DEKRA Certification, Inc.
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Sterling, VA 20164
United States of America

FCC LISTED, REGISTRATION NUMBER: 2764.01

ISED LISTED REGISTRATION NUMBER: 23595-1

Test report No:
3231ERM.009

Test report

USA FCC Part 15.407 (U-NII), 15.209
CANADA RSS-210, RSS-Gen
Unlicensed National Information Infrastructure Devices. General technical requirements.
Licence-Exempt Radio Apparatus (All Frequency Bands): Category I Equipment. General Requirements and Information for the Certification of Radio Apparatus.

(*) Identification of item tested	In vehicle infotainment
(*) Trademark	Visteon
(*) Model and /or type reference tested	CRONY 2010
Other identification of the product	FCC ID: NT8-CRONY2010
(*) Features	AM/FM receiver, BT EDR, WiFi@5 GHz 802.11a/n20/n40/ac80, GNSS/GPS
Manufacturer	Visteon Corporation One Village Center Drive, Van Buren Township, MI 48111, USA
Test method requested, standard	USA FCC Part 15.407 10-1-20 Edition : Unlicensed National Information Infrastructure Devices. General technical requirements. USA FCC Part 15.209 10-1-20 Edition: Radiated emission limits; general requirements. CANADA RSS-247 Issue 2 (February 2017). CANADA RSS-Gen Issue 5 (April 2018). 789033 D02 General UNII Test Procedures New Rules v02r01 Guidance for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.
Summary	IN COMPLIANCE
Approved by (name / position & signature)	Domingo Galvez EMC&RF Lab Manager Digitally signed by Domingo Galvez DN: cn=Domingo Galvez, o=DEKRA Certification Inc., ou=Regulatory Lab, email=dgalvez@dekra.com, c=US Date: 2022.02.15 18:59:11 -05'00'
Date of issue	02-15-2022
Report template No	FDT08_23 (*) "Data provided by the client"

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Competences and guarantees

DEKRA Certification Inc. is a testing laboratory accredited by A2LA (The American Association for Laboratory Accreditation), to perform the tests indicated in the Certificate 2764.01

DEKRA Certification Inc. is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA Certification Inc. has a calibration and maintenance program for its measurement equipment.

DEKRA Certification Inc. guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at DEKRA Certification at the time of performance of the test.

DEKRA Certification Inc. is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

General conditions

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA Certification Inc.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA Certification Inc. and the Accreditation Bodies.

Uncertainty

Uncertainty (factor k=2) was calculated according to the DEKRA Certification internal document PODT000.

Test case	Frequency (MHz)	U (k=2)	Units
RF Power and PSD	5150-5850	0.88	dB
Occupied Bandwidth		1.87	%
Band Edge		0.64	dB
Radiated Spurious Emission	30-180	4.27	dB
	180-1000	3.14	dB
	1000-18000	3.30	dB
	18000-40000	3.49	dB

Data provided by the client

Automotive Infotainment Head Unit.

DEKRA declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

Usage of samples

Samples used for test have been selected by: The client.

Sample S/01 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Date of reception
3231/04	Conducted Wi-Fi Radio	VPNPLF-18C815-CB		12/17/2021

Sample S/01 is composed of the following accessories:

Control Nº	Description	Model	Serial Nº	Date of reception
3231/19	USB type A (Male) to DB9 cable	--	--	12/17/2021
3231/37	Harness + Speaker board	PSSA-AEE2010	--	12/17/2021

1. Sample S/01 was used for the following test(s): All conducted tests indicated in appendix B.

Sample S/02 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Date of reception
3231/08	Radiated Wi-Fi Radio	VPNPLF-18C815-CB	-	12/17/2021
3231/15	GPS Antenna	PP GF30	2210910950	12/17/2021
3231/16	Antenna	FIAMM Automotive	3017417509121	12/17/2021

Sample S/02 is composed of the following accessories:

Control Nº	Description	Model	Serial Nº	Date of reception
3231/35	Harness + Speaker board	PSSA-AEE2010	--	12/17/2021
3231/21	USB type A (Male) to DB9 cable	--	--	12/17/2021

1. Sample S/02 was used for the following test(s): All Radiated tests indicated in appendix B.

Test sample description

Ports…… :	Port name and description		Cable				
			Specified length [m]	Attached during test	Shielded		
	Main connector			☐	☐		
	USB OTG			☐	☐		
	GPS Antenna FAKRA connector			☐	☐		
	AM/FM Antenna FAKRA connector			☐	☐		
Supplementary information to the ports……	No Data Provided						
Rated power supply .....:	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	☐	AC:	☐	☐	☐	☐	☐
	☐	AC:	☐	☐	☐	☐	☐
	☐	DC: 8V to 16V					
	☒	DC: 13.5 vehicle battery					
Rated Power .....:	Nominal current 3A						
Clock frequencies.....:	DDR3 800 MHz, NAND Memory 100 MHz, TFT 298.5 kHz, LVDS 39.4 MHz, IMX8 1,2 GHz						
Other parameters .....:	Provided in General description document						
Software version .....:	26381						
Hardware version .....:	08.01.01						
Dimensions in cm (W x H x D) ....:	285.2X135.5X197.5 mm						
Mounting position .....:	☐	*Tabletop equipment*					
	☐	*Wall/Ceiling mounted equipment*					
	☐	*Floor standing equipment*					
	☐	*Hand-held equipment*					
	☒	Other: Installed in vehicle dashboard					
Modules/parts.....:	Module/parts of test item		Type		Manufacturer		
	Commercial samples						
	Radiated samples						

	Conducted samples		
Accessories (not part of the test item) .....:	Description	Type	Manufacturer
	Harness		
	AM/FM antenna		
	GPS antenna		
	Speakers		
	Test panel		
	USB convertors		
Documents as provided by the applicant .....:	Description	File name	Issue date
	Declaration Equipment	FDT30_18 Declaration Equipment Data 12/17/2021	01/06/2022
	General description Crony 2010		01/06/2022
	FERMUSA201_0 test samples Questionnaire		

Copy of marking plate:

Identification of the client

Visteon Corporation
One Village Center Drive
Van Buren Township, MI 48111, USA

Testing period and place

Test Location	DEKRA Certification Inc.
Date (start)	01-18-2022
Date (finish)	01-25-2022

Document history

Report number	Date	Description
3231ERM.009	02-15-2022	First release

Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 30 % Max. = 75 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

In the semi-anechoic chamber, the following limits were not exceeded during the test.

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 30 % Max. = 75 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

In the chamber for conducted measurements, the following limits were not exceeded during the test:

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 30 % Max. = 60 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

Remarks and comments

The tests have been performed by the technical personnel: Bhagyashree Chaudhary, Lakshmi Gollamudi, Lourdes Maria Valverde, Nasir Khan and Koji Nishimoto.

Testing verdicts

Not applicable :	N/A
Pass :	P
Fail :	F
Not measured :	N/M

Summary

FCC PART 15 PARAGRAPH / RSS-247 (Wi-Fi 5GHz) 5.725 GHz -5.825 GHz Band					
Report Section	**15.407 Spec Clause**	**RSS Spec Clause**	**Test Description**	**Verdict**	**Remark**
B.1	§ 15.403 KDB 789033 D02	RSS 247 6.2.4	26dB Emission Bandwidth & Occupied Bandwidth	P	N/A
B.2	§ 15.407 (e)	RSS 247 6.2.4.1	6dB Bandwidth	P	N/A
B.3	§ 15.407 (a)(3)	RSS 247 6.2.4.1	Power Limits. Maximum Output Power	P	N/A
B.4	§ 15.407 (a)(3)	RSS-247 6.2.4.1	Maximum Power Spectral Density	P	N/A
B.5	§ 15.407 (b)(4)	RSS-247 6.2.4.2	Band-edge conducted emissions compliance (Transmitter)	P	N/A
--	§ 15.407 (b)(6) § 15.207	RSS-Gen 8.8	Emission limitations Conducted (Transmitter)	N/A	N/A
B.6	§ 15.407 (b)(4),(7) § 15.209 § 15.205	RSS-Gen 8.9 & 8.10	Undesirable radiated emissions (Transmitter)	P	N/A
--	§ 15.407 (g)	RSS-Gen 6.11 & 8.11	Frequency Stability	N/M	Refer 1

Supplementary information and remarks:

The test set-up was made in accordance to the general provisions of ANSI C63.10: 2013 and FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 dated 12/14/2017

1) According to FCC, Manufacturers of UNII devices are responsible for frequency stability compliance.

FCC PART 15 PARAGRAPH / RSS-247 (Wi-Fi 5GHz) Common Requirements for all bands					
Report Section	**15.247 Spec Clause**	**RSS Spec Clause**	**Test Description**	**Verdict**	**Remark**
--	§ 15.407 (c)	--	Transmission in case of absence of information to transmit, or operational failure.	N/M	Refer 1

Supplementary information and remarks:

1) The compliance is checked through a description of how this requirement is met that is provided by the applicant.

List of equipment used during the test

Conducted Measurements

CONTROL NUMBER	DESCRIPTION	MANUFACTURER	MODEL	LAST CALIBRATION	NEXT CALIBRATION
1038	TS8997 TEST SYSTEM	Rohde & Schwarz	TS8997	N/A	N/A
1107	ETHERNET SNMP THERMOMETER	HW GROUP	HWg-STE Plain	2020/08	2022/08
1313	WIRELESS MEASUREMENT SOFTWARE R&S WMS32	Rohde & Schwarz	N/A	N/A	N/A

Radiated Measurements

CONTROL NUMBER	DESCRIPTION	MANUFACTURER	MODEL	LAST CALIBRATION	NEXT CALIBRATION
0981	RF pre-amplifier 1-18 GHz	Bonn Elektronik	BLMA 0118-2A	2020/11	2022/11
0982	RF pre-amplifier 18-40 GHz	Bonn Elektronik	BLMA 1840-1M	2020/11	2022/11
1010	ESR7 EMI Test Receiver	Rohde & Schwarz	ESR7	2020/10	2022/10
1014	Spectrum analyzer	Rohde & Schwarz	FSV40	2021/05	2023/05
1056	3116C DOUBLE-RIDGED WAVEGUIDE HORN ANTENNAS	ETS LINDGREN	3116C	2020/01	2023/01
1057	3115 DOUBLE-RIDGED WAVEGUIDE HORN ANTENNAS	ETS LINDGREN	3115	2020/06	2023/06
1111	ETHERNET SNMP THERMOMETER	HW GROUP	HWg-STE Plain	2020/08	2022/08
1065	3142E BICONILOG ANTENNA	ETS LINDGREN	3142E	2020/08	2023/08
1179	SEMI-ANECHOIC CHAMBER	FRANKONIA	SAC 3plus 'L'	N/A	N/A
1314	WIRELESS MEASUREMENT SOFTWARE R&S EMC32	ROHDE & SCHWARZ	-	N/A	N/A

Appendix A: DUT Description

DUT Description

The following information is provided by the client

Information	Description
Equipment type	Wi-Fi 5GHz
DFS Operating Mode	---
TPC Function	Yes
Antenna Specification	Automotive Chip Antenna 2,4/5 GHz
Operating Frequency Range	5725-5825 MHz
Nominal Channel Bandwidth	20/ 40/ 80 MHz
Antenna type	Automotive Chip Antenna 2,4/5 GHz
RF Output Power	14 dBm EIRP
Antenna gain	3.5 dBi
Supply Voltage	13.5 Vdc
Modulation:	OFDM
Geo-location capability	No

1. TPC not required if Max EIRP < 500mW (27 dBm)

Appendix B: Test results 5.725 GHz – 5.85 GHz Band

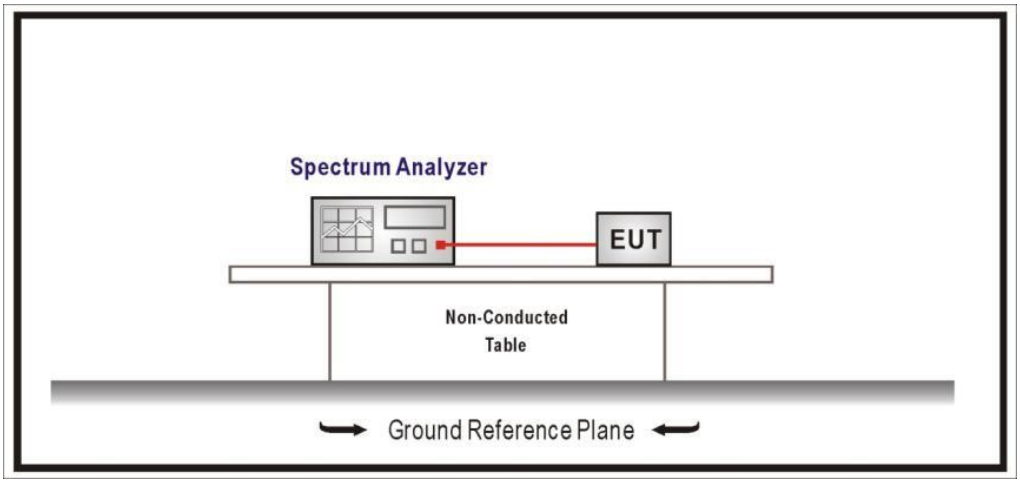
Appendix B Content

DESCRIPTION OF TEST CONDITIONS

TEST CONDITIONS	DESCRIPTION
TC#01(1) **(a mode)**	Power supply (V): $V_{nominal}$ = 13.5 Vdc Channel Bandwidth: 20 MHz Test Frequencies for Conducted/Radiated tests: Lowest range: 5745 MHz Middle channel: 5785 MHz Highest range: 5825 MHz
TC#02(1) **(n mode)**	Power supply (V): $V_{nominal}$ = 13.5 Vdc Channel Bandwidth: 20 MHz Test Frequencies for Conducted/Radiated tests: Lowest channel: 5745 MHz Middle channel: 5785 MHz Highest channel: 5825 MHz Channel Bandwidth: 40 MHz Test Frequencies for Conducted/Radiated tests: Lowest channel: 5755 MHz Highest channel: 5795 MHz
TC#03(1) **(ac mode)**	Power supply (V): $V_{nominal}$ = 13.5 Vdc Channel Bandwidth: 80 MHz Test Frequencies for Conducted/Radiated tests: Middle channel: 5775 MHz

Note (1): For spurious emissions for OFDM modes 802.11a, 802.11n20/40 and 802.11ac80 preliminary scan was performed to determine the worst case.
The data rates of 54Mb/s for 802.11a, MCS 7 for 802.11n, and MCS9 for 802.11ac80 were selected based on preliminary testing that identified those rates corresponding to the worst cases.

SECTION B.1: 26DB EMISSION BANDWIDTH & OCCUPIED BANDWIDTH	
Product standard:	Part 15 Subpart E §15.403 and RSS-247
Test standard:	Part 15 Subpart E §15.403 and RSS-247 6.2.4
No requirements requested	
TEST SETUP:	



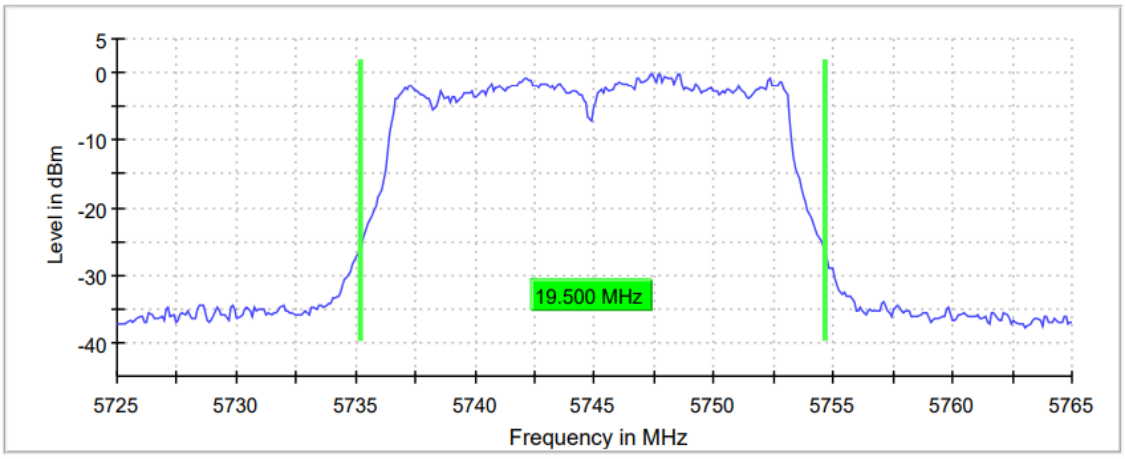
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (a mode)
TEST RESULTS:	PASS

Bandwidth: 20 MHz

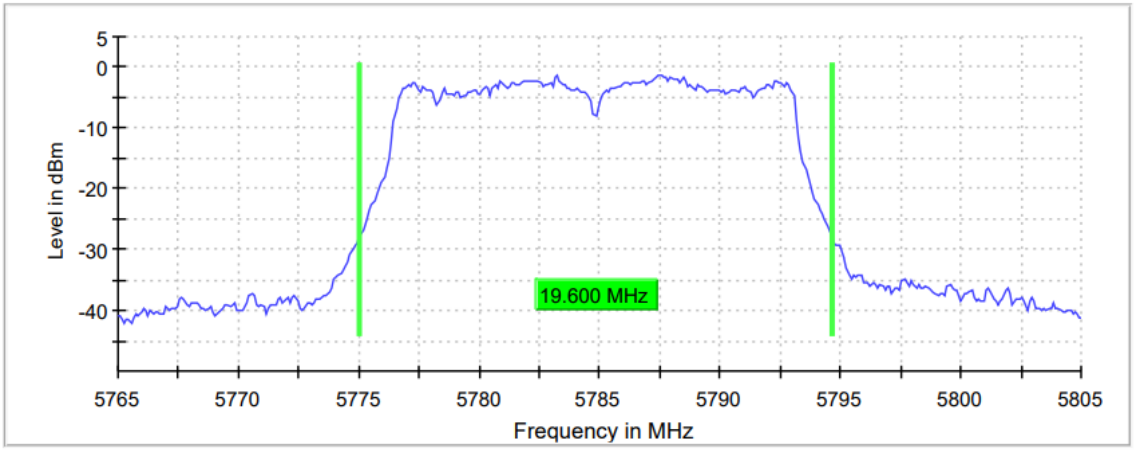
	Lowest frequency 5745 MHz	Middle frequency 5785 MHz	Highest frequency 5825 MHz
26dB Bandwidth (MHz)	19.500	19.600	19.600
Occupied bandwidth (MHz)	16.500	16.500	16.500

26 dB Bandwidth:

Lowest Channel

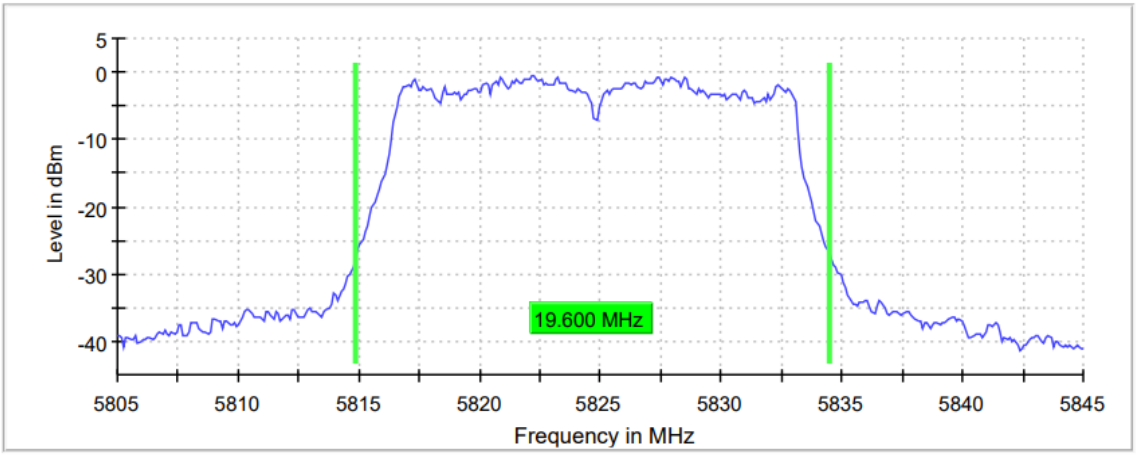


Middle Channel



TEST RESULTS (Cont.)	

Highest Channel

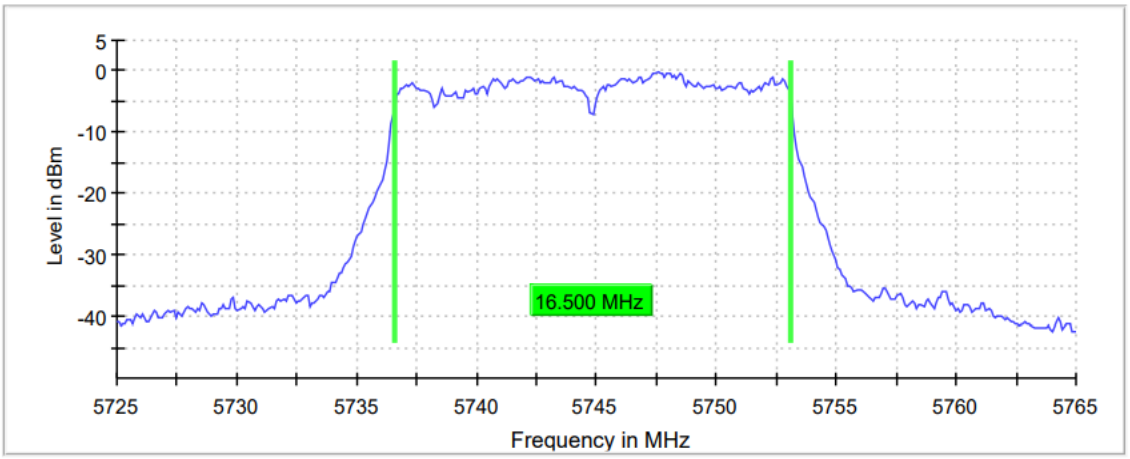


Measurement

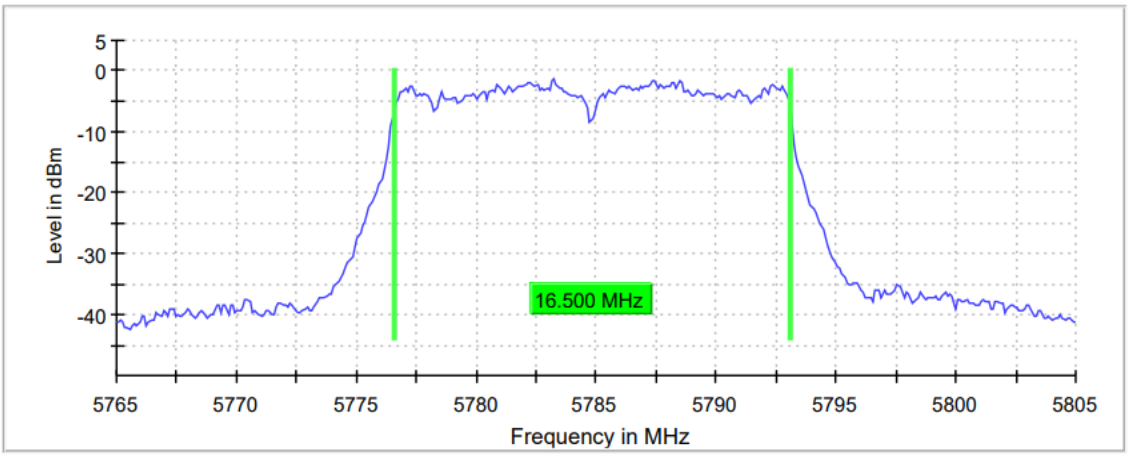
Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	5.72500 GHz	5.76500 GHz	5.80500 GHz
Stop Frequency	5.76500 GHz	5.80500 GHz	5.84500 GHz
Span	40.000 MHz	40.000 MHz	40.000 MHz
RBW	200.000 kHz	200.000 kHz	200.000 kHz
VBW	1.000 MHz	1.000 MHz	1.000 MHz
Sweep Points	400	400	400
Sweep time	28.477 µs	28.477 µs	28.477 µs
Reference Level	10.000 dBm	0.000 dBm	0.000 dBm
Attenuation	30.000 dB	20.000 dB	20.000 dB
Detector	Max Peak	Max Peak	Max Peak
Sweep Count	200	200	200
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.30 dB	0.30 dB	0.30 dB
Run	54 / max. 150	68 / max. 150	70 / max. 150
Stable	5 / 5	5 / 5	5 / 5
Max Stable Difference	0.00 dB	0.15 dB	0.00 dB

TEST RESULTS (Cont.):	OCCUPIED BANDWIDTH

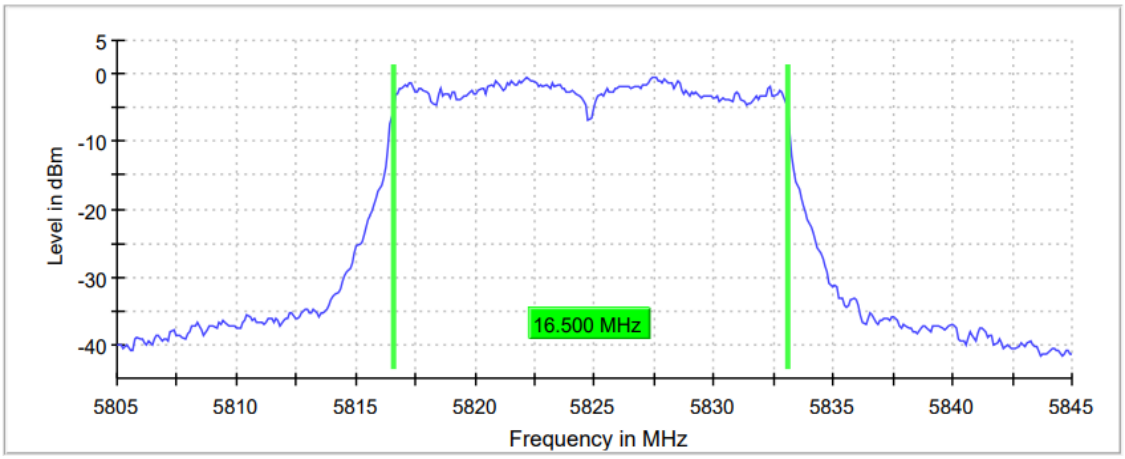
Lowest Channel



Middle Channel



Highest Channel



TEST RESULTS (Cont.)	

Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	5.72500 GHz	5.76500 GHz	5.80500 GHz
Stop Frequency	5.76500 GHz	5.80500 GHz	5.84500 GHz
Span	40.000 MHz	40.000 MHz	40.000 MHz
RBW	200.000 kHz	200.000 kHz	200.000 kHz
VBW	1.000 MHz	1.000 MHz	1.000 MHz
Sweep Points	400	400	400
Sweep time	28.477 µs	28.477 µs	28.477 µs
Reference Level	0.000 dBm	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB	20.000 dB
Detector	Max Peak	Max Peak	Max Peak
Sweep Count	200	200	200
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.30 dB	0.30 dB	0.30 dB
Run	54 / max. 150	46 / max. 150	87 / max. 150
Stable	5 / 5	5 / 5	5 / 5
Max Stable Difference	0.23 dB	0.00 dB	0.00 dB

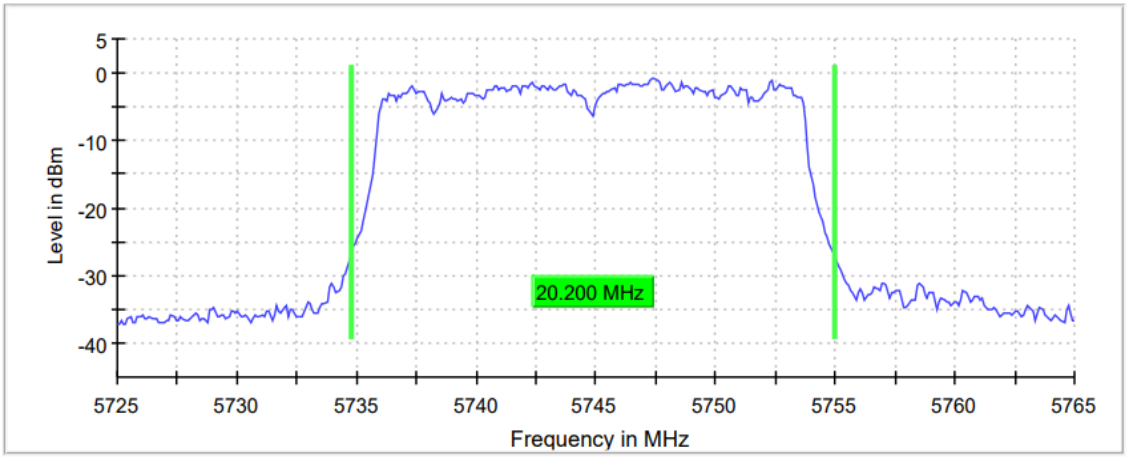
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (n Mode)
TEST RESULTS:	PASS

Bandwidth: 20 MHz

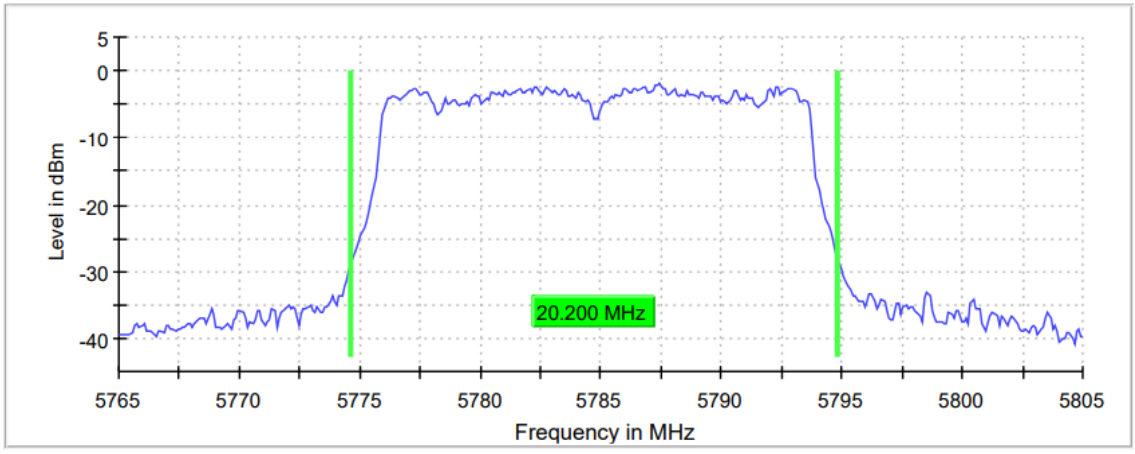
	Lowest frequency 5745 MHz	Middle frequency 5785 MHz	Highest frequency 5825 MHz
26dB Bandwidth (MHz)	20.200	20.200	20.100
Occupied bandwidth (MHz)	17.700	17.700	17.700

26 dB Bandwidth:

Lowest Channel

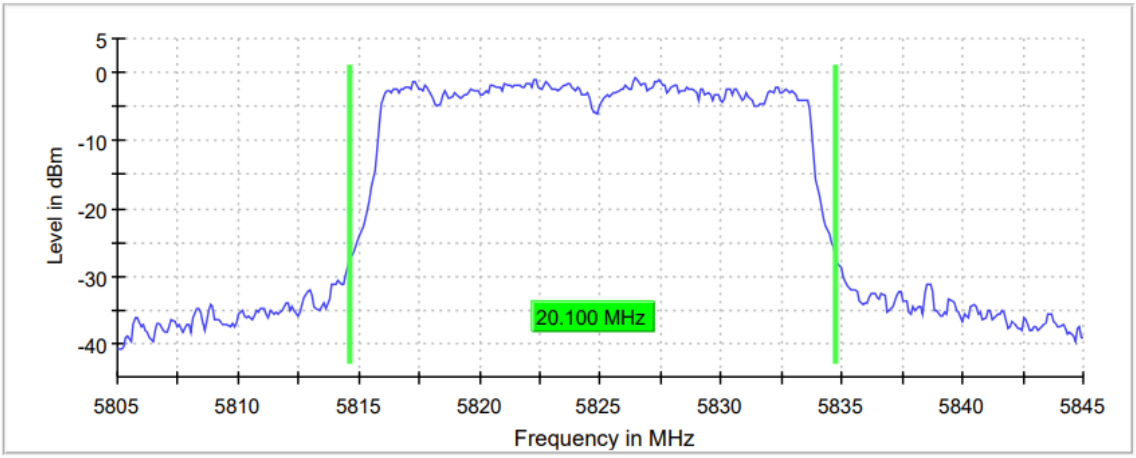


Middle Channel



TEST RESULTS (Cont.)	

Highest Channel

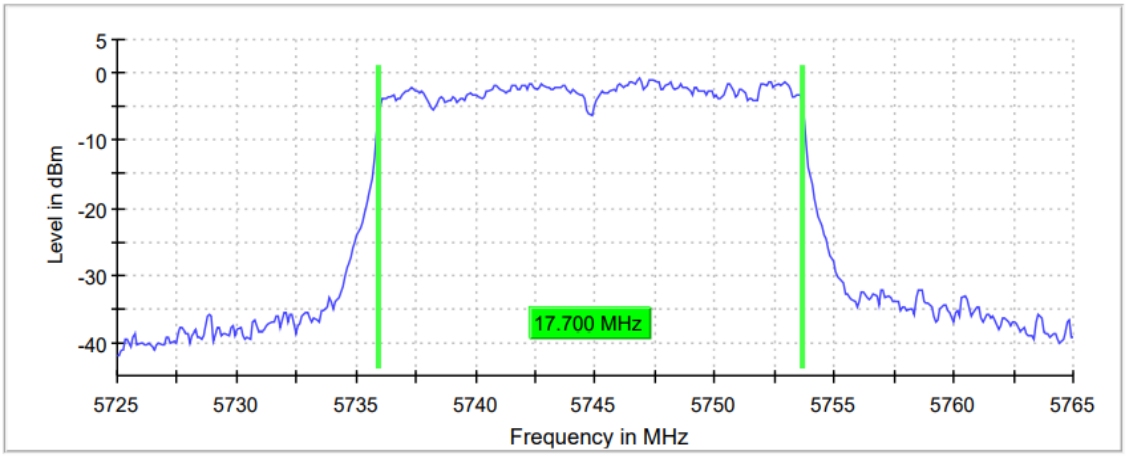


Measurement

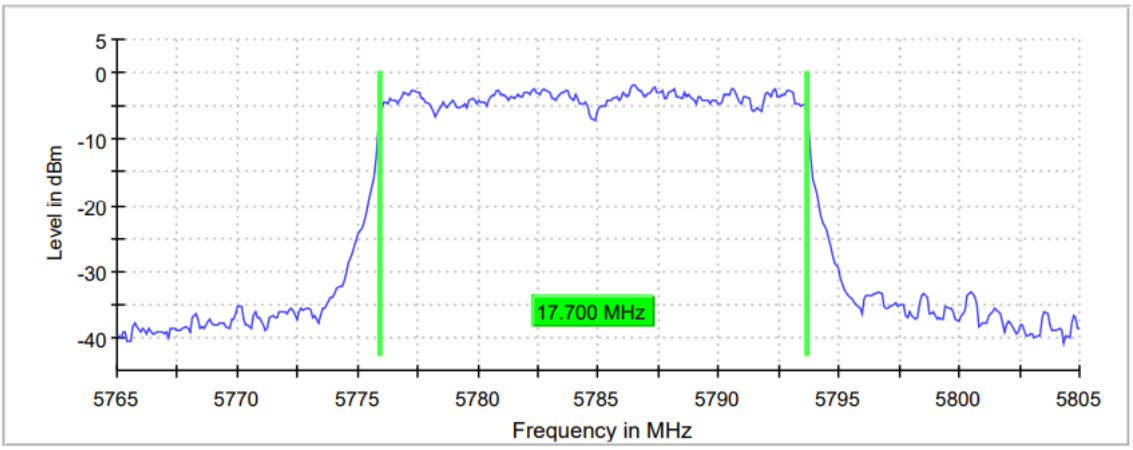
Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	5.72500 GHz	5.76500 GHz	5.80500 GHz
Stop Frequency	5.76500 GHz	5.80500 GHz	5.84500 GHz
Span	40.000 MHz	40.000 MHz	40.000 MHz
RBW	200.000 kHz	200.000 kHz	200.000 kHz
VBW	1.000 MHz	1.000 MHz	1.000 MHz
Sweep Points	400	400	400
Sweep time	28.477 µs	28.477 µs	28.477 µs
Reference Level	10.000 dBm	0.000 dBm	0.000 dBm
Attenuation	30.000 dB	20.000 dB	20.000 dB
Detector	Max Peak	Max Peak	Max Peak
Sweep Count	200	200	200
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.30 dB	0.30 dB	0.30 dB
Run	76 / max. 150	54 / max. 150	86 / max. 150
Stable	5 / 5	5 / 5	5 / 5
Max Stable Difference	0.00 dB	0.00 dB	0.00 dB

TEST RESULTS (Cont.):	OCCUPIED BANDWIDTH

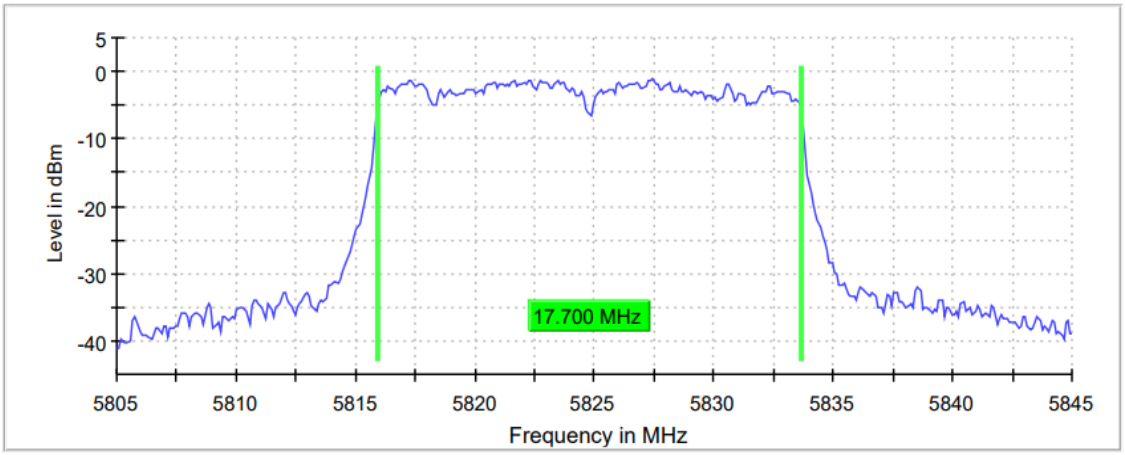
Lowest Channel



Middle Channel



Highest Channel



TEST RESULTS (Cont.)

Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	5.72500 GHz	5.76500 GHz	5.80500 GHz
Stop Frequency	5.76500 GHz	5.80500 GHz	5.84500 GHz
Span	40.000 MHz	40.000 MHz	40.000 MHz
RBW	200.000 kHz	200.000 kHz	200.000 kHz
VBW	1.000 MHz	1.000 MHz	1.000 MHz
Sweep Points	400	400	400
Sweep time	28.477 µs	28.477 µs	28.477 µs
Reference Level	0.000 dBm	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB	20.000 dB
Detector	Max Peak	Max Peak	Max Peak
Sweep Count	200	200	200
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.30 dB	0.30 dB	0.30 dB
Run	89 / max. 150	55/ max. 150	92 / max. 150
Stable	5 / 5	5 / 5	5 / 5
Max Stable Difference	0.02 dB	0.17 dB	0.25 dB

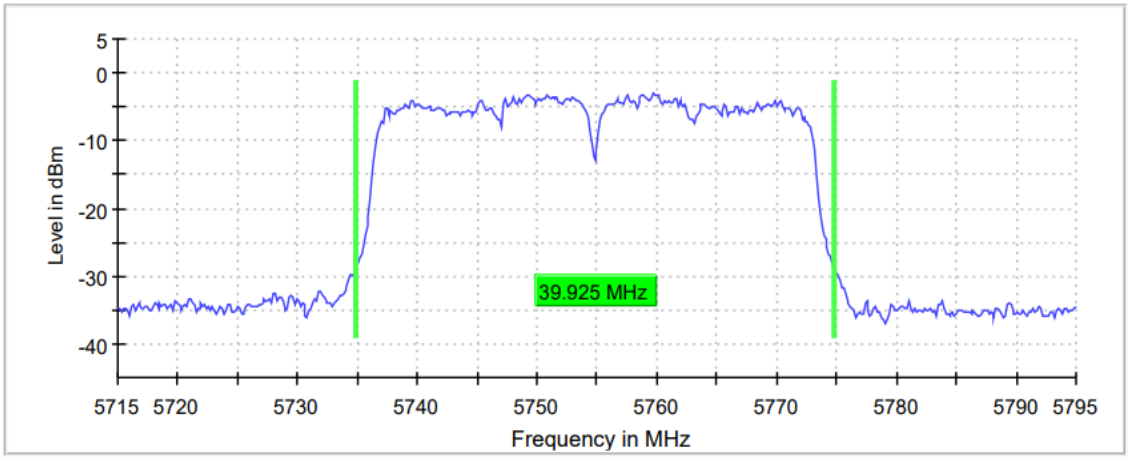
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (n mode)
TEST RESULTS:	PASS

Bandwidth: 40 MHz

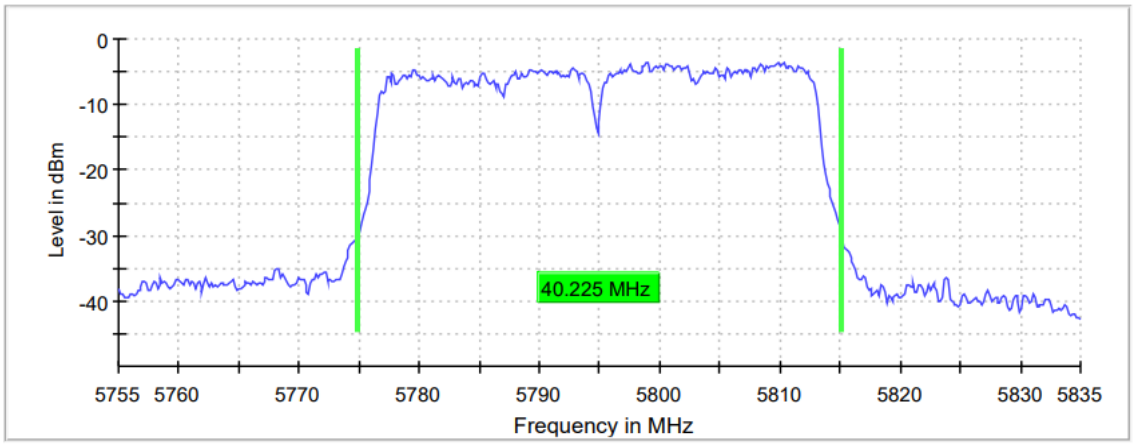
	Lowest frequency 5745 MHz	Highest frequency 5795 MHz
26dB bandwidth (MHz)	39.925	40.225
Occupied bandwidth (MHz)	36.250	36.500

26 dB Bandwidth

Lowest Channel



Highest Channel



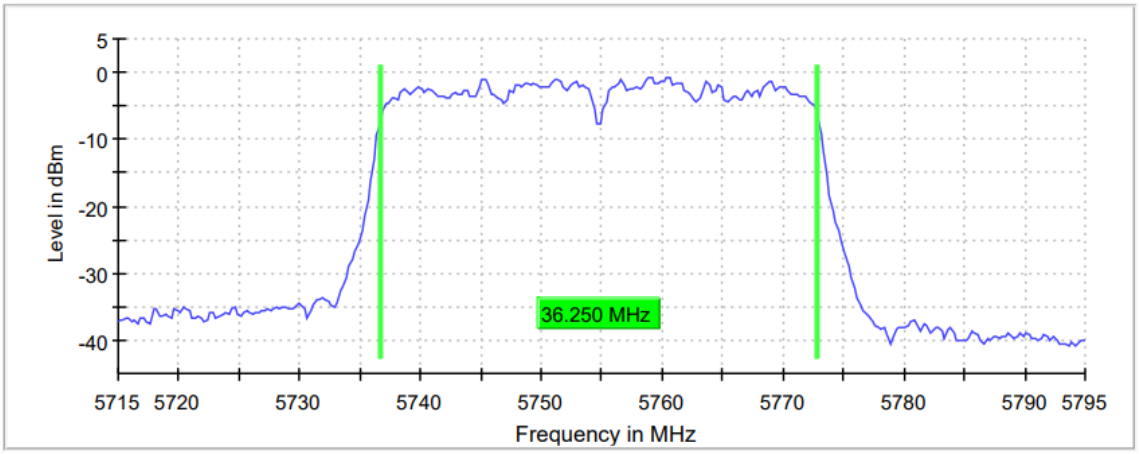
TEST RESULTS (Cont.)	

Measurement

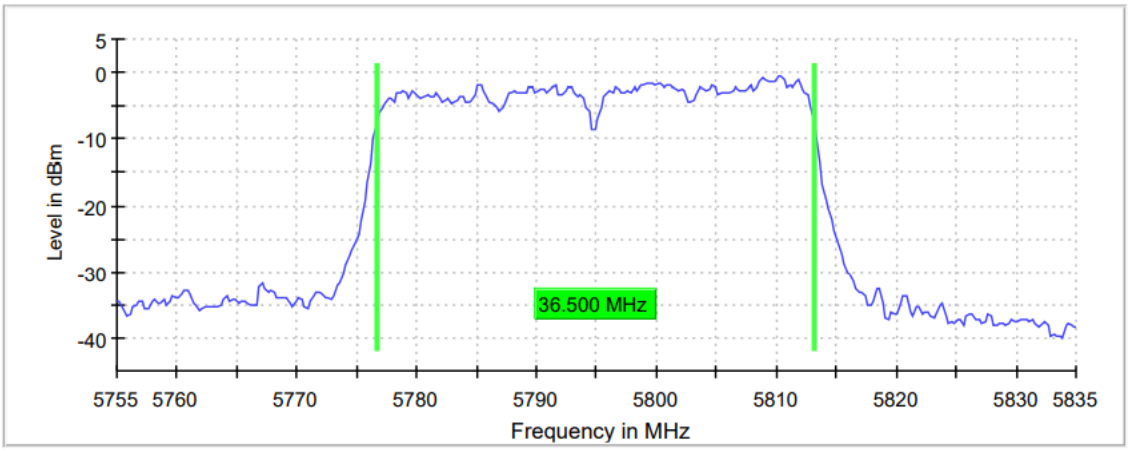
Setting	Instrument Value	Instrument Value
Start Frequency	5.75500 GHz	5.75500 GHz
Stop Frequency	5.83500 GHz	5.83500 GHz
Span	80.000 MHz	80.000 MHz
RBW	300.000 kHz	300.000 kHz
VBW	1.000 MHz	1.000 MHz
Sweep Points	533	533
Sweep time	31.621 µs	31.621 µs
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB
Detector	Max Peak	Max Peak
Sweep Count	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	FFT
Preamp	off	off
Stable mode	Trace	Trace
Stable value	0.30 dB	0.30 dB
Run	105 / max. 150	105 / max. 150
Stable	5 / 5	5 / 5
Max Stable Difference	0.00 dB	0.00 dB

TEST RESULTS (Cont.):	OCCUPIED BANDWIDTH

Lowest Channel



Highest Channel



TEST RESULTS (Cont.)	

Measurement

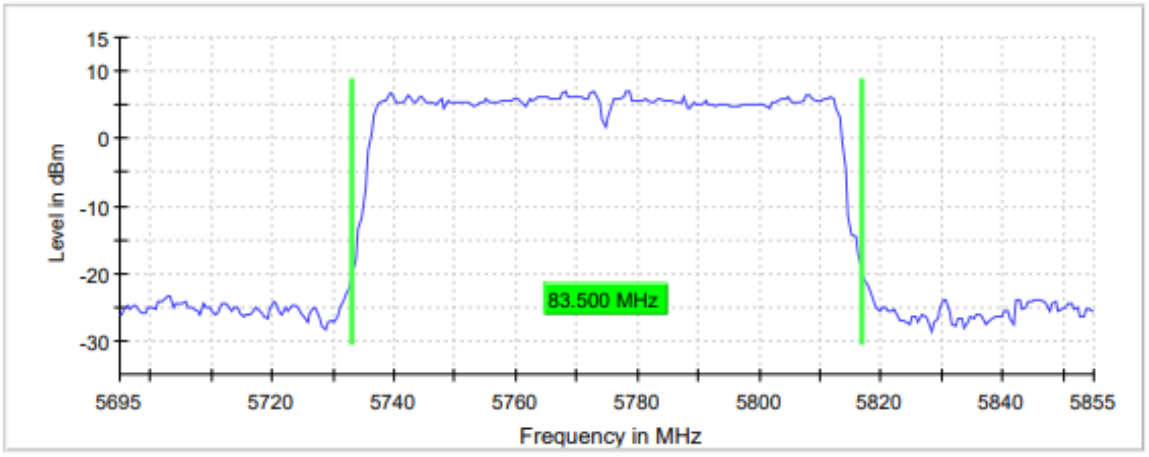
Setting	Instrument Value	Instrument Value
Start Frequency	5.75500 GHz	5.75500 GHz
Stop Frequency	5.83500 GHz	5.83500 GHz
Span	80.000 MHz	80.000 MHz
RBW	500.000 kHz	500.000 kHz
VBW	2.000 MHz	2.000 MHz
Sweep Points	320	320
Sweep time	18.906 µs	18.906 µs
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB
Detector	Max Peak	Max Peak
Sweep Count	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	FFT
Preamp	Off	off
Stable mode	Trace	Trace
Stable value	0.30 dB	0.30 dB
Run	107 / max. 150	107 / max. 150
Stable	5 / 5	5 / 5
Max Stable Difference	0.00 dB	0.00 dB

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03 (ac Mode)
TEST RESULTS:	PASS

Bandwidth: 80 MHz

	Frequency 5775 MHz
26dB bandwidth (MHz)	83.500
Occupied bandwidth (MHz)	76.500

26 dB Bandwidth



TEST RESULTS (Cont.):	OCCUPIED BANDWIDTH

Measurement

Setting	Instrument Value
Start Frequency	5.69500 GHz
Stop Frequency	5.85500 GHz
Span	160.000 MHz
RBW	1.000 MHz
VBW	3.000 MHz
Sweep Points	320
Sweep time	22.875 µs
Reference Level	10.000 dBm
Attenuation	30.000 dB
Detector	Max Peak
Sweep Count	200
Filter	3 dB
Trace Mode	Max Hold
Sweep type	FFT
Preamp	Off
Stable mode	Trace
Stable value	0.30 dB
Run	33 / max. 150
Stable	5 / 5
Max Stable Difference	0.22 dB

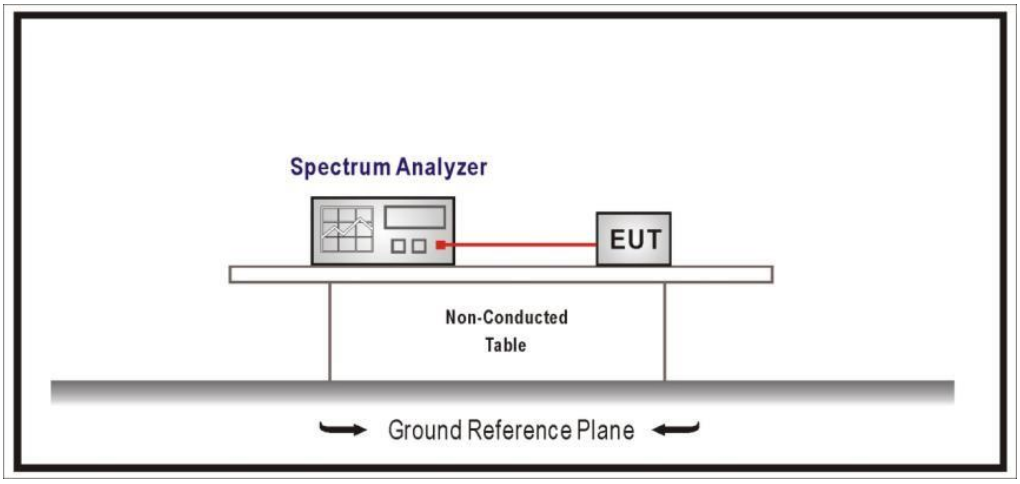
SECTION B.2: 6DB EMISSION BANDWIDTH

LIMITS:	Product standard:	Part 15 Subpart E §15.407 and RSS-247
	Test standard:	Part 15 Subpart E §15.407(e) and RSS-247 6.2.4.1

LIMITS:

Within the 5.725 – 5.85 GHz band, the minimum 6dB bandwidth of U-NII devices shall be at least 500 KHz.

TEST SETUP:	



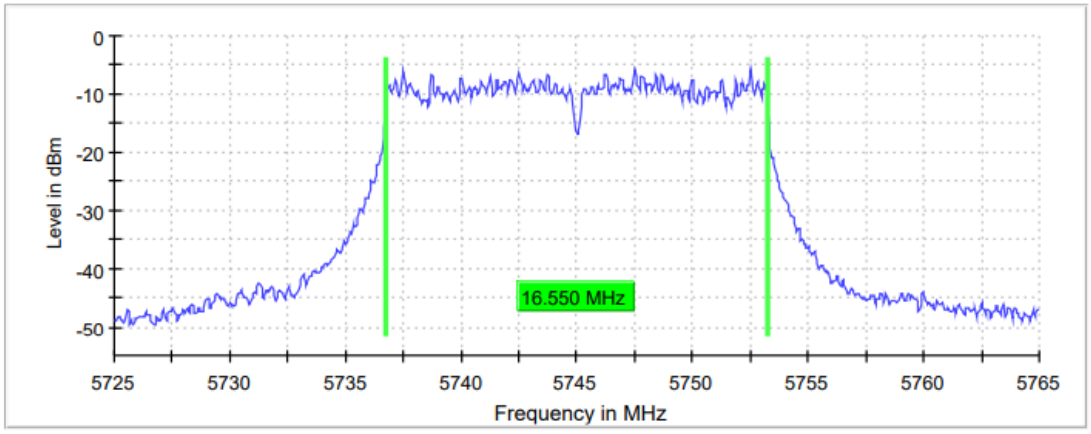
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (a mode)
TEST RESULTS:	PASS

Bandwidth: 20 MHz

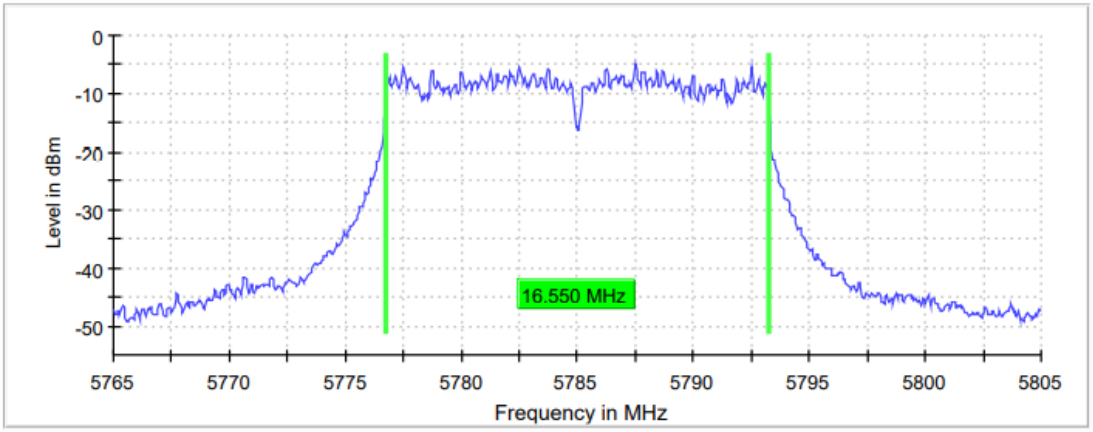
	Lowest frequency 5745 MHz	Middle frequency 5785 MHz	Highest frequency 5825 MHz
6dB Bandwidth (MHz)	16.550	16.550	16.550

TEST RESULTS (Cont.):	6 dB BANDWIDTH

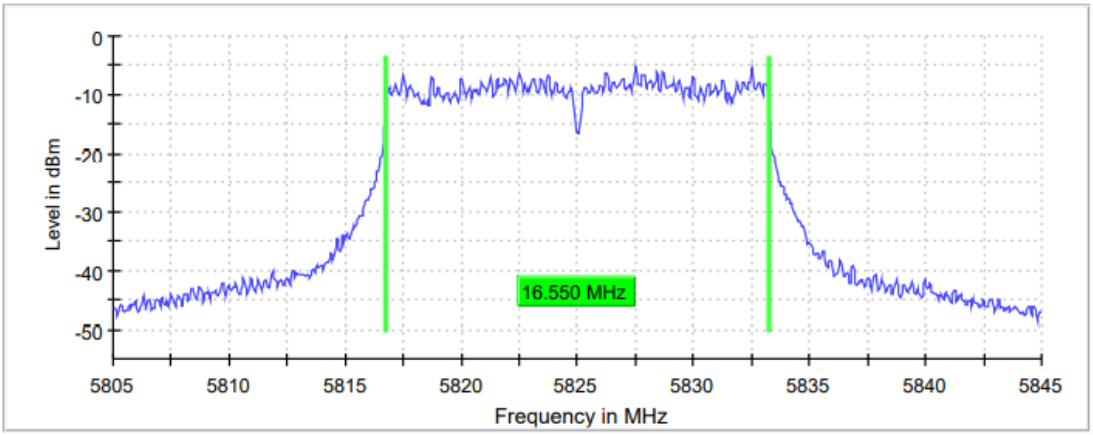
Lowest Channel



Middle Channel



Highest Channel



TEST RESULTS (Cont.)	

Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	5.72500 GHz	5.76500 GHz	5.80500 GHz
Stop Frequency	5.76500 GHz	5.80500 GHz	5.84500 GHz
Span	40.000 MHz	40.000 MHz	40.000 MHz
RBW	100.000 kHz	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz	300.000 kHz
Sweep Points	800	800	800
Sweep time	56.836 µs	56.836 µs	56.836 µs
Reference Level	0.000 dBm	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB	20.000 dB
Detector	Max Peak	Max Peak	Max Peak
Sweep Count	200	200	200
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.30 dB	0.30 dB	0.30 dB
Run	49 / max. 150	52 / max. 150	67 / max. 150
Stable	5 / 5	5 / 5	5 / 5
Max Stable Difference	0.16 dB	0.00 dB	0.21 dB

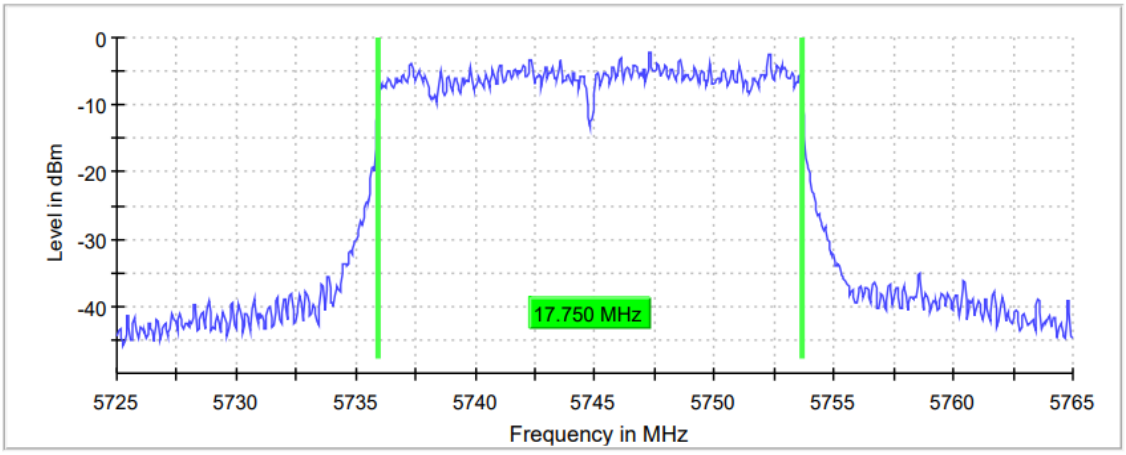
TESTED SAMPLES:	**S/01**
TESTED CONDITIONS MODES:	**TC#02 (n mode)**
TEST RESULTS:	**PASS**

Bandwidth: 20 MHz

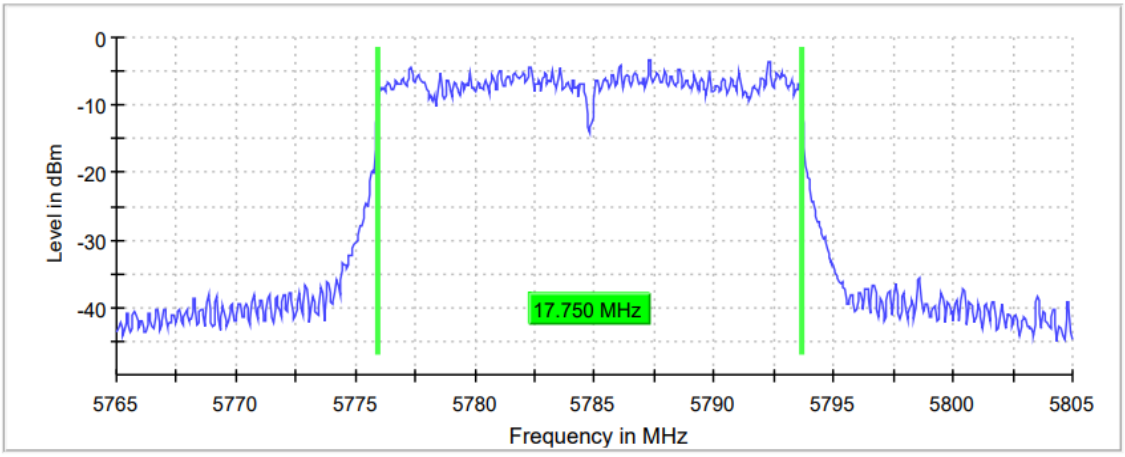
	Lowest frequency 5745 MHz	Middle frequency 5785 MHz	Highest frequency 5825 MHz
6dB Bandwidth (MHz)	17.750	17.750	17.750

TEST RESULTS (Cont.):	**6 dB BANDWIDTH**

Lowest Channel

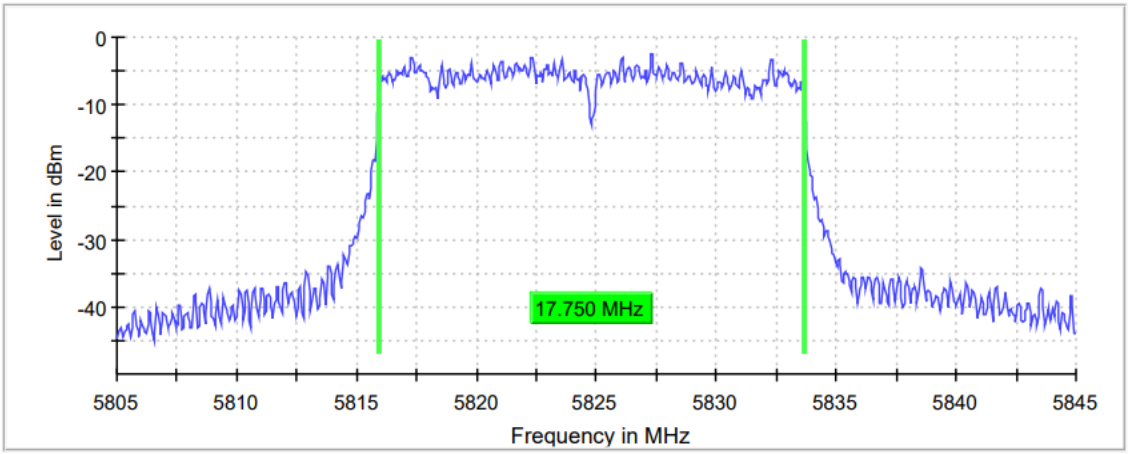


Middle Channel



TEST RESULTS (Cont.)	

Highest Channel



Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	5.72500 GHz	5.76500 GHz	5.80500 GHz
Stop Frequency	5.76500 GHz	5.80500 GHz	5.84500 GHz
Span	40.000 MHz	40.000 MHz	40.000 MHz
RBW	100.000 kHz	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz	300.000 kHz
Sweep Points	800	800	800
Sweep time	56.836 µs	56.836 µs	56.836 µs
Reference Level	0.000 dBm	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB	20.000 dB
Detector	Max Peak	Max Peak	Max Peak
Sweep Count	200	200	200
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.30 dB	0.30 dB	0.30 dB
Run	63 / max. 150	91 / max. 150	75 / max. 150
Stable	5 / 5	5 / 5	5 / 5
Max Stable Difference	0.00 dB	0.02 dB	0.26 dB

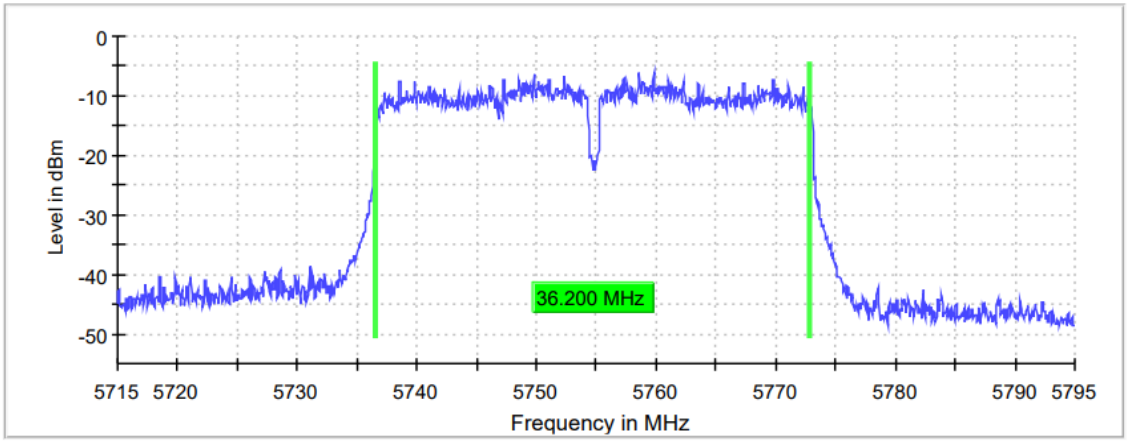
TESTED SAMPLES:	**S/01**
TESTED CONDITIONS MODES:	**TC#02 (n mode)**
TEST RESULTS:	**PASS**

Bandwidth: 40 MHz

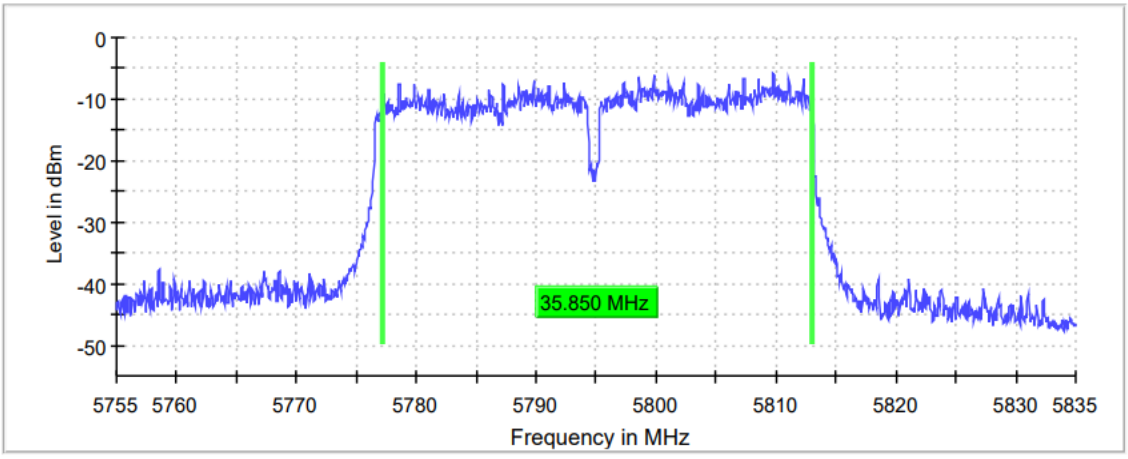
	Lowest frequency 5755 MHz	Highest frequency 5795 MHz
6dB Bandwidth (MHz)	36.200	35.850

TEST RESULTS (Cont.):	**6 dB BANDWIDTH**

Lowest Channel



Highest Channel



TEST RESULTS (Cont.)	

Measurement

Setting	Instrument Value	Instrument Value
Start Frequency	5.71500 GHz	5.75500 GHz
Stop Frequency	5.79500GHz	5.83500GHz
Span	80.000 MHz	80.000 MHz
RBW	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz
Sweep Points	1600	1600
Sweep time	94.727 µs	94.727 µs
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB
Detector	Max Peak	Max Peak
Sweep Count	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	FFT
Preamp	off	off
Stable mode	Trace	Trace
Stable value	0.30 dB	0.30 dB
Run	88 / max. 150	114 / max. 150
Stable	5 / 5	5 / 5
Max Stable Difference	0.22 dB	0.00 dB

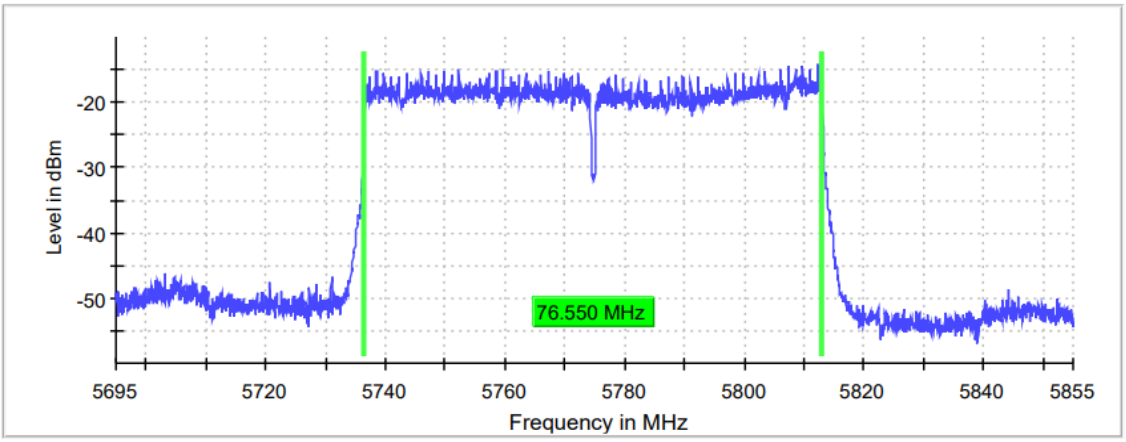
TESTED SAMPLES:	**S/01**
TESTED CONDITIONS MODES:	**TC#03 (ac mode)**
TEST RESULTS:	**PASS**

Bandwidth: 80 MHz

	Frequency 5775 MHz
6dB Bandwidth (MHz)	76.550

TEST RESULTS (Cont.):	**6 dB BANDWIDTH**

Channel



TEST RESULTS (Cont.)	

Measurement

Setting	Instrument Value
Start Frequency	5.69500 GHz
Stop Frequency	5.85500 GHz
Span	160.000 MHz
RBW	100.000 kHz
VBW	300.000 kHz
Sweep Points	3200
Sweep time	189.453 µs
Reference Level	-10.000 dBm
Attenuation	10.000 dB
Detector	Max Peak
Sweep Count	200
Filter	3 dB
Trace Mode	Max Hold
Sweep type	FFT
Preamp	off
Stable mode	Trace
Stable value	0.30 dB
Run	115 / max. 150
Stable	5 / 5
Max Stable Difference	0.01 dB

SECTION B.3 POWER LIMITS. MAXIMUM OUTPUT POWER

Product standard:	Part 15 Subpart E §15.407 and RSS-247
Test standard:	Part 15 Subpart E §15.407(a) (3) (i) and RSS-247 6.2.4.1

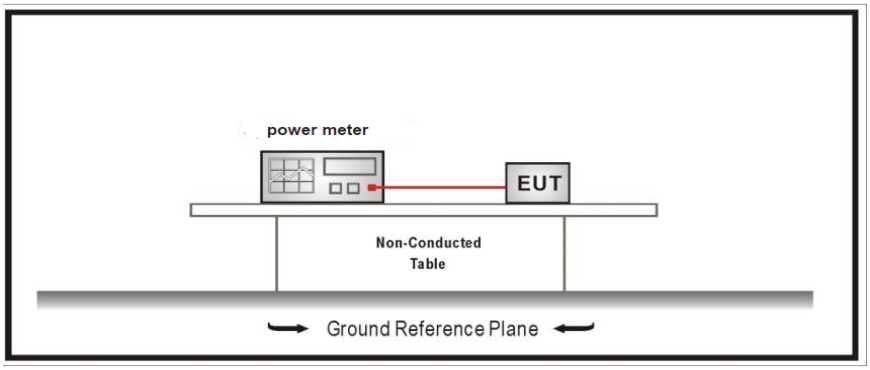
LIMITS

In band 5.725-5.850 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.

TEST SETUP	

Measured according to ANSI C63.10, Section 11.9.2.3.2 Method AVGPM-G

The EIRP power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power.



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (a mode)
TEST RESULTS:	PASS

Bandwidth: 20 MHz

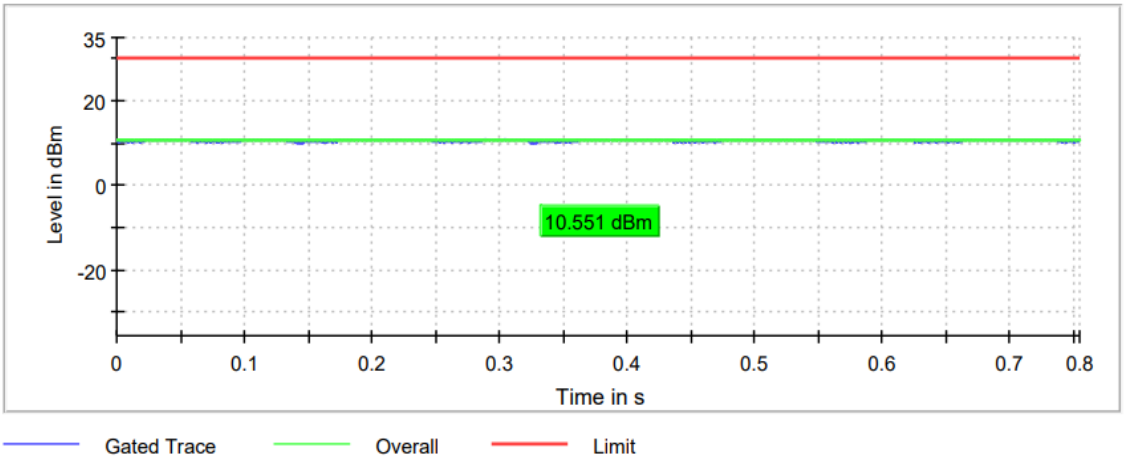
Maximum declared antenna gain: 3.5 dBi

	Lowest frequency 5745 MHz	Middle frequency 5785 MHz	Highest frequency 5825 MHz
Maximum conducted power (dBm)	10.551	9.335	9.839
Maximum EIRP power (dBm)	14.051	12.835	13.339

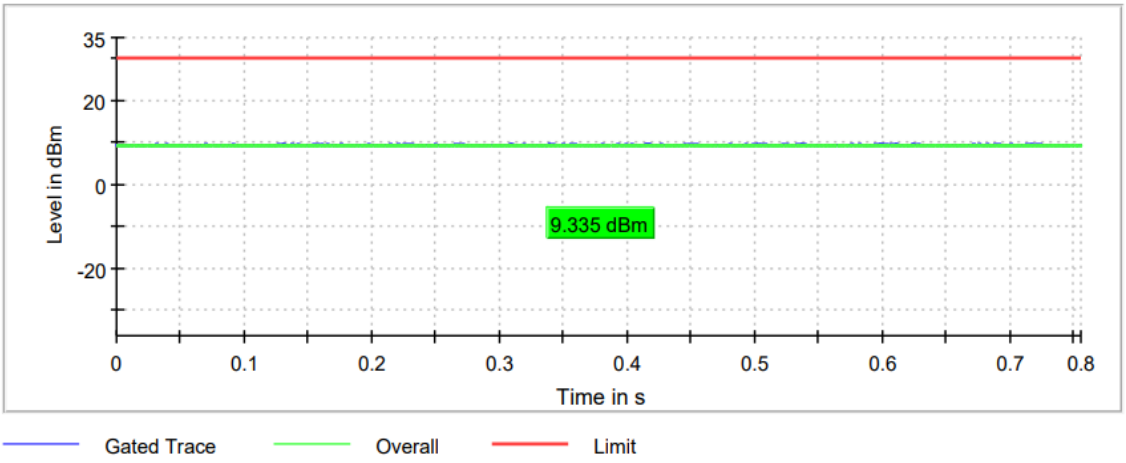
The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

TEST RESULTS (Cont.):	CONDUCTED OUTPUT POWER

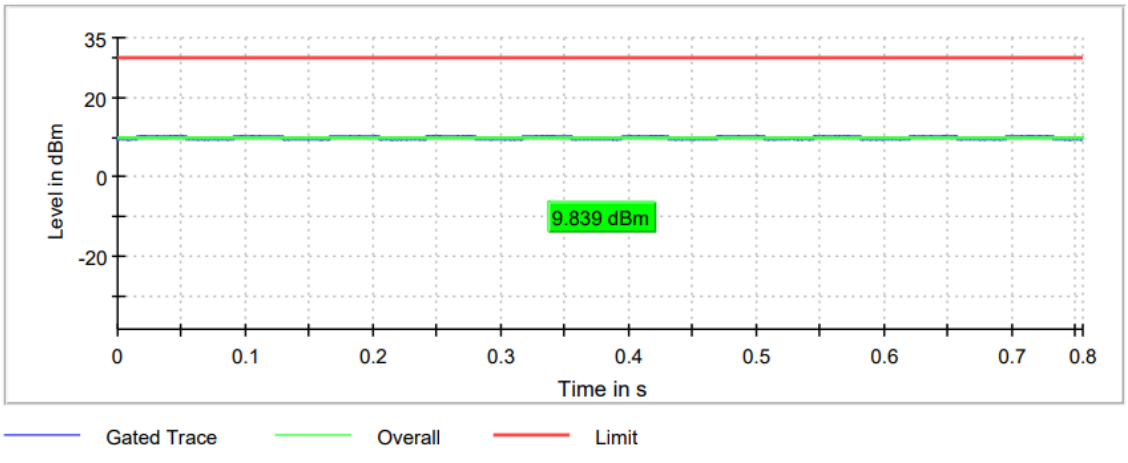
Lowest Channel



Middle Channel



Highest Channel



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (n mode)
TEST RESULTS:	PASS

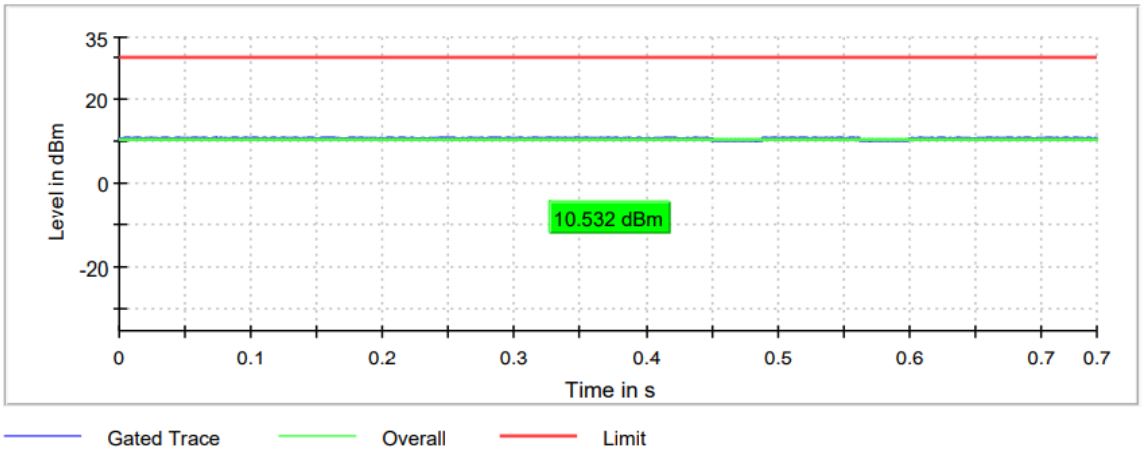
Bandwidth: 20 MHz

Maximum declared antenna gain: 3.5 dBi

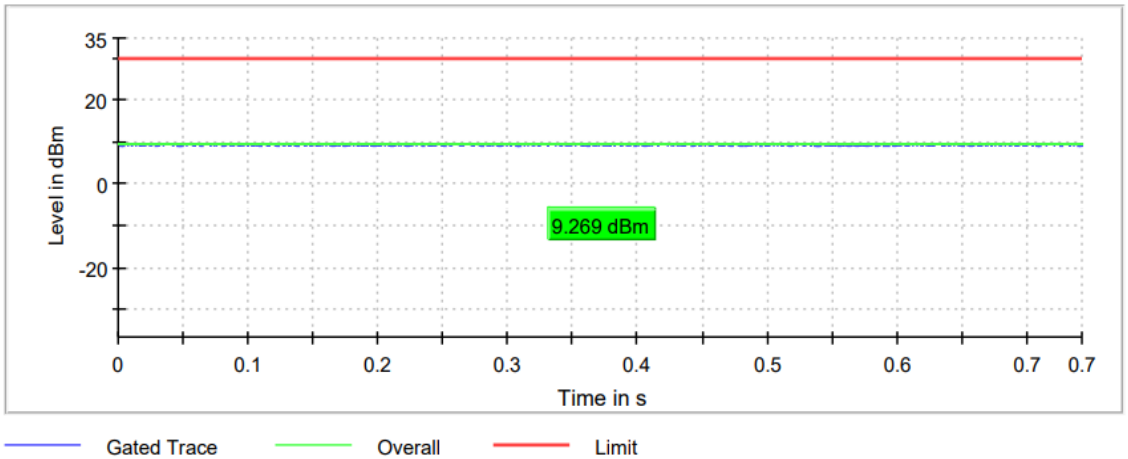
	Lowest frequency 5745 MHz	Middle frequency 5785 MHz	Highest frequency 5825 MHz
Maximum conducted power (dBm)	10.532	9.269	9.883
Maximum EIRP power (dBm)	14.032	12.769	13.383

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

Lowest Channel

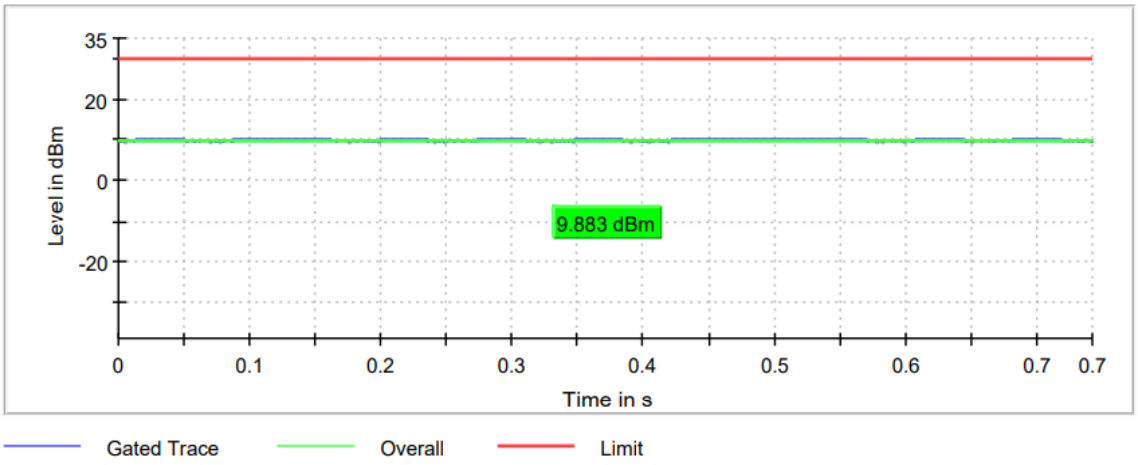


Middle Channel



TEST RESULTS (Cont.):	CONDUCTED OUTPUT POWER

Highest Channel



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (n mode)
TEST RESULTS:	PASS

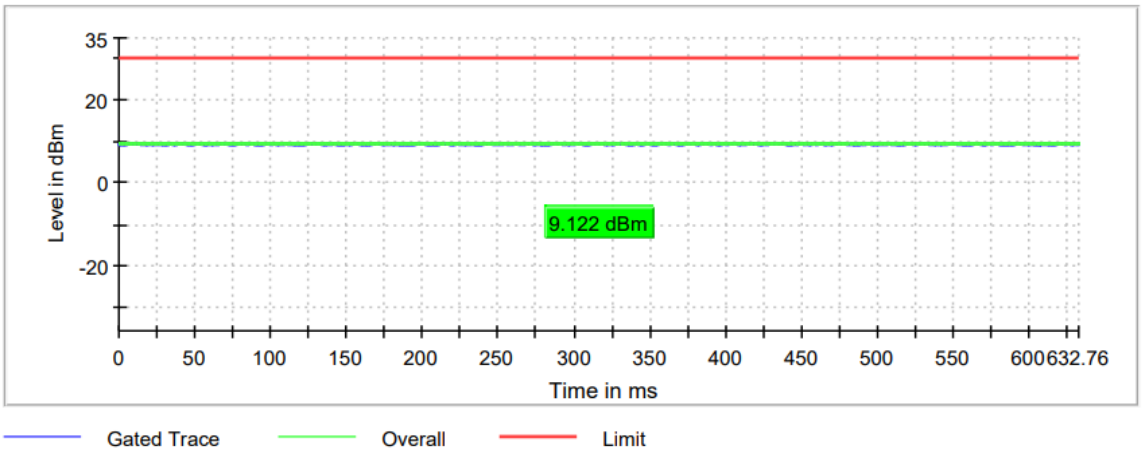
Bandwidth: 40 MHz

Maximum declared antenna gain: 3.5 dBi

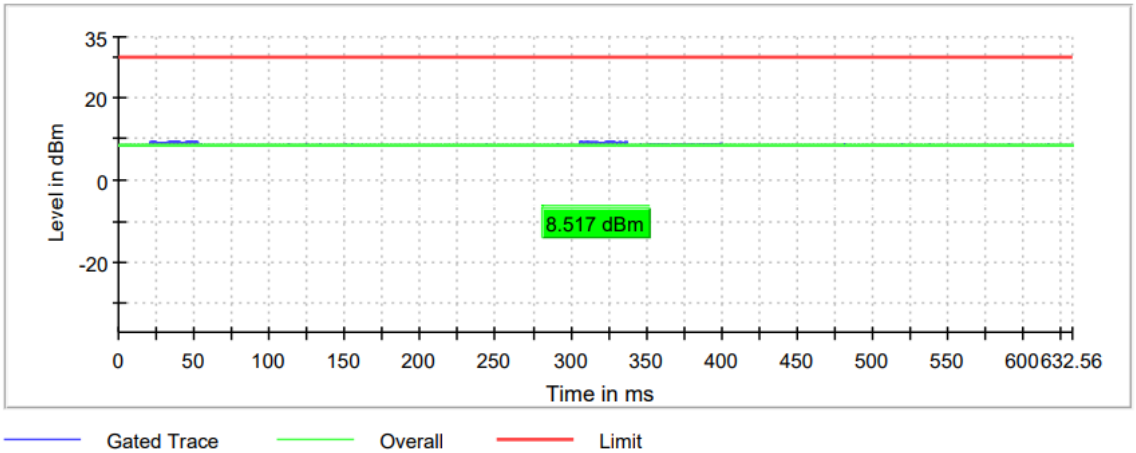
	Lowest frequency 5755 MHz	Highest frequency 5795 MHz
Maximum conducted power (dBm)	9.122	8.517
Maximum EIRP power (dBm)	12.622	12.017

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

Lowest Channel



Highest Channel



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03 (ac mode)
TEST RESULTS:	PASS

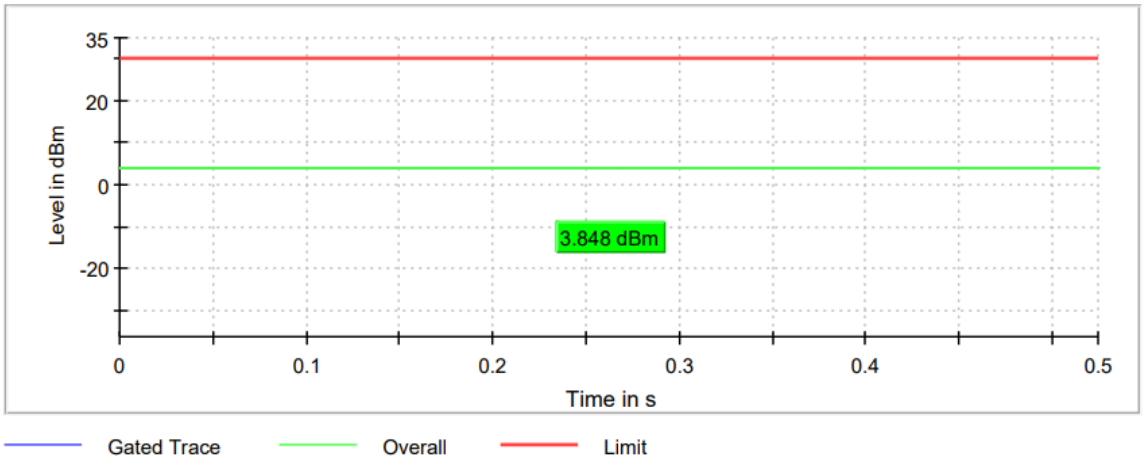
Bandwidth: 80 MHz

Maximum declared antenna gain: 3.5 dBi

	Lowest frequency 5775 MHz
Maximum conducted power (dBm)	3.848
Maximum EIRP power (dBm)	7.348

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

Lowest Channel



SECTION B.4: POWER SPECTRAL DENSITY

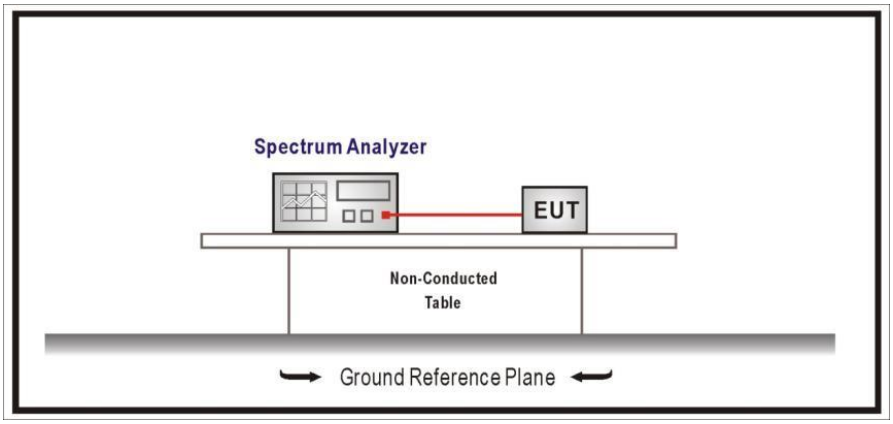
LIMITS:	Product standard:	Part 15 Subpart E §15.407 and RSS-247
	Test standard:	Part 15 Subpart E §15.407(a) (3) (i) and RSS-247 6.2.4.1

LIMITS

In band 5.725-5.850 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.

TEST SETUP

For all modes, the maximum power spectral density level in the fundamental emission was measured using the method according to point F) (Method SA-1) of Guidance 789033 D02 General UNII Test Procedures New Rules v01.

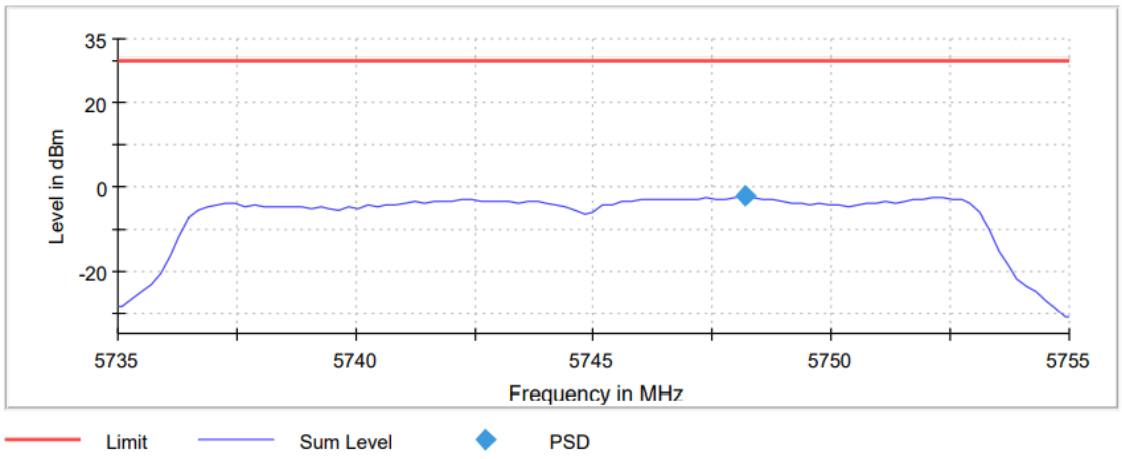


TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (a mode)
TEST RESULTS:	PASS

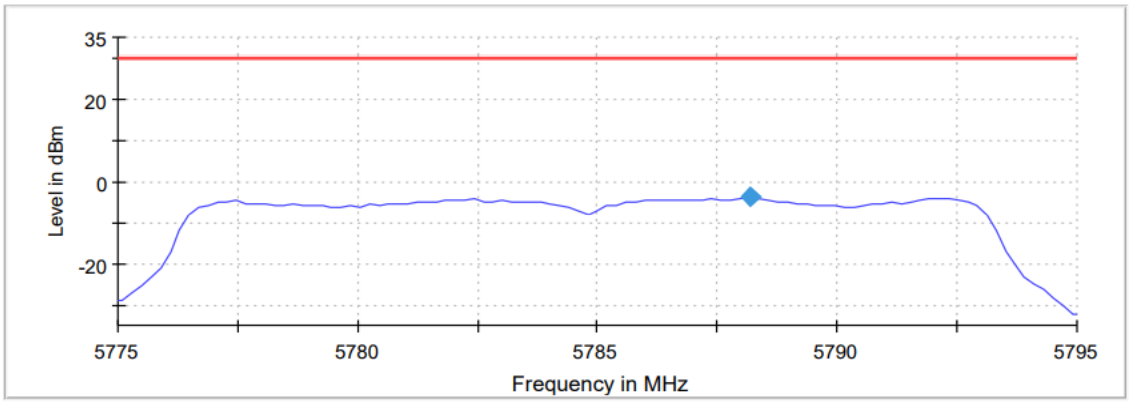
Bandwidth: 20 MHz

	Lowest frequency 5745 MHz	Middle frequency 5785 MHz	Highest frequency 5825 MHz
Power spectral density (dBm)	-2.165	-3.527	-2.777

Lowest Channel

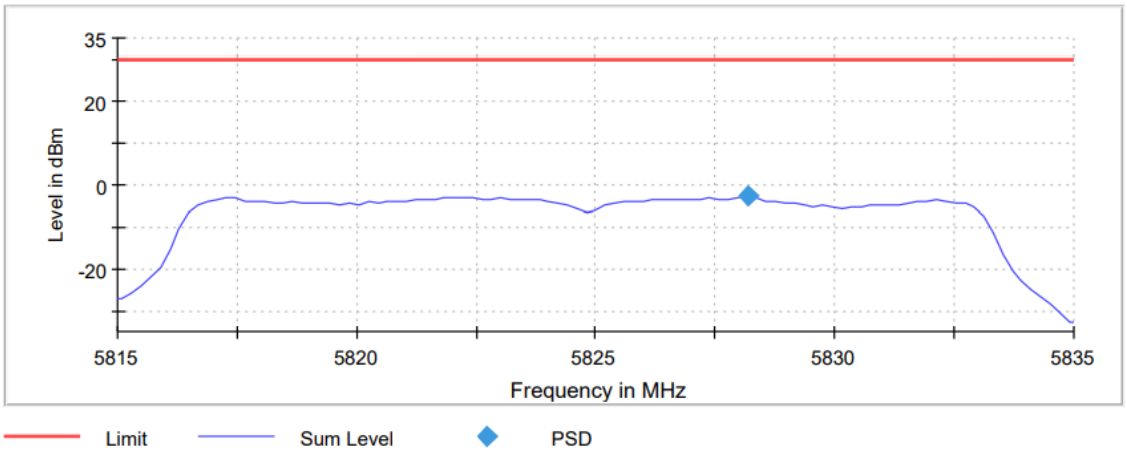


Middle Channel



TEST RESULTS (Cont.)	

Highest Channel



Measurement

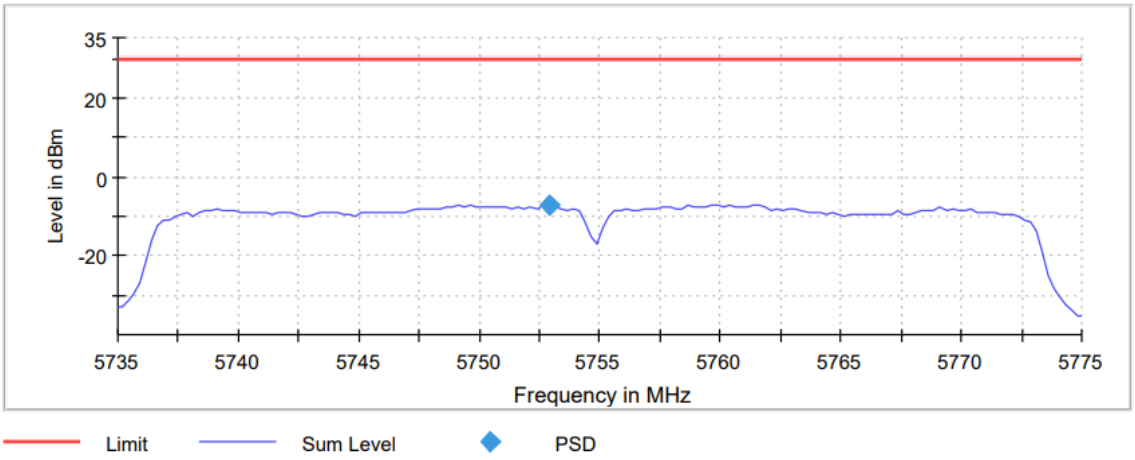
Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	5.81500 GHz	5.77500 GHz	5.81500 GHz
Stop Frequency	5.83500 GHz	5.79500 GHz	5.83500 GHz
Span	20.000 MHz	20.000 MHz	20.000 MHz
RBW	500.000 kHz	500.000 kHz	500.000 kHz
VBW	2.000 MHz	2.000 MHz	2.000 MHz
Sweep Points	101	101	101
Sweep time	11.000 µs	2.020 µs	2.020 µs
Reference Level	0.000 dBm	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB	20.000 dB
Detector	RMS	RMS	RMS
Sweep Count	29703	29703	29703
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	Sweep	Sweep	Sweep
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.50 dB	0.50 dB	0.50 dB
Run	2 / max. 15	2 / max. 15	2 / max. 15
Stable	1 / 1	1 / 1	1 / 1
Max Stable Difference	0.00 dB	0.15 dB	0.20 dB

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (n Mode)
TEST RESULTS:	PASS

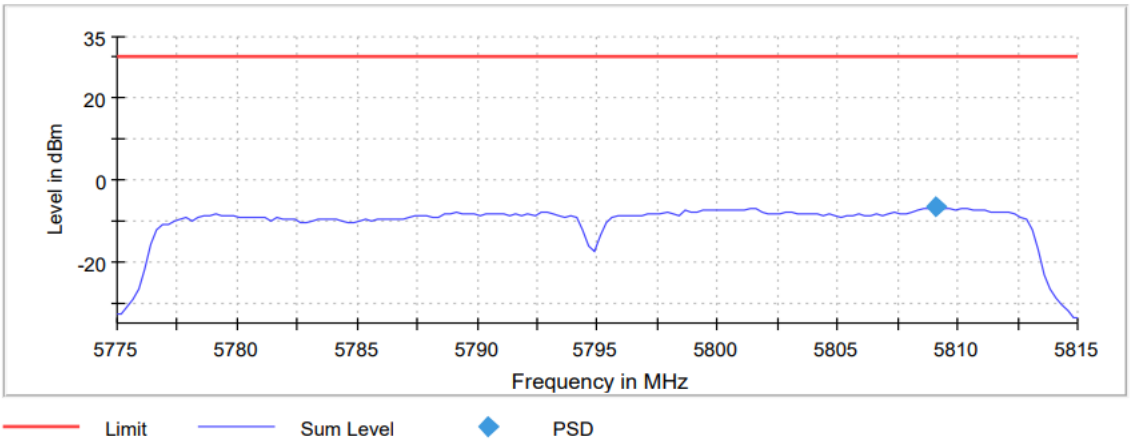
Bandwidth: 40 MHz

	Lowest frequency 5755 MHz	Highest frequency 5795 MHz
Power spectral density (dBm)	-7.276	-6.549

Lowest Channel



Highest Channel



TEST RESULTS (Cont.)	

Measurement

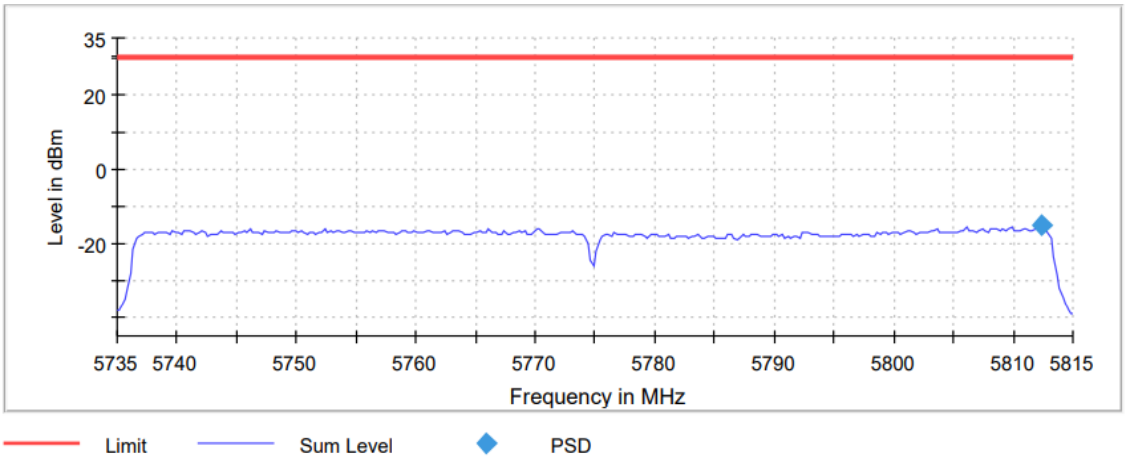
Setting	Instrument Value	Instrument Value
Start Frequency	5.73500 GHz	5.77500 GHz
Stop Frequency	5.77500 GHz	5.81500 GHz
Span	40.000 MHz	40.000 MHz
RBW	500.000 kHz	500.000 kHz
VBW	2.000 MHz	2.000 MHz
Sweep Points	160	160
Sweep time	3.200 µs	3.200 µs
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB
Detector	RMS	RMS
Sweep Count	18751	18751
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	Sweep	Sweep
Preamp	off	off
Stable mode	Trace	Trace
Stable value	0.30 dB	0.30 dB
Run	5 / max. 15	11 / max. 15
Stable	3 / 3	3 / 3
Max Stable Difference	0.10 dB	0.15 dB

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03 (ac Mode)
TEST RESULTS:	PASS

Bandwidth: 80 MHz

	Lowest frequency 5775 MHz
Power spectral density (dBm)	-15.191

Lowest Channel



Measurement

Setting	Instrument Value
Start Frequency	5.73500 GHz
Stop Frequency	5.81500 GHz
Span	80.000 MHz
RBW	500.000 kHz
VBW	2.000 MHz
Sweep Points	320
Sweep time	6.400 µs
Reference Level	-10.000 dBm
Attenuation	10.000 dB
Detector	RMS
Sweep Count	9376
Filter	3 dB
Trace Mode	Max Hold
Sweep type	Sweep
Preamp	off
Stable mode	Trace
Stable value	0.30 dB
Run	6 / max. 15
Stable	3 / 3
Max Stable Difference	0.18 dB

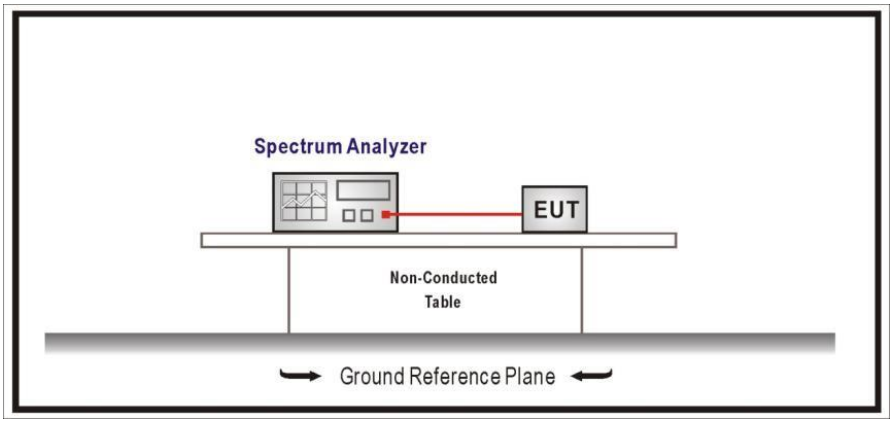
SECTION B.5: BAND-EDGE EMISSIONS COMPLIANCE (TRANSMITTER)

LIMITS:	Product standard:	Part 15 Subpart C §15.407 and RSS-247
	Test standard:	Part 15 Subpart C §15.407(b)(4) and RSS-247 6.2.4.2

LIMITS

For transmitters operating in the 5.725 – 5.850 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.]

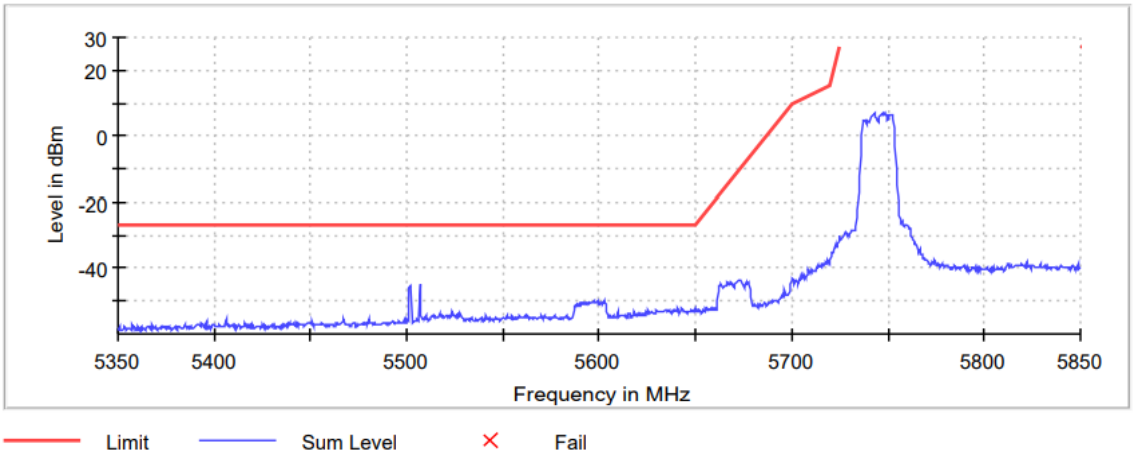
TEST SETUP	



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (a Mode)
TEST RESULTS:	PASS

Bandwidth: 20 MHz

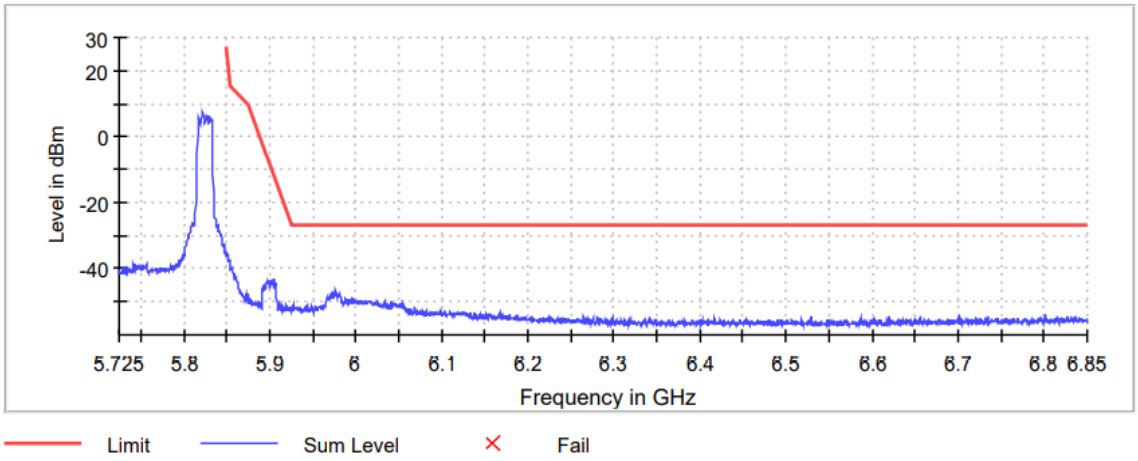
Lowest Channel



Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5506.750000	-44.6	17.6	-27.0	PASS
5502.250000	-45.3	18.3	-27.0	PASS
5501.750000	-45.3	18.3	-27.0	PASS
5501.250000	-46.0	19.0	-27.0	PASS
5599.250000	-49.7	22.7	-27.0	PASS
5597.250000	-49.9	22.9	-27.0	PASS
5602.250000	-50.1	23.1	-27.0	PASS
5594.250000	-50.2	23.2	-27.0	PASS
5602.750000	-50.3	23.3	-27.0	PASS
5598.750000	-50.3	23.3	-27.0	PASS
5596.250000	-50.3	23.3	-27.0	PASS
5601.250000	-50.3	23.3	-27.0	PASS
5591.250000	-50.3	23.3	-27.0	PASS
5593.250000	-50.4	23.4	-27.0	PASS
5597.750000	-50.4	23.4	-27.0	PASS

TEST RESULTS (Cont.)	

Highest Channel

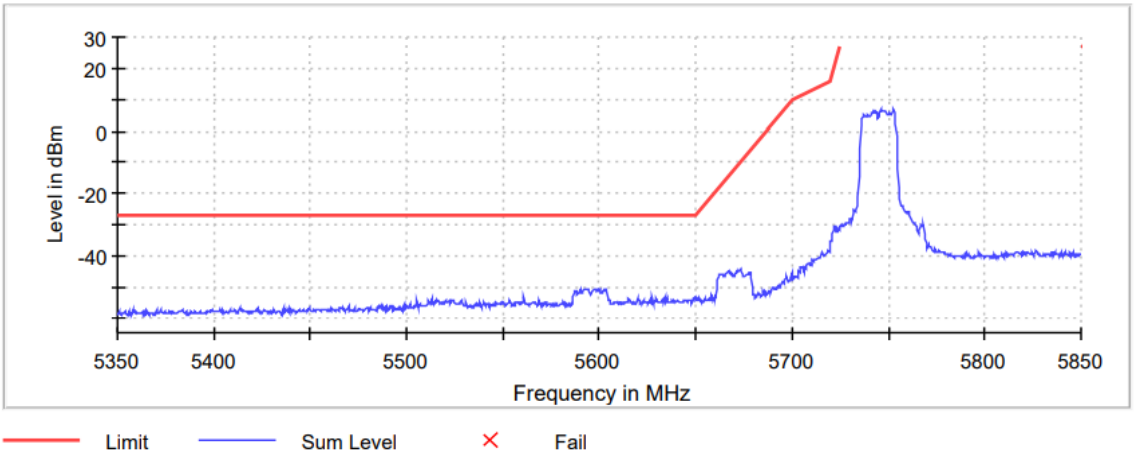


Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5977.250000	-46.4	19.4	-27.0	PASS
5973.750000	-47.1	20.1	-27.0	PASS
5970.750000	-47.6	20.6	-27.0	PASS
5979.750000	-47.6	20.6	-27.0	PASS
5981.250000	-47.6	20.6	-27.0	PASS
5976.250000	-47.7	20.7	-27.0	PASS
5980.750000	-48.0	21.0	-27.0	PASS
5974.750000	-48.0	21.0	-27.0	PASS
5981.750000	-48.0	21.0	-27.0	PASS
5977.750000	-48.0	21.0	-27.0	PASS
5975.750000	-48.1	21.1	-27.0	PASS
5980.250000	-48.2	21.2	-27.0	PASS
5978.750000	-48.3	21.3	-27.0	PASS
5976.750000	-48.3	21.3	-27.0	PASS
5975.250000	-48.3	21.3	-27.0	PASS

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (n Mode)
TEST RESULTS:	PASS

Bandwidth: 20 MHz

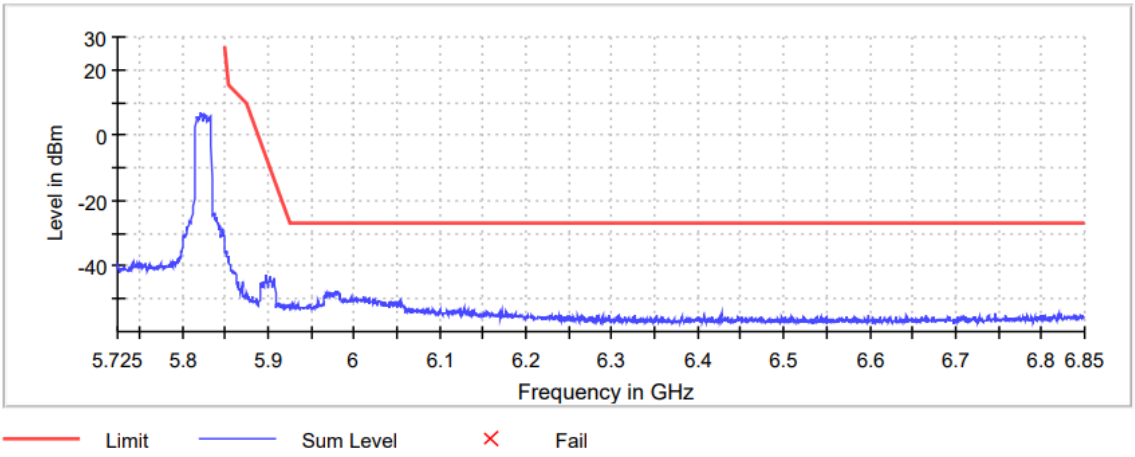
Lowest Channel



Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5598.250000	-50.6	23.6	-27.0	PASS
5593.750000	-50.7	23.7	-27.0	PASS
5597.750000	-50.7	23.7	-27.0	PASS
5599.250000	-50.8	23.8	-27.0	PASS
5602.750000	-50.8	23.8	-27.0	PASS
5603.250000	-50.8	23.8	-27.0	PASS
5593.250000	-50.8	23.8	-27.0	PASS
5597.250000	-50.8	23.8	-27.0	PASS
5592.250000	-50.9	23.9	-27.0	PASS
5600.250000	-51.0	24.0	-27.0	PASS
5592.750000	-51.0	24.0	-27.0	PASS
5594.250000	-51.0	24.0	-27.0	PASS
5589.750000	-51.0	24.0	-27.0	PASS
5587.750000	-51.1	24.1	-27.0	PASS
5601.750000	-51.1	24.1	-27.0	PASS

TEST RESULTS (Cont.)	

Highest Channel

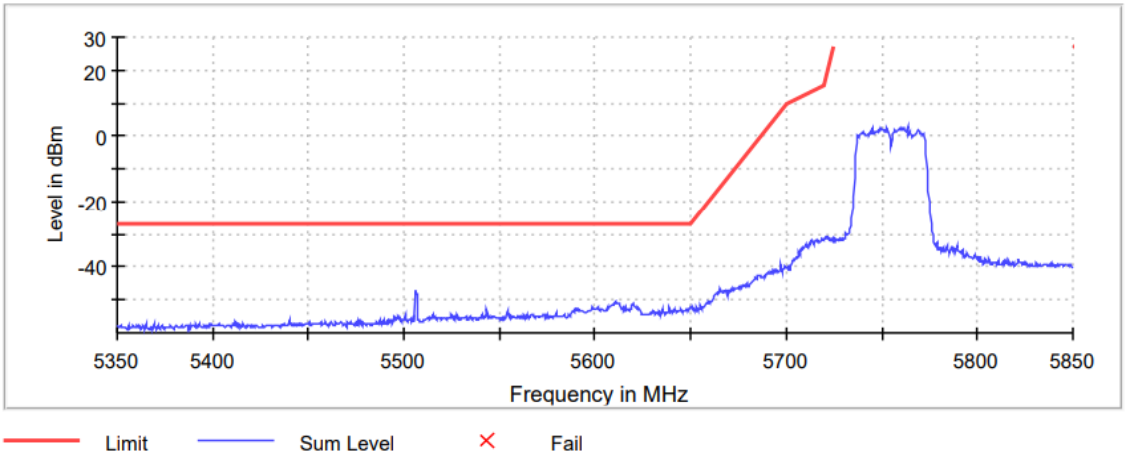


Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5980.750000	-47.7	20.7	-27.0	PASS
5978.750000	-47.8	20.8	-27.0	PASS
5977.250000	-48.0	21.0	-27.0	PASS
5979.750000	-48.0	21.0	-27.0	PASS
5967.750000	-48.0	21.0	-27.0	PASS
5971.750000	-48.2	21.2	-27.0	PASS
5977.750000	-48.2	21.2	-27.0	PASS
5975.750000	-48.2	21.2	-27.0	PASS
5982.750000	-48.2	21.2	-27.0	PASS
5972.750000	-48.2	21.2	-27.0	PASS
5981.750000	-48.3	21.3	-27.0	PASS
5970.250000	-48.3	21.3	-27.0	PASS
5976.250000	-48.3	21.3	-27.0	PASS
5978.250000	-48.4	21.4	-27.0	PASS
5973.750000	-48.4	21.4	-27.0	PASS

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (n Mode)
TEST RESULTS:	PASS

Bandwidth: 40 MHz

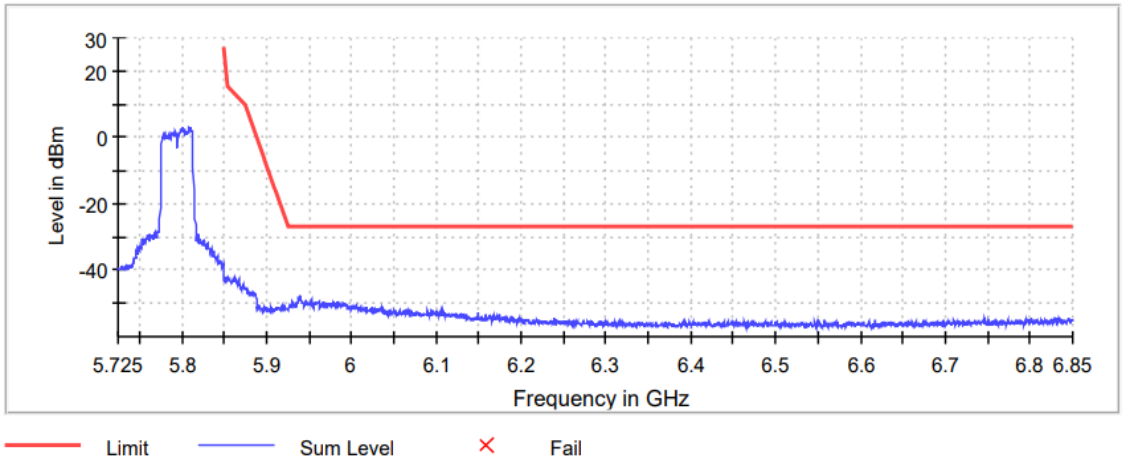
Lowest Channel



Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5505.750000	-47.2	20.2	-27.0	PASS
5506.750000	-48.4	21.4	-27.0	PASS
5506.250000	-48.4	21.4	-27.0	PASS
5610.750000	-50.5	23.5	-27.0	PASS
5611.750000	-50.8	23.8	-27.0	PASS
5619.750000	-50.9	23.9	-27.0	PASS
5609.750000	-50.9	23.9	-27.0	PASS
5610.250000	-51.0	24.0	-27.0	PASS
5611.250000	-51.0	24.0	-27.0	PASS
5612.750000	-51.1	24.1	-27.0	PASS
5612.250000	-51.2	24.2	-27.0	PASS
5609.250000	-51.5	24.5	-27.0	PASS
5620.250000	-51.6	24.6	-27.0	PASS
5608.250000	-51.6	24.6	-27.0	PASS
5619.250000	-51.7	24.7	-27.0	PASS

TEST RESULTS (Cont.)	

Highest Channel

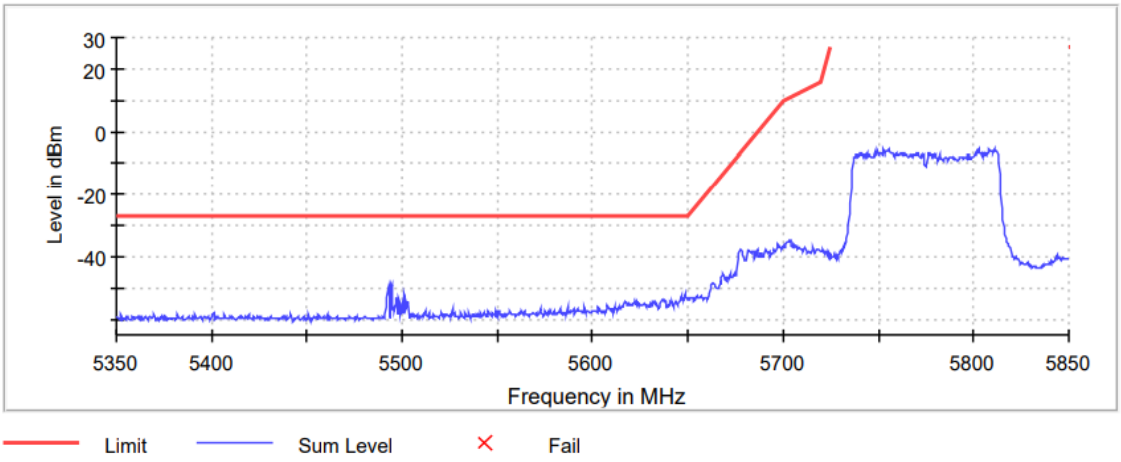


Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5939.250000	-47.4	20.4	-27.0	PASS
5938.250000	-47.9	20.9	-27.0	PASS
5938.750000	-47.9	20.9	-27.0	PASS
5937.750000	-48.2	21.2	-27.0	PASS
5937.250000	-48.5	21.5	-27.0	PASS
5940.250000	-48.9	21.9	-27.0	PASS
5952.250000	-49.0	22.0	-27.0	PASS
5939.750000	-49.0	22.0	-27.0	PASS
5941.250000	-49.2	22.2	-27.0	PASS
5936.750000	-49.3	22.3	-27.0	PASS
5940.750000	-49.3	22.3	-27.0	PASS
5983.750000	-49.3	22.3	-27.0	PASS
5931.250000	-49.5	22.5	-27.0	PASS
5947.250000	-49.5	22.5	-27.0	PASS
5961.750000	-49.5	22.5	-27.0	PASS

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03 (ac Mode)
TEST RESULTS:	PASS

Bandwidth: 80 MHz

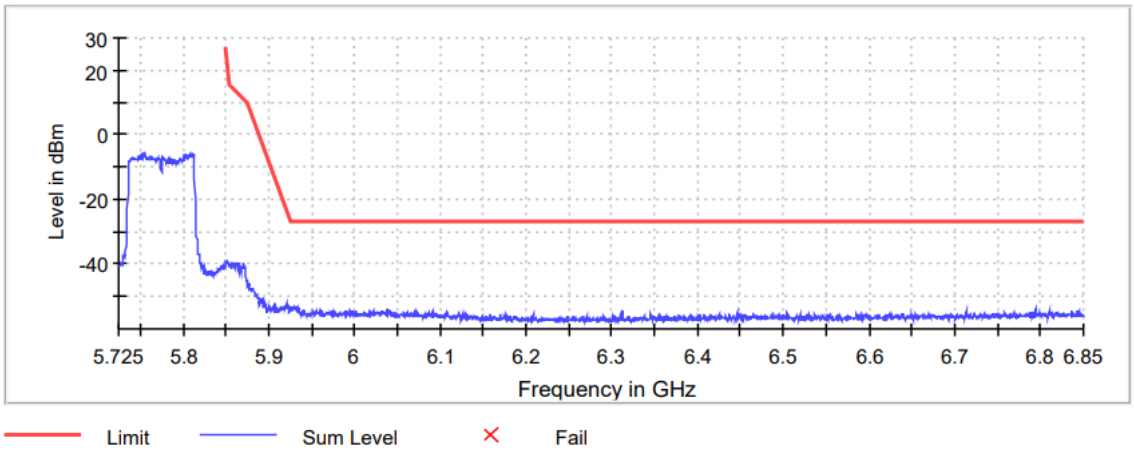
Lowest Channel



Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5493.250000	-49.1	22.1	-27.0	PASS
5494.750000	-49.2	22.2	-27.0	PASS
5492.250000	-50.2	23.2	-27.0	PASS
5494.250000	-50.7	23.7	-27.0	PASS
5492.750000	-50.8	23.8	-27.0	PASS
5648.750000	-51.8	24.8	-27.0	PASS
5501.250000	-52.0	25.0	-27.0	PASS
5646.250000	-52.8	25.8	-27.0	PASS
5491.750000	-53.0	26.0	-27.0	PASS
5649.750000	-53.1	26.1	-27.0	PASS
5498.250000	-53.1	26.1	-27.0	PASS
5649.250000	-53.1	26.1	-27.0	PASS
5497.250000	-53.2	26.2	-27.0	PASS
5647.750000	-53.4	26.4	-27.0	PASS
5648.250000	-53.5	26.5	-27.0	PASS

TEST RESULTS (Cont.)	

Highest Channel



Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5932.750000	-53.0	26.0	-27.0	PASS
5926.250000	-53.0	26.0	-27.0	PASS
5931.250000	-53.3	26.3	-27.0	PASS
5927.250000	-53.3	26.3	-27.0	PASS
5926.750000	-53.3	26.3	-27.0	PASS
5930.250000	-53.4	26.4	-27.0	PASS
5933.250000	-53.4	26.4	-27.0	PASS
5930.750000	-53.5	26.5	-27.0	PASS
5928.750000	-53.6	26.6	-27.0	PASS
5927.750000	-53.6	26.6	-27.0	PASS
5929.250000	-53.7	26.7	-27.0	PASS
5960.250000	-53.8	26.8	-27.0	PASS
5929.750000	-53.8	26.8	-27.0	PASS
5925.250000	-53.9	26.9	-27.0	PASS
5925.750000	-53.9	26.9	-27.0	PASS

SECTION B.6: UNDESIRABLE RADIATED EMISSIONS (TRANSMITTER)

LIMITS:	Product standard:	Part 15 Subpart C §15.407 and RSS-247
	Test standard:	Part 15 Subpart E §15.407(b) (4) and RSS-Gen 8.9 and 8.10

LIMITS

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c) / RSS-Gen):

Frequency Range (MHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (m)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	30
1.705 - 30.0	30	-	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
960 - 25000	500	54	3

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function

TEST SETUP

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at 3 m for the frequency range 30-1000 MHz (Bilog antenna) and for the frequency range 1-18 GHz (Double ridge horn antenna) and.at 1m for the frequency range 18-40 GHz (Double ridge horn antenna).

For radiated emissions in the range 18-40 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

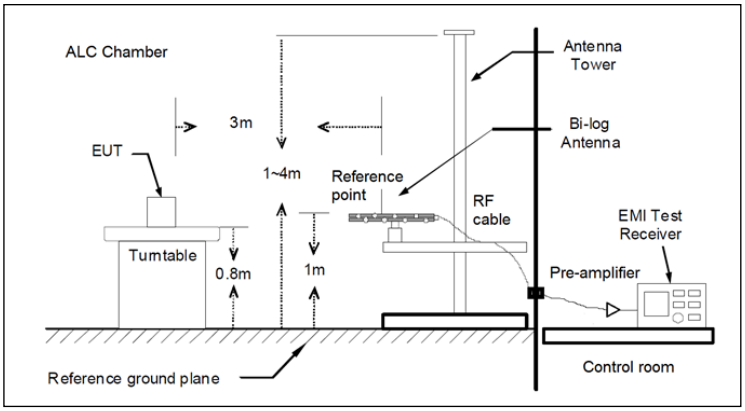
The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360º and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

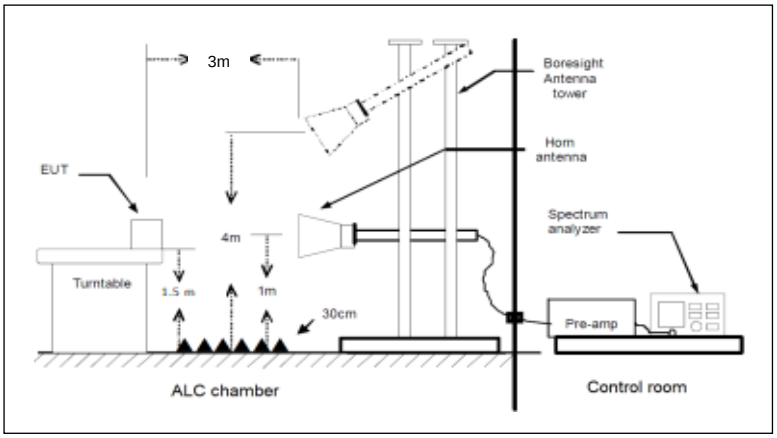
The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

TEST SETUP (CONT.)	

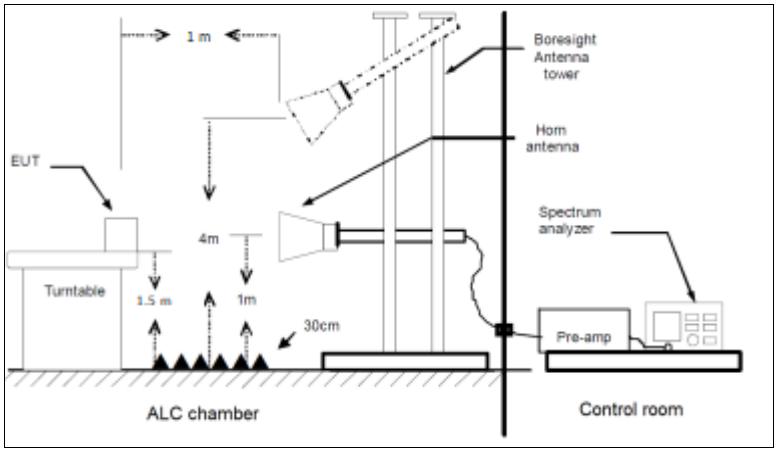
Radiated measurements Setup f < 1 GHz



Radiated measurements setup 1 < f < 18 GHz



Radiated measurements setup f > 18 GHz



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (a20 mode)
TEST RESULTS:	PASS

Frequency range 30 MHz – 1000 MHz

The spurious emissions below 1 GHz do not depend on the operating channel and mode selected in the EUT.

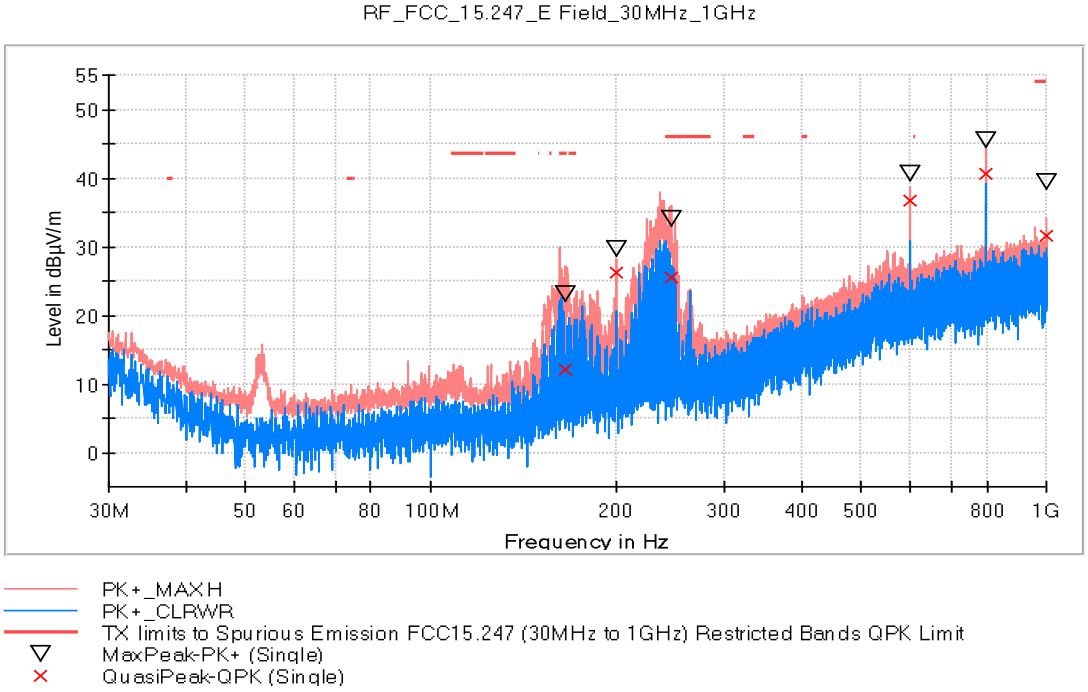
The results in the following plots and tables show the maximum measured levels in the 30-1000 MHz range.

Frequency range 1 GHz – 40 GHz

The results and plots below show the maximum measured levels in the 1- 40 GHz range.

TEST RESULTS (Cont.)	**30 MHz – 1 GHz**

Middle Channel

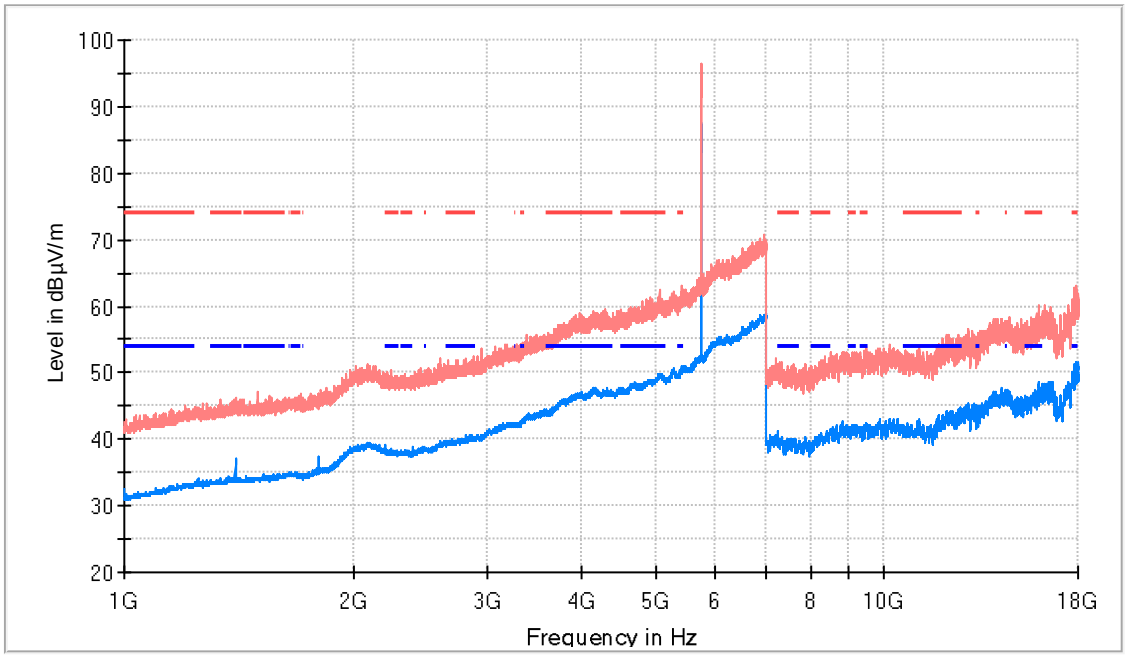


Maximizations

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Pol	Azimuth (deg)
165.994000	23.0	12.0	H	-180.0
199.992500	29.5	26.2	H	128.0
246.116000	34.1	25.5	H	119.0
599.972000	40.7	36.8	H	-63.0
797.997500	45.6	40.5	V	-101.0
1000.000000	39.3	31.5	H	51.0

FREQUENCY RANGE	1 GHz – 18 GHz

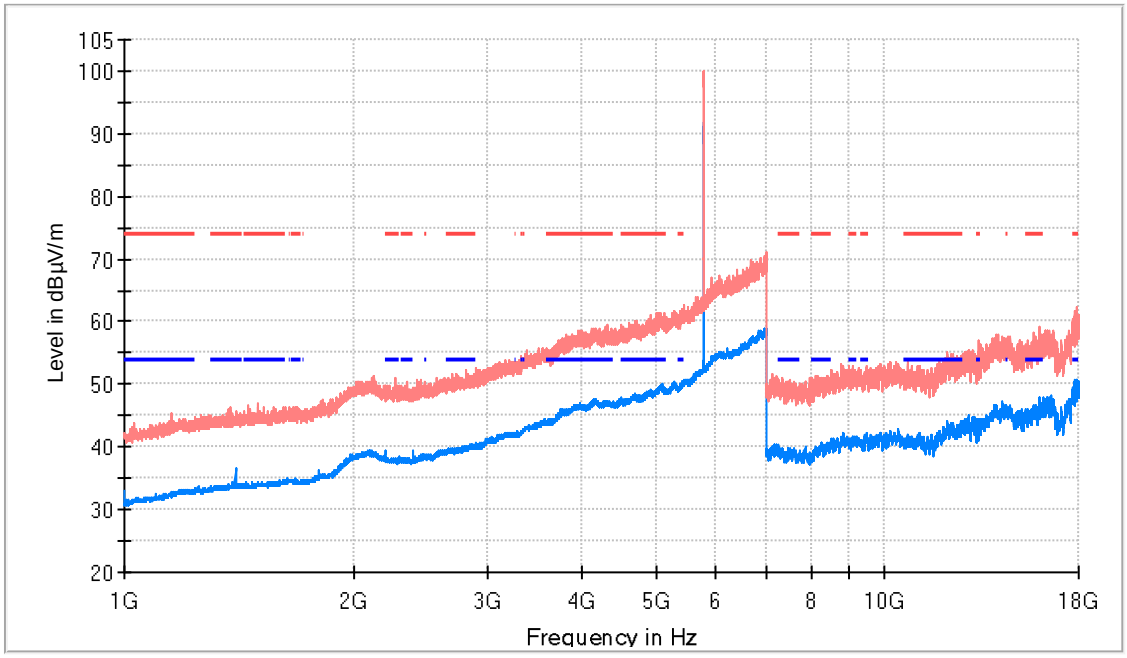
Lowest Channel



Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
1400.000000	46.0	37.2	V	16.8	54.0	
5747.000000	96.0	87.5	V	---	---	Fundamental
17957.000000	60.5	51.5	H	2.5	54.0	

FREQUENCY RANGE	1 GHz – 18 GHz

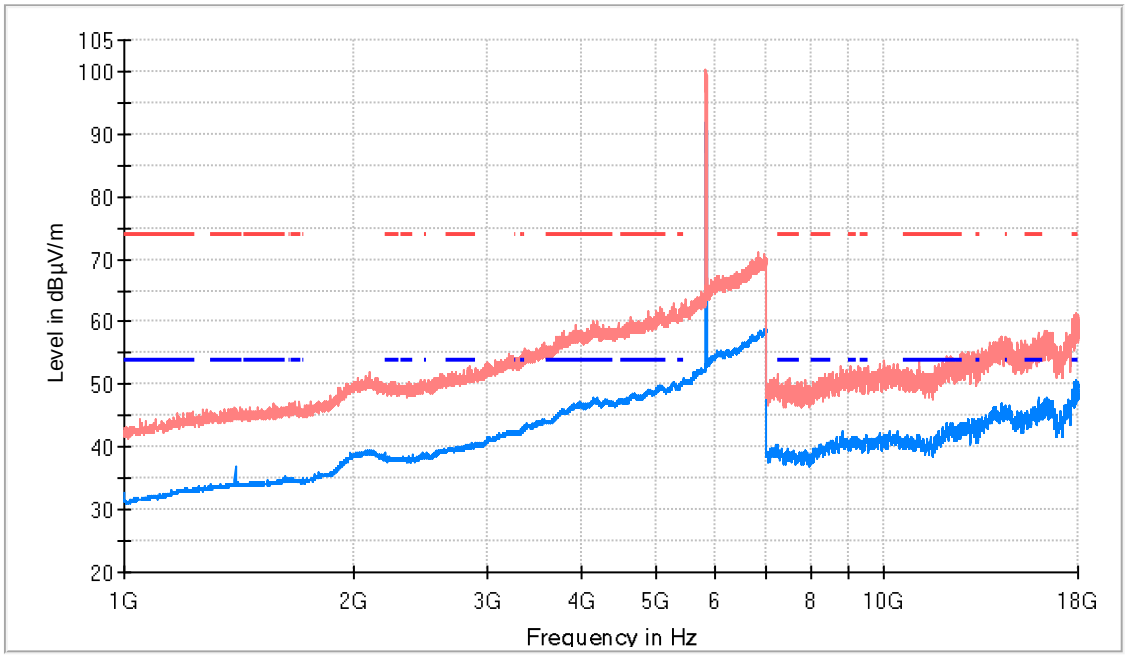
Middle Channel



Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
1400.000000	45.6	36.6	H	17.4	54.0	
5782.500000	99.2	91.9	H	---	---	Fundamental
17912.000000	60.9	50.5	H	3.5	54.0	

FREQUENCY RANGE	1 GHz – 18 GHz

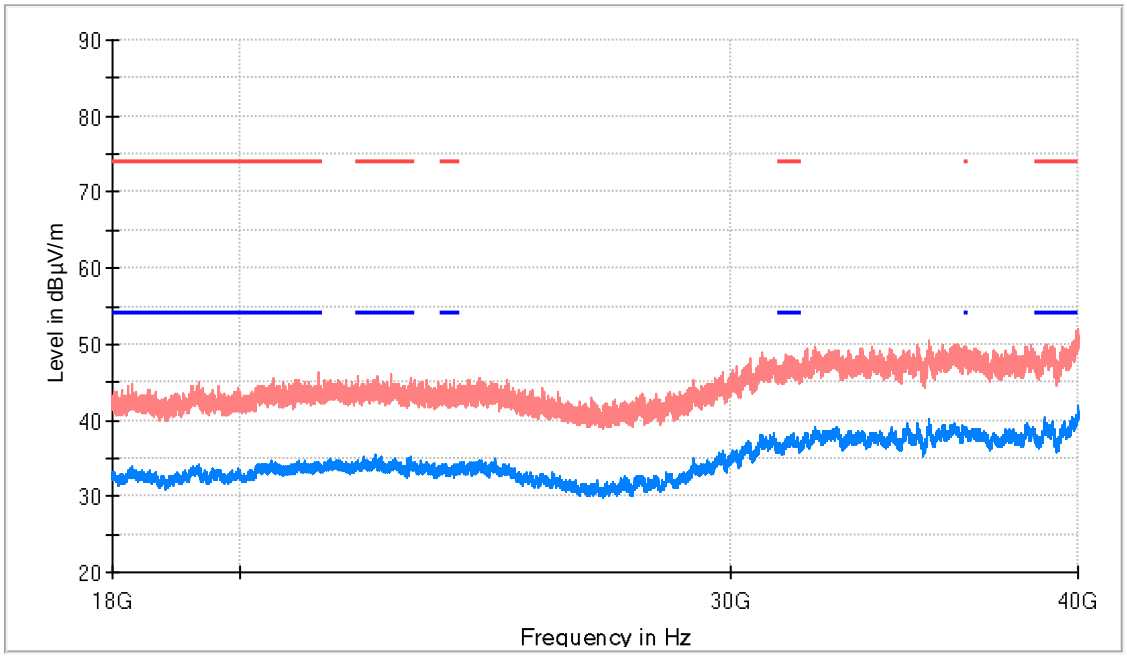
Highest Channel



Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
1399.500000	46.1	36.9	V	17.1	54.0	
5827.000000	100.3	91.9	H	---	---	Fundamental
17909.500000	59.0	50.5	V	3.5	54.0	

FREQUENCY RANGE	18 GHz – 40 GHz

Lowest Channel

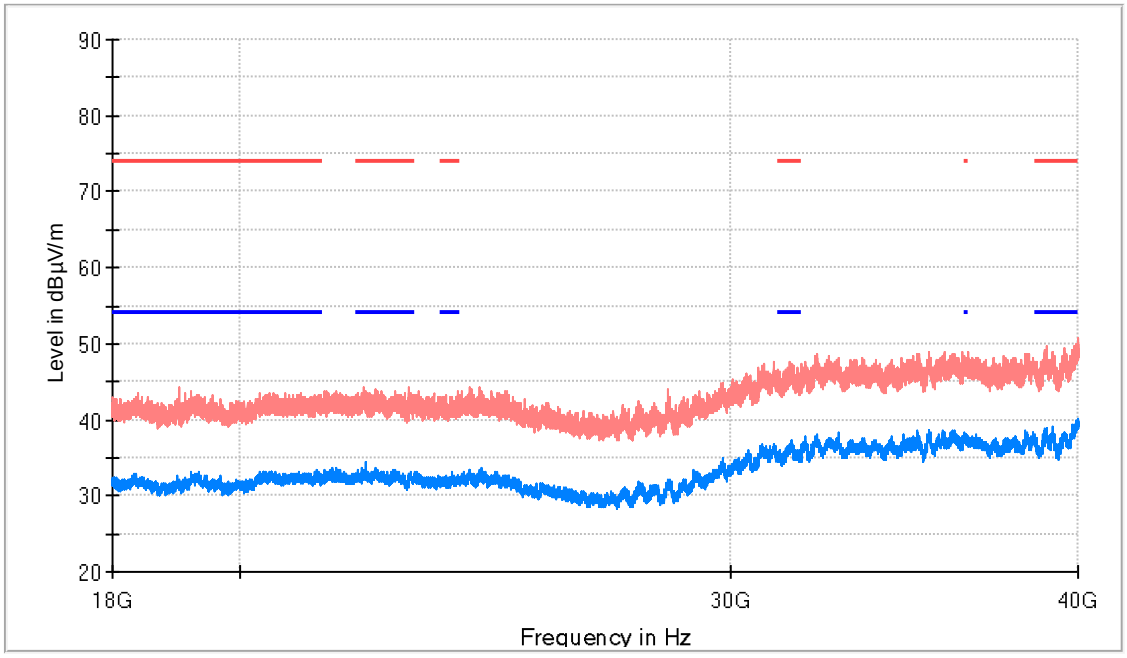


AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)
39997.250000	51.9	41.2	V	12.8	54.0

FREQUENCY RANGE	18 GHz – 40 GHz

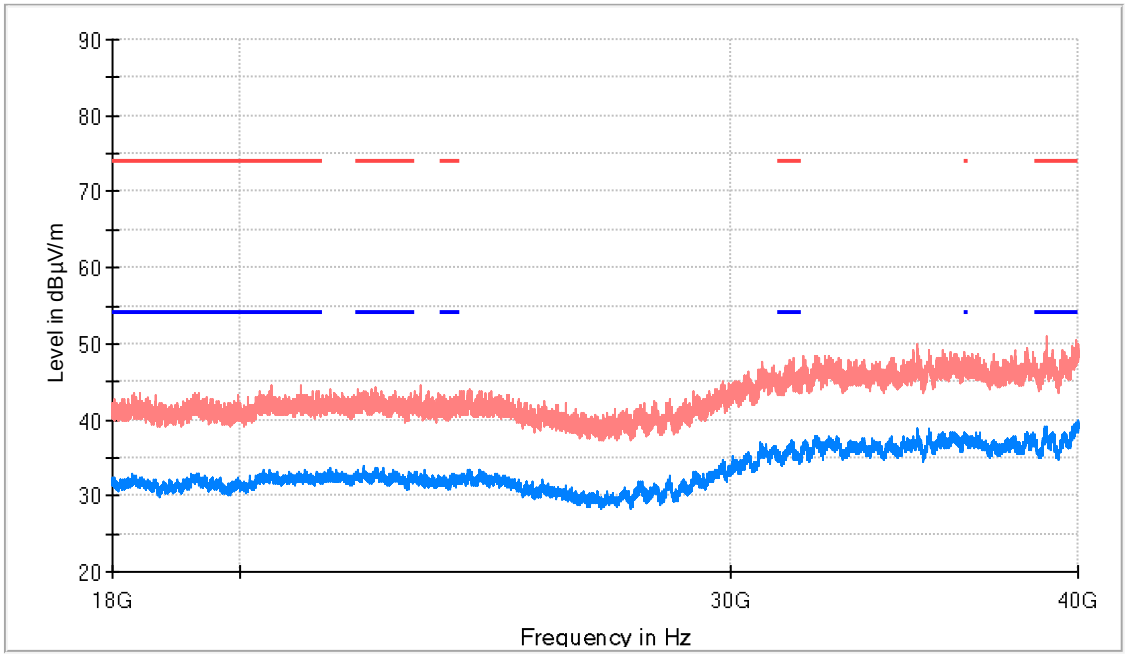
Middle Channel



Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)
39995.875000	50.7	39.3	H	14.7	54.0

FREQUENCY RANGE	18 GHz – 40 GHz

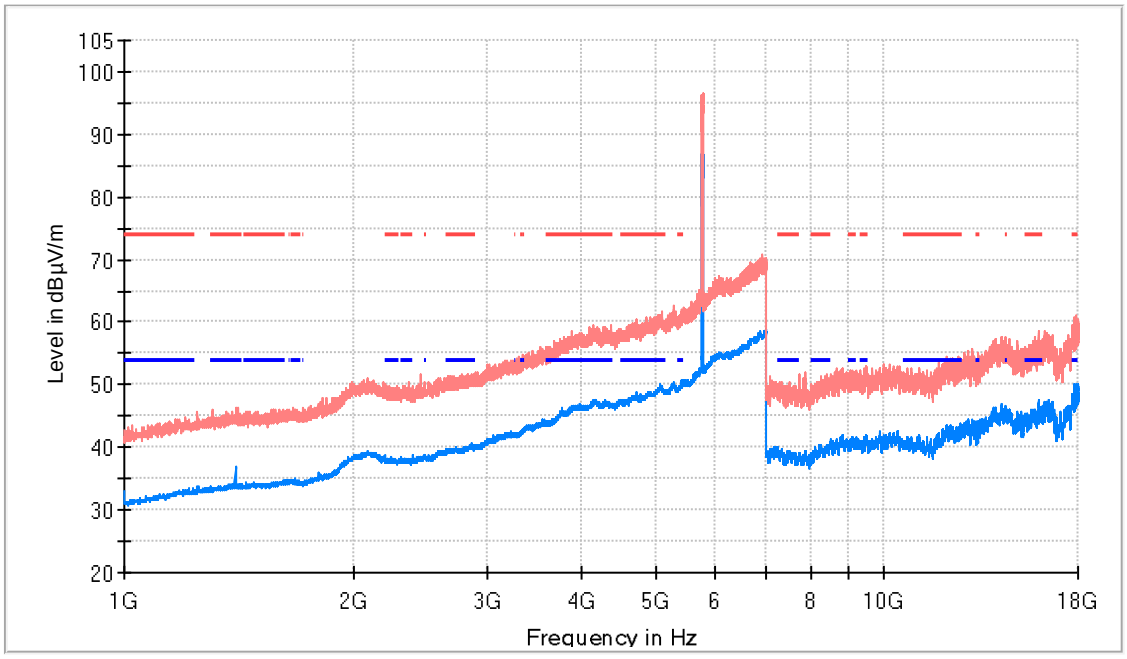
Highest Channel



Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)
38955.000000	50.9	38.2	V	15.8	54.0

TESTED CONDITIONS MODES:	TC#02 (n mode)
TEST RESULTS:	PASS
FREQUENCY RANGE	**1 GHz – 18 GHz**

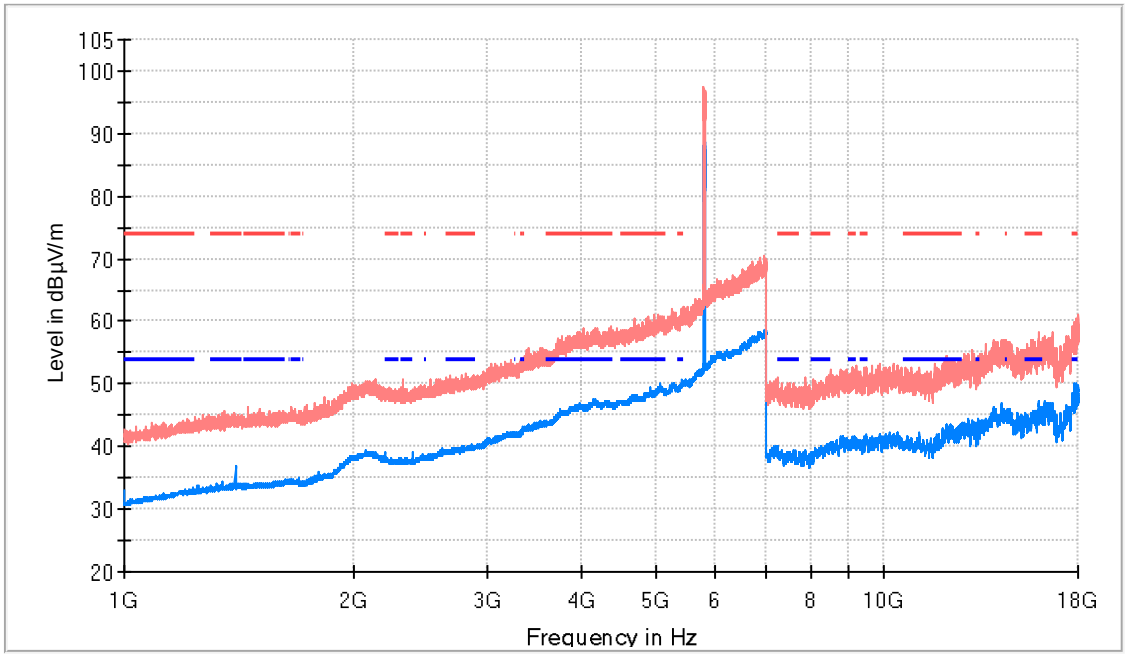
Lowest Channel



Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
1399.500000	45.4	36.7	V	17.3	54.0	
5761.500000	96.1	86.9	H	---	---	Fundamental
17921.500000	58.9	49.9	H	4.1	54.0	

FREQUENCY RANGE	1 GHz – 18 GHz

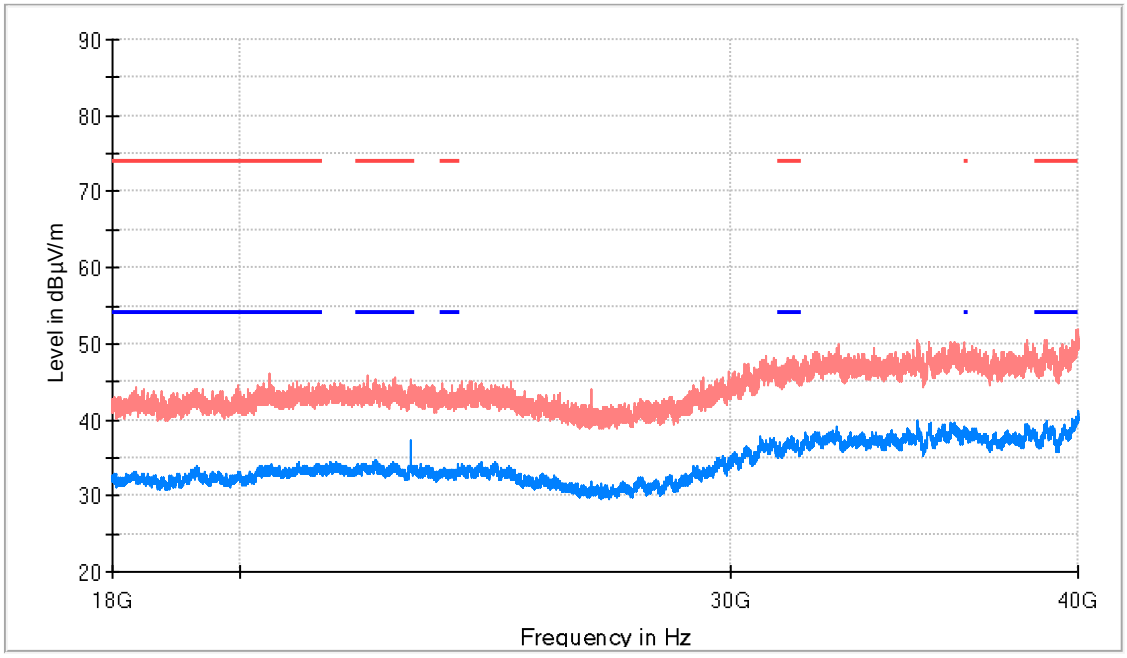
Highest Channel



Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
1400.000000	44.7	36.8	V	17.2	54.0	
5797.500000	96.8	88.6	H	---	---	Fundamental
17753.000000	59.1	50.0	H	4.0	54.0	

FREQUENCY RANGE	18 GHz – 40 GHz

Lowest Channel

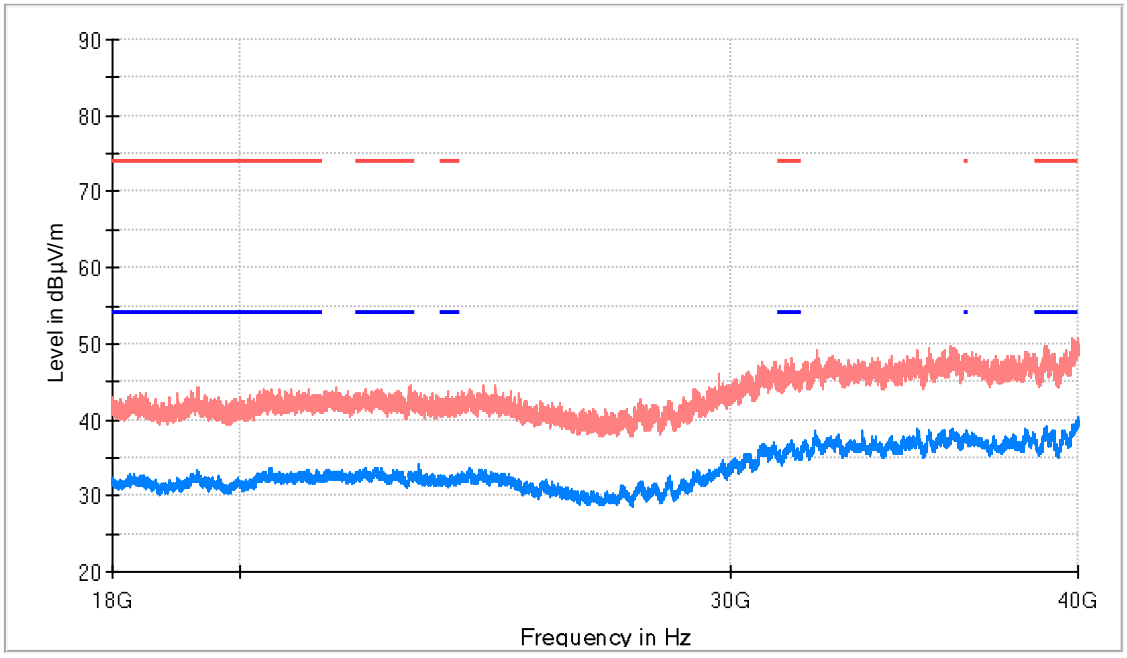


AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)
23018.750000	45.3	37.3	V	16.7	54.0
39993.812500	50.5	41.1	V	12.9	54.0

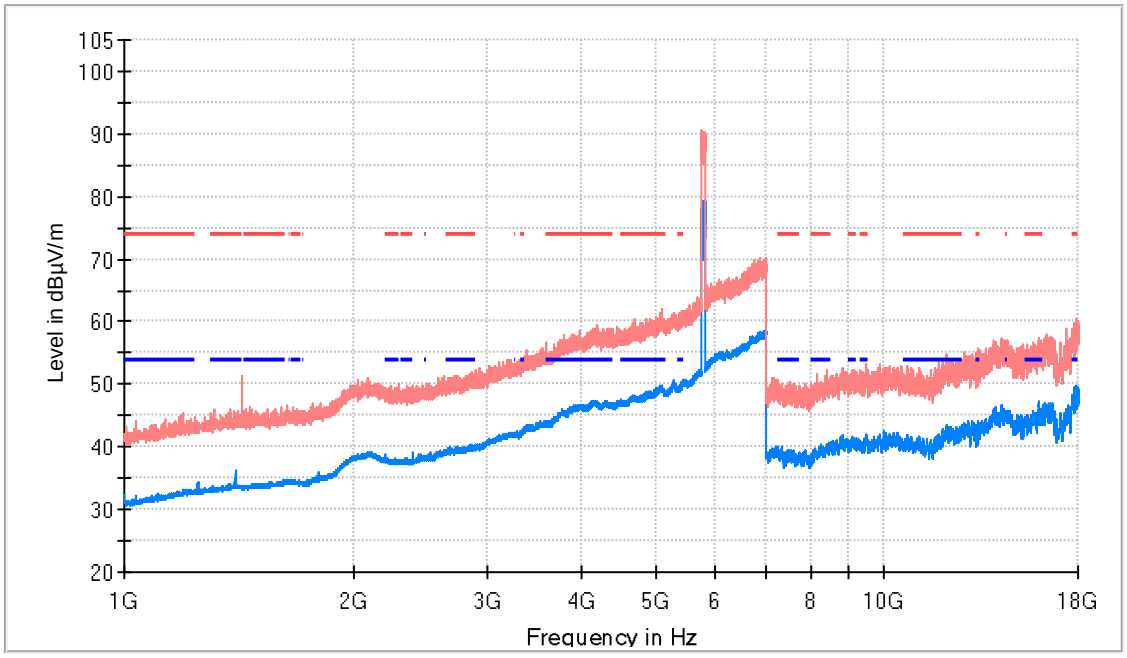
FREQUENCY RANGE	18 GHz – 40 GHz

Highest Channel



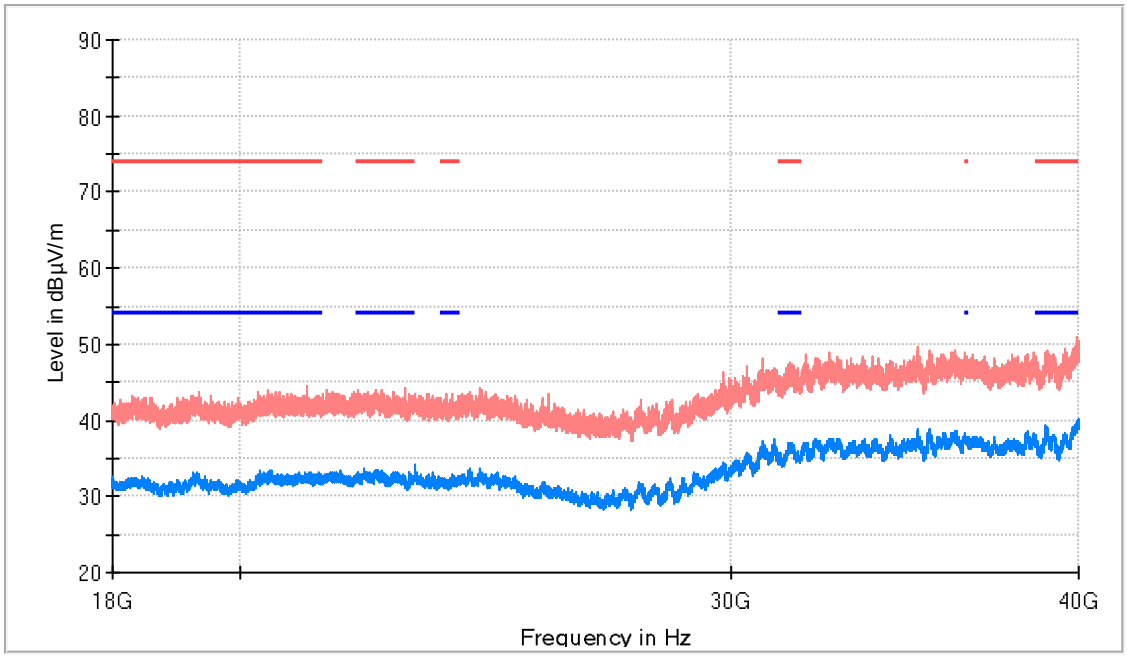
Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)
19328.937500	44.3	32.7	V	21.3	54.0
39982.125000	50.2	40.4	V	13.6	54.0

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03 (ac mode)
TEST RESULTS:	PASS
FREQUENCY RANGE	**1 GHz – 18 GHz**



Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
1399.500000	**44.6**	**36.3**	**V**	**17.7**	**54.0**	
5812.500000	**89.6**	**79.4**	**H**	**---**	**---**	**Fundamental**
17921.500000	**58.9**	**49.9**	**H**	**4.1**	**54.0**	

FREQUENCY RANGE	18 GHz – 40 GHz



AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)
23099.187500	43.1	34.1	V	19.9	54.0
39982.812500	49.3	40.1	V	13.9	54.0