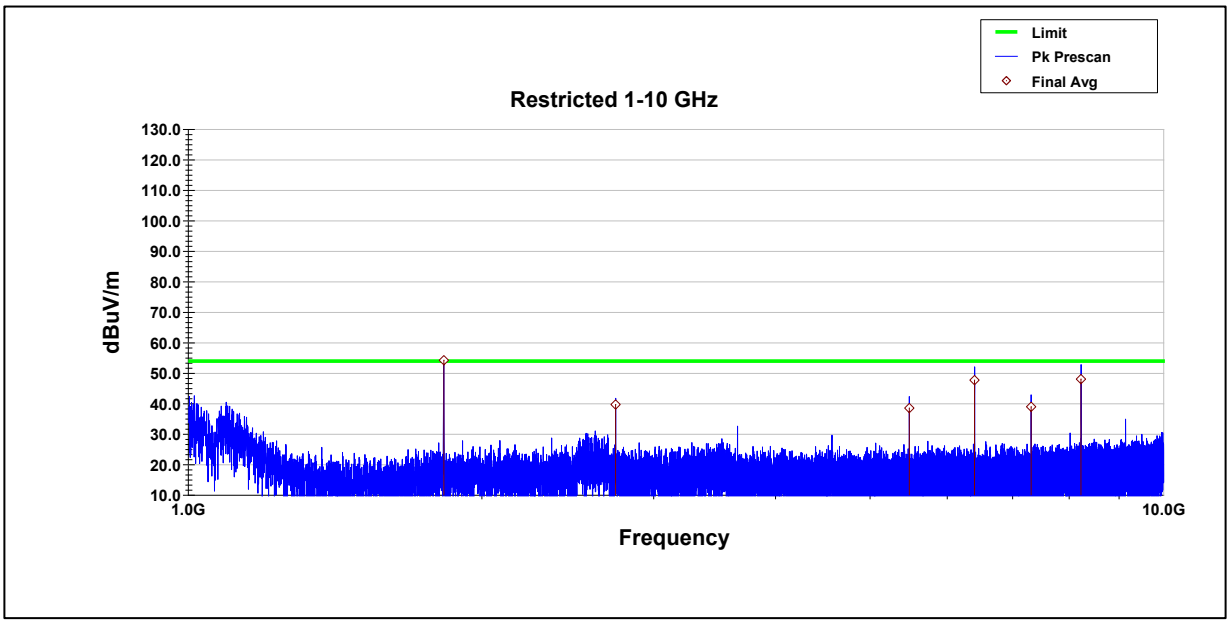
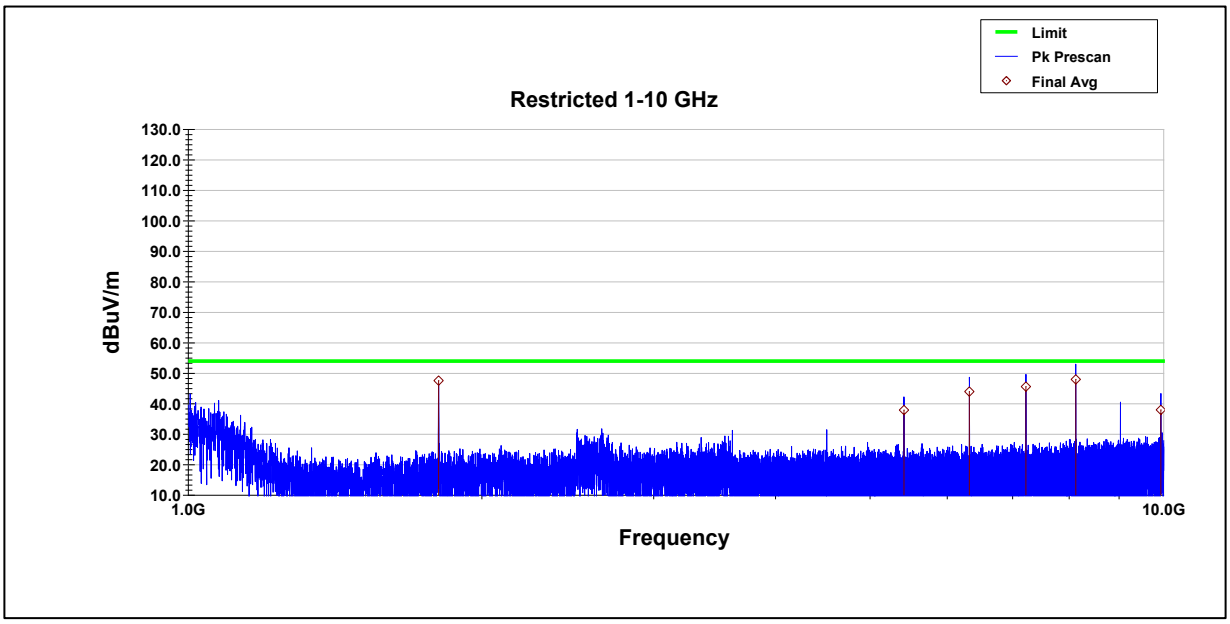


Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
1828.4	-46.10	5.10	95.30	54.30	54.00	0.30
2742.66	-59.30	3.80	95.30	39.70	54.00	-14.20
5485.811	-61.20	4.60	95.30	38.60	54.00	-15.40
6399.194	-52.20	4.70	95.30	47.80	54.00	-6.20
7314.41	-61.20	4.90	95.30	39.00	54.00	-15.00
8226.659	-53.00	5.80	95.30	48.10	54.00	-5.90

Final = Raw + Path Loss + Conversion

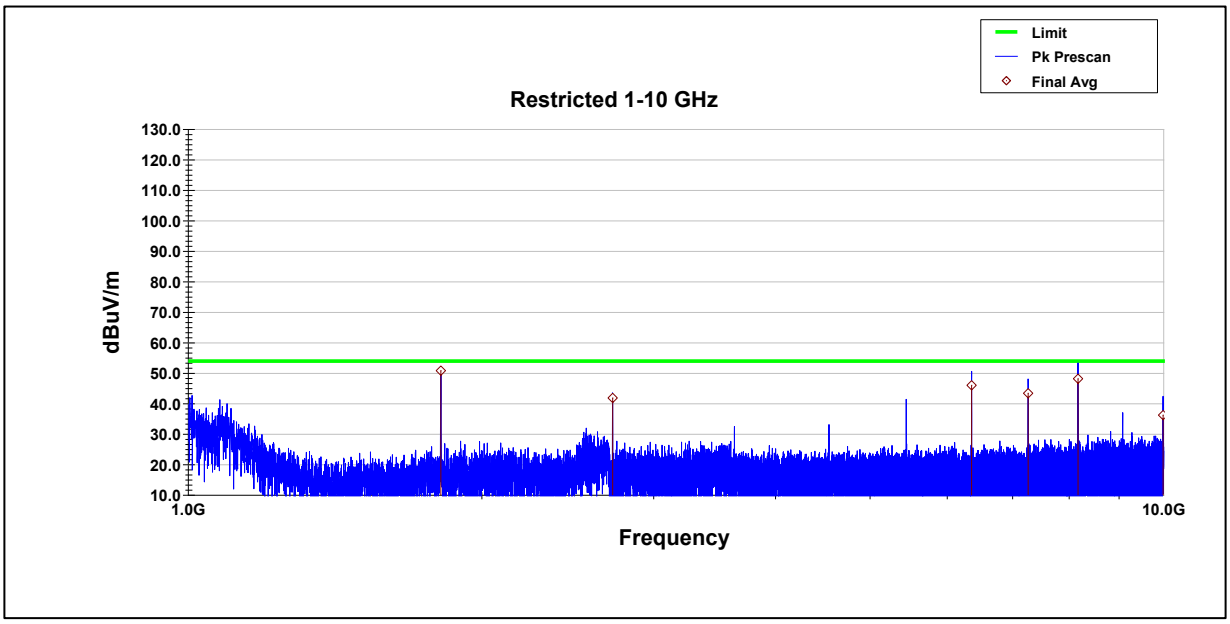
Margin = Final - Limit



Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
1805.947	-52.80	5.10	95.30	47.60	54.00	-6.40
5417.559	-61.80	4.50	95.30	37.90	54.00	-16.00
6321.338	-56.10	4.80	95.30	44.00	54.00	-10.00
7223.825	-54.70	5.00	95.30	45.60	54.00	-8.40
8126.577	-52.90	5.70	95.30	48.00	54.00	-6.00
9934.406	-63.10	5.80	95.30	38.00	54.00	-16.00

Final = Raw + Path Loss + Conversion

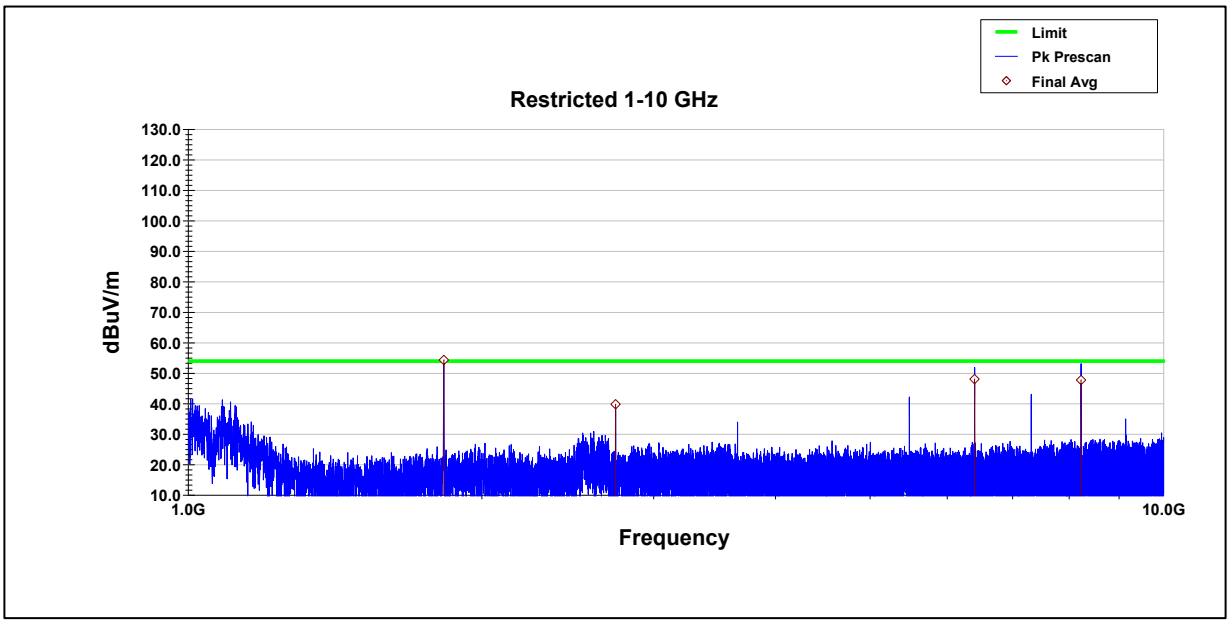
Margin = Final - Limit



Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
1815.565	-49.50	5.10	95.30	50.80	54.00	-3.10
2723.458	-57.10	3.70	95.30	41.90	54.00	-12.10
6354.451	-54.10	4.90	95.30	46.10	54.00	-7.90
7262.305	-56.90	5.10	95.30	43.40	54.00	-10.50
8170.978	-52.40	5.30	95.30	48.20	54.00	-5.80
9987.425	-65.00	6.00	95.30	36.30	54.00	-17.70

Final = Raw + Path Loss + Conversion

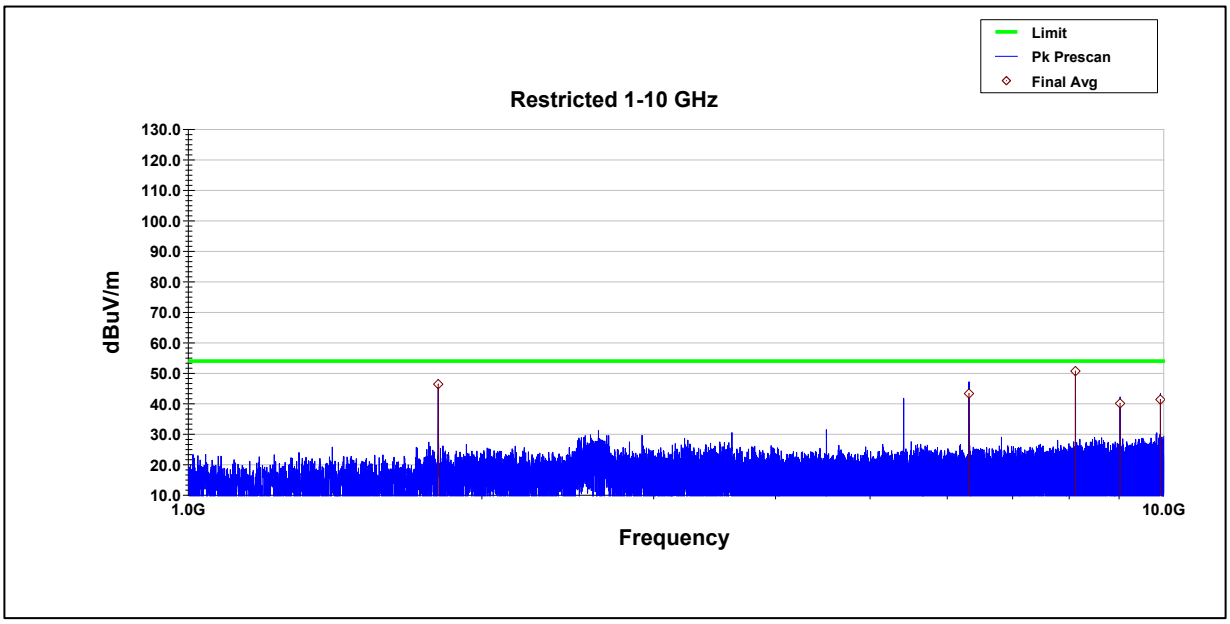
Margin = Final - Limit



Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
1828.421	-46.00	5.10	95.30	54.40	54.00	0.40
2742.664	-59.30	3.80	95.30	39.80	54.00	-14.20
6398.947	-51.90	4.70	95.30	48.10	54.00	-5.90
8228.201	-53.30	5.80	95.30	47.80	54.00	-6.20

Final = Raw + Path Loss + Conversion

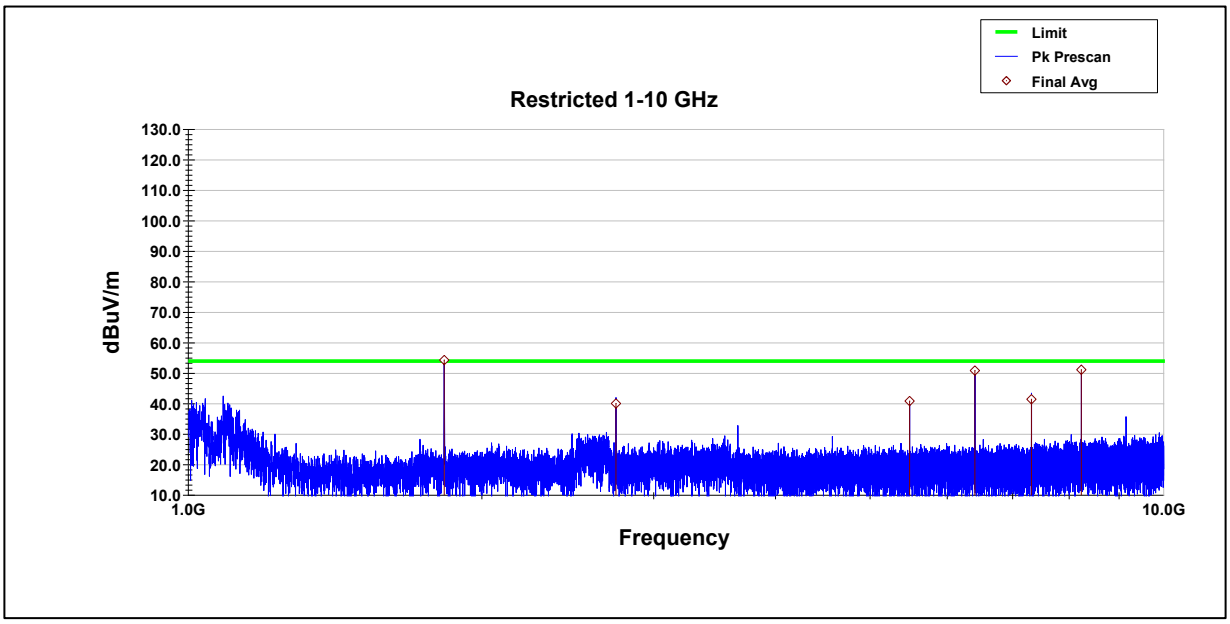
Margin = Final - Limit



Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
1804.313	-53.90	5.10	95.30	46.40	54.00	-7.60
6315.514	-56.80	4.90	95.30	43.30	54.00	-10.60
8119.854	-50.20	5.60	95.30	50.70	54.00	-3.30
9022.024	-60.80	5.60	95.30	40.10	54.00	-13.90
9924.257	-59.80	6.00	95.30	41.40	54.00	-12.60

Final = Raw + Path Loss + Conversion

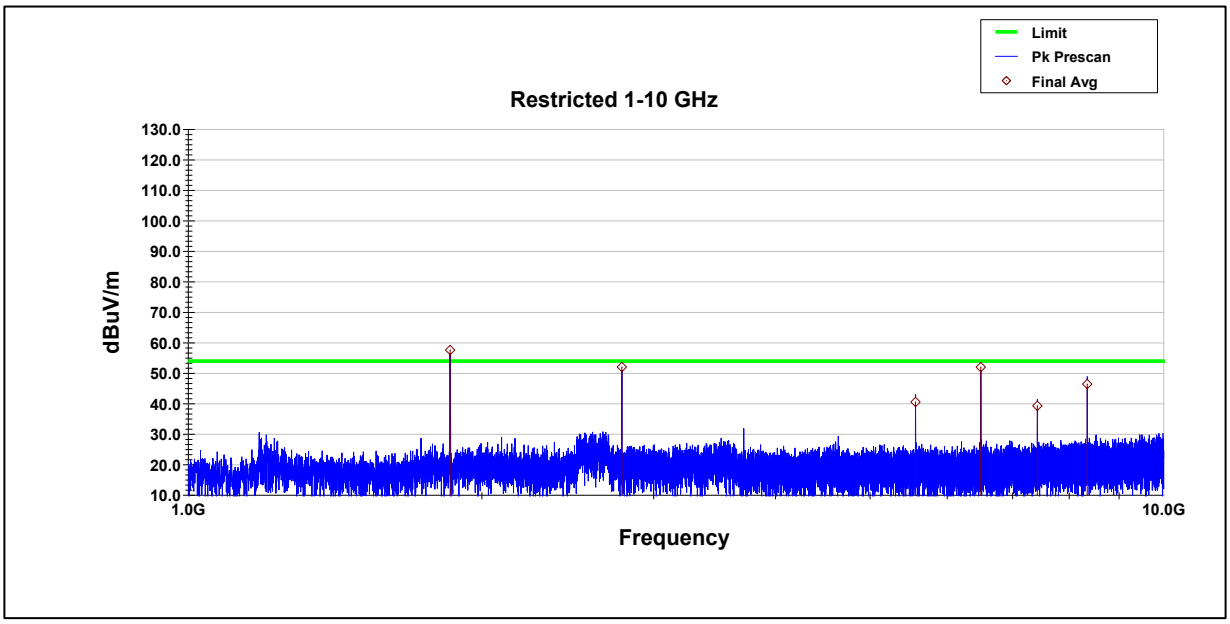
Margin = Final - Limit



Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
1829.948	-46.00	5.10	95.30	54.30	54.00	0.40
2744.999	-59.00	3.90	95.30	40.10	54.00	-13.90
5489.958	-59.00	4.60	95.30	40.90	54.00	-13.10
6404.989	-49.10	4.70	95.30	50.90	54.00	-3.10
7320.079	-58.70	4.90	95.30	41.50	54.00	-12.50
8235.046	-49.80	5.70	95.30	51.20	54.00	-2.80

Final = Raw + Path Loss + Conversion

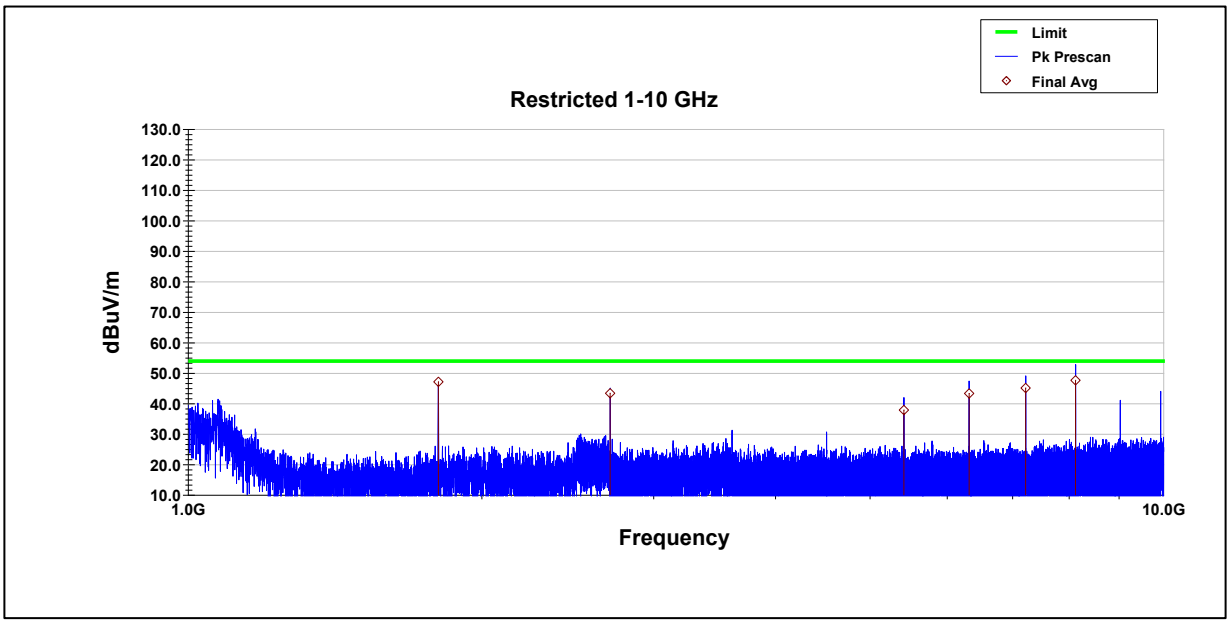
Margin = Final - Limit



Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
1855.533	-42.70	5.00	95.30	57.60	54.00	3.60
2783.372	-47.00	3.80	95.30	52.10	54.00	-1.90
5566.802	-59.40	4.70	95.30	40.60	54.00	-13.40
6494.626	-48.10	4.90	95.30	52.00	54.00	-2.00
7422.537	-60.90	5.00	95.30	39.30	54.00	-14.70
8350.182	-54.60	5.70	95.30	46.40	54.00	-7.50

Final = Raw + Path Loss + Conversion

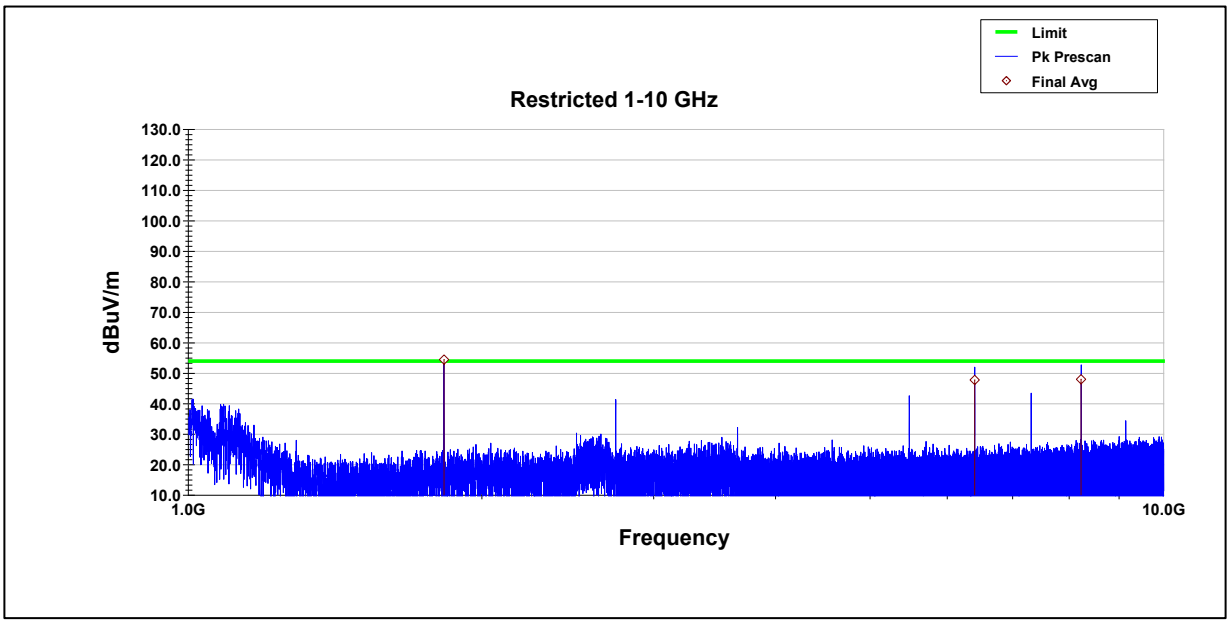
Margin = Final - Limit



Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
1805.009	-53.20	5.10	95.30	47.20	54.00	-6.80
2707.463	-55.60	3.70	95.30	43.40	54.00	-10.50
5416.002	-61.80	4.50	95.30	37.90	54.00	-16.00
6318.015	-56.70	4.90	95.30	43.40	54.00	-10.60
7220.046	-55.10	5.00	95.30	45.10	54.00	-8.80
8121.658	-53.20	5.60	95.30	47.70	54.00	-6.30

Final = Raw + Path Loss + Conversion

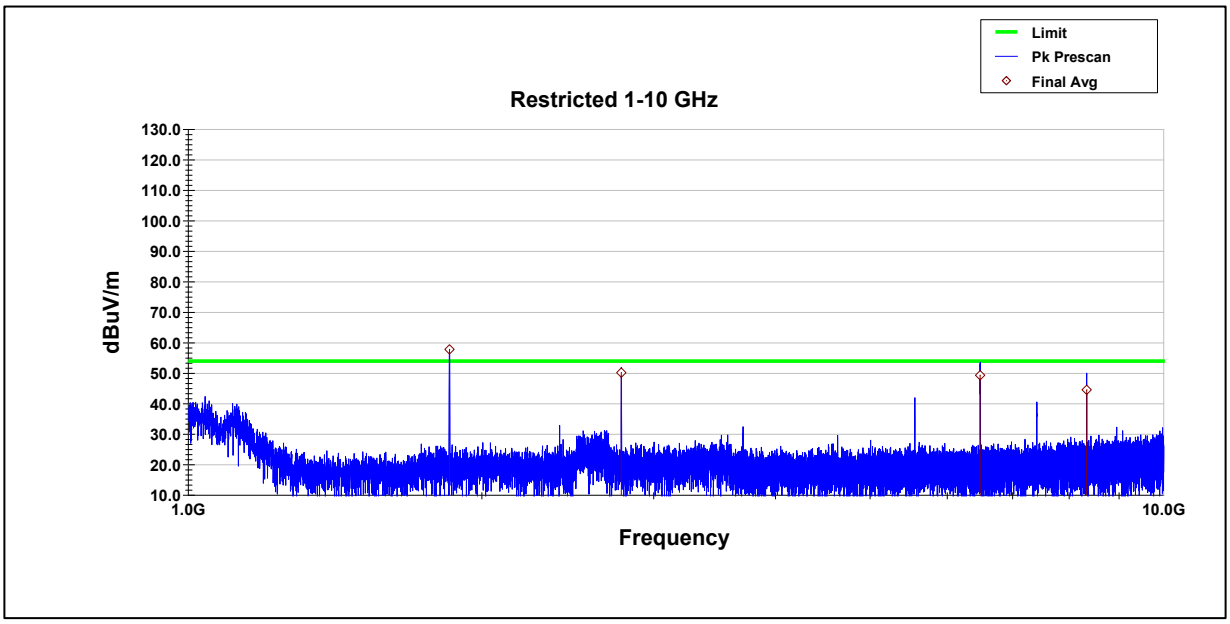
Margin = Final - Limit



Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
1829.052	-45.90	5.10	95.30	54.50	54.00	0.50
6401.986	-52.20	4.70	95.30	47.80	54.00	-6.20
8228.844	-53.00	5.80	95.30	48.00	54.00	-6.00

Final = Raw + Path Loss + Conversion

Margin = Final - Limit



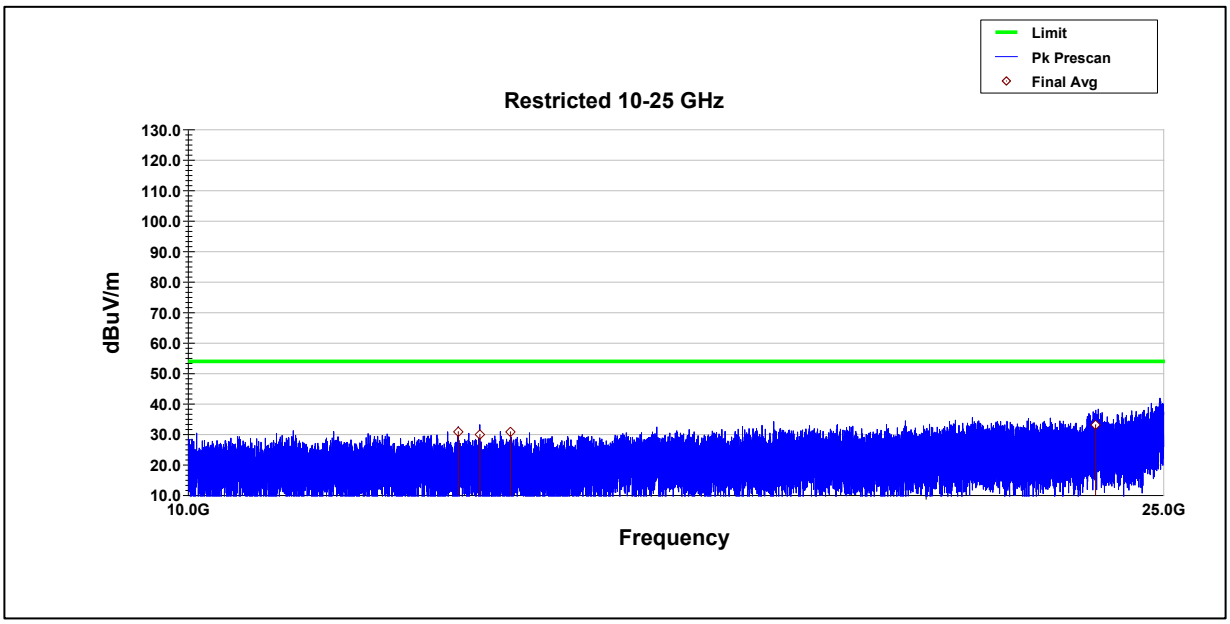
Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
1852.97	-42.50	5.10	95.30	57.80	54.00	3.80
2779.495	-48.90	3.80	95.30	50.20	54.00	-3.80
6484.851	-50.90	5.00	95.30	49.40	54.00	-4.60
8338.399	-56.40	5.70	95.30	44.60	54.00	-9.40

Final = Raw + Path Loss + Conversion

Margin = Final - Limit

10-25 GHz

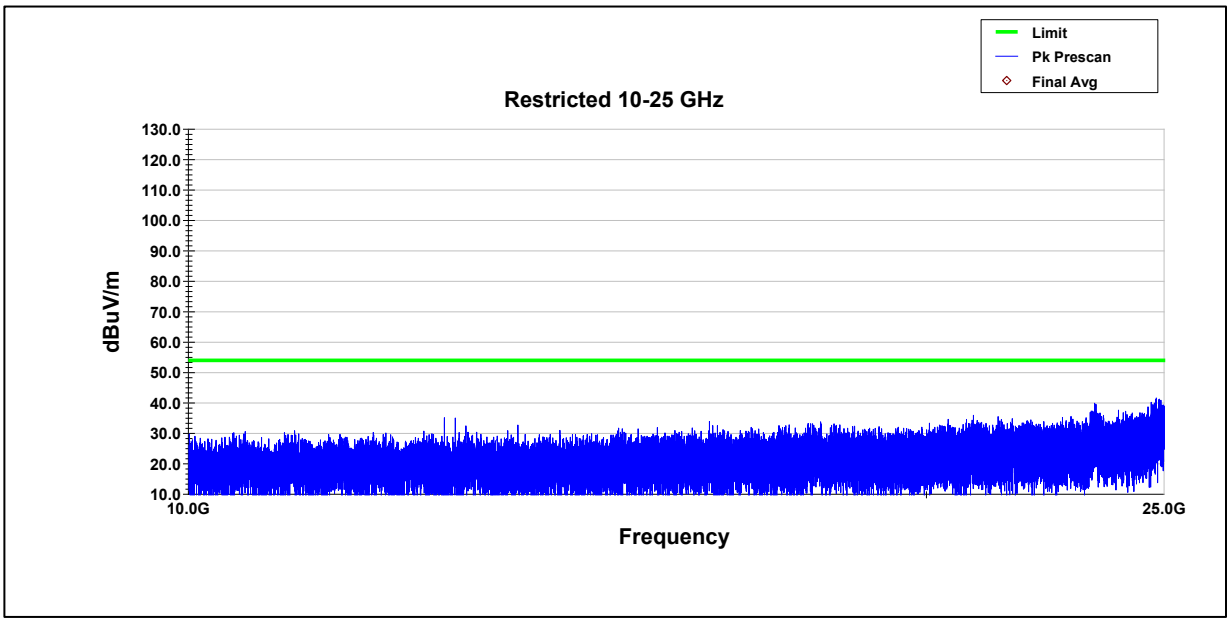
LoRa FHSS SF 7 Low Ch

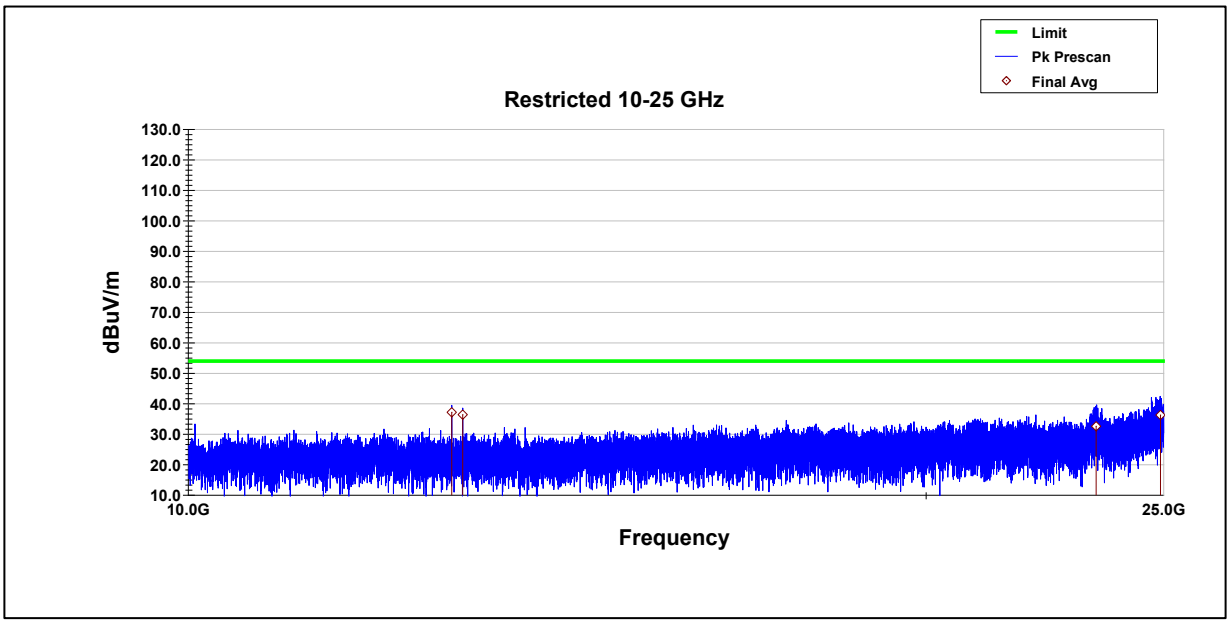


Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
12887.781	-70.30	5.90	95.30	30.90	54.00	-23.10
13151.078	-71.40	6.10	95.30	30.00	54.00	-24.00
13534.586	-70.80	6.40	95.30	30.90	54.00	-23.10
23452.256	-73.20	11.10	95.30	33.10	54.00	-20.80

Final = Raw + Path Loss + Conversion

Margin = Final - Limit


Limit
Pk Prescan
Final Avg
Restricted 10-25 GHz
130.0
120.0
110.0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
dBuV/m
10.0G
25.0G
Frequency

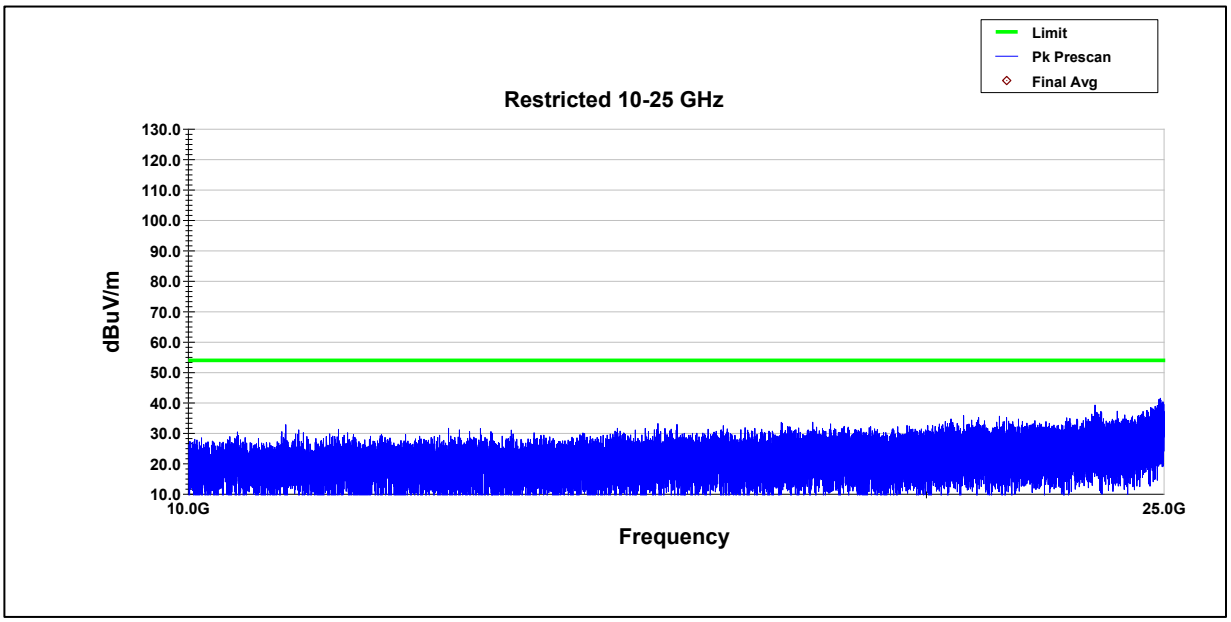


Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
12808.656	-64.00	5.90	95.30	37.20	54.00	-16.80
12941.587	-64.80	6.00	95.30	36.40	54.00	-17.60
23465.404	-73.60	11.00	95.30	32.60	54.00	-21.40
24925.596	-72.60	13.60	95.30	36.30	54.00	-17.70

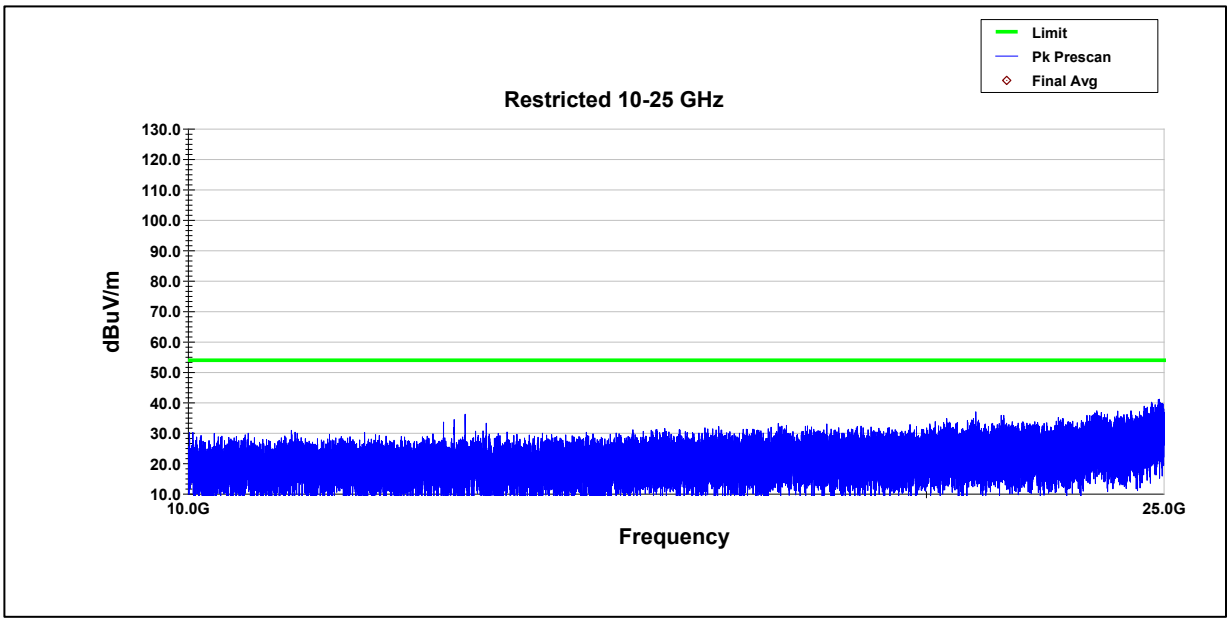
Final = Raw + Path Loss + Conversion

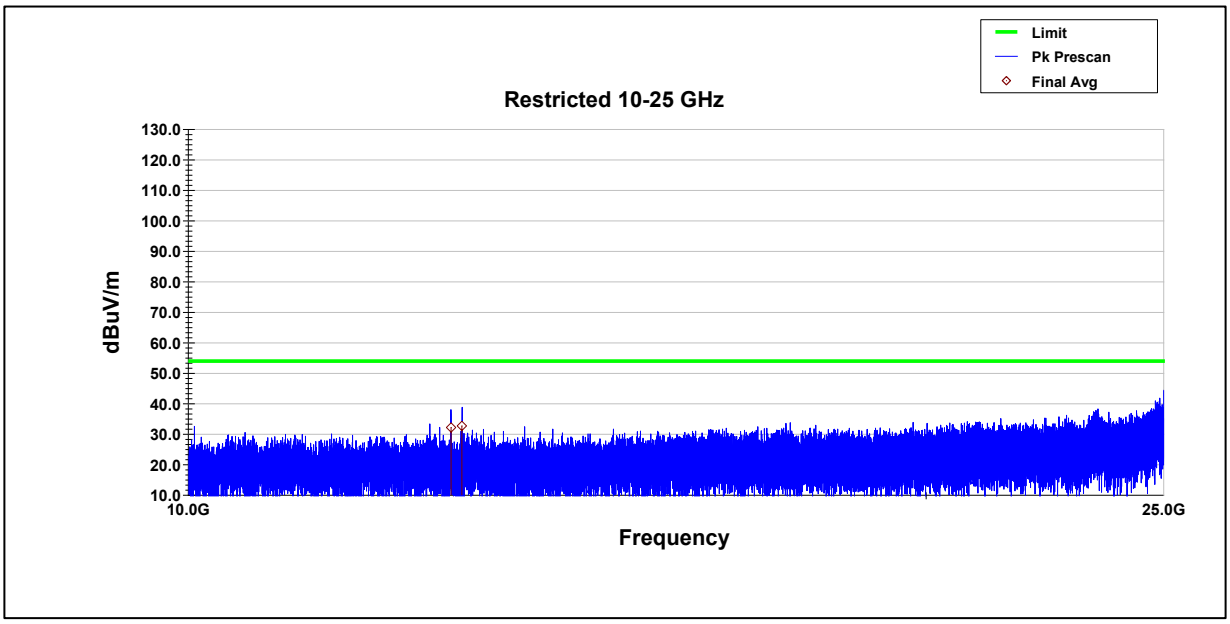
Margin = Final - Limit

LoRa DTS SF 11 Low Ch



LoRa DTS SF 11 Mid Ch

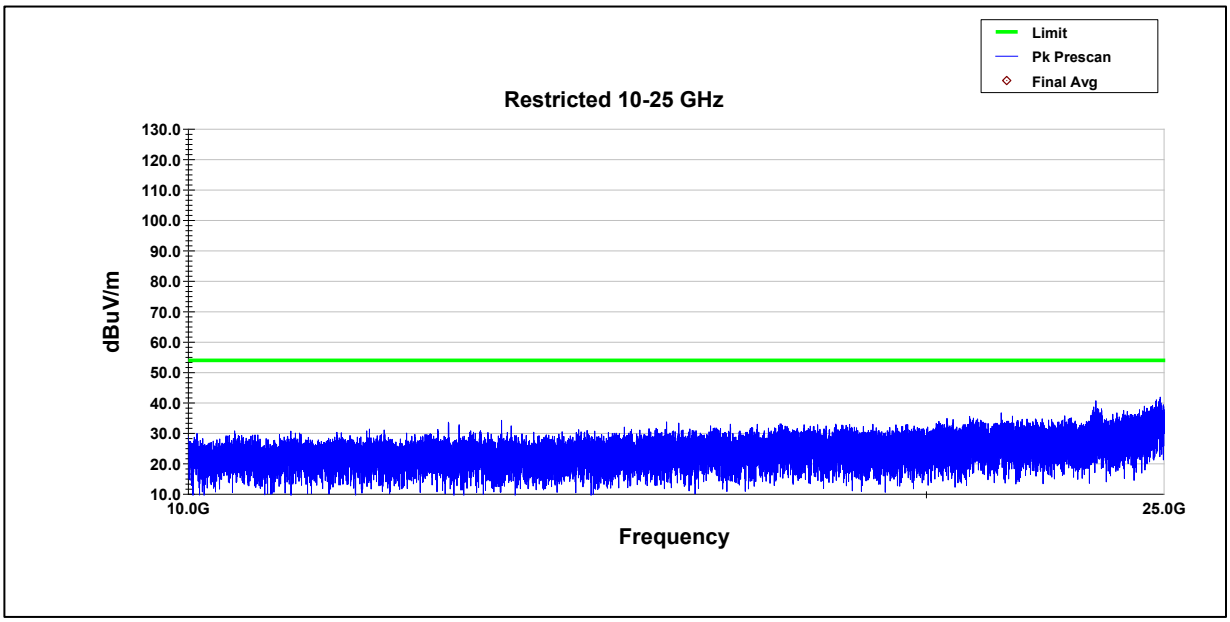




Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
12801.024	-69.00	5.90	95.30	32.20	54.00	-21.80
12930.943	-68.40	5.90	95.30	32.70	54.00	-21.30

Final = Raw + Path Loss + Conversion

Margin = Final - Limit


Limit
Pk Prescan
Final Avg
Restricted 10-25 GHz
130.0
120.0
110.0
100.0
90.0
80.0
70.0
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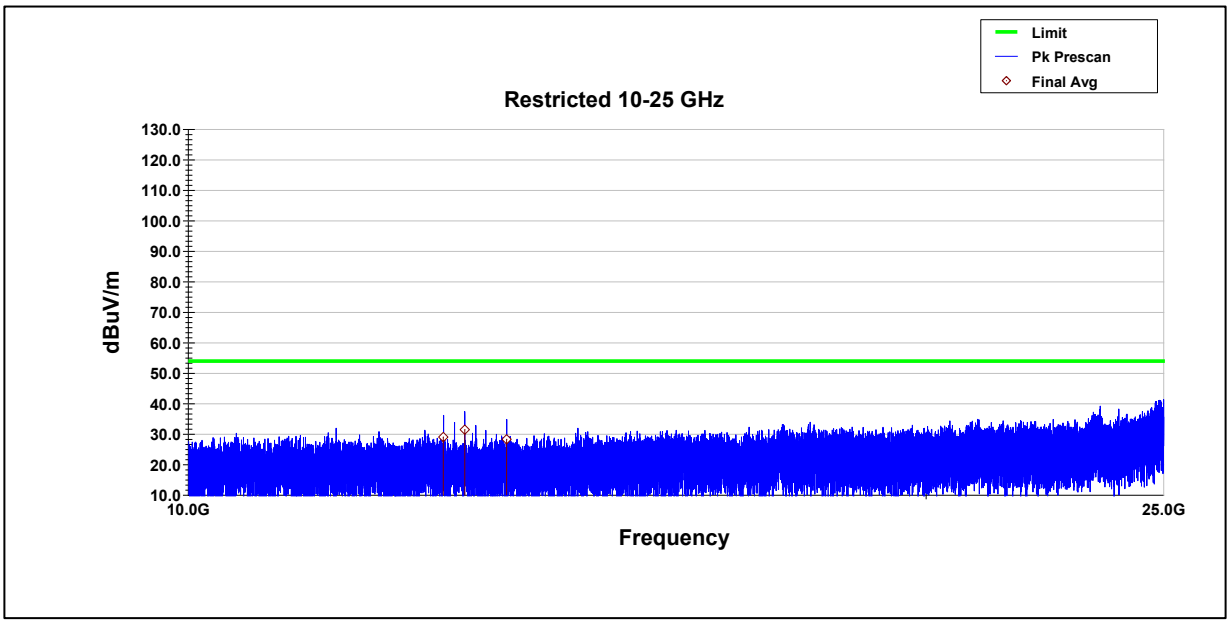
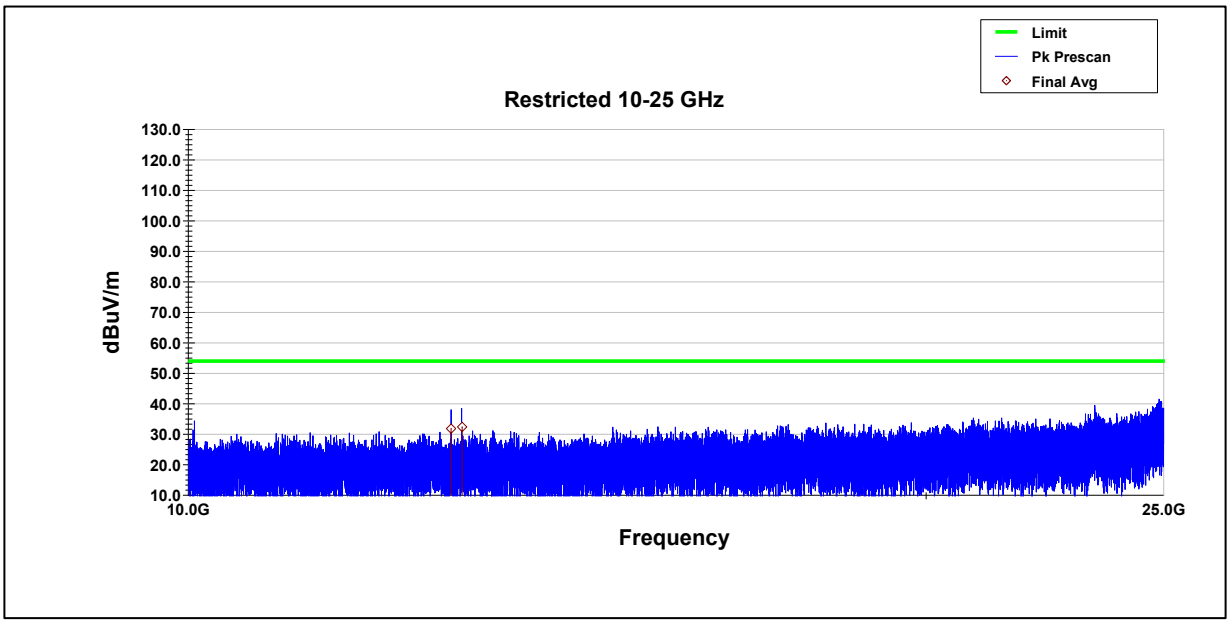
50.0
40.0
30.0
20.0
10.0
dBuV/m
10.0G
25.0G
Frequency



Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
12707.627	-72.10	5.90	95.30	29.10	54.00	-24.90
12966.198	-69.70	6.00	95.30	31.50	54.00	-22.50
13485.978	-73.20	6.30	95.30	28.30	54.00	-25.60

Final = Raw + Path Loss + Conversion

Margin = Final - Limit

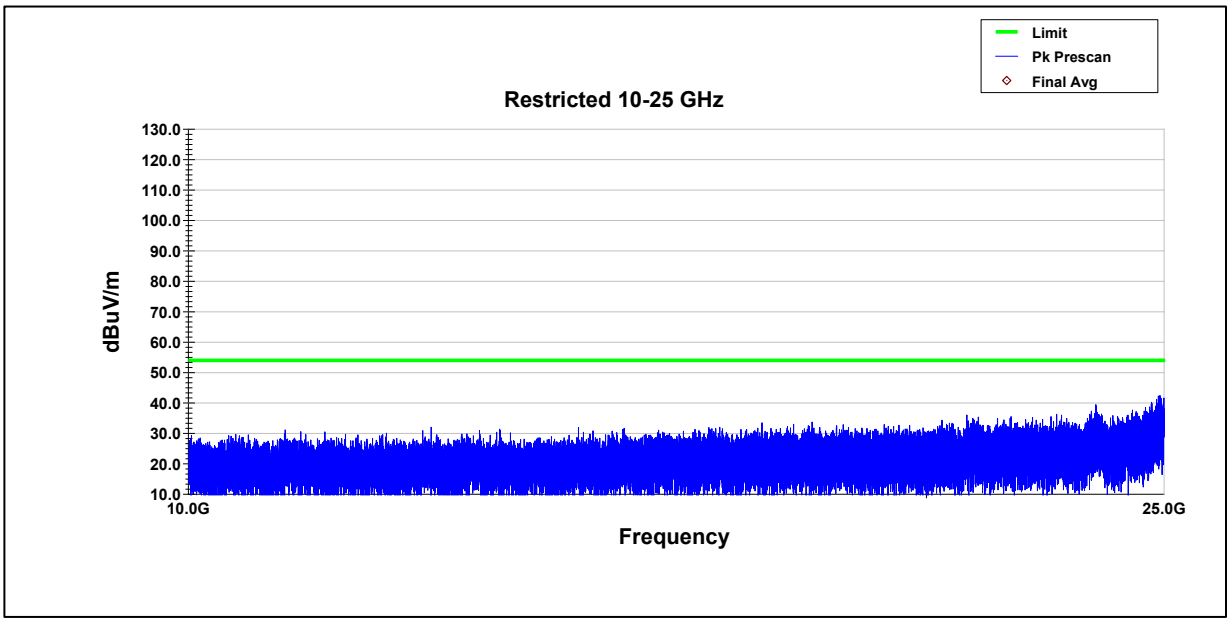


Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
12800.219	-69.40	5.90	95.30	31.80	54.00	-22.10
12934.238	-68.80	5.90	95.30	32.40	54.00	-21.60

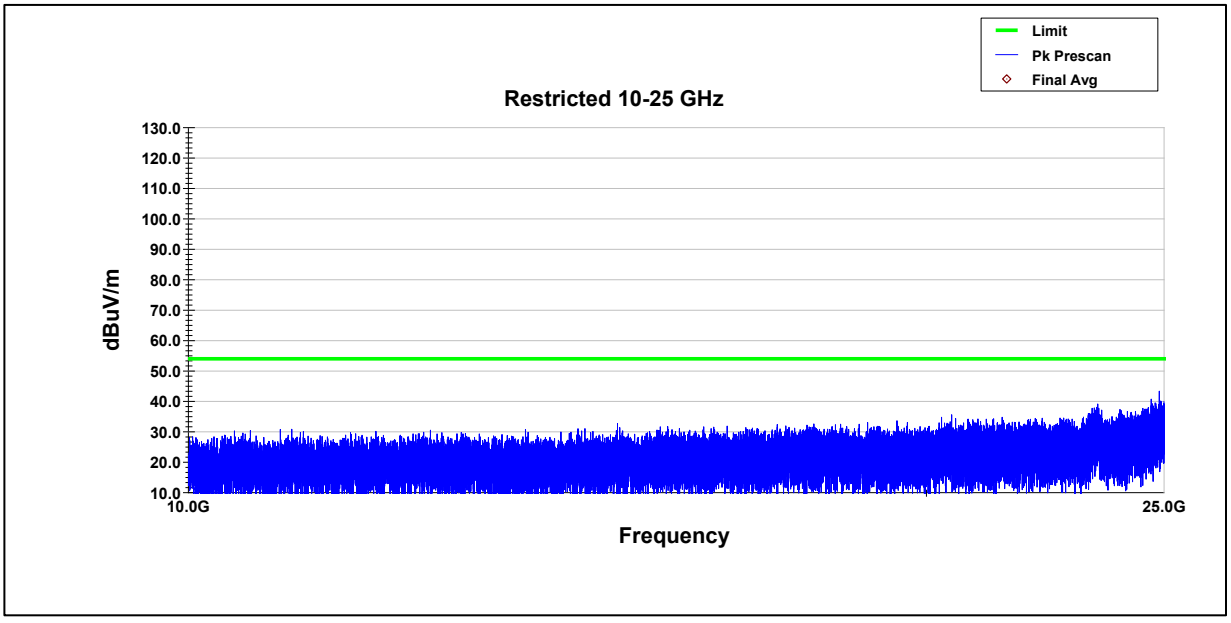
Final = Raw + Path Loss + Conversion

Margin = Final - Limit

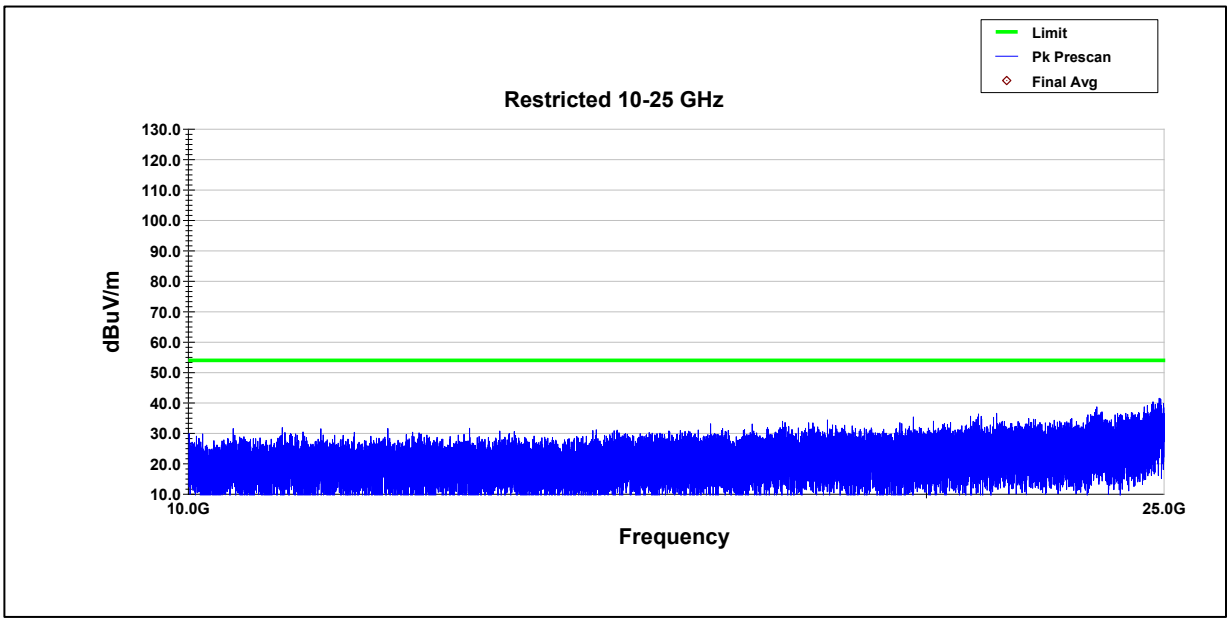
Sidewalk FSK Low Ch



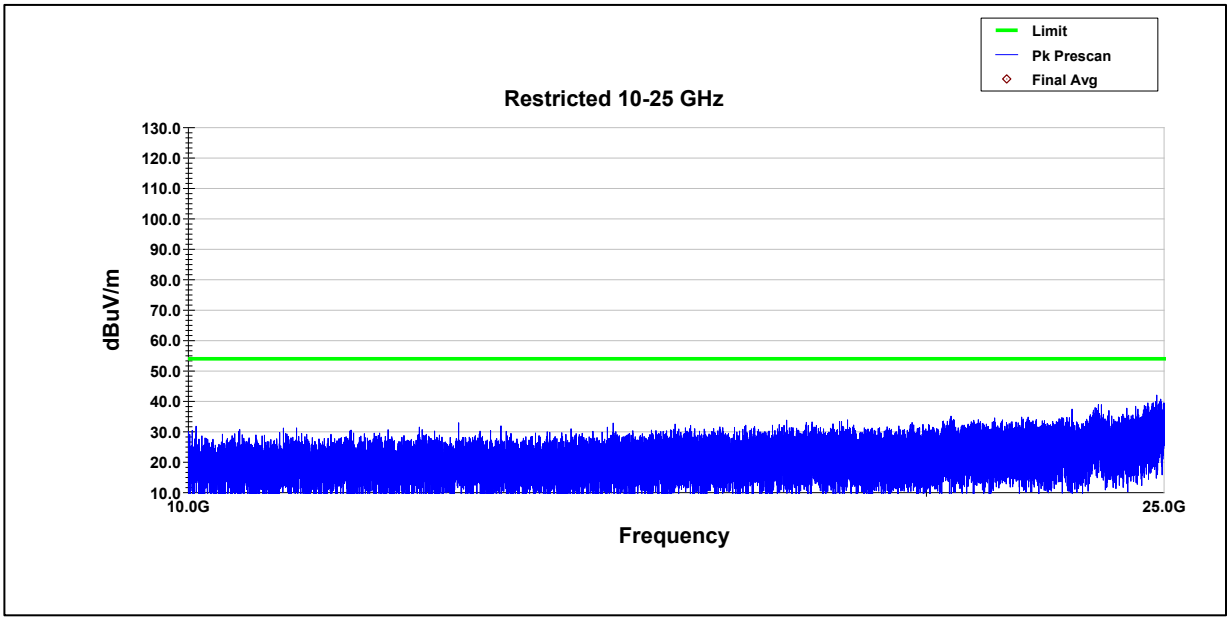
Sidewalk FSK Mid Ch

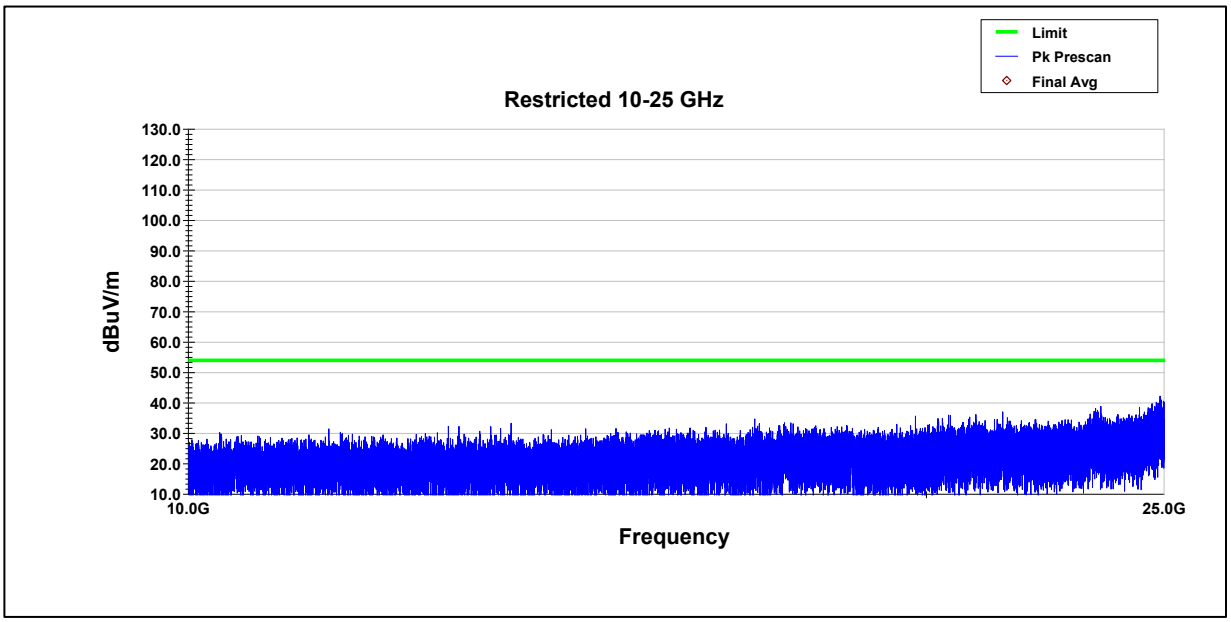


Sidewalk FSK High Ch



Sidewalk LoRa DTS Low Ch




Limit
Pk Prescan
Final Avg
Restricted 10-25 GHz
130.0
120.0
110.0
100.0
90.0
80.0
70.0
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50.0
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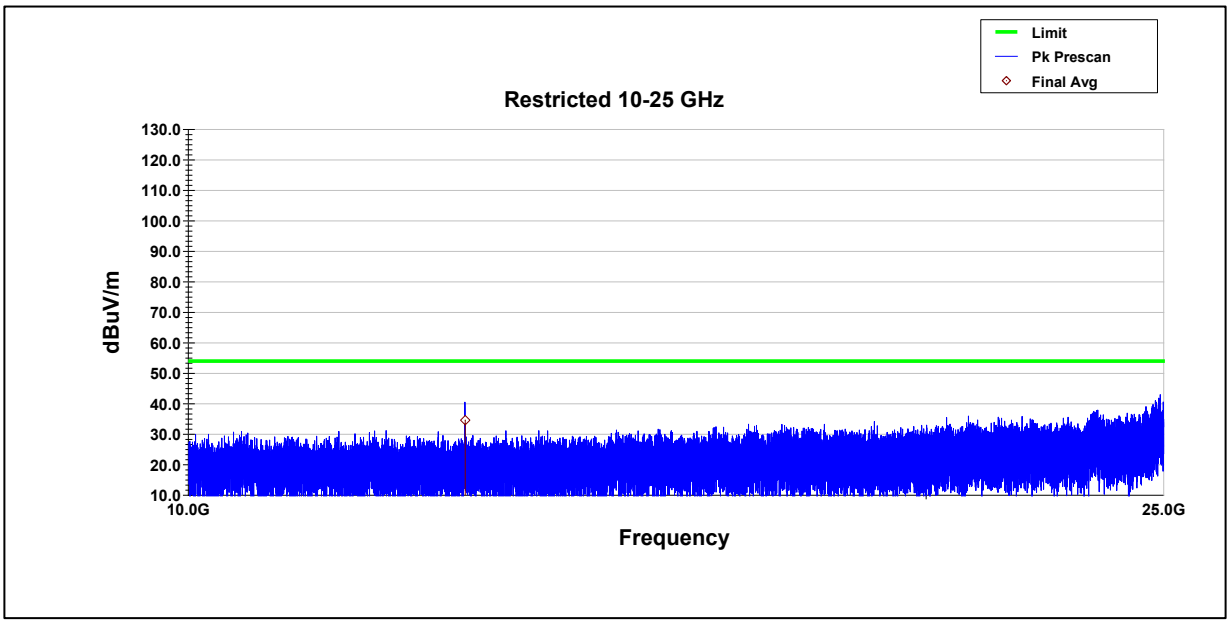
30.0
20.0
10.0
dBuV/m
10.0G
25.0G
Frequency



Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
12972.679	-66.60	6.00	95.30	34.60	54.00	-19.40

Final = Raw + Path Loss + Conversion

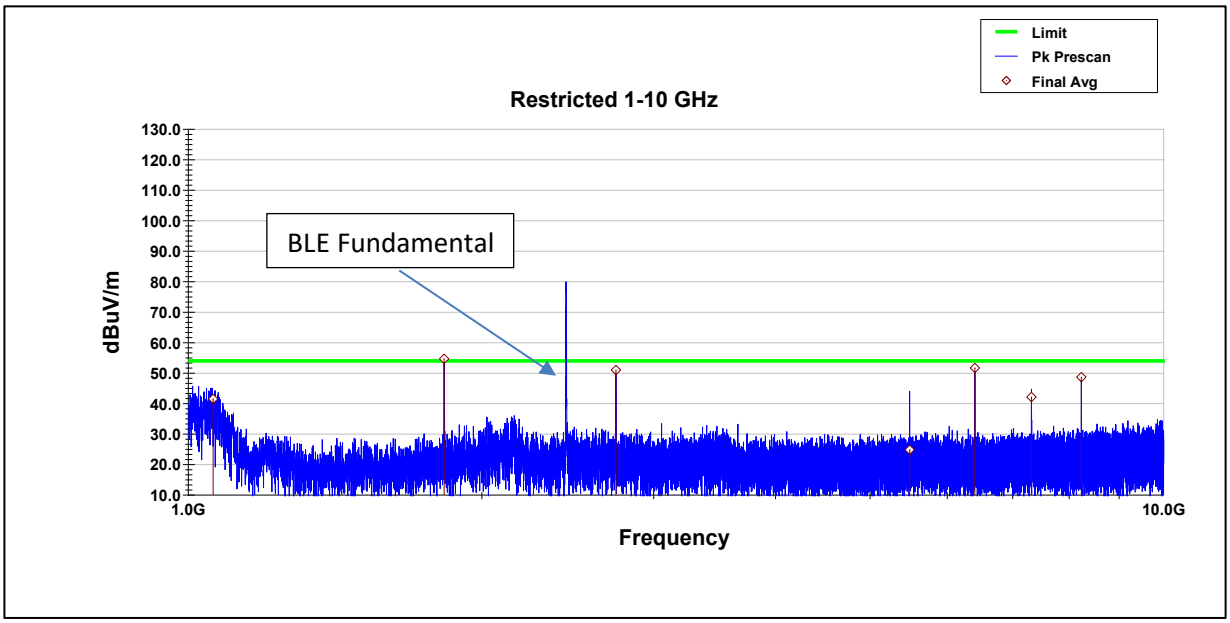
Margin = Final - Limit

Simultaneous Data

For simultaneous data below 1 GHz, please see radiated data below.

1-10 GHz

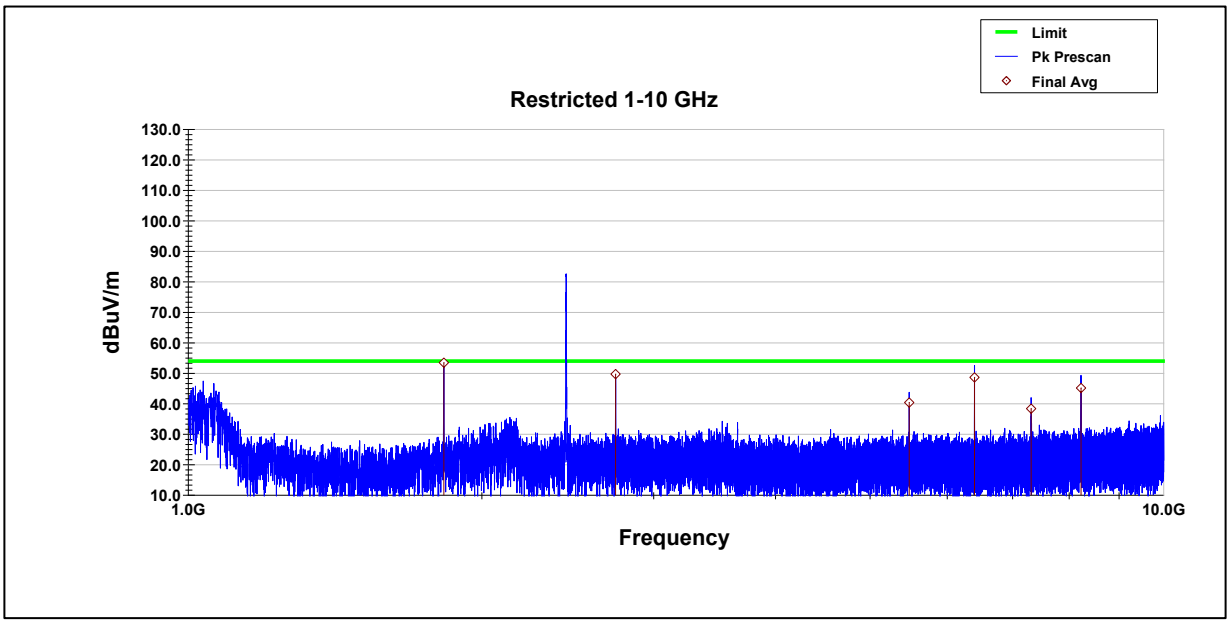
BLE 2M Mid LoRa FHSS SF7 High



Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
1060.469	-61.50	7.80	95.30	41.50	54.00	-12.40
1829.768	-49.40	8.80	95.30	54.70	54.00	0.70
2744.71	-52.20	8.00	95.30	51.00	54.00	-3.00
5491.381	-79.50	9.10	95.30	24.90	54.00	-29.10
6404.238	-52.70	9.20	95.30	51.70	54.00	-2.30
7319.199	-62.50	9.40	95.30	42.20	54.00	-11.80
8234.085	-56.60	10.00	95.30	48.70	54.00	-5.30

Final = Raw + Path Loss + Conversion

Margin = Final - Limit

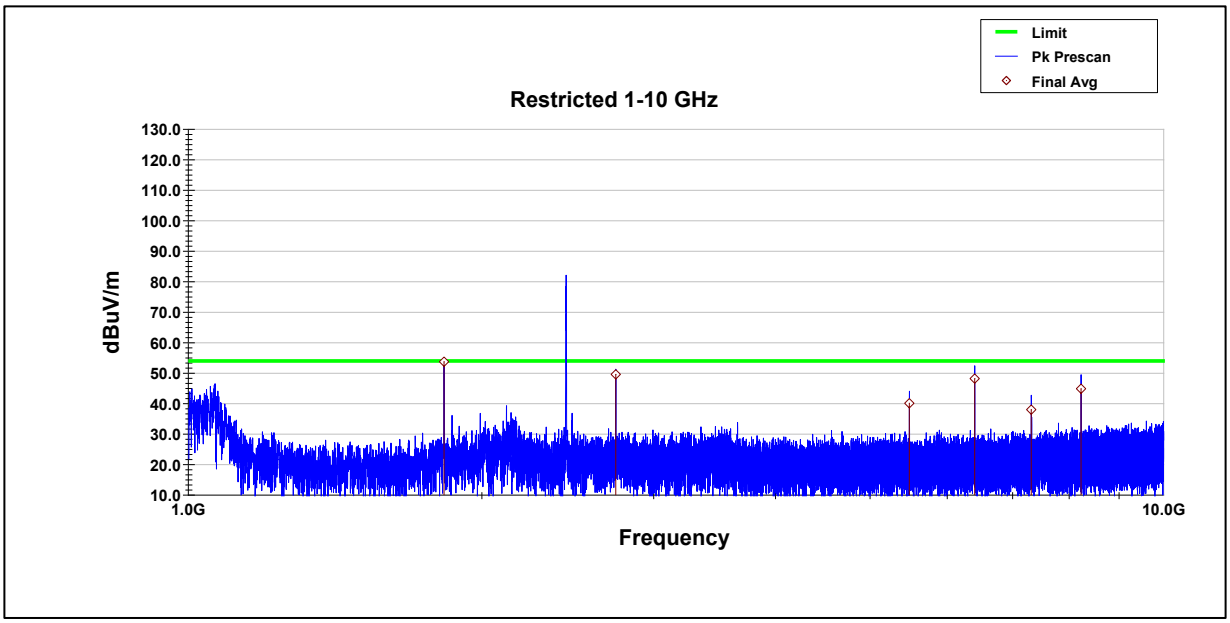


Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
1828.342	-50.60	8.80	95.30	53.50	54.00	-0.50
2742.651	-53.50	8.00	95.30	49.70	54.00	-4.30
5485.016	-63.90	9.00	95.30	40.40	54.00	-13.60
6398.725	-55.80	9.10	95.30	48.60	54.00	-5.40
7314.413	-66.30	9.40	95.30	38.40	54.00	-15.60
8228.437	-60.10	10.00	95.30	45.10	54.00	-8.80

Final = Raw + Path Loss + Conversion

Margin = Final - Limit

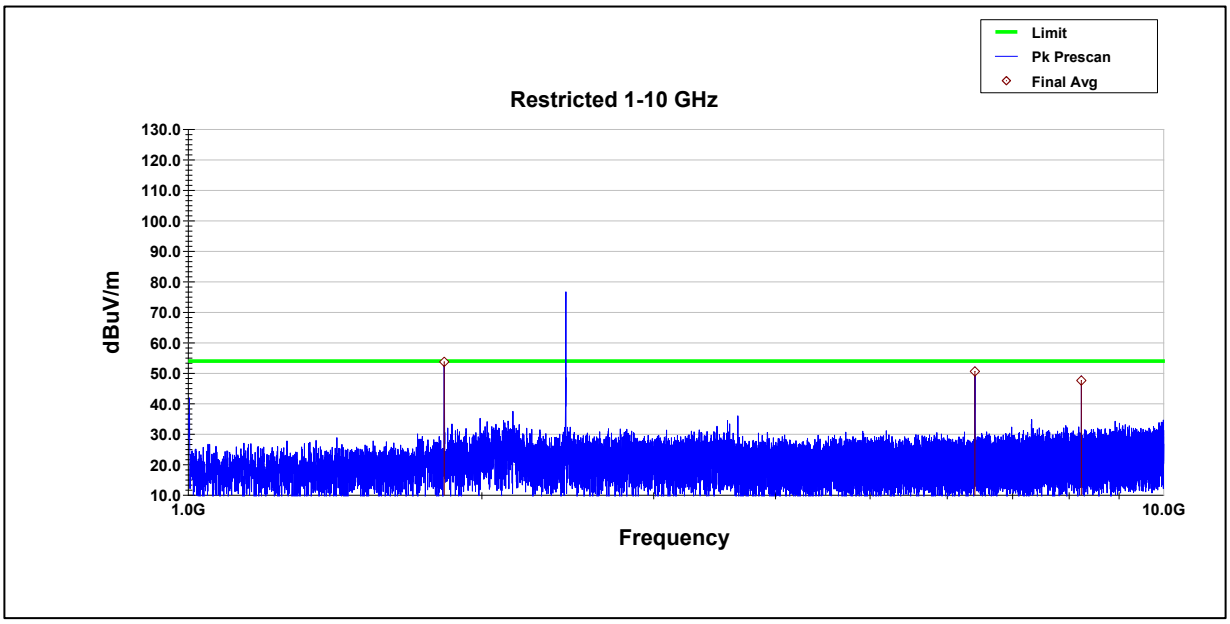
BLE 2M Mid Sidewalk LoRa DTS Mid



Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
1828.993	-50.30	8.80	95.30	53.80	54.00	-0.20
2743.506	-53.60	8.00	95.30	49.60	54.00	-4.40
5486.721	-64.20	9.00	95.30	40.10	54.00	-13.90
6401.45	-56.20	9.10	95.30	48.20	54.00	-5.80
7315.864	-66.70	9.40	95.30	38.00	54.00	-16.00
8229.284	-60.30	10.00	95.30	44.90	54.00	-9.10

Final = Raw + Path Loss + Conversion

Margin = Final - Limit



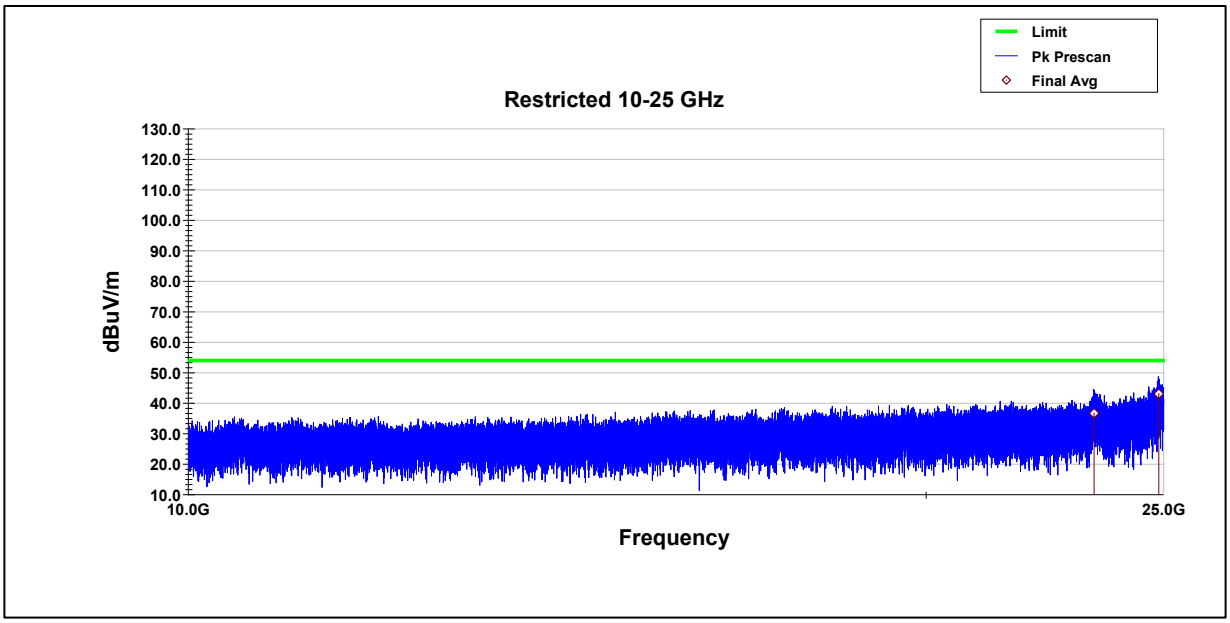
Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
1829.957	-50.30	8.80	95.30	53.80	54.00	-0.20
6404.967	-53.80	9.20	95.30	50.60	54.00	-3.40
8234.962	-57.60	10.00	95.30	47.60	54.00	-6.40

Final = Raw + Path Loss + Conversion

Margin = Final - Limit

10-25 GHz

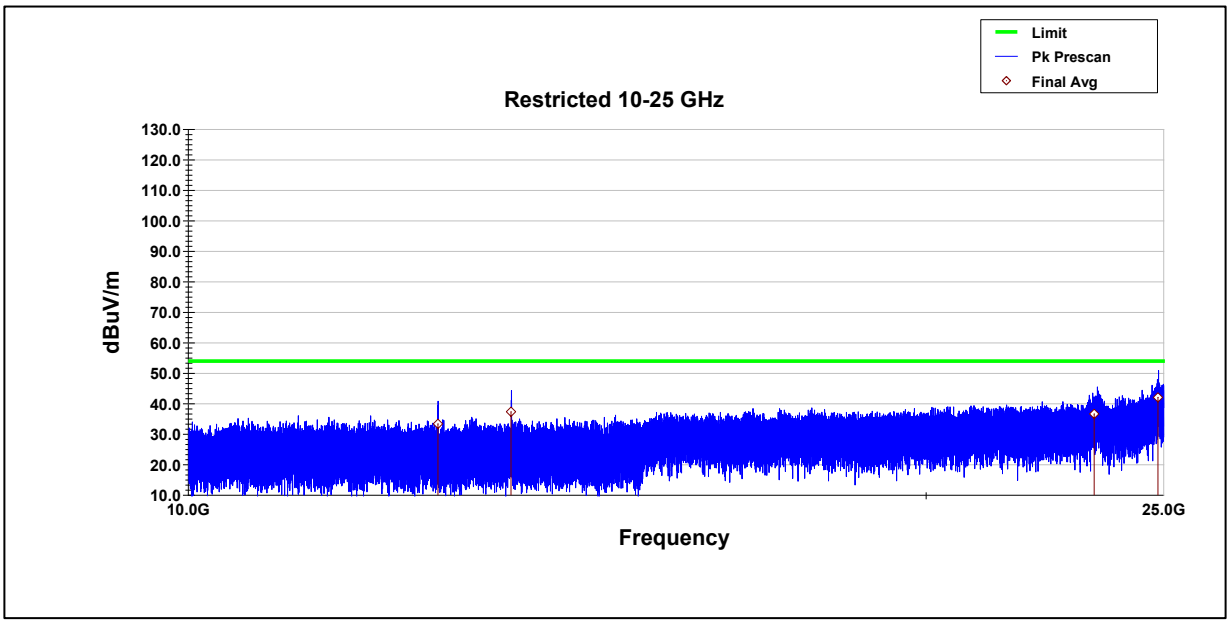
BLE 2M Mid LoRa FHSS SF 7 High



Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
23418.915	-73.80	15.20	95.30	36.70	54.00	-17.30
24887.666	-72.50	20.30	95.30	43.10	54.00	-10.90

Final = Raw + Path Loss + Conversion

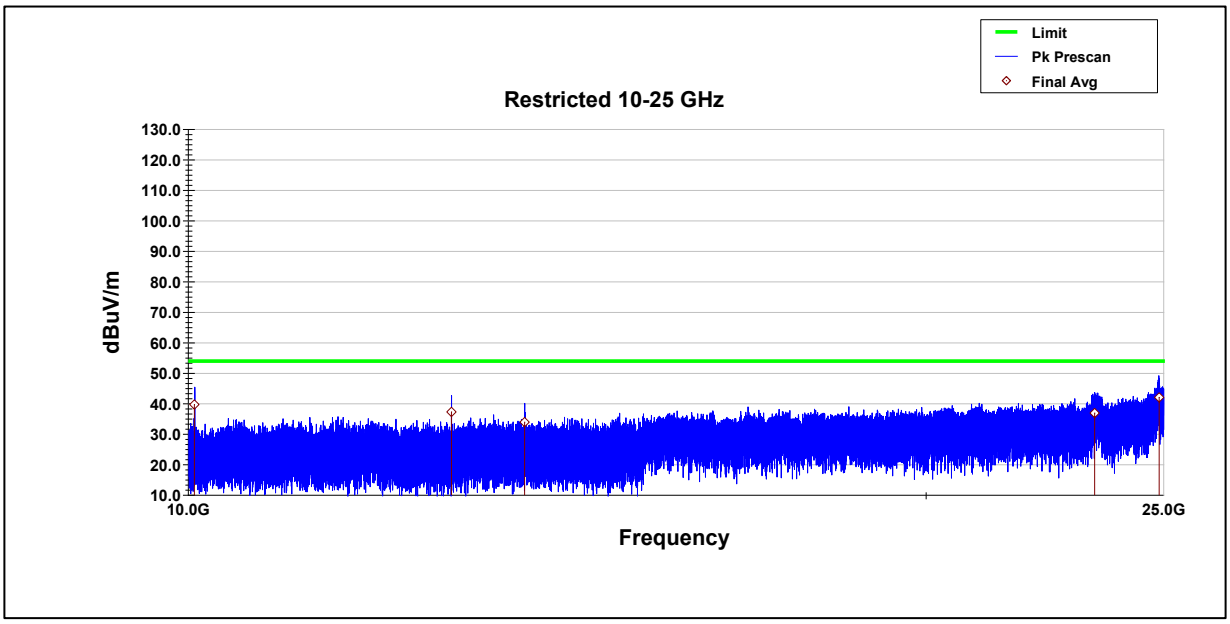
Margin = Final - Limit



Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
12644.32	-71.80	9.90	95.30	33.40	54.00	-20.60
13542.405	-68.80	10.90	95.30	37.40	54.00	-16.60
23420.327	-73.80	15.20	95.30	36.60	54.00	-17.30
24867.066	-72.50	19.30	95.30	42.10	54.00	-11.90

Final = Raw + Path Loss + Conversion

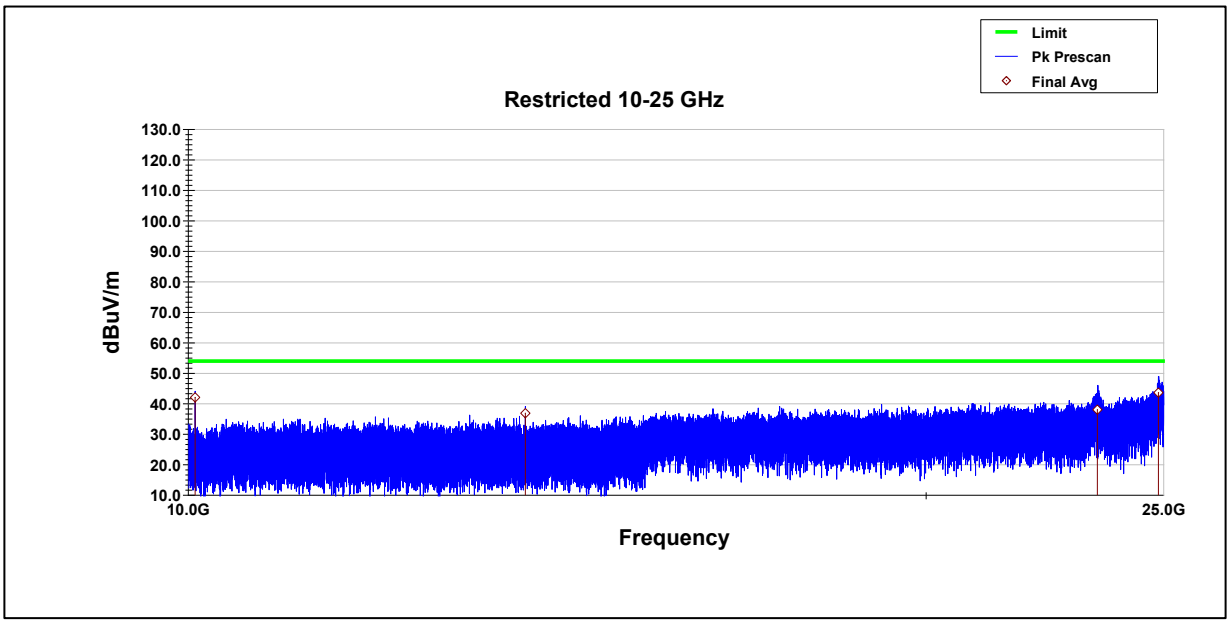
Margin = Final - Limit



Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
10057.829	-65.60	10.00	95.30	39.70	54.00	-14.20
12804.898	-68.30	10.40	95.30	37.30	54.00	-16.70
13716.004	-72.30	11.00	95.30	33.90	54.00	-20.00
23432.066	-73.60	15.20	95.30	36.90	54.00	-17.00
24896.609	-72.60	19.40	95.30	42.10	54.00	-11.90

Final = Raw + Path Loss + Conversion

Margin = Final - Limit



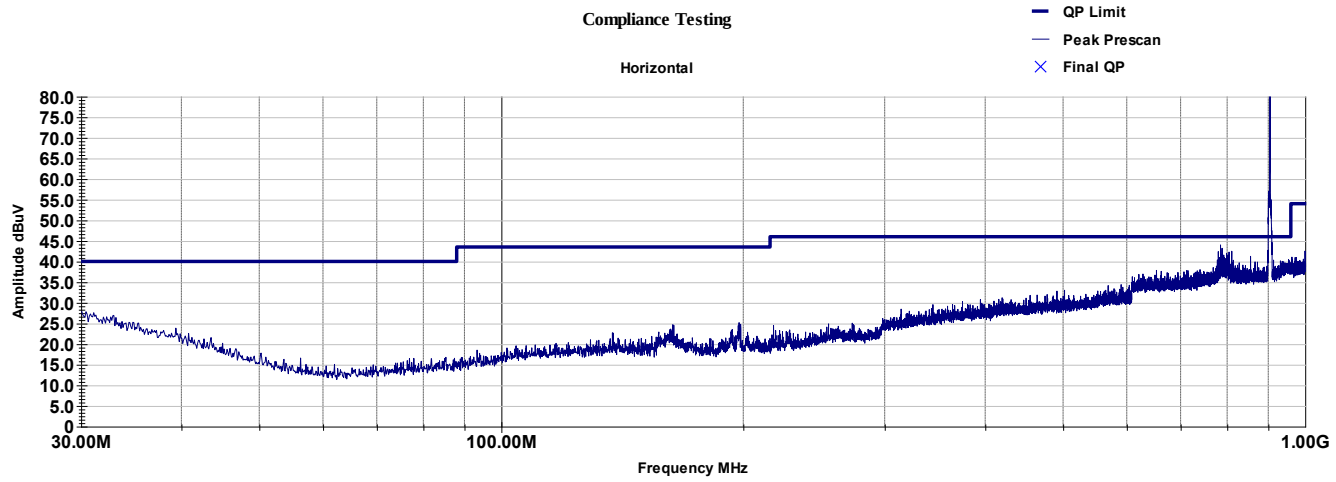
Frequency	Raw Avg	Path Loss	Converstion	Final Avg	Limit	Margin
MHz	dBm	dB	dB	dBuV/m	dBuV/m	dB
10064.879	-63.20	10.00	95.30	42.10	54.00	-11.90
13725.243	-69.40	11.10	95.30	36.90	54.00	-17.10
23490.425	-73.60	16.30	95.30	38.00	54.00	-15.90
24877.791	-72.40	20.80	95.30	43.60	54.00	-10.30

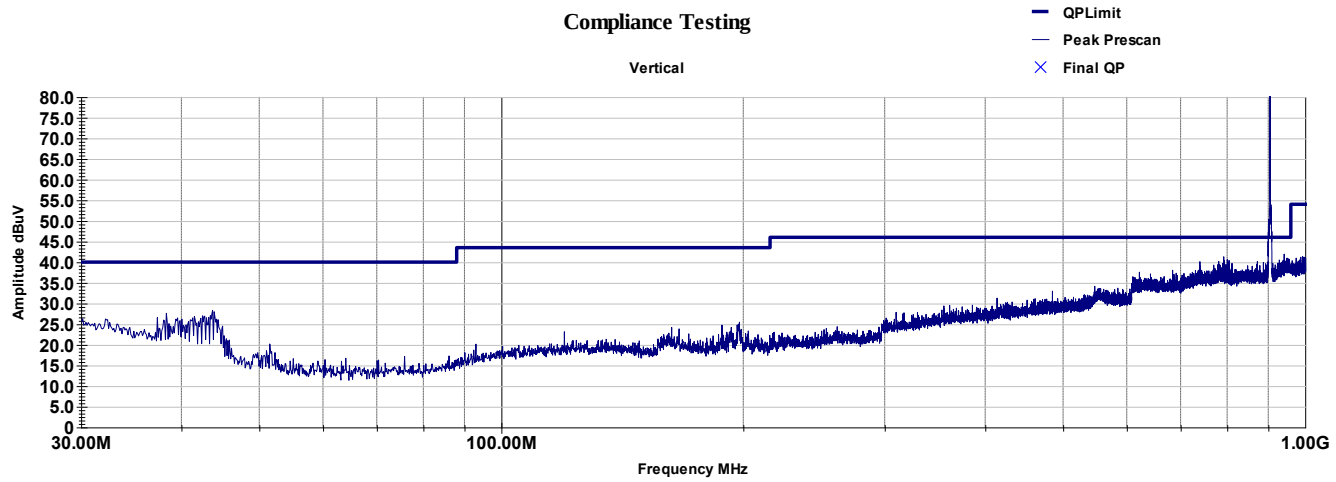
Final = Raw + Path Loss + Conversion

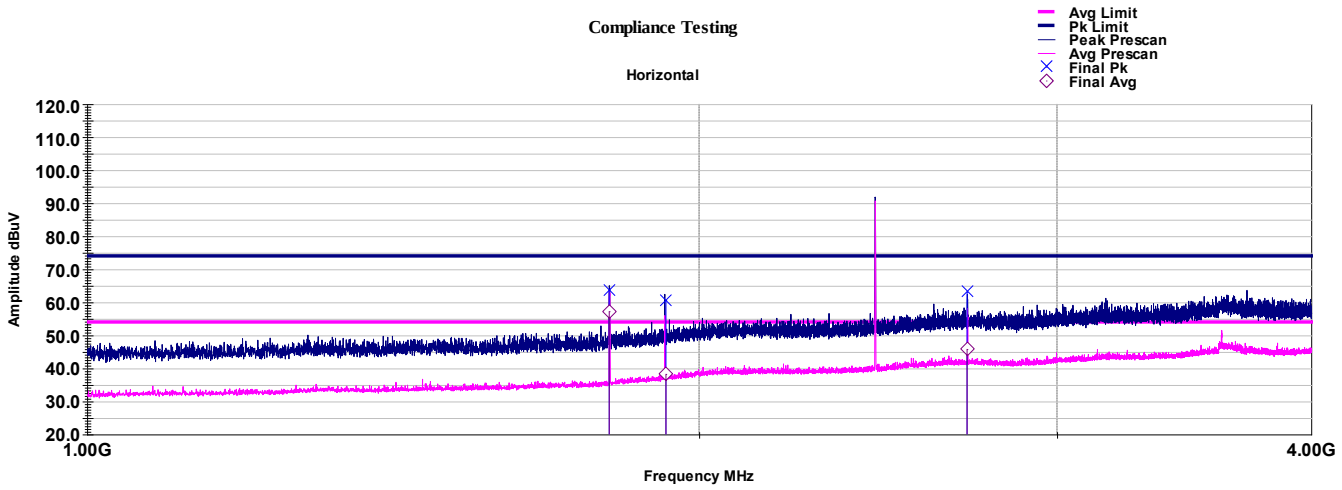
Margin = Final - Limit

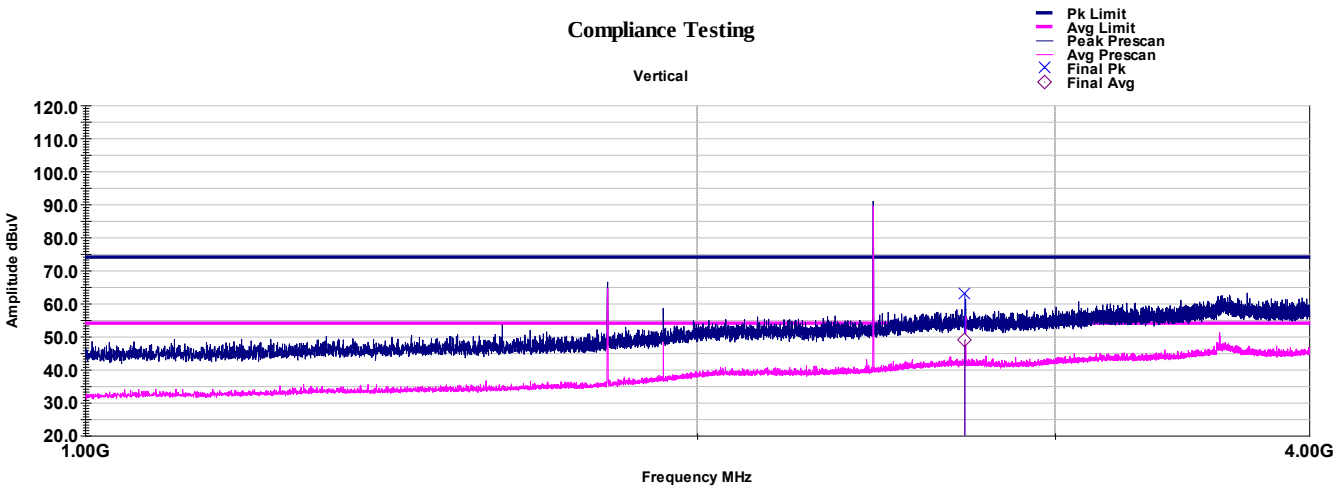
Radiated Test Data

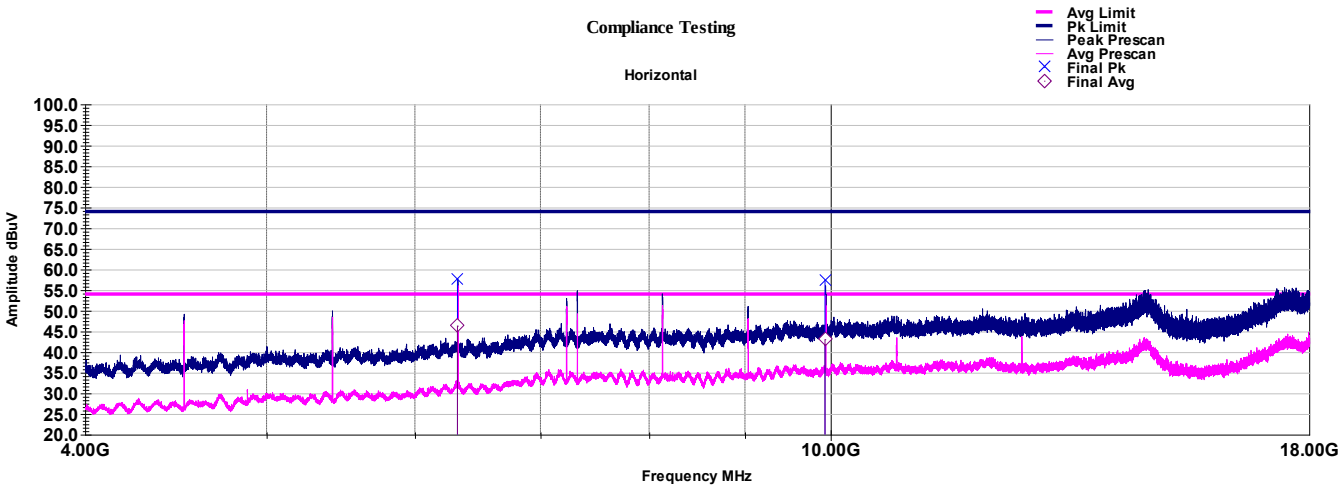
SF 12 Low Ch

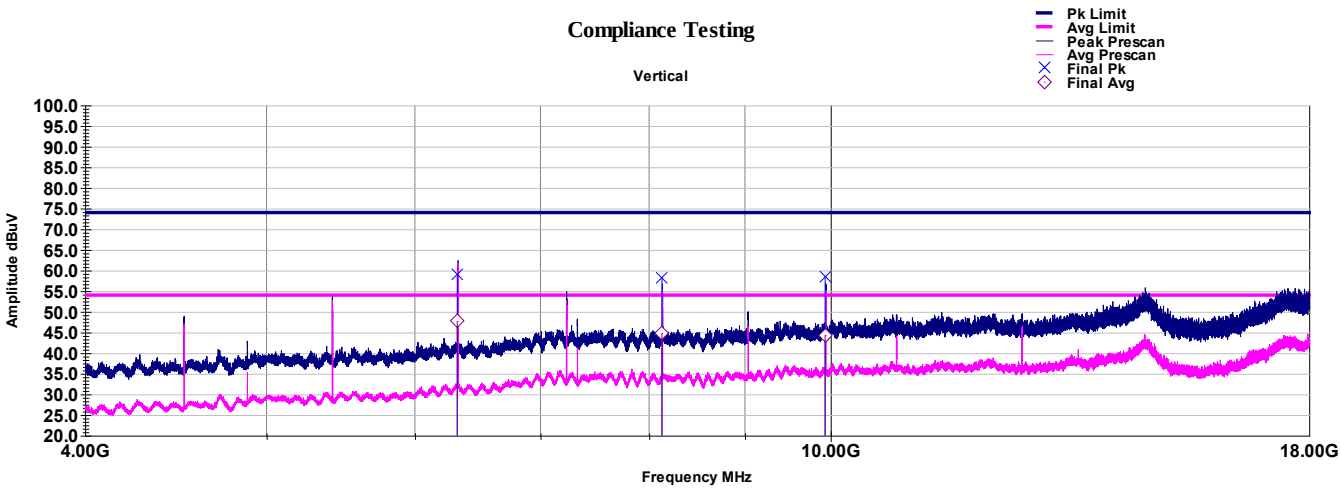




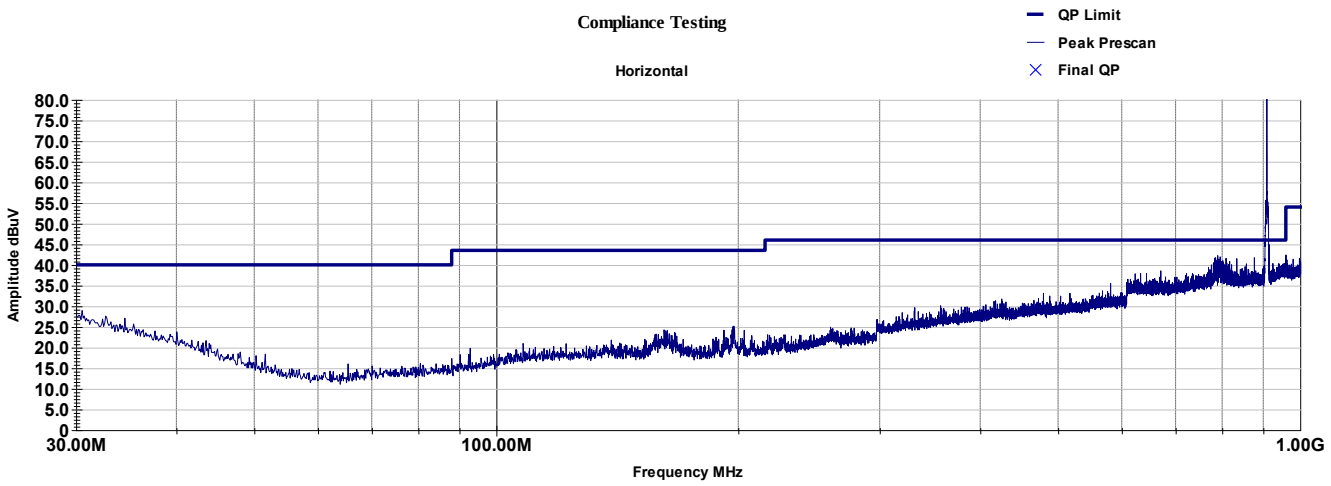


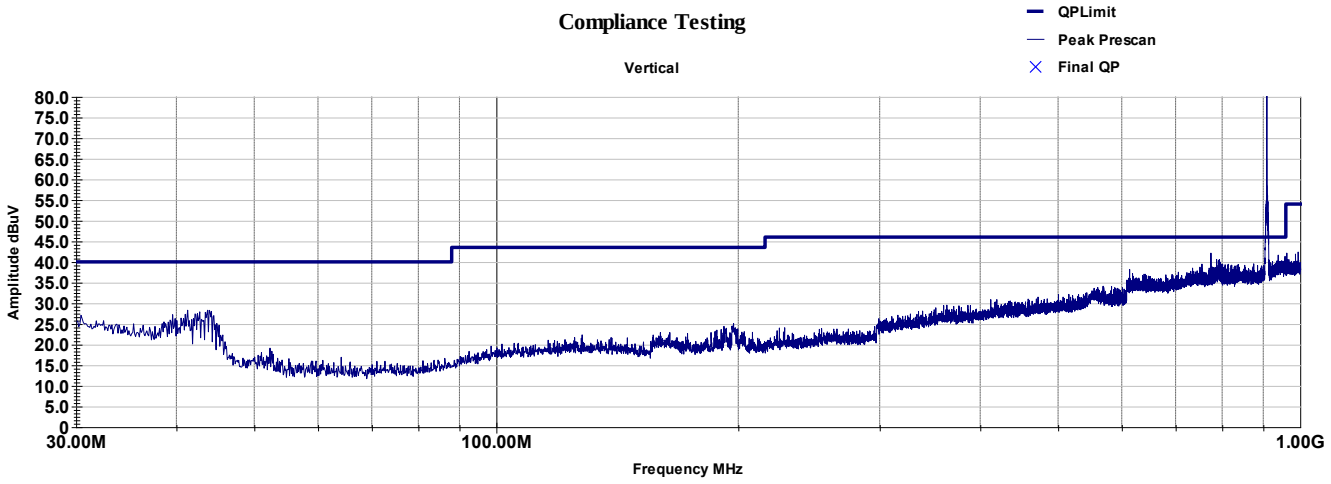

Compliance Testing
Vertical
Pk Limit
Avg Limit
Peak Prescan
Avg Prescan
Final Pk
Final Avg
120.0
110.0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
Amplitude dBuV
1.00G
4.00G
Frequency MHz

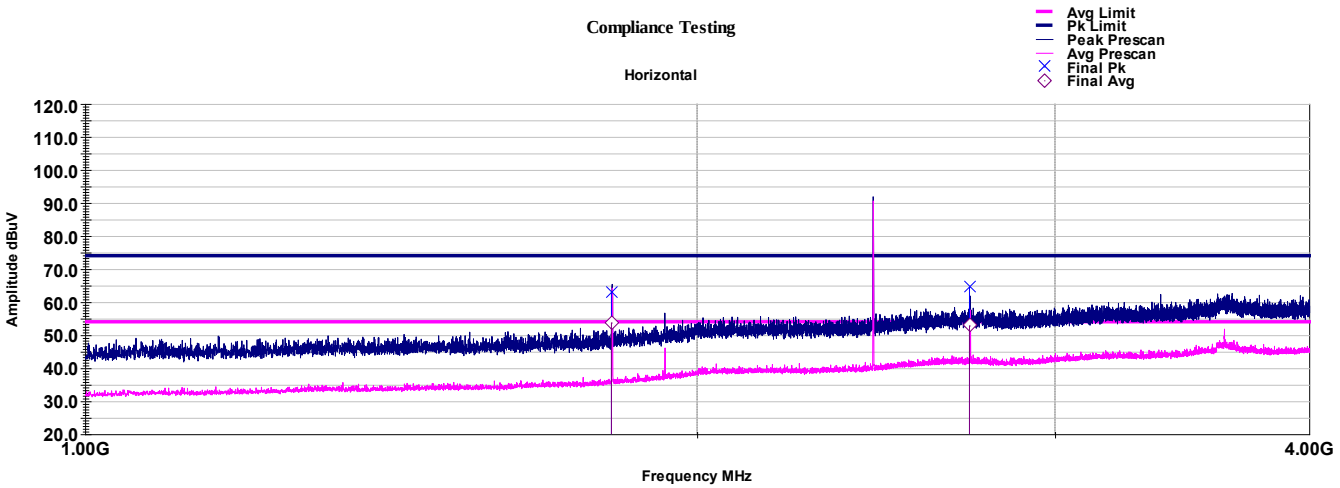

Compliance Testing
Horizontal
Avg Limit
Pk Limit
Peak Prescan
Avg Prescan
Final Pk
Final Avg
100.0
95.0
90.0
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0
Amplitude dBuV
4.00G
10.00G
18.00G
Frequency MHz

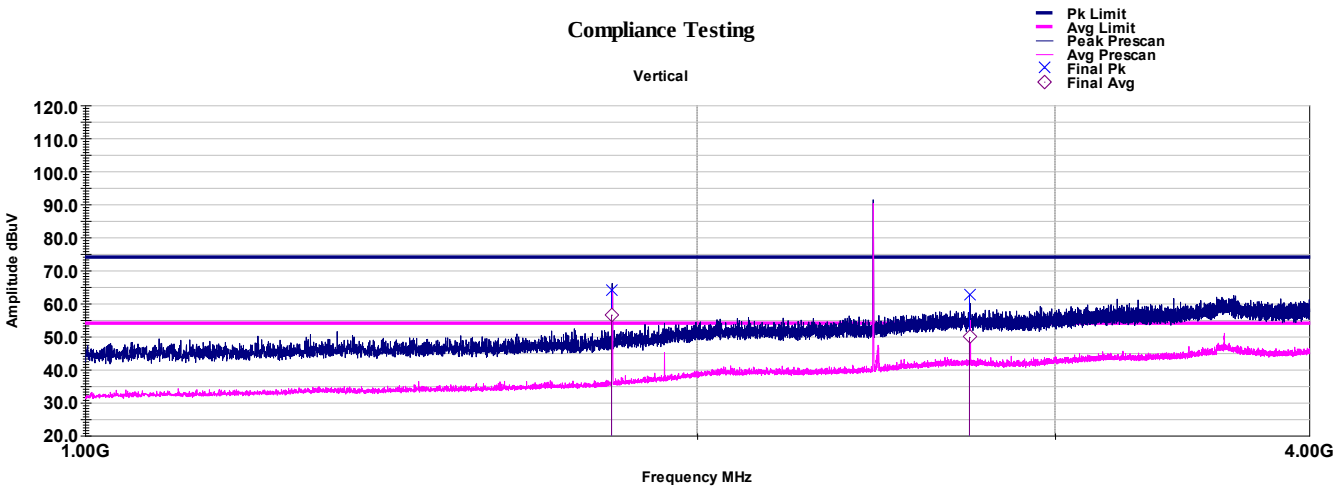

Compliance Testing
Vertical
Pk Limit
Avg Limit
Peak Prescan
Avg Prescan
Final Pk
Final Avg
100.0
95.0
90.0
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0
Amplitude dBuV
4.00G
10.00G
18.00G
Frequency MHz

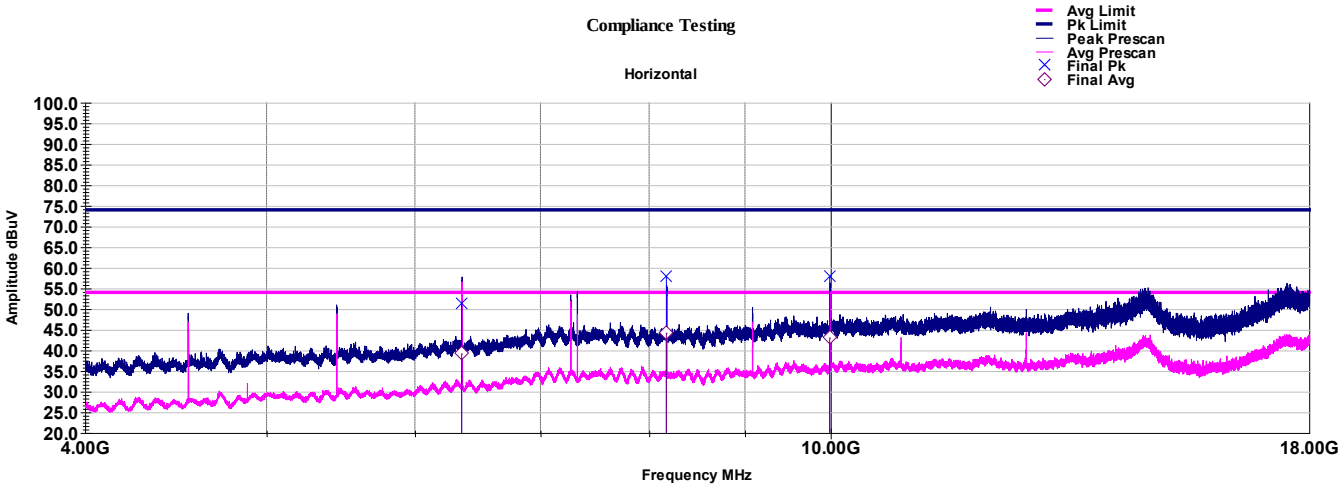
SF 12 Mid Ch


Compliance Testing
Horizontal
QP Limit
Peak Prescan
Final QP
Amplitude dBuV
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0
30.00M
100.00M
1.00G
Frequency MHz


Compliance Testing
Vertical
QPLimit
Peak Prescan
Final QP
Amplitude dBuV
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0
30.00M
100.00M
1.00G
Frequency MHz


Compliance Testing
Horizontal
Avg Limit
Pk Limit
Peak Prescan
Avg Prescan
Final Pk
Final Avg
Amplitude dBuV
120.0
110.0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
1.00G
4.00G
Frequency MHz


Compliance Testing
Vertical
Pk Limit
Avg Limit
Peak Prescan
Avg Prescan
Final Pk
Final Avg
Amplitude dBuV
120.0
110.0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
1.00G
4.00G
Frequency MHz


Compliance Testing
Horizontal
Avg Limit
Pk Limit
Peak Prescan
Avg Prescan
Final Pk
Final Avg
Amplitude dBuV
100.0
95.0
90.0
85.0
80.0
75.0
70.0
65.0
60.0
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35.0
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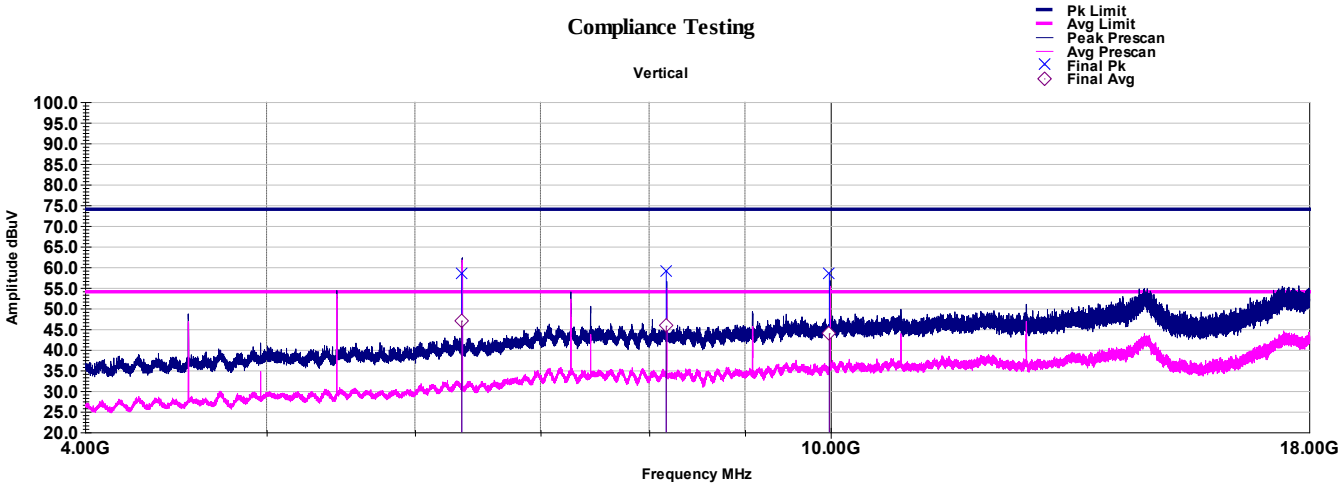
25.0
20.0
4.00G
10.00G
18.00G
Frequency MHz


Compliance Testing
Vertical
Pk Limit
Avg Limit
Peak Prescan
Avg Prescan
Final Pk
Final Avg
Amplitude dBuV
100.0
95.0
90.0
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
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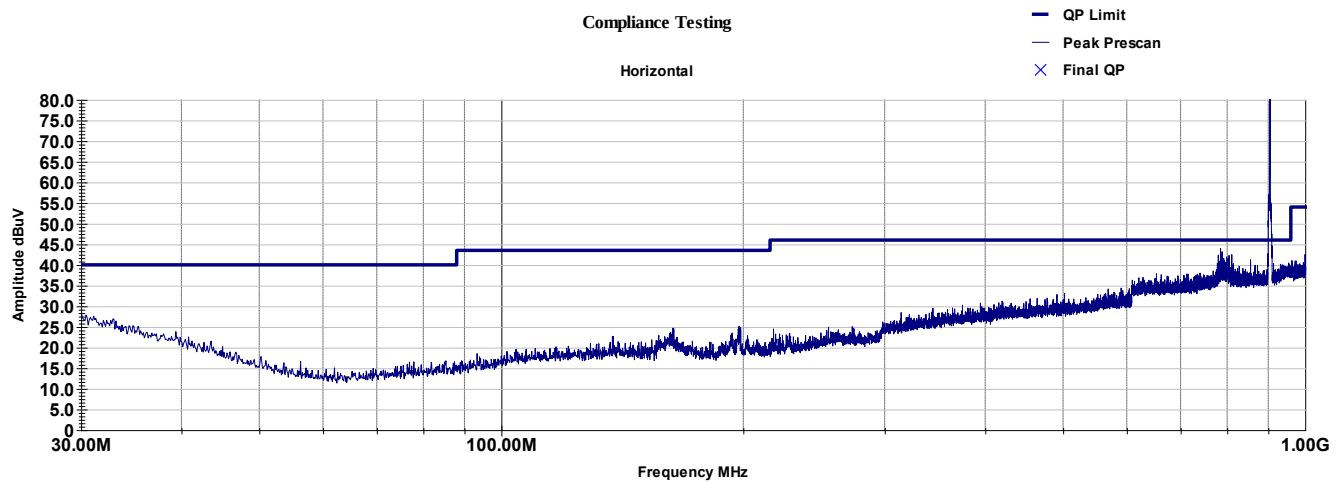
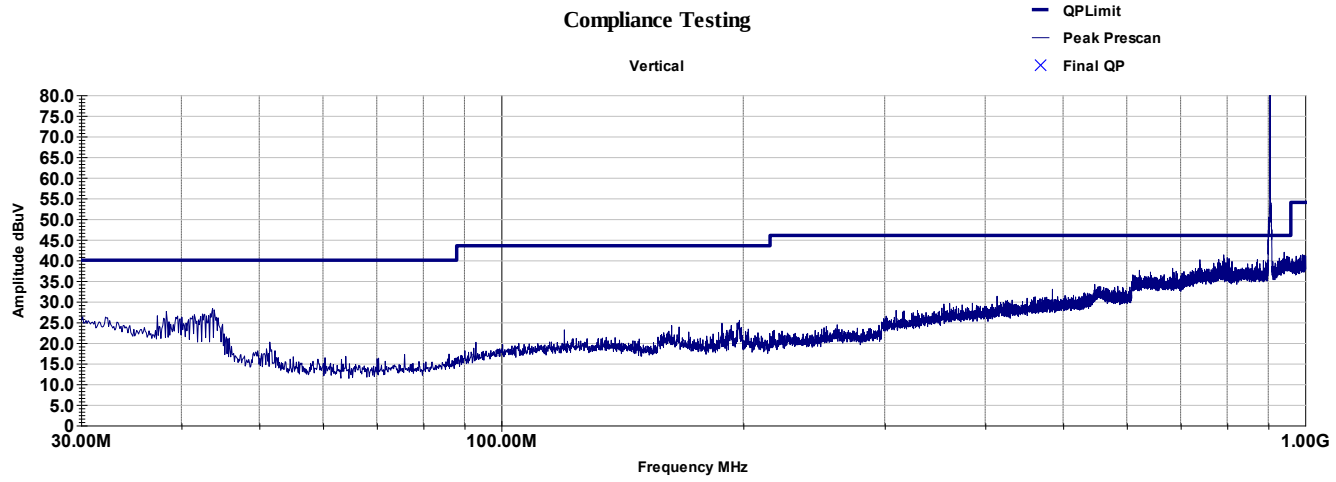
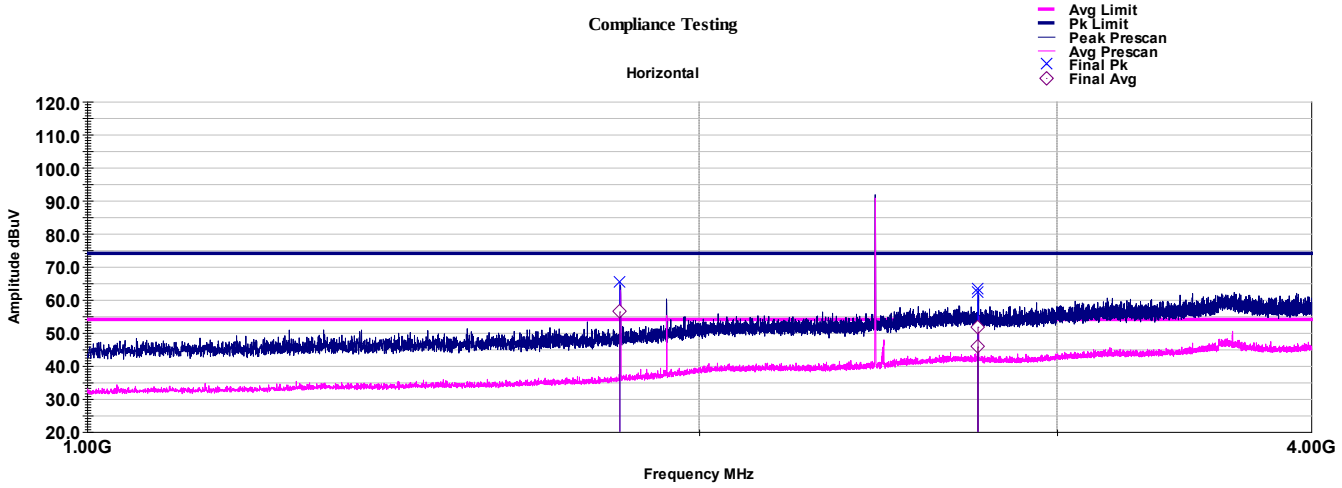
25.0
20.0
4.00G
10.00G
18.00G
Frequency MHz

SF 12 High Ch


Compliance Testing
Horizontal
QP Limit
Peak Prescan
Final QP
Amplitude dBuV
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0
30.00M
100.00M
1.00G
Frequency MHz


Compliance Testing
Vertical
QPLimit
Peak Prescan
Final QP
Amplitude dBuV
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0
30.00M
100.00M
1.00G
Frequency MHz


Compliance Testing
Horizontal
Avg Limit
Pk Limit
Peak Prescan
Avg Prescan
Final Pk
Final Avg
Amplitude dBuV
120.0
110.0
100.0
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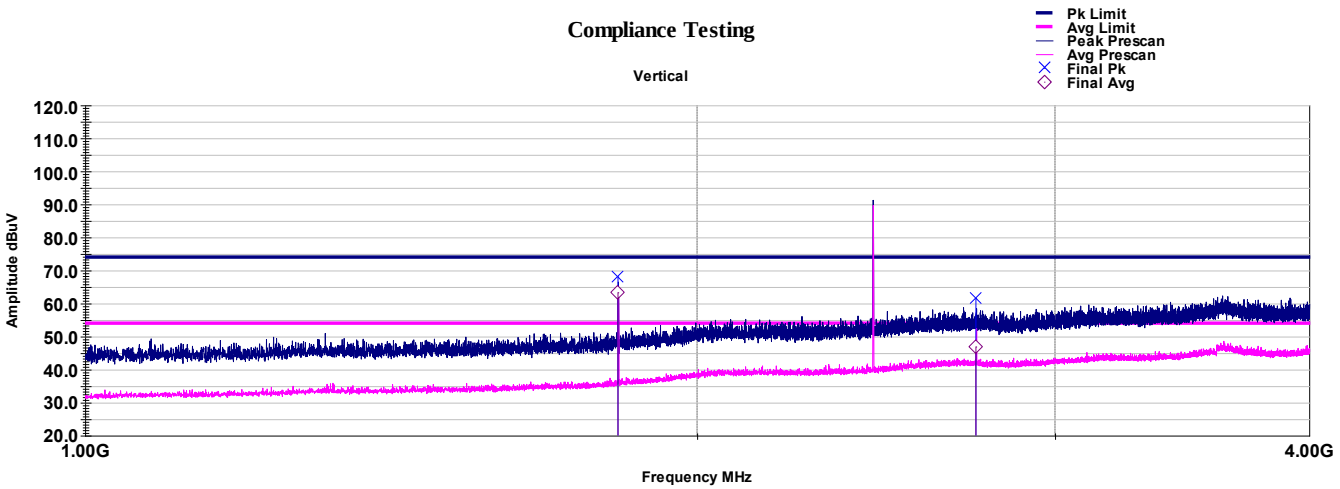
30.0
20.0
1.00G
4.00G
Frequency MHz


Compliance Testing
Vertical
Pk Limit
Avg Limit
Peak Prescan
Avg Prescan
Final Pk
Final Avg
Amplitude dBuV
120.0
110.0
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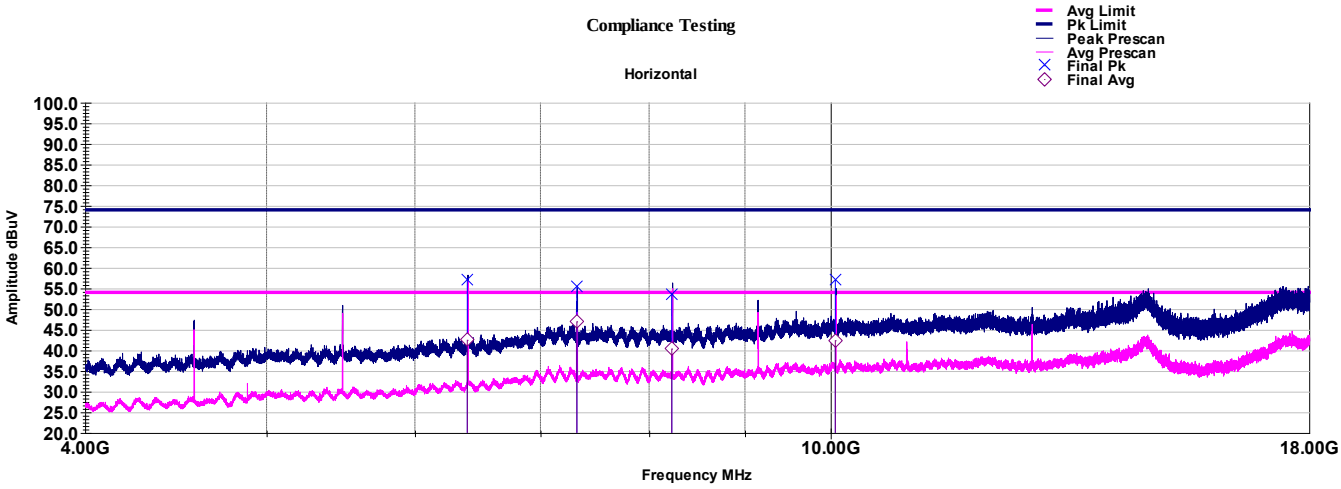
50.0
40.0
30.0
20.0
1.00G
4.00G
Frequency MHz


Compliance Testing
Horizontal
Avg Limit
Pk Limit
Peak Prescan
Avg Prescan
Final Pk
Final Avg
Amplitude dBuV
100.0
95.0
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85.0
80.0
75.0
70.0
65.0
60.0
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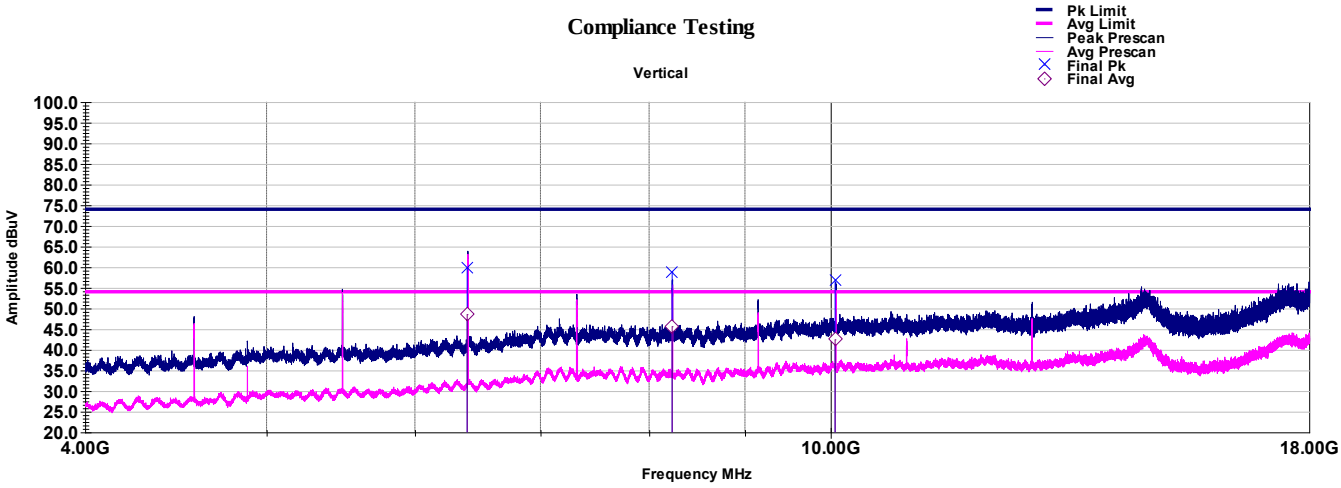
25.0
20.0
4.00G
10.00G
18.00G
Frequency MHz


Compliance Testing
Vertical
Pk Limit
Avg Limit
Peak Prescan
Avg Prescan
Final Pk
Final Avg
Amplitude dBuV
100.0
95.0
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85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
25.0
20.0
4.00G
10.00G
18.00G
Frequency MHz

Test Equipment Utilized

Description	Manufacturer	Model #	CT Asset #	Last Cal Date	Cal Due Date
18 – 26 GHz horn	Emco	3116	i00085	02/22/2021	02/22/2023
Horn Antenna	ARA	DRG-118/A	i00271	08/11/22	08/10/24
Bi-Log antenna	Teseq	CBL 6111Dk	i00349	01/20/21	01/20/23
3 Meter Semi-Anechoic Chamber	Panashield	3 Meter Semi-Anechoic Chamber	i00428	7/17/20	7/17/23
Spectrum Analyzer	Agilent	E4445A	i00471	12/27/2021	12/27/2022
EMI Analyzer	Rohde & Schwarz	FSU 26	i00501	05/10/22	05/10/23
EMI Receiver	Keysight	N9038A	i00552	02/24/22	02/24/23
Environmental Sensor	Omega	iBTHX-W-5	i00631	11/03/21	11/03/22*
Preamplifier	Eravant	SBB-0115034018-2F2F-E3	i00650	Verified on: 11/15/22	

*Calibration extended with the approval of Quality Manager.

In addition to the above listed equipment standard RF connectors and cables were utilized in the testing of the described equipment. Prior to testing these components were tested to verify proper operation.

Measurement Uncertainty

Measurement Uncertainty (U_{lab}) for Compliance Testing is listed in the table below.

Measurement	U_{lab}
Radio Frequency	± 3.3 x 10^{-8}
RF Power, conducted	± 1.5 dB
RF Power Density, conducted	± 1.0 dB
Conducted Emissions	± 1.8 dB
Radiated Emissions	± 4.5 dB
Temperature	± 1.5 deg C
Humidity	± 4.3 %
DC voltage	± 0.20 VDC
AC Voltage	± 1.2 VAC

The reported expanded uncertainty +/- U_{lab}(dB) has been estimated at a 95% confidence level (k=2)

U_{lab} is less than or equal to U_{ETSI} therefore

- Compliance is deemed to occur if no measured disturbance exceeds the disturbance limit
- Non-Compliance is deemed to occur if any measured disturbance exceeds the disturbance limit

End of Test Report