

FCC 15.407 2015

DUT Information

Frequencies

WLAN CH 42 (5210 MHz)
WLAN CH 106 (5530 MHz)

WLAN CH 155 (5775 MHz)
WLAN CH 122 (5610 MHz)

WLAN CH 58 (5290 MHz)

Bandwidths

80 MHz (80 MHz)

Power

20.000 dBm (20 dBm)

Beamforming Gain

20.000 dBm (20 dBm) 0 dB

Gain Tables

20.000 dBm (20 dBm) Port 1: 0dBi;

DUT Settings

No. of transmission chains	1
DFS capability	Yes
DFS Mode	Master
Equipment Type	Portable
TPC	No

Hardware Setup: WMS Measurements\TS8997

Spectrum Analyzer:

SA FSV 40 (SA FSV 40) @ VISA (ADR
TCPIP::192.168.48.111::INST0::INSTR), SN 1321.3008K39/101229,
FW 3.40

Vector Generator:

VG SMBV100B (VG SMBV100B) @ VISA (ADR
TCPIP::192.168.48.29::INST0::INSTR), SN 101685, FW 4.70.006.33

Generator:

SMB100Aa (SMB100A) @ VISA (ADR
TCPIP::192.168.48.30::INST0::INSTR), SN 177894, FW / Drv:Rev
2.21.0, 07/2016, CVI 2015

OSP:

OSP-B157W (OSP-B157W) @ VISA (ADR
TCPIP::192.168.48.157::INST0::INSTR), SN 1527.1144. /, FW
1.23.0.2

Summary

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
Emission Bandwidth 26 dB	5210.000	20.0	80.000000	PASS
RF output power	5210.000	20.0	80.000000	PASS
Power Spectral Density	5210.000	20.0	80.000000	PASS
Minimum Emission Bandwidth 6 dB	5210.000	20.0	80.000000	PASS
Occupied Channel Bandwidth 99%	5210.000	20.0	80.000000	PASS
Band Edge low	5210.000	20.0	80.000000	PASS
Band Edge high	5210.000	20.0	80.000000	PASS

Emission Bandwidth 26 dB (5210 MHz; 20.000 dBm; 80 MHz)

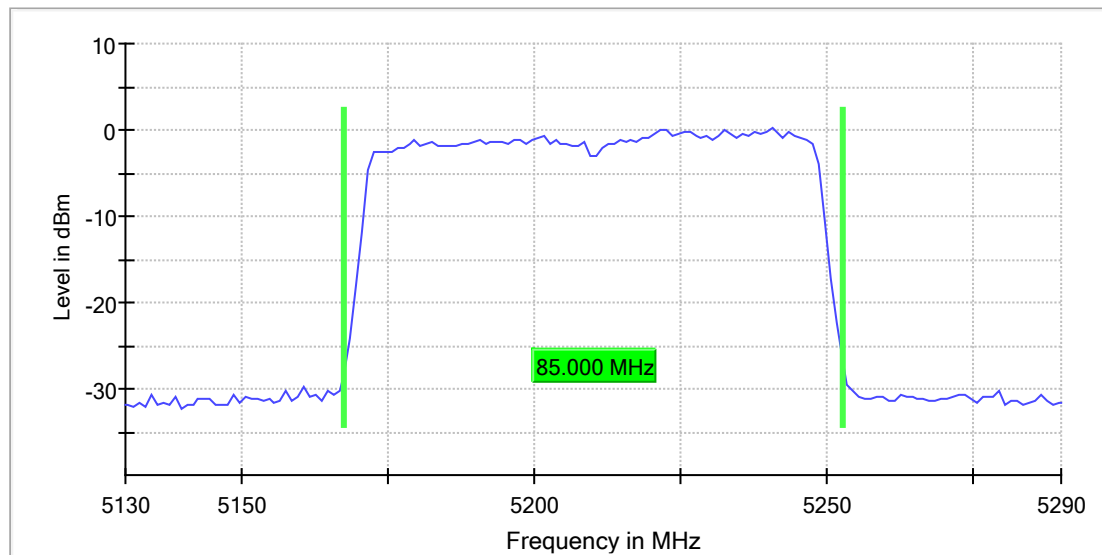
Test according to FCC title 47 part 15 §15.407(a),(e), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

26 dB Bandwidth

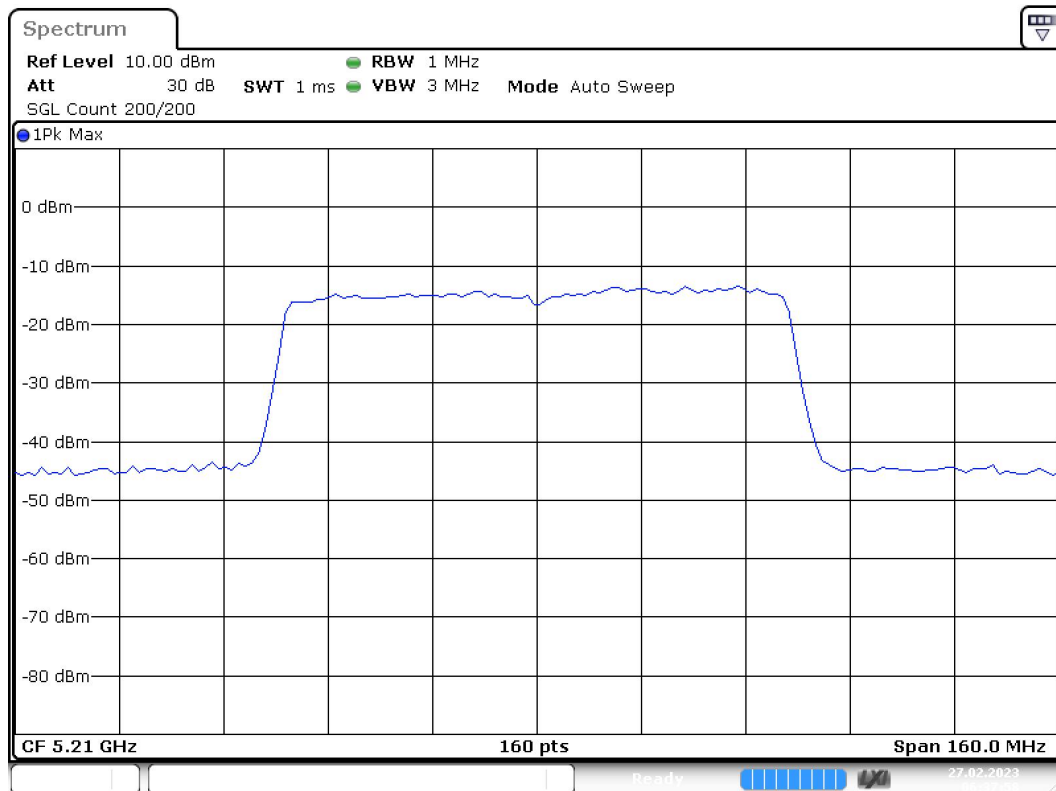
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5210.000000	85.000000	---	---	5167.500000	5252.500000

(continuation of the "26 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
5210.000000	0.3	PASS



Bandwidth



Date: 27.FEB.2023 06:37:58

Measurement

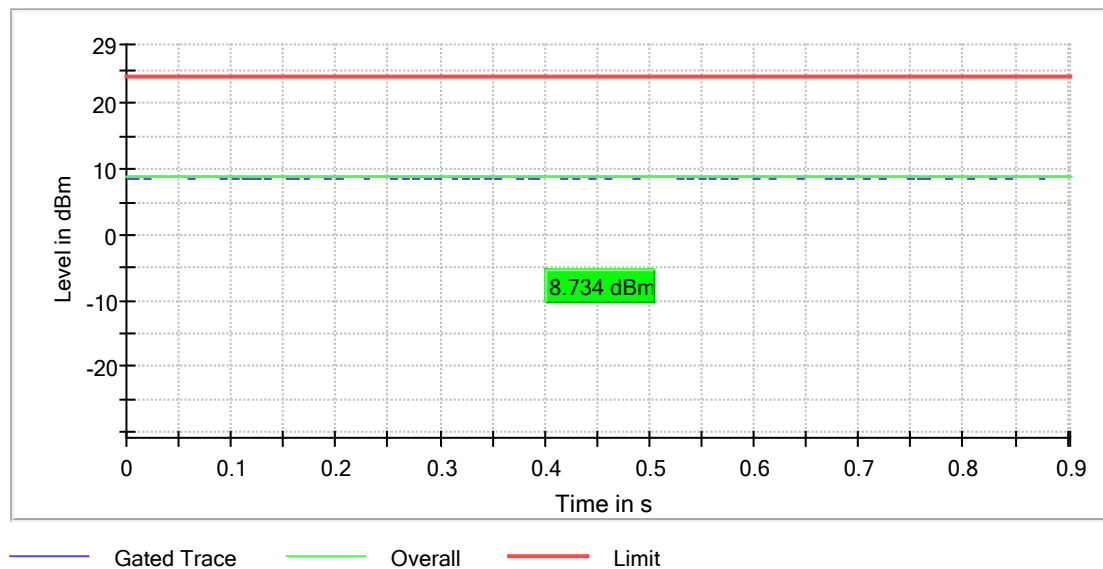
Setting	Instrument Value	Target Value
Start Frequency	5.13000 GHz	5.13000 GHz
Stop Frequency	5.29000 GHz	5.29000 GHz
Span	160.000 MHz	160.000 MHz
RBW	1.000 MHz	~ 800.000 kHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	160	~ 160
SweepTime	1.000 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	79 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.00 dB	0.30 dB

RF output power (5210 MHz; 20.000 dBm; 80 MHz)

Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
5210.000000	8.7	24.0	8.7	90.016	PASS



Power Spectral Density (5210 MHz; 20.000 dBm; 80 MHz)

Customized settings.

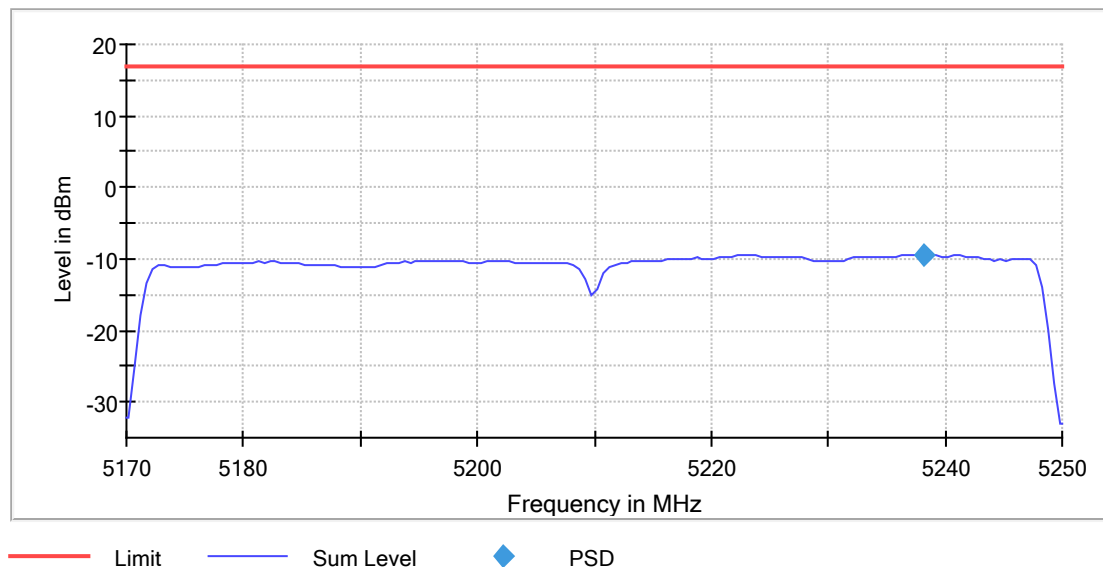
Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5210.000000	5238.250000	-9.406	17.0	PASS

Ports

Port	Duty Cycle (%)
1	89.562



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.17000 GHz	5.17000 GHz
Stop Frequency	5.25000 GHz	5.25000 GHz
Span	80.000 MHz	80.000 MHz
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	160	~ 160
SweepTime	3.200 s	3.200 s
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	RMS	RMS
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB

Run	2 / max. 15	max. 15
Stable	1 / 1	1
Max Stable Difference	0.00 dB	0.30 dB

Minimum Emission Bandwidth 6 dB (5210 MHz; 20.000 dBm; 80 MHz)

Customized settings.

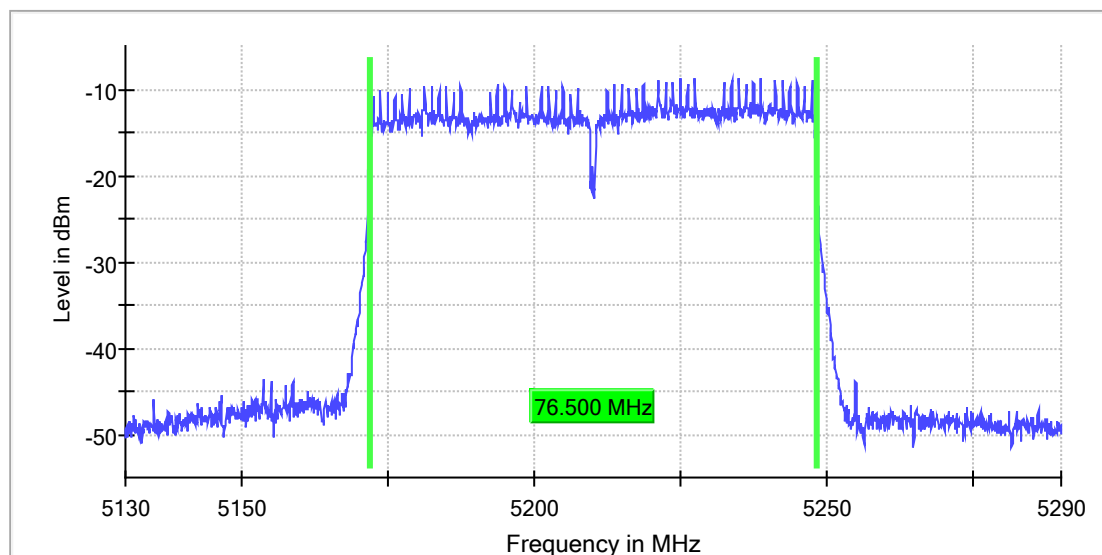
Test according to FCC title 47 part 15 §15.407(a),(e), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5210.000000	76.500000	---	---	5171.650000	5248.150000

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
5210.000000	-8.7	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.13000 GHz	5.13000 GHz
Stop Frequency	5.29000 GHz	5.29000 GHz
Span	160.000 MHz	160.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	1600	~ 1600
SweepTime	360.278 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace

Stablevalue	0.30 dB	0.30 dB
Run	51 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.14 dB	0.30 dB

Occupied Channel Bandwidth 99% (5210 MHz; 20.000 dBm; 80 MHz)

Customized settings.

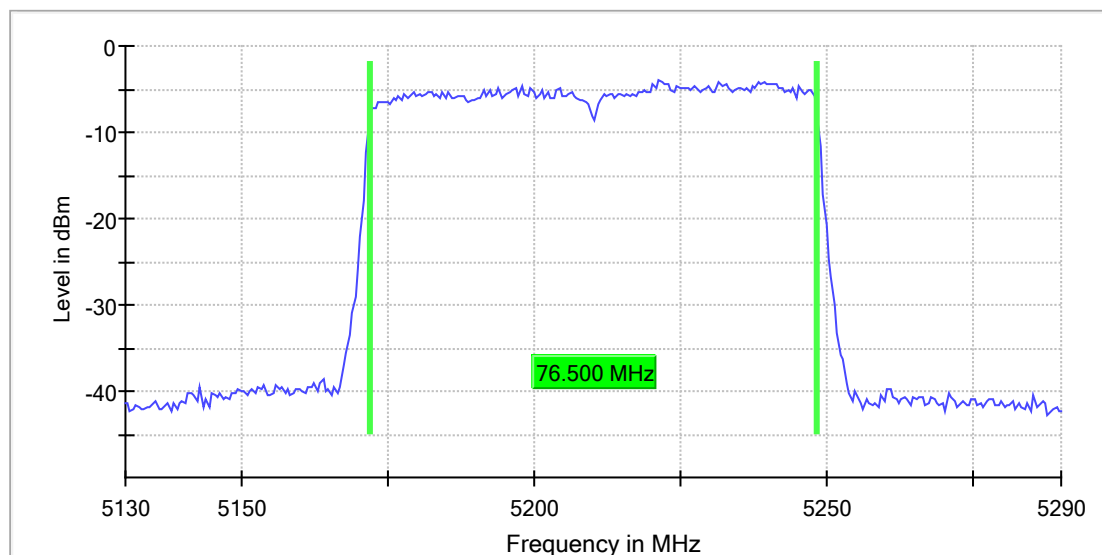
Test according to FCC title 47 part 15 §15.407(a),(e), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5210.000000	76.500000	---	---	5171.750000	5248.250000

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
5210.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.13000 GHz	5.13000 GHz
Stop Frequency	5.29000 GHz	5.29000 GHz
Span	160.000 MHz	160.000 MHz
RBW	500.000 kHz	<= 800.000 kHz
VBW	2.000 MHz	>= 1.500 MHz
SweepPoints	320	~ 320
SweepTime	1.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	30 / max. 150	max. 150

Stable	1 / 1	1
Max Stable Difference	0.30 dB	0.30 dB

Band Edge low (5210 MHz; 20.000 dBm; 80 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.407(b), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

Result

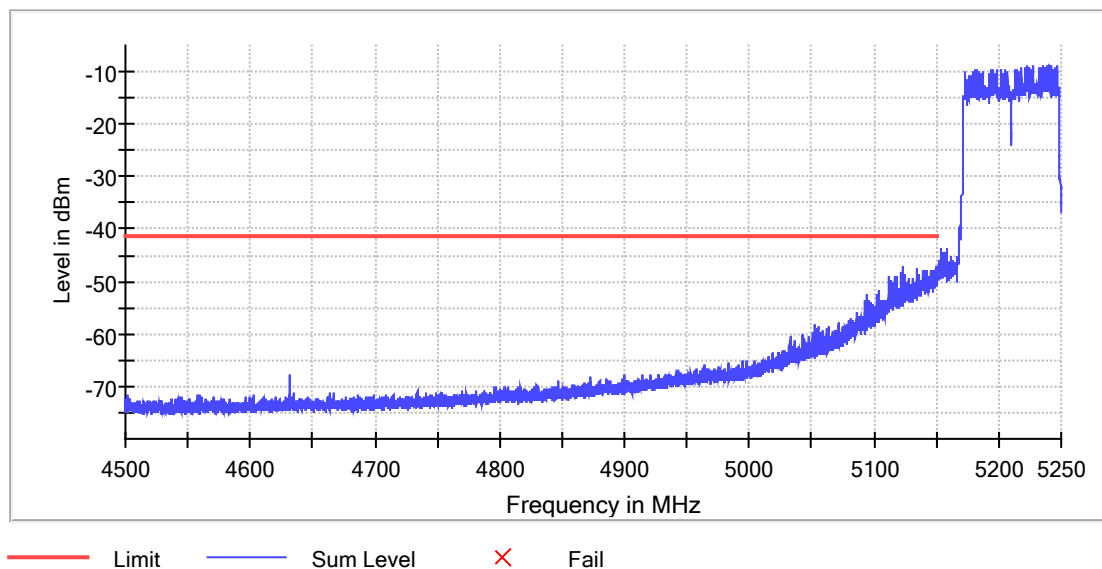
DUT Frequency (MHz)	Result
5210.000000	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
5234.875000	-8.7

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5122.375000	-47.1	5.9	-41.2	PASS
5122.425000	-47.4	6.2	-41.2	PASS
5134.875000	-47.4	6.2	-41.2	PASS
5134.925000	-47.8	6.5	-41.2	PASS
5146.175000	-47.8	6.6	-41.2	PASS
5148.975000	-47.8	6.6	-41.2	PASS
5140.525000	-47.8	6.6	-41.2	PASS
5142.725000	-47.8	6.6	-41.2	PASS
5123.625000	-47.9	6.6	-41.2	PASS
5139.925000	-47.9	6.7	-41.2	PASS
5142.375000	-47.9	6.7	-41.2	PASS
5146.775000	-47.9	6.7	-41.2	PASS
5123.675000	-47.9	6.7	-41.2	PASS
5142.425000	-48.0	6.7	-41.2	PASS
5139.875000	-48.0	6.7	-41.2	PASS



Measurement 1

Setting	Instrument Value	Target Value
Start Frequency	5.15000 GHz	5.15000 GHz
Stop Frequency	5.25000 GHz	5.25000 GHz
Span	100.000 MHz	100.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	2000	~ 2000
SweepTime	227.813 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	43 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.47 dB	0.50 dB

Measurement 2

Setting	Instrument Value	Target Value
Start Frequency	4.50000 GHz	4.50000 GHz
Stop Frequency	5.15000 GHz	5.15000 GHz
Span	650.000 MHz	650.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	13000	~ 13000
SweepTime	13.000 ms	AUTO
Reference Level	-20.000 dBm	-20.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	43 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.06 dB	0.50 dB

Band Edge high (5210 MHz; 20.000 dBm; 80 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.407(b), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

Result

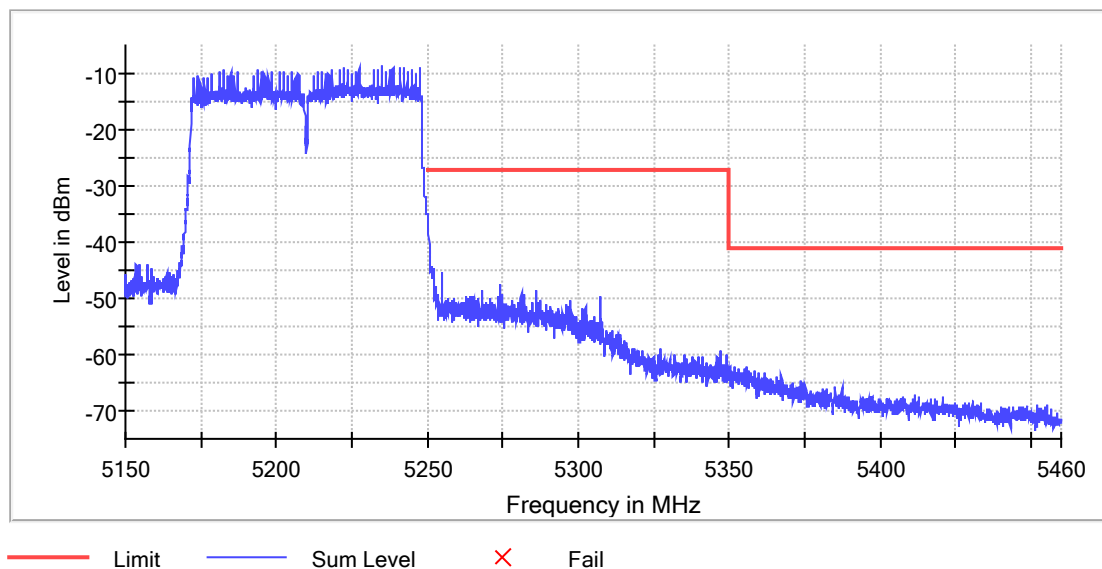
DUT Frequency (MHz)	Result
5210.000000	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
5234.875000	-8.7

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5250.025000	-36.7	9.7	-27.0	PASS
5250.075000	-36.9	9.9	-27.0	PASS
5250.125000	-37.3	10.3	-27.0	PASS
5250.275000	-37.6	10.6	-27.0	PASS
5250.375000	-37.6	10.6	-27.0	PASS
5250.225000	-37.6	10.6	-27.0	PASS
5250.175000	-38.1	11.1	-27.0	PASS
5250.425000	-38.2	11.2	-27.0	PASS
5250.325000	-38.3	11.3	-27.0	PASS
5250.475000	-38.3	11.3	-27.0	PASS
5250.525000	-38.5	11.5	-27.0	PASS
5250.575000	-40.4	13.4	-27.0	PASS
5250.625000	-41.4	14.4	-27.0	PASS
5250.875000	-41.5	14.5	-27.0	PASS
5250.775000	-41.7	14.7	-27.0	PASS



Measurement 1

Setting	Instrument Value	Target Value
Start Frequency	5.15000 GHz	5.15000 GHz
Stop Frequency	5.25000 GHz	5.25000 GHz
Span	100.000 MHz	100.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	2000	~ 2000
SweepTime	227.813 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	42 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.47 dB	0.50 dB

Measurement 2

Setting	Instrument Value	Target Value
Start Frequency	5.25000 GHz	5.25000 GHz
Stop Frequency	5.46000 GHz	5.46000 GHz
Span	210.000 MHz	210.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	4200	~ 4200
SweepTime	474.609 μ s	AUTO
Reference Level	-20.000 dBm	-20.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	6 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

FCC 15.407 2015

DUT Information

Frequencies

WLAN CH 42 (5210 MHz)
WLAN CH 106 (5530 MHz)

WLAN CH 155 (5775 MHz)
WLAN CH 122 (5610 MHz)

WLAN CH 58 (5290 MHz)

Bandwidths

80 MHz (80 MHz)

Power

20.000 dBm (20 dBm)

Beamforming Gain

Powerstep name (value)
20.000 dBm (20 dBm)

Beamforming gain table names
BFG_'20.000 dBm'_0.000dB;

Gain Tables

Powerstep name (value)
20.000 dBm (20 dBm)

Gain table names
Port 1: 0dBi;

DUT Settings

No. of transmission chains
DFS capability
DFS Mode
Equipment Type
TPC

1
Yes
Master
Portable
No

Hardware Setup: WMS Measurements\Hardware Setup

Spectrum Analyzer:

SA FSV 40 (SA FSV 40) @ VISA (ADR
TCPIP::192.168.48.111::INST0::INSTR), SN 1321.3008K39/101229,
FW 3.40

Vector Generator:

VG SMBV100B (VG SMBV100B) @ VISA (ADR
TCPIP::192.168.48.29::INST0::INSTR), SN 101685, FW 4.70.006.33

Generator:

SMB100Aa (SMB100A) @ VISA (ADR
TCPIP::192.168.48.30::INST0::INSTR), SN 177894, FW / Drv:Rev
2.21.0, 07/2016, CVI 2015

OSP:

OSP-B157W (OSP-B157W) @ VISA (ADR
TCPIP::192.168.48.157::INST0::INSTR), SN 1527.1144. /, FW
1.23.0.2

Summary

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
Tx Spurious Emission	5210.000	20.0	80.000000	PASS

Tx Spurious Emission (5210 MHz; 20.000 dBm; 80 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.407(b), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10-2013

Result

DUT Frequency (MHz)	Result
5210.000000	PASS

Final measurements

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
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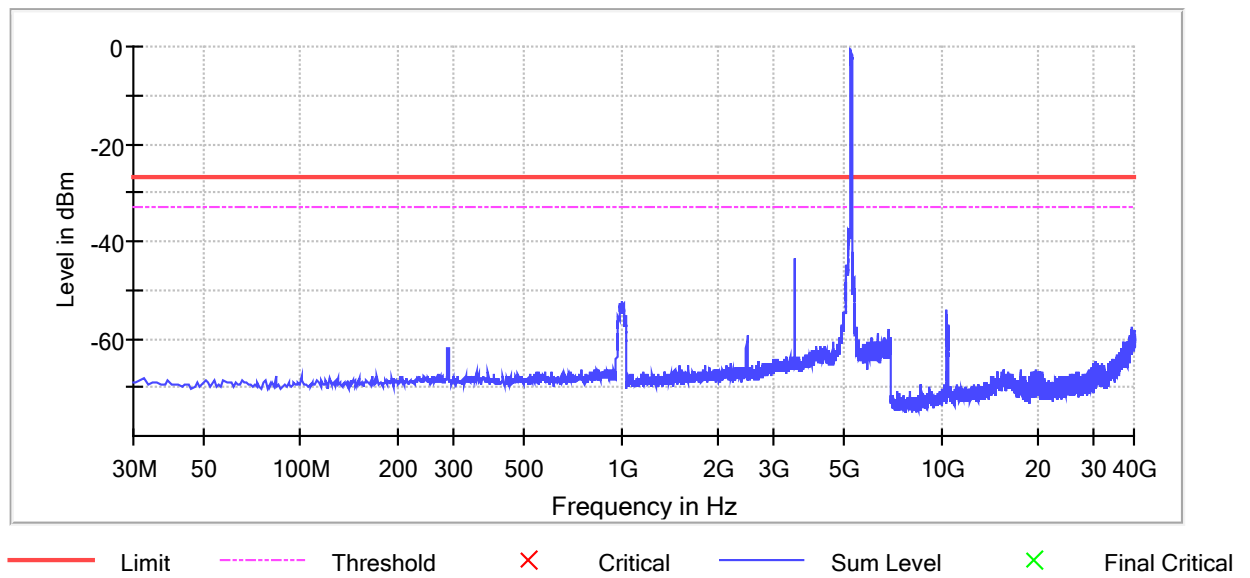
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
5142.500000	-38.5	11.5	-27.0
5144.500000	-38.5	11.5	-27.0
5149.500000	-38.8	11.8	-27.0
5146.500000	-38.8	11.8	-27.0
5140.500000	-39.0	12.0	-27.0
5147.500000	-39.0	12.0	-27.0
5143.500000	-38.3	11.3	-27.0
5148.500000	-38.3	11.3	-27.0
5137.500000	-38.4	11.4	-27.0
5141.500000	-38.5	11.5	-27.0
5145.500000	-38.5	11.5	-27.0
5139.500000	-38.7	11.7	-27.0
5138.500000	-38.7	11.7	-27.0
5122.500000	-39.3	12.3	-27.0
5134.500000	-39.3	12.3	-27.0

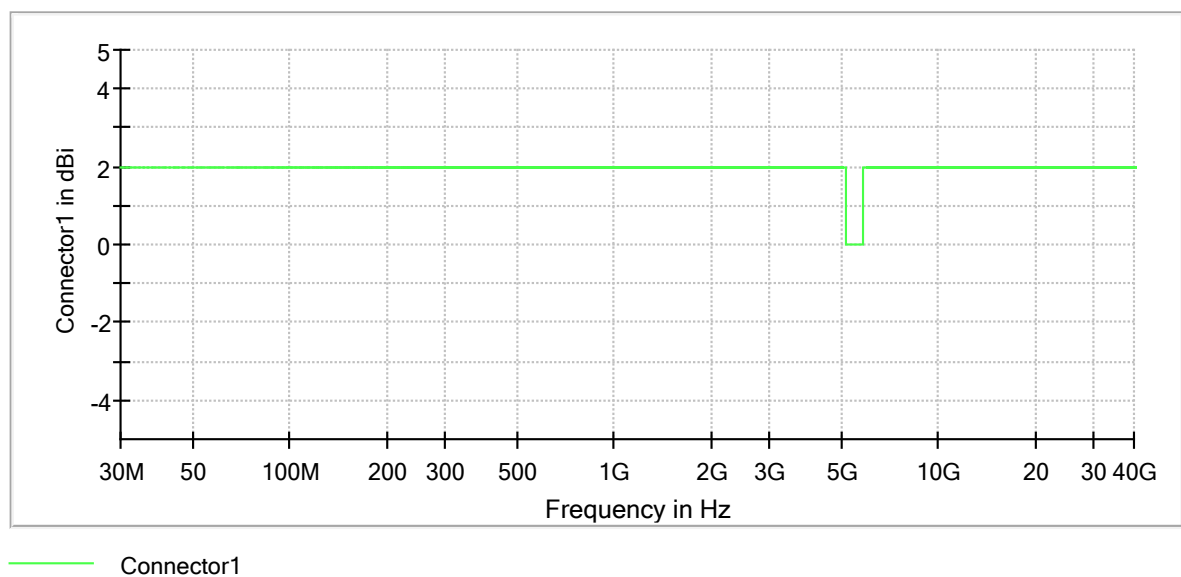
Measurement Settings

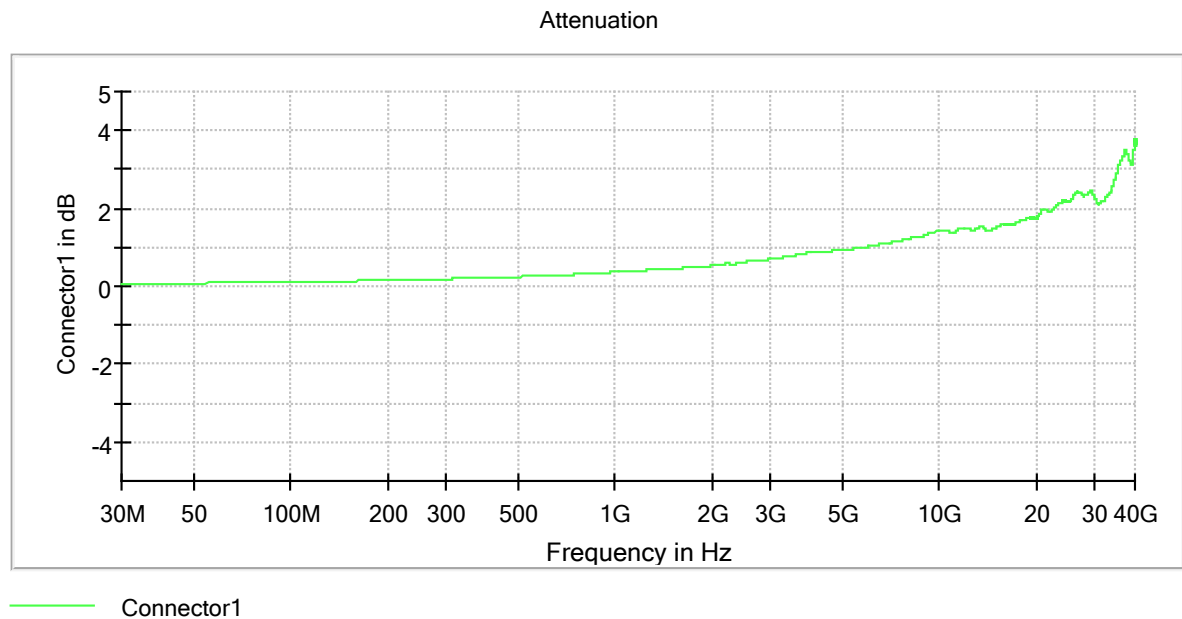
Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	1000.000000	1	1
1000.000000	5150.000000	2	2
5150.000000	5250.000000	2	2
5250.000000	5350.000000	2	2
5350.000000	5470.000000	2	2
5470.000000	5725.000000	2	2
5725.000000	5850.000000	2	2
5850.000000	7000.000000	2	2
7000.000000	18000.000000	2	2
18000.000000	26000.000000	2	2
26000.000000	40000.000000	2	2

Spurious



Gain





Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	970	~ 970
SweepTime	194.000 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	QuasiPeak
SweepCount	3	3
Filter	Channel	Channel
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	11 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	4150	~ 4150
SweepTime	4.150 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	30	30
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	43 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.24 dB	0.50 dB

FCC 15.407 2015

DUT Information

Frequencies

WLAN CH 42 (5210 MHz)
WLAN CH 106 (5530 MHz)

WLAN CH 155 (5775 MHz)
WLAN CH 122 (5610 MHz)

WLAN CH 58 (5290 MHz)

Bandwidths

80 MHz (80 MHz)

Power

20.000 dBm (20 dBm)

Beamforming Gain

20.000 dBm (20 dBm) 0 dB

Gain Tables

20.000 dBm (20 dBm) Port 1: 0dBi;

DUT Settings

No. of transmission chains	1
DFS capability	Yes
DFS Mode	Master
Equipment Type	Portable
TPC	No

Hardware Setup: WMS Measurements\TS8997

Spectrum Analyzer:

SA FSV 40 (SA FSV 40) @ VISA (ADR
TCPIP::192.168.48.111::INST0::INSTR), SN 1321.3008K39/101229,
FW 3.40

Vector Generator:

VG SMBV100B (VG SMBV100B) @ VISA (ADR
TCPIP::192.168.48.29::INST0::INSTR), SN 101685, FW 4.70.006.33

Generator:

SMB100Aa (SMB100A) @ VISA (ADR
TCPIP::192.168.48.30::INST0::INSTR), SN 177894, FW / Drv:Rev
2.21.0, 07/2016, CVI 2015

OSP:

OSP-B157W (OSP-B157W) @ VISA (ADR
TCPIP::192.168.48.157::INST0::INSTR), SN 1527.1144. /, FW
1.23.0.2

Summary

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
Emission Bandwidth 26 dB	5775.000	20.0	80.000000	PASS
RF output power	5775.000	20.0	80.000000	PASS
Power Spectral Density	5775.000	20.0	80.000000	PASS
Minimum Emission Bandwidth 6 dB	5775.000	20.0	80.000000	PASS
Occupied Channel Bandwidth 99%	5775.000	20.0	80.000000	PASS
Band Edge low	5775.000	20.0	80.000000	PASS
Band Edge high	5775.000	20.0	80.000000	PASS

Emission Bandwidth 26 dB (5775 MHz; 20.000 dBm; 80 MHz)

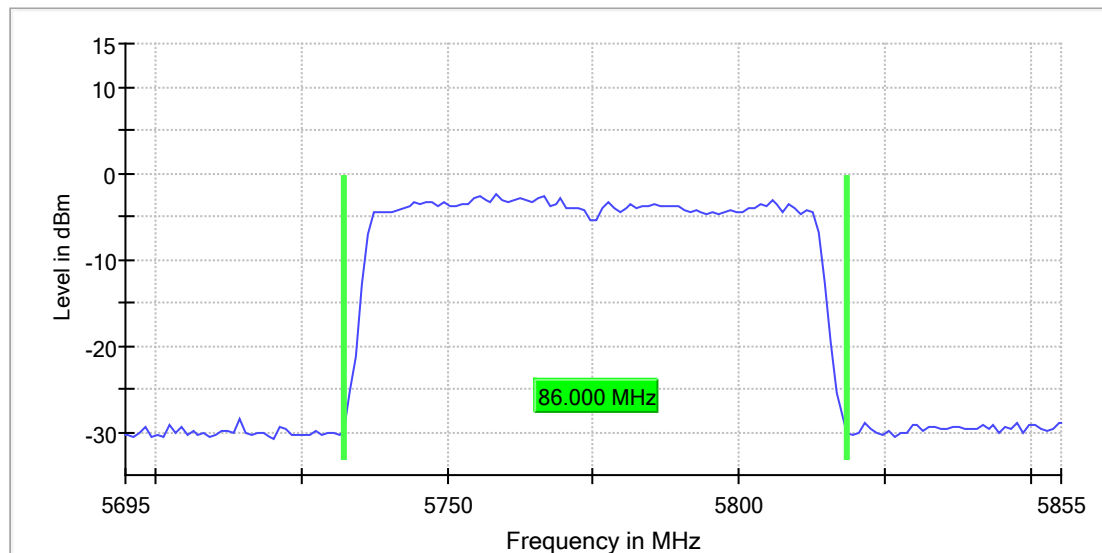
Test according to FCC title 47 part 15 §15.407(a),(e), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

26 dB Bandwidth

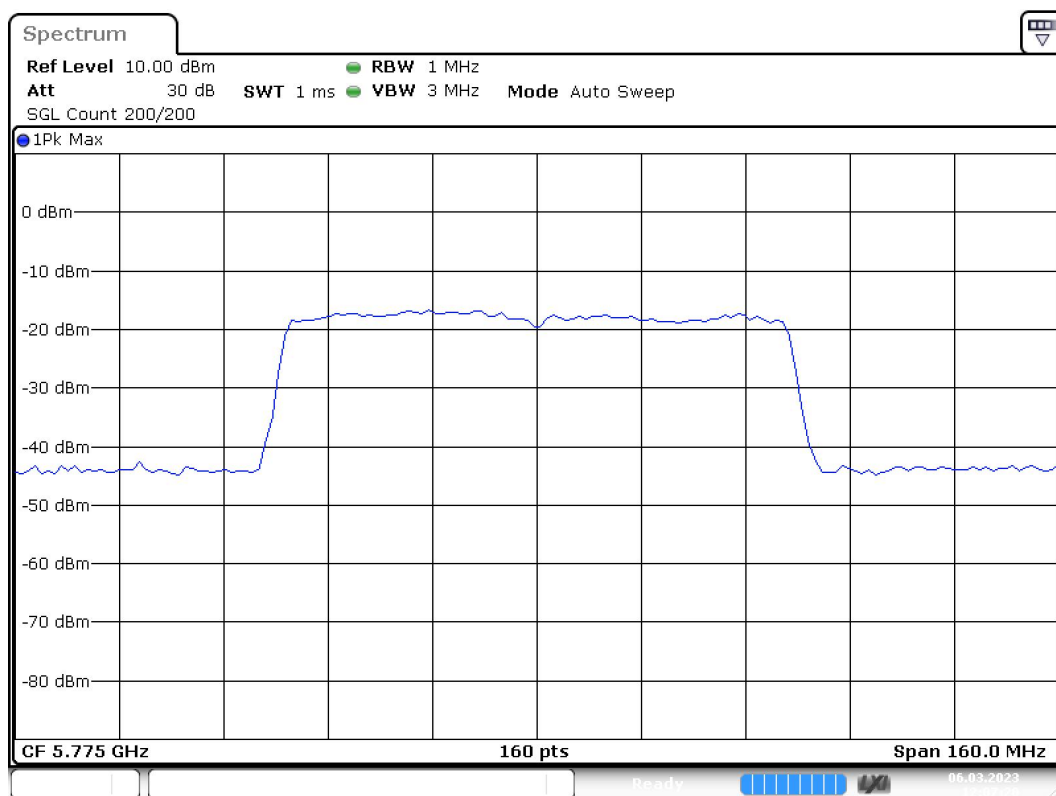
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5775.000000	86.000000	---	---	5732.500000	5818.500000

(continuation of the "26 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
5775.000000	-2.5	PASS



Bandwidth



Date: 6.MAR.2023 12:07:21

Measurement

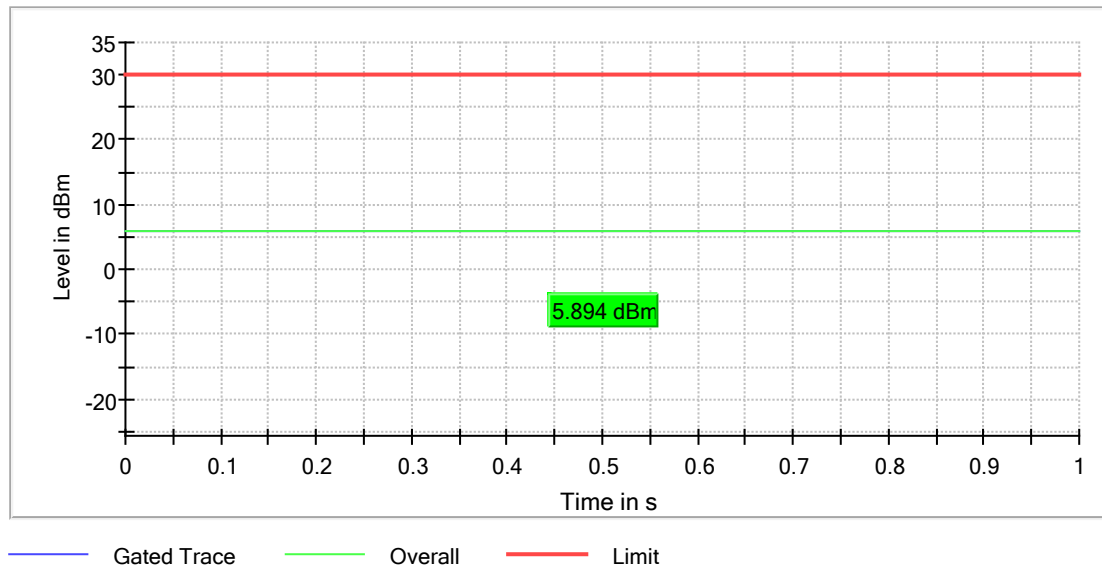
Setting	Instrument Value	Target Value
Start Frequency	5.69500 GHz	5.69500 GHz
Stop Frequency	5.85500 GHz	5.85500 GHz
Span	160.000 MHz	160.000 MHz
RBW	1.000 MHz	~ 800.000 kHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	160	~ 160
SweepTime	1.000 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	47 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.03 dB	0.30 dB

RF output power (5775 MHz; 20.000 dBm; 80 MHz)

Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
5775.000000	5.9	30.0	5.9	100.000	PASS



Power Spectral Density (5775 MHz; 20.000 dBm; 80 MHz)

Customized settings.

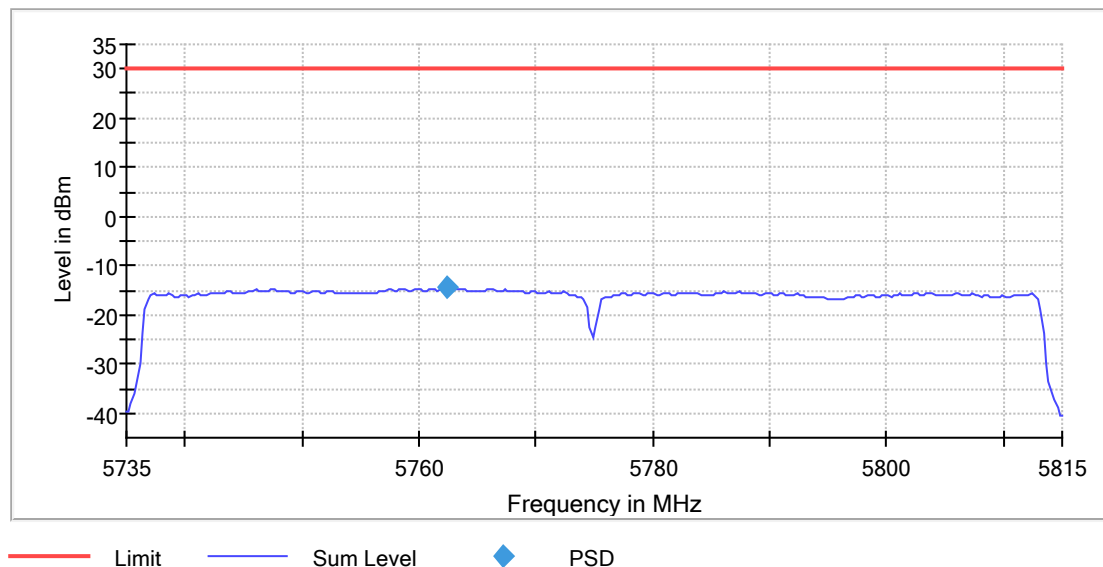
Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5775.000000	5762.375000	-14.579	30.0	PASS

Ports

Port	Duty Cycle (%)
1	89.607



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.73500 GHz	5.73500 GHz
Stop Frequency	5.81500 GHz	5.81500 GHz
Span	80.000 MHz	80.000 MHz
RBW	500.000 kHz	<= 500.000 kHz
VBW	2.000 MHz	>= 1.500 MHz
SweepPoints	320	~ 320
SweepTime	6.400 s	6.400 s
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	RMS	RMS
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB

Run	2 / max. 15	max. 15
Stable	1 / 1	1
Max Stable Difference	0.00 dB	0.30 dB

Minimum Emission Bandwidth 6 dB (5775 MHz; 20.000 dBm; 80 MHz)

Customized settings.

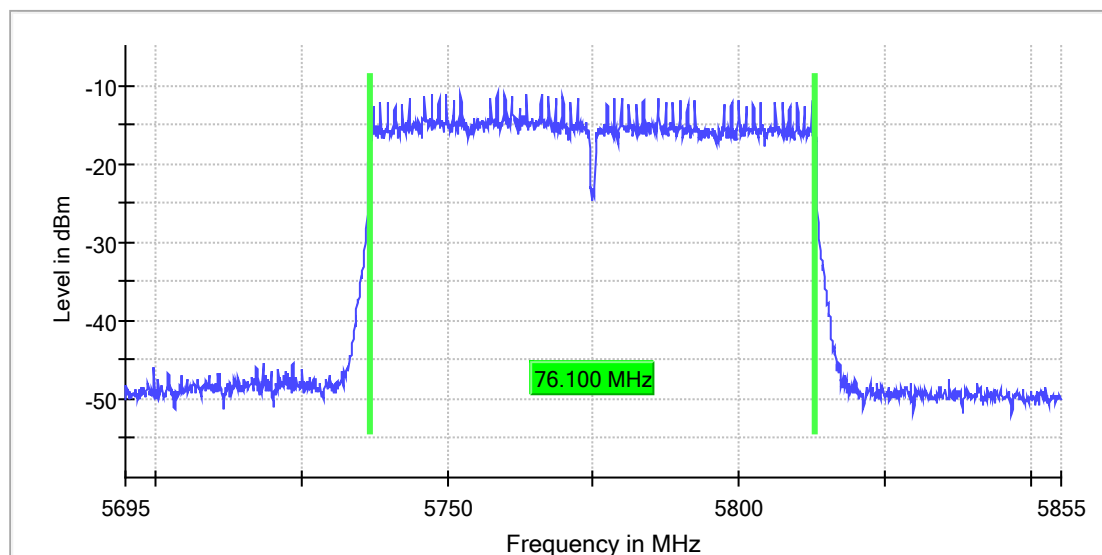
Test according to FCC title 47 part 15 §15.407(a),(e), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5775.000000	76.100000	0.500000	---	5736.650000	5812.750000

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
5775.000000	-10.8	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.69500 GHz	5.69500 GHz
Stop Frequency	5.85500 GHz	5.85500 GHz
Span	160.000 MHz	160.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	1600	~ 1600
SweepTime	360.278 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace

Stablevalue	0.30 dB	0.30 dB
Run	48 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.21 dB	0.30 dB

Occupied Channel Bandwidth 99% (5775 MHz; 20.000 dBm; 80 MHz)

Customized settings.

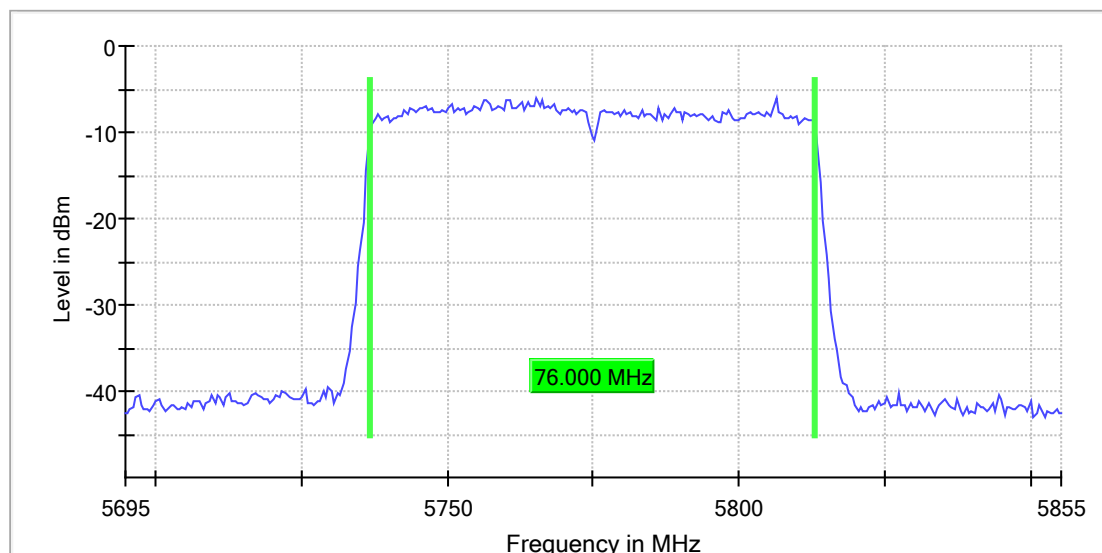
Test according to FCC title 47 part 15 §15.407(a),(e), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5775.000000	76.000000	---	---	5736.750000	5812.750000

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
5775.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.69500 GHz	5.69500 GHz
Stop Frequency	5.85500 GHz	5.85500 GHz
Span	160.000 MHz	160.000 MHz
RBW	500.000 kHz	<= 800.000 kHz
VBW	2.000 MHz	>= 1.500 MHz
SweepPoints	320	~ 320
SweepTime	1.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	27 / max. 150	max. 150

Stable	1 / 1	1
Max Stable Difference	0.28 dB	0.30 dB

Band Edge low (5775 MHz; 20.000 dBm; 80 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.407(b), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

Result

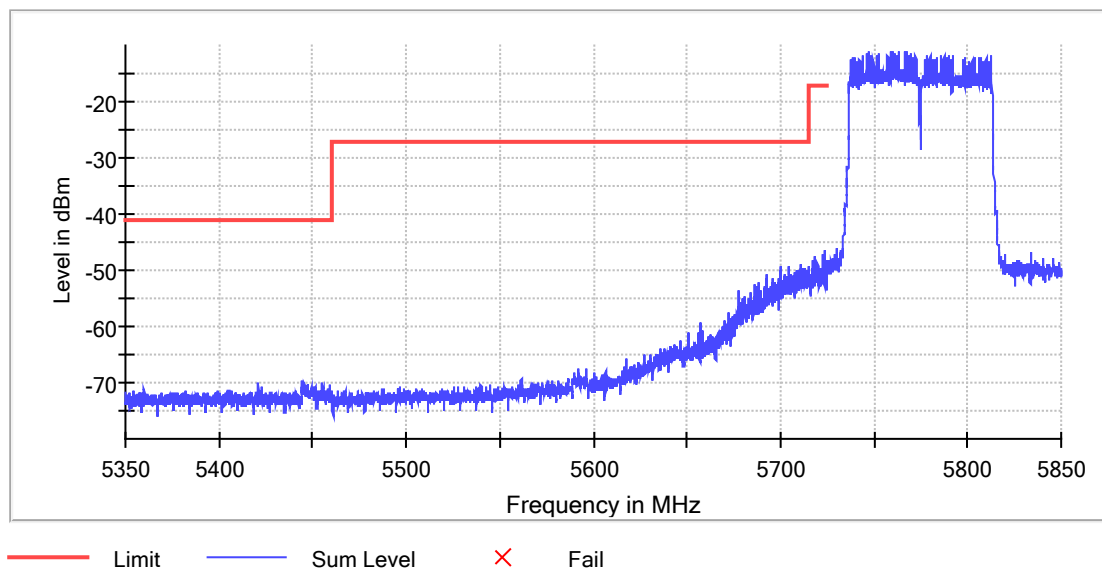
DUT Frequency (MHz)	Result
5775.000000	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
5758.625000	-11.0

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5711.125000	-48.9	21.9	-27.0	PASS
5699.875000	-49.2	22.2	-27.0	PASS
5711.175000	-49.3	22.3	-27.0	PASS
5704.875000	-49.3	22.3	-27.0	PASS
5712.675000	-49.6	22.6	-27.0	PASS
5711.075000	-49.7	22.7	-27.0	PASS
5711.425000	-49.8	22.8	-27.0	PASS
5699.825000	-49.8	22.8	-27.0	PASS
5699.925000	-49.8	22.8	-27.0	PASS
5711.725000	-49.8	22.8	-27.0	PASS
5712.625000	-49.8	22.8	-27.0	PASS
5709.575000	-49.9	22.9	-27.0	PASS
5700.475000	-49.9	22.9	-27.0	PASS
5704.825000	-49.9	22.9	-27.0	PASS
5711.775000	-49.9	22.9	-27.0	PASS



Measurement 1

Setting	Instrument Value	Target Value
Start Frequency	5.72500 GHz	5.72500 GHz
Stop Frequency	5.85000 GHz	5.85000 GHz
Span	125.000 MHz	125.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	2500	~ 2500
SweepTime	284.766 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	42 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.49 dB	0.50 dB

Measurement 2

Setting	Instrument Value	Target Value
Start Frequency	5.35000 GHz	5.35000 GHz
Stop Frequency	5.72500 GHz	5.72500 GHz
Span	375.000 MHz	375.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	7500	~ 7500
SweepTime	835.313 μ s	AUTO
Reference Level	-20.000 dBm	-20.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	31 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.43 dB	0.50 dB

Band Edge high (5775 MHz; 20.000 dBm; 80 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.407(b), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

Result

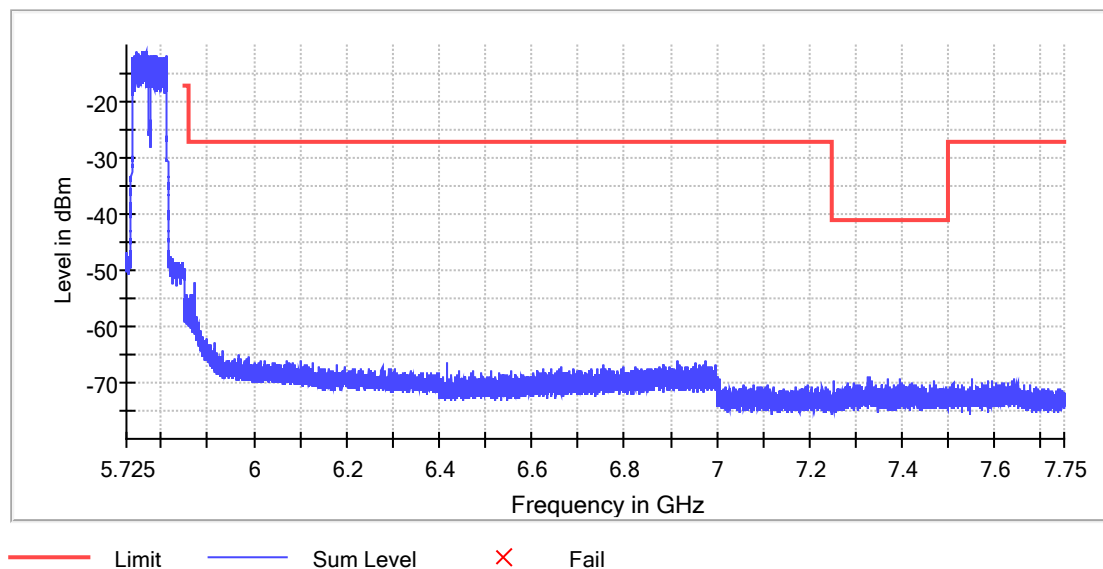
DUT Frequency (MHz)	Result
5775.000000	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
5758.625000	-11.0

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5872.375000	-52.1	25.1	-27.0	PASS
5872.425000	-52.2	25.2	-27.0	PASS
5872.325000	-53.7	26.7	-27.0	PASS
5872.475000	-54.2	27.2	-27.0	PASS
5867.375000	-54.2	27.2	-27.0	PASS
5862.375000	-54.4	27.4	-27.0	PASS
5871.125000	-54.4	27.4	-27.0	PASS
5871.175000	-54.5	27.5	-27.0	PASS
5862.425000	-54.5	27.5	-27.0	PASS
5867.425000	-54.6	27.6	-27.0	PASS
7326.975000	-68.8	27.6	-41.2	PASS
7328.225000	-69.1	27.8	-41.2	PASS
7395.275000	-69.4	28.2	-41.2	PASS
7395.225000	-69.4	28.2	-41.2	PASS
7367.425000	-69.5	28.2	-41.2	PASS



Measurement 1

Setting	Instrument Value	Target Value
Start Frequency	5.72500 GHz	5.72500 GHz
Stop Frequency	5.85000 GHz	5.85000 GHz
Span	125.000 MHz	125.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	2500	~ 2500
SweepTime	284.766 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	30 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.43 dB	0.50 dB

Measurement 2

Setting	Instrument Value	Target Value
Start Frequency	5.85000 GHz	5.85000 GHz
Stop Frequency	6.40000 GHz	6.40000 GHz
Span	550.000 MHz	550.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	11000	~ 11000
SweepTime	11.000 ms	AUTO
Reference Level	-20.000 dBm	-20.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	10 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.26 dB	0.50 dB

FCC 15.407 2015

DUT Information

Frequencies

WLAN CH 42 (5210 MHz)
WLAN CH 106 (5530 MHz)

WLAN CH 155 (5775 MHz)
WLAN CH 122 (5610 MHz)

WLAN CH 58 (5290 MHz)

Bandwidths

80 MHz (80 MHz)

Power

20.000 dBm (20 dBm)

Beamforming Gain

Powerstep name (value)
20.000 dBm (20 dBm)

Beamforming gain table names
BFG_'20.000 dBm'_0.000dB;

Gain Tables

Powerstep name (value)
20.000 dBm (20 dBm)

Gain table names
Port 1: 0dBi;

DUT Settings

No. of transmission chains
DFS capability
DFS Mode
Equipment Type
TPC

1
Yes
Master
Portable
No

Hardware Setup: WMS Measurements\Hardware Setup

Spectrum Analyzer:

SA FSV 40 (SA FSV 40) @ VISA (ADR
TCPIP::192.168.48.111::INST0::INSTR), SN 1321.3008K39/101229,
FW 3.40

Vector Generator:

VG SMBV100B (VG SMBV100B) @ VISA (ADR
TCPIP::192.168.48.29::INST0::INSTR), SN 101685, FW 4.70.006.33

Generator:

SMB100Aa (SMB100A) @ VISA (ADR
TCPIP::192.168.48.30::INST0::INSTR), SN 177894, FW / Drv:Rev
2.21.0, 07/2016, CVI 2015

OSP:

OSP-B157W (OSP-B157W) @ VISA (ADR
TCPIP::192.168.48.157::INST0::INSTR), SN 1527.1144. /, FW
1.23.0.2

Summary

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
Tx Spurious Emission	5775.000	20.0	80.000000	PASS

Tx Spurious Emission (5775 MHz; 20.000 dBm; 80 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.407(b), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10-2013

Result

DUT Frequency (MHz)	Result
5775.000000	PASS

Final measurements

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
---	---	---	---	---	---

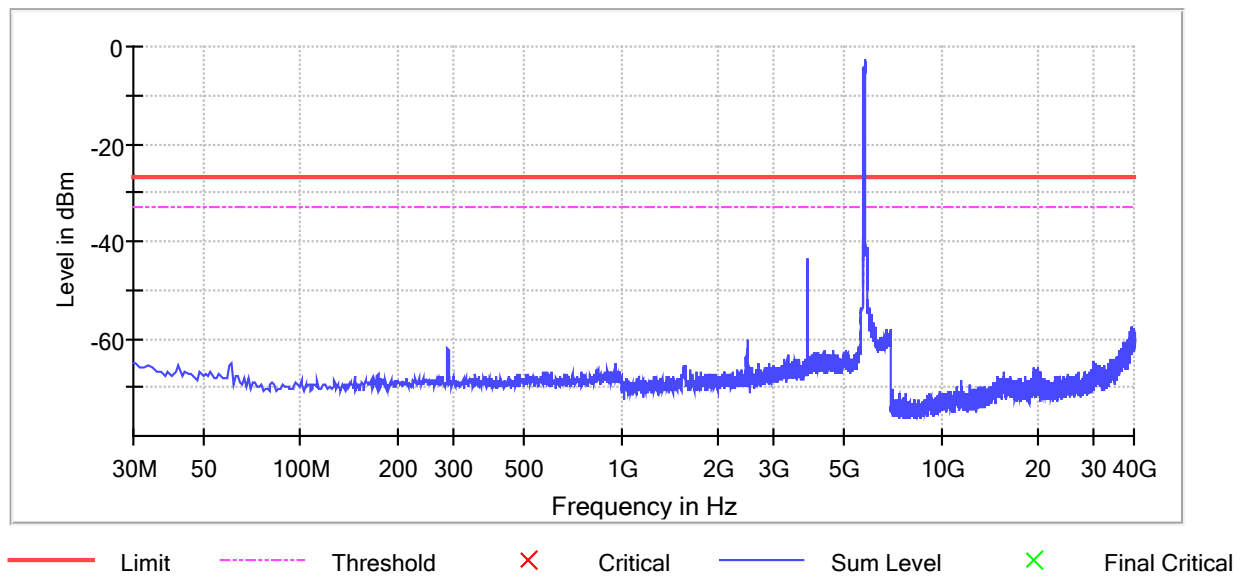
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
5719.500000	-40.2	13.2	-27.0
5720.500000	-40.2	13.2	-27.0
5724.500000	-40.9	13.9	-27.0
5711.500000	-41.0	14.0	-27.0
5721.500000	-41.1	14.1	-27.0
5716.500000	-41.1	14.1	-27.0
5723.500000	-41.1	14.1	-27.0
5718.500000	-41.3	14.3	-27.0
5722.500000	-41.3	14.3	-27.0
5704.500000	-41.3	14.3	-27.0
5717.500000	-41.5	14.5	-27.0
5705.500000	-41.6	14.6	-27.0
5714.500000	-41.6	14.6	-27.0
5715.500000	-42.1	15.1	-27.0
5712.500000	-42.1	15.1	-27.0

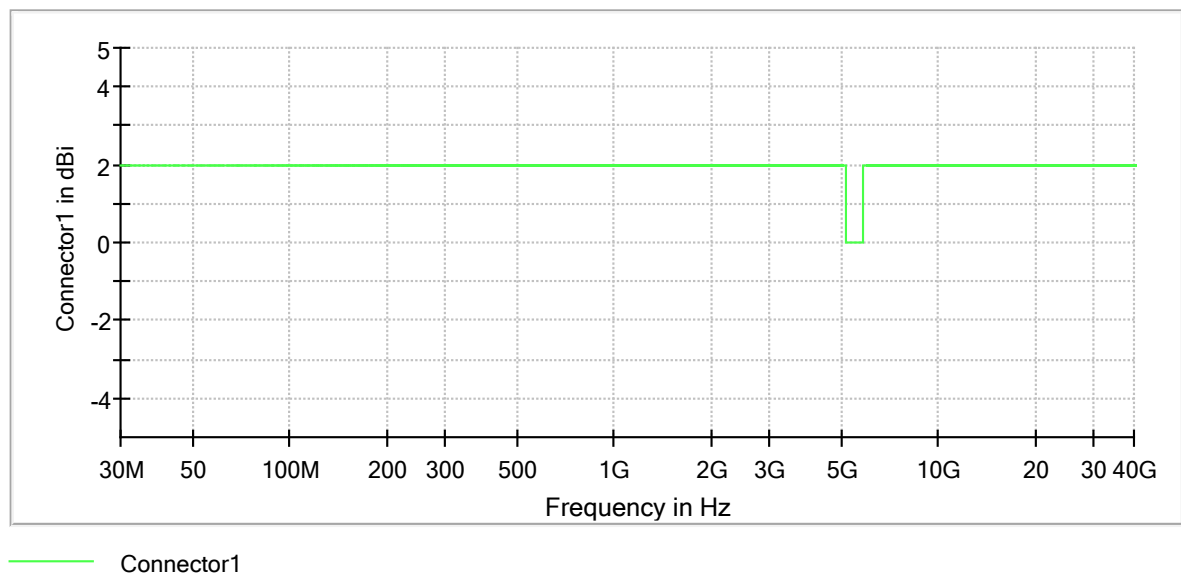
Measurement Settings

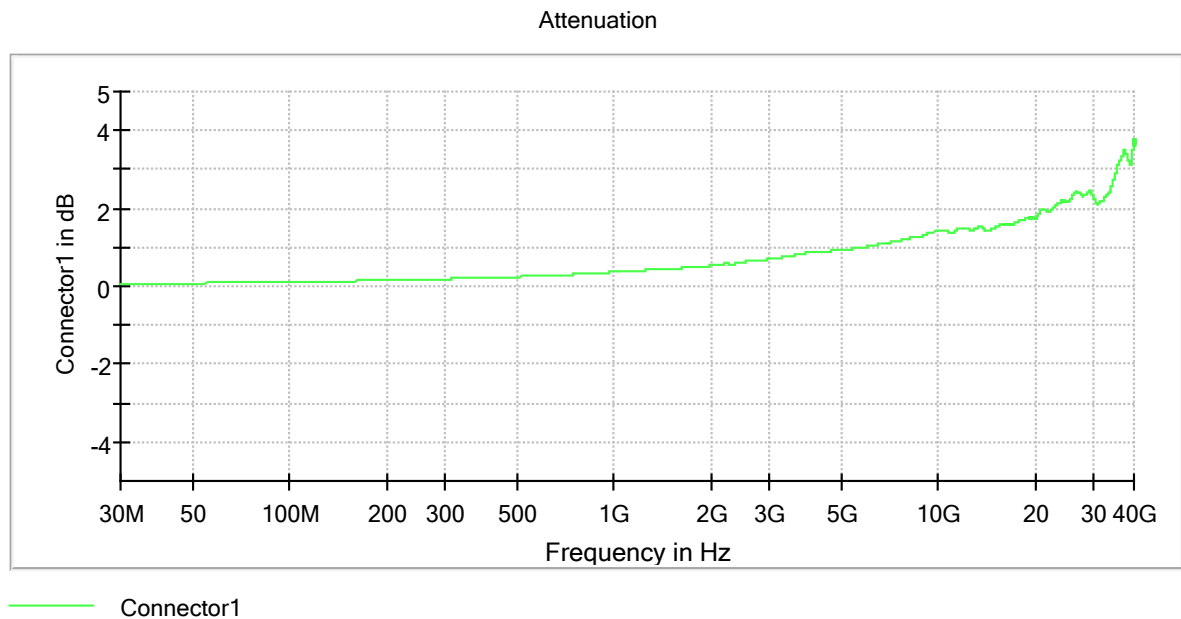
Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	1000.000000	1	1
1000.000000	5150.000000	2	2
5150.000000	5250.000000	2	2
5250.000000	5350.000000	2	2
5350.000000	5470.000000	2	2
5470.000000	5725.000000	2	2
5725.000000	5850.000000	2	2
5850.000000	7000.000000	2	2
7000.000000	18000.000000	2	2
18000.000000	26000.000000	2	2
26000.000000	40000.000000	2	2

Spurious



Gain





Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	1.000 MHz	≤ 1.000 MHz
VBW	3.000 MHz	≥ 3.000 MHz
SweepPoints	970	~ 970
SweepTime	194.000 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	QuasiPeak
SweepCount	3	3
Filter	Channel	Channel
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	1.000 MHz	≤ 1.000 MHz
VBW	3.000 MHz	≥ 3.000 MHz
SweepPoints	4150	~ 4150
SweepTime	4.150 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	30	30
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	5 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.16 dB	0.50 dB

FCC 15.407 2015

DUT Information

Frequencies

WLAN CH 42 (5210 MHz)
WLAN CH 106 (5530 MHz)

WLAN CH 155 (5775 MHz)
WLAN CH 122 (5610 MHz)

WLAN CH 58 (5290 MHz)

Bandwidths

80 MHz (80 MHz)

Power

20.000 dBm (20 dBm)

Beamforming Gain

20.000 dBm (20 dBm) 0 dB

Gain Tables

20.000 dBm (20 dBm) Port 1: 0dBi;

DUT Settings

No. of transmission chains	1
DFS capability	Yes
DFS Mode	Master
Equipment Type	Portable
TPC	No

Hardware Setup: WMS Measurements\TS8997

Spectrum Analyzer:

SA FSV 40 (SA FSV 40) @ VISA (ADR
TCPIP::192.168.48.111::INST0::INSTR), SN 1321.3008K39/101229,
FW 3.40

Vector Generator:

VG SMBV100B (VG SMBV100B) @ VISA (ADR
TCPIP::192.168.48.29::INST0::INSTR), SN 101685, FW 4.70.006.33

Generator:

SMB100Aa (SMB100A) @ VISA (ADR
TCPIP::192.168.48.30::INST0::INSTR), SN 177894, FW / Drv:Rev
2.21.0, 07/2016, CVI 2015

OSP:

OSP-B157W (OSP-B157W) @ VISA (ADR
TCPIP::192.168.48.157::INST0::INSTR), SN 1527.1144. /, FW
1.23.0.2

Summary

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
Emission Bandwidth 26 dB	5210.000	20.0	80.000000	PASS
RF output power	5210.000	20.0	80.000000	PASS
Power Spectral Density	5210.000	20.0	80.000000	PASS
Minimum Emission Bandwidth 6 dB	5210.000	20.0	80.000000	PASS
Occupied Channel Bandwidth 99%	5210.000	20.0	80.000000	PASS
Band Edge low	5210.000	20.0	80.000000	PASS
Band Edge high	5210.000	20.0	80.000000	PASS

Emission Bandwidth 26 dB (5210 MHz; 20.000 dBm; 80 MHz)

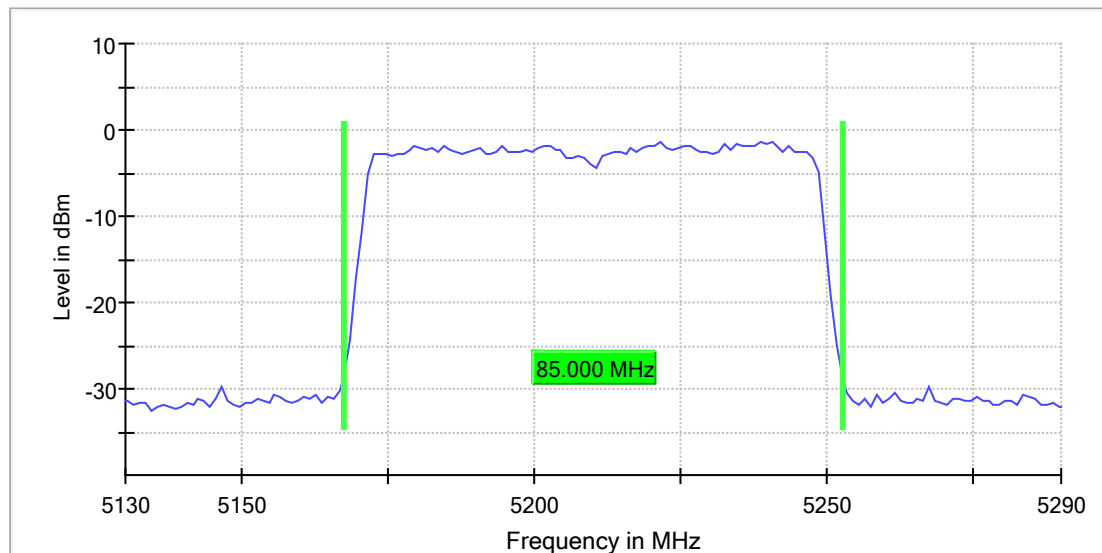
Test according to FCC title 47 part 15 §15.407(a),(e), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

26 dB Bandwidth

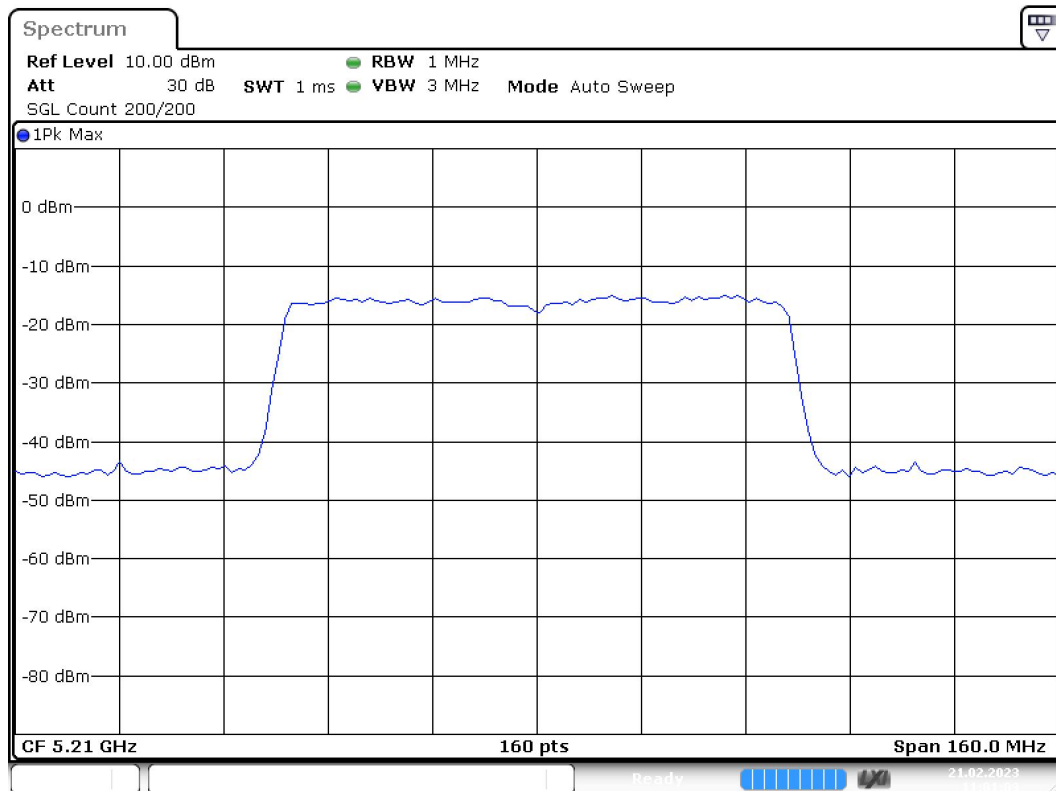
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5210.000000	85.000000	---	---	5167.500000	5252.500000

(continuation of the "26 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
5210.000000	-1.4	PASS



Bandwidth



Date: 21.FEB.2023 11:01:03

Measurement

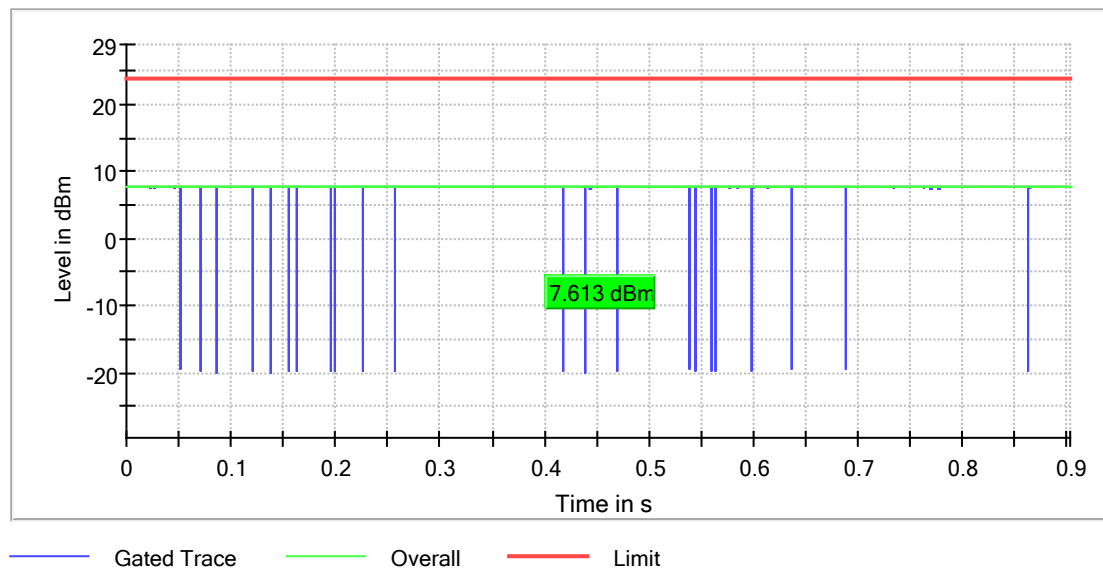
Setting	Instrument Value	Target Value
Start Frequency	5.13000 GHz	5.13000 GHz
Stop Frequency	5.29000 GHz	5.29000 GHz
Span	160.000 MHz	160.000 MHz
RBW	1.000 MHz	~ 800.000 kHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	160	~ 160
SweepTime	1.000 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	61 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.04 dB	0.30 dB

RF output power (5210 MHz; 20.000 dBm; 80 MHz)

Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
5210.000000	7.6	24.0	7.6	90.062	PASS



Power Spectral Density (5210 MHz; 20.000 dBm; 80 MHz)

Customized settings.

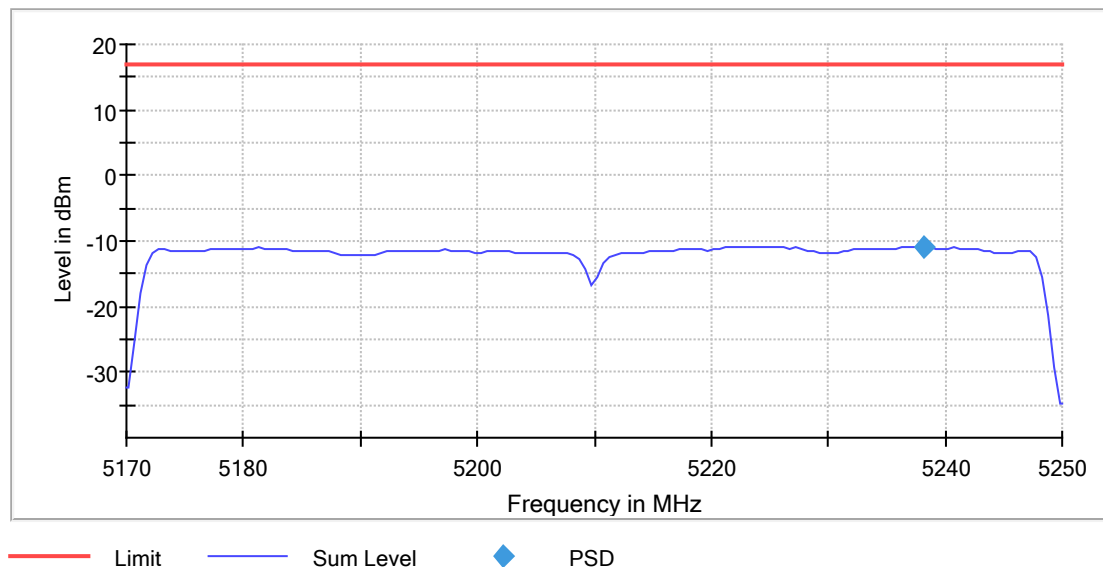
Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5210.000000	5238.250000	-10.900	17.0	PASS

Ports

Port	Duty Cycle (%)
1	89.572



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.17000 GHz	5.17000 GHz
Stop Frequency	5.25000 GHz	5.25000 GHz
Span	80.000 MHz	80.000 MHz
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	160	~ 160
SweepTime	3.200 s	3.200 s
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	RMS	RMS
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB

Run	2 / max. 15	max. 15
Stable	1 / 1	1
Max Stable Difference	0.00 dB	0.30 dB

Minimum Emission Bandwidth 6 dB (5210 MHz; 20.000 dBm; 80 MHz)

Customized settings.

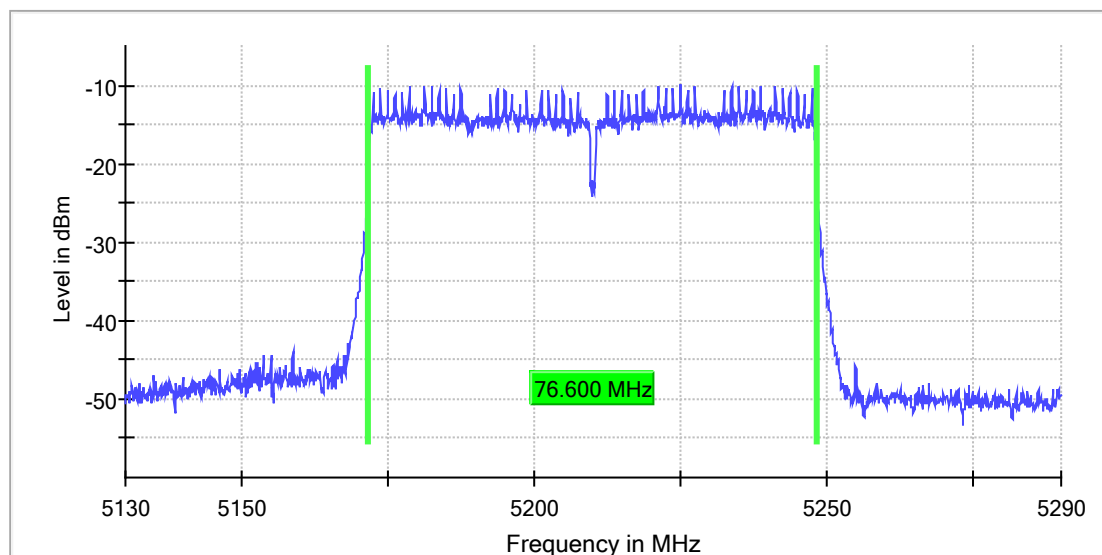
Test according to FCC title 47 part 15 §15.407(a),(e), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5210.000000	76.600000	---	---	5171.550000	5248.150000

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
5210.000000	-9.9	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.13000 GHz	5.13000 GHz
Stop Frequency	5.29000 GHz	5.29000 GHz
Span	160.000 MHz	160.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	1600	~ 1600
SweepTime	360.278 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace

Stablevalue	0.30 dB	0.30 dB
Run	28 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.29 dB	0.30 dB

Occupied Channel Bandwidth 99% (5210 MHz; 20.000 dBm; 80 MHz)

Customized settings.

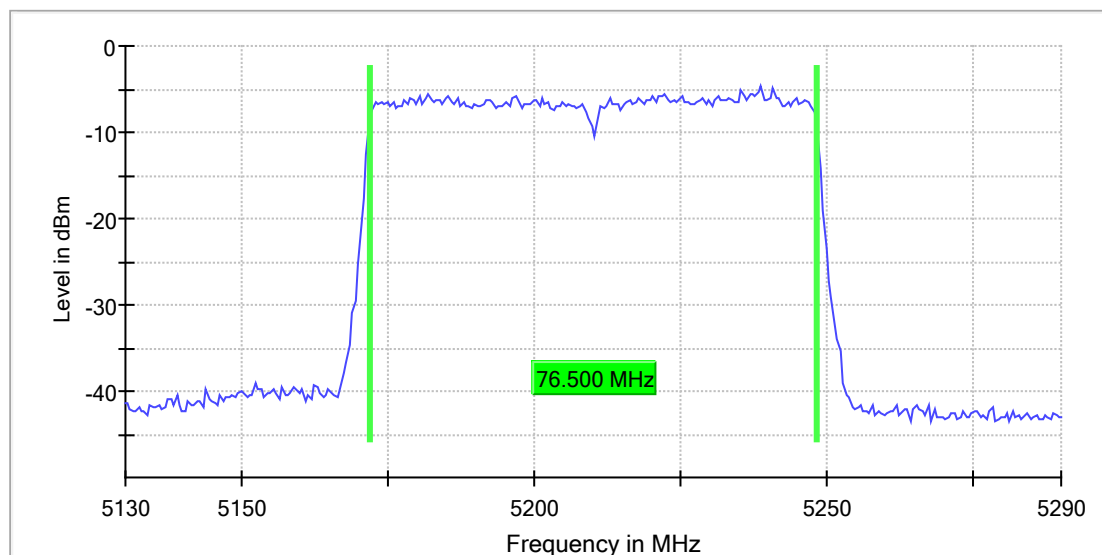
Test according to FCC title 47 part 15 §15.407(a),(e), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5210.000000	76.500000	---	---	5171.750000	5248.250000

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
5210.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.13000 GHz	5.13000 GHz
Stop Frequency	5.29000 GHz	5.29000 GHz
Span	160.000 MHz	160.000 MHz
RBW	500.000 kHz	<= 800.000 kHz
VBW	2.000 MHz	>= 1.500 MHz
SweepPoints	320	~ 320
SweepTime	1.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	19 / max. 150	max. 150

Stable	1 / 1	1
Max Stable Difference	0.21 dB	0.30 dB

Band Edge low (5210 MHz; 20.000 dBm; 80 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.407(b), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

Result

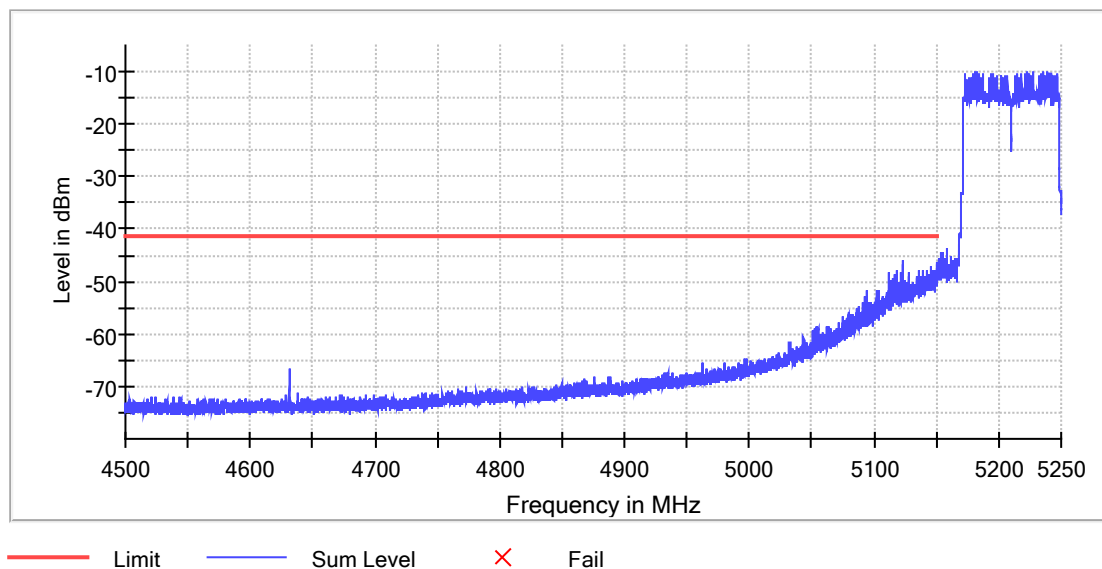
DUT Frequency (MHz)	Result
5210.000000	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
5222.375000	-10.0

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5122.375000	-46.0	4.8	-41.2	PASS
5122.425000	-46.5	5.3	-41.2	PASS
5123.625000	-46.8	5.5	-41.2	PASS
5123.675000	-46.8	5.6	-41.2	PASS
5146.175000	-47.2	6.0	-41.2	PASS
5146.125000	-47.6	6.4	-41.2	PASS
5147.375000	-47.7	6.5	-41.2	PASS
5123.575000	-47.8	6.5	-41.2	PASS
5149.275000	-47.8	6.6	-41.2	PASS
5139.875000	-47.8	6.6	-41.2	PASS
5142.725000	-47.8	6.6	-41.2	PASS
5136.125000	-47.9	6.7	-41.2	PASS
5136.175000	-47.9	6.7	-41.2	PASS
5122.475000	-47.9	6.7	-41.2	PASS
5142.675000	-48.0	6.7	-41.2	PASS



Measurement 1

Setting	Instrument Value	Target Value
Start Frequency	5.15000 GHz	5.15000 GHz
Stop Frequency	5.25000 GHz	5.25000 GHz
Span	100.000 MHz	100.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	2000	~ 2000
SweepTime	227.813 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	47 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.36 dB	0.50 dB

Measurement 2

Setting	Instrument Value	Target Value
Start Frequency	4.50000 GHz	4.50000 GHz
Stop Frequency	5.15000 GHz	5.15000 GHz
Span	650.000 MHz	650.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	13000	~ 13000
SweepTime	13.000 ms	AUTO
Reference Level	-20.000 dBm	-20.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	35 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.48 dB	0.50 dB

Band Edge high (5210 MHz; 20.000 dBm; 80 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.407(b), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

Result

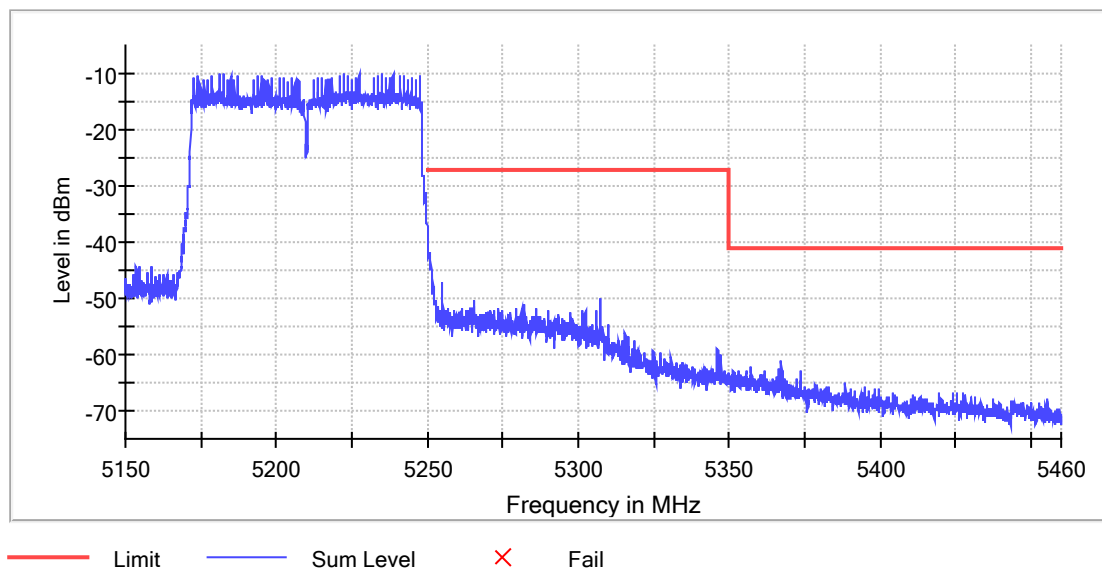
DUT Frequency (MHz)	Result
5210.000000	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
5234.875000	-10.0

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5250.125000	-37.1	10.1	-27.0	PASS
5250.175000	-37.3	10.3	-27.0	PASS
5250.075000	-37.8	10.8	-27.0	PASS
5250.025000	-38.8	11.8	-27.0	PASS
5250.225000	-39.1	12.1	-27.0	PASS
5250.375000	-39.1	12.1	-27.0	PASS
5250.325000	-39.8	12.8	-27.0	PASS
5250.425000	-39.9	12.9	-27.0	PASS
5250.275000	-40.3	13.3	-27.0	PASS
5250.625000	-41.8	14.8	-27.0	PASS
5250.875000	-41.9	14.9	-27.0	PASS
5250.575000	-42.0	15.0	-27.0	PASS
5250.825000	-42.0	15.0	-27.0	PASS
5250.475000	-42.2	15.2	-27.0	PASS
5251.175000	-42.6	15.6	-27.0	PASS



Measurement 1

Setting	Instrument Value	Target Value
Start Frequency	5.15000 GHz	5.15000 GHz
Stop Frequency	5.25000 GHz	5.25000 GHz
Span	100.000 MHz	100.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	2000	~ 2000
SweepTime	227.813 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	25 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.47 dB	0.50 dB

Measurement 2

Setting	Instrument Value	Target Value
Start Frequency	5.25000 GHz	5.25000 GHz
Stop Frequency	5.46000 GHz	5.46000 GHz
Span	210.000 MHz	210.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	4200	~ 4200
SweepTime	474.609 μ s	AUTO
Reference Level	-20.000 dBm	-20.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	5 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

FCC 15.407 2015

DUT Information

Frequencies

WLAN CH 42 (5210 MHz)
WLAN CH 106 (5530 MHz)

WLAN CH 155 (5775 MHz)
WLAN CH 122 (5610 MHz)

WLAN CH 58 (5290 MHz)

Bandwidths

80 MHz (80 MHz)

Power

20.000 dBm (20 dBm)

Beamforming Gain

Powerstep name (value)
20.000 dBm (20 dBm)

Beamforming gain table names
BFG_'20.000 dBm'_0.000dB;

Gain Tables

Powerstep name (value)
20.000 dBm (20 dBm)

Gain table names
Port 1: 0dBi;

DUT Settings

No. of transmission chains
DFS capability
DFS Mode
Equipment Type
TPC

1
Yes
Master
Portable
No

Hardware Setup: WMS Measurements\Hardware Setup

Spectrum Analyzer:

SA FSV 40 (SA FSV 40) @ VISA (ADR
TCPIP::192.168.48.111::INST0::INSTR), SN 1321.3008K39/101229,
FW 3.40

Vector Generator:

VG SMBV100B (VG SMBV100B) @ VISA (ADR
TCPIP::192.168.48.29::INST0::INSTR), SN 101685, FW 4.70.006.33

Generator:

SMB100Aa (SMB100A) @ VISA (ADR
TCPIP::192.168.48.30::INST0::INSTR), SN 177894, FW / Drv:Rev
2.21.0, 07/2016, CVI 2015

OSP:

OSP-B157W (OSP-B157W) @ VISA (ADR
TCPIP::192.168.48.157::INST0::INSTR), SN 1527.1144. /, FW
1.23.0.2

Summary

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
Tx Spurious Emission	5210.000	20.0	80.000000	PASS

Tx Spurious Emission (5210 MHz; 20.000 dBm; 80 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.407(b), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10-2013

Result

DUT Frequency (MHz)	Result
5210.000000	PASS

Final measurements

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
---	---	---	---	---	---

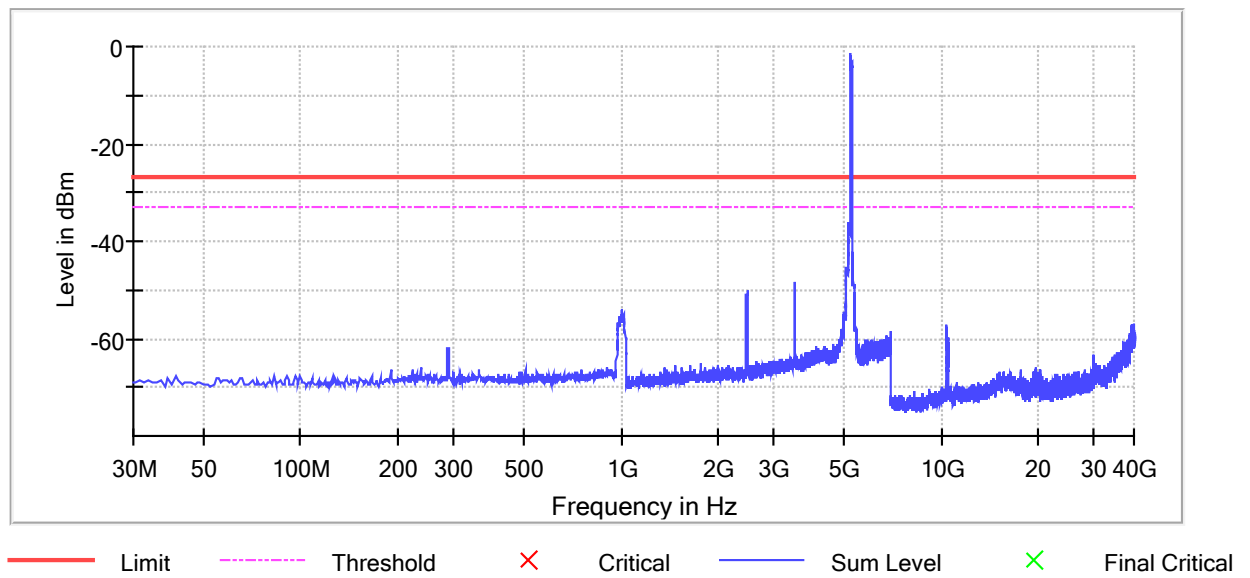
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
5149.500000	-38.9	11.9	-27.0
5148.500000	-38.3	11.3	-27.0
5146.500000	-39.0	12.0	-27.0
5145.500000	-38.1	11.1	-27.0
5147.500000	-38.1	11.1	-27.0
5143.500000	-38.2	11.2	-27.0
5144.500000	-38.3	11.3	-27.0
5141.500000	-38.4	11.4	-27.0
5140.500000	-38.7	11.7	-27.0
5134.500000	-39.0	12.0	-27.0
5142.500000	-38.1	11.1	-27.0
5136.500000	-38.4	11.4	-27.0
5135.500000	-38.4	11.4	-27.0
5139.500000	-38.9	11.9	-27.0
5133.500000	-38.9	11.9	-27.0

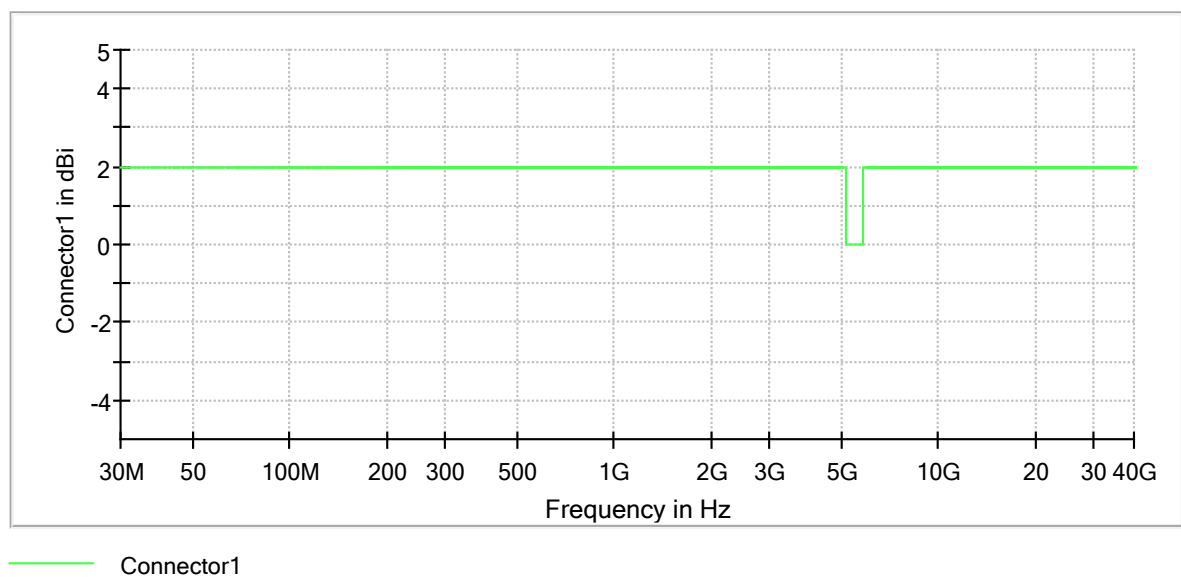
Measurement Settings

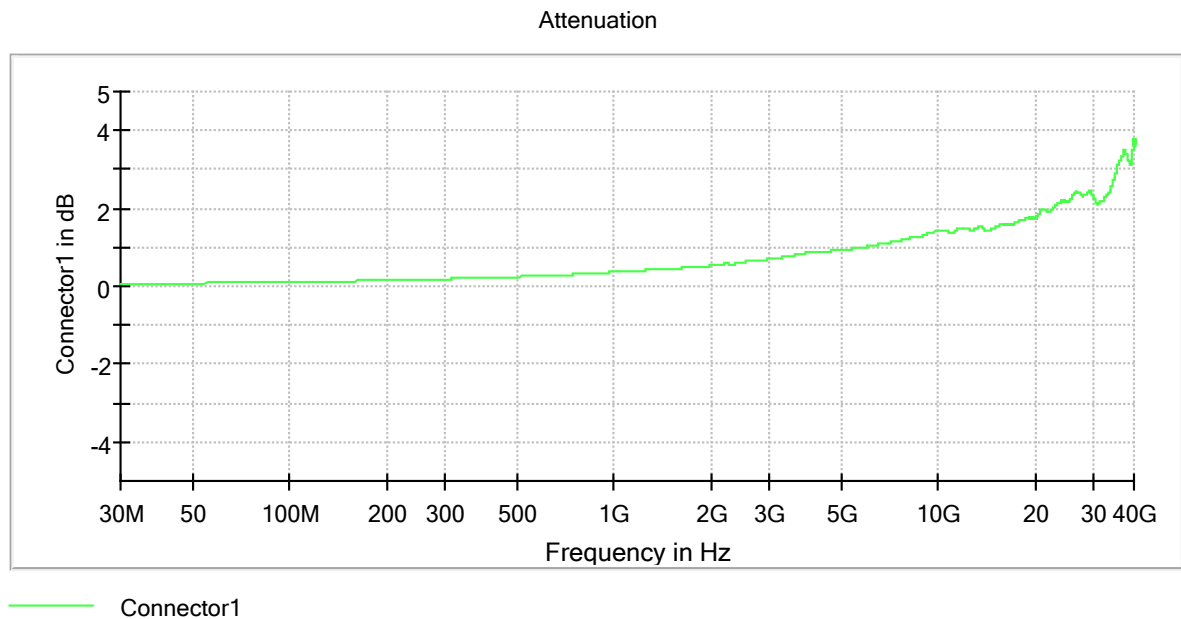
Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	1000.000000	1	1
1000.000000	5150.000000	2	2
5150.000000	5250.000000	2	2
5250.000000	5350.000000	2	2
5350.000000	5470.000000	2	2
5470.000000	5725.000000	2	2
5725.000000	5850.000000	2	2
5850.000000	7000.000000	2	2
7000.000000	18000.000000	2	2
18000.000000	26000.000000	2	2
26000.000000	40000.000000	2	2

Spurious



Gain





Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	1.000 MHz	≤ 1.000 MHz
VBW	3.000 MHz	≥ 3.000 MHz
SweepPoints	970	~ 970
SweepTime	194.000 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	QuasiPeak
SweepCount	3	3
Filter	Channel	Channel
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	19 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	1.000 MHz	≤ 1.000 MHz
VBW	3.000 MHz	≥ 3.000 MHz
SweepPoints	4150	~ 4150
SweepTime	4.150 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	30	30
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	42 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

FCC 15.407 2015

DUT Information

Frequencies

WLAN CH 42 (5210 MHz)
WLAN CH 106 (5530 MHz)

WLAN CH 155 (5775 MHz)
WLAN CH 122 (5610 MHz)

WLAN CH 58 (5290 MHz)

Bandwidths

80 MHz (80 MHz)

Power

20.000 dBm (20 dBm)

Beamforming Gain

20.000 dBm (20 dBm) 0 dB

Gain Tables

20.000 dBm (20 dBm) Port 1: 0dBi;

DUT Settings

No. of transmission chains	1
DFS capability	Yes
DFS Mode	Master
Equipment Type	Portable
TPC	No

Hardware Setup: WMS Measurements\TS8997

Spectrum Analyzer:

SA FSV 40 (SA FSV 40) @ VISA (ADR
TCPIP::192.168.48.111::INST0::INSTR), SN 1321.3008K39/101229,
FW 3.40

Vector Generator:

VG SMBV100B (VG SMBV100B) @ VISA (ADR
TCPIP::192.168.48.29::INST0::INSTR), SN 101685, FW 4.70.006.33

Generator:

SMB100Aa (SMB100A) @ VISA (ADR
TCPIP::192.168.48.30::INST0::INSTR), SN 177894, FW / Drv:Rev
2.21.0, 07/2016, CVI 2015

OSP:

OSP-B157W (OSP-B157W) @ VISA (ADR
TCPIP::192.168.48.157::INST0::INSTR), SN 1527.1144. /, FW
1.23.0.2

Summary

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
Emission Bandwidth 26 dB	5775.000	20.0	80.000000	PASS
RF output power	5775.000	20.0	80.000000	PASS
Power Spectral Density	5775.000	20.0	80.000000	PASS
Minimum Emission Bandwidth 6 dB	5775.000	20.0	80.000000	PASS
Occupied Channel Bandwidth 99%	5775.000	20.0	80.000000	PASS
Band Edge low	5775.000	20.0	80.000000	PASS
Band Edge high	5775.000	20.0	80.000000	PASS

Emission Bandwidth 26 dB (5775 MHz; 20.000 dBm; 80 MHz)

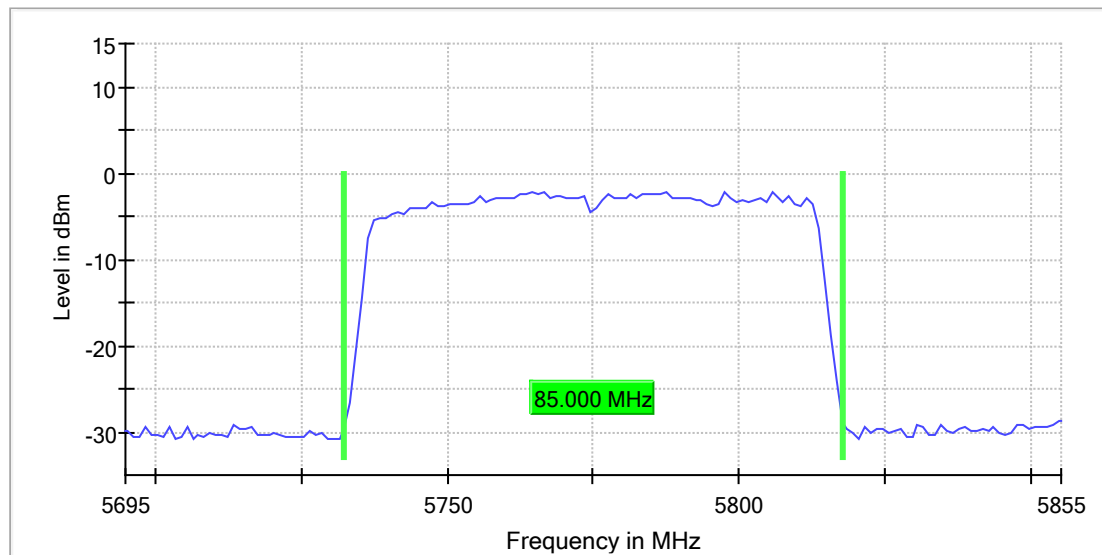
Test according to FCC title 47 part 15 §15.407(a),(e), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

26 dB Bandwidth

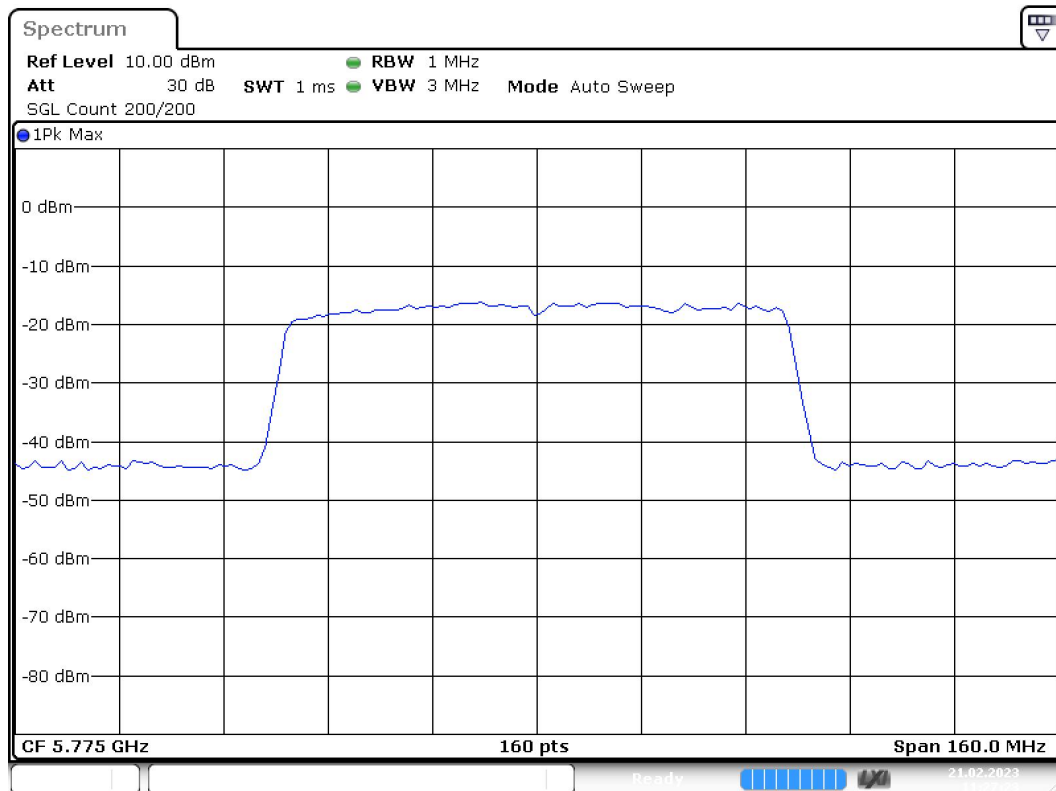
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5775.000000	85.000000	---	---	5732.500000	5817.500000

(continuation of the "26 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
5775.000000	-2.2	PASS



Bandwidth



Date: 21.FEB.2023 11:27:23

Measurement

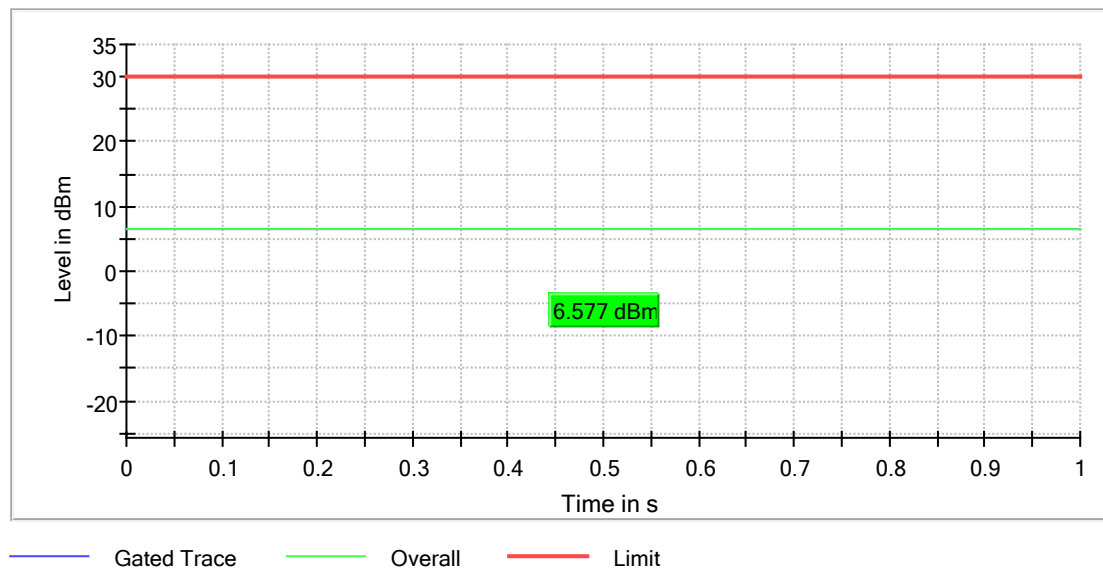
Setting	Instrument Value	Target Value
Start Frequency	5.69500 GHz	5.69500 GHz
Stop Frequency	5.85500 GHz	5.85500 GHz
Span	160.000 MHz	160.000 MHz
RBW	1.000 MHz	~ 800.000 kHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	160	~ 160
SweepTime	1.000 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	29 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.18 dB	0.30 dB

RF output power (5775 MHz; 20.000 dBm; 80 MHz)

Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

Result

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
5775.000000	6.6	30.0	6.6	100.000	PASS



Power Spectral Density (5775 MHz; 20.000 dBm; 80 MHz)

Customized settings.

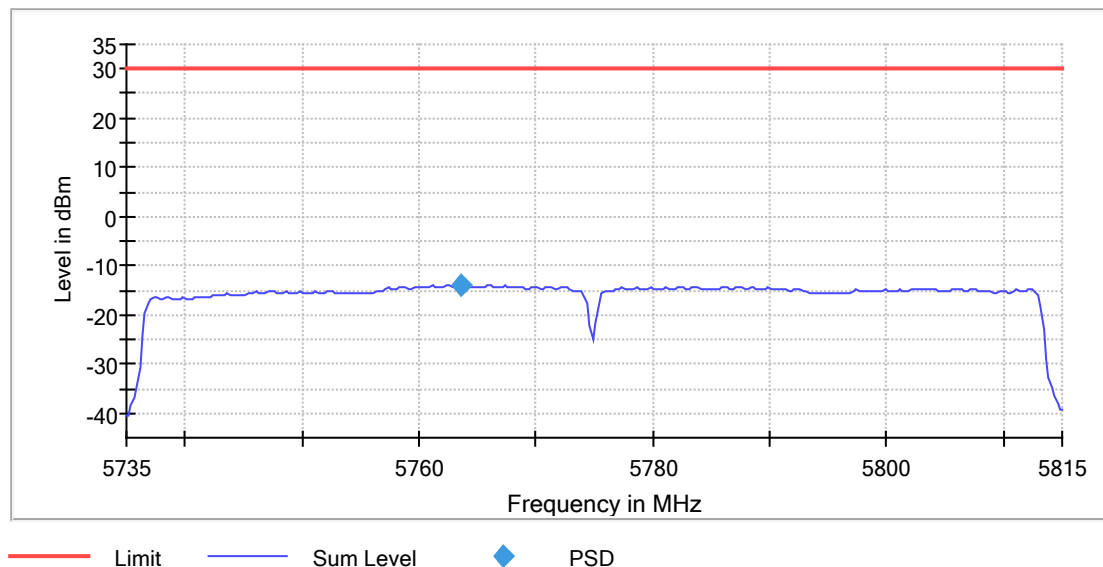
Test according to FCC title 47 part 15 §15.407(a), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
5775.000000	5763.625000	-13.925	30.0	PASS

Ports

Port	Duty Cycle (%)
1	89.581



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.73500 GHz	5.73500 GHz
Stop Frequency	5.81500 GHz	5.81500 GHz
Span	80.000 MHz	80.000 MHz
RBW	500.000 kHz	<= 500.000 kHz
VBW	2.000 MHz	>= 1.500 MHz
SweepPoints	320	~ 320
SweepTime	6.400 s	6.400 s
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	RMS	RMS
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB

Run	2 / max. 15	max. 15
Stable	1 / 1	1
Max Stable Difference	0.10 dB	0.30 dB

Minimum Emission Bandwidth 6 dB (5775 MHz; 20.000 dBm; 80 MHz)

Customized settings.

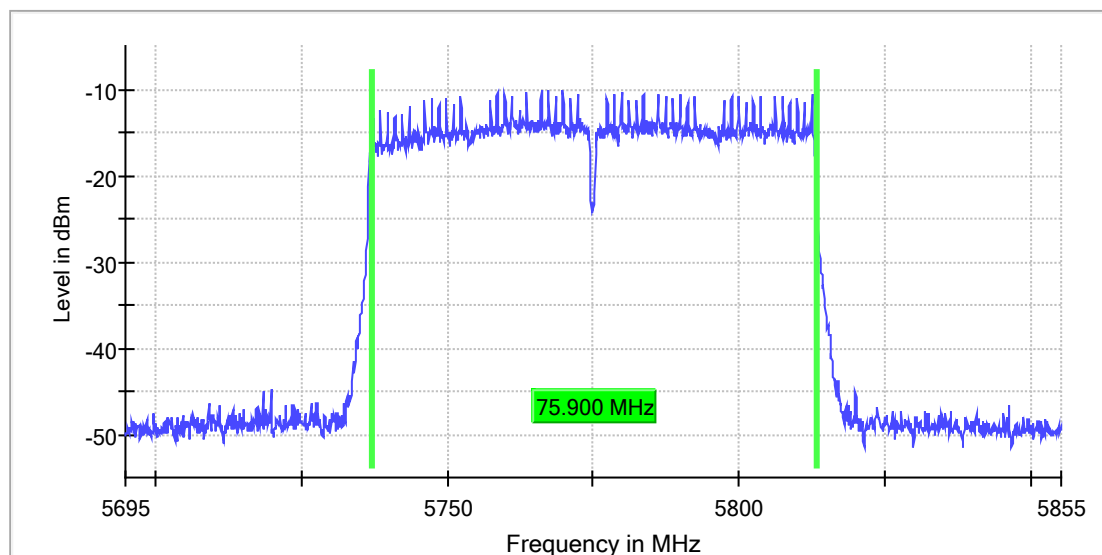
Test according to FCC title 47 part 15 §15.407(a),(e), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5775.000000	75.900000	0.500000	---	5737.250000	5813.150000

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
5775.000000	-10.1	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.69500 GHz	5.69500 GHz
Stop Frequency	5.85500 GHz	5.85500 GHz
Span	160.000 MHz	160.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	1600	~ 1600
SweepTime	360.278 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace

Stablevalue	0.30 dB	0.30 dB
Run	28 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.27 dB	0.30 dB

Occupied Channel Bandwidth 99% (5775 MHz; 20.000 dBm; 80 MHz)

Customized settings.

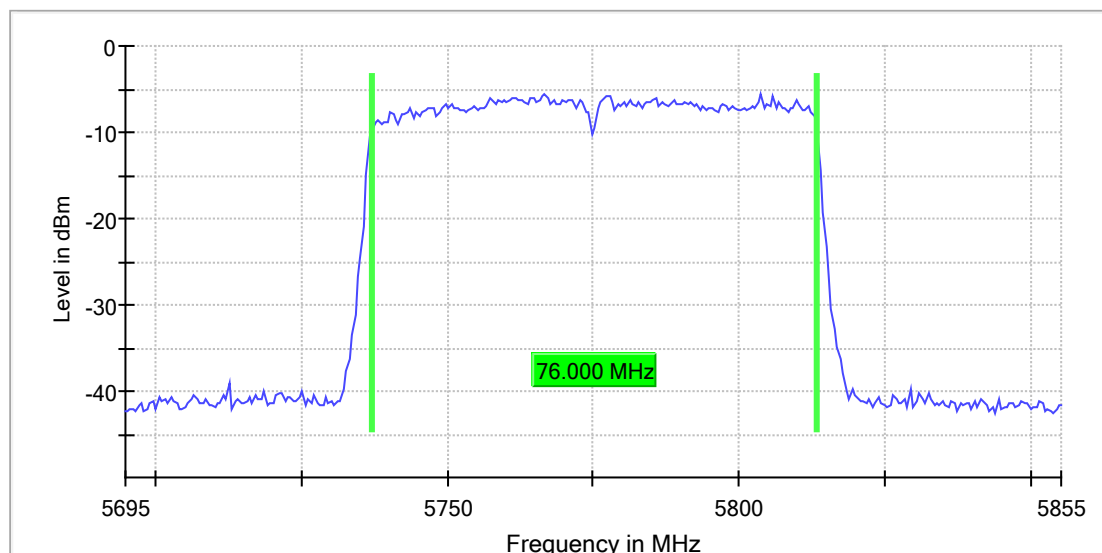
Test according to FCC title 47 part 15 §15.407(a),(e), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
5775.000000	76.000000	---	---	5737.250000	5813.250000

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
5775.000000	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	5.69500 GHz	5.69500 GHz
Stop Frequency	5.85500 GHz	5.85500 GHz
Span	160.000 MHz	160.000 MHz
RBW	500.000 kHz	<= 800.000 kHz
VBW	2.000 MHz	>= 1.500 MHz
SweepPoints	320	~ 320
SweepTime	1.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	29 / max. 150	max. 150

Stable	1 / 1	1
Max Stable Difference	0.22 dB	0.30 dB

Band Edge low (5775 MHz; 20.000 dBm; 80 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.407(b), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

Result

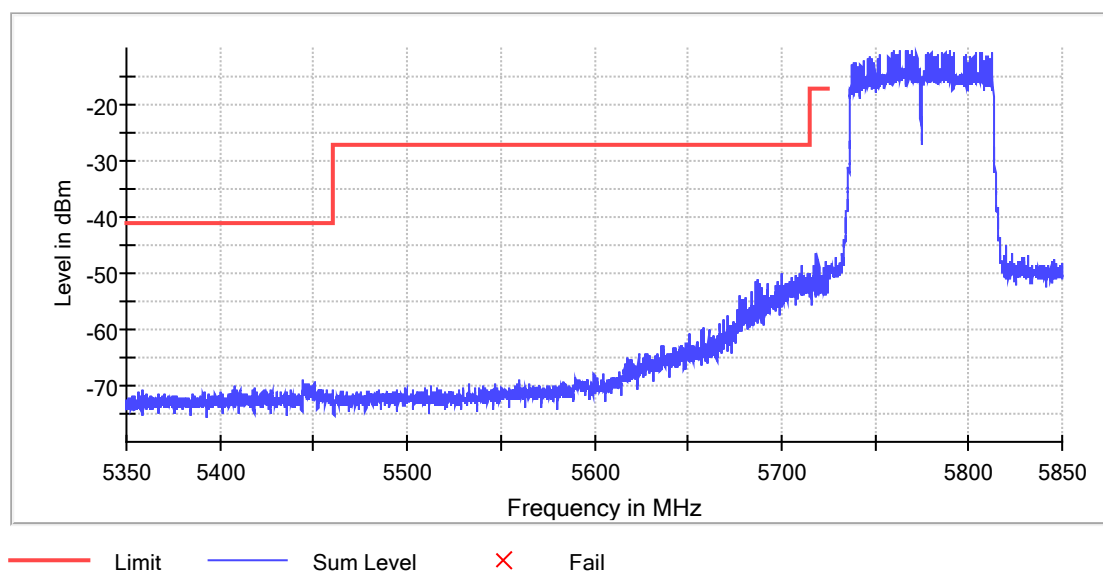
DUT Frequency (MHz)	Result
5775.000000	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
5767.375000	-10.2

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5711.125000	-48.6	21.6	-27.0	PASS
5711.075000	-49.1	22.1	-27.0	PASS
5711.175000	-49.1	22.1	-27.0	PASS
5709.525000	-49.8	22.8	-27.0	PASS
5713.925000	-49.8	22.8	-27.0	PASS
5713.975000	-50.1	23.1	-27.0	PASS
5699.875000	-50.1	23.1	-27.0	PASS
5709.475000	-50.2	23.2	-27.0	PASS
5712.025000	-50.3	23.3	-27.0	PASS
5707.375000	-50.5	23.5	-27.0	PASS
5699.825000	-50.6	23.6	-27.0	PASS
5710.525000	-50.6	23.6	-27.0	PASS
5710.475000	-50.6	23.6	-27.0	PASS
5708.875000	-50.7	23.7	-27.0	PASS
5713.875000	-50.7	23.7	-27.0	PASS



Measurement 1

Setting	Instrument Value	Target Value
Start Frequency	5.72500 GHz	5.72500 GHz
Stop Frequency	5.85000 GHz	5.85000 GHz
Span	125.000 MHz	125.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	2500	~ 2500
SweepTime	284.766 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	24 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.49 dB	0.50 dB

Measurement 2

Setting	Instrument Value	Target Value
Start Frequency	5.35000 GHz	5.35000 GHz
Stop Frequency	5.72500 GHz	5.72500 GHz
Span	375.000 MHz	375.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	7500	~ 7500
SweepTime	835.313 μ s	AUTO
Reference Level	-20.000 dBm	-20.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	18 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.06 dB	0.50 dB

Band Edge high (5775 MHz; 20.000 dBm; 80 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.407(b), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10

Result

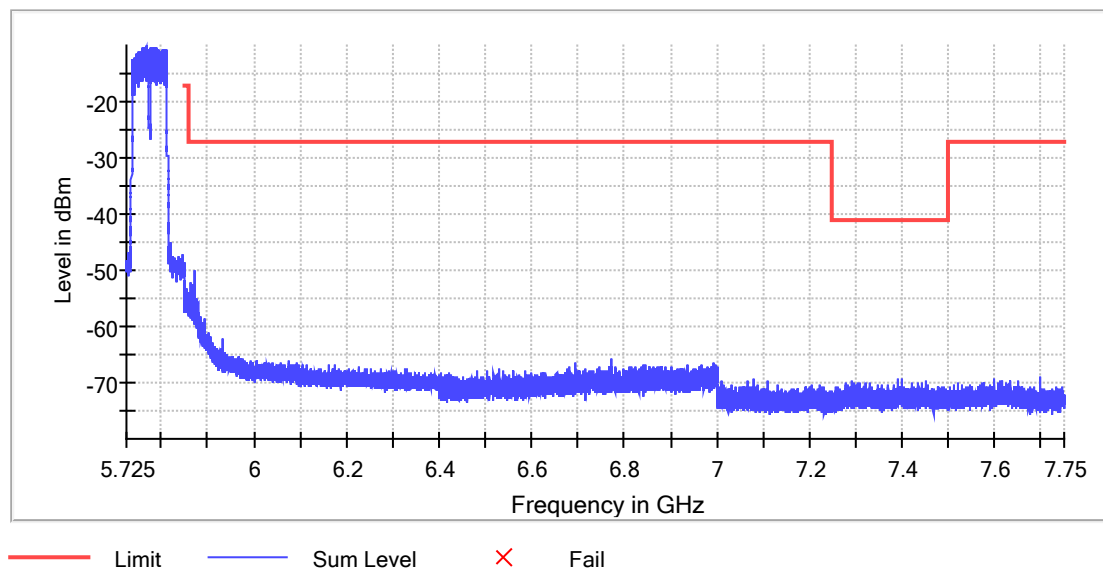
DUT Frequency (MHz)	Result
5775.000000	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
5767.375000	-10.1

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5872.425000	-50.0	23.0	-27.0	PASS
5872.375000	-50.2	23.2	-27.0	PASS
5872.325000	-52.1	25.1	-27.0	PASS
5862.375000	-52.2	25.2	-27.0	PASS
5866.125000	-52.4	25.4	-27.0	PASS
5866.175000	-52.4	25.4	-27.0	PASS
5872.475000	-52.6	25.6	-27.0	PASS
5867.375000	-52.7	25.7	-27.0	PASS
5862.425000	-52.8	25.8	-27.0	PASS
5867.425000	-53.2	26.2	-27.0	PASS
5862.325000	-53.3	26.3	-27.0	PASS
5871.125000	-53.6	26.6	-27.0	PASS
5871.175000	-53.8	26.8	-27.0	PASS
5868.625000	-53.8	26.8	-27.0	PASS
5868.675000	-53.9	26.9	-27.0	PASS



Measurement 1

Setting	Instrument Value	Target Value
Start Frequency	5.72500 GHz	5.72500 GHz
Stop Frequency	5.85000 GHz	5.85000 GHz
Span	125.000 MHz	125.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	2500	~ 2500
SweepTime	284.766 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	43 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.32 dB	0.50 dB

Measurement 2

Setting	Instrument Value	Target Value
Start Frequency	5.85000 GHz	5.85000 GHz
Stop Frequency	6.40000 GHz	6.40000 GHz
Span	550.000 MHz	550.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	11000	~ 11000
SweepTime	11.000 ms	AUTO
Reference Level	-20.000 dBm	-20.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	15 / max. 150	max. 150
Stable	1 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

FCC 15.407 2015

DUT Information

Frequencies

WLAN CH 42 (5210 MHz)
WLAN CH 106 (5530 MHz)

WLAN CH 155 (5775 MHz)
WLAN CH 122 (5610 MHz)

WLAN CH 58 (5290 MHz)

Bandwidths

80 MHz (80 MHz)

Power

20.000 dBm (20 dBm)

Beamforming Gain

Powerstep name (value)
20.000 dBm (20 dBm)

Beamforming gain table names
BFG_'20.000 dBm'_0.000dB;

Gain Tables

Powerstep name (value)
20.000 dBm (20 dBm)

Gain table names
Port 1: 0dBi;

DUT Settings

No. of transmission chains
DFS capability
DFS Mode
Equipment Type
TPC

1
Yes
Master
Portable
No

Hardware Setup: WMS Measurements\Hardware Setup

Spectrum Analyzer:

SA FSV 40 (SA FSV 40) @ VISA (ADR
TCPIP::192.168.48.111::INST0::INSTR), SN 1321.3008K39/101229,
FW 3.40

Vector Generator:

VG SMBV100B (VG SMBV100B) @ VISA (ADR
TCPIP::192.168.48.29::INST0::INSTR), SN 101685, FW 4.70.006.33

Generator:

SMB100Aa (SMB100A) @ VISA (ADR
TCPIP::192.168.48.30::INST0::INSTR), SN 177894, FW / Drv:Rev
2.21.0, 07/2016, CVI 2015

OSP:

OSP-B157W (OSP-B157W) @ VISA (ADR
TCPIP::192.168.48.157::INST0::INSTR), SN 1527.1144. /, FW
1.23.0.2

Summary

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
Tx Spurious Emission	5775.000	20.0	80.000000	PASS

Tx Spurious Emission (5775 MHz; 20.000 dBm; 80 MHz)

Customized settings.

Test according to FCC title 47 part 15 §15.407(b), KDB 789033 D02 General U-NII Test Procedures New Rules v01r03 and ANSI C63.10-2013

Result

DUT Frequency (MHz)	Result
5775.000000	PASS

Final measurements

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
---	---	---	---	---	---

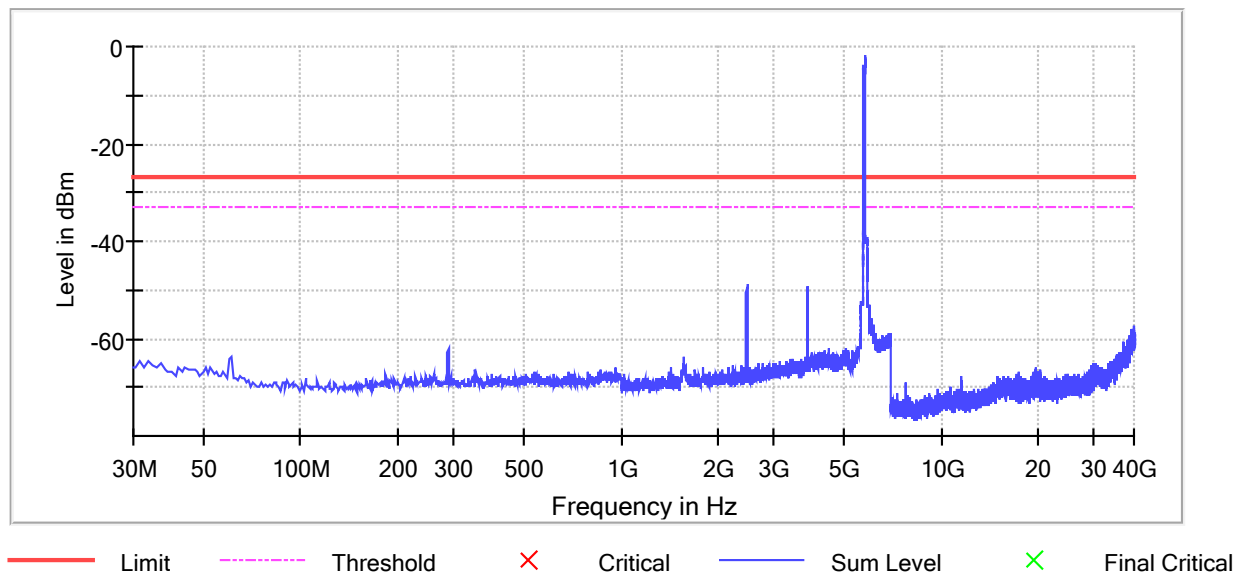
Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
5720.500000	-40.1	13.1	-27.0
5715.500000	-40.1	13.1	-27.0
5721.500000	-40.5	13.5	-27.0
5717.500000	-40.6	13.6	-27.0
5723.500000	-40.8	13.8	-27.0
5708.500000	-40.8	13.8	-27.0
5718.500000	-40.8	13.8	-27.0
5709.500000	-40.8	13.8	-27.0
5724.500000	-41.0	14.0	-27.0
5710.500000	-41.0	14.0	-27.0
5712.500000	-41.0	14.0	-27.0
5719.500000	-41.1	14.1	-27.0
5722.500000	-41.1	14.1	-27.0
5711.500000	-41.4	14.4	-27.0
5713.500000	-41.4	14.4	-27.0

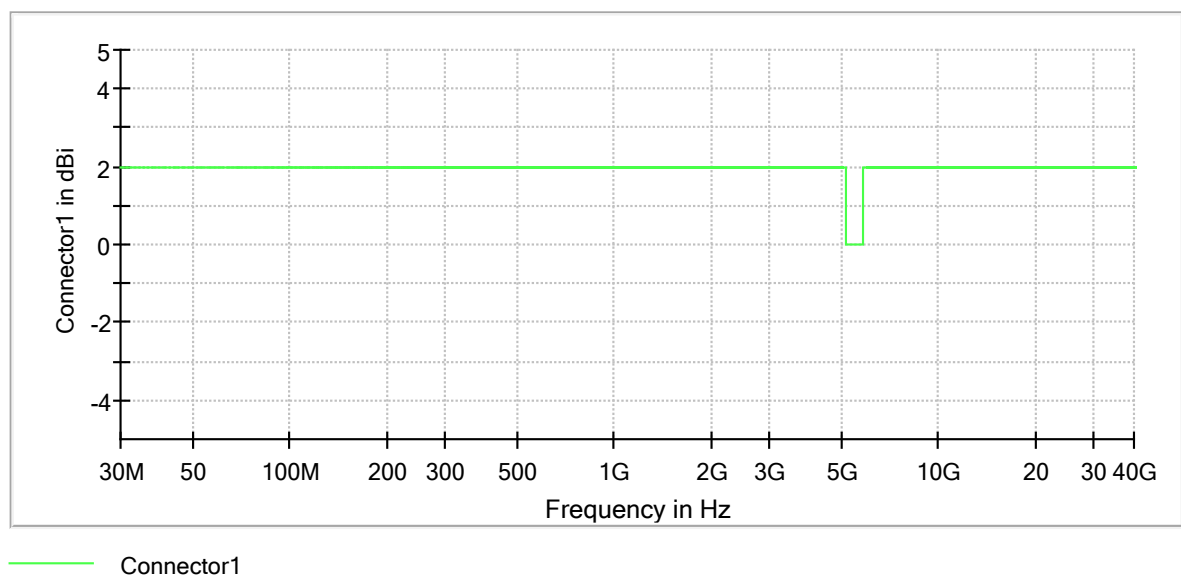
Measurement Settings

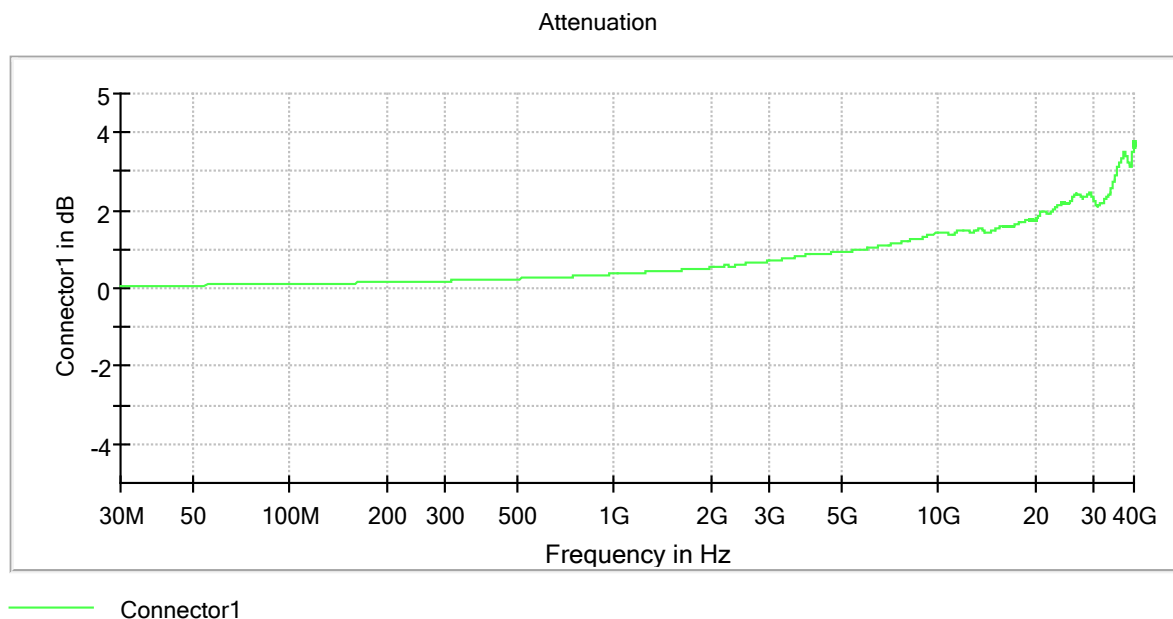
Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	1000.000000	1	1
1000.000000	5150.000000	2	2
5150.000000	5250.000000	2	2
5250.000000	5350.000000	2	2
5350.000000	5470.000000	2	2
5470.000000	5725.000000	2	2
5725.000000	5850.000000	2	2
5850.000000	7000.000000	2	2
7000.000000	18000.000000	2	2
18000.000000	26000.000000	2	2
26000.000000	40000.000000	2	2

Spurious



Gain





Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	1.000 MHz	≤ 1.000 MHz
VBW	3.000 MHz	≥ 3.000 MHz
SweepPoints	970	~ 970
SweepTime	194.000 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	QuasiPeak
SweepCount	3	3
Filter	Channel	Channel
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	1.000 MHz	≤ 1.000 MHz
VBW	3.000 MHz	≥ 3.000 MHz
SweepPoints	4150	~ 4150
SweepTime	4.150 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	30	30
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	11 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB