DEKRA Certification, Inc.
405 Glenn Dr. Suite 12,
Sterling, VA 20164
United States of America

FCC LISTED, REGISTRATION NUMBER: 2764.01

ISED LISTED REGISTRATION NUMBER: 23595-1

Test report No:
4421ERM.002

Test report

USA FCC Part 15.247, 15.209
CANADA RSS-247, RSS-Gen
Radio Frequency Devices. Operation within the bands 902 - 928 MHz, 2400 -2483.5 MHz, and 5725 - 5850 MHz.
Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and License-Exempt Local Area Network (LE-LAN) Devices.

Identification of item tested	Bluetooth Telematics Device
Trademark	Visteon
Model and /or type reference	MAZ_22_HFT
Other identification of the product	FCC ID: NT8-MAZ22HFT IC ID: 3043A-MAZ22HFT
Features	Bluetooth 4.2+EDR
Manufacturer	Visteon Corporation One Village Center Drive, Van Buren Township, MI 48111 USA
Test method requested, standard	USA FCC Part 15.247, 10-1-20 Edition: Operation within the bands 902 - 928 MHz, 2400 -2483.5 MHz, and 5725 - 5850 MHz USA FCC Part 15.209, 10-1-20 Edition: Radiated emission limits; general requirements CANADA RSS-247 Issue 3 (August 2023). CANADA RSS-Gen Issue 5 (February 2021). Guidance for Compliance Measurements on Digital Transmission Systems, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating Under section §15.247 of the FCC Rules 558074 D01 15.247 Meas. Guidance v05r02 (April 2019). 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 Manager, email=domingo.galvez@dekra.com, c=US
Date of issue	02/15/2024
Report template No	FDT30_18

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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	2402-2483	0.88	dB
Occupied Bandwidth		1.87	%
Dwell Time		0.01	%
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

The following data has been provided by the client:

1. Information relating to the description of the sample ("Identification of the item tested", "Trademark", "Model and/or type reference tested").

2. The sample consists of a hands-free interface to Bluetooth enabled devices.

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:

Id	Control Number	Description	Model	Serial Nº	Date of Reception	Application
S/01	3481/23	HFT Conducted sample	MAZ_22_HFT	VPMALFRH3IS5BC	11/13/2023	Element Under Test

Sample S/01 is composed of the following accessories:

Id	Control Number	Description	Model	Serial Nº	Date of Reception	Application
S/01	3874/25	Serial Board	-	-	09/05/2023	Accessory
S/01	3086/07	USB to RS232 adapter	-	-	12/21/2020	Accessory
S/01	3086/24	Homologation Harness	-	-	02/3/2021	Accessory

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

Sample S/02 is composed of the following elements:

Id	Control Number	Description	Model	Serial Nº	Date of Reception	Application
S/02	3481/25	HFT Radiated sample	MAZ_22_HFT	VPMALFRH3IS4BC	11/13/2023	Element Under Test

Sample S/02 is composed of the following accessories:

Id	Control Number	Description	Model	Serial Nº	Date of Reception	Application
S/02	3874/25	Serial Board	-	-	09/05/2023	Accessory
S/02	3086/07	USB to RS232 adapter	-	-	12/21/2020	Accessory
S/02	3086/24	Homologation Harness	-	-	2/3/2021	Accessory

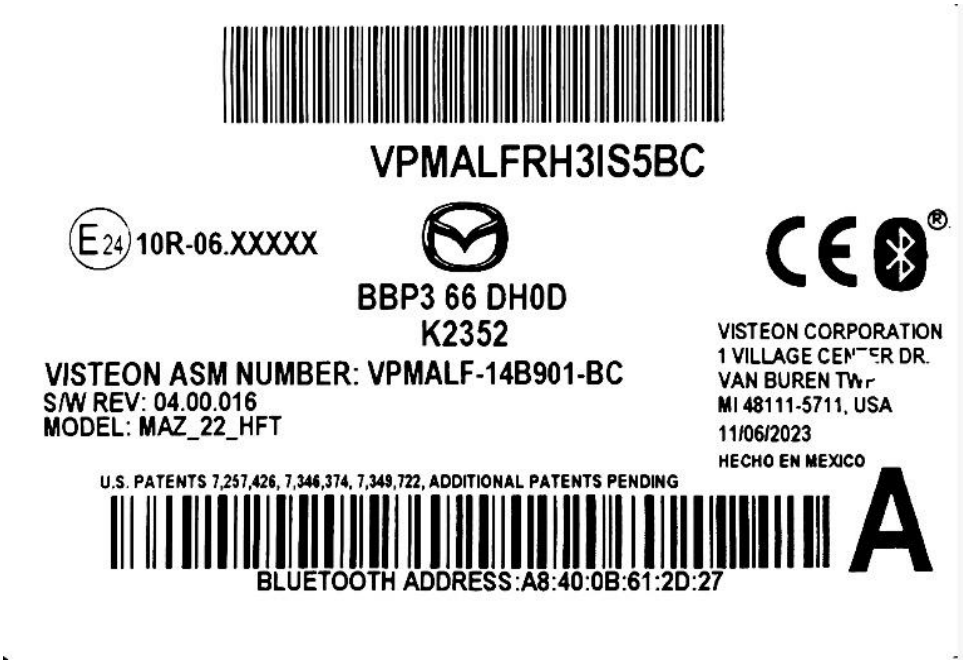
1. Sample S/02 was used for the following test(s): All Radiated tests indicated in appendix A.

Test sample description

Ports..... :	Port name and description		Cable				
			Specified length [m]	Attached during test	Shielded	Coupled to patient	
	28 pin Vehicle connector		1	☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
				☐	☐	☐	
Supplementary information to the ports..... :	No Data Provided						
Rated power supply .....:	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	☐	AC:	☐	☐	☐	☐	☐
	☐	AC:	☐	☐	☐	☐	☐
	☒	DC: Nominal voltage: 12 VDC, Min: 9.0 VDC, Max: 18 VDC					
	☐	DC:					
Rated Power .....:	12 VDC						
Clock frequencies .....:	No Data Provided						
Other parameters.....:	No Data Provided						
Software version .....:	04.00.016						
Hardware version.....:	VPMALF-14B115-AC						
Dimensions in cm (W x H x D)....:	75x115x35 mm						
Mounting position.....:	☐	*Table top equipment*					
	☐	*Wall/Ceiling mounted equipment*					
	☐	*Floor standing equipment*					
	☐	*Hand-held equipment*					
	☒	*Other:* Installed in vehicle					
Modules/parts .....:	Module/parts of test item		Type		Manufacturer		
	No Data Provided						

Accessories (not part of the test item) .....:	Description	Type	Manufacturer
	No Data Provided		
Documents as provided by the applicant.....:	Description	File name	Issue date
	Declaration Equipment Data	FDT30_18 Declaration Equipment Data_FCC_ISED	02/12/2024

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)	02-08-2024
Date (finish)	02-09-2024

Document history

Report number	Date	Description
4421ERM.002	02-15-2024	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

1. The tests have been performed by the technical personnel: Ivy Yousuf Moutushi, Qi Zhang, Yuqi Wang and Koji Nishimoto.

Testing verdicts

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

Summary

FCC PART 15 PARAGRAPH / RSS-247 (Bluetooth BR/EDR)					
Section	**15.247 Spec Clause**	**RSS Spec Clause**	**Test Description**	**Verdict**	**Remark**
A.1	§ 2.1049 & § 15.247 (a) (1)	RSS-247 5.1 (b)	20dB Emission Bandwidth, 99% Occupied Bandwidth & Carrier Frequency Separation	P	N/A
A.2	§ 15.247 (a) (1) (iii)	RSS-247 5.1 (d)	Number of hopping channels	P	N/A
A.3	§ 15.247 (a) (1) (iii)	RSS-247 5.1 (d)	Time of Occupancy (Dwell Time)	P	N/A
A.4	§ 15.247 (b) (3)	RSS-247 5.4 (b)	Maximum peak conducted output power and antenna gain	P	N/A
A.5	§ 15.247 (d)	RSS-247 5.5	Band-edge conducted emissions compliance (Transmitter)	P	N/A
-	§ 15.247 (d)	RSS-247 5.5	Emission limitations Conducted (Transmitter)	N/M	Refer 1
A.6	§ 15.247 (d)	RSS-247 5.5	Emission limitations Radiated (Transmitter)	P	N/A

Supplementary information and remarks:

1. As stated in Standard, radiated emissions were performed with antenna, no conducted testing is required as the device has internal antenna.

List of equipment used during the test

Conducted Measurements

Test system Rohde & Schwarz TS 8997:

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	2022-10-18	2024-10-18
1313	WIRELESS MEASUREMENT SOFTWARE R&S WMS32	Rohde & Schwarz	N/A	N/A	N/A
1397	Signal Analyzer 85GHz	ROHDE & SCHWARZ	FSW85	2022-05-26	2024-05-26

Radiated Measurements

CONTROL NUMBER	DESCRIPTION	MANUFACTURER	MODEL	LAST CALIBRATION	NEXT CALIBRATION
1010	ESR7 EMI Test Receiver	Rohde & Schwarz	ESR7	2022-10-14	2024-10-14
1014	Spectrum analyzer	Rohde & Schwarz	FSV40	2022-08-01	2024-08-01
1056	Double-ridge Waveguide Horn antenna 18-40 GHz	ETS LINDGREN	3116C	2023-02-23	2026-02-23
1057	Double-ridge Waveguide Horn antenna 1-18 GHz	ETS LINDGREN	3115	2023-07-18	2026-07-18
1064	BiconicalLog antenna	ETS LINDGREN	3142E	2021-12-13	2024-12-13
1111	ETHERNET SNMP THERMOMETER	HW GROUP	HWg-STE Plain	2022-10-18	2024-10-18
1179	Semi anechoic Absorber Lined Chamber	Frankonia	SAC 3 plus “L”	N/A	N/A
1314	WIRELESS MEASUREMENT SOFTWARE R&S EMC32	Rohde & Schwarz	N/A	N/A	N/A
1461	Low Noise Preamplifier (1-18GHz)	Bonn Elektronik	BLMA0118-4A	2022-06-01	2024-06-01

Appendix A: Test results (Bluetooth BR/EDR)

Appendix A Content

PRODUCT INFORMATION

The following information is provided by the client:

Information	Description
Modulation	BR/EDR: GFSK, π/4-DQPSK, 8DPSK
Operating Frequency Range	2402 – 2480 MHz
Nominal Channel Bandwidth	1 MHz
RF Output Power	4 dBm
Extreme operating conditions	-
- Temperature range	-40 ºC to +85 ºC
Antenna type	Integral F inverted antenna
Antenna gain	4.04 dBi
Nominal Voltage	
- Supply Voltage	12 Vdc
- Type of power source	DC voltage
Equipment type	Bluetooth EDR
Geo-location capability	No

DESCRIPTION OF TEST CONDITIONS

TEST CONDITIONS	DESCRIPTION
TC#01	Power supply (V): $V_{nominal}$ = 12 Vdc Modulation: GFSK Test Frequencies for conducted/Radiated tests: Lowest range: 2402 MHz Middle channel: 2441 MHz Highest range: 2480 MHz
TC#02	Power supply (V): $V_{nominal}$ = 12 Vdc Modulation: π/4-DQPSK Test Frequencies for Conducted/Radiated tests: Lowest range: 2402 MHz Middle channel: 2441 MHz Highest range: 2480 MHz
TC#03	Power supply (V): $V_{nominal}$ = 12 Vdc Modulation: 8-DPSK Test Frequencies for Conducted/Radiated tests: Lowest range: 2402 MHz Middle channel: 2441 MHz Highest range: 2480 MHz

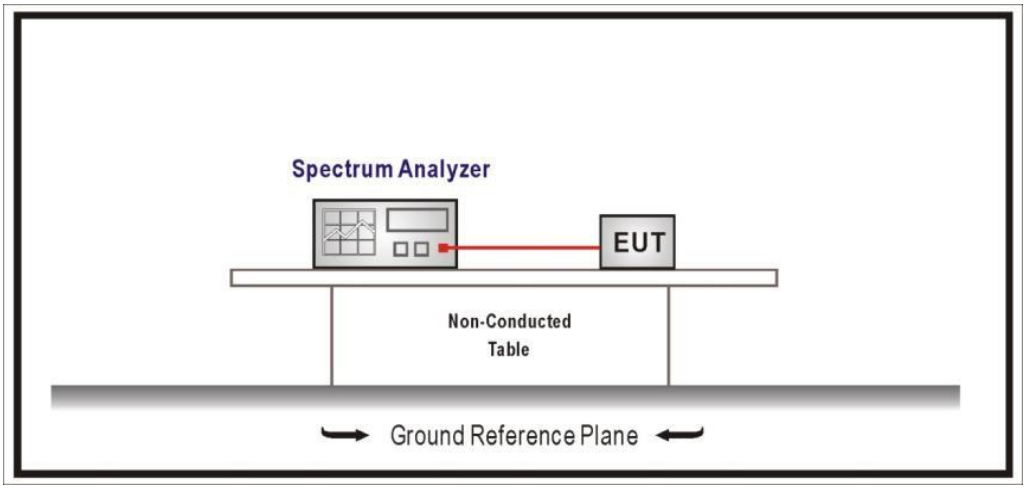
TEST A.1: 20DB EMISSION BANDWIDTH, 99% OCCUPIED BANDWIDTH AND CARRIER FREQUENCY SEPARATION

LIMITS:	Product standard:	§ 2.1049, Part 15 Subpart C §15.247 and RSS-247
	Test standard:	Part 15 Subpart C §15.247(a) (1) and RSS-247 5.1 (b)

LIMITS

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

TEST SETUP:

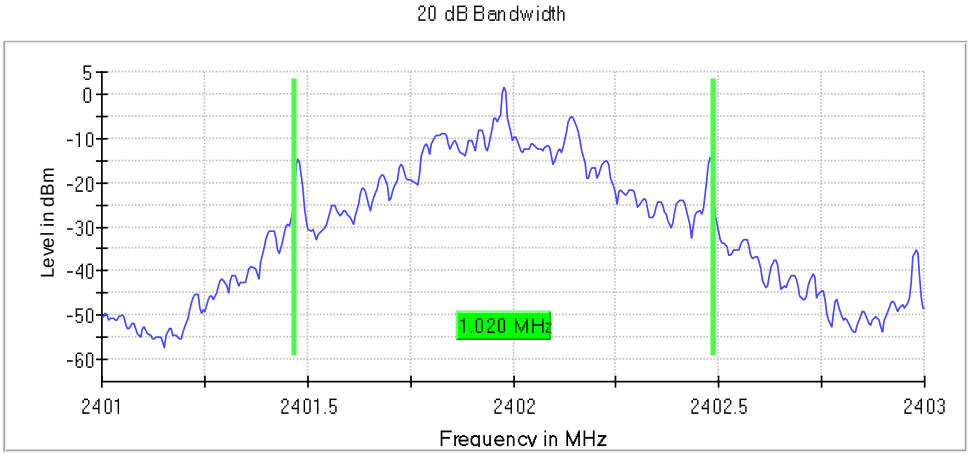


TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01
TEST RESULTS:	PASS

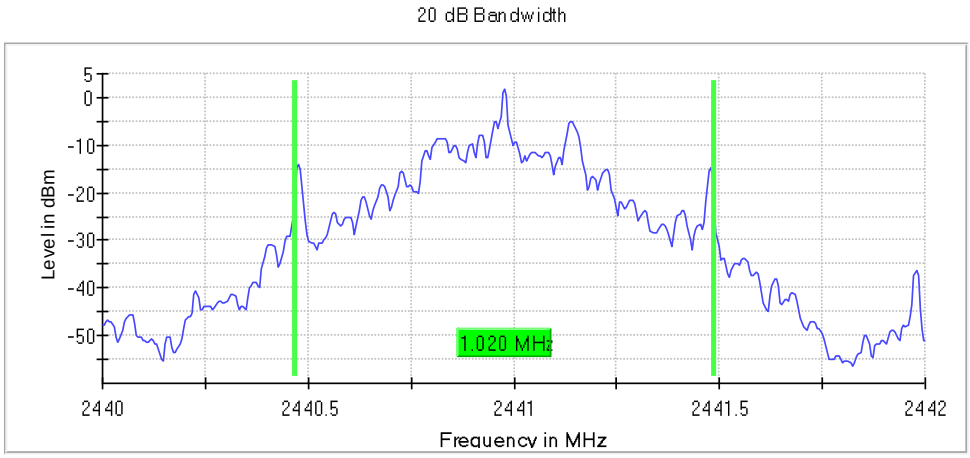
	Lowest frequency 2402 MHz	Middle frequency 2441 MHz	Highest frequency 2480 MHz
20dB Bandwidth (MHz)	1.020	1.020	1.020
99% Occupied bandwidth (MHz)	0.990	1.000	0.925

TEST RESULTS (Cont.):	20 dB BANDWIDTH

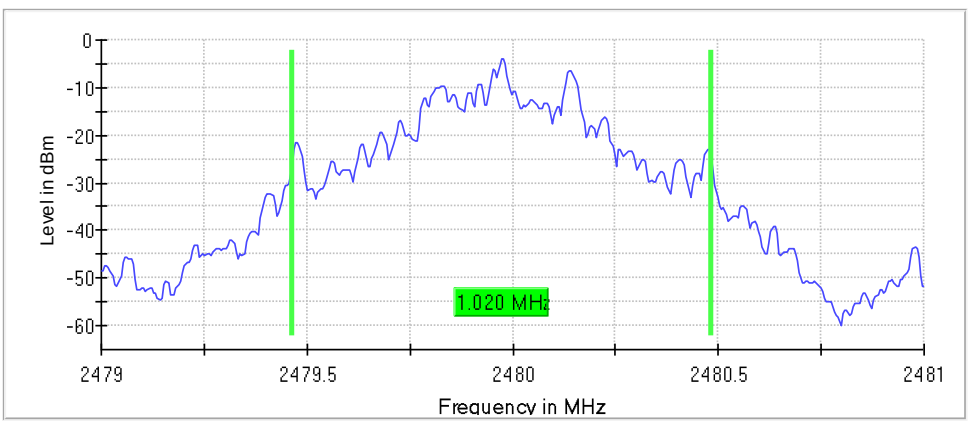
Lowest Channel



Middle Channel

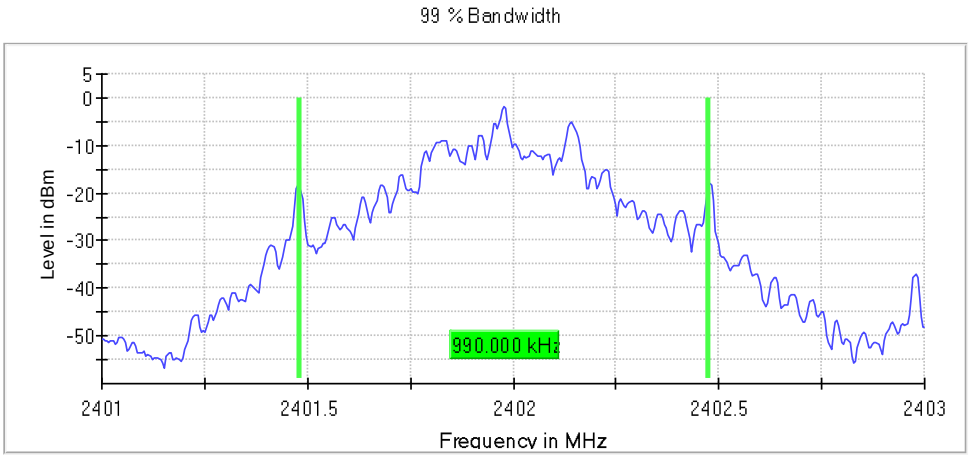


Highest Channel

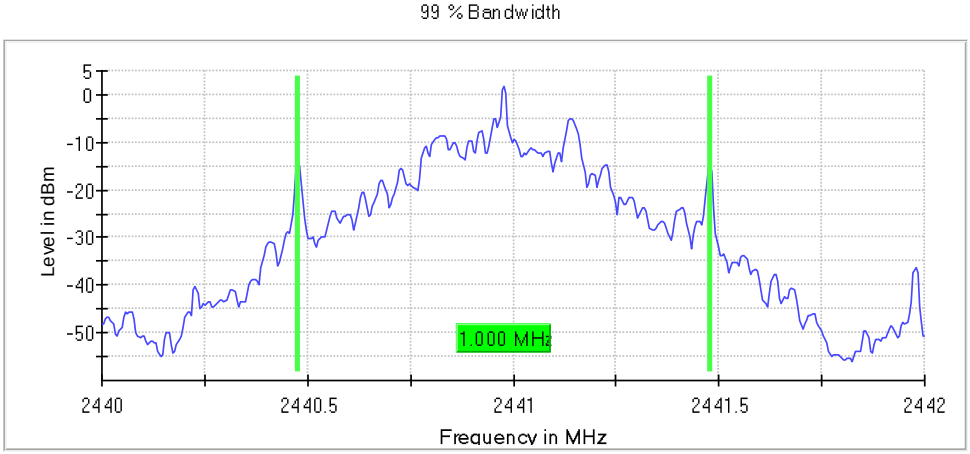


TEST RESULTS (Cont.):	99% OCCUPIED BANDWIDTH

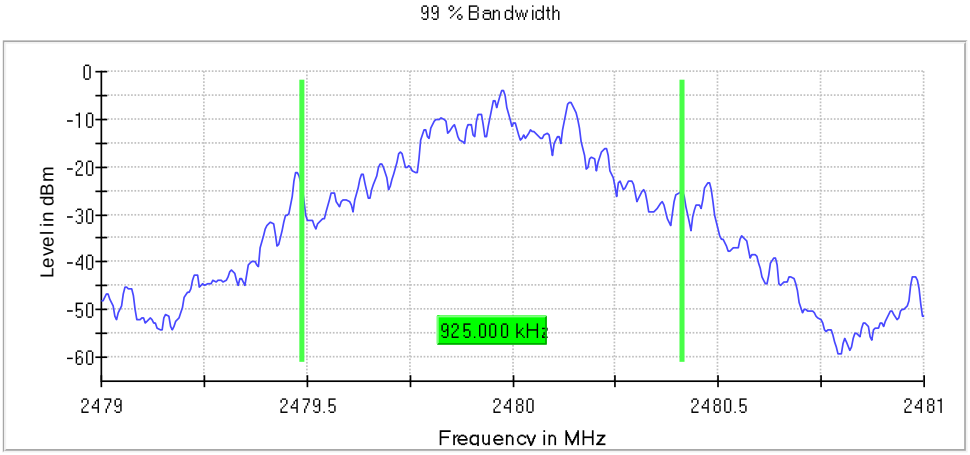
Lowest Channel



Middle Channel



Highest Channel



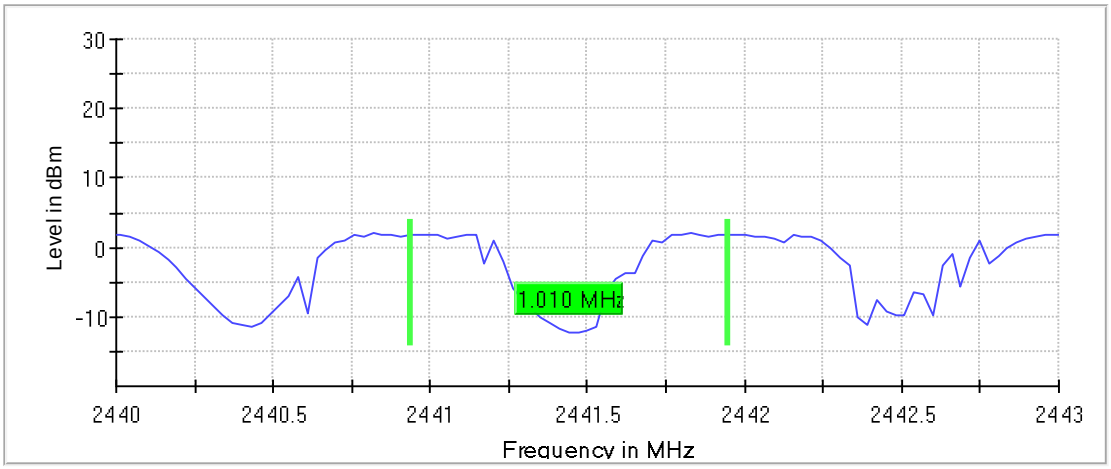
TEST RESULTS (Cont.):	99% OCCUPIED BANDWIDTH

Measurement Set- up

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.40100 GHz	2.44000 GHz	2.47900 GHz
Stop Frequency	2.40300 GHz	2.44200 GHz	2.48100 GHz
Span	2.000 MHz	2.000 MHz	2.000 MHz
RBW	10.000 kHz	10.000 kHz	10.000 kHz
VBW	30.000 kHz	30.000 kHz	30.000 kHz
Sweep Points	400	400	400
Sweep time	419.000 µs	419.000 µs	419.000 µs
Reference Level	0.000 dBm	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	10.000 dB	10.000 dB
Detector	MaxPeak	MaxPeak	MaxPeak
Sweep Count	500	500	500
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	8 / max. 150	5 / max. 150	16 / max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.01 dB	0.13 dB	0.01 dB

TEST RESULTS (Cont.)	CARRIER FREQUENCY SEPARATION

CFS



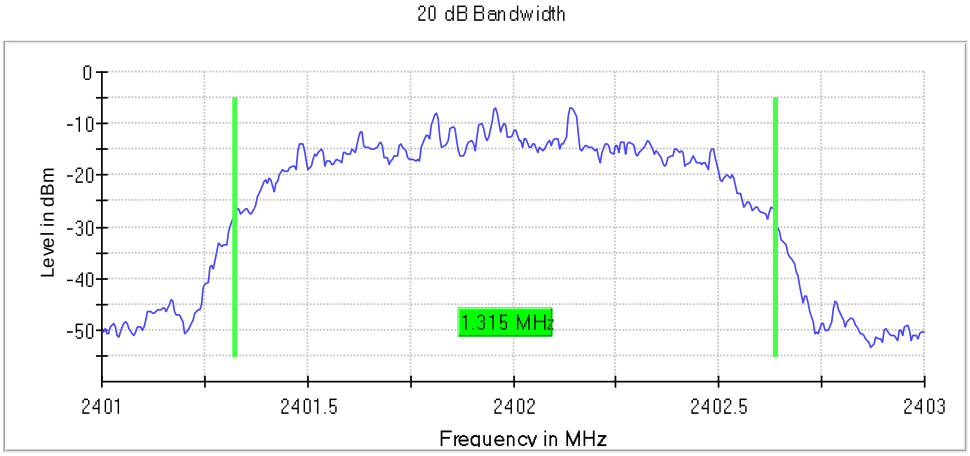
The hopping channel carrier frequencies are separated by a minimum of the two-thirds of the 20dB bandwidth of the hopping channel.

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02
TEST RESULTS:	PASS

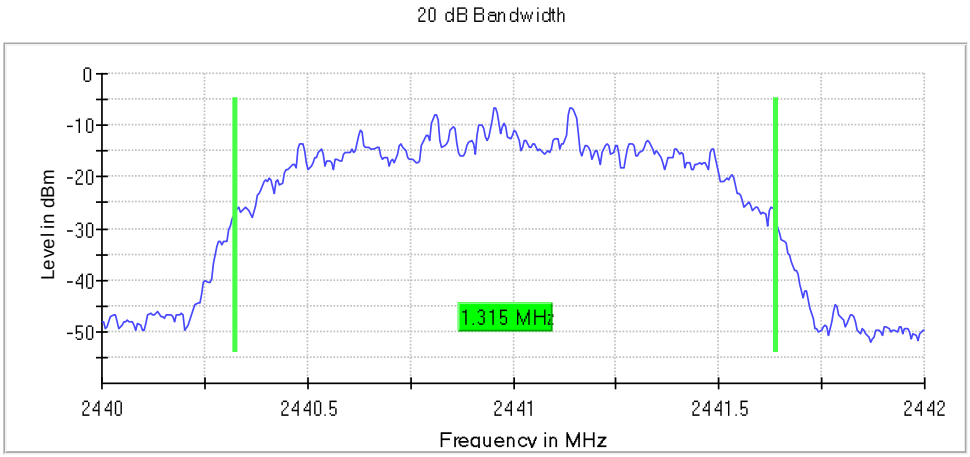
	Lowest frequency 2402 MHz	Middle frequency 2441 MHz	Highest frequency 2480 MHz
20dB bandwidth (MHz)	1.315	1.315	1.315
99% Occupied bandwidth (MHz)	1.170	1.160	1.160

TEST RESULTS (Cont.):	20 dB BANDWIDTH

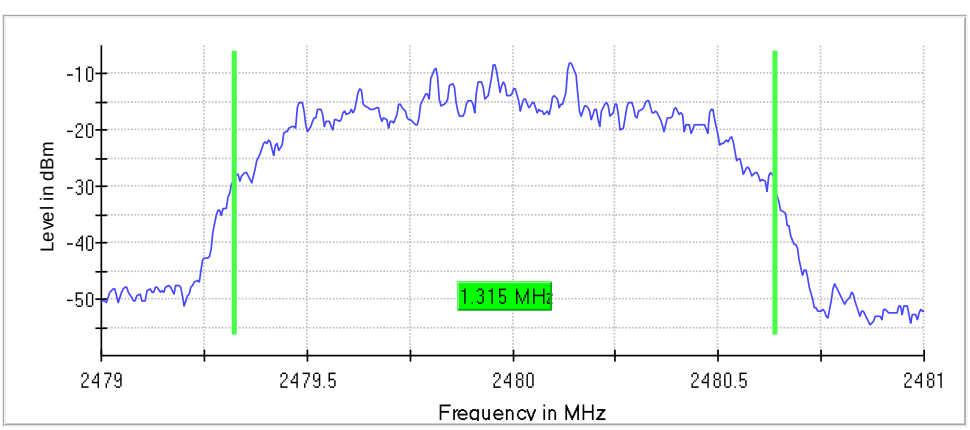
Lowest Channel



Middle Channel

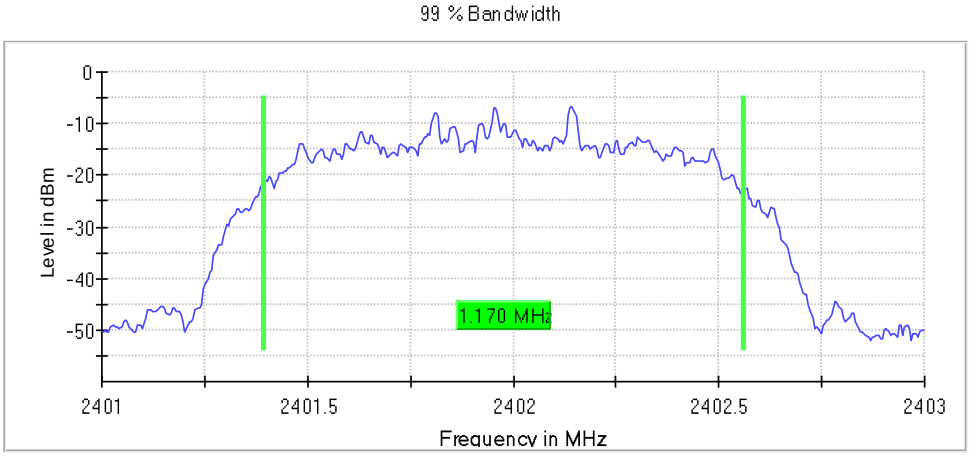


Highest Channel

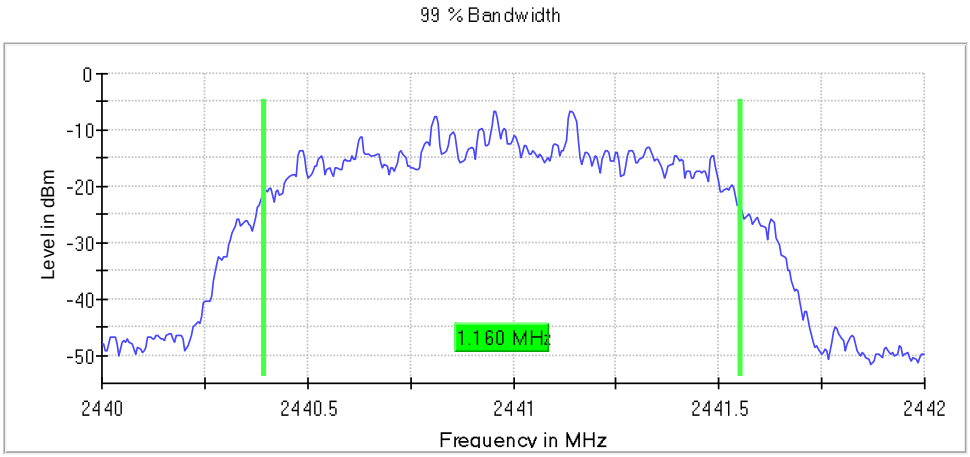


TEST RESULTS (Cont.):	99% OCCUPIED BANDWIDTH

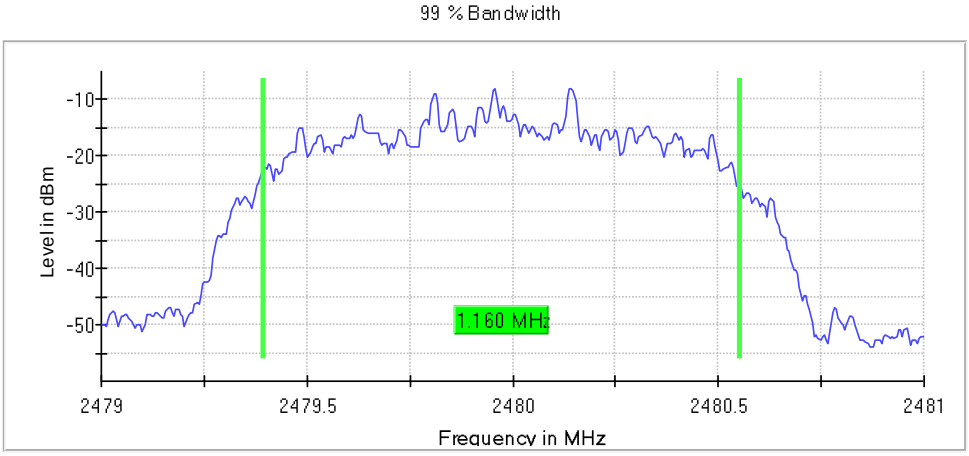
Lowest Channel



Middle Channel



Highest Channel



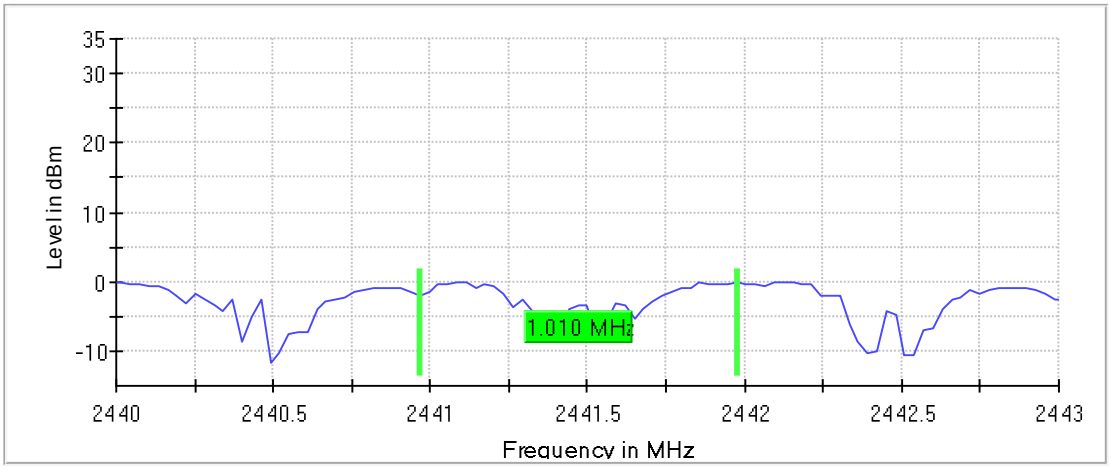
TEST RESULTS (Cont.):	99% OCCUPIED BANDWIDTH

Measurement Set- up

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.40100 GHz	2.44000 GHz	2.47900 GHz
Stop Frequency	2.40300 GHz	2.44200 GHz	2.48100 GHz
Span	2.000 MHz	2.000 MHz	2.000 MHz
RBW	10.000 kHz	10.000 kHz	10.000 kHz
VBW	30.000 kHz	30.000 kHz	30.000 kHz
Sweep Points	400	400	400
Sweep time	419.000 µs	419.000 µs	419.000 µs
Reference Level	0.000 dBm	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	10.000 dB	10.000 dB
Detector	MaxPeak	MaxPeak	MaxPeak
Sweep Count	500	500	500
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	41 / max. 150	8 / max. 150	9 / max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.07 dB	0.19 dB	0.20 dB

TEST RESULTS (Cont.)	CARRIER FREQUENCY SEPARATION

CFS



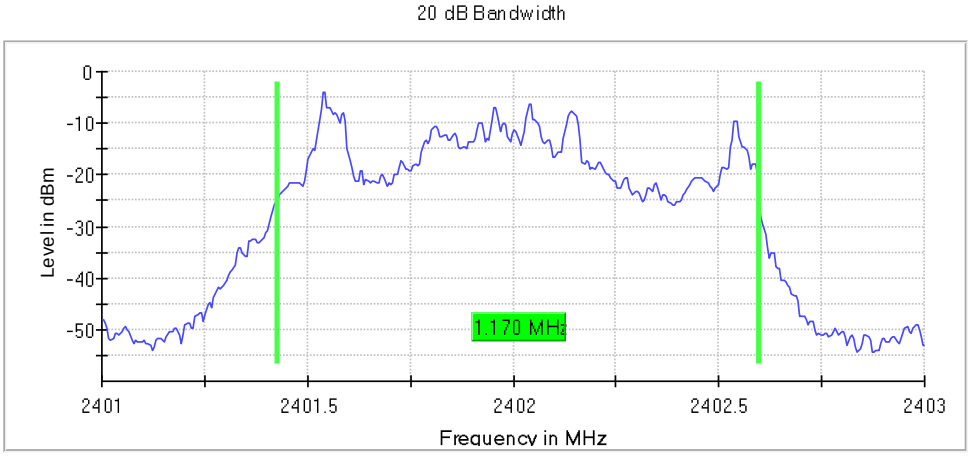
The hopping channel carrier frequencies are separated by a minimum of the two-thirds of the 20 dB bandwidth of the hopping channel.

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03
TEST RESULTS:	PASS

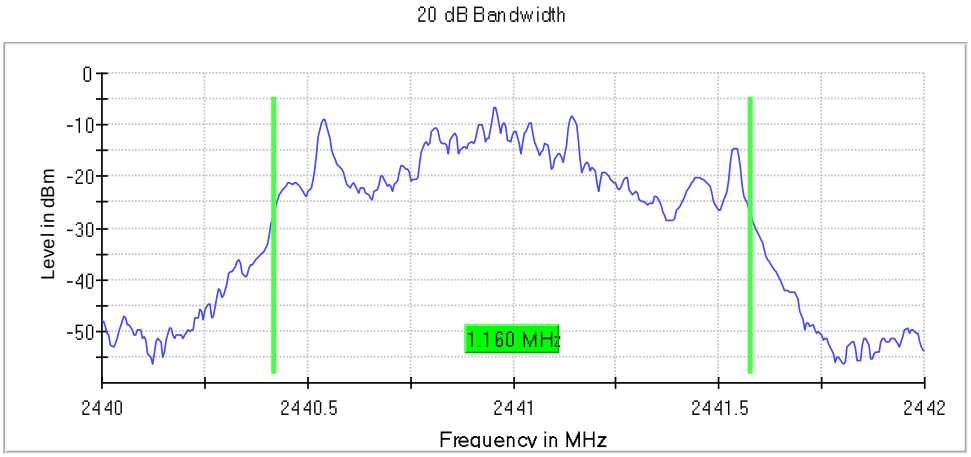
	Lowest frequency 2402 MHz	Middle frequency 2441 MHz	Highest frequency 2480 MHz
20dB bandwidth (MHz)	1.170	1.160	1.130
99% Occupied bandwidth (MHz)	1.105	1.095	1.120

TEST RESULTS (Cont.):	20 dB BANDWIDTH

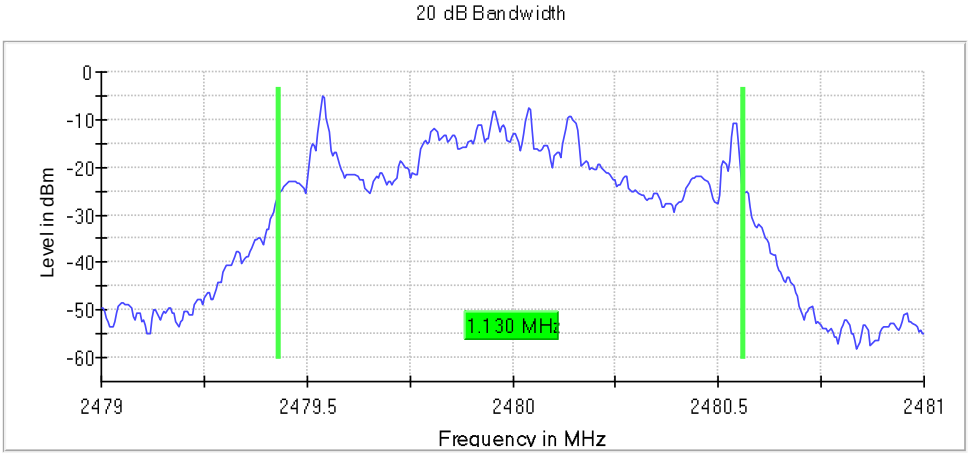
Lowest Channel



Middle Channel

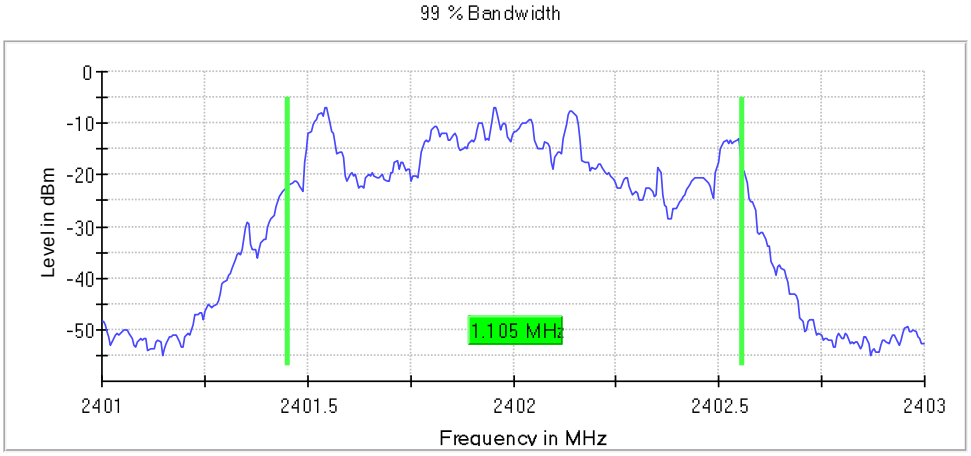


Highest Channel

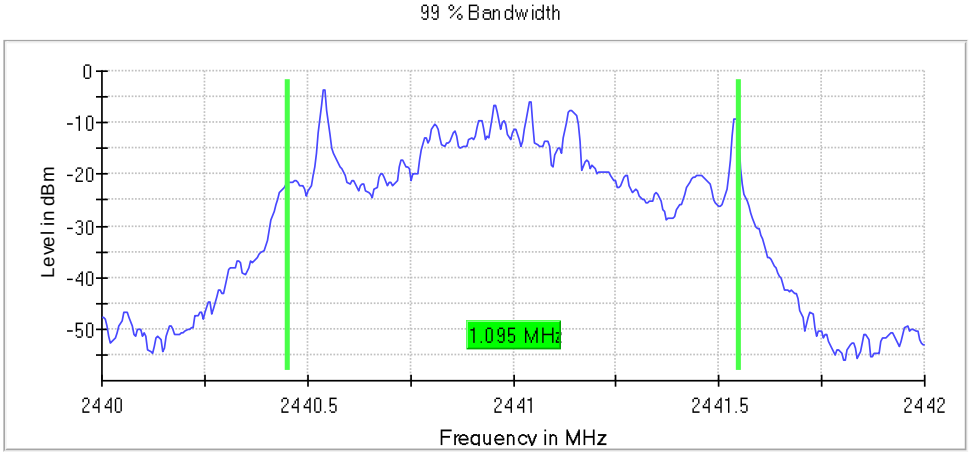


TEST RESULTS (Cont.)	99% OCCUPIED BANDWIDTH

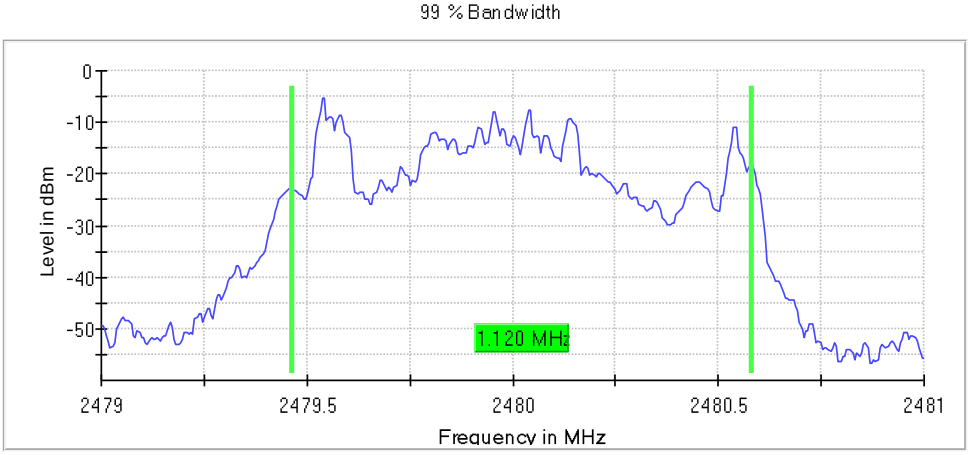
Lowest Channel



Middle Channel



Highest Channel



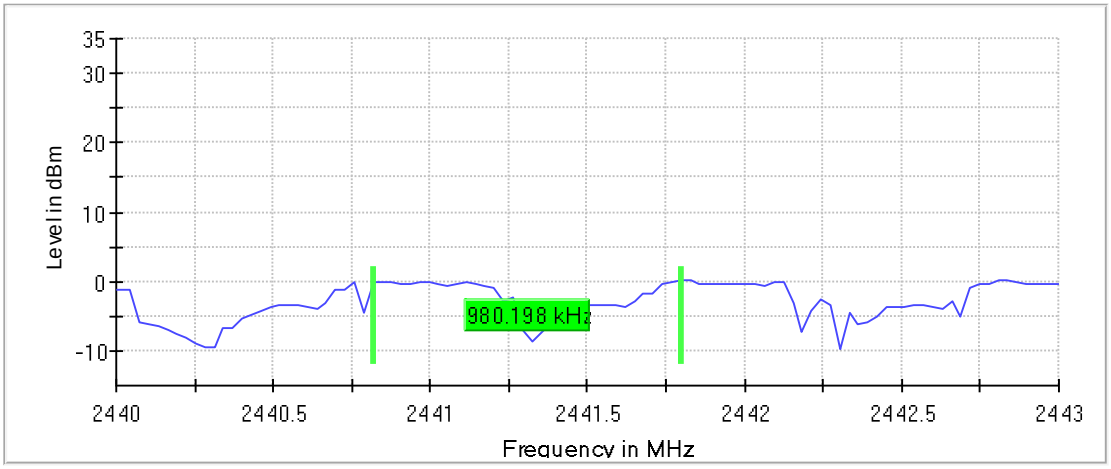
TEST RESULTS (Cont.):	99% OCCUPIED BANDWIDTH

Measurement Set- up

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.40100 GHz	2.44000 GHz	2.47900 GHz
Stop Frequency	2.40300 GHz	2.44200 GHz	2.48100 GHz
Span	2.000 MHz	2.000 MHz	2.000 MHz
RBW	10.000 kHz	10.000 kHz	10.000 kHz
VBW	30.000 kHz	30.000 kHz	30.000 kHz
Sweep Points	400	400	400
Sweep time	419.000 µs	419.000 µs	419.000 µs
Reference Level	0.000 dBm	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	10.000 dB	10.000 dB
Detector	MaxPeak	MaxPeak	MaxPeak
Sweep Count	500	500	500
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	15 / max. 150	9 / max. 150	21 / max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.05 dB	0.08 dB	0.03 dB

TEST RESULTS (Cont.)	CARRIER FREQUENCY SEPARATION

CFS



The hopping channel carrier frequencies are separated by a minimum of the two-thirds of the 20 dB bandwidth of the hopping channel.

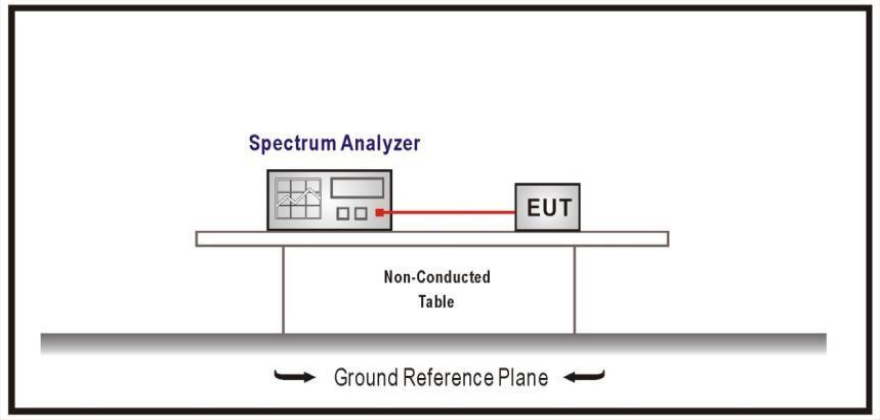
TEST A.2: NUMBER OF HOPPING CHANNELS

LIMITS:	Product standard:	Part 15 Subpart C §15.247 and RSS-247
	Test standard:	Part 15 Subpart C §15.247(a) (1) (iii) and RSS-247 5.1 (d)

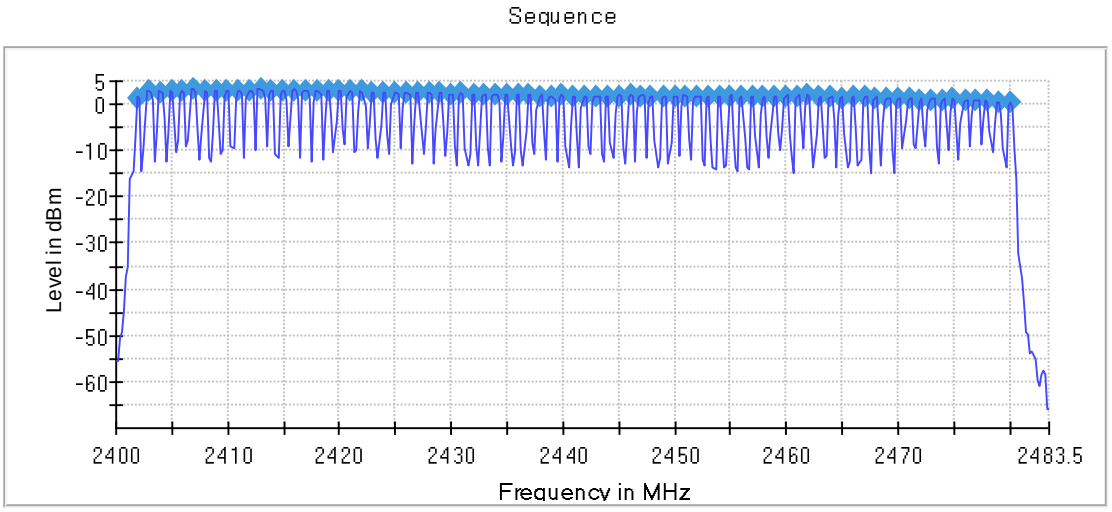
LIMITS

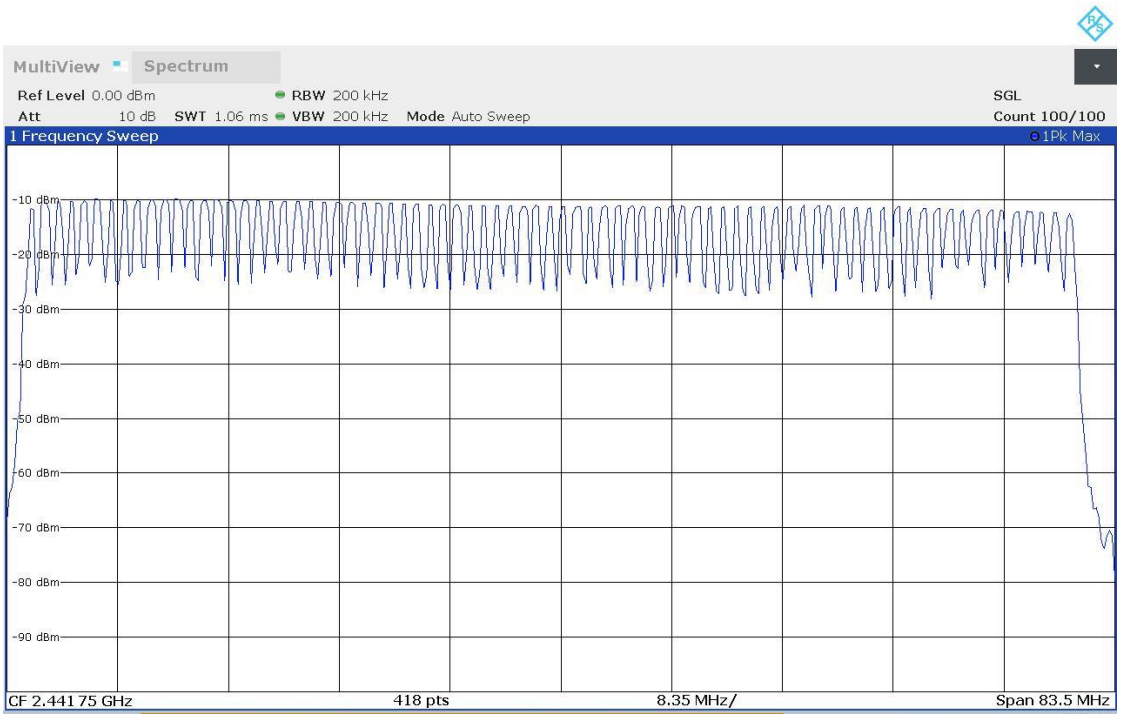
Frequency hopping system in the 2400-2483.5 MHz band shall use at least 15 channels.

TEST SETUP:



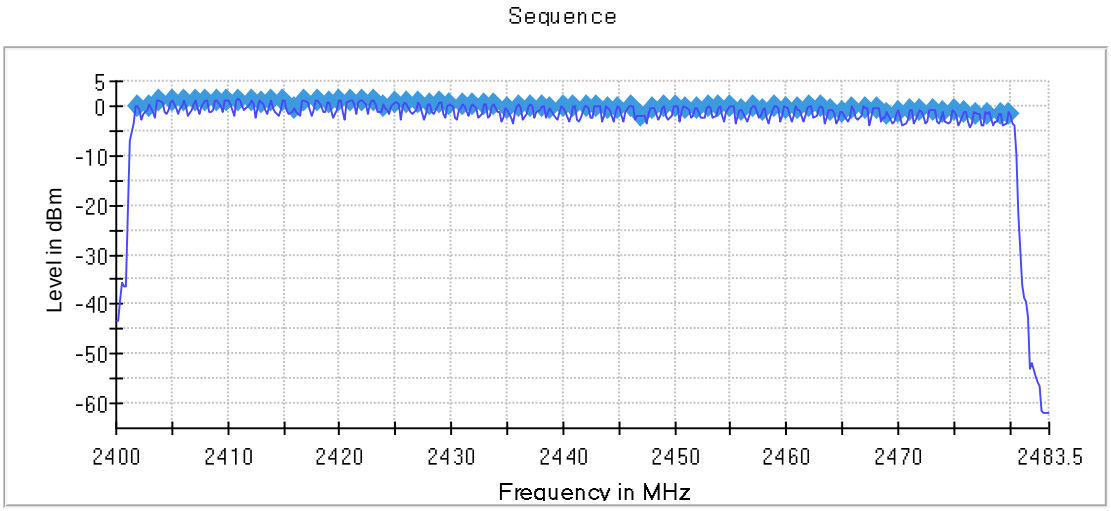
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01
TEST RESULTS:	PASS

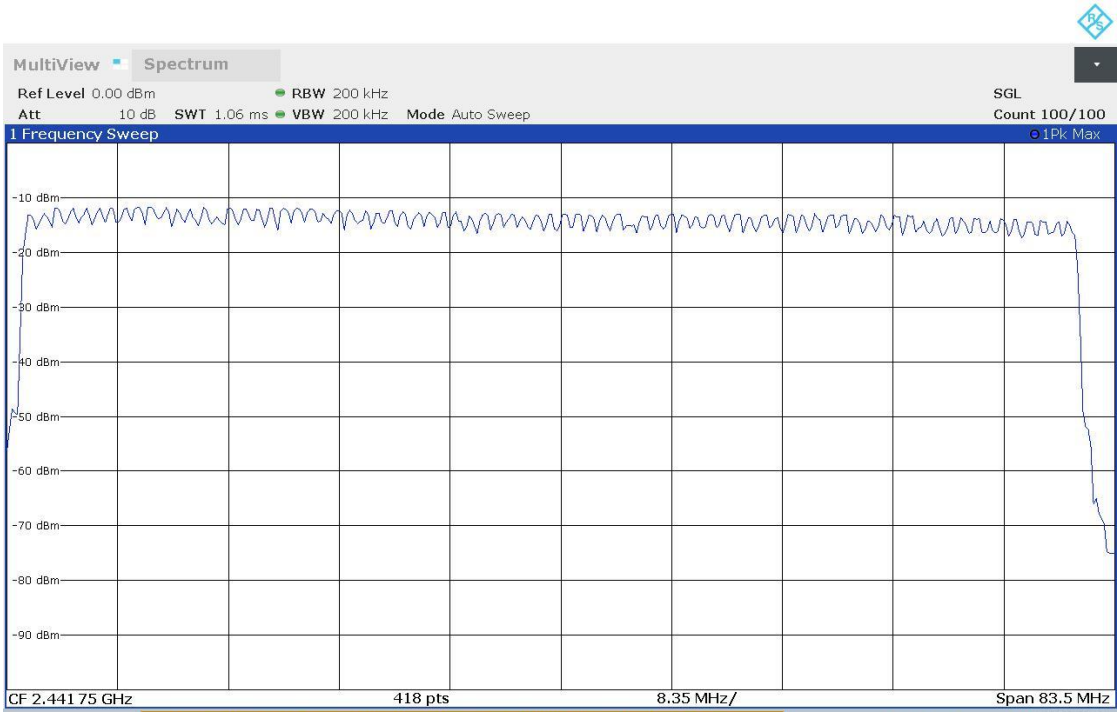




Number of Hopping Frequencies: 79

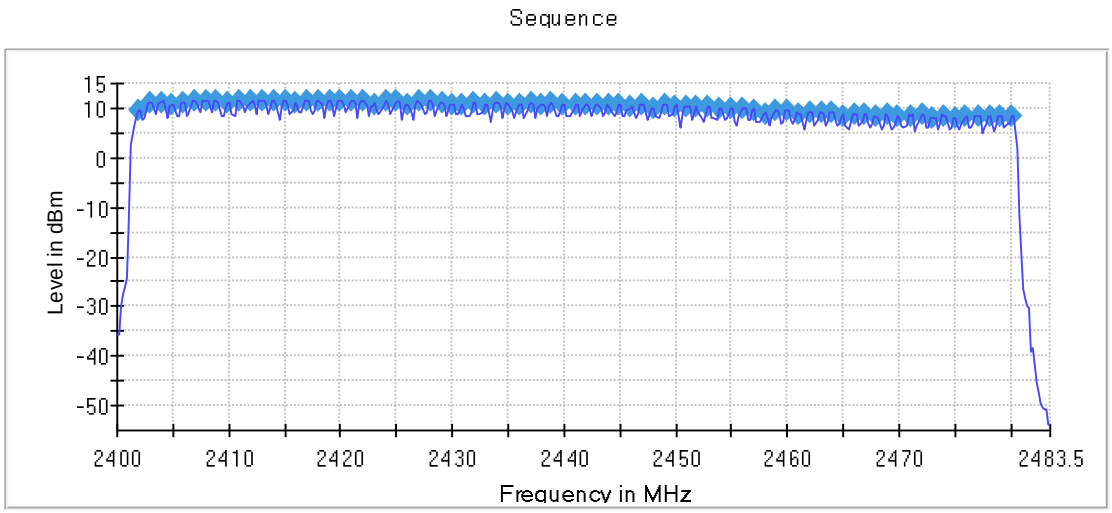
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02
TEST RESULTS:	PASS

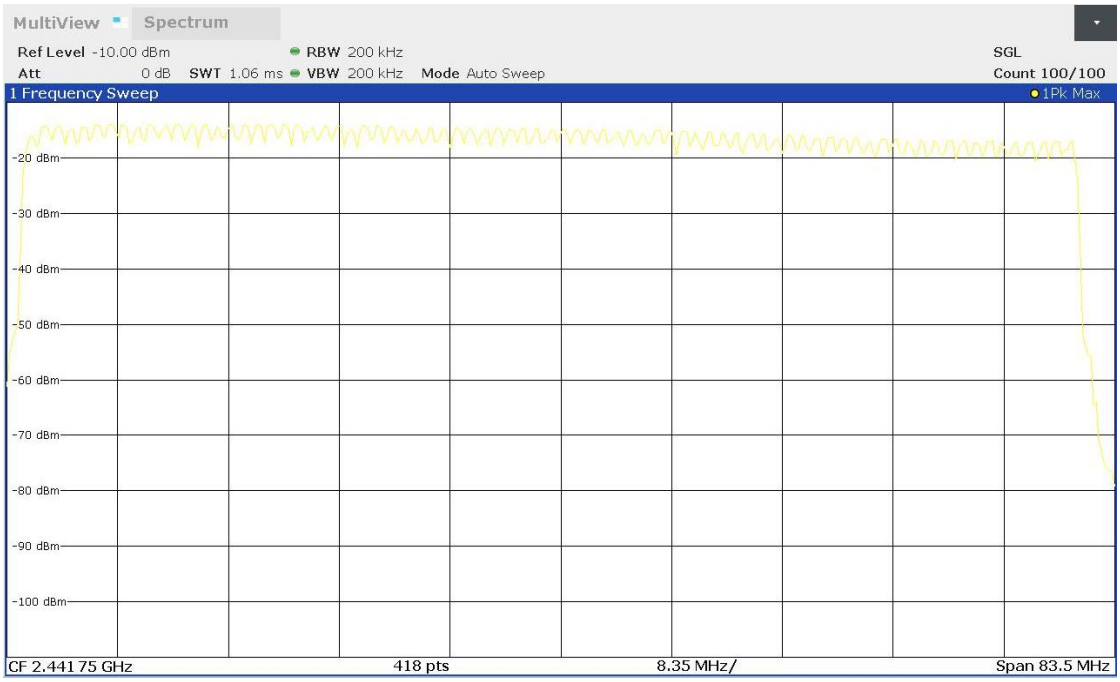




Number of Hopping Frequencies: 79

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03
TEST RESULTS:	PASS





Number of Hopping Frequencies: 79

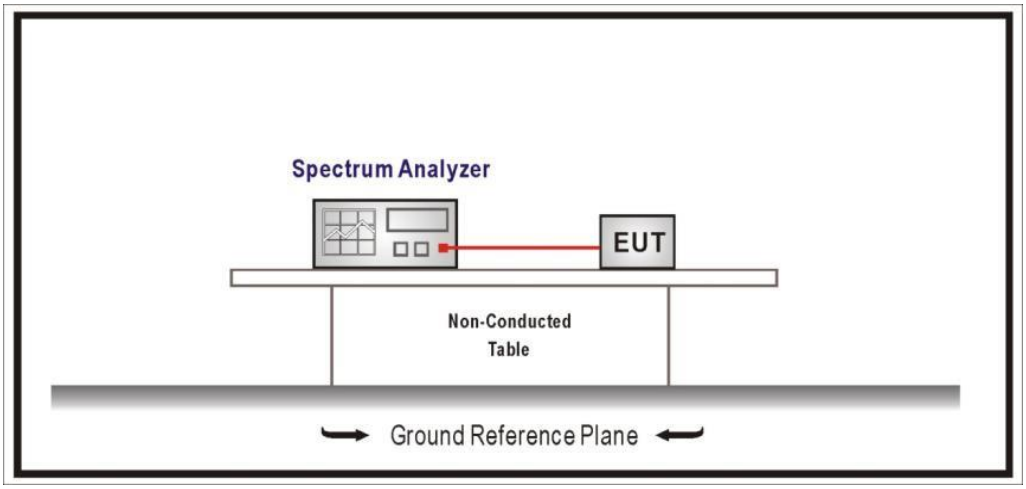
TEST A.3: TIME OF OCCUPANCY (DWELL TIME)

LIMITS:	Product standard:	Part 15 Subpart C §15.247 and RSS-247
	Test standard:	Part 15 Subpart C §15.247(a)(1)(iii) and RSS-247 5.1(d)

LIMITS

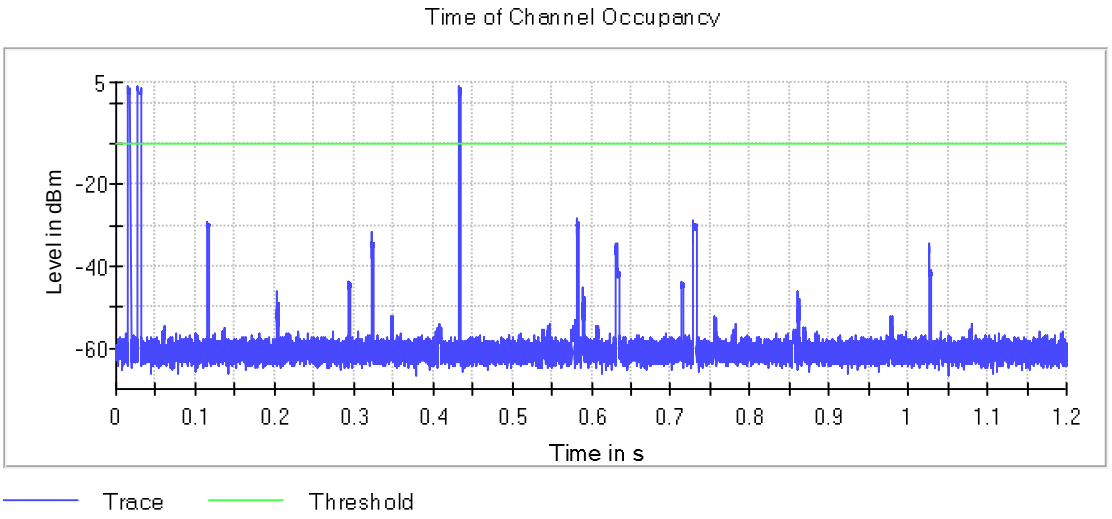
The average time of occupancy on any channel shall not be greater than 0.4 seconds (400 ms) within a period of 0.4 seconds multiplied by the number of hopping channels employed = 0.4 x 79= 31.6 seconds.

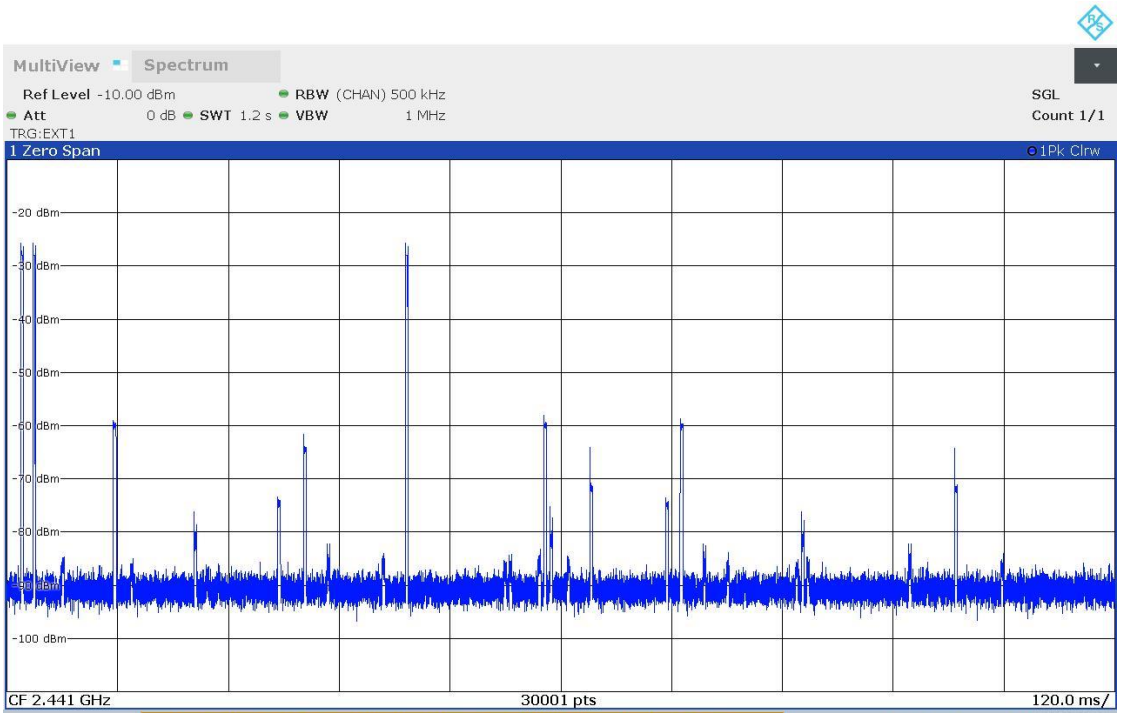
TEST SETUP:



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (GFSK)
TEST RESULTS:	PASS
TEST RESULTS (Cont.)	**PACKET TYPE DH5**

Transmit Time per Hop: 2.896 ms



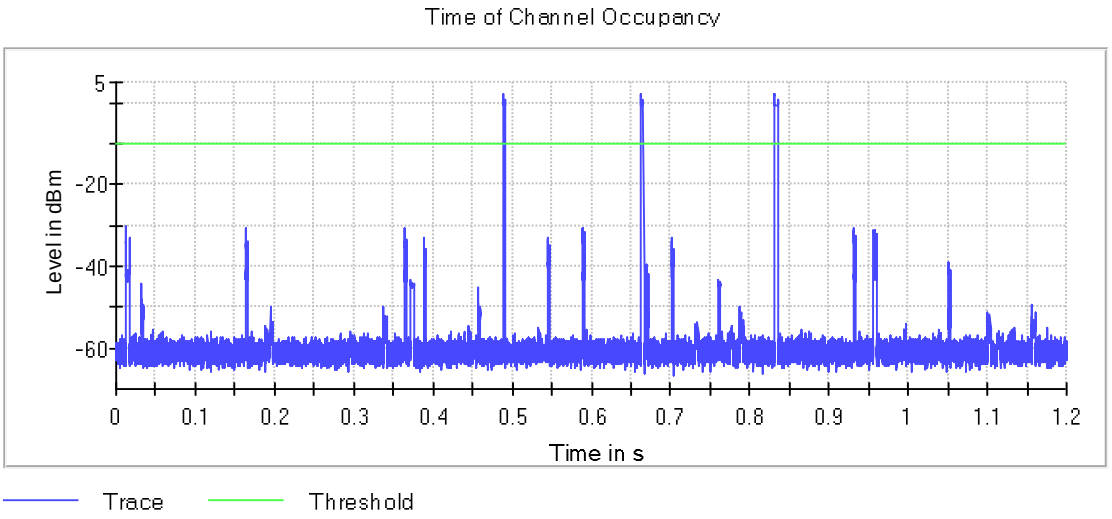


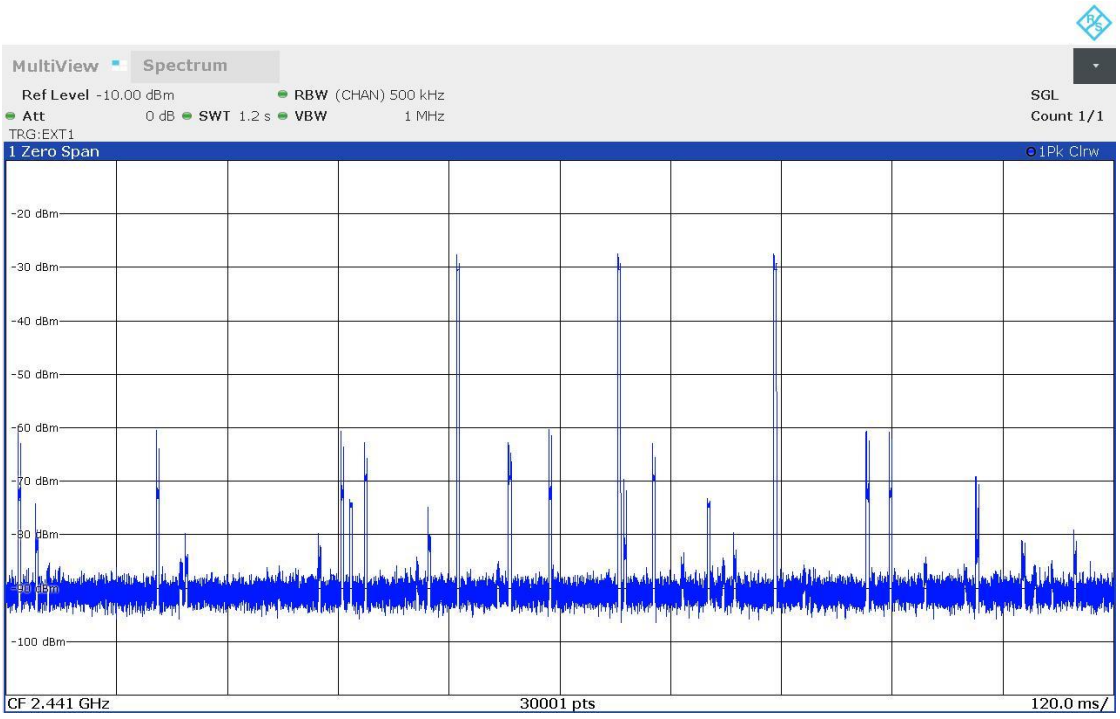
Number of hops over a period of 1.2 seconds: 3 hops.

Number of hops in the period specified in the requirements = (3 hops) x (31.6 s / 1.2 s) = 79 hops.
Averaging time of occupancy = 2.896 ms x 79 hops = 228.78 ms per 31.6 seconds.

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (π/4-DQPSK)
TEST RESULTS:	PASS
TEST RESULTS (Cont.)	**PACKET TYPE 2DH5**

Transmit Time per Hop: 2.902 ms



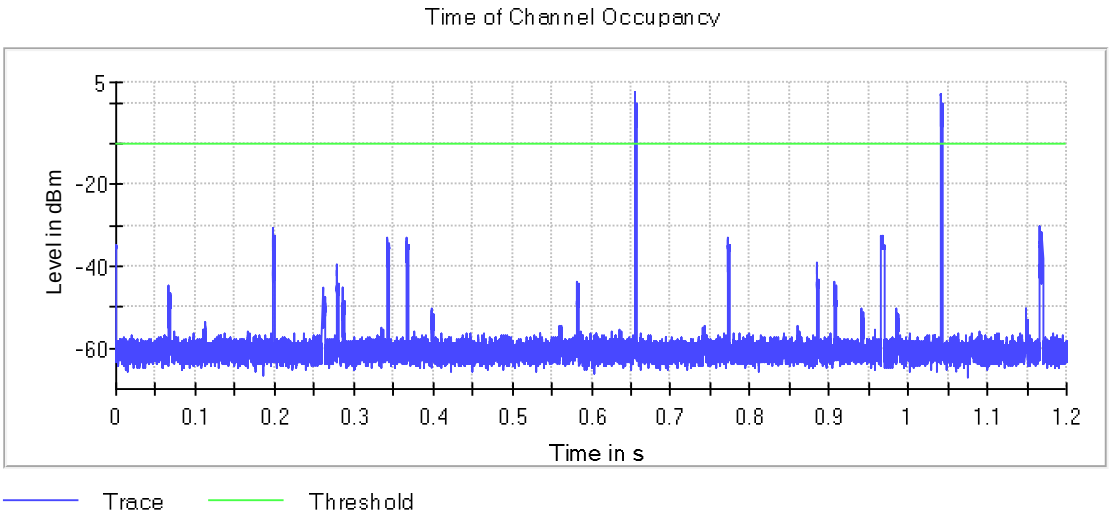


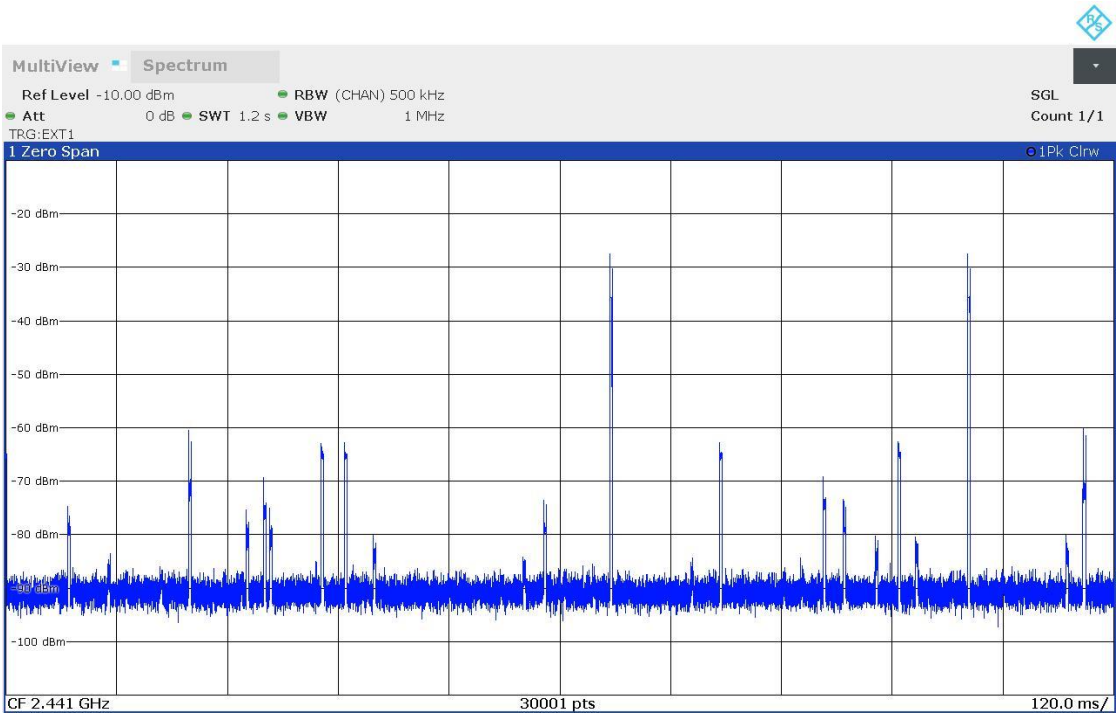
Number of hops over a period of 1.2 seconds: 3 hops.

Number of hops in the period specified in the requirements = (3 hops) x (31.6 s / 1.2 s) = 79 hops.
Averaging time of occupancy = 2.902 ms x 79 hops = 229.26 ms per 31.6 seconds.

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03 (8DPSK)
TEST RESULTS:	PASS
TEST RESULTS (Cont.)	**PACKET TYPE 3DH5**

Transmit Time per Hop: 2.901 ms





Number of hops over a period of 1.2 seconds: 2 hops.

Number of hops in the period specified in the requirements = (2 hops) x (31.6 s / 1.2 s) = 53 hops.
Averaging time of occupancy = 2.901 ms x 53 hops = 153.75 ms per 31.6 seconds.

TEST A.4: MAXIMUM PEAK CONDUCTED OUTPUT POWER AND ANTENNA GAIN

LIMITS:	Product standard:	Part 15 Subpart C §15.247 and RSS-247
	Test standard:	Part 15 Subpart C §15.247(b) (3) and RSS-247 5.4(b)

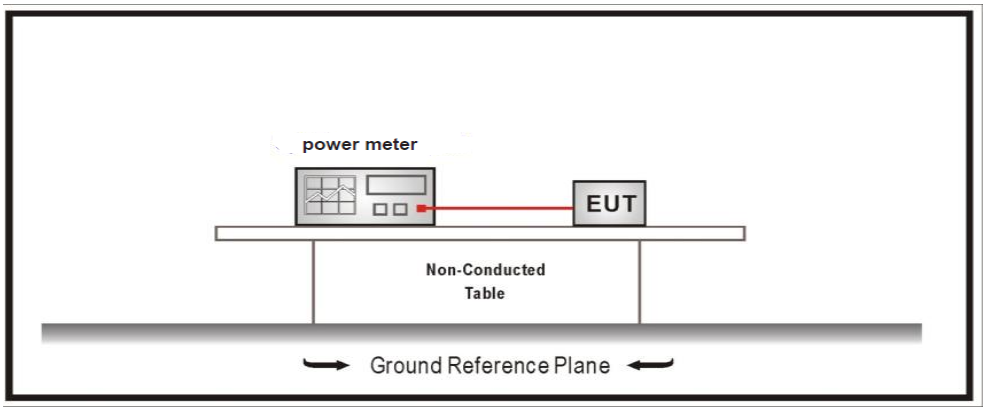
LIMITS

For Frequency Hopping systems operating in the 2400 – 2483.5 MHz band employing at least 75 hopping channels: 1 watt (30 dBm). (Part 15 Subpart C §15.247).

The e.i.r.p. shall not exceed 4 W (RSS-247).

TEST SETUP	

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
TEST RESULTS:	PASS

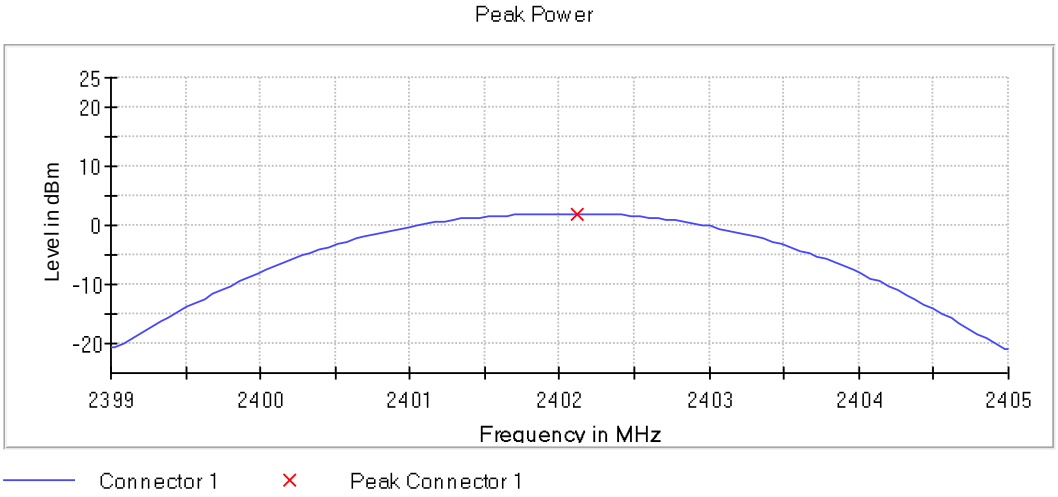
Maximum declared antenna gain: 4.04 dBi

	Lowest frequency 2402 MHz	Middle frequency 2441 MHz	Highest frequency 2480 MHz
Maximum conducted power (dBm)	2.0	2.2	0.9
Maximum EIRP power (dBm)	6.04	6.24	4.94

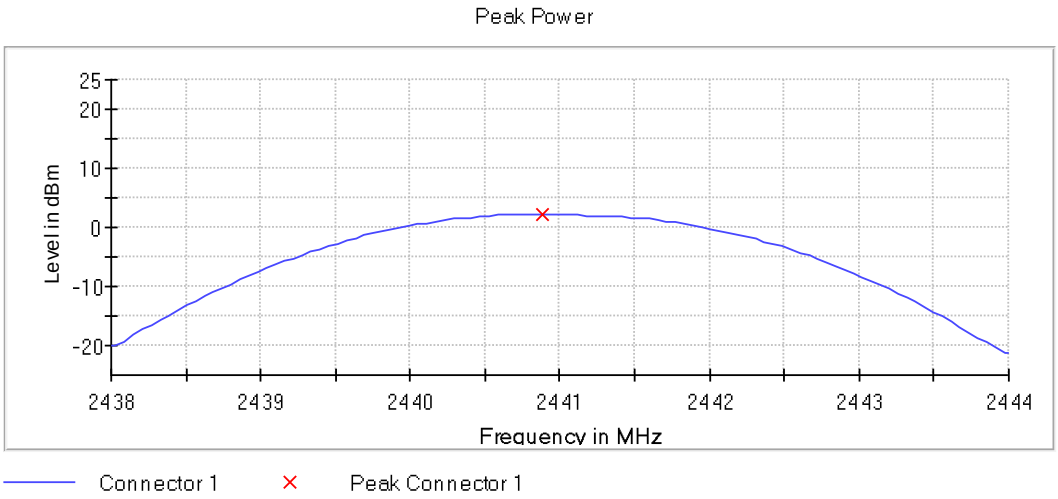
The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

TEST RESULTS (Cont.):	CONDUCTED OUTPUT POWER

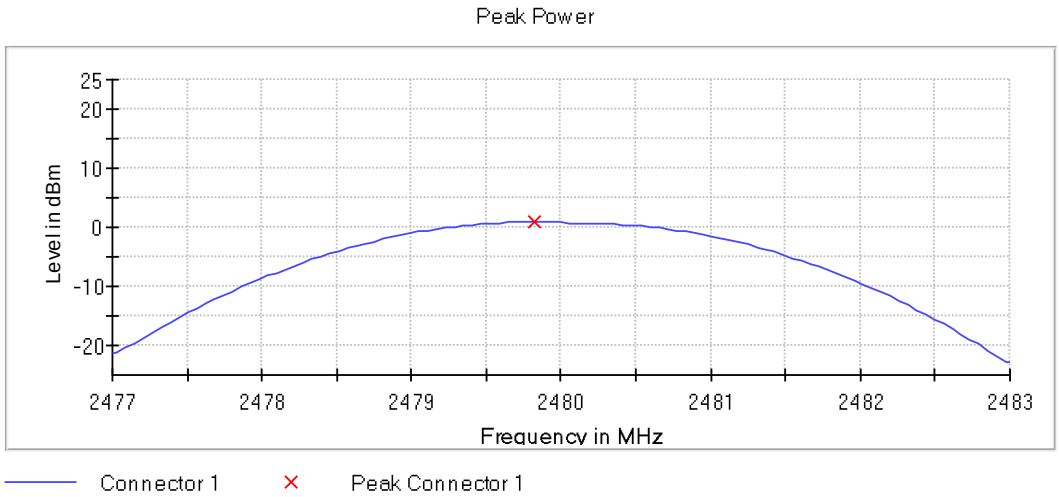
Lowest Channel



Middle Channel



Highest Channel



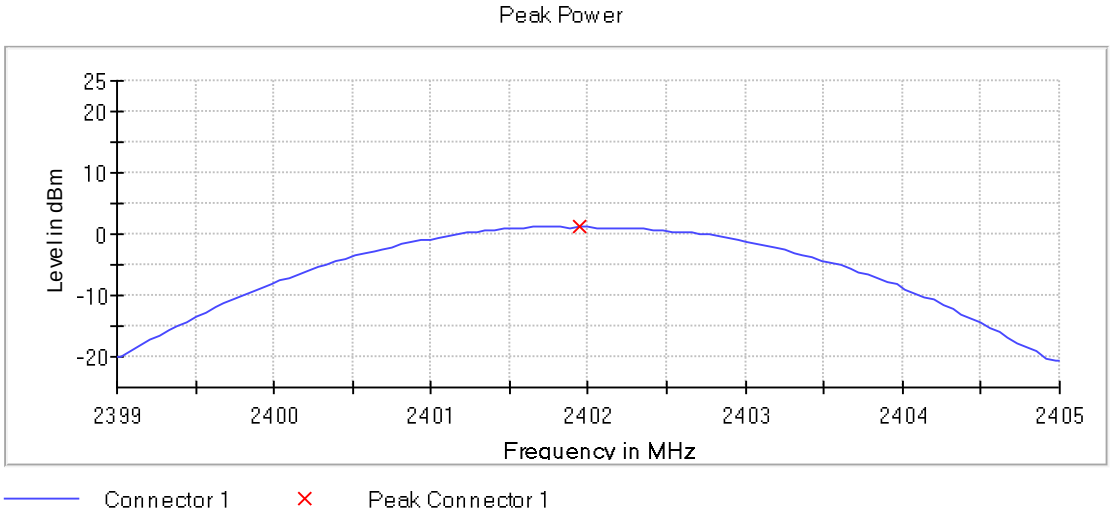
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02
TEST RESULTS:	PASS

Maximum declared antenna gain: 4.04 dBi

	Lowest frequency 2402 MHz	Middle frequency 2441 MHz	Highest frequency 2480 MHz
Maximum conducted power (dBm)	1.3	1.4	0.0
Maximum EIRP power (dBm)	5.34	5.44	4.04

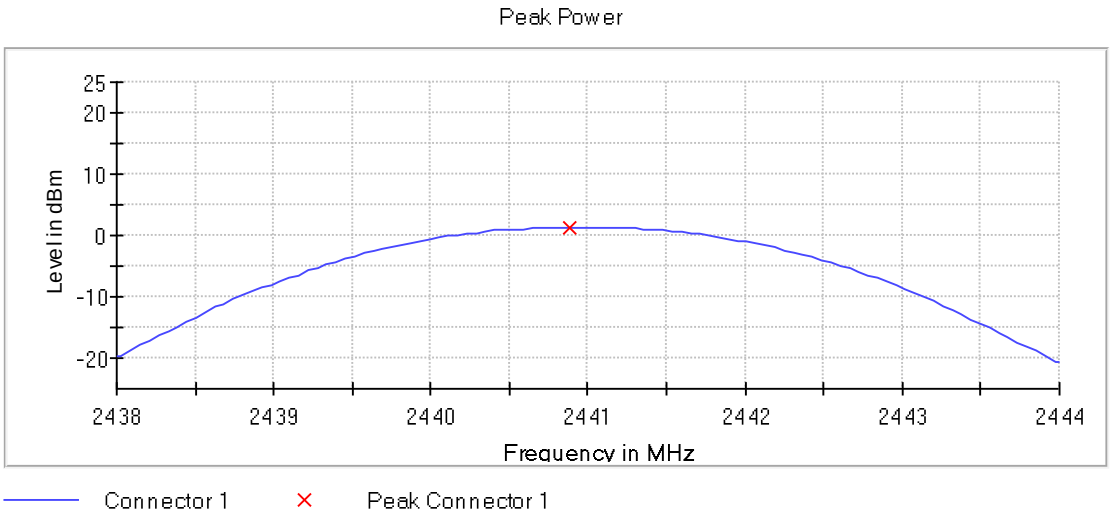
The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

Lowest Channel

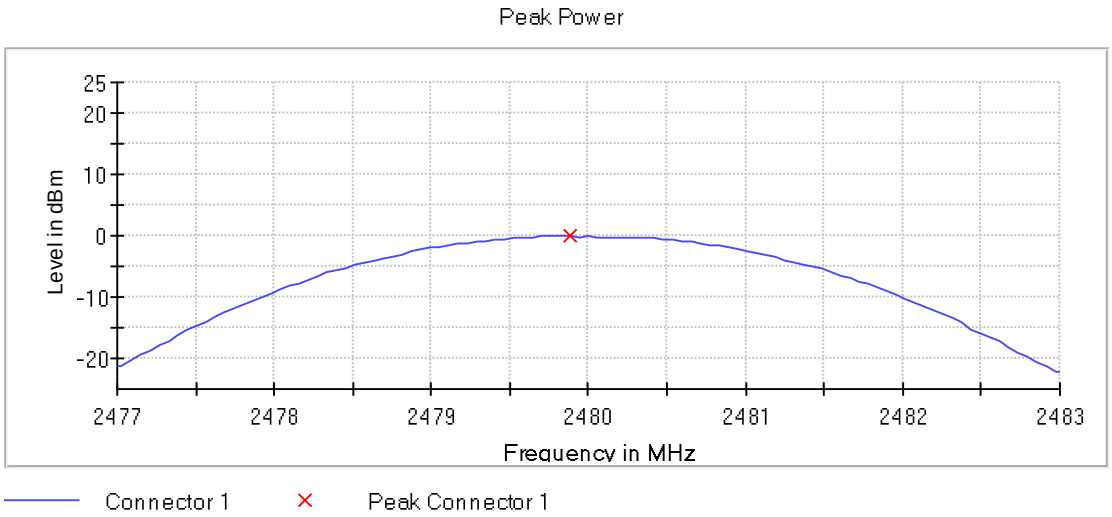


TEST RESULTS (Cont.)	CONDUCTED OUTPUT POWER

Middle Channel



Highest Channel



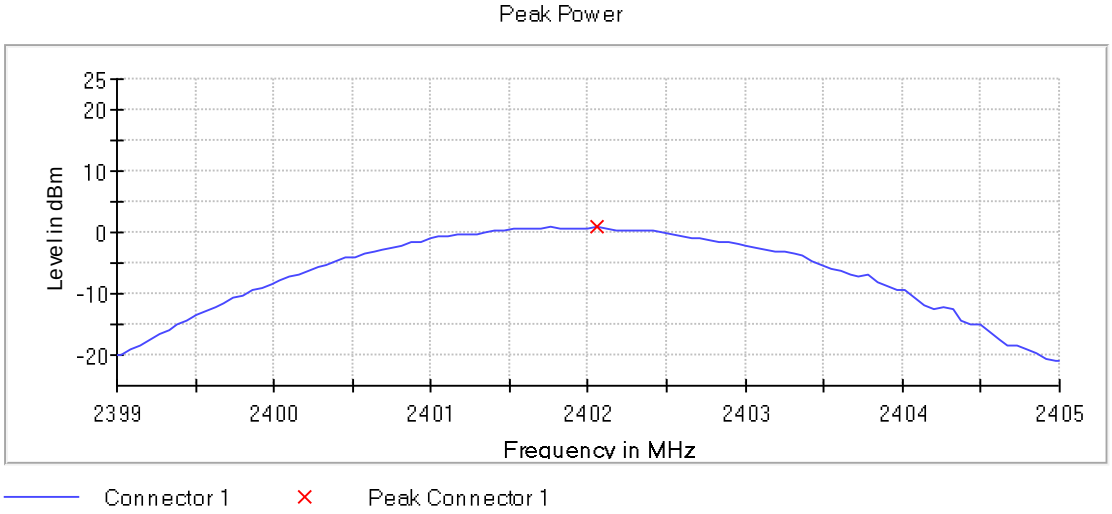
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03
TEST RESULTS:	PASS

Maximum declared antenna gain: 4.04 dBi

	Lowest frequency 2402 MHz	Middle frequency 2441 MHz	Highest frequency 2480 MHz
Maximum conducted power (dBm)	0.8	1.0	-0.4
Maximum EIRP power (dBm)	4.84	5.04	3.64

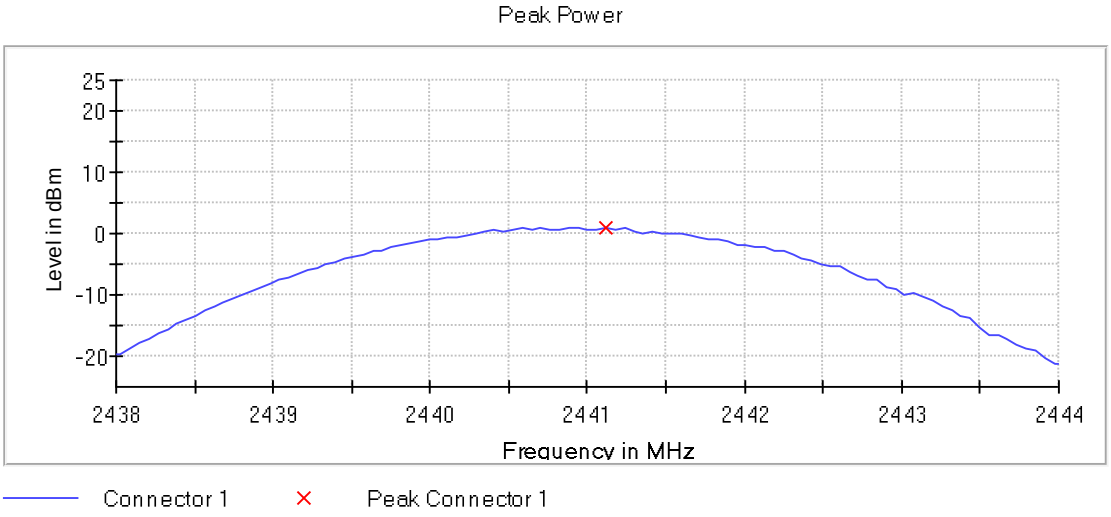
The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

Lowest Channel

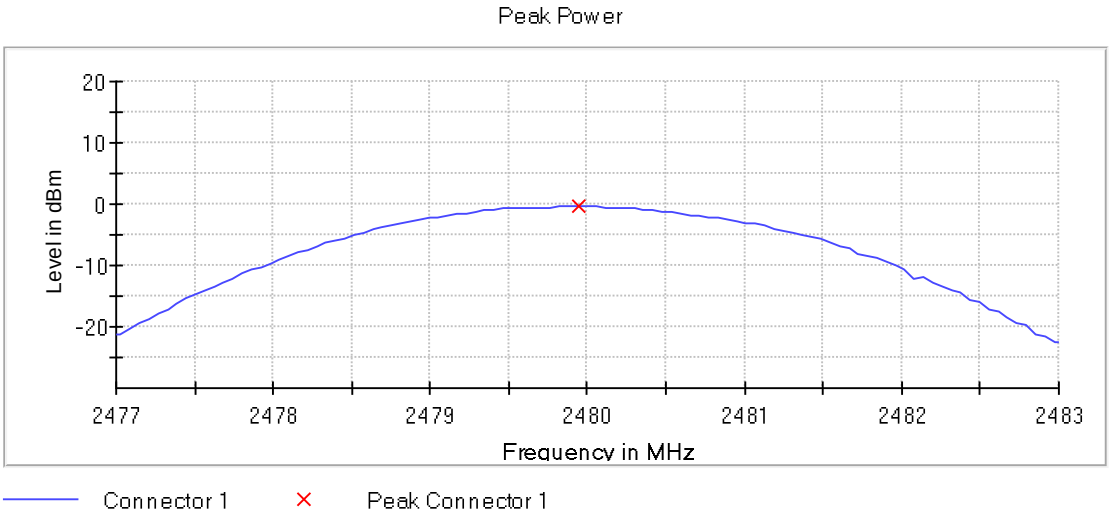


TEST RESULTS (Cont.)

Middle Channel



Highest Channel



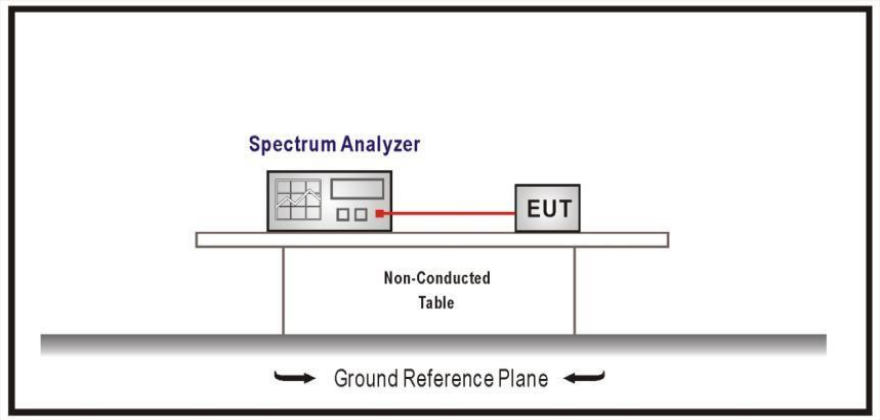
TEST A.5: BAND-EDGE EMISSIONS COMPLIANCE (TRANSMITTER)

LIMITS:	Product standard:	Part 15 Subpart C §15.247 and RSS-247
	Test standard:	Part 15 Subpart C §15.247(d) and RSS-247 5.5

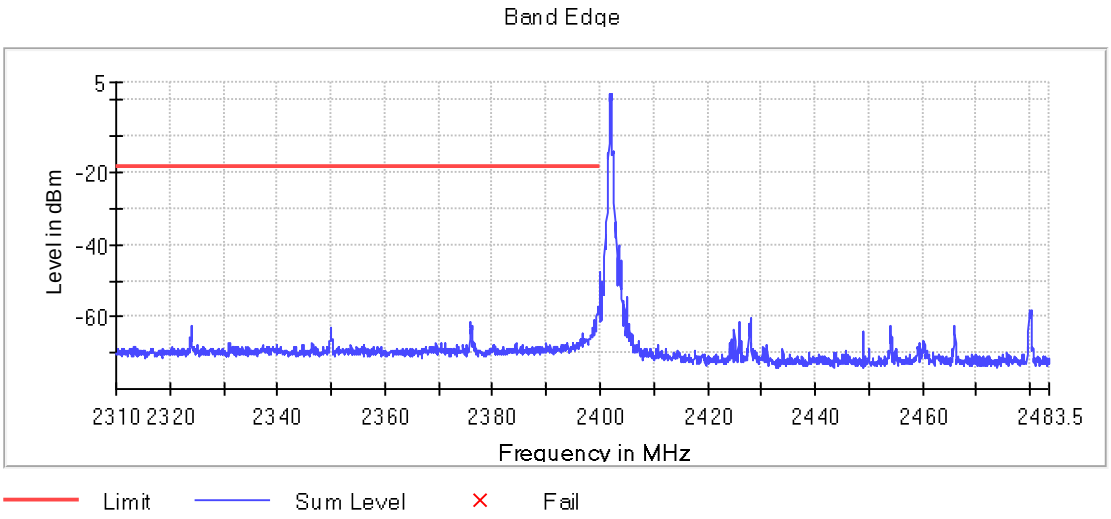
LIMITS

Emissions outside the frequency band in which the intentional radiator is operating shall be at least 20dB below the highest level of the desired power.

TEST SETUP



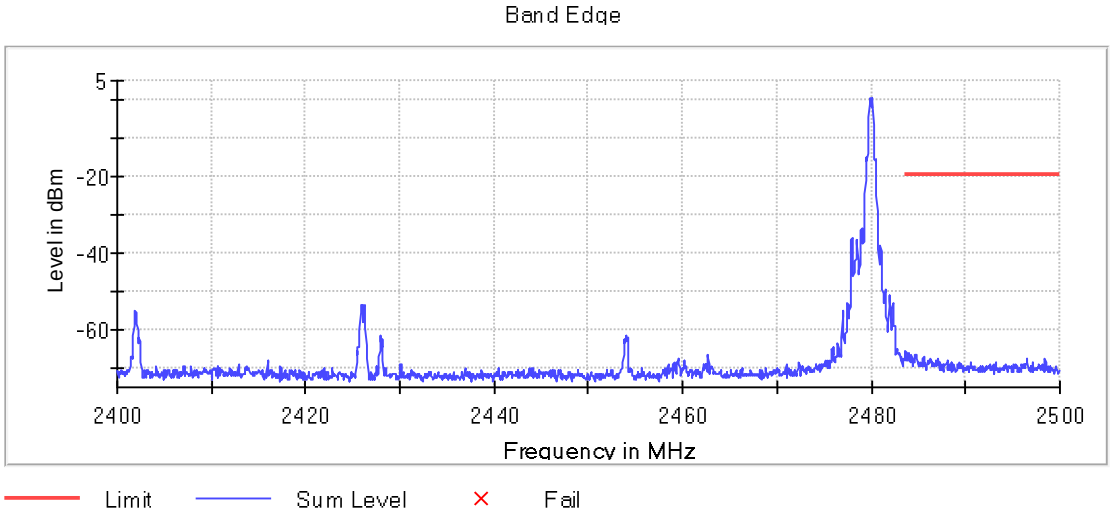
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01
TEST RESULTS:	PASS
TEST RESULTS (Cont.)	**HOPPING OFF (Lowest channel)**



Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.975000	-47.7	29.4	-18.3	PASS
2399.925000	-47.9	29.6	-18.3	PASS
2399.875000	-52.5	34.2	-18.3	PASS
2399.625000	-57.3	39.0	-18.3	PASS
2399.675000	-57.5	39.2	-18.3	PASS
2399.725000	-57.8	39.5	-18.3	PASS
2399.575000	-58.1	39.8	-18.3	PASS
2399.825000	-58.4	40.1	-18.3	PASS
2399.475000	-58.9	40.6	-18.3	PASS
2399.775000	-59.4	41.1	-18.3	PASS
2399.525000	-59.4	41.1	-18.3	PASS
2399.425000	-59.7	41.4	-18.3	PASS
2398.975000	-60.7	42.4	-18.3	PASS
2398.925000	-61.3	43.0	-18.3	PASS
2399.375000	-61.6	43.3	-18.3	PASS

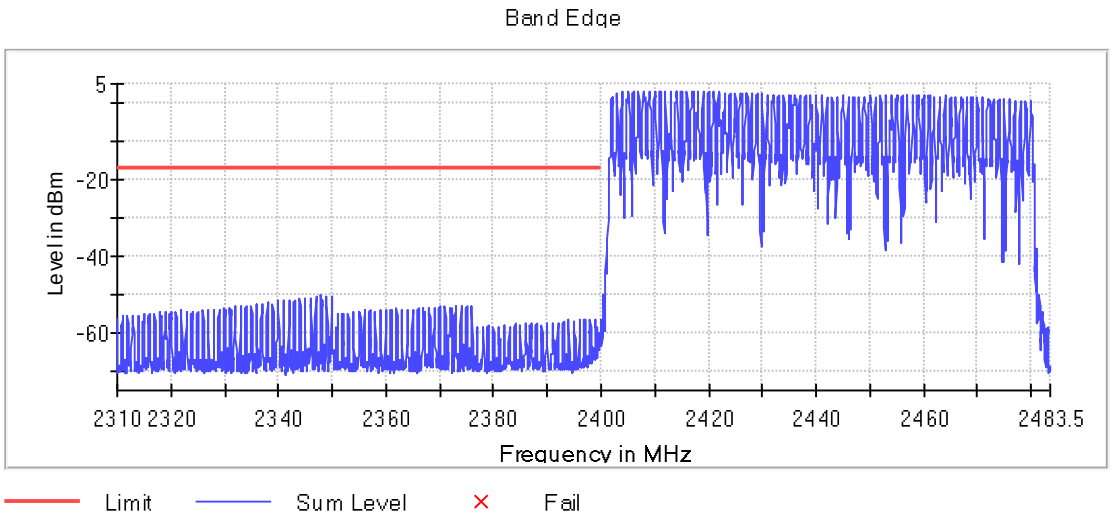
TEST RESULTS (Cont.):	HOPPING OFF (Highest channel)



Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2483.675000	-65.3	45.8	-19.5	PASS
2483.725000	-65.9	46.4	-19.5	PASS
2483.975000	-66.1	46.5	-19.5	PASS
2483.575000	-66.2	46.7	-19.5	PASS
2483.925000	-66.2	46.7	-19.5	PASS
2483.525000	-66.5	47.0	-19.5	PASS
2484.275000	-66.5	47.0	-19.5	PASS
2484.675000	-66.7	47.2	-19.5	PASS
2484.725000	-66.7	47.2	-19.5	PASS
2483.775000	-66.7	47.2	-19.5	PASS
2484.775000	-66.7	47.2	-19.5	PASS
2483.625000	-66.8	47.3	-19.5	PASS
2485.525000	-66.9	47.4	-19.5	PASS
2484.325000	-67.3	47.8	-19.5	PASS
2485.475000	-67.4	47.9	-19.5	PASS

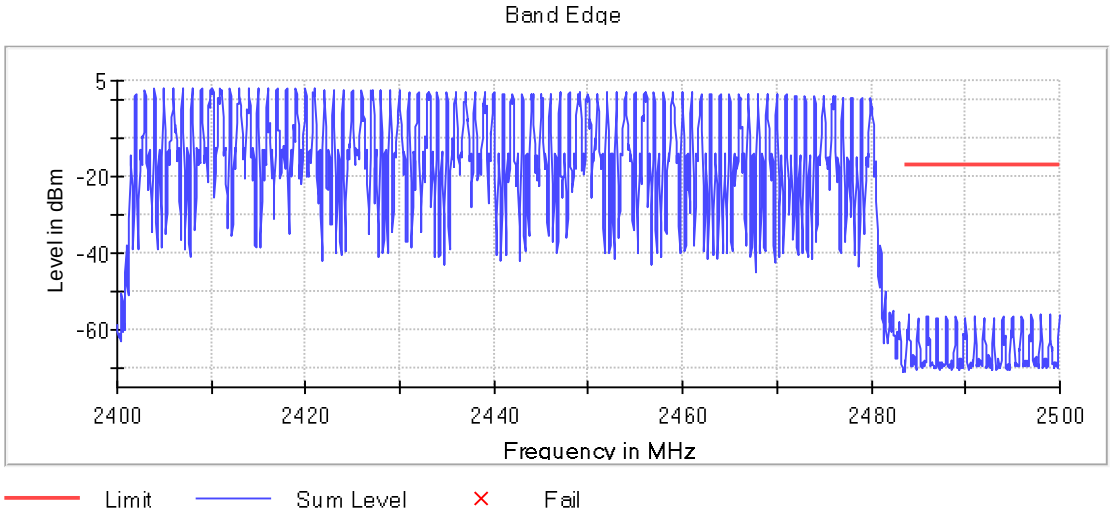
TEST RESULTS (Cont.):	HOPPING ON (Lowest channel)



Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2347.975000	-50.1	33.2	-16.9	PASS
2349.975000	-50.3	33.4	-16.9	PASS
2348.975000	-50.4	33.5	-16.9	PASS
2347.925000	-50.4	33.5	-16.9	PASS
2346.975000	-50.6	33.6	-16.9	PASS
2349.925000	-50.6	33.7	-16.9	PASS
2348.925000	-50.7	33.7	-16.9	PASS
2344.975000	-50.9	33.9	-16.9	PASS
2346.925000	-50.9	34.0	-16.9	PASS
2345.975000	-50.9	34.0	-16.9	PASS
2343.975000	-51.1	34.2	-16.9	PASS
2349.875000	-51.1	34.2	-16.9	PASS
2344.925000	-51.2	34.3	-16.9	PASS
2342.975000	-51.4	34.4	-16.9	PASS
2345.925000	-51.4	34.4	-16.9	PASS

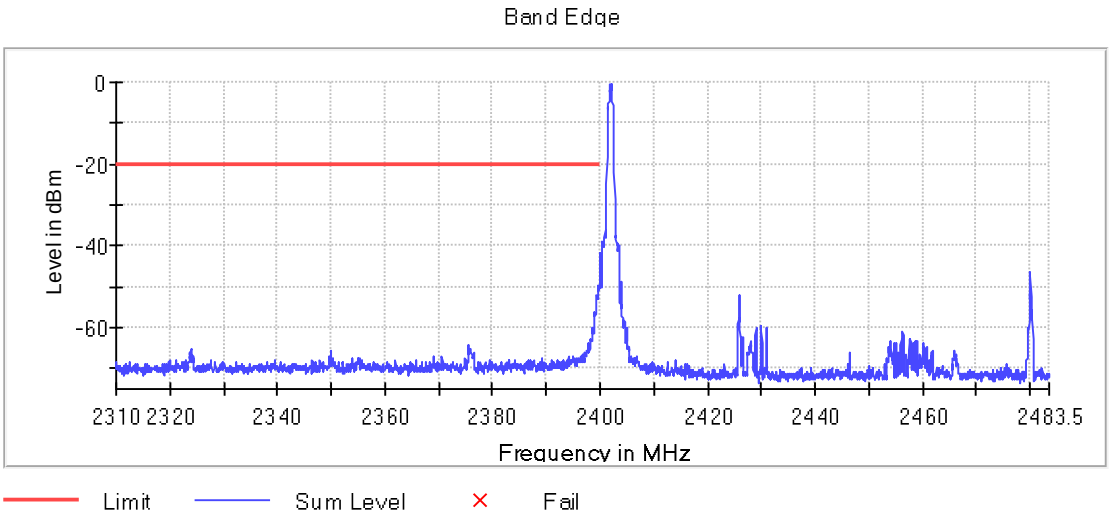
TEST RESULTS (Cont.):	HOPPING ON (Highest channel)



Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2496.975000	-55.8	38.8	-17.0	PASS
2497.975000	-55.9	38.9	-17.0	PASS
2483.975000	-55.9	38.9	-17.0	PASS
2498.975000	-56.0	39.0	-17.0	PASS
2499.975000	-56.2	39.1	-17.0	PASS
2500.000000	-56.2	39.1	-17.0	PASS
2487.975000	-56.4	39.4	-17.0	PASS
2488.975000	-56.4	39.4	-17.0	PASS
2499.925000	-56.4	39.4	-17.0	PASS
2494.975000	-56.4	39.4	-17.0	PASS
2495.975000	-56.4	39.4	-17.0	PASS
2496.925000	-56.5	39.5	-17.0	PASS
2485.975000	-56.5	39.5	-17.0	PASS
2493.975000	-56.5	39.5	-17.0	PASS
2490.975000	-56.6	39.6	-17.0	PASS

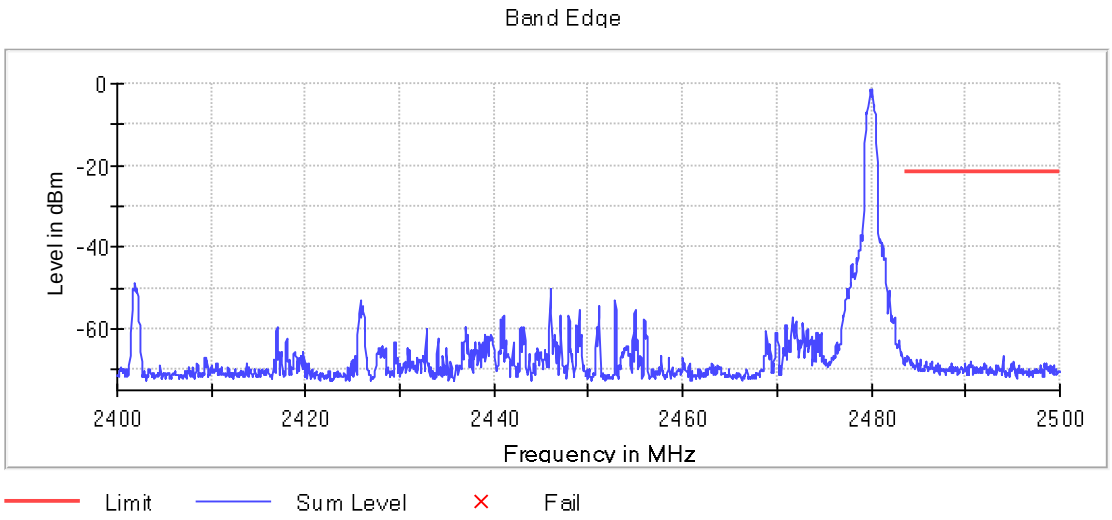
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (π/4-DQPSK)
TEST RESULTS:	PASS
TEST RESULTS (Cont.)	**HOPPING OFF (Lowest channel)**



Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.975000	-41.6	21.3	-20.3	PASS
2399.925000	-42.6	22.3	-20.3	PASS
2399.875000	-46.6	26.3	-20.3	PASS
2399.625000	-49.6	29.3	-20.3	PASS
2399.825000	-49.9	29.6	-20.3	PASS
2399.675000	-50.4	30.1	-20.3	PASS
2399.575000	-50.5	30.2	-20.3	PASS
2399.725000	-50.6	30.3	-20.3	PASS
2399.775000	-51.1	30.8	-20.3	PASS
2399.425000	-52.2	31.9	-20.3	PASS
2399.475000	-52.3	32.0	-20.3	PASS
2399.525000	-52.9	32.6	-20.3	PASS
2399.375000	-53.0	32.7	-20.3	PASS
2399.325000	-53.3	33.0	-20.3	PASS
2399.275000	-54.4	34.1	-20.3	PASS

TEST RESULTS (Cont.):	HOPPING OFF (Highest channel)

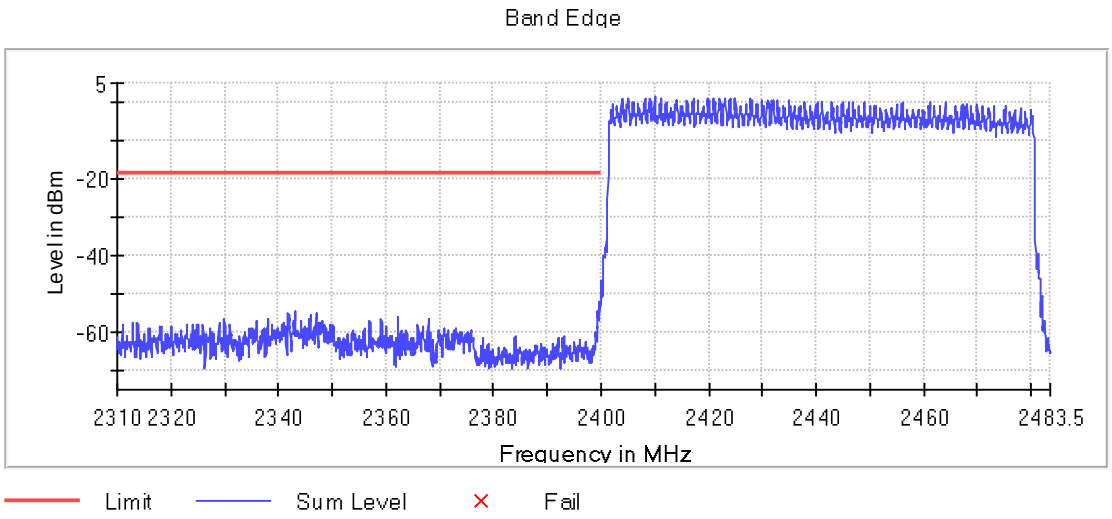


Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2494.025000	-66.3	44.9	-21.4	PASS
2493.975000	-66.4	45.0	-21.4	PASS
2483.875000	-66.6	45.2	-21.4	PASS
2483.925000	-66.9	45.5	-21.4	PASS
2483.975000	-66.9	45.5	-21.4	PASS
2483.525000	-67.1	45.7	-21.4	PASS
2483.575000	-67.2	45.8	-21.4	PASS
2484.825000	-67.3	45.9	-21.4	PASS
2484.875000	-67.3	45.9	-21.4	PASS
2483.825000	-67.4	46.0	-21.4	PASS
2484.075000	-67.6	46.2	-21.4	PASS
2485.175000	-67.6	46.2	-21.4	PASS
2484.025000	-67.6	46.2	-21.4	PASS
2484.275000	-67.7	46.3	-21.4	PASS
2483.625000	-67.7	46.3	-21.4	PASS

TEST RESULTS (Cont.):	HOPPING ON (Lowest channel)

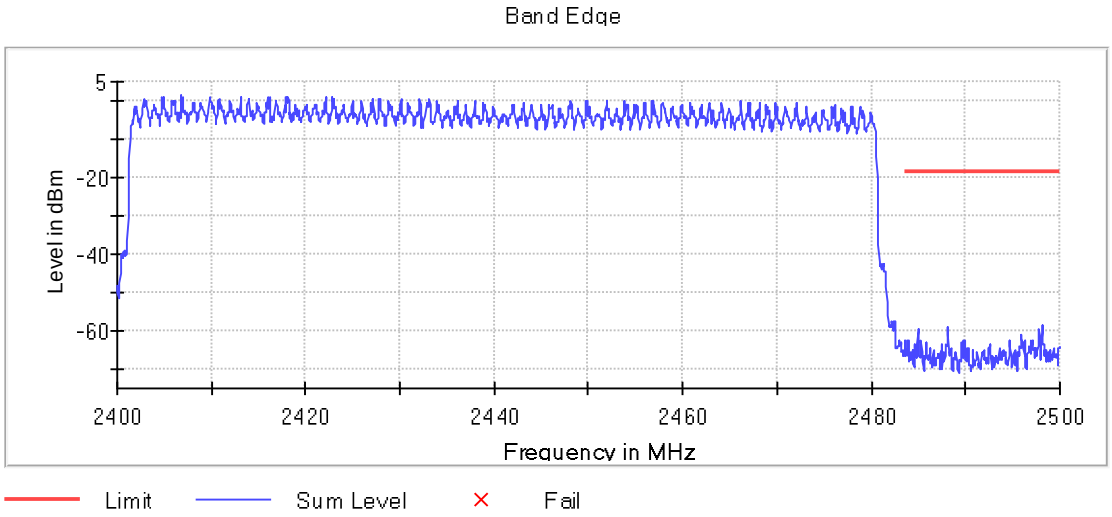
Low**est Channel**



Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.975000	-47.3	28.5	-18.7	PASS
2399.925000	-49.8	31.1	-18.7	PASS
2399.875000	-49.9	31.2	-18.7	PASS
2399.575000	-52.0	33.2	-18.7	PASS
2399.625000	-52.2	33.5	-18.7	PASS
2399.825000	-52.6	33.8	-18.7	PASS
2399.525000	-53.9	35.1	-18.7	PASS
2343.075000	-54.6	35.9	-18.7	PASS
2399.775000	-54.7	35.9	-18.7	PASS
2399.375000	-54.7	36.0	-18.7	PASS
2399.675000	-55.0	36.3	-18.7	PASS
2346.975000	-55.1	36.3	-18.7	PASS
2341.825000	-55.1	36.4	-18.7	PASS
2399.725000	-55.1	36.4	-18.7	PASS
2341.875000	-55.3	36.5	-18.7	PASS

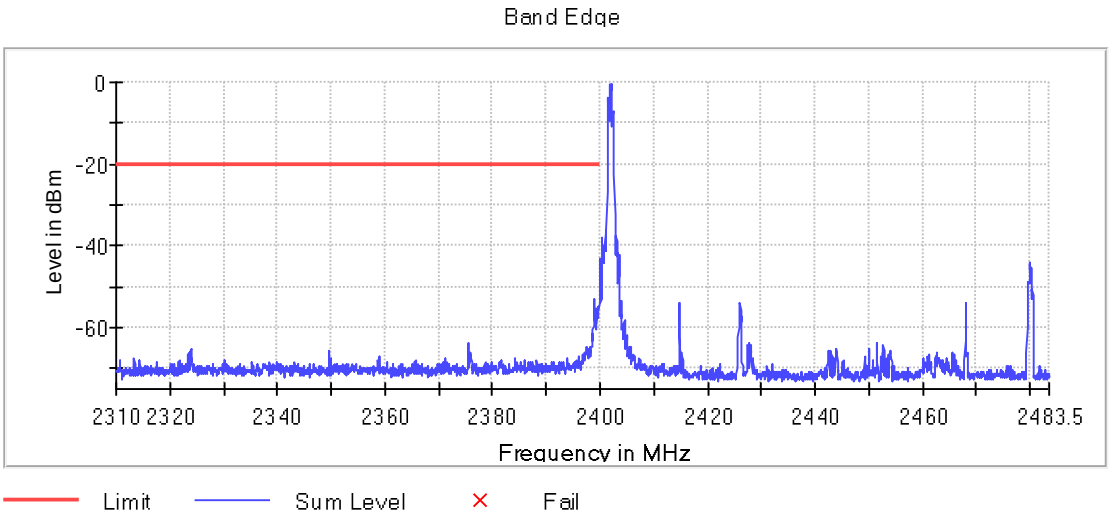
TEST RESULTS (Cont.):	HOPPING ON (Highest channel)



Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2498.125000	-58.4	39.7	-18.7	PASS
2498.175000	-58.7	40.0	-18.7	PASS
2488.125000	-59.2	40.5	-18.7	PASS
2497.825000	-59.3	40.6	-18.7	PASS
2497.775000	-59.7	40.9	-18.7	PASS
2484.975000	-59.7	41.0	-18.7	PASS
2484.925000	-59.9	41.2	-18.7	PASS
2498.075000	-60.3	41.6	-18.7	PASS
2495.925000	-60.9	42.1	-18.7	PASS
2488.175000	-60.9	42.2	-18.7	PASS
2488.075000	-61.0	42.2	-18.7	PASS
2495.875000	-61.1	42.4	-18.7	PASS
2485.025000	-61.6	42.8	-18.7	PASS
2497.875000	-61.8	43.1	-18.7	PASS
2495.975000	-62.2	43.5	-18.7	PASS

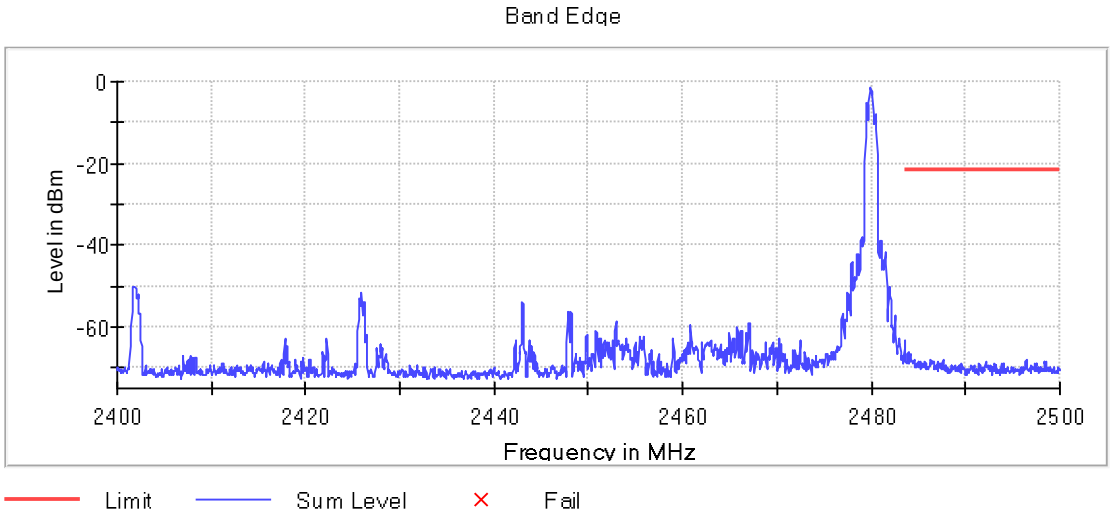
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03 (8DPSK)
TEST RESULTS:	PASS
TEST RESULTS (Cont.)	**HOPPING OFF (Lowest channel)**



Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.975000	-43.0	22.7	-20.3	PASS
2399.925000	-45.1	24.9	-20.3	PASS
2399.875000	-49.8	29.5	-20.3	PASS
2398.925000	-53.0	32.7	-20.3	PASS
2398.975000	-53.0	32.7	-20.3	PASS
2399.825000	-54.0	33.7	-20.3	PASS
2399.525000	-55.1	34.8	-20.3	PASS
2399.575000	-55.4	35.1	-20.3	PASS
2399.275000	-55.4	35.1	-20.3	PASS
2399.625000	-55.4	35.1	-20.3	PASS
2399.025000	-55.6	35.3	-20.3	PASS
2399.775000	-55.6	35.3	-20.3	PASS
2399.325000	-55.7	35.4	-20.3	PASS
2399.475000	-55.7	35.4	-20.3	PASS
2398.875000	-55.9	35.6	-20.3	PASS

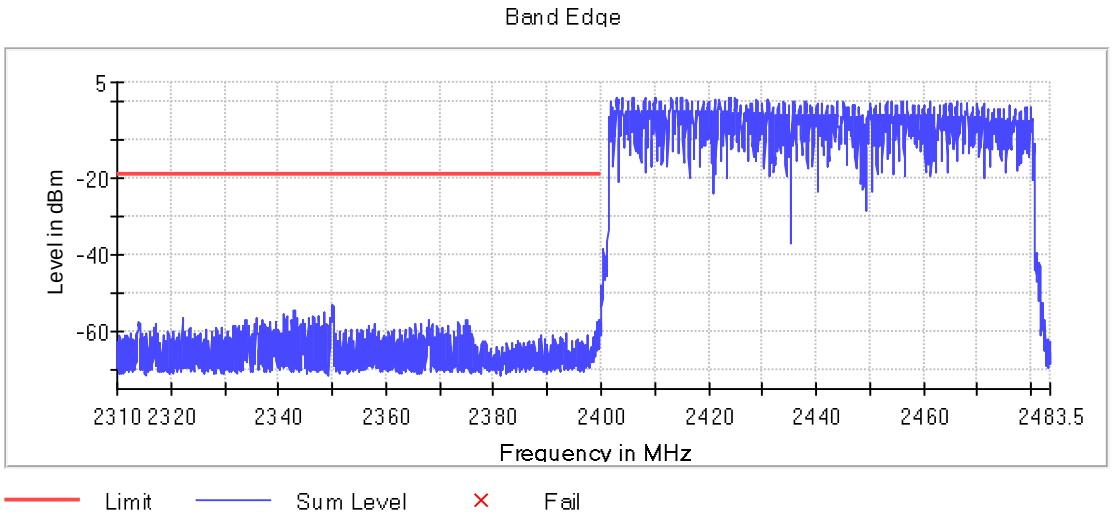
TEST RESULTS (Cont.):	HOPPING OFF (Highest channel)



Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2483.525000	-63.4	41.9	-21.4	PASS
2483.575000	-63.6	42.1	-21.4	PASS
2483.625000	-64.9	43.5	-21.4	PASS
2483.925000	-66.1	44.7	-21.4	PASS
2484.125000	-66.8	45.3	-21.4	PASS
2483.875000	-66.8	45.3	-21.4	PASS
2484.075000	-67.5	46.0	-21.4	PASS
2483.975000	-67.5	46.0	-21.4	PASS
2483.825000	-67.9	46.4	-21.4	PASS
2487.675000	-67.9	46.5	-21.4	PASS
2486.325000	-67.9	46.5	-21.4	PASS
2484.575000	-68.0	46.6	-21.4	PASS
2484.525000	-68.0	46.6	-21.4	PASS
2487.625000	-68.1	46.6	-21.4	PASS
2483.775000	-68.2	46.7	-21.4	PASS

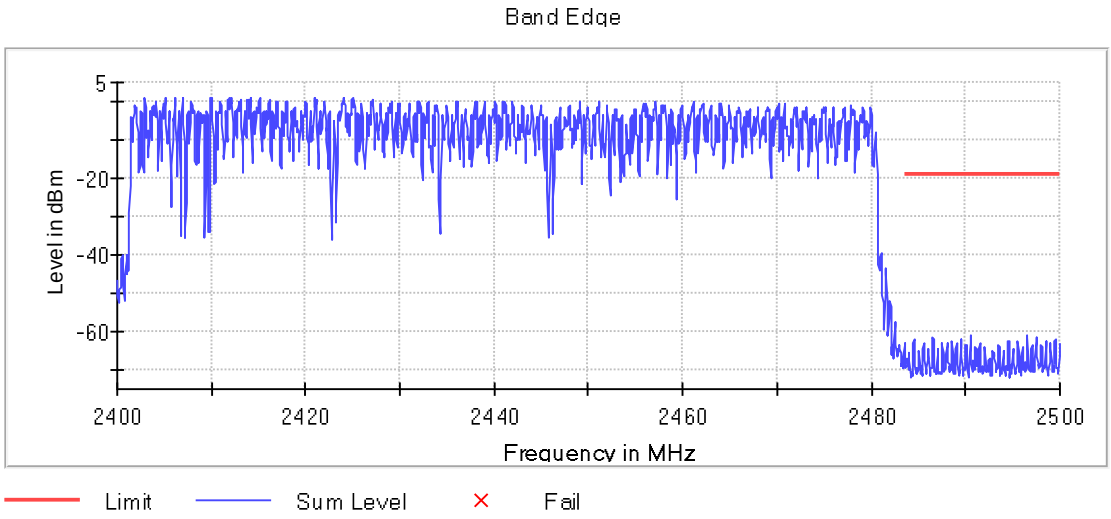
TEST RESULTS (Cont.):	HOPPING ON (Lowest channel)



Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.975000	-47.8	29.0	-18.8	PASS
2350.125000	-52.8	34.0	-18.8	PASS
2399.925000	-53.1	34.3	-18.8	PASS
2350.175000	-53.7	35.0	-18.8	PASS
2349.875000	-53.7	35.0	-18.8	PASS
2349.925000	-53.8	35.0	-18.8	PASS
2350.075000	-54.1	35.3	-18.8	PASS
2342.925000	-54.3	35.5	-18.8	PASS
2342.975000	-54.7	35.9	-18.8	PASS
2348.525000	-55.1	36.4	-18.8	PASS
2341.025000	-55.3	36.5	-18.8	PASS
2346.525000	-55.9	37.1	-18.8	PASS
2341.525000	-56.1	37.3	-18.8	PASS
2348.575000	-56.1	37.4	-18.8	PASS
2347.525000	-56.2	37.4	-18.8	PASS

TEST RESULTS (Cont.):	HOPPING ON (Highest channel)



Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2496.525000	-60.8	42.0	-18.8	PASS
2490.525000	-61.2	42.4	-18.8	PASS
2496.575000	-61.5	42.7	-18.8	PASS
2496.475000	-61.6	42.8	-18.8	PASS
2497.525000	-61.6	42.8	-18.8	PASS
2490.575000	-61.7	42.8	-18.8	PASS
2486.525000	-61.7	42.9	-18.8	PASS
2499.525000	-61.8	42.9	-18.8	PASS
2499.575000	-61.9	43.1	-18.8	PASS
2489.525000	-61.9	43.1	-18.8	PASS
2497.575000	-62.1	43.3	-18.8	PASS
2484.525000	-62.1	43.3	-18.8	PASS
2486.575000	-62.2	43.4	-18.8	PASS
2488.525000	-62.3	43.4	-18.8	PASS
2499.475000	-62.4	43.6	-18.8	PASS

TEST A.6 EMISSION LIMITATIONS RADIATED (TRANSMITTER)

LIMITS:	Product standard:	Part 15 Subpart C §15.247 and RSS-247
	Test standard:	Part 15 Subpart C §15.247(d) and RSS-247 5.5

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.

RSS-247. Attenuation below the general field strength limits specified in RSS-Gen is not required

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 18-26 GHz (Double ridge horn antenna).

For radiated emissions in the range 18-26 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.

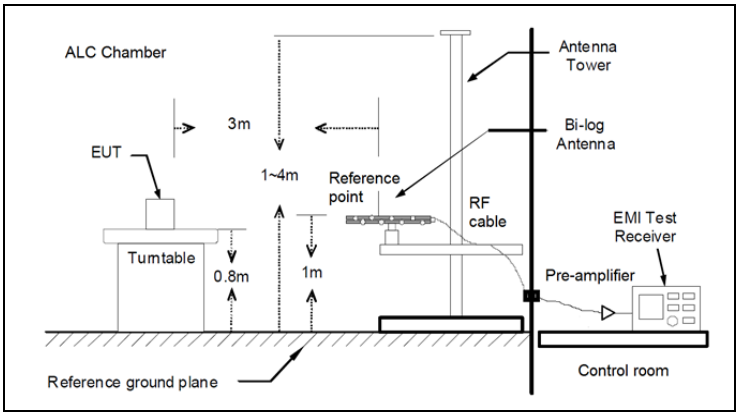
The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360º and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

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

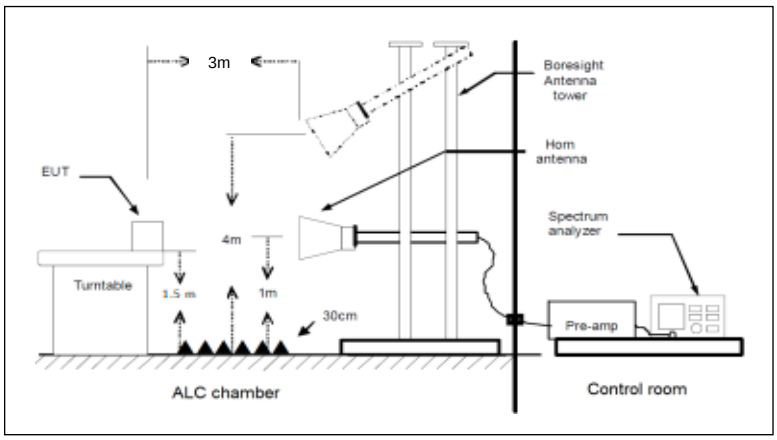
The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

TEST SETUP (CONT.)

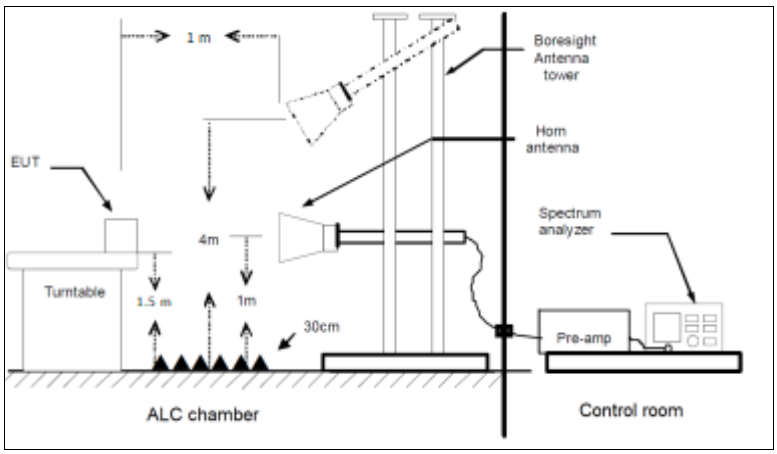
Radiated measurements Setup f < 1 GHz



Radiated measurements setup 1 < f < 18 GHz



Radiated measurements setup f > 18 GHz



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

Frequency range 30 MHz – 1000 MHz

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

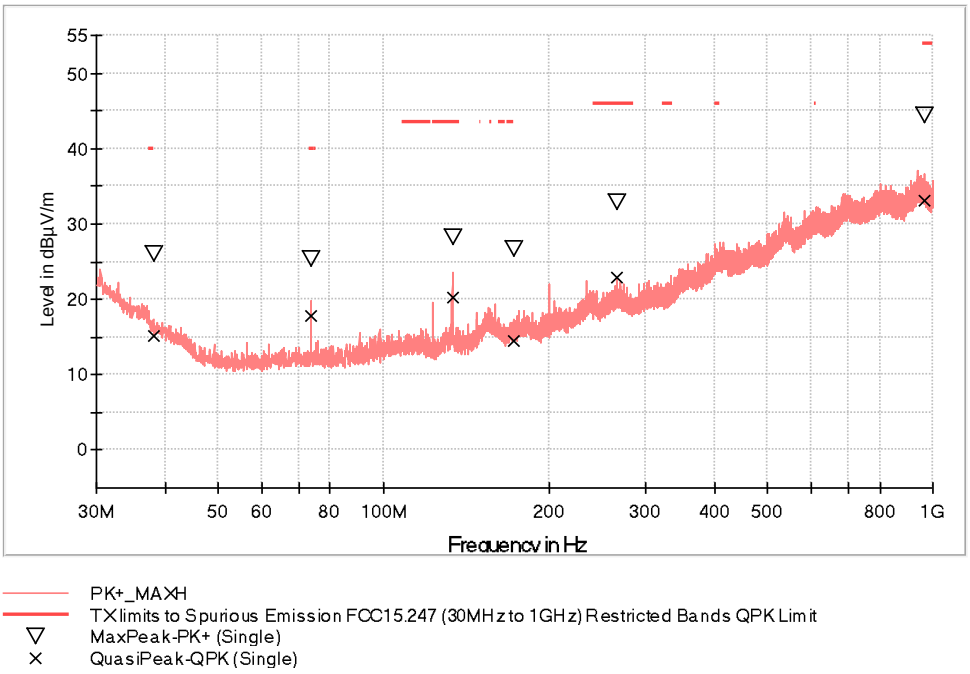
The results in the following plots and tables show the maximum measured levels in the 30-1000 MHz range.

Frequency range 1 GHz – 26 GHz

The results in the following plots and tables show the maximum measured levels in the 1-26 GHz range including the restricted bands 2.31-2.5 GHz.

TEST RESULTS (Cont.):	**30 MHz – 1000 MHz**

Lowest Channel

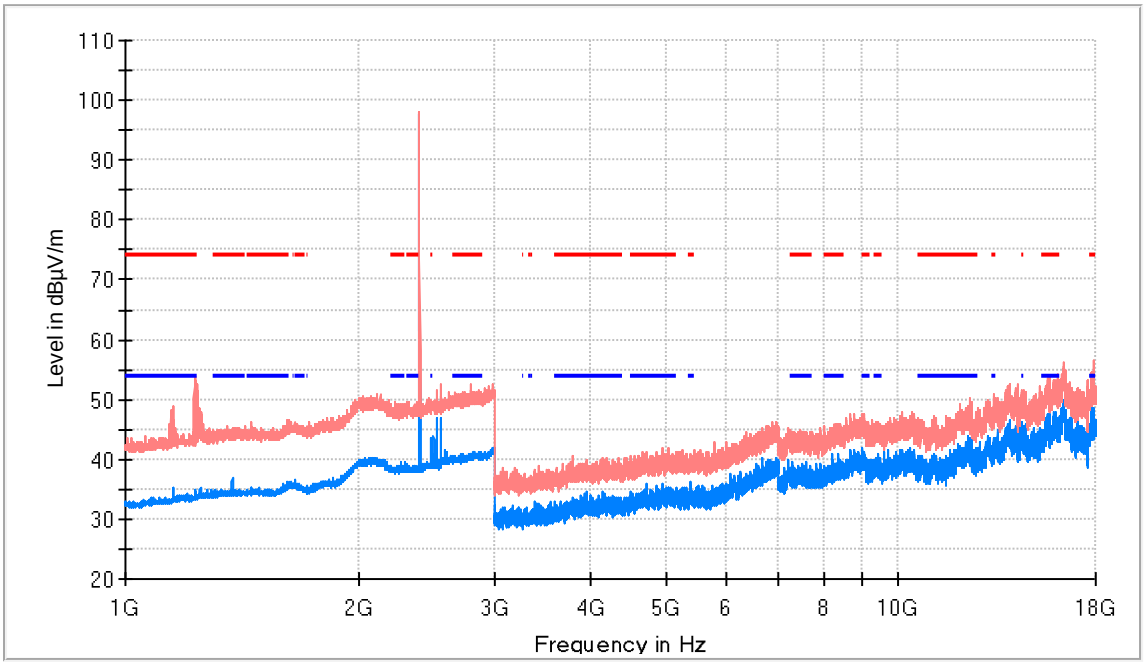


Limit and Margin

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Pol	Margin - QPK (dB)	Limit - QPK (dBµV/m)
38.051000	26.0	15.1	V	24.9	40.0
73.747000	25.4	17.8	V	22.3	40.0
133.353500	28.1	20.3	V	23.3	43.5
172.008000	26.6	14.5	V	29.1	43.5
266.680000	32.8	22.9	V	23.1	46.0
963.237000	44.5	33.1	V	20.9	54.0

TEST RESULTS (Cont.)	1 GHz – 18 GHz

Lowest channel

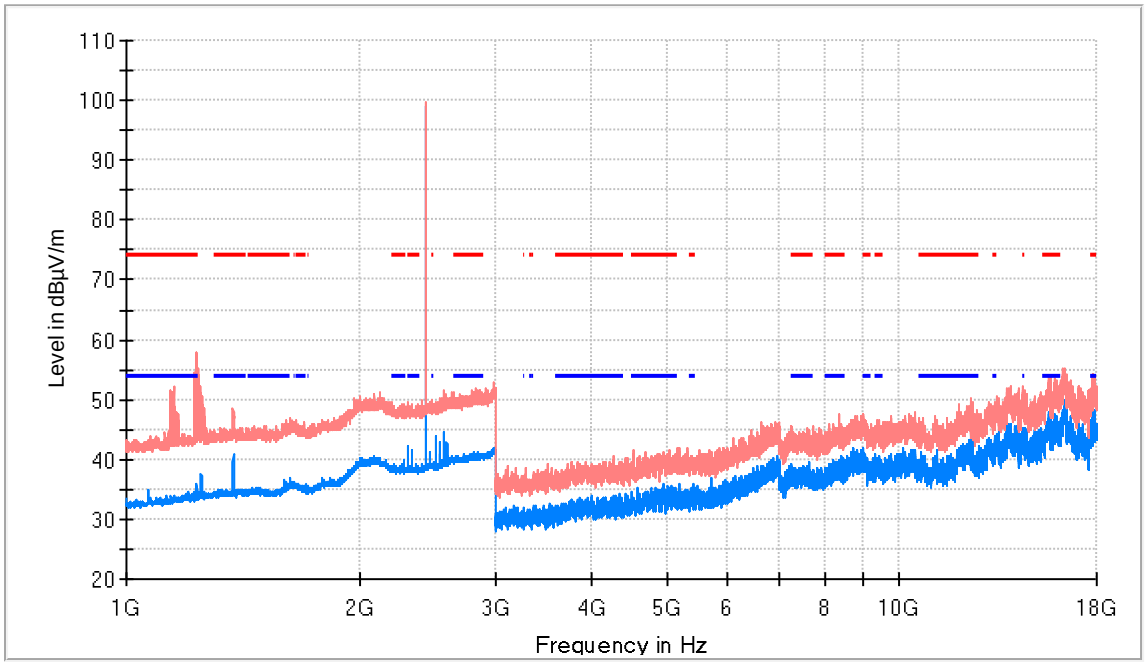


Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
1375.000000	45.3	37.0	H	17.0	54.0	
2402.000000	98.2	97.7	H	---	---	Fundamental
15611.000000	51.2	47.3	H	6.7	54.0	
17784.500000	52.5	49.0	H	5.0	54.0	

TEST RESULTS (Cont.)

Middle Channel

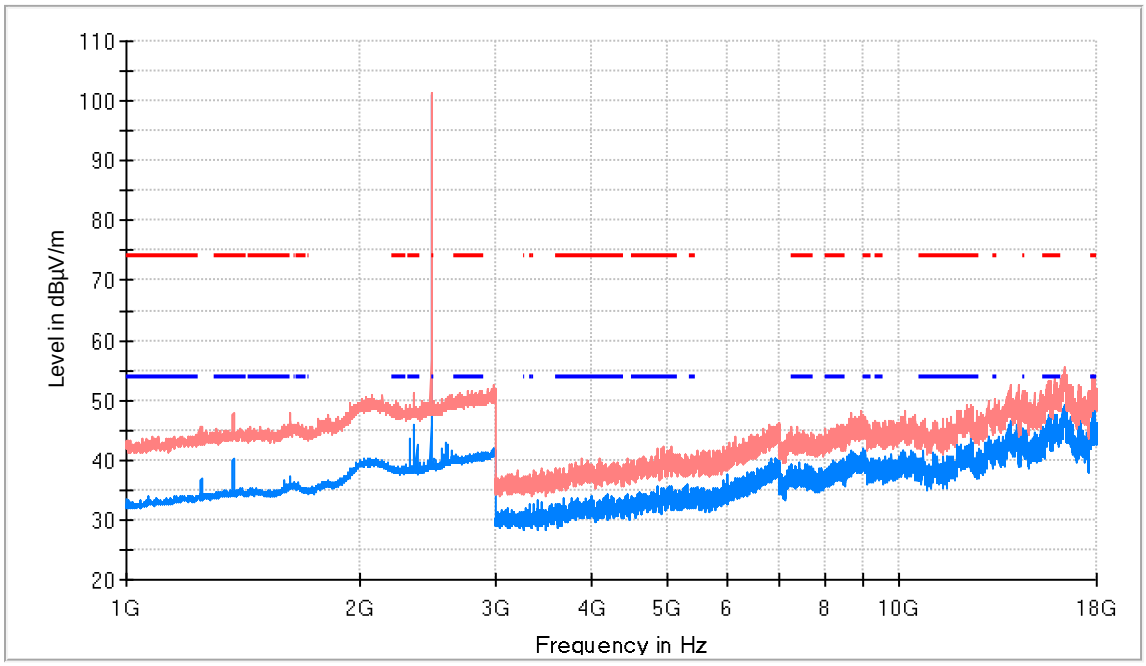


Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
1375.000000	47.8	41.0	H	13.0	54.0	
2441.000000	99.6	99.1	H	---	---	Fundamental
15586.000000	51.1	47.9	H	6.1	54.0	
17787.000000	54.1	48.7	V	5.3	54.0	

TEST RESULTS (Cont.)

Highest Channel



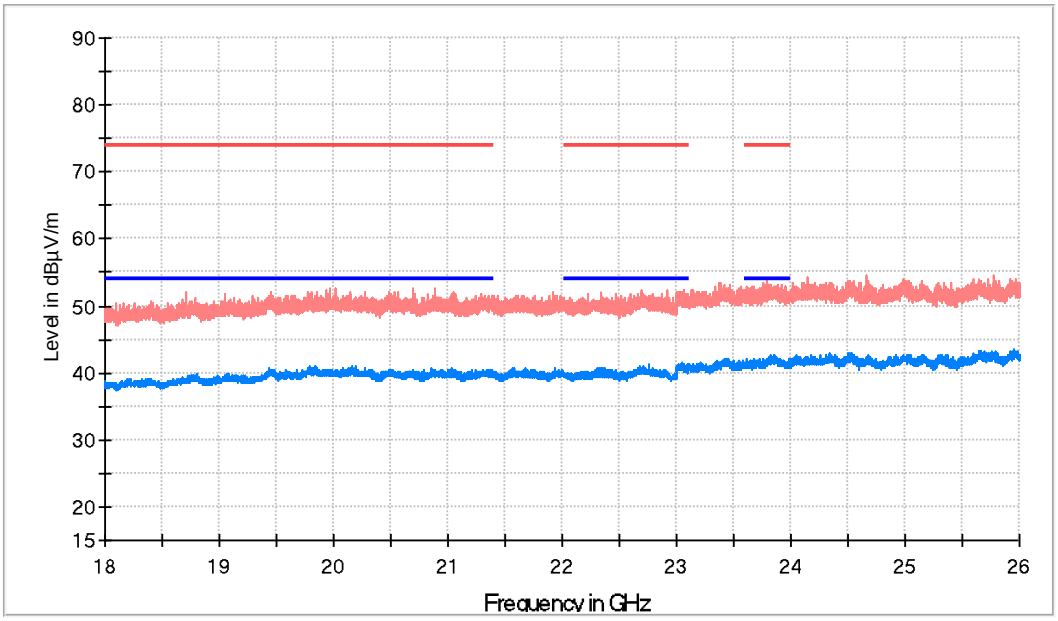
AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit
TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit

Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
2350.000000	50.5	45.9	H	8.1	54.0	
2480.000000	101.5	101.0	H	---	---	Fundamental
15579.000000	52.1	47.6	V	6.4	54.0	
17858.000000	51.1	48.5	H	5.5	54.0	

TEST RESULTS (Cont.)	18 GHz – 26 GHz

Lowest Channel

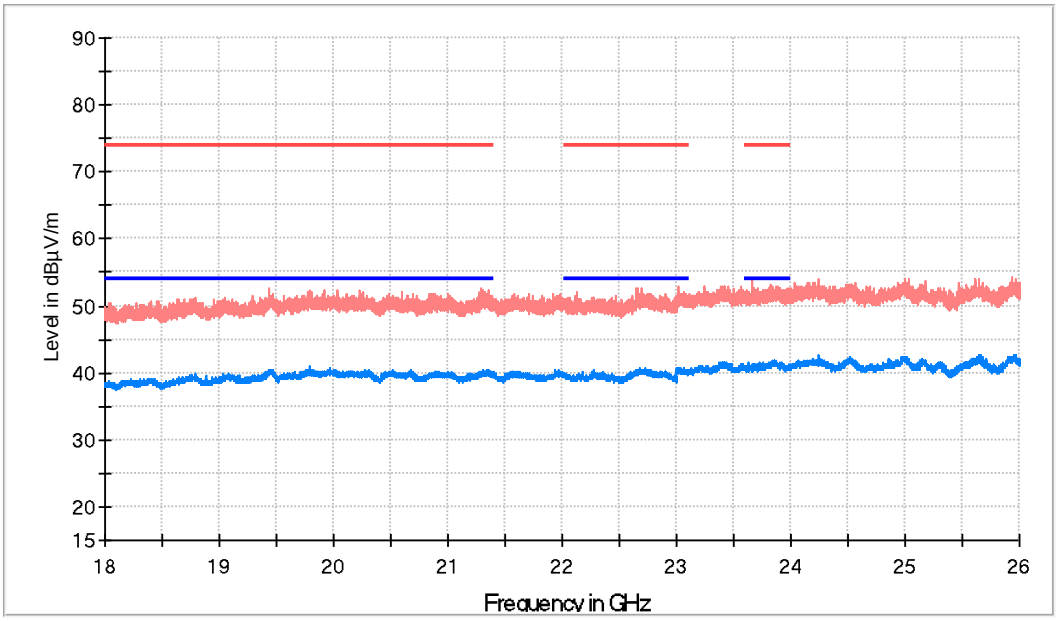


AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit

Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)
23852.500000	52.0	42.6	H	11.4	54.0

Middle Channel

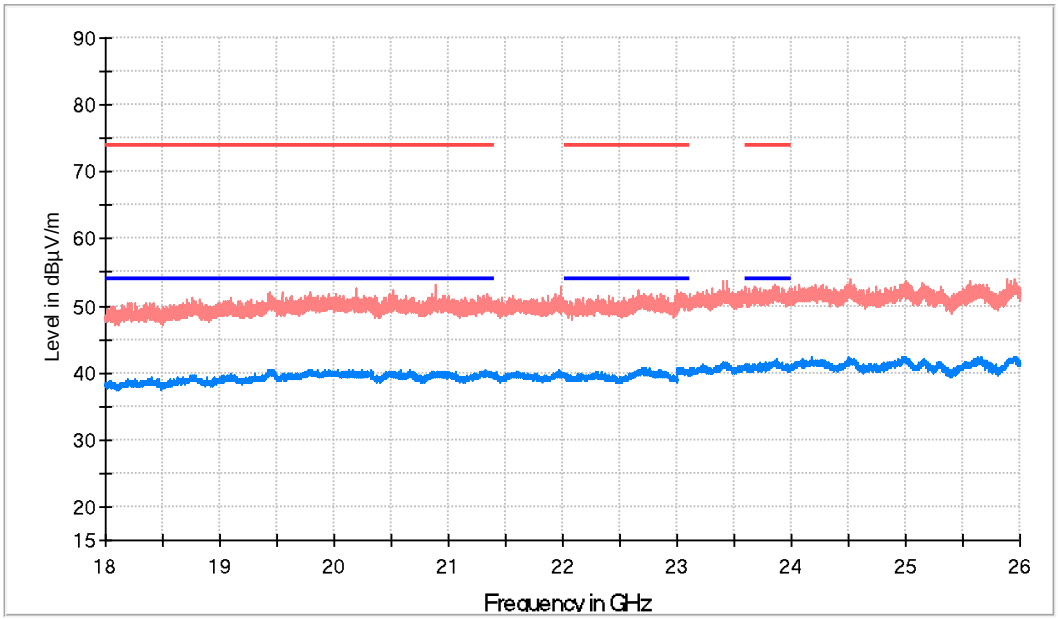


Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)
23854.000000	51.7	41.8	H	12.2	54.0

TEST RESULTS (Cont.)

Highest Channel



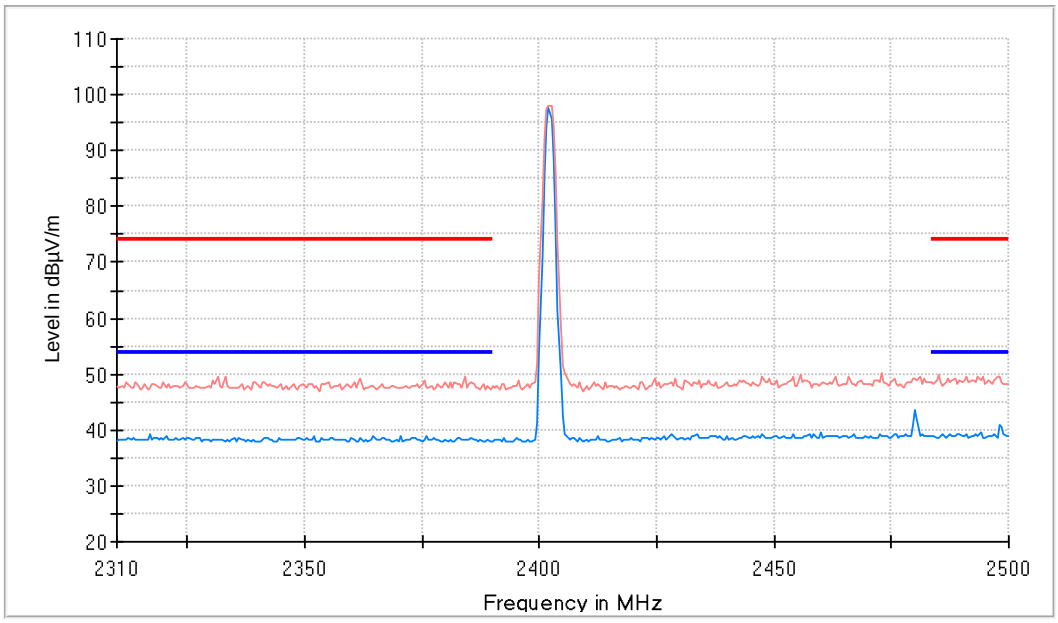
AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit

Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)
23864.000000	51.0	42.0	H	12.0	54.0

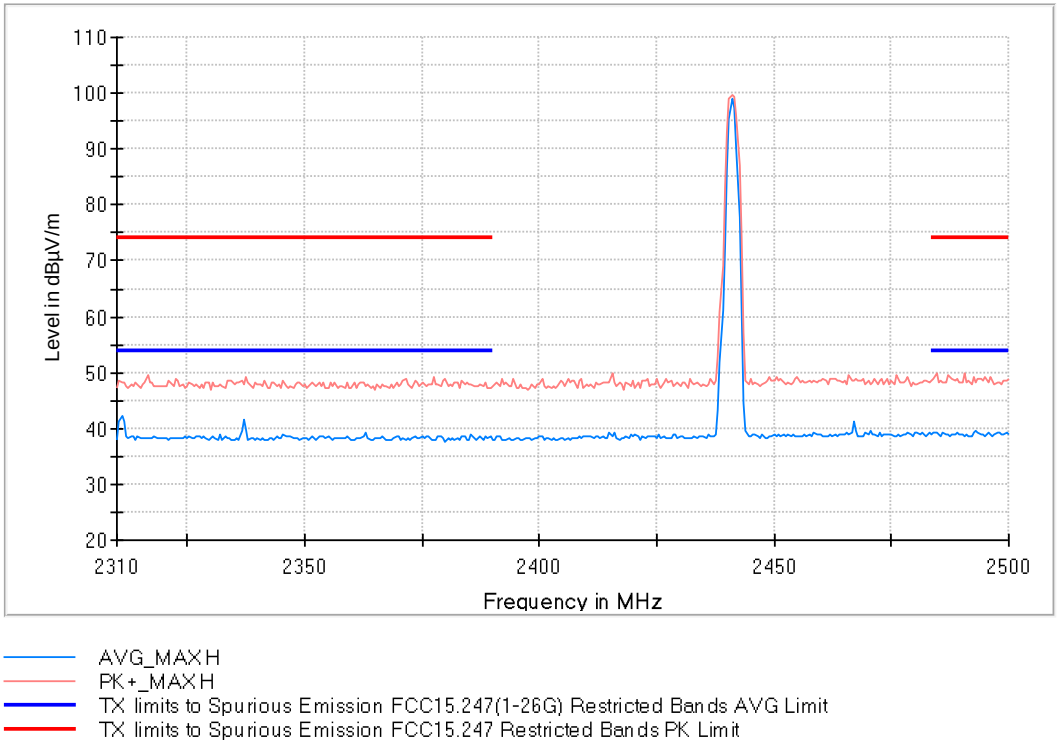
RESTRICTED BANDS	2.31 GHz – 2.5 GHz

Lowest Channel

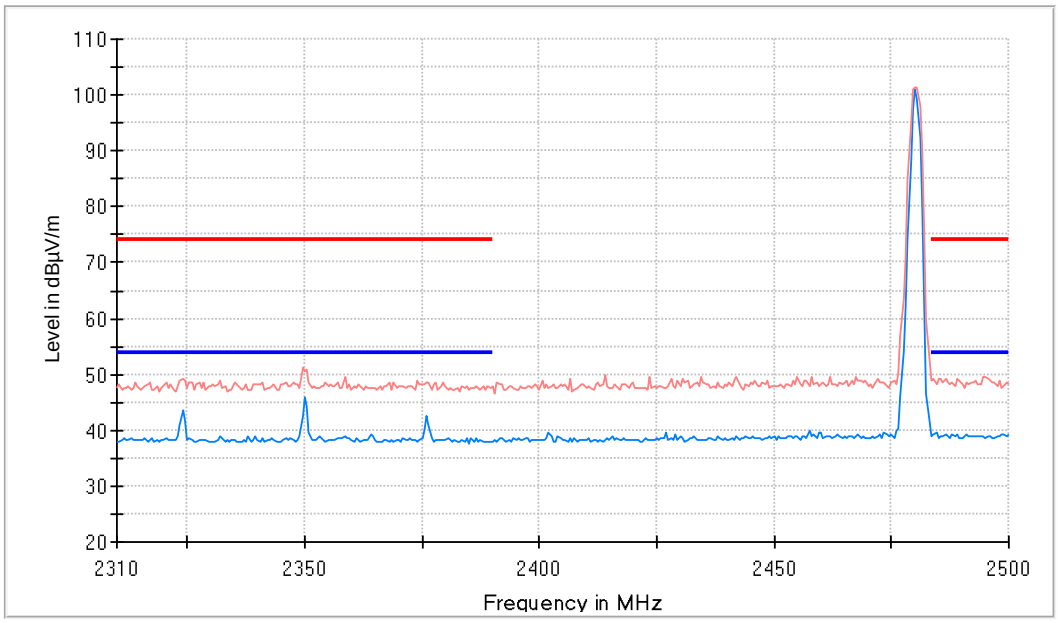


TEST RESULTS (Cont.)	

Middle Channel



Highest Channel



AVG_MAX H
PK+_MAX H
TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit
TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit

TESTED SAMPLES:	S/02
TESTED CONDITIONS MODES:	TC#02 (π/4-DQPSK)
TEST RESULTS:	PASS

Frequency range 30 MHz – 1000 MHz

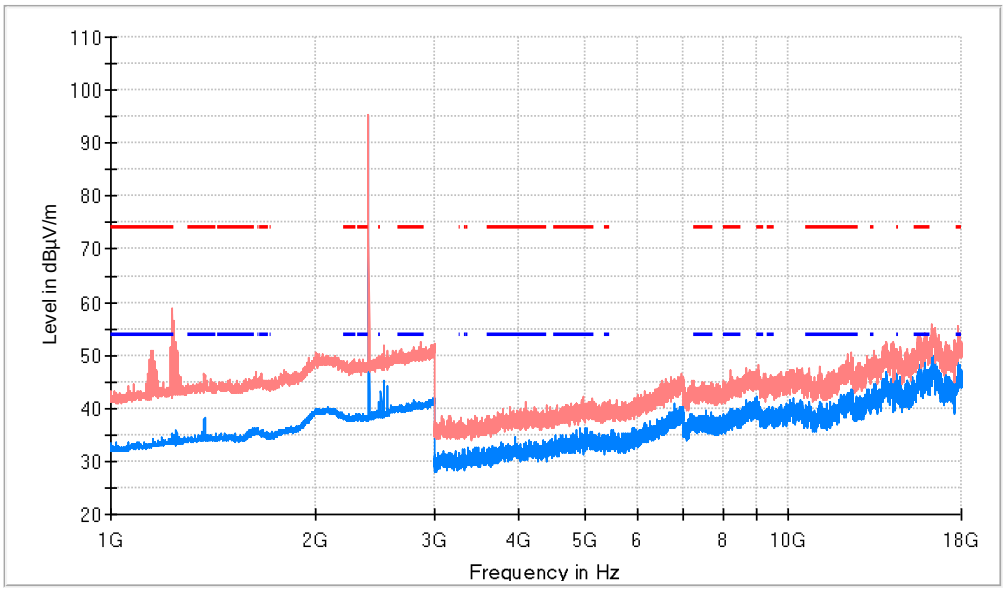
The spurious emissions below 1 GHz do not depend on the operating channel selected in the EUT. GFSK Modulation was identified as a worst case.

Frequency range 1 GHz – 26 GHz

The results in the following plots and tables show the maximum measured levels in the 1-26 GHz range including the restricted bands 2.31-2.5 GHz.

TEST RESULTS (Cont.)	1 GHz – 18 GHz

Lowest Channel

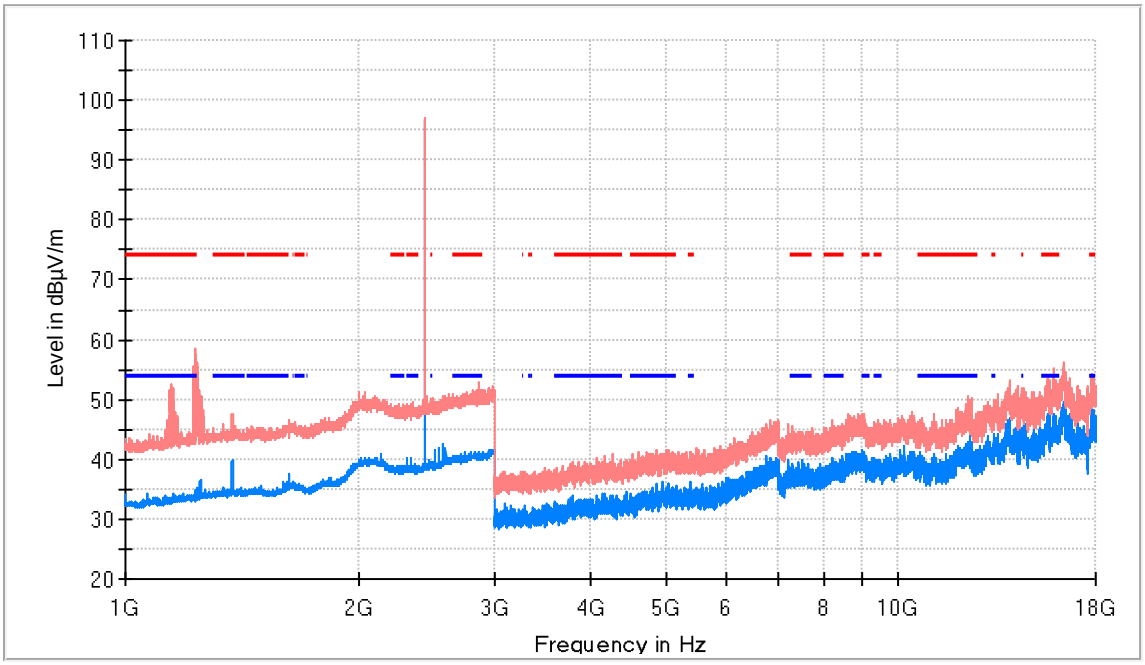


Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
1375.000000	45.8	38.4	V	15.6	54.0	
2402.000000	95.5	95.1	H	---	---	Fundamental
15890.500000	54.2	48.9	V	5.1	54.0	
17833.000000	52.6	49.6	H	4.4	54.0	

TEST RESULTS (Cont.)

Middle Channel

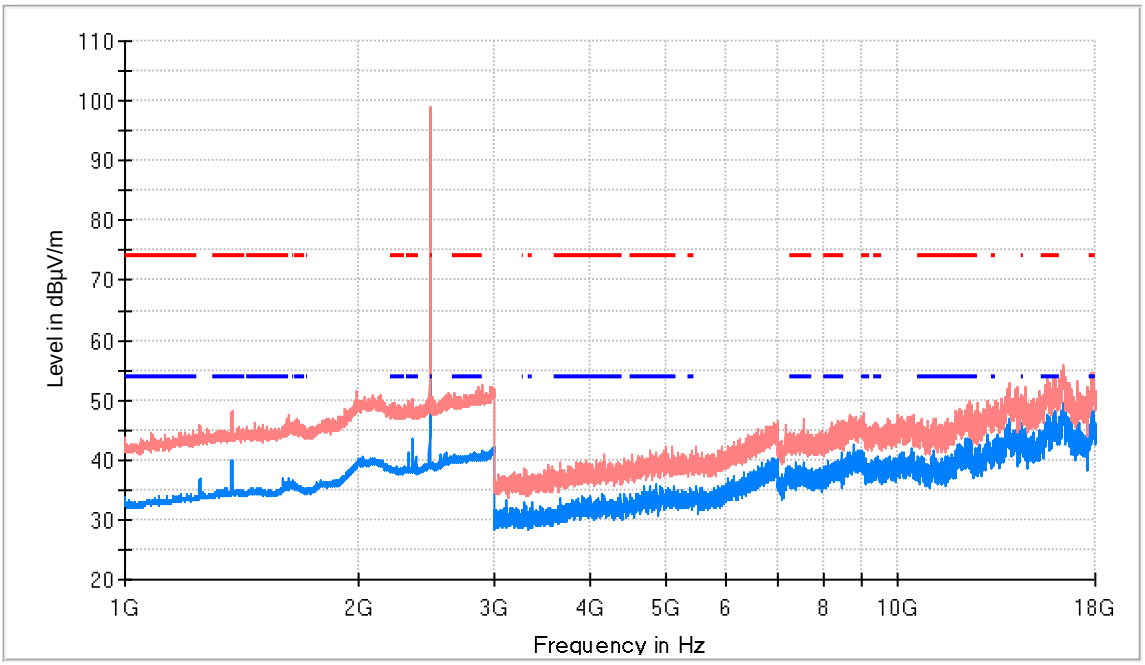


Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
1375.000000	47.4	39.8	V	14.2	54.0	
2441.000000	97.2	96.6	H	---	---	Fundamental
15674.000000	52.1	47.8	H	6.2	54.0	
17778.000000	52.8	48.0	H	6.0	54.0	

TEST RESULTS (Cont.)

Highest Channel

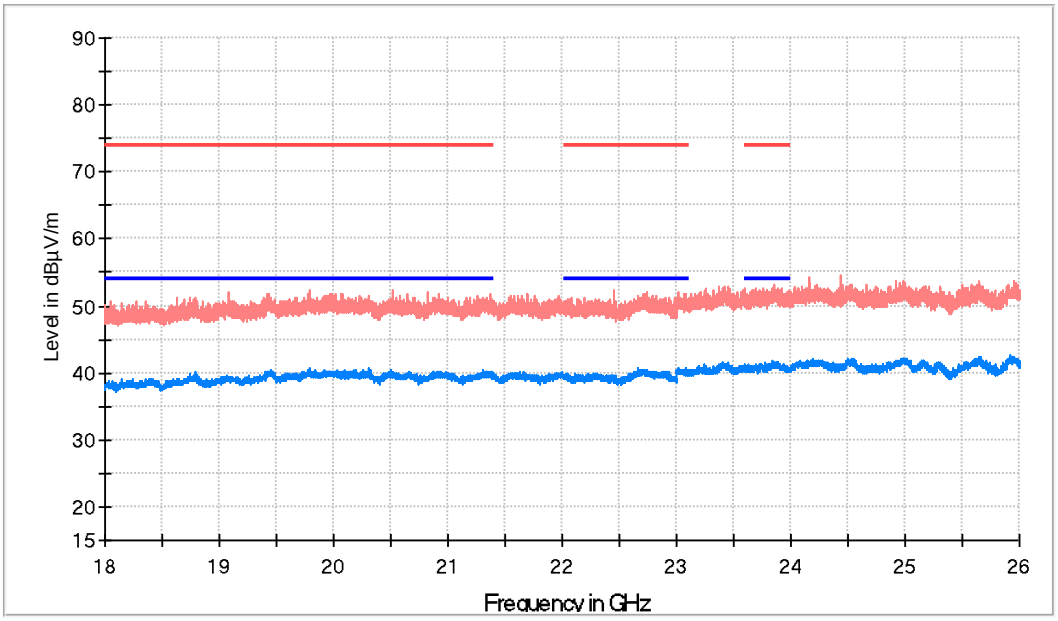


Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
1374.500000	47.8	39.9	H	14.1	54.0	
2479.500000	98.9	96.1	H	---	---	Fundamental
15984.000000	50.6	48.3	H	5.7	54.0	
17866.500000	51.4	48.2	V	5.8	54.0	

TEST RESULTS (Cont.)	18 GHz – 26 GHz

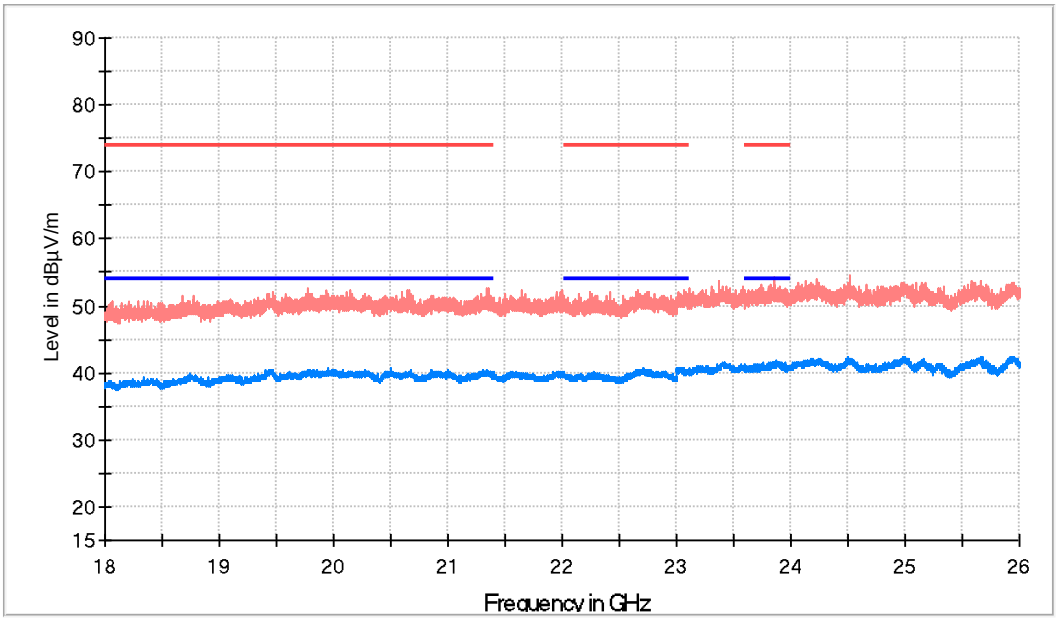
Lowest Channel



Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)
23868.500000	51.1	41.6	H	12.4	54.0

Middle Channel



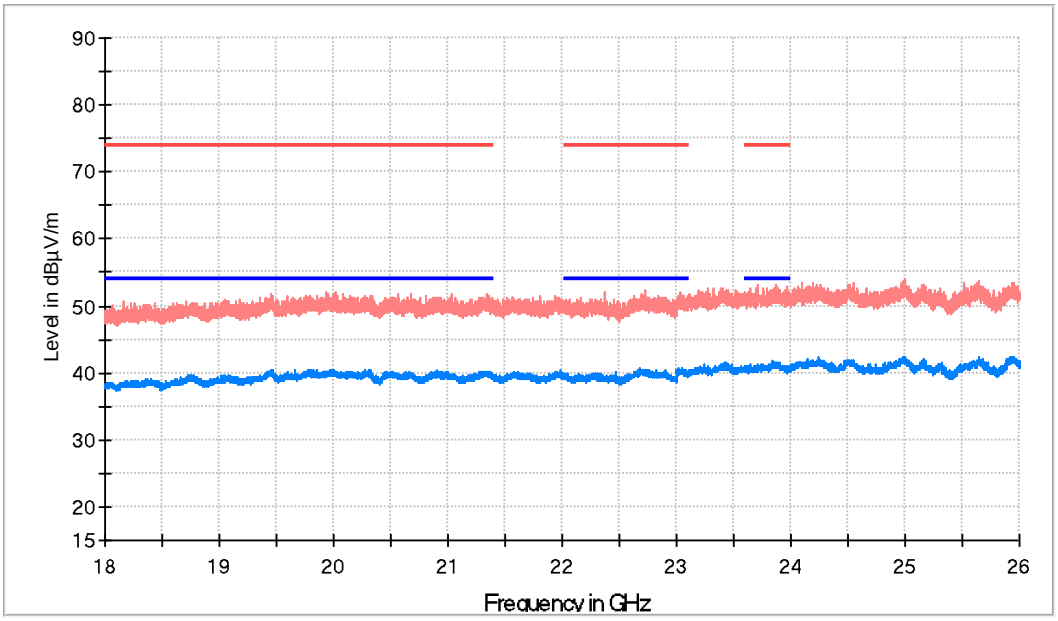
AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit

Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)
23871.000000	51.8	41.7	H	12.3	54.0

TEST RESULTS (Cont.)

Highest Channel



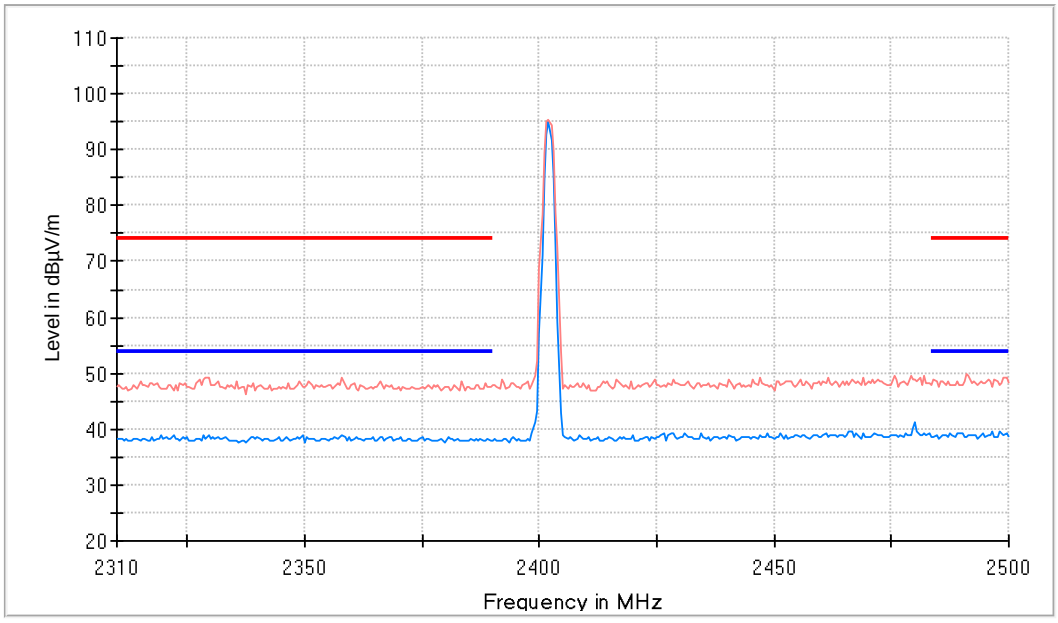
AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit

Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)
23842.500000	51.8	41.8	H	12.2	54.0

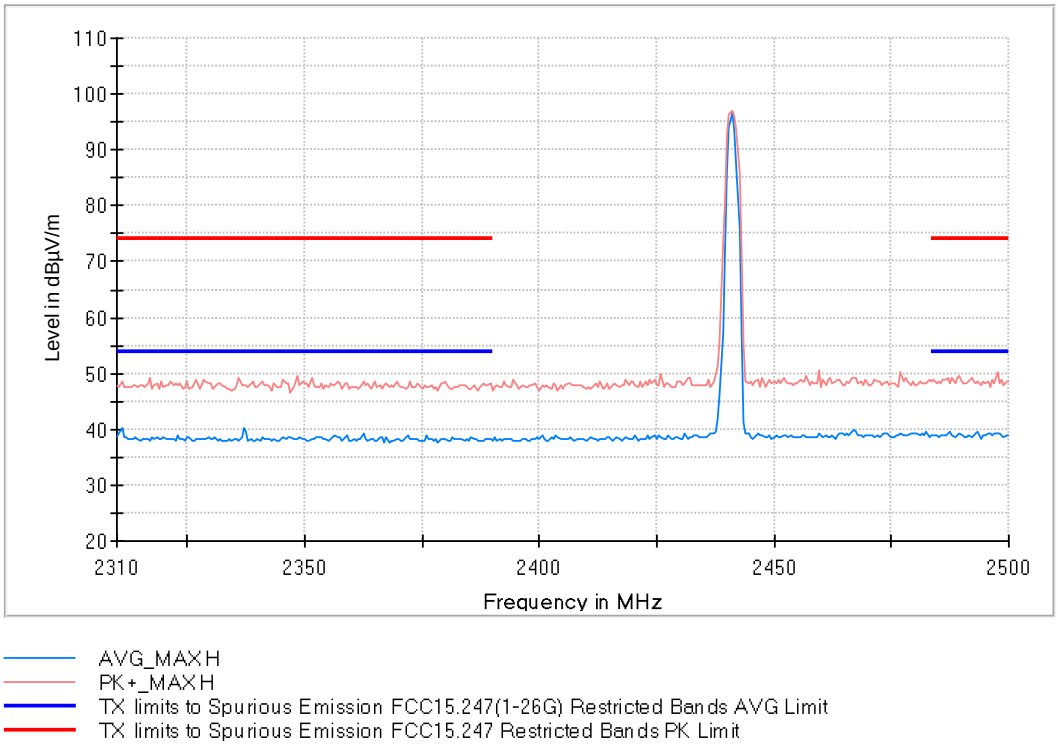
TEST RESULTS (Cont.):	RESTRICTED BAND 2.31 GHz – 2.5 GHz

Lowest Channel

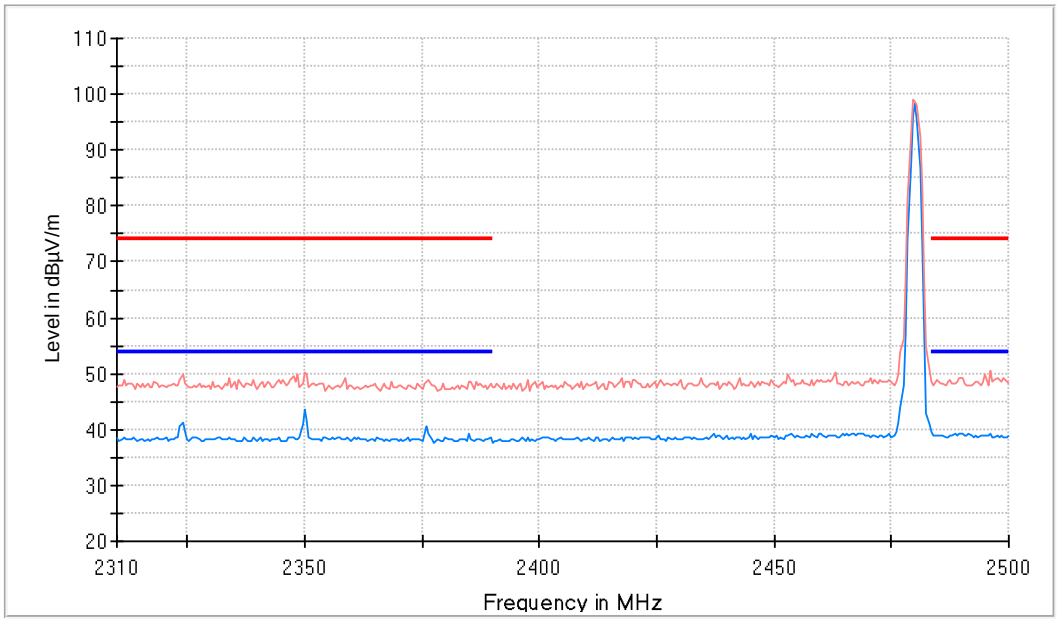


TEST RESULTS (Cont.)	

Middle Channel



Highest Channel



TESTED SAMPLES:	S/02
TESTED CONDITIONS MODES:	TC#03 (8DPSK)
TEST RESULTS:	PASS

Frequency range 30 MHz – 1000 MHz

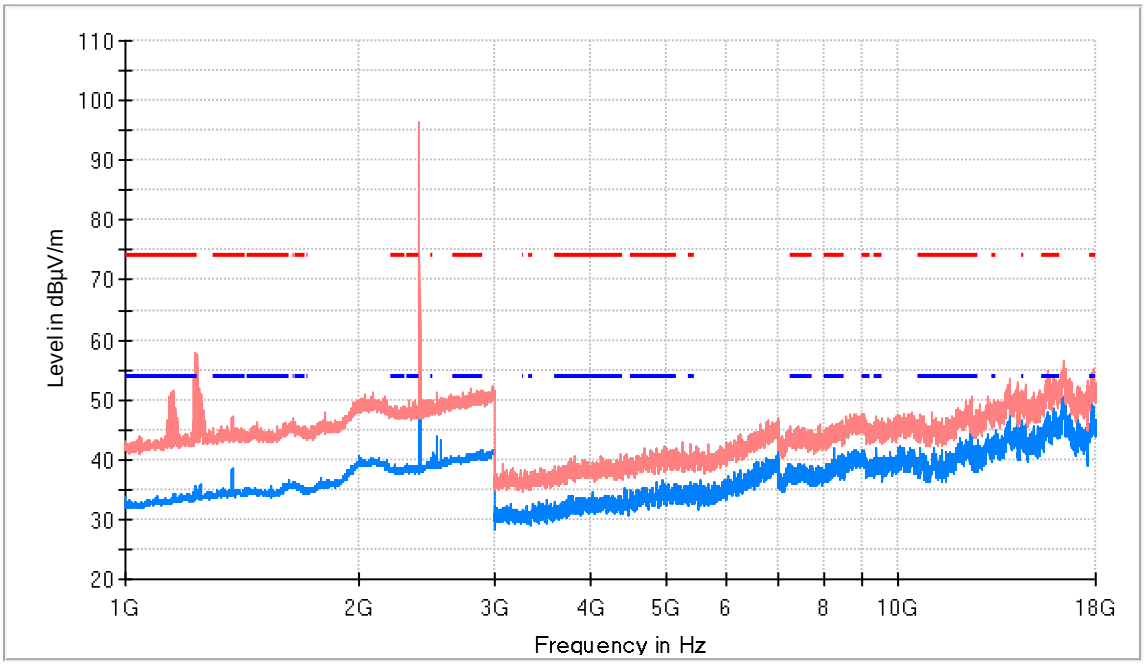
The spurious emissions below 1 GHz do not depend on the operating channel selected in the EUT. GFSK modulation was selected as a worst case.

Frequency range 1 GHz – 26 GHz

The results in the following plots and tables show the maximum measured levels in the 1-26 GHz range including the restricted bands 2.31-2.5 GHz.

TEST RESULTS (Cont.)	**1 GHz – 18 GHz**

Lowest Channel

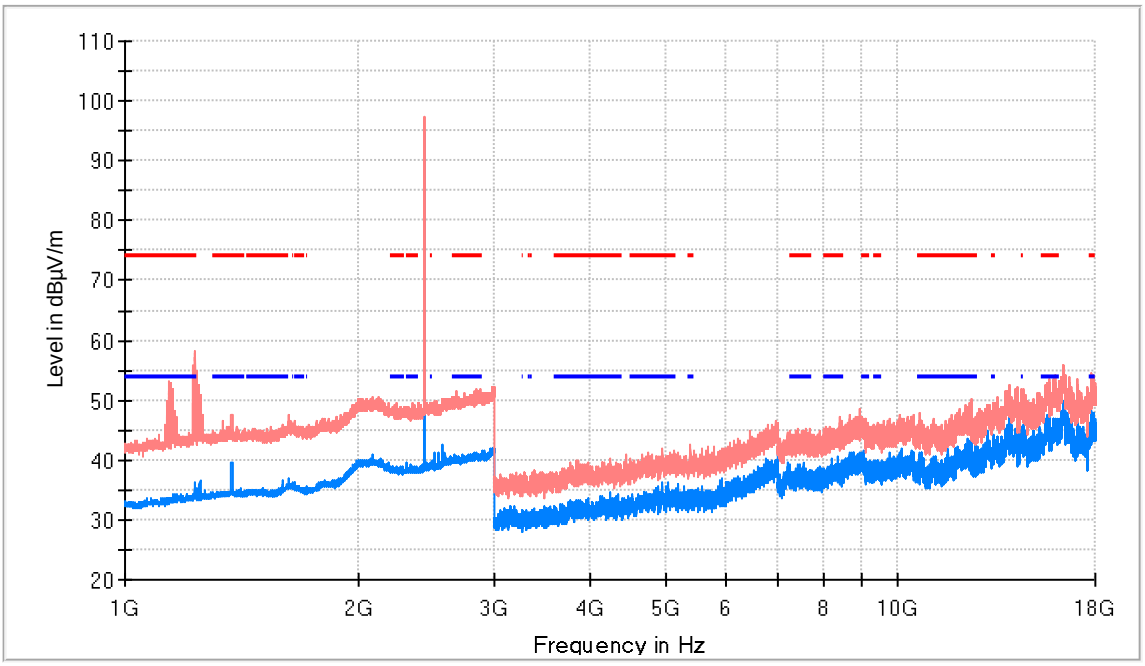


Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
1375.000000	47.3	38.6	V	15.4	54.0	
2402.000000	96.3	95.7	H	---	---	Fundamental
15888.500000	53.4	48.1	V	5.9	54.0	
17795.500000	53.1	49.6	H	4.4	54.0	

TEST RESULTS (Cont.)

Middle Channel

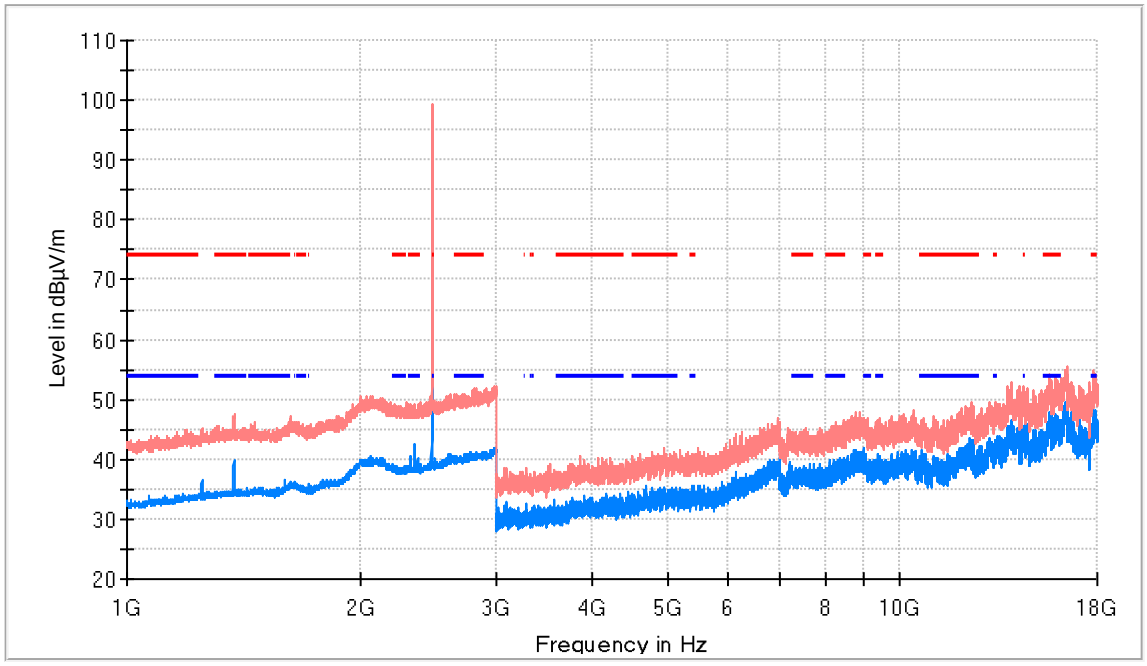


Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
1374.500000	47.7	39.7	V	14.3	54.0	
2441.000000	97.2	94.6	H	---	---	Fundamental
15651.000000	51.1	47.5	V	6.5	54.0	
17772.500000	53.8	48.0	H	6.0	54.0	

TEST RESULTS (Cont.)

Highest Channel



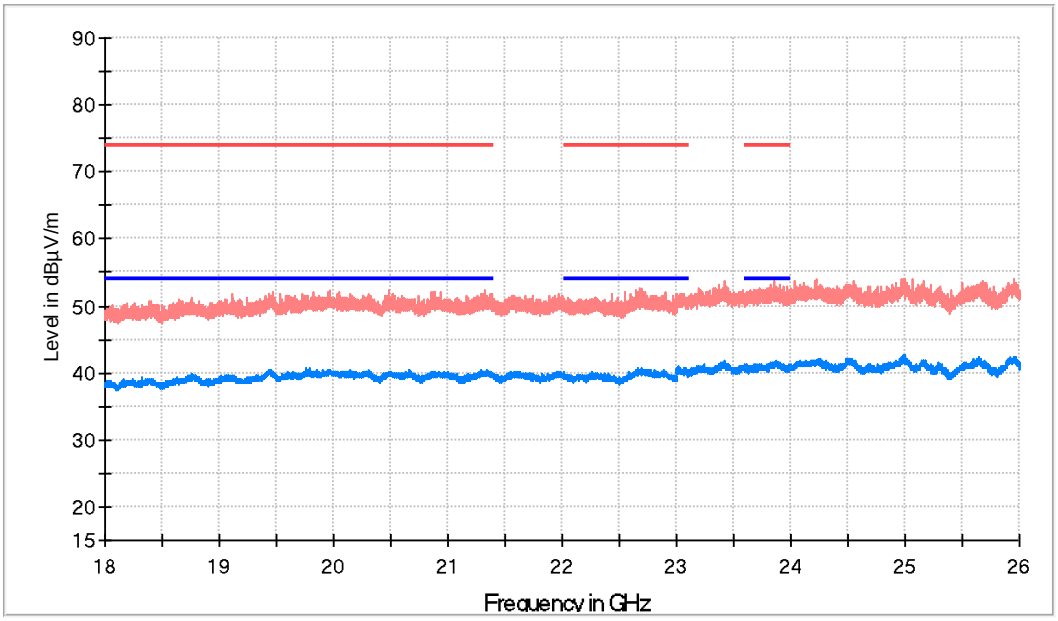
AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit
TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit

Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
1375.000000	47.0	40.0	H	14.0	54.0	
2480.000000	99.3	96.7	H	---	---	Fundamental
15661.500000	51.5	48.3	H	5.7	54.0	
17827.500000	52.3	48.2	V	5.8	54.0	

TEST RESULTS (Cont.)	18 GHz – 26 GHz

Lowest Channel

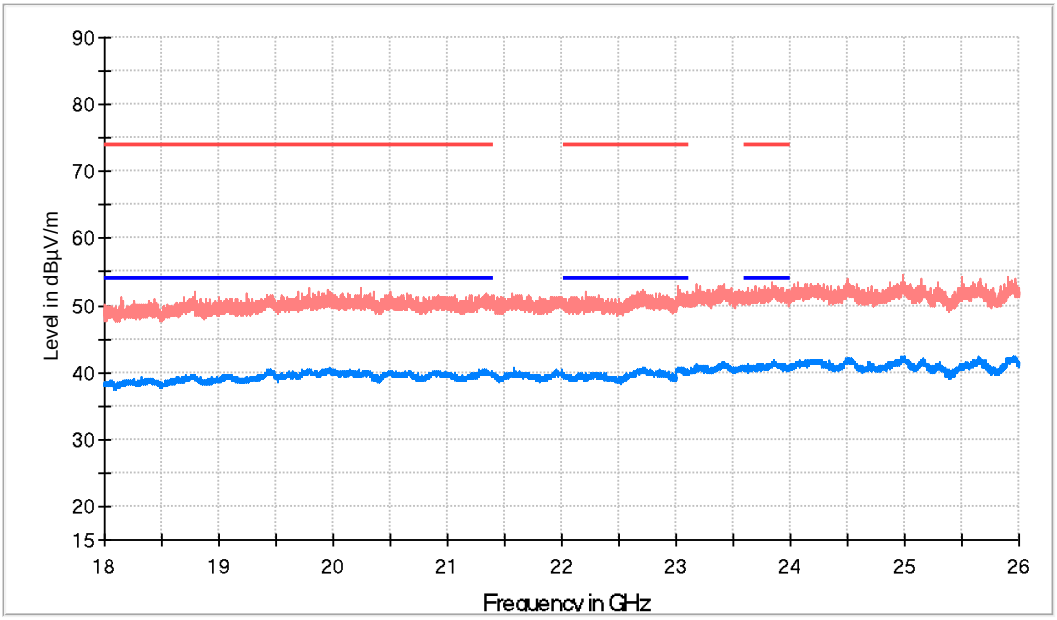


AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit

Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)
23887.500000	51.4	41.4	H	12.6	54.0

Middle Channel



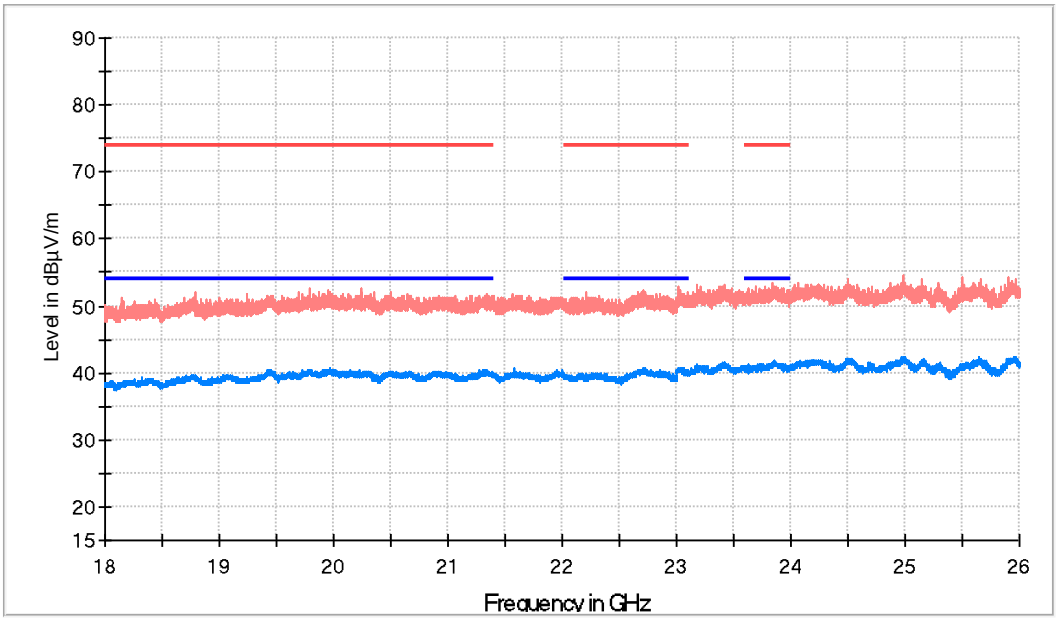
AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit

Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)
23854.500000	51.6	41.8	H	12.2	54.0

TEST RESULTS (Cont.)

Highest Channel



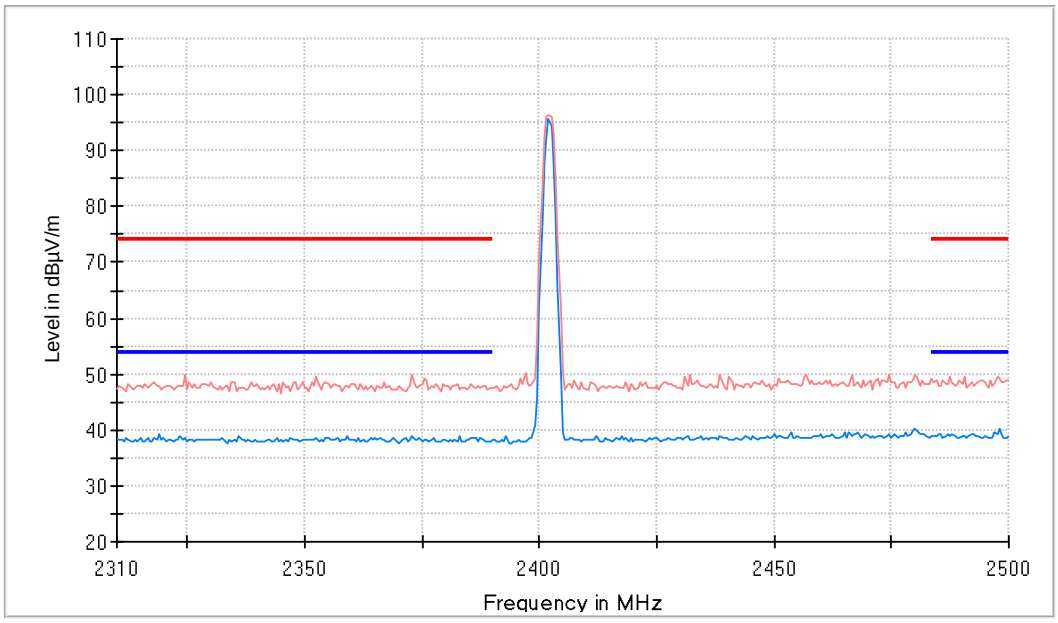
AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit

Limit and Margin

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Margin - AVG (dB)	Limit - AVG (dBµV/m)
23854.500000	51.6	41.8	H	12.2	54.0

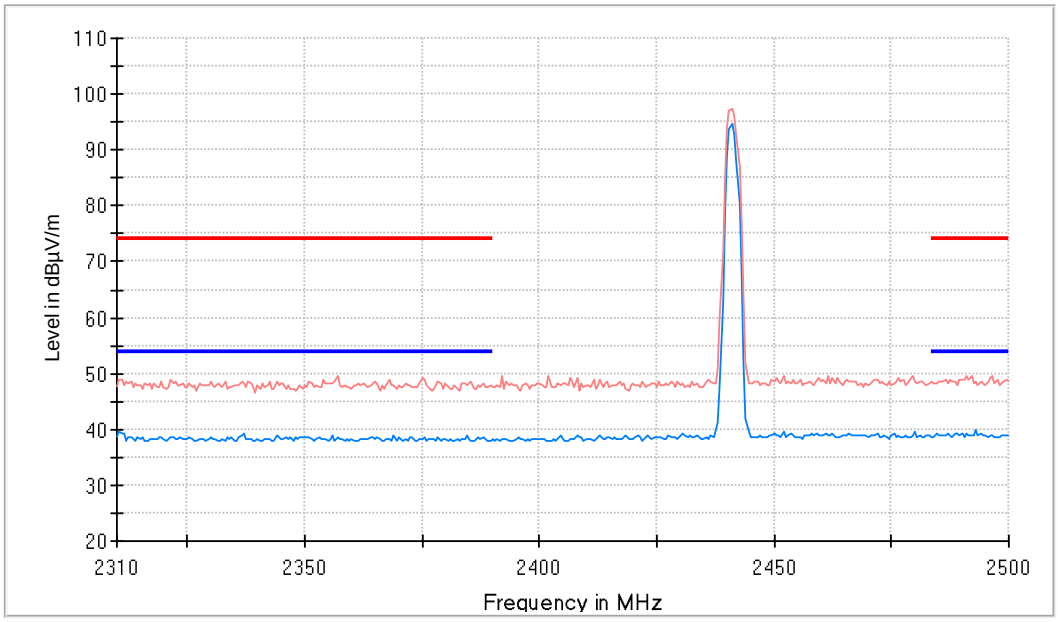
RESTRICTED BANDS	2.31 GHz – 2.5 GHz

Lowest Channel



AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit
TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit

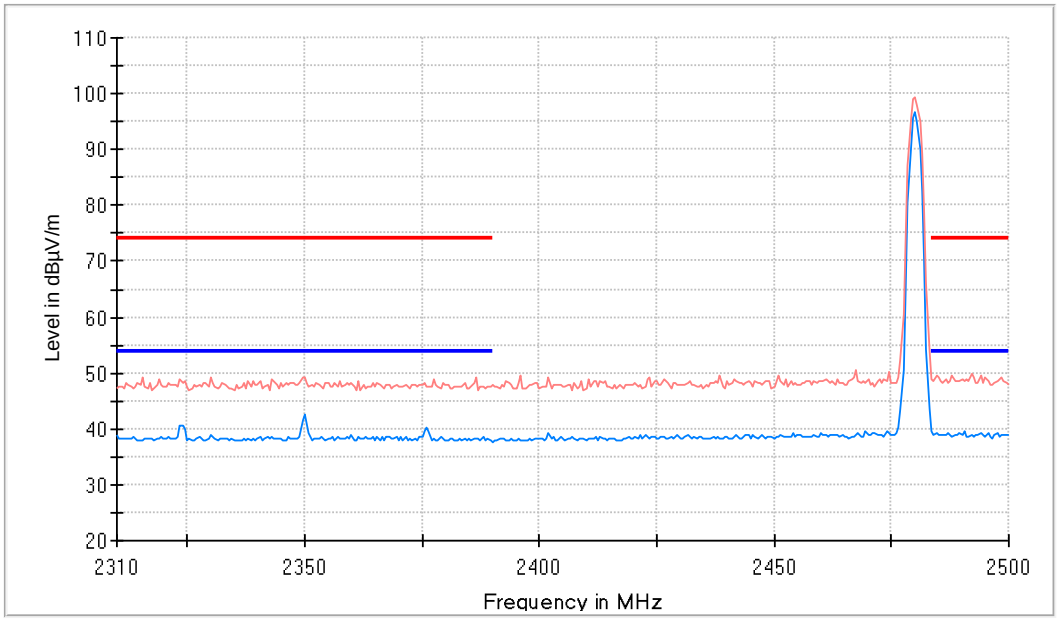
Middle Channel



AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit
TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit

TEST RESULTS (Cont.)

Highest Channel



AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247(1-26G) Restricted Bands AVG Limit
TX limits to Spurious Emission FCC15.247 Restricted Bands PK Limit