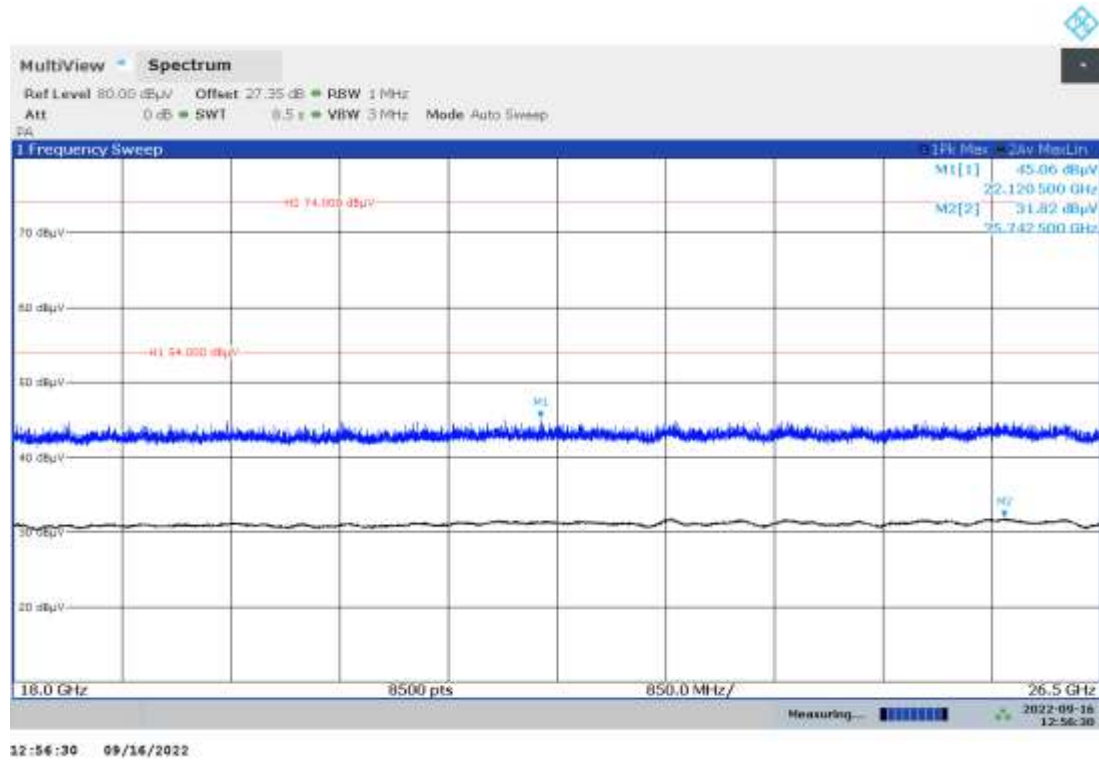


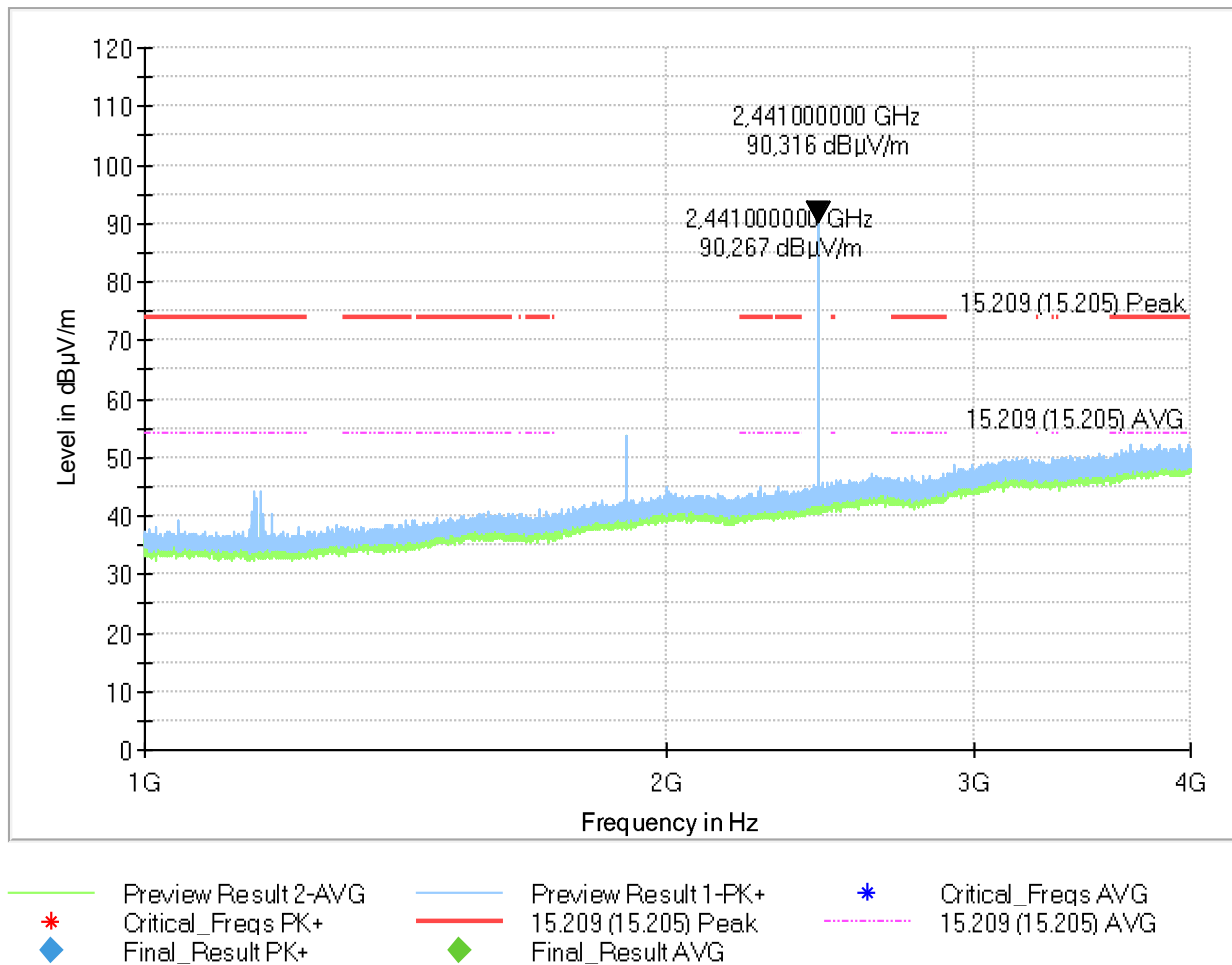
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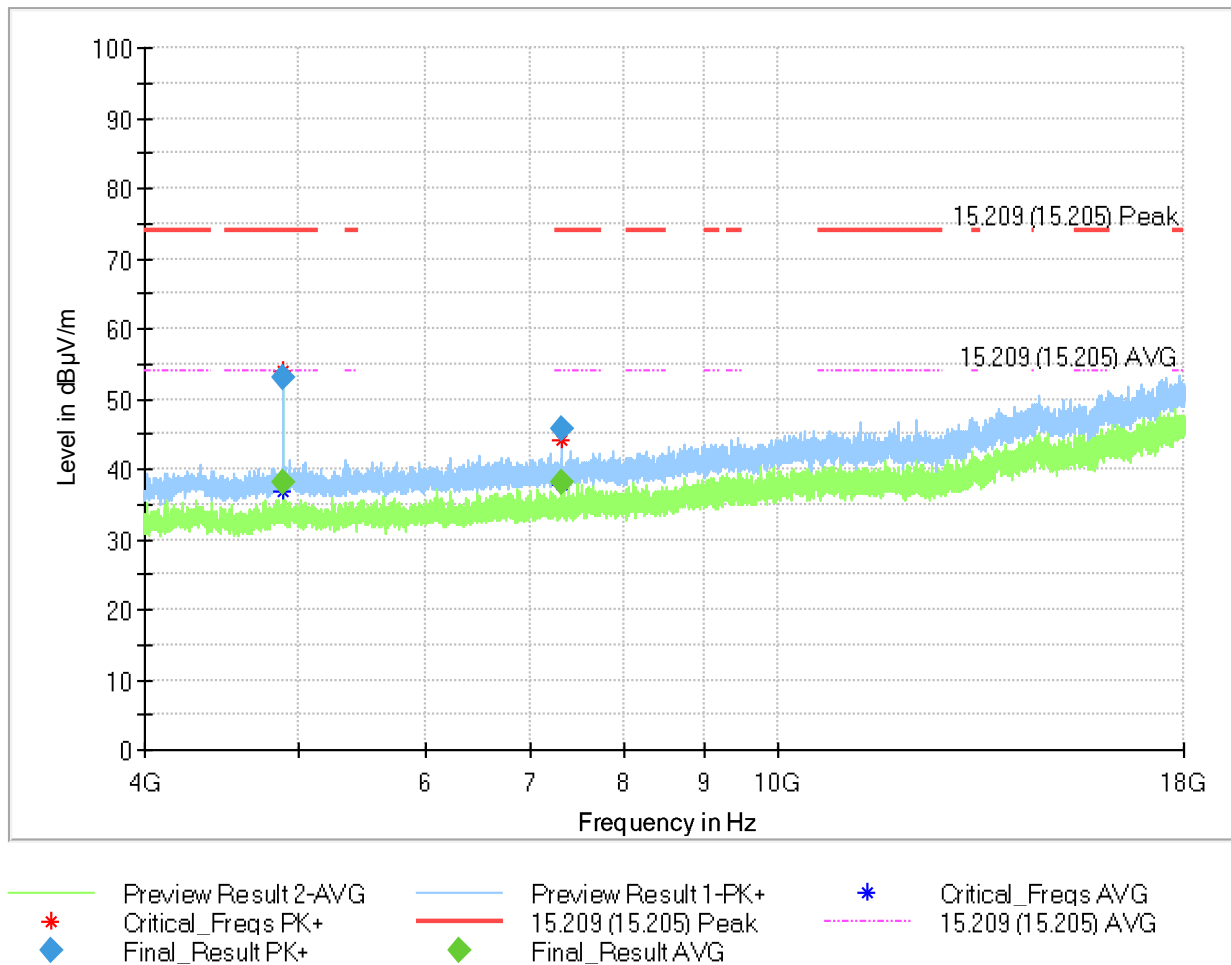
Plot 87: EUT #1, Mode 1, RSE 18 GHz – 26.5 GHz, low channel, horizontal / vertical polarisation



Plot 88: EUT #1, Mode 1, RSE 1 GHz – 4 GHz, mid channel, horizontal / vertical polarisation



Plot 89: EUT #1, Mode 1, RSE 4 GHz – 18 GHz, mid channel, horizontal / vertical polarisation



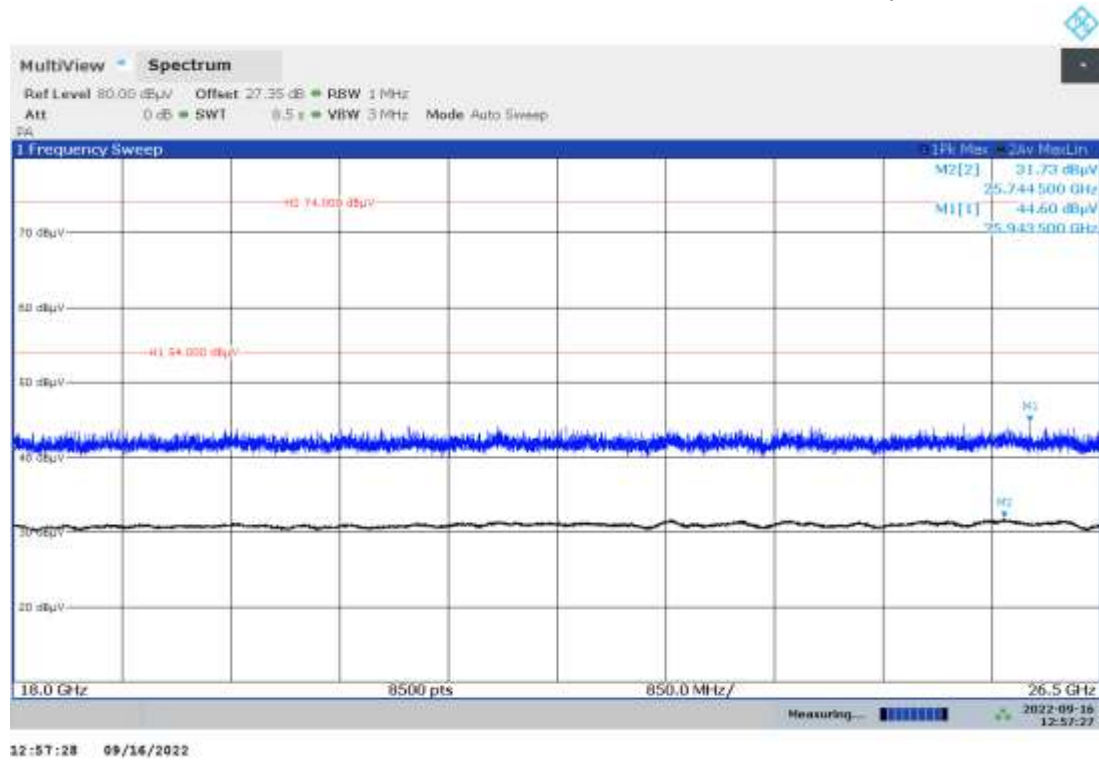
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
4881.972222	52.94	---	74.00	21.06	100.0	1000.000	150.0	V
4882.000000	---	38.00	54.00	16.00	100.0	1000.000	150.0	V
7322.966667	---	38.14	54.00	15.86	100.0	1000.000	150.0	H
7322.966667	45.83	---	74.00	28.17	100.0	1000.000	150.0	H

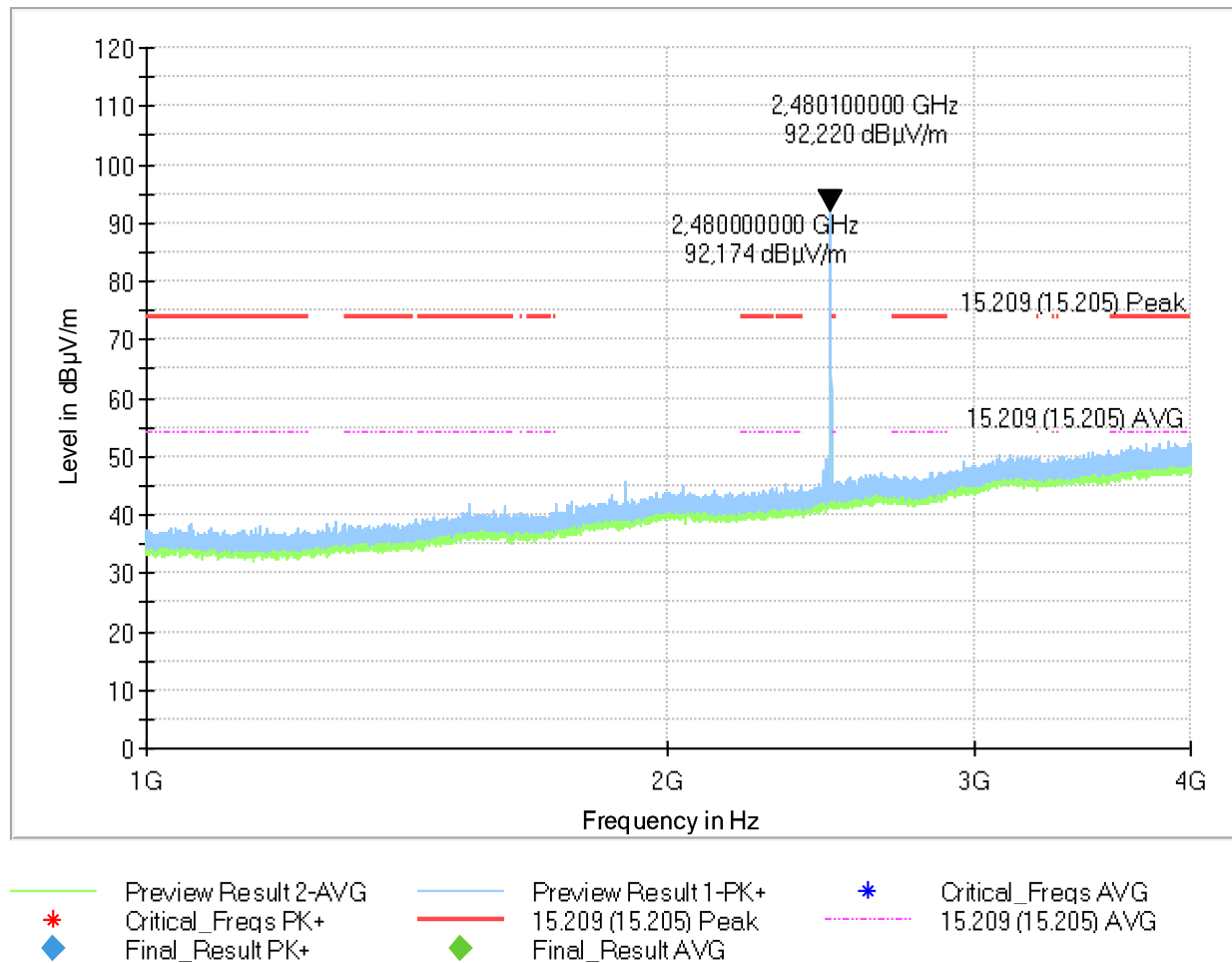
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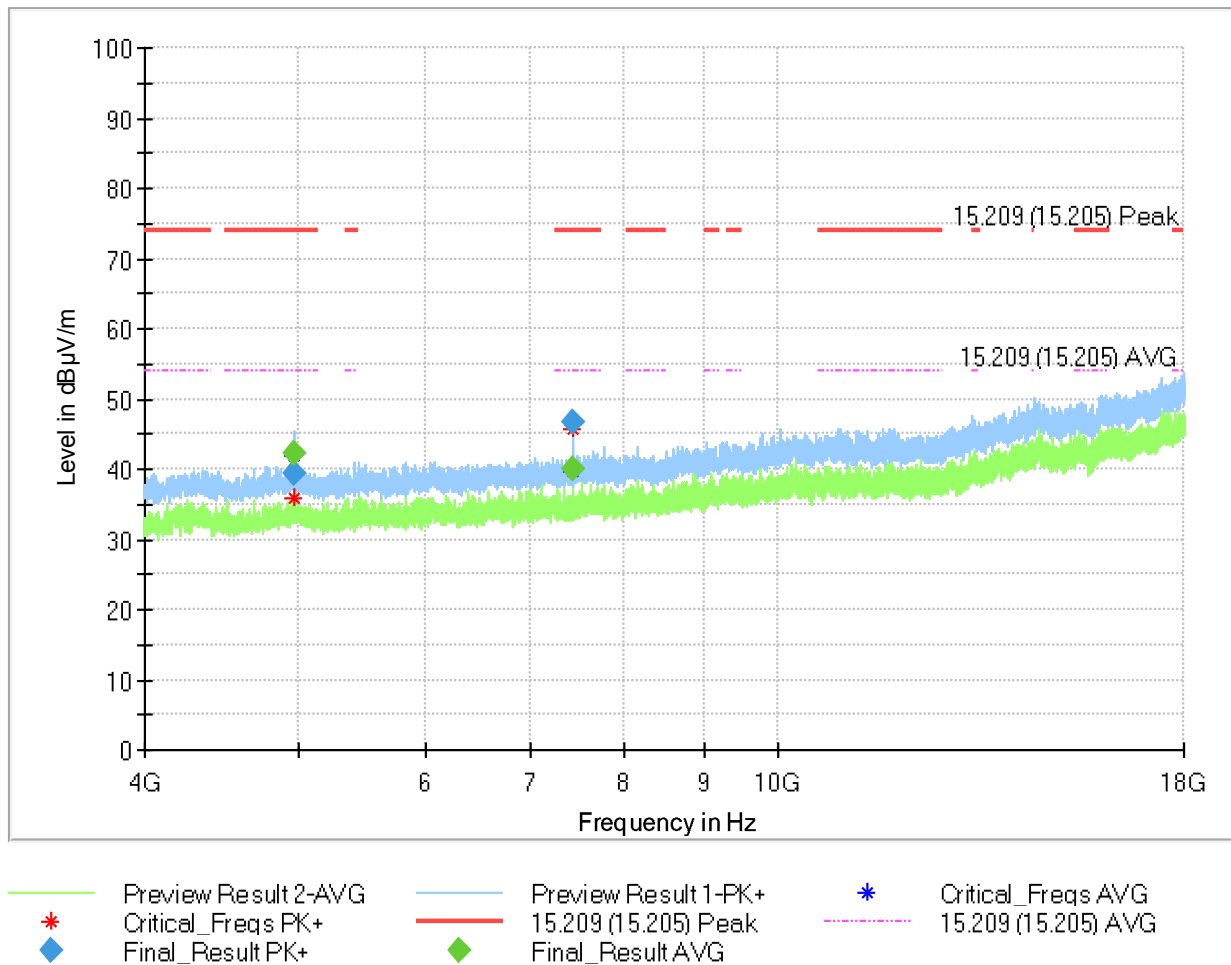
Plot 90: EUT #1, Mode 1, RSE 18 GHz – 26.5 GHz, mid channel, horizontal / vertical polarisation



Plot 91: EUT #1, Mode 1, RSE 1 GHz – 4 GHz, high channel, horizontal / vertical polarisation



Plot 92: EUT #1, Mode 1, RSE 4 GHz – 18 GHz, high channel, horizontal / vertical polarisation



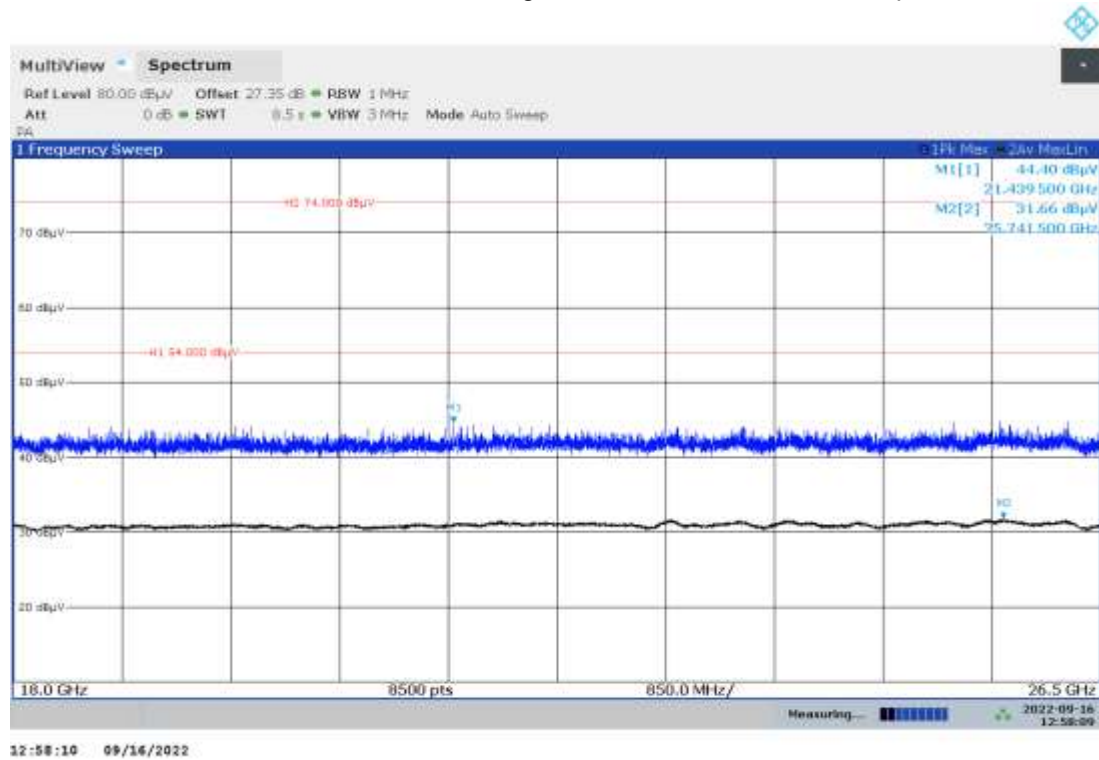
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
4958.952778	39.30	---	74.00	34.70	100.0	1000.000	150.0	H
4960.002778	---	42.14	54.00	11.86	100.0	1000.000	150.0	H
7439.483333	46.71	---	74.00	27.29	100.0	1000.000	150.0	H
7439.961111	---	39.96	54.00	14.04	100.0	1000.000	150.0	H

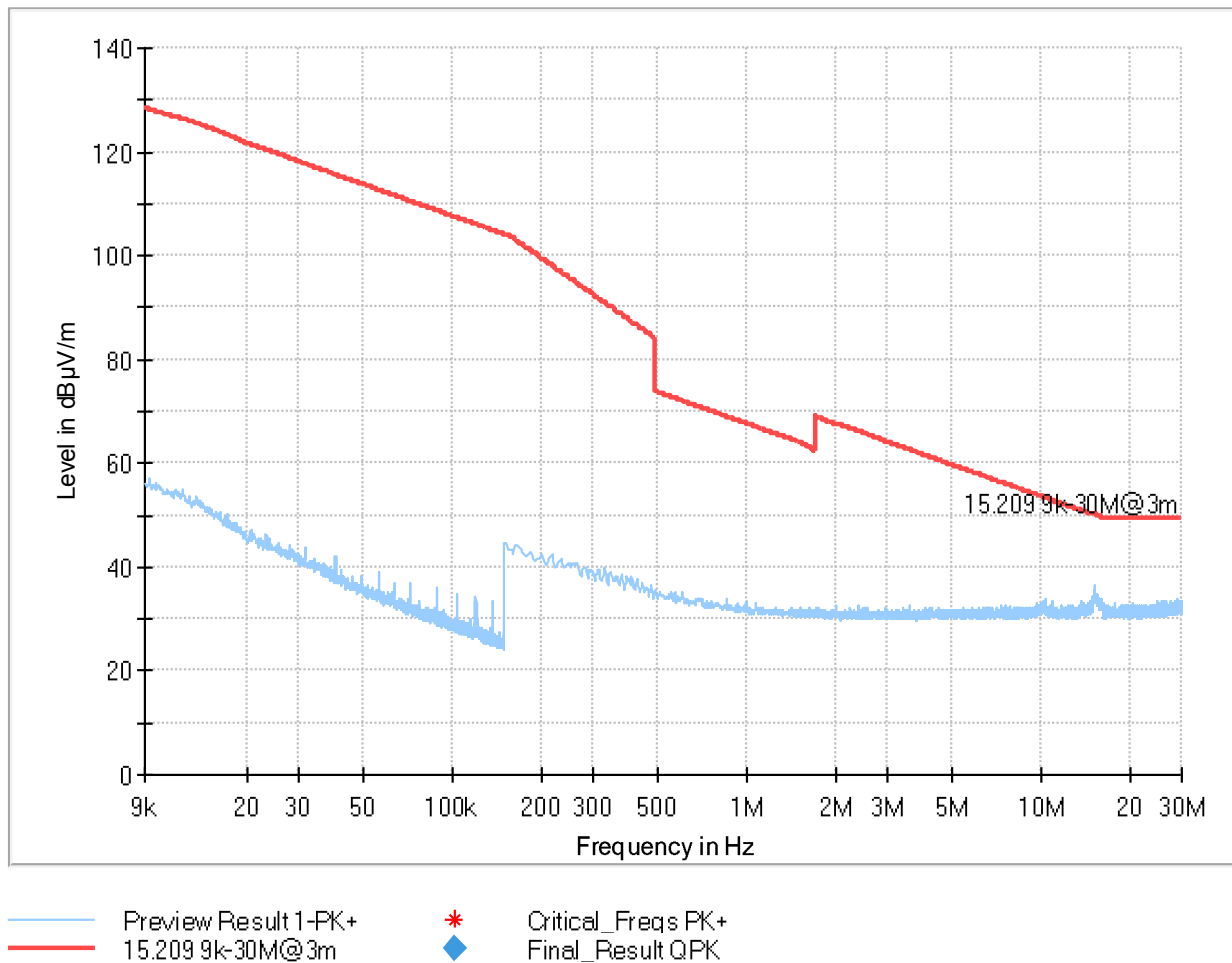
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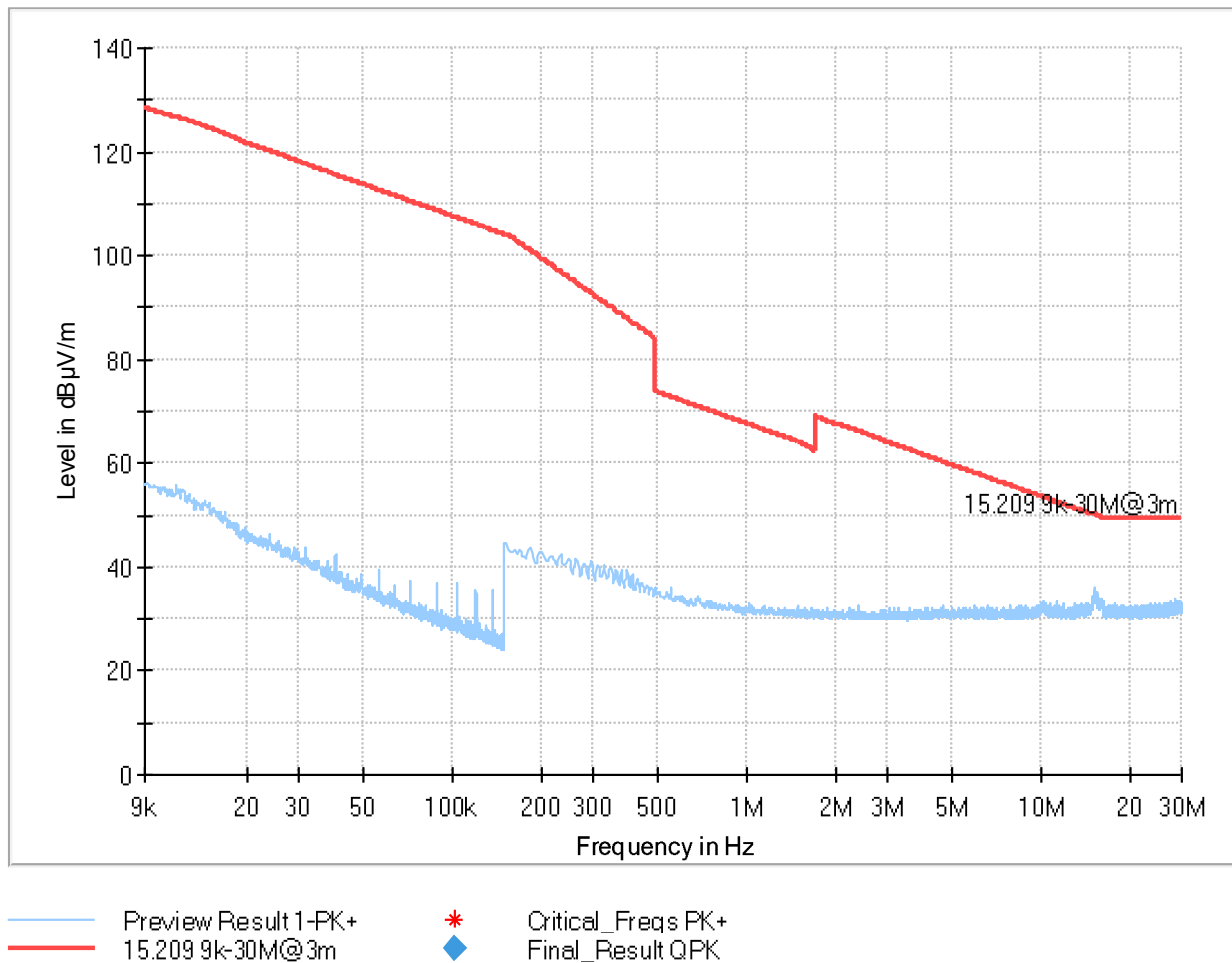
Plot 93: EUT #1, Mode 1, RSE 18 GHz – 26.5 GHz, high channel, horizontal / vertical polarisation



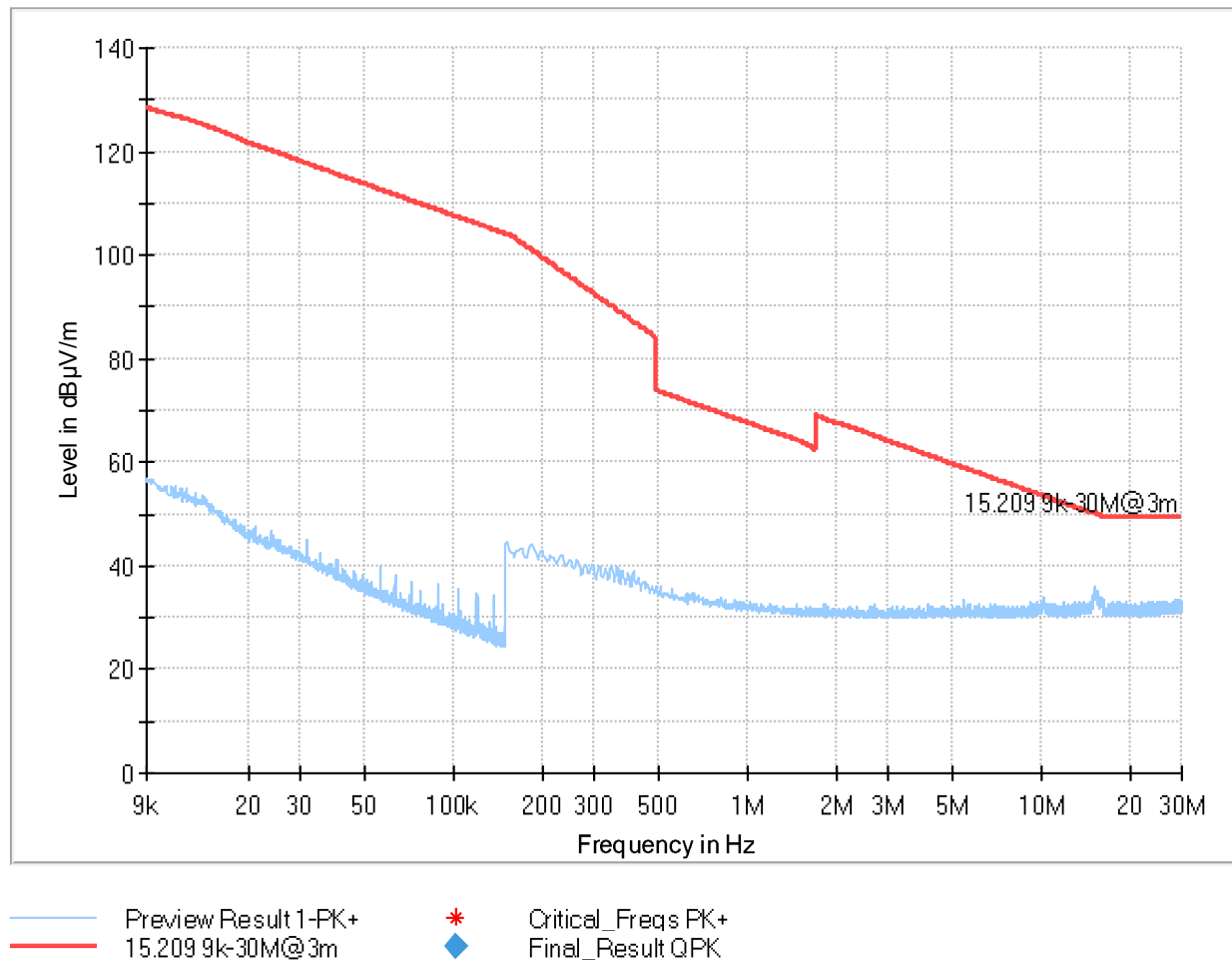
Plot 94: EUT #1, Mode 2, RSE 9 kHz – 30 MHz, low channel, loop antenna



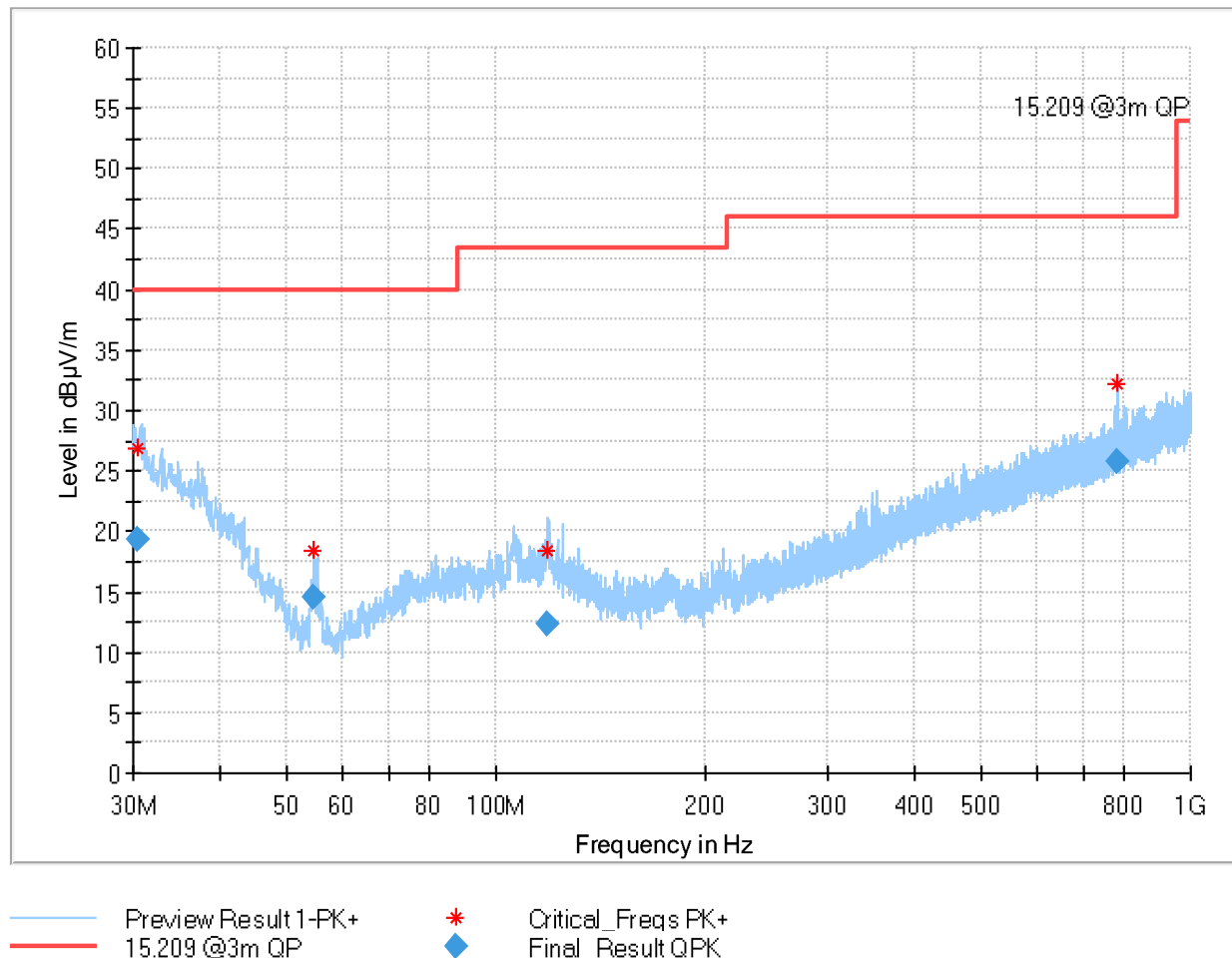
Plot 95: EUT #1, Mode 2, RSE 9 kHz – 30 MHz, mid channel, loop antenna



Plot 96: EUT #1, Mode 2, RSE 9 kHz – 30 MHz, high channel, loop antenna



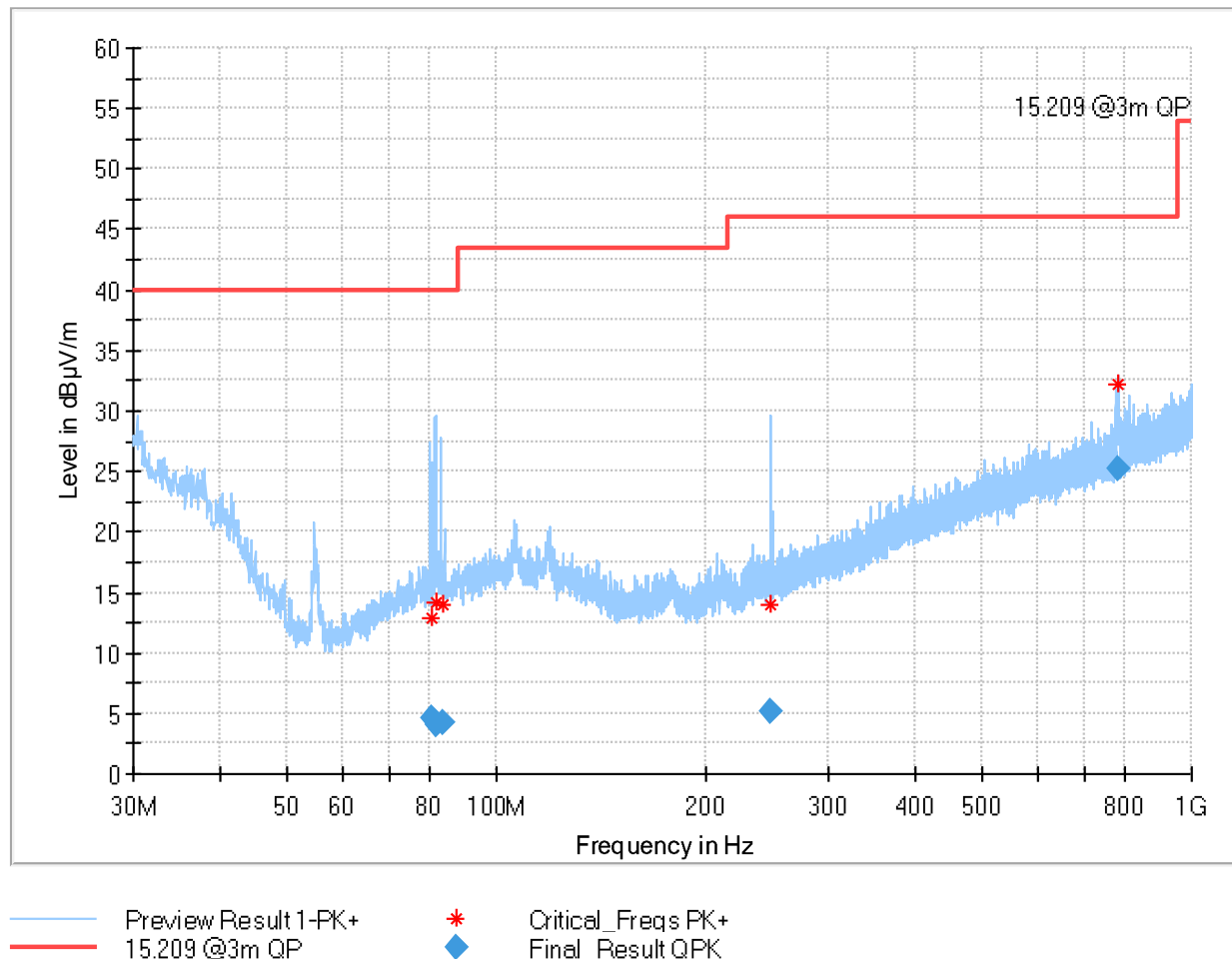
Plot 97: EUT #1, Mode 2, RSE 30 MHz – 1 GHz, low channel, horizontal / vertical polarisation



Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.349500	19.40	40.00	20.60	100.0	120.000	323.0	V	232.0
54.711500	14.58	40.00	25.42	100.0	120.000	125.0	H	325.0
118.627000	12.36	43.50	31.14	100.0	120.000	150.0	H	168.0
782.817000	25.75	46.00	20.25	100.0	120.000	100.0	V	159.0

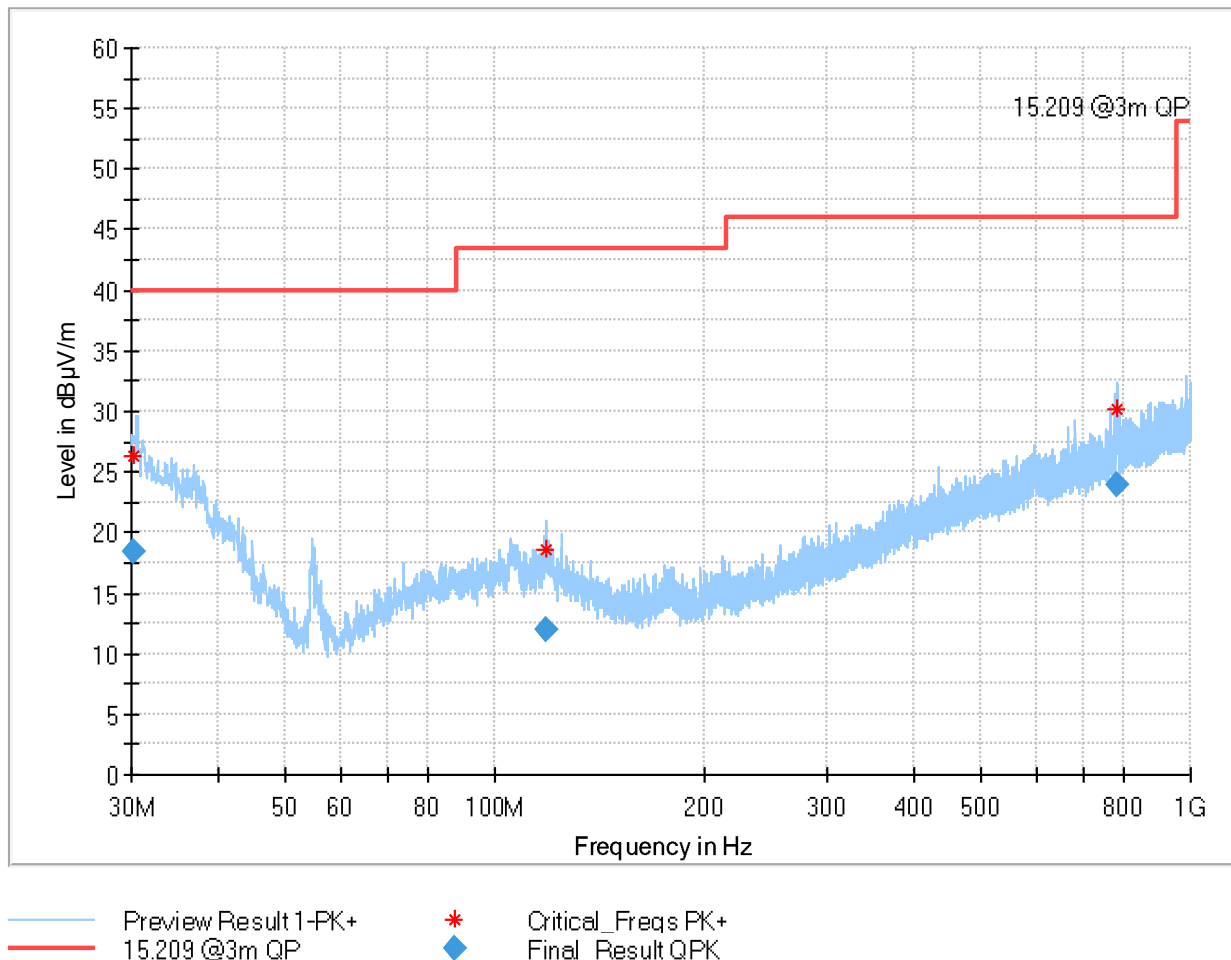
Plot 98: EUT #1, Mode 2, RSE 30 MHz – 1 GHz, mid channel, horizontal / vertical polarisation



Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
80.478500	4.64	40.00	35.36	100.0	120.000	195.0	V	309.0
81.604000	3.99	40.00	36.01	100.0	120.000	241.0	V	178.0
83.753000	4.32	40.00	35.68	100.0	120.000	214.0	V	83.0
247.130000	5.12	46.00	40.88	100.0	120.000	223.0	V	114.0
782.802000	25.15	46.00	20.85	100.0	120.000	142.0	H	28.0

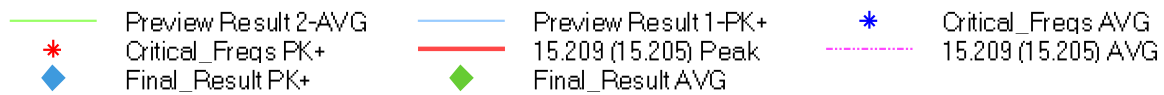
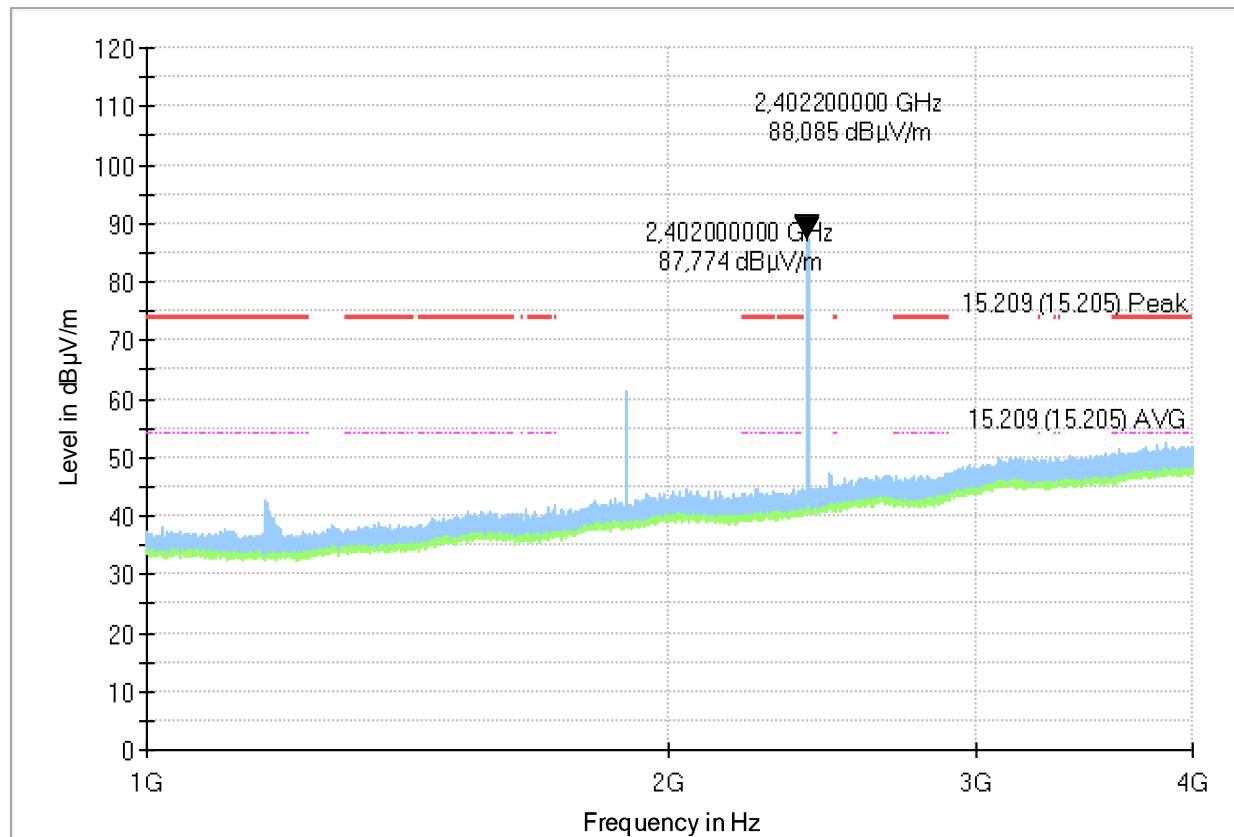
Plot 99: EUT #1, Mode 2, RSE 30 MHz – 1 GHz, high channel, horizontal / vertical polarisation



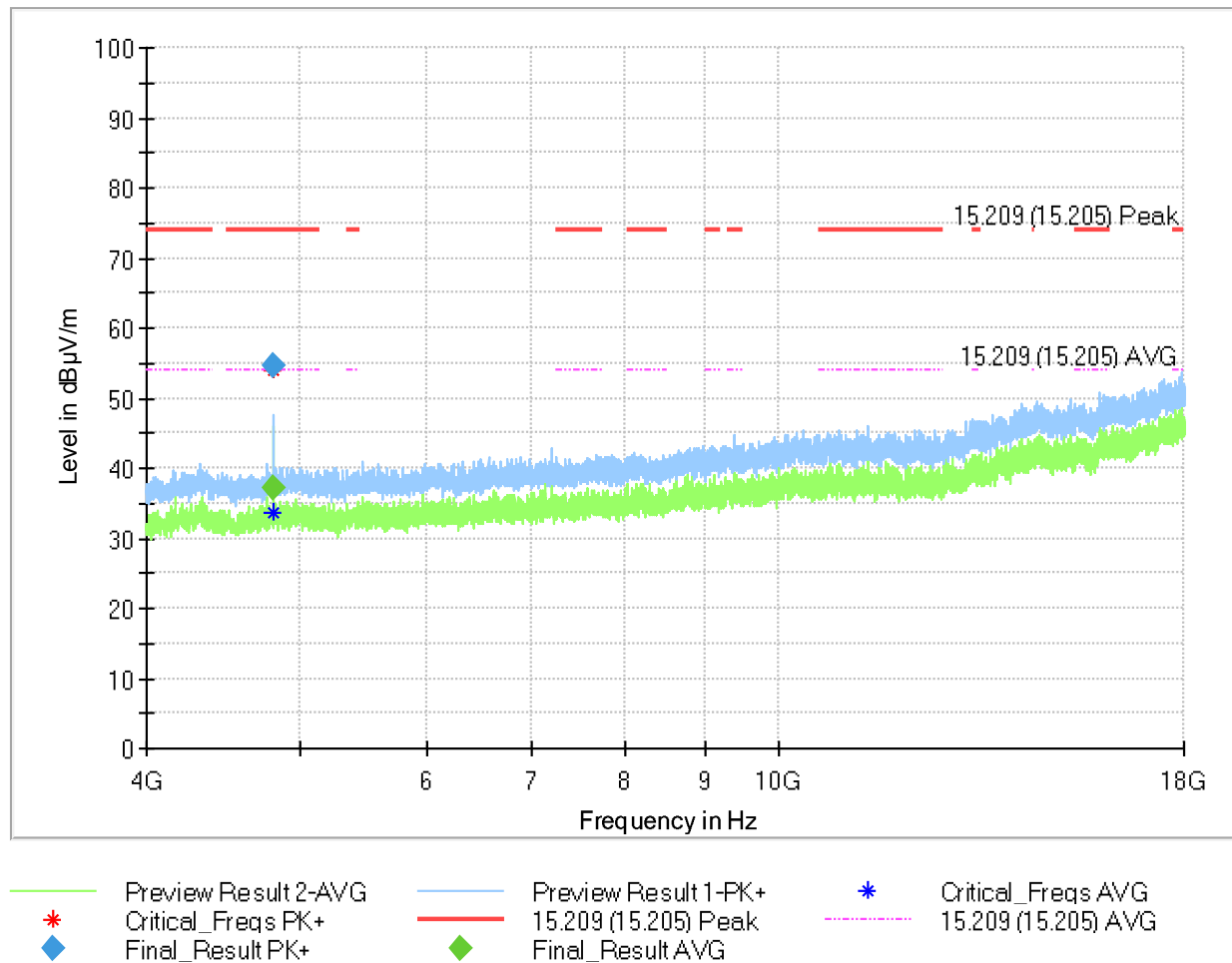
Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.333500	18.42	40.00	21.58	100.0	120.000	117.0	V	194.0
118.615500	11.93	43.50	31.57	100.0	120.000	277.0	H	86.0
783.362000	23.93	46.00	22.07	100.0	120.000	150.0	V	158.0

Plot 100: EUT #1, Mode 2, RSE 1 GHz – 4 GHz, low channel, horizontal / vertical polarisation



Plot 101: EUT #1, Mode 2, RSE 4 GHz – 18 GHz, low channel, horizontal / vertical polarisation



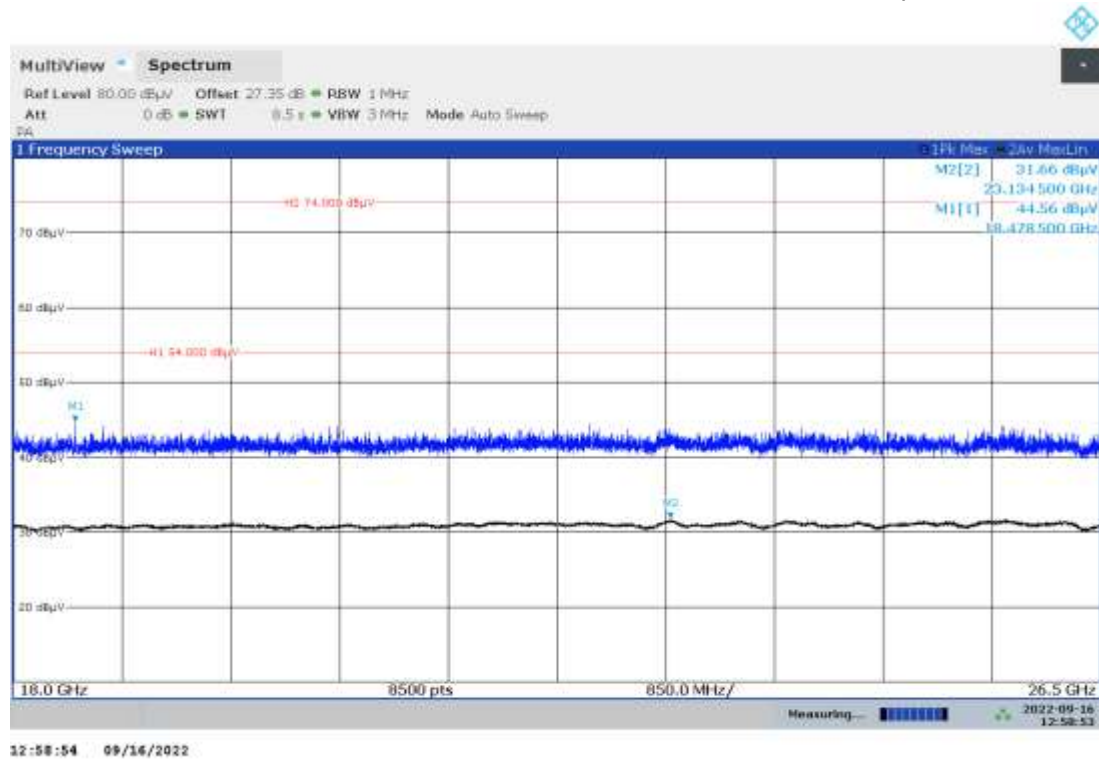
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
4803.969444	54.73	---	74.00	19.27	100.0	1000.000	150.0	H
4803.969444	---	37.25	54.00	16.75	100.0	1000.000	150.0	H

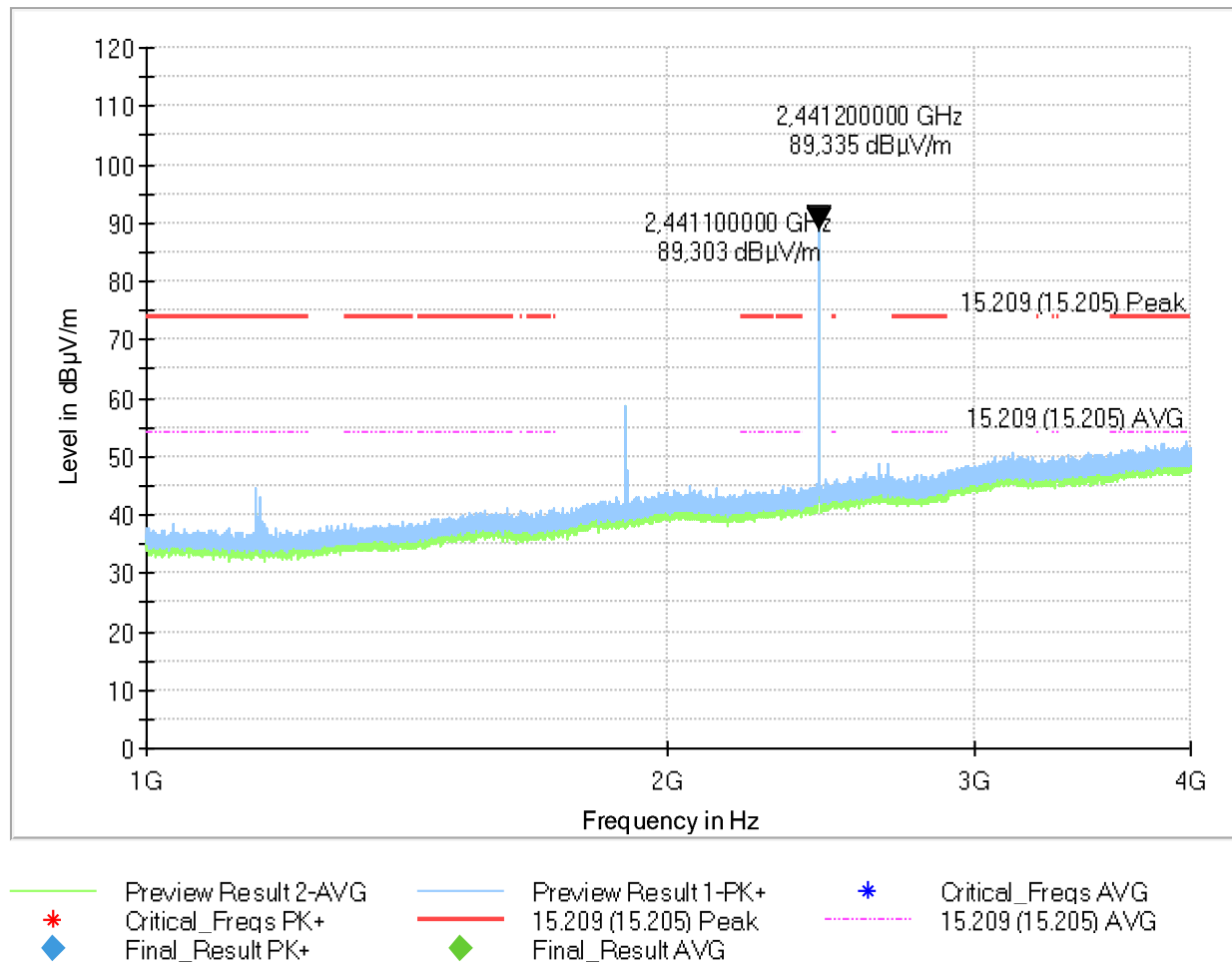
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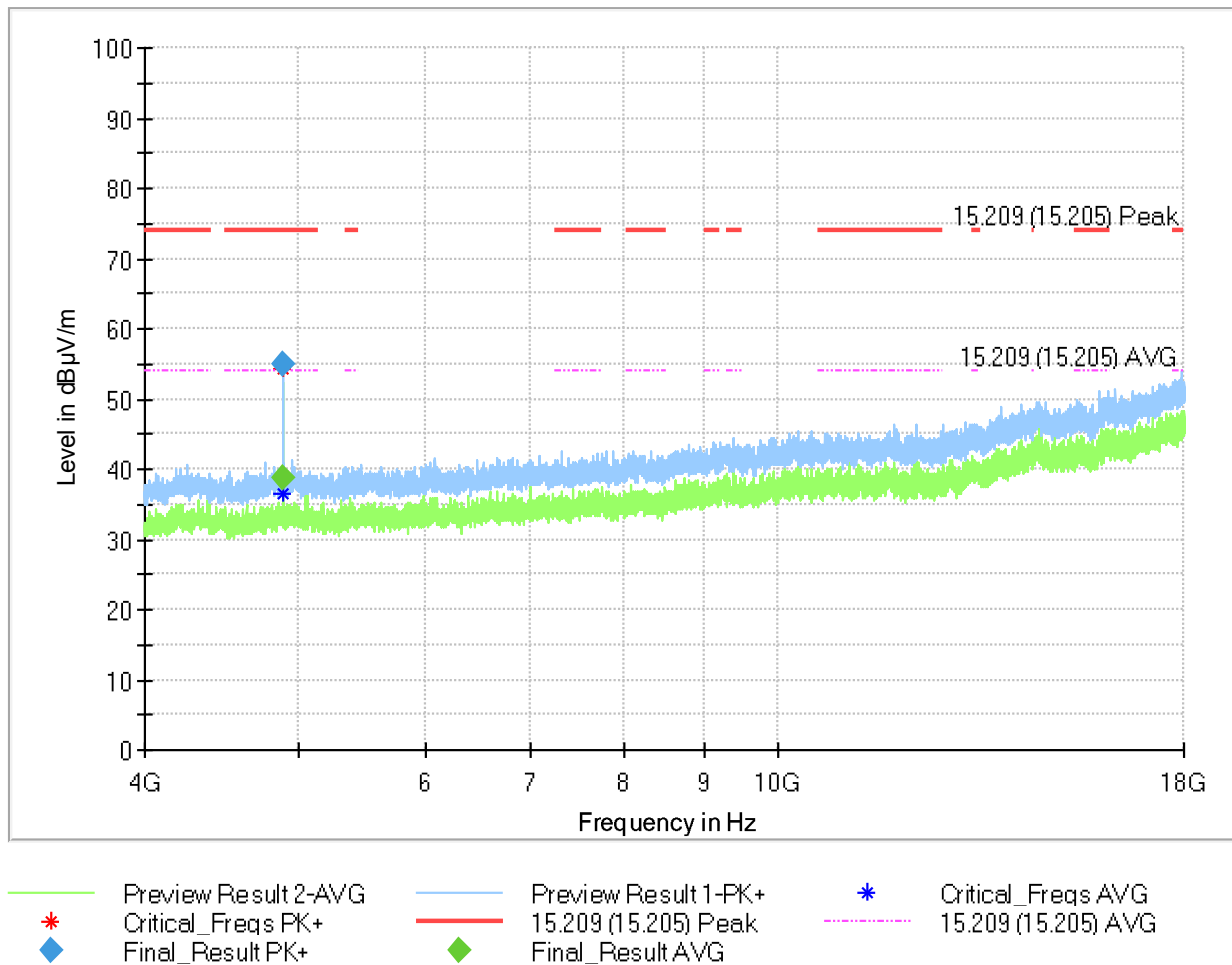
Plot 102: EUT #1, Mode 2, RSE 18 GHz – 26.5 GHz, low channel, horizontal / vertical polarisation



Plot 103: EUT #1, Mode 2, RSE 1 GHz – 4 GHz, mid channel, horizontal / vertical polarisation



Plot 104: EUT #1, Mode 2, RSE 4 GHz – 18 GHz, mid channel, horizontal / vertical polarisation



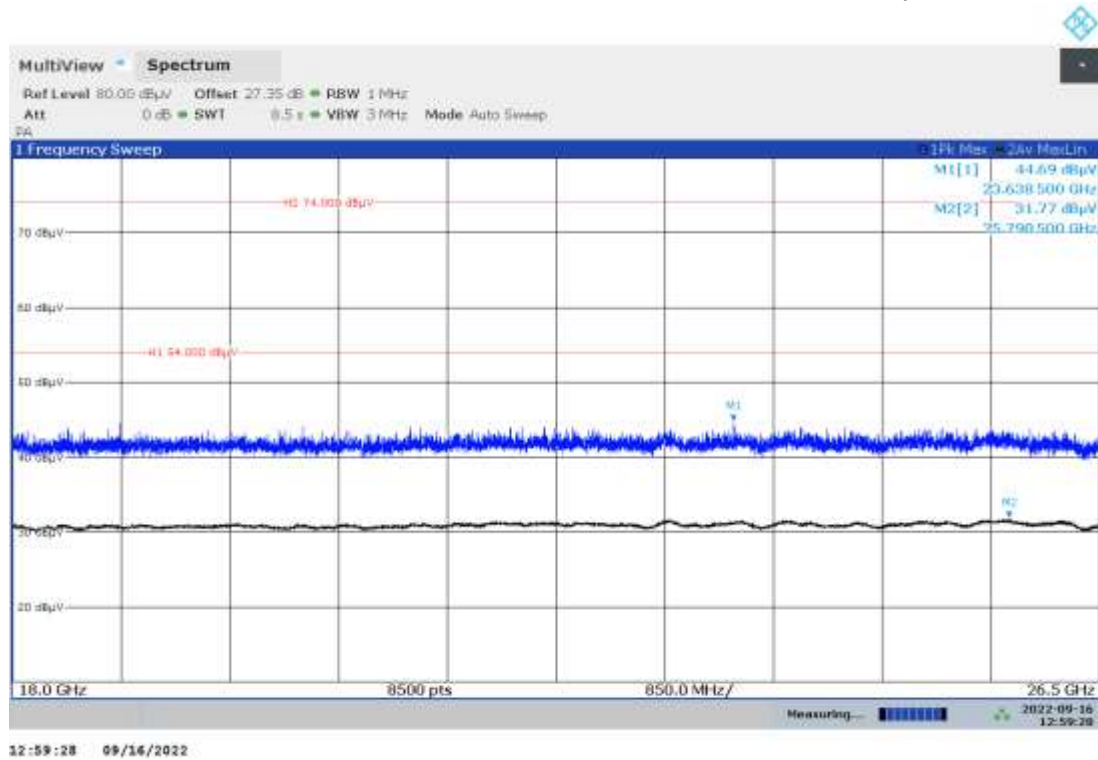
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
4881.972222	55.08	---	74.00	18.92	100.0	1000.000	150.0	H
4882.000000	---	38.66	54.00	15.34	100.0	1000.000	150.0	H

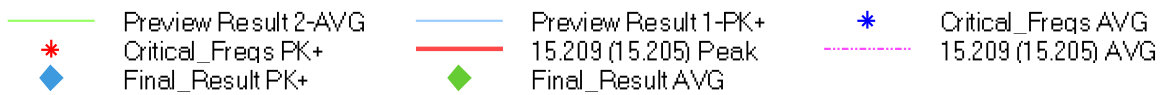
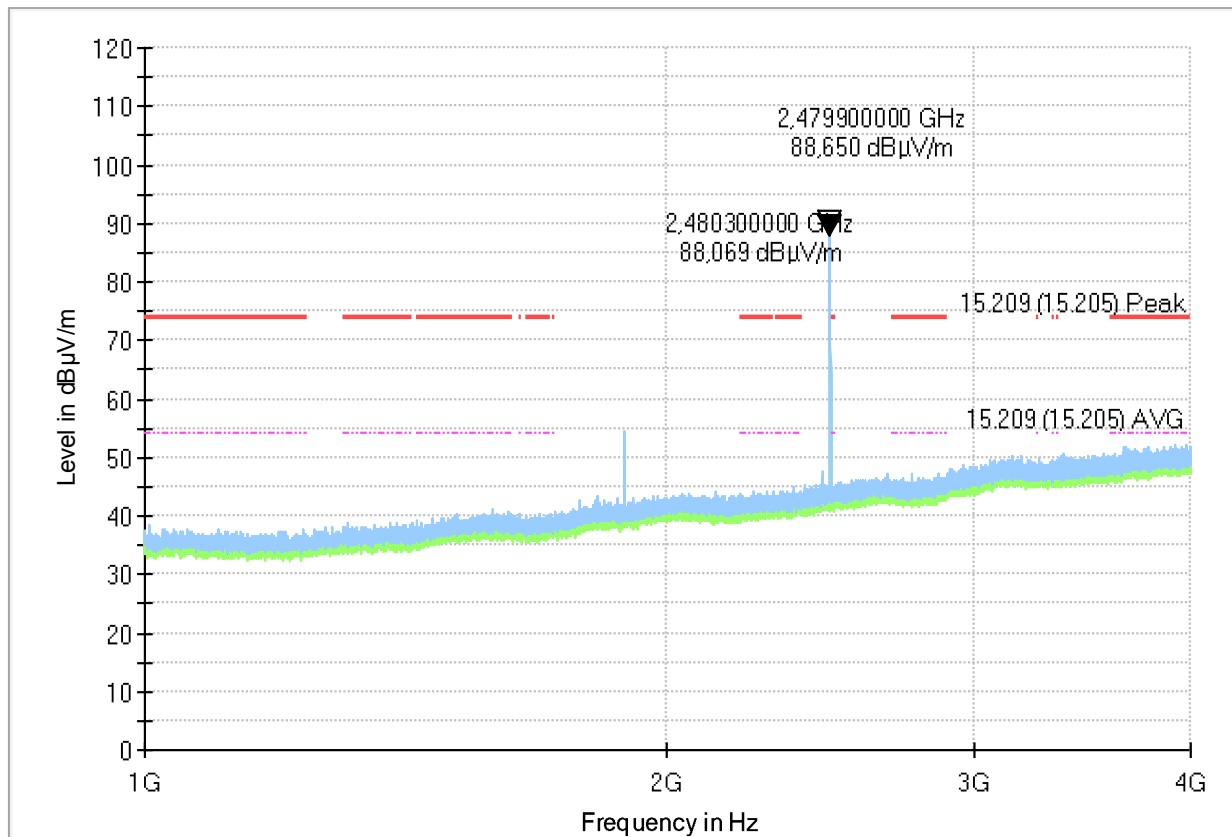
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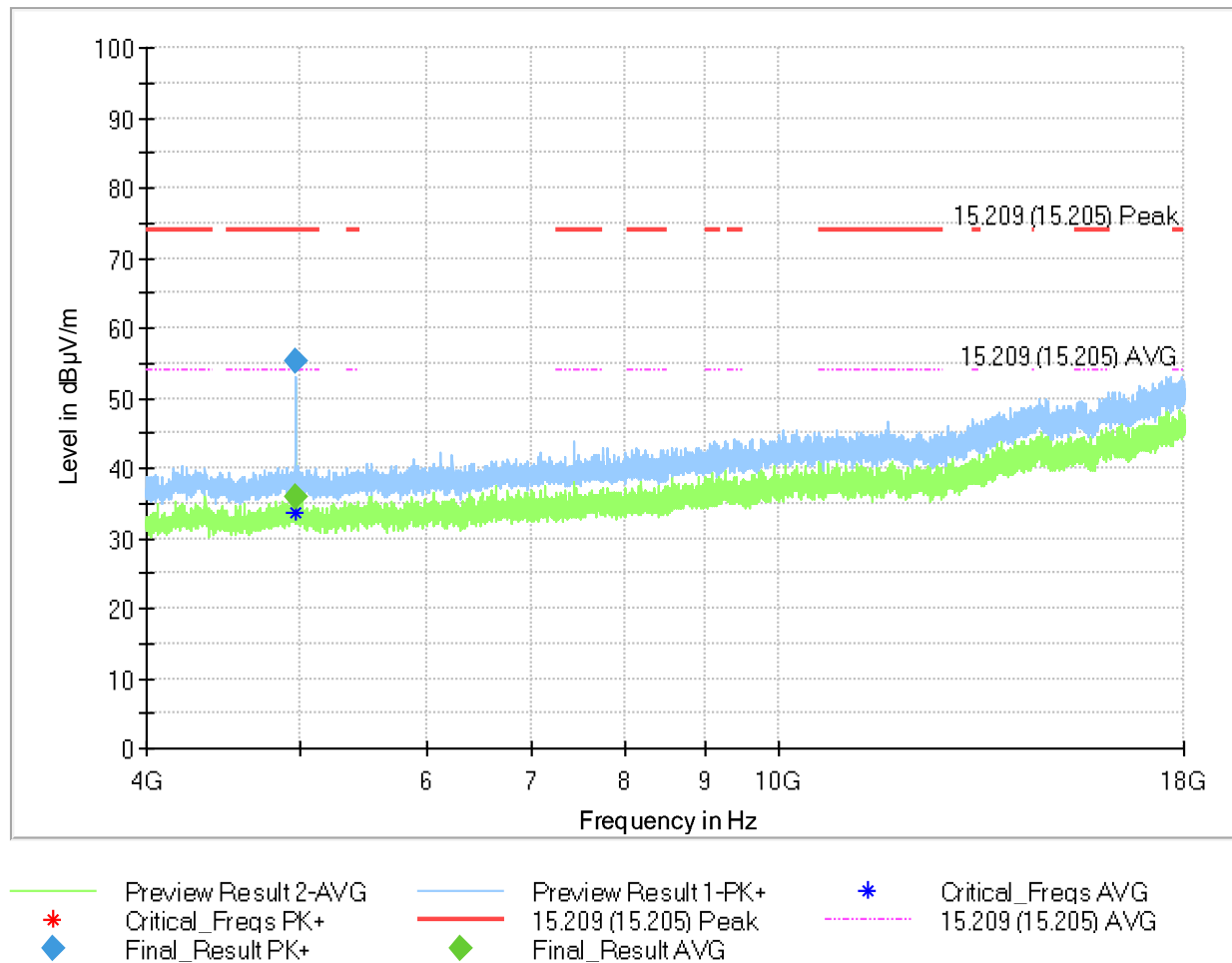
Plot 105: EUT #1, Mode 2, RSE 18 GHz – 26.5 GHz, mid channel, horizontal / vertical polarisation



Plot 106: EUT #1, Mode 2, RSE 1 GHz – 4 GHz, high channel, horizontal / vertical polarisation



Plot 107: EUT #1, Mode 2, RSE 4 GHz – 18 GHz, high channel, horizontal / vertical polarisation



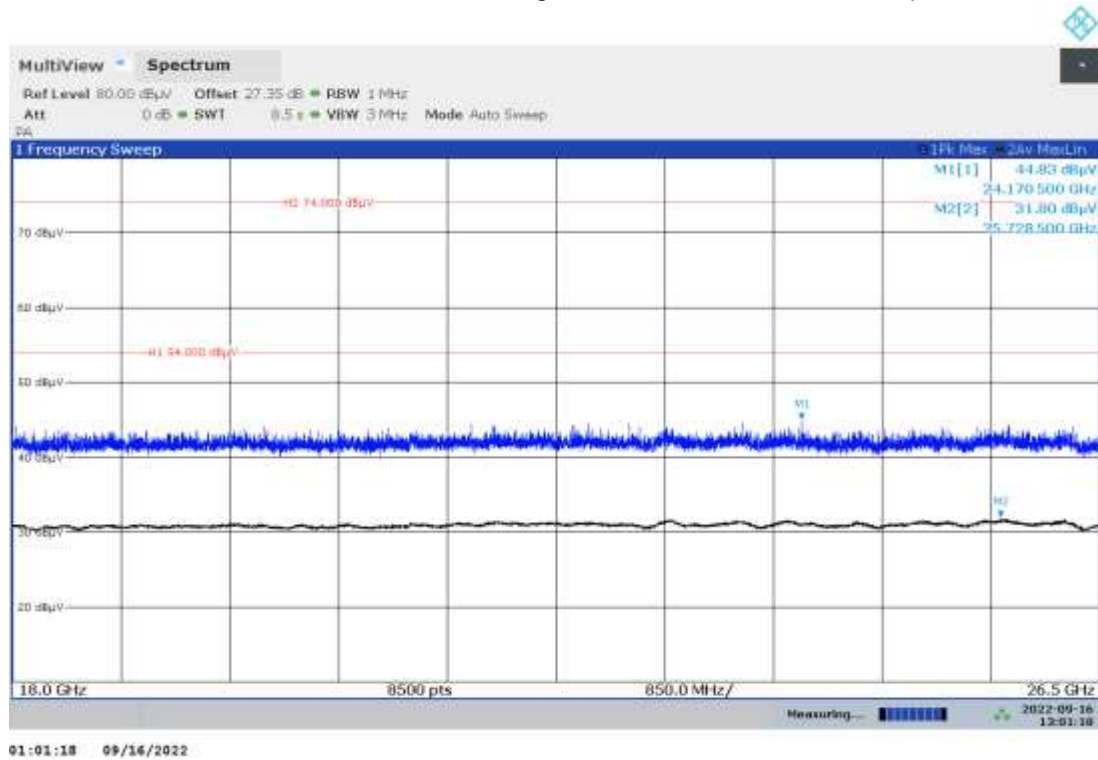
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
4959.927778	---	35.83	54.00	18.17	100.0	1000.000	150.0	H
4960.002778	55.35	---	74.00	18.65	100.0	1000.000	150.0	H

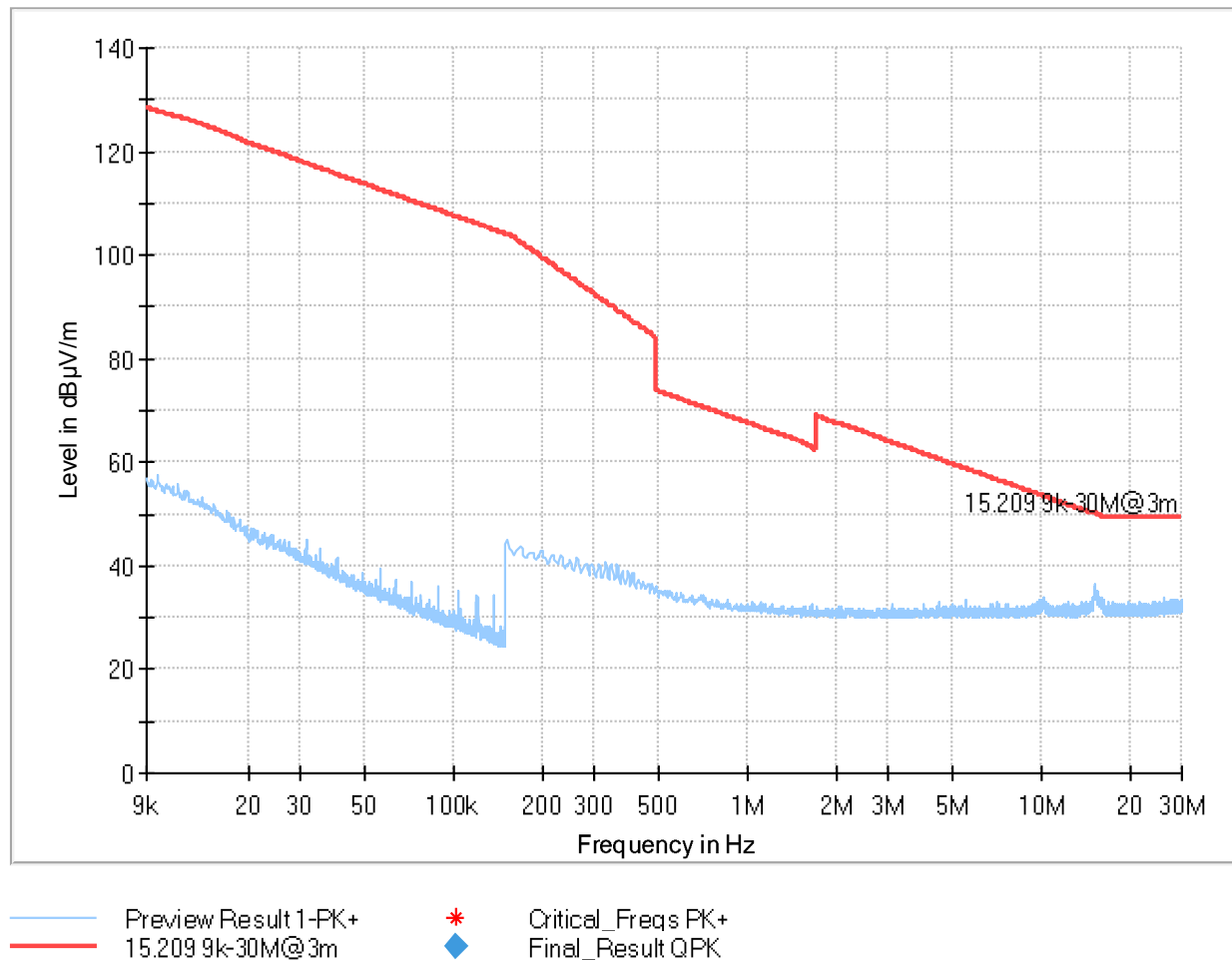
TR no.: 21116598-25034-1

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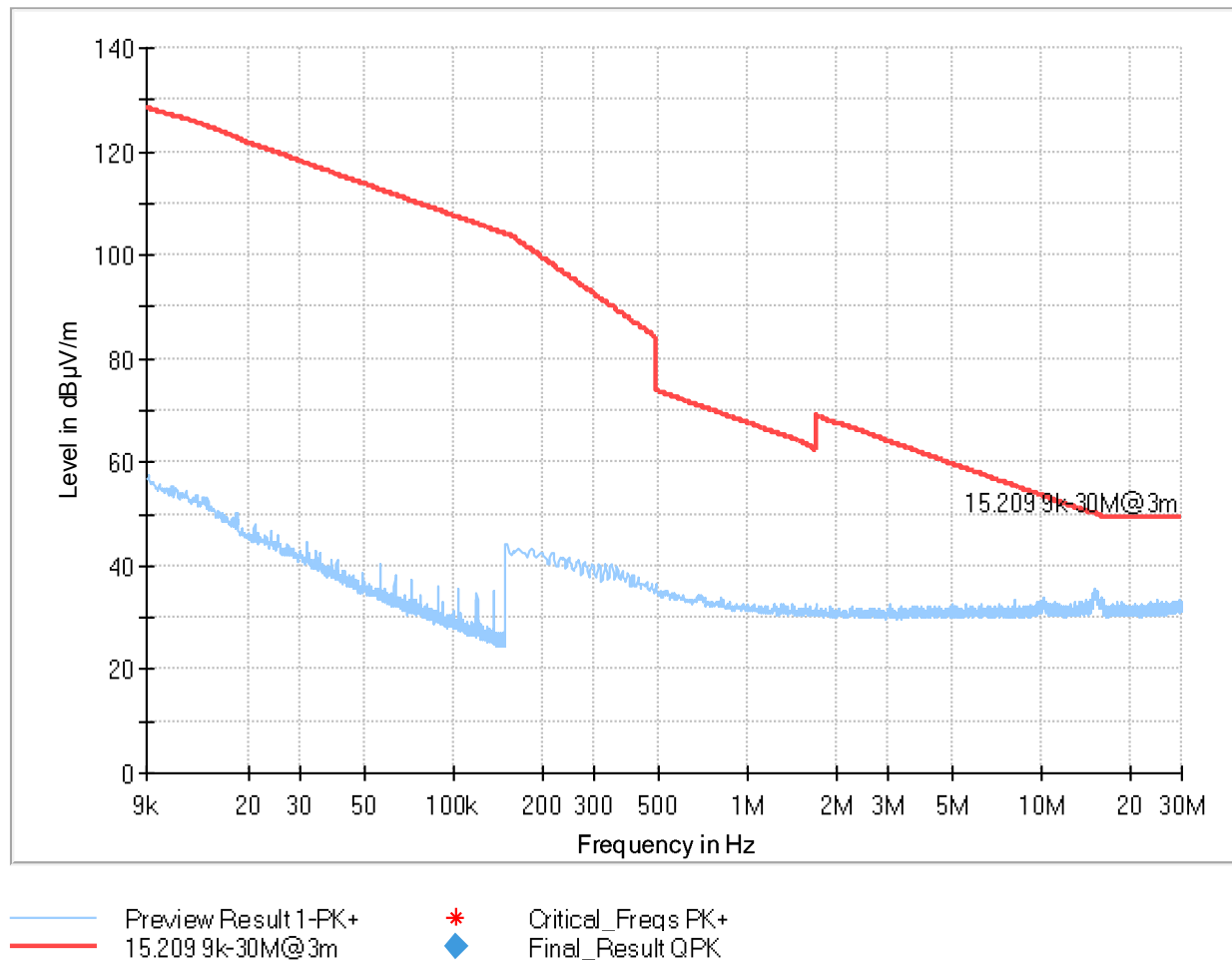
Plot 108: EUT #1, Mode 2, RSE 18 GHz – 26.5 GHz, high channel, horizontal / vertical polarisation



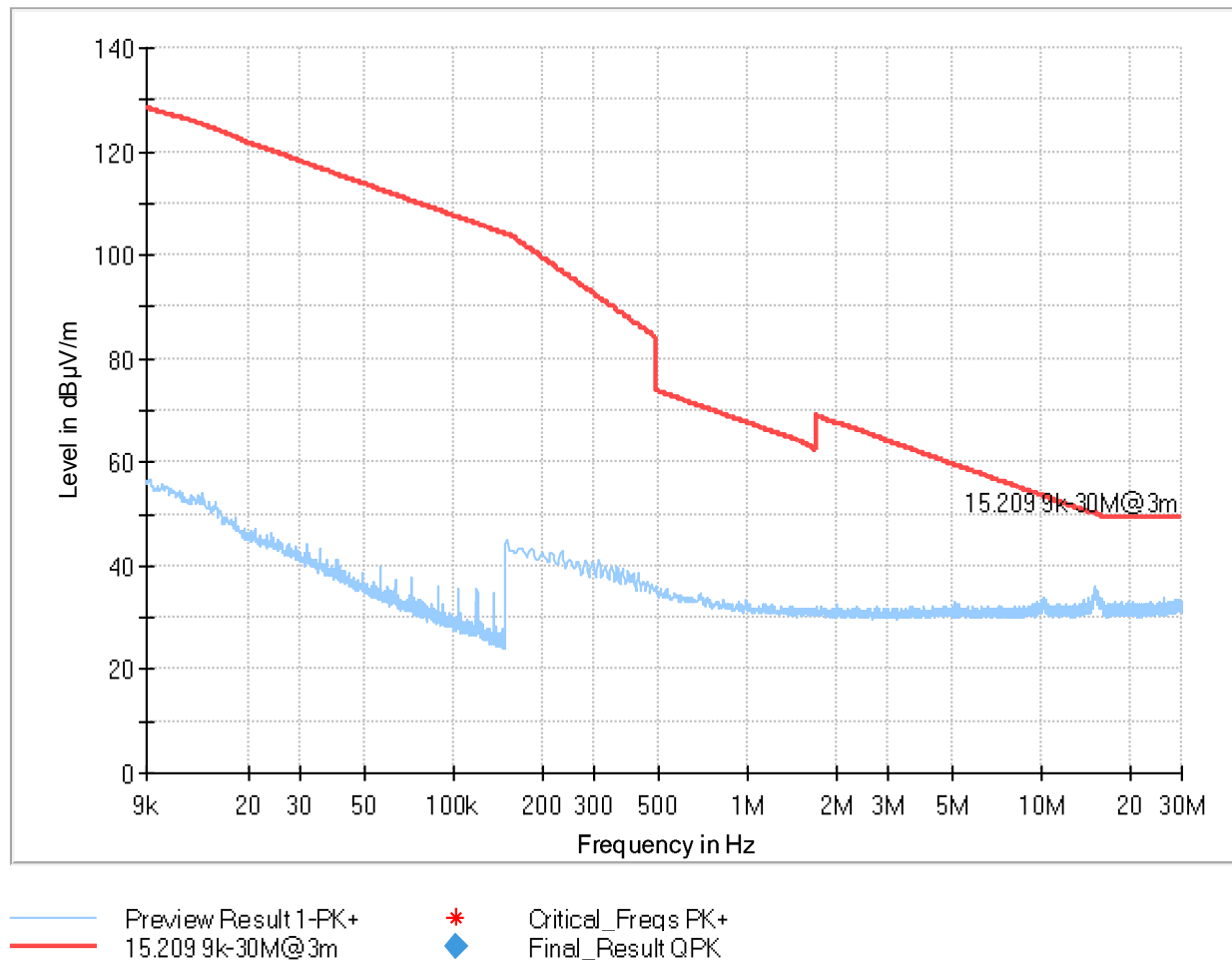
Plot 109: EUT #1, Mode 3, RSE 9 kHz – 30 MHz, low channel, loop antenna



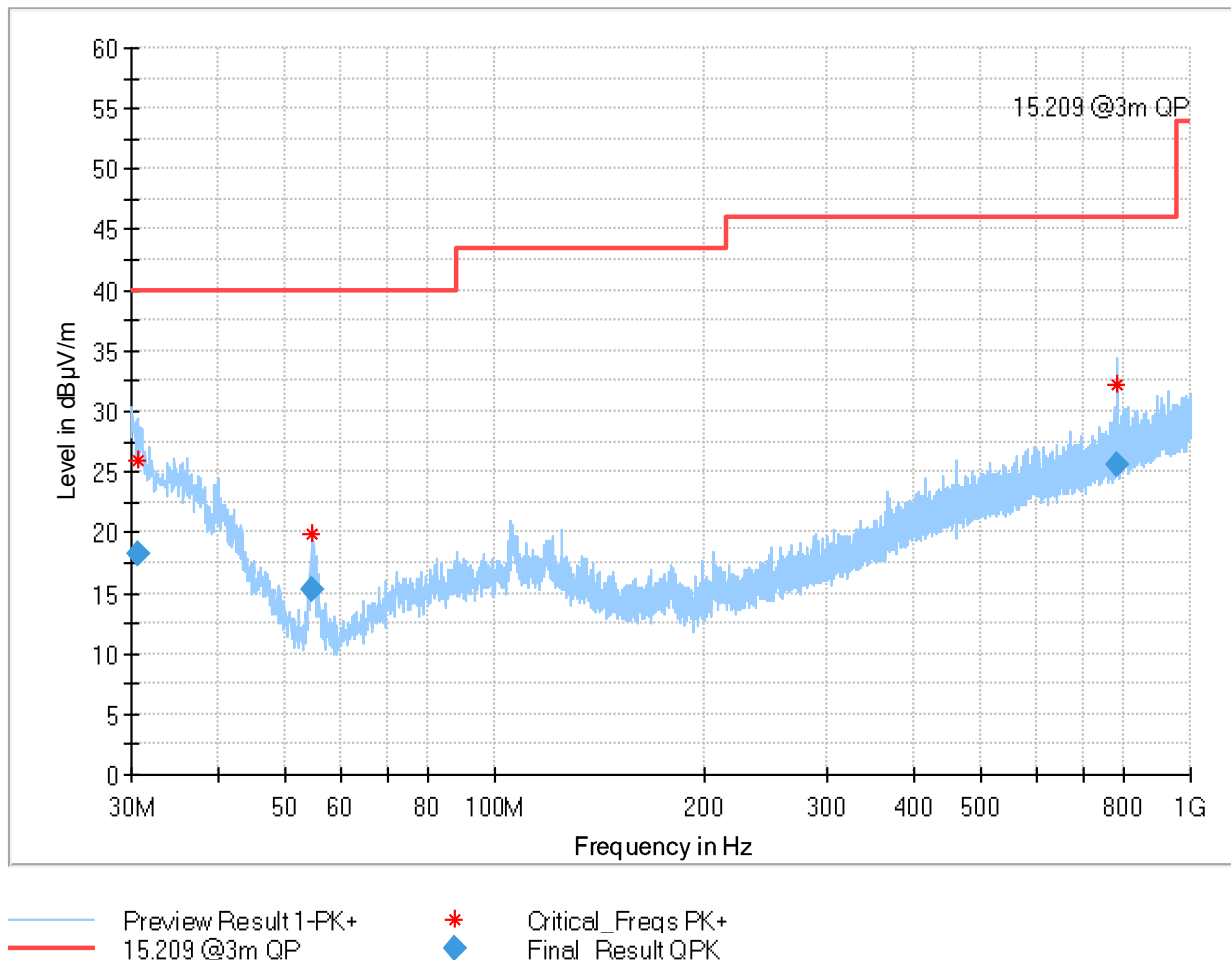
Plot 110: EUT #1, Mode 3, RSE 9 kHz – 30 MHz, mid channel, loop antenna



Plot 111: EUT #1, Mode 3, RSE 9 kHz – 30 MHz, high channel, loop antenna



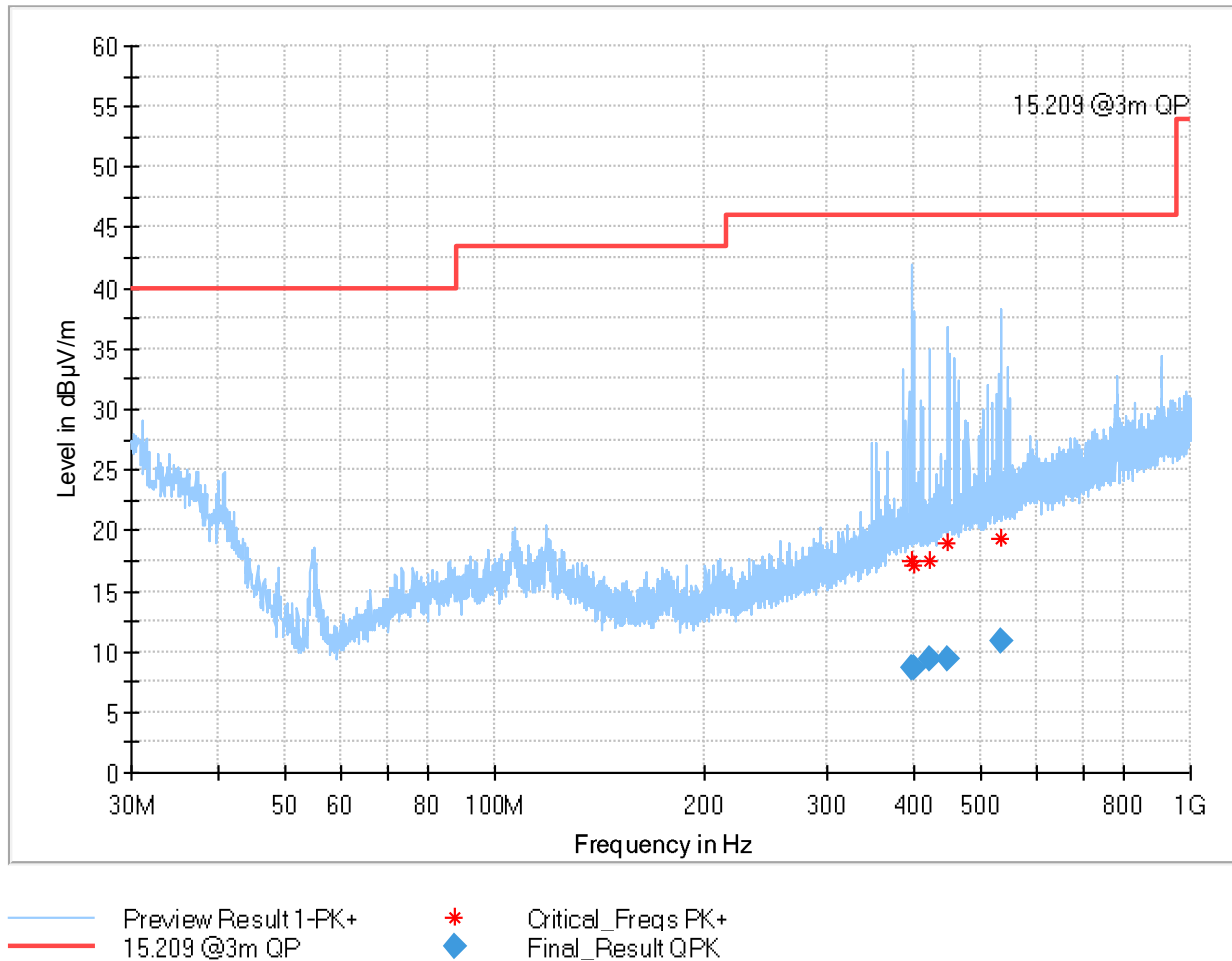
Plot 112: EUT #1, Mode 3, RSE 30 MHz – 1 GHz, low channel, horizontal / vertical polarisation



Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.597000	18.30	40.00	21.70	100.0	120.000	142.0	V	305.0
54.460000	15.24	40.00	24.76	100.0	120.000	341.0	H	139.0
782.806500	25.53	46.00	20.47	100.0	120.000	186.0	V	265.0

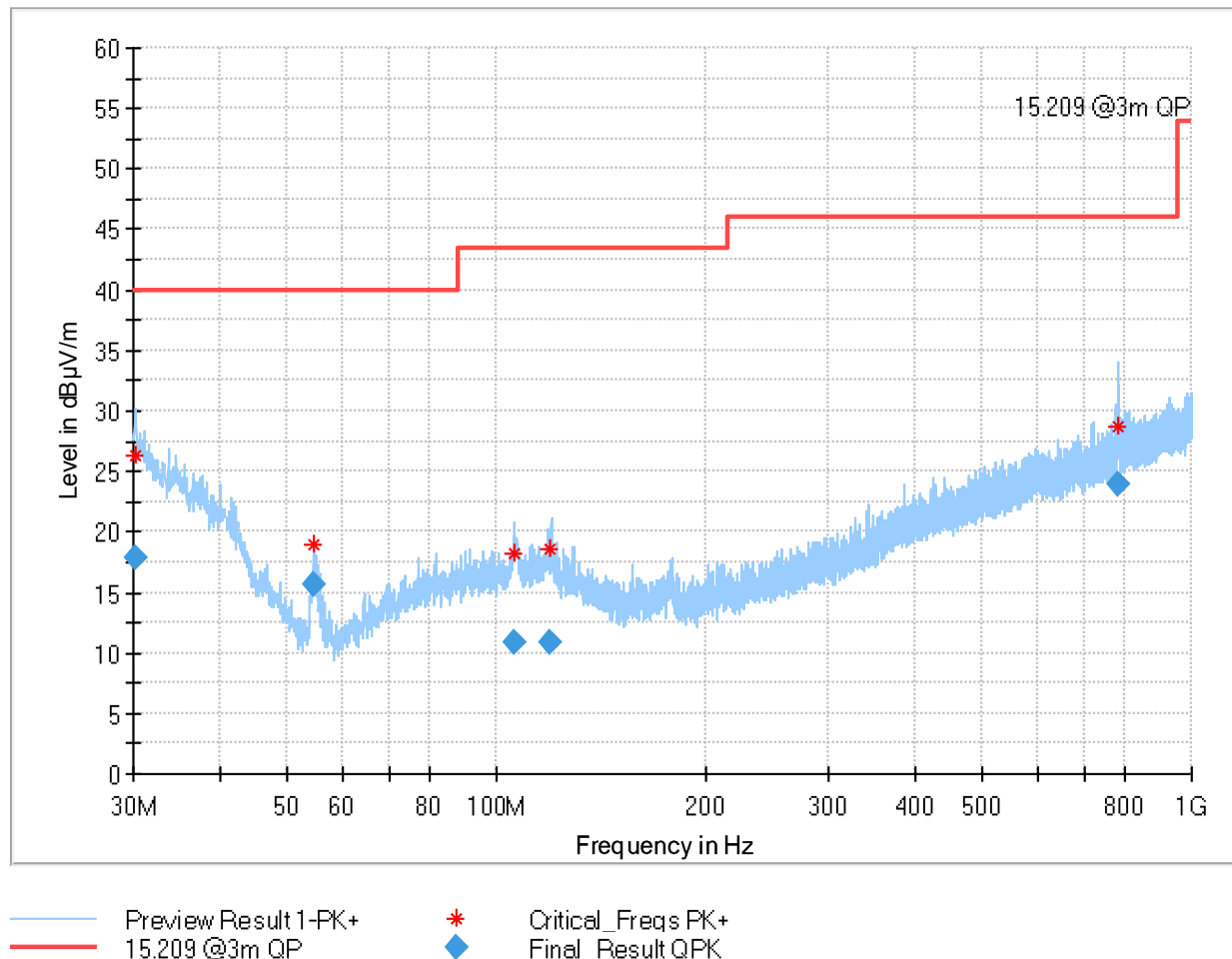
Plot 113: EUT #1, Mode 3, RSE 30 MHz – 1 GHz, mid channel, horizontal / vertical polarisation



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
397.123000	8.73	46.00	37.27	100.0	120.000	125.0	V	163.0
401.475000	8.73	46.00	37.27	100.0	120.000	133.0	V	181.0
421.218500	9.34	46.00	36.66	100.0	120.000	133.0	V	12.0
446.991000	9.41	46.00	36.59	100.0	120.000	186.0	V	266.0
535.551000	10.84	46.00	35.16	100.0	120.000	268.0	V	256.0

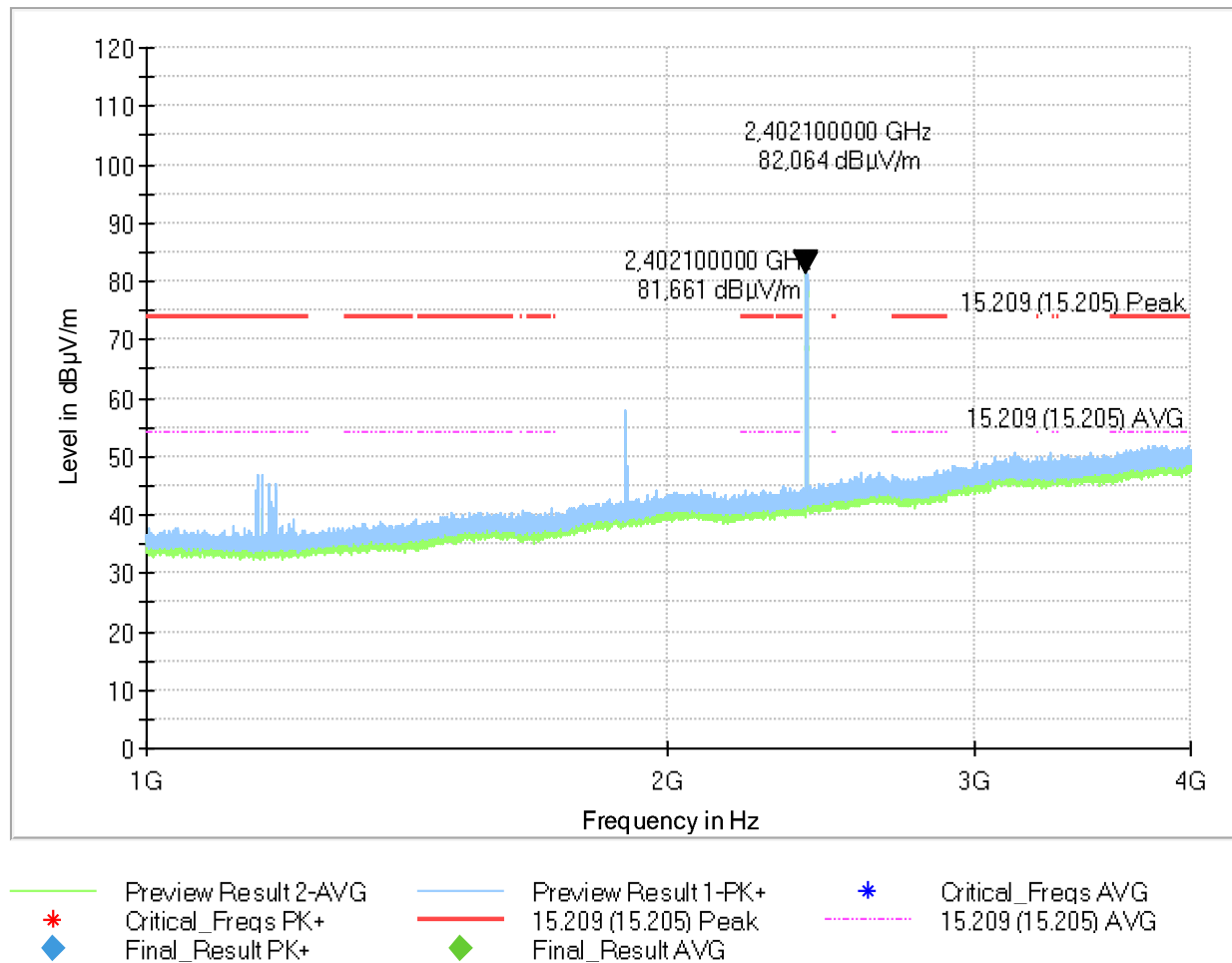
Plot 114: EUT #1, Mode 3, RSE 30 MHz – 1 GHz, high channel, horizontal / vertical polarisation



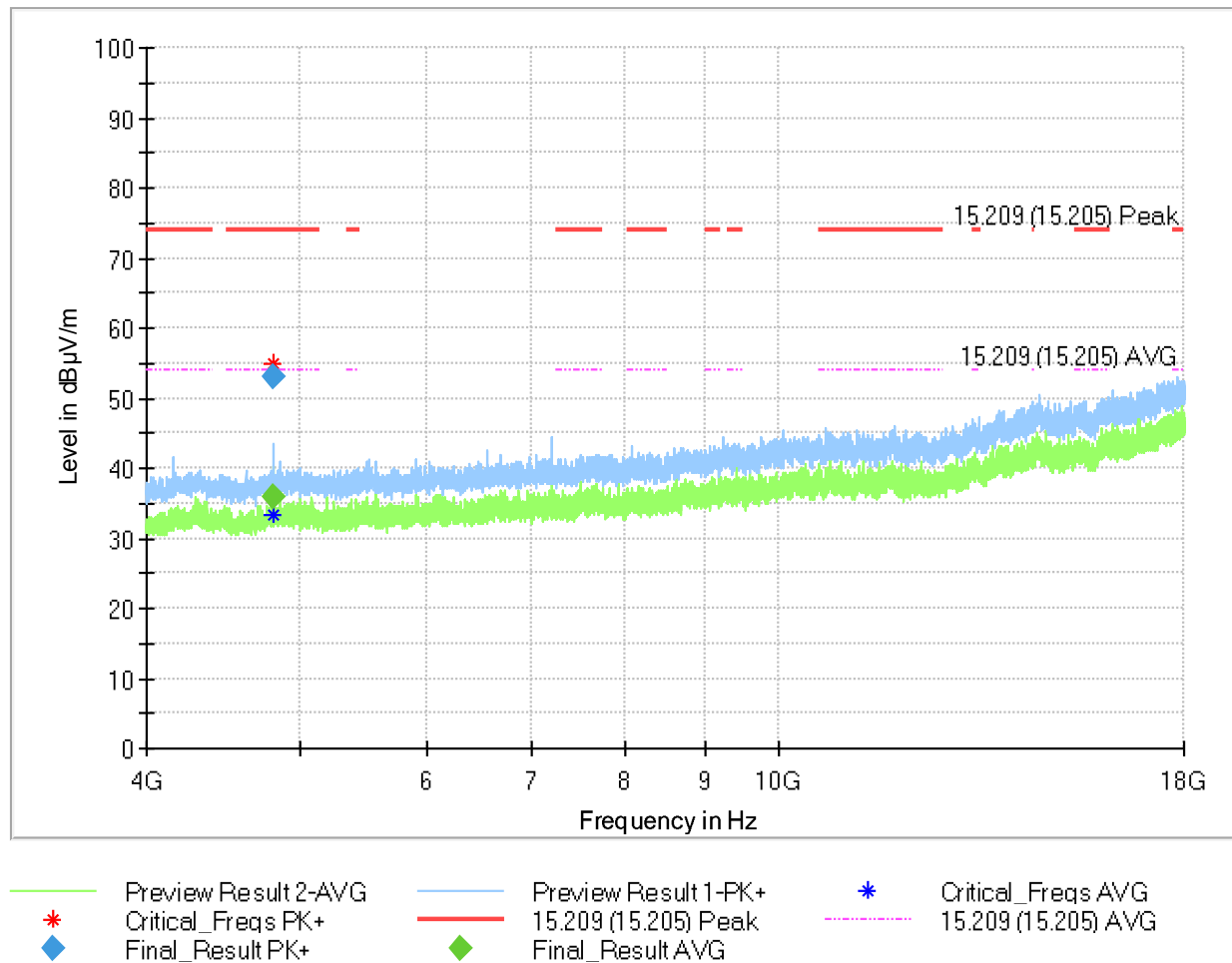
Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.175000	17.90	40.00	22.10	100.0	120.000	277.0	H	151.0
54.694000	15.62	40.00	24.38	100.0	120.000	142.0	V	251.0
105.926000	10.95	43.50	32.55	100.0	120.000	142.0	V	186.0
119.373500	10.92	43.50	32.58	100.0	120.000	323.0	H	20.0
781.331000	23.95	46.00	22.05	100.0	120.000	150.0	V	316.0

Plot 115: EUT #1, Mode 3, RSE 1 GHz – 4 GHz, low channel, horizontal / vertical polarisation



Plot 116: EUT #1, Mode 3, RSE 4 GHz – 18 GHz, low channel, horizontal / vertical polarisation



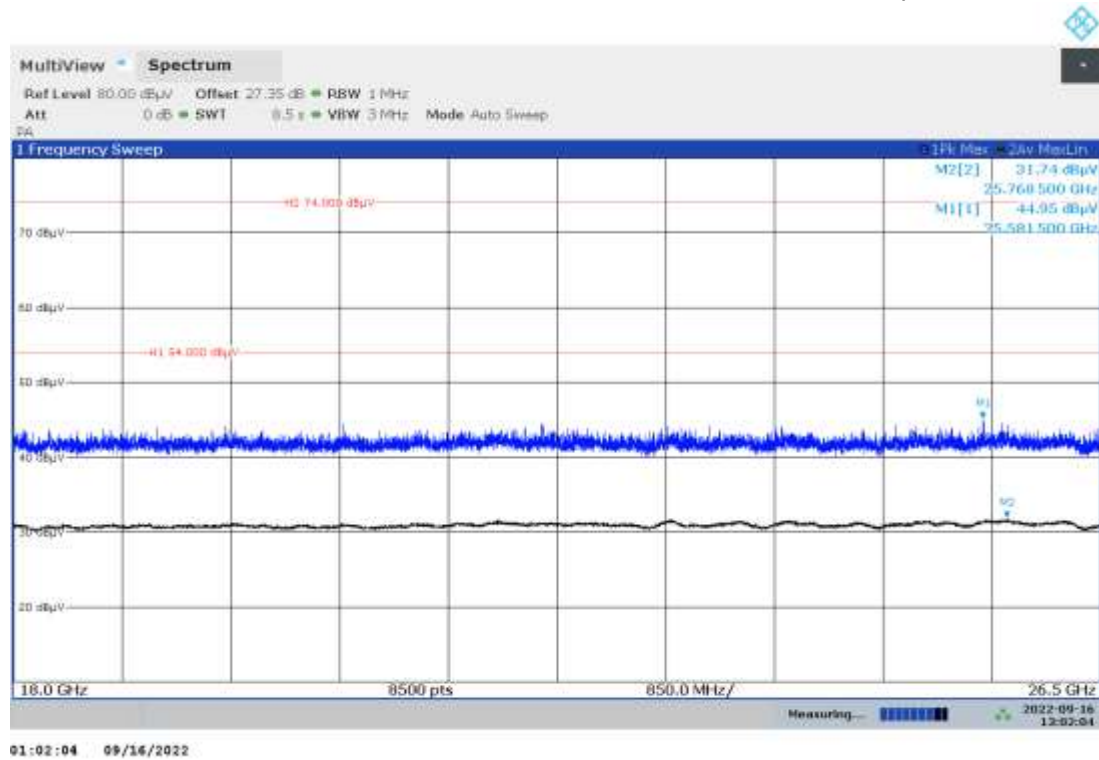
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
4803.922222	---	35.72	54.00	18.28	100.0	1000.000	150.0	H
4803.969444	53.07	---	74.00	20.93	100.0	1000.000	150.0	H

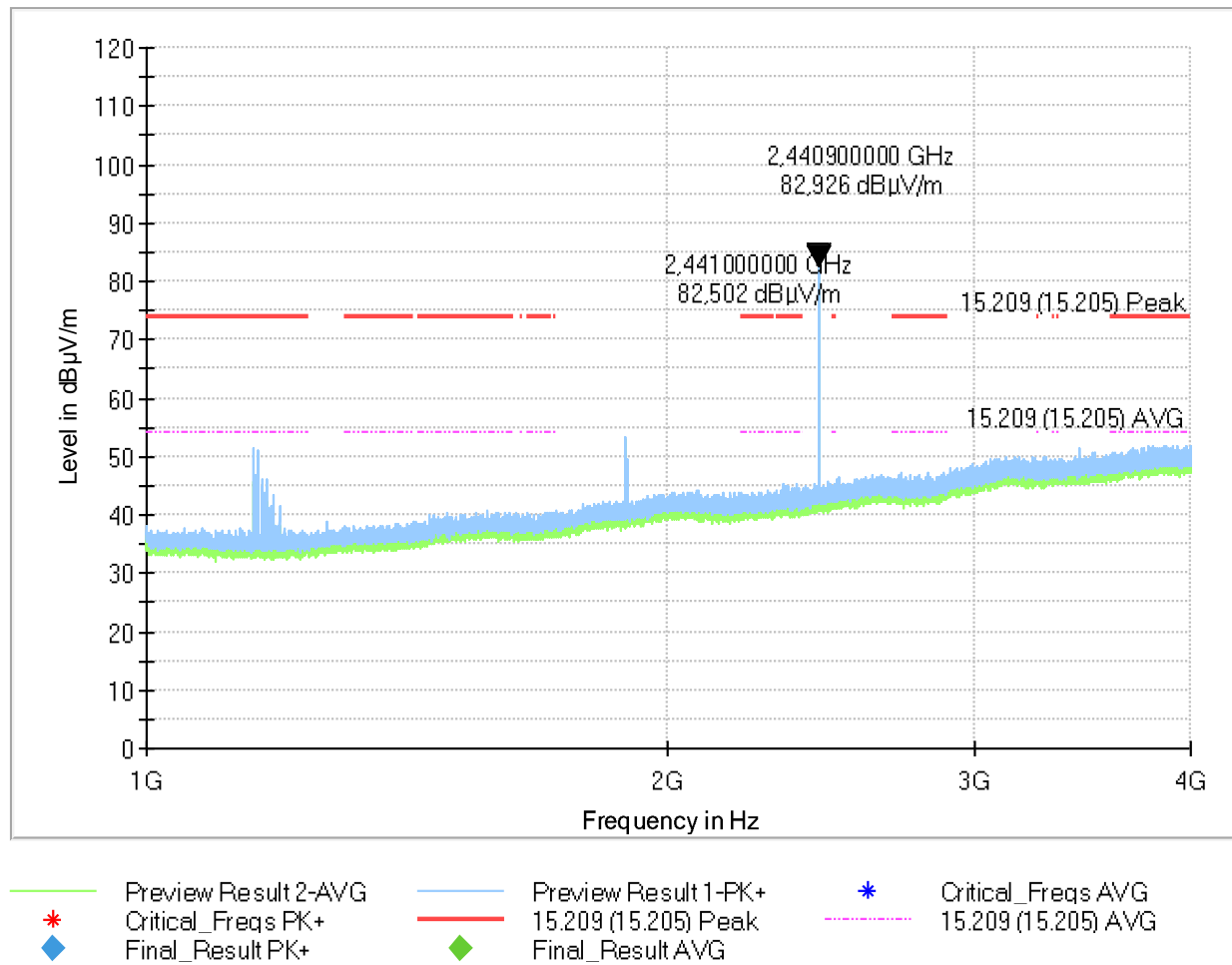
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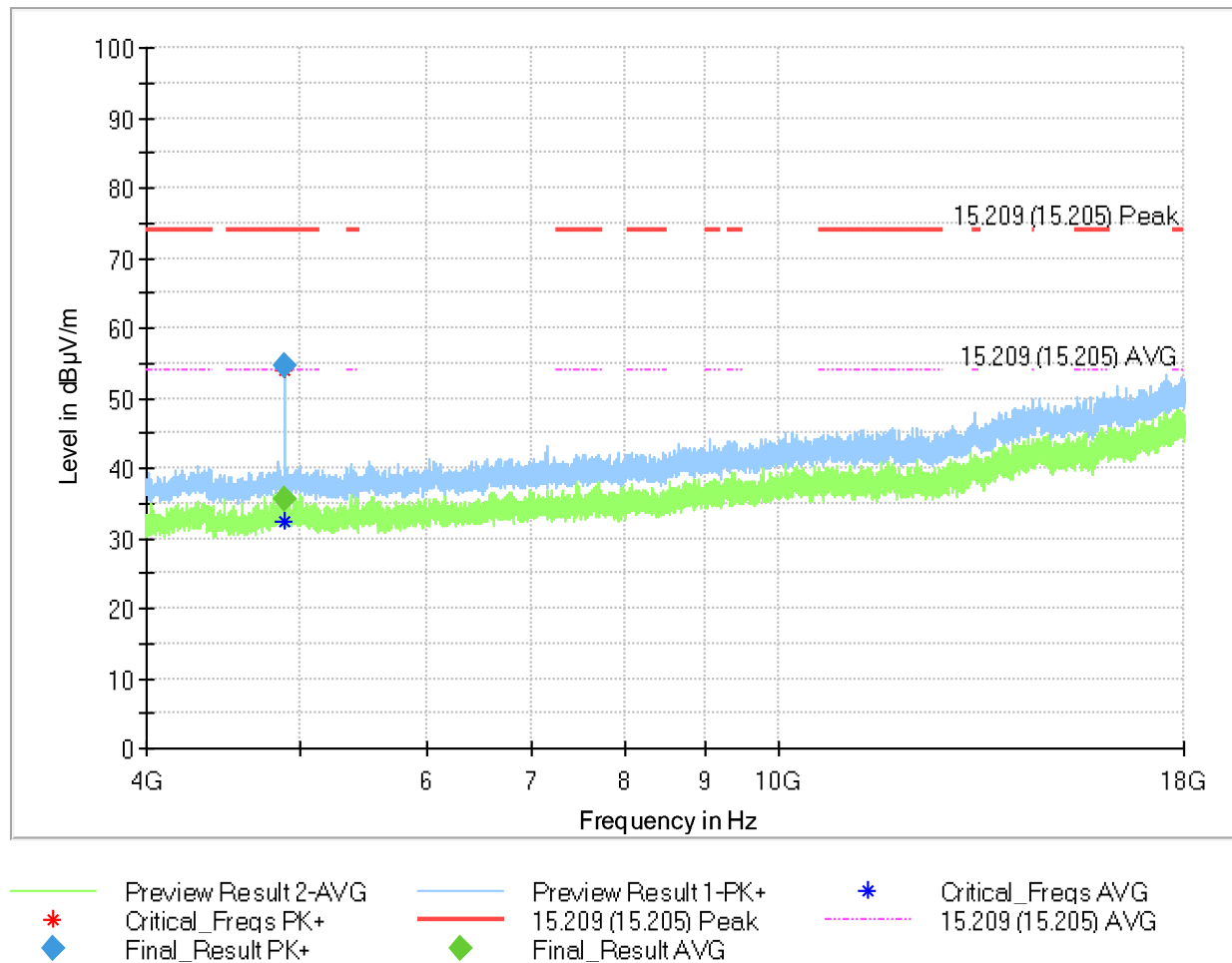
Plot 117: EUT #1, Mode 3, RSE 18 GHz – 26.5 GHz, low channel, horizontal / vertical polarisation



Plot 118: EUT #1, Mode 3, RSE 1 GHz – 4 GHz, mid channel, horizontal / vertical polarisation



Plot 119: EUT #1, Mode 3, RSE 4 GHz – 18 GHz, mid channel, horizontal / vertical polarisation



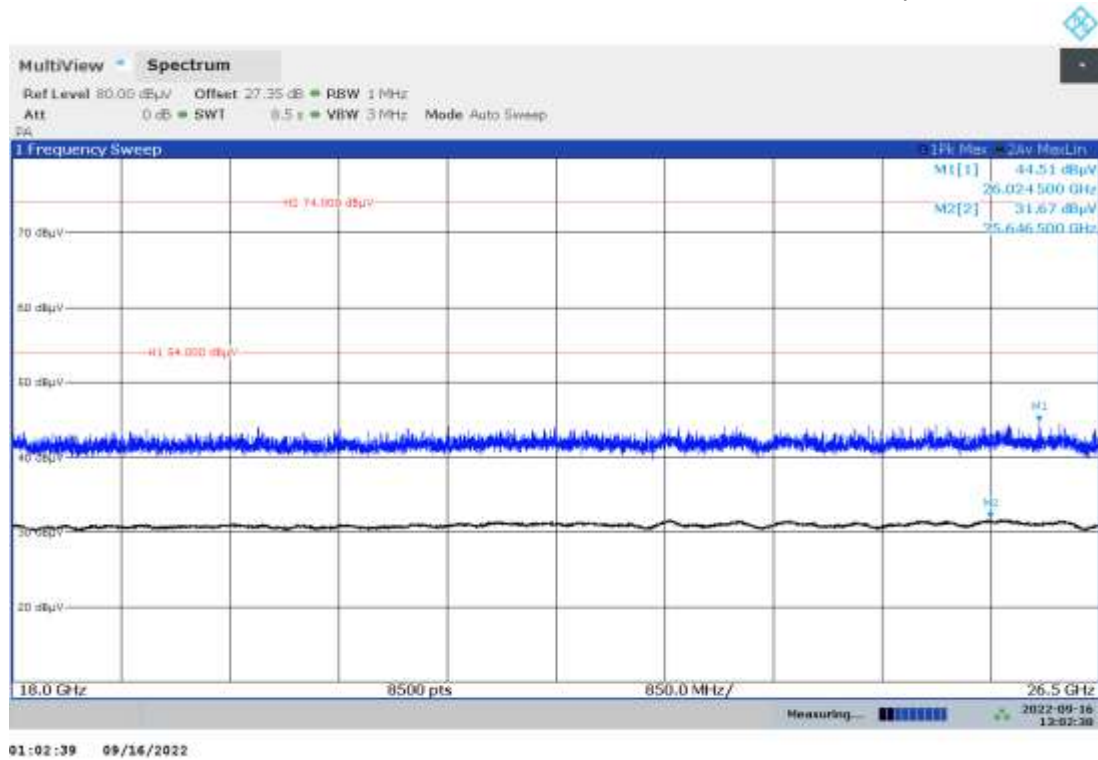
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
4882.000000	---	35.44	54.00	18.56	100.0	1000.000	150.0	H
4882.000000	54.67	---	74.00	19.33	100.0	1000.000	150.0	H

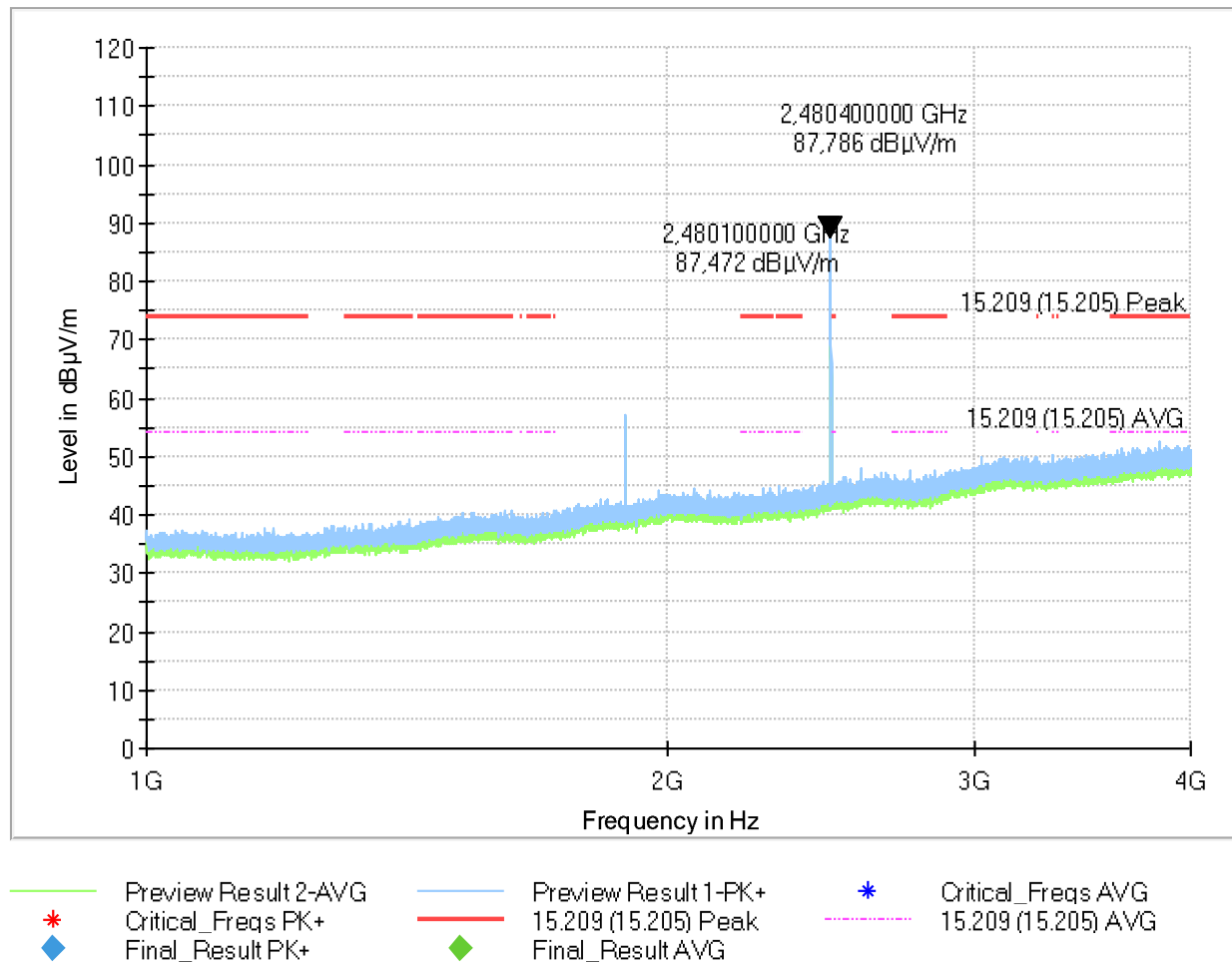
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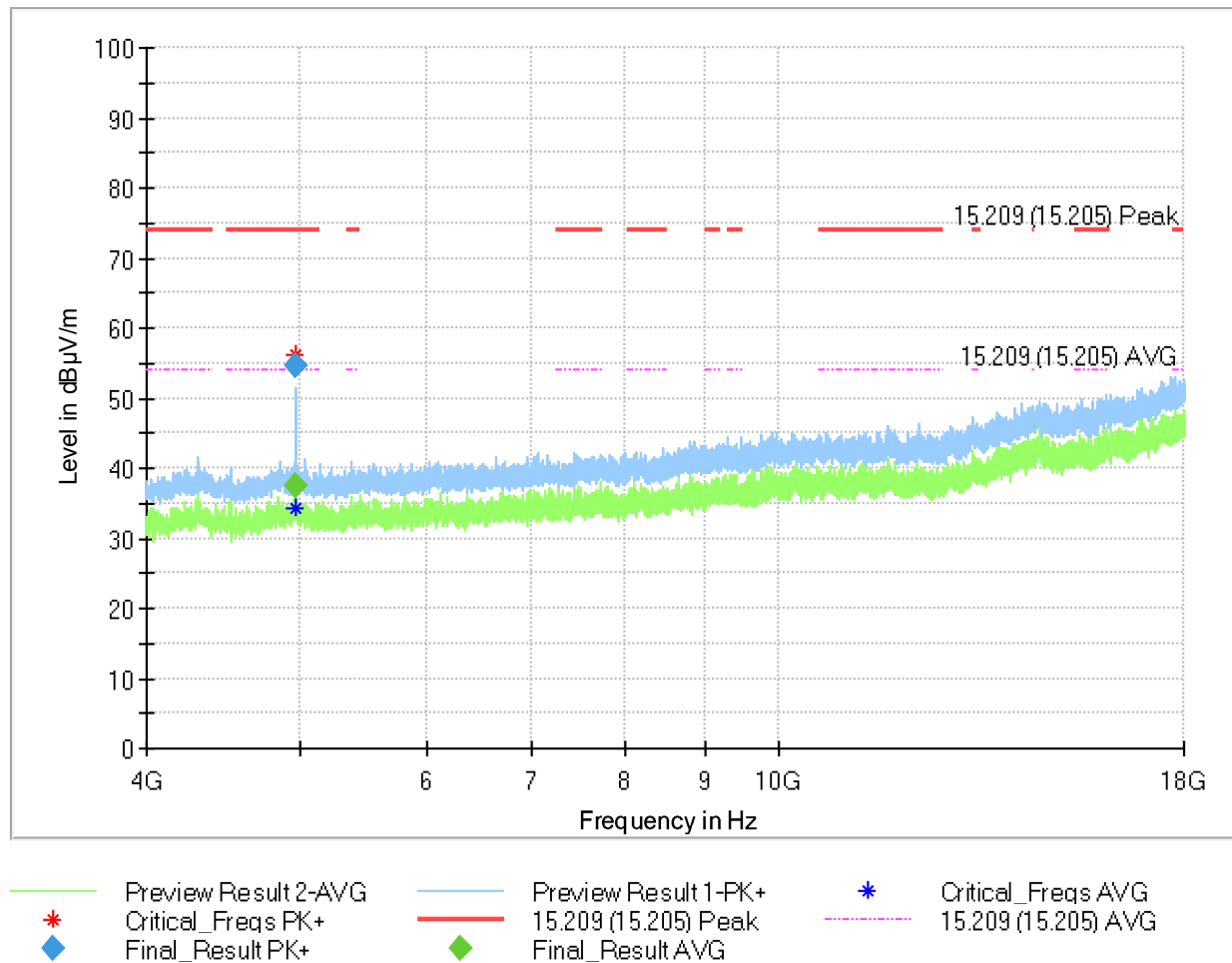
Plot 120: EUT #1, Mode 3, RSE 18 GHz – 26.5 GHz, mid channel, horizontal / vertical polarisation



Plot 121: EUT #1, Mode 3, RSE 1 GHz – 4 GHz, high channel, horizontal / vertical polarisation



Plot 122: EUT #1, Mode 3, RSE 4 GHz – 18 GHz, high channel, horizontal / vertical polarisation



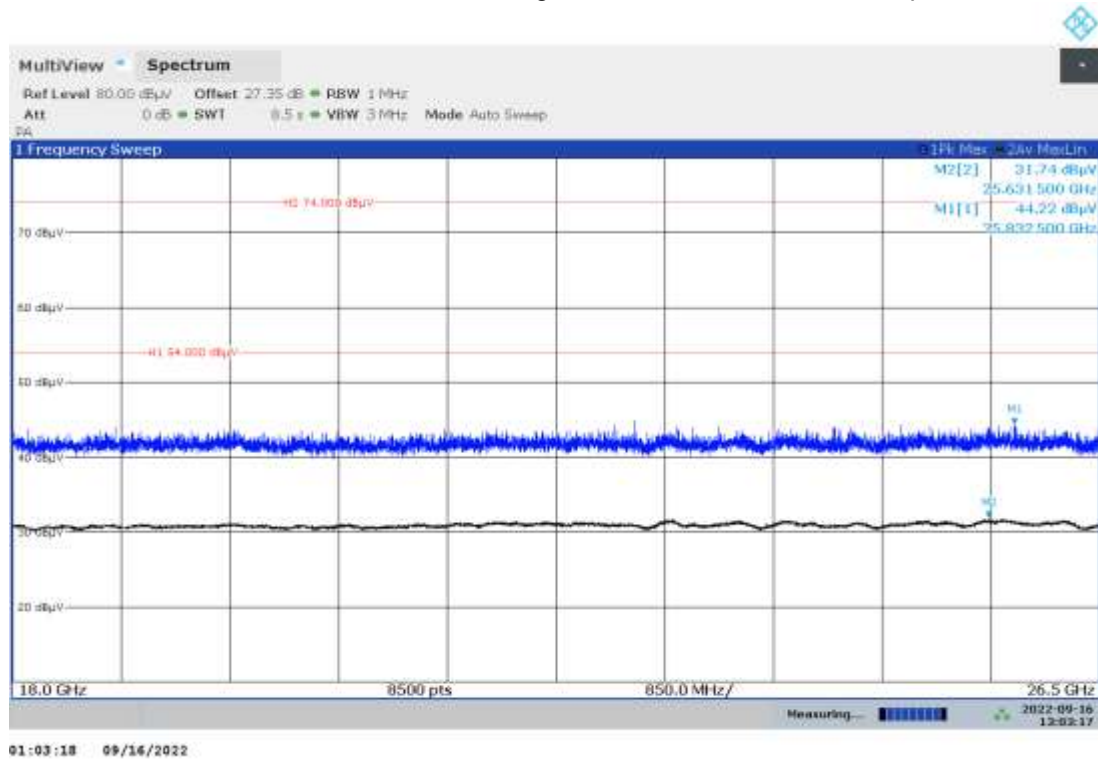
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
4960.002778	---	37.49	54.00	16.52	100.0	1000.000	150.0	H
4960.002778	54.48	---	74.00	19.52	100.0	1000.000	150.0	H

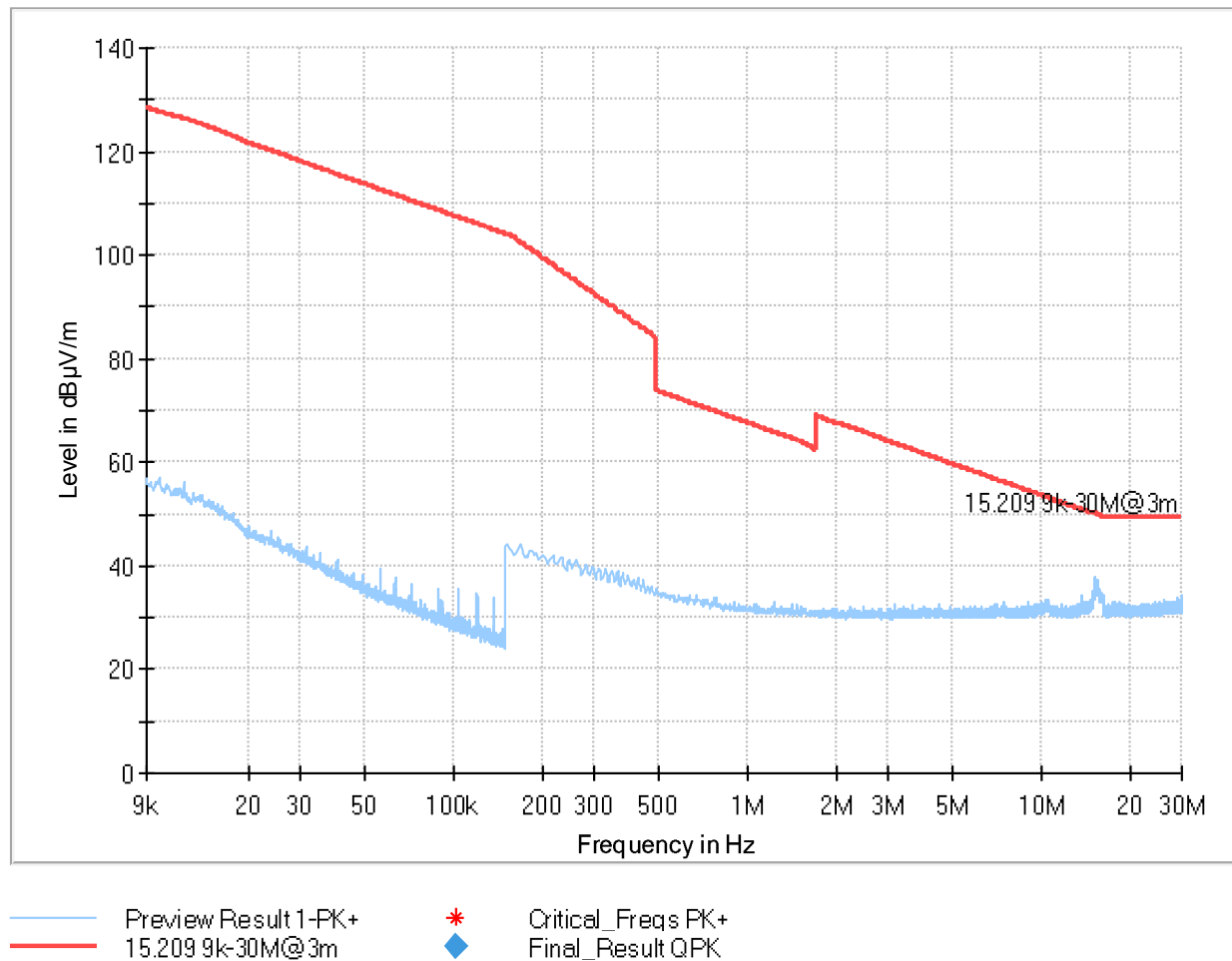
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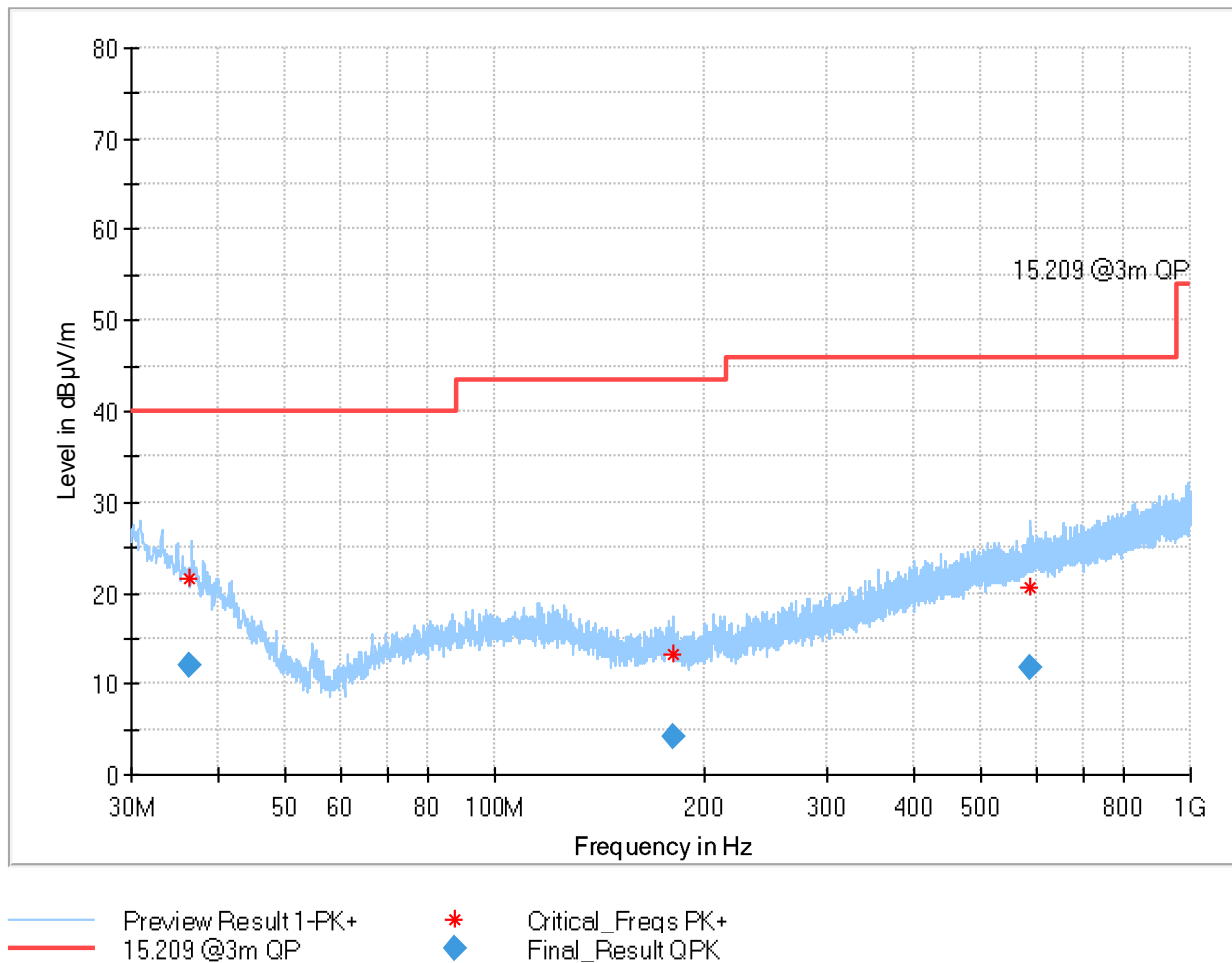
Plot 123: EUT #1, Mode 3, RSE 18 GHz – 26.5 GHz, high channel, horizontal / vertical polarisation



Plot 124: EUT #2, Mode 1, RSE 9 kHz – 30 MHz, low channel, loop antenna



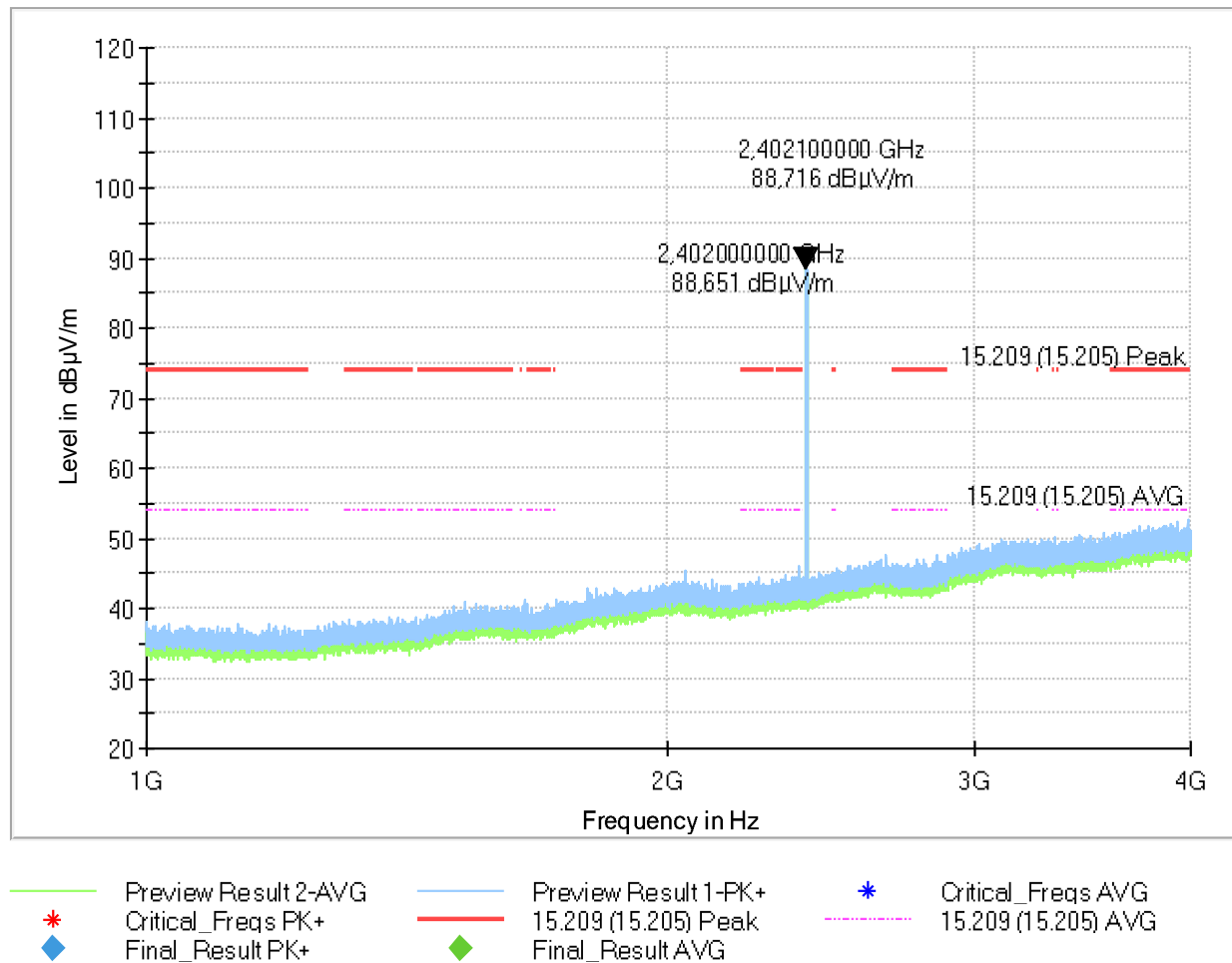
Plot 125: EUT #2, Mode 1, RSE 30 MHz – 1 GHz, low channel, horizontal / vertical polarisation



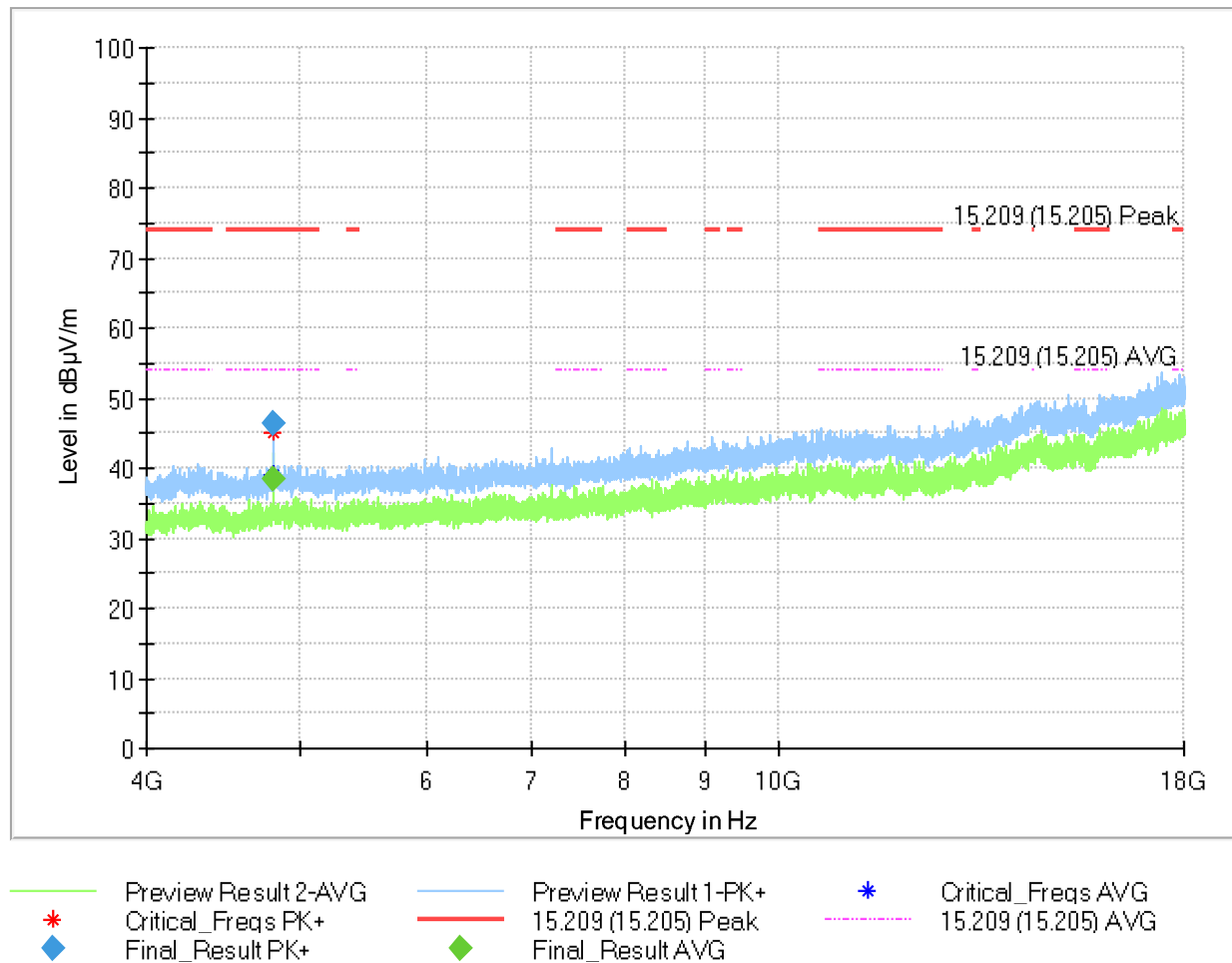
Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
36.319500	12.05	40.00	27.95	100.0	120.000	233.0	V	39.0
179.779500	4.26	43.50	39.24	100.0	120.000	154.0	V	91.0
589.374000	11.89	46.00	34.11	100.0	120.000	119.0	V	107.0

Plot 126: EUT #2, Mode 1, RSE 1 GHz – 4 GHz, low channel, horizontal / vertical polarisation



Plot 127: EUT #2, Mode 1, RSE 4 GHz – 18 GHz, low channel, horizontal / vertical polarisation



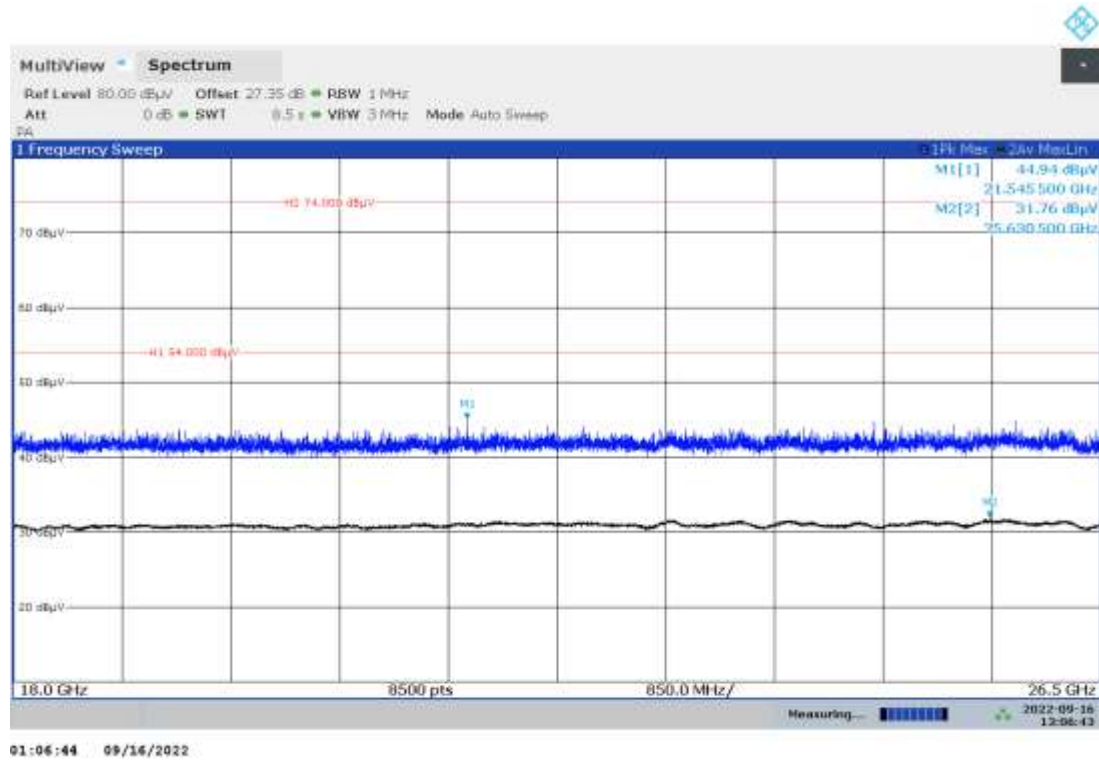
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
4803.969444	---	38.45	54.00	15.55	100.0	1000.000	150.0	H
4803.969444	46.49	---	74.00	27.51	100.0	1000.000	150.0	H

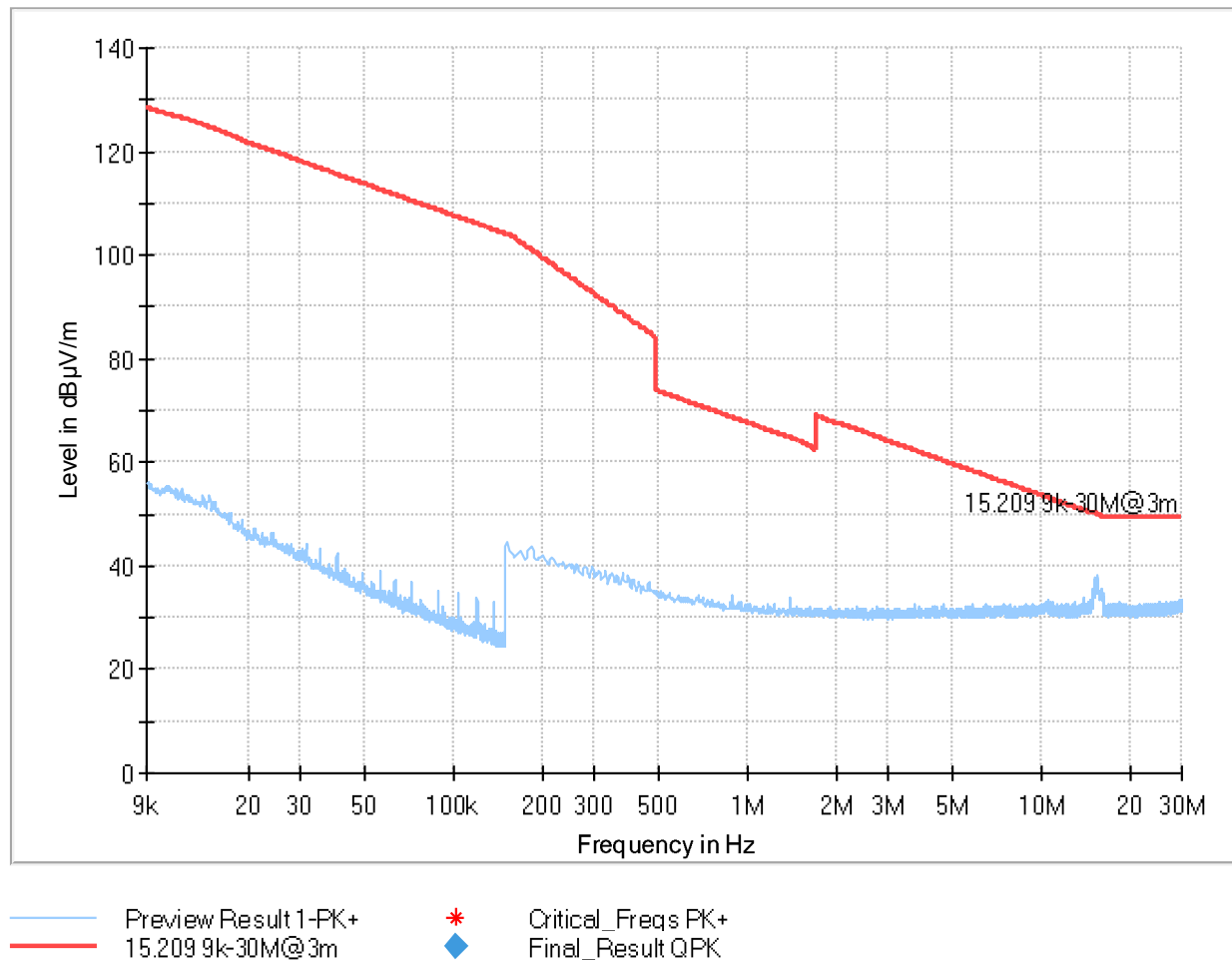
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2022-12-20

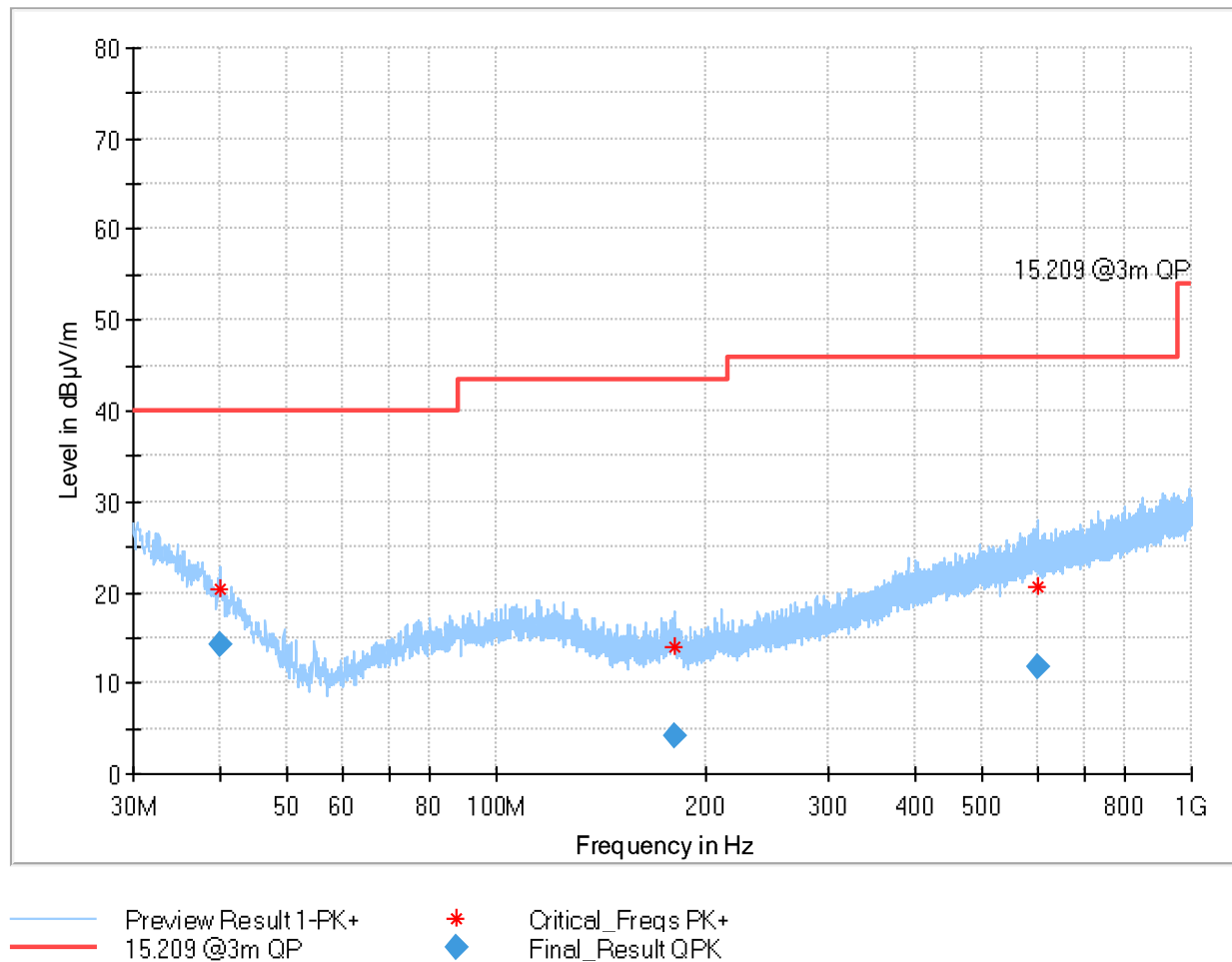
Plot 128: EUT #2, Mode 1, RSE 18 GHz – 26.5 GHz, low channel, horizontal / vertical polarisation



Plot 129: EUT #2, Mode 2, RSE 9 kHz – 30 MHz, low channel, loop antenna



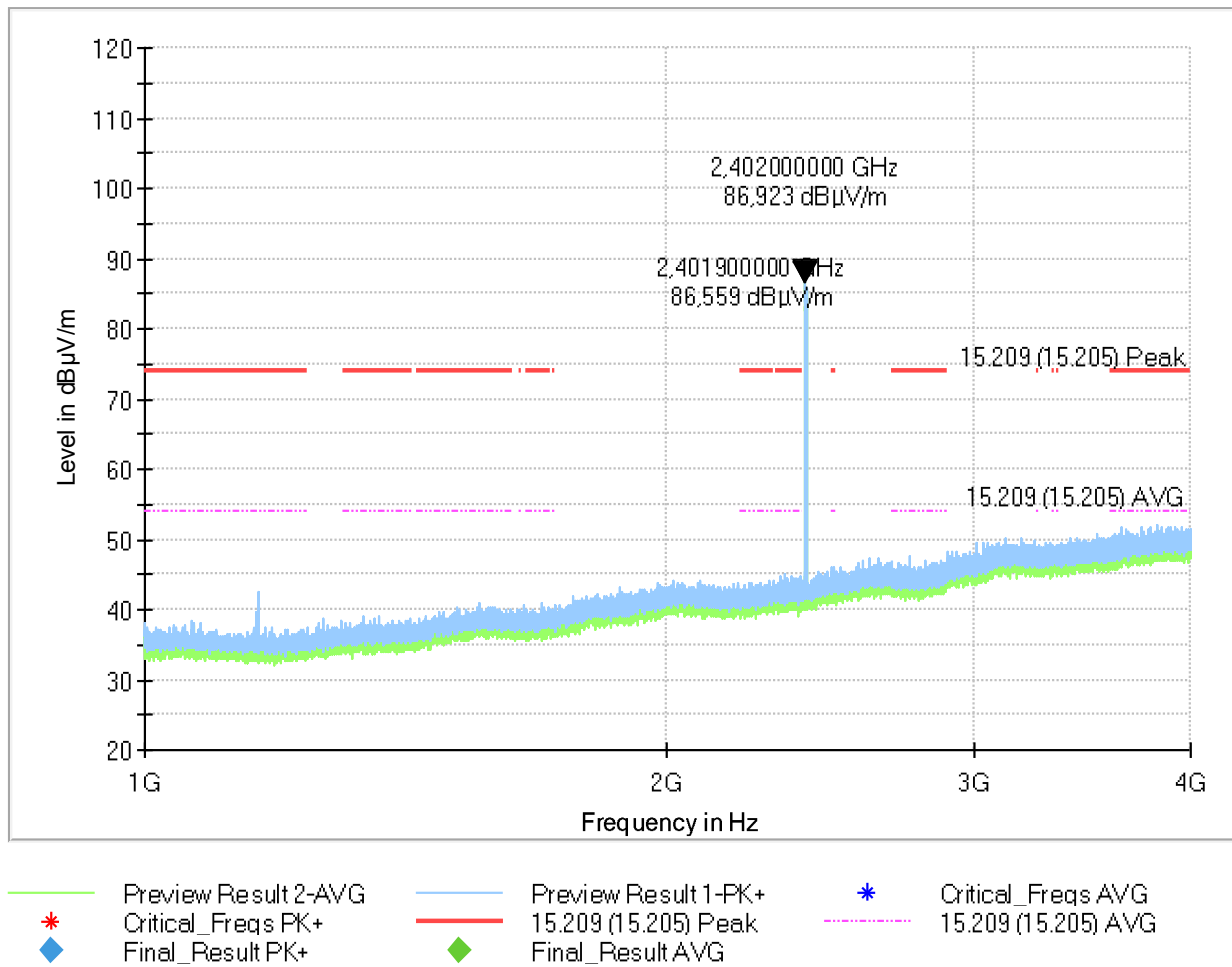
Plot 130: EUT #2, Mode 2, RSE 30 MHz – 1 GHz, low channel, horizontal / vertical polarisation



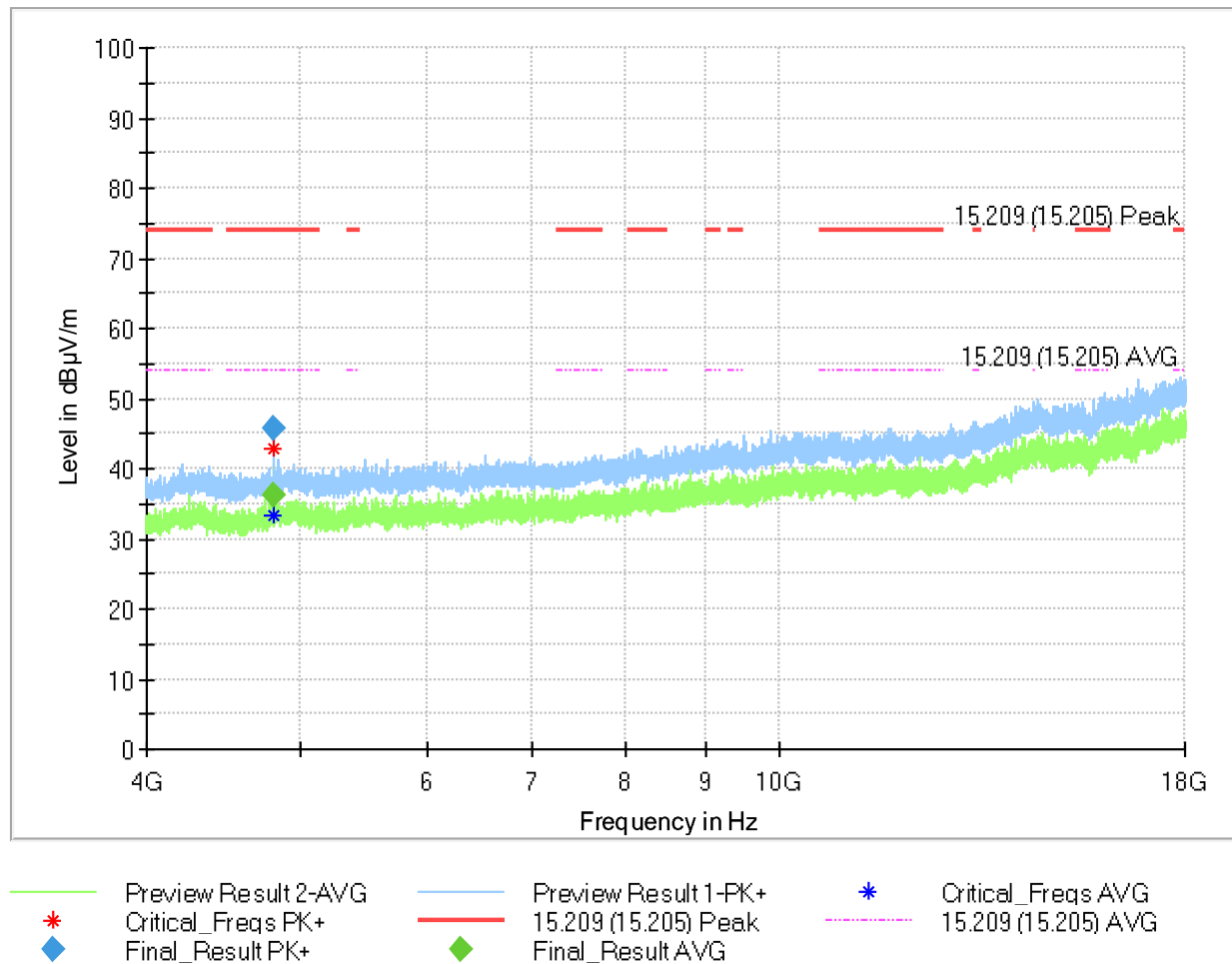
Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
40.016000	14.23	40.00	25.77	100.0	120.000	146.0	H	36.0
181.033500	4.27	43.50	39.23	100.0	120.000	250.0	V	339.0
600.698000	11.88	46.00	34.12	100.0	120.000	150.0	V	175.0

Plot 131: EUT #2, Mode 2, RSE 1 GHz – 4 GHz, low channel, horizontal / vertical polarisation



Plot 132: EUT #2, Mode 2, RSE 4 GHz – 18 GHz, low channel, horizontal / vertical polarisation



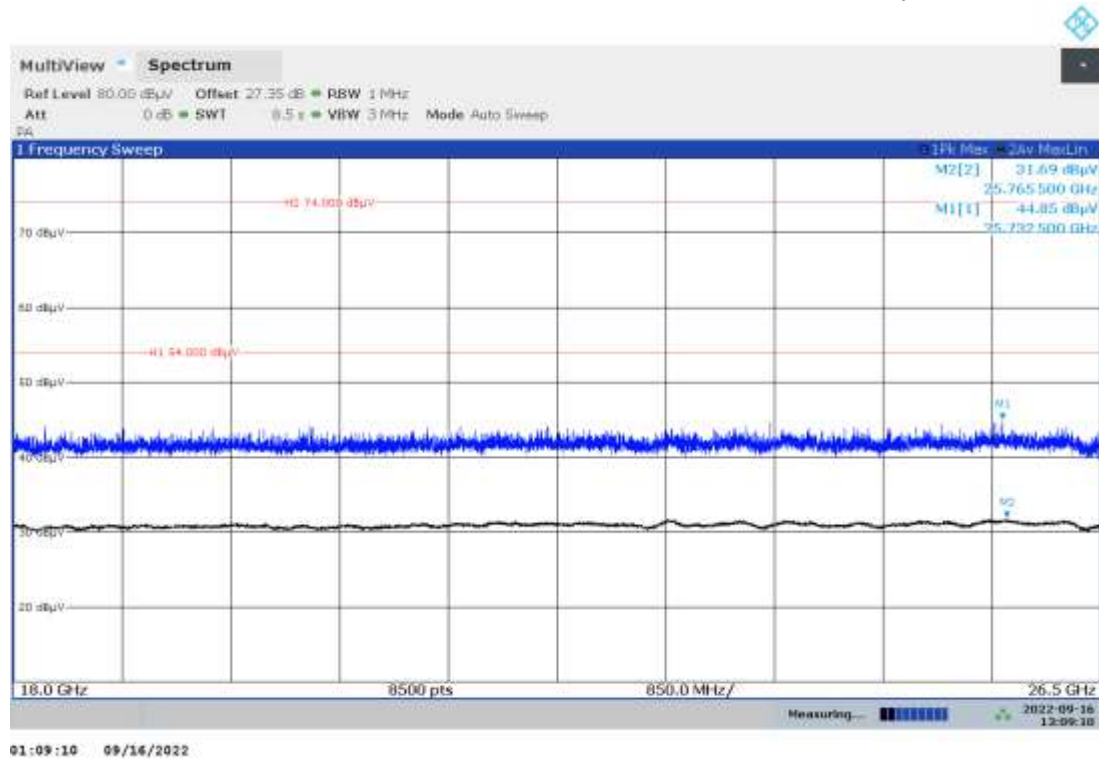
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
4803.969444	---	36.12	54.00	17.88	100.0	1000.000	150.0	H
4804.269444	45.58	---	74.00	28.42	100.0	1000.000	150.0	H

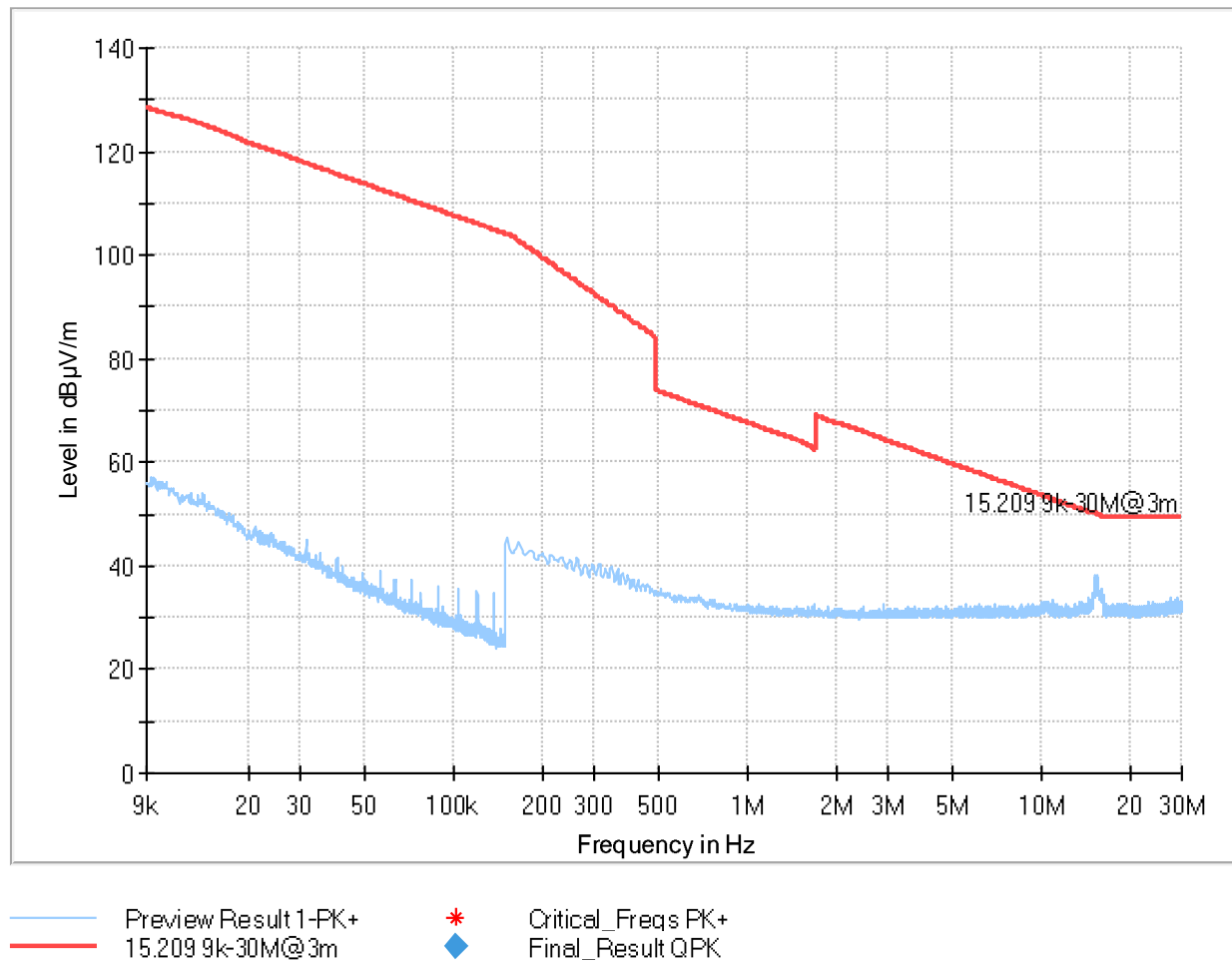
TR no.: 21116598-25034-1

2022-12-20

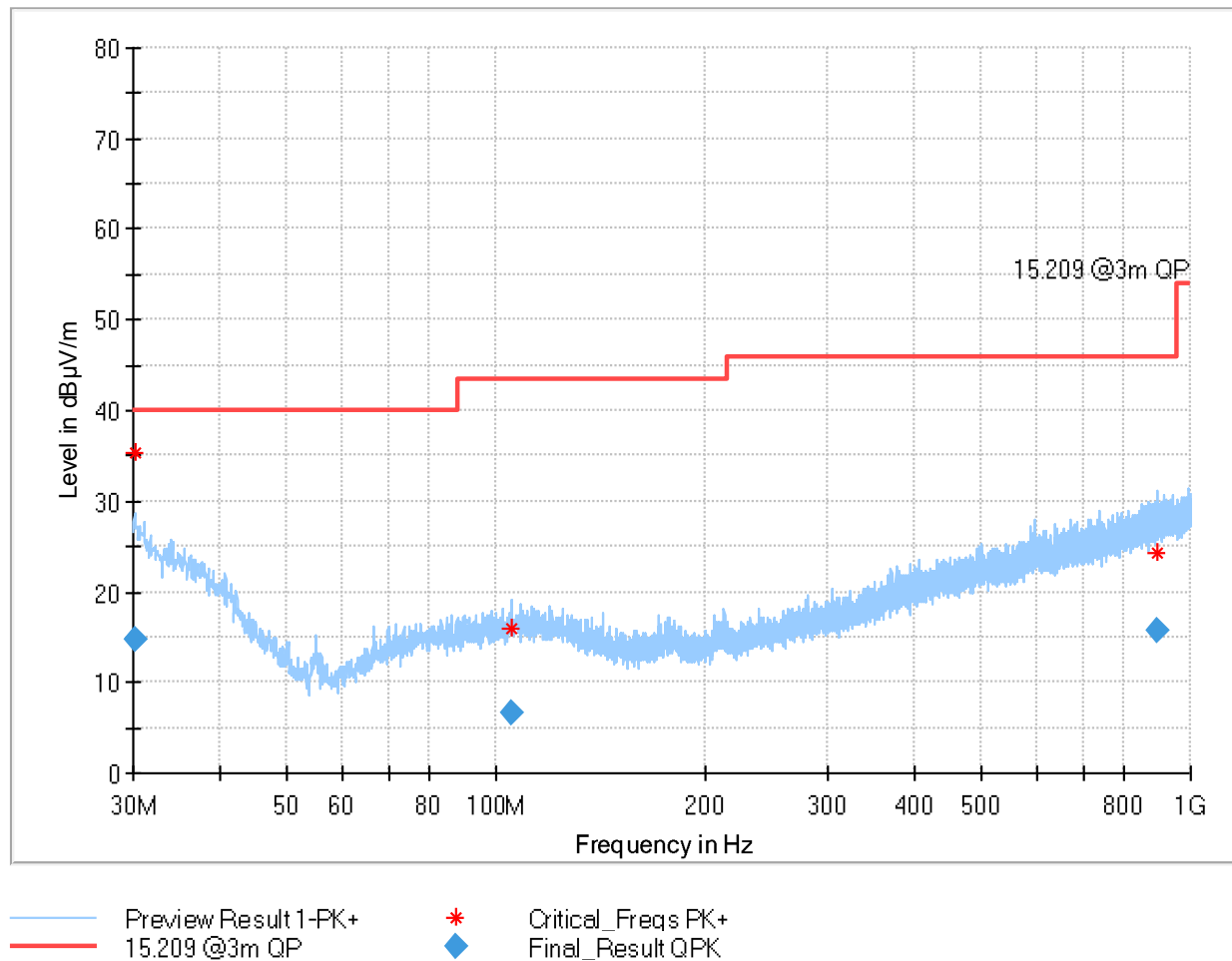
Plot 133: EUT #2, Mode 2, RSE 18 GHz – 26.5 GHz, low channel, horizontal / vertical polarisation



Plot 134: EUT #2, Mode 3, RSE 9 kHz – 30 MHz, low channel, loop antenna



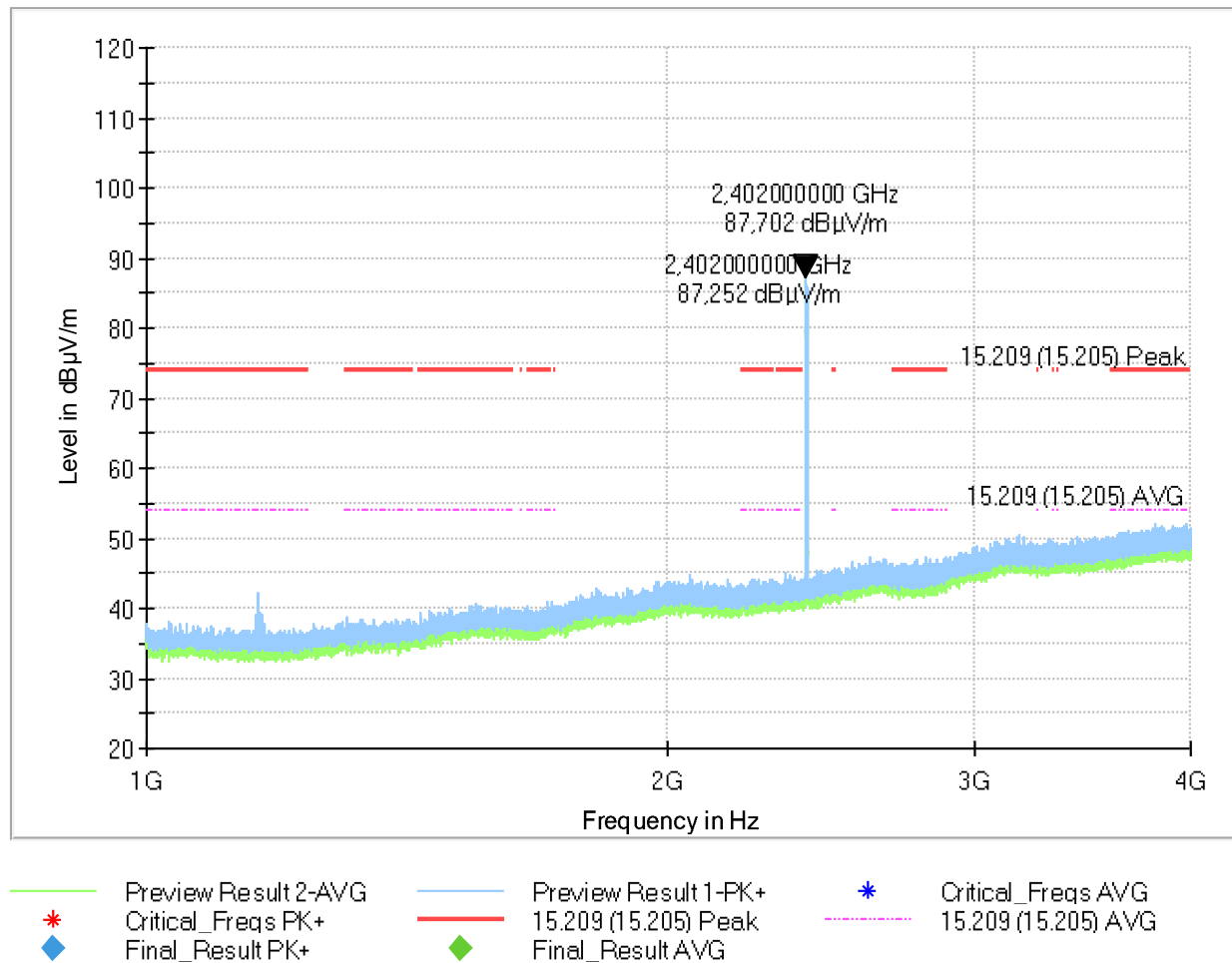
Plot 135: EUT #2, Mode 3, RSE 30 MHz – 1 GHz, low channel, horizontal / vertical polarisation



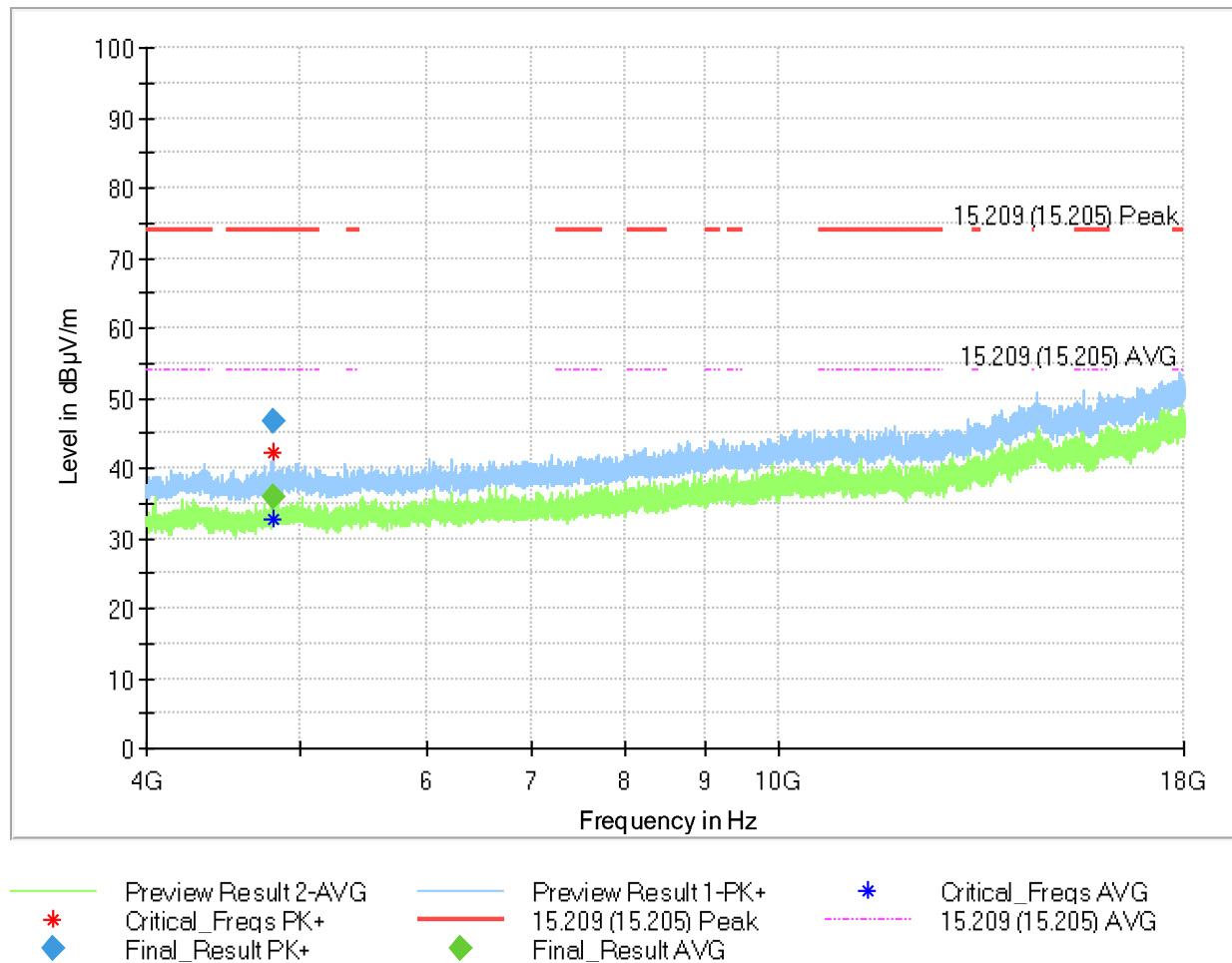
Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
30.325000	14.63	40.00	25.37	100.0	120.000	317.0	V	78.0
105.429500	6.72	43.50	36.78	100.0	120.000	150.0	V	70.0
894.430500	15.61	46.00	30.39	100.0	120.000	103.0	V	38.0

Plot 136: EUT #2, Mode 3, RSE 1 GHz – 4 GHz, low channel, horizontal / vertical polarisation



Plot 137: EUT #2, Mode 3, RSE 4 GHz – 18 GHz, low channel, horizontal / vertical polarisation



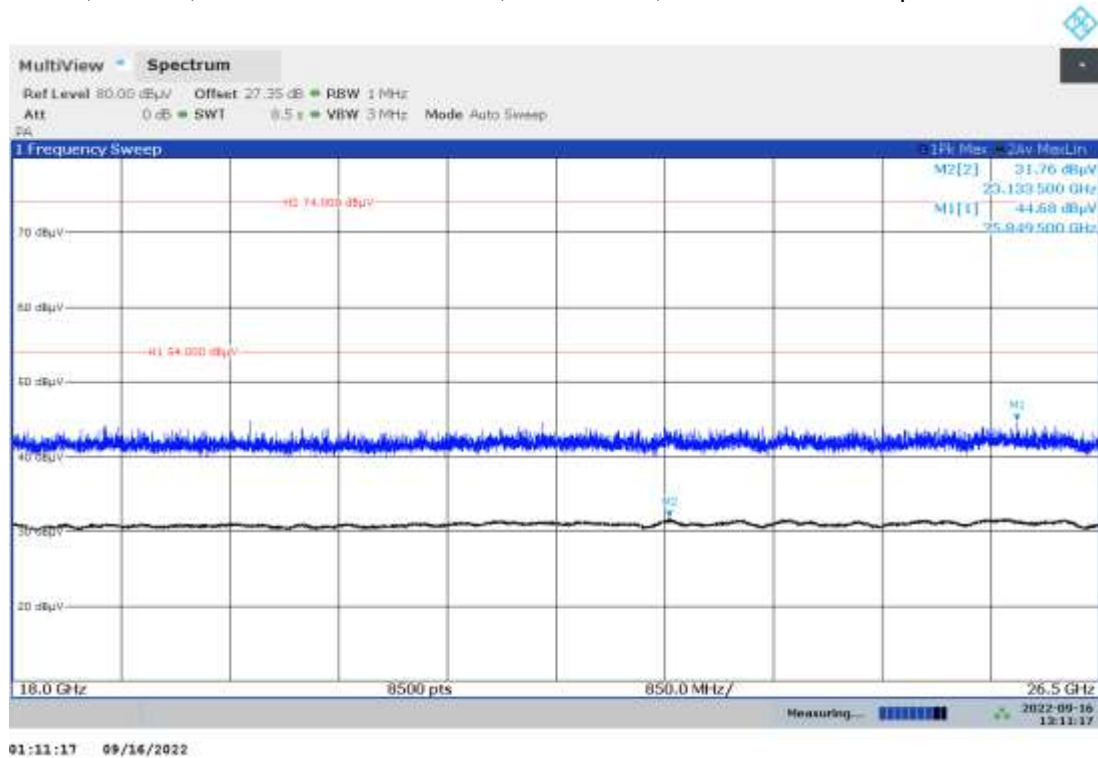
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol
4804.044444	---	35.73	54.00	18.27	100.0	1000.000	150.0	H
4804.194444	46.51	---	74.00	27.49	100.0	1000.000	150.0	H

TR no.: 21116598-25034-1

2022-12-20

Plot 138: EUT #2, Mode 3, RSE 18 GHz – 26.5 GHz, low channel, horizontal / vertical polarisation



8 TEST SETUP DESCRIPTION

Typically, the calibrations of the test apparatus are commissioned to and performed by an accredited calibration laboratory. The calibration intervals are determined in accordance with the DIN EN ISO/IEC 17025. In addition to the external calibrations, the laboratory executes comparison measurements with other calibrated test systems or effective verifications. Cyclic chamber inspections and range calibrations are performed. Where possible, RF generating and signalling equipment as well as measuring receivers and analysers are connected to an external high-precision 10 MHz reference (GPS-based or rubidium frequency standard).

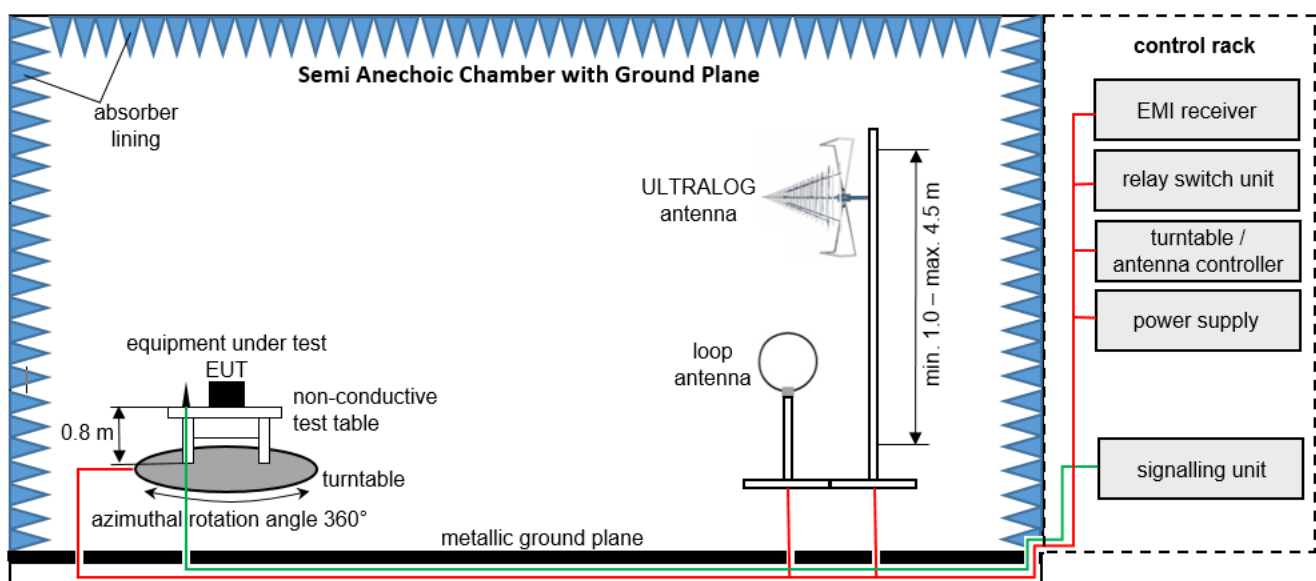
In order to simplify the identification of the equipment used at some special tests, some items of test equipment and ancillaries can be provided with an identifier or number in the equipment list below (Lab/Item).

Kind of calibration (abbreviations):

- C = calibrated
- CM = cyclic maintenance
- NR = not required
- L = locked

8.1 Semi Anechoic Chamber with Ground Plane

Radiated measurements are performed in vertical and horizontal plane in the frequency range 30 MHz to 1 GHz in a Semi Anechoic Chamber with a metallic ground plane. The EUT is positioned on a non-conductive test table with a height of 0.80 m above the metallic ground plane that covers the whole chamber. The receiving antennas conform to specification ANSI C63.10-2013, American National Standard for Testing Unlicensed Wireless Devices. These antennas can be moved over the height range between 1.0 m and 4.5 m in order to search for maximum field strength emitted from the EUT. The measurement distances between EUT and receiving antennas are indicated in the test setups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received. The wanted and unwanted emissions are received by a spectrum analyzer where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63.



Measurement distance: loop antenna at 3 m, ULTRALOG antenna at 3 m
EMC32 software version: 11.20.00

$FS = UR + CL + AF$

(FS-field strength; UR-voltage at the receiver; CL-loss of the cable; AF-antenna factor)

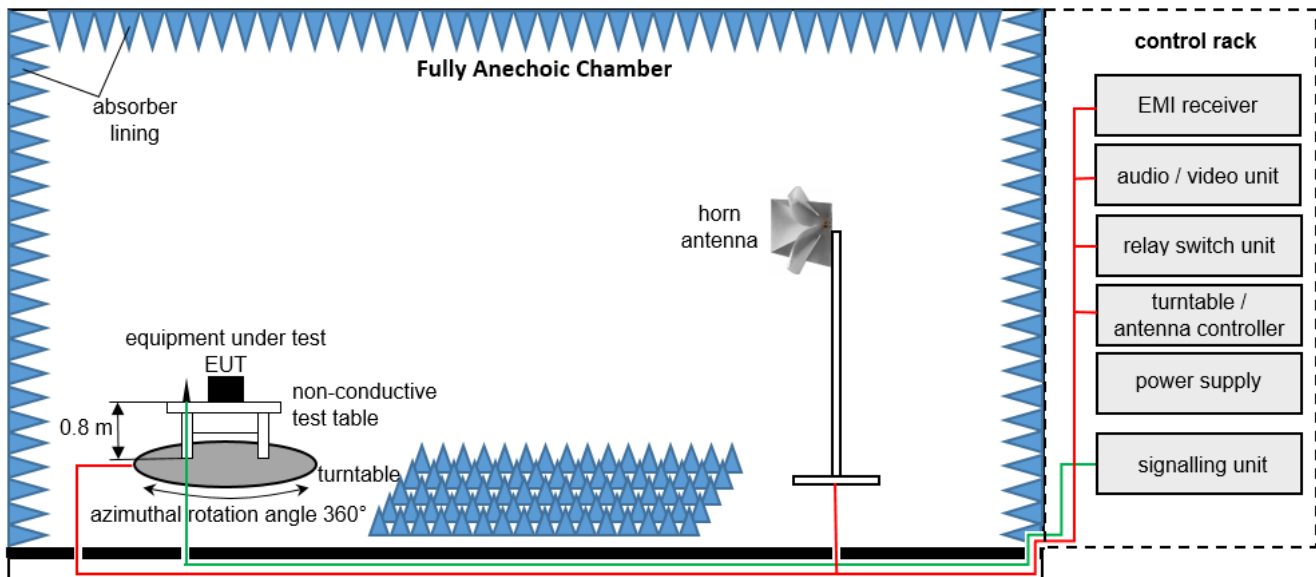
Example calculation:

$FS [dB\mu V/m] = 12.35 [dB\mu V/m] + 1.90 [dB] + 16.80 [dB/m] = 31.05 [dB\mu V/m] (35.69 \mu V/m)$

List of test equipment used:

No.	Equipment	Manufacturer	Type	Serial No.	IBL No.	Kind of Calibration	Last / Next Calibration
1	Power Supply	Elektro-Automatik GmbH & Co. KG	EA-PSI 9080-40 T	2000230001	LAB000313	NR	–
2	Test table	innco systems GmbH	PT1208-080-RH	-	LAB000306	NR	–
3	Power Supply	Chroma	61604	616040005416	LAB000285	NR	–
4	Positioner	matur GmbH	TD 1.5-10KG		LAB000258	NR	–
5	Compressed Air	Implotex	1-850-30	-	LAB000256	NR	–
6	EMI Test Receiver	Rohde & Schwarz	ESW26	101481	LAB000236	C	2022-07-07 → 12M → 2023-07-07
7	Semi/Fully Anechoic Chamber (SFAC)	Albatross Projects GmbH	Babylon 5 (SAC 5)	20168.PR.B	LAB000235	NR	–
8	Measurement Software	Rohde & Schwarz	EMC32 V11.20		LAB000226	NR	–
9	Turntable	matur GmbH	TT2.0-2t	TT2.0-2t/921	LAB000225	NR	–
10	Antenna Mast	matur GmbH	CAM4.0-P	CAM4.0-P/316	LAB000224	NR	–
11	Antenna Mast	matur GmbH	BAM4.5-P	BAM4.5-P/272	LAB000223	NR	–
12	Controller	matur GmbH	FCU 3.0	10082	LAB000222	NR	–
13	Power Supply	Elektro-Automatik GmbH & Co. KG	EA-PS 2042-10 B	2878350292	LAB000191	NR	–
14	Pre-Amplifier	Schwarzbeck Mess-Elektronik OHG	BBV 9718 C	84	LAB000169	NR	–
15	Antenna	Rohde & Schwarz	HF907	102899	LAB000151	C	2020-04-23 → 36M → 2023-04-23
16	Antenna	Rohde & Schwarz	HL562E	102005	LAB000150	C	2020-07-05 → 36M → 2023-07-05
17	Open Switch and Control Platform	Rohde & Schwarz	OSP200 Base Unit 2HU	101748	LAB000149	NR	–
18	Antenna	Rohde & Schwarz	HF907	102898	LAB000124	C	2020-04-23 → 36M → 2023-04-23
19	Antenna	Rohde & Schwarz	HL562E	102001	LAB000123	C	2020-07-05 → 36M → 2023-07-05
20	Antenna	Rohde & Schwarz	HFH2-Z2E - Active Loop Antenna	100954	LAB000108	C	2020-03-25 → 36M → 2023-03-25

8.2 Fully Anechoic Chamber



Measurement distance: horn antenna at 3 m

EMC32 software version: 11.20.00

$$FS = UR + CL + AF$$

(FS-field strength; UR-voltage at the receiver; CL-loss of the cable; AF-antenna factor)

Example calculation:

$$FS \text{ [dB}\mu\text{V/m]} = 12.35 \text{ [dB}\mu\text{V/m]} + 1.90 \text{ [dB]} + 16.80 \text{ [dB/m]} = 31.05 \text{ [dB}\mu\text{V/m]} \text{ (35.69 } \mu\text{V/m)}$$

$$OP = AV + D - G + CA$$

(OP-radiated output power; AV-analyzer value; D-free field attenuation of measurement distance; G-antenna gain+amplifier gain; CA-loss signal path)

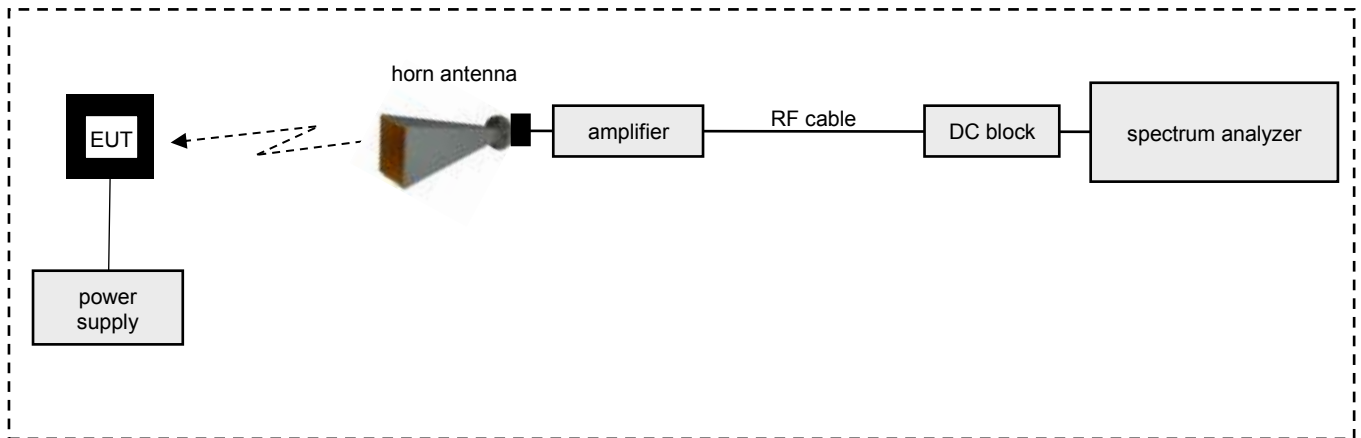
Example calculation:

$$OP \text{ [dBm]} = -65.0 \text{ [dBm]} + 50 \text{ [dB]} - 20 \text{ [dB]} + 5 \text{ [dB]} = -30 \text{ [dBm]} \text{ (1 } \mu\text{W)}$$

List of test equipment used:

No.	Equipment	Manufacturer	Type	Serial No.	IBL No.	Kind of Calibration	Last / Next Calibration
1	Power Supply	Elektro-Automatik GmbH & Co. KG	EA-PSI 9080-40 T	2000230001	LAB000313	NR	–
2	Test table	innco systems GmbH	PT1208-080-RH	-	LAB000306	NR	–
3	Power Supply	Chroma	61604	616040005416	LAB000285	NR	–
4	Positioner	matur GmbH	TD 1.5-10KG		LAB000258	NR	–
5	Compressed Air	Implotex	1-850-30	-	LAB000256	NR	–
6	EMI Test Receiver	Rohde & Schwarz	ESW26	101481	LAB000236	C	2022-07-07 → 12M → 2023-07-07
7	Semi/Fully Anechoic Chamber (SFAC)	Albatross Projects GmbH	Babylon 5 (SAC 5)	20168.PR.B	LAB000235	NR	–
8	Measurement Software	Rohde & Schwarz	EMC32 V11.20		LAB000226	NR	–
9	Turntable	matur GmbH	TT2.0-2t	TT2.0-2t/921	LAB000225	NR	–
10	Antenna Mast	matur GmbH	CAM4.0-P	CAM4.0-P/316	LAB000224	NR	–
11	Antenna Mast	matur GmbH	BAM4.5-P	BAM4.5-P/272	LAB000223	NR	–
12	Controller	matur GmbH	FCU 3.0	10082	LAB000222	NR	–
13	Power Supply	Elektro-Automatik GmbH & Co. KG	EA-PS 2042-10 B	2878350292	LAB000191	NR	–
14	Pre-Amplifier	Schwarzbeck Mess-Elektronik OHG	BBV 9718 C	84	LAB000169	NR	–
15	Antenna	Rohde & Schwarz	HF907	102899	LAB000151	C	2020-04-23 → 36M → 2023-04-23
16	Antenna	Rohde & Schwarz	HL562E	102005	LAB000150	C	2020-07-05 → 36M → 2023-07-05
17	Open Switch and Control Platform	Rohde & Schwarz	OSP200 Base Unit 2HU	101748	LAB000149	NR	–
18	Antenna	Rohde & Schwarz	HF907	102898	LAB000124	C	2020-04-23 → 36M → 2023-04-23
19	Antenna	Rohde & Schwarz	HL562E	102001	LAB000123	C	2020-07-05 → 36M → 2023-07-05
20	Antenna	Rohde & Schwarz	HFH2-Z2E - Active Loop Antenna	100954	LAB000108	C	2020-03-25 → 36M → 2023-03-25

8.3 Radiated measurements > 18 GHz

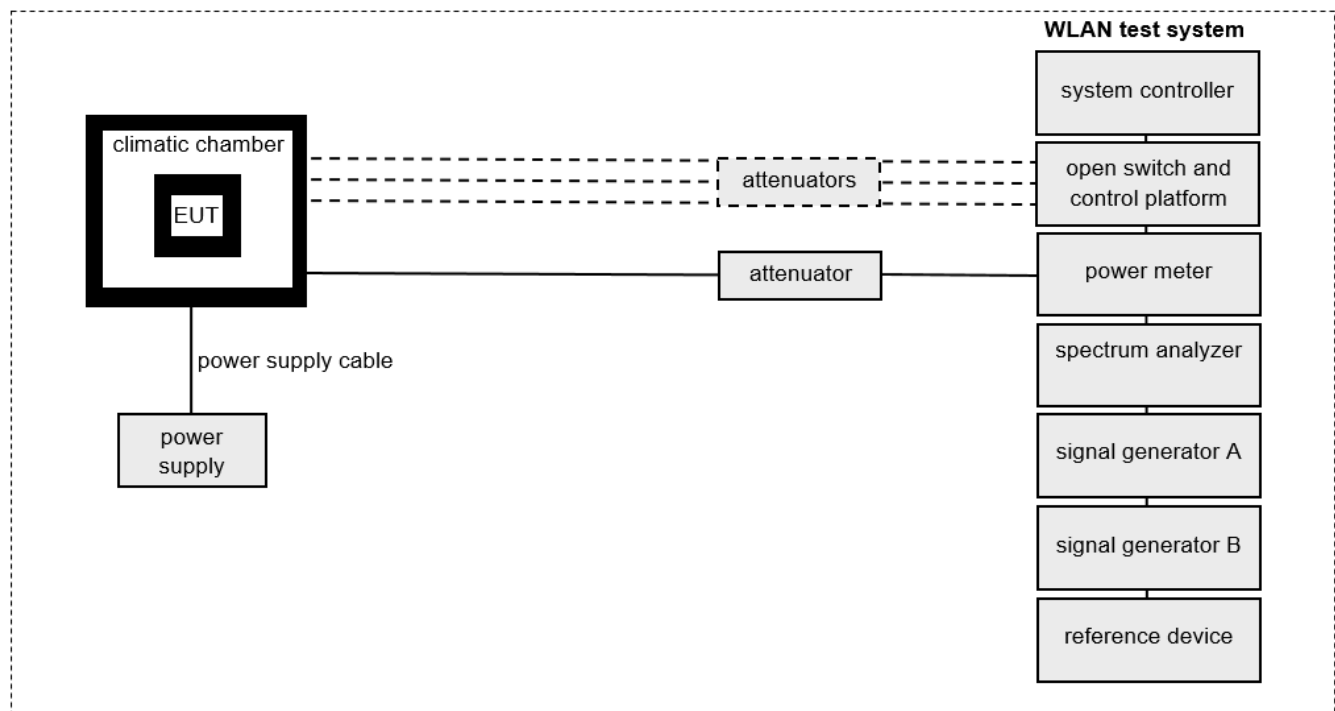


List of test equipment used:

No.	Equipment	Manufacturer	Type	Serial No.	INV. No.	Last / Next Calibration
1	Test table	innco systems GmbH	PT0707-RH light	-	LAB000303	–
2	WG-Coax-Adapter	Flann Microwave Ltd	20093-TF30 UBR220	273374	LAB000181	2020-07-01 → 2023-07-01
3	Coaxial Cable	Huber & Suhner	SF101/1.5m	503987/1	LAB000165	
4	Antenna	Flann Microwave Ltd	20240-20	266403	LAB000128	2020-06-29 → 2023-06-29
5	Spectrum Analyser	Rohde & Schwarz	FSW50	101450	LAB000111	2021-07-22 → 2022-07-22

8.4 Conducted measurements WLAN test system R&S TS 8997

The EUT's RF signal is coupled out by the antenna connector which is supplied by the manufacturer. The losses for all signal paths are first checked within a calibration. The measurement readings on the signalling unit/spectrum analyzer are corrected by the specific test set-up loss. The attenuator, power divider, signalling unit and the spectrum analyzer are impedance matched on 50 Ohm.



EMC32/WMS32 software version: 11.00.00

List of test equipment used:

No.	Equipment	Manufacturer	Type	Serial No.	IBL No.	Kind of Calibration	Last / Next Calibration
1	TS8997	Rohde & Schwarz	TS8997-Rack	100829	LAB000322	NR	–
2	Open Switch and Control Platform	Rohde & Schwarz	OSP-B157WX	101247	LAB000280	NR	–
3	Open Switch and Control Platform	Rohde & Schwarz	OSP-B157W8	100982	LAB000279	NR	–
4	Spectrum Analyser	Rohde & Schwarz	FSV40	101403	LAB000278	C	2021-06-15 → 36M → 2024-06-15
5	Signal Generator	Rohde & Schwarz	SMBV100A	258240	LAB000277	C	2021-08-31 → 36M → 2024-08-31
6	Signal Generator	Rohde & Schwarz	SMB100A-20	178175	LAB000276	C	2021-05-31 → 36M → 2024-05-31
7	Radio Communication Tester	Rohde & Schwarz	CMW270	101479	LAB000275	NR	–
8	Controller	Hewlett Packard	ATS-Z230	101379	LAB000274	NR	–
9	Power Supply	Elektro-Automatik GmbH & Co. KG	EA-PS 2042-10 B	2878350263	LAB000190	NR	–
10	Climatic Chamber	CTS GmbH	T-65/50	204002	LAB000110	CM	2022-05-11 → 12M → 2023-05-11

9 MEASUREMENT UNCERTAINTIES

Radio frequency	$\leq \pm 1 \times 10^{-7}$
RF power, conducted	$\leq \pm 0.75 \text{ dB}$
Power spectral density	$\leq \pm 3 \text{ dB}$
Maximum frequency deviation	$\leq \pm 5 \%$
Deviation limitation Duty Cycle, Tx-sequence, Tx-gap	$\leq \pm 5 \%$
Occupied channel bandwidth	$\leq \pm 5 \%$
Conducted spurious emission of transmitter	$\leq \pm 4 \text{ dB}$
Conducted emission of receivers	$\leq \pm 4 \text{ dB}$
Radiated emission of transmitter	$\leq \pm 6 \text{ dB}$
Radiated emission of receiver	$\leq \pm 6 \text{ dB}$
Temperature	$\leq \pm 2.5 \text{ °C}$
Humidity	$\leq \pm 10 \%$

The indicated expanded measurement uncertainty corresponds to the standard measurement uncertainty for the measurement results multiplied by the coverage factor $k = 2$. It was determined in accordance with EA-4/02 M:2013. The true value is located in the corresponding interval with a probability of 95 %.