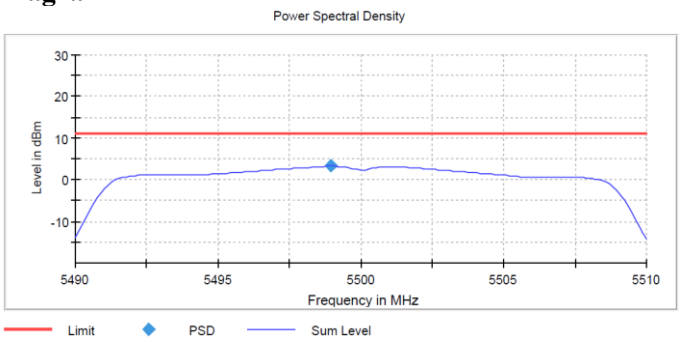
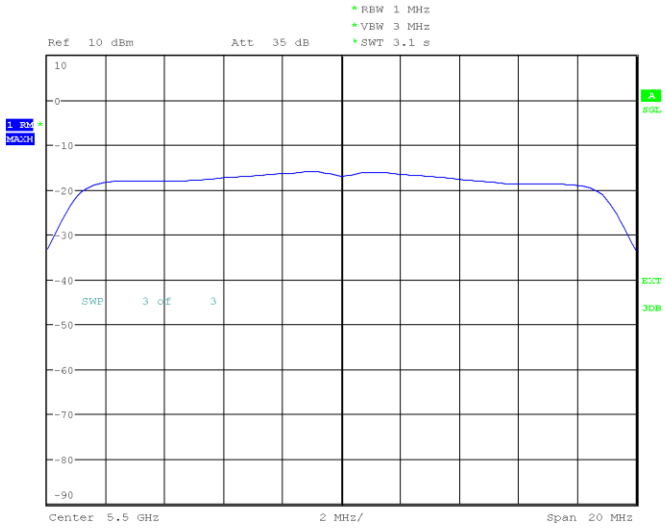
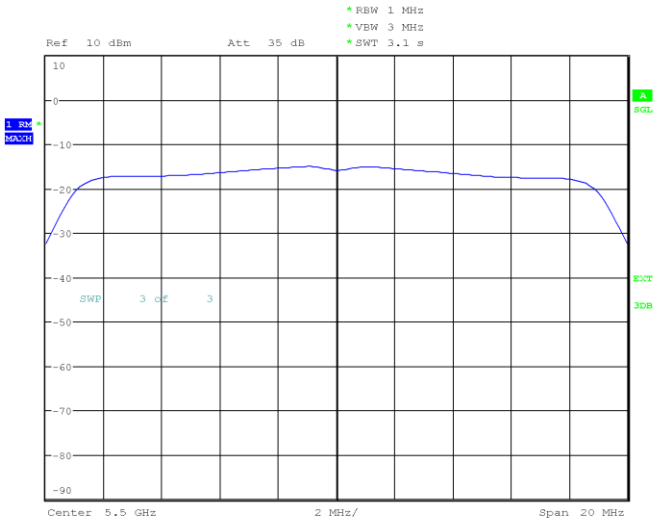
Diagram 17



PSD – total

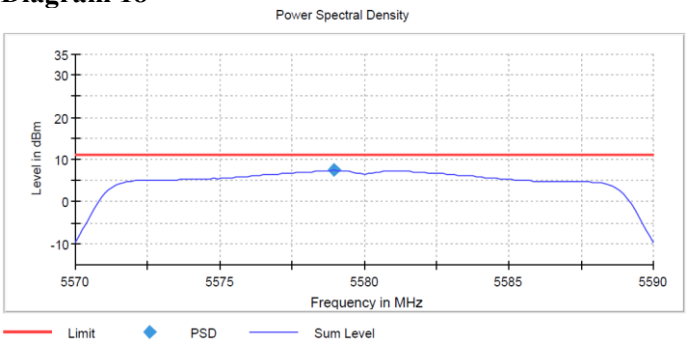


PSD – chain 1, 2.5 dBi antenna gain

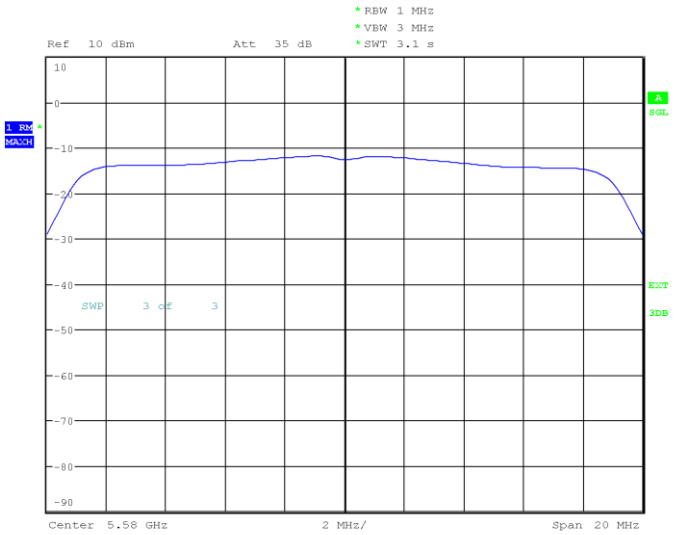


PSD – chain 2, 6 dBi antenna gain
DUT operating at 5500 MHz 20 MHz BW MIMO MSC0, 9 dBm/p9
Power spectral density

Diagram 18

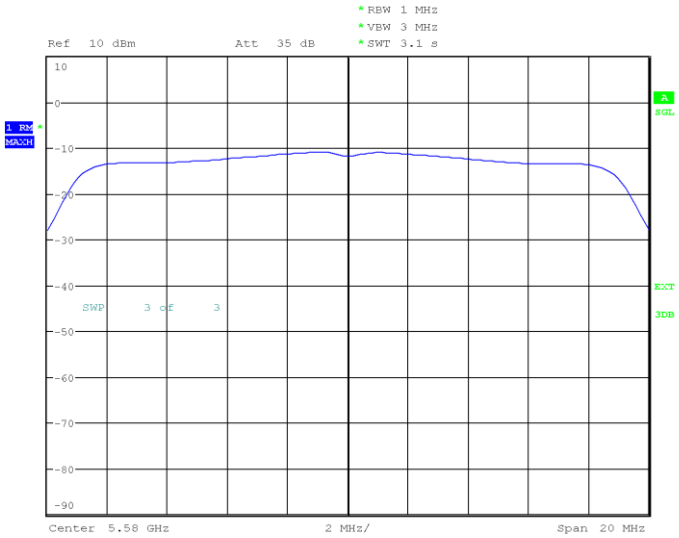


PSD – total



Date: 30.JAN.2019 10:34:02

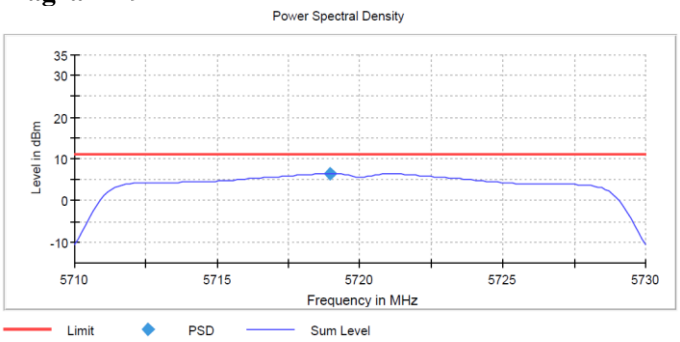
PSD – chain 1, 2.5 dBi antenna gain



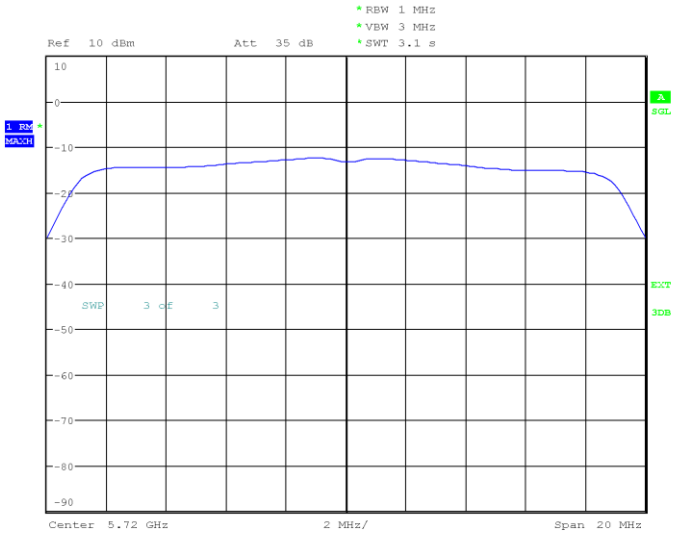
Date: 30.JAN.2019 10:34:46

PSD – chain 2, 6 dBi antenna gain
DUT operating at 5580 MHz 20 MHz BW MIMO MSC0, 13 dBm/p13
Power spectral density

Diagram 19

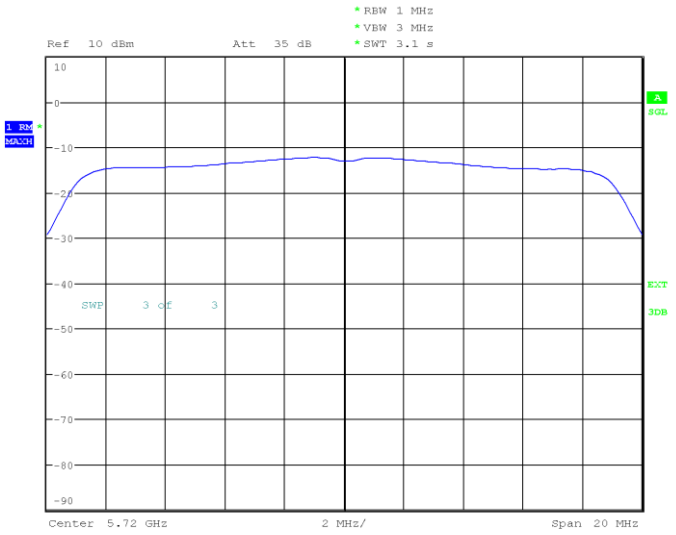


PSD – total



Date: 30.JAN.2019 10:36:44

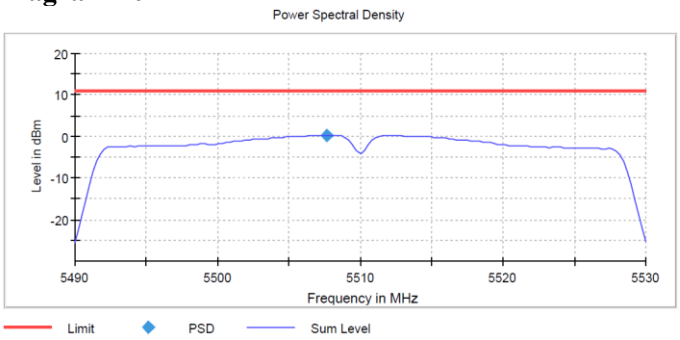
PSD – chain 1, 2.5 dBi antenna gain



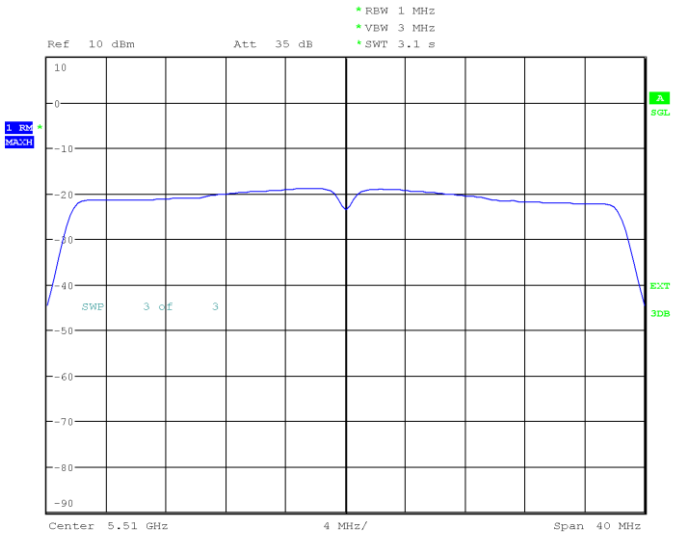
Date: 30.JAN.2019 10:37:29

PSD – chain 2, 6 dBi antenna gain
DUT operating at 5720 MHz 20 MHz BW MIMO MSC0, 13 dBm/p13
Power spectral density

Diagram 20

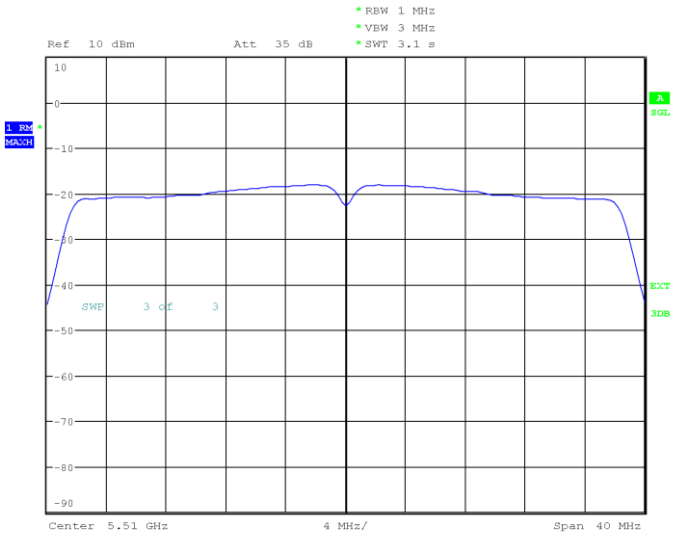


PSD – total



Date: 30.JAN.2019 16:34:14

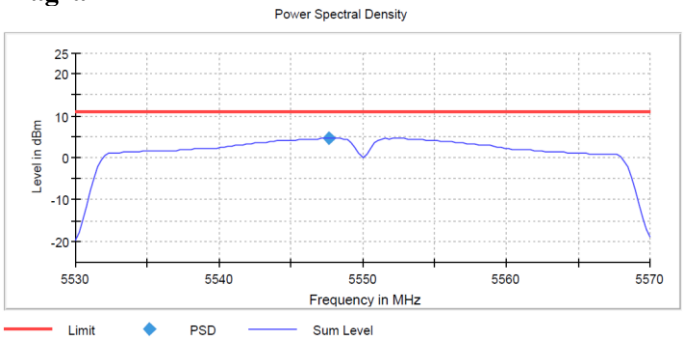
PSD – chain 1, 2.5 dBi antenna gain



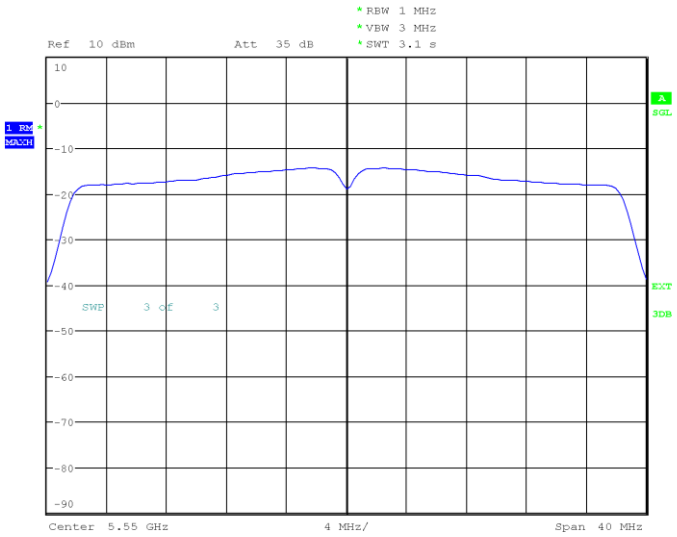
Date: 30.JAN.2019 16:34:58

PSD – chain 2, 6 dBi antenna gain
DUT operating at 5510 MHz 40 MHz BW MIMO MSC0, 9 dBm/p9
Power spectral density

Diagram 21

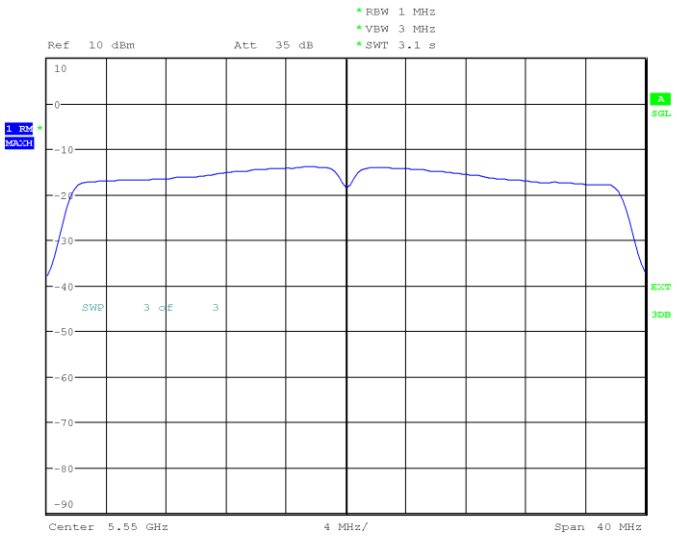


PSD – total



Date: 30.JAN.2019 10:47:47

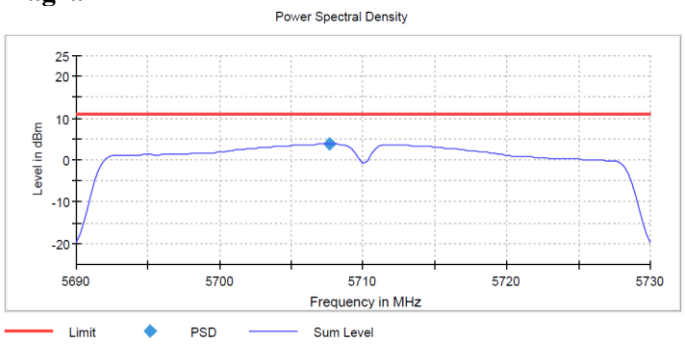
PSD – chain 1, 2.5 dBi antenna gain



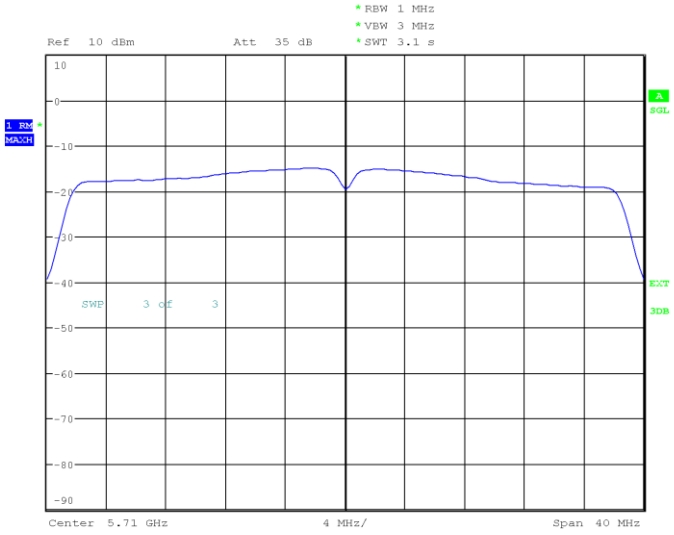
Date: 30.JAN.2019 10:48:31

PSD – chain 2, 6 dBi antenna gain
DUT operating at 5550 MHz 40 MHz BW MIMO MSC0, 13 dBm/p13
Power spectral density

Diagram 22

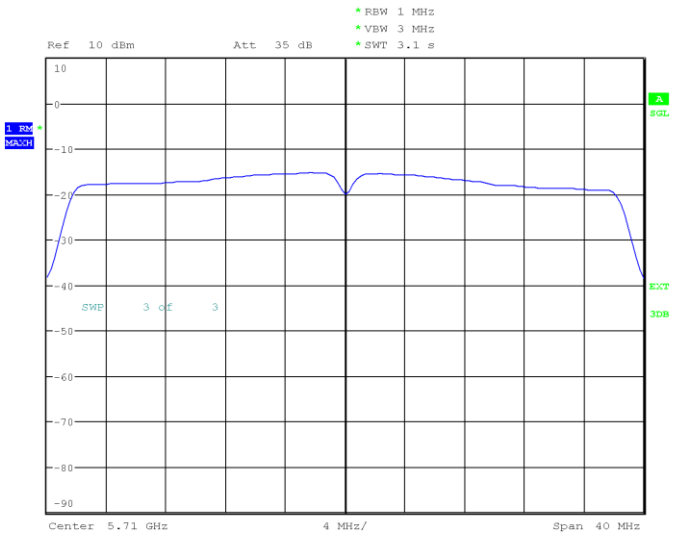


PSD – total



Date: 30.JAN.2019 10:50:37

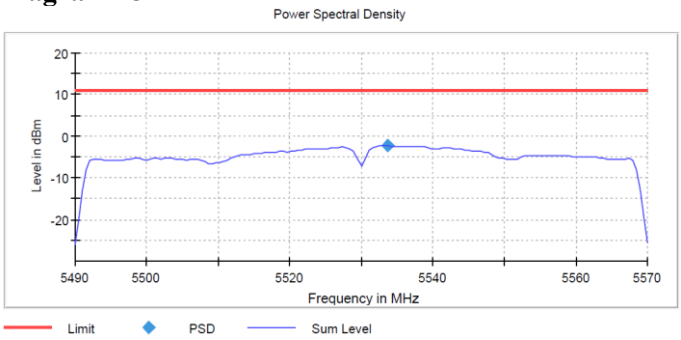
PSD – chain 1, 2.5 dBi antenna gain



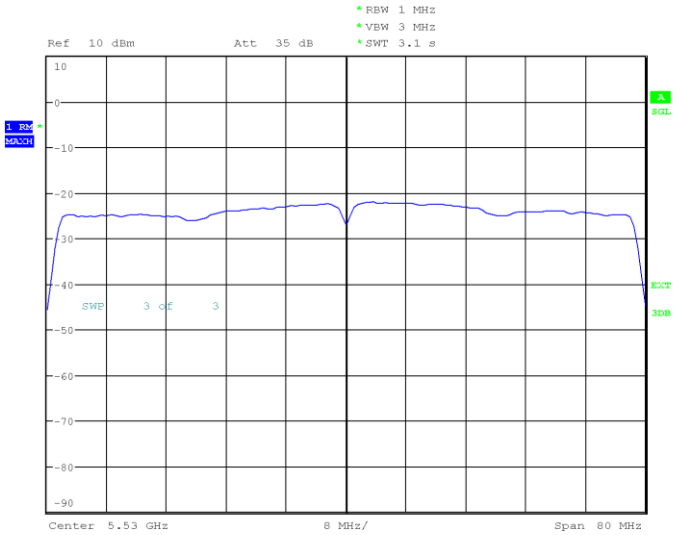
Date: 30.JAN.2019 10:51:21

PSD – chain 2, 6 dBi antenna gain
DUT operating at 5710 MHz 40 MHz BW MIMO MSC0, 13 dBm/p13
Power spectral density

Diagram 23

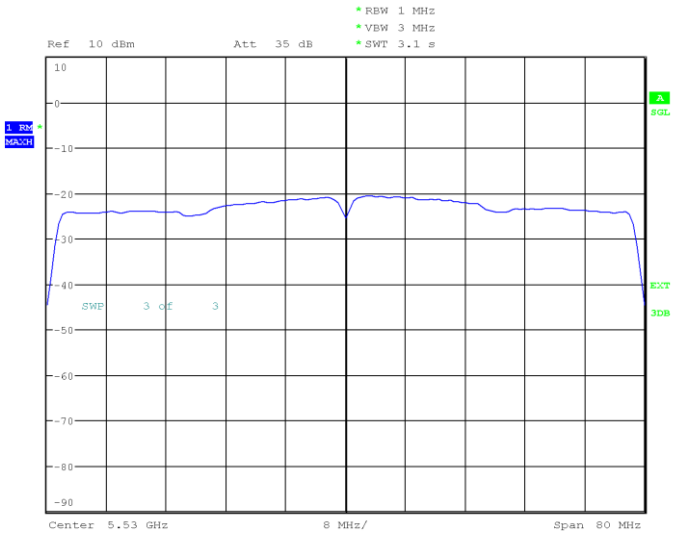


PSD – total



Date: 30.JAN.2019 16:39:29

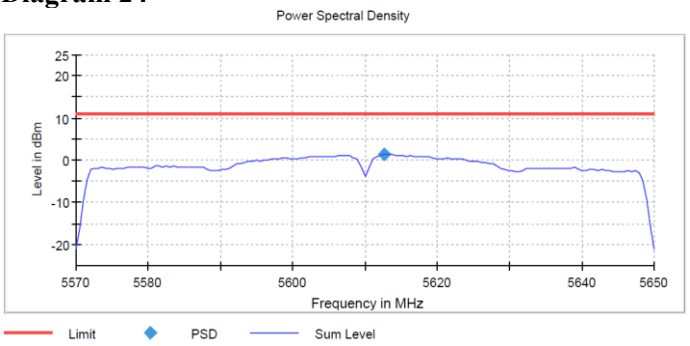
PSD – chain 1, 2.5 dBi antenna gain



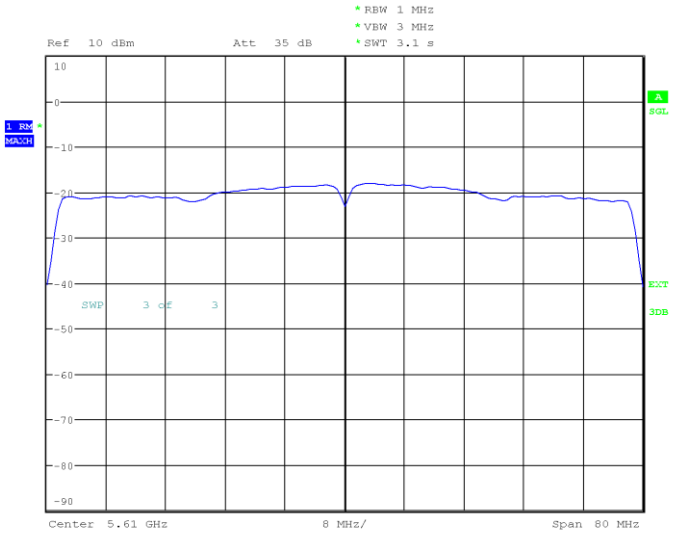
Date: 30.JAN.2019 16:40:13

PSD – chain 2, 6 dBi antenna gain
DUT operating at 5530 MHz 80 MHz BW MIMO MSC0, 9 dBm/p9
Power spectral density

Diagram 24

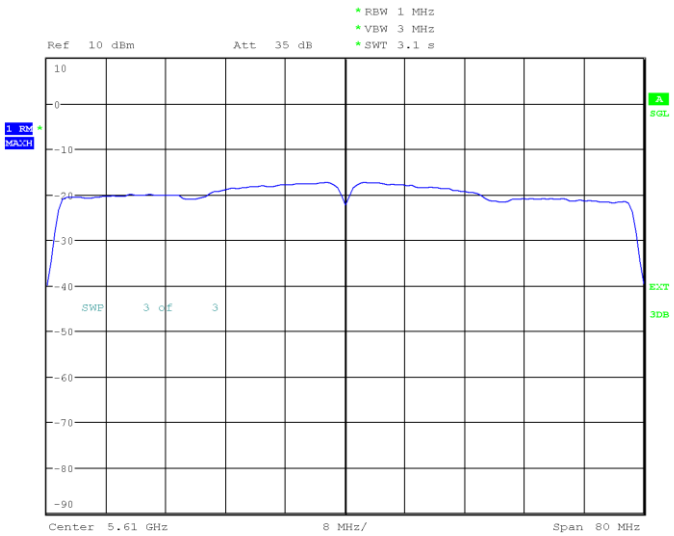


PSD – total



Date: 30.JAN.2019 10:54:04

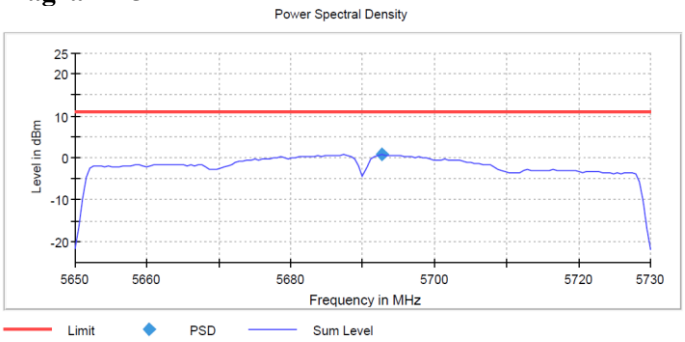
PSD – chain 1, 2.5 dBi antenna gain



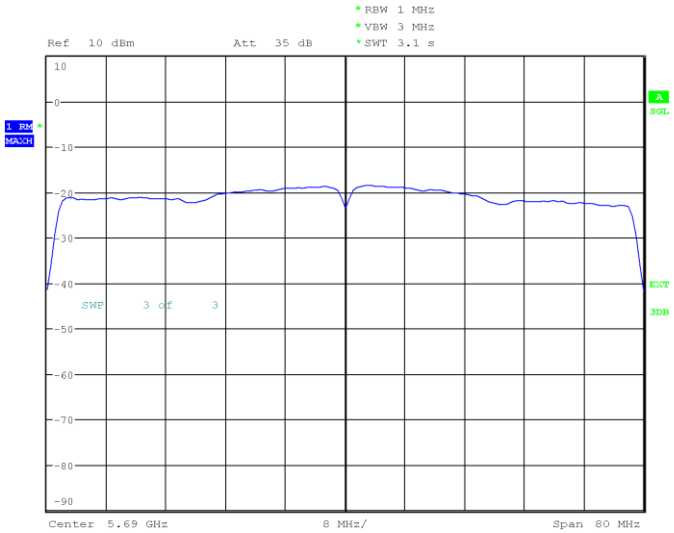
Date: 30.JAN.2019 10:54:48

PSD – chain 2, 6 dBi antenna gain
DUT operating at 5610 MHz 80 MHz BW MIMO MSC0, 13 dBm/p13
Power spectral density

Diagram 25

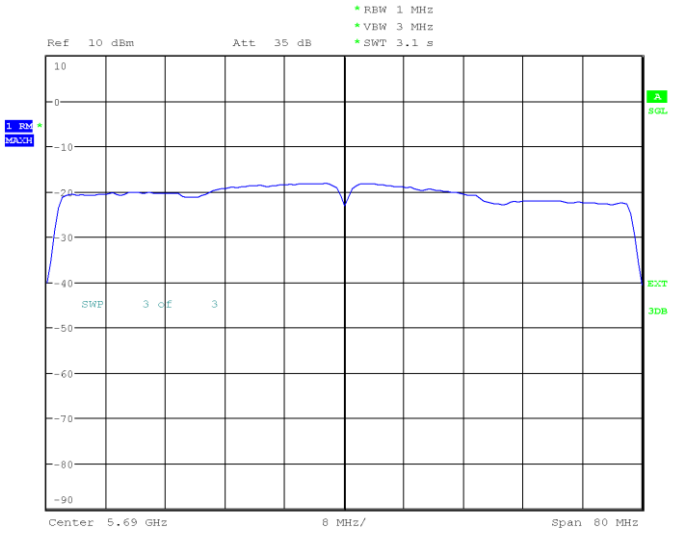


PSD – total



Date: 30.JAN.2019 10:56:56

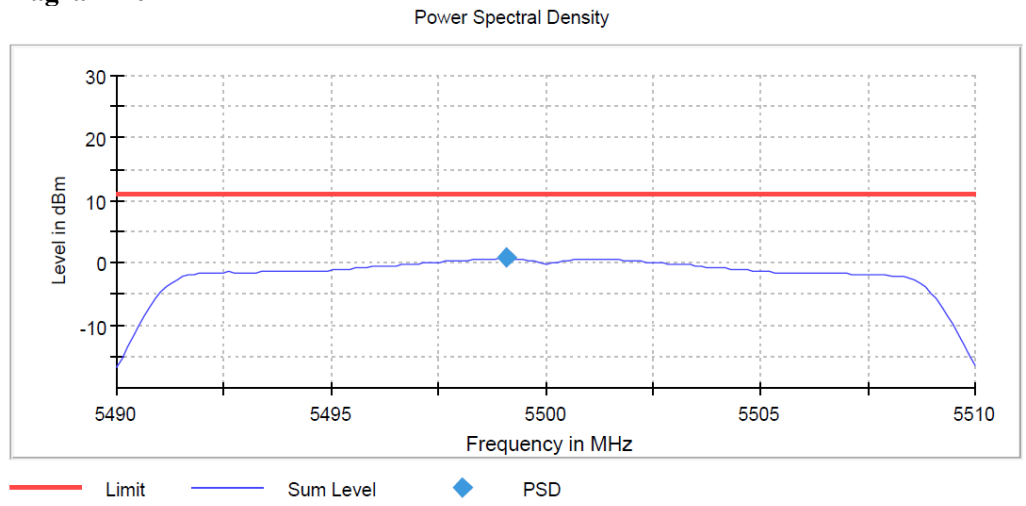
PSD – chain 1, 2.5 dBi antenna gain

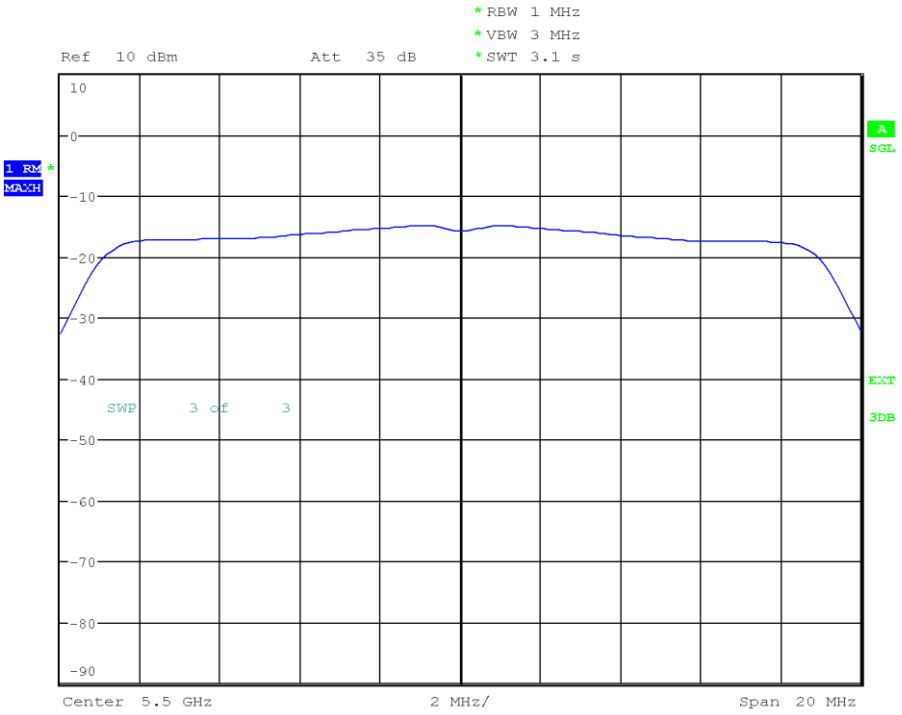


Date: 30.JAN.2019 10:57:40

PSD – chain 2, 6 dBi antenna gain
DUT operating at 5690 MHz 80 MHz BW MIMO MSC0, 13 dBm/p13
Power spectral density

Diagram 26

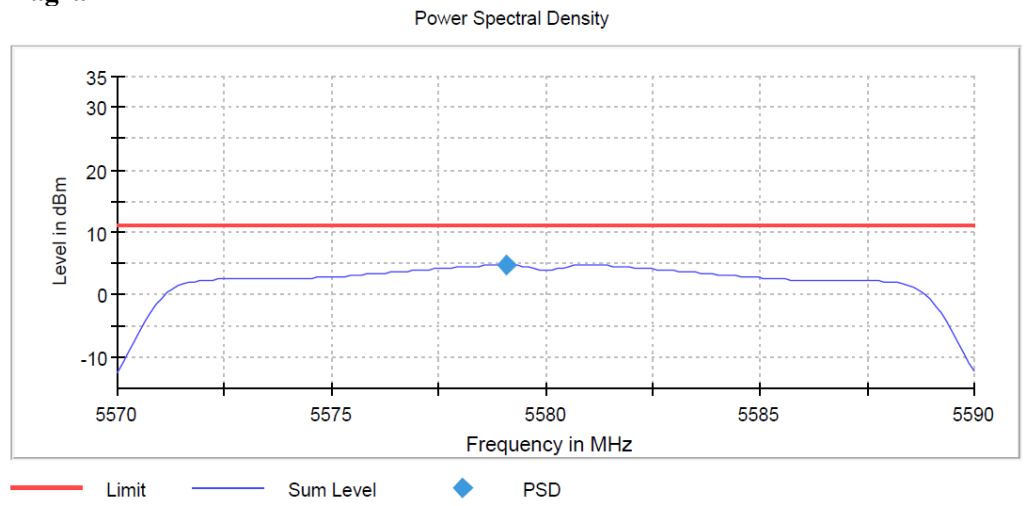


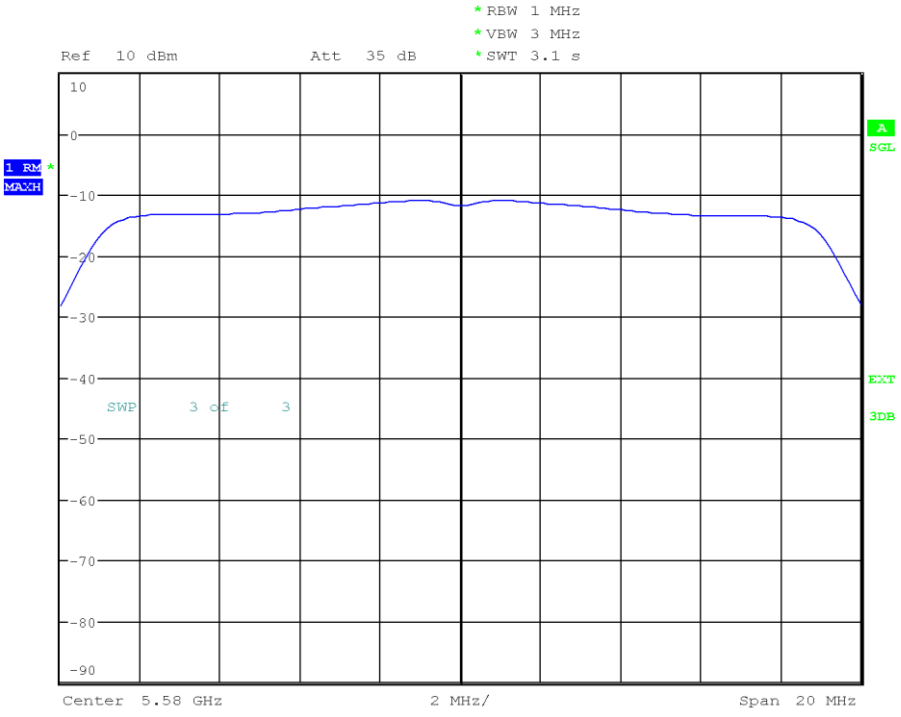


Date: 31.JAN.2019 13:14:22

DUT operating at 5500 MHz 20 MHz BW MSC0 SISO 2, 6 dBi antenna gain, 9 dBm/p9
Power spectral density

Diagram 27

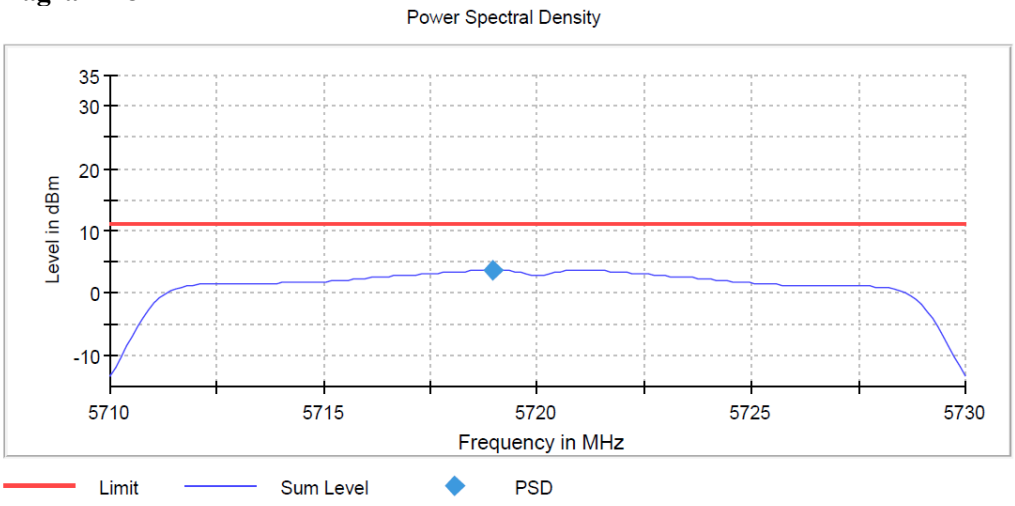


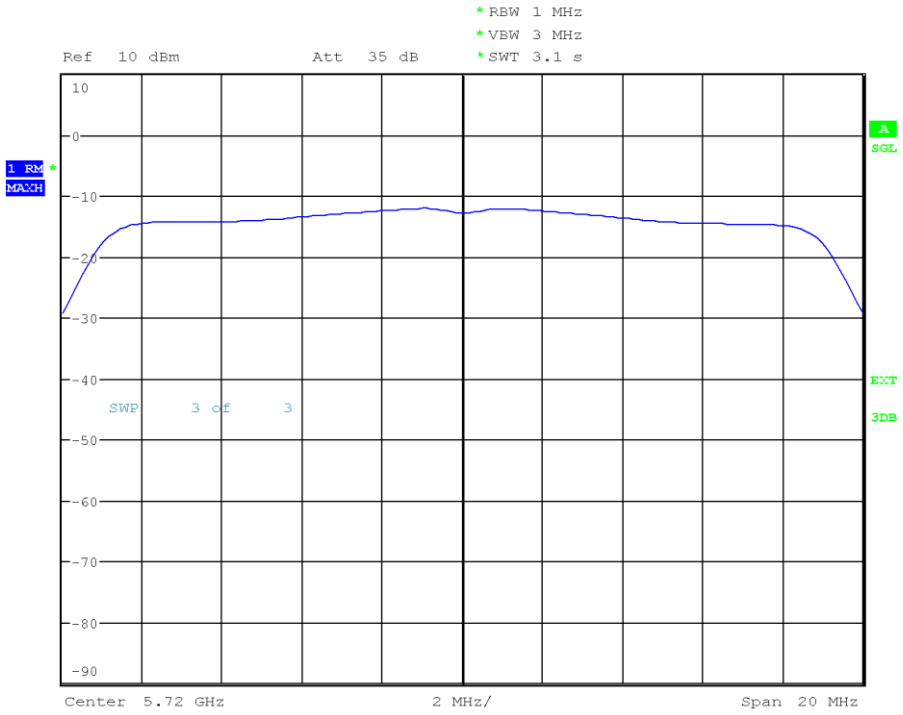


Date: 31.JAN.2019 09:07:30

DUT operating at 5580 MHz 20 MHz BW MSC0 SISO 2, 6 dBi antenna gain, 13 dBm/p13
Power spectral density

Diagram 28

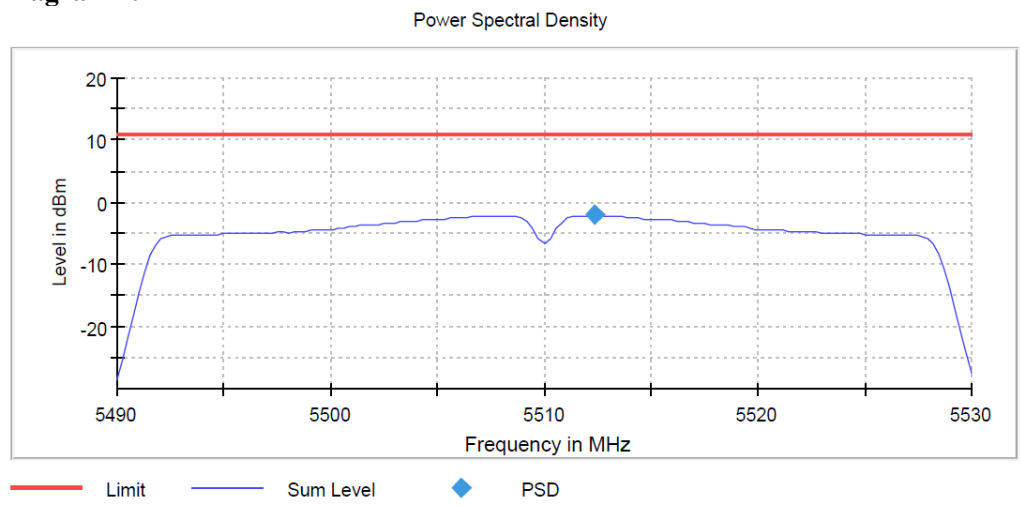


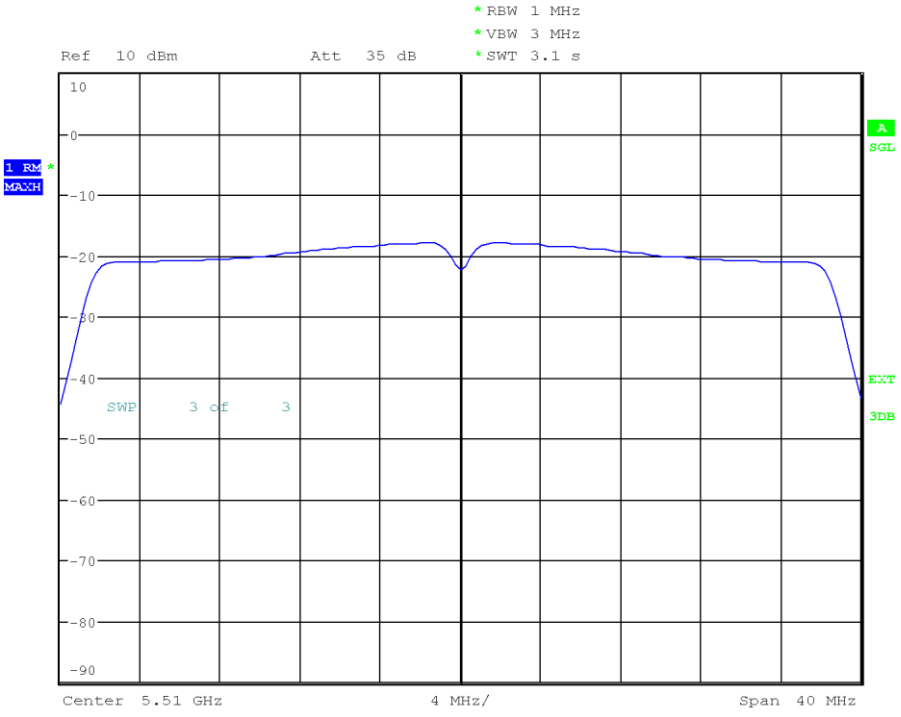


Date: 31.JAN.2019 09:26:29

DUT operating at 5720 MHz 20 MHz BW MSC0 SISO 2, 6 dBi antenna gain, 13 dBm/p13
Power spectral density

Diagram 29

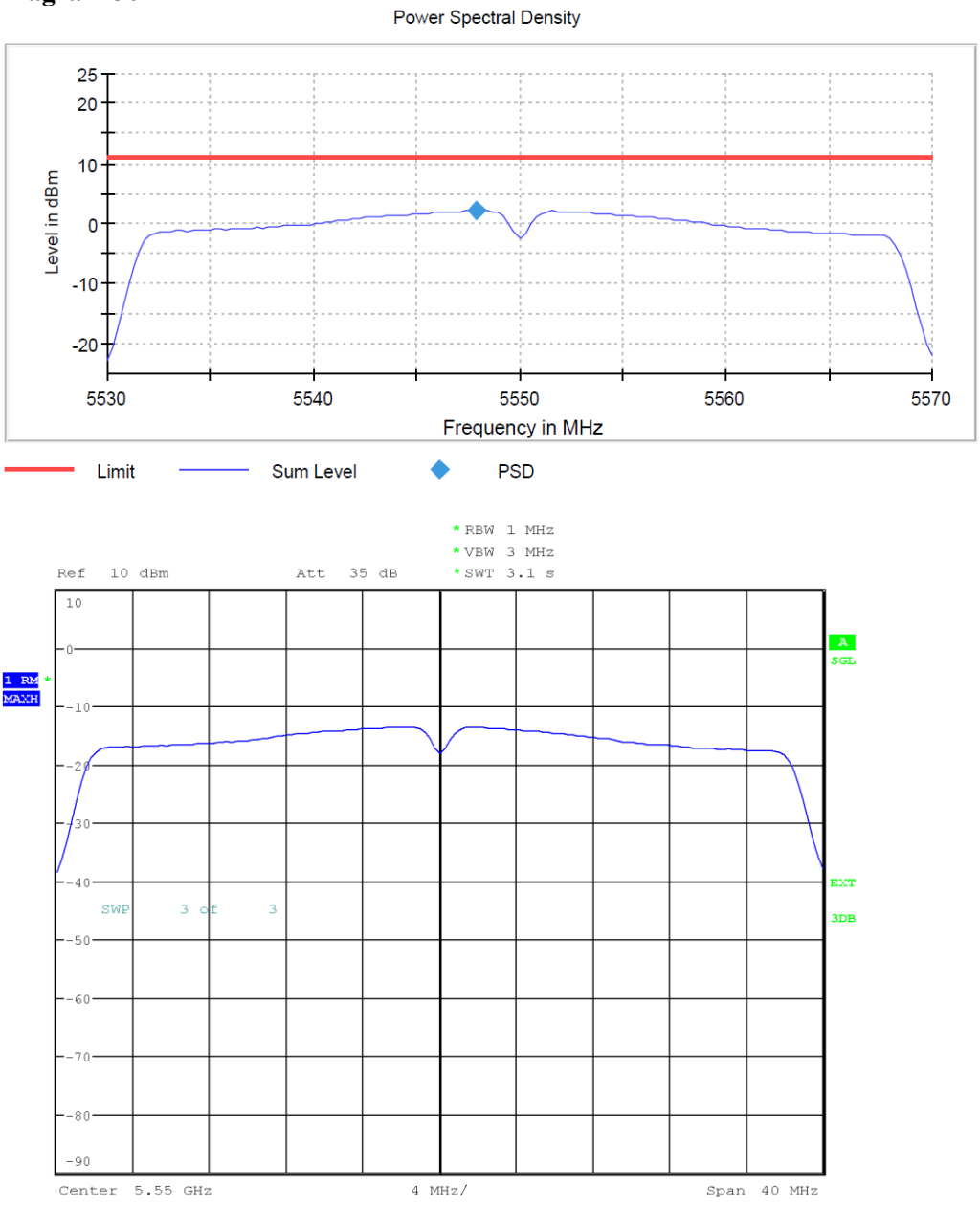




Date: 31.JAN.2019 13:17:38

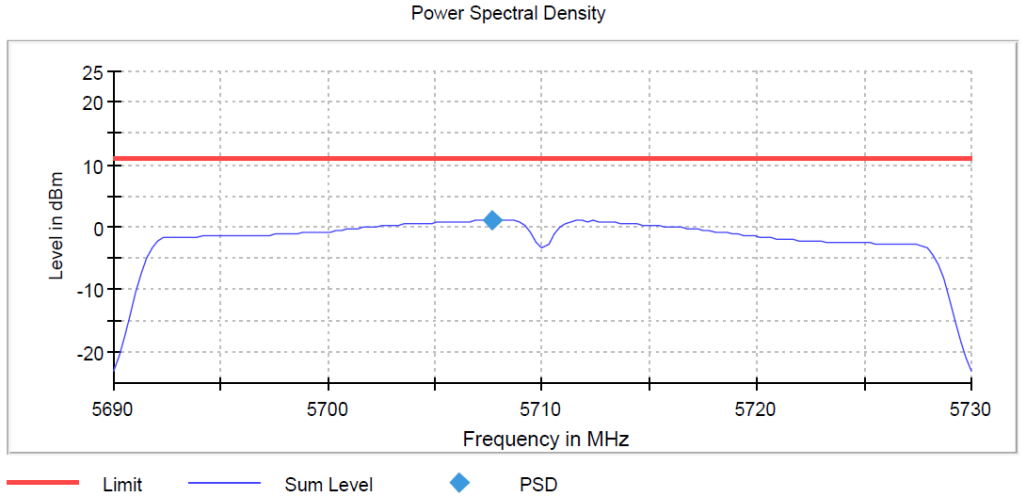
DUT operating at 5510 MHz 40 MHz BW MSC0 SISO 2, 6 dBi antenna gain, 9 dBm/p9
Power spectral density

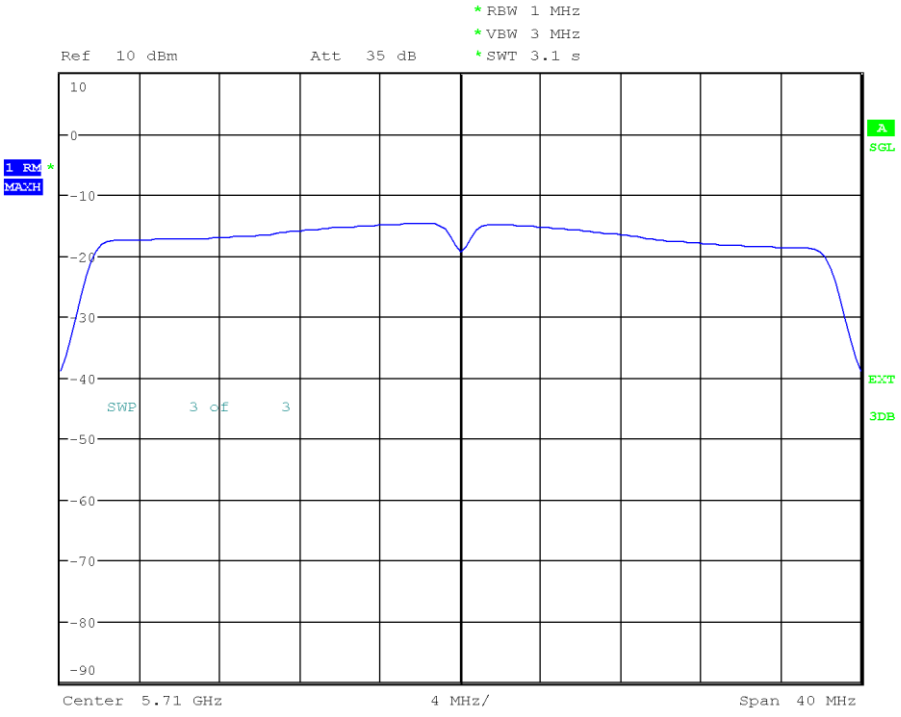
Diagram 30



DUT operating at 5550 MHz 40 MHz BW MSC0 SISO 2, 6 dBi antenna gain, 13 dBm/p13
Power spectral density

Diagram 31

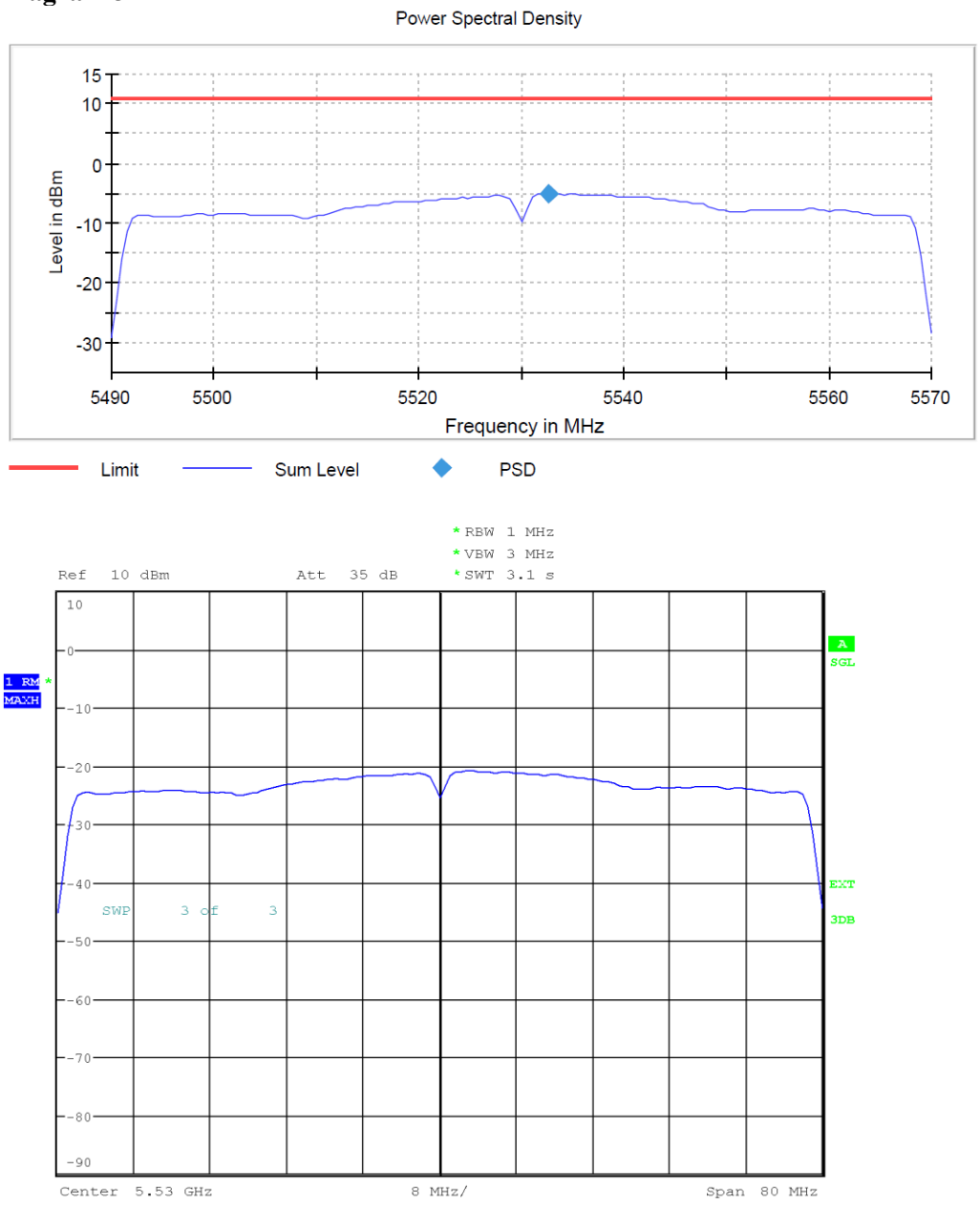




Date: 31.JAN.2019 09:36:31

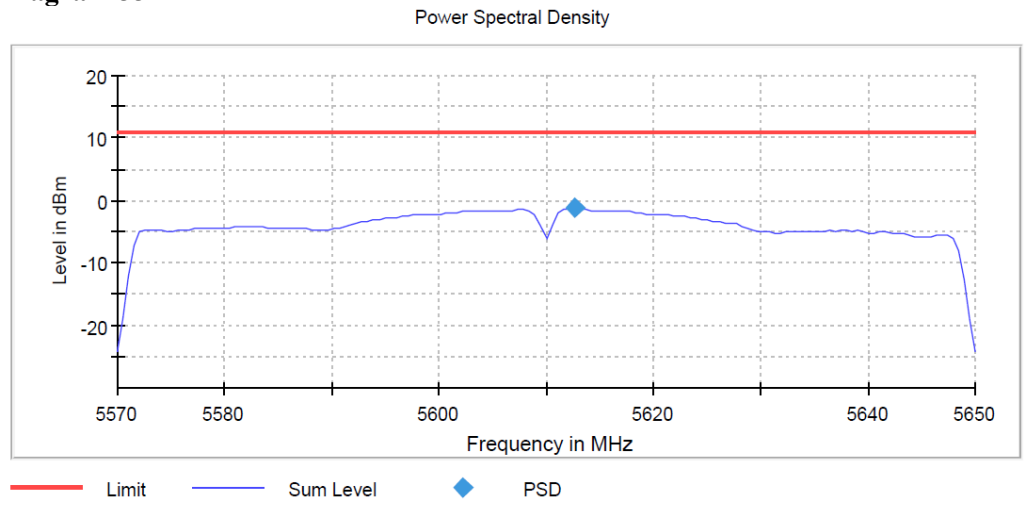
DUT operating at 5710 MHz 40 MHz BW MSC0 SISO 2, 6 dBi antenna gain, 13 dBm/p13
Power spectral density

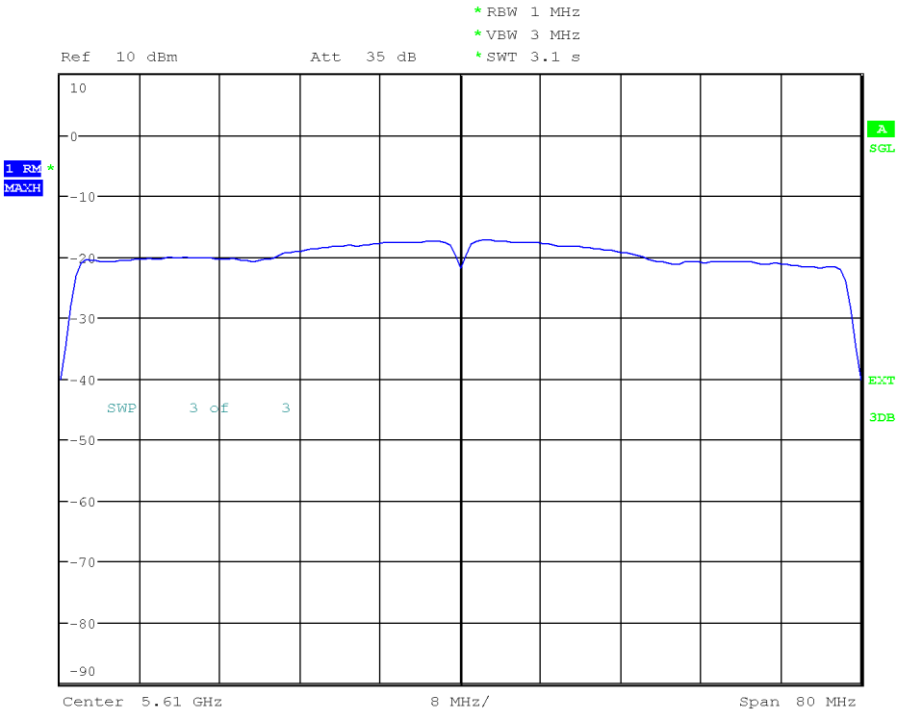
Diagram 32



DUT operating at 5530 MHz 80 MHz BW MSC0 SISO 2, 6 dBi antenna gain, 9 dBm/p9
Power spectral density

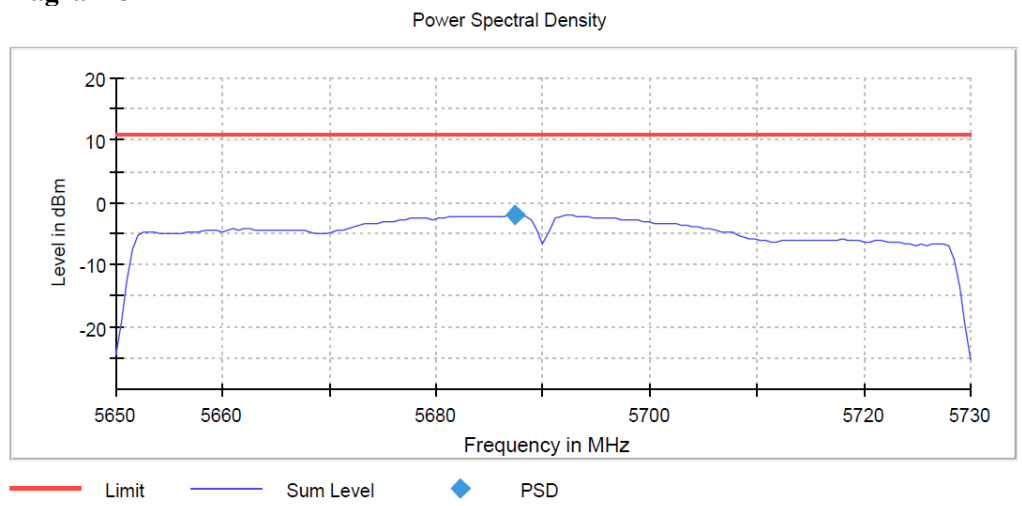
Diagram 33

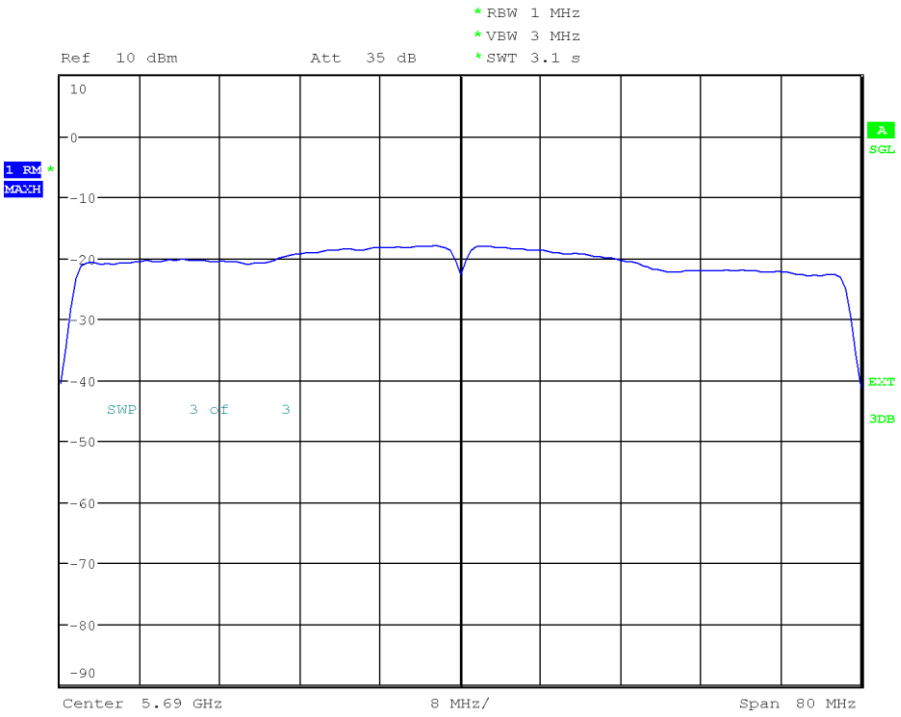




DUT operating at 5610 MHz 80 MHz BW MSC0 SISO 2, 6 dBi antenna gain, 13 dBm/p13
Power spectral density

Diagram 34





DUT operating at 5690 MHz 80 MHz BW MSC0 SISO 2, 6 dBi antenna gain, 13 dBm/p13
Power spectral density

Maximum emission outside of the frequency bands of operation according to FCC 47 CFR part 15.407 (b) (1) and Unwanted emission in the restricted bands according to FCC 47 CFR part 15.407 (b) (7) / RSS-247 6.2.2.2 and 6.2.3.2, RSS-Gen 8.9 and 8.10

Date	Temperature	Humidity
2018-10-18	22°C ± 3 °C	48 % ± 5 %
2018-10-19	22°C ± 3 °C	34 % ± 5 %
2018-10-21	22°C ± 3 °C	44 % ± 5 %
2018-10-31	23°C ± 3 °C	32 % ± 5 %
2018-11-01	22°C ± 3 °C	35 % ± 5 %
2018-11-05	23°C ± 3 °C	38 % ± 5 %
2018-11-06	22°C ± 3 °C	34 % ± 5 %
2019-03-17	22°C ± 3 °C	31 % ± 5 %

Test setup and procedure

The measurements were performed according to ANSI C63.10 clause 12.7 and KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Dec. 14, 2017 II.G.1-6.

The measurements were performed on units with the integral antennas, with transmission over 98% of duty cycle and with normal modulation.
During test a LCD monitor was connected to DUT and data stream was transferred from DUT to the terminal.

The test of radiated emission was performed in a semi anechoic chamber. The measurements were performed with both horizontal and vertical polarizations of the antenna. The antenna distance during the measurements in frequency range 30 MHz to 18 GHz was 3.0 m.
The antenna distance during the measurements in frequency range 18 GHz to 40 GHz was 1.0 m.
The EUT height above the reference ground plane was 0.8 m in the frequency range 30-1000 MHz and 1.5 m in the frequency range 1-40 GHz.

The measurement procedure is as follows:

1. A pre-measurement is performed with peak detector. In addition in the frequency range 1 to 8.2 GHz, premeasurement was done with RMS detector, too, due to insufficient dynamic. For measurement < 1 GHz the test object is measured in eight directions with the antenna at three heights, 1.0 m, 1.5 m and 2.0. For measurement between 1 GHz – 40 GHz the test object is measured in seventeen directions with the antenna at one height, 1.5 m.

2. For measurements in the frequency range 1 – 18 GHz, RF absorbers were covering an floor area to comply with site validation requirements according to CISPR 16-1-4:2010.

3. If the emission is close or above the limit during the pre-measurement, the test object is scanned 360 degrees and the antenna height scanned from 1 to 4 m for maximum response. Then the emission is measured with the quasi-peak detector on frequencies below 1 GHz and with the average/peak detector above 1 GHz.

The following RBW were used:
30 MHz-1 GHz: RBW=120 kHz
1-40 GHz: RBW=1 MHz

Number of sweep points and sweep time was set to fulfil need for trace stability and measured point per pixel.

Test set-up photos during the tests can be found in the report annex, "8P07436 - F2 photos"

Measurement equipment	RISE number
Semi anechoic chamber, Edison	504114
Computer Lenovo ThinkCentre	-
Software R&S EMC32, ver.9.15.00	503889
EMI test receiver R&S ESU 26	902210
EMI test receiver R&S ESU 40	901385
EMI test receiver R&S ESI 40	503125
Antenna Schaffner CBL 6143	504079
Antenna ETS-Lindgren 3115	902175
Standard gain horn, 18-26 GHz, 20240-20	503674
Standard gain horn, 26-40 GHz, 22240-20	503674
Low Noise Amplifier Miteq, 0.1-18 GHz	504160
Low Noise Amplifier Miteq, 18-26.5 GHz	503285
Low Noise Amplifier Miteq 18-40 GHz	503278
Step attenuator Narda743-60	BX41644
Coaxial cable	BX50672
Coaxial cable	504102
Coaxial cable	504103
Coaxial cable	504104
Coaxial cable	504162
Multimeter Fluke 83	501522
Temperature and humidity meter Testo 625	504117
Semi anechoic chamber, Tesla	503881
Software R&S EMC32, ver.9.15.00	BX62351
EMI test receiver R&S ESU 40	901385
Antenna ETS-Lindgren 3115	902175
Standard gain horn, 8-12.75 GHz	503939
Standard gain horn, 12.75-18 GHz	503900
Low Noise Amplifier Miteq	901545
Huber Suhner antenna cable N-N	BX62218
Coaxial cable	503697
Coaxial cable	BX61530
Coaxial cable	503508
Coaxial cable	503509
Coaxial cable	504206
Coaxial cable	900226
Coaxial cable	504035
Coaxial cable	503274
Temperature and humidity meter Testo 625	504188

Results

The pre-measurement emission spectra for the worst case configuration can be found in the diagrams below:

Diagram 1:	Ambient, 30-1000 MHz, vertical and horizontal polarization
Diagram 2:	30-1000 MHz, MIMO 5620 MHz, BW 20 MHz, MCS0, p17 vertical and horizontal polarization
Diagram 3:	30-1000 MHz, MIMO 5720 MHz, BW 20 MHz, MCS0, p15 vertical and horizontal polarization
Diagram 4:	Ambient, 1-8.2 GHz, vertical and horizontal polarization
Diagram 5:	1-8.2 GHz, MIMO 5720 MHz, BW 20 MHz, MCS0, p17 vert. and horiz. polarization
Diagram 6:	Ambient, 8.2-12.75 GHz, vertical and horizontal polarization
Diagram 7:	8.2-12.75 GHz, MIMO 5720 MHz, BW 20 MHz, MCS0, p17 vertical and horizontal polarization
Diagram 8:	Ambient, 12.75-18 GHz, vertical and horizontal polarization
Diagram 9:	12.75-18 GHz, MIMO 5500 MHz, BW 20 MHz, MCS0, p17 vertical and horizontal polarization
Diagram 10:	Ambient, 18-26.5 GHz, vertical polarization
Diagram 11:	Ambient, 18-26.5 GHz, horizontal polarization
Diagram 12:	18 -26.5 GHz, MIMO 5720 MHz, BW 20 MHz, MCS0, p17 horizontal polarization
Diagram 13	Ambient, 26.5-40 GHz, vertical polarization
Diagram 14	Ambient, 26.5-40 GHz, horizontal polarization
Diagram 15	26.5-40 GHz, MIMO 5620 MHz, BW 20 MHz, MCS0, p17 horizontal polarization

Note 1: Worst-case plots are attached.
Note 2: The results in the diagrams are not corrected for duty cycle.

Final measurements, U-NII-2

Frequency (MHz)	QP level (dBµV/m)	CAV level (dBµV/m)	Peak level (dBµV/m)	Corr (dB)	Limit (dBµV/m)	Height (m)	Azimuth (deg)	Polarization
30.74	30.5	N/A	36.0	28.4	40	1.09	206	Vertical
59.21	31.2	N/A	33.4	16.9	43.5	1.19	333	Vertical
172.92	41.3	N/A	42.8	17.1	43.5	1.43	136	Horizontal
345.82	43.6	N/A	45.3	21.3	46	1.00	311	Horizontal
518.76	40.3	N/A	44.9	24.9	46	1.08	145	Vertical
864.68	40.3	N/A	46.8	28.6	46	1.00	183	Horizontal
960.69	38.7	N/A	42.2	29.3	46	1.00	184	Horizontal

Apply correction for U-NII-2

Below 1 GHz, quasi peak is applied.

Note: Values of CAV level and peak level in the upper table are corrected for duty cycle off 98.5%, (0.06dB), applicable for channel at 5620 MHz, 20 MHz bandwidth and MCS0.

Final measurements, U-NII-2

Frequency (MHz)	CAV level (dBm)	Peak level (dBm)	Corr (dB)	Limit (dBm)	Height (m)	Azimuth (deg)	Polarization
2767.00	-54.4	-42.1	-60.9	-41.2 (CAV)	1.56	219	Horizontal
3351.26	-58.3	-44.8	-58.5	-41.2 (CAV)	2.59	151	Vertical
3568.62	-56.4	-42.8	-58.1	-41.2 (CAV)	2.35	68	Vertical
5460.38	-54.9	-41.8	-53.7	-41.2 (CAV)	2.70	55	Horizontal
8149.82	-50.7	-37.5	-49.0	-27 (PK)	2.31	253	Vertical
11440.13	-43.6	-40.9	-100.3	-41.2 (CAV)	1.50	39	Vertical

Average power, CAV, is used for compliance above 1 GHz in the restricted bands, (corresponding class B)
In the restricted bands is peak limit 20 dB higher than CAV limit.
Outside restricted bands, peak limit of -27 dBm is applied.

Note: Values of CAV level and peak level in the upper table are not corrected for duty cycle off 98.5 %, (0.06dB), applicable for channel at 5720 MHz, 20 MHz bandwidth and MCS0.

Conversion from the field to eirp and vice versa was done according ANSI C63.10 Annex G and KDB 789033 D02 General UNII Test Procedures New Rules v02r01 II.G.1, respectively.

Remark

Justification measurements were performed of the different antenna configurations, frequency bandwidth, MCS index, channel and placement. The presented results in the reports was judged to represent a worst case scenario based on the justification measurement.

Limits

According to 47CFR 15.407(b)(2) and (3), e.i.r.p. of the emission produced by the intentional radiator shall be below -27 dBm outside the frequency band in which the 5 GHz WiFi radiator is operating for frequencies over 1 GHz except restricted bands defined in §15.205 as shown in paragraph 15.407(b)(7).
Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits based on the field strength, specified in Section 15.209(a).
Below 1 GHz applies general field strength limits set in §15.209.

According to RSS-247 6.2.2.2 for transmitters with operating frequencies in the band 5250-5350 MHz, all emissions outside the band 5250-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p or all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. and its power shall comply with the spectral power density for operation within the band 5150-5250 MHz.

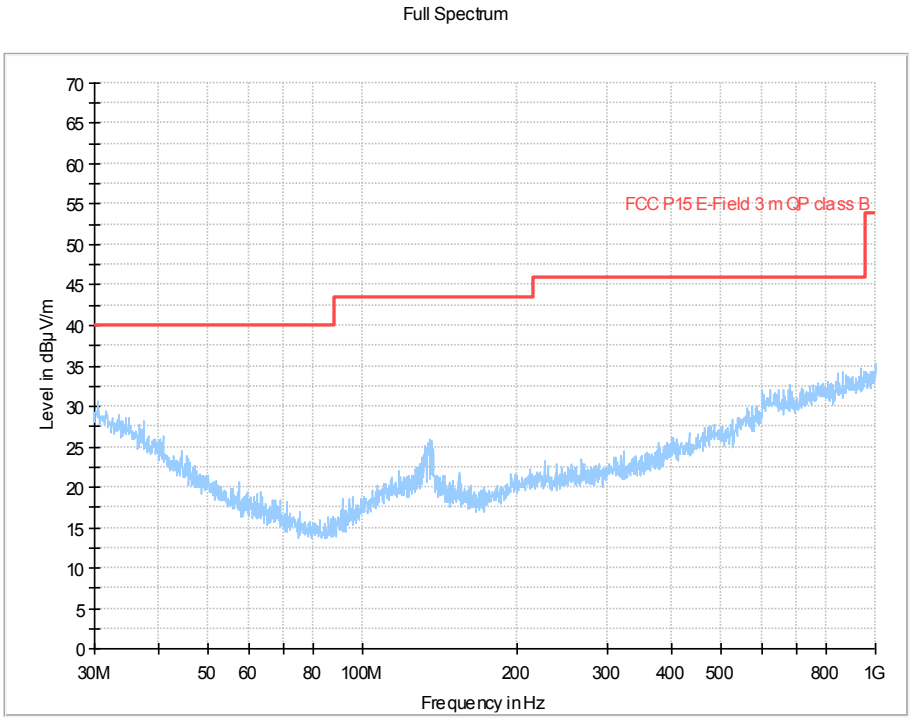
According to RSS-247 6.2.3.2 for transmitters with operating frequencies in the band 5470-5600 MHz and 5650-5726 MHz, all emissions outside the band 5470-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p. However, devices with bandwidth overlapping the band edge of 5725 MHz can meet the emission limit of -27 dBm/MHz e.i.r.p. at 5850 MHz instead of 5725 MHz.

Radiated emissions that fall in the restricted bands specified in RSS-Gen 8.10 shall comply with field strength limits shown in table 5 in RSS-Gen 8.9.

Test engineers: Markel Bertilsson and Ermin Pasalic

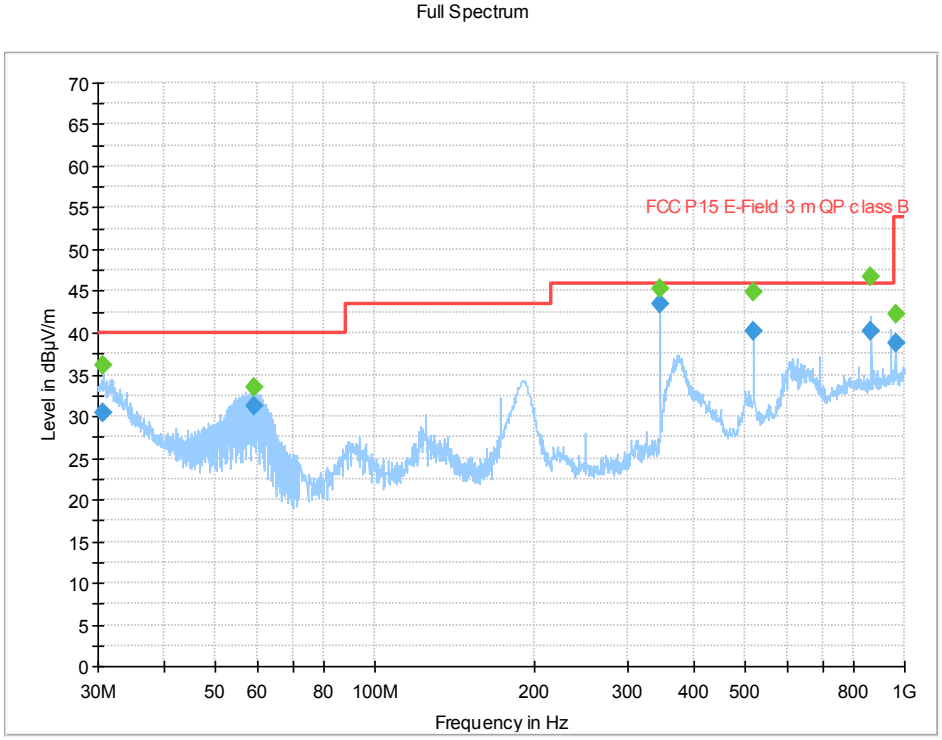
Complies?	Yes

Diagram 1



Ambient, 30-1000 MHz, vertical and horizontal polarization

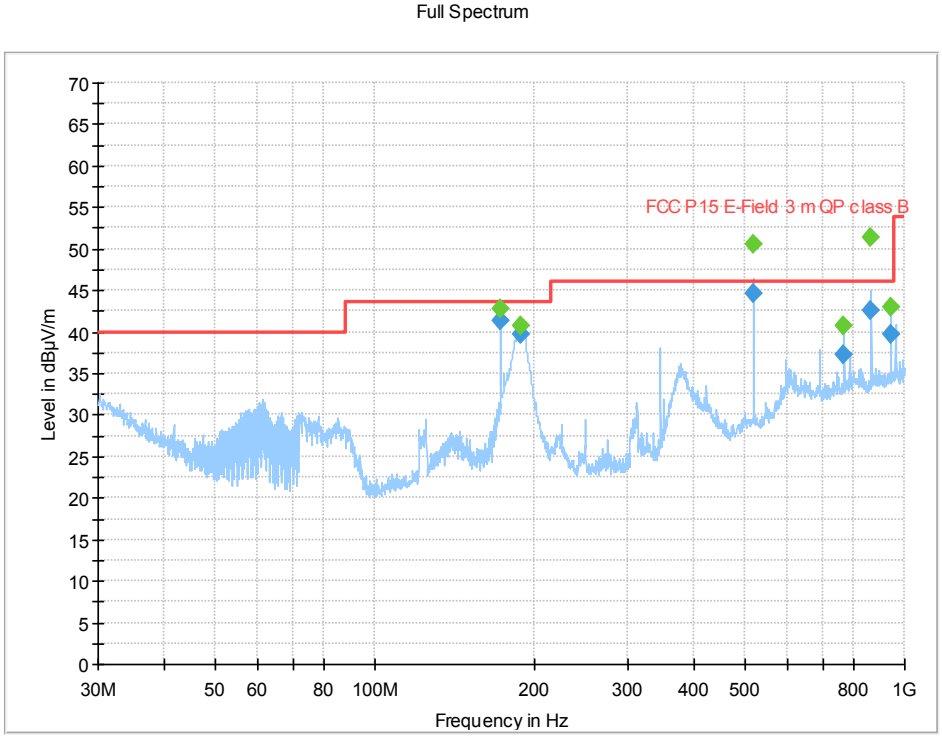
Diagram 2



30-1000 MHz, MIMO 5620 MHz, BW 20 MHz, MCS0, p17 vertical and horizontal polarization

Note: blue dots present E-field level measured by quasi peak detector. They compare to the limit for compliance.
The green dots present field measured by peak detector. There is no requirement for peak level.
The blue trace is measured E-field by peak detector in the pre-test.

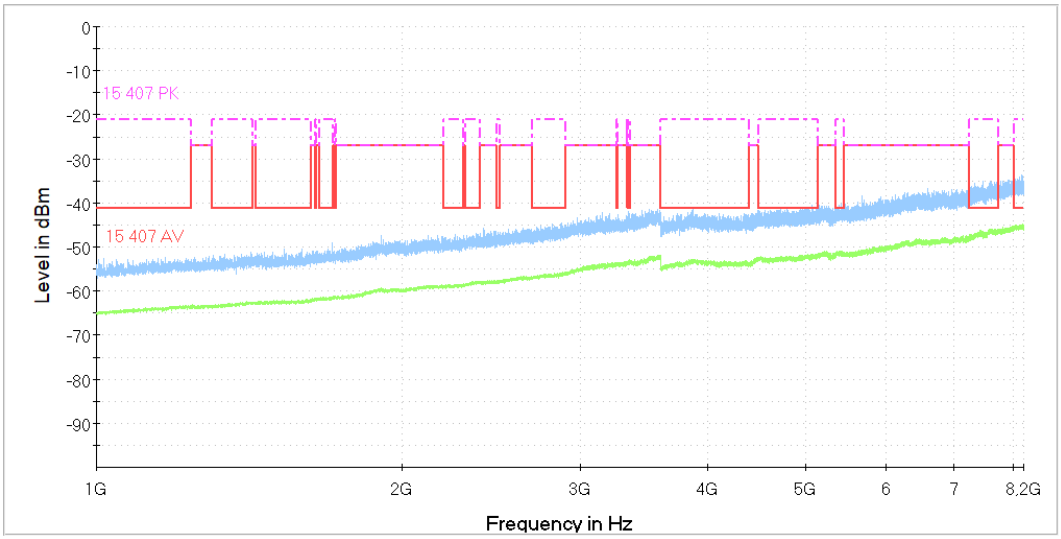
Diagram 3



30-1000 MHz, MIMO 5720 MHz, BW 20 MHz, MCS0, p15 vertical and horizontal polarization

Note: blue dots present E-field level measured by quasi peak detector. They compare to the limit for compliance.
The green dots present field measured by peak detector. There is no requirement for peak level.
The blue trace is measured E-field by peak detector in the pre-test.

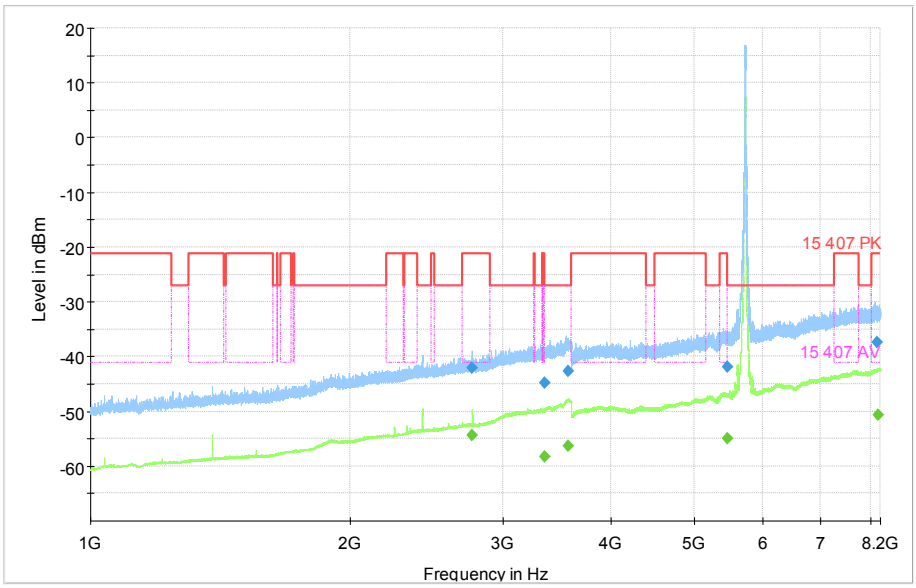
Diagram 4



Ambient, 1-8.2 GHz, vertical and horizontal polarization

Note: blue trace is emission measured by peak detector, compares to the peak limit, (red line), green trace is emission measured by RMS detector, compares to the average limit, (pink line).
In addition to the peak detector, RMS detector was used in pre-test to improve dynamic.
Limit lines are according 47CFR 15.205(a) and 15.209 (a) and cover requirements in the restricted and no-restricted frequency bands. Restricted frequency band 1240—1427 MHz according RSS-Gen 8.10 is not included in the limit line in diagrams 3 and 4.

Diagram 5

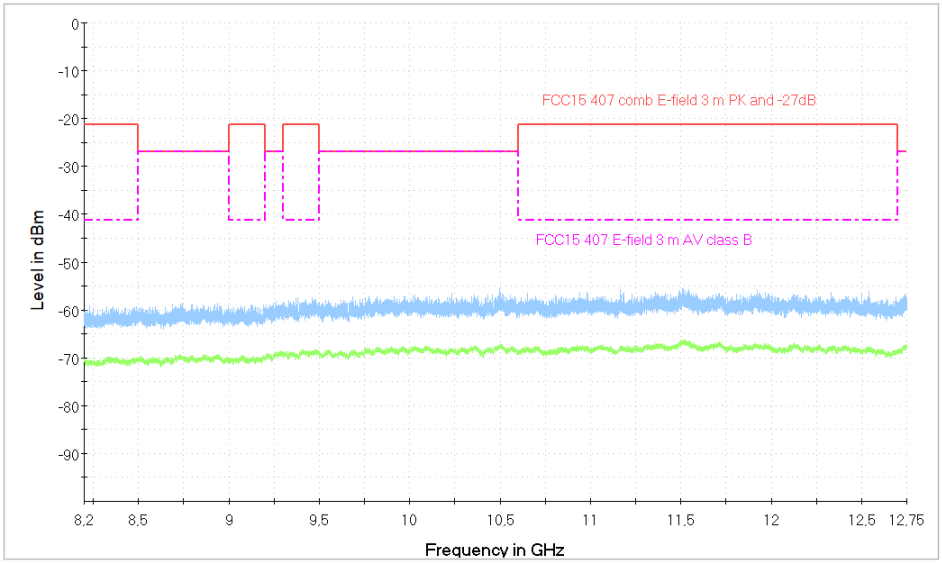


1-8.2 GHz, MIMO 5720 MHz, BW 20 MHz, MCS0, p17 vert. and horiz. polarization

Note 1: levels over limits are in the band 5470 MHz to 5725 MHz. Levels at the edge will be presented in the particular chapter: "Band edge measurements according to 47CFR 2.1049".

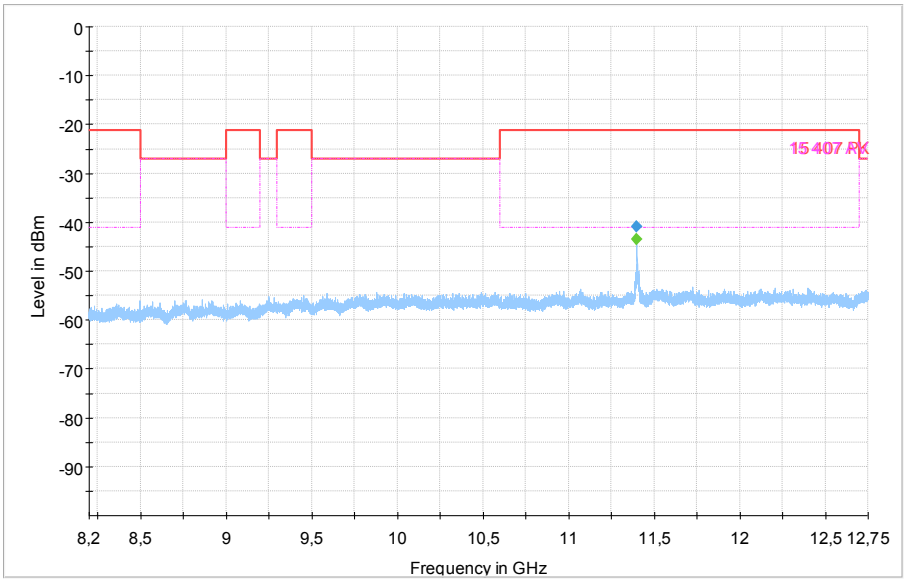
Note 2: blue dots present field level measured by peak detector. They compare to the peak limit, (red line) for compliance. The green dots present field measured by average detector. They compare to the average limit, (pink line) for compliance.

Diagram 6



Ambient, 8.2-12.75 GHz, vertical and horizontal polarization

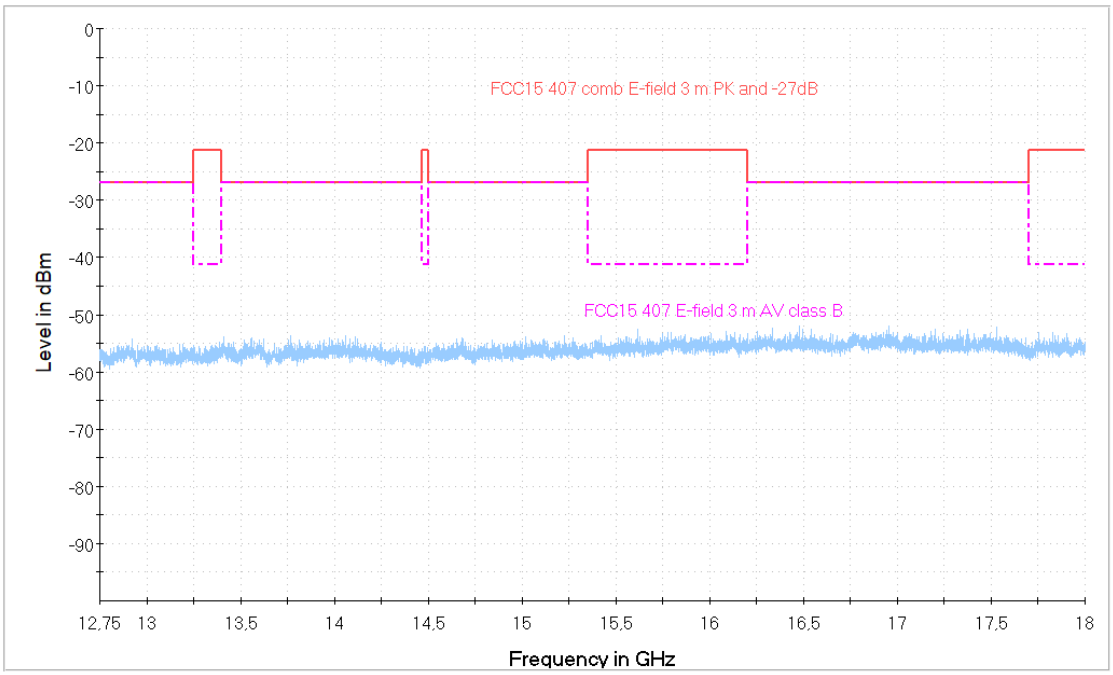
Diagram 7



8.2-12.75 GHz, MIMO 5720 MHz, BW 20 MHz, MCS0, p17 vertical and horizontal polarization

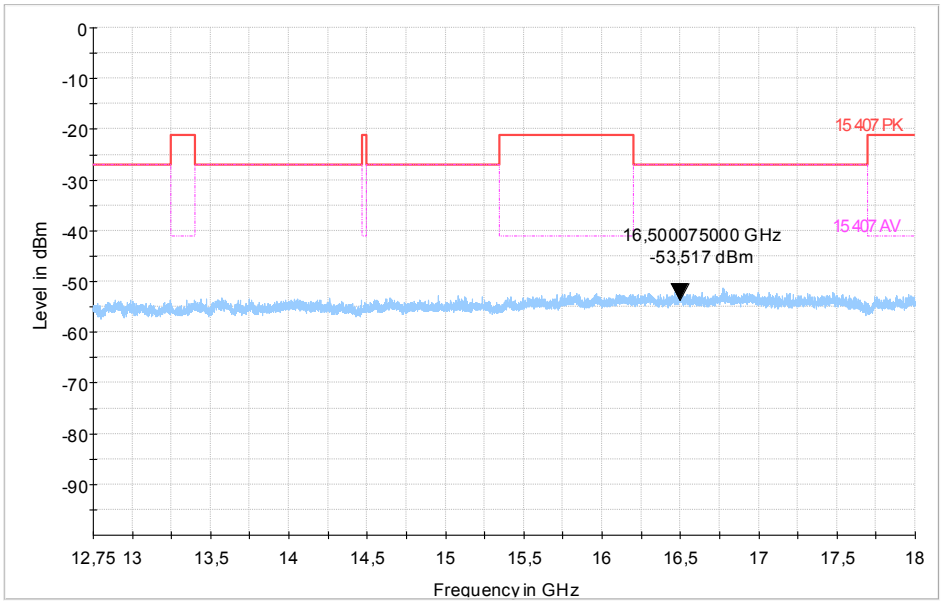
Note: blue dots present field level measured by peak detector. They compare to the peak limit, (red line) for compliance. The green dots present field measured by average detector. They compare to the average limit, (pink line) for compliance.

Diagram 8



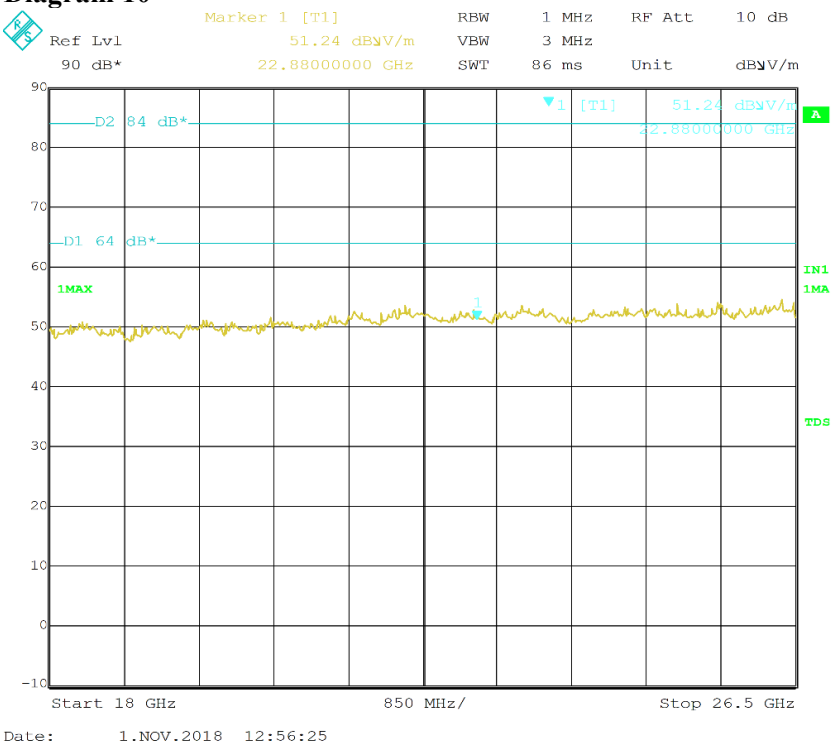
Ambient, 12.75-18 GHz, vertical and horizontal polarization

Diagram 9



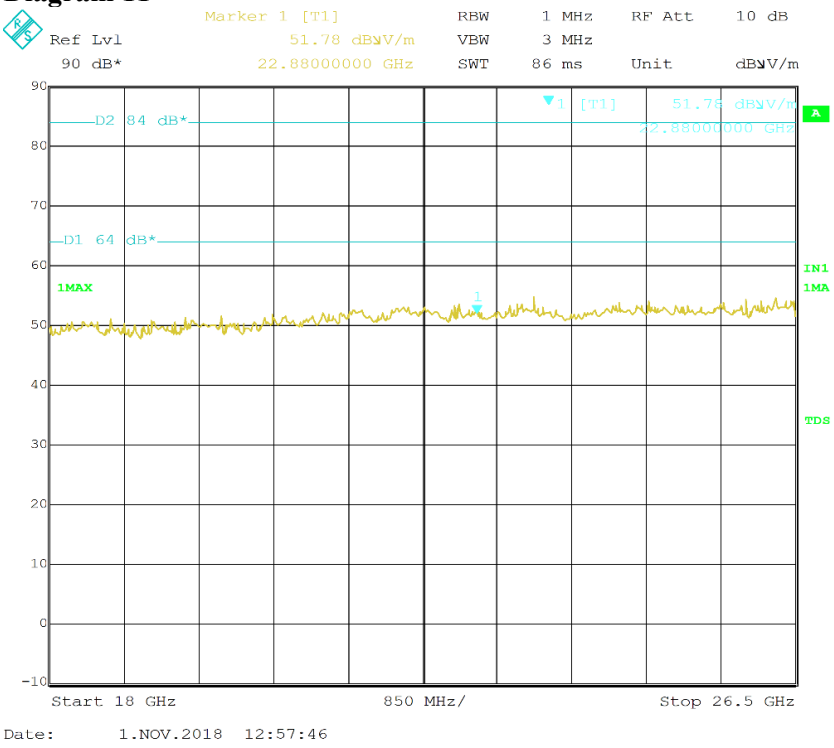
12.75-18 GHz, MIMO 5500 MHz, BW 20 MHz, MCS0, p17 vertical and horizontal polarization

Diagram 10



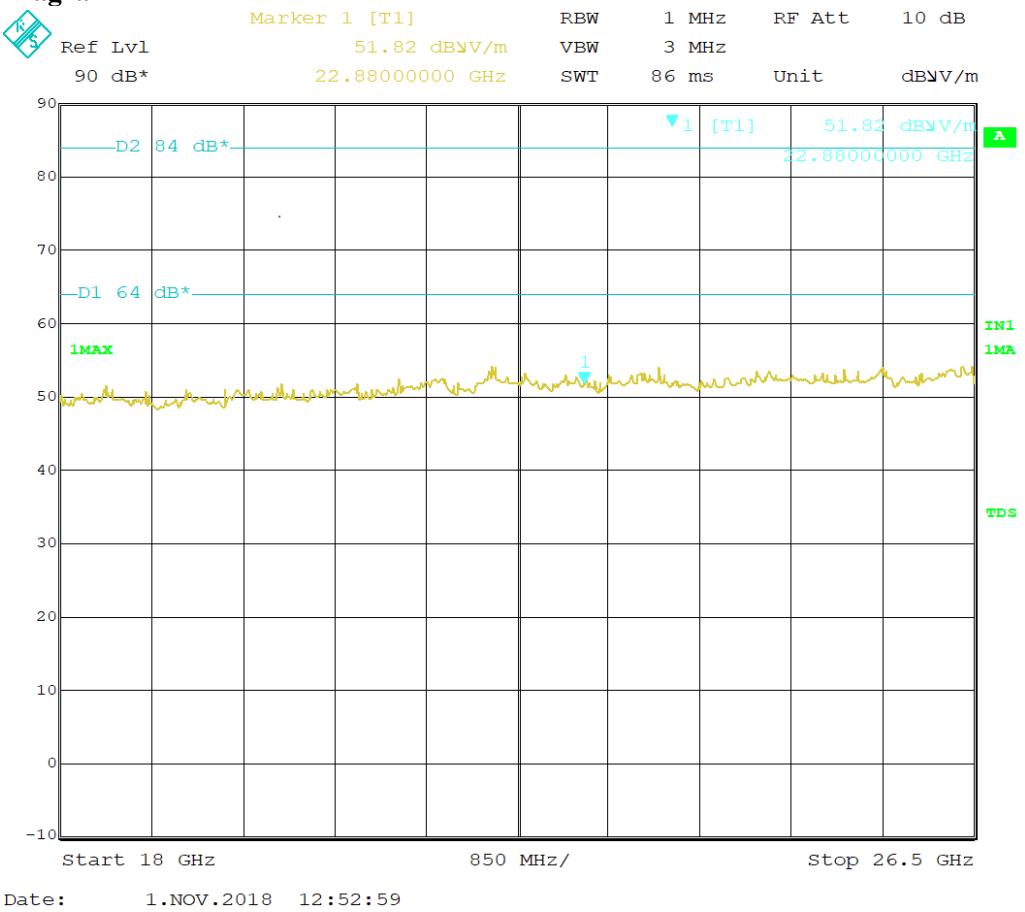
Ambient, 18-26.5 GHz, vertical polarization

Diagram 11



Ambient, 18-26.5 GHz, horizontal polarization

Diagram 12



18 -26.5 GHz, MIMO 5720 MHz, BW 20 MHz, MCS0, p17 horizontal polarization

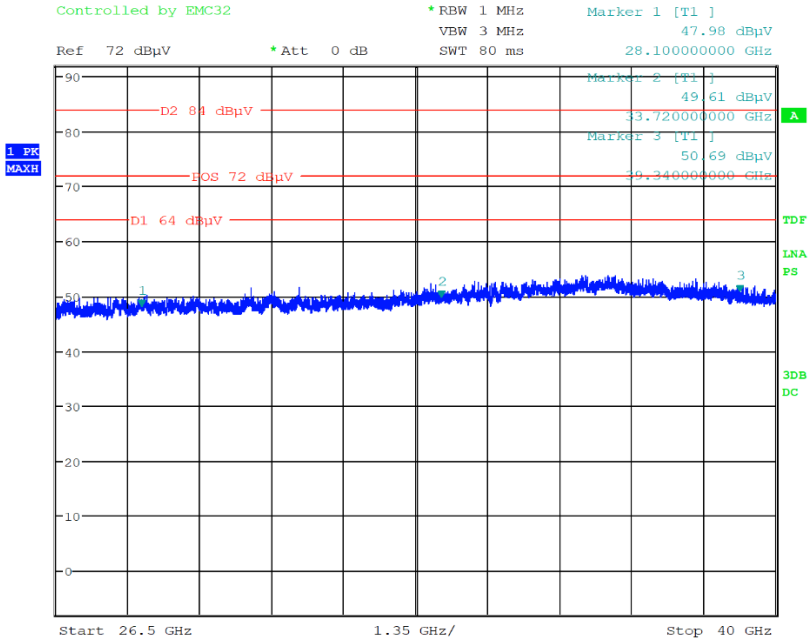
Note: in the range 18-26.5 GHz spurious emission is tested by measurement of E-field at 1 m.

E.I.R.P. limit of -27 dBm/MHz is converted to the field measured at 1 m and presented in the diagrams as D1 64 dB, (blue line). D1 64 dB is used for compliance assessment.

D2 84 dB, (blue line), is informative.

Yellow trace is E-field measured at 1 m distance by peak detector.

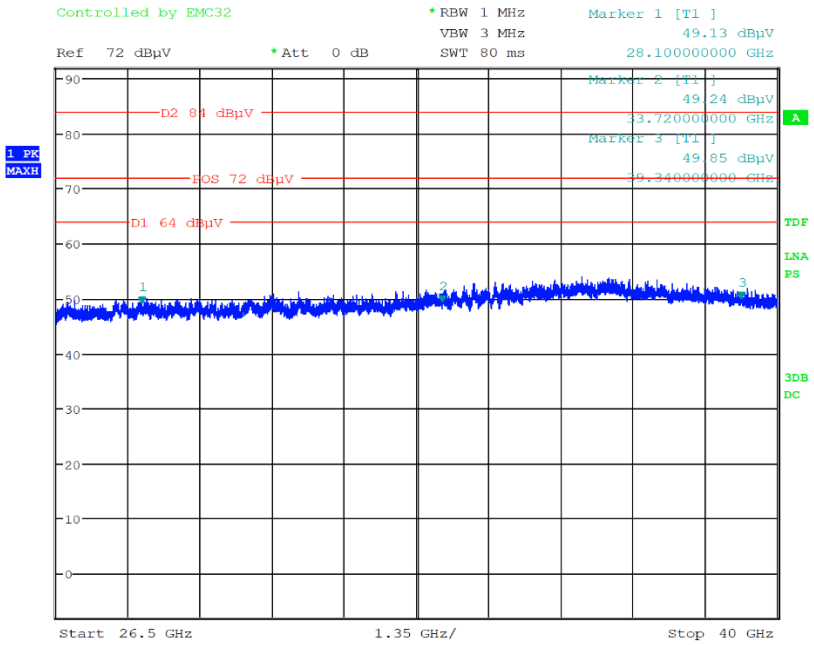
Diagram 13



Date: 1.NOV.2018 14:20:11

Ambient, 26.5-40 GHz, vertical polarization

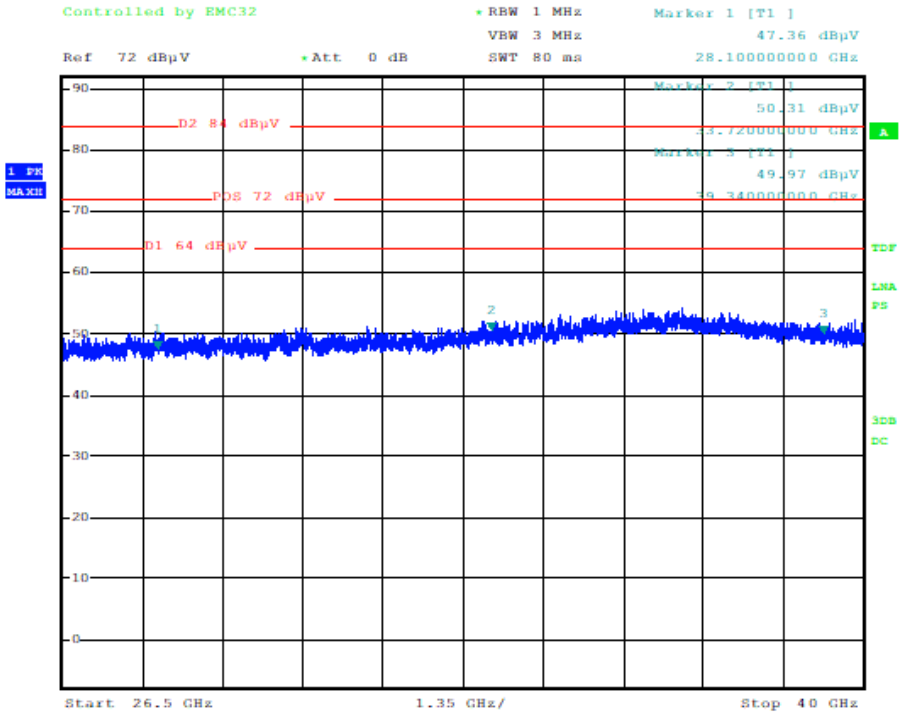
Diagram 14



Date: 1.NOV.2018 14:18:09

Ambient, 26.5-40 GHz, horizontal polarization

Diagram 15



26.5-40 GHz, MIMO 5620 MHz, BW 20 MHz, MCS0, p17 horizontal polarization

Note: in the range 26.5-40 GHz spurious emission is tested by measurement of E-field at 1 m.

E.I.R.P. limit of -27 dBm/MHz is converted to the field measured at 1 m and presented in the diagrams as D1 64 dBµV, (red line). D1 64 dBµV is used for compliance assessment.

D2 84 dBµV, (red line), is informative.

The blue trace is E-field measured at 1 m distance by peak detector.

Conducted emission according to FCC 47 CFR part 15.407 (b) (6) and FCC 47 CFR part 15.207 / RSS-Gen 8.8

Date	Temperature	Humidity
2018-11-06	22°C ± 3 °C	34 % ± 5 %

Test setup and procedure

The measurements were performed according to ANSI C63.10 clause 6.

The measurements were performed on units with the integral antennas and with transmission between 94.3% and 99.3% of duty cycle and with normal modulation. Measurements were performed on the AC side of PoE injector. PoE injector is auxiliary equipment providing the PoE to USB adapter with 48 V DC, which subsequently powers the DUT with 5 V DC.
During test a LCD monitor was connected to DUT and data stream was transferred from DUT to the terminal.

Test set-up photos during the tests can be found in the report annex, "8P07436 - F2 photos"

Measurement equipment	RISE number
Semi anechoic chamber, Edison	504114
Computer Lenovo ThinkCentre	-
Software R&S EMC32, ver.9.15.00	503889
EMI test receiver R&S ESU 26	902210
LISN Schwarzbeck NNLA 8120	BX70761
LISN Schwarzbeck NNBL 8226-2	902060
Limiter, EM-7600	BX42883
Coaxial cable	BX50672
Coaxial cable	504102
Coaxial cable	504103
Coaxial cable	504104
Multimeter Fluke 83	501522
Temperature and humidity meter Testo 625	504117

Results

The conducted emission spectra can be found in the diagrams below:

Diagram 1:	120 V AC, Ambient, neutral terminal, PoE active
Diagram 2:	120 V AC, Ambient, phase terminal, PoE active
Diagram 3:	120 V AC, 5260 MHz, neutral terminal
Diagram 4:	120 V AC, 5260 MHz, phase terminal
Diagram 5:	120 V AC, 5320 MHz, neutral terminal
Diagram 6:	120 V AC, 5320 MHz, phase terminal
Diagram 7:	120 V AC, 5500 MHz, neutral terminal
Diagram 8:	120 V AC, 5500 MHz, phase terminal
Diagram 9:	120 V AC, 5620 MHz, neutral terminal
Diagram 10:	120 V AC, 5620 MHz, phase terminal
Diagram 11:	120 V AC, 5720 MHz, neutral terminal
Diagram 12:	120 V AC, 5720 MHz, phase terminal

Limits

According to 47CFR 15.207 and RSS-Gen 8.8,

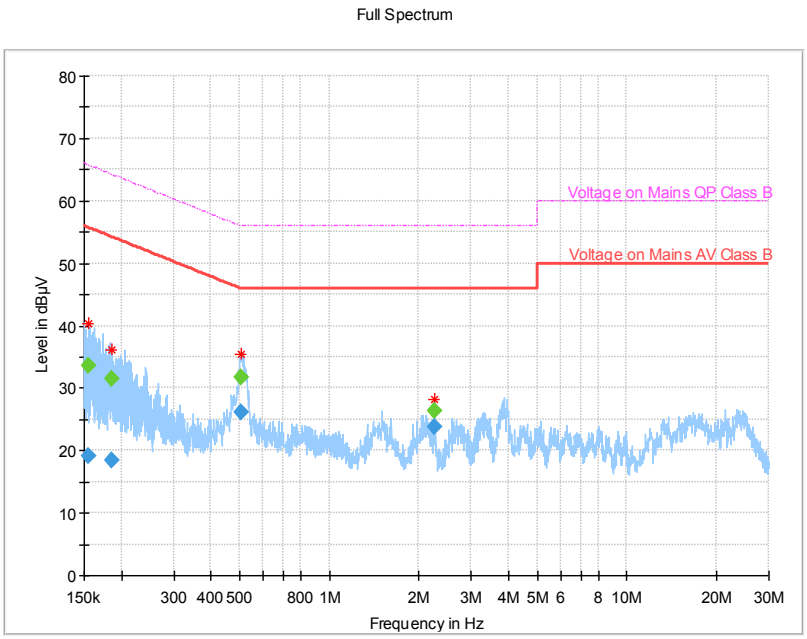
Frequency (MHz)	**Quasi-peak value (dBµV)**	**Average value (dBµV/m)**
0.15-0.5	66-56*	56-46*
0.5-5	56	46
5-30	60	50

*=Decreases with the logarithm of the frequency

Test engineer: Ermin Pasalic

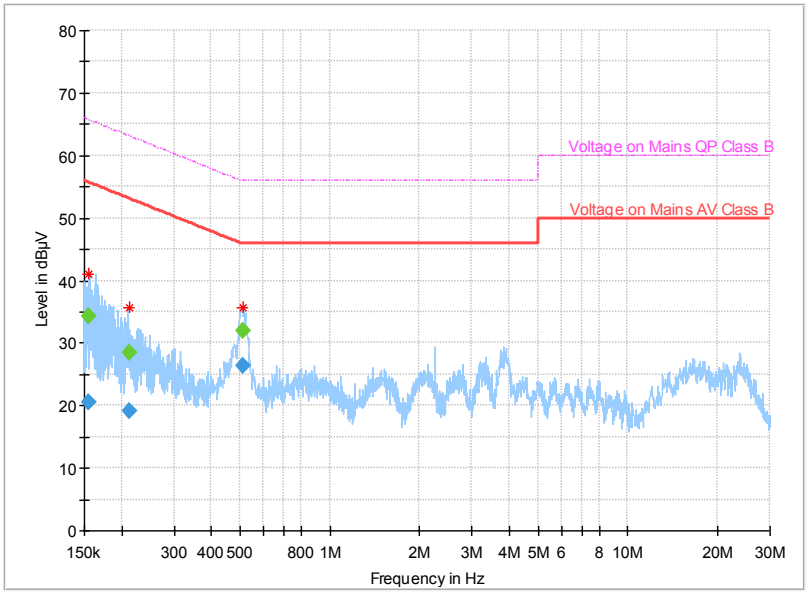
Complies?	Yes

Diagram 1:



120 V AC, Ambient, neutral terminal, PoE active

Diagram 2:



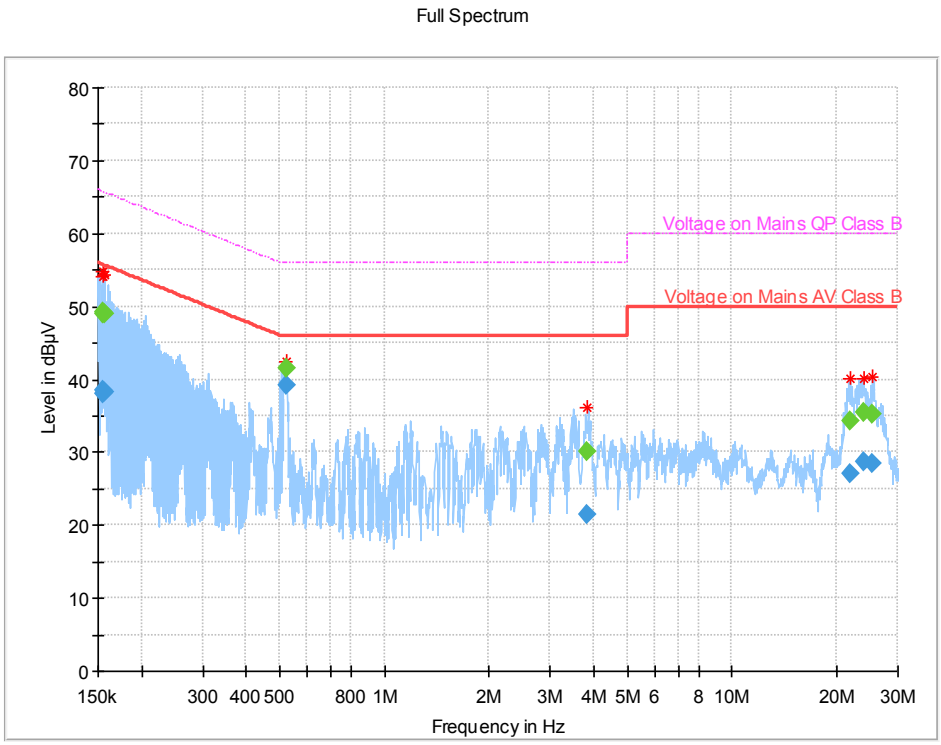
120 V AC, Ambient, phase terminal, PoE active

Note: Blue trace is emission measured with peak detector in the pre-test.
Red dots are emission levels measured with peak detector in the pre-test.
Blue dots are emission levels measured by average detector in final test. Blue dots shall be compared to red limit line, Voltage on Mains AV Class B.
Green dots are emission levels measured by quasi peak detector in final test. Green dots shall be compared to the pink limit line, Voltage on Mains QP Class B.

The blue dots together with the red limit line and green dots together with the pink limit line shall be used for compliance assessment.

This note is applicable on all diagrams in this chapter.

Diagram 3:

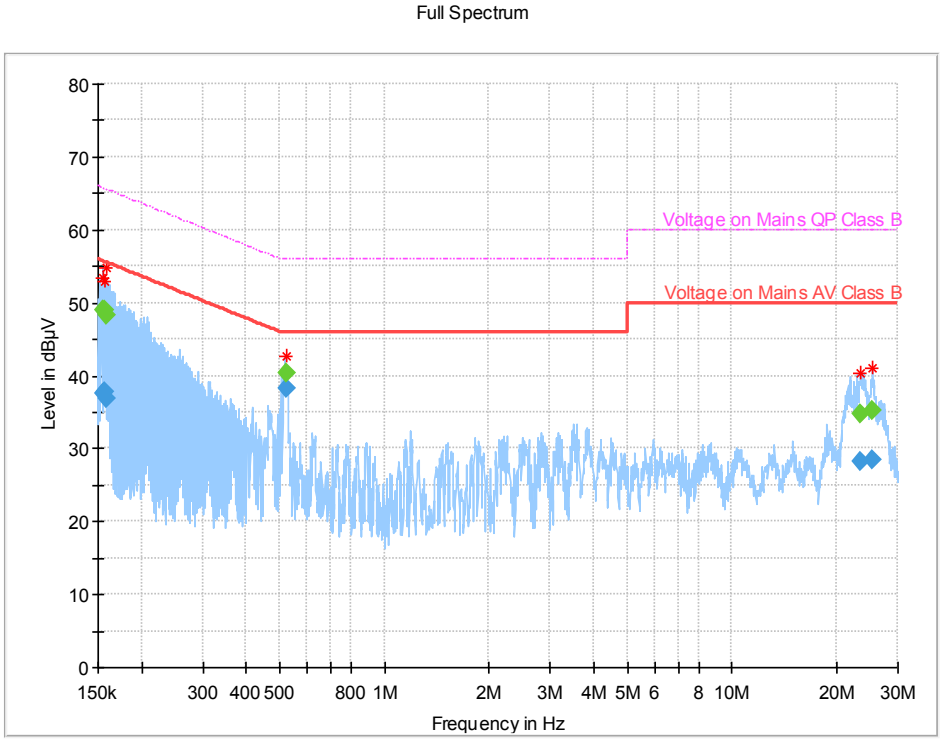


Final_Result

Frequency (MHz)	CAverage (dBµV)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.154398	38.08	---	55.76	17.68	5000.0	9.000	N	9.9
0.154398	---	48.96	65.76	16.80	5000.0	9.000	N	9.9
0.155975	38.58	---	55.68	17.09	5000.0	9.000	N	9.9
0.155975	---	49.28	65.68	16.39	5000.0	9.000	N	9.9
0.157140	---	49.05	65.61	16.57	5000.0	9.000	N	9.9
0.157140	38.29	---	55.61	17.32	5000.0	9.000	N	9.9
0.521499	---	41.56	56.00	14.44	5000.0	9.000	N	9.9
0.521499	39.28	---	46.00	6.72	5000.0	9.000	N	9.9
3.836851	---	30.05	56.00	25.95	5000.0	9.000	N	10.0
3.836851	21.54	---	46.00	24.46	5000.0	9.000	N	10.0
21.863173	---	34.19	60.00	25.81	5000.0	9.000	N	10.9
21.863173	27.03	---	50.00	22.97	5000.0	9.000	N	10.9
23.854351	---	35.38	60.00	24.62	5000.0	9.000	N	11.1
23.854351	28.65	---	50.00	21.35	5000.0	9.000	N	11.1
25.336362	---	35.11	60.00	24.89	5000.0	9.000	N	11.2
25.336362	28.38	---	50.00	21.62	5000.0	9.000	N	11.2

120 V AC, 5260 MHz, neutral terminal

Diagram 4:

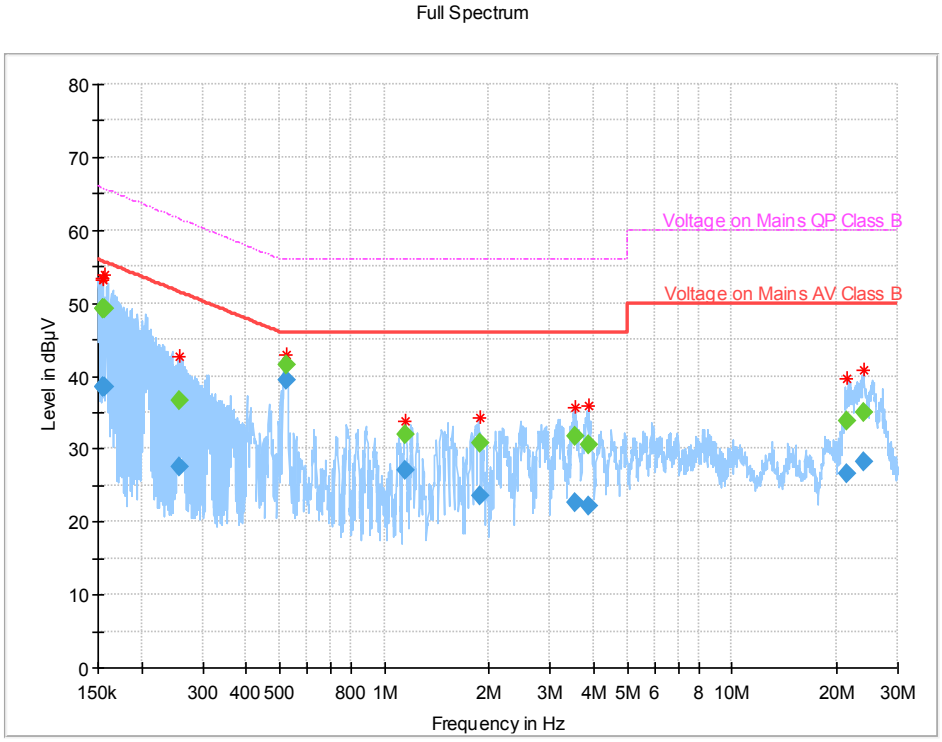


Final_Result

Frequency (MHz)	CAverage (dBµV)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.155244	37.64	---	55.72	18.07	5000.0	9.000	L1	9.9
0.155244	---	48.92	65.72	16.79	5000.0	9.000	L1	9.9
0.156516	---	48.94	65.65	16.70	5000.0	9.000	L1	9.9
0.156516	37.72	---	55.65	17.93	5000.0	9.000	L1	9.9
0.158207	36.74	---	55.56	18.82	5000.0	9.000	L1	9.9
0.158207	---	48.27	65.56	17.29	5000.0	9.000	L1	9.9
0.521356	---	40.38	56.00	15.62	5000.0	9.000	L1	9.9
0.521356	38.19	---	46.00	7.81	5000.0	9.000	L1	9.9
23.445405	---	34.84	60.00	25.17	5000.0	9.000	L1	11.1
23.445405	28.17	---	50.00	21.83	5000.0	9.000	L1	11.1
25.297379	---	35.11	60.00	24.89	5000.0	9.000	L1	11.1
25.297379	28.36	---	50.00	21.64	5000.0	9.000	L1	11.1

120 V AC, 5260 MHz, phase terminal

Diagram 5:

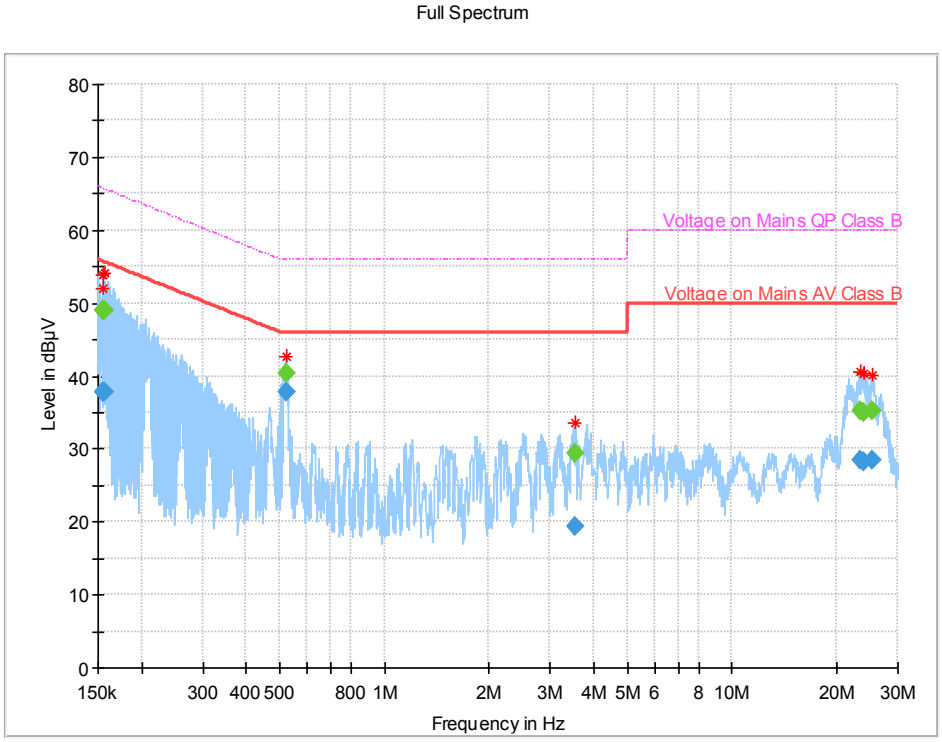


Final_Result

Frequency (MHz)	CAverage (dBµV)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.155438	38.53	---	55.70	17.17	5000.0	9.000	N	9.9
0.155438	---	49.20	65.70	16.51	5000.0	9.000	N	9.9
0.155872	---	49.24	65.68	16.44	5000.0	9.000	N	9.9
0.155872	38.57	---	55.68	17.12	5000.0	9.000	N	9.9
0.156186	38.57	---	55.66	17.09	5000.0	9.000	N	9.9
0.156186	---	49.22	65.66	16.44	5000.0	9.000	N	9.9
0.258414	---	36.57	61.48	24.91	5000.0	9.000	N	9.9
0.258414	27.52	---	51.48	23.96	5000.0	9.000	N	9.9
0.521122	---	41.61	56.00	14.39	5000.0	9.000	N	9.9
0.521122	39.42	---	46.00	6.58	5000.0	9.000	N	9.9
1.146931	---	31.94	56.00	24.06	5000.0	9.000	N	9.9
1.146931	27.06	---	46.00	18.94	5000.0	9.000	N	9.9
1.882548	---	30.86	56.00	25.14	5000.0	9.000	N	9.9
1.882548	23.46	---	46.00	22.54	5000.0	9.000	N	9.9
3.549423	---	31.66	56.00	24.34	5000.0	9.000	N	10.0
3.549423	22.66	---	46.00	23.34	5000.0	9.000	N	10.0
3.876499	---	30.66	56.00	25.34	5000.0	9.000	N	10.0
3.876499	22.11	---	46.00	23.89	5000.0	9.000	N	10.0
21.526699	---	33.90	60.00	26.10	5000.0	9.000	N	10.9
21.526699	26.70	---	50.00	23.31	5000.0	9.000	N	10.9
24.031082	---	35.00	60.00	25.00	5000.0	9.000	N	11.1
24.031082	28.21	---	50.00	21.79	5000.0	9.000	N	11.1

120 V AC, 5320 MHz, neutral terminal

Diagram 6:

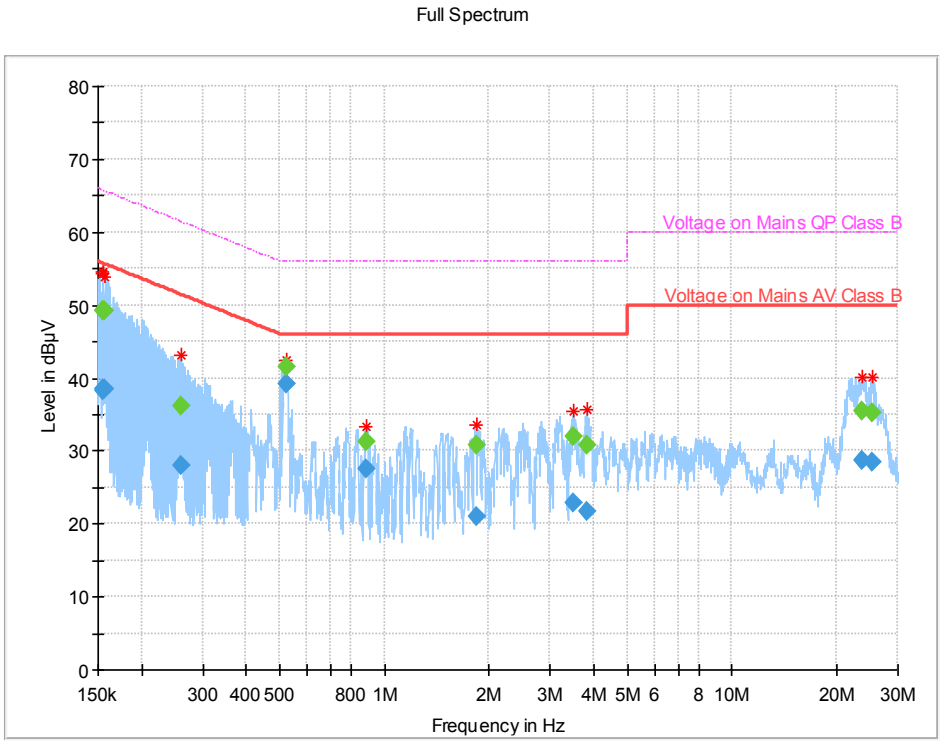


Final_Result

Frequency (MHz)	CAverage (dBµV)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.155413	37.74	---	55.71	17.97	5000.0	9.000	L1	9.9
0.155413	---	49.02	65.71	16.69	5000.0	9.000	L1	9.9
0.155628	---	48.97	65.69	16.72	5000.0	9.000	L1	9.9
0.155628	37.78	---	55.69	17.92	5000.0	9.000	L1	9.9
0.156165	37.75	---	55.67	17.91	5000.0	9.000	L1	9.9
0.156165	---	49.01	65.67	16.65	5000.0	9.000	L1	9.9
0.521725	---	40.38	56.00	15.62	5000.0	9.000	L1	9.9
0.521725	37.81	---	46.00	8.19	5000.0	9.000	L1	9.9
3.553726	---	29.30	56.00	26.70	5000.0	9.000	L1	10.0
3.553726	19.26	---	46.00	26.74	5000.0	9.000	L1	10.0
23.535098	---	35.22	60.00	24.78	5000.0	9.000	L1	11.1
23.535098	28.56	---	50.00	21.44	5000.0	9.000	L1	11.1
23.993468	---	35.04	60.00	24.96	5000.0	9.000	L1	11.0
23.993468	28.20	---	50.00	21.80	5000.0	9.000	L1	11.0
25.390618	---	35.10	60.00	24.90	5000.0	9.000	L1	11.1
25.390618	28.45	---	50.00	21.55	5000.0	9.000	L1	11.1

120 V AC, 5320 MHz, phase terminal

Diagram 7:

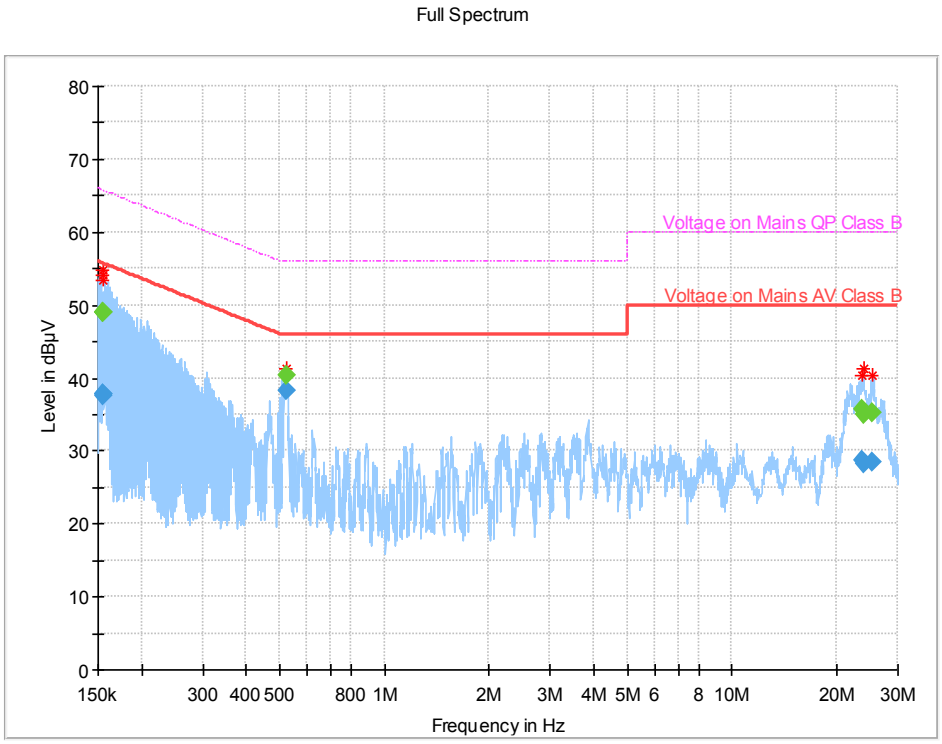


Final_Result

Frequency (MHz)	CAverage (dBµV)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.154983	---	49.12	65.73	16.60	5000.0	9.000	N	9.9
0.154983	38.33	---	55.73	17.40	5000.0	9.000	N	9.9
0.155811	---	49.27	65.68	16.42	5000.0	9.000	N	9.9
0.155811	38.55	---	55.68	17.13	5000.0	9.000	N	9.9
0.156797	---	49.17	65.63	16.46	5000.0	9.000	N	9.9
0.156797	38.43	---	55.63	17.20	5000.0	9.000	N	9.9
0.261274	---	36.08	61.39	25.31	5000.0	9.000	N	9.9
0.261274	27.87	---	51.39	23.52	5000.0	9.000	N	9.9
0.521875	---	41.48	56.00	14.52	5000.0	9.000	N	9.9
0.521875	39.14	---	46.00	6.86	5000.0	9.000	N	9.9
0.885480	---	31.21	56.00	24.79	5000.0	9.000	N	9.9
0.885480	27.41	---	46.00	18.59	5000.0	9.000	N	9.9
1.838365	---	30.78	56.00	25.22	5000.0	9.000	N	9.9
1.838365	20.90	---	46.00	25.10	5000.0	9.000	N	9.9
3.497740	---	31.89	56.00	24.11	5000.0	9.000	N	10.0
3.497740	22.81	---	46.00	23.19	5000.0	9.000	N	10.0
3.822300	---	30.89	56.00	25.11	5000.0	9.000	N	10.0
3.822300	21.73	---	46.00	24.27	5000.0	9.000	N	10.0
23.603374	---	35.55	60.00	24.45	5000.0	9.000	N	11.1
23.603374	28.73	---	50.00	21.27	5000.0	9.000	N	11.1
25.344279	---	35.21	60.00	24.79	5000.0	9.000	N	11.2
25.344279	28.49	---	50.00	21.51	5000.0	9.000	N	11.2

120 V AC, 5500 MHz, neutral terminal

Diagram 8:

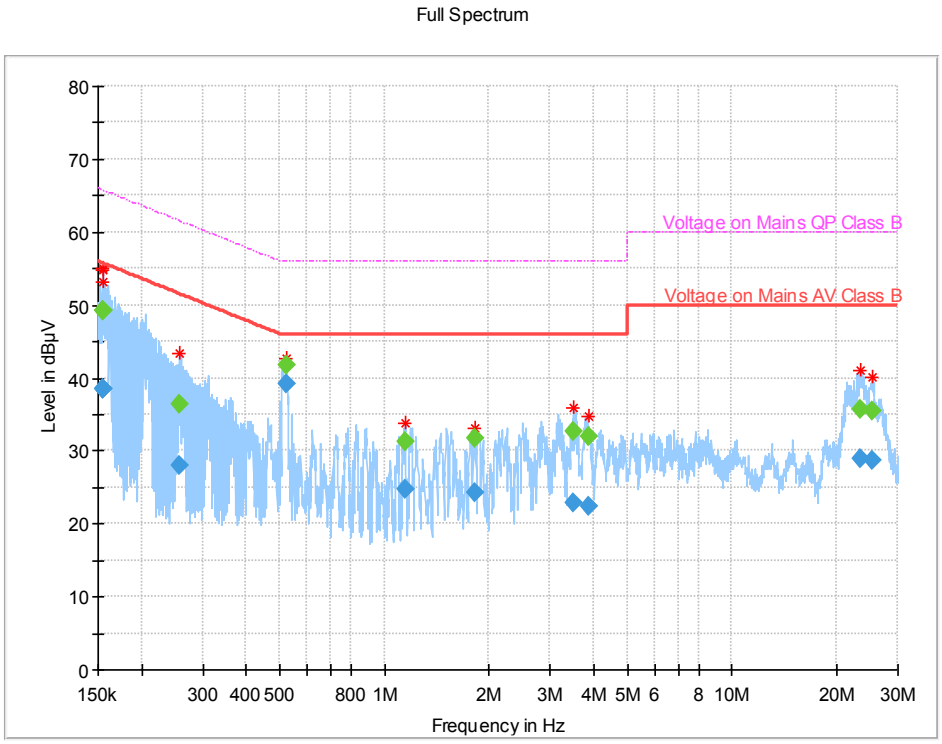


Final_Result

Frequency (MHz)	CAverage (dBµV)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.155252	37.60	---	55.71	18.12	5000.0	9.000	L1	9.9
0.155252	---	48.90	65.71	16.82	5000.0	9.000	L1	9.9
0.155914	37.75	---	55.68	17.93	5000.0	9.000	L1	9.9
0.155914	---	48.98	65.68	16.70	5000.0	9.000	L1	9.9
0.155921	---	49.07	65.68	16.60	5000.0	9.000	L1	9.9
0.155921	37.81	---	55.68	17.87	5000.0	9.000	L1	9.9
0.521178	---	40.37	56.00	15.63	5000.0	9.000	L1	9.9
0.521178	38.22	---	46.00	7.78	5000.0	9.000	L1	9.9
23.699181	---	35.60	60.00	24.40	5000.0	9.000	L1	11.1
23.699181	28.66	---	50.00	21.34	5000.0	9.000	L1	11.1
23.993685	---	35.10	60.00	24.90	5000.0	9.000	L1	11.0
23.993685	28.33	---	50.00	21.67	5000.0	9.000	L1	11.0
25.346414	---	35.26	60.00	24.74	5000.0	9.000	L1	11.1
25.346414	28.57	---	50.00	21.43	5000.0	9.000	L1	11.1

120 V AC, 5500 MHz, phase terminal

Diagram 9:

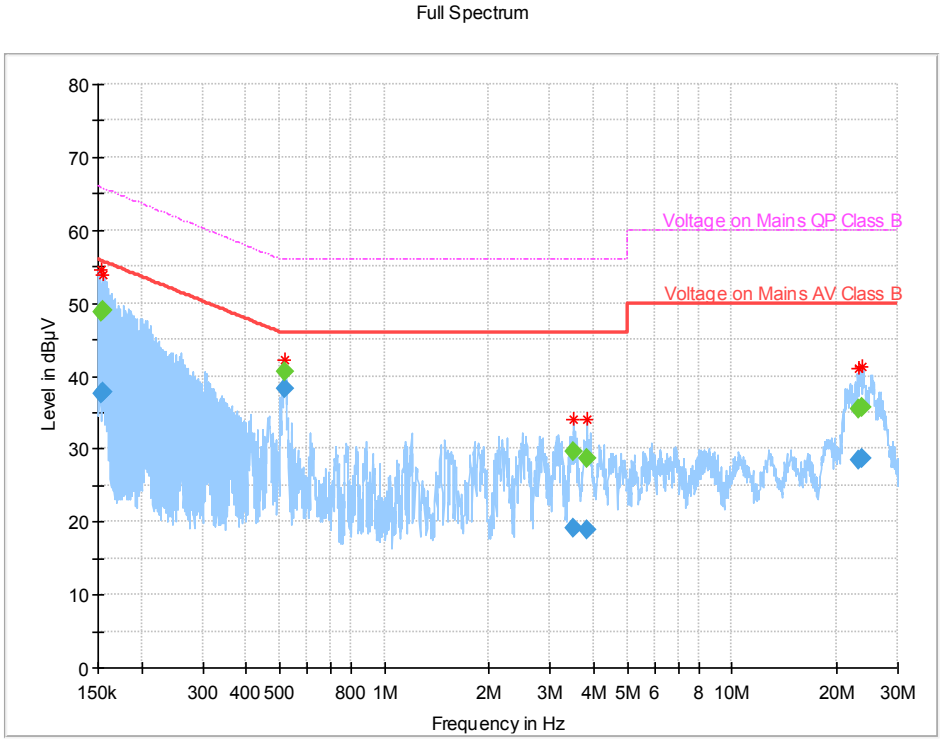


Final_Result

Frequency (MHz)	CAverage (dBµV)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.155073	38.54	---	55.72	17.18	5000.0	9.000	N	9.9
0.155073	---	49.28	65.72	16.44	5000.0	9.000	N	9.9
0.155180	---	49.21	65.72	16.51	5000.0	9.000	N	9.9
0.155180	38.54	---	55.72	17.17	5000.0	9.000	N	9.9
0.155304	38.55	---	55.71	17.16	5000.0	9.000	N	9.9
0.155304	---	49.24	65.71	16.47	5000.0	9.000	N	9.9
0.258582	---	36.40	61.48	25.08	5000.0	9.000	N	9.9
0.258582	28.07	---	51.48	23.41	5000.0	9.000	N	9.9
0.519952	---	41.75	56.00	14.25	5000.0	9.000	N	9.9
0.519952	39.21	---	46.00	6.80	5000.0	9.000	N	9.9
1.152628	---	31.31	56.00	24.69	5000.0	9.000	N	9.9
1.152628	24.83	---	46.00	21.17	5000.0	9.000	N	9.9
1.823077	---	31.75	56.00	24.25	5000.0	9.000	N	9.9
1.823077	24.16	---	46.00	21.84	5000.0	9.000	N	9.9
3.487861	---	32.55	56.00	23.45	5000.0	9.000	N	10.0
3.487861	22.77	---	46.00	23.23	5000.0	9.000	N	10.0
3.853590	---	32.05	56.00	23.95	5000.0	9.000	N	10.0
3.853590	22.35	---	46.00	23.65	5000.0	9.000	N	10.0
23.547932	---	35.76	60.00	24.24	5000.0	9.000	N	11.0
23.547932	28.94	---	50.00	21.06	5000.0	9.000	N	11.0
25.314511	---	35.35	60.00	24.65	5000.0	9.000	N	11.2
25.314511	28.60	---	50.00	21.40	5000.0	9.000	N	11.2

120 V AC, 5620 MHz, neutral terminal

Diagram 10:

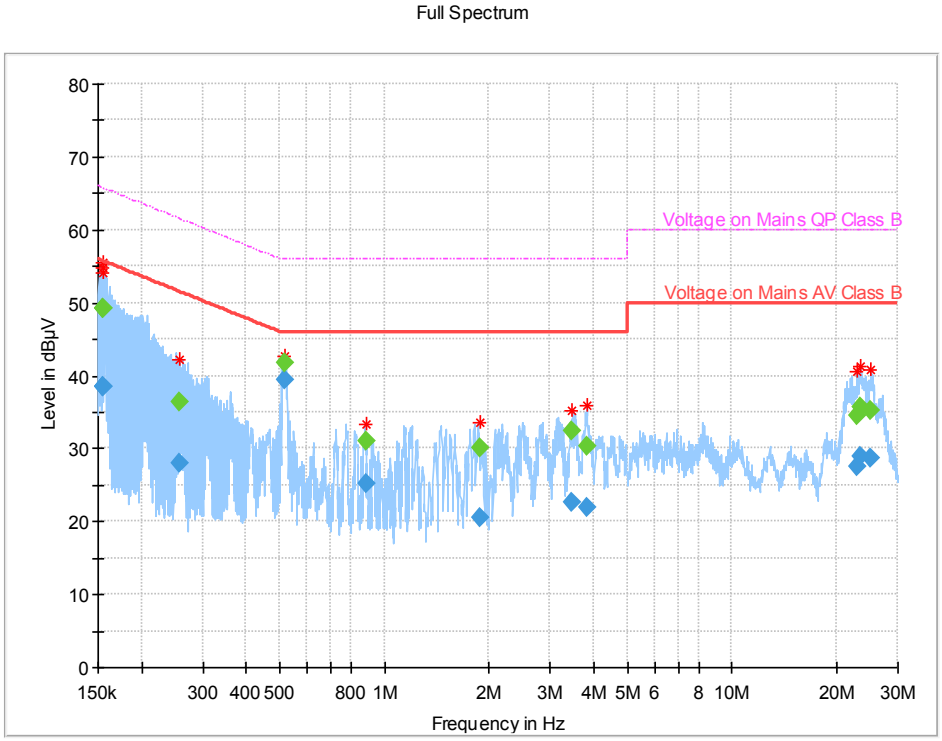


Final_Result

Frequency (MHz)	CAverage (dBµV)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.154149	---	48.85	65.77	16.92	5000.0	9.000	L1	9.9
0.154149	37.50	---	55.77	18.27	5000.0	9.000	L1	9.9
0.155625	---	48.96	65.69	16.73	5000.0	9.000	L1	9.9
0.155625	37.73	---	55.69	17.96	5000.0	9.000	L1	9.9
0.518981	---	40.50	56.00	15.50	5000.0	9.000	L1	9.9
0.518981	38.16	---	46.00	7.84	5000.0	9.000	L1	9.9
3.483563	---	29.62	56.00	26.39	5000.0	9.000	L1	10.0
3.483563	19.16	---	46.00	26.84	5000.0	9.000	L1	10.0
3.842579	---	28.58	56.00	27.42	5000.0	9.000	L1	10.0
3.842579	18.83	---	46.00	27.17	5000.0	9.000	L1	10.0
23.271500	---	35.51	60.00	24.49	5000.0	9.000	L1	11.1
23.271500	28.41	---	50.00	21.59	5000.0	9.000	L1	11.1
23.654414	---	35.61	60.00	24.39	5000.0	9.000	L1	11.1
23.654414	28.76	---	50.00	21.24	5000.0	9.000	L1	11.1

120 V AC, 5620 MHz, phase terminal

Diagram 11:

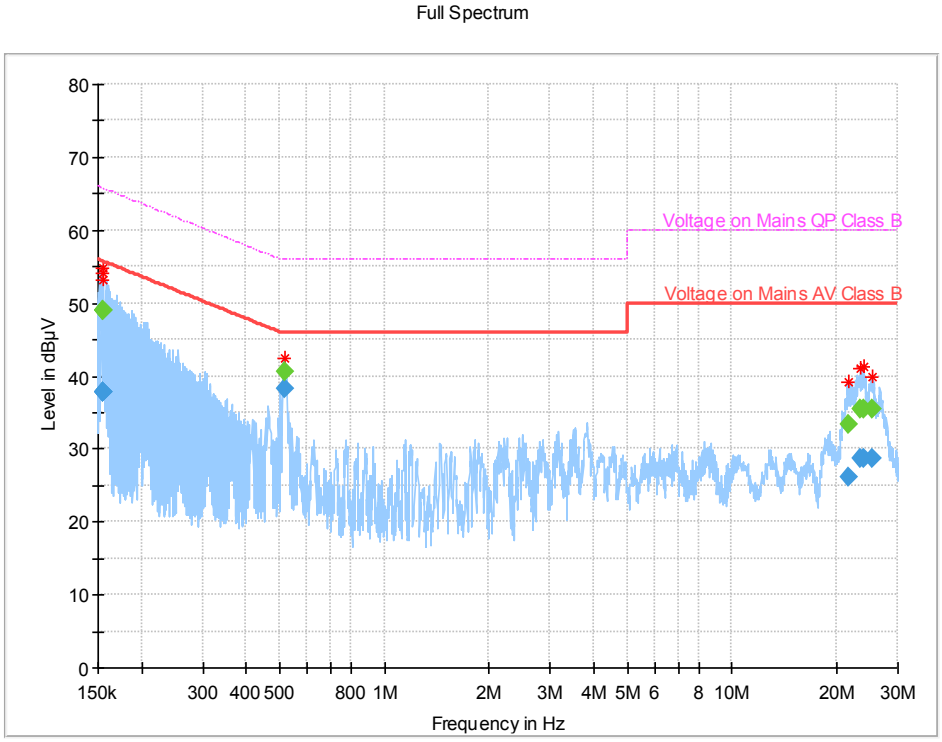


Final_Result

Frequency (MHz)	CAverage (dBµV)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.154584	38.52	---	55.75	17.23	5000.0	9.000	N	9.9
0.154584	---	49.28	65.75	16.47	5000.0	9.000	N	9.9
0.155020	---	49.28	65.73	16.45	5000.0	9.000	N	9.9
0.155020	38.53	---	55.73	17.20	5000.0	9.000	N	9.9
0.155164	38.52	---	55.72	17.20	5000.0	9.000	N	9.9
0.155164	---	49.26	65.72	16.46	5000.0	9.000	N	9.9
0.257676	---	36.50	61.51	25.00	5000.0	9.000	N	9.9
0.257676	27.94	---	51.51	23.56	5000.0	9.000	N	9.9
0.517565	---	41.78	56.00	14.22	5000.0	9.000	N	9.9
0.517565	39.52	---	46.00	6.48	5000.0	9.000	N	9.9
0.884022	---	31.03	56.00	24.97	5000.0	9.000	N	9.9
0.884022	25.25	---	46.00	20.75	5000.0	9.000	N	9.9
1.874615	---	30.03	56.00	25.97	5000.0	9.000	N	9.9
1.874615	20.52	---	46.00	25.48	5000.0	9.000	N	9.9
3.479110	---	32.31	56.00	23.69	5000.0	9.000	N	10.0
3.479110	22.58	---	46.00	23.42	5000.0	9.000	N	10.0
3.829223	---	30.26	56.00	25.74	5000.0	9.000	N	10.0
3.829223	21.96	---	46.00	24.04	5000.0	9.000	N	10.0
22.865064	---	34.57	60.00	25.43	5000.0	9.000	N	11.2
22.865064	27.52	---	50.00	22.48	5000.0	9.000	N	11.2
23.515569	---	35.59	60.00	24.41	5000.0	9.000	N	11.0
23.515569	28.91	---	50.00	21.09	5000.0	9.000	N	11.0
25.153125	---	35.30	60.00	24.70	5000.0	9.000	N	11.2
25.153125	28.67	---	50.00	21.33	5000.0	9.000	N	11.2

120 V AC, 5720 MHz, neutral terminal

Diagram 12:



Final_Result

Frequency (MHz)	CAverage (dBµV)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.154349	37.69	---	55.76	18.07	5000.0	9.000	L1	9.9
0.154349	---	49.03	65.76	16.74	5000.0	9.000	L1	9.9
0.154654	37.76	---	55.75	17.99	5000.0	9.000	L1	9.9
0.154654	---	49.08	65.75	16.66	5000.0	9.000	L1	9.9
0.155615	---	49.00	65.70	16.69	5000.0	9.000	L1	9.9
0.155615	37.68	---	55.70	18.01	5000.0	9.000	L1	9.9
0.517018	---	40.53	56.00	15.47	5000.0	9.000	L1	9.9
0.517018	38.31	---	46.00	7.69	5000.0	9.000	L1	9.9
21.657207	---	33.31	60.00	26.69	5000.0	9.000	L1	10.9
21.657207	26.13	---	50.00	23.87	5000.0	9.000	L1	10.9
23.327459	---	35.43	60.00	24.57	5000.0	9.000	L1	11.1
23.327459	28.61	---	50.00	21.39	5000.0	9.000	L1	11.1
23.836697	---	35.36	60.00	24.64	5000.0	9.000	L1	11.0
23.836697	28.65	---	50.00	21.35	5000.0	9.000	L1	11.0
25.328170	---	35.53	60.00	24.47	5000.0	9.000	L1	11.1
25.328170	28.77	---	50.00	21.23	5000.0	9.000	L1	11.1

120 V AC, 5720 MHz, phase terminal

Frequency stability according to FCC 47 CFR part 15.407 (g) / RSS-Gen 8.11

Date	Temperature	Humidity
2018-11-14	22 °C ± 3 °C	29 % ± 5 %
2018-11-15	21 °C ± 3 °C	35 % ± 5 %
2018-12-20	22 °C ± 3 °C	34 % ± 5 %
2018-12-21	21 °C ± 3 °C	33 % ± 5 %
2019-03-19	22 °C ± 3 °C	31 % ± 5 %

Procedure

According §15.407(g) it shall be ensured that frequency stability of device is such that an emission is maintained within the band of operation under all conditions of normal operation.
In the KDB 789033 D02 General UNII Test Procedures New Rules v02r01 it is not suggested particular test procedure to verify frequency stability.

Maximum power level is measured at the band edges, at each temperature step. This test was performed in conducted mode on unit with the temporary antenna connectors, with transmission between 94.3% and 99.3% of duty cycle and with normal modulation.
Difference between power level at each temperature and power level at rooms temperature was added to the power level from edge test in radiated mode. The highest level was compared to the limit for compliance.

Test was done at temperatures 50 °C , 40 °C, 30 °C, 20 °C, 10 °C and 0 °C according FCC requirements.
The manufacturer declared temperature range between 5 °C and 30 °C.

Test was done with bandwidth 20 MHz, 40 MHz and 80 MHz and with power class 9. DUT complied with the edge requirements after tuning of output power, see table with acceptable power classes: Operational test mode .

According to RSS-Gen 6.11, test was done at 50 °C , 20 °C and -20 °C.
According to RSS-Gen 8.11 fundamental emission of the radio apparatus should be kept inside at least the central 80% of its permitted operating frequency band. In addition, its occupied bandwidth shall be entirely outside of the restricted bands. To verify if the device comply with this requirement 99% OBW was measured at specified temperatures. Test was done with bandwidth 20 MHz, 40 MHz and 80 MHz and with maximum power class which provide compliance with all requirements found in the previous tests – will be pointed out in the respective results.
Test set-up photos during the tests can be found in the report annex, "8P07436 - F2 photos".

Measurement equipment	RISE number
Semi anechoic chamber, Edison	504114
Computer Lenovo ThinkCentre	-
Software R&S EMC32, ver.9.15.00	503889
EMI test receiver R&S ESU 26	902210
Antenna ETS-Lindgren 3115	902175
Step attenuator Narda743-60	BX41644
Coaxial cable	BX50672
Coaxial cable	504102
Coaxial cable	504103
Coaxial cable	504104
Multimeter Fluke 83	501522
Temperature and humidity meter Testo 625, with wire sensor 2A	504117
Temperature chamber	503360
Test site Marconi	15:121
Spectrum analyser R&S FSQ 26	BX50694
Coaxial cable	BX81424
Coaxial cable	BX81436
Coaxial cable	BX50685
120 V AC/60 Hz AC Power source HP 6813B	503 091
DC power supply HP E3632A	503 170
Multimeter Fluke 85 III	503 418
Temperature and humidity meter Testo 625	504117

Results

FCC:
U-NII-2A higher band edge, 5350 MHz; ch 64

	Ch 64; 5320 MHz, 20 MHz BW			
	AV [dBm]	Diff [dB]	PK [dB]	Diff [dB]
50	-54.1	-1.4	-34.0	1.5
40	-53.1	-0.4	-35.2	0.3
30	-60.7	-8.0	-35.0	0.5
20	**-52.7**	**0**	**-35.5**	**0**
10	-53.7	-1	-36.9	-1.4
0	-53.4	-0.7	-35.9	-0.4
Power level in radiated mode; 10 dBm/p10 [dBm]	-56.1	-56.1 Note 1	-27.1	-25.1 Note 2
LIMIT [dBm]	-41.2	-41.2	-21.2	-21.2

U-NII-2A higher band edge, 5350 MHz; ch 62

	Ch 62; 5310 MHz, 40 MHz BW			
	AV [dBm]	Diff [dB]	PK [dB]	Diff [dB]
50	-52.0	-1.0	-33.3	-0.9
40	-51.3	-0.3	-32.4	0
30	-51.4	-0.4	-31.8	0.6
20	**-51.0**	**0**	**-32.4**	**0**
10	-51.4	-0.4	-33.3	-0.9
0	-52.4	-1.4	-34.6	-2.2
Power level in radiated mode; 9 dBm/p9 [dBm]	-55.5	-55.5 Note 1	-26.1	-25.1 Note 2
LIMIT [dBm]	-41.2	-41.2	-21.2	-21.2

U-NII-2A higher band edge, 5350 MHz; ch 58

	Ch 58; 5290 MHz, 80 MHz BW			
	AV [dBm]	Diff [dB]	PK [dB]	Diff [dB]
50	-50.0	0.1	-32.2	0.3
40	-50.4	-0.3	-31.4	1.1
30	-50.9	-0.8	-31.9	0.6
20	**-50.1**	**0**	**-32.5**	**0**
10	-51.4	-1.3	-32.0	0.5
0	-52.5	-2.4	-32.1	0.4
Power level in radiated mode; 9 dBm/p9 [dBm]	-51.8	-51.7 Note 1	-24.5	-23.4 Note 2
LIMIT [dBm]	-41.2	-41.2	-21.2	-21.2

Note 1: The highest AV level at the edge including temperature variation
Note 2: The highest peak level at the edge including temperature variation

FCC:
U-NII-2C lower band edge, 5470 MHz – AV, 5460 MHz - PK; ch 100

	Ch 100; 5500 MHz, 20 MHz BW			
	AV [dBm]	Diff [dB]	PK [dB]	Diff [dB]
50	-53.7	-1.3	-31.3	-0.4
40	-53.0	-0.6	-31.8	-0.9
30	-52.6	-0.2	-31.3	-0.4
20	**-52.4**	**0**	**-30.9**	**0**
10	-52.1	0.3	-30.0	0.9
0	-53.4	-1.0	-31.6	-0.7
Power level in radiated mode; 6 dBm/p6 [dBm]	-47.5	-47.3 Note 1	-28.7	-27.8 Note 2
LIMIT [dBm]	-41.2	-41.2	-27.0	-27.0

FCC:
U-NII-2C lower band edge, 5470 MHz – AV, 5460 MHz - PK; ch 102

	Ch 102; 5510 MHz, 40 MHz BW			
	AV [dBm]	Diff [dB]	PK [dB]	Diff [dB]
50	-50.9	-1.3	-28.4	2.7
40	-51.6	-2.0	-30.0	1.1
30	-52.4	-2.8	-30.9	0.2
20	**-49.6**	**0**	**-31.1**	**0**
10	-51.5	-1.9	-28.8	2.3
0	-52.3	-2.7	-30.9	0.2
Power level in radiated mode; 4 dBm/p4 [dBm]	-43.0	-43.0 Note 1	-30.5	-27.8 Note 2
LIMIT [dBm]	-41.2	-41.2	-27.0	-27.0

FCC:
U-NII-2C lower band edge, 5470 MHz – AV, 5460 MHz - PK; ch 106

	Ch 106; 5530 MHz, 80 MHz BW			
	AV [dBm]	Diff [dB]	PK [dB]	Diff [dB]
50	-49.5	0.5	-31.8	1.3
40	-49.2	0.8	-31.8	1.3
30	-49.9	0.1	-33.6	-0.5
20	**-50.0**	**0**	**-33.1**	**0**
10	-50.3	-0.3	-33.6	-0.5
0	-51.0	-1	-34.3	-1.2
Power level in radiated mode; 5 dBm/p5 [dBm]	-51.3	-50.5 Note 1	-31.5	-30.2 Note 2
LIMIT [dBm]	-41.2	-41.2	-27.0	-27.0

FCC:
U-NII-2C higher band edge, 5850 MHz; ch 144

	Ch 144; 5720 MHz, 20 MHz BW	
	PK [dB]	Diff [dB]
50	-50.6	-1.2
30	-50.4	-1.0
20	**-49.4**	**0**
10	-50.2	-0.8
0	-50.9	-1.5
Power level in radiated mode; 13 dBm/p13 [dBm]	-38.1	-38.1 Note 2
LIMIT [dBm]	-27.0	-27.0

FCC:
U-NII-2C higher band edge, 5850 MHz; ch 142

	Ch 142; 5710 MHz, 40 MHz BW	
	PK [dB]	Diff [dB]
50	-52.4	-2.5
30	-50.6	-0.7
20	**-49.9**	**0**
10	-51.7	-1.8
0	-50.8	-0.9
Power level in radiated mode; 13 dBm/p13 [dBm]	-36.5	-36.5 Note 2
LIMIT [dBm]	-27.0	-27.0

FCC:
U-NII-2C higher band edge, 5850 MHz; ch 138

	Ch 138; 5690 MHz, 80 MHz BW	
	PK [dB]	Diff [dB]
50	-49.4	-2.7
30	-47.3	-0.6
20	**-46.7**	**0**
10	-45.7	1
0	-44.4	2.3
Power level in radiated mode; 13 dBm/p13 [dBm]	-34.8	-32.5 Note 2
LIMIT [dBm]	-27.0	-27.0

ISED-RSS:

U-NII-2A; Higher band edge, 5350 MHz

Temperature [°C]	99 % OBW - high edge [MHz]			Limit [MHz]
	Ch 64 5320 MHz 20 MHz BW 10 dBm/p10	Ch 62 5310 MHz 40 MHz BW 10 dBm/p10	Ch 58 5290 MHz 80 MHz BW 10 dBm/p10	
50	5329.1	5328.3	5327.9	≤ 5350
20	5329.0	5328.3	5328.2	≤ 5350
-20	5329.1	5328.3	5328.2	≤ 5350

U-NII-2C; Lower band edge, 5470 MHz

Temperature [°C]	99 % OBW - low edge [MHz]			Limit [MHz]
	Ch 100 5500 MHz 20 MHz BW 6 dBm/p6	Ch 102 5510 MHz 40 MHz BW 6 dBm/p6	Ch 106 5530 MHz 80 MHz BW 6 dBm/p6	
50	5491.1	5491.9	5492.0	≥ 5470
20	5491.1	5491.9	5492.0	≥ 5470
-20	5491.1	5491.9	5492.0	≥ 5470

U-NII-2C; Higher band edge, 5725 MHz; Note 1

Temperature [°C]	99 % OBW - high edge [MHz]			Limit [MHz]
	Ch 144 5720 MHz 20 MHz BW 13 dBm/p13	Ch 142 5710 MHz 40 MHz BW 13 dBm/p13	Ch 138 5690 MHz 80 MHz BW 13 dBm/p13	
50	5729.4	5728.6	5726.5	≤ 5850
20	5729.3	5728.6	5728.5	≤ 5850
-20	5729.2	5728.6	5728.2	≤ 5850

Channels 138, 142 and 144 are straddle channels and are considered to operate in band U-NII-2C and in the band U-NII-3. All emission from those channels higher than -26 dBc from frequencies higher than 5725 MHz is considered as emission in U-NII-3.

Remark

Test procedure according ANSI C63.10 clause 6.8.1 suggests measurement of frequency to verify frequency stability.
There is not requirement in the standard for maximum frequency variation and we think it is not enough to test just frequency of this type of wideband equipment, 5 GHz RLAN, and be sure from this test if all emission is maintained within the band of operation or not. We have to link frequency variation to the parameters related to the edge. Requirement for the power level at the band edge is set in the standard.
We think that much more reliable test is power level test at the edges.

According to RSS-Gen 6.11 test should be done with unmodulated signal and according to RSS-Gen 8.11 it should be verified that fundamental emission of the

radio apparatus is kept inside at least the central 80% of its permitted operating frequency band. In addition, its occupied bandwidth shall be entirely outside of the restricted bands.

Limits

According to 47CFR 15.407 (g) the device shall achieve such frequency stability that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user manual.

According to RSS-Gen 8.11 fundamental emission of the radio apparatus should be kept inside at least the central 80% of its permitted operating frequency band. In addition, its occupied bandwidth shall be entirely outside of the restricted bands.

Test engineer: Ermin Pasalic

Complies?	Yes