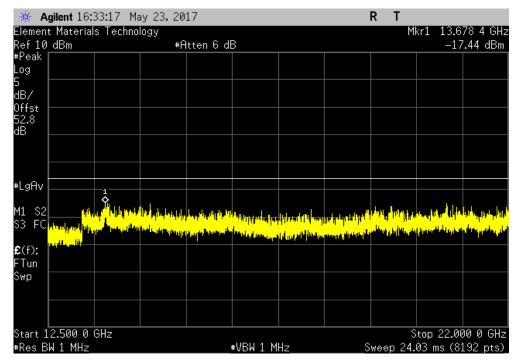


Report No. TECO0048 120/165

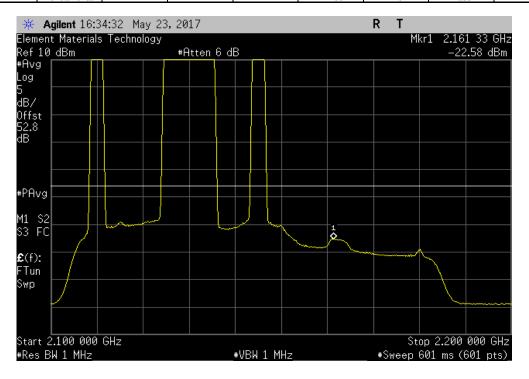


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	Low Passband (2110-2145 MHz) LTE 10 MHz		
Frequency	Max Value	Limit	
Range	(dBm)	≤ (dBm)	Result
12 5 GHz - 22 GHz	-17.44	-13	Page



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



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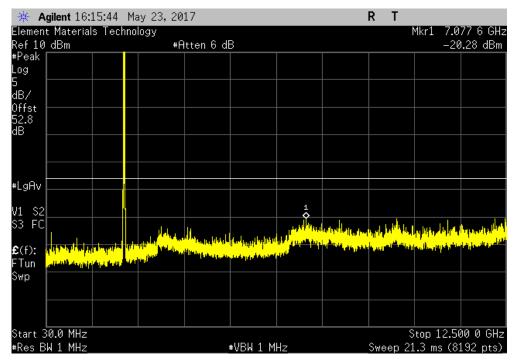


 Mid Passband (2130-2160 MHz) LTE 10 MHz

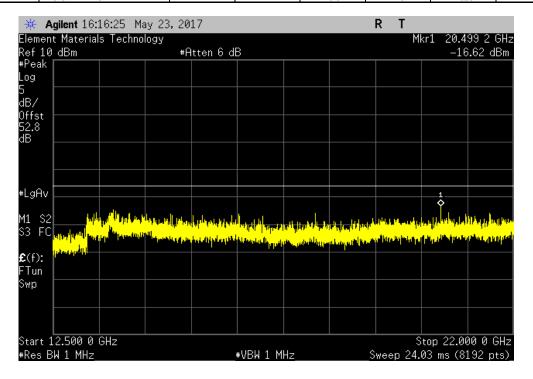
 Frequency
 Max Value
 Limit

 Range
 (dBm)
 ≤ (dBm)
 Result

 30 MHz - 12.5 GHz
 -20.28
 -13
 Pass



	Mid Passband	(2130-2160 MHz	2) LTE 10 MHz		
Frequency			Max Value	Limit	
Range			(dBm)	≤ (dBm)	Result
12.5 GHz - 22 GHz			-16.62	-13	Pass



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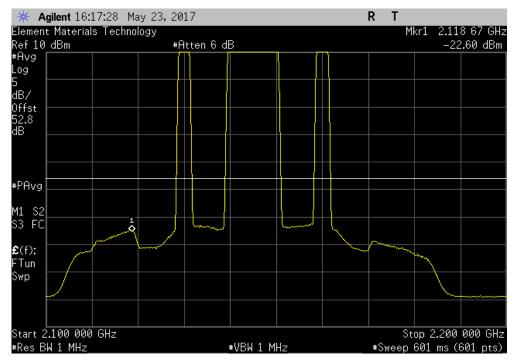


 Mid Passband (2130-2160 MHz) LTE 10 MHz

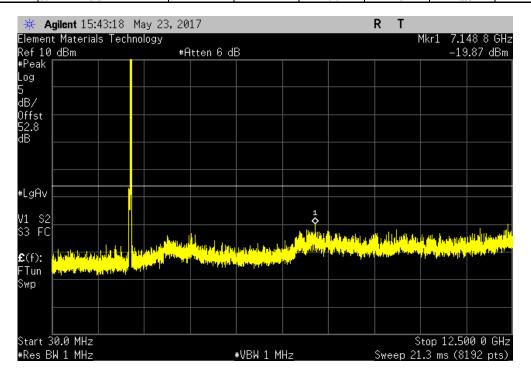
 Frequency
 Max Value
 Limit

 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	



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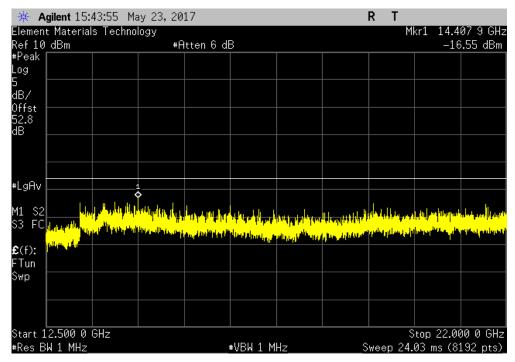
High Passband (2145-2180 MHz) LTE 10 MHz

Frequency

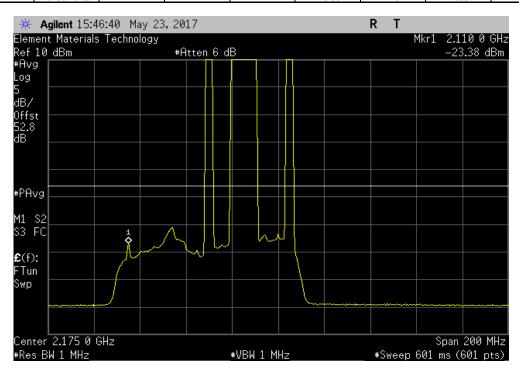
Range
(dBm) ≤ (dBm) Result

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		



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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

1201 20011 1112111					
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.

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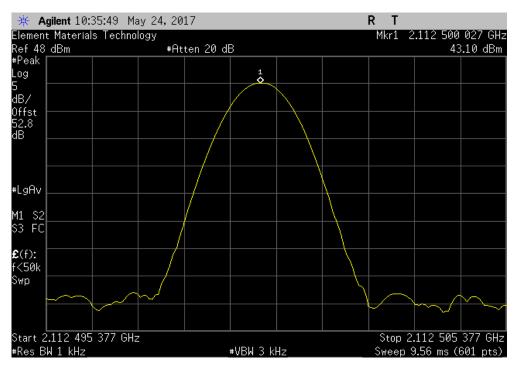
EUT: Prism 1900/2100AWS3 Dual HDM 20 Watt Work Order: TECO0042 Serial Number: 459644002 Date: 05/24/17 Customer: CommScope Temperature: 21.5 °C Humidity: 47% RH Barometric Pres.: 1008 mba Josh Wittman Project: None Tested by: Dustin Sparks
TEST SPECIFICATIONS Power: 120VAC/60Hz Test Method Job Site: MN08 ANSI/TIA/EIA-603-D-2010 COMMENTS Antenna gain is assumed to be 0 - per customer, the antenna gain will be reevaluated during installation. System is rated at 20W (+43 dBm) per port. Both antenna ports were terminated but only one port is DEVIATIONS FROM TEST STANDARD DustinSparls Configuration # 2 Signature Measured Value (MHz) Assigned Value (MHz) Results (ppm) (ppm) 2112.5 MHz 2112.500027 2112.5 0.013 Pass 2115 MHz 2115.000047 2115.0 0.022 Pass 2145 MHz 2145 000043 2145.0 0.020 Pass 2175 MHz 2175.000036 2175.0 0.017 Pass 2177.5 MHz 2177.500038 2177.5 0.017 Pass +40°C 2112.500011 2115.000025 2112.5 2115.0 0.005 0.012 2112.5 MHz Pass Pass 2145 MHz 2145 000009 2145.0 0.004 Pass 2175.0 Pass 2175.000019 0.009 2177.5 MHz 2177.500021 2177.5 0.010 Pass +30°C 2112 5 MHz 2112 500044 21125 0.021 Pass 2115 MHz 2115.000046 2115.0 0.022 Pass 2145 MHz 2145.000043 2145.0 0.020 Pass 2175.000003 2175.0 0.001 Pass 2177.5 MHz 2177.500038 2177.5 0.017 Pass +20°C 2112.5 MHz 2112 500044 2112.5 0.021 Pass 2115 MHz 2115.000042 2115.0 0.020 Pass 2145 MHz 2145.000043 2145.0 0.020 Pass 2175 MHz 2175.000053 2175.0 0.024 Pass 2177 5 MHz 2177 500038 2177.5 0.017 Pass +10°C 2112.5 MHz 2112.500027 2112.5 0.013 Pass 2115 MHz 2115.000046 2115.0 0.022 Pass 2145 MHz 2145.000043 2145.0 0.020 Pass 2175.0 2175 MHz 2175.000052 Pass 2177 5 MHz 2177 500038 2177.5 0.017 Pass 0°C 2112.5 MHz 2112.500044 2112.5 0.021 Pass 2115.000046 2115.0 0.022 Pass 2145 MHz 2145 000043 2145.0 0.020 Pass 2175 MHz 2175.000053 2175.0 0.024 Pass 2177.5 MHz 2177.500038 2177.5 0.017 Pass -10°C 2112.5 2115.0 2112.5 MHz 2112.500044 0.021 Pass 2115 MHz 2115.000042 0.020 Pass 2145 MHz 2145 00001 2145.0 0.005 Pass 0.017 Pass 2175.000036 2177.5 MHz 2177.500055 2177.5 0.025 Pass -20°C 2112 5 MHz 2112 500044 21125 0.021 Pass Pass 2115.000042 2115.0 0.020 2145 MHz 2145.000009 2145.0 0.004 Pass 2175 MHz 2175.000036 2175.0 0.017 Pass 2177.5 MHz 2177.500038 2177.5 0.017 Pass -30°C 2112 5 MHz 2112 500044 2112.5 0.021 Pass 2115 MHz 2115.000046 2115.0 0.022 Pass 2145 MHz 2145.000043 2145.0 0.020 Pass 2175.000036 2175.0 0.017 Pass 2177 5 MHz 2177 500038 2177.5 0.017 Pass Normal Voltage 2112.5 2115.0 0.021 0.012 2112.5 MHz 2112.500044 Pass 2115.000025 Pass 2145.0 2175.0 2145 MHz 2145.000043 0.020 Pass 2175 MHz Pass 2175.000053 0.024 2177 5 MHz 2177.500055 2177.5 0.025 Pass Extreme Voltage (102VAC/60Hz) 2112.5 MHz 2112.500044 2112.5 0.021 Pass 2115 MHz 2115.000042 2115.0 Pass 0.020 2145 MHz 2145 000043 2145.0 0.020 Pass 2175 MHz 2175.000036 2175.0 0.017 Pass 2177 5 MHz 2177.500038 2177.5 0.017 Pass Extreme Voltage (138VAC/60Hz) 2112.5 MHz 2115 MHz 2112.5 2115.0 0.021 0.020 2112.500044 Pass 2115.000042 Pass 2145 MHz 2145 000043 2145.0 0.020 Pass 2175 MHz 2175.000036 Pass 2175.0 0.017 2177.5 MHz 2177.500038 2177.5 0.017 Pass

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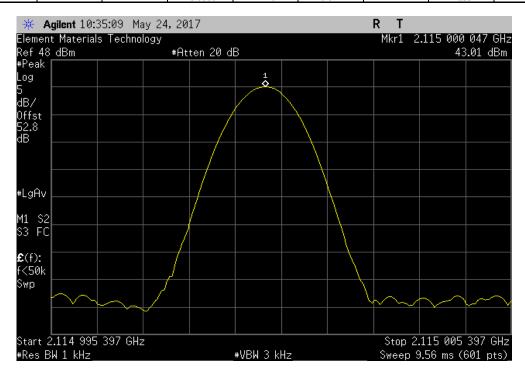


+50°C, 2112.5 MHz

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



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

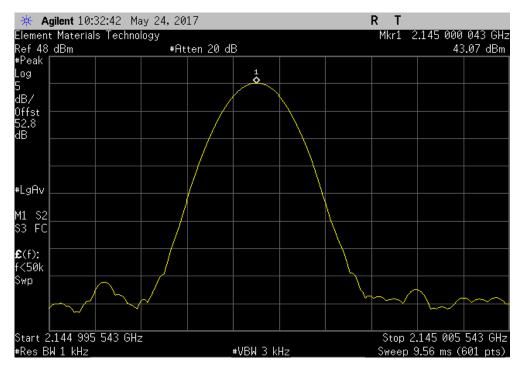


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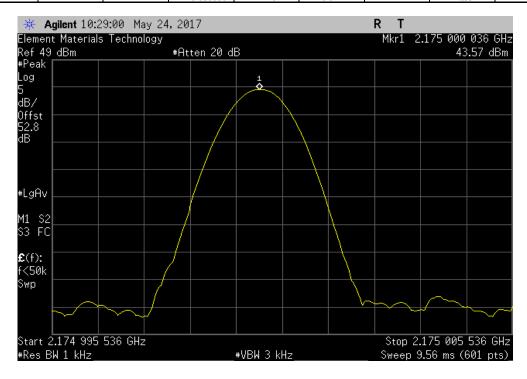


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		+50°C, 2145 MHz	7		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2145.000043	2145	0.020	1	Pass



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

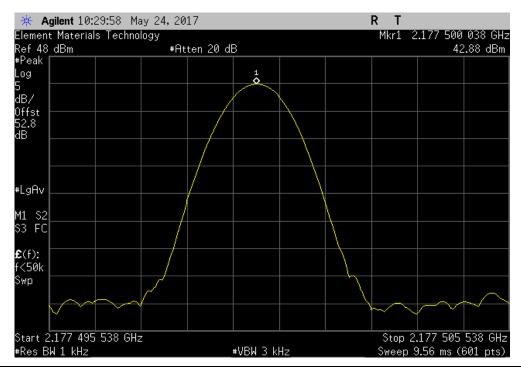


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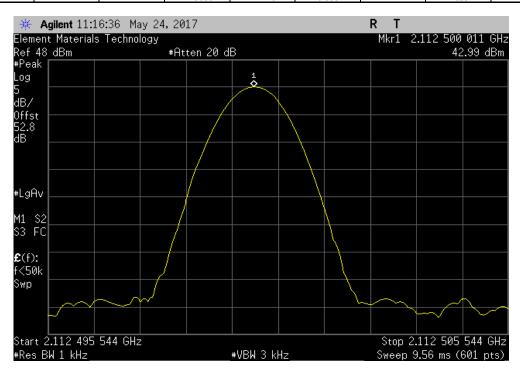


+50°C, 2177.5 MHz

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

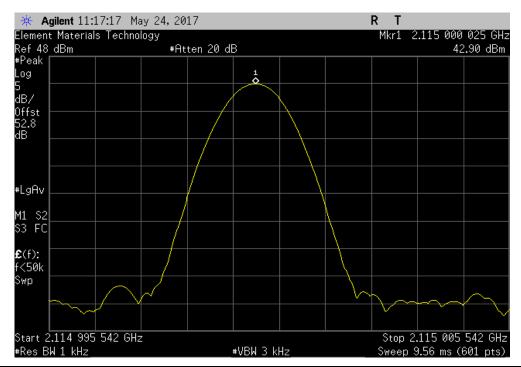


	4	+40°C, 2112.5 MF	·lz		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
_	2112.500011	2112.5	0.005	1	Pass

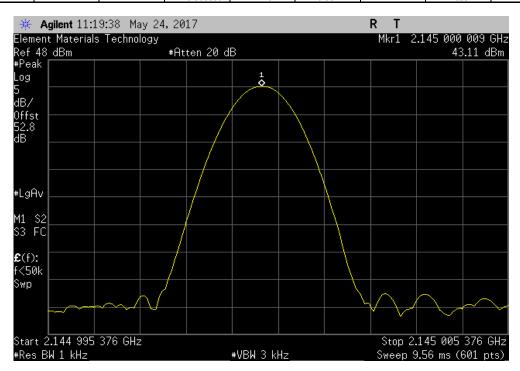


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		+40°C, 2145 MH	Z		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2145.000009	2145	0.004	1	Pass

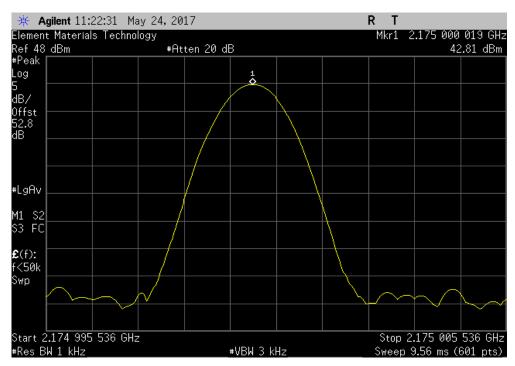


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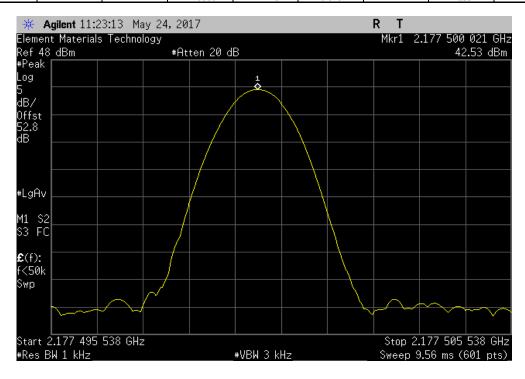


+40°C, 2175 MHz

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

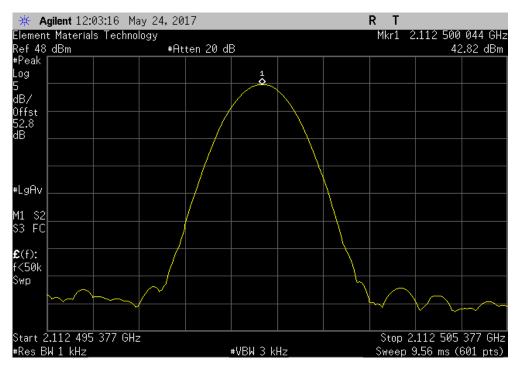


		+	40°C, 2177.5 MF	lz		
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		2177.500021	2177.5	0.010	1	Pass

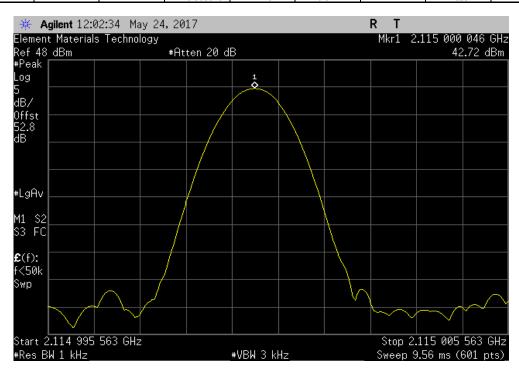


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			+30°C, 2115 MHz	Z		
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		2115.000046	2115	0.022	1	Pass

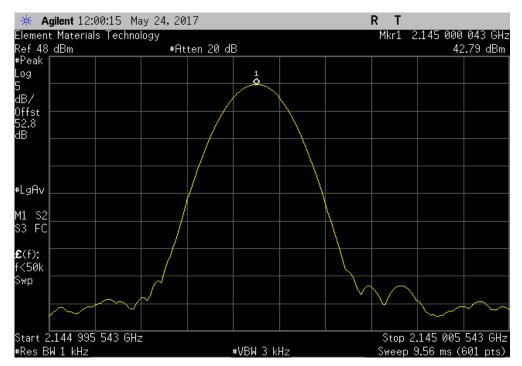


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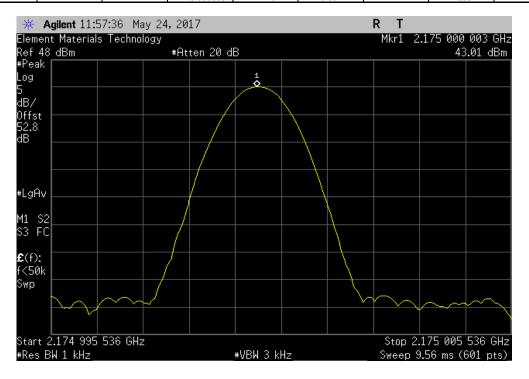


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		+30°C, 2145 MHz	Z		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2145.000043	2145	0.020	1	Pass



		+30°C, 2175 MHz	Z		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2175.000003	2175	0.001	1	Pass

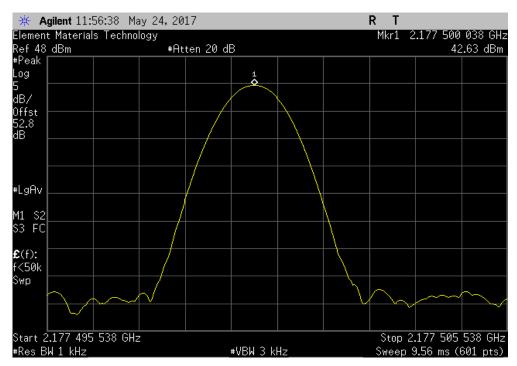


Report No. TECO0048 133/165

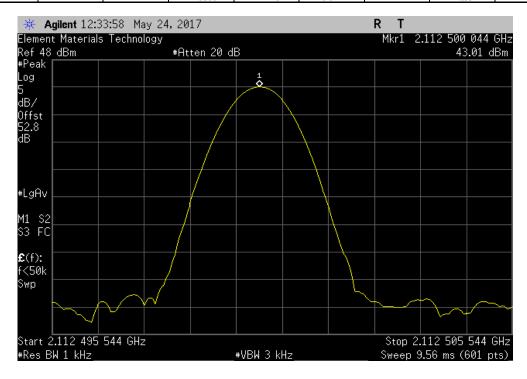


+30°C, 2177.5 MHz

| 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
i		2112.500044	2112.5	0.021	1	Pass

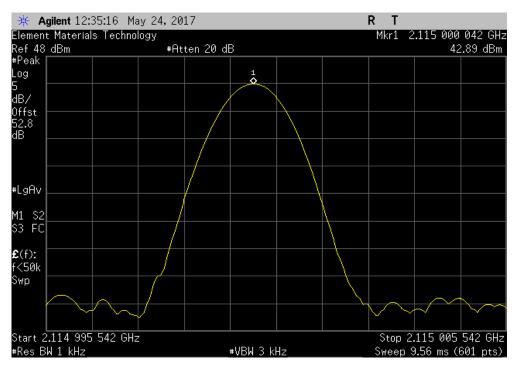


Report No. TECO0048 134/165

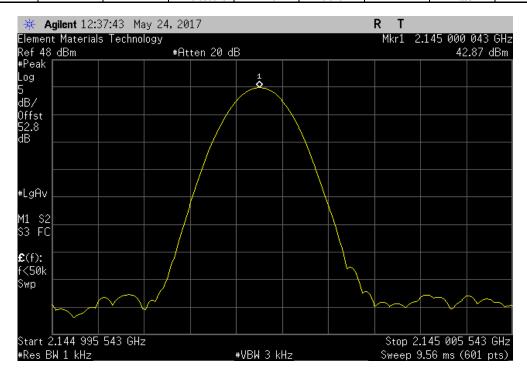


+20°C, 2115 MHz

| 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
1		2145.000043	2145	0.020	1	Pass

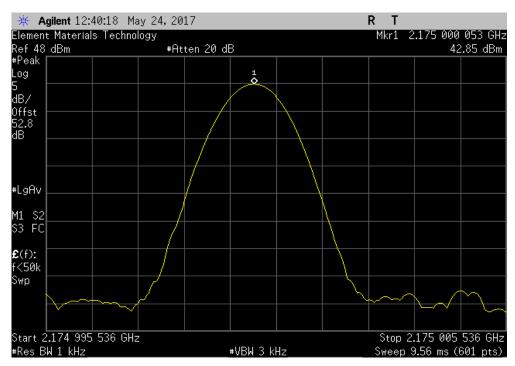


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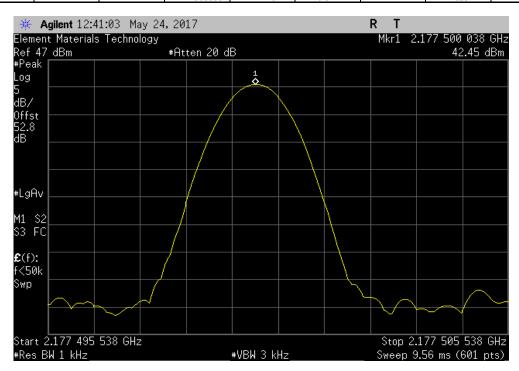


+20°C, 2175 MHz

| 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
1		2177.500038	2177.5	0.017	1	Pass

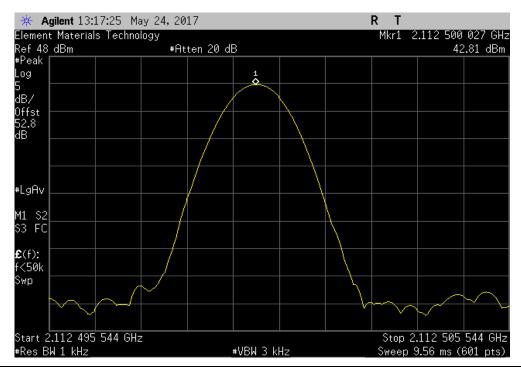


Report No. TECO0048 136/165

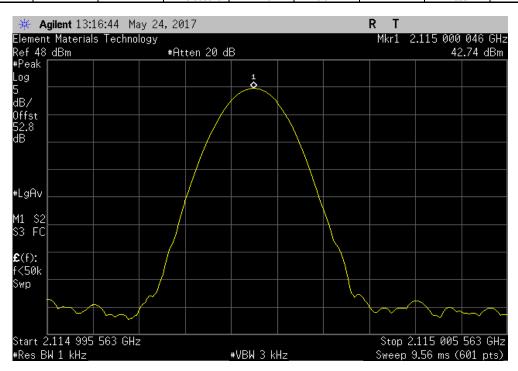


+10°C, 2112.5 MHz

| 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
	2115.000046	2115	0.022	1	Pass

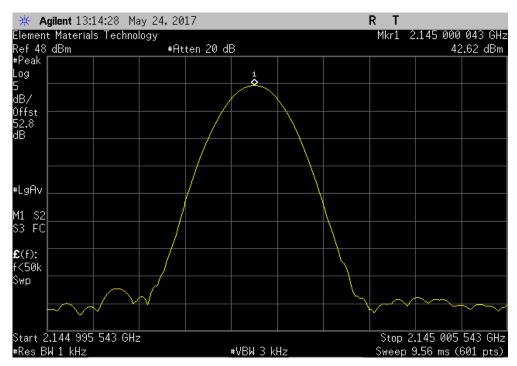


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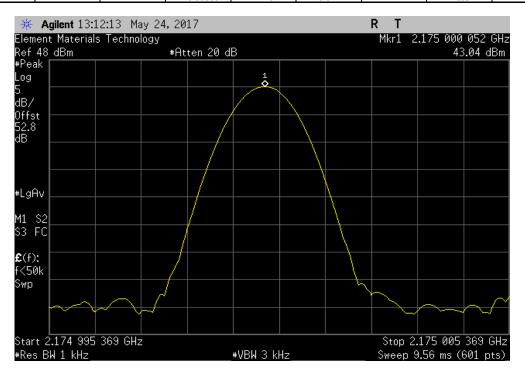


+10°C, 2145 MHz

| 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

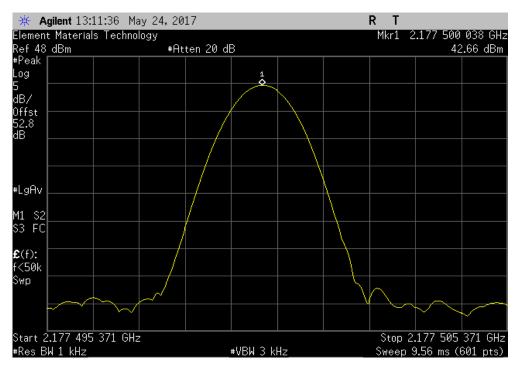


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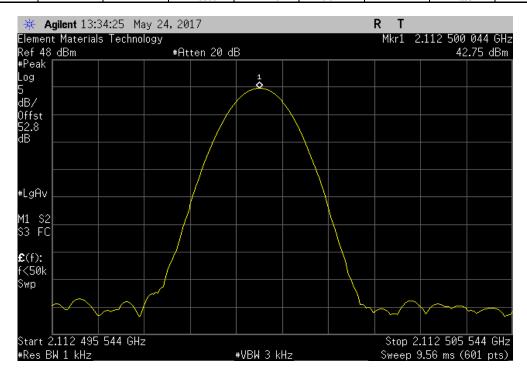


+10°C, 2177.5 MHz

| Measured Assigned Error Limit | 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
	2112.500044	2112.5	0.021	1	Pass

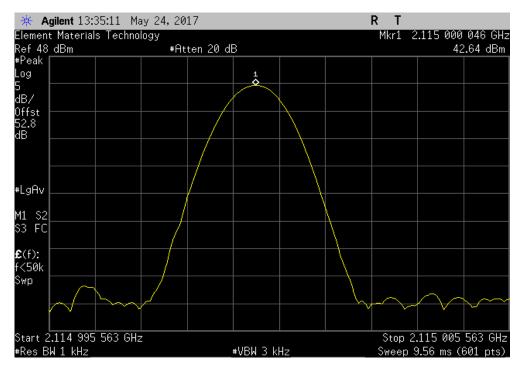


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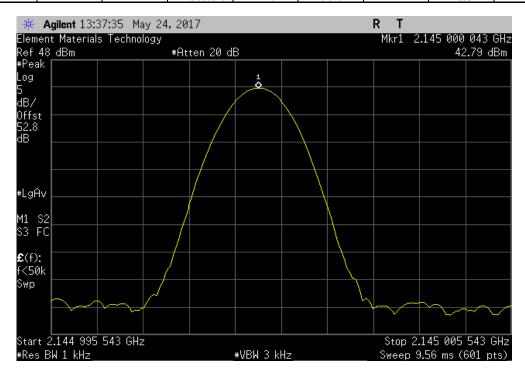


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		0°C, 2115 MHz			
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2115.000046	2115	0.022	1	Pass



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

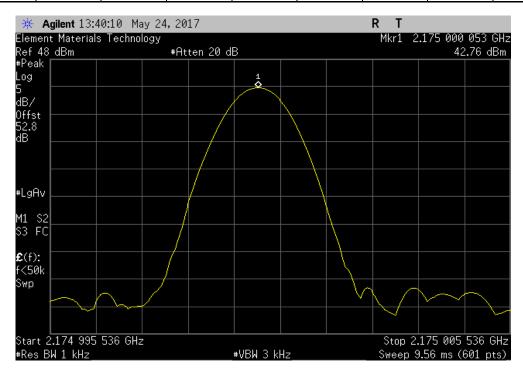


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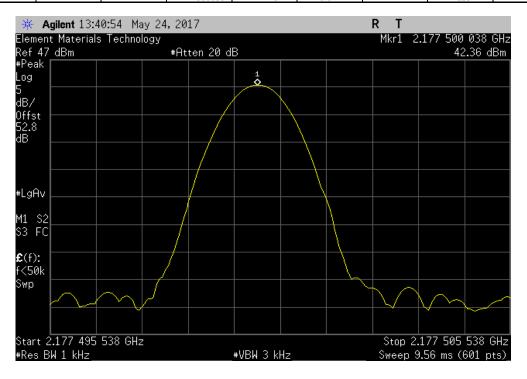


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		0°C, 2175 MHz			
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2175.000053	2175	0.024	1	Pass



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

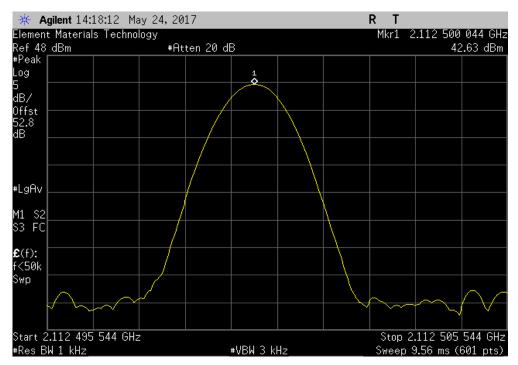


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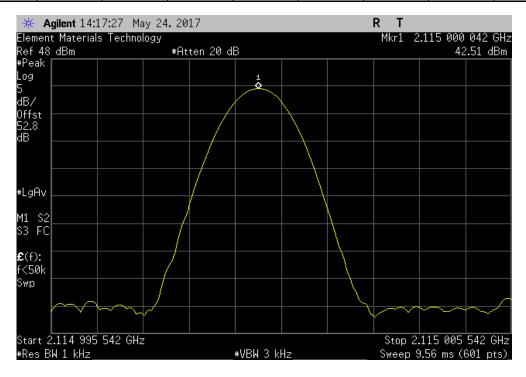


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	-	10°C, 2112.5 MH	z		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2112.500044	2112.5	0.021	1	Pass



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

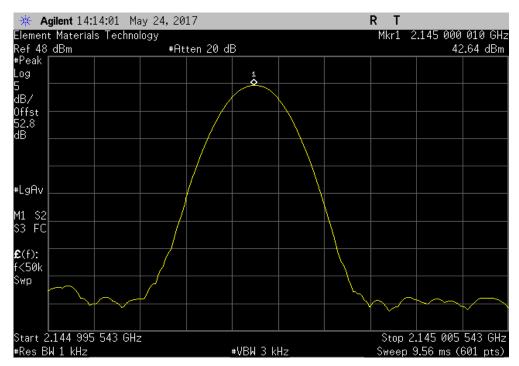


Report No. TECO0048 142/165

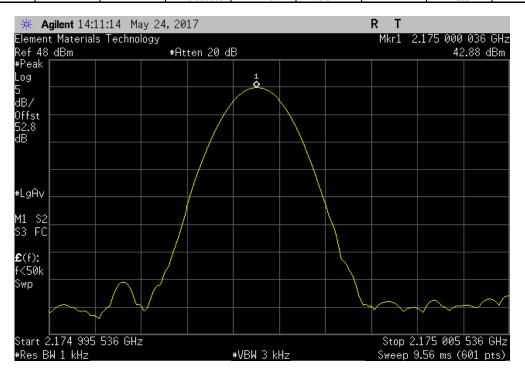


TbtTx 2017.01.27

		-10°C, 2145 MHz	2		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2145.00001	2145	0.005	1	Pass



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

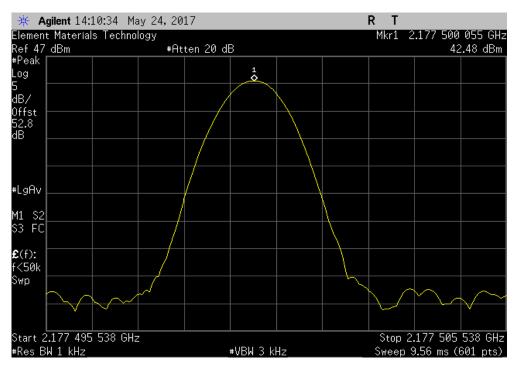


Report No. TECO0048 143/165

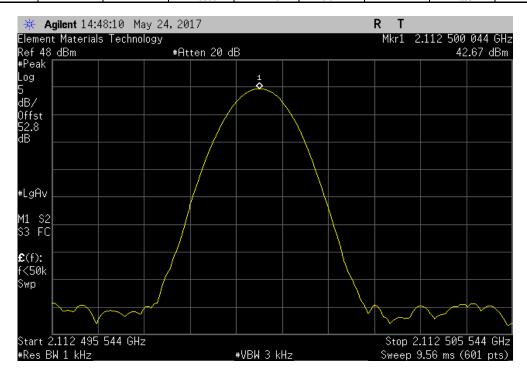


-10°C, 2177.5 MHz

| 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
. Г		2112.500044	2112.5	0.021	1	Pass

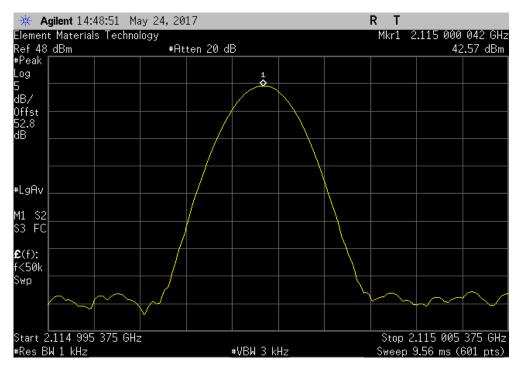


Report No. TECO0048 144/165

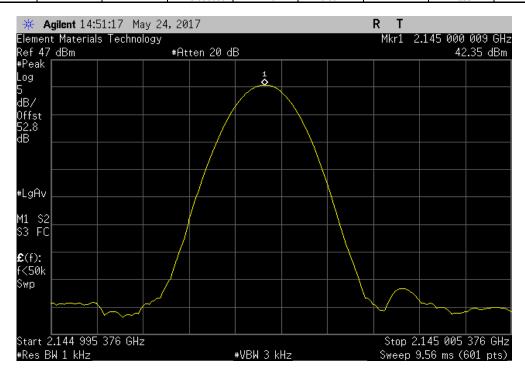


TbtTx 2017.01.27

		-20°C, 2115 MHz	2		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2115.000042	2115	0.020	1	Pass



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

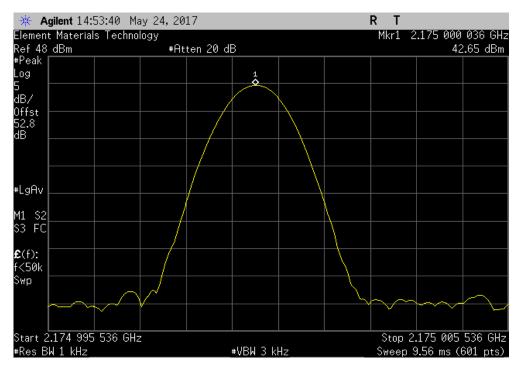


Report No. TECO0048 145/165

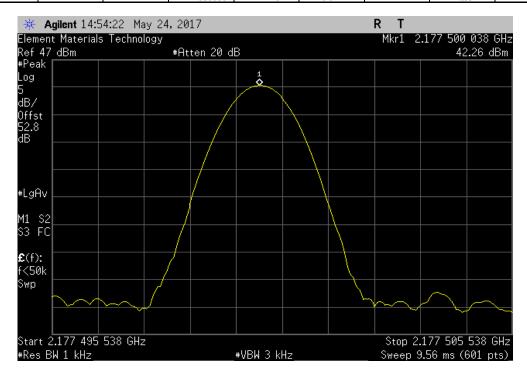


TbtTx 2017.01.27

		-20°C, 2175 MHz	7		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2175.000036	2175	0.017	1	Pass



		-;	20°C, 2177.5 MH	Z		
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
i		2177.500038	2177.5	0.017	1	Pass



Report No. TECO0048 146/165

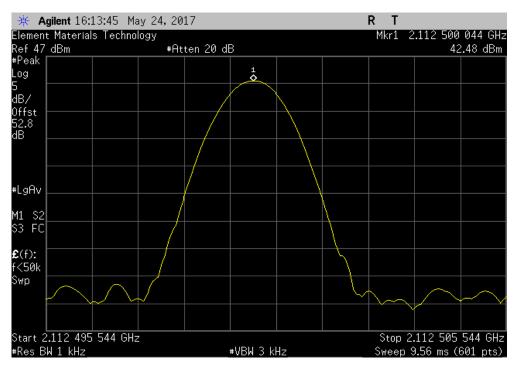


-30°C, 2112.5 MHz

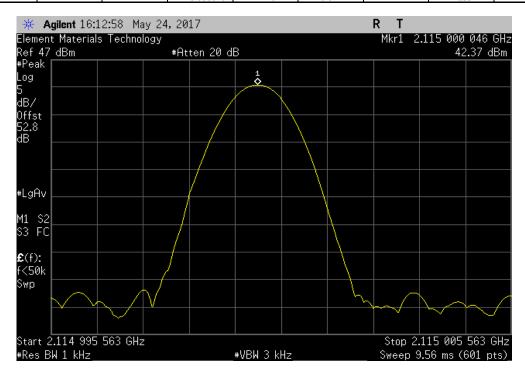
Measured Assigned Error Limit

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

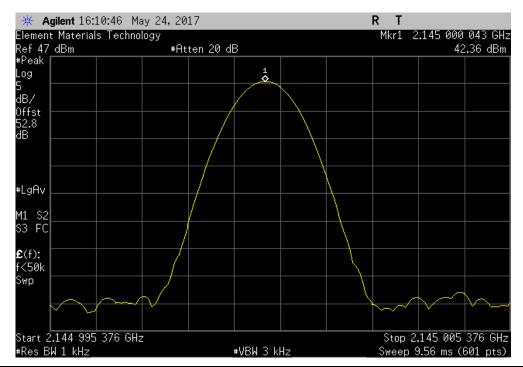


Report No. TECO0048 147/165

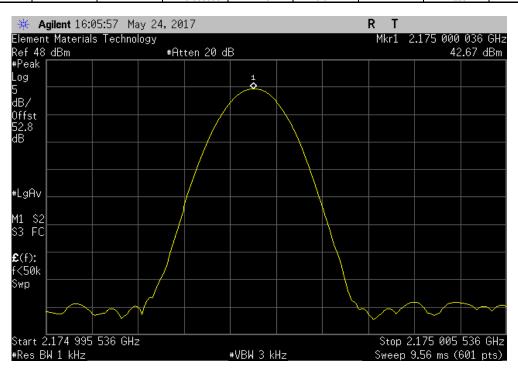


TbtTx 2017.01.27

		-30°C, 2145 MHz	2		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2145.000043	2145	0.020	1	Pass



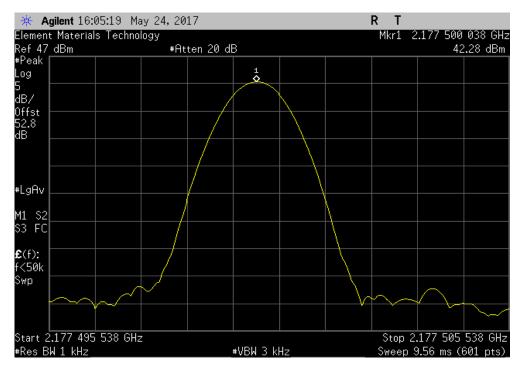
		-30°C, 2175 MHz	Z		
	Measured	Assigned	Error	Limit	
_	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2175.000036	2175	0.017	1	Pass



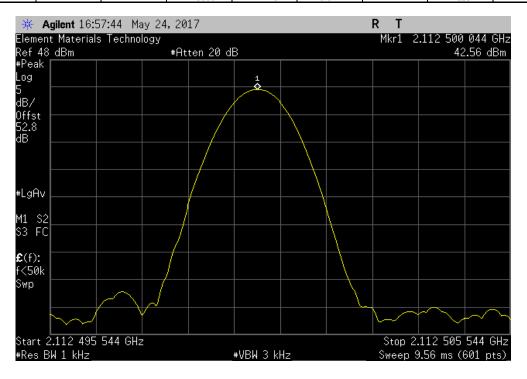
Report No. TECO0048 148/165



		-	30°C, 2177.5 MH	z		
	Mea	sured	Assigned	Error	Limit	
	Value	e (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2177	.500038	2177.5	0.017	1	Pass



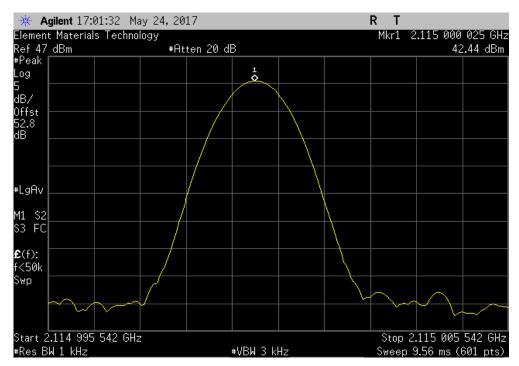
		Norma	al Voltage, 2112.	5 MHz		
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
İ		2112.500044	2112.5	0.021	1	Pass



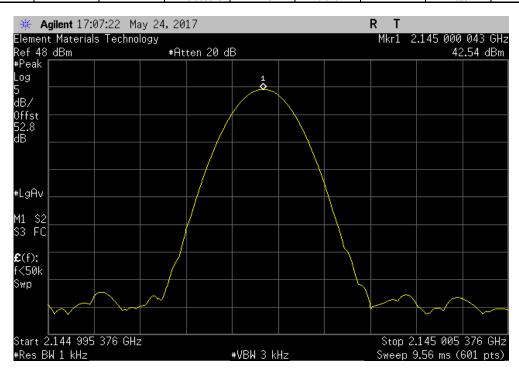
Report No. TECO0048 149/165



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



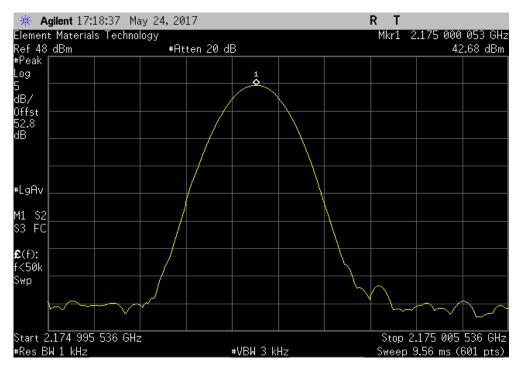
	Norm	nal Voltage, 2145	MHz		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2145.000043	2145	0.020	1	Pass



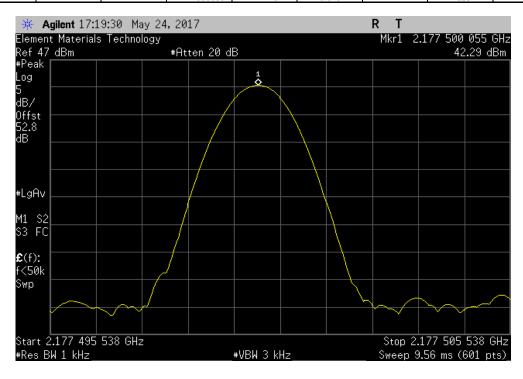
Report No. TECO0048 150/165



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

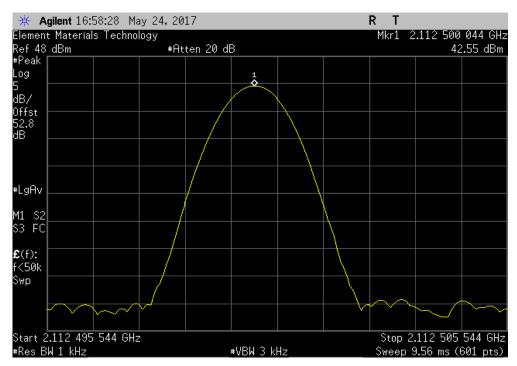


	Norma	al Voltage, 2177.	5 MHz		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2177.500055	2177.5	0.025	1	Pass

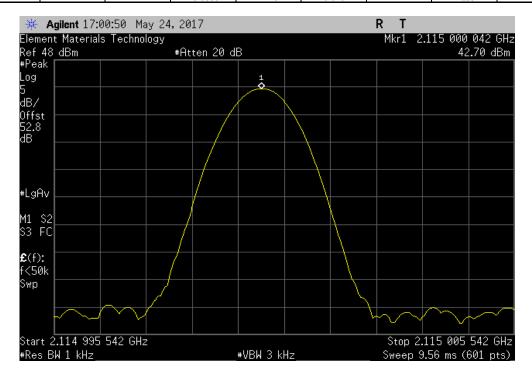


Report No. TECO0048 151/165





	Extreme Volta	age (102VAC/60F	łz), 2115 MHz		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2115.000042	2115	0.020	1	Pass



Report No. TECO0048 152/165

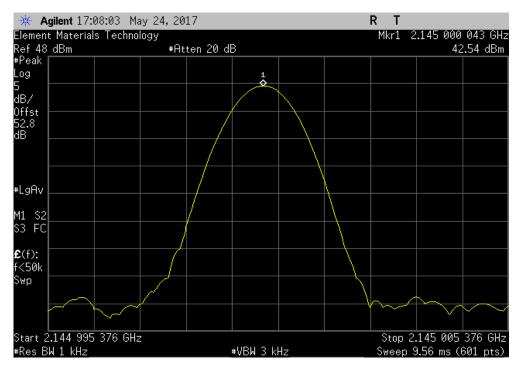


Extreme Voltage (102VAC/60Hz), 2145 MHz

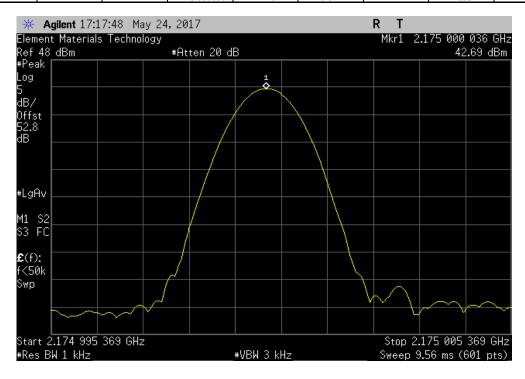
Measured Assigned Error Limit

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

2145.000043 2145 0.020 1 Pass

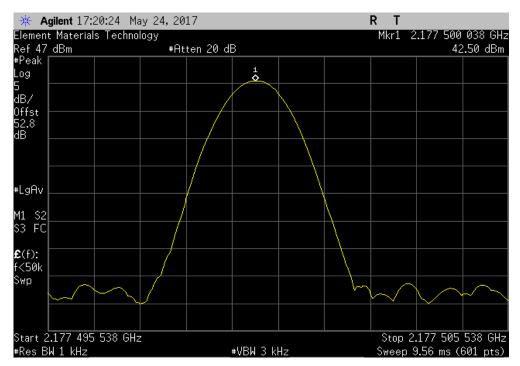


	Extreme Volta	age (102VAC/60F	łz), 2175 MHz		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2175.000036	2175	0.017	1	Pass

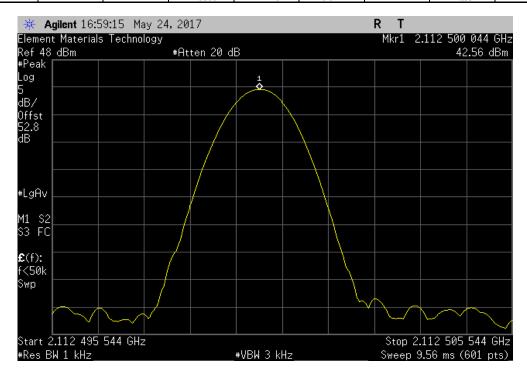


Report No. TECO0048 153/165





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

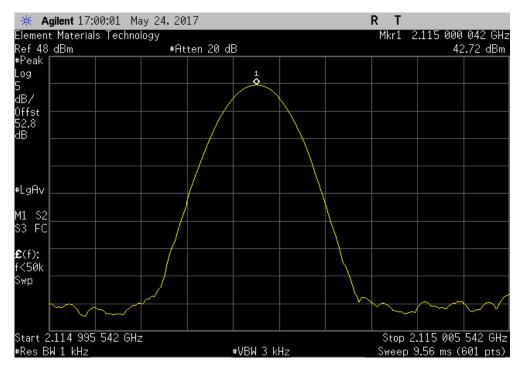


Report No. TECO0048 154/165

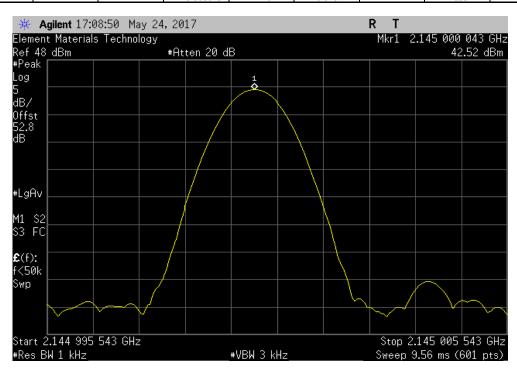


TbtTx 2017.01.27

	Extreme Volta	age (138VAC/60F	lz), 2115 MHz		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2115.000042	2115	0.020	1	Pass



	Extreme Volta	ige (138VAC/60F	łz), 2145 MHz		
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	2145.000043	2145	0.020	1	Pass

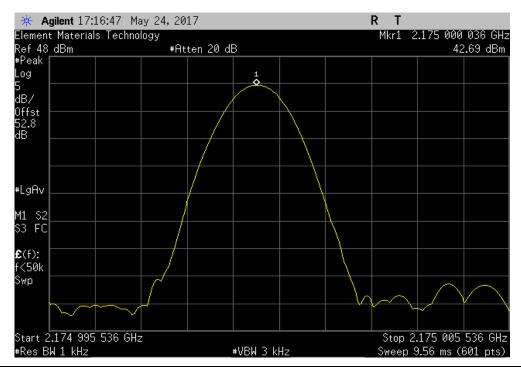


Report No. TECO0048 155/165

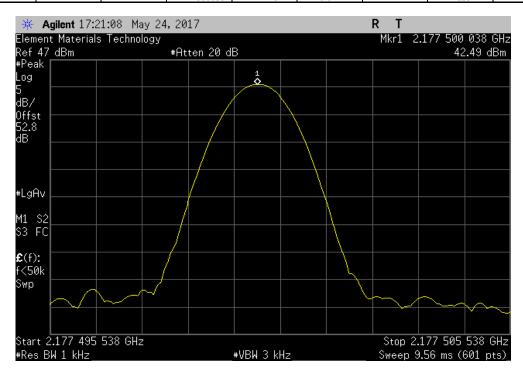


Extreme Voltage (138VAC/60Hz), 2175 MHz

| Measured Assigned Error Limit
| Value (MHz) Value (MHz) (ppm) (ppm) Results
| 2175.000036 2175 0.017 1 Pass



	Extreme Vol	tage (138VAC/60H	lz), 2177.5 MHz			
	Measured	Assigned	Error	Limit		
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results	_
	2177.500038	2177.5	0.017	-1	Pass	



Report No. TECO0048 156/165



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.

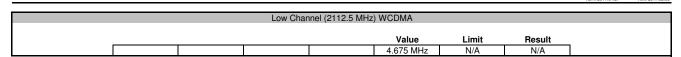
Report No. TECO0048 157/165

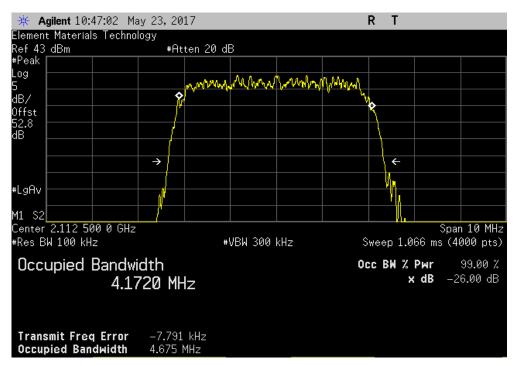


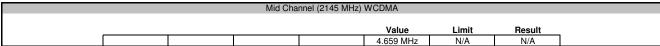
						TbtTx 2017.01.27	XMit 2017.02.
EUT:	Prism AWS: Prism 1900/2	2100AWS3 Dual HDM 20 Watt			Work Order:	TECO0042	
Serial Number:	459644002					05/24/17	
Customer:	CommScope				Temperature:	21.6 °C	
Attendees:	Josh Wittman				Humidity:	46.4% RH	
Project:					Barometric Pres.:	1008 mbar	
	Dustin Sparks		Power: 110VAC/60Hz		Job Site:	MN08	
TEST SPECIFICATI	IONS		Test Method				
FCC 27:2017			ANSI/TIA/EIA-	603-D-2010			
COMMENTS							
Antenna gain is as	sumed to be 0 - per custo	mer, the antenna gain will be reevalua	ated during installation. System is	rated at 20W (+43 dBn	n) per port. Both antenna ports were t	erminated but only	y one port is
active		· , · · · · · · · · · · · · · · · · · ·	3,		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,
DEVIATIONS FROM	// TEST STANDARD						
None							
Cantianustian #	•	2	9-1-0 2				
Configuration #	2	Q'anathur	Tustin Spare	3—			
Configuration #	2	Signature	Tustin & parl	>			
Configuration #	2	Signature	Tustin & parl	3	Value	Limit	Result
Configuration # Low Channel (2112.		Signature	Tustin Sparel	3—	Value 4.675 MHz	Limit N/A	Result N/A
	5 MHz) WCDMA	Signature	Tustin Spard	>			
Low Channel (2112. Mid Channel (2145 N	5 MHz) WCDMA	Signature	Tustingpard	>	4.675 MHz	N/A	N/A
Low Channel (2112. Mid Channel (2145 N	5 MHz) WCDMA MHz) WCDMA MHz) WCDMA, Input Signa	Signature	Tustin Spark	s—	4.675 MHz 4.659 MHz	N/A N/A	N/A N/A
Low Channel (2112. Mid Channel (2145 Mid Channel (2145 Mid Channel (2177. High Channel (2177.	5 MHz) WCDMA MHz) WCDMA MHz) WCDMA, Input Signa .5 MHz) WCDMA	Signature	Tustin Spard		4.675 MHz 4.659 MHz 4.23 MHz	N/A N/A N/A	N/A N/A N/A
Low Channel (2112. Mid Channel (2145 N Mid Channel (2145 N High Channel (2157 Low Channel (2115	5 MHz) WCDMA MHz) WCDMA MHz) WCDMA, Input Signa .5 MHz) WCDMA MHz) LTE 10 MHz	Signature	Tustingpard	>	4.675 MHz 4.659 MHz 4.23 MHz 4.667 MHz	N/A N/A N/A N/A	N/A N/A N/A N/A
Low Channel (2112. Mid Channel (2145 N Mid Channel (2145 N High Channel (2177. Low Channel (2115 Mid Channel (2145 N	5 MHz) WCDMA MHz) WCDMA MHz) WCDMA, Input Signa .5 MHz) WCDMA MHz) LTE 10 MHz	Signature	Tustin Spard	•	4.675 MHz 4.659 MHz 4.23 MHz 4.667 MHz 9.46 MHz	N/A N/A N/A N/A	N/A N/A N/A N/A N/A

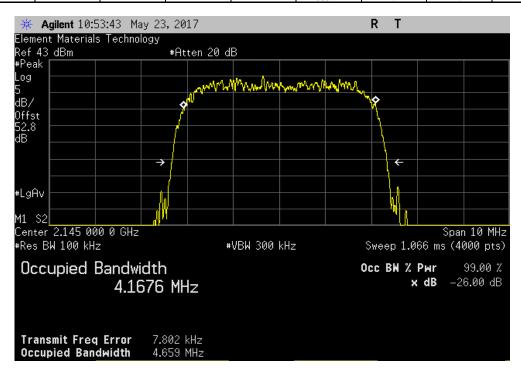
Report No. TECO0048 158/165











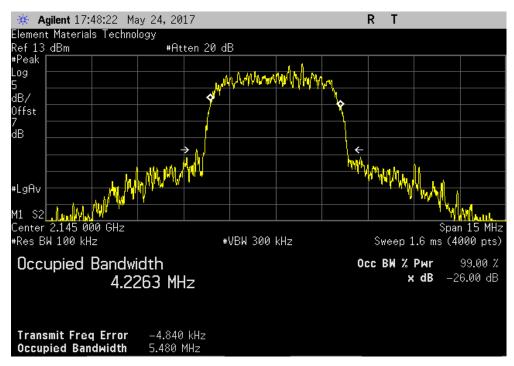
Report No. TECO0048 159/165



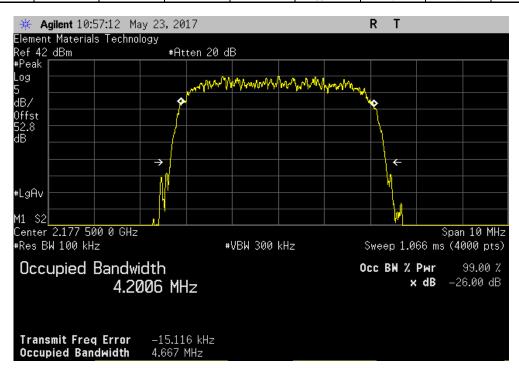
Mid Channel (2145 MHz) WCDMA, Input Signal

Value Limit Result

4.23 MHz N/A N/A

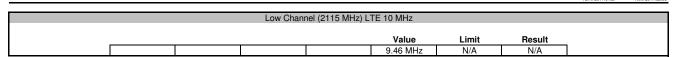


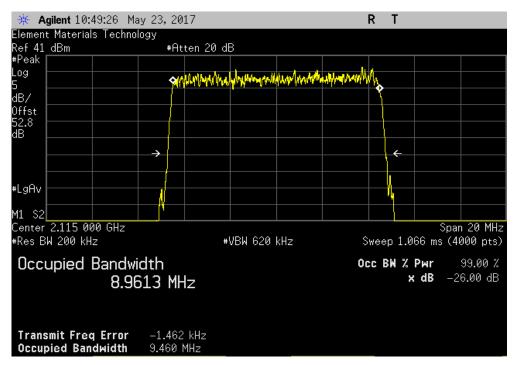
	High Char	nnel (2177.5 MHz) WCDMA		
			Value	Limit	Result
			4.667 MHz	N/A	N/A

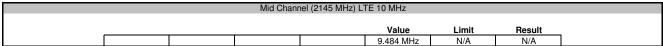


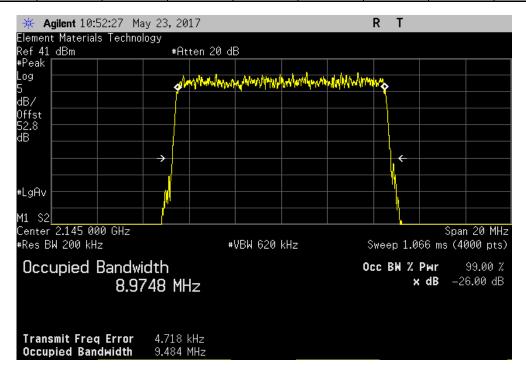
Report No. TECO0048 160/165











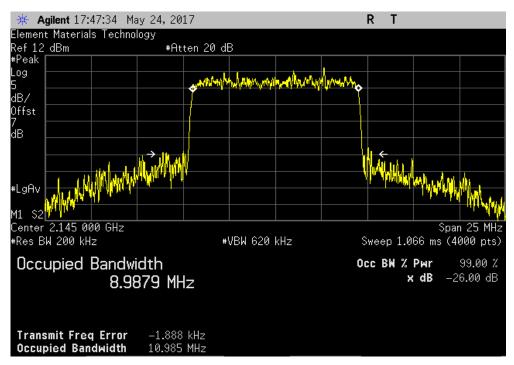
Report No. TECO0048 161/165

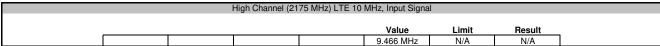


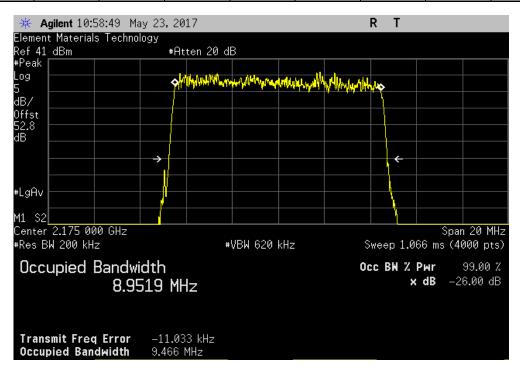
Mid Channel (2145 MHz) LTE 10 MHz, Input Signal

Value Limit Result

8.99 MHz N/A N/A







Report No. TECO0048 162/165

PEAK TO AVERAGE RATIO 2100



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. TECO0048 163/165

PEAK TO AVERAGE RATIO 2100



					TbtTx 2017.01.27	
	Prism 1900/2100AWS3 D	ual HDM 20 Watt		Work Order:	TECO0042	
Serial Number:	459644002			Date:	05/24/17	
Customer	CommScope			Temperature:	21.6 °C	
Attendees	Josh Wittman			Humidity:	47.3% RH	
Project	None			Barometric Pres.:	1008 mbar	
Tested by:	: Dustin Sparks		Power: 110VAC/60Hz	Job Site:	MN08	
TEST SPECIFICAT	TONS		Test Method			
FCC 27:2017			ANSI/TIA/EIA-603-D-2010			
COMMENTS			<u> </u>			
DEVIATIONS FROM	M TEST STANDARD	, •	luated during installation. System is rated at 20W (+43 dB		, , , , , ,	. 10 40.110
DEVIATIONS FROM	M TEST STANDARD		(1.002		, , , , , , , , , , , , , , , , , , , ,	
	M TEST STANDARD	<i>A</i>	Dustin Sparls			
None		Signature		Value	Limit	
None		<i>A</i>				Results
None		<i>A</i>		Value	Limit	
None Configuration #		<i>A</i>		Value	Limit	
None Configuration #	2	<i>A</i>		Value (dB)	Limit < (dB)	Results

Report No. TECO0048 164/165

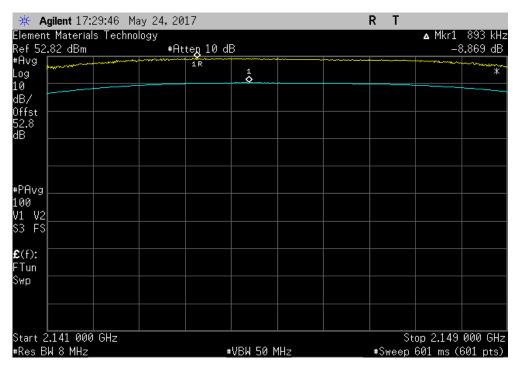
PEAK TO AVERAGE RATIO 2100



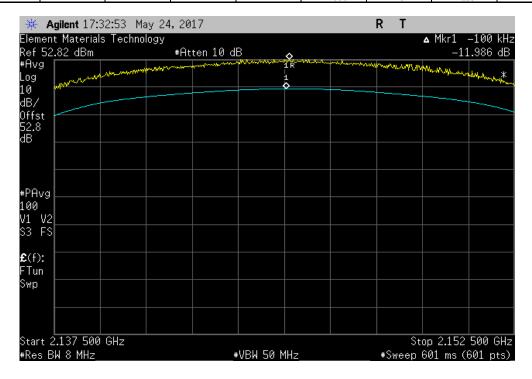
WCDMA, Mid Channel, 2145 MHz

Value Limit
(dB) < (dB) Results

8.869 13 Pass



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



Report No. TECO0048 165/165