



America

**Choose certainty.
Add value.**

Report On

Application for Class II Permissive Change of the
Nextivity Inc.
Cel-Fi PRO Cellular Repeater

FCC Part 15 Subpart E §15.407
IC RSS-210 Issue 8 December 2010

Report No. SD72117098-0516B

September 2016




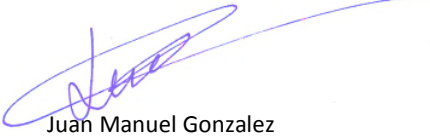
REPORT ON Class II Permissive Change Verification of the
Nextivity Inc.
Cel-Fi PRO Cellular Repeater

TEST REPORT NUMBER SD72117098-0516B

PREPARED FOR Nextivity Inc.
11230 World Trade Drive, Suite 250
San Diego, CA 92128

CONTACT PERSON CK Li
Sr. Principal Engineer, Regulatory
(858) 829-1692
CLi@NextivityInc.com

PREPARED BY 
Ferdinand S. Custodio
Name
Authorized Signatory
Title: EMC/Senior Wireless Test Engineer

APPROVED BY 
Juan Manuel Gonzalez
Name
Authorized Signatory
Title: EMC SL Manager West Region

DATED September 02, 2016



Revision History

SD72117098-0516B Nextivity Inc. Cel-Fi PRO Cellular Repeater					
DATE	OLD REVISION	NEW REVISION	REASON	PAGES AFFECTED	APPROVED BY
09/02/2016	Initial Release				Juan Manuel Gonzalez



CONTENTS

Section	Page No
1	REPORT SUMMARY..... 5
1.1	Introduction 6
1.2	Brief Summary Of Results 7
1.3	Product Information 9
1.4	EUT Test Configuration 11
1.5	Deviations From The Standard 13
1.6	Modification Record 13
1.7	Test Methodology..... 13
1.8	Test Facility Location..... 13
1.9	Test Facility Registration..... 13
2	TEST DETAILS 15
2.1	Maximum Power Spectral Density (PSD) 16
2.2	Unwanted Emissions Measurement 21
2.3	Emission Mask 26
3	TEST EQUIPMENT USED 30
3.1	Test Equipment Used..... 31
3.2	Measurement Uncertainty 32
4	ACCREDITATION, DISCLAIMERS AND COPYRIGHT 33
4.1	Accreditation, Disclaimers and Copyright..... 34



SECTION 1

REPORT SUMMARY

Class II Permissive Change Verification of the
Nextivity Inc.
Cel-Fi PRO Cellular Repeater



1.1 INTRODUCTION

The information contained in this report is intended to show verification of the Nextivity Inc. Cellular Repeater to the requirements of FCC Part 15 Subpart E §15.407 and IC RSS-210 Issue 8 December 2010.

Objective	To perform Class II Permissive Change Verification to determine the Equipment Under Test's (EUT's) compliance with the Test Specification, for the series of tests carried out. The EUT is being assessed to verify compliance with 789033 D02 General U-NII Test Procedures New Rules v01r02. The system (EUT) was already certified under the old rules (789033 D01 General UNII Test Procedures Old Rules v01r04).
Manufacturer	Nextivity Inc.
Model Number(s)	P34-2/4/5/12 NU and P34-2/4/5/12 CU
FCC ID Number	YETP24512NU and YETP24512CU
Serial Number(s)	900610000028 (identical for both units)
Number of Samples Tested	2
Test Specification/Issue/Date	<ul style="list-style-type: none">• FCC Part 15 Subpart E §15.407 (October 1, 2015).• 789033 D02 General UNII Test Procedures New Rules v01r02 (Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E) April 8, 2016.• ANSI C63.10-2013. American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.
Start of Test	July 15, 2016
Finish of Test	August 01, 2016
Name of Engineer(s)	Ferdinand Custodio
Related Document(s)	<ul style="list-style-type: none">• Conformance Test Setup PRO24512EXA_v1.0.pdf.• Report No. R95055. EMC Test Report. Application for Grant of Equipment Authorization. IC RSS-Gen Issue 3/RSS-210 Issue 8 and FCC Part 15, Subpart E. Model: P34-2/4/5/12 NU and P34-2/4/5/12/CU.• Report No. R95054. EMC Test Report. Application for Grant of Equipment Authorization. IC RSS-Gen Issue 3/RSS-210 Issue 8 and FCC Part 15, Subpart C. Model: P34-2/4/5/12/CU.• Supporting documents for EUT certification are separate exhibits.



1.2 BRIEF SUMMARY OF RESULTS

A brief summary of the tests carried out in accordance with FCC Part 15 Subpart E §15.407 with reference to both “Old Rules” and “New Rules” is shown below.

U-NII-1 (5150 MHz to 5250 MHz)			
<i>Test Description</i>	<i>Old Rule</i>	<i>New Rule</i>	<i>C2PC Compliance</i>
Conducted Power	50mW or 4dBm+10logB	1 watt (30 dBm)	EUT complies by virtue of New Rules limit higher than the Old Rule limit
Power Spectral Density	4 dBm/MHz	17 dBm/MHz	EUT complies by virtue of New Rules limit higher than the Old Rule limit
Antenna Gain	Identical requirement (no verification required)		-
Unwanted Emissions	Identical requirement (no testing required)		-
Peak-to-Average Ratio	13 dB	No requirement	-
Device Security	No requirement	All U-NII devices must contain security features to protect against modification of software by unauthorized parties.	Client declaration. Separate exhibit

U-NII-2A (5250 MHz to 5350 MHz)			
<i>Test Description</i>	<i>Old Rule</i>	<i>New Rule</i>	<i>C2PC Compliance</i>
Unwanted Emissions	Identical requirement (no testing required). Old Rule has additional requirement for emissions that fall in the 5.15-5.25 GHz band. This requirement does not affect the EUT as per original filing test results.		-
Peak-to-Average Ratio	13 dB	No requirement	-
DFS	See separate DFS Test Report		-
Device Security	No requirement	All U-NII devices must contain security features to protect against modification of software by unauthorized parties.	Client declaration. Separate exhibit

U-NII-2C (5470 MHz to 5725 MHz)			
<i>Test Description</i>	<i>Old Rule</i>	<i>New Rule</i>	<i>C2PC Compliance</i>
Peak-to-Average Ratio	13 dB	No requirement	-
DFS	See separate DFS Test Report		-



Device Security	No requirement	All U-NII devices must contain security features to protect against modification of software by unauthorized parties.	Client declaration. Separate exhibit
-----------------	----------------	-----------------------------------------------------------------------------------------------------------------------	-----------------------------------------

U-NII-3 (5725 MHz to 5850 MHz)				
Test Description	Old 15.247	Old Rule	New Rule	C2PC Compliance
Frequency band	5.725 – 5.85 GHz	5.725-5.825 GHz	5.725-5.85GHz	Frequency range of the EUT to reflect New Rules requirement
Power Spectral Density	8 dBm/3 kHz (33 dBm/MHz)	17 dBm/MHz	30 dBm/500 kHz	Complies
Emission Bandwidth	Minimum 6 dB BW of 500 kHz	26dB BW used for power calculation	Minimum 6 dB BW of 500 kHz	Complies with Old 15.247 test results
Antenna Gain	Identical requirement as per EUT classification (no verification required)			-
Unwanted Emissions	20 dB of attenuation	Emission Mask of §15.407(b)(4)(i)		Complies
Peak-to-Average Ratio	No requirement	13 dB	No requirement	-
Device Security	No requirement	All U-NII devices must contain security features to protect against modification of software by unauthorized parties.		Client declaration. Separate exhibit

1.3 PRODUCT INFORMATION

1.3.1 Technical Description

The Equipment Under Test (EUT) was a Nextivity Inc. Cel-Fi PRO Cellular Repeater as shown in the photograph below. The EUT is a WCDMA/LTE Cellular Repeater for indoor residential use. The system is composed of two units, the Network Unit (NU) and the Coverage Unit (CU) that connects wirelessly over a full-duplex wireless link in the RLAN band using a mixed OFDM and muxed cellular signal (up to three 5MHz cellular channels) over a 30 MHz and 40 MHz channel in each direction.

Since the EUT would be placed on a table top during operation, the EUT was treated as table-top equipment during testing to simulate the end-user environment. The electrical rating of the EUT is 12 VDC, 1.66A. The AC Adapter rating is 100-240 VAC, 0.8A (Max), 50/60 Hz. The EUT is being assessed against the U-NII "New Rules". The EUT was previously certified against the U-NII "Old Rules".



Equipment Under Test



1.3.2 EUT General Description

EUT Description Cellular Repeater
 Model Name Cel-Fi PRO
 Model Number(s) P34-2/4/5/12 NU and P34-2/4/5/12 CU
 Frequency Range **NU:**

5207 MHz to 5240 MHz	UNII 1 30MHz
5207 MHz to 5230 MHz	UNII 1 40MHz
5260 MHz to 5293 MHz	UNII 2A 30MHz
5260 MHz to 5293 MHz	UNII 2A 40MHz

CU:

5525 MHz to 5715 MHz*	UNII 2C 30MHz
5525 MHz to 5715 MHz*	UNII 2C 40MHz
5745 MHz to 5825 MHz	UNII 3 30MHz
5745 MHz to 5825 MHz	UNII 3 40MHz

* *EUT still doesn't transmit between 5.60 to 5.65 GHz (TDWR) as per original filing.*

Channels Verified (UNII 3)

30MHz Bandwidth:

Low Channel 5745 MHz (Channel 149)
 Mid Channel 5785 MHz (Channel 157)
 High Channel 5825 MHz (Channel 165)

40MHz Bandwidth:

Low Channel 5745 MHz (Channel 151)
 Mid Channel 5785 MHz (Channel 157)
 High Channel 5825 MHz (Channel 165)

Rated Voltage 12V DC via external AC/DC adapter
 Mode Verified UNII 1, UNII 2A, UNII 2C and UNII 3
 Capability HSPA (Band 2, 4, 5 and 12)/LTE (Band 4, 5 and 12)/UNII and BT LE
 Primary Unit (EUT) Production
 Pre-Production
 Engineering
 Antenna Type PCB Monopole (CU) / Dipole (NU)
 Antenna Gain CU: 2 dBi / NU: 2 dBi



1.4 EUT TEST CONFIGURATION

1.4.1 Test Configuration Description

Test Configuration	Description
Default	As per Section 6 of Conformance Test Setup PRO24512EXA_v1.0.pdf (see Section 1.4.4 of this test report for test diagram). The link between the CU and NU are connected via a power splitter (for direct conducted measurement) and a 0-100 dB variable attenuator for maximizing RF link between the CU and NU by varying the attenuation between the two.

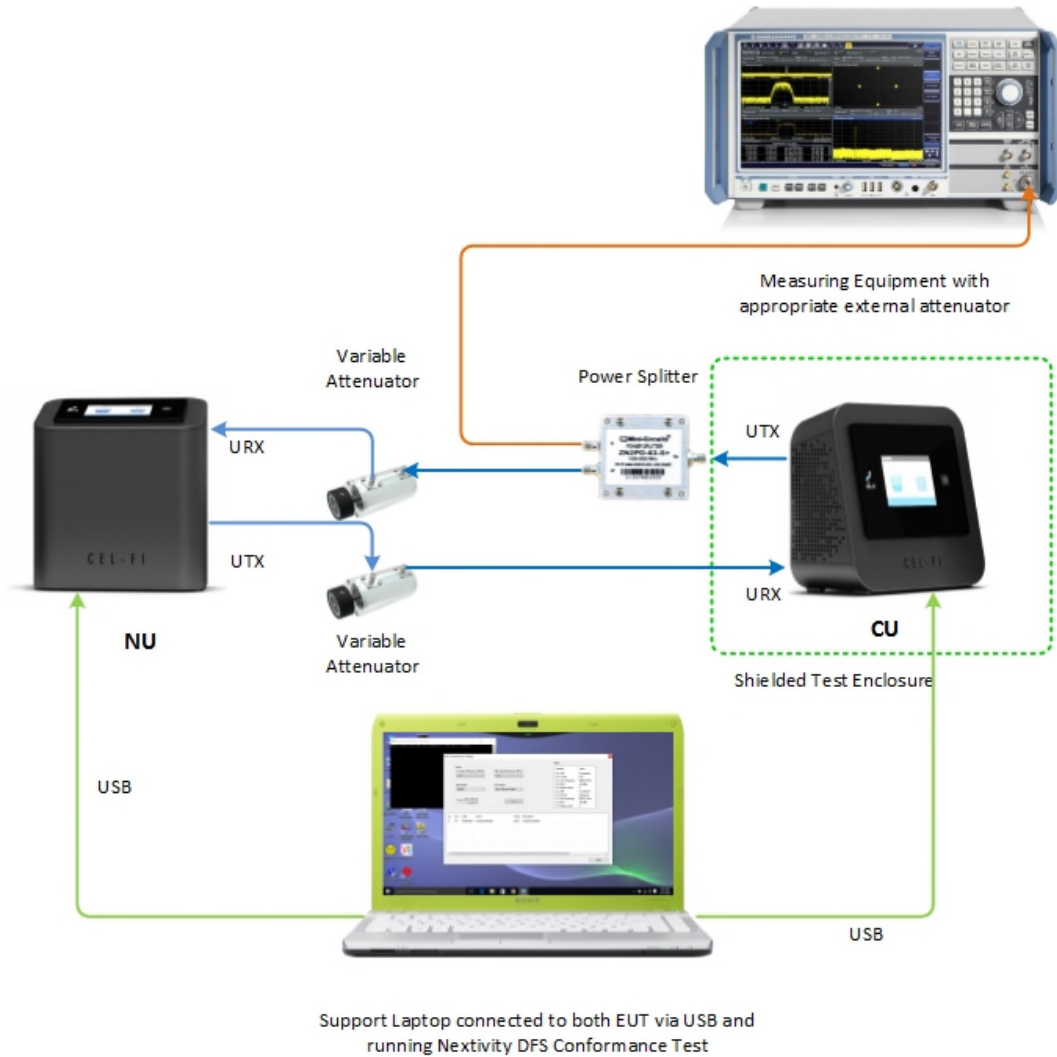
1.4.2 EUT Exercise Software

Manufacturer provided a configuration software (ConformanceTest.exe) running from a support laptop where both EUT are connected via USB.

1.4.3 Support Equipment and I/O cables

Manufacturer	Equipment/Cable	Description
Hon-Kwang	AC/DC Adapter (NU)	M/N: HK-AB-120 ^a 250-US S/N: DA0000123
Hon-Kwang	AC/DC Adapter (CU)	M/N: HK-AB-120 ^a 250-US S/N: E50008263
-	Support USB cable	1.75 meters, shielded Type A to Micro B connector
Nextivity	Support USB cable	Custom 1.0 meter shielded USB Type A to DB9 for the Shielded Test Enclosure
Mini-Circuits	Support Coaxial SMA Fixed Attenuator (x4)	M/N VAT-30W2 30dB DC-6GHz
Lenovo	Support Laptop	M/N: 2912-3VU, S/N: R9-92MH0 10/11
Lenovo	Support Laptop AC Adapter	M/N: 42T4430 S/N: 11S42T4430Z1ZGWE27AA9X
Rhode & Schwarz	Support Radio Communication Tester	M/N: CMU200, S/N: 114536
Aeroflex international LTD.	DFS Radar Simulator and Analyzer	M/N: Aeroflex 3005, S/N: 30050A/09L
Ramsey	Support Shielded Test Enclosure	with custom USB cable

1.4.4 Simplified Test Configuration Diagram





1.5 DEVIATIONS FROM THE STANDARD

No deviations from the applicable test standards or test plan were made during testing.

1.6 MODIFICATION RECORD

Description of Modification	Modification Fitted By	Date Modification Fitted
Serial Number 900610000028 and 900610000028		
N/A		

The table above details modifications made to the EUT during the test programme. The modifications incorporated during each test (if relevant) are recorded on the appropriate test pages.

1.7 TEST METHODOLOGY

All measurements contained in this report were conducted with ANSI C63.10-2013. American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices and KDB 789033 D02 General UNII Test Procedures New Rules v01r02 (Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E) April 8, 2016.

For conducted and radiated emissions the equipment under test (EUT) was configured to measure its highest possible emission level. This level was based on the maximized cable configuration from exploratory testing per ANSI C63.10-2013. The test modes were adapted according to the Operating Instructions provided by the manufacturer/client.

1.8 TEST FACILITY LOCATION

1.8.1 TÜV SÜD America Inc. (Mira Mesa)

10040 Mesa Rim Road, San Diego, CA 92121-2912 (32.901268,-117.177681). Phone: 858 678 1400 FAX: 858-546 0364

1.8.2 TÜV SÜD America Inc. (Rancho Bernardo)

16936 Via Del Campo, San Diego, CA 92127-1708 (33.018644,-117.092409). Phone: 858 942 5542 Fax: 858 546 0364.

1.9 TEST FACILITY REGISTRATION

1.9.1 FCC – Registration No.: US1146

TUV SUD America Inc. (San Diego), is an accredited test facility with the site description report on file and has met all the requirements specified in §2.948 of the FCC rules. The acceptance letter from the FCC is maintained in our files and the Registration is US1146.



1.9.2 Innovation, Science and Economic Development Canada Registration No.: 3067A

The 10m Semi-anechoic chamber of TÜV SÜD America Inc. (San Diego) has been registered by Certification and Engineering Bureau of Innovation, Science and Economic Development Canada for radio equipment testing with Registration No. 3067A.



SECTION 2

TEST DETAILS

Class II Permissive Change Verification of the
Nextivity Inc.
Cel-Fi PRO Cellular Repeater



2.1 MAXIMUM POWER SPECTRAL DENSITY (PSD)

2.1.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.407(a)(3)

2.1.2 Standard Applicable

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Note to paragraph (a)(3): The Commission strongly recommends that parties employing U-NII devices to provide critical communications services should determine if there are any nearby Government radar systems that could affect their operation.

2.1.3 Test Methodology

Section II (F) PSD of KDB789033 D02 General UNII Test Procedures New Rules v01r02

2.1.4 Equipment Under Test and Modification State

Serial No: 900610000028 / Default Test Configuration

2.1.5 Date of Test/Initial of test personnel who performed the test

July 28 and 29, 2016 / FSC

2.1.6 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.1.7 Environmental Conditions

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

Ambient Temperature	26.2 °C
Relative Humidity	45.5 %
ATM Pressure	98.8 kPa



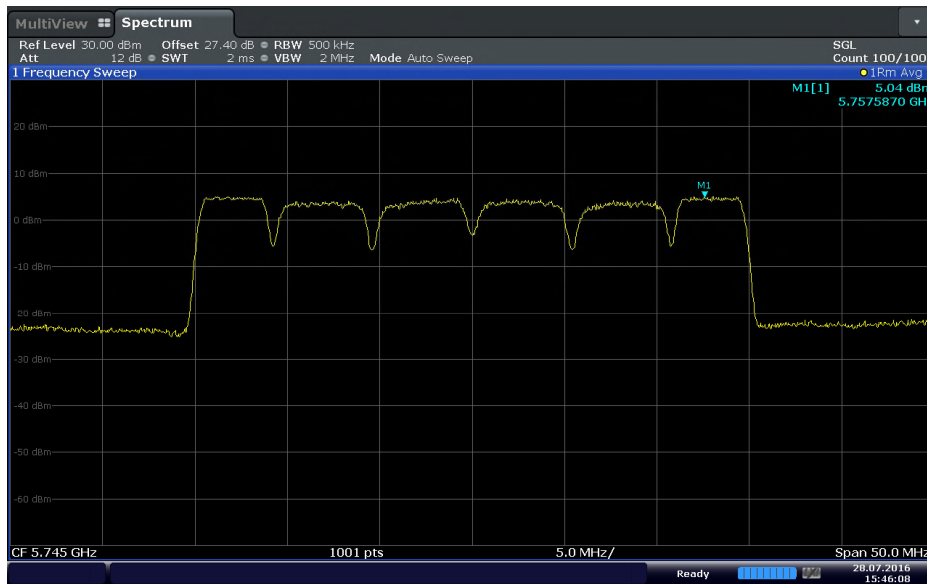
2.1.8 Additional Observations

- This is a conducted test as per Section II (F) PSD of KDB789033 D02 General UNII Test Procedures New Rules v01r02 (April 8, 2016). All conditions under this Section were satisfied (SA-1 method, EUT duty cycle is $\geq 98\%$).
- The path loss was measured and entered as a level offset (27.4 dB).
- Only UNII 3 presented. This is the only band affected by the rule change on PSD from the old rules to the new rules.

2.1.9 Test Results

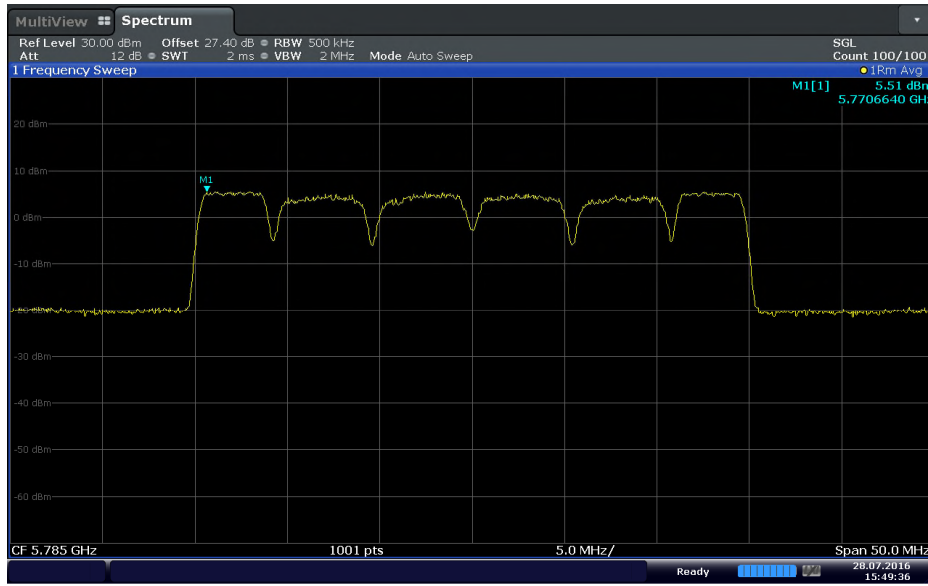
UNII 3 30MHz Bandwidth (CU)				
Channel	Frequency (MHz)	Maximum PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Margin (dB)
149	5745	5.04	30	24.96
157	5785	5.51	30	24.49
165	5825	5.72	30	24.28
UNII 3 40MHz Bandwidth (CU)				
Channel	Frequency (MHz)	Maximum PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Margin (dB)
149	5745	5.88	30	24.12
157	5785	5.26	30	24.74
165	5825	4.81	30	25.19

2.1.10 Test Plots



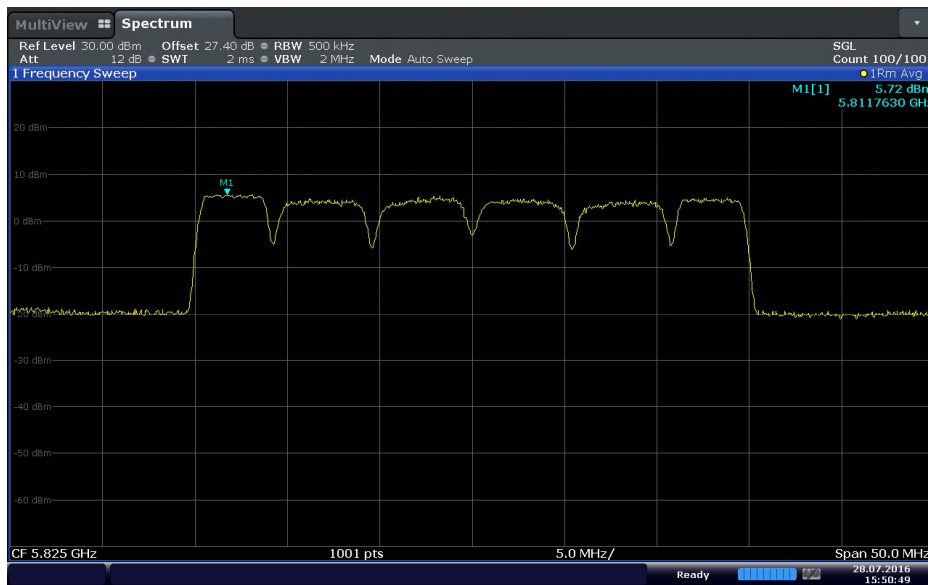
15:46:09 28.07.2016

UNII 3 30MHz Bandwidth Low Channel 5745 MHz



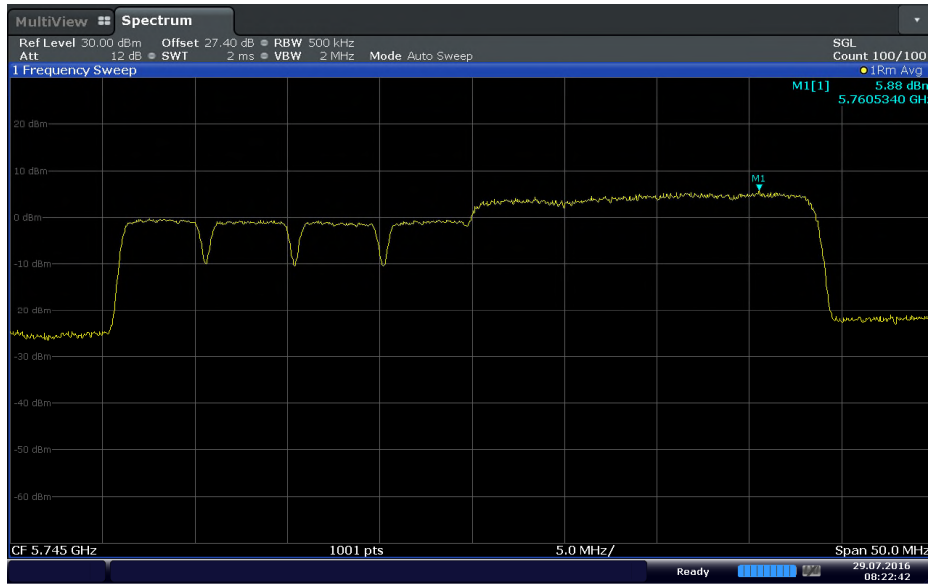
15:49:36 28.07.2016

UNII 3 30MHz Bandwidth Mid Channel 5785 MHz



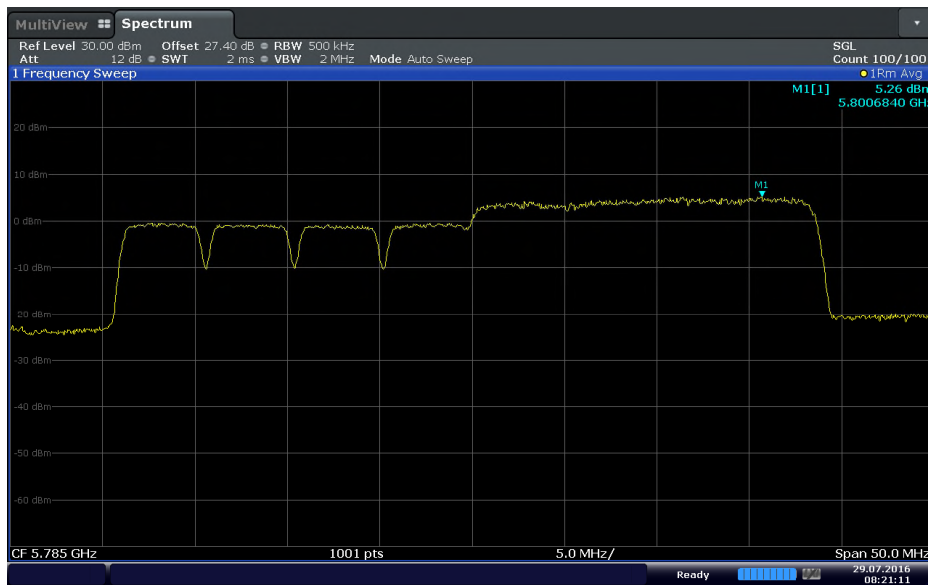
15:50:50 28.07.2016

UNII 3 30MHz Bandwidth High Channel 5825 MHz



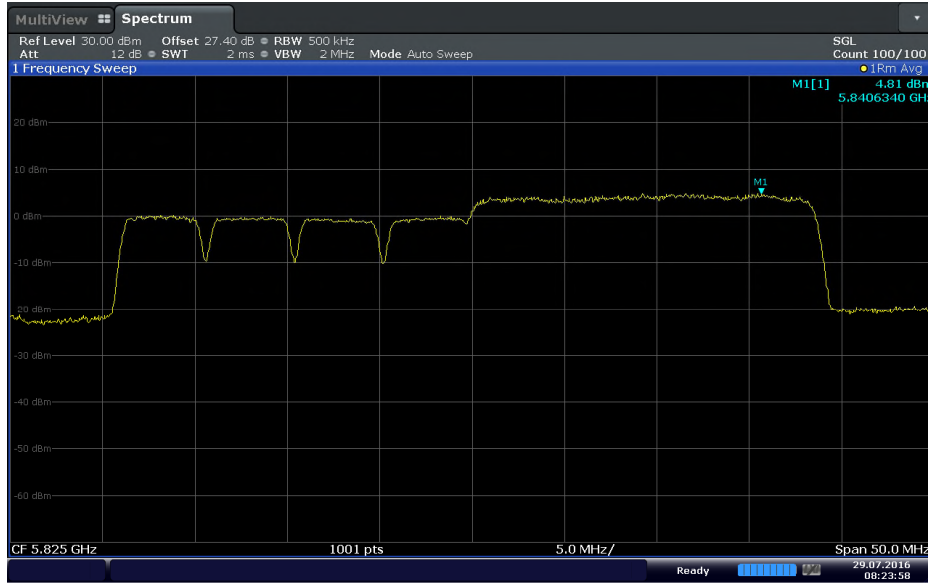
08:22:43 29.07.2016

UNII 3 40MHz Bandwidth Low Channel 5745 MHz



08:21:11 29.07.2016

UNII 3 40MHz Bandwidth Mid Channel 5785 MHz



08:23:59 29.07.2016

UNII 3 40MHz Bandwidth High Channel 5825 MHz



2.2 UNWANTED EMISSIONS MEASUREMENT

2.2.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.407(b)
FCC 47 CFR Part 15.209

2.2.2 Standard Applicable

(b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209.

(7) The provisions of §15.205 apply to intentional radiators operating under this section.

2.2.3 Test Methodology

Section II (G) Unwanted Emission Measurement of KDB789033 D02 General UNII Test Procedures New Rules v01r02

2.2.4 Equipment Under Test and Modification State

Serial No: 900610000028 / Default Test Configuration

2.2.5 Date of Test/Initial of test personnel who performed the test

July 18, 2016 / FSC

2.2.6 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.



2.2.7 Environmental Conditions

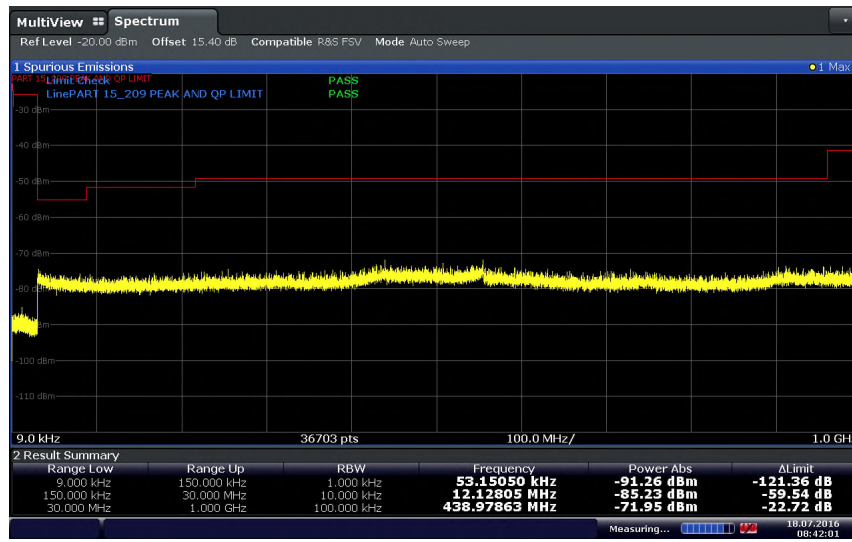
Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

Ambient Temperature 27.1 °C
 Relative Humidity 52.1 %
 ATM Pressure 99.2 kPa

2.2.8 Additional Observations

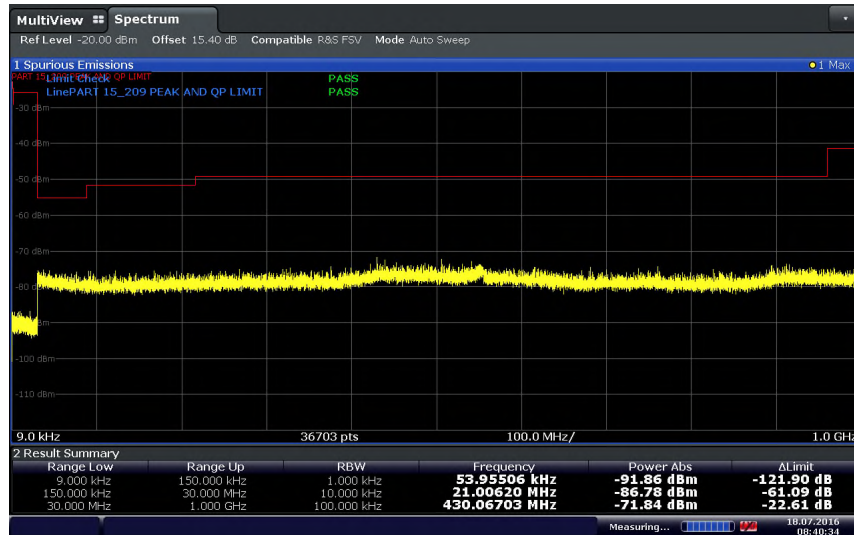
- This is an antenna-port conducted measurement test for C2PC verification. Radiated emissions test results of the original filing still applies for cabinet spurious emissions test.
- Only worst case BW presented (40 MHz).
- The path loss was measured and entered as a level offset:
 1. 15.4 db below 1GHz = 2dBi antenna gain + 6 dB worst case ground reflection factor + 7.4 dB combiner/cable loss.
 2. 9.4 dB above 1GHz = 2dBi antenna gain + 7.4 dB combiner/cable loss.
- Sweep time is set to auto.
- The field strength limit of 15.209 is first converted to dBm (EIRP) using the formula under Section G(2)(d) of KDB789033 D02 General UNII Test Procedures New Rules v01r02. Prescans were performed against this limit. If Peak complies with the limit, no Average evaluation will be performed.

2.2.9 Test Plots



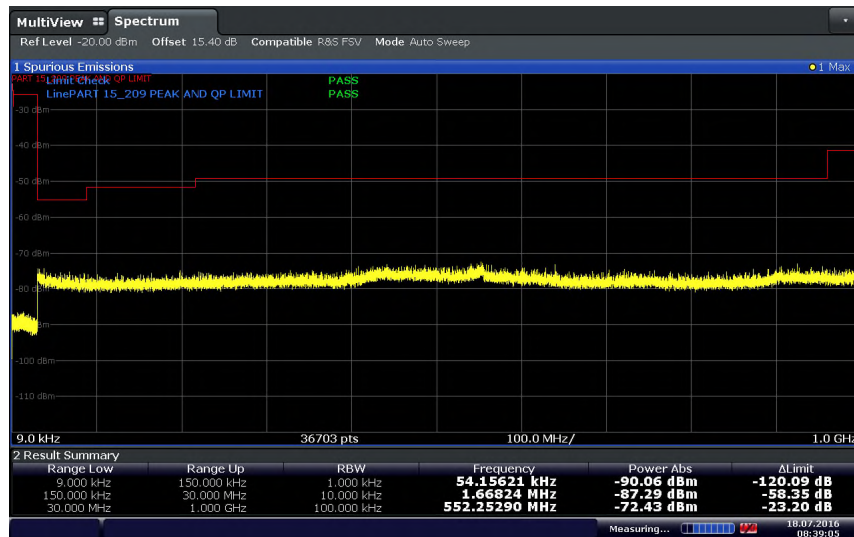
Date: 18 JUL 2016 08:42:01

UNII 3 40MHz Bandwidth Low Channel 5745 MHz Below 1GHz



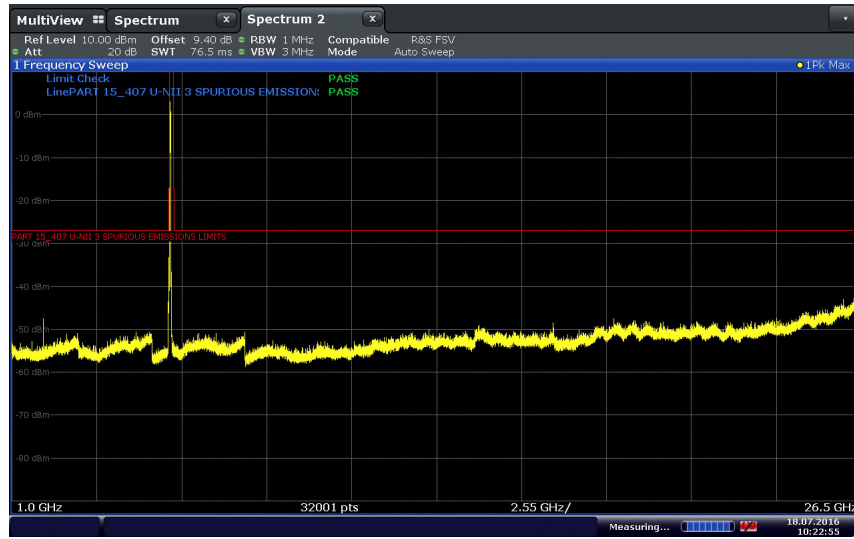
Date: 18 JUL 2016 08:40:34

UNII 3 40MHz Bandwidth Mid Channel 5785 MHz Below 1GHz



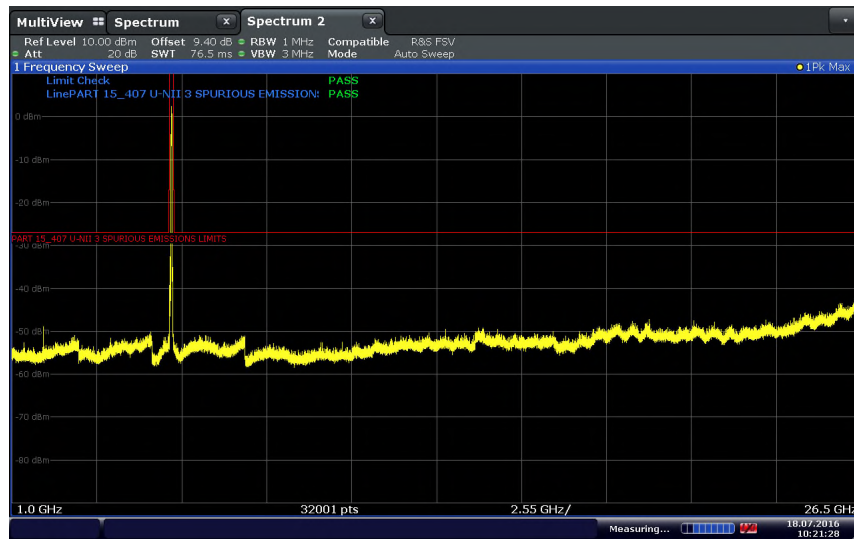
Date: 18 JUL 2016 08:39:04

UNII 3 40MHz Bandwidth High Channel 5825 MHz Below 1GHz



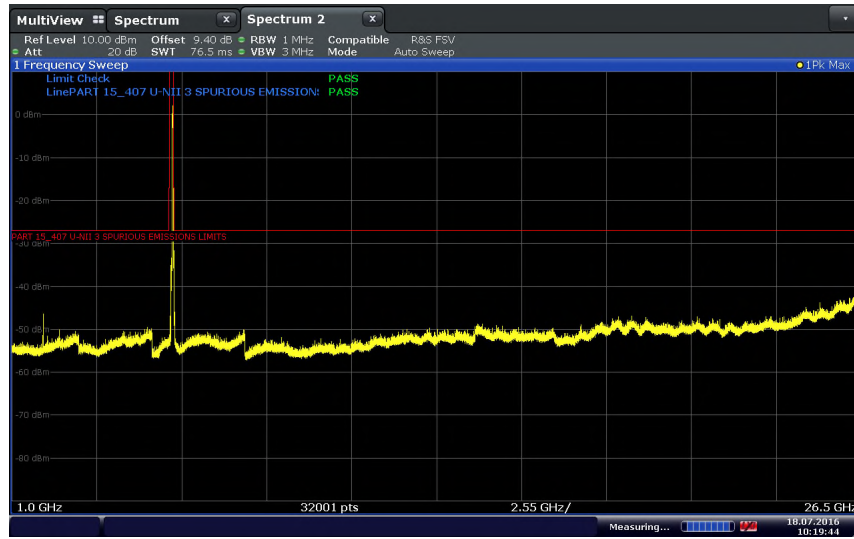
Date: 18 JUL 2016 10:22:55

UNII 3 40MHz Bandwidth Low Channel 5745 MHz Above 1GHz



Date: 18 JUL 2016 10:21:28

UNII 3 40MHz Bandwidth Mid Channel 5785 MHz Above 1GHz



Date: 18.JUL.2016 10:19:44

UNII 3 40MHz Bandwidth High Channel 5825 MHz Above 1GHz



2.3 EMISSION MASK

2.3.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.407(b)(4)(i)

2.3.2 Standard Applicable

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

2.3.3 Test Methodology

Section II (G)(5) Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz of KDB789033 D02 General UNII Test Procedures New Rules v01r02

2.3.4 Equipment Under Test and Modification State

Serial No: 900610000028 / Default Test Configuration

2.3.5 Date of Test/Initial of test personnel who performed the test

August 01, 2016 / FSC

2.3.6 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.3.7 Environmental Conditions

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

Ambient Temperature	29.2 °C
Relative Humidity	49.5 %
ATM Pressure	99.0 kPa

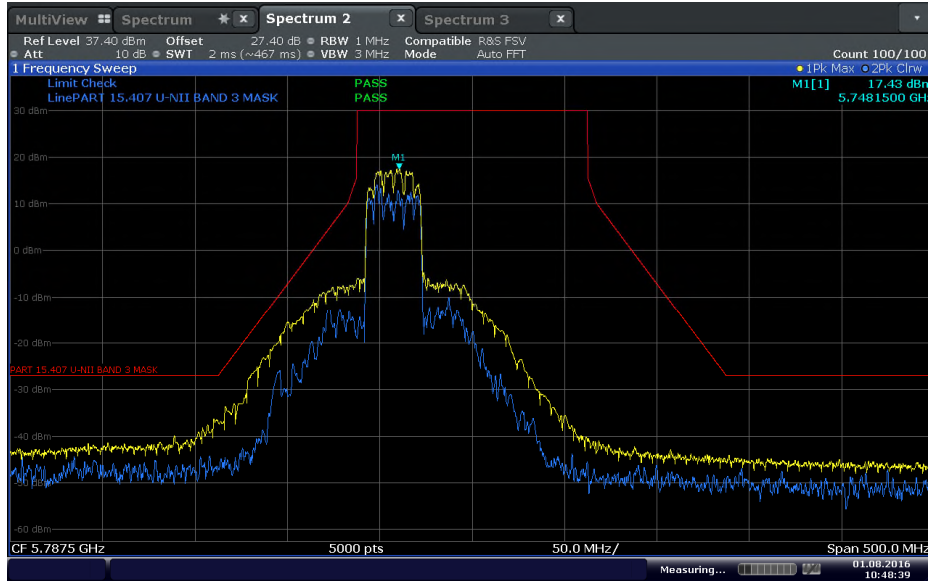
2.3.8 Additional Observations

- This is a conducted test as per Section II (G)(5) (Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz of KDB789033 D02 General UNII Test Procedures New Rules v01r02.
- RBW=1 MHz, VBW=3 MHz
- Sweep time=Auto
- Trace mode=max hold



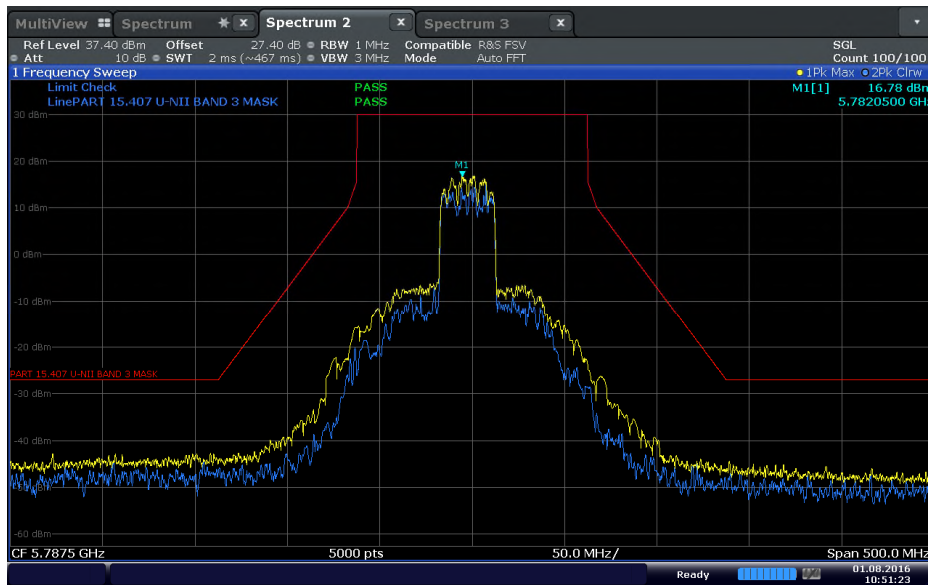
- Detector is Peak.
- The path loss was measured and entered as a level offset.

2.3.9 Test Results



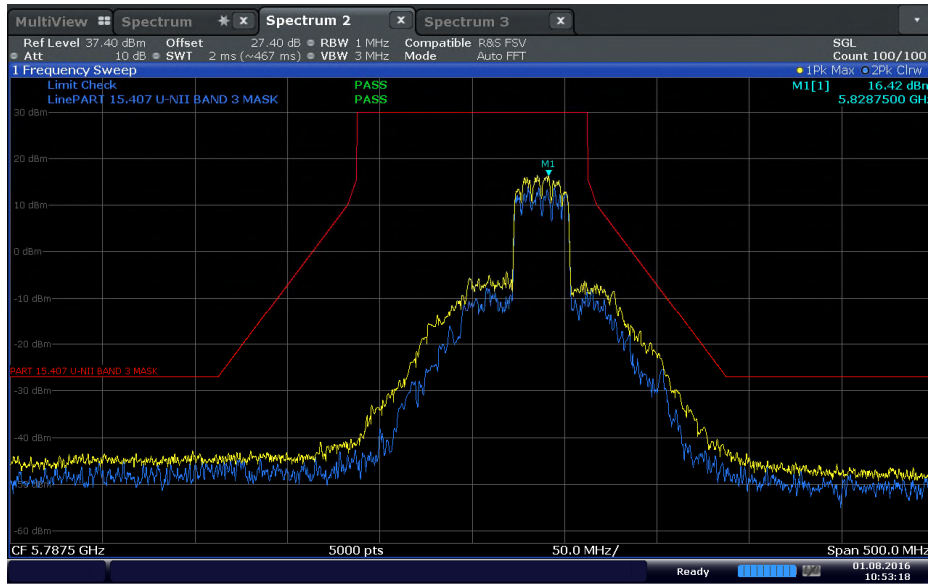
10:48:39 01.08.2016

UNII 3 30MHz Bandwidth Low Channel 5745 MHz



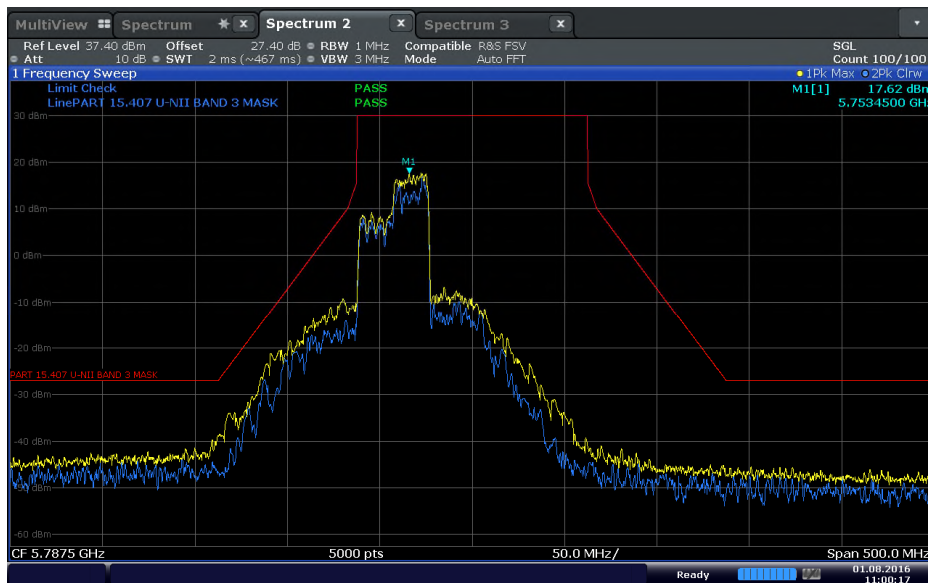
10:51:24 01.08.2016

UNII 3 30MHz Bandwidth Mid Channel 5785 MHz



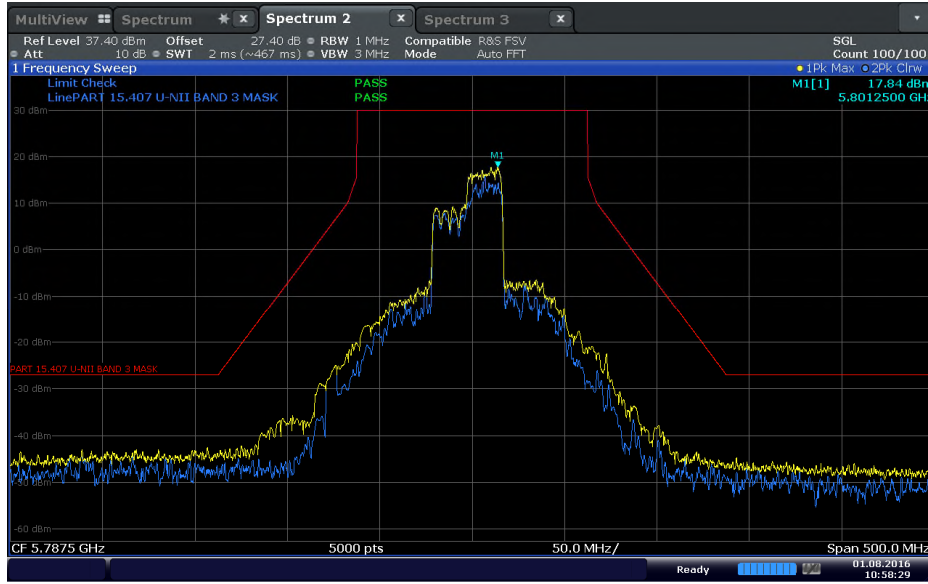
10:53:18 01.08.2016

UNII 3 30MHz Bandwidth High Channel 5825 MHz



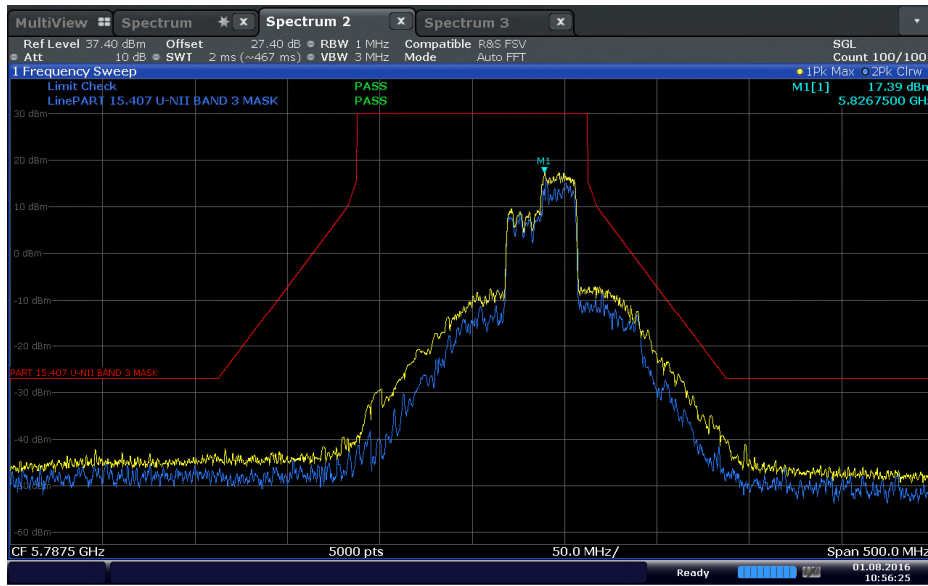
11:00:17 01.08.2016

UNII 3 40MHz Bandwidth Low Channel 5745 MHz



10:58:30 01.08.2016

UNII 3 40MHz Bandwidth Mid Channel 5785 MHz



10:56:26 01.08.2016

UNII 3 40MHz Bandwidth High Channel 5825 MHz



SECTION 3

TEST EQUIPMENT USED



3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

ID Number (SDGE/SDRB)	Test Equipment	Type	Serial Number	Manufacturer	Cal Date	Cal Due Date
<i>Conducted Port Setup</i>						
7582	Signal/Spectrum Analyzer	FSW26	101614	Rhode & Schwarz	10/05/15	10/05/16
7608	Vector Signal Generator	SMBV100A	259021	Rhode & Schwarz	07/29/15	07/29/16
-	Power Splitter	ZN2PD-63-S+	SUU74001429	Mini-Circuits	Verified by 7608 and 7582	
-	Step Attenuator (90dB)	RFVA-2W-6G-SMA-S*	N/A	HD Telecoms	Verified by 7608 and 7582	
-	Step Attenuator (10dB)	RFVA-2W-6G-SMA-S*	N/A	HD Telecoms	Verified by 7608 and 7582	
<i>Miscellaneous</i>						
7560	Barometer/Temperature/Humidity Transmitter	iBTHX-W	1240476	Omega	10/19/15	10/19/16

*Part Number is for the whole set which include both the 10 dB and 90 dB variable attenuator.



3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:

3.2.1 Conducted Antenna Port Measurement

	Contribution	Probability Distribution Type	Probability Distribution x_i	Standard Uncertainty $u(x_i)$	$[u(x_i)]^2$
1	Receiver/Spectrum Analyzer	Rectangular	0.57	0.33	0.11
2	Cables	Rectangular	0.50	0.29	0.08
3	EUT Setup	Rectangular	1.00	0.58	0.33
Combined Uncertainty (u_c):					0.72
Coverage Factor (k):					2
Expanded Uncertainty:					1.45



SECTION 4

ACCREDITATION, DISCLAIMERS AND COPYRIGHT



4.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT

TÜV SÜD America Inc.'s reports apply only to the specific sample tested under stated test conditions. It is the manufacturer's responsibility to assure the continued compliance of production units of this model. TÜV SÜD America, Inc. shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV SÜD America, Inc.'s issued reports.

This report is the confidential property of the client. As a mutual protection to our clients, the public and TÜV SÜD America, Inc., extracts from the test report shall not be reproduced, except in full without TÜV SÜD America, Inc.'s written approval.

This report must not be used to claim product certification, approval, or endorsement by A2LA, NIST, or any agency of the federal government.

TÜV SÜD America, Inc. and its professional staff hold government and professional organization certifications for AAMI, ACIL, AEA, ANSI, IEEE, A2LA, NIST and VCCI.



A2LA Cert. No. 2955.13