

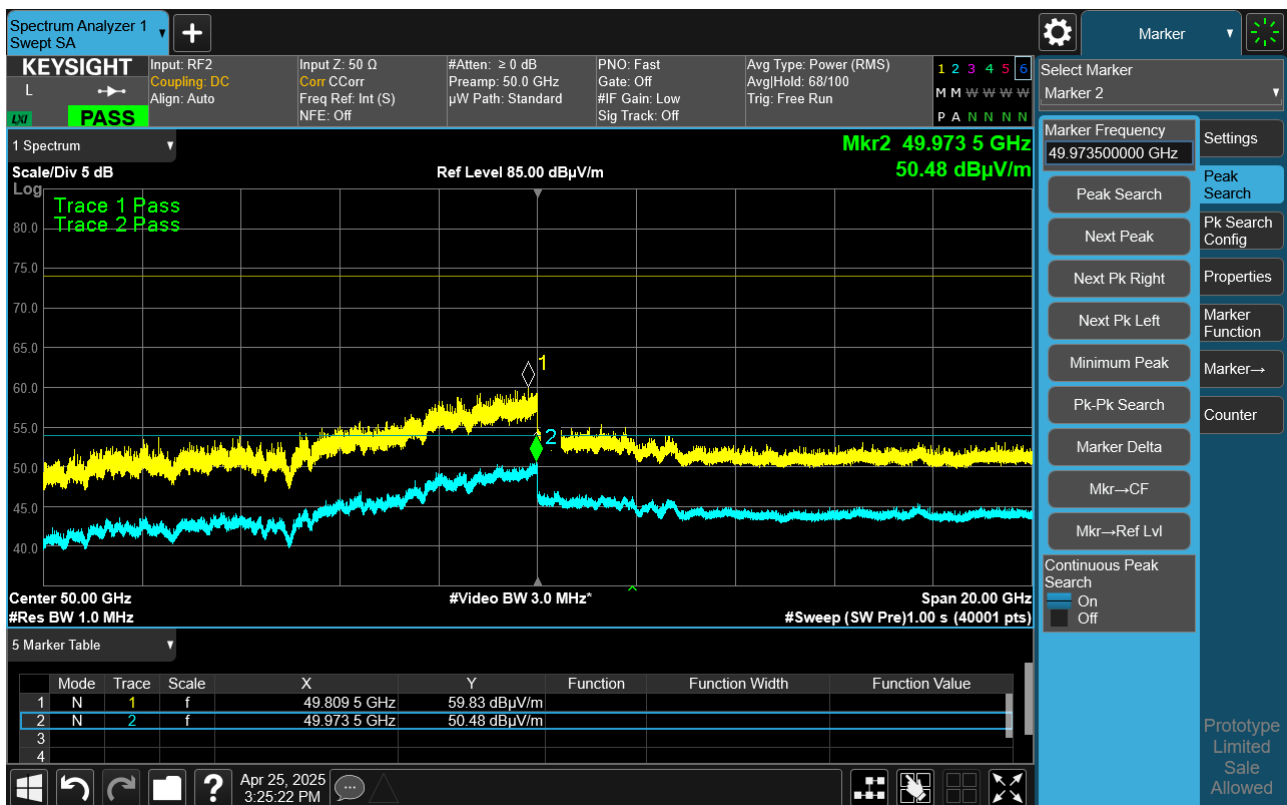
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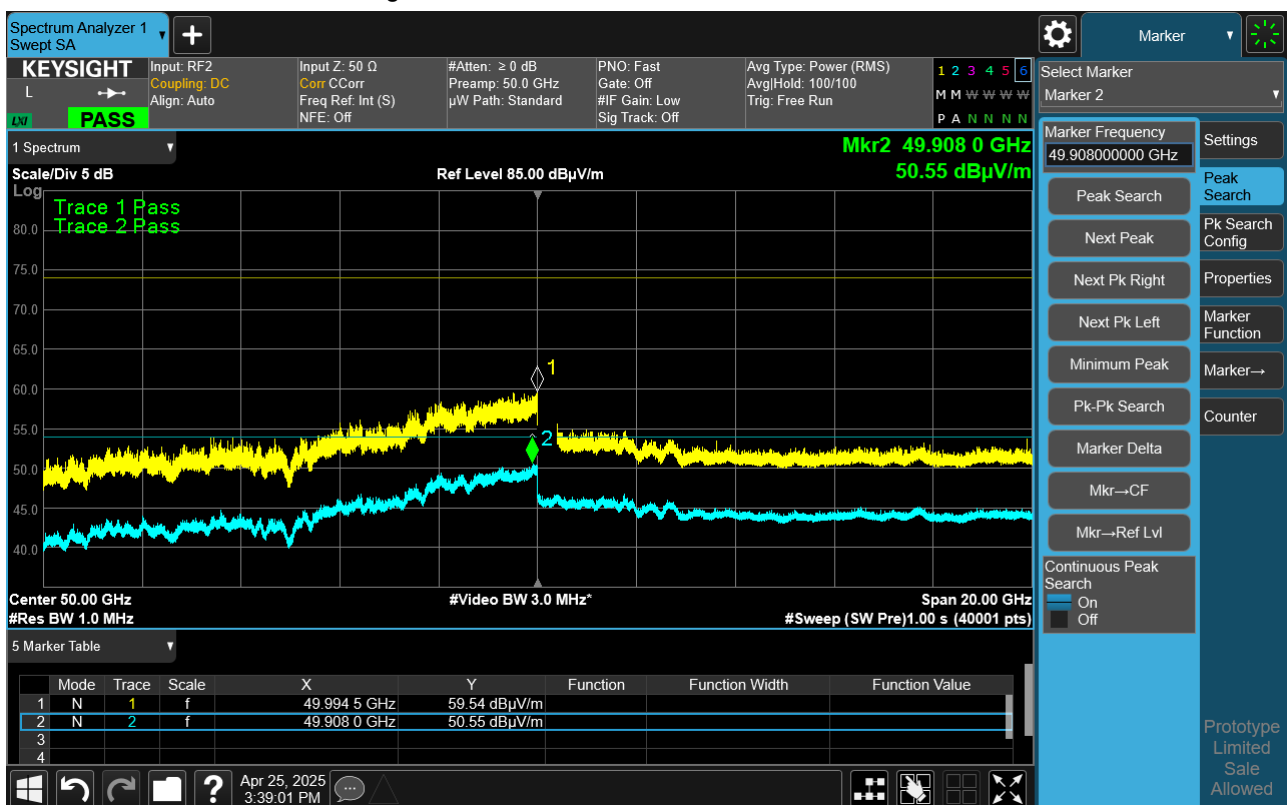
Prüfdokumentation Test documentation

4.4.2.5.17 40 to 60GHz, Area_lowdoppler _0dB

4.4.2.5.17.1 Elevation 0deg



4.4.2.5.17.2 Elevation 22.5deg

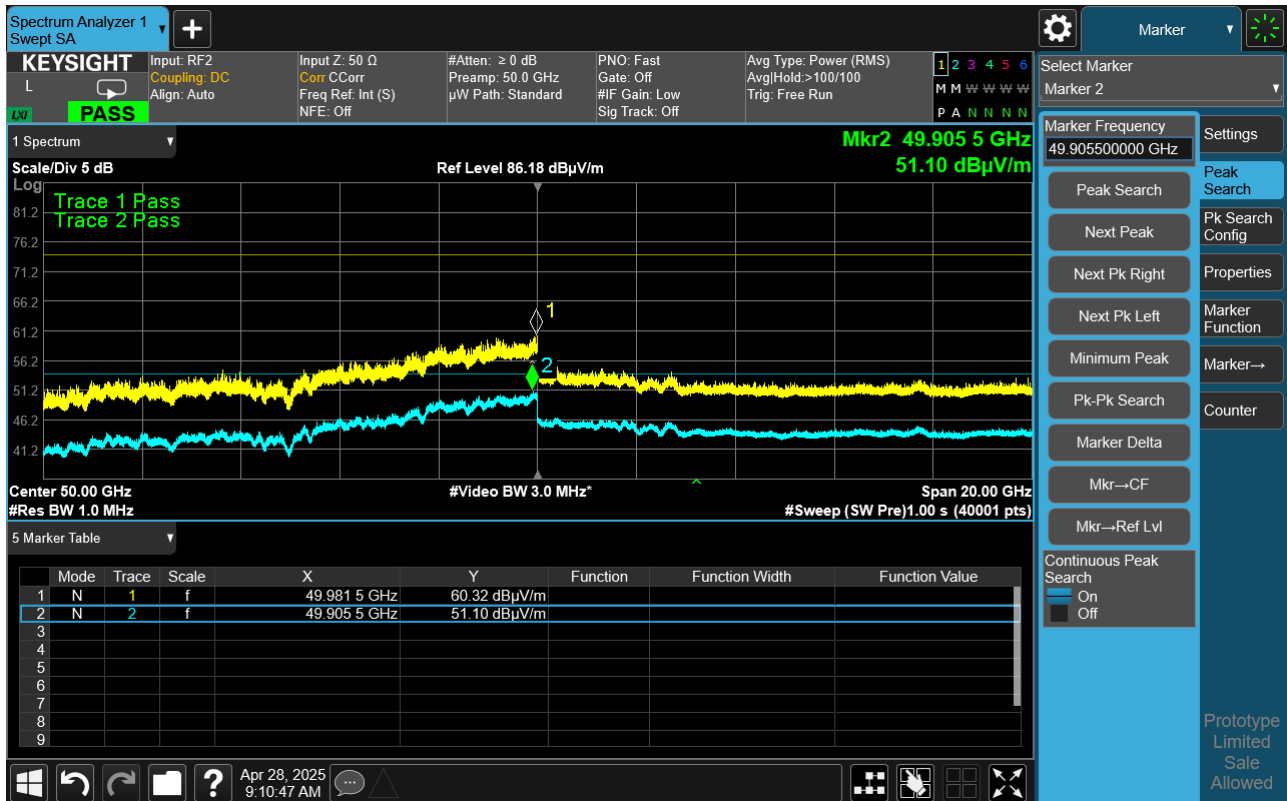


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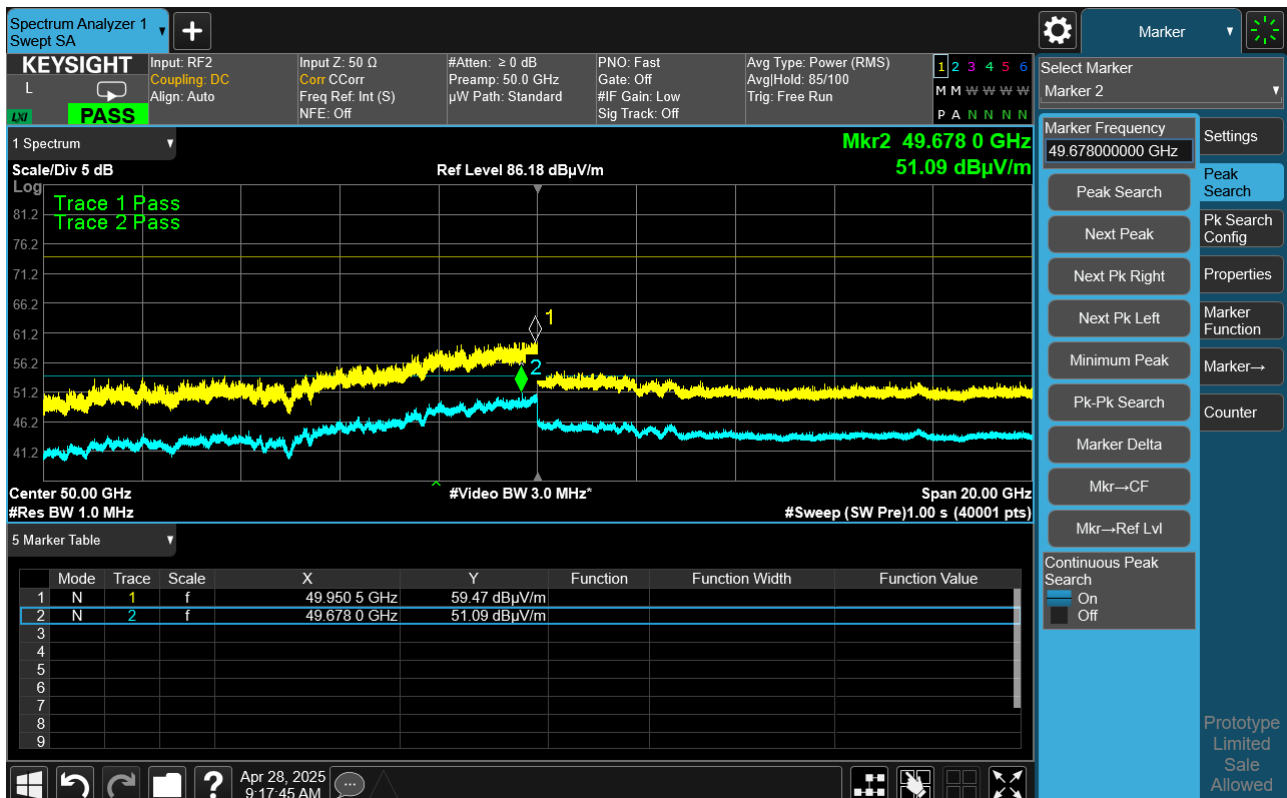
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4.4.2.5.17.3 Elevation 45deg



4.4.2.5.17.4 Elevation 67.5deg

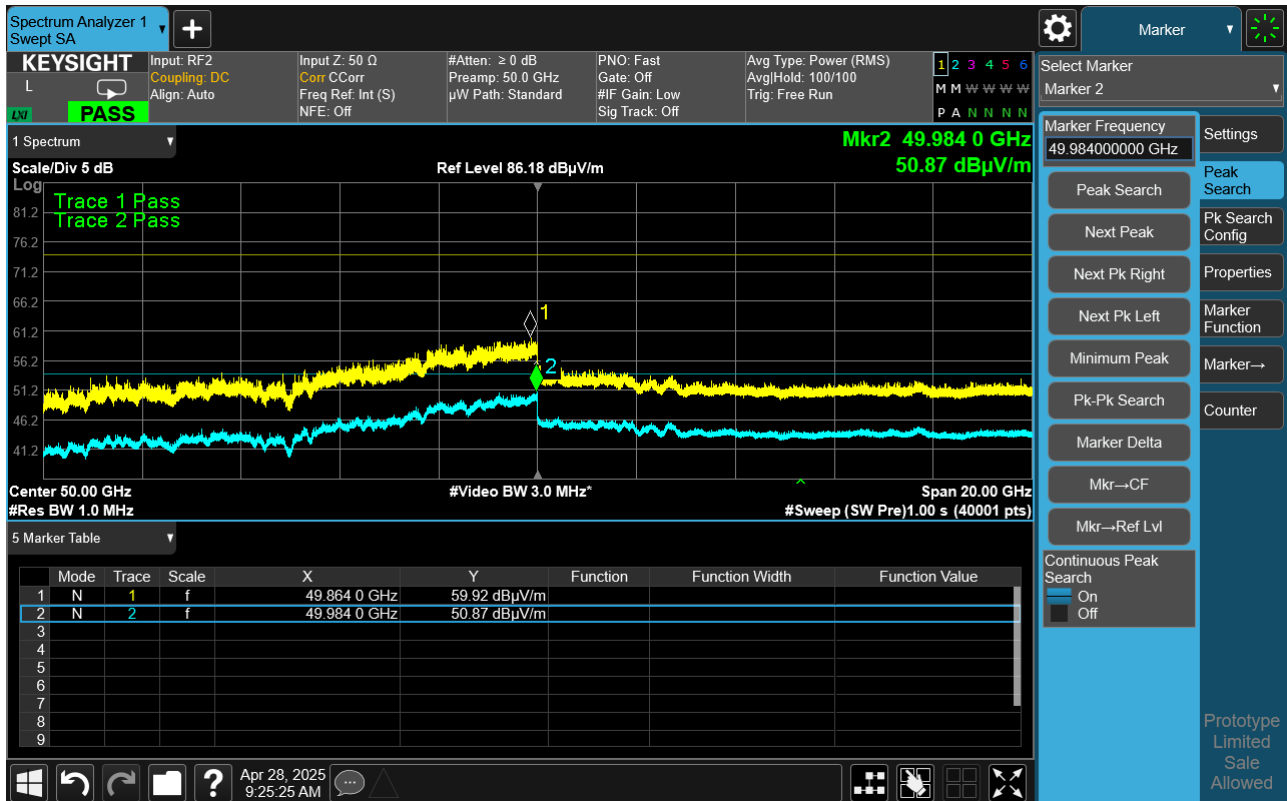


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4.4.2.5.17.5 Elevation 90deg



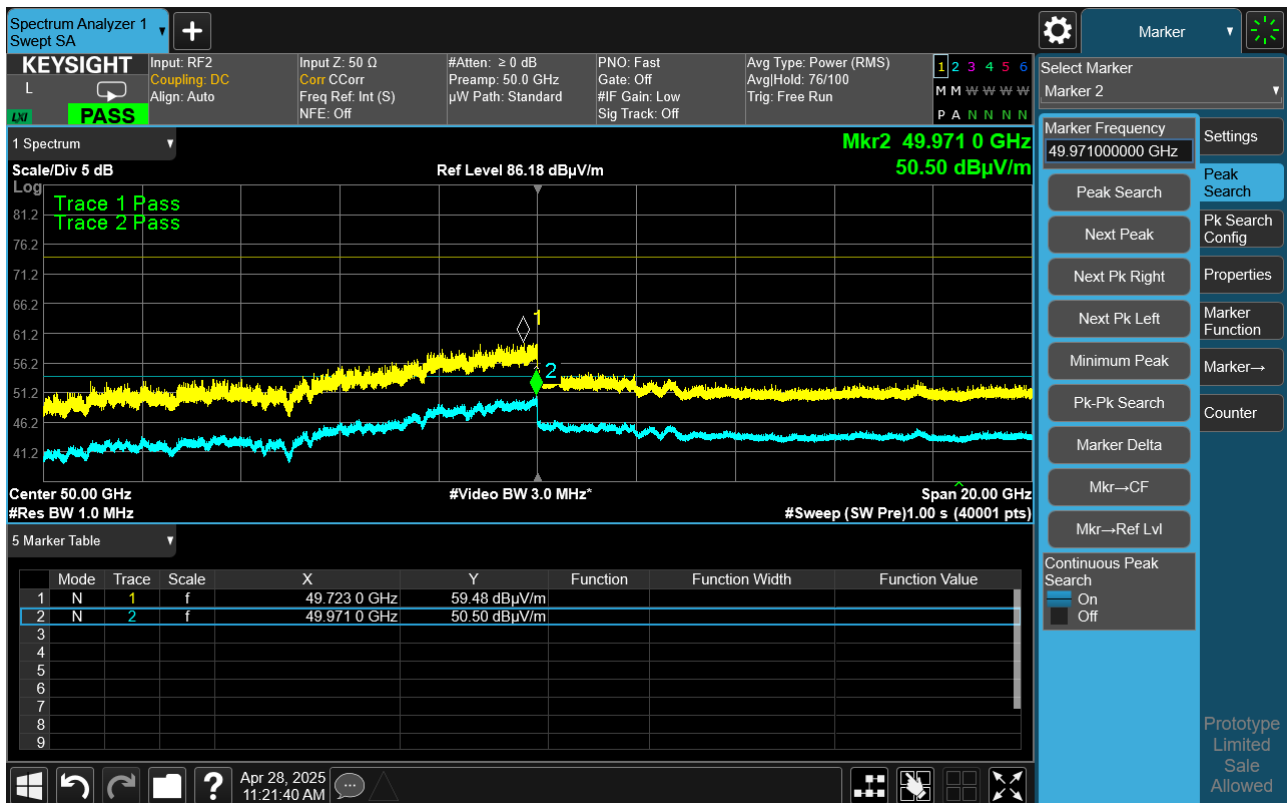
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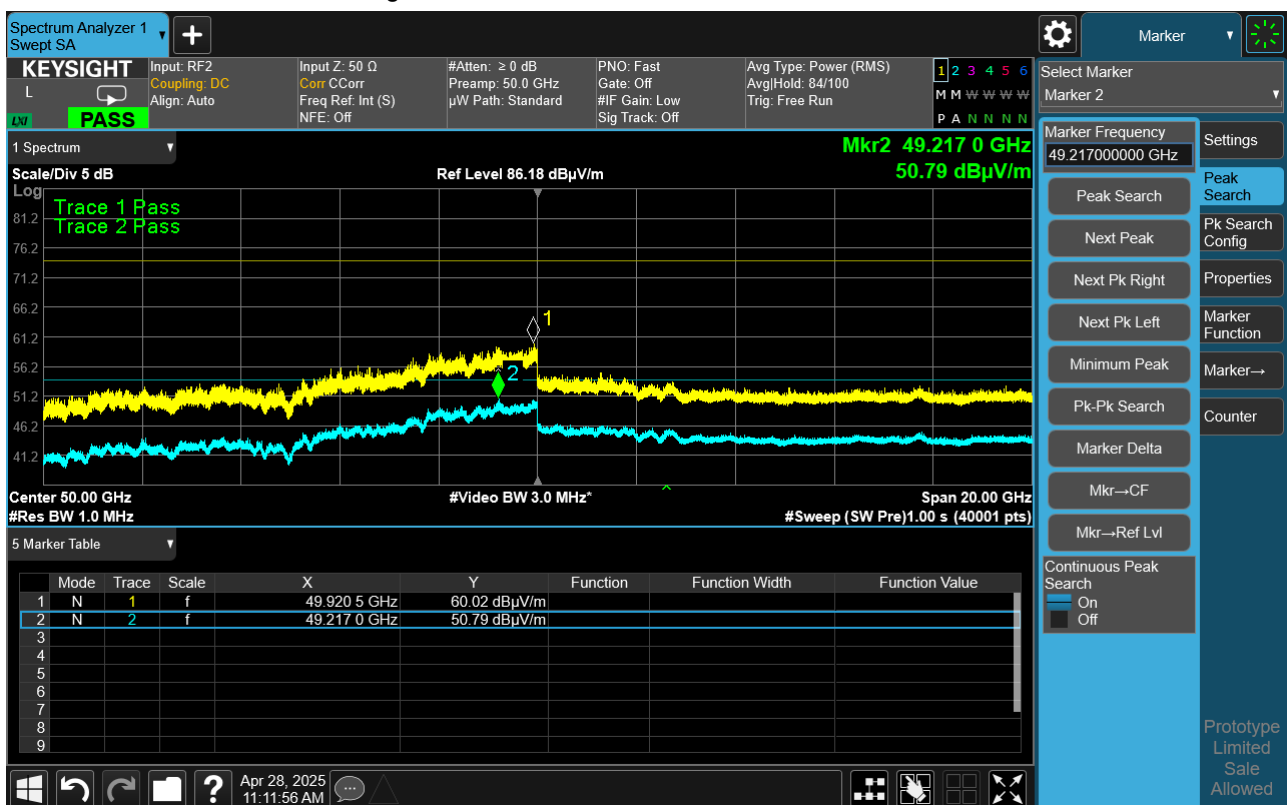
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4.4.2.5.18 40 to 60GHz, Mode Road _0dB

4.4.2.5.18.1 Elevation 0deg



4.4.2.5.18.2 Elevation 22.5deg

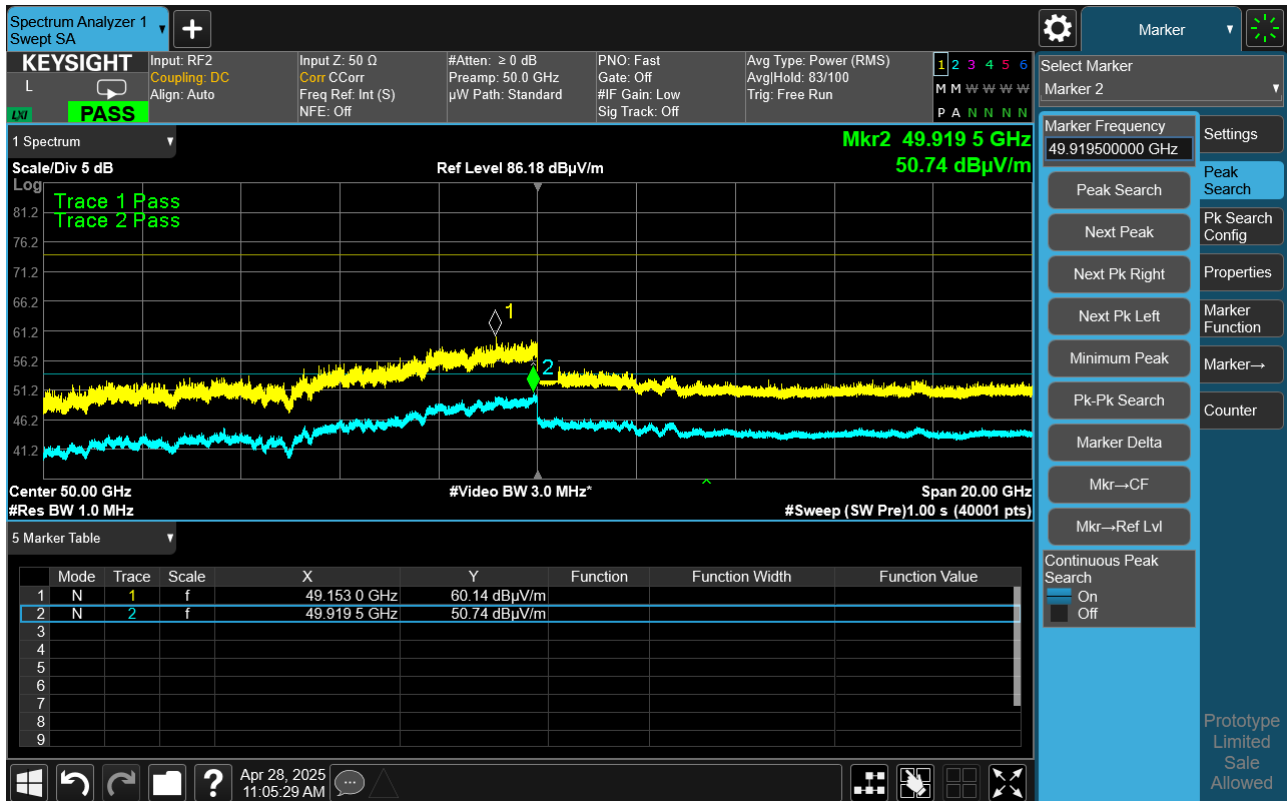


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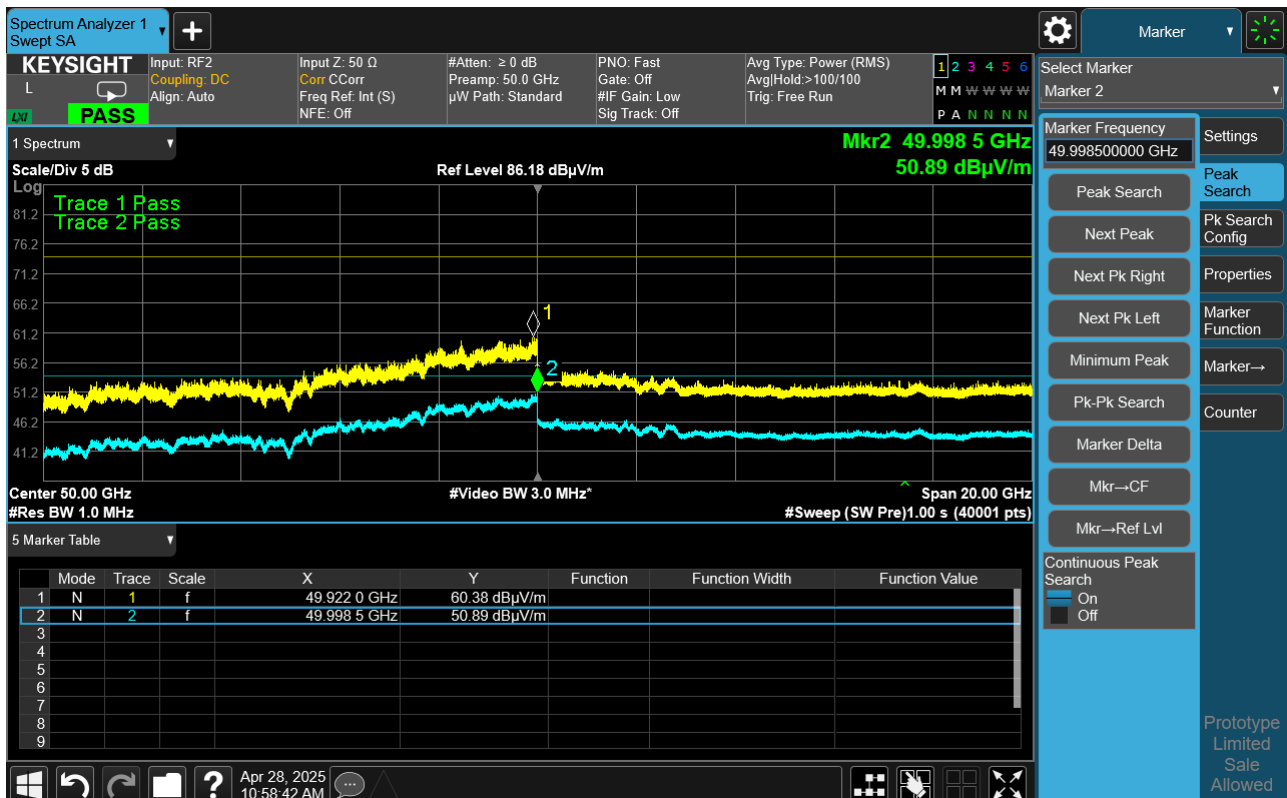
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4.4.2.5.18.3 Elevation 45deg



4.4.2.5.18.4 Elevation 67.5deg

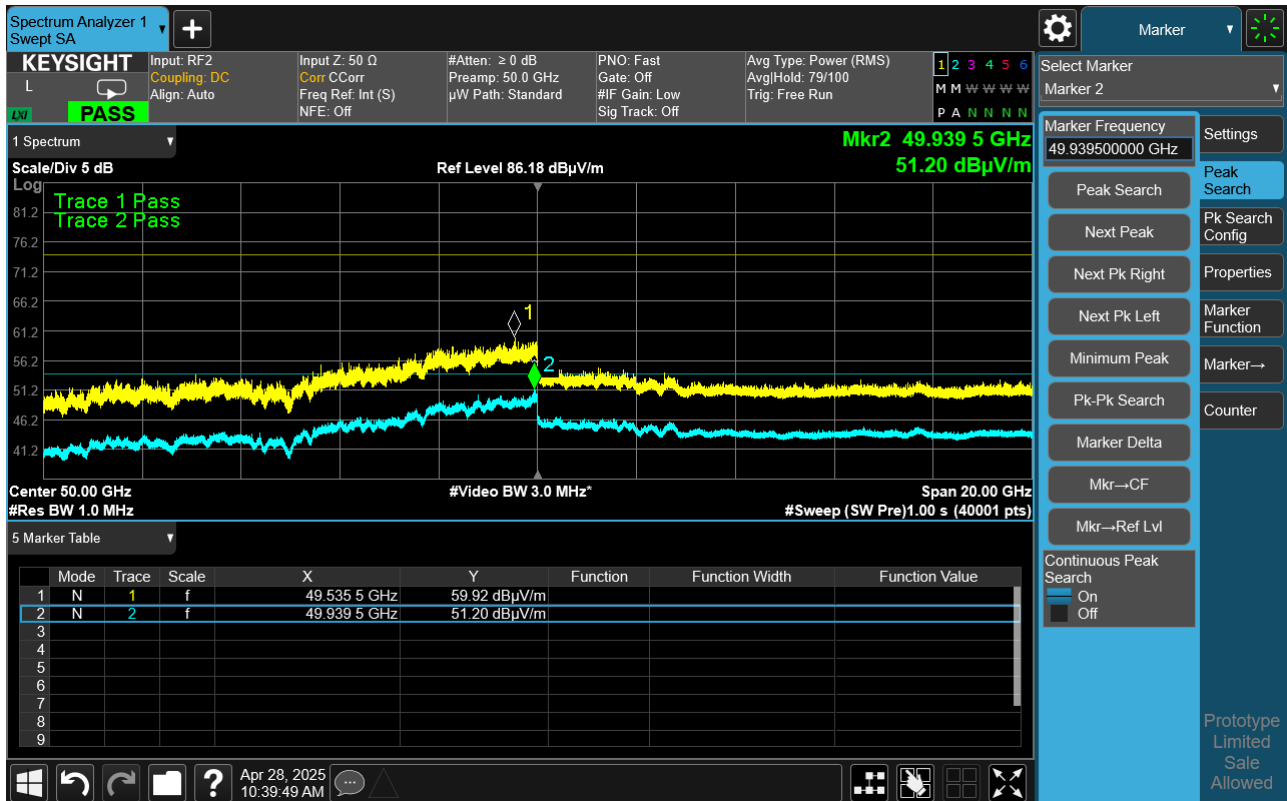


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4.4.2.5.18.5 Elevation 90deg



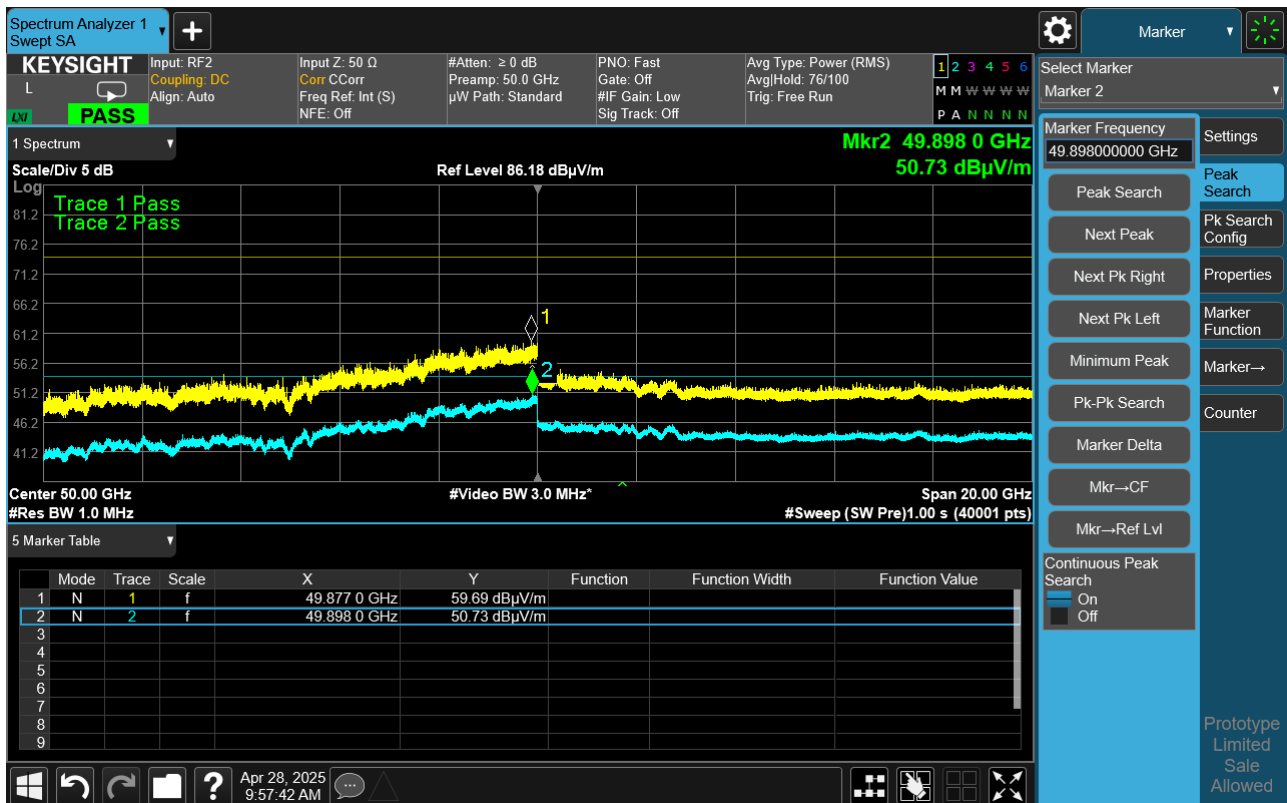
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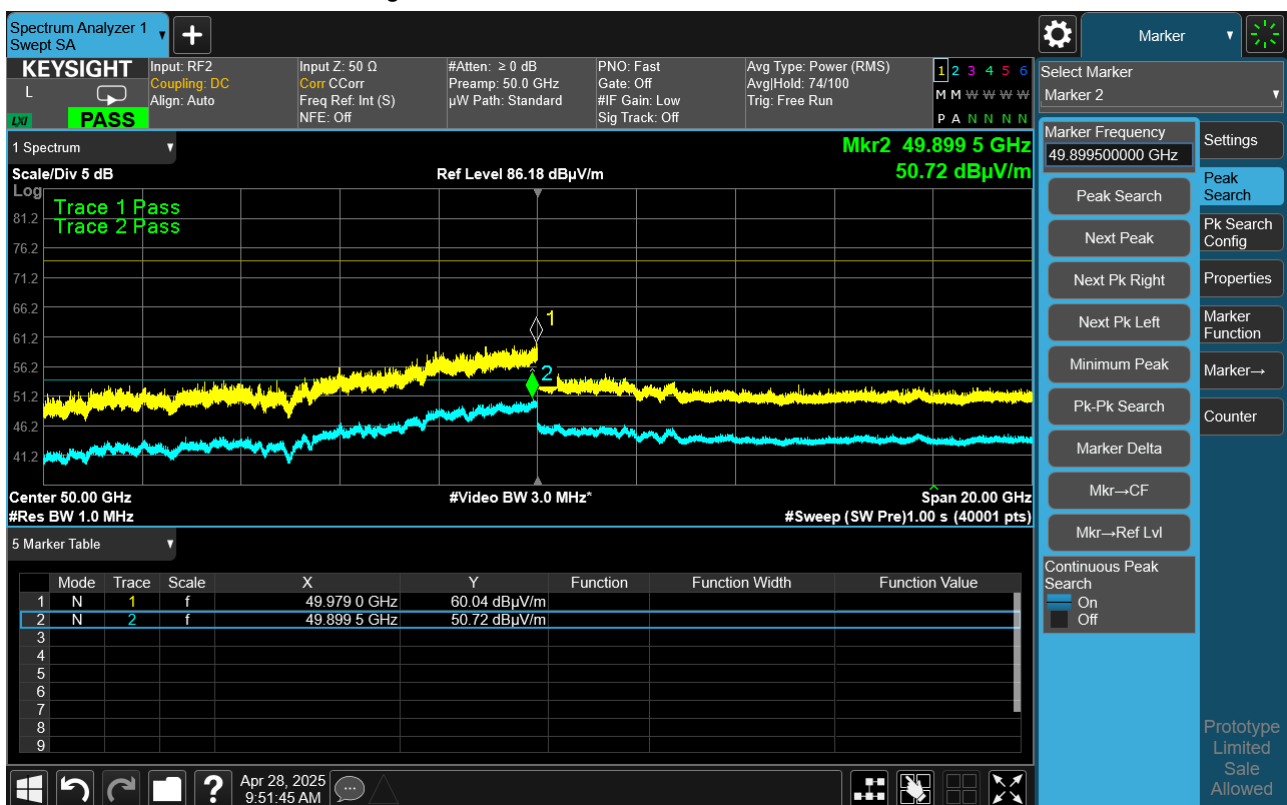
Prüfdokumentation Test documentation

4.4.2.5.19 40 to 60GHz, Mode Area_lowdoppler _-4dB

4.4.2.5.19.1 Elevation 0deg



4.4.2.5.19.2 Elevation 22.5deg

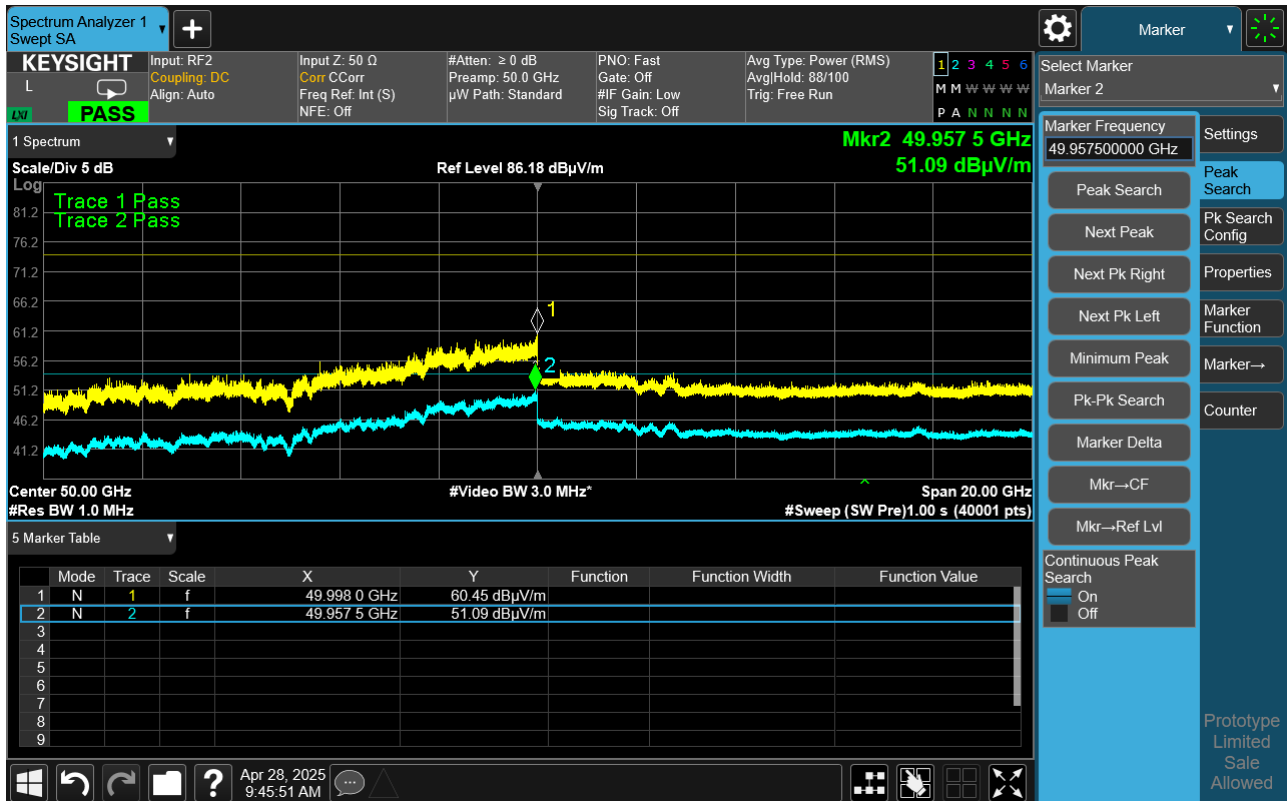


Prüfbericht-Nr.: DE25GP8C 001
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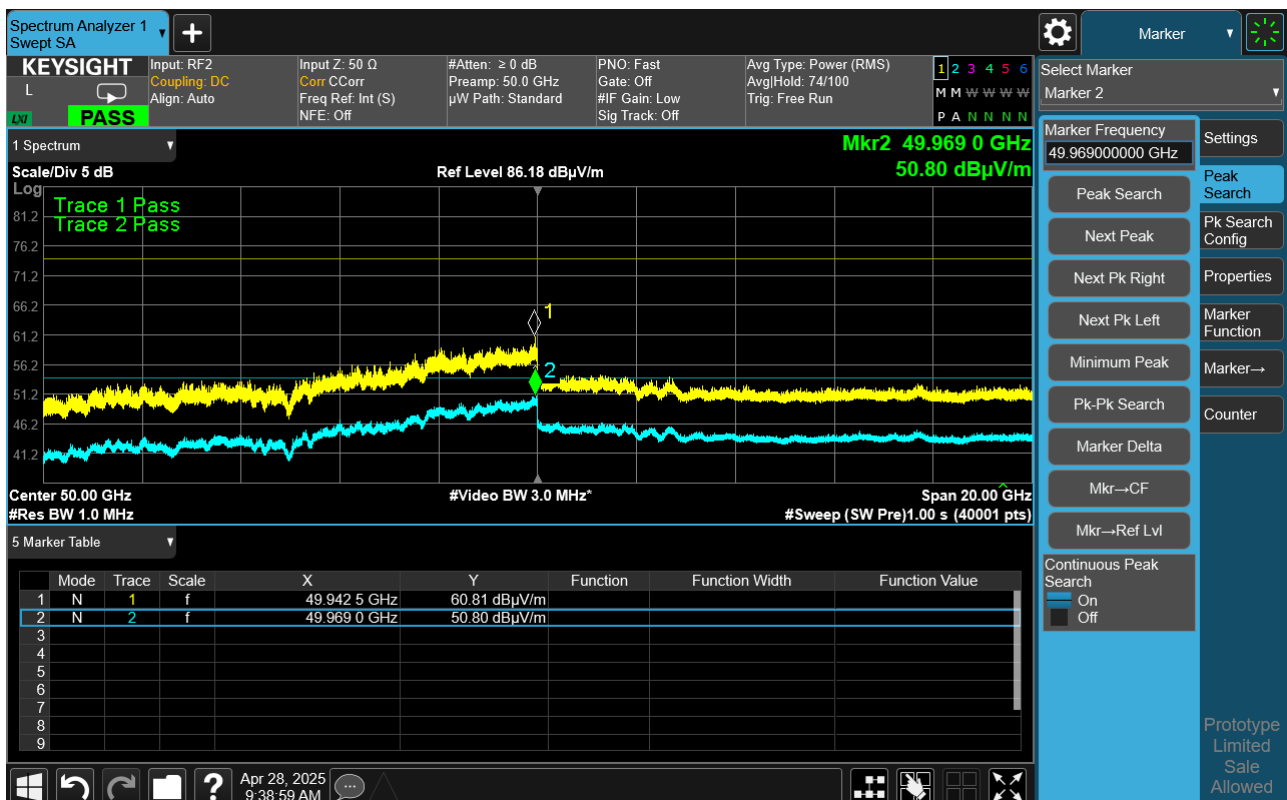
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4.4.2.5.19.3 Elevation 45deg



4.4.2.5.19.4 Elevation 67.5deg

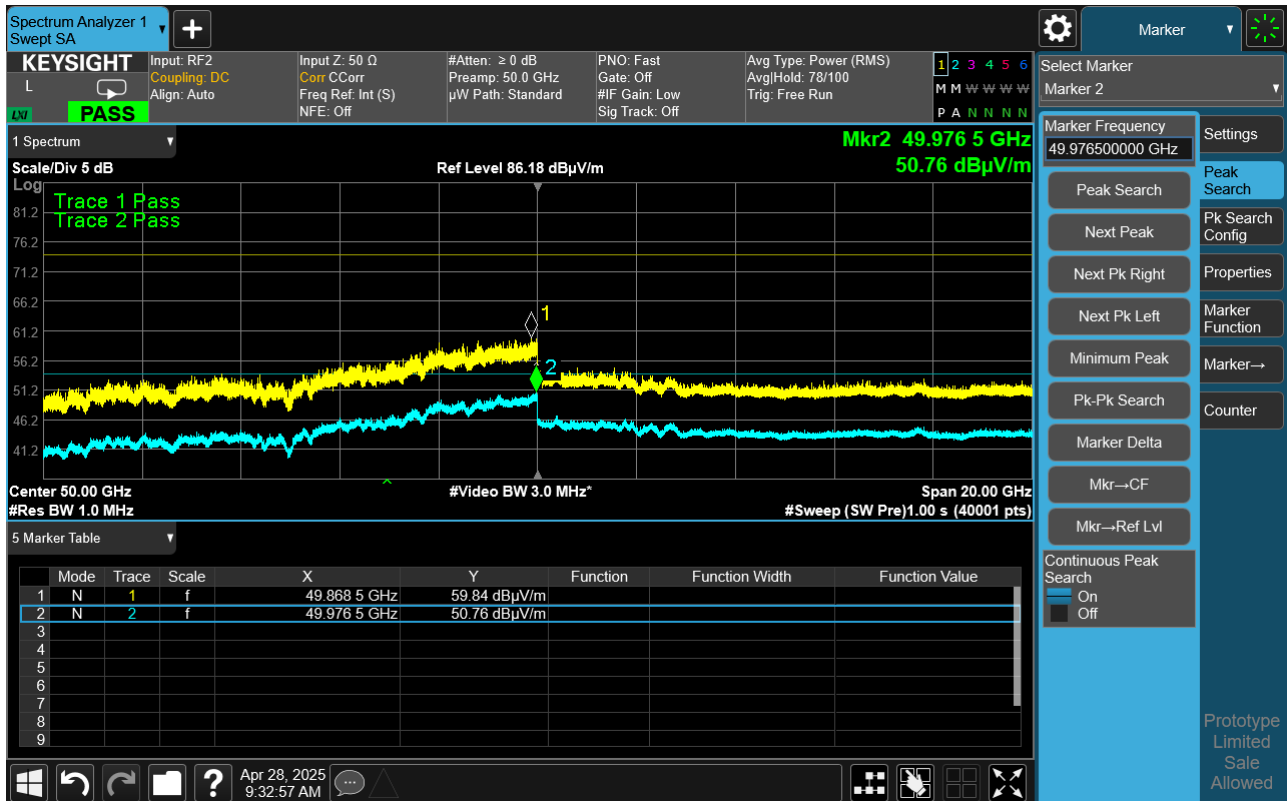


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4.4.2.5.19.5 Elevation 90deg



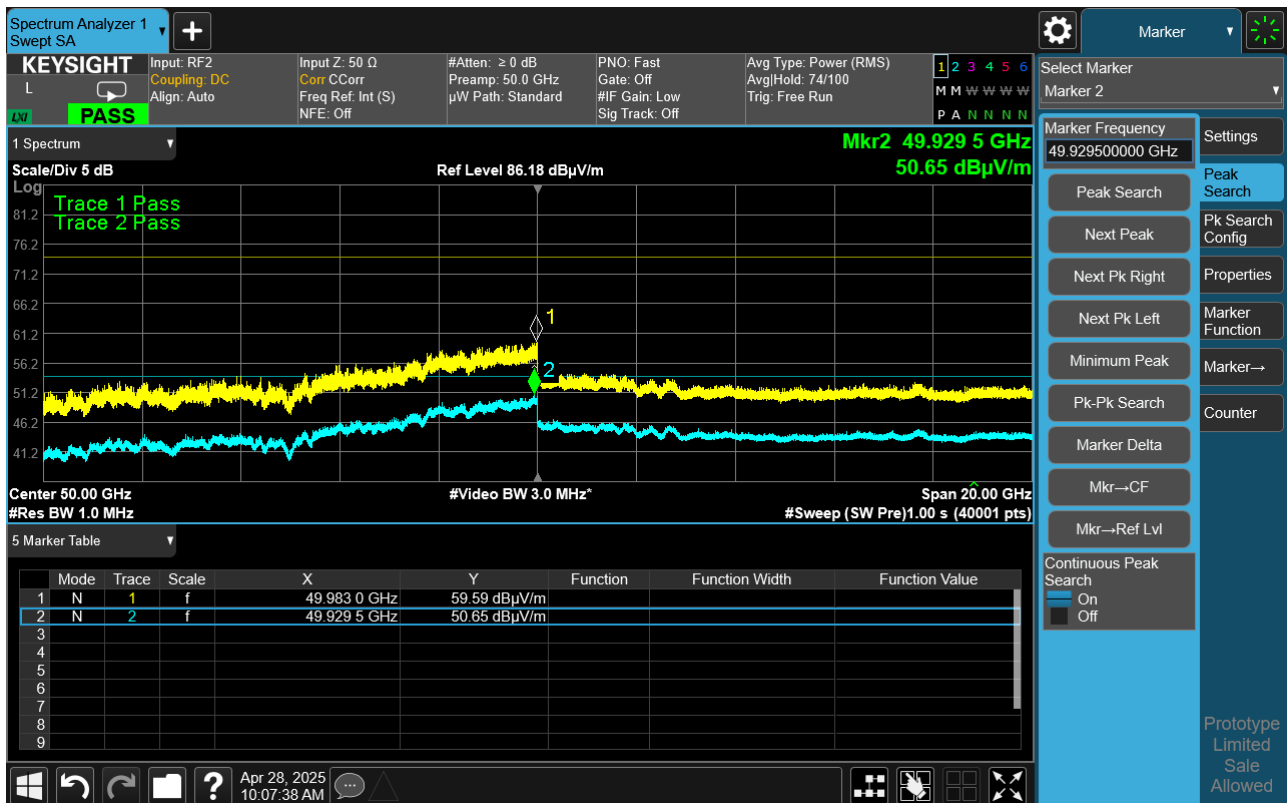
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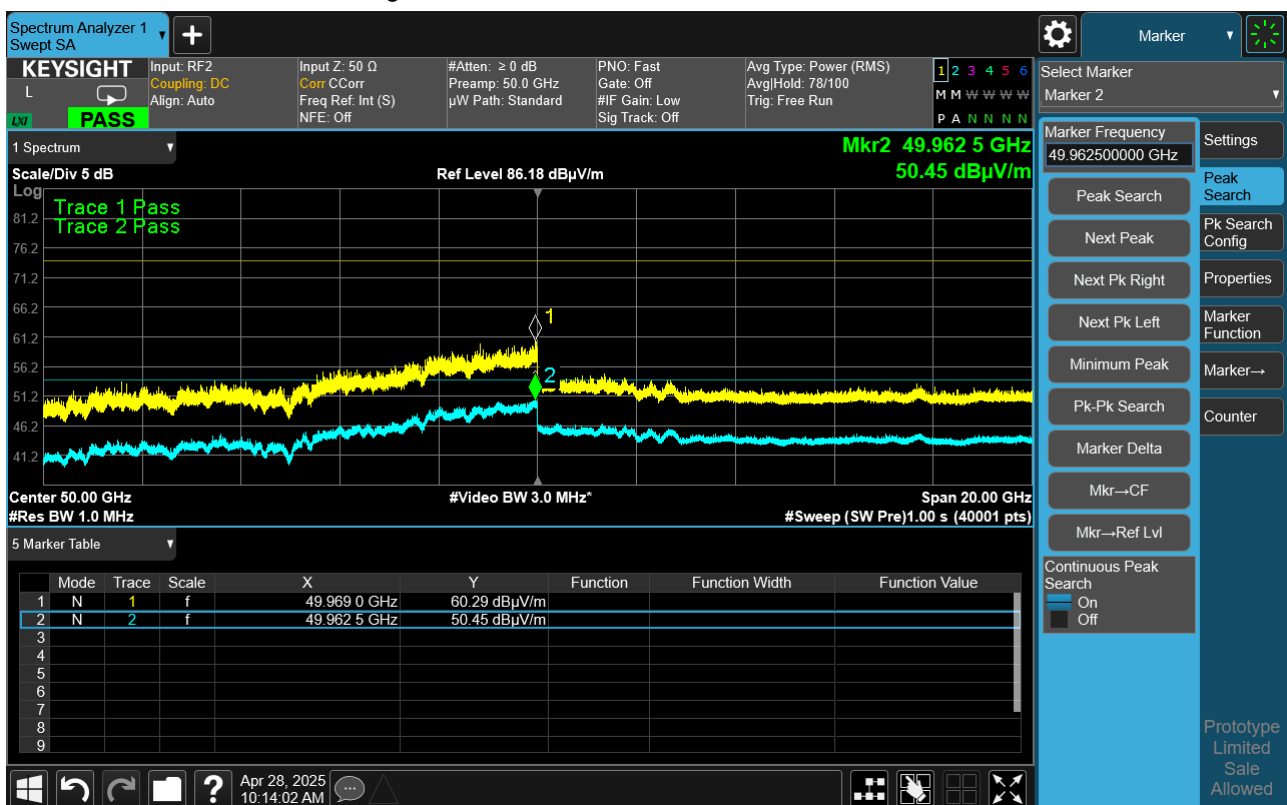
Prüfdokumentation Test documentation

4.4.2.5.20 40 to 60GHz, Mode Road _-4dB

4.4.2.5.20.1 Elevation 0deg



4.4.2.5.20.2 Elevation 22.5deg

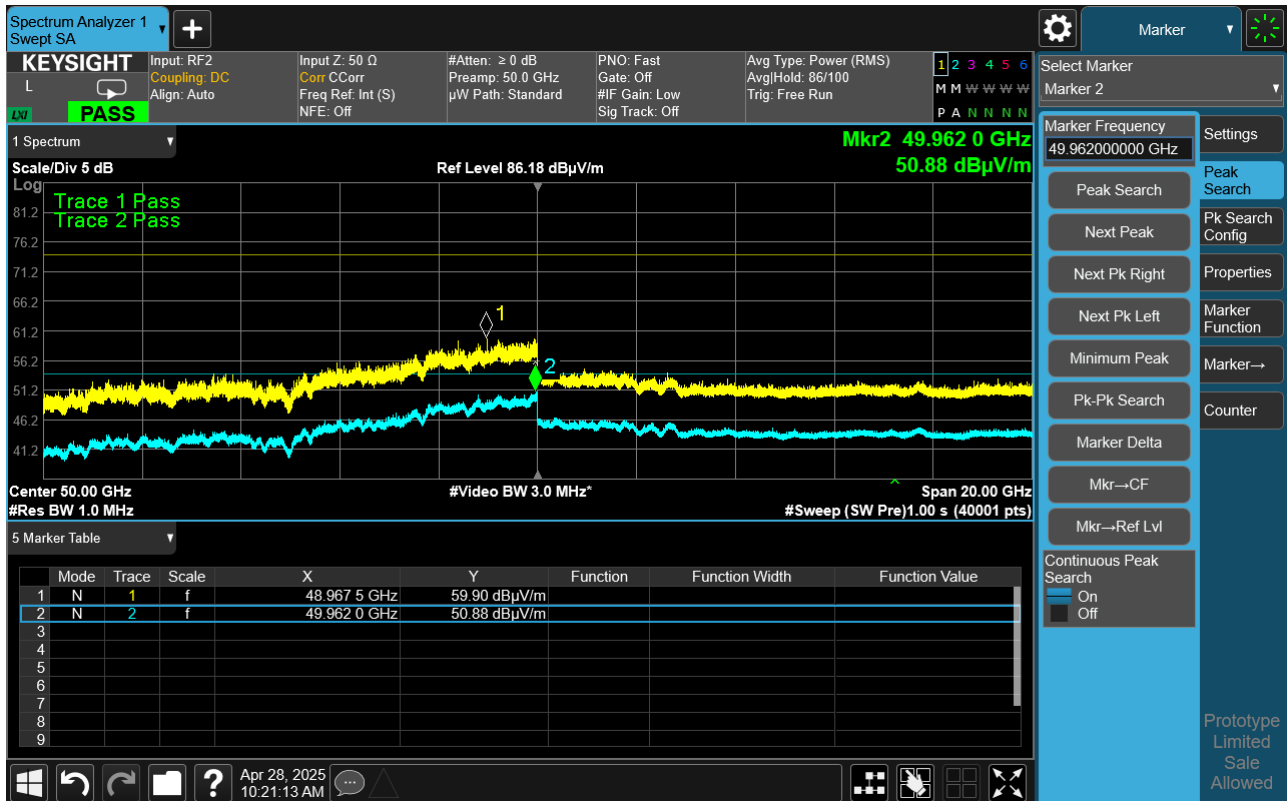


Prüfbericht-Nr.: DE25GP8C 001
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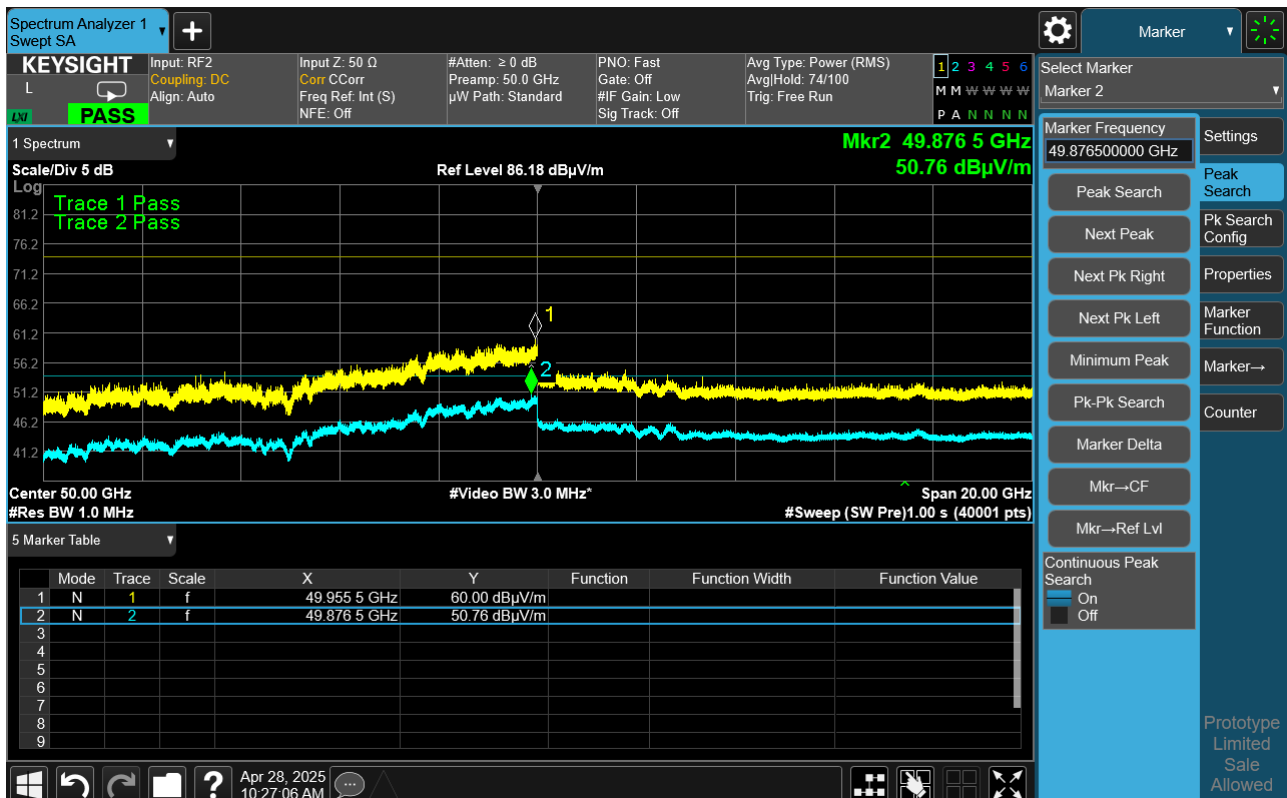
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4.4.2.5.20.3 Elevation 45deg



4.4.2.5.20.4 Elevation 67.5deg

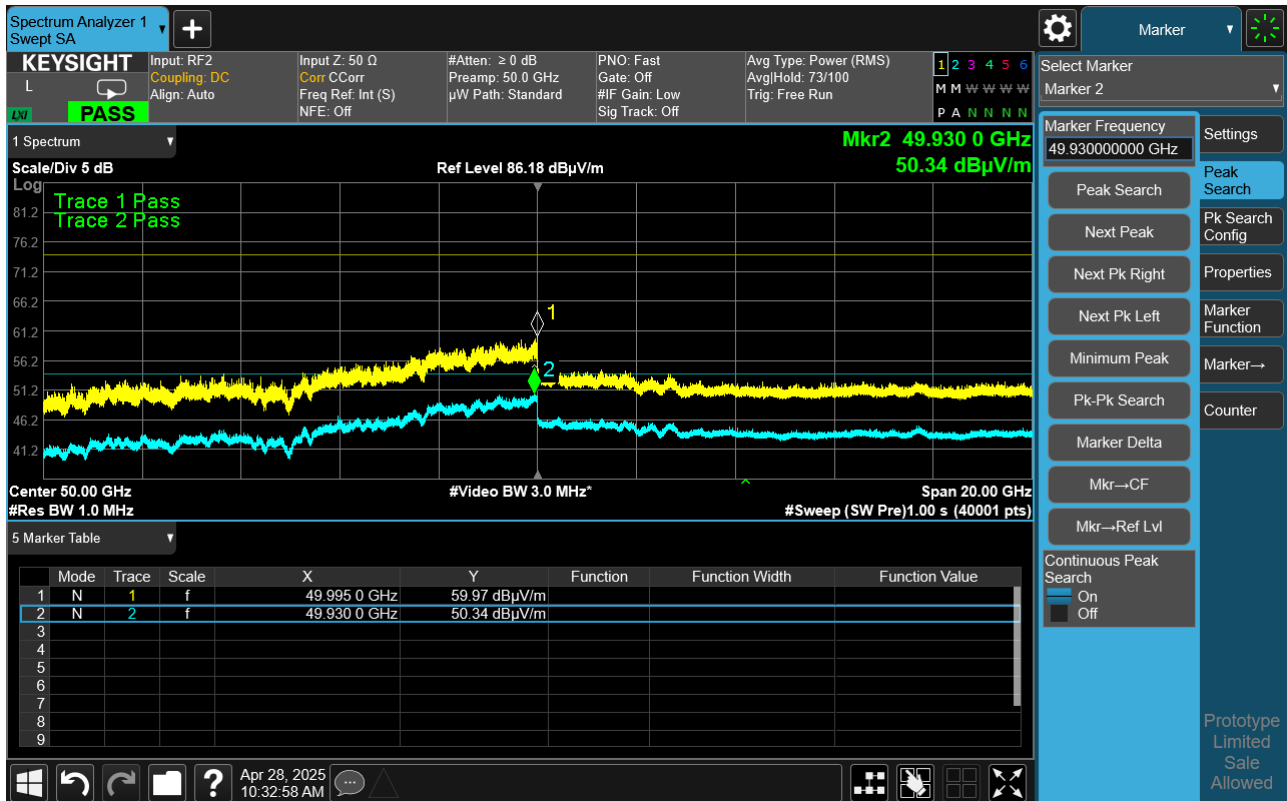


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4.4.2.5.20.5 Elevation 90deg



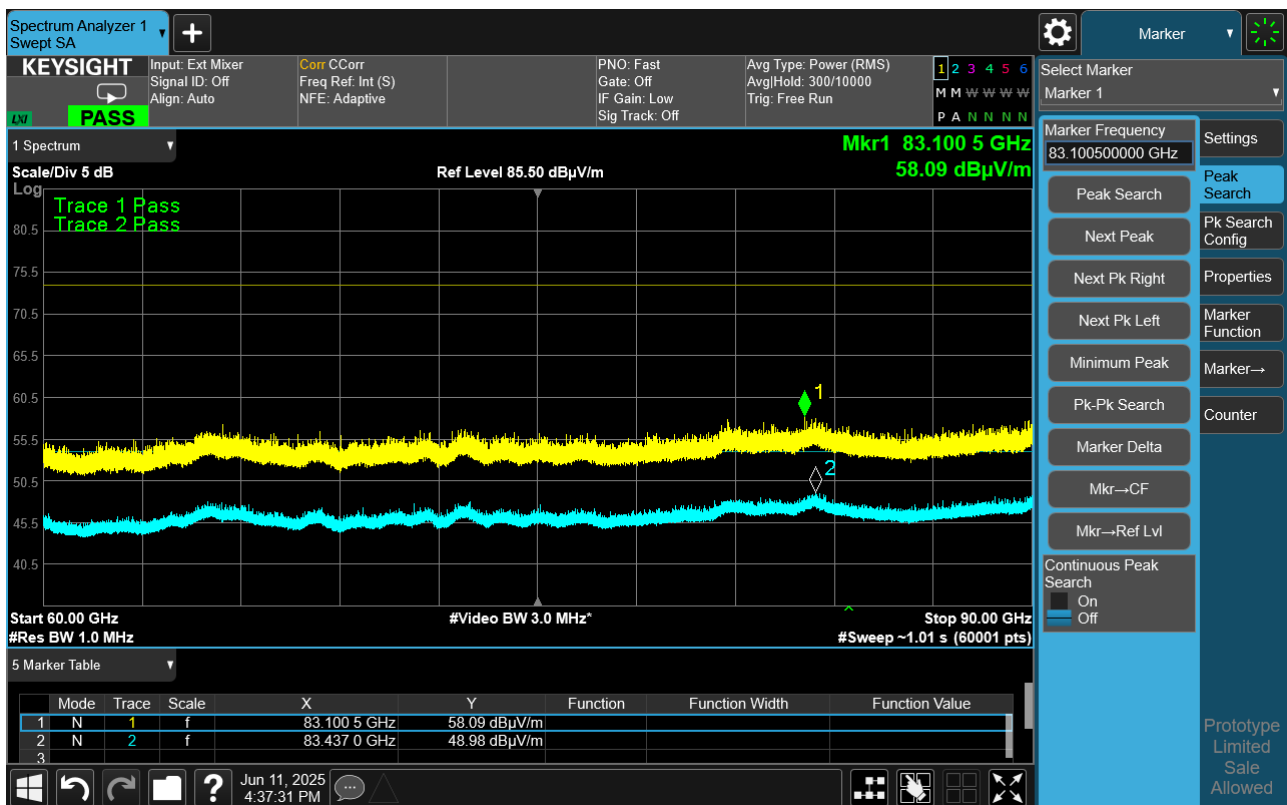
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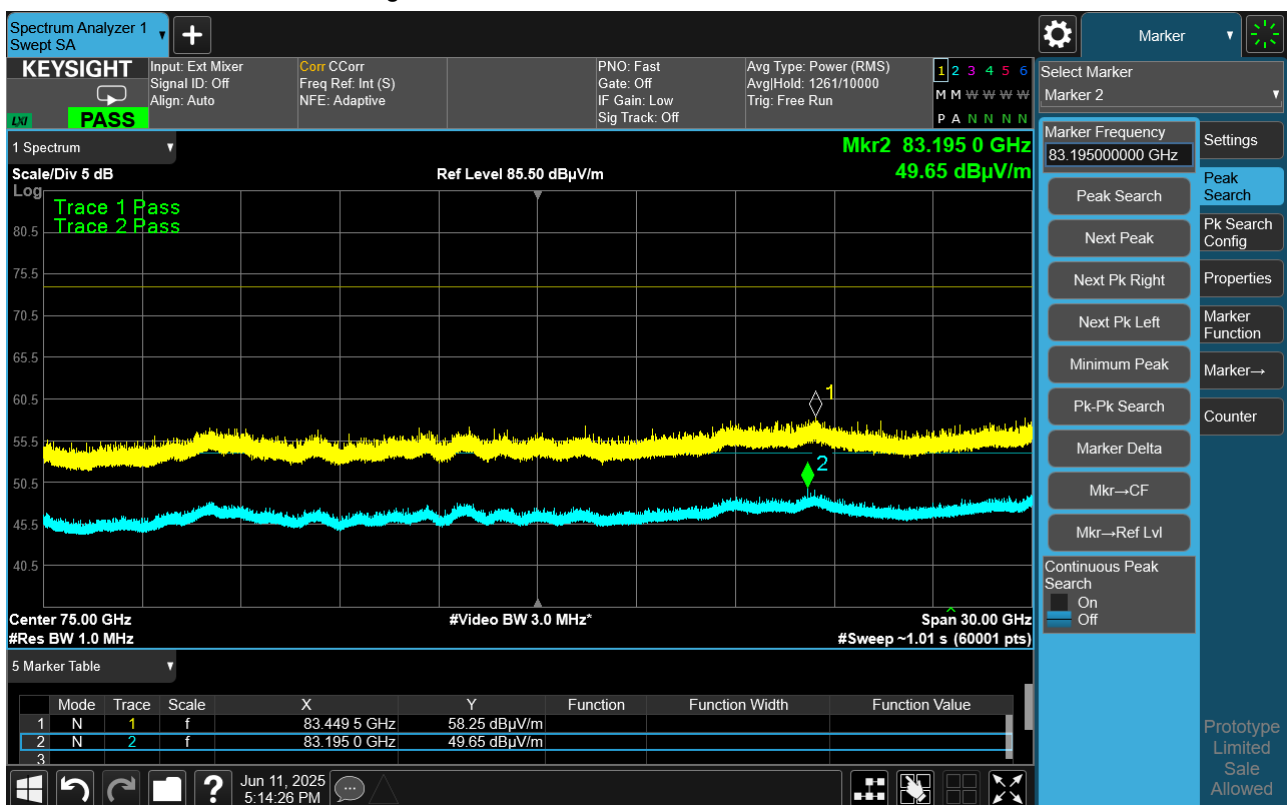
Prüfdokumentation Test documentation

4.4.2.5.21 60 to 90GHz, Mode Area_lowdoppler _0dB

4.4.2.5.21.1 Elevation 0deg



4.4.2.5.21.2 Elevation 22.5deg

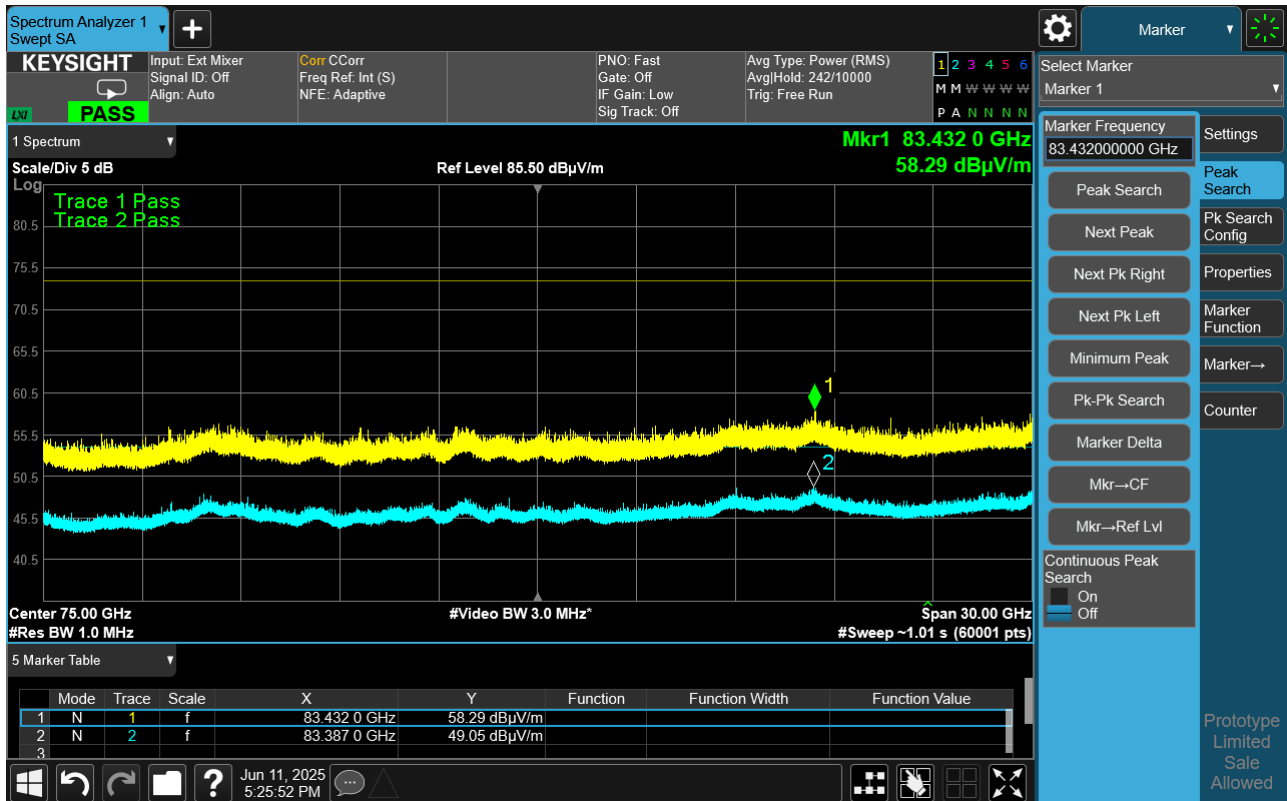


Prüfbericht-Nr.: DE25GP8C 001
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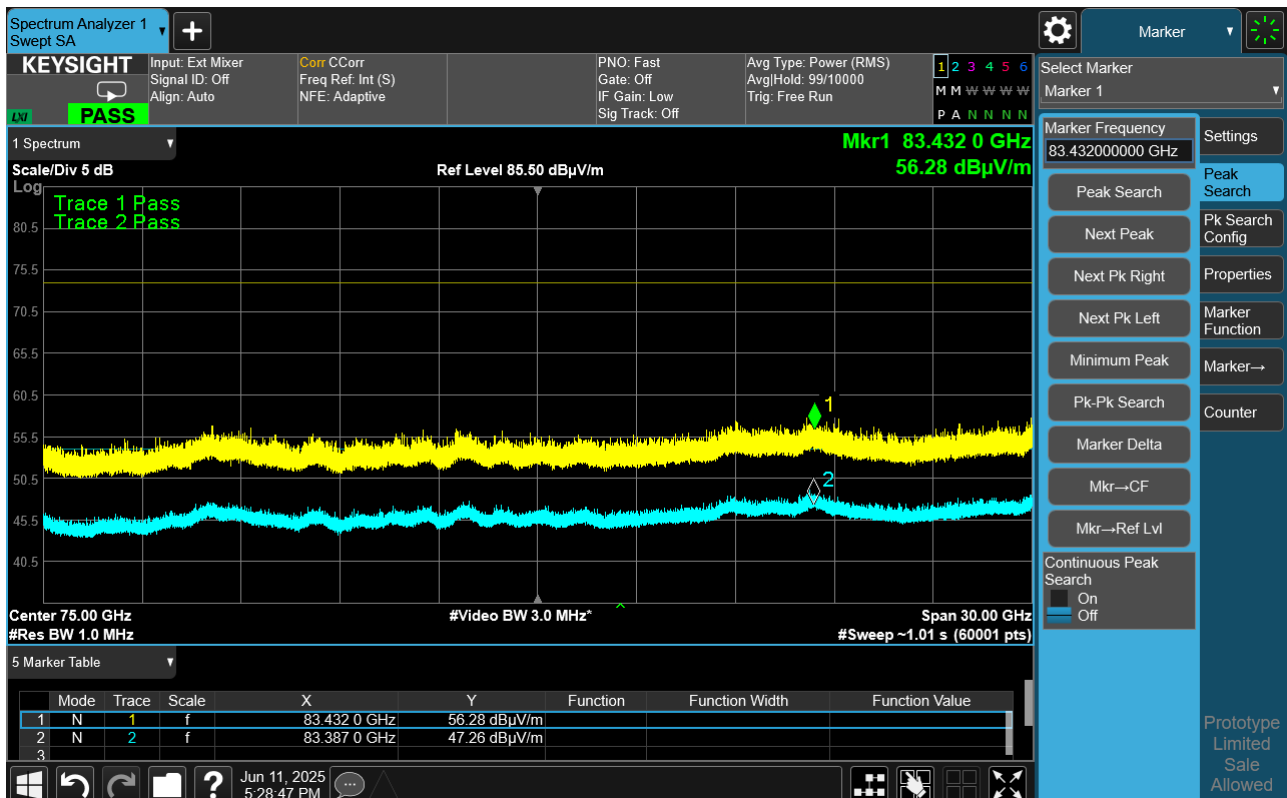
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4.4.2.5.21.3 Elevation45deg



4.4.2.5.21.4 Elevation 67.5deg

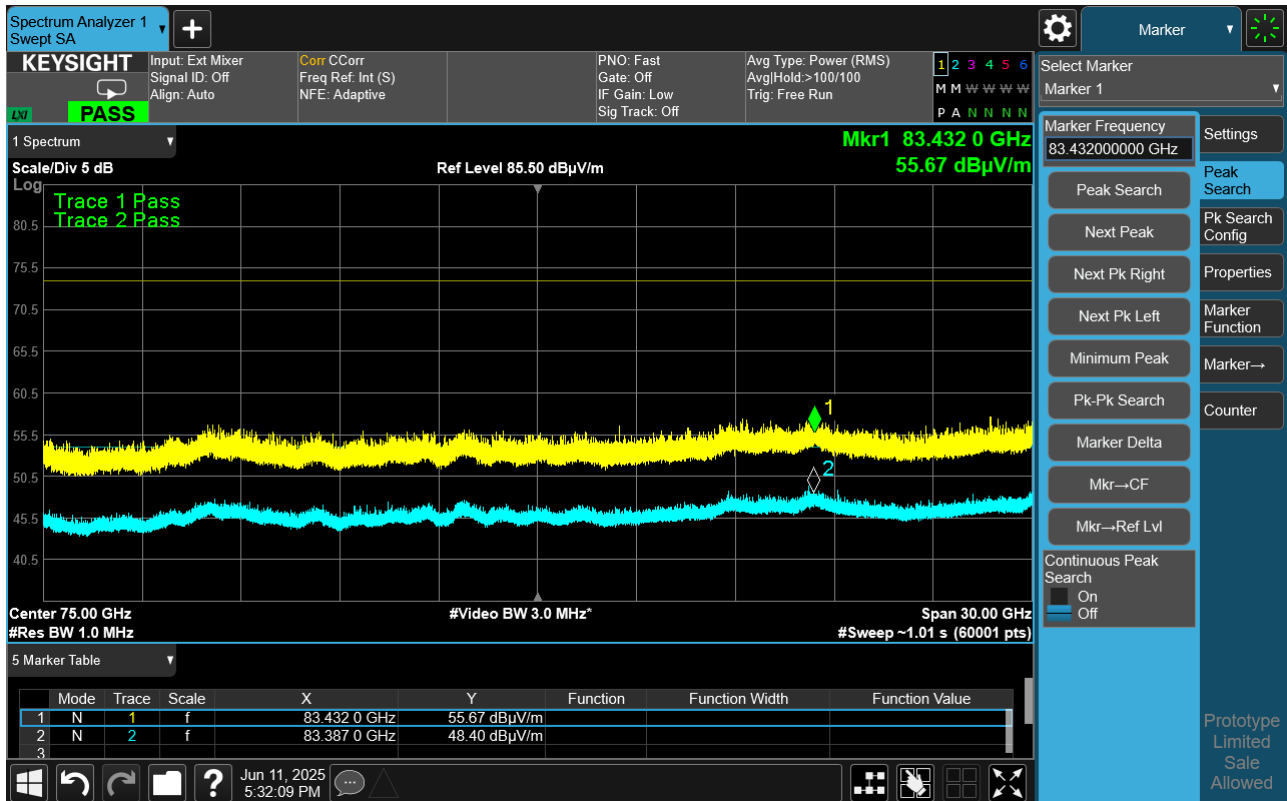


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4.4.2.5.21.5 Elevation 90deg



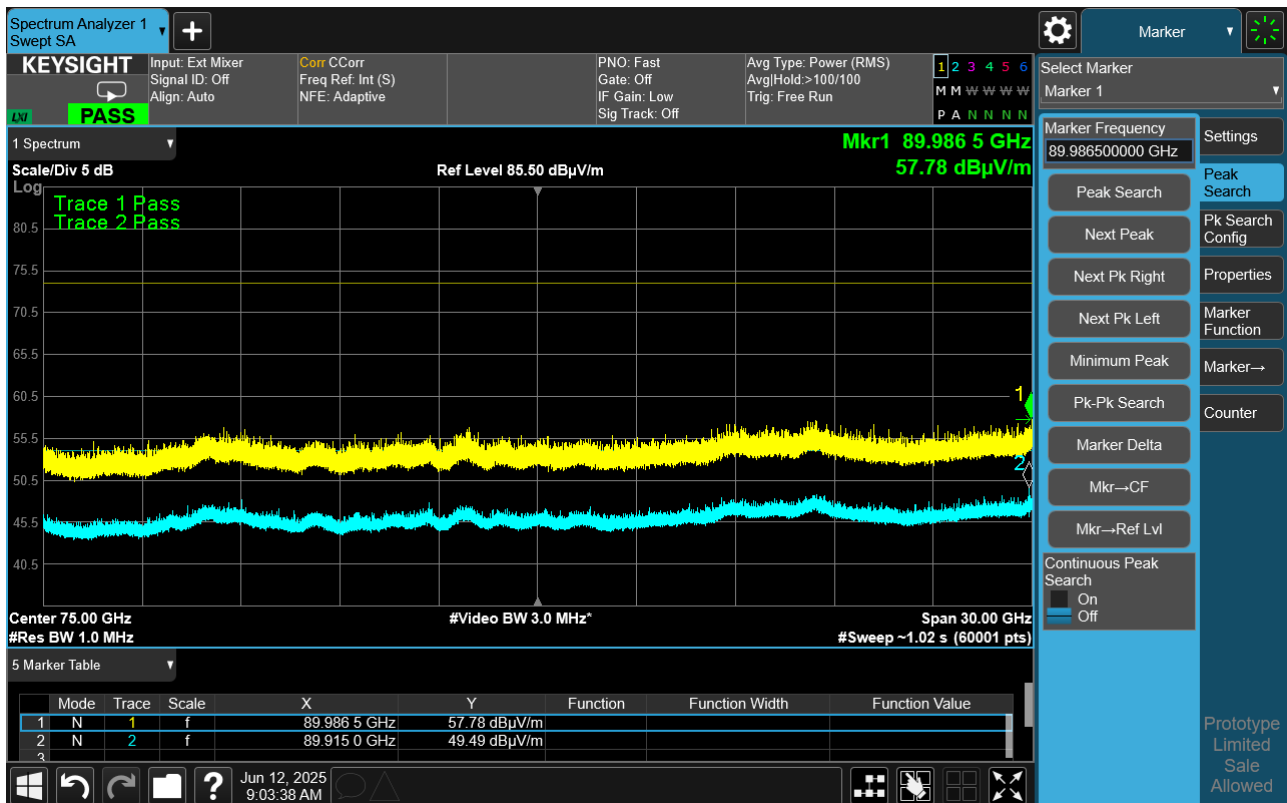
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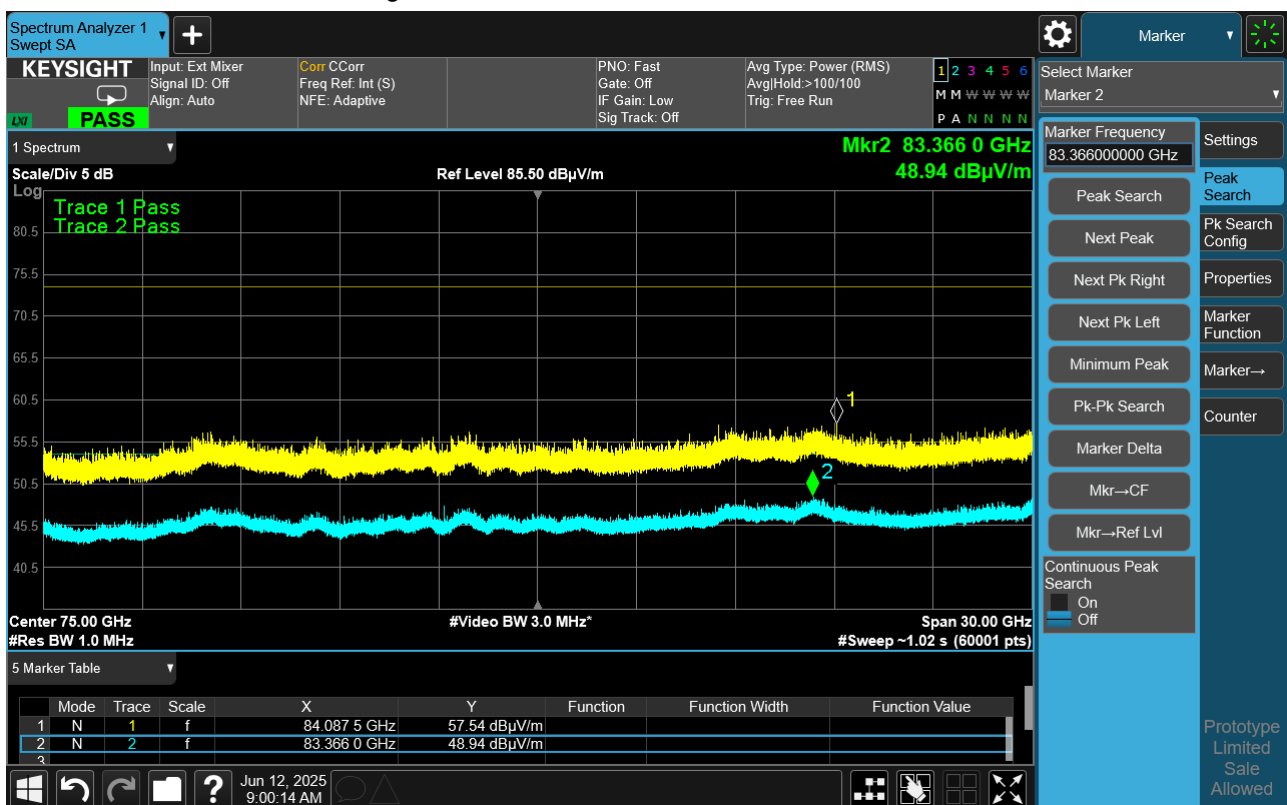
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4.4.2.5.22 60 to 90GHz, Mode Road _0dB

4.4.2.5.22.1 Elevation 0deg



4.4.2.5.22.2 Elevation 22.5deg

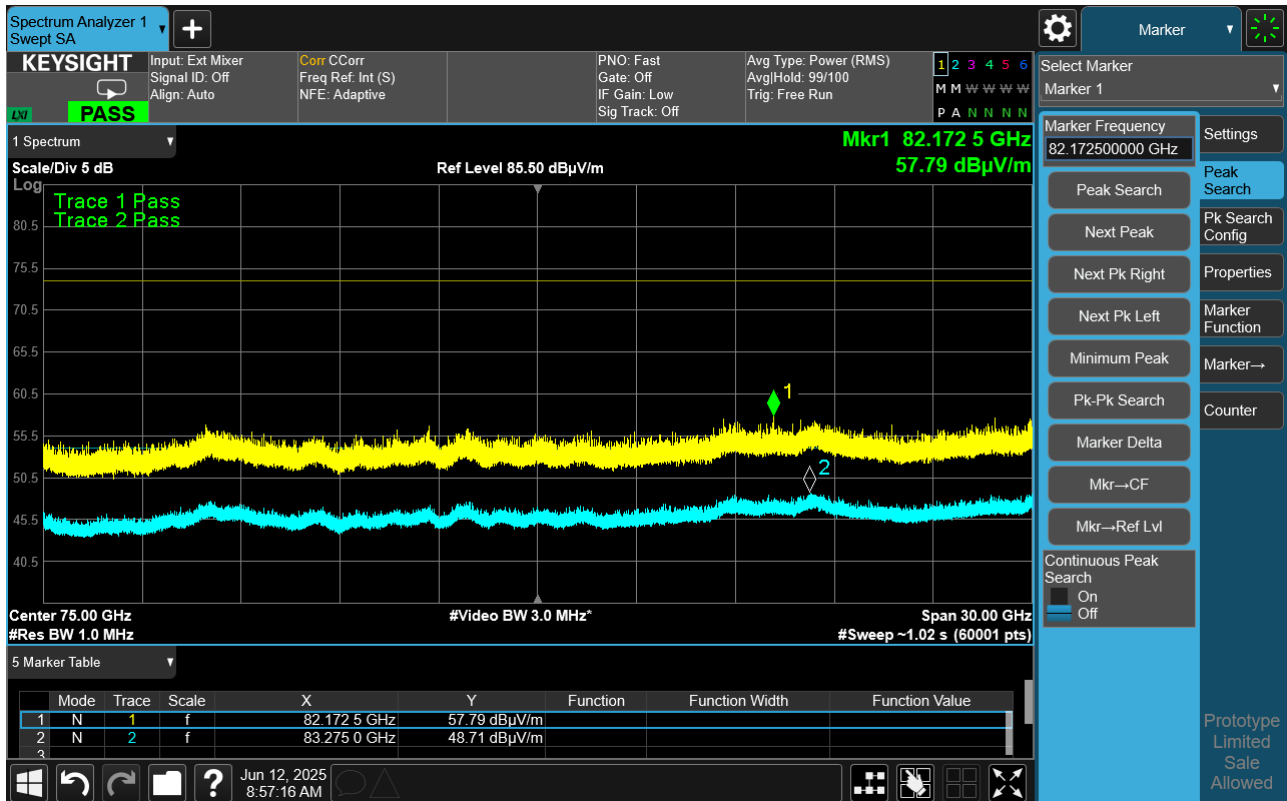


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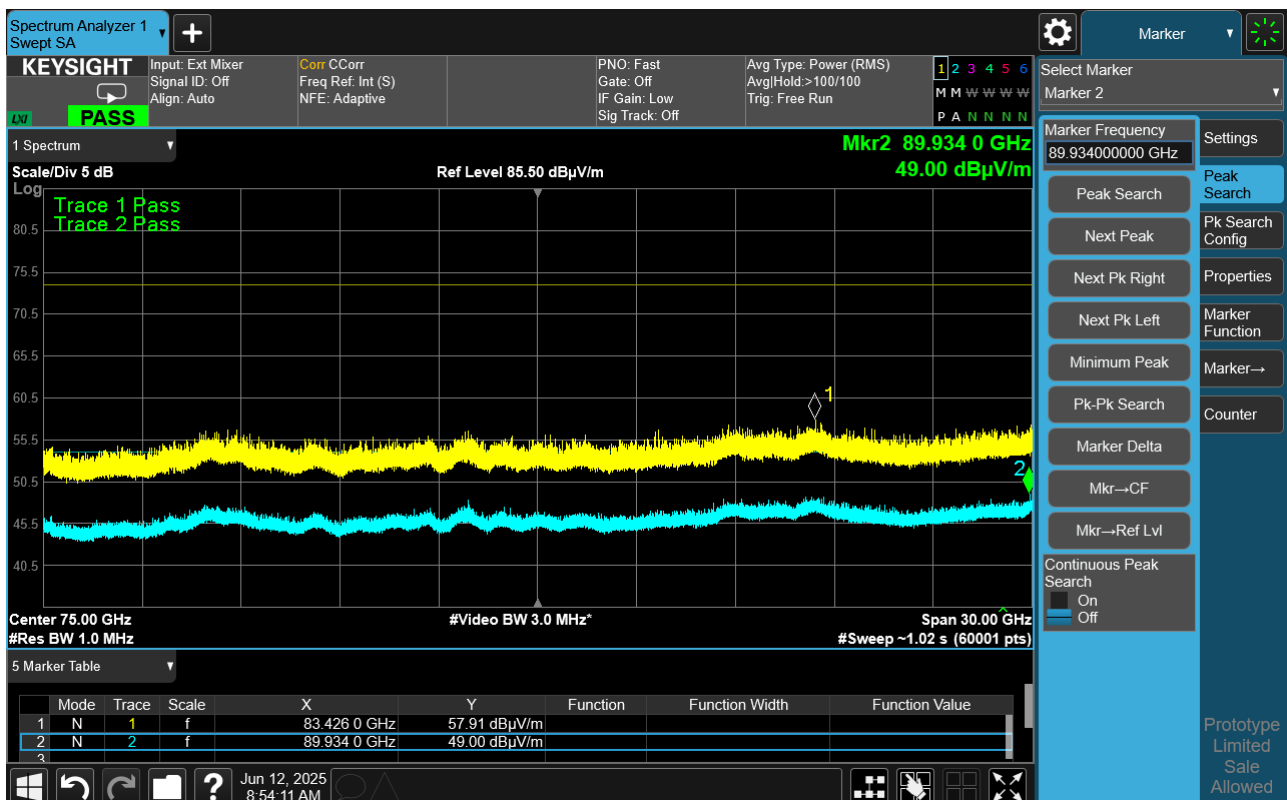
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4.4.2.5.22.3 Elevation45deg



4.4.2.5.22.4 Elevation 67.5deg

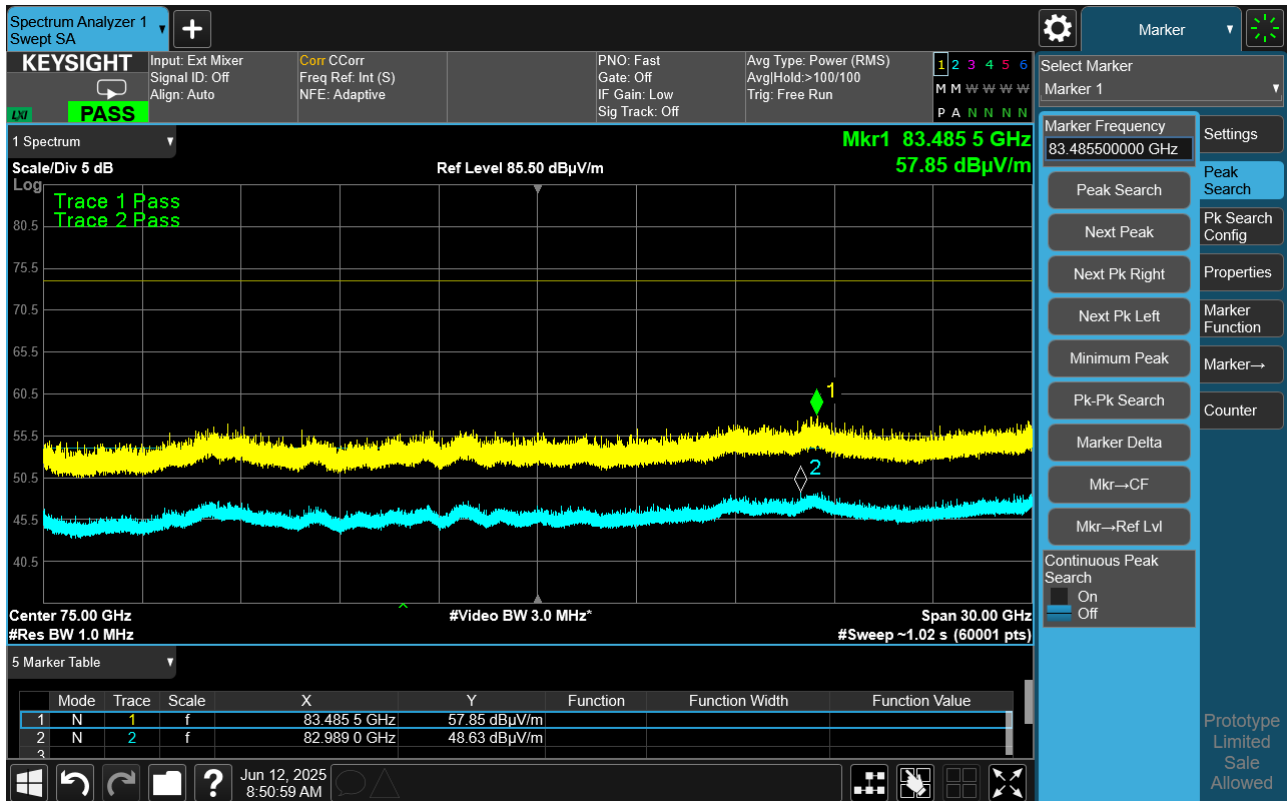


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4.4.2.5.22.5 Elevation 90deg



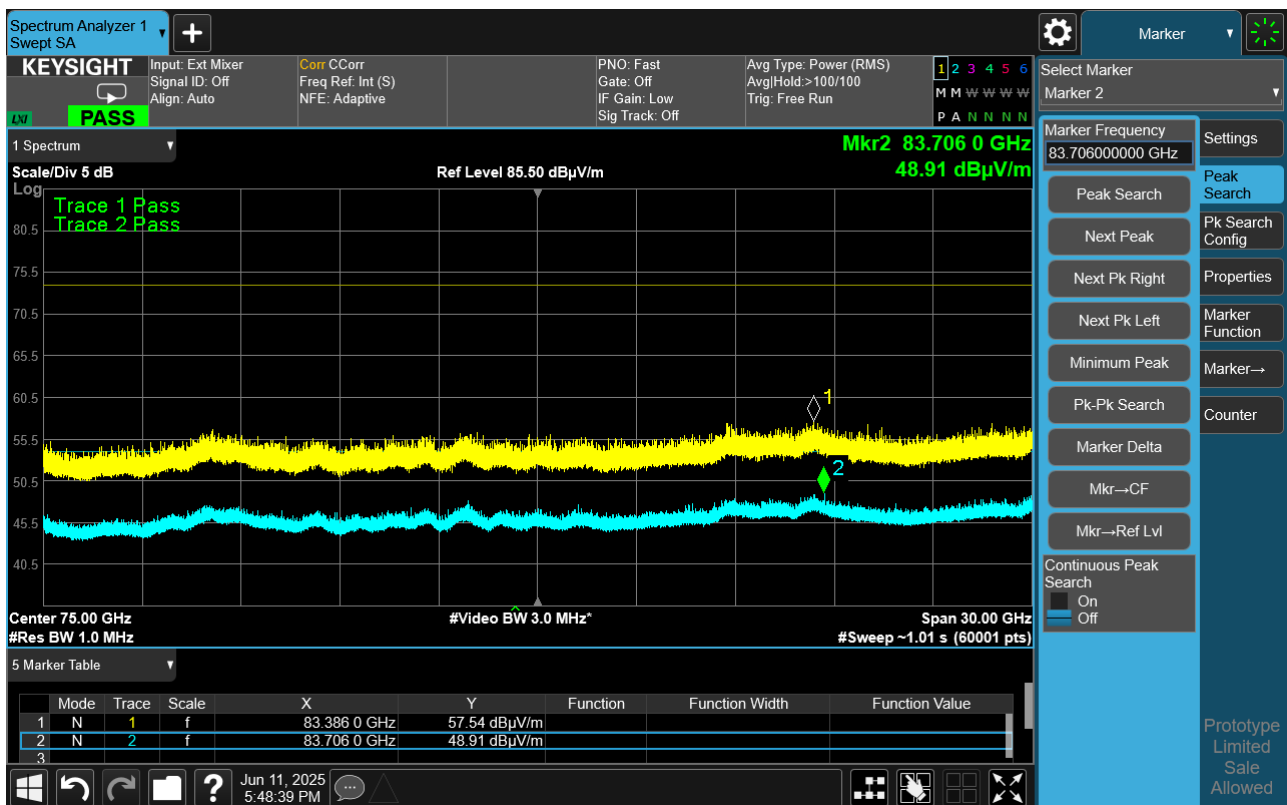
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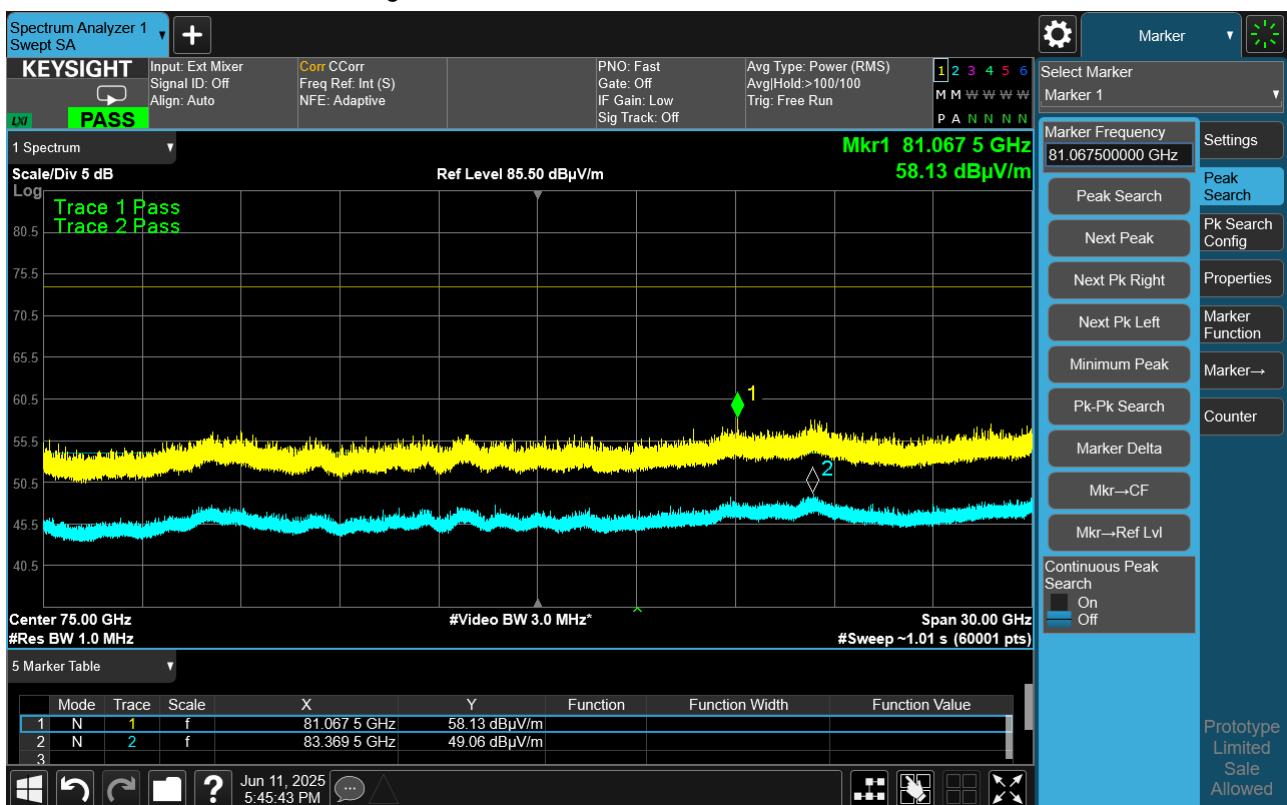
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4.4.2.5.23 60 to 90GHz, Mode Area_lowdoppler _-4dB

4.4.2.5.23.1 Elevation 0deg



4.4.2.5.23.2 Elevation 22.5deg

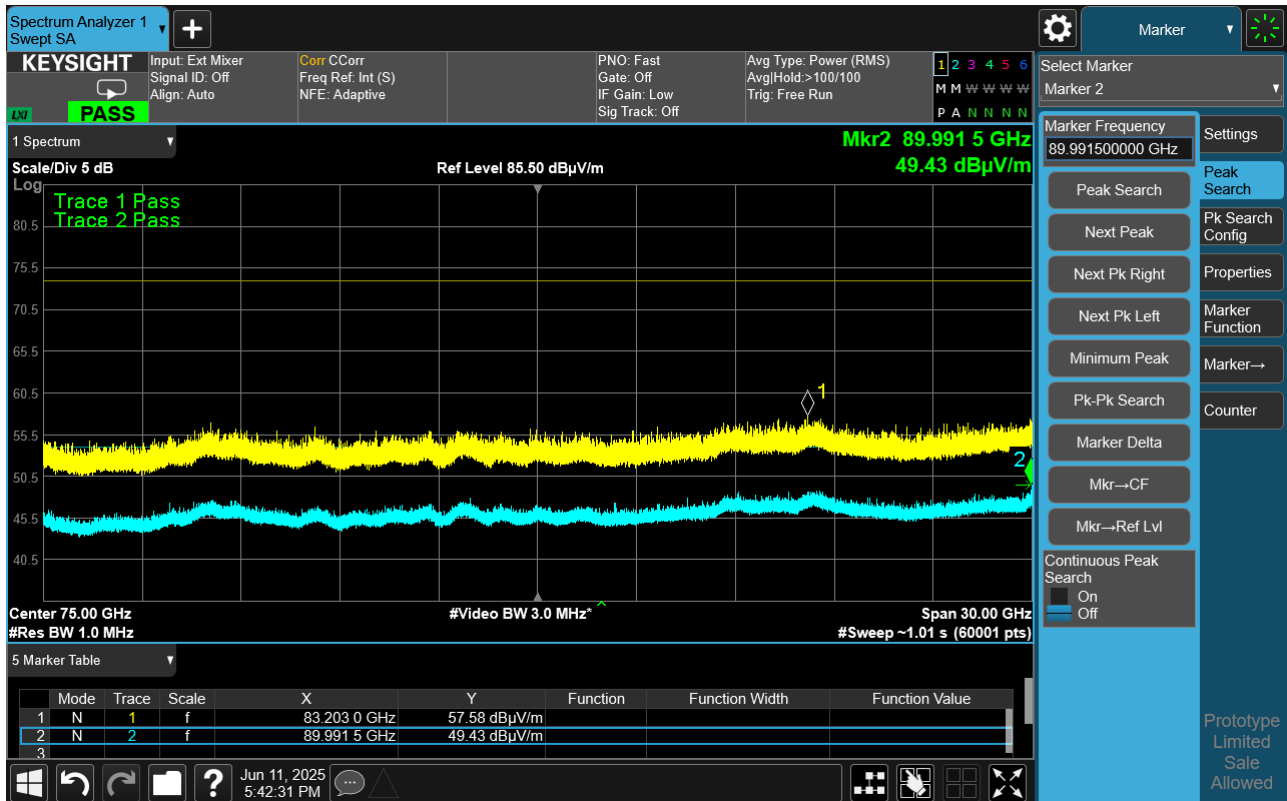


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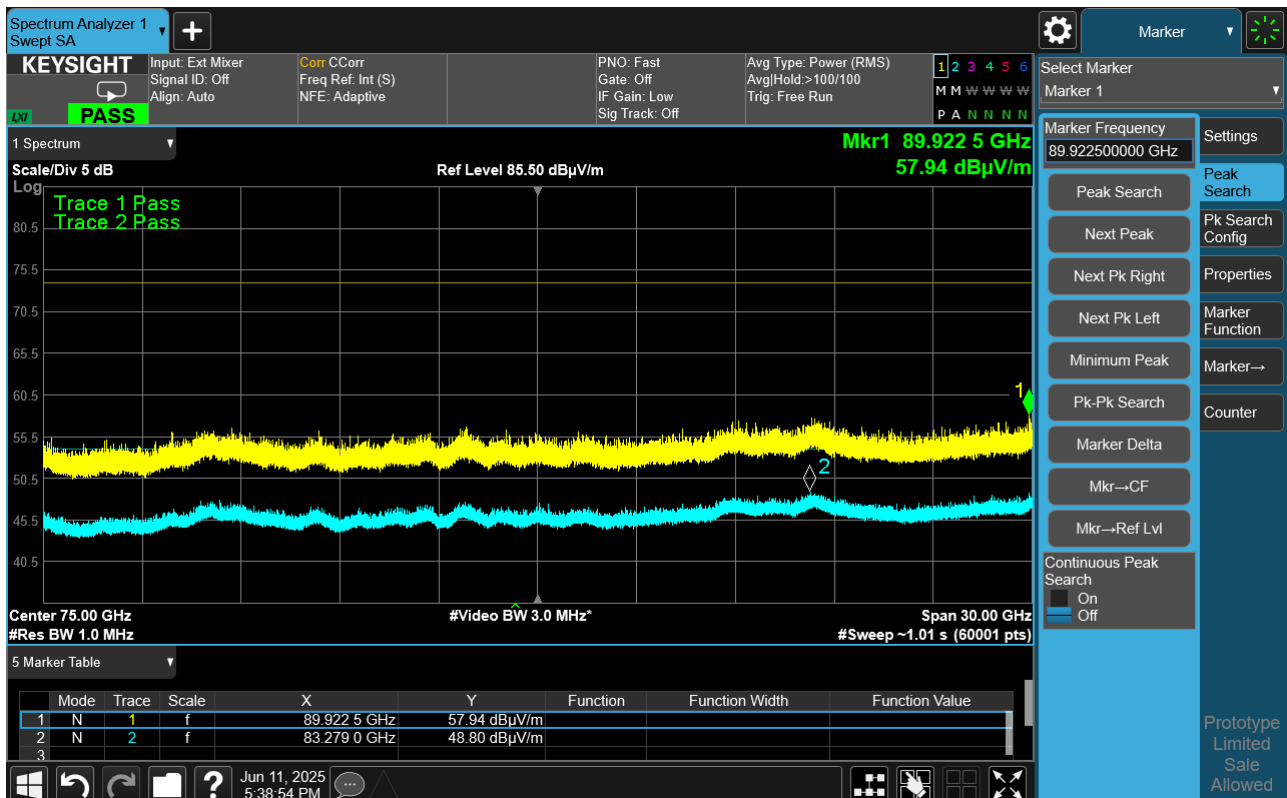
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4.4.2.5.23.3 Elevation45deg



4.4.2.5.23.4 Elevation 67.5deg

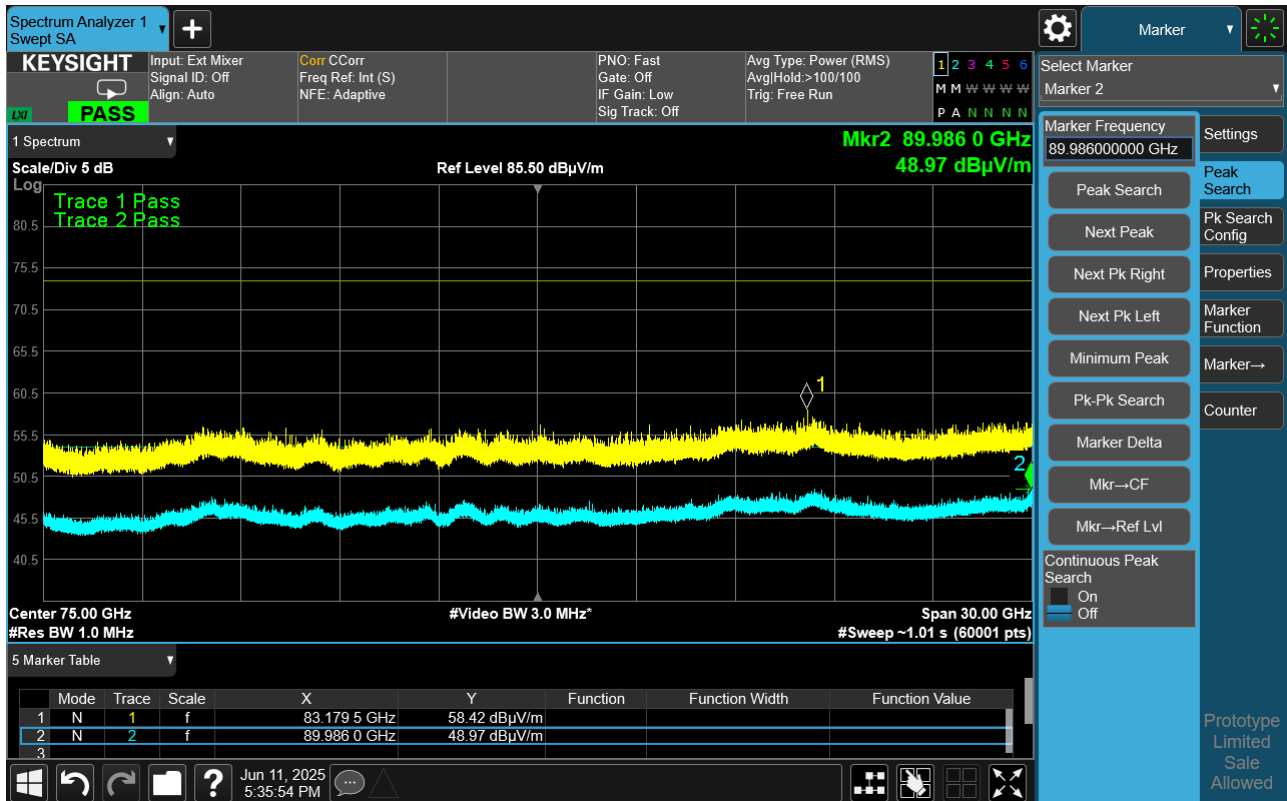


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4.4.2.5.23.5 Elevation 90deg



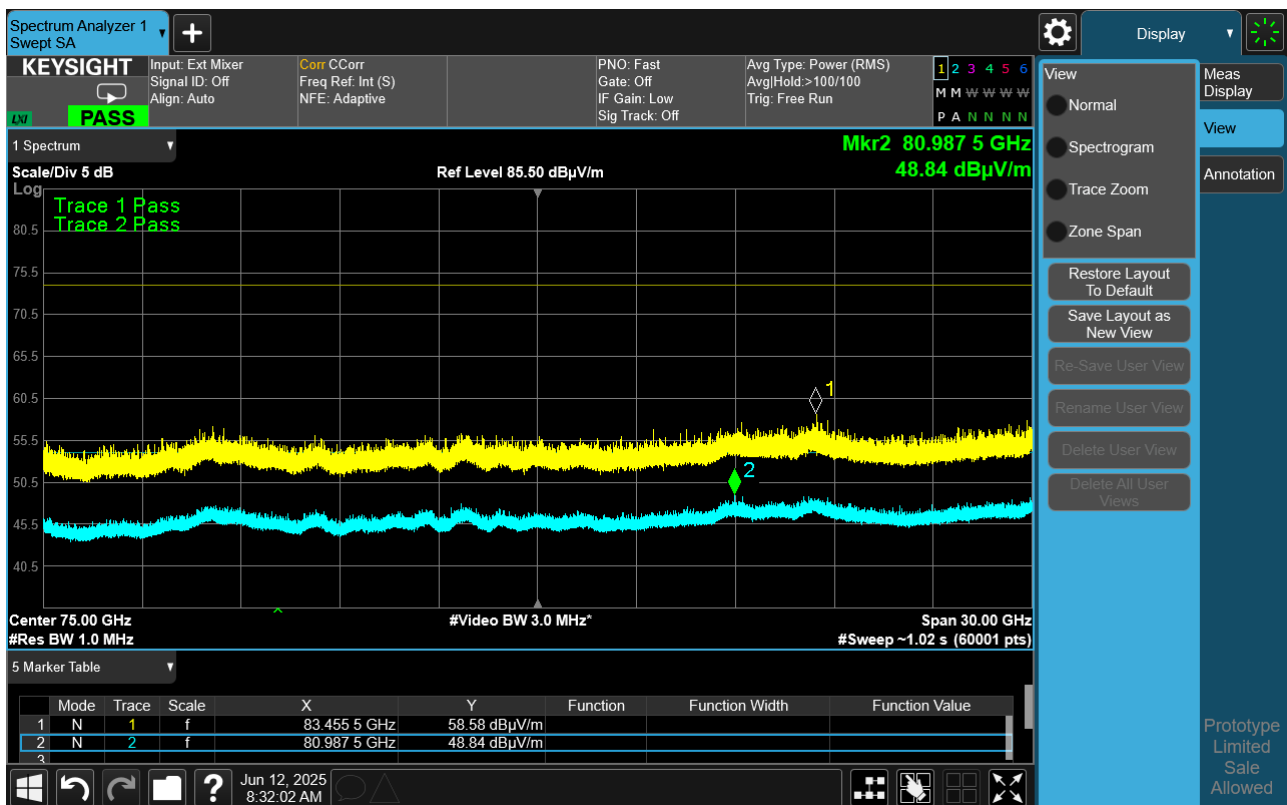
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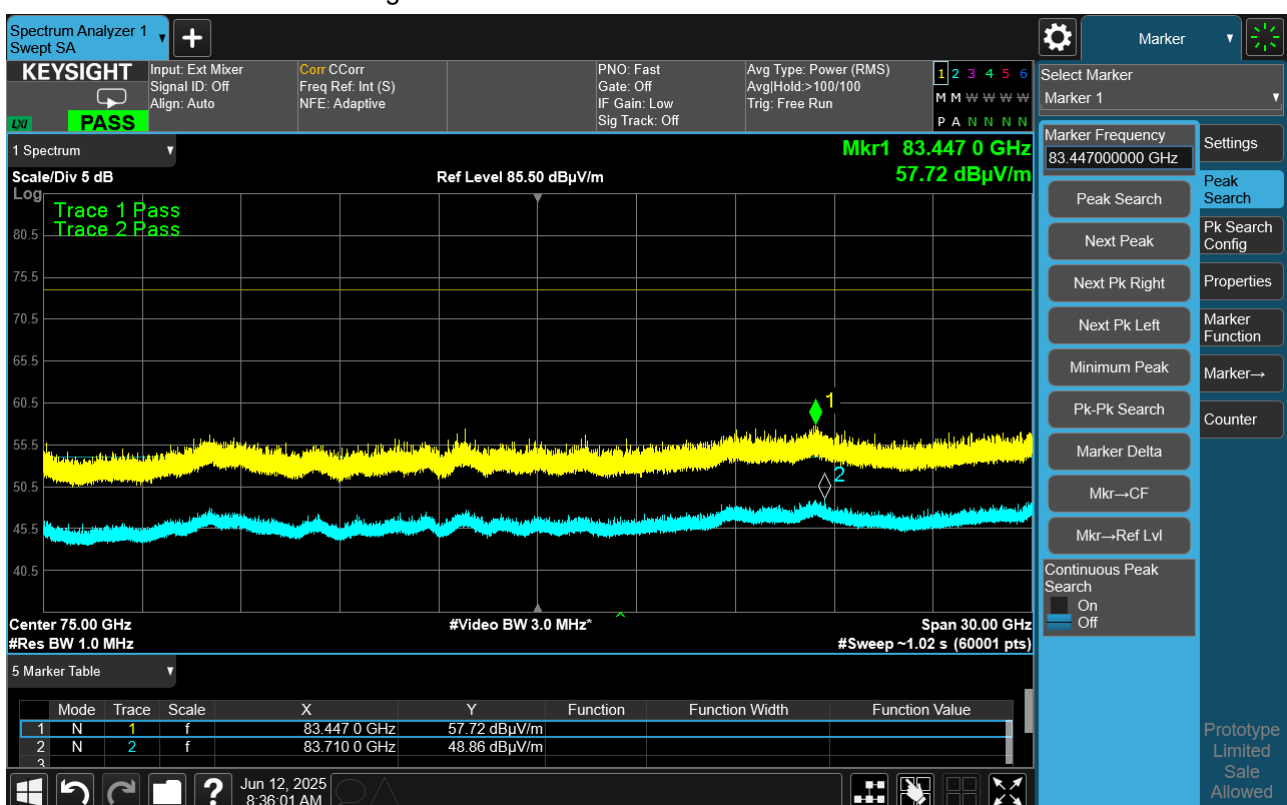
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4.4.2.5.24 60 to 90GHz, Mode Road _-4dB

4.4.2.5.24.1 Elevation 0deg



4.4.2.5.24.2 Elevation 22.5deg

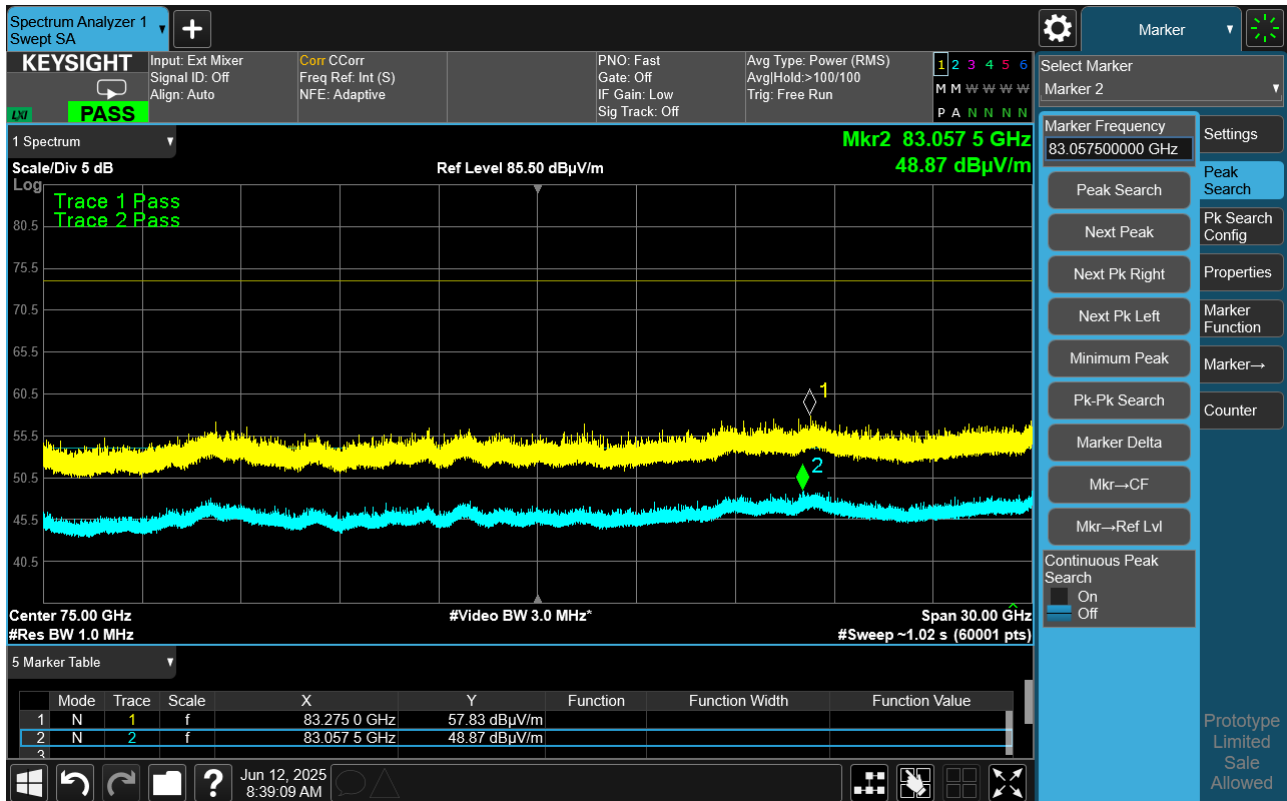


Prüfbericht-Nr.: DE25GP8C 001
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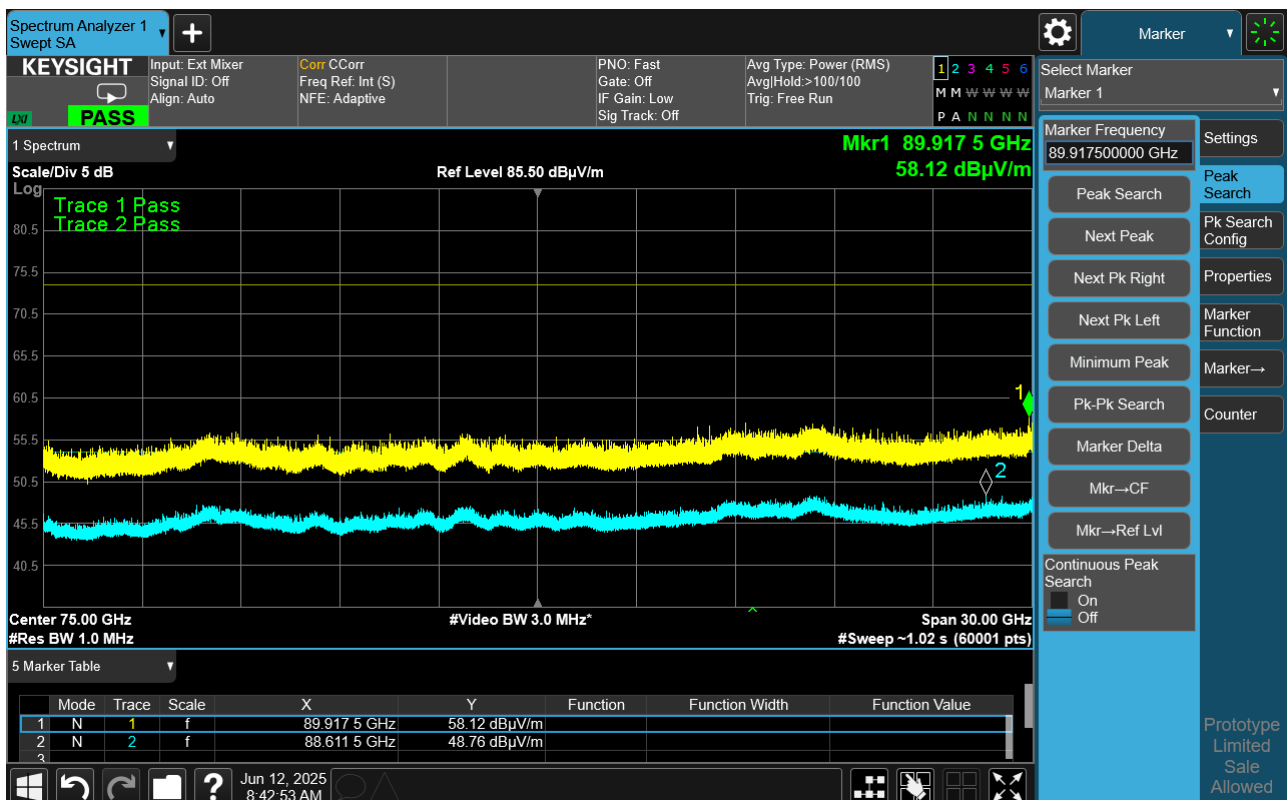
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4.4.2.5.24.3 Elevation45deg



4.4.2.5.24.4 Elevation 67.5deg

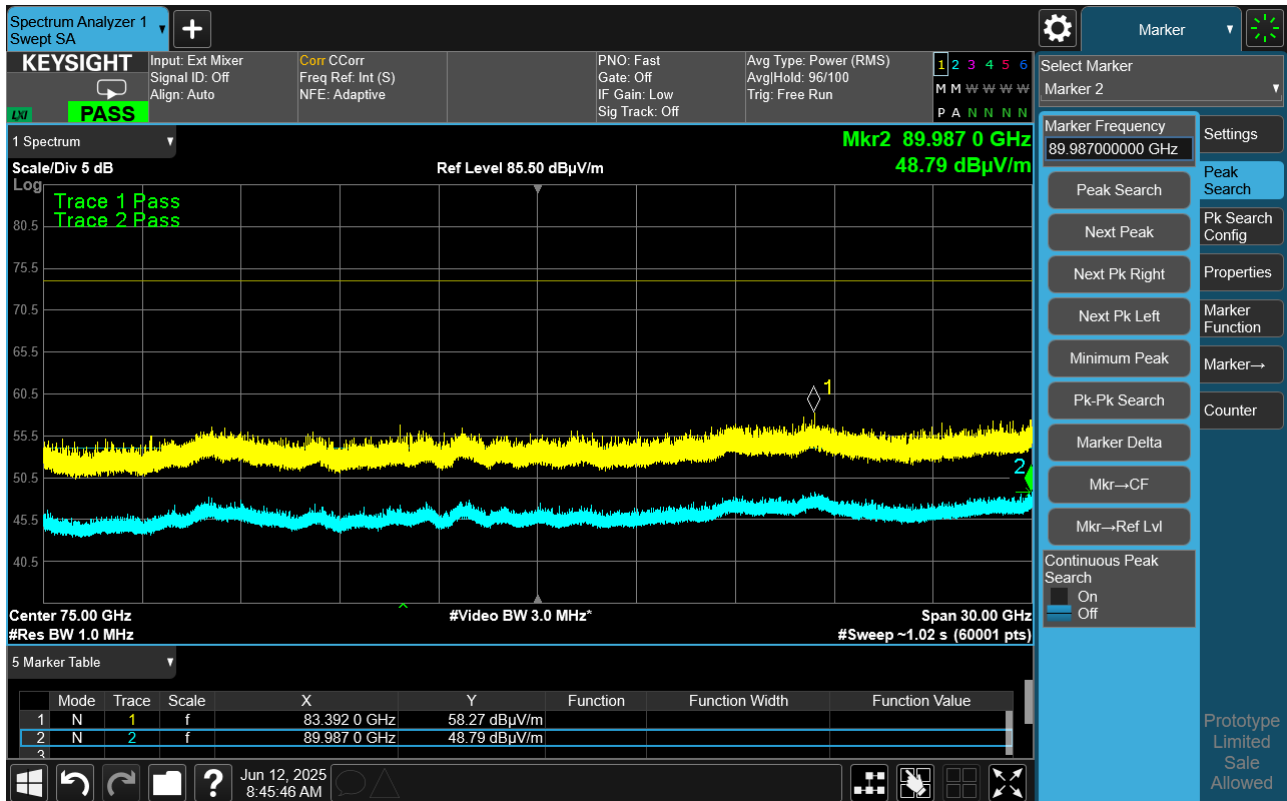


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4.4.2.5.24.5 Elevation 90deg

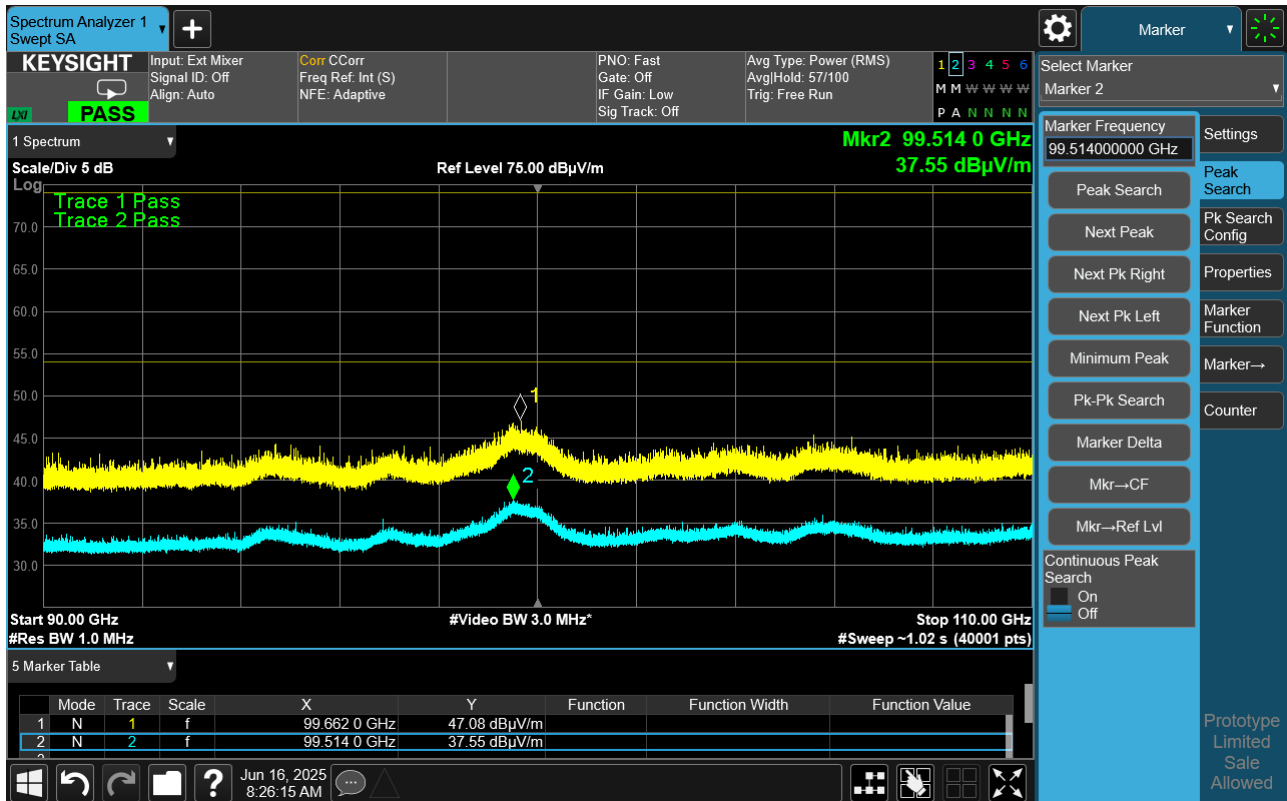


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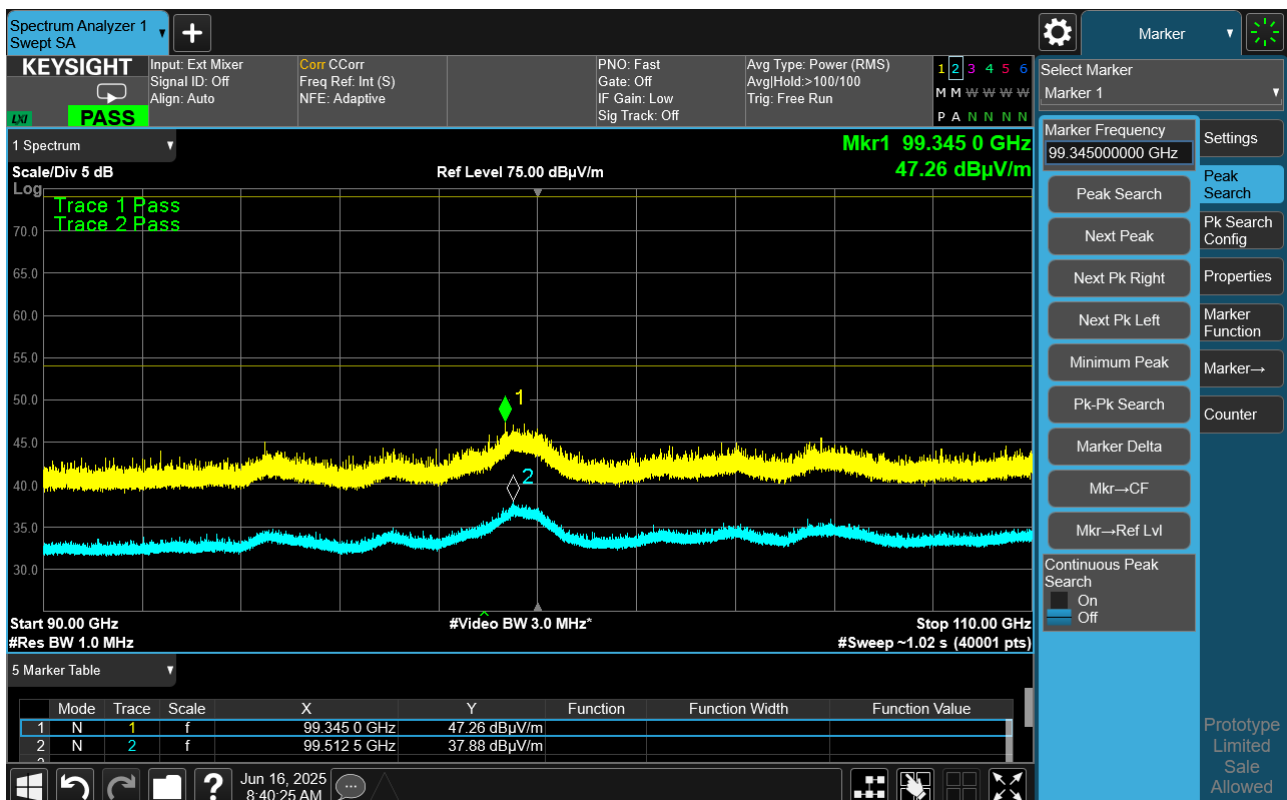
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4.4.2.5.25 90 to 110GHz, Mode Area_lowdoppler_0dB



4.4.2.5.26 90 to 110GHz, Mode Road_0dB

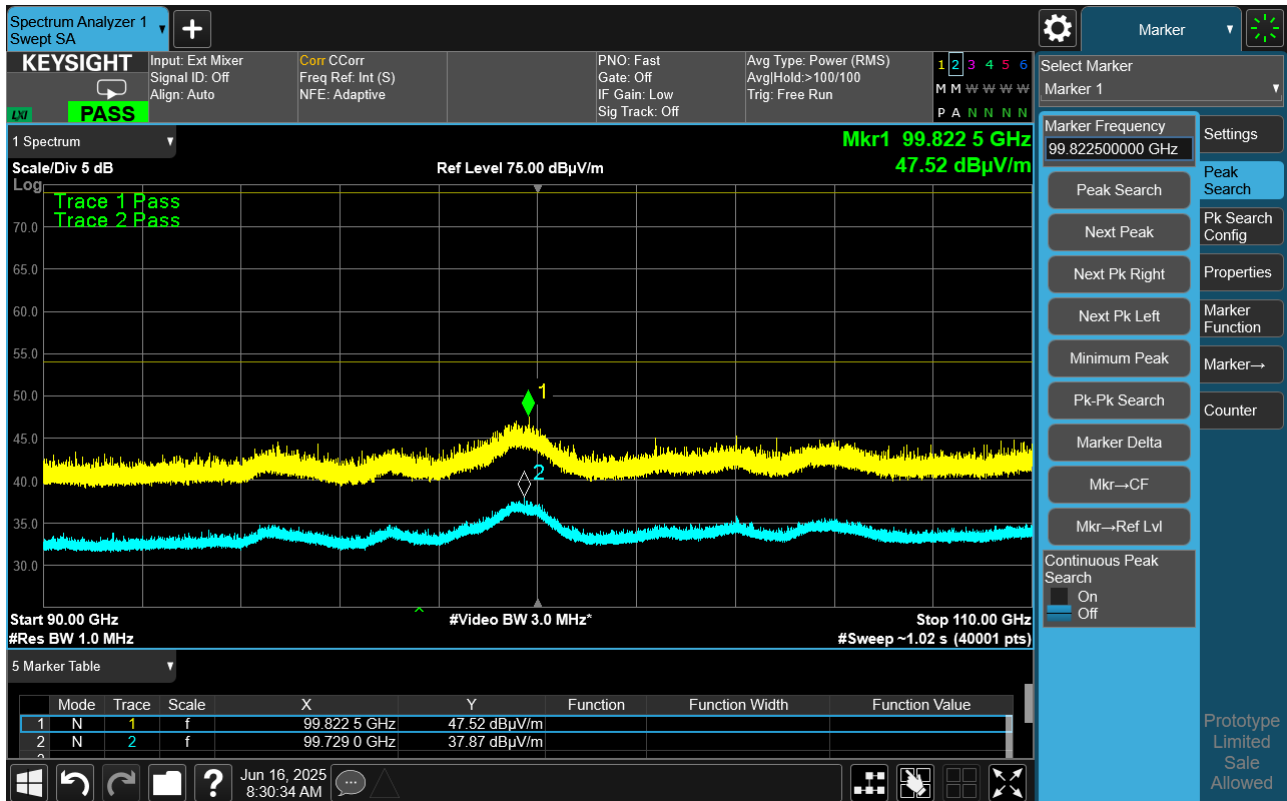


Prüfbericht-Nr.: DE25GP8C 001
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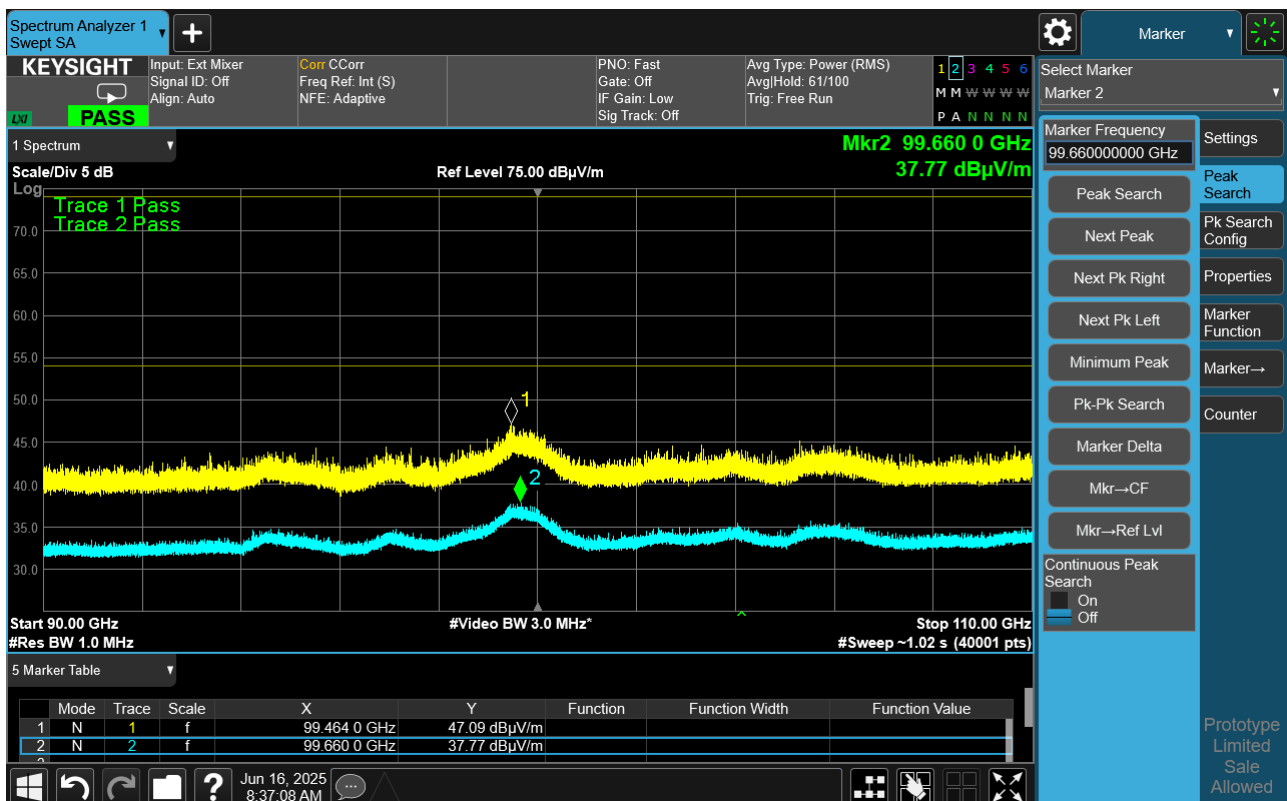
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4.4.2.5.27 90 to 110GHz, Mode Area_lowdoppler _-4dB



4.4.2.5.28 90 to 110GHz, Mode Road _-4dB



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4.4.3 Band Edge Measurement (Unwanted emissions)

4.4.3.1 Test Method

Unwanted emissions close to the operating band were additionally tested here.

4.4.3.2 Test Setup

EUT		A003954064-002 (rad. sample)
Chamber details		☒ 3m Fully Anechoic Chamber (FAC) ☐ 10m Semi Anechoic Chamber (SAC)
Measurement positioning		Distance: EUT height: Antenna height: ☒ 3m ☒ 1.5m ☒ 1.5m ☐ 10m ☐ 0.8m ☐ 1m to 4m – height scan
Receiving Antenna		Horn Antenna 3116C-PA (18-40GHz)
Receiving Antenna Polarization		Horizontal and Vertical
EUT Positioner		40cm x 60cm non-conductive positioner Only on worst case positions of radiated field strength measurement
EUT Turn Table		Only on worst case positions of radiated field strength measurement
Companion device		EUT in Test Mode. Therefore, no Companion Device was used.
Operation mode		☒ 1: TX-Mode Area_lowdoppler_0dB ☒ 2: TX-Mode Road_0dB ☒ 3: TX-Mode Area_lowdoppler_-4dB ☒ 4: TX-Mode Road_-4dB
Spectrum Analyzer	Centre Frequency	24150MHz (Mode Area_lowdoppler); 24110MHz (Mode Road)
	Resolution Bandwidth	1MHz
	Video Bandwidth	3MHz
	Span	400MHz
	Sweep Points	801 (2*Span /RBW)
		Sweep time 80.1s (0.1s * Sweep Points → meas Time per sweep points 0.1s)
Further parameters		Average detector (average in 0.1s in each sweep point) and Max hold of these average points have been used, to get the maximum Value of the Average in 0.1s for each sweep point.
Test engineer		Primoz Erzen

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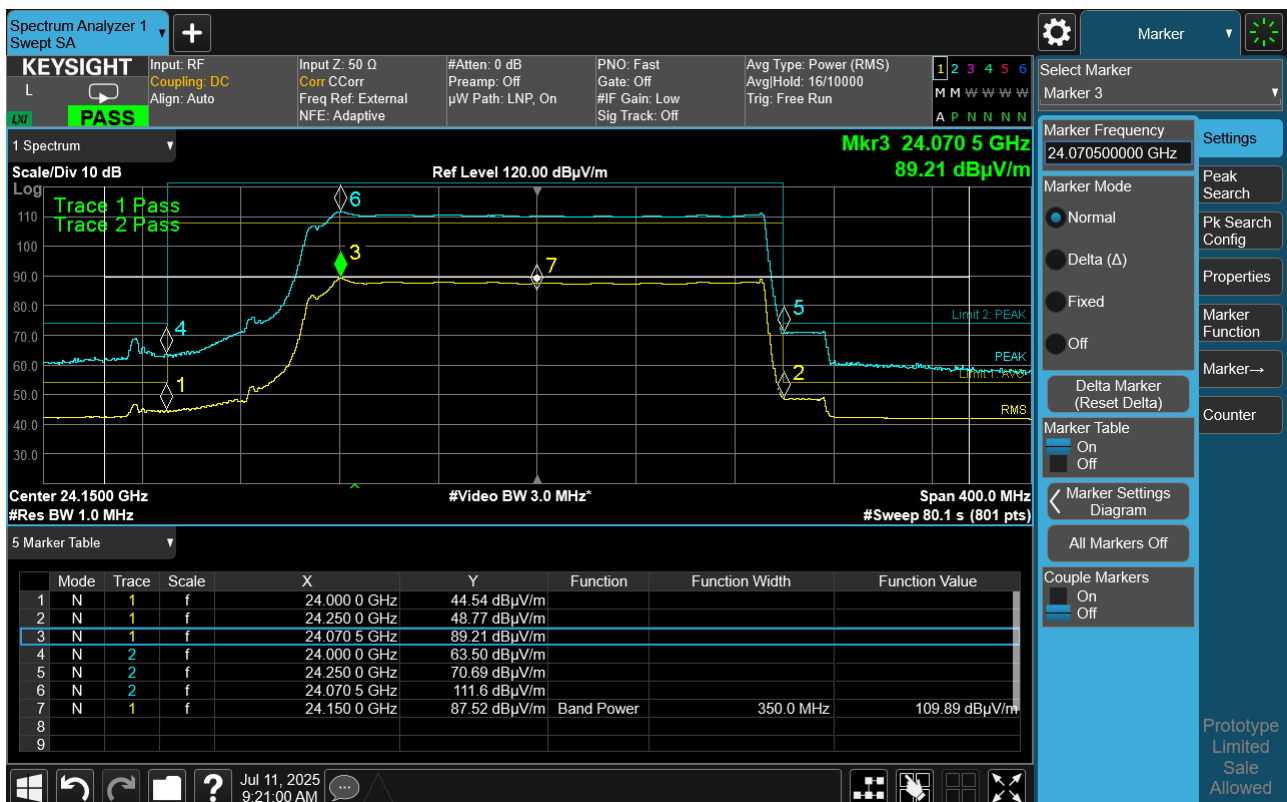
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4.4.3.3 Test results (Unwanted emissions; Band Edge Measurement)

Emissions near to the FMCW-Wanted Signal had been remeasured in Zero-span and qualified as FMCW-Modulated or not. FMCW-Modulated Signal are assumed to have the same slope rate as the Wanted Signal. Therefore, the peak Emissions for these have been additionally corrected for the FMCW-Desensitisation factor.

4.4.3.3.1 Mode Mode Area_lowdoppler_0dB on worst case position (Average) Azimuth -5deg; Elevation 82deg; Horizontal polarization



Peak Emissions

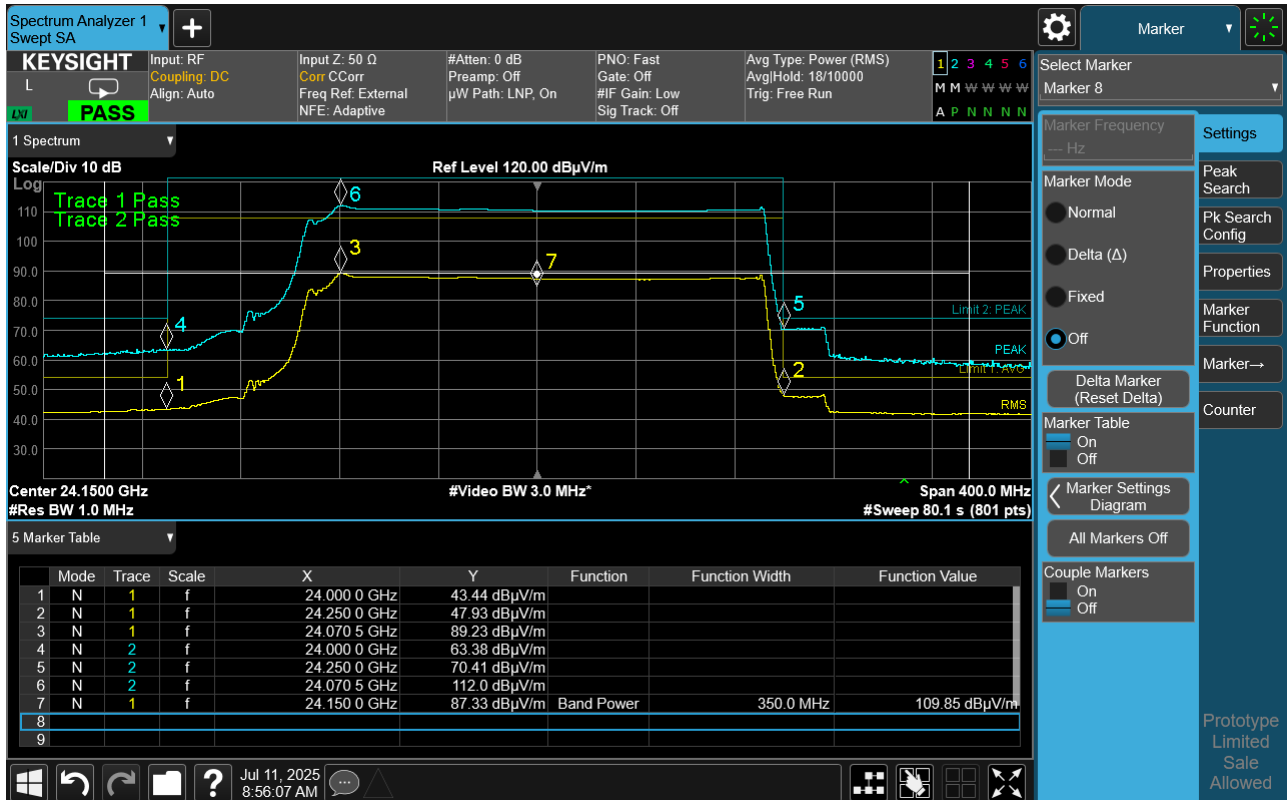
Frequency (MHz)	Peak Raw (dBμV/m)	FMCW desensitisation [dB]	Peak Final (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
24250.0	70.69	3.2	73.89	74.00	0.11	P

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4.4.3.3.2 Mode Mode Area_lowdoppler_0dB on worst case position (Peak) Azimuth 96deg; Elevation -2deg; Vertical polarization



Peak Emissions

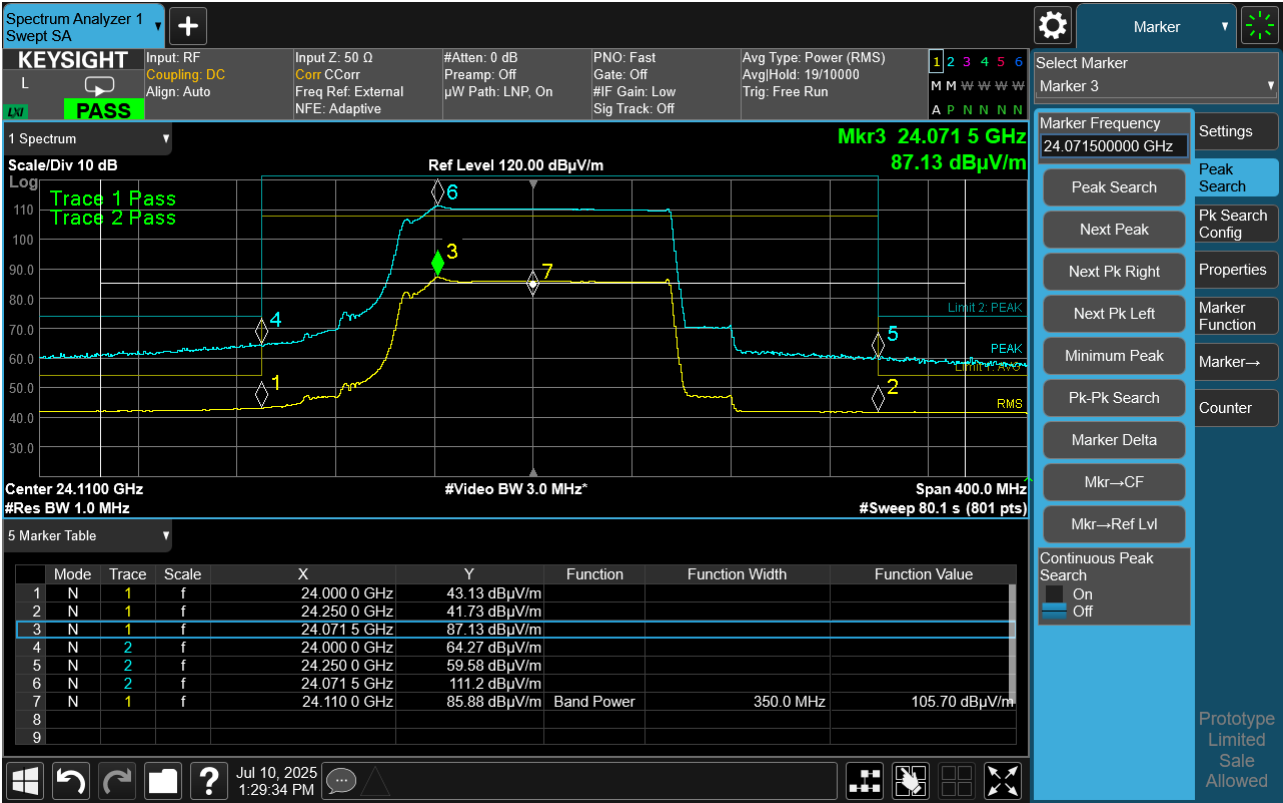
Frequency (MHz)	Peak Raw (dBμV/m)	FMCW desensitisation [dB]	Peak Final (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
24250.0	70.41	3.2	73.61	74.00	0.39	P

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4.4.3.3.3 Mode Road_0dB on worst case position (Average)
Azimuth 105deg; Elevation -3deg; Vertical polarization

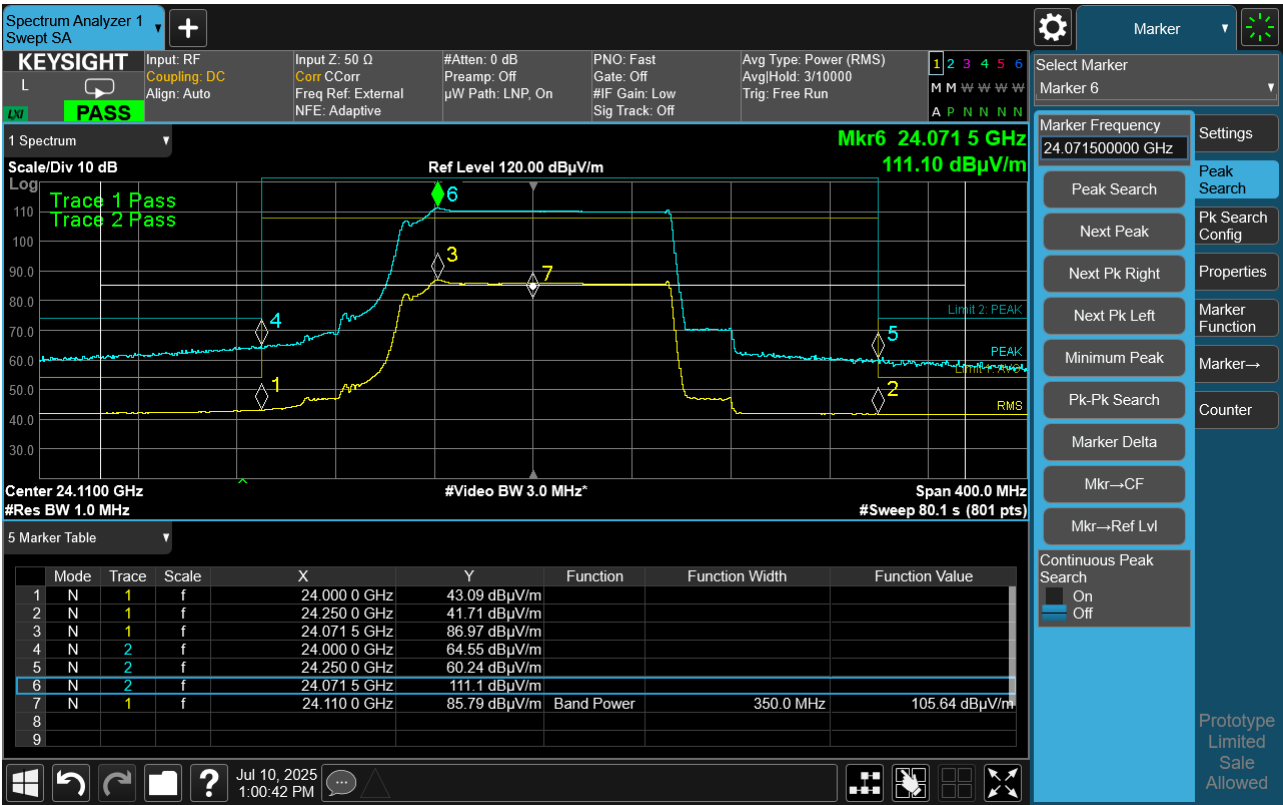


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4.4.3.3.4 Mode Road _0dB on worst case position (Peak)
 Azimuth 101deg; Elevation -2deg; Vertical polarization

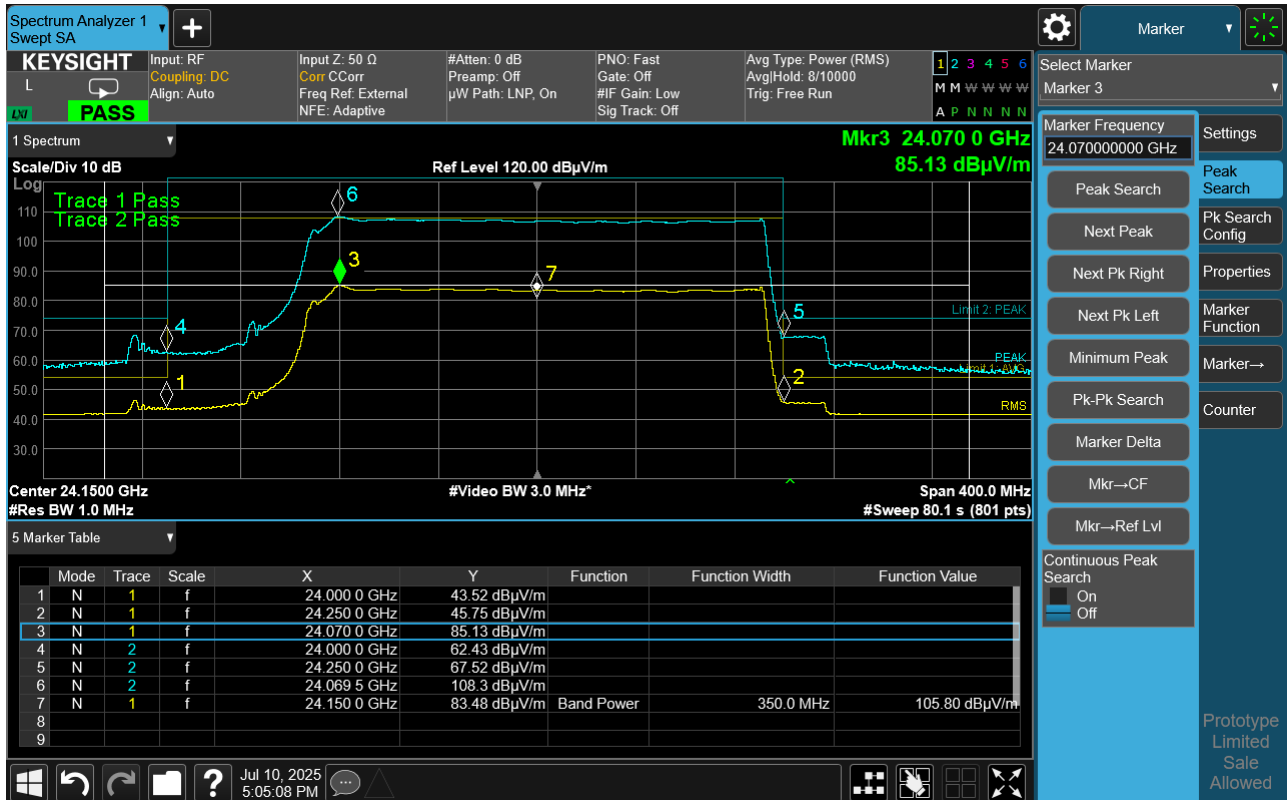


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4.4.3.3.5 Mode Area_lowdoppler _-4dB on worst case position (Average) Azimuth -5deg; Elevation 83deg; Horizontal polarization

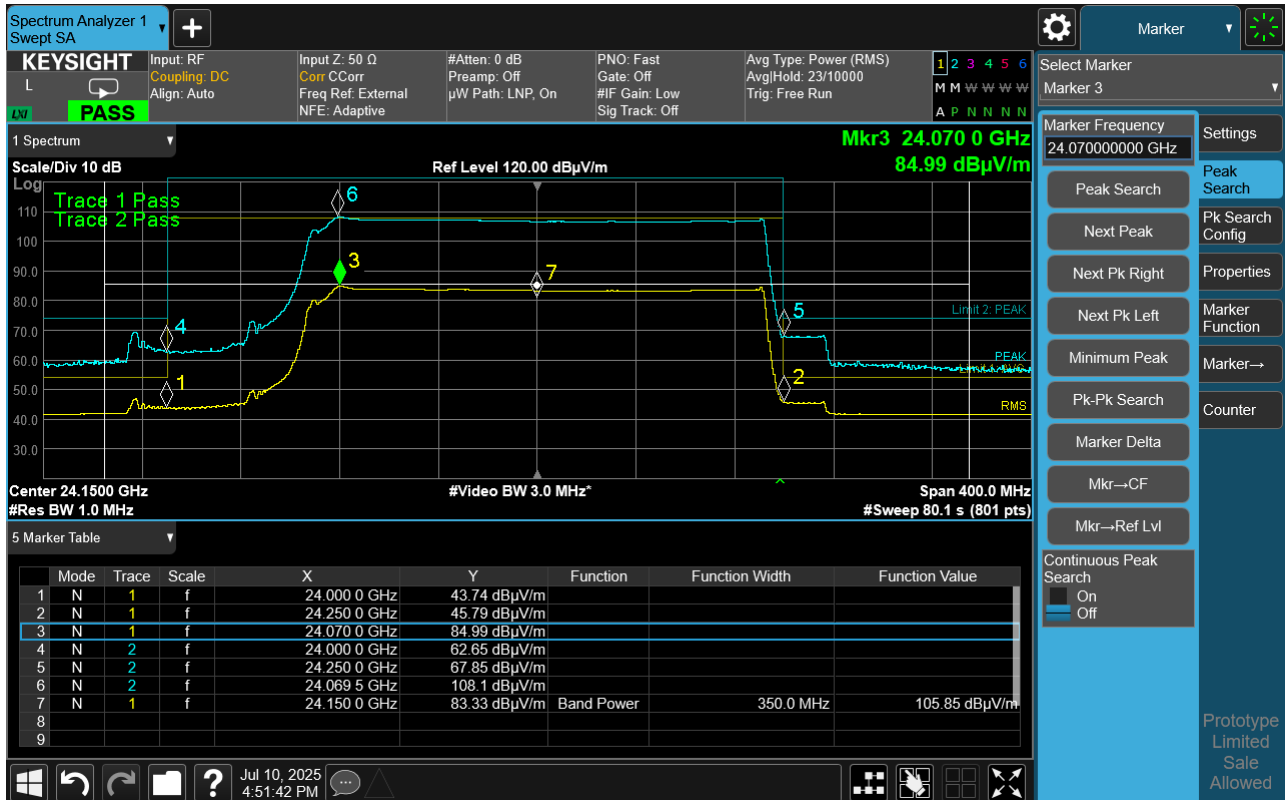


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4.4.3.3.6 Mode Area_lowdoppler _-4dB on worst case position (Peak) Azimuth -4deg; Elevation 87deg; Horizontal polarization

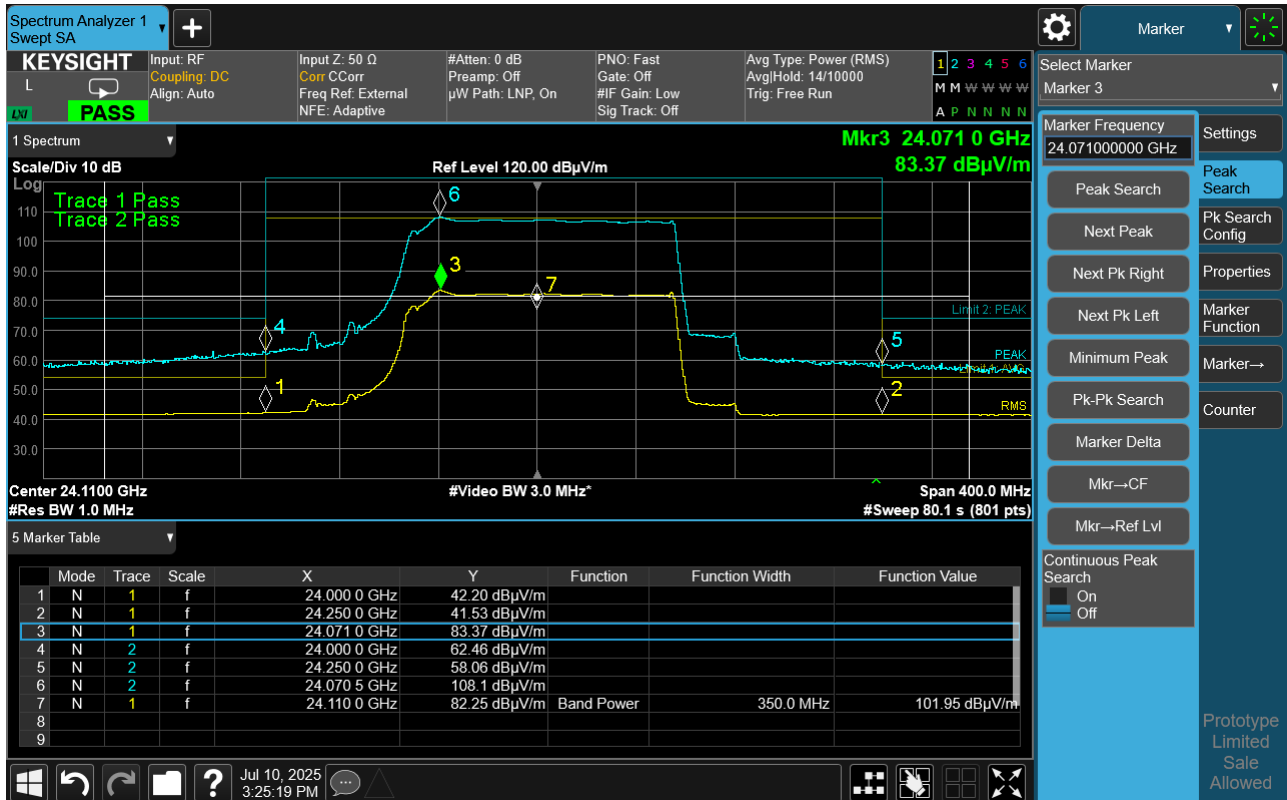


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4.4.3.3.7 Mode Road _-4dB on worst case position (Average)
Azimuth -6deg; Elevation 86deg; Horizontal polarization

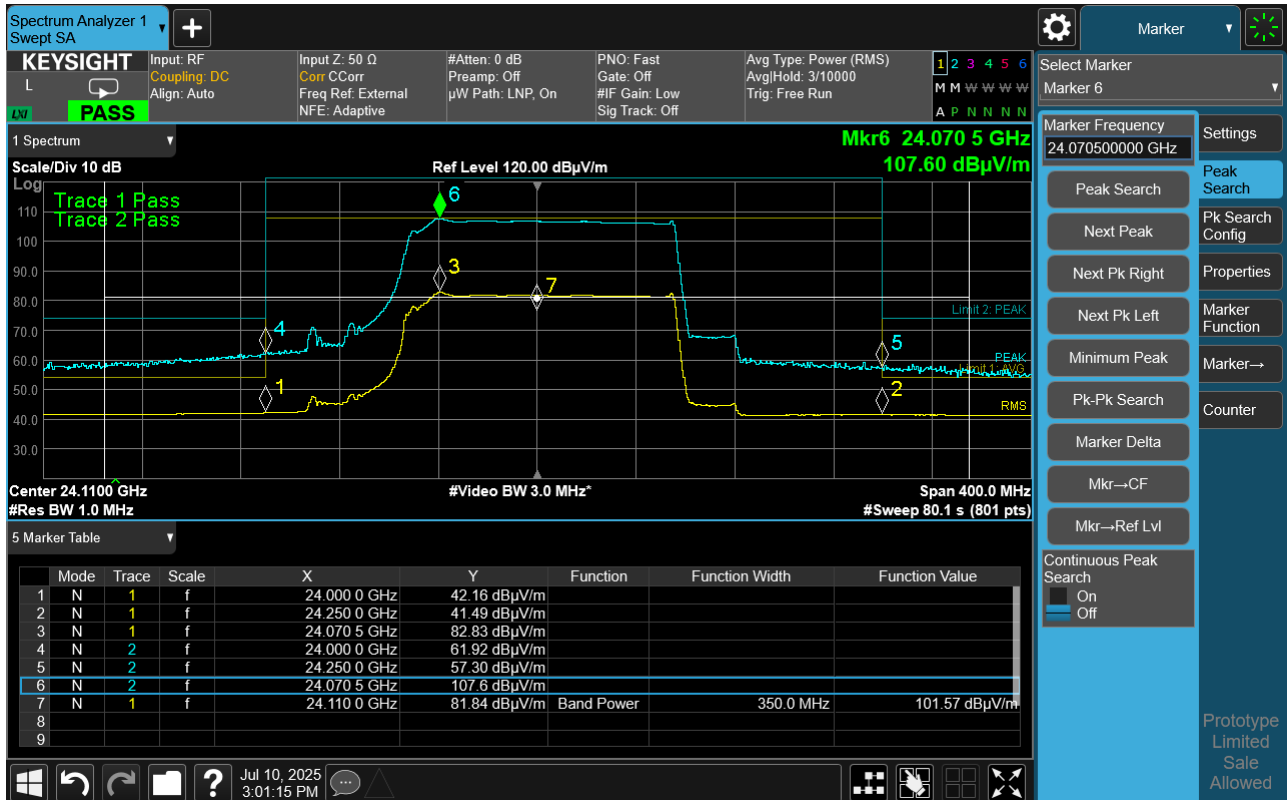


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4.4.3.3.8 Mode Road _-4dB on worst case position (Peak) Azimuth -4deg; Elevation 72deg; Horizontal polarization



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4.5 AC Power Conducted Emission

4.5.1 Requirements / Limits

AC power-line conducted emission measurements shall be made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz, to determine the line-to-ground radio-noise voltage that is conducted from all of the EUT current-carrying power input terminals that are directly (or indirectly via separate transformers or power supplies) connected to a public power network.

FCC Part 15, Subpart C, §15.207 (a)

... for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).

FCC Part 15, Subpart C, §15.207, Conducted Emission Limits

Frequency [MHz]	Conducted Limit [dB μ V]	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

*Decreases with logarithm of the frequency

FCC Part 15, Subpart C, §15.207 (c)

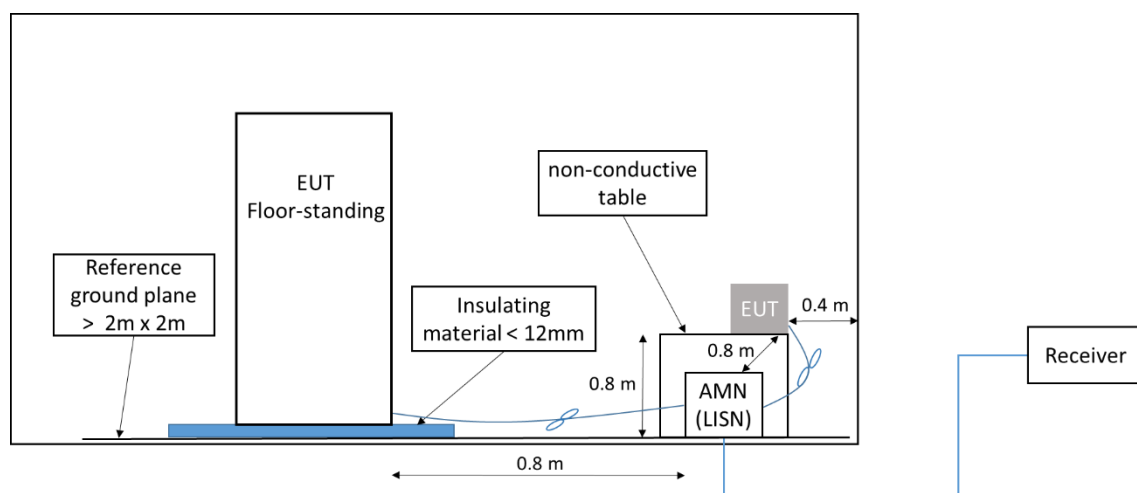
... Devices that include, or make provisions for, the use of battery chargers which permit operating while charging, AC adapters or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

KDB174176 D01 Line Conducted FAQ v01r01:

For a device operating at or below 30 MHz, the FCC will accept measurements performed with a suitable dummy load in lieu of the antenna within the transmitter's fundamental emission band.

4.5.2 Test Method

The test setup was made according to ANSI C63.10 clauses 6.2.2 & 6.2.3 as shown in the photograph



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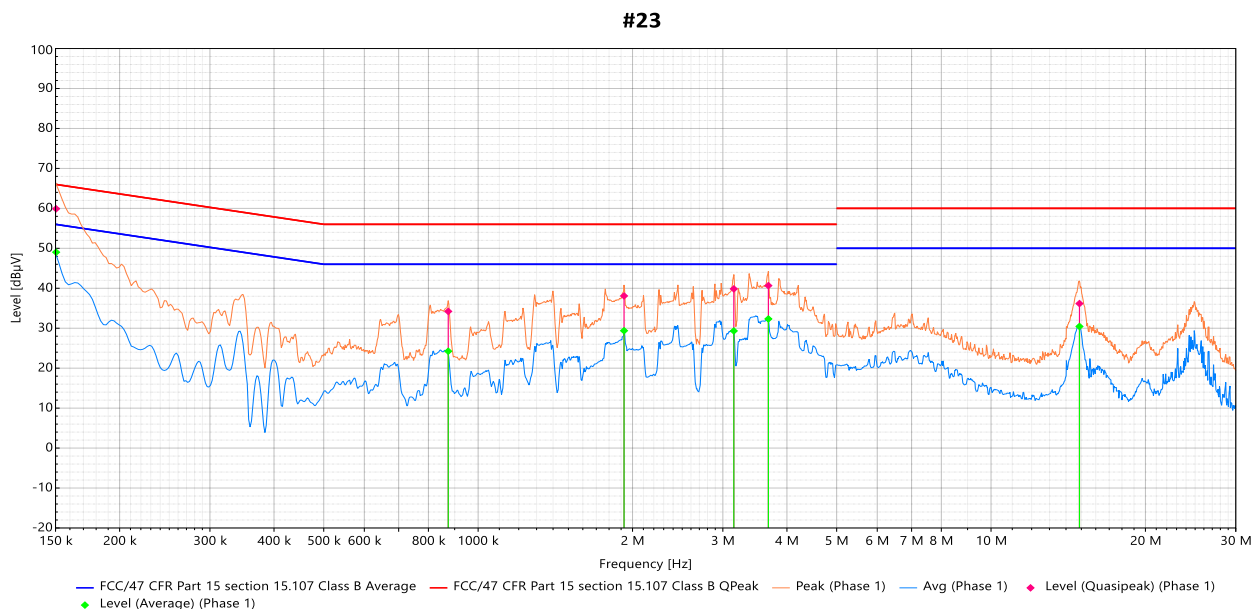
4.5.3 Test Setup (AC Power Conducted Emission)

EUT	A003954064-002 (rad. sample)
Companion device	EUT in Test Mode. Therefore, no Companion Device was used.
Operation mode	☒ 1: TX-Mode Area_lowdoppler_0dB ☒ 2: TX-Mode Road_0dB ☒ 3: TX-Mode Area_lowdoppler_-4dB ☒ 4: TX-Mode Road_-4dB
Further parameters	-
Test engineer	Primož Erzen

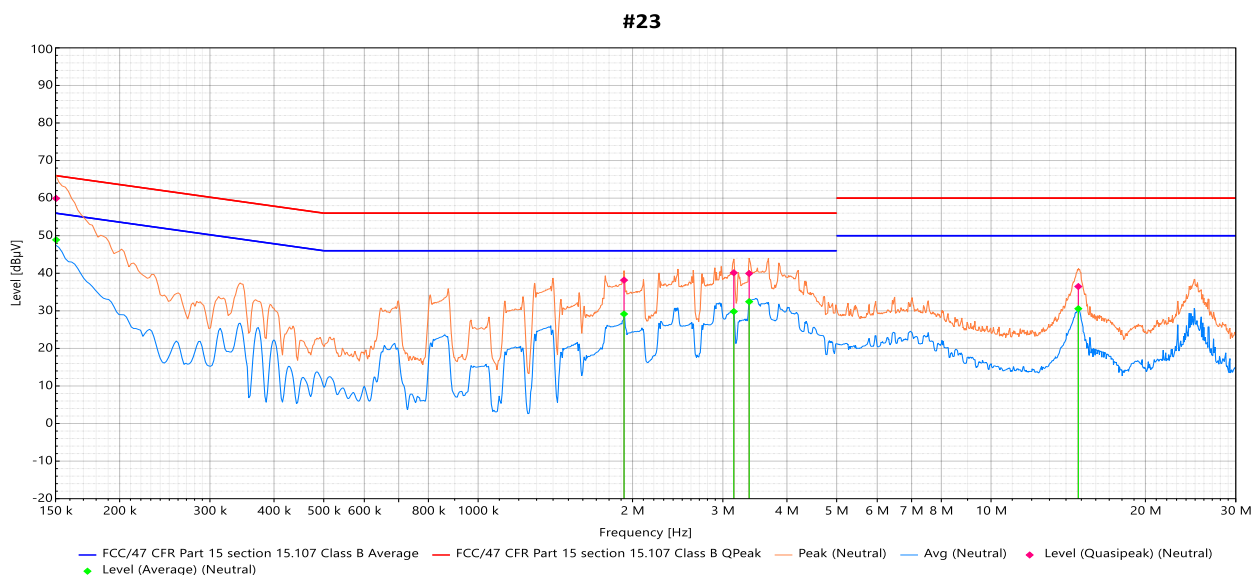
4.5.4 Test results (AC Power Conducted Emission)

4.5.4.1 Mode Area_lowdoppler_0dB_120VAC-60Hz

4.5.4.1.1 Line: Phase 1



4.5.4.1.2 Line: Neutral



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4.5.4.1.3 Summary

Frequency [Hz]	Q-Peak [dBμV]	Limit [dBμV]	Margin [dB]	Line	Meas time [s]	Correction [dB]	Result
14.874 M	36.2	60.0	-23.8	Phase 1	1.0	10.3	Pass
14.798 M	36.5	60.0	-23.5	Neutral	1.0	10.4	Pass
874.5 k	34.2	56.0	-21.8	Phase 1	1.0	10.0	Pass
1.925 M	38.1	56.0	-17.9	Phase 1	1.0	10.0	Pass
1.925 M	38.2	56.0	-17.8	Neutral	1.0	10.0	Pass
3.152 M	39.8	56.0	-16.2	Phase 1	1.0	10.0	Pass
3.377 M	39.9	56.0	-16.1	Neutral	1.0	10.1	Pass
3.152 M	40.1	56.0	-15.9	Neutral	1.0	10.1	Pass
3.68 M	40.7	56.0	-15.3	Phase 1	1.0	10.0	Pass
150 k	59.9	66.0	-6.1	Phase 1	1.0	10.0	Pass
150 k	59.9	66.0	-6.1	Neutral	1.0	10.0	Pass

Frequency [Hz]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	Meas time [s]	Correction [dB]	Result
874.5 k	24.2	46.0	-21.8	Phase 1	1.0	10.0	Pass
14.874 M	30.4	50.0	-19.6	Phase 1	1.0	10.3	Pass
14.798 M	30.6	50.0	-19.4	Neutral	1.0	10.4	Pass
1.925 M	29.2	46.0	-16.8	Neutral	1.0	10.0	Pass
3.152 M	29.3	46.0	-16.7	Phase 1	1.0	10.0	Pass
1.925 M	29.4	46.0	-16.6	Phase 1	1.0	10.0	Pass
3.152 M	29.8	46.0	-16.2	Neutral	1.0	10.1	Pass
3.68 M	32.3	46.0	-13.7	Phase 1	1.0	10.0	Pass
3.377 M	32.4	46.0	-13.6	Neutral	1.0	10.1	Pass
150 k	48.9	56.0	-7.1	Neutral	1.0	10.0	Pass
150 k	49.0	56.0	-7.0	Phase 1	1.0	10.0	Pass

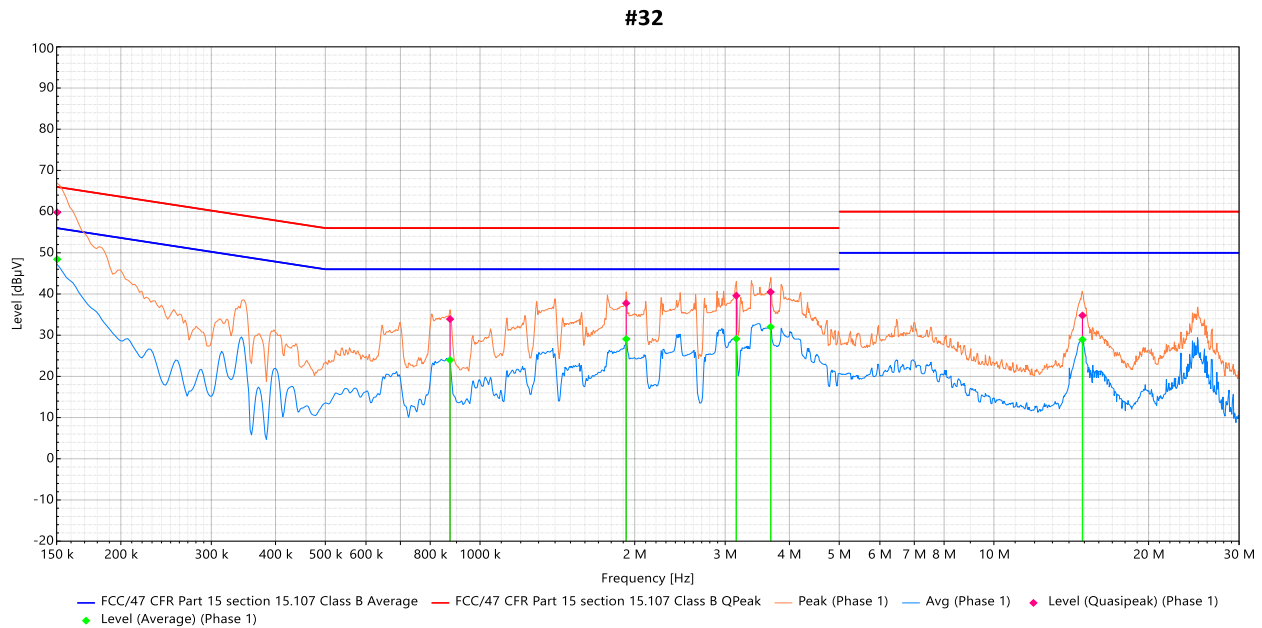
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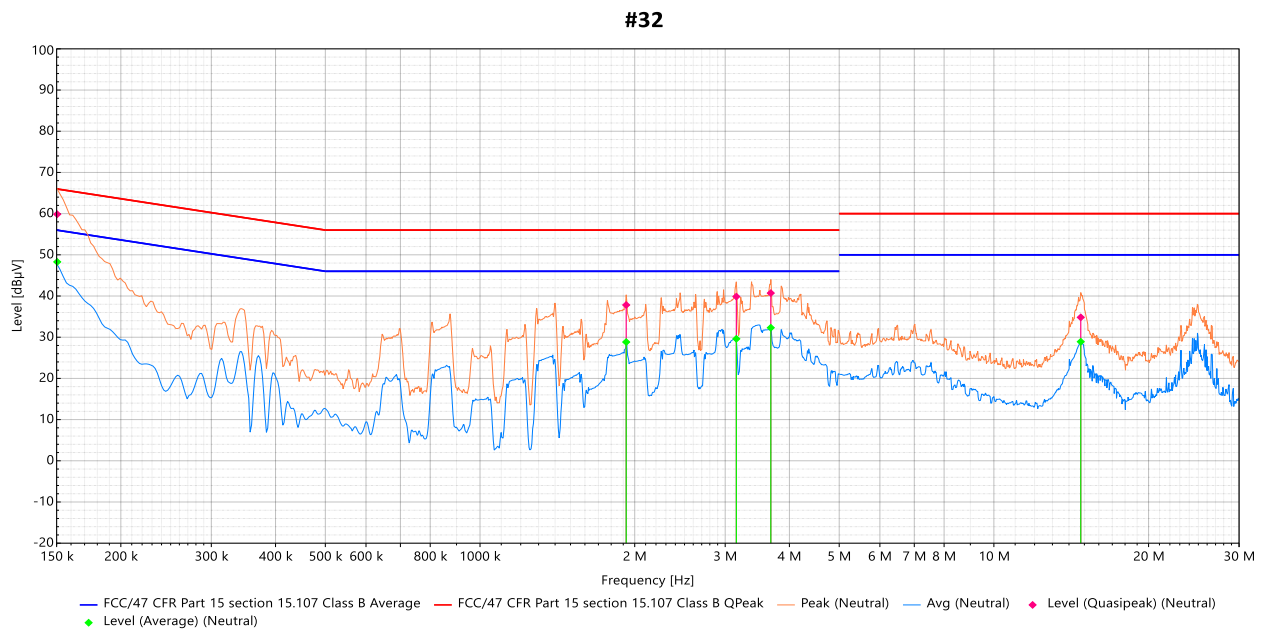
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4.5.4.2 Mode Area_Road_0dB_120VAC-60Hz

4.5.4.2.1 Line: Phase 1



4.5.4.2.2 Line: Neutral



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4.5.4.2.3 Summary

Frequency [Hz]	Q-Peak [dBμV]	Limit [dBμV]	Margin [dB]	Line	Meas time [s]	Correction [dB]	Result
14.874 M	34.8	60.0	-25.2	Phase 1	1.0	10.3	Pass
14.759 M	34.8	60.0	-25.2	Neutral	1.0	10.4	Pass
874.5 k	33.9	56.0	-22.1	Phase 1	1.0	10.0	Pass
1.925 M	37.8	56.0	-18.2	Phase 1	1.0	10.0	Pass
1.925 M	37.8	56.0	-18.2	Neutral	1.0	10.0	Pass
3.154 M	39.6	56.0	-16.4	Phase 1	1.0	10.0	Pass
3.154 M	39.9	56.0	-16.1	Neutral	1.0	10.1	Pass
3.678 M	40.5	56.0	-15.5	Phase 1	1.0	10.0	Pass
3.68 M	40.7	56.0	-15.3	Neutral	1.0	10.1	Pass
150 k	59.8	66.0	-6.2	Phase 1	1.0	10.0	Pass
150 k	59.9	66.0	-6.1	Neutral	1.0	10.0	Pass

Frequency [Hz]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	Meas time [s]	Correction [dB]	Result
874.5 k	24.0	46.0	-22.0	Phase 1	1.0	10.0	Pass
14.759 M	28.9	50.0	-21.1	Neutral	1.0	10.4	Pass
14.874 M	28.9	50.0	-21.1	Phase 1	1.0	10.3	Pass
1.925 M	28.8	46.0	-17.2	Neutral	1.0	10.0	Pass
1.925 M	29.1	46.0	-16.9	Phase 1	1.0	10.0	Pass
3.154 M	29.1	46.0	-16.9	Phase 1	1.0	10.0	Pass
3.154 M	29.6	46.0	-16.4	Neutral	1.0	10.1	Pass
3.678 M	32.0	46.0	-14.0	Phase 1	1.0	10.0	Pass
3.68 M	32.3	46.0	-13.7	Neutral	1.0	10.1	Pass
150 k	48.3	56.0	-7.7	Neutral	1.0	10.0	Pass
150 k	48.4	56.0	-7.6	Phase 1	1.0	10.0	Pass

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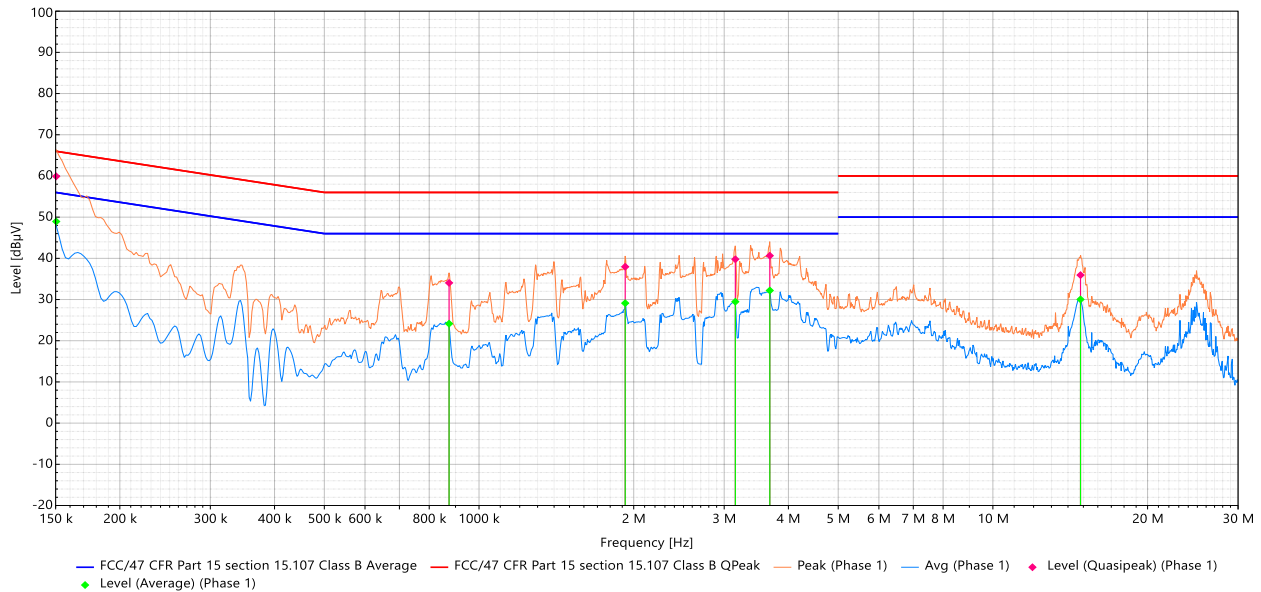
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4.5.4.3 Mode Area_lowdoppler_-4dB_120VAC-60Hz

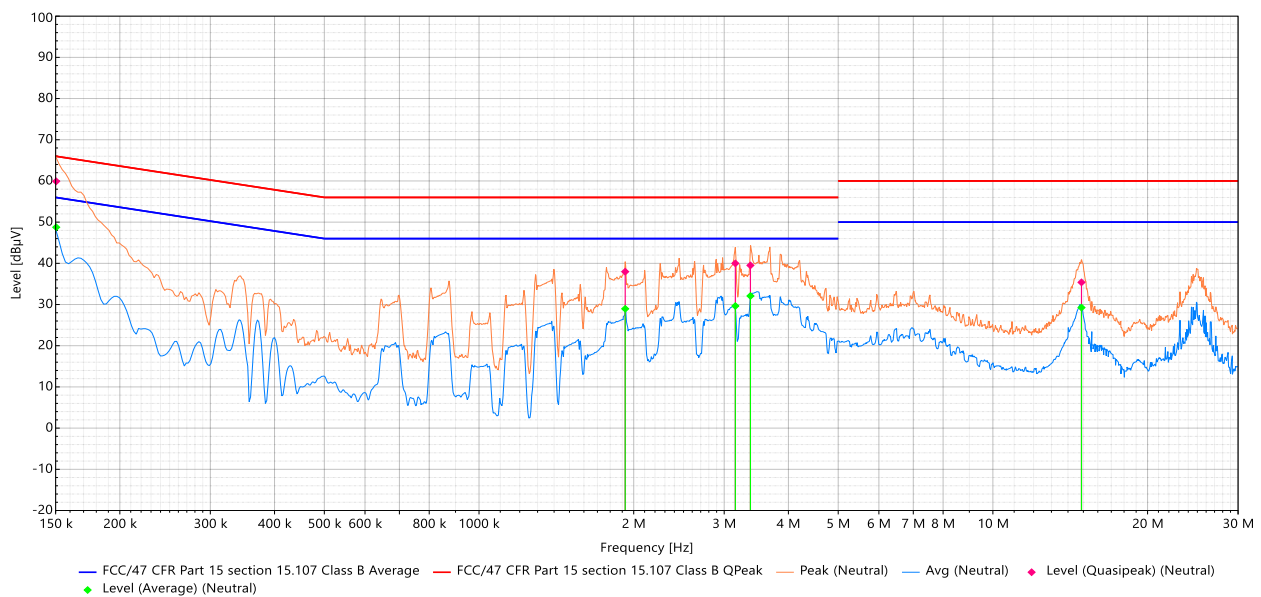
4.5.4.3.1 Line: Phase 1

#24



4.5.4.3.2 Line: Neutral

#24



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4.5.4.3.3 Summary

Frequency [Hz]	Q-Peak [dBμV]	Limit [dBμV]	Margin [dB]	Line	Meas time [s]	Correction [dB]	Result
14.874 M	35.4	60.0	-24.6	Neutral	1.0	10.4	Pass
14.809 M	35.9	60.0	-24.1	Phase 1	1.0	10.3	Pass
874.5 k	34.0	56.0	-22.0	Phase 1	1.0	10.0	Pass
1.925 M	38.0	56.0	-18.0	Phase 1	1.0	10.0	Pass
1.925 M	38.0	56.0	-18.0	Neutral	1.0	10.0	Pass
3.374 M	39.5	56.0	-16.5	Neutral	1.0	10.1	Pass
3.154 M	39.8	56.0	-16.2	Phase 1	1.0	10.0	Pass
3.154 M	40.0	56.0	-16.0	Neutral	1.0	10.1	Pass
3.68 M	40.6	56.0	-15.4	Phase 1	1.0	10.0	Pass
150 k	59.9	66.0	-6.1	Phase 1	1.0	10.0	Pass
150 k	59.9	66.0	-6.1	Neutral	1.0	10.0	Pass

Frequency [Hz]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	Meas time [s]	Correction [dB]	Result
874.5 k	24.1	46.0	-21.9	Phase 1	1.0	10.0	Pass
14.874 M	29.3	50.0	-20.7	Neutral	1.0	10.4	Pass
14.809 M	30.0	50.0	-20.0	Phase 1	1.0	10.3	Pass
1.925 M	29.0	46.0	-17.0	Neutral	1.0	10.0	Pass
1.925 M	29.1	46.0	-16.9	Phase 1	1.0	10.0	Pass
3.154 M	29.5	46.0	-16.5	Phase 1	1.0	10.0	Pass
3.154 M	29.6	46.0	-16.4	Neutral	1.0	10.1	Pass
3.374 M	32.1	46.0	-13.9	Neutral	1.0	10.1	Pass
3.68 M	32.2	46.0	-13.8	Phase 1	1.0	10.0	Pass
150 k	48.8	56.0	-7.2	Neutral	1.0	10.0	Pass
150 k	48.9	56.0	-7.1	Phase 1	1.0	10.0	Pass

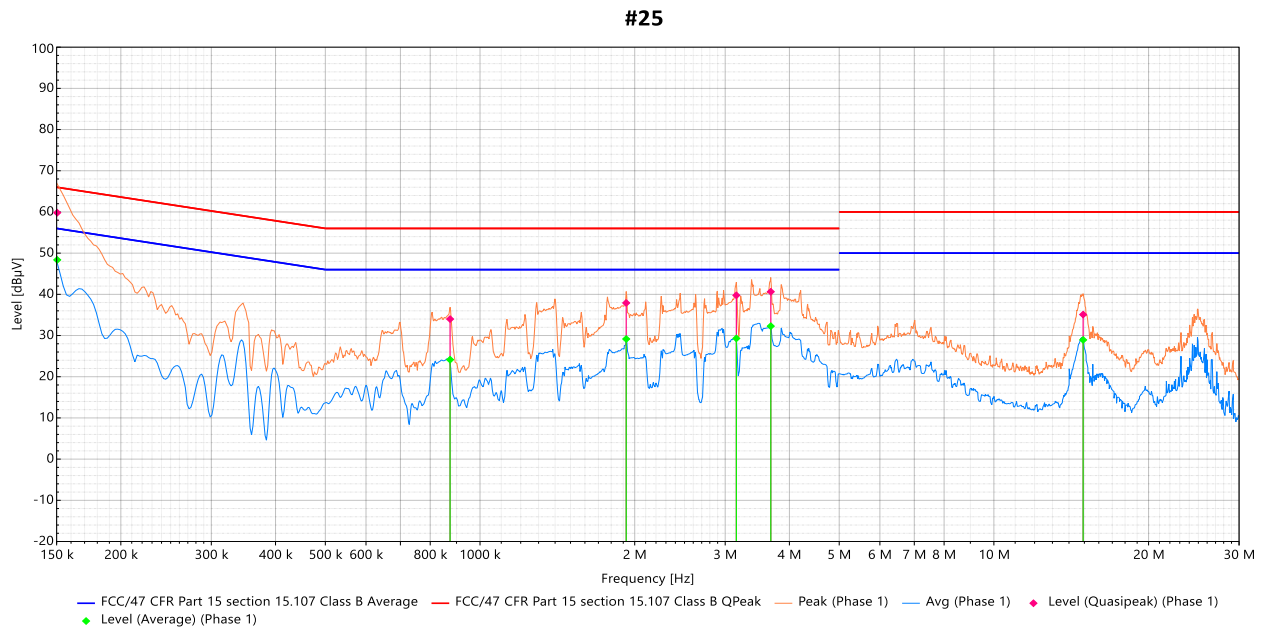
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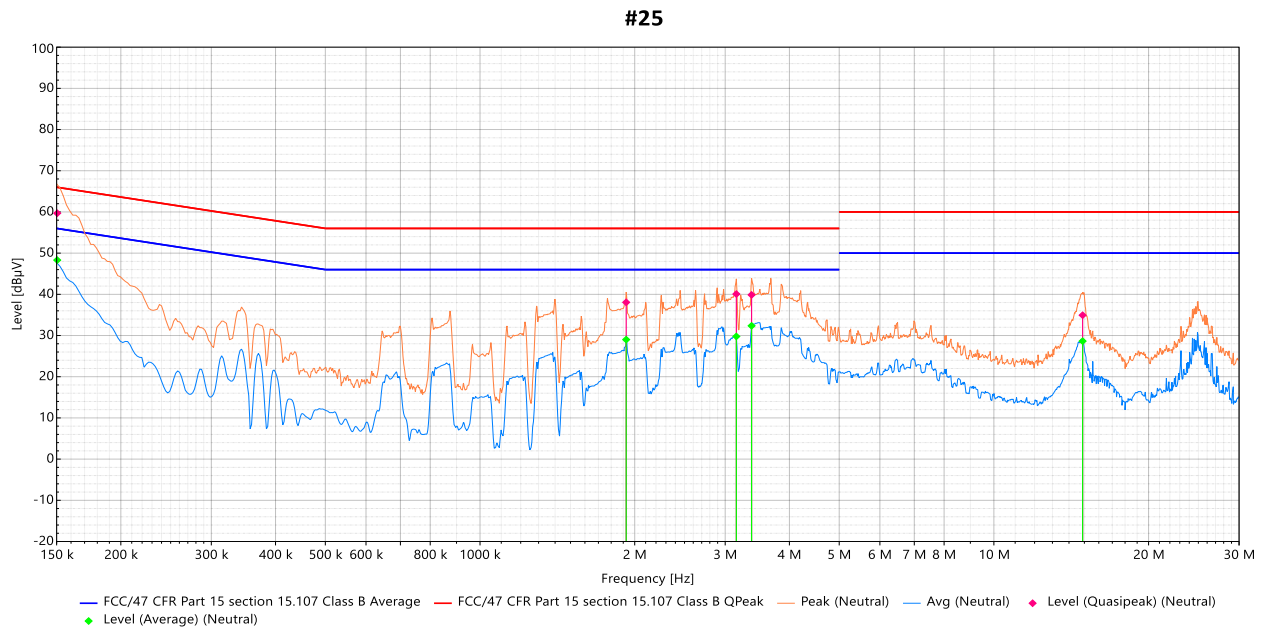
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4.5.4.4 Mode Area_Road_-4dB_120VAC-60Hz

4.5.4.4.1 Line: Phase 1



4.5.4.4.2 Line: Neutral



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4.5.4.4.3 Summary

Frequency [Hz]	Q-Peak [dBμV]	Limit [dBμV]	Margin [dB]	Line	Meas time [s]	Correction [dB]	Result
14.883 M	34.9	60.0	-25.1	Neutral	1.0	10.4	Pass
14.917 M	35.1	60.0	-24.9	Phase 1	1.0	10.3	Pass
874.5 k	34.0	56.0	-22.0	Phase 1	1.0	10.0	Pass
1.925 M	37.9	56.0	-18.1	Phase 1	1.0	10.0	Pass
1.925 M	38.1	56.0	-17.9	Neutral	1.0	10.0	Pass
3.154 M	39.8	56.0	-16.2	Phase 1	1.0	10.0	Pass
3.377 M	39.9	56.0	-16.1	Neutral	1.0	10.1	Pass
3.154 M	40.1	56.0	-15.9	Neutral	1.0	10.1	Pass
3.68 M	40.6	56.0	-15.4	Phase 1	1.0	10.0	Pass
150 k	59.7	66.0	-6.3	Neutral	1.0	10.0	Pass
150 k	59.8	66.0	-6.2	Phase 1	1.0	10.0	Pass

Frequency [Hz]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	Meas time [s]	Correction [dB]	Result
874.5 k	24.1	46.0	-21.9	Phase 1	1.0	10.0	Pass
14.883 M	28.6	50.0	-21.4	Neutral	1.0	10.4	Pass
14.917 M	28.9	50.0	-21.1	Phase 1	1.0	10.3	Pass
1.925 M	29.0	46.0	-17.0	Neutral	1.0	10.0	Pass
1.925 M	29.2	46.0	-16.8	Phase 1	1.0	10.0	Pass
3.154 M	29.3	46.0	-16.7	Phase 1	1.0	10.0	Pass
3.154 M	29.8	46.0	-16.2	Neutral	1.0	10.1	Pass
3.68 M	32.3	46.0	-13.7	Phase 1	1.0	10.0	Pass
3.377 M	32.4	46.0	-13.6	Neutral	1.0	10.1	Pass
150 k	48.3	56.0	-7.7	Neutral	1.0	10.0	Pass
150 k	48.4	56.0	-7.6	Phase 1	1.0	10.0	Pass

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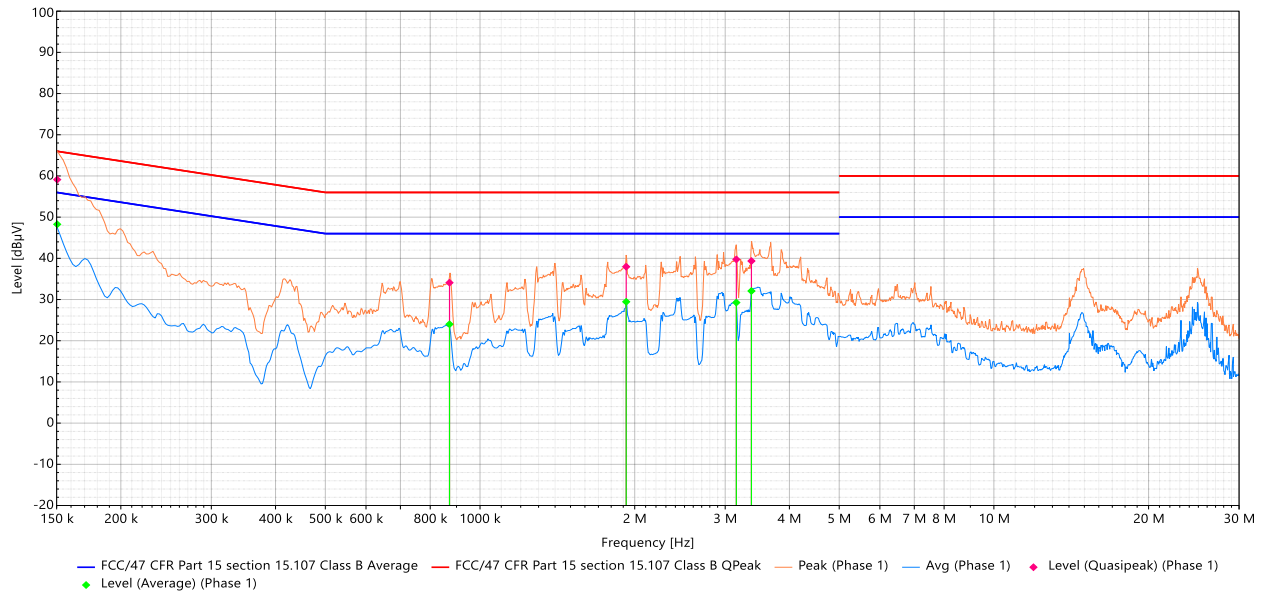
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4.5.4.5 Mode Area_lowdoppler_0dB_240VAC-50Hz

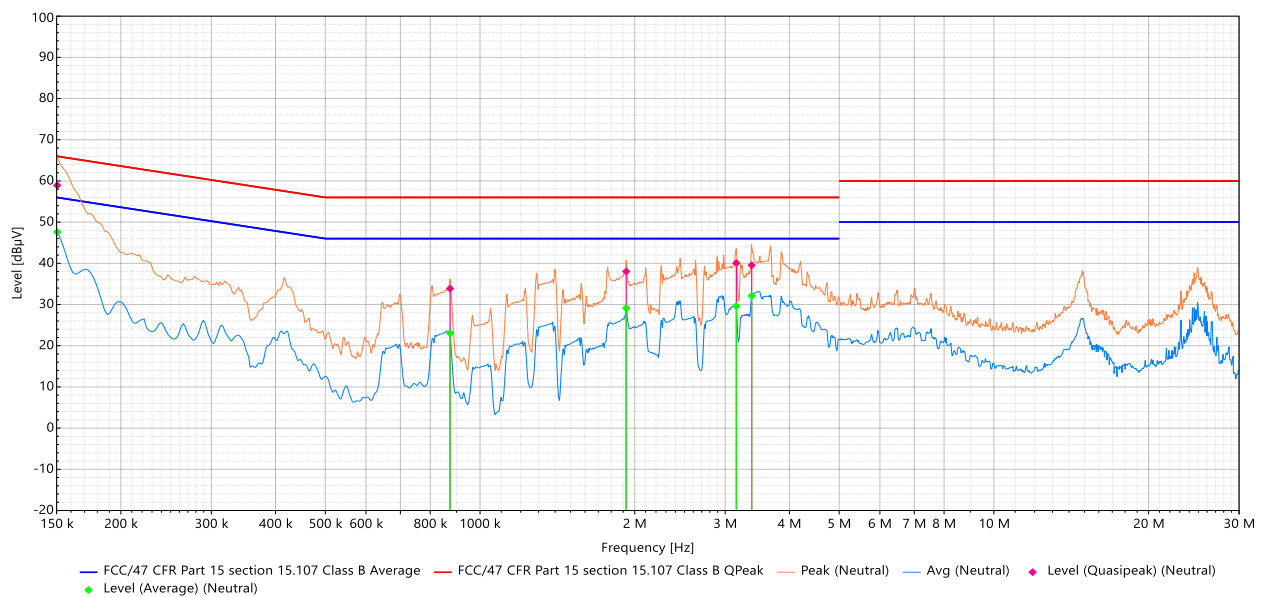
4.5.4.5.1 Line: Phase 1

#29



4.5.4.5.2 Line: Neutral

#29



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4.5.4.5.3 Summary

Frequency [Hz]	Q-Peak [dBμV]	Limit [dBμV]	Margin [dB]	Line	Meas time [s]	Correction [dB]	Result
874.5 k	33.9	56.0	-22.1	Neutral	1.0	10.0	Pass
872.25 k	34.1	56.0	-21.9	Phase 1	1.0	10.0	Pass
1.925 M	38.0	56.0	-18.0	Phase 1	1.0	10.0	Pass
1.925 M	38.0	56.0	-18.0	Neutral	1.0	10.0	Pass
3.374 M	39.3	56.0	-16.7	Phase 1	1.0	10.0	Pass
3.379 M	39.5	56.0	-16.5	Neutral	1.0	10.1	Pass
3.154 M	39.7	56.0	-16.3	Phase 1	1.0	10.0	Pass
3.154 M	40.1	56.0	-15.9	Neutral	1.0	10.1	Pass
150 k	58.9	66.0	-7.1	Neutral	1.0	10.0	Pass
150 k	59.1	66.0	-6.9	Phase 1	1.0	10.0	Pass

Frequency [Hz]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	Meas time [s]	Correction [dB]	Result
874.5 k	23.0	46.0	-23.0	Neutral	1.0	10.0	Pass
872.25 k	24.0	46.0	-22.0	Phase 1	1.0	10.0	Pass
1.925 M	29.1	46.0	-16.9	Neutral	1.0	10.0	Pass
3.154 M	29.3	46.0	-16.7	Phase 1	1.0	10.0	Pass
1.925 M	29.5	46.0	-16.5	Phase 1	1.0	10.0	Pass
3.154 M	29.6	46.0	-16.4	Neutral	1.0	10.1	Pass
3.374 M	32.1	46.0	-13.9	Phase 1	1.0	10.0	Pass
3.379 M	32.1	46.0	-13.9	Neutral	1.0	10.1	Pass
150 k	47.6	56.0	-8.4	Neutral	1.0	10.0	Pass
150 k	48.3	56.0	-7.7	Phase 1	1.0	10.0	Pass

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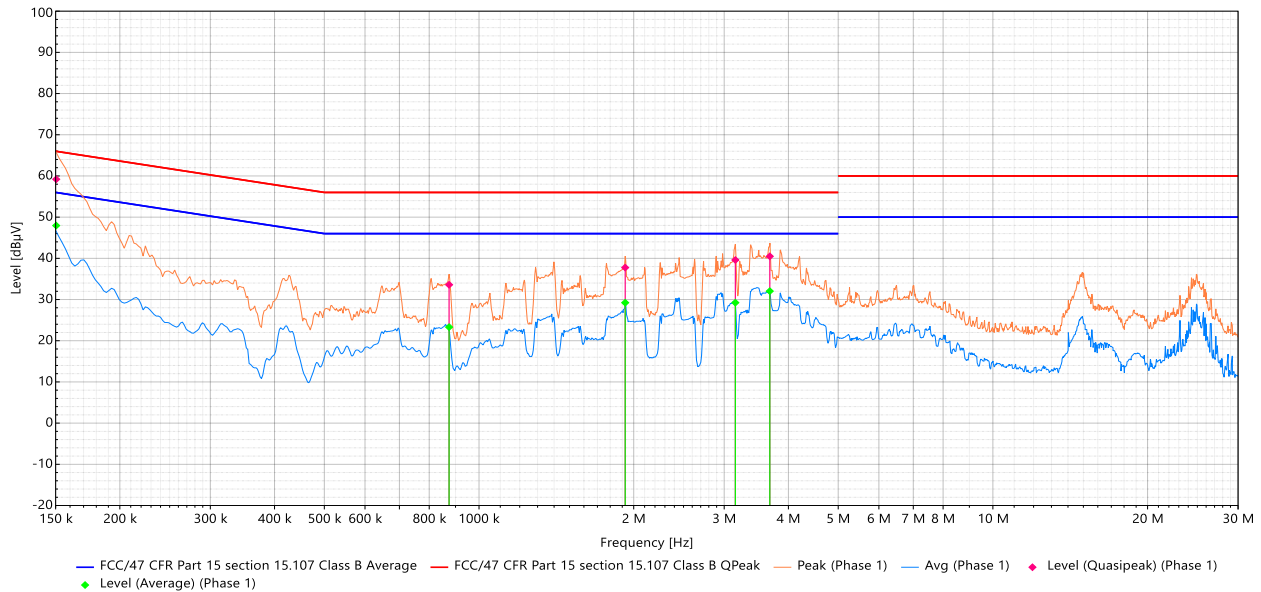
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4.5.4.6 Mode Area_Road_0dB_240VAC-50Hz

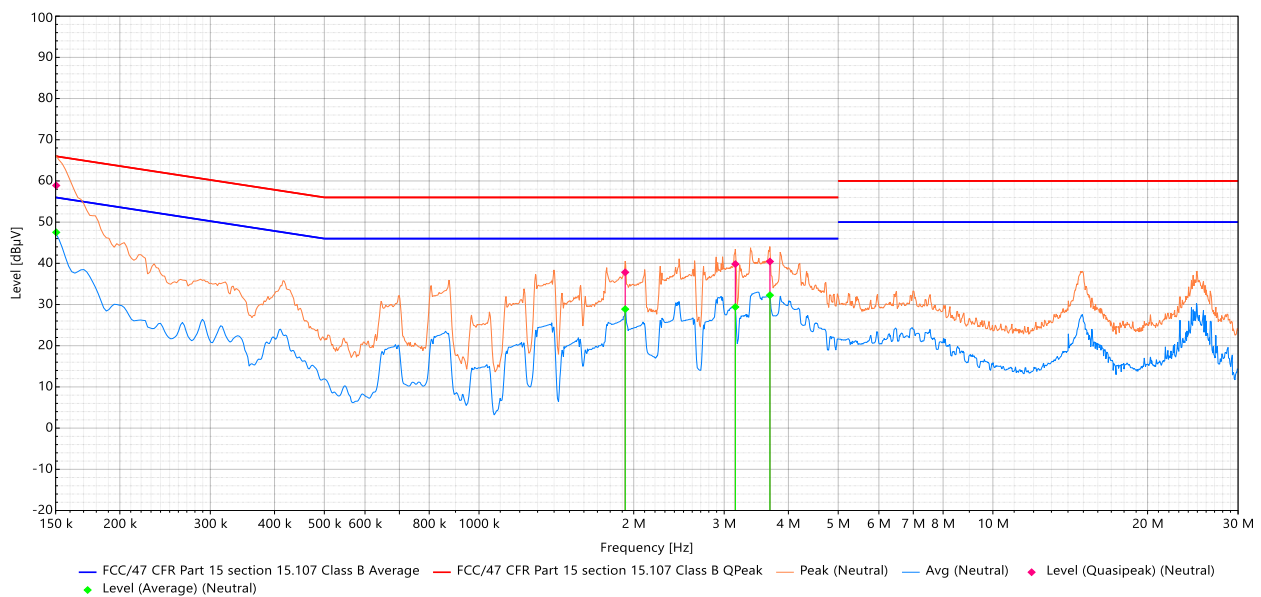
4.5.4.6.1 Line: Phase 1

#26



4.5.4.6.2 Line: Neutral

#26



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4.5.4.6.3 Summary

Frequency [Hz]	Q-Peak [dBμV]	Limit [dBμV]	Margin [dB]	Line	Meas time [s]	Correction [dB]	Result
874.5 k	33.6	56.0	-22.4	Phase 1	1.0	10.0	Pass
1.925 M	37.7	56.0	-18.3	Phase 1	1.0	10.0	Pass
1.925 M	37.8	56.0	-18.2	Neutral	1.0	10.0	Pass
3.154 M	39.6	56.0	-16.4	Phase 1	1.0	10.0	Pass
3.154 M	39.8	56.0	-16.2	Neutral	1.0	10.1	Pass
3.683 M	40.4	56.0	-15.6	Neutral	1.0	10.1	Pass
3.68 M	40.5	56.0	-15.5	Phase 1	1.0	10.0	Pass
150 k	58.9	66.0	-7.1	Neutral	1.0	10.0	Pass
150 k	59.2	66.0	-6.8	Phase 1	1.0	10.0	Pass

Frequency [Hz]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	Meas time [s]	Correction [dB]	Result
874.5 k	23.3	46.0	-22.7	Phase 1	1.0	10.0	Pass
1.925 M	28.9	46.0	-17.1	Neutral	1.0	10.0	Pass
1.925 M	29.2	46.0	-16.8	Phase 1	1.0	10.0	Pass
3.154 M	29.2	46.0	-16.8	Phase 1	1.0	10.0	Pass
3.154 M	29.4	46.0	-16.6	Neutral	1.0	10.1	Pass
3.68 M	32.0	46.0	-14.0	Phase 1	1.0	10.0	Pass
3.683 M	32.3	46.0	-13.7	Neutral	1.0	10.1	Pass
150 k	47.5	56.0	-8.5	Neutral	1.0	10.0	Pass
150 k	48.0	56.0	-8.0	Phase 1	1.0	10.0	Pass

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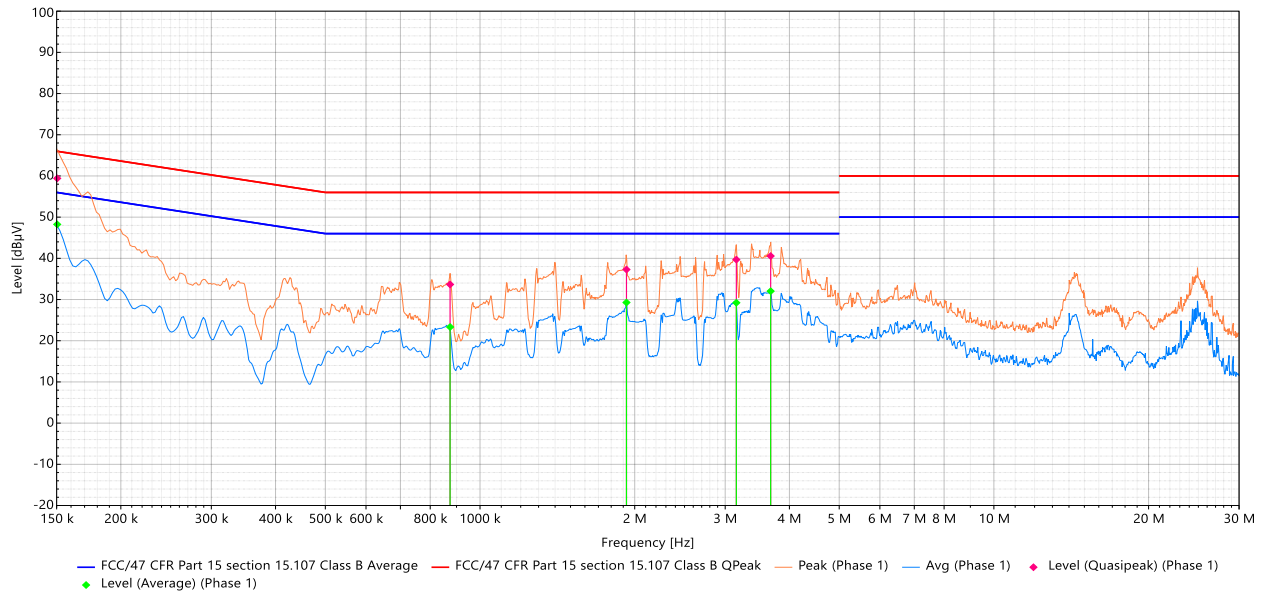
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4.5.4.7 Mode Area_lowdoppler_-4dB_240VAC-50Hz

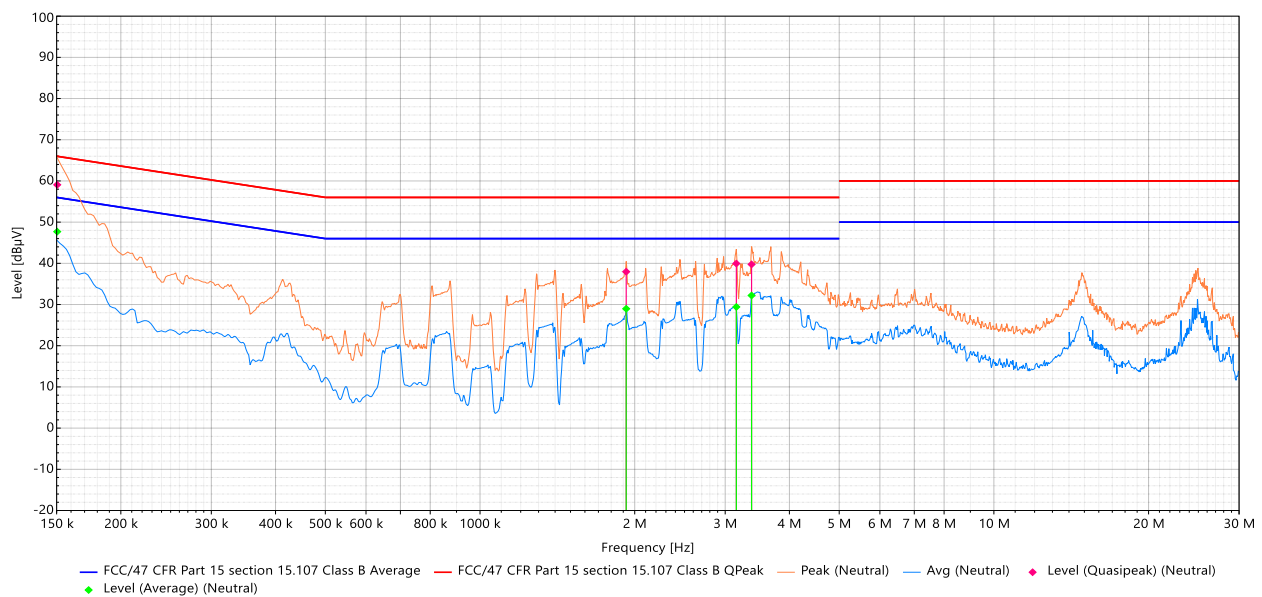
4.5.4.7.1 Line: Phase 1

#28



4.5.4.7.2 Line: Neutral

#28



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4.5.4.7.3 Summary

Frequency [Hz]	Q-Peak [dBμV]	Limit [dBμV]	Margin [dB]	Line	Meas time [s]	Correction [dB]	Result
874.5 k	33.7	56.0	-22.3	Phase 1	1.0	10.0	Pass
1.928 M	37.3	56.0	-18.7	Phase 1	1.0	10.0	Pass
1.925 M	38.0	56.0	-18.0	Neutral	1.0	10.0	Pass
3.154 M	39.7	56.0	-16.3	Phase 1	1.0	10.0	Pass
3.377 M	39.8	56.0	-16.2	Neutral	1.0	10.1	Pass
3.154 M	40.0	56.0	-16.0	Neutral	1.0	10.1	Pass
3.678 M	40.6	56.0	-15.4	Phase 1	1.0	10.0	Pass
150 k	59.1	66.0	-6.9	Neutral	1.0	10.0	Pass
150 k	59.4	66.0	-6.6	Phase 1	1.0	10.0	Pass

Frequency [Hz]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	Meas time [s]	Correction [dB]	Result
874.5 k	23.3	46.0	-22.7	Phase 1	1.0	10.0	Pass
1.925 M	29.0	46.0	-17.0	Neutral	1.0	10.0	Pass
3.154 M	29.2	46.0	-16.8	Phase 1	1.0	10.0	Pass
1.928 M	29.3	46.0	-16.7	Phase 1	1.0	10.0	Pass
3.154 M	29.4	46.0	-16.6	Neutral	1.0	10.1	Pass
3.678 M	32.0	46.0	-14.0	Phase 1	1.0	10.0	Pass
3.377 M	32.2	46.0	-13.8	Neutral	1.0	10.1	Pass
150 k	47.7	56.0	-8.3	Neutral	1.0	10.0	Pass
150 k	48.2	56.0	-7.8	Phase 1	1.0	10.0	Pass

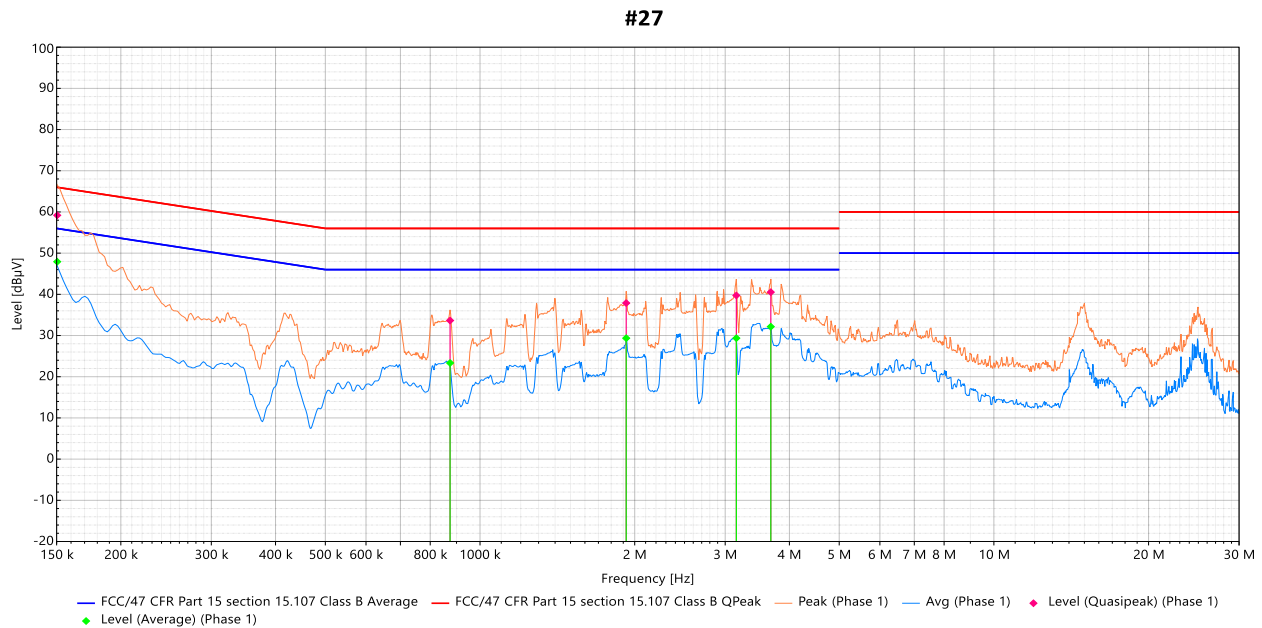
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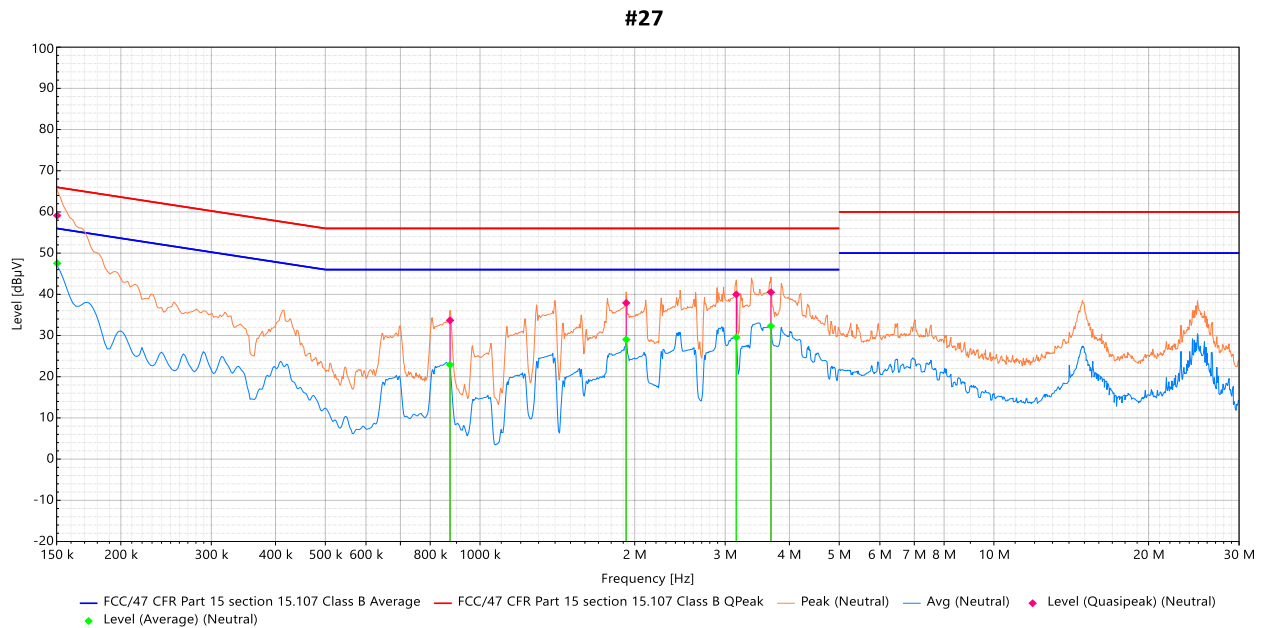
Prüfdokumentation Test documentation

4.5.4.8 Mode Area_Road_-4dB_240VAC-50Hz

4.5.4.8.1 Line: Phase 1



4.5.4.8.2 Line: Neutral



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Prüfdokumentation
Test documentation

4.5.4.8.3 Summary

Frequency [Hz]	Q-Peak [dBμV]	Limit [dBμV]	Margin [dB]	Line	Meas time [s]	Correction [dB]	Result
874.5 k	33.6	56.0	-22.4	Phase 1	1.0	10.0	Pass
874.5 k	33.7	56.0	-22.3	Neutral	1.0	10.0	Pass
1.925 M	37.9	56.0	-18.1	Phase 1	1.0	10.0	Pass
1.925 M	37.9	56.0	-18.1	Neutral	1.0	10.0	Pass
3.154 M	39.7	56.0	-16.3	Phase 1	1.0	10.0	Pass
3.154 M	40.0	56.0	-16.0	Neutral	1.0	10.1	Pass
3.683 M	40.5	56.0	-15.5	Neutral	1.0	10.1	Pass
3.68 M	40.5	56.0	-15.5	Phase 1	1.0	10.0	Pass
150 k	59.1	66.0	-6.9	Neutral	1.0	10.0	Pass
150 k	59.2	66.0	-6.8	Phase 1	1.0	10.0	Pass

Frequency [Hz]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	Meas time [s]	Correction [dB]	Result
874.5 k	22.9	46.0	-23.1	Neutral	1.0	10.0	Pass
874.5 k	23.3	46.0	-22.7	Phase 1	1.0	10.0	Pass
1.925 M	29.0	46.0	-17.0	Neutral	1.0	10.0	Pass
1.925 M	29.4	46.0	-16.6	Phase 1	1.0	10.0	Pass
3.154 M	29.4	46.0	-16.6	Phase 1	1.0	10.0	Pass
3.154 M	29.6	46.0	-16.4	Neutral	1.0	10.1	Pass
3.68 M	32.2	46.0	-13.8	Phase 1	1.0	10.0	Pass
3.683 M	32.3	46.0	-13.7	Neutral	1.0	10.1	Pass
150 k	47.5	56.0	-8.5	Neutral	1.0	10.0	Pass
150 k	47.9	56.0	-8.1	Phase 1	1.0	10.0	Pass

4.5.5 Final test result (AC Power Conducted Emission)

Final test result	Pass
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Fotodokumentation
Photo documentation

5 Test Setup Photo

For reasons of confidentiality, no photos of the EUT are included in this report.
For EUT and test setup photos please see the Photo Documentation to this report Number.

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Zusatzdokumentation
Additional documentation

6 Application form

The following information was provided by the customer and form the basis for the execution of the tests and the assessment of conformity. The given information can affect the results of both.

No application form was provided.

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Liste der verwendeten Prüfmittel
List of used test equipment

7 Equipment List

7.1 Hardware

Prüfmittel Test equipment			Prüfmittel-Nr. / ID- Nr. Equipment-No. / ID- No.	Letzte Kalibrierung Last calibration	Nächste Kalibrierung Next calibration
TS8997	Spectrum Analyzer FSV30	Rohde & Schwarz	9000268	10.08.2023	10.08.2025
	Antenna BBHA 9170 15-40GHz	Schwarzbeck	2723744	30.05.2023	30.05.2026
	Humidity / Baro / Temp. Data Recorder	PCE Instruments	9000207	31.08.2024	31.08.2025
	Temperature & Humidity Chamber: PL-3-KPH	Espec	2731999	11.02.2025	11.02.2028
Fully Anechoic Room		Albatross Projects GmbH	2959749	13.02.2025	* 13.02.2026
Spectrum Analyzer FSU26		Rohde & Schwarz	2844118	04.08.2023	04.08.2025
Spectrum Analyzer UXA N9041B		Keysight	2971644	24.06.2024	24.06.2026
RSE-Filtersystem		Rohde & Schwarz	9002802	06.02.2025	* 06.02.2026
Antenna HF907 1-18GHz		Rohde & Schwarz	2856263	10.09.2024	10.09.2027
Horn Antenna 3116C-PA 18-40GHz		ETS LINDGREN	2900393	19.12.2022	19.12.2025
Horn Antenna M19RH 40-60GHz with adapter		Rohde & Schwarz	9001953	07.04.2025	07.04.2026
SGX302 Multiplier Module 60-90GHz		VDI Virginia Diodes, Inc.	9000427	21.07.2025	* 21.07.2026
external Horn Antenna M12RH for Multiplier Module 60-90GHz		VDI Virginia Diodes, Inc.	9062538	21.07.2025	* 21.07.2026
SAX322 Extension Module with external Horn Antenna M12RH 60-90GHz		VDI Virginia Diodes, Inc.	9000431	21.07.2025	* 21.07.2026
SAX321 Extension Module with external Horn Antenna M08RH 90-120GHz		VDI Virginia Diodes, Inc.	9000430	21.07.2025	* 21.07.2027
Receiver ESU 26		Rohde & Schwarz	2728898	25.03.2025	25.03.2026
Antenna VULB 9168 30MHz – 1GHz		Schwarzbeck	2728136	05.10.2023	05.10.2026
LISN		Rohde & Schwarz	2731908	16.07.2024	16.07.2027
Limiter		Rohde & Schwarz	9017596	05.09.2024	05.09.2026
ESU8		Rohde & Schwarz	2728148	10.12.2024	10.12.2025

*Equipment only verified and not calibrated

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7.2 Software

Test Software	Developer	Version
EMC32	Rohde & Schwarz	10.60.20
BAT-EMC	NEXIO	2022.0.19.0

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Änderungsverzeichnis
Change history

8 Change history

Revision Number	List of revisions
001	Initial Release

Note: Latest revision report will replace all previous reports.

Ende des Prüfberichts
End of Test Report