FCC Test Report

For:
Rohde & Schwarz

Model:
QAR50

Product Description:
QAR50 Quality Automotive Radome Tester

FCC ID: KVW-QAR50

Applied Rules and Standards:
47 CFR Parts: 18

REPORT #: EMC_ROHDE-003-22001_FCC_18_Rev1

DATE: 2022-06-21

A2LA Accredited

IC recognized #
3462B

***CETECOM* Inc.**
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1 Assessment

The following device as further described in section 3 of this report was evaluated against the applicable criteria specified in the Code of Federal Regulations Title 47 part 18

No deficiencies were ascertained.

Company	Description	Model #
Rohde & Schwarz	QAR50 Quality Automotive Radome Tester	QAR50

Responsible for Testing Laboratory:

Date	Section	Name	Signature
2022-06-21	Compliance	Kevin Wang (EMC Lab Manager)	kevin Wang Digitally signed by: kevin.wang@cetecom.com DN: CN = kevin.wang@cetecom.com Date: 2022.06.21 11:56:33 -07'00'

Responsible for the Report:

Date	Section	Name	Signature
2022-06-21	Compliance	Cheng Song (EMC Engineer)	cheng.song@cetecom.com Digitally signed by: cheng.song@cetecom.com DN: CN = cheng.song@cetecom.com Date: 2022.06.21 12:00:13 -07'00'

2 Administrative Data

2.1 Identification of the Testing Laboratory Issuing the EMC Test Report

Company Name:	CETECOM Inc.
Department:	Compliance
Street Address:	411 Dixon Landing Road
City/Zip Code	Milpitas, CA 95035
Country	USA
Telephone:	+1 (408) 586 6200
Fax:	+1 (408) 586 6299
EMC Lab Manager:	Kevin Wang
Responsible Project Leader:	Cheng Song

2.2 Identification of the Client

Client Firm/Name:	Rohde & Schwarz GmbH & Co. KG
Street Address:	Muehldorfstrasse 15
City/Zip Code	Munich / 81671
Country	Germany

2.3 Identification of the Manufacturer

Manufacturer's Name:	Same as Client
Manufacturers Address:	----------
City/Zip Code	----------
Country	----------

3 Equipment Under Test (EUT)

3.1 EUT Specifications

Model No	QAR50
HW Version	02.10
SW Version	11.0.2.0
FCC-ID	KVW-QAR50
Operating Voltage Range	100 – 240VAC / 50/60Hz
Operating Temperature Range	Tmin: 5 °C / Tmax: 40 °C
Radios included in the device	Operation frequency range depends on the operation modes listed as below: Default Operation: 76-81GHz, 128 frequencies, ~2.5s cycle time K10 option: 72-82GHz, 256 frequencies, ~2.5s cycle time
Sample Revision	☐Prototype ■Production ☐ Pre-Production
EUT Dimensions	QAR50 base device: 12.83*39.46*56.42 in
Weight	QAR50 base device: 78kg

3.2 EUT Sample details

EUT #	Serial Number	HW Version	SW Version	Comments
1	1343.0099K02-102001-in	02.10	11.0.2.0	----------

3.3 Accessory Equipment (AE) details

AE #	Type	Model	Manufacturer	Serial Number
1	-	-	-	-

3.4 Support Equipment (SE) details

SE #	Type	Model	Manufacturer	Serial Number
1	-	-	-	-

3.5 Test Sample Configuration

Set-up #	EUT / AE used for set-up	Comments
1	K10 option with 256 frequencies	K10 option is chosen as worst case, since K10 option has the widest operating frequency range and maximum operating frequency points
2	K10 option with single frequency	-

4 Subject of Investigation

The objective of the measurements done by CETECOM Inc. was to evaluate the compliance of the EUT against the relevant requirements specified in the Code of Federal Regulations Title 47 parts 18.

5 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus, with 95% confidence interval (in dB delta to result), based on a coverage factor k=1.

Radiated measurement

9 kHz to 30MHz	±2.5 dB (Magnetic Loop Antenna)
30 MHz to 1000 MHz	±2.0 dB (Biconilog Antenna)
1 GHz to 40 GHz	±2.3 dB (Horn Antenna)

Conducted measurement

150 kHz to 30 MHz	±0.7 dB (LISN)
RF conducted measurement	±0.5 dB

5.1 Environmental Conditions during Testing:

The following environmental conditions were maintained during the course of testing:

- Ambient Temperature: 20-25°C
- Relative humidity: 40-60%

Deviating test conditions are indicated at individual test description where applicable.

5.2 Date of Testing:

05/16/2022 – 06/08/2022

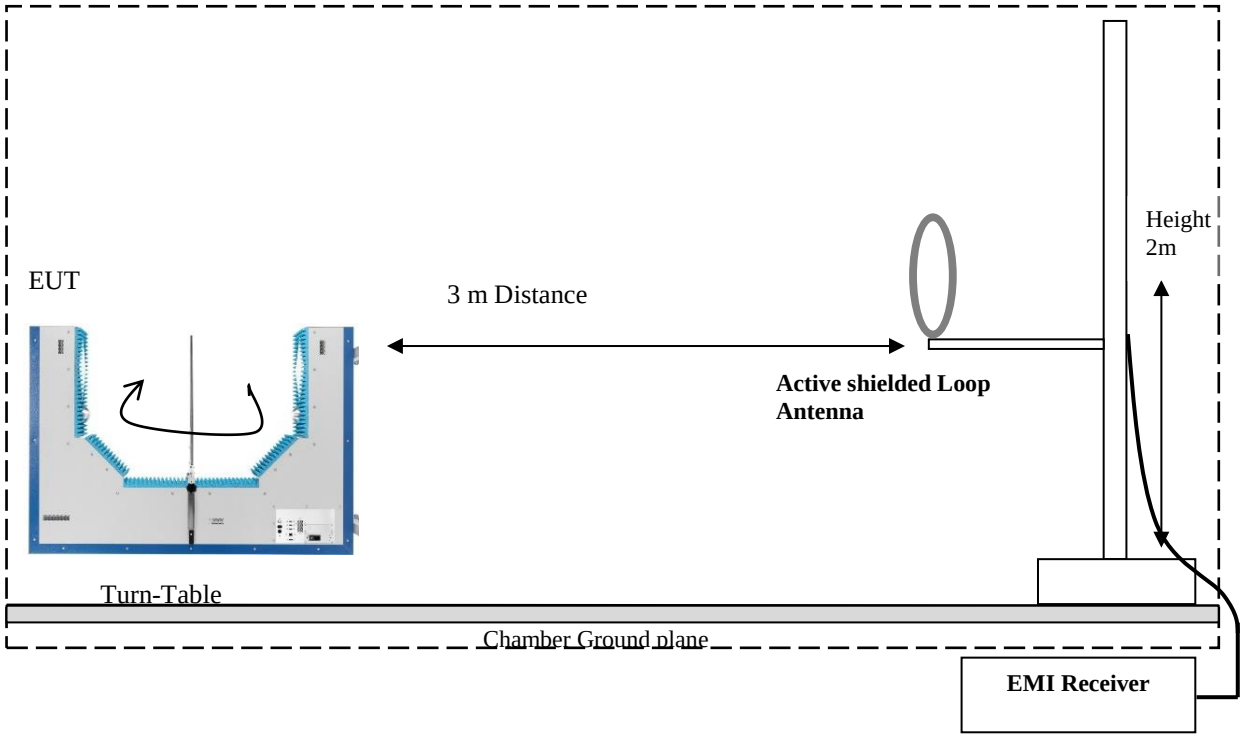
6 Measurement Procedures

Testing is performed according to the guidelines provided in FCC MP-5, “FCC Methods of Measurements of Radio Noise Emissions from Industrial, Scientific, and Medical equipment”

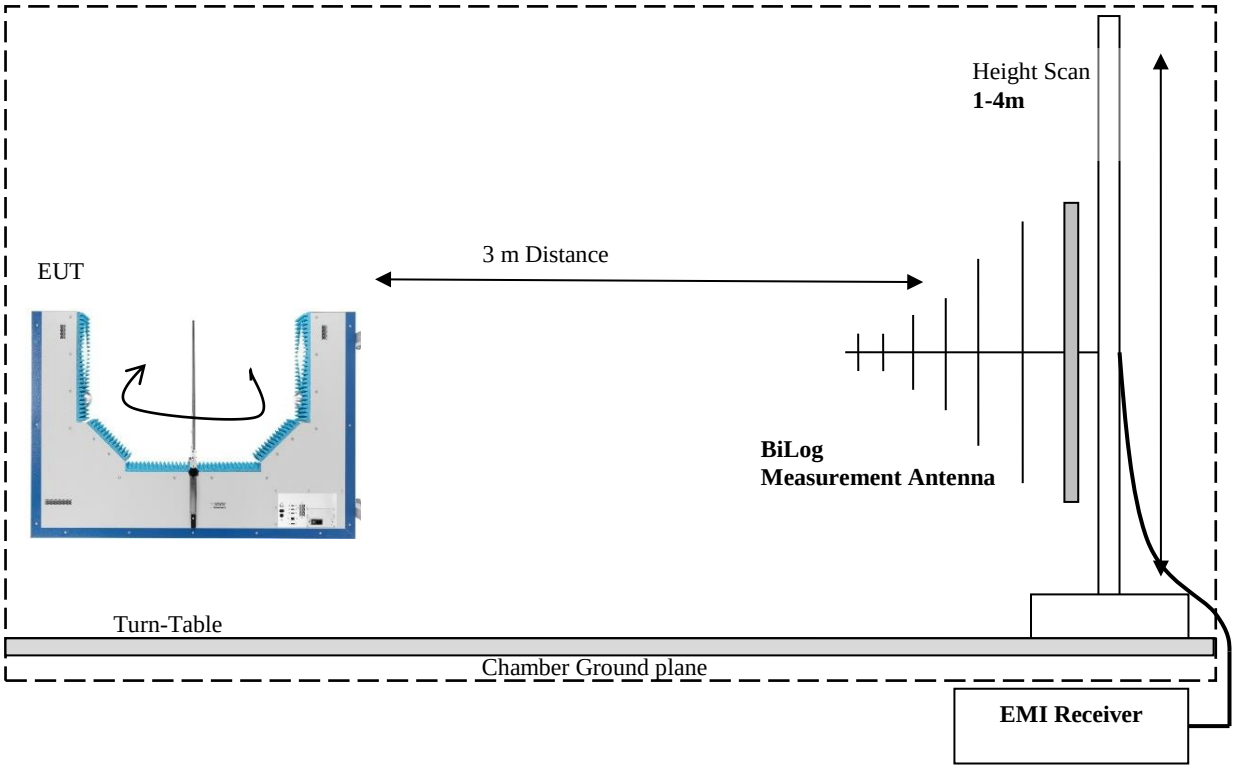
6.1 Radiated Measurement of below 40GHz

- Measurements below 40 GHz are split to five frequency ranges using appropriate antennas and EUT configuration. Active shielded loop antenna is used for up to 30 MHz measurement; Biconilog antenna is used from 30 MHz to 1 GHz; and three different horn antennas are used to cover frequencies up to 40 GHz.
- Exploratory measurements are performed with the EUT rotated from 0° to 360°, the loop antenna is set at around 2 meters, the other antennas height are varied from 1 and 4 meters, the height scans apply fro both horizontal and vertical polarization.
- Using the orientation and equipment arrangement of the EUT, based on the measurement results found during the exploratory measurement, the EUT arrangement, appropriate modulation, and modes of operation that produce the emissions that have the highest amplitude relative to the limit are selected for the final measurement.
- In case there are no emissions above noise floor, only the maximum trace is reported as described above.
- Measuring distance between the measuring set antenna and EUT is measured from the closest point of the EUT, and determined by the boundary defined by an imaginary straight line periphery describing a simple geometric configuration enclosing the EUT system

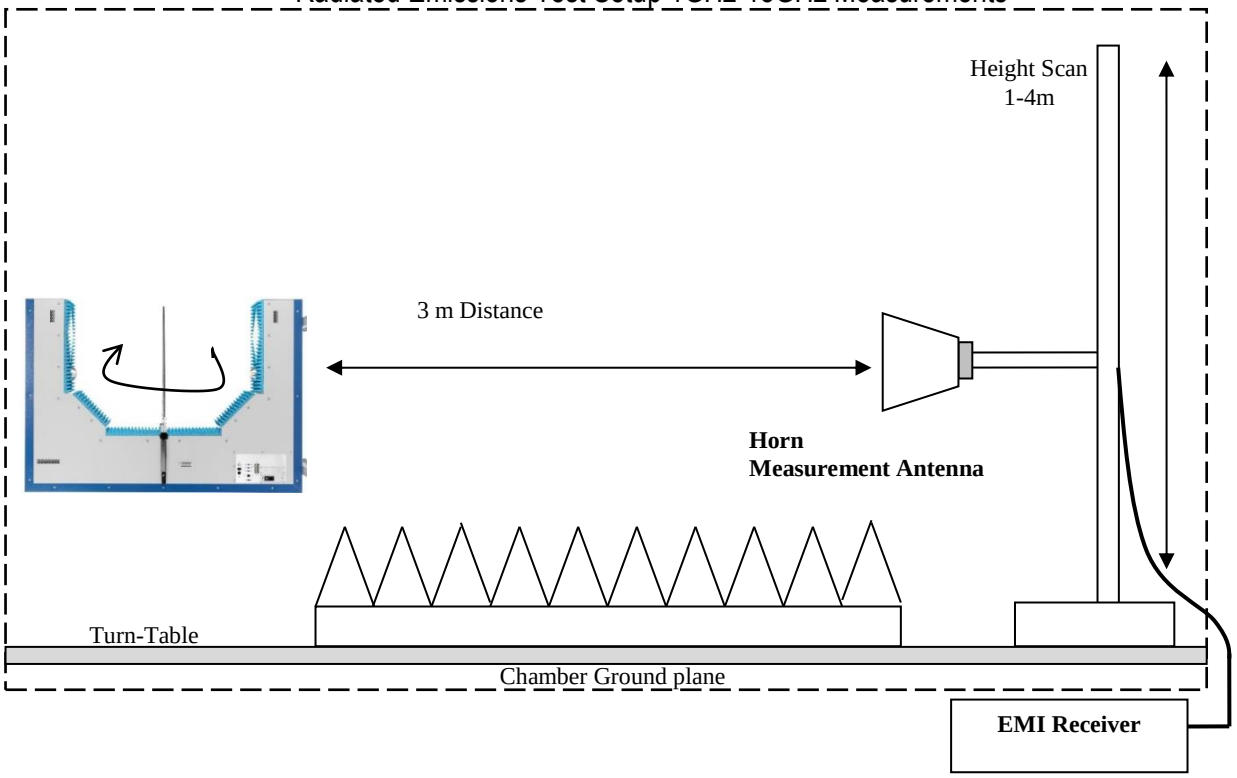
Radiated Emissions Test Setup below 30MHz Measurements



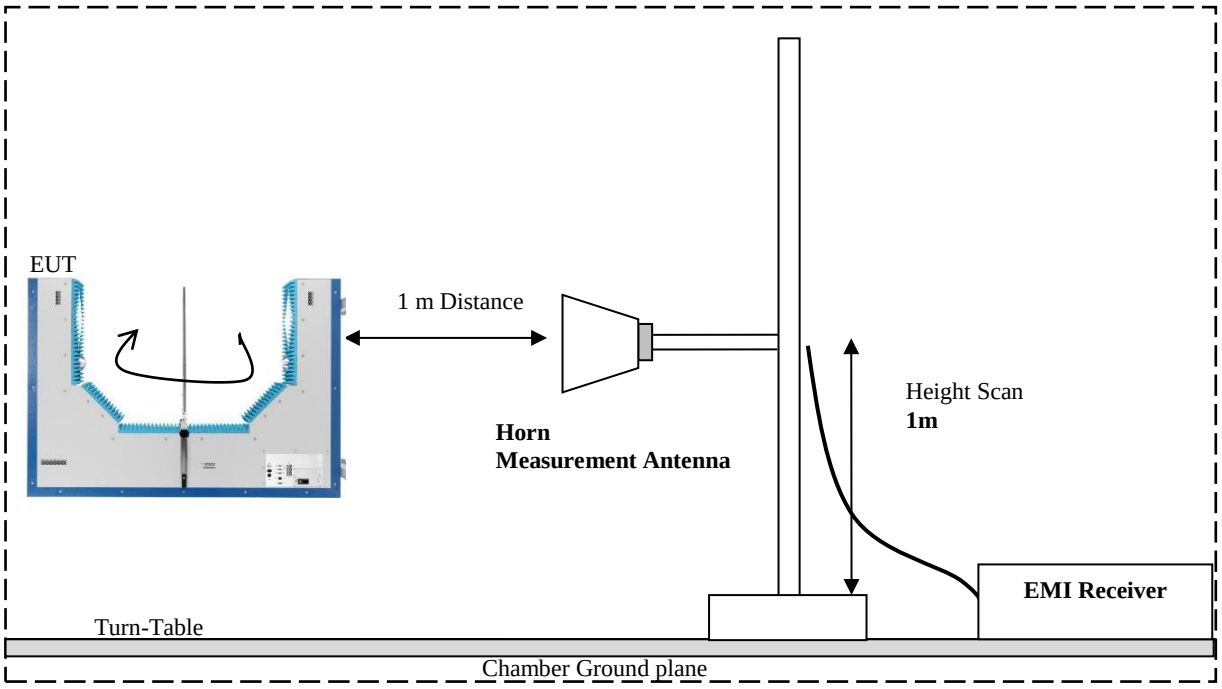
Radiated Emissions Test Setup 30MHz-1GHz Measurements



Radiated Emissions Test Setup 1GHz-18GHz Measurements



Radiated Emissions Test Setup 18GHz-40GHz Measurements



6.2 Radiated Measurement of above 40GHz

- Measurements above 40 GHz are split to 5 frequency ranges using R&S external mixers and appropriate antennas as follow:

40-60 GHz	FS-Z60 + 261U-25
60-90 GHz	FS-Z90 + 261E-25
90-140 GHz	FS-Z140 + 261F-25
140-220 GHz	FS-Z220 + 261G-25
220-325 GHz	FS-Z325 + 32240-20

- Exploratory measurements are performed with the EUT rotated from 0° to 360°, measuring set antennas are moved around the EUT to find the position produces highest emissions. The exploratory measurements are repeated with horizontal and vertical antenna polarization.
- Final measurement is performed on the certain position where the maximum emission was found during exploratory measurement.
- Measuring distance between the measuring set antenna and EUT is measured from the closest point of the EUT, and determined by the boundary defined by an imaginary straight line periphery describing a simple geometric configuration enclosing the EUT system.
- The largest diameter of the transmit antenna on the panel is 3mm, the far field distance is determined as below:

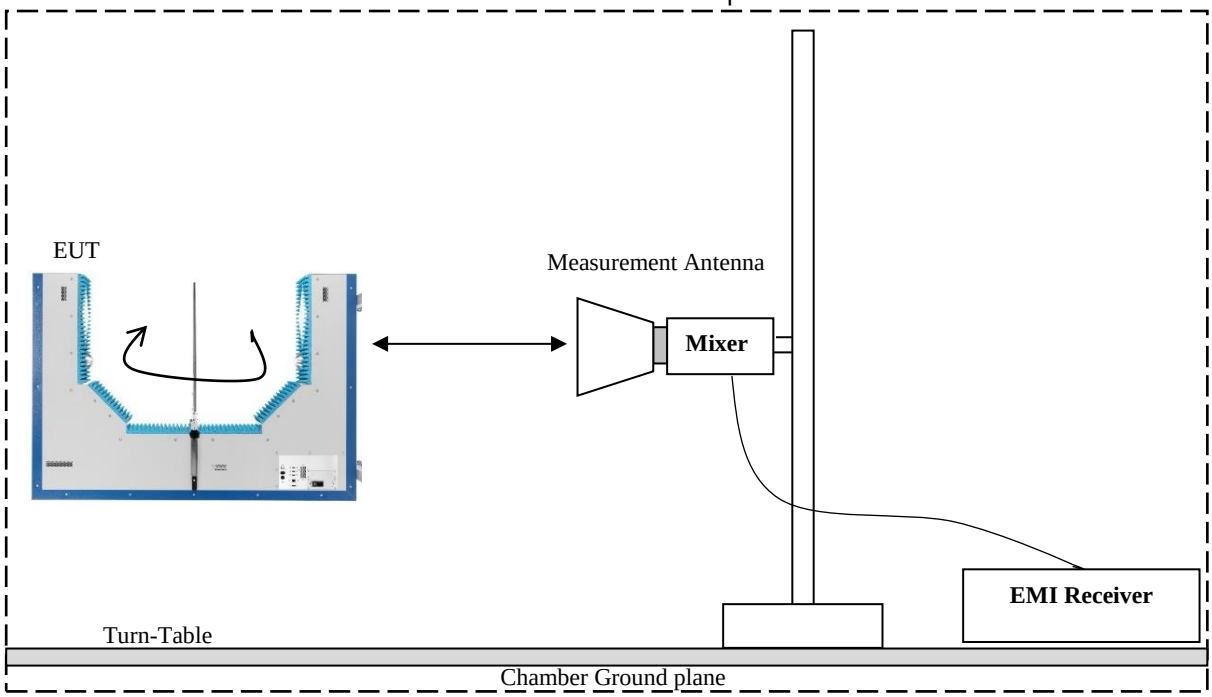
  Far field boundary Calculation:
  R far field = (2*D^2)/λ
  Where: D = largest antenna dimension
  λ = wavelength in meters

Frequency Range (GHz)	Far field distance of K10 mode (m)
40-60	0.0036
60-90	0.0054
90-140	0.0084
140-220	0.0132
220-325	0.02

Note: The far field distance is the distance from the aperture of the transmitter antenna to the measurement antenna
Far field distance = measuring distance + distance from the transmitter antenna to the imaginary boundary of EUT

To ensure far field test condition are met, as well as there are enough margin between noise floor and the emission limits, 0.5m measuring distance is used from 40GHz to 90GHz, 0.2m measuring distance is used from 90GHz to 140GHz, 0.1m measuring distance is used for above 140GHz;

Radiated Emissions Test Setup above 40 GHz



6.3 Sample Calculations for Field Strength Measurements

Field Strength is calculated from the Spectrum Analyzer/ Receiver readings, taking into account the following parameters:

- Measured reading in dBµV
- Cable Loss between the receiving antenna and SA in dB and
- Antenna Factor in dB/m

All radiated measurement plots in this report are taken from a test SW that calculates the Field Strength based on the following equation:

FS (dBµV/m) = Measured Value on SA (dBµV) + Cable Loss (dB) + Antenna Factor (dB/m)

Example:

Frequency (MHz)	Measured SA (dBµV)	Cable Loss (dB)	Antenna Factor Correction (dB)	Field Strength Result (dBµV/m)
1000	80.5	3.5	14	98.0

7 Measurement Results Summary

Test Specification	Test Case	Temperature and Voltage Conditions	Set-up #	Pass	Fail	NA	NP	Result
FCC §18.305	Radiated Emissions	Nominal	1&2	■	☐	☐	☐	Complies
FCC §18.307	AC power line Conducted Emissions	Nominal	1&2	■	☐	☐	☐	Complies

Note 1: NA= Not Applicable; NP= Not Performed.

8 Test Result Data

8.1 Radiated Emissions Measurement according to CFR 47 Part 18.305

Spectrum Analyzer settings		
Sweep Frequency Range	30 MHz – 1 GHz	>1 GHz
Resolution Bandwidth	100 kHz	1 MHz
Detector (Exploratory Measurements)	Peak	Peak
Detector (Final Measurements)	Average	Average
Trace Mode	Max Hold	Max Hold
Step Size	40 kHz	500 kHz
Measurement Time (Exploratory Measurements)	2 ms	2 ms
Measurement Time (Final Measurements)	100 ms	100 ms

8.1.1 Limits:

Equipment	Operating frequency	RF Power generated by equipment (watts)	Field strength limit (uV/m)	Distance (meters)
Any type unless otherwise specified (miscellaneous)	Any ISM frequency	Below 500 500 or more	25 25 × SQRT(power/500)	300 [1]300
	Any non-ISM frequency	Below 500 500 or more	15 15 × SQRT(power/500)	300 [1]300
Industrial heaters and RF stabilized arc welders	On or below 5,725 MHz Above 5,725 MHz	Any Any	10 ([2])	1,600 ([2])
Medical diathermy	Any ISM frequency Any non-ISM frequency	Any Any	25 15	300 300
Ultrasonic	Below 490 kHz	Below 500 500 or more	2,400/F(kHz) 2,400/F(kHz) × SQRT(power/500)	300 [3]300
	490 to 1,600 kHz Above 1,600 kHz	Any Any	24,000/F(kHz) 15	30 30
Induction cooking ranges	Below 90 kHz On or above 90 kHz	Any Any	1,500 300	[4]30 [4]30

Note1: EUT belong to miscellaneous equipment with non-ISM frequency
Note2: Limit 3m(dBuV/m) = Limit 300m(dBuV/m) + 40*log(300/3) for below 30MHz
Note3: Limit 3m(dBuV/m) = Limit 300m(dBuV/m) + 20*log(300/3) for above 30MHz

Limit Calculation:
Field Strength Limit @ 3m(dBuV/m) = 63.52dBuV/m
➔ EIRP Limit = -31.71dBm
40-220 GHz limit on SA is based on the following formula:
$Limit_{SA} = Limit_{actual}$ + Ant Gain – FSPL
For 40-60GHz, the measurement distance is 50cm.
For 60-90GHz, the measurement distance is 45.5cm.
For 90-140GHz, the measurement distance is 20cm.
For 140-325GHz, the measurement distance is 10cm.

Then the EIRP limit on the SA will be the following table.

Freq/GHz	limit on SA	Freq/GHz	limit on SA	Freq/GHz	limit on SA	Freq/GHz	limit on SA
40	-65.17	93	-64.54	146	-62.44	199	-65.13
41	-65.39	94	-64.63	147	-62.50	200	-65.17
42	-65.59	95	-64.73	148	-62.56	201	-65.21
43	-65.80	96	-64.82	149	-62.61	202	-65.26
44	-66.00	97	-64.91	150	-62.67	203	-65.30
45	-66.19	98	-65.00	151	-62.73	204	-65.34
46	-66.38	99	-65.08	152	-62.79	205	-65.39
47	-66.57	100	-65.17	153	-62.84	206	-65.43
48	-66.75	101	-65.26	154	-62.90	207	-65.47
49	-66.93	102	-65.34	155	-62.96	208	-65.51
50	-67.11	103	-65.43	156	-63.01	209	-65.55
51	-67.28	104	-65.51	157	-63.07	210	-65.59
52	-67.45	105	-65.59	158	-63.12	211	-65.64
53	-67.61	106	-65.68	159	-63.18	212	-65.68
54	-67.78	107	-65.76	160	-63.23	213	-65.72
55	-67.94	108	-65.84	161	-63.29	214	-65.76
56	-68.09	109	-65.92	162	-63.34	215	-65.80
57	-68.25	110	-66.00	163	-63.39	216	-65.84
58	-68.40	111	-66.08	164	-63.45	217	-65.88
59	-68.55	112	-66.15	165	-63.50	218	-65.92
60	-67.87	113	-66.23	166	-63.55	219	-65.96
61	-68.02	114	-66.31	167	-63.60	220	-66.00
62	-68.16	115	-66.38	168	-63.66	224	-71.15
63	-68.30	116	-66.46	169	-63.71	228	-71.31
64	-68.43	117	-66.53	170	-63.76	232	-71.46
65	-68.57	118	-66.61	171	-63.81	236	-71.61
66	-68.70	119	-66.68	172	-63.86	240	-71.75
67	-68.83	120	-66.75	173	-63.91	244	-71.90
68	-68.96	121	-66.83	174	-63.96	248	-72.04
69	-69.09	122	-66.90	175	-64.01	252	-72.18
70	-69.21	123	-66.97	176	-64.06	256	-72.31
71	-69.34	124	-67.04	177	-64.11	260	-72.45
72	-69.46	125	-67.11	178	-64.16	264	-72.58
73	-69.58	126	-67.18	179	-64.21	268	-72.71
74	-69.69	127	-67.25	180	-64.26	272	-72.84
75	-69.81	128	-67.31	181	-64.30	276	-72.97
76	-69.93	129	-67.38	182	-64.35	280	-73.09
77	-70.04	130	-67.45	183	-64.40	284	-73.22
78	-70.15	131	-67.52	184	-64.45	288	-73.34

79	-70.26	132	-67.58	185	-64.49	292	-73.46
80	-70.37	133	-67.65	186	-64.54	296	-73.58
81	-70.48	134	-67.71	187	-64.59	300	-73.69
82	-70.59	135	-67.78	188	-64.63	304	-73.81
83	-70.69	136	-67.84	189	-64.68	308	-73.92
84	-70.80	137	-67.91	190	-64.73	312	-74.03
85	-70.90	138	-67.97	191	-64.77	316	-74.14
86	-71.00	139	-68.03	192	-64.82	320	-74.25
87	-71.10	140	-68.09	193	-64.86	324	-74.36
88	-71.20	141	-62.13	194	-64.91		
89	-71.30	142	-62.20	195	-64.95		
90	-71.40	143	-62.26	196	-65.00		
91	-64.35	144	-62.32	197	-65.04		
92	-64.45	145	-62.38	198	-65.08		

8.1.2 Test Summary:

Environmental Conditions	
Ambient Temperature:	23°C
Relative Humidity:	45.1%
Atmospheric Pressure:	1010 mbar

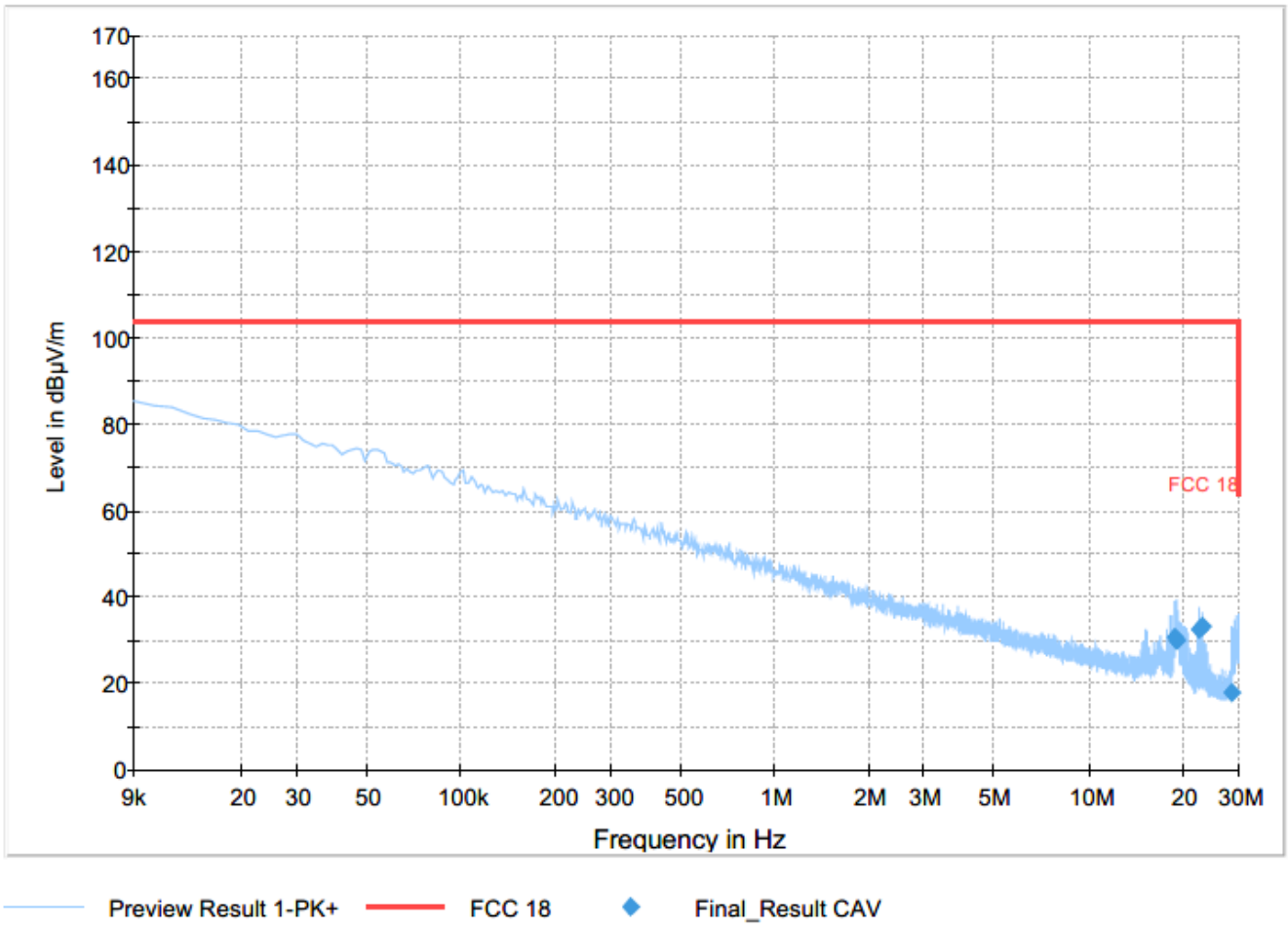
Test Results						
Plot #	**EUT Position**	**EUT operating mode**	**Scan Frequency**	**Power Supply Input**	**Comments**	**Result**
1 – 21	U shape	K10 Frequency Resolved Measurement Option	9kHz – 325 GHz	120V AC	Final measurement	Pass
22 – 40	U shape	Single Frequency	9kHz – 325 GHz	120V AC	Final measurement	Pass
41 - 45	C shape	K10 Frequency Resolved Measurement Option	9kHz – 40 GHz	120V AC	Final measurement	Pass
46 - 50	C shape	Single Frequency	9kHz – 40 GHz	120V AC	Final measurement	Pass

8.1.3 Measurement Plots:

Plot # 1 Unwanted Emissions: 9 kHz - 30 MHz

Final Result

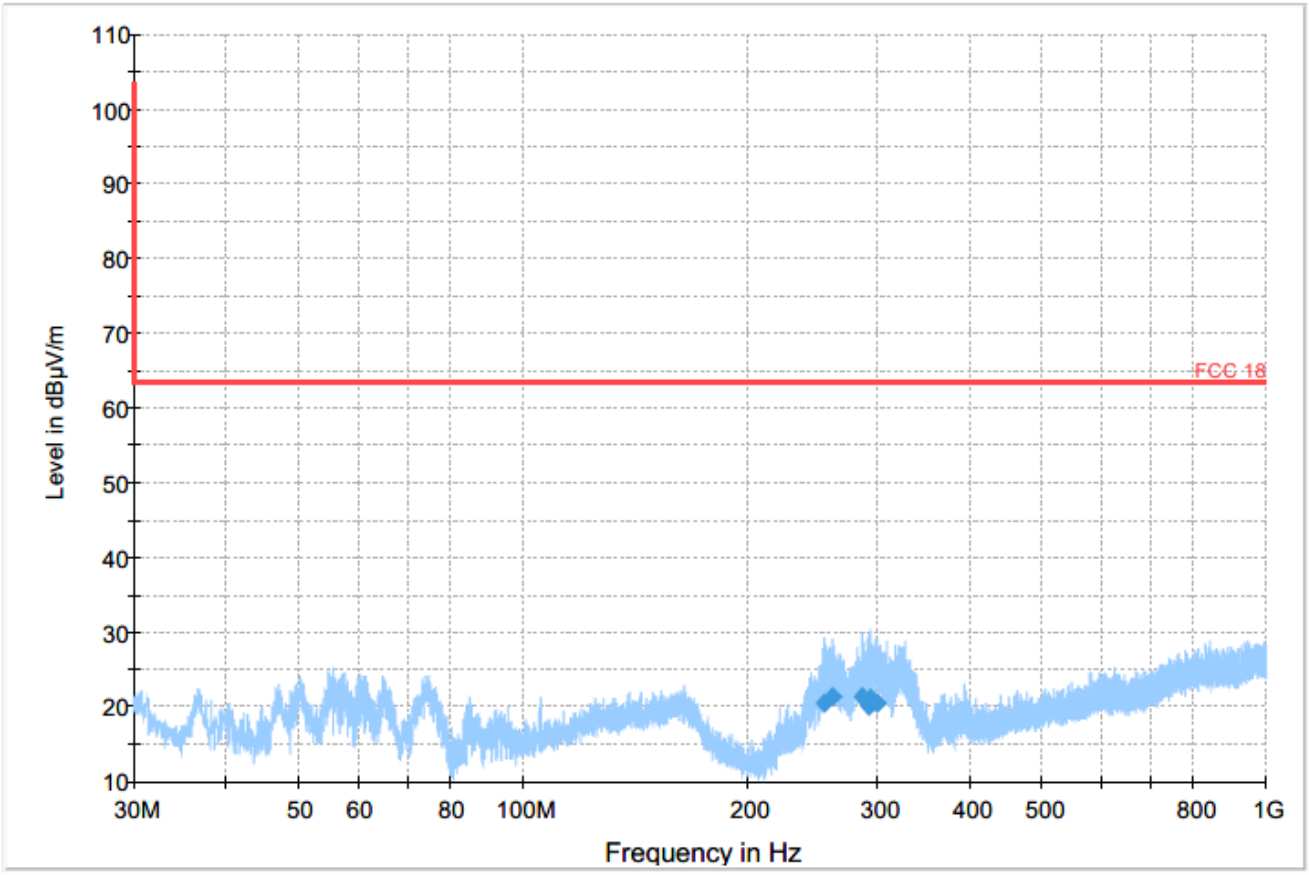
Frequency (MHz)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
18.92	30.81	103.52	72.71	500.0	9.0	107.0	V	181.0	16.5	
19.16	30.01	103.52	73.51	500.0	9.0	100.0	V	90.0	16.5	
22.58	32.40	103.52	71.12	500.0	9.0	100.0	V	330.0	16.2	
23.13	33.04	103.52	70.48	500.0	9.0	117.0	V	172.0	16.2	
28.73	17.91	103.52	85.61	500.0	9.0	117.0	V	175.0	15.9	



Plot # 2 Unwanted Emissions 30 MHz – 1GHz

Final Result

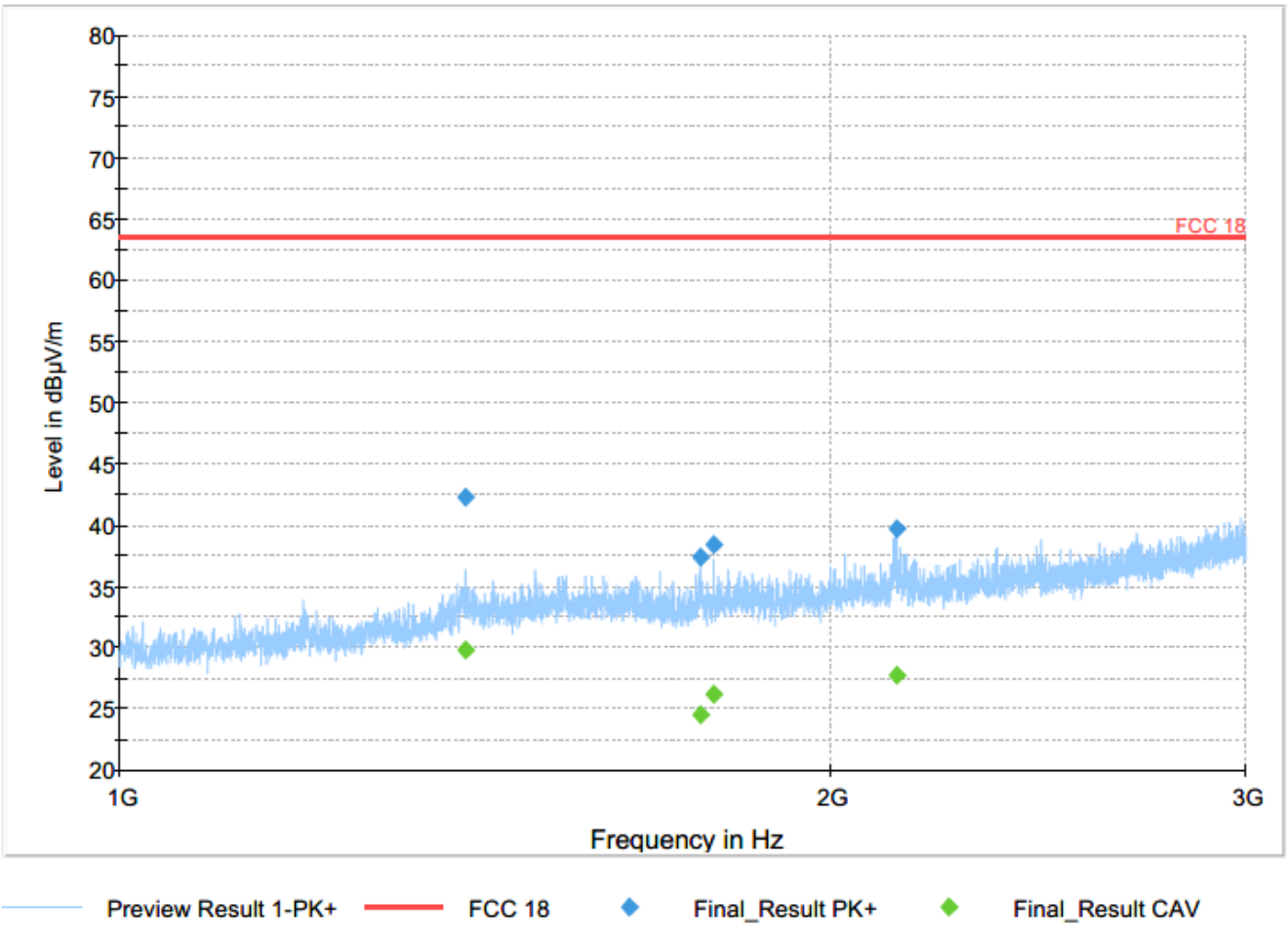
Frequency (MHz)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
255.23	20.57	63.52	42.95	500.0	120.0	107.0	V	98.0	21.6
261.51	21.46	63.52	42.06	500.0	120.0	150.0	V	106.0	20.9
285.98	21.42	63.52	42.10	500.0	120.0	142.0	V	120.0	21.1
292.51	20.08	63.52	43.44	500.0	120.0	100.0	V	85.0	21.1
293.82	21.13	63.52	42.39	500.0	120.0	142.0	V	132.0	21.1
299.78	20.49	63.52	43.03	500.0	120.0	173.0	V	121.0	21.3



Plot # 3 Unwanted Emissions: 1-3 GHz

Final Result

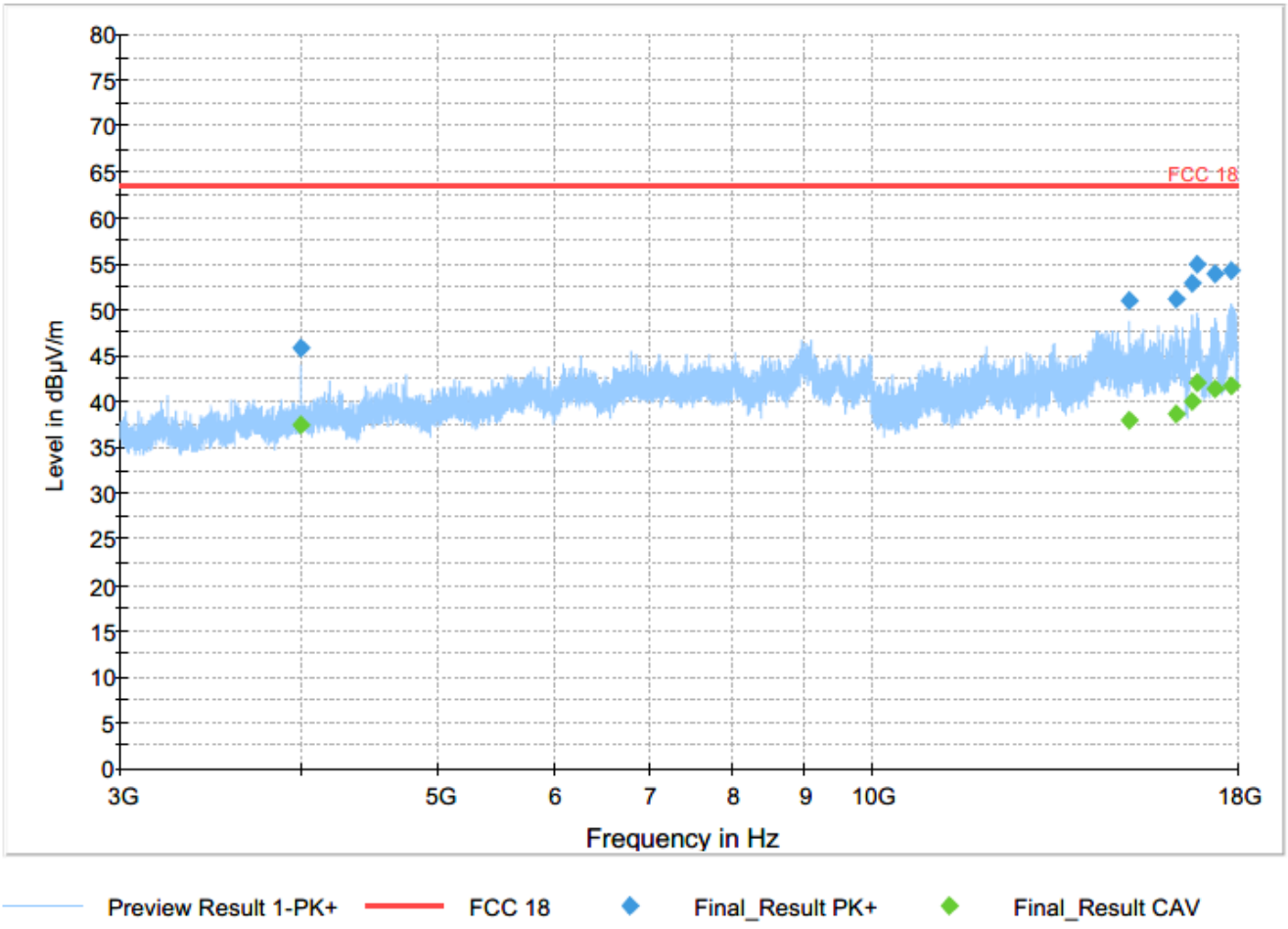
Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1401.50	---	29.83	63.52	33.69	500.0	1000.0	234.0	V	18.0	-3.3
1401.50	42.33	---	63.52	21.19	500.0	1000.0	234.0	V	18.0	-3.3
1761.75	37.45	---	63.52	26.07	500.0	1000.0	135.0	H	154.0	-2.9
1761.75	---	24.46	63.52	39.06	500.0	1000.0	135.0	H	154.0	-2.9
1784.25	---	26.22	63.52	37.30	500.0	1000.0	112.0	V	24.0	-2.7
1784.25	38.36	---	63.52	25.16	500.0	1000.0	112.0	V	24.0	-2.7
2134.25	39.68	---	63.52	23.84	500.0	1000.0	112.0	V	3.0	-1.2
2134.25	---	27.67	63.52	35.85	500.0	1000.0	112.0	V	3.0	-1.2



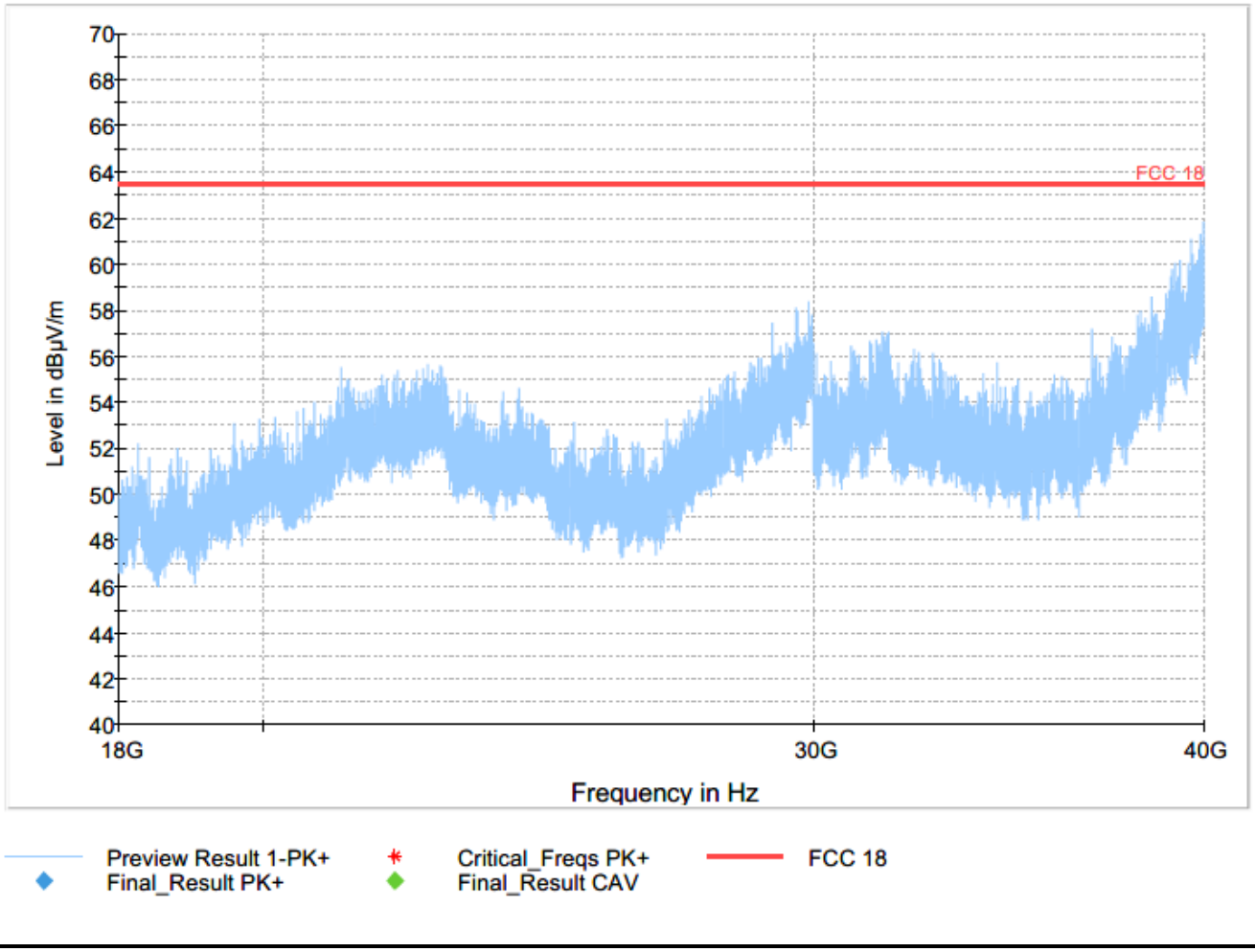
Plot # 4 Unwanted Emissions: 3 - 18 GHz

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4000.00	45.77	---	63.52	17.75	500.0	1000.0	107.0	H	316.0	-31.9
4000.00	---	37.36	63.52	26.16	500.0	1000.0	107.0	H	316.0	-31.9
15117.82	---	37.93	63.52	25.59	500.0	1000.0	131.0	V	134.0	-16.8
15117.82	50.90	---	63.52	12.62	500.0	1000.0	131.0	V	134.0	-16.8
16296.87	51.15	---	63.52	12.37	500.0	1000.0	136.0	V	278.0	-12.1
16296.87	---	38.64	63.52	24.88	500.0	1000.0	136.0	V	278.0	-12.1
16756.36	---	40.09	63.52	23.43	500.0	1000.0	107.0	V	96.0	-12.3
16756.36	52.89	---	63.52	10.63	500.0	1000.0	107.0	V	96.0	-12.3
16886.55	54.97	---	63.52	8.55	500.0	1000.0	293.0	V	162.0	-11.9
16886.55	---	42.10	63.52	21.42	500.0	1000.0	293.0	V	162.0	-11.9
17363.05	---	41.43	63.52	22.09	500.0	1000.0	273.0	H	299.0	-10.1
17363.05	53.84	---	63.52	9.68	500.0	1000.0	273.0	H	299.0	-10.1
17805.96	54.26	---	63.52	9.26	500.0	1000.0	107.0	H	311.0	-7.5
17805.96	---	41.72	63.52	21.80	500.0	1000.0	107.0	H	311.0	-7.5

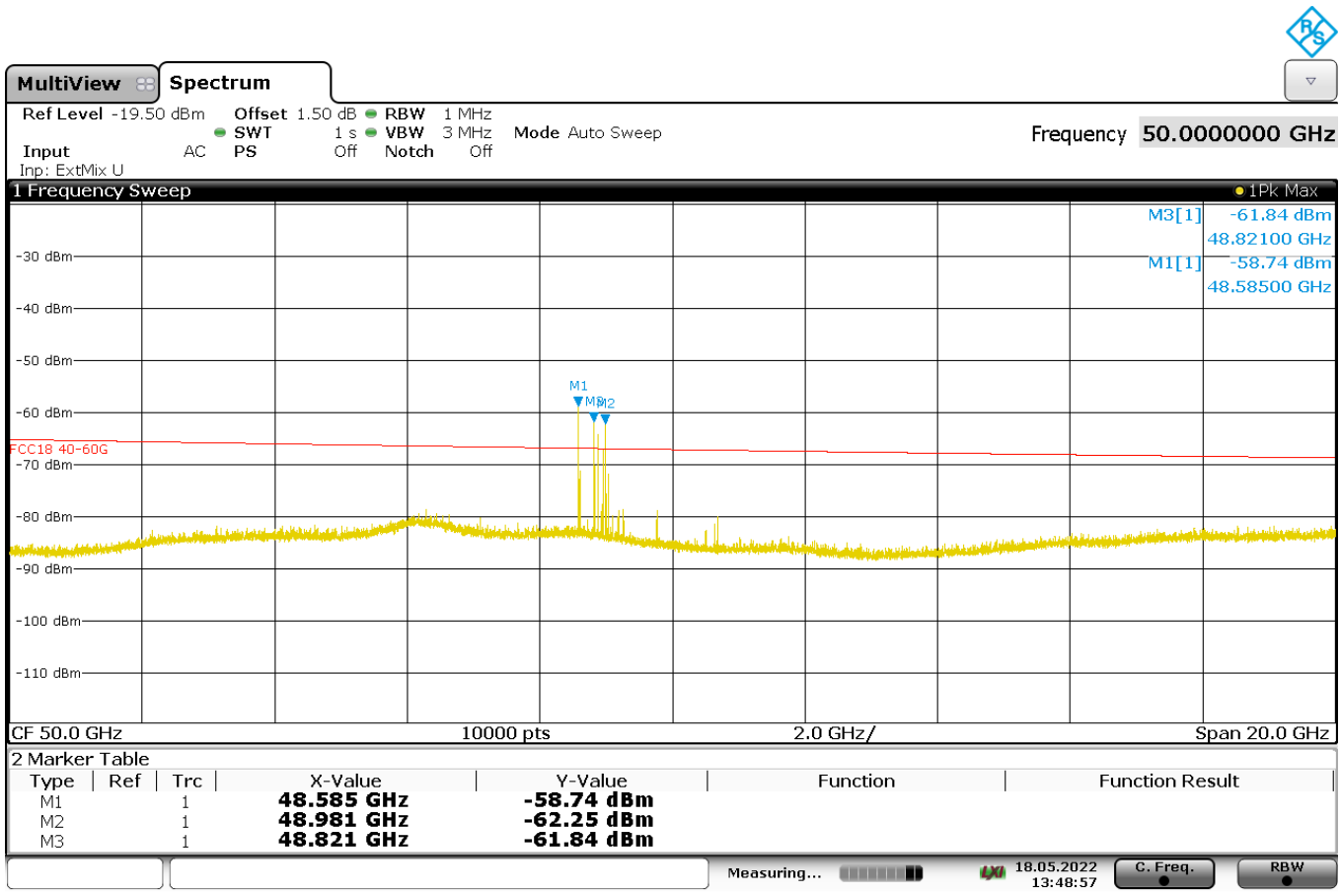


Plot # 5 Unwanted Emissions: 18-40 GHz



Plot # 6 Unwanted Emissions: 40 - 60 GHz

Measurement antenna orientation: Horizontal

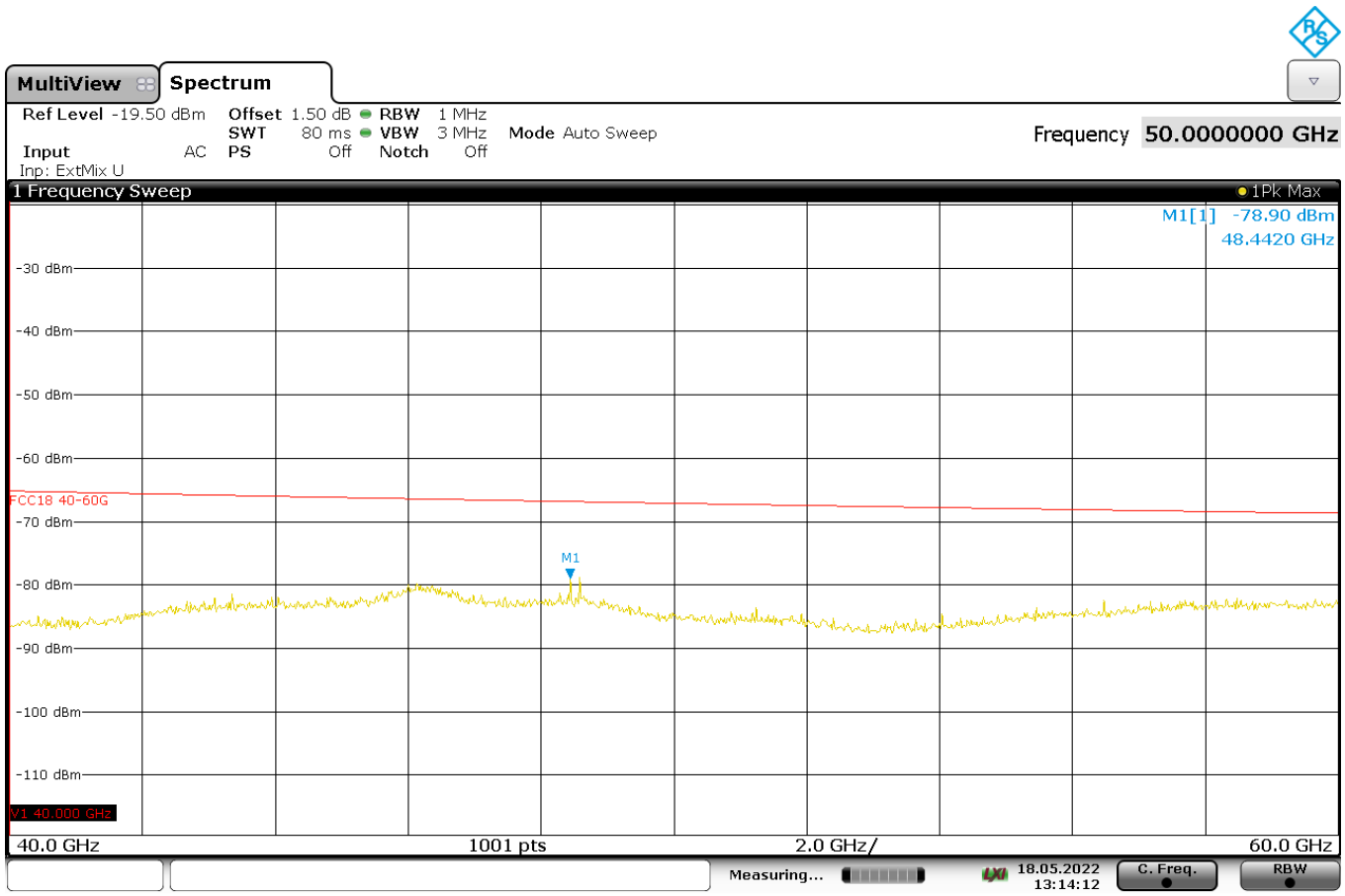


Note: When using Zero Span, and RMS detector, the follow amplitudes are measured.

48.585GHz	-76.52dBm
48.821GHz	-78.54dBm
48.981GHz	-83.05dBm

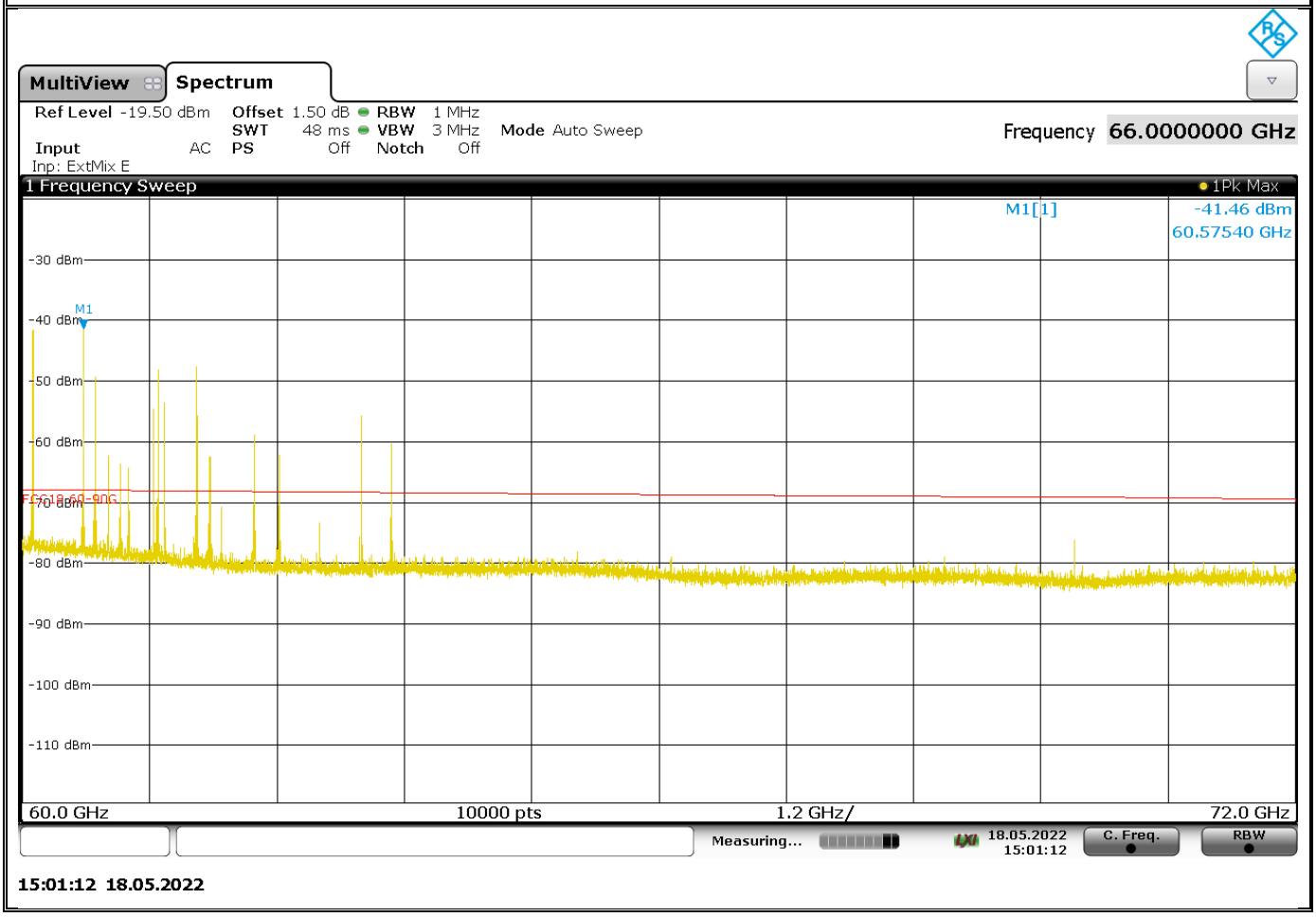
Plot # 7 Unwanted Emissions: 40 - 60 GHz

Measurement antenna orientation: Vertical



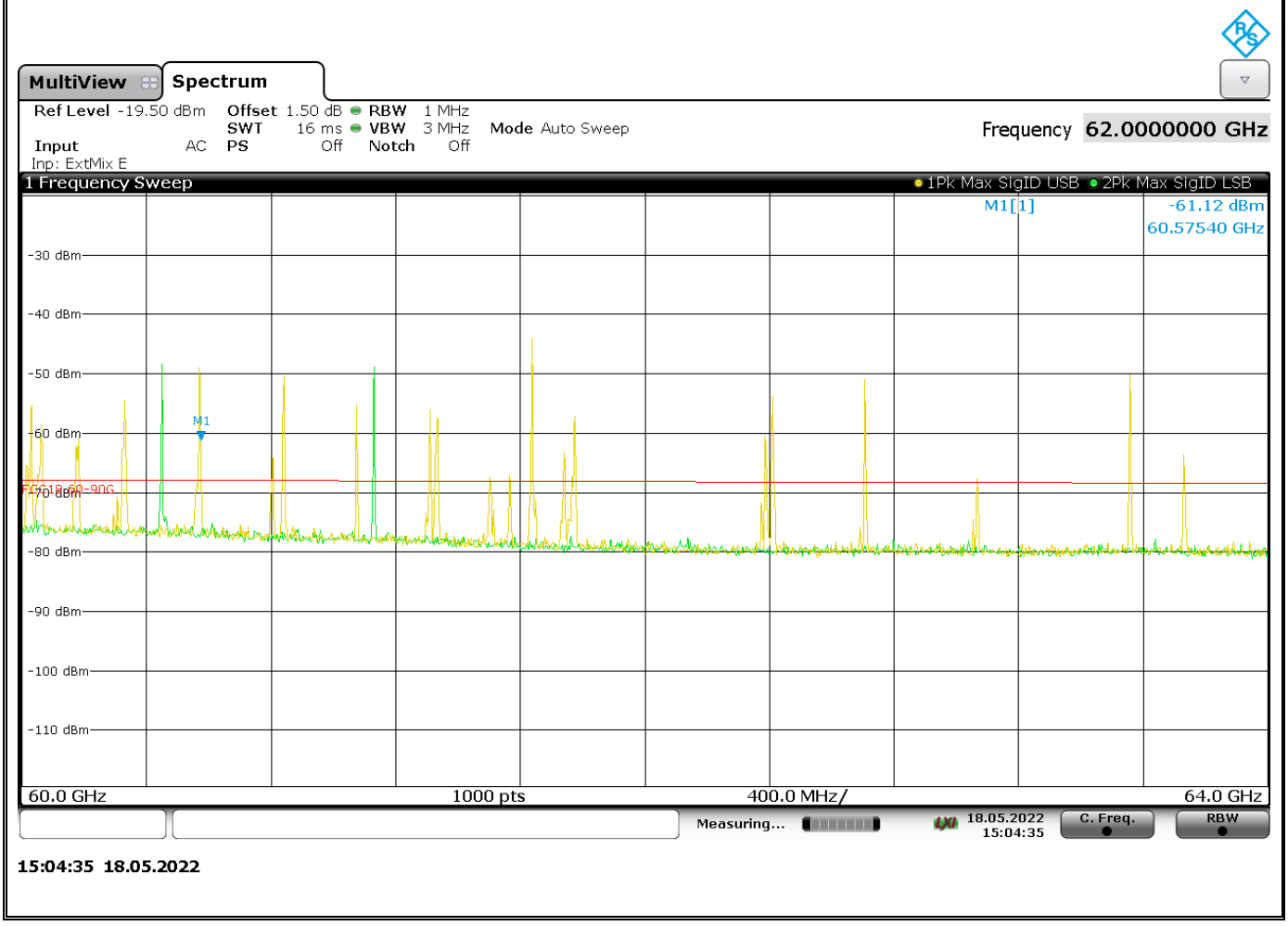
Plot # 8 Unwanted Emissions: 60 - 72 GHz

Measurement antenna orientation: Horizontal



Plot # 9 Unwanted Emissions: 60 - 64 GHz with Signal ID on

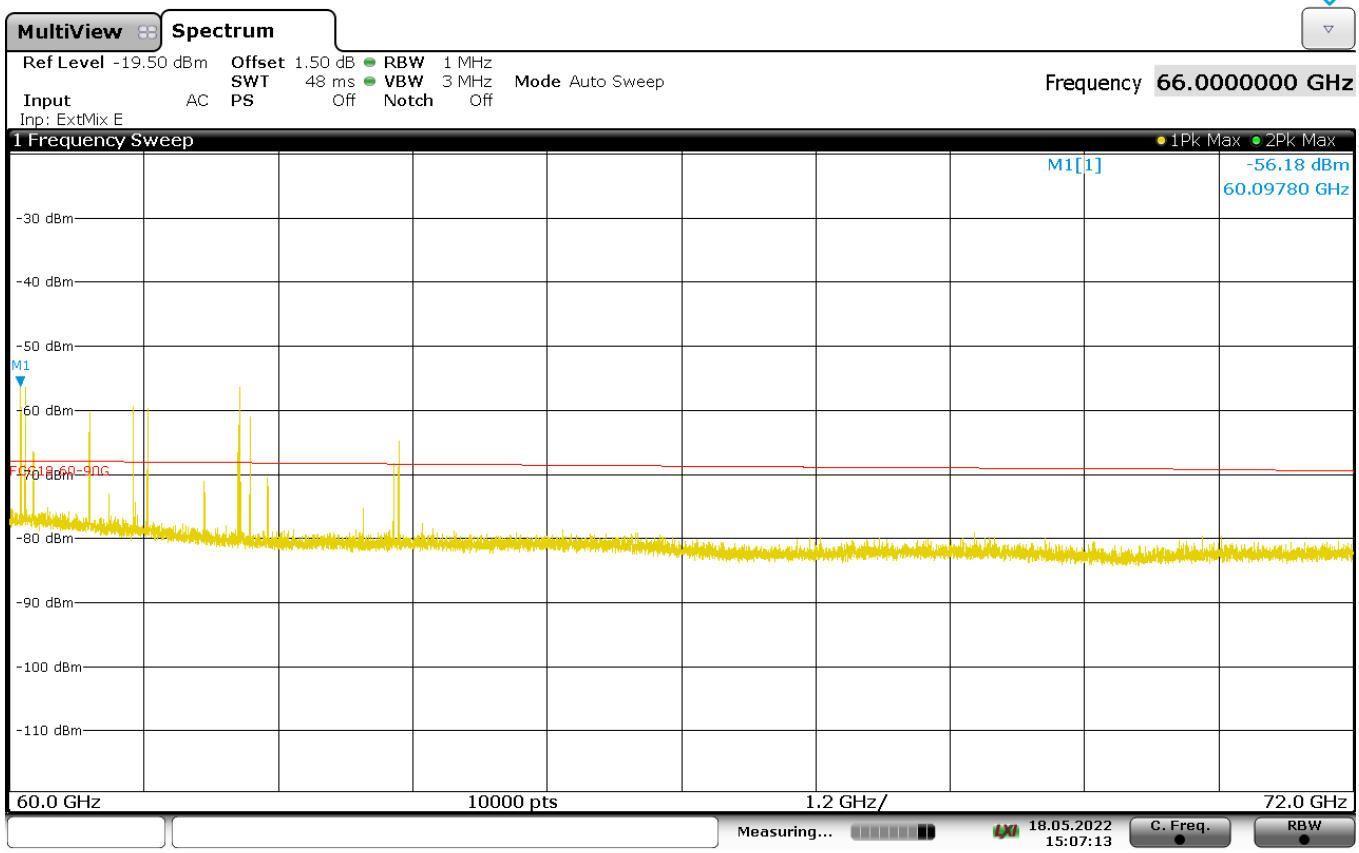
Measurement antenna orientation: Horizontal



Note: The Signal ID function of the ESW44 was used to evaluate the spectrum from 60-64GHz. The conclusion is that all observed emissions are products of the external mixer.

Plot # 10 Unwanted Emissions: 60 - 72 GHz

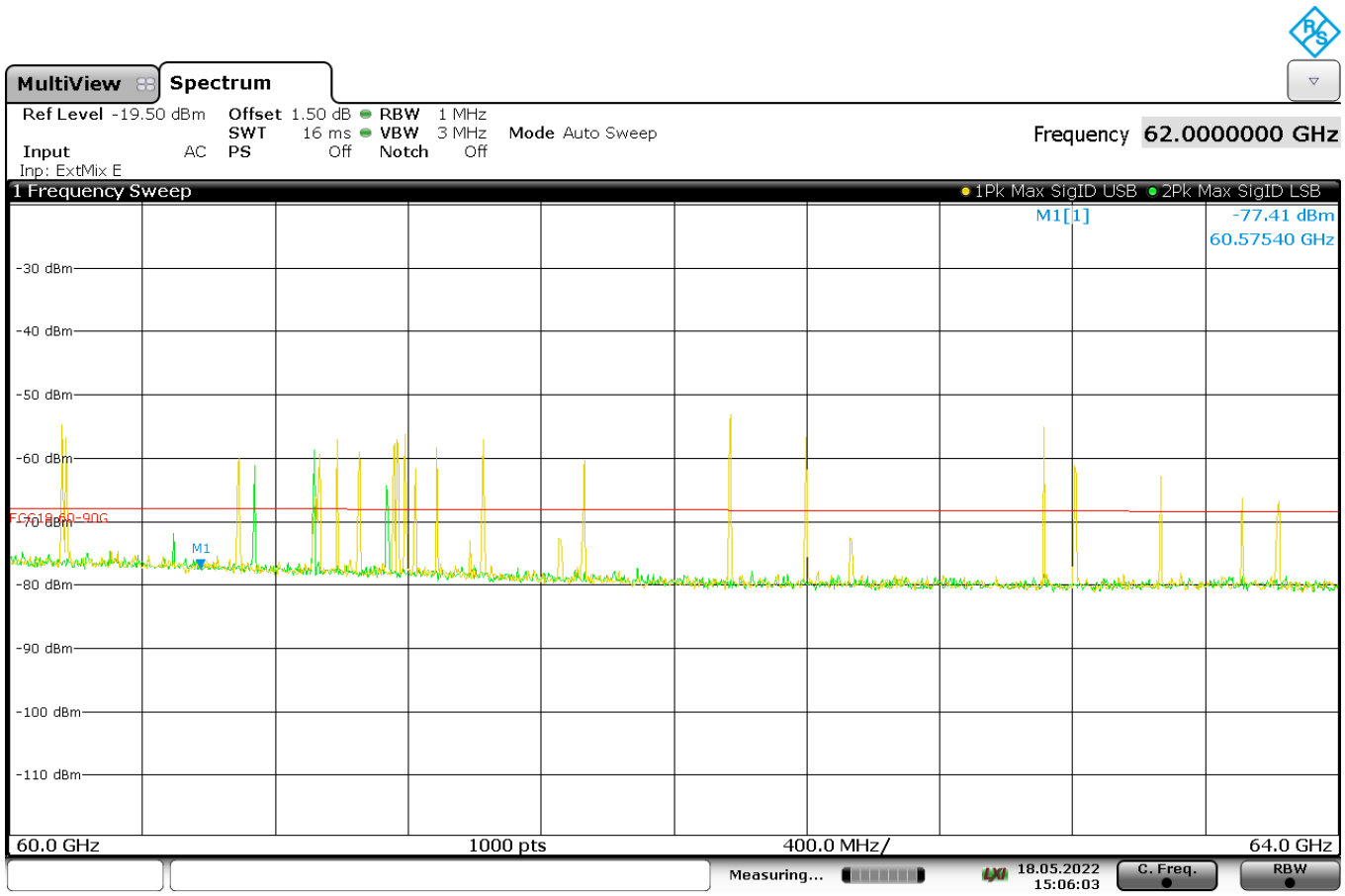
Measurement antenna orientation: Vertical



15:07:14 18.05.2022

Plot # 11 Unwanted Emissions: 60 - 64 GHz with Signal ID on

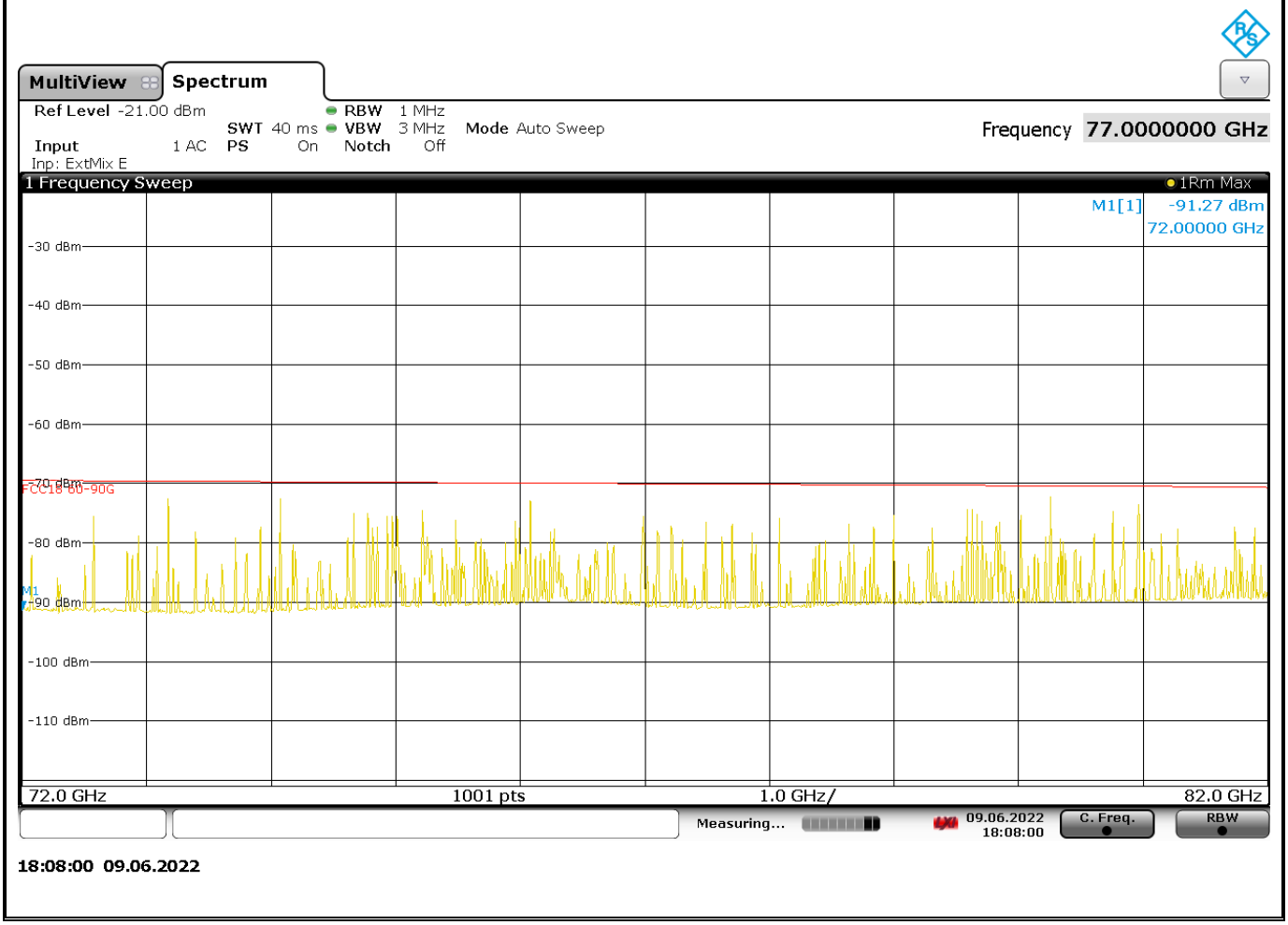
Measurement antenna orientation: Vertical



Note: The Signal ID function of the ESW44 was used to evaluate the spectrum from 60-64GHz. The conclusion is that all observed emissions are products of the external mixer.

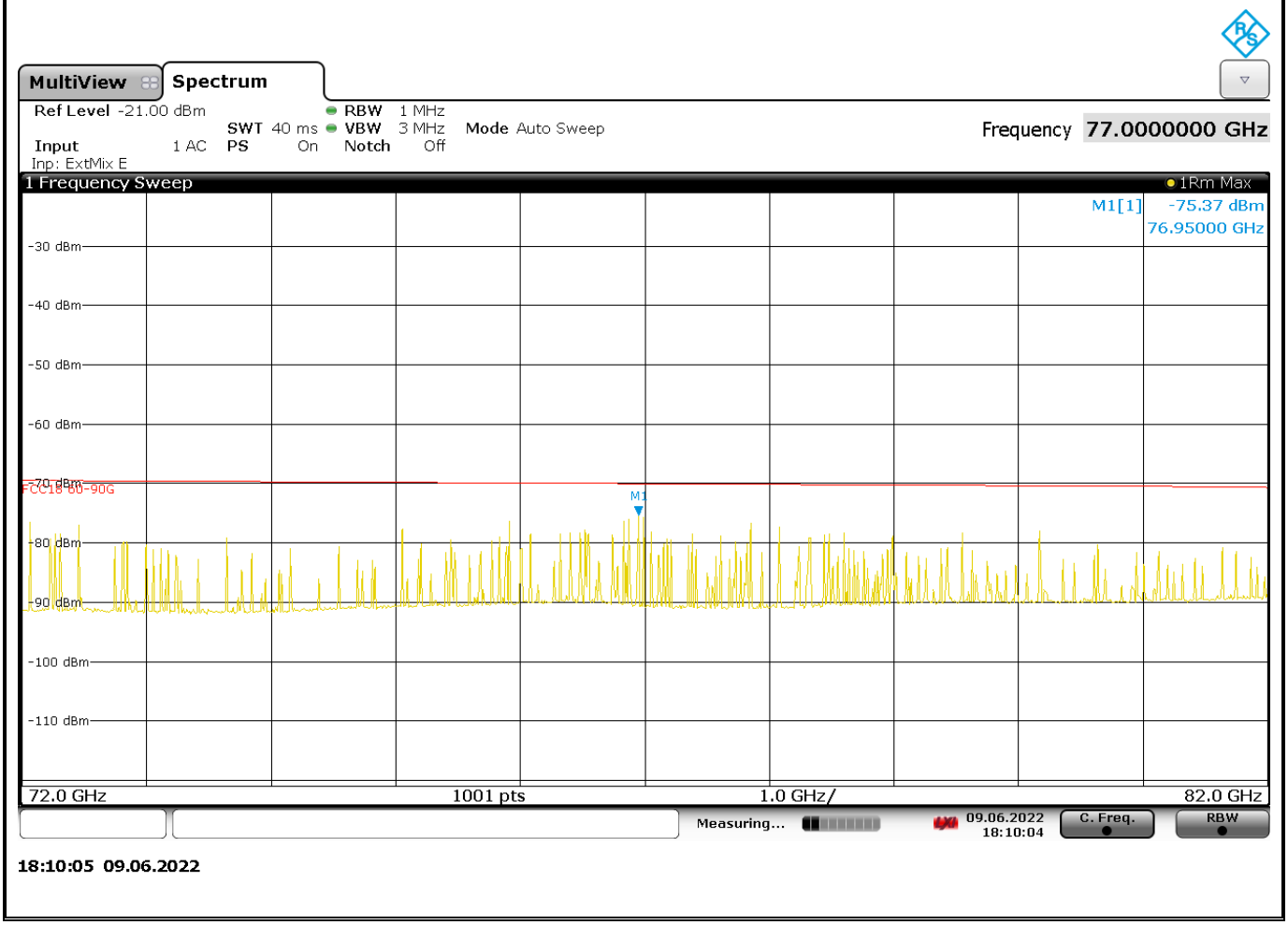
Plot # 12 Unwanted Emissions: 72 - 82 GHz, Fundamentals

Measurement antenna orientation: Horizontal



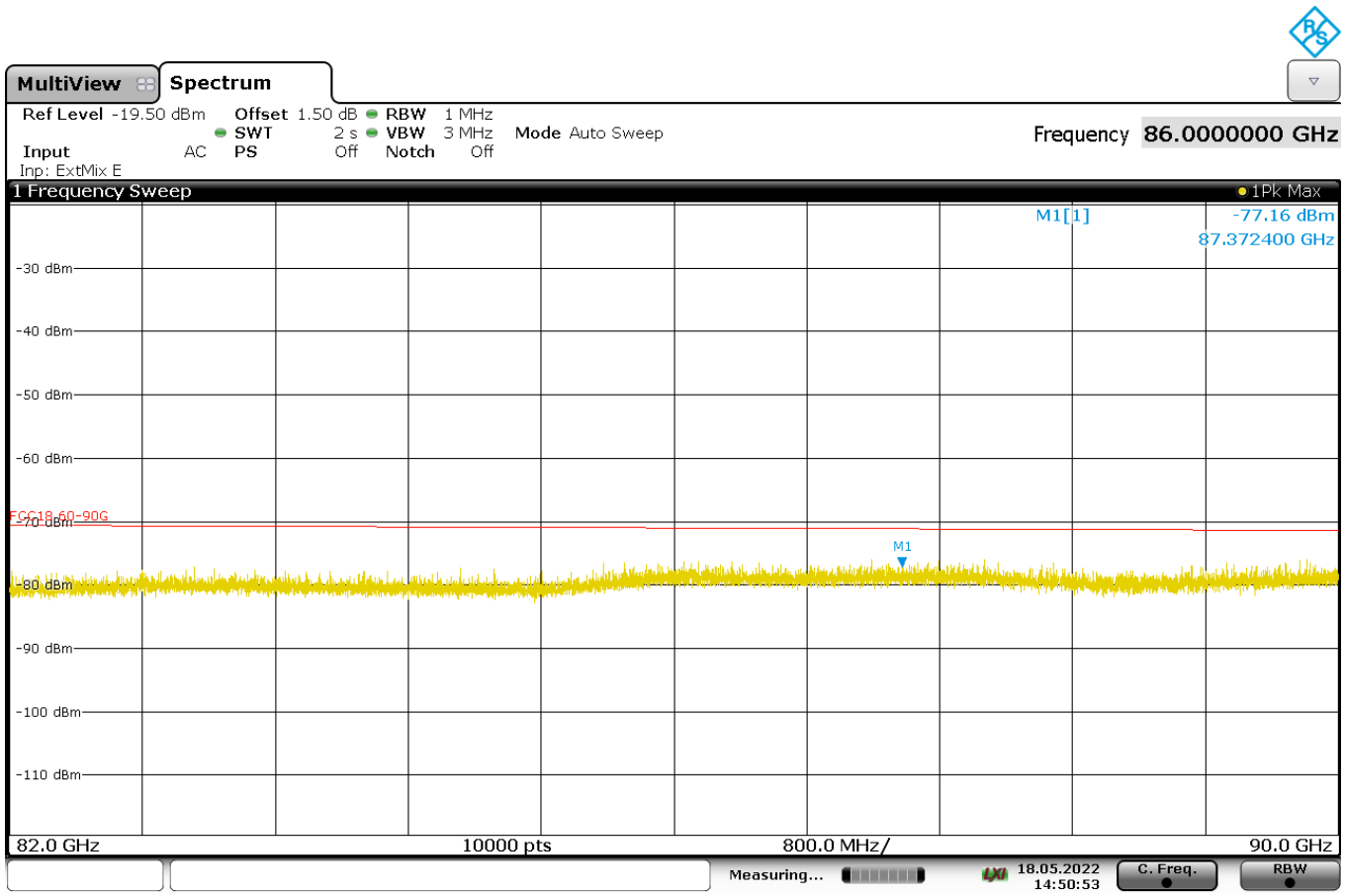
Plot # 13 Unwanted Emissions: 72 - 82 GHz, Fundamentals

Measurement antenna orientation: Vertical



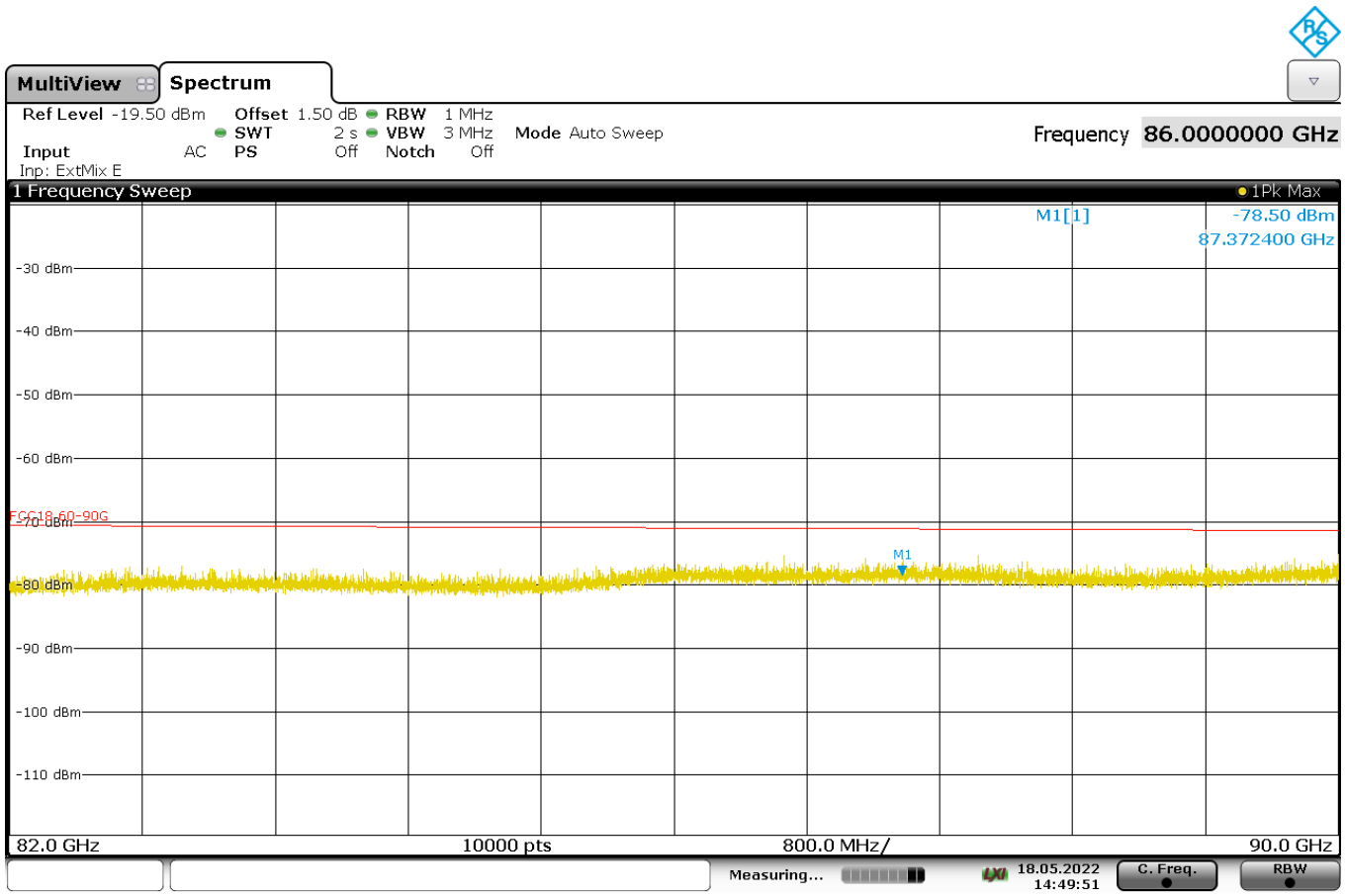
Plot # 14 Unwanted Emissions: 82 - 90 GHz

Measurement antenna orientation: Horizontal



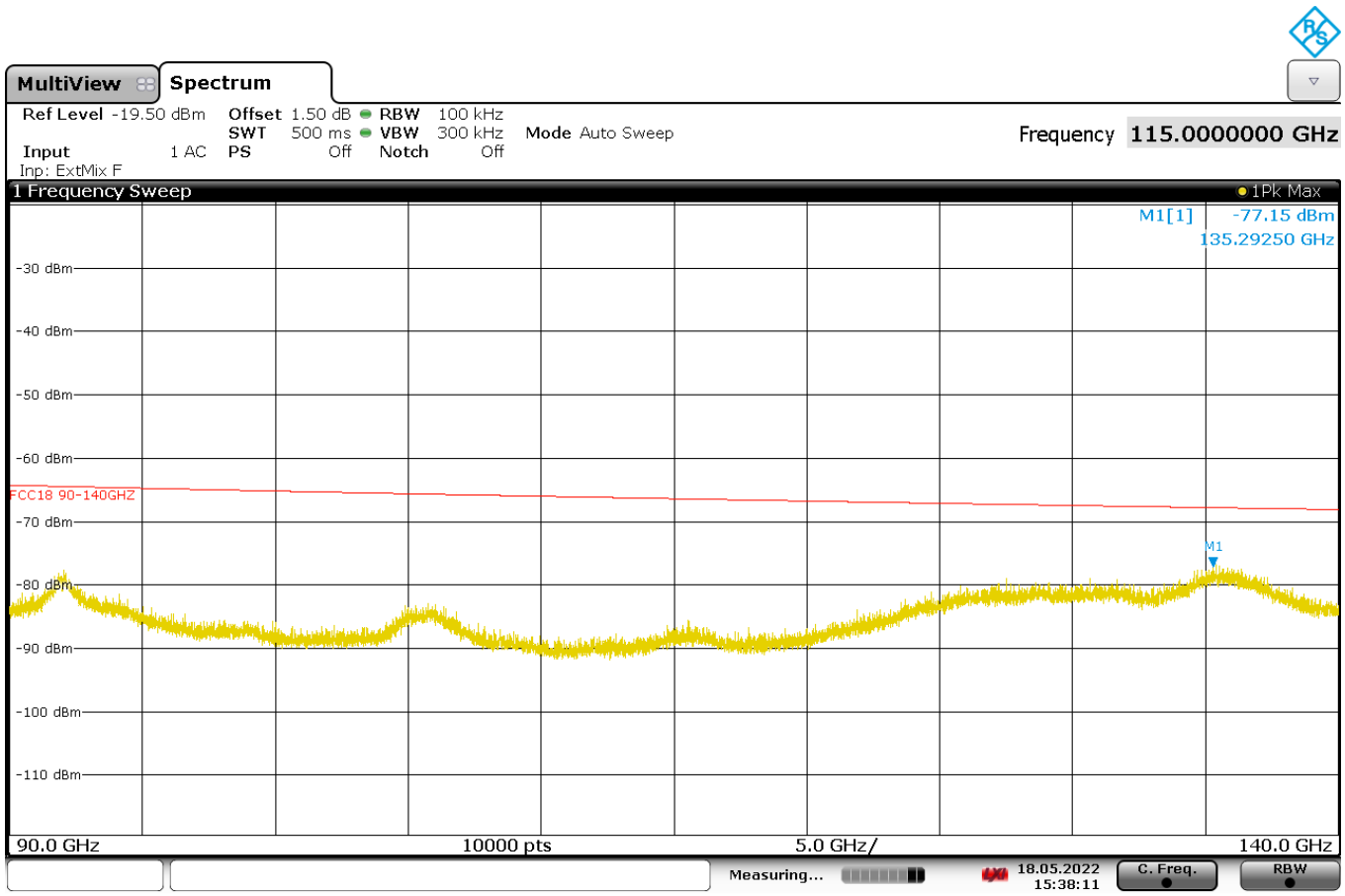
Plot # 15 Unwanted Emissions: 82 - 90 GHz

Measurement antenna orientation: Vertical



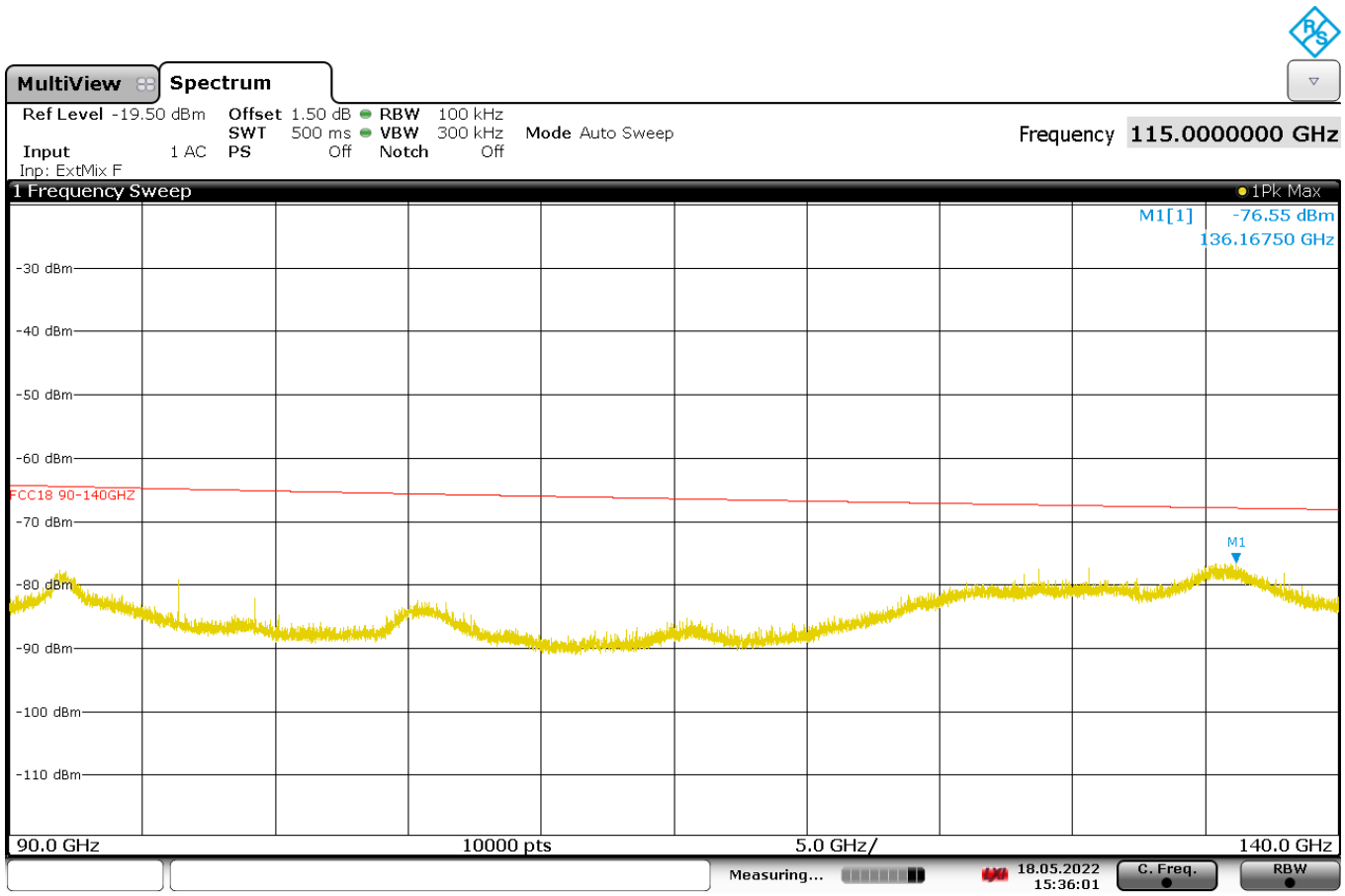
Plot # 16 Unwanted Emissions: 90 - 140 GHz

Measurement antenna orientation: Horizontal



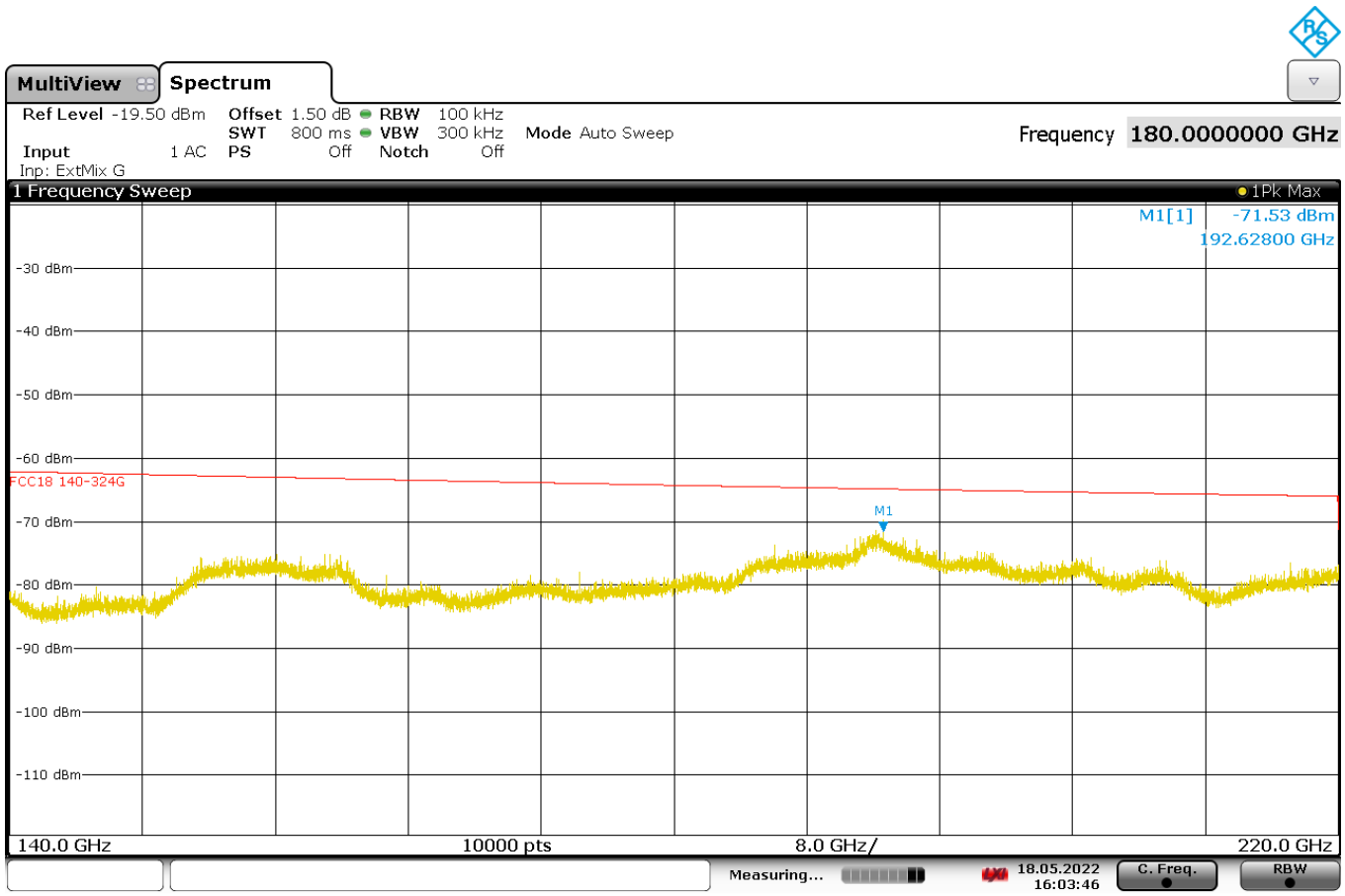
Plot # 17 Unwanted Emissions: 90 - 140 GHz

Measurement antenna orientation: Vertical



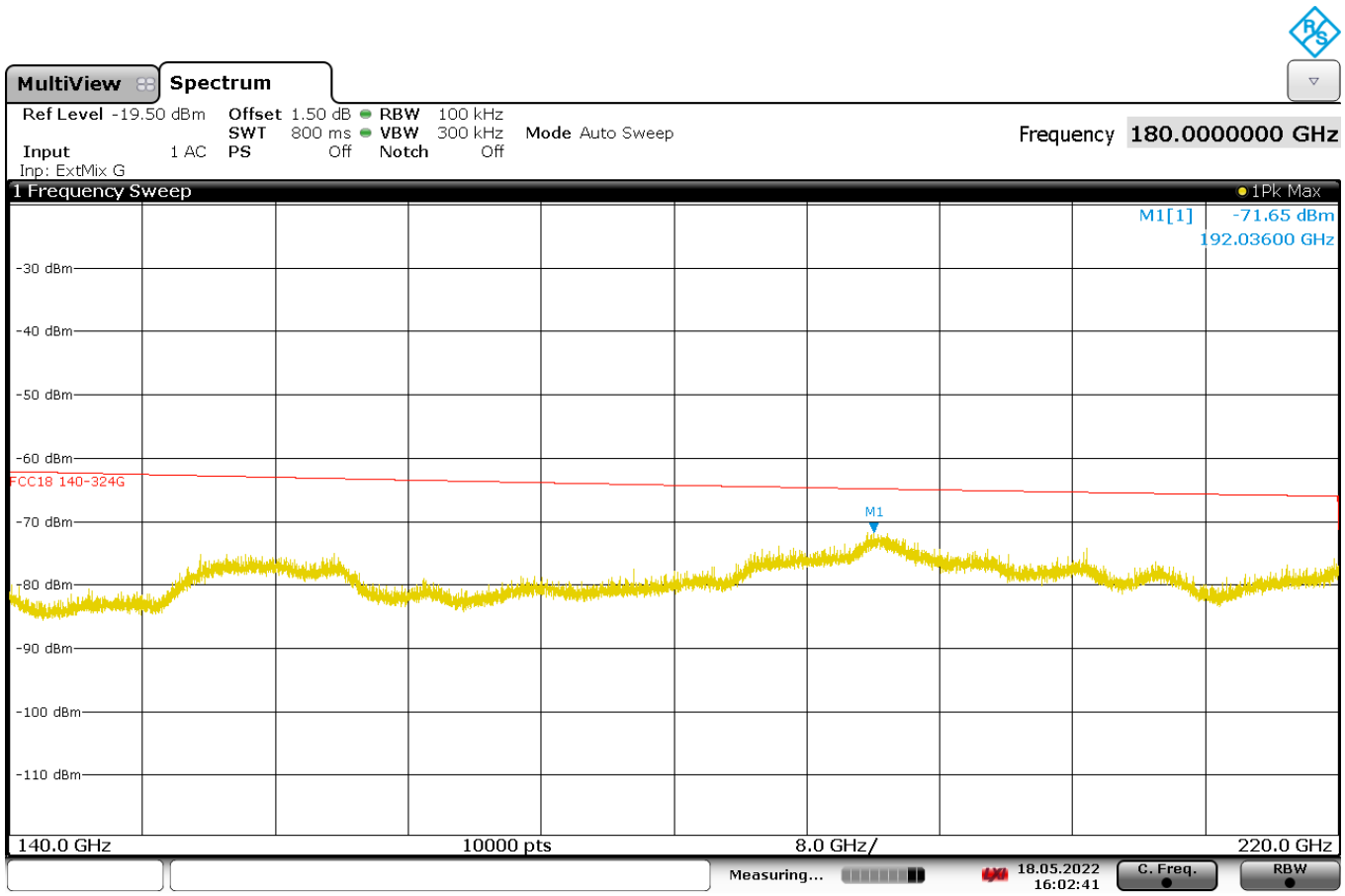
Plot # 18 Unwanted Emissions: 140 - 220 GHz

Measurement antenna orientation: Horizontal



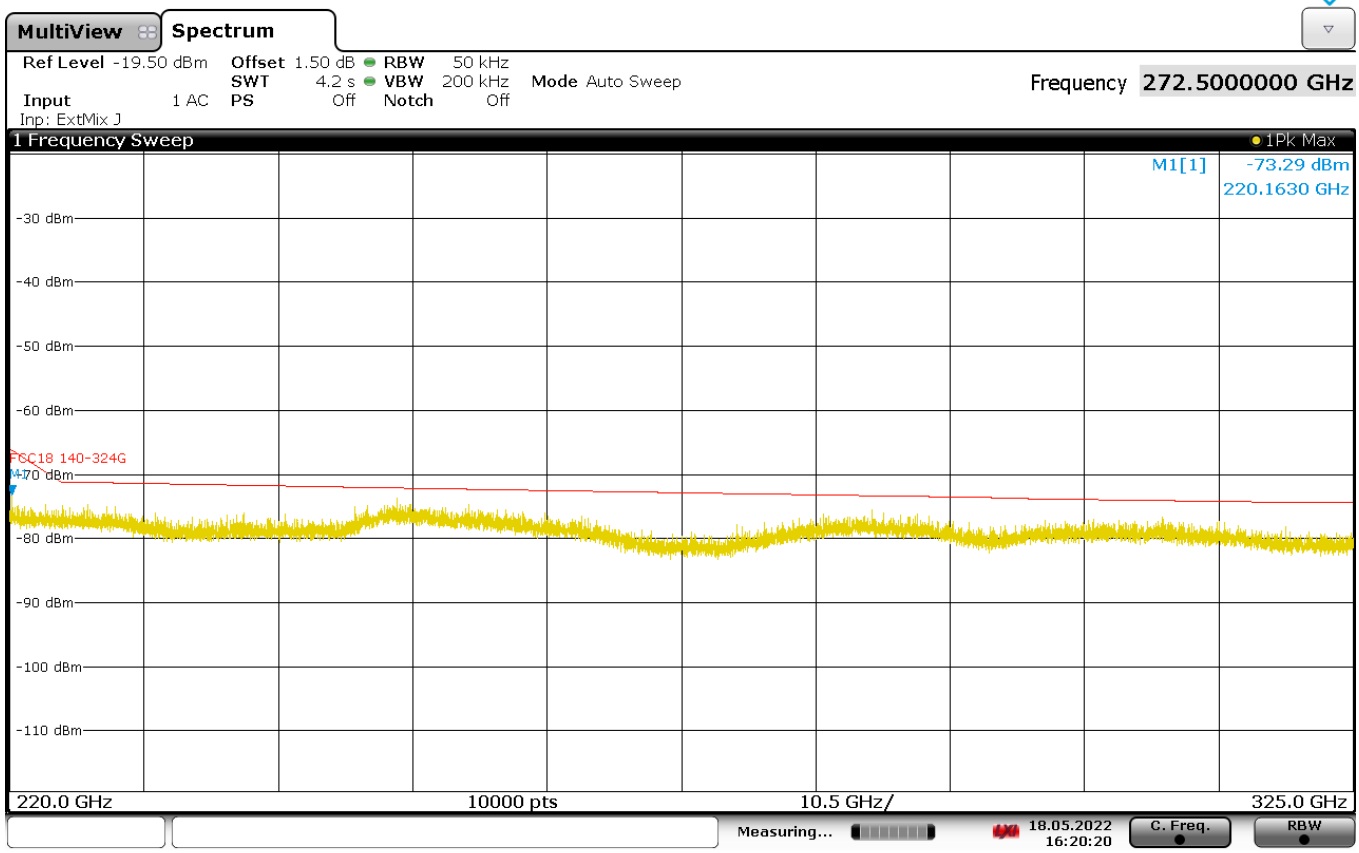
Plot # 19 Unwanted Emissions: 140 - 220 GHz

Measurement antenna orientation: Vertical



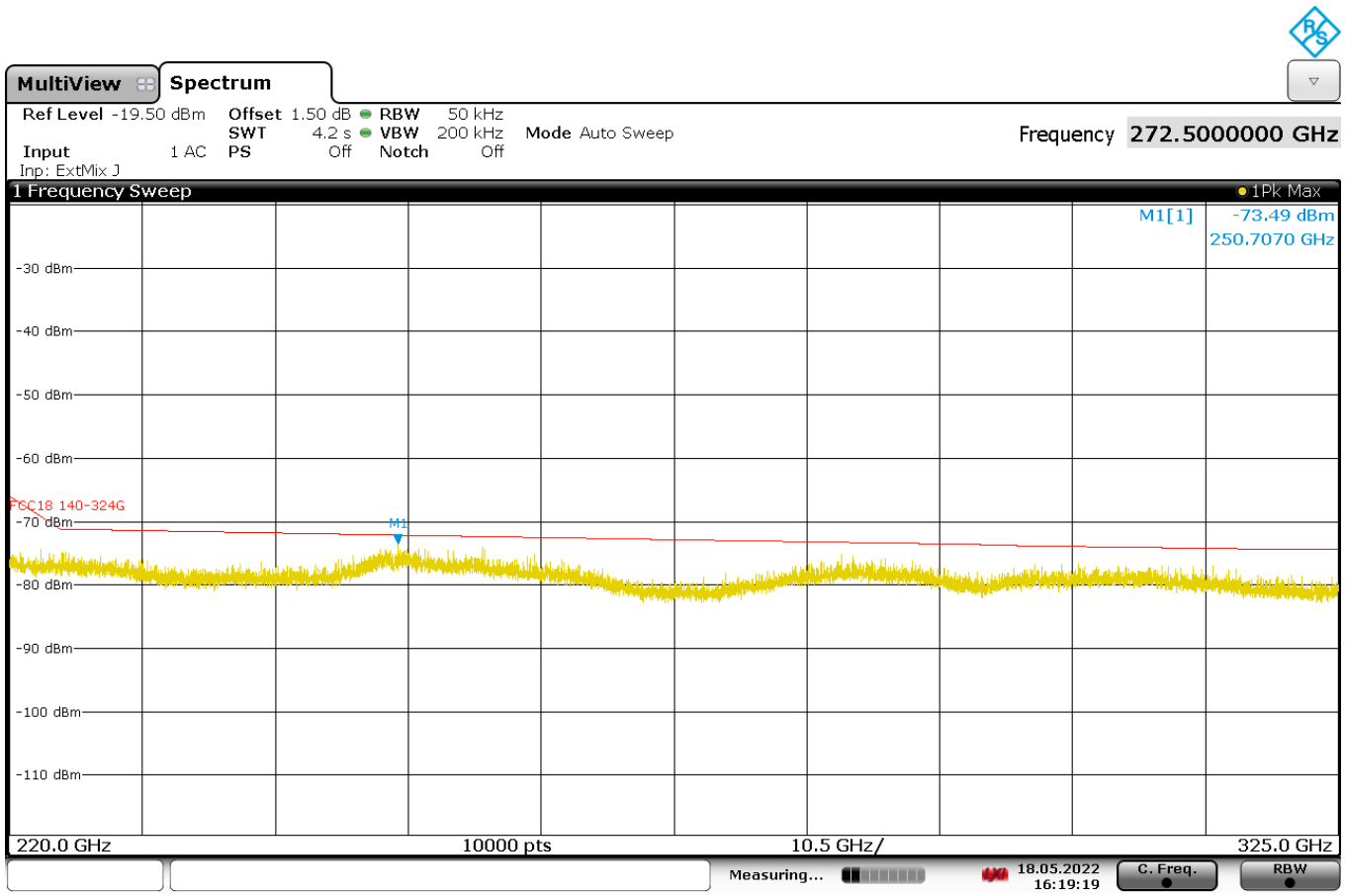
Plot # 20 Unwanted Emissions: 220 - 325 GHz

Measurement antenna orientation: Horizontal



Plot # 21 Unwanted Emissions: 220 - 325 GHz

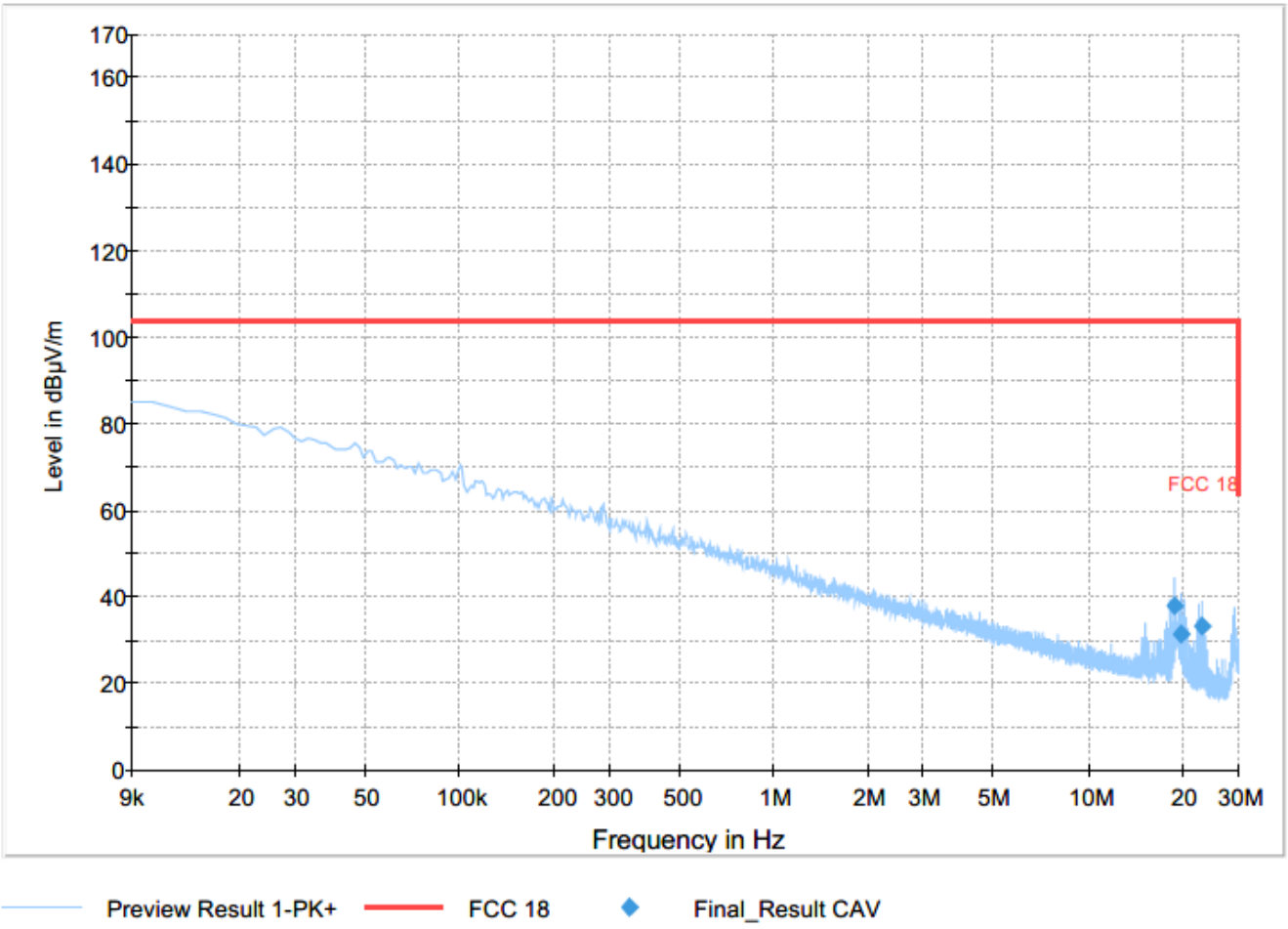
Measurement antenna orientation: Vertical



Plot # 22 Unwanted Emissions: 9 kHz - 30 MHz

Final_Result

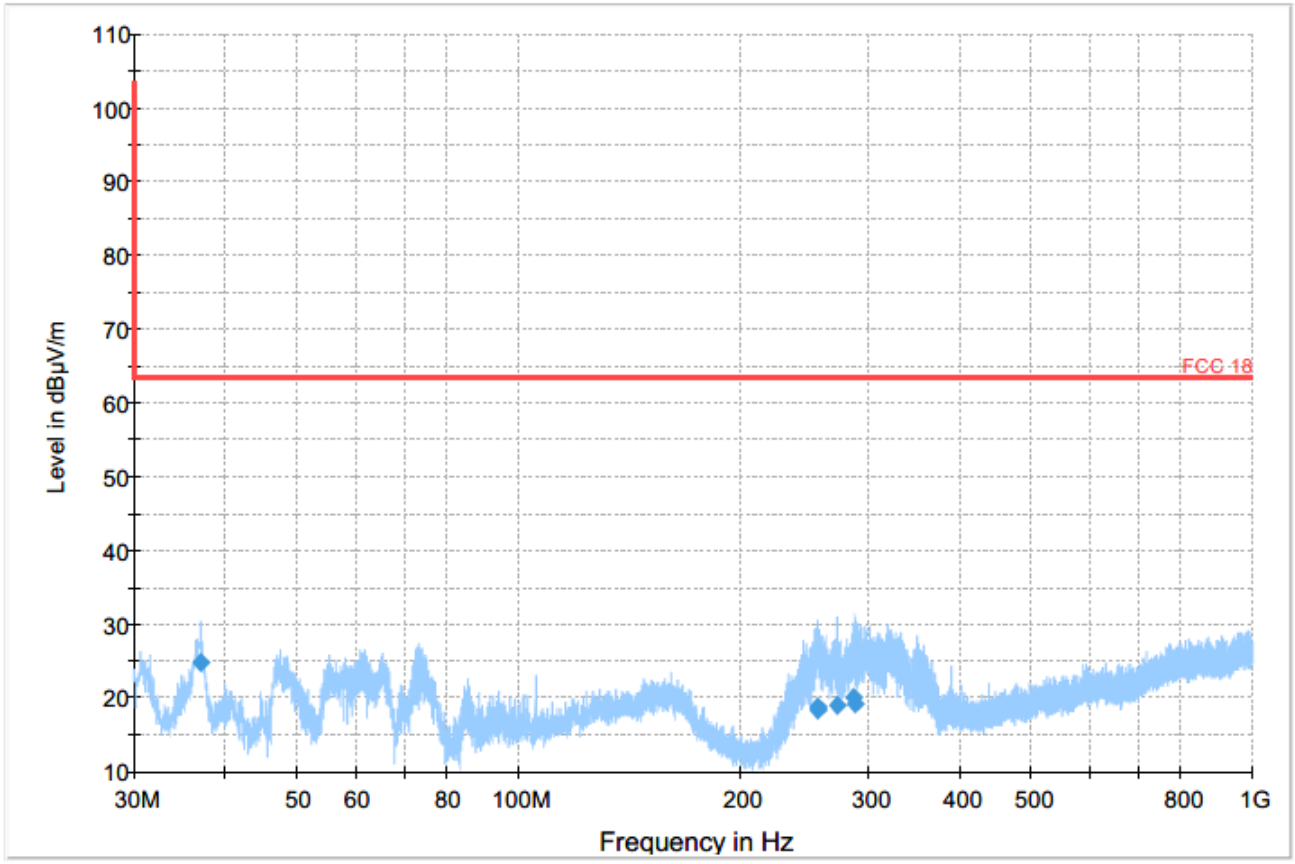
Frequency (MHz)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
18.92	38.05	103.52	65.47	500.0	9.0	100.0	V	237.0	16.5	
19.71	31.28	103.52	72.24	500.0	9.0	100.0	V	236.0	16.5	
23.13	33.22	103.52	70.30	500.0	9.0	100.0	V	43.0	16.2	



Plot # 23 Unwanted Emissions 30 MHz – 1GHz

Final Result

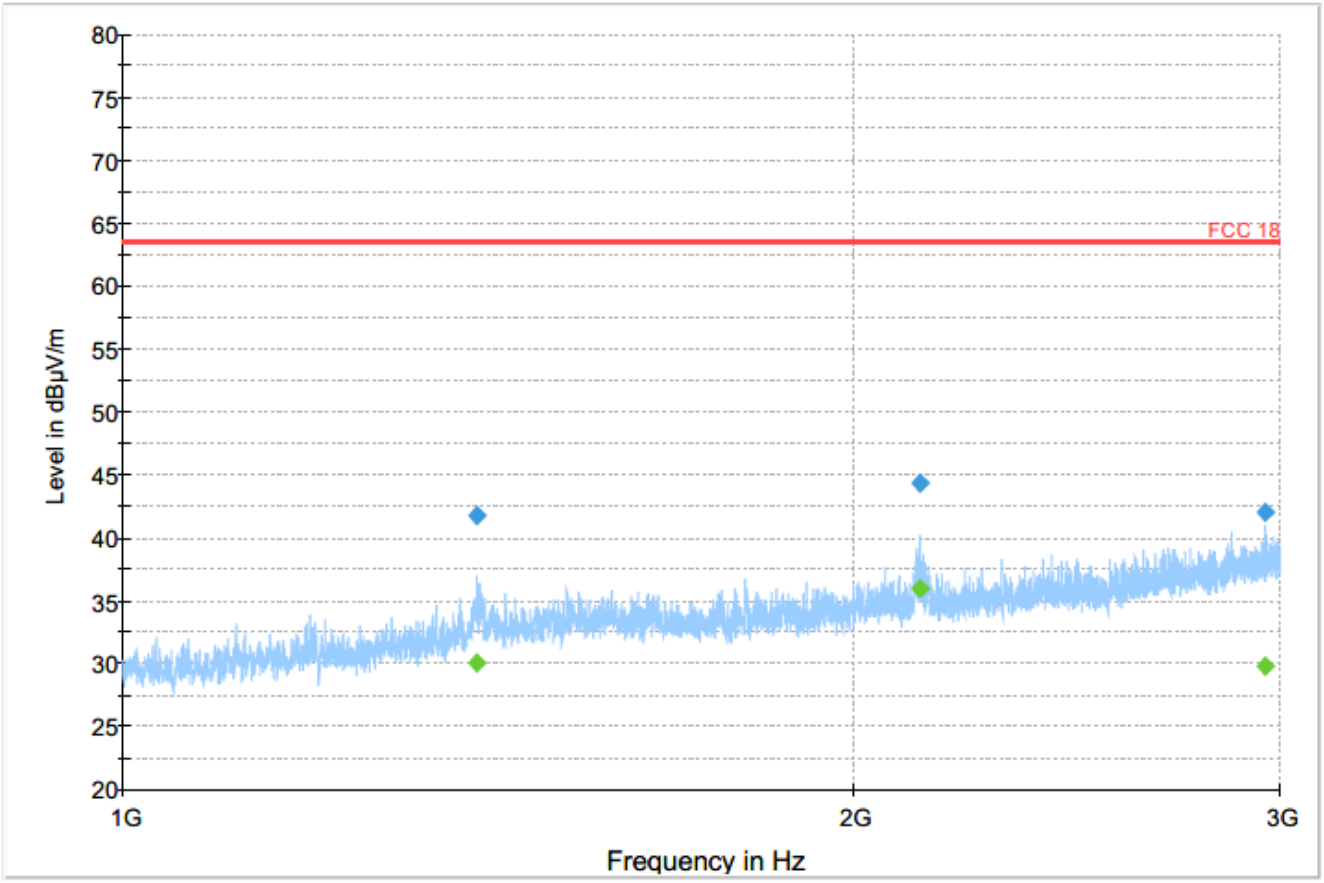
Frequency (MHz)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
36.98	24.91	63.52	38.61	500.0	120.0	100.0	V	344.0	21.0
255.60	18.26	63.52	45.26	500.0	120.0	176.0	V	101.0	21.5
255.82	18.87	63.52	44.65	500.0	120.0	117.0	V	106.0	21.5
272.43	19.10	63.52	44.42	500.0	120.0	134.0	V	122.0	21.2
287.03	20.18	63.52	43.34	500.0	120.0	107.0	V	121.0	21.0
288.53	19.27	63.52	44.25	500.0	120.0	195.0	V	137.0	21.0



Plot # 24 Unwanted Emissions: 1-3 GHz

Final Result

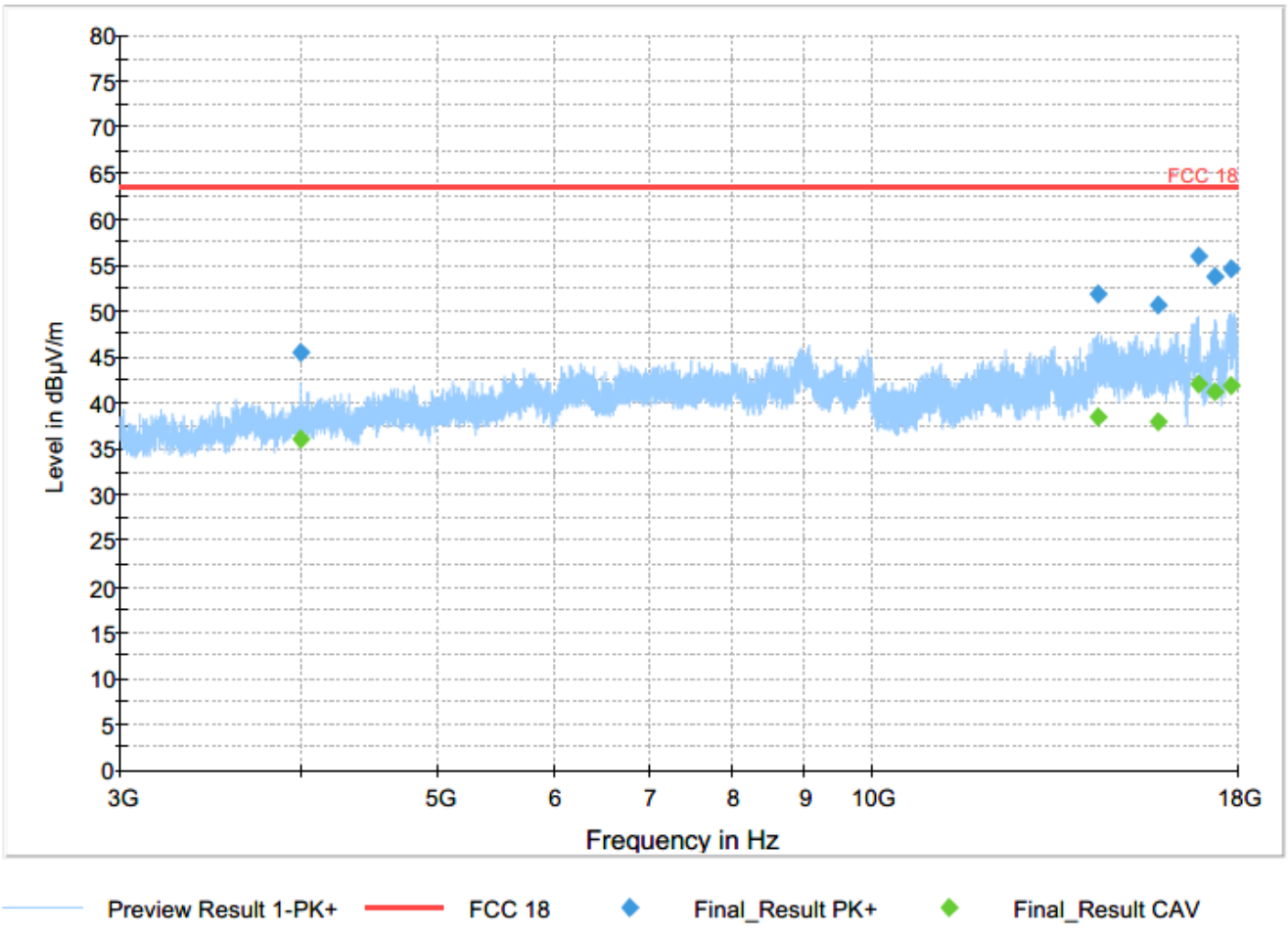
Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1398.25	41.80	---	63.52	21.72	500.0	1000.0	250.0	V	-3.0	-3.3
1398.25	---	30.05	63.52	33.47	500.0	1000.0	250.0	V	-3.0	-3.3
2131.00	---	35.92	63.52	27.60	500.0	1000.0	140.0	V	-25.0	-1.2
2131.00	44.31	---	63.52	19.21	500.0	1000.0	140.0	V	-25.0	-1.2
2958.50	42.01	---	63.52	21.51	500.0	1000.0	145.0	H	40.0	2.3
2958.50	---	29.78	63.52	33.74	500.0	1000.0	145.0	H	40.0	2.3



Plot # 25 Unwanted Emissions: 3 - 18 GHz

Final Result

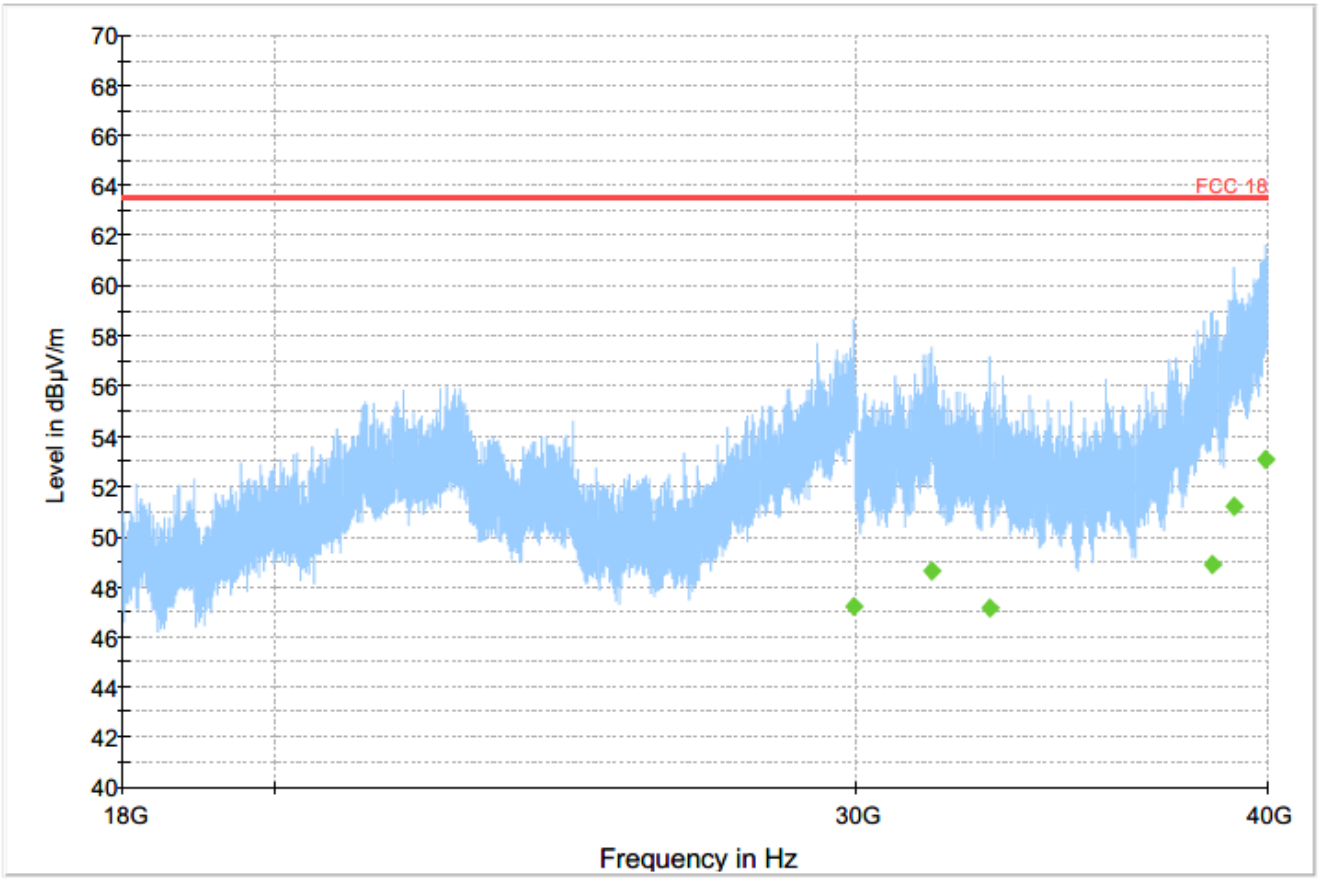
Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3999.75	---	36.04	63.52	27.48	500.0	1000.0	176.0	H	55.0	-31.9
3999.75	45.52	---	63.52	18.00	500.0	1000.0	176.0	H	55.0	-31.9
14376.44	51.88	---	63.52	11.64	500.0	1000.0	235.0	V	198.0	-16.5
14376.44	---	38.53	63.52	24.99	500.0	1000.0	235.0	V	198.0	-16.5
15840.87	---	37.92	63.52	25.60	500.0	1000.0	249.0	H	209.0	-14.0
15840.87	50.66	---	63.52	12.86	500.0	1000.0	249.0	H	209.0	-14.0
16891.35	---	42.07	63.52	21.45	500.0	1000.0	210.0	H	167.0	-11.9
16891.35	55.92	---	63.52	7.60	500.0	1000.0	210.0	H	167.0	-11.9
17365.96	---	41.26	63.52	22.26	500.0	1000.0	186.0	V	42.0	-10.1
17365.96	53.71	---	63.52	9.81	500.0	1000.0	186.0	V	42.0	-10.1
17792.15	54.57	---	63.52	8.95	500.0	1000.0	127.0	H	237.0	-7.7
17792.15	---	41.85	63.52	21.67	500.0	1000.0	127.0	H	237.0	-7.7



Plot # 26 Unwanted Emissions: 18-40 GHz

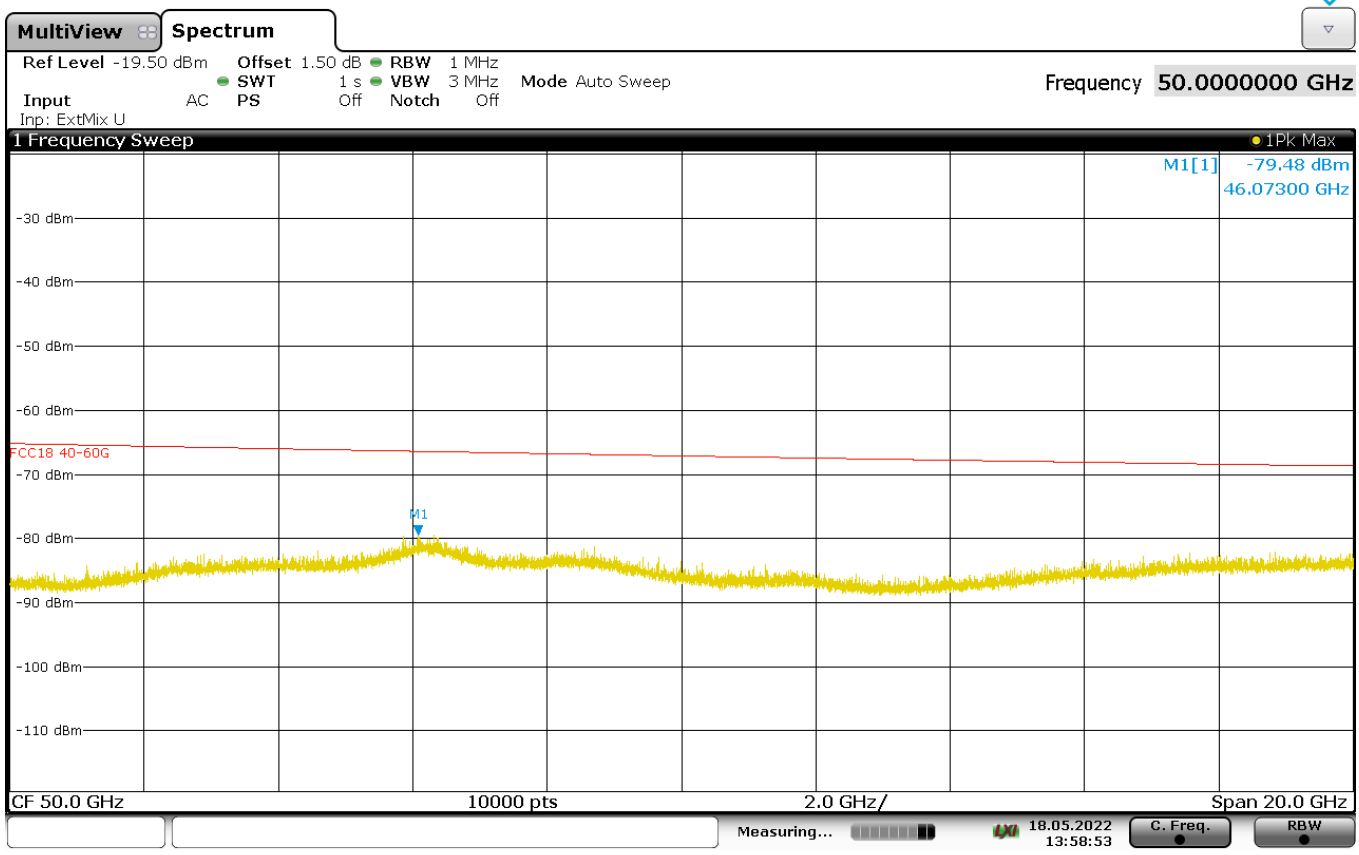
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
29959.13	---	47.19	63.52	16.33	500.0	1000.0	100.0	V	-73.0	22.9
31654.38	---	48.63	63.52	14.89	500.0	1000.0	150.0	H	95.0	23.2
32959.06	---	47.13	63.52	16.39	500.0	1000.0	100.0	V	52.0	22.0
38480.31	---	48.85	63.52	14.67	500.0	1000.0	129.0	H	259.0	23.1
39072.50	---	51.21	63.52	12.31	500.0	1000.0	122.0	V	172.0	23.8
39975.00	---	53.09	63.52	10.43	500.0	1000.0	114.0	H	208.0	24.9



Plot # 27 Unwanted Emissions: 40 - 60 GHz

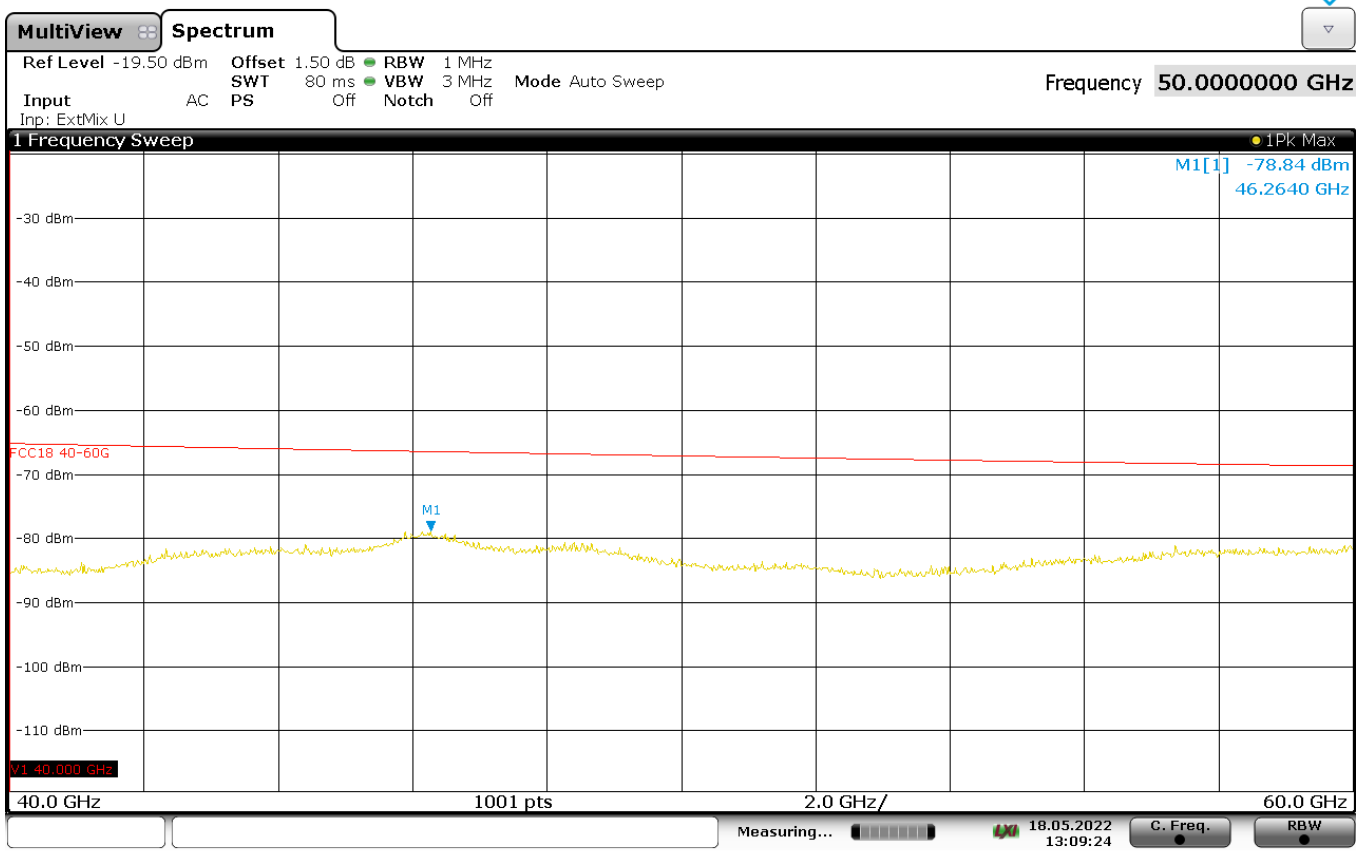
Measurement antenna orientation: Horizontal



13:58:54 18.05.2022

Plot # 28 Unwanted Emissions: 40 - 60 GHz

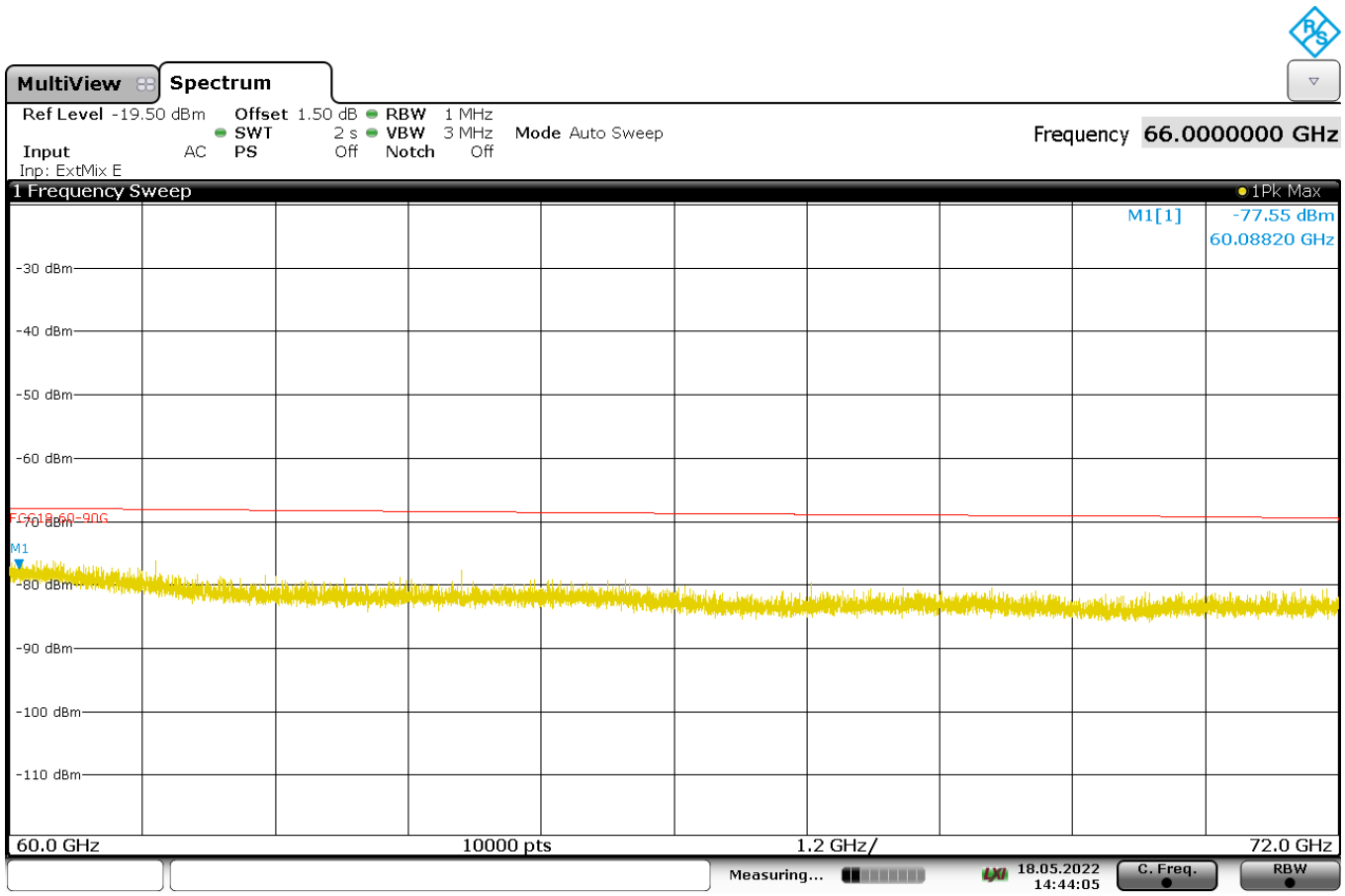
Measurement antenna orientation: Vertical



13:09:25 18.05.2022

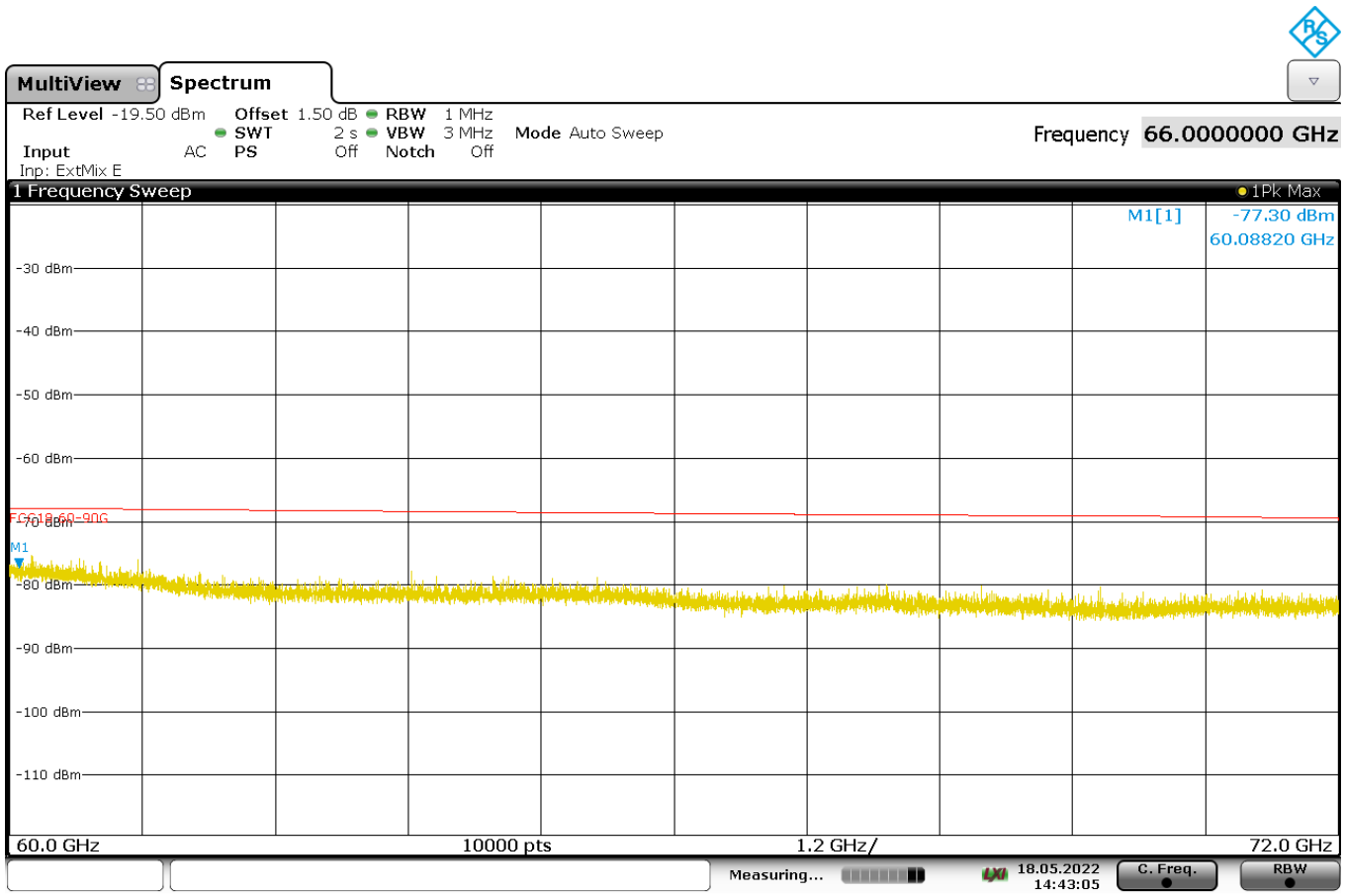
Plot # 29 Unwanted Emissions: 60 - 72 GHz

Measurement antenna orientation: Horizontal



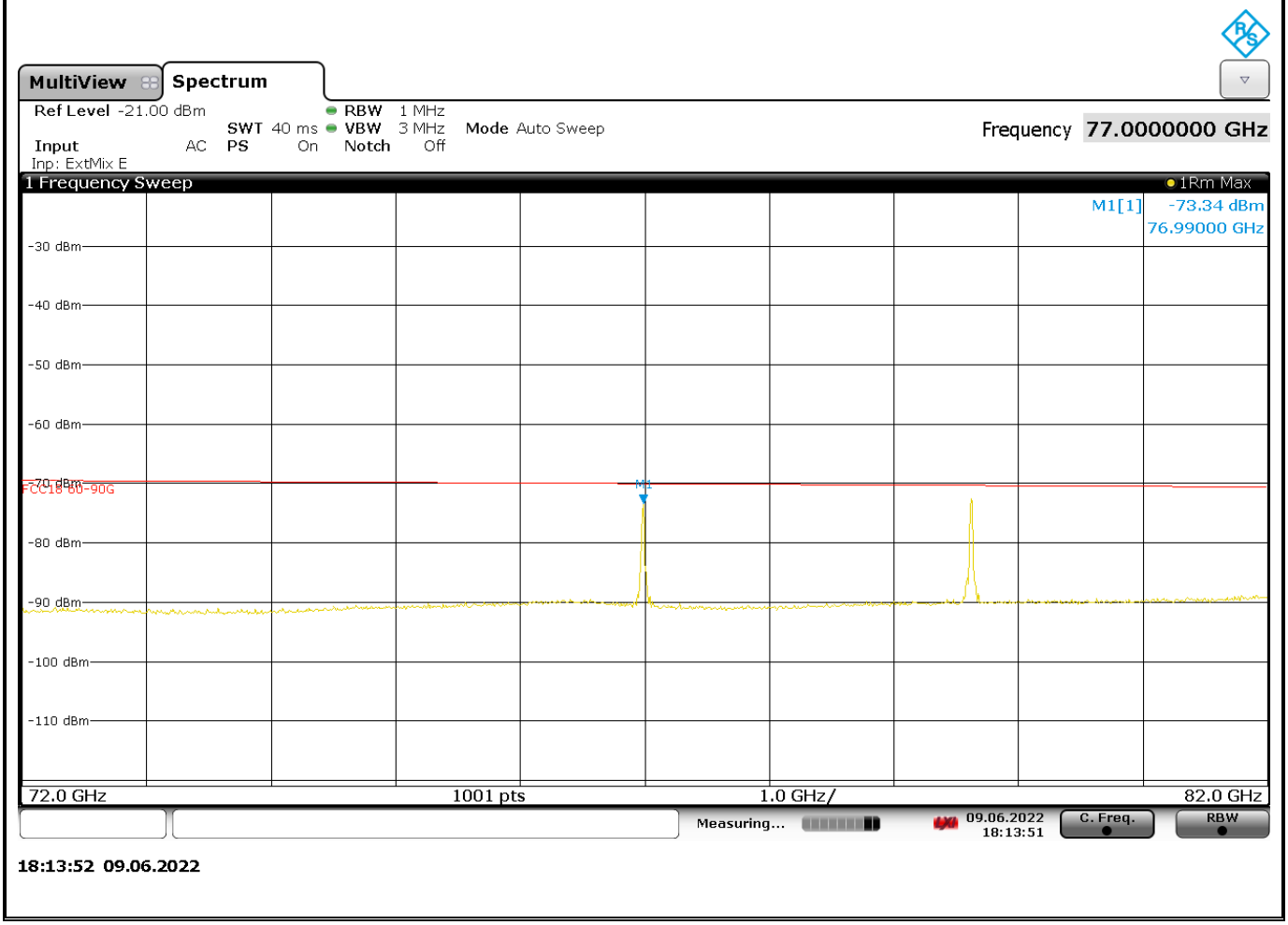
Plot # 30 Unwanted Emissions: 60 - 72 GHz

Measurement antenna orientation: Vertical



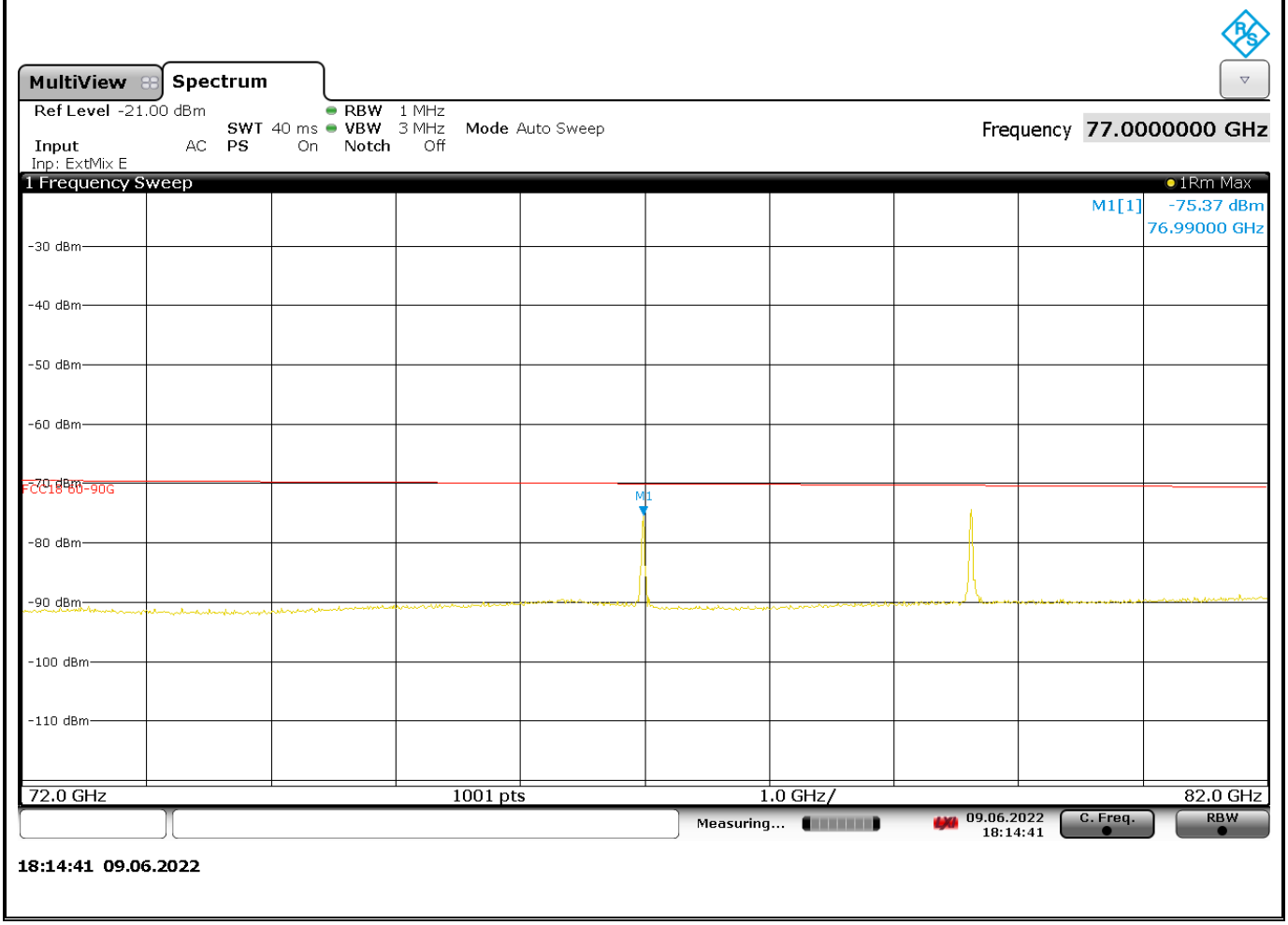
Plot # 31 Unwanted Emissions: 72 - 82 GHz, Fundamentals

Measurement antenna orientation: Horizontal



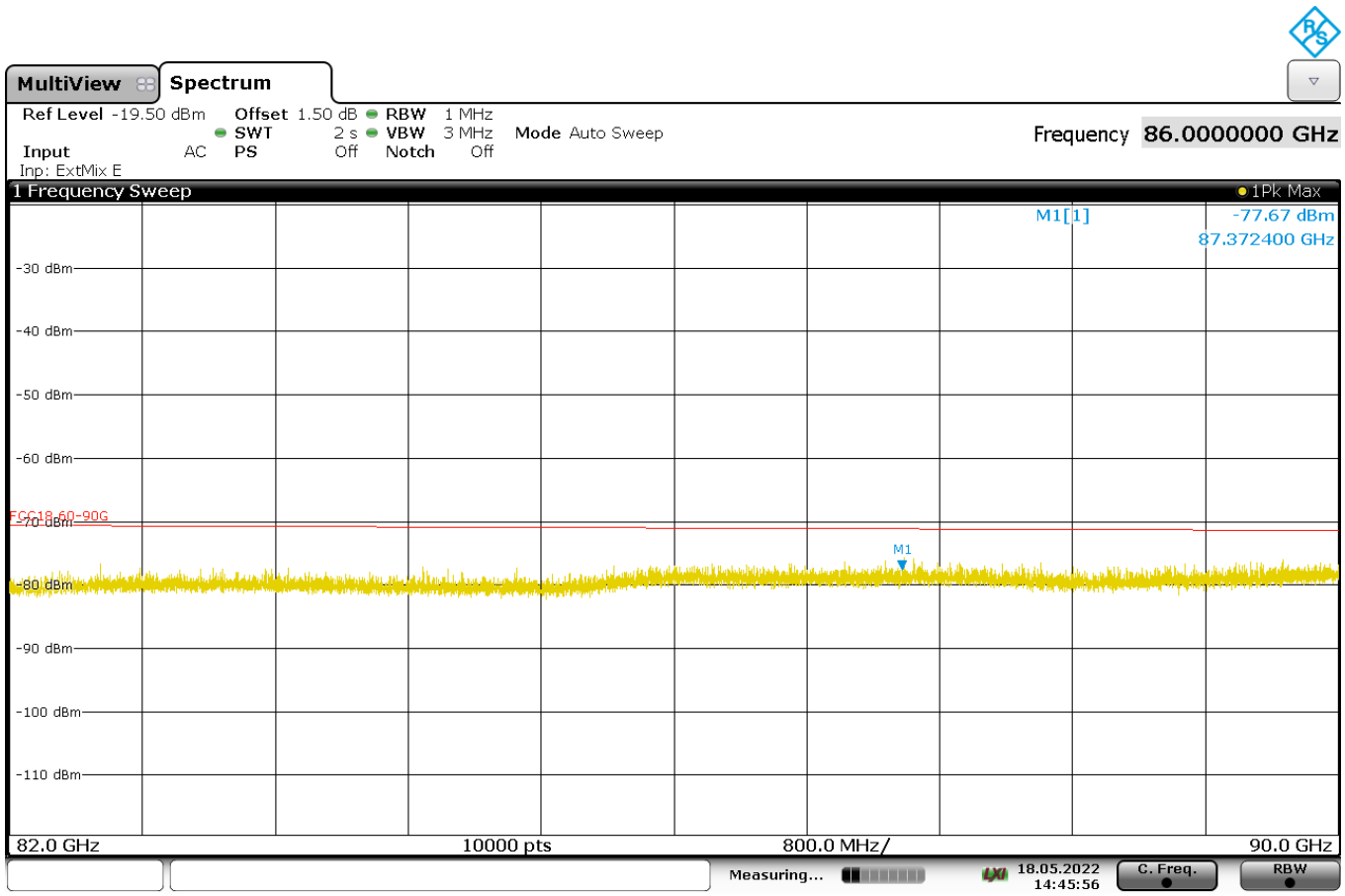
Plot # 32 Unwanted Emissions: 72 - 82 GHz, Fundamentals

Measurement antenna orientation: Vertical



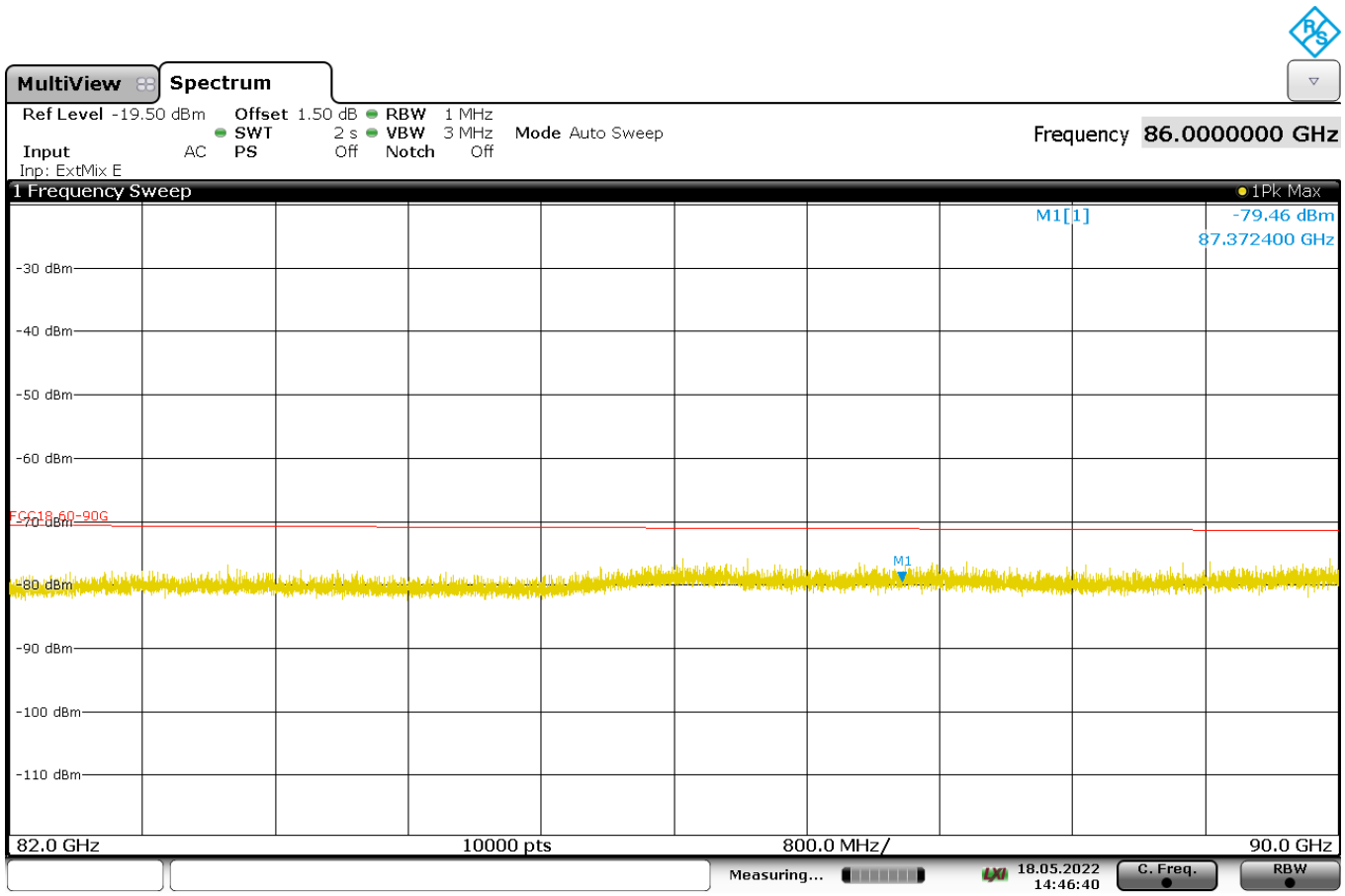
Plot # 33 Unwanted Emissions: 82 - 90 GHz

Measurement antenna orientation: Horizontal



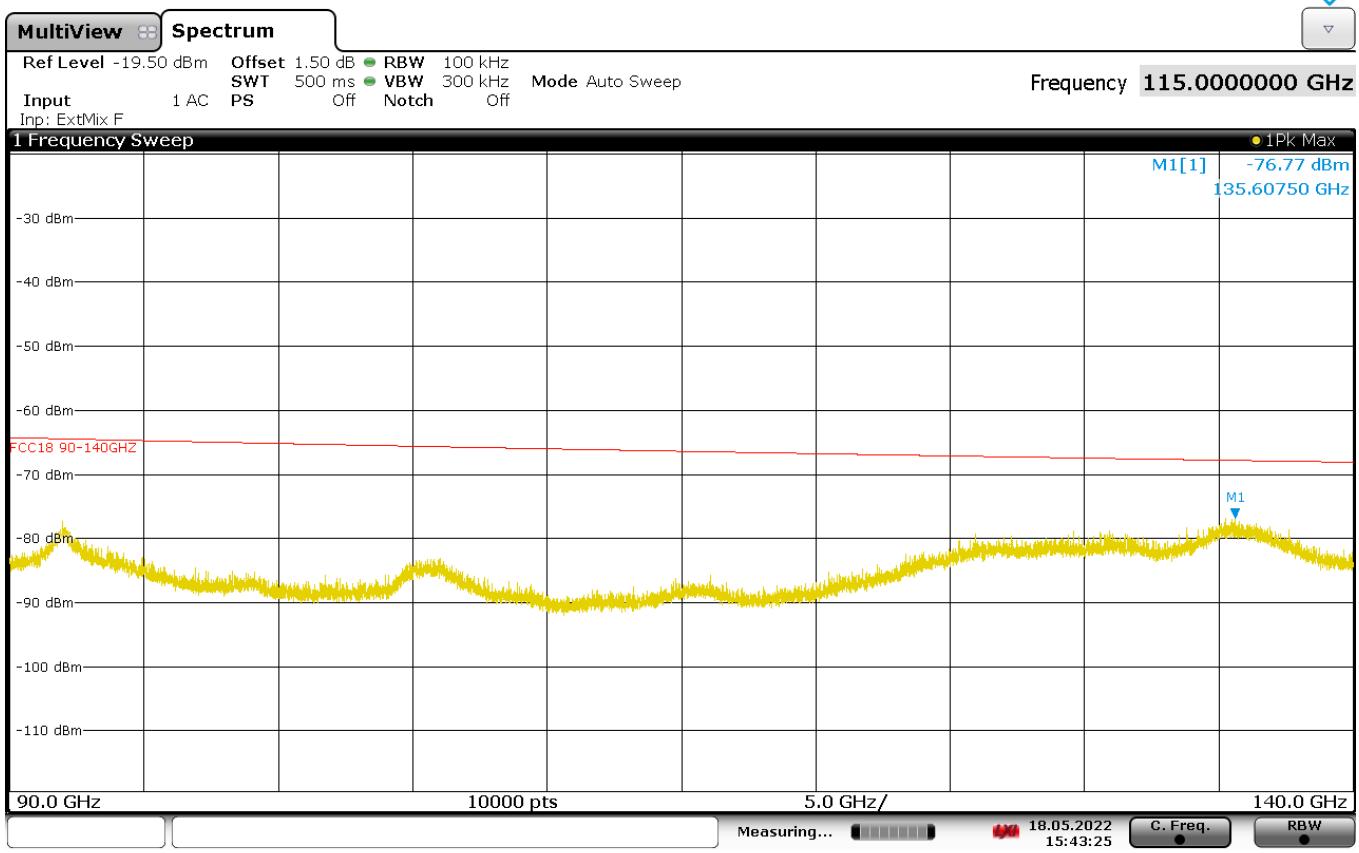
Plot # 34 Unwanted Emissions: 82 - 90 GHz

Measurement antenna orientation: Vertical



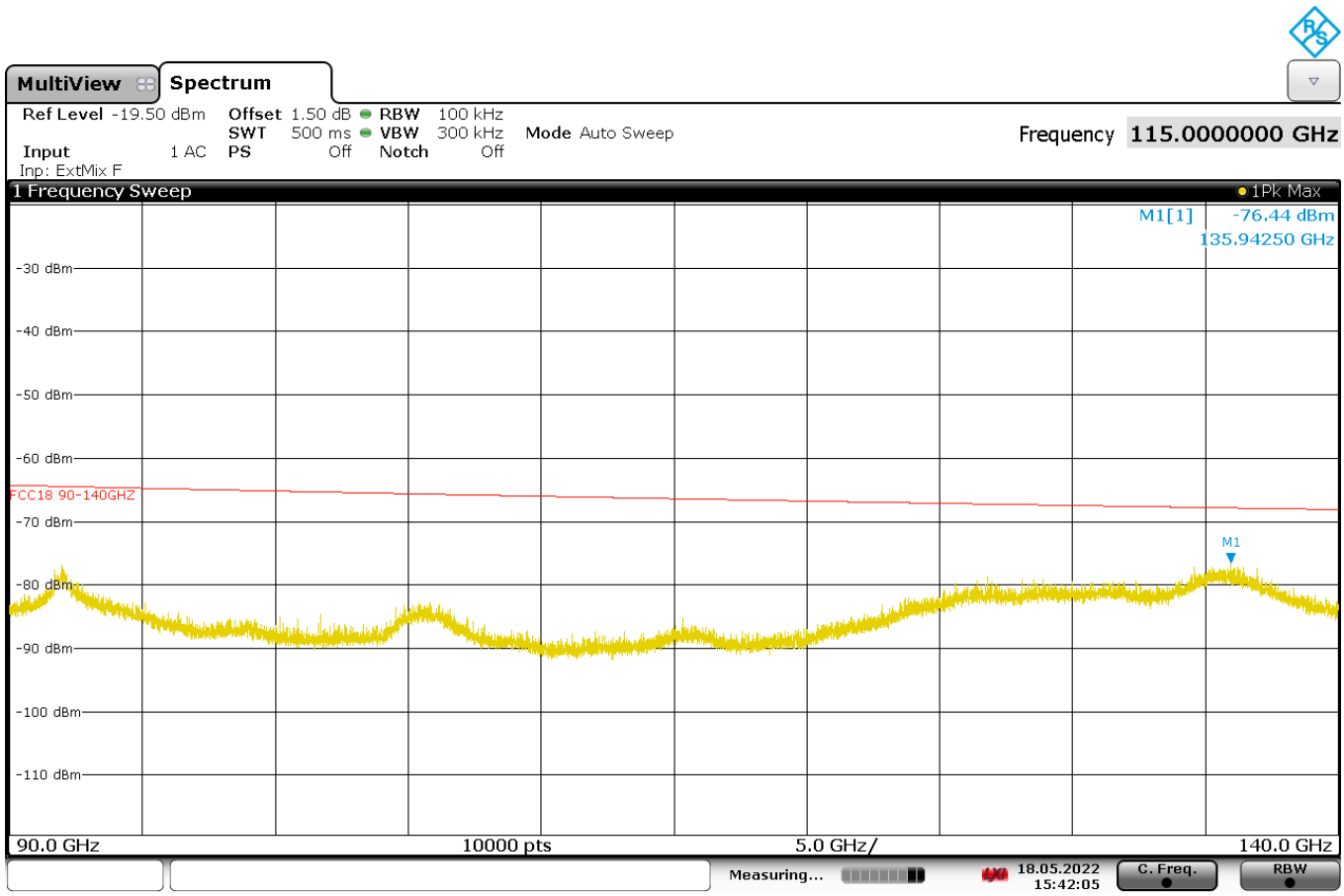
Plot # 35 Unwanted Emissions: 90 - 140 GHz

Measurement antenna orientation: Horizontal



Plot # 36 Unwanted Emissions: 90 - 140 GHz

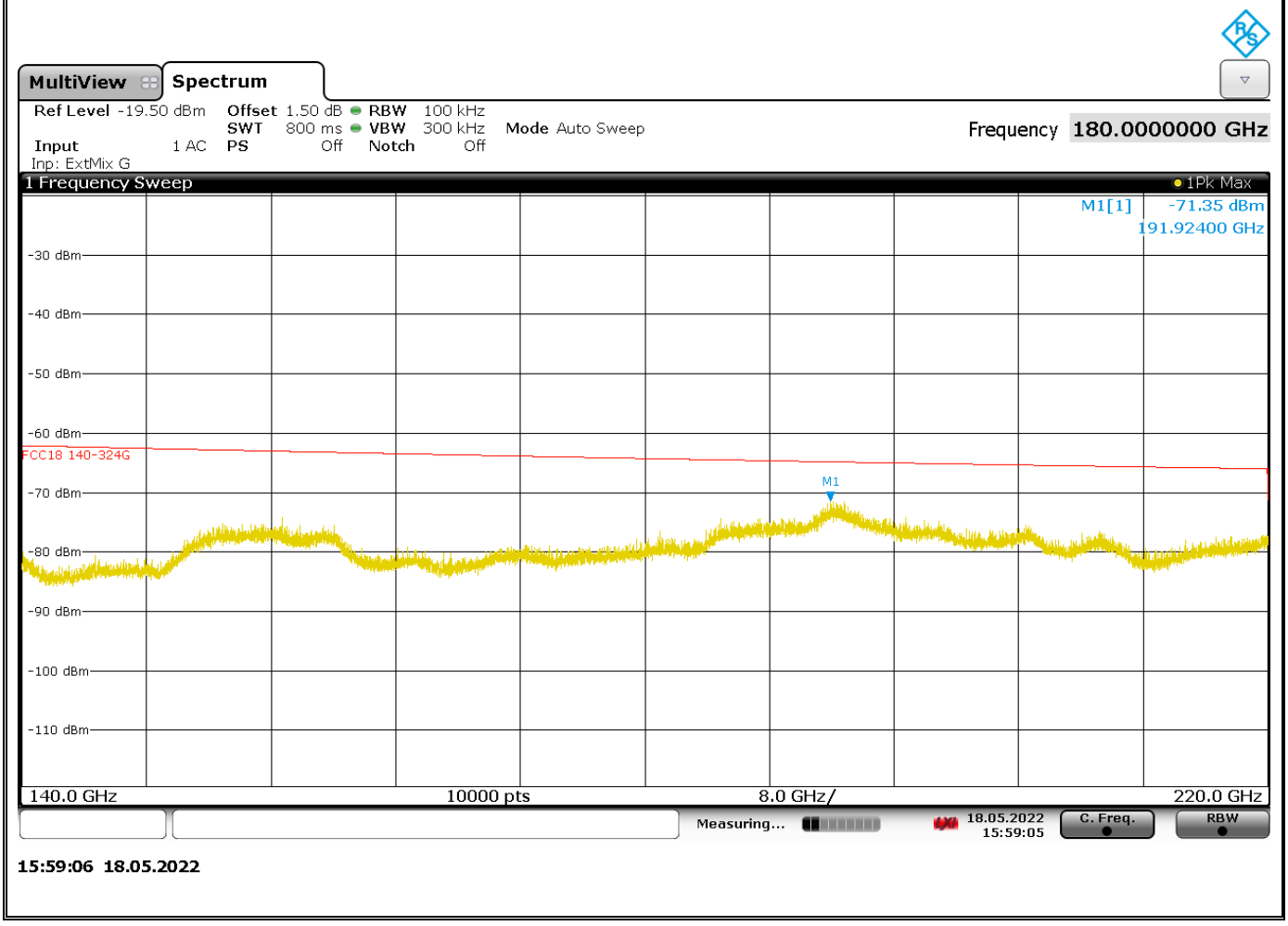
Measurement antenna orientation: Vertical



15:42:05 18.05.2022

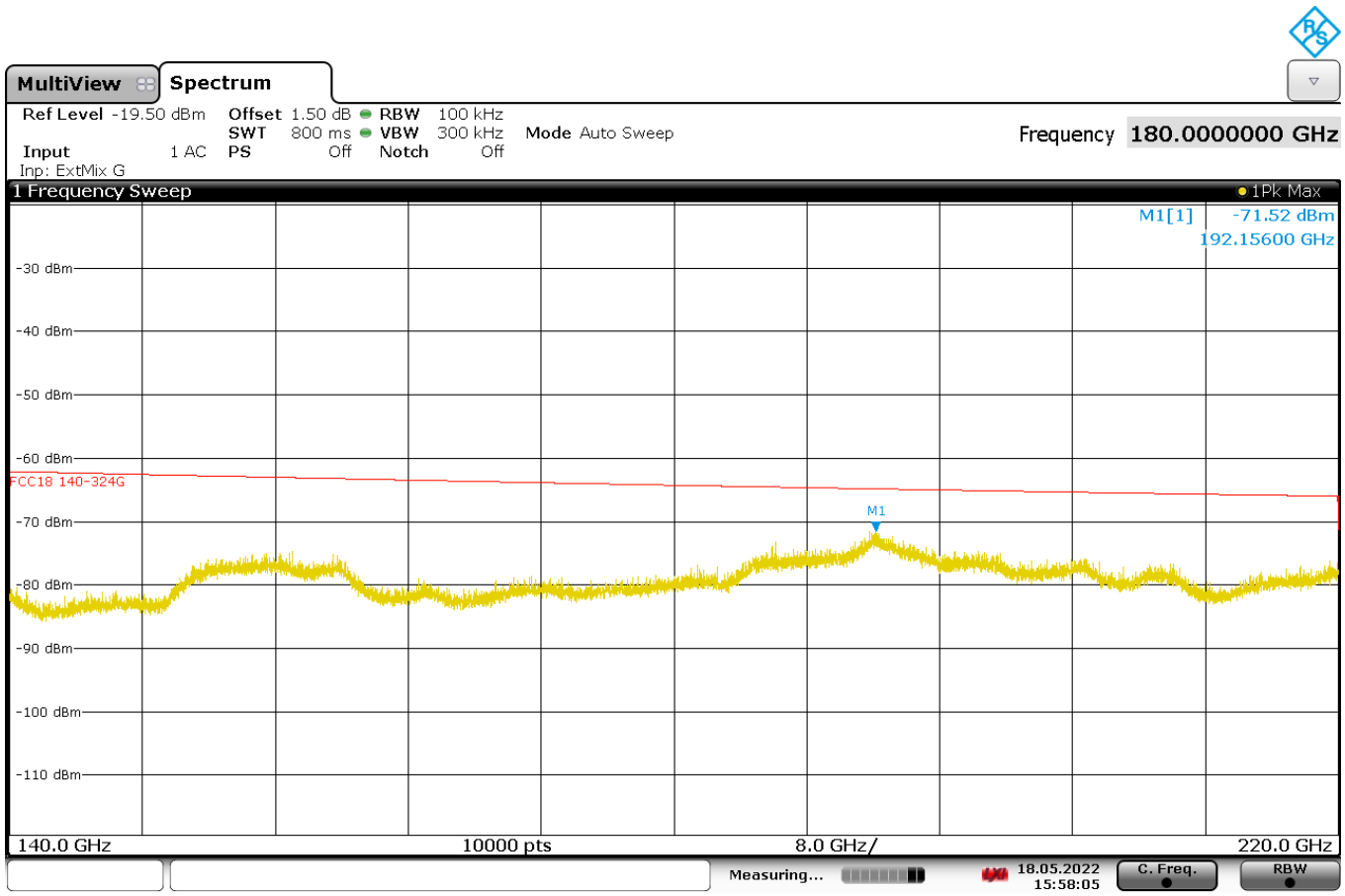
Plot # 37 Unwanted Emissions: 140 - 220 GHz

Measurement antenna orientation: Horizontal



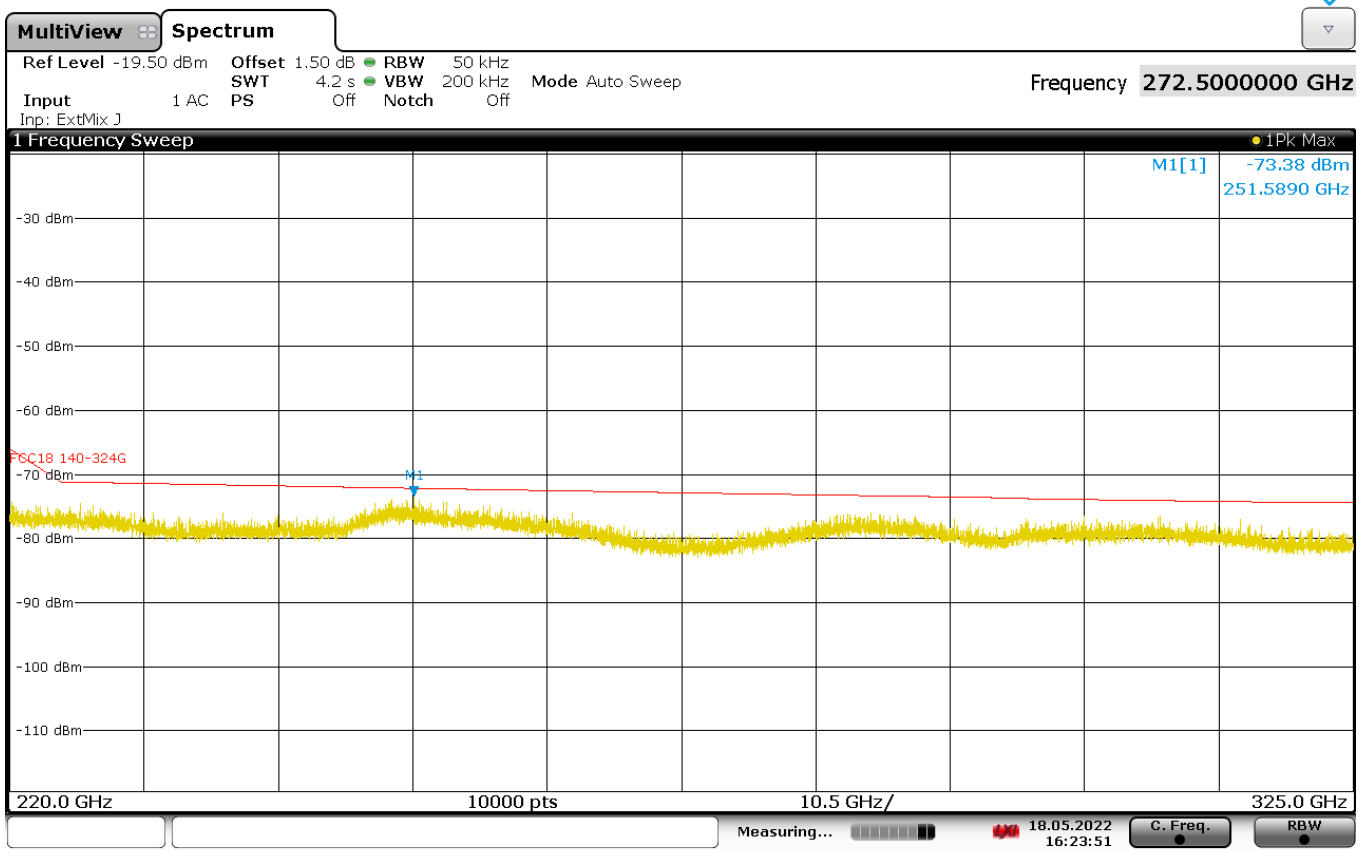
Plot # 38 Unwanted Emissions: 140 - 220 GHz

Measurement antenna orientation: Vertical



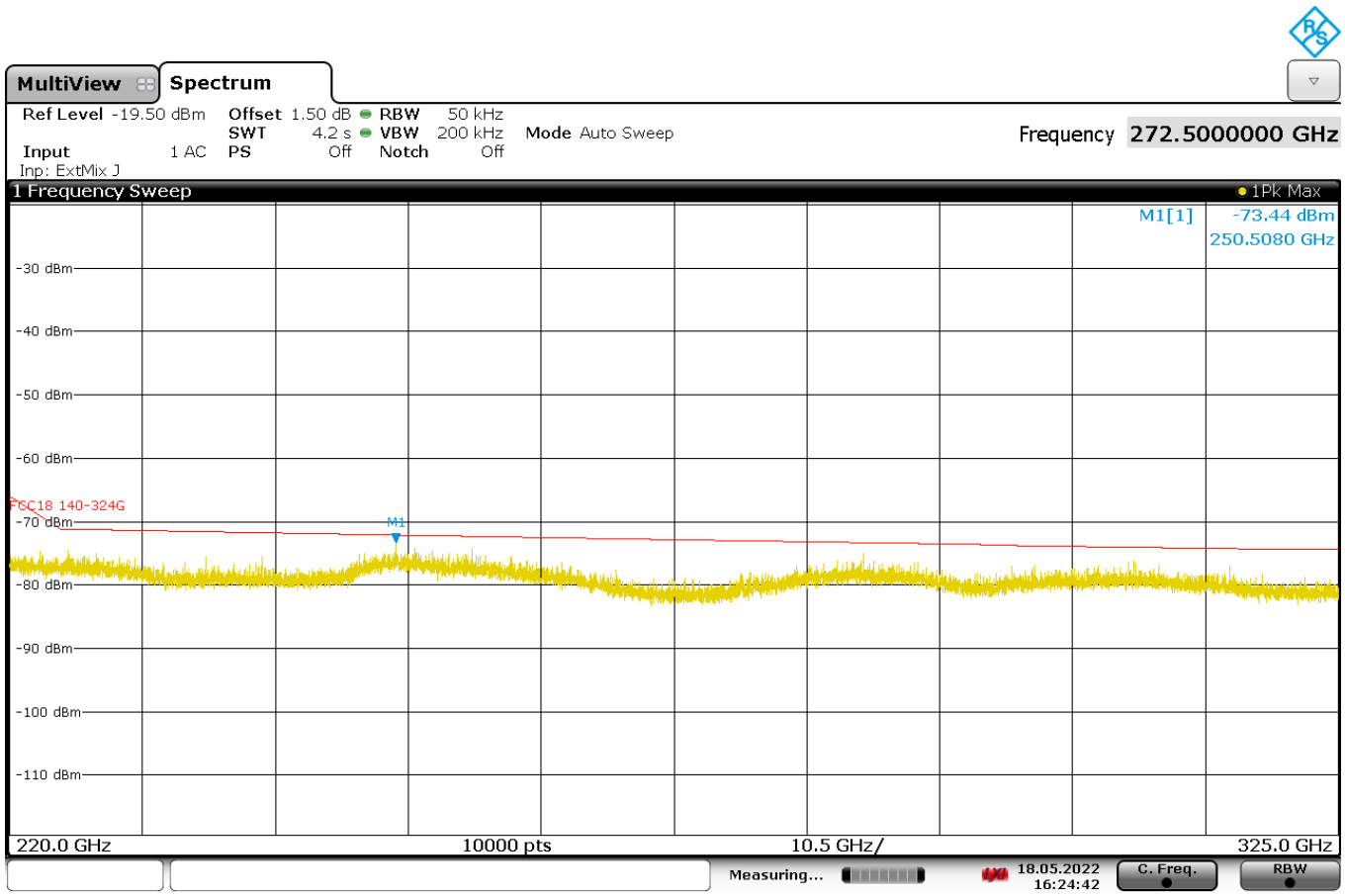
Plot # 39 Unwanted Emissions: 220 - 325 GHz

Measurement antenna orientation: Horizontal



Plot # 40 Unwanted Emissions: 220 - 325 GHz

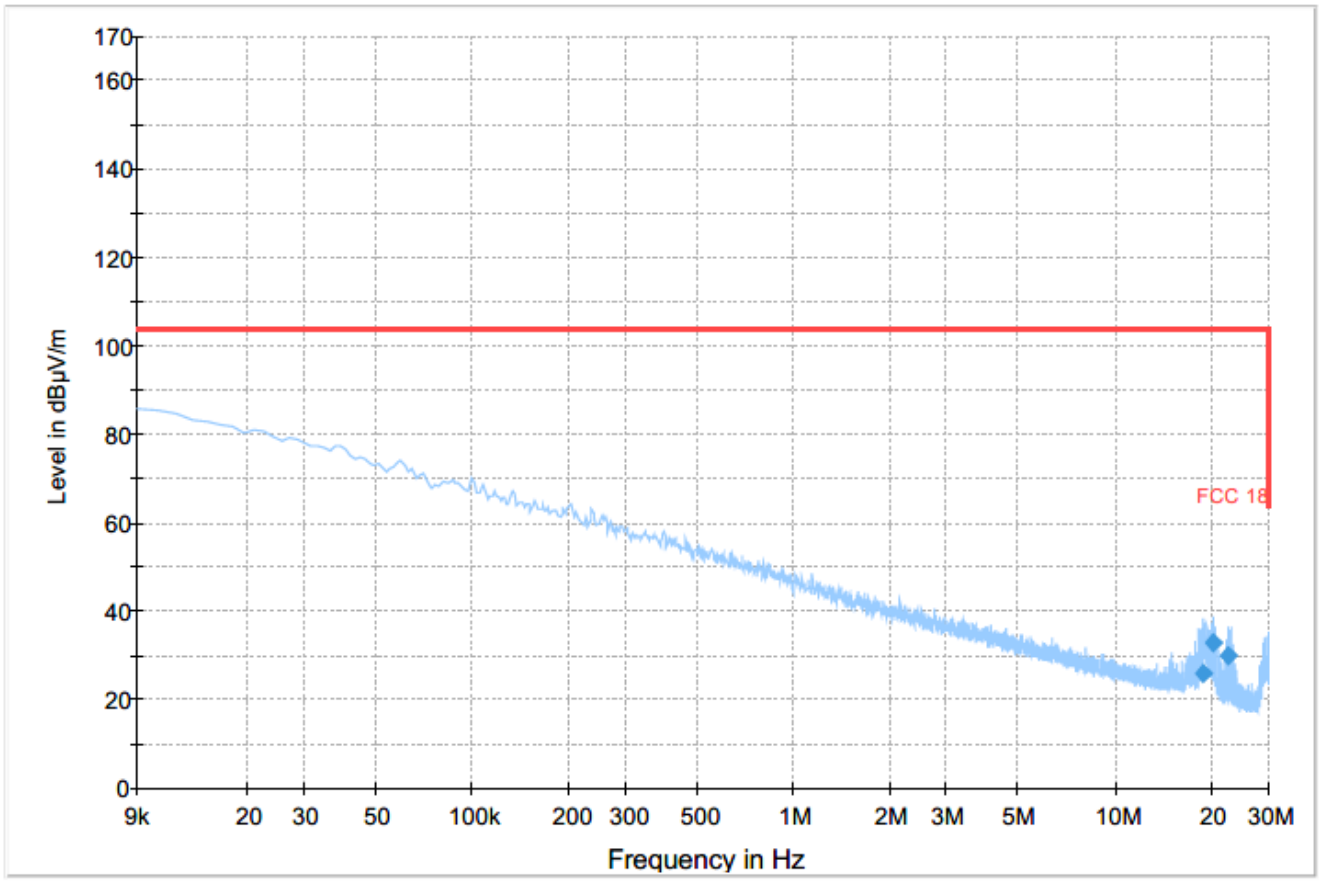
Measurement antenna orientation: Vertical



Plot # 41 Unwanted Emissions: 9 kHz - 30 MHz

Final Result

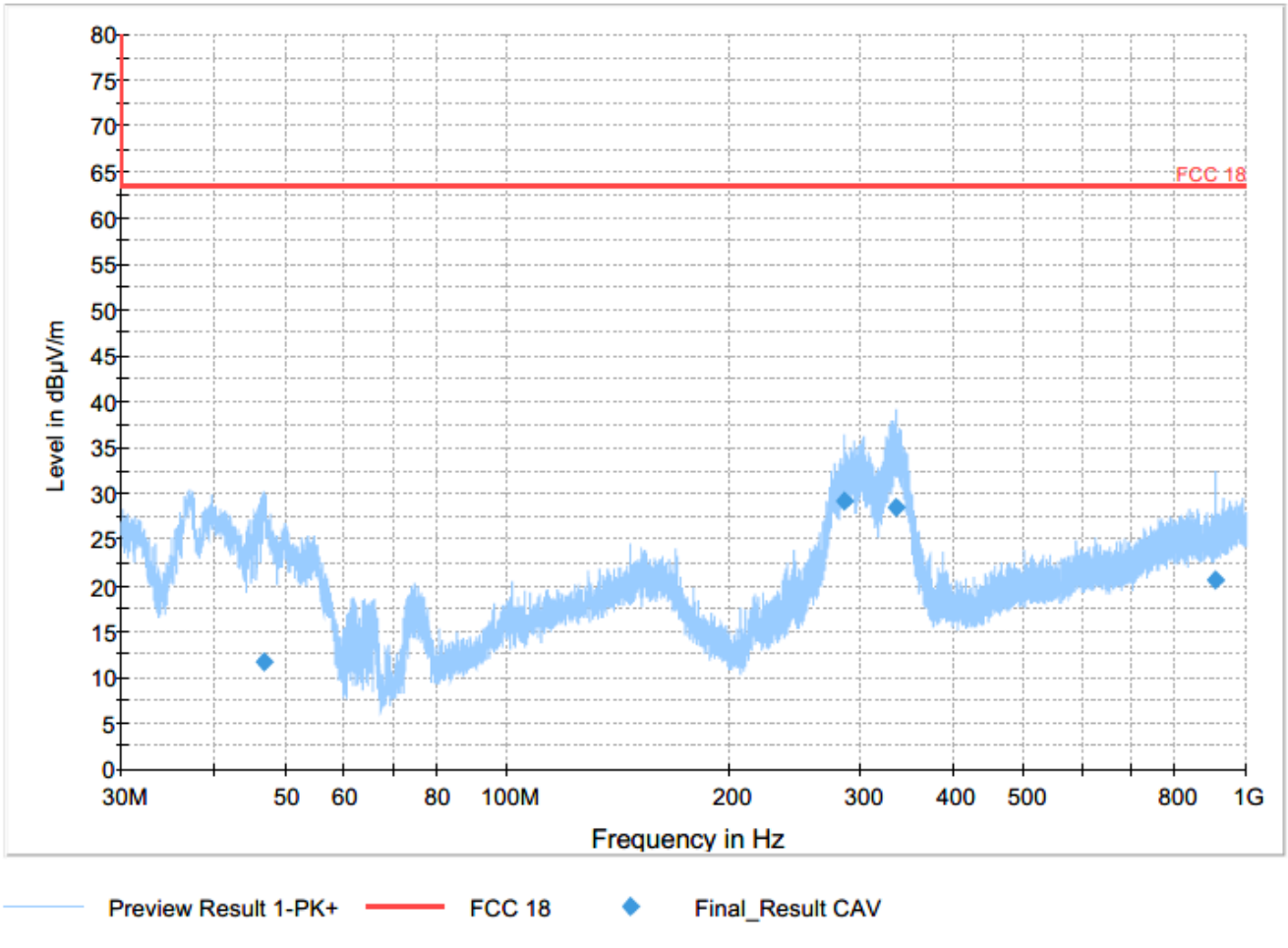
Frequency (MHz)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
18.91	25.90	103.52	77.62	500.0	9.0	177.0	V	133.0	16.5	
20.22	32.93	103.52	70.59	500.0	9.0	133.0	V	161.0	16.5	
22.59	29.89	103.52	73.63	500.0	9.0	107.0	V	306.0	16.2	



Plot # 42 Unwanted Emissions 30 MHz – 1GHz

Final_Result

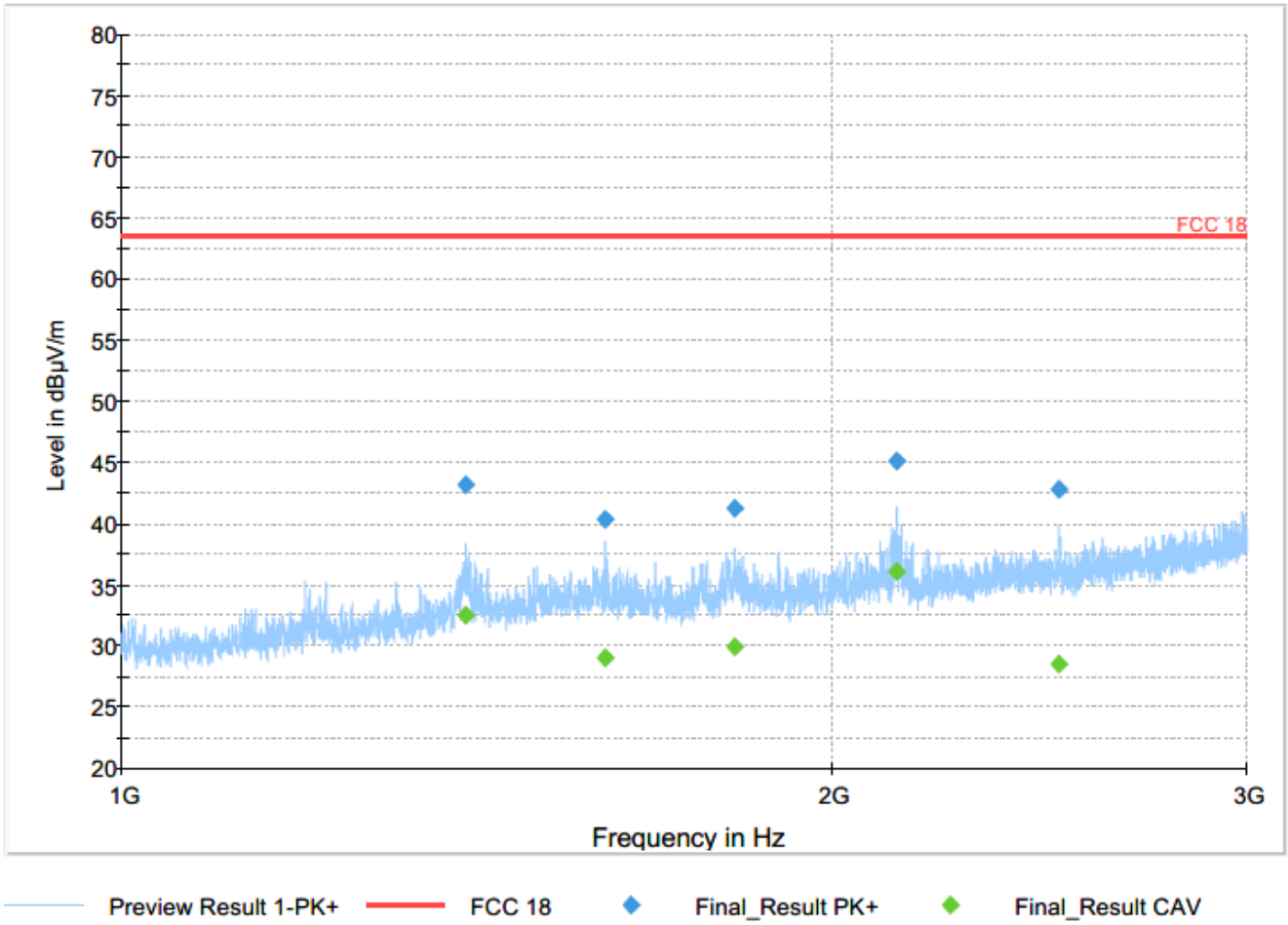
Frequency (MHz)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
46.90	11.69	63.52	51.83	500.0	120.0	151.0	V	61.0	16.9
286.18	29.21	63.52	34.31	500.0	120.0	117.0	V	212.0	21.1
335.09	28.47	63.52	35.05	500.0	120.0	100.0	V	163.0	21.6
908.29	20.67	63.52	42.85	500.0	120.0	133.0	V	123.0	31.5



Plot # 43 Unwanted Emissions: 1-3 GHz

Final Result

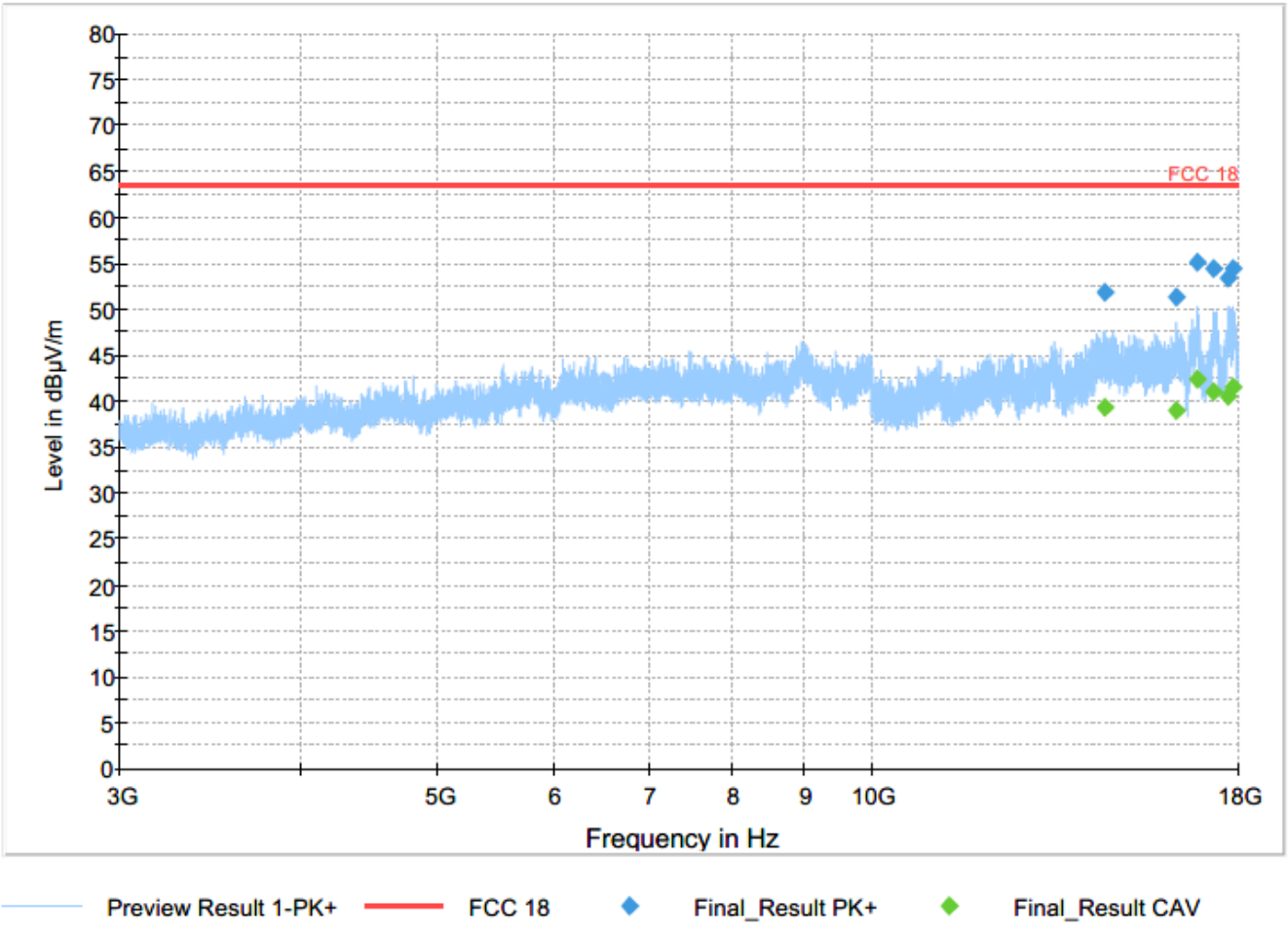
Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1399.75	43.16	---	63.52	20.36	500.0	1000.0	100.0	H	183.0	-3.3
1399.75	---	32.43	63.52	31.09	500.0	1000.0	100.0	H	183.0	-3.3
1603.25	---	29.03	63.52	34.49	500.0	1000.0	146.0	V	209.0	-2.4
1603.25	40.38	---	63.52	23.14	500.0	1000.0	146.0	V	209.0	-2.4
1819.25	41.20	---	63.52	22.32	500.0	1000.0	245.0	H	240.0	-2.2
1819.25	---	29.88	63.52	33.64	500.0	1000.0	245.0	H	240.0	-2.2
2130.50	---	36.04	63.52	27.48	500.0	1000.0	136.0	H	141.0	-1.2
2130.50	45.12	---	63.52	18.40	500.0	1000.0	136.0	H	141.0	-1.2
2498.00	---	28.55	63.52	34.97	500.0	1000.0	117.0	H	164.0	0.2
2498.00	42.77	---	63.52	20.75	500.0	1000.0	117.0	H	164.0	0.2



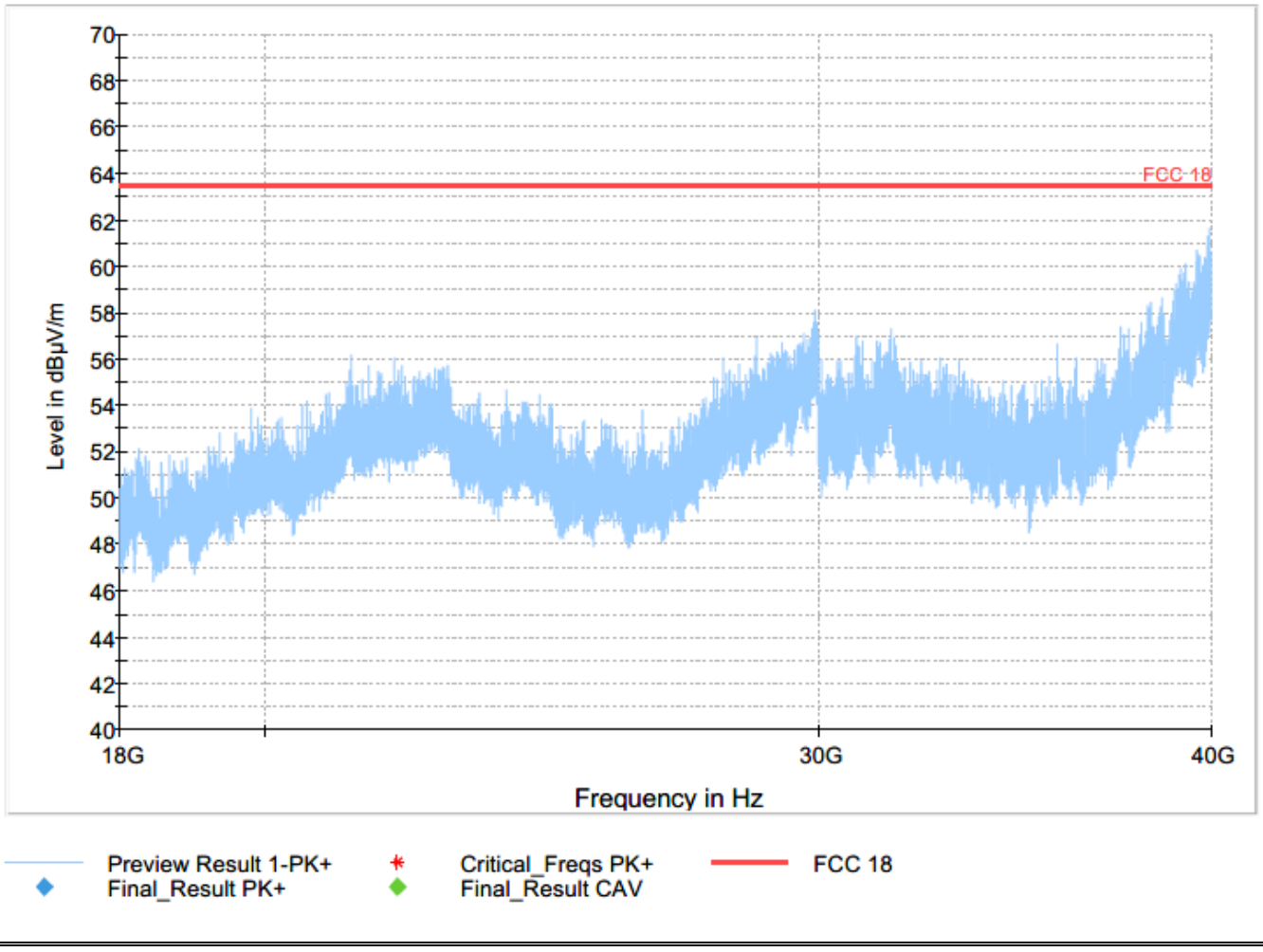
Plot # 44 Unwanted Emissions: 3 - 18 GHz

Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
14531.20	51.89	---	63.52	11.63	500.0	1000.0	246.0	H	283.0	-17.0
14531.20	---	39.25	63.52	24.27	500.0	1000.0	246.0	H	283.0	-17.0
16297.02	---	38.99	63.52	24.53	500.0	1000.0	181.0	V	152.0	-12.1
16297.02	51.32	---	63.52	12.20	500.0	1000.0	181.0	V	152.0	-12.1
16888.15	---	42.39	63.52	21.13	500.0	1000.0	284.0	V	269.0	-11.9
16888.15	55.16	---	63.52	8.36	500.0	1000.0	284.0	V	269.0	-11.9
17332.80	54.49	---	63.52	9.03	500.0	1000.0	254.0	V	218.0	-10.3
17332.80	---	41.09	63.52	22.43	500.0	1000.0	254.0	V	218.0	-10.3
17718.69	53.38	---	63.52	10.14	500.0	1000.0	300.0	H	234.0	-9.7
17718.69	---	40.59	63.52	22.93	500.0	1000.0	300.0	H	234.0	-9.7
17866.76	54.36	---	63.52	9.16	500.0	1000.0	166.0	V	121.0	-7.1
17866.76	---	41.60	63.52	21.92	500.0	1000.0	166.0	V	121.0	-7.1



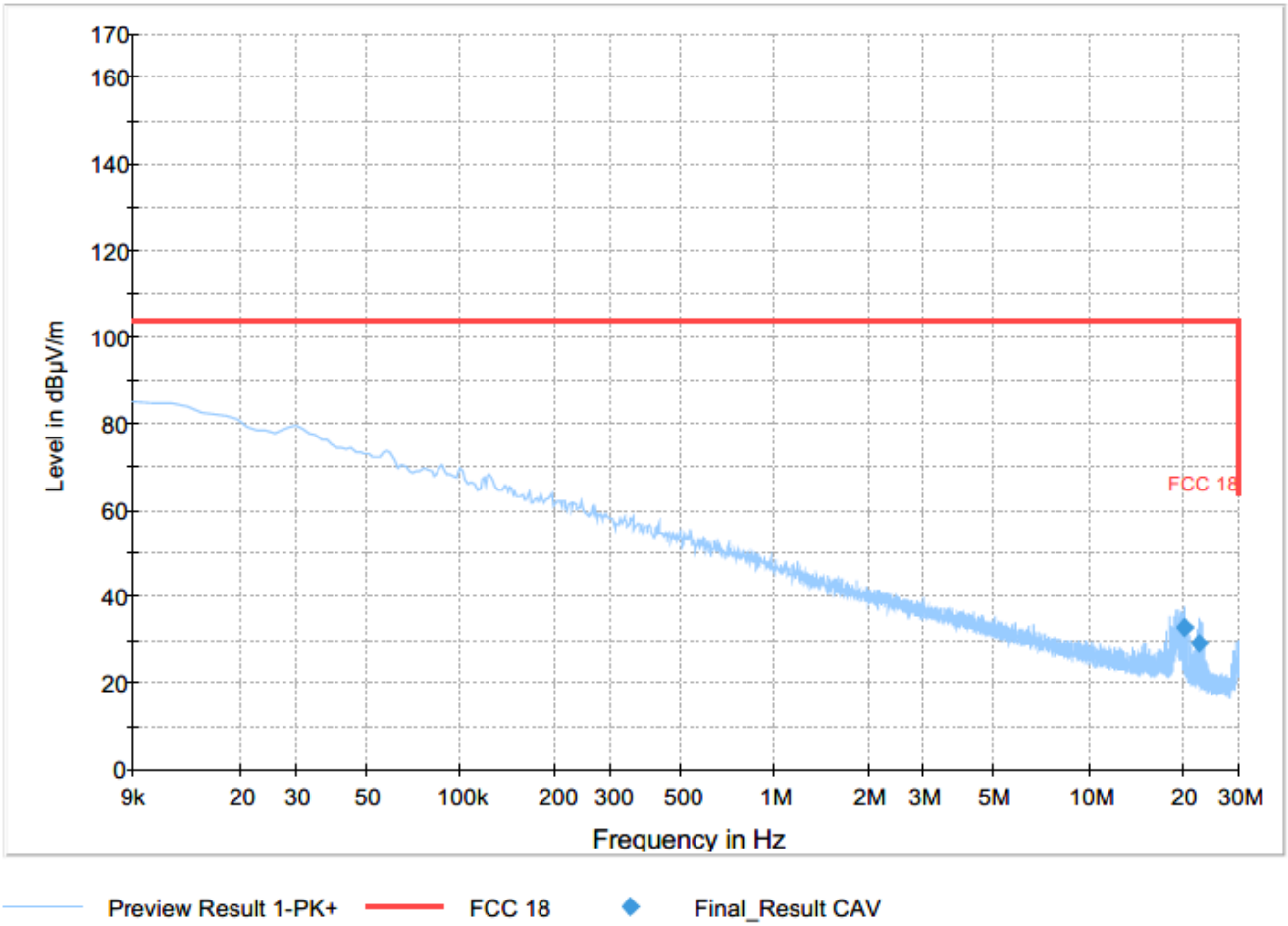
Plot # 45 Unwanted Emissions: 18-40 GHz



Plot # 46 Unwanted Emissions: 9 kHz - 30 MHz

Final_Result

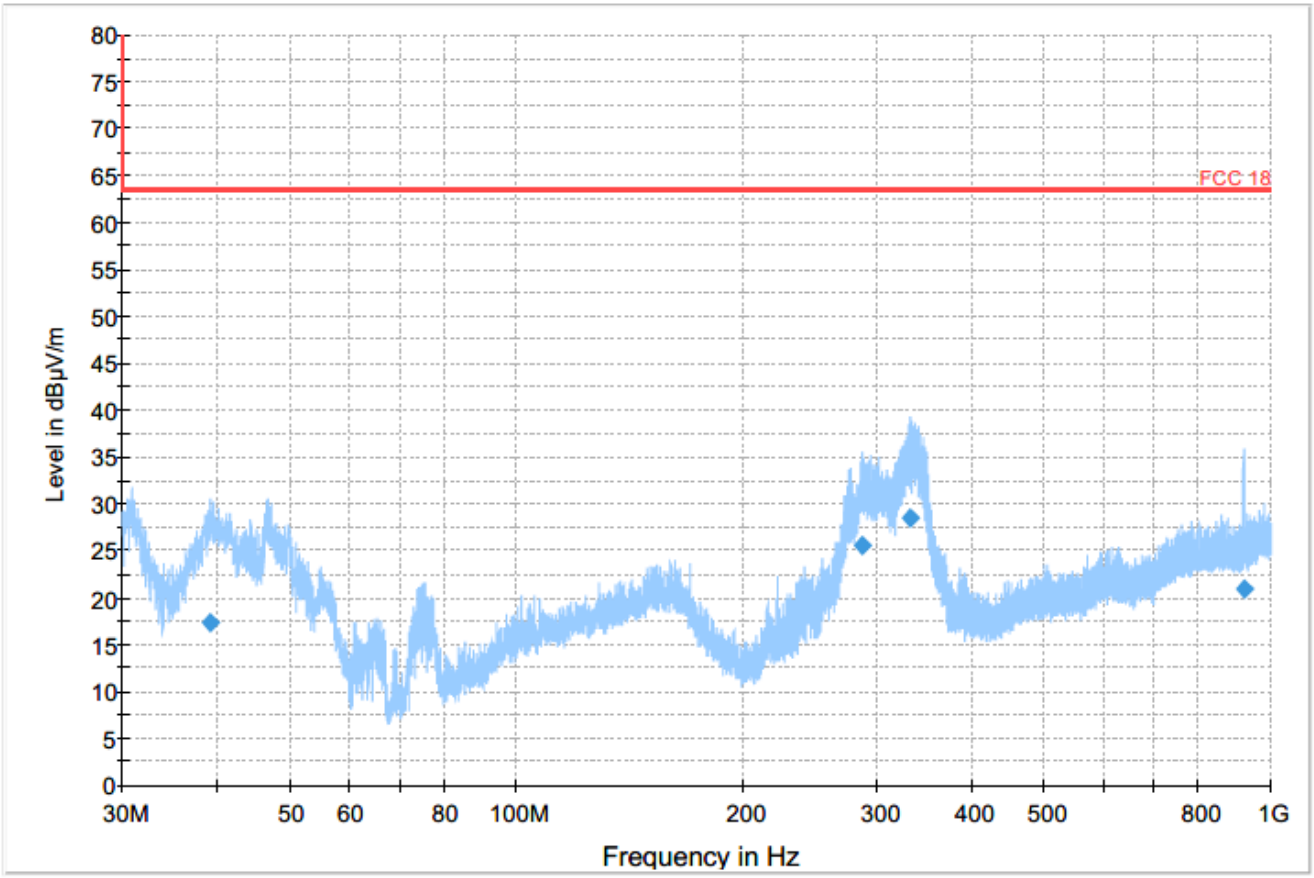
Frequency (MHz)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
20.22	32.95	103.52	70.57	500.0	9.0	100.0	V	2.0	16.5	
22.58	29.19	103.52	74.33	500.0	9.0	100.0	V	60.0	16.2	



Plot # 47 Unwanted Emissions 30 MHz – 1GHz

Final_Result

Frequency (MHz)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
39.17	17.27	63.52	46.25	500.0	120.0	107.0	V	214.0	20.1
287.54	25.62	63.52	37.90	500.0	120.0	100.0	V	228.0	21.0
332.32	28.51	63.52	35.01	500.0	120.0	100.0	V	152.0	21.6
920.02	20.95	63.52	42.57	500.0	120.0	177.0	V	324.0	31.8

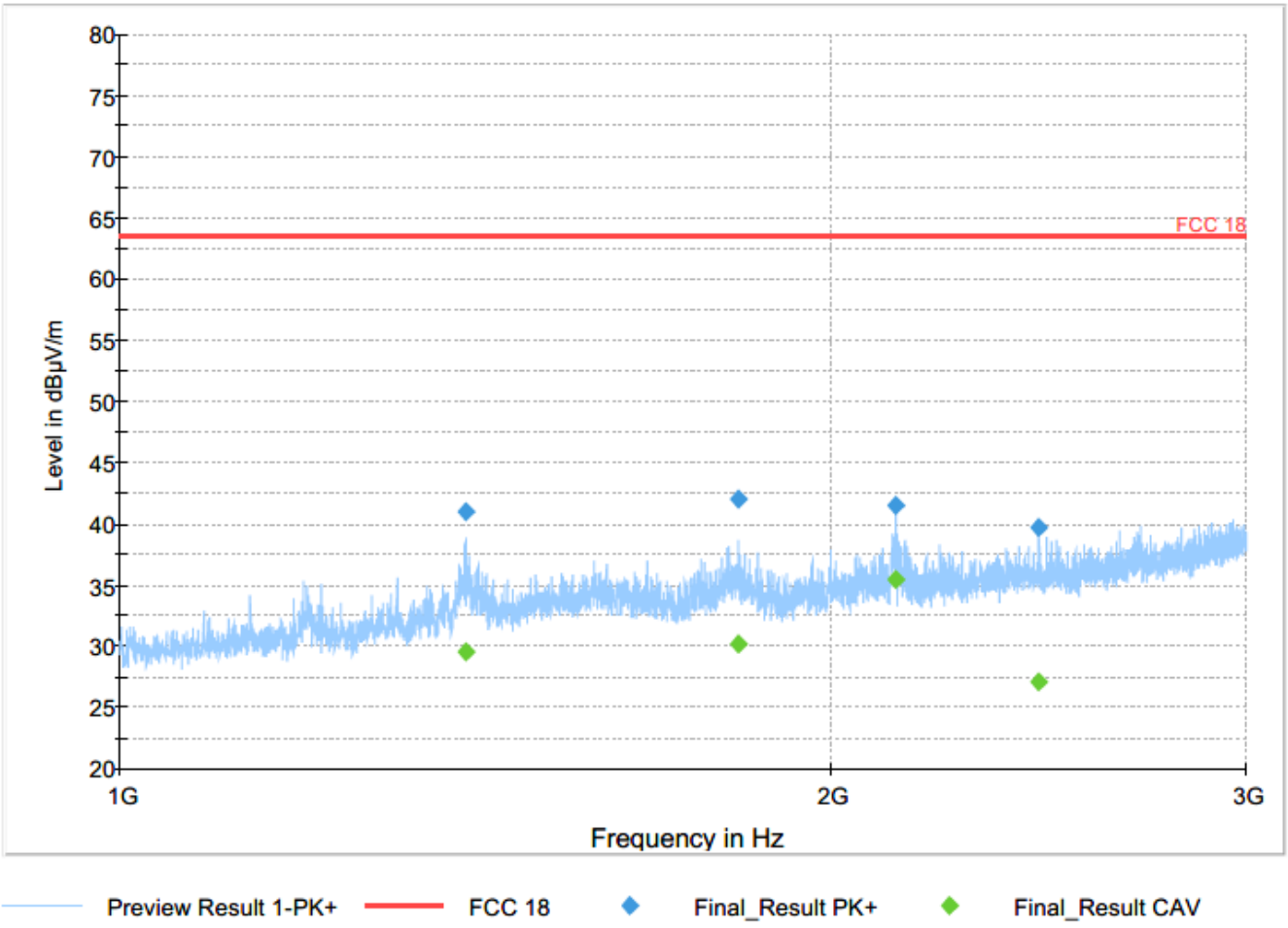


Preview Result 1-PK+ FCC 18 Final_Result CAV

Plot # 48 Unwanted Emissions: 1-3 GHz

Final Result

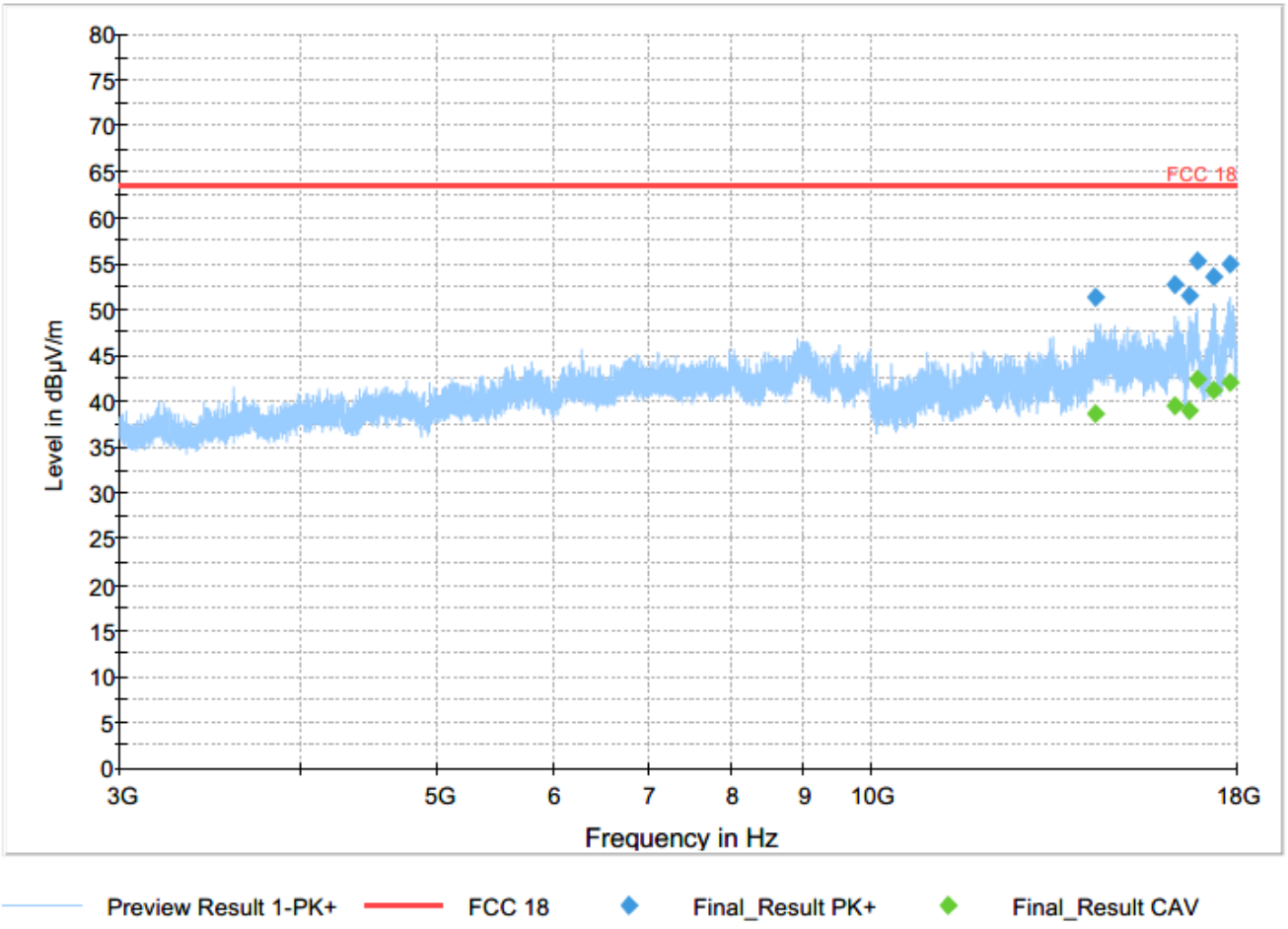
Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1400.00	---	29.54	63.52	33.98	500.0	1000.0	136.0	H	218.0	-3.3
1400.00	41.04	---	63.52	22.48	500.0	1000.0	136.0	H	218.0	-3.3
1827.75	---	30.21	63.52	33.31	500.0	1000.0	263.0	H	238.0	-2.1
1827.75	42.08	---	63.52	21.44	500.0	1000.0	263.0	H	238.0	-2.1
2130.75	41.56	---	63.52	21.96	500.0	1000.0	159.0	H	154.0	-1.2
2130.75	---	35.47	63.52	28.05	500.0	1000.0	159.0	H	154.0	-1.2
2451.25	39.66	---	63.52	23.86	500.0	1000.0	215.0	H	4.0	0.0
2451.25	---	27.09	63.52	36.43	500.0	1000.0	215.0	H	4.0	0.0



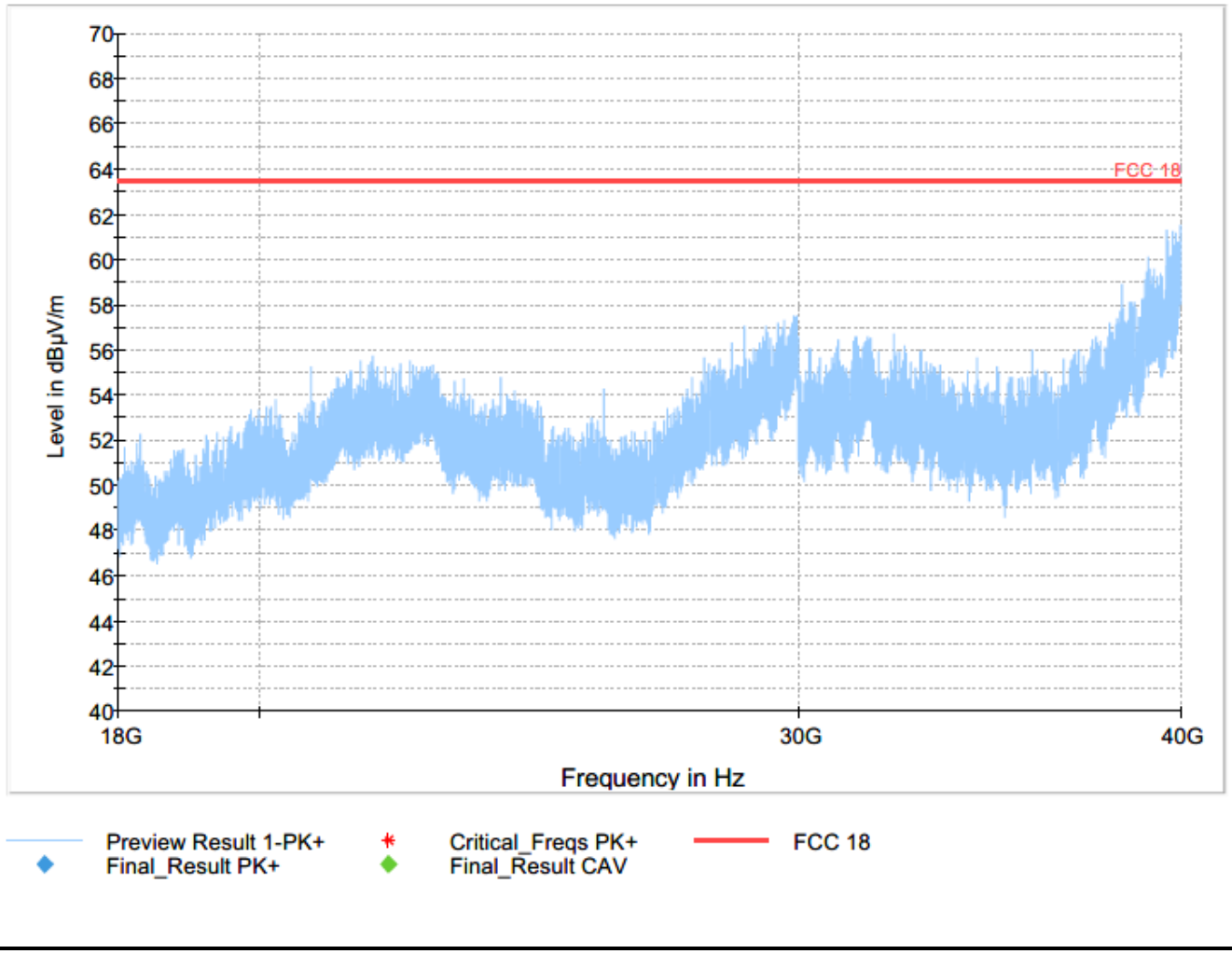
Plot # 49 Unwanted Emissions: 3 - 18 GHz

Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
14369.02	---	38.65	63.52	24.87	500.0	1000.0	257.0	V	218.0	-16.5
14369.02	51.31	---	63.52	12.21	500.0	1000.0	257.0	V	218.0	-16.5
16318.25	52.67	---	63.52	10.85	500.0	1000.0	205.0	V	311.0	-12.1
16318.25	---	39.48	63.52	24.04	500.0	1000.0	205.0	V	311.0	-12.1
16710.40	---	38.89	63.52	24.63	500.0	1000.0	161.0	V	9.0	-12.9
16710.40	51.50	---	63.52	12.02	500.0	1000.0	161.0	V	9.0	-12.9
16897.89	55.33	---	63.52	8.19	500.0	1000.0	300.0	V	92.0	-11.9
16897.89	---	42.42	63.52	21.10	500.0	1000.0	300.0	V	92.0	-11.9
17334.98	53.54	---	63.52	9.98	500.0	1000.0	122.0	H	163.0	-10.2
17334.98	---	41.15	63.52	22.37	500.0	1000.0	122.0	H	163.0	-10.2
17800.15	55.01	---	63.52	8.51	500.0	1000.0	283.0	H	161.0	-7.5
17800.15	---	42.14	63.52	21.38	500.0	1000.0	283.0	H	161.0	-7.5



Plot # 50 Unwanted Emissions: 18-40 GHz



8.2 AC Power line Conducted Emissions according to CFR 47 Part 18.307

Spectrum Analyzer Setting	
Frequency band	150 kHz – 30 MHz
Resolution Bandwidth	9 kHz
Detector (Exploratory Measurements)	Peak, Average
Detector (Final Measurements)	Quasi-Peak, Average
Trace Mode	Max Hold
Step Size	4 kHz
Measurement Time	20 ms

8.2.1 Measurement Procedure:

- The EUT is placed on a horizontal ground plane and 40 cm from the vertical ground conducting surface.
- The length of the power lead in excess of the 80 cm separating the EUT from the LISN shall be folded back and forth so as to form a bundle not exceeding 30 to 40 cm in length
- The plug end of the power lead is connected to the 50Uh/50ohm LISN.
- The 6 highest emissions within 20 dB of the limit are noted.

8.2.2 Limits:

Frequency of emission (MHz)	Conducted Limit (dBµV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency

8.2.3 Test Summary:

Environmental Conditions	
Ambient Temperature:	22° C
Relative Humidity:	41%
Atmospheric Pressure:	1010 mbar

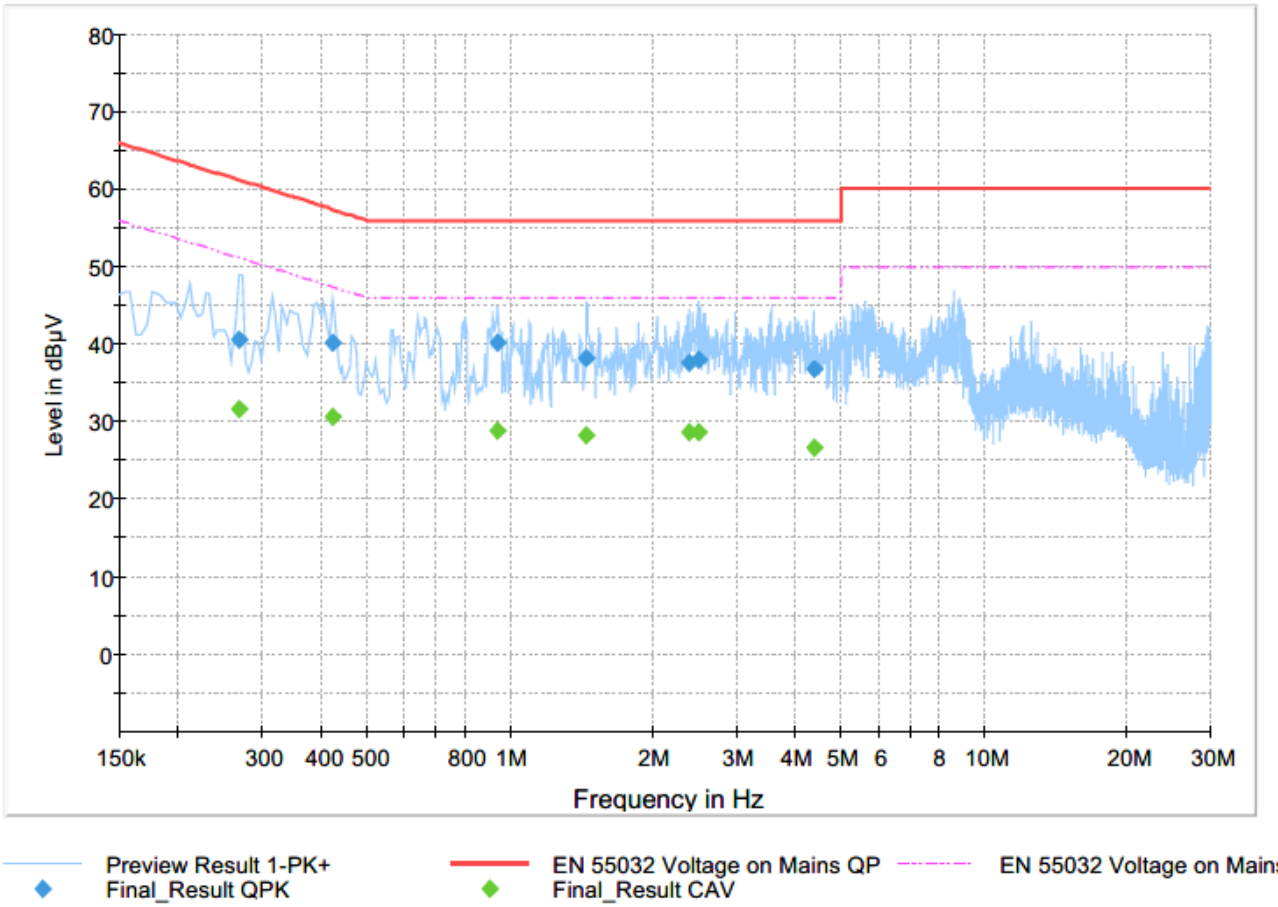
Test Results							
Plot #	**EUT Set-Up #**	**EUT operating mode**	**Detector (Peak / AVG / QP)**	**Line Under Test**	**Power Supply Input**	**Comments**	**Result**
1	U shape	K10 Frequency Resolved Measurement Option	Peak & AVG	Line	110V AC	Final measurement	Pass
2	U shape	K10 Frequency Resolved Measurement Option	Peak & AVG	Neutral	110V AC	Final measurement	Pass
3	U shape	Single Frequency	Peak & AVG	Line	110V AC	Final measurement	Pass
4	U shape	Single Frequency	Peak & AVG	Neutral	110V AC	Final measurement	Pass

8.2.4 Measurement Plots:

Plot # 1

Final Result

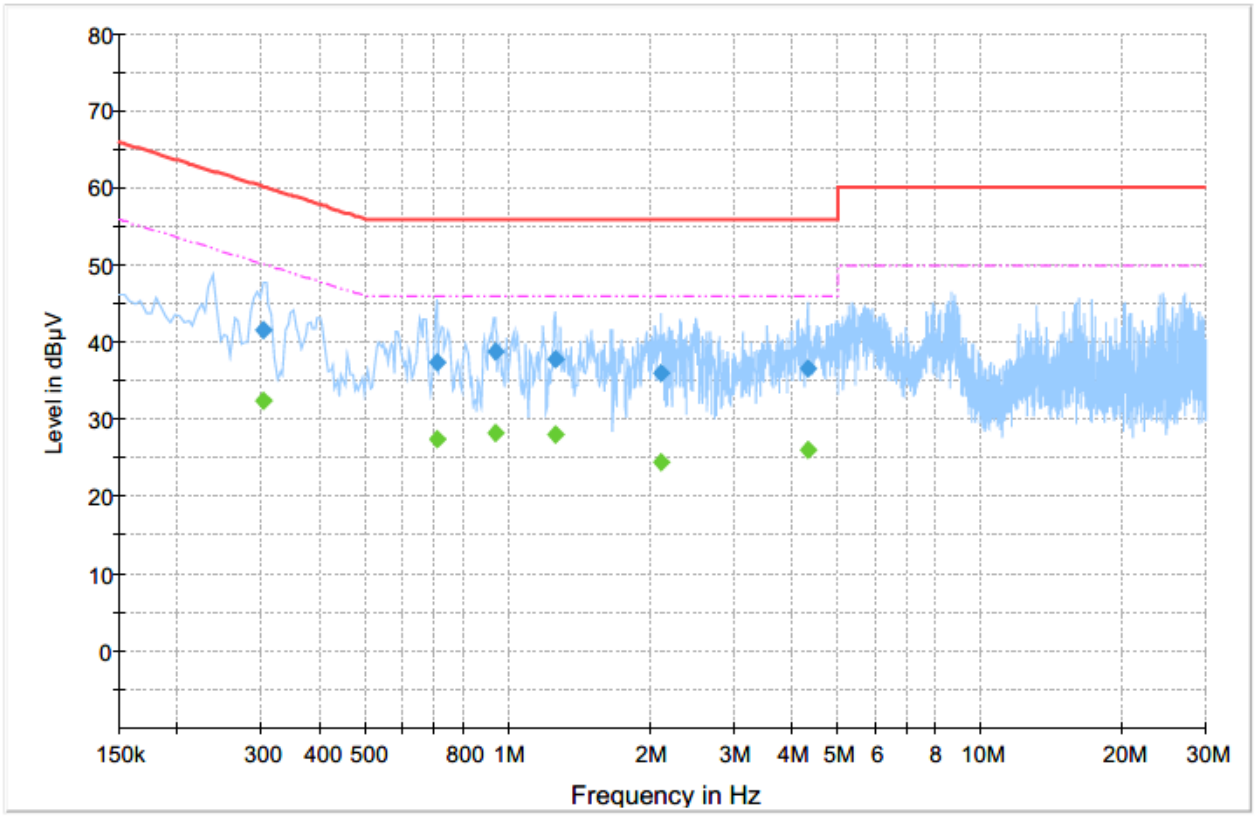
Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)	Comment
0.269	---	31.66	51.16	19.51	500.0	9.000	L1	GND	10.1	
0.269	40.61	---	61.16	20.55	500.0	9.000	L1	GND	10.1	
0.422	---	30.64	47.41	16.77	500.0	9.000	L1	GND	10.0	
0.422	40.20	---	57.41	17.21	500.0	9.000	L1	GND	10.0	
0.945	---	28.90	46.00	17.10	500.0	9.000	L1	GND	10.1	
0.945	40.09	---	56.00	15.91	500.0	9.000	L1	GND	10.1	
1.454	---	28.24	46.00	17.76	500.0	9.000	L1	GND	10.1	
1.454	38.27	---	56.00	17.73	500.0	9.000	L1	GND	10.1	
2.393	---	28.61	46.00	17.39	500.0	9.000	L1	GND	10.1	
2.393	37.58	---	56.00	18.42	500.0	9.000	L1	GND	10.1	
2.494	---	28.61	46.00	17.39	500.0	9.000	L1	GND	10.1	
2.494	38.06	---	56.00	17.94	500.0	9.000	L1	GND	10.1	
4.373	---	26.59	46.00	19.41	500.0	9.000	L1	GND	10.1	
4.373	36.77	---	56.00	19.23	500.0	9.000	L1	GND	10.1	



Plot # 2

Final Result

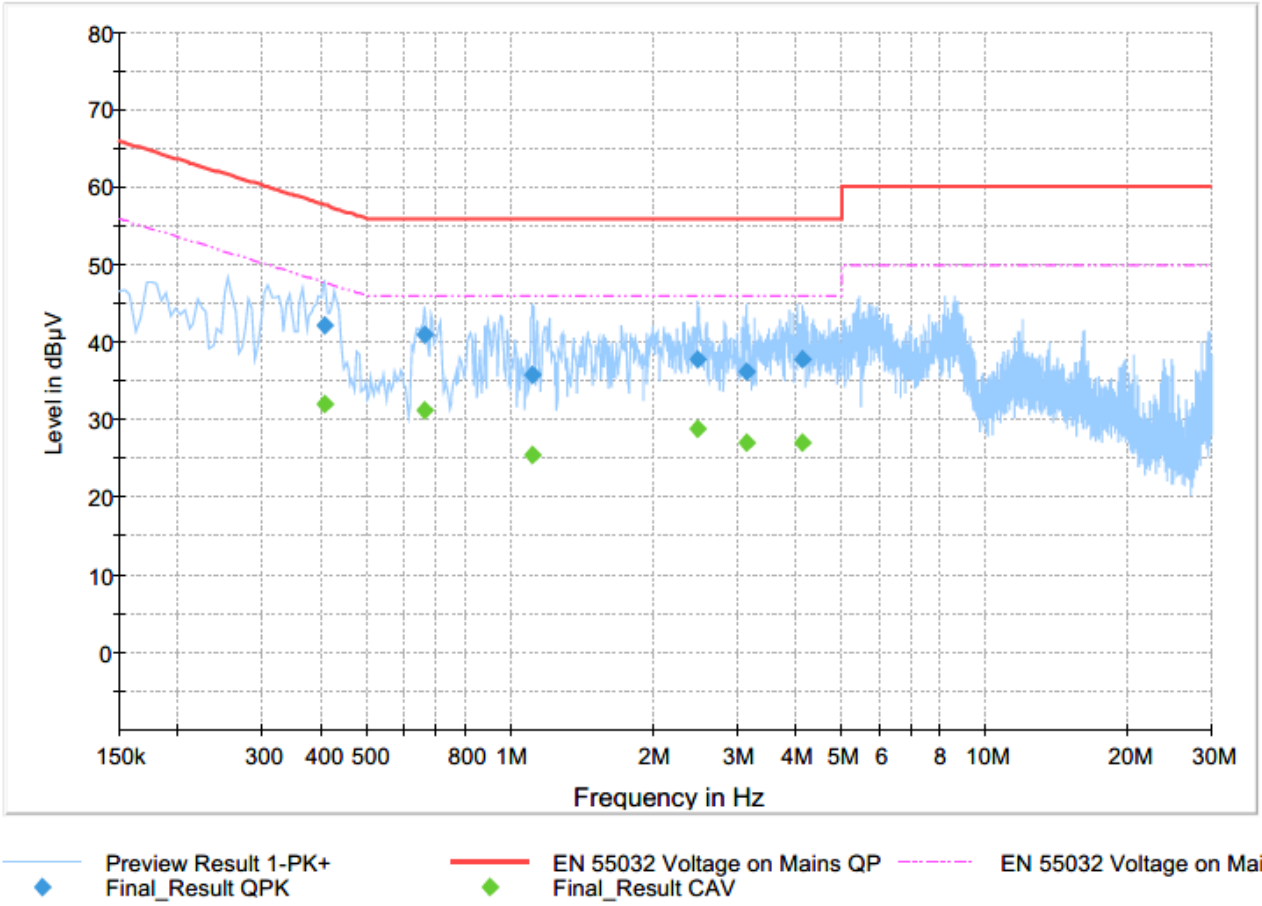
Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)	Comment
0.304	---	32.37	50.14	17.77	500.0	9.000	N	GND	10.1	
0.304	41.61	---	60.14	18.53	500.0	9.000	N	GND	10.1	
0.707	---	27.41	46.00	18.59	500.0	9.000	N	GND	10.0	
0.707	37.38	---	56.00	18.62	500.0	9.000	N	GND	10.0	
0.940	---	28.28	46.00	17.72	500.0	9.000	N	GND	10.1	
0.940	38.80	---	56.00	17.20	500.0	9.000	N	GND	10.1	
1.261	---	28.08	46.00	17.92	500.0	9.000	N	GND	10.1	
1.261	37.84	---	56.00	18.16	500.0	9.000	N	GND	10.1	
2.112	---	24.52	46.00	21.48	500.0	9.000	N	GND	10.1	
2.112	35.97	---	56.00	20.03	500.0	9.000	N	GND	10.1	
4.320	---	26.01	46.00	19.99	500.0	9.000	N	GND	10.1	
4.320	36.59	---	56.00	19.41	500.0	9.000	N	GND	10.1	



Plot # 3

Final Result

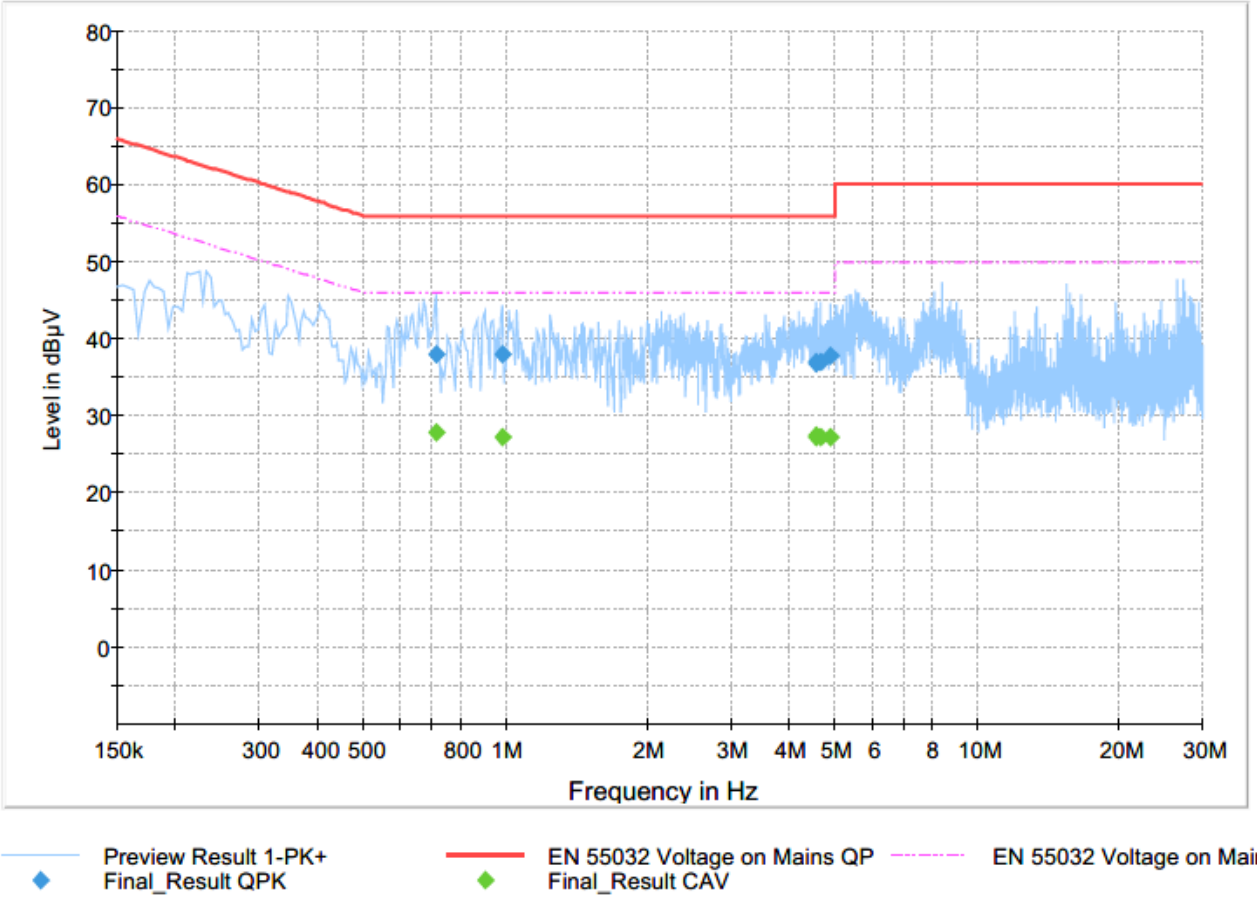
Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)	Comment
0.409	---	32.03	47.67	15.64	500.0	9.000	L1	GND	10.0	
0.409	42.20	---	57.67	15.47	500.0	9.000	L1	GND	10.0	
0.664	---	31.24	46.00	14.76	500.0	9.000	L1	GND	10.0	
0.664	41.02	---	56.00	14.98	500.0	9.000	L1	GND	10.0	
1.120	---	25.40	46.00	20.60	500.0	9.000	L1	GND	10.1	
1.120	35.71	---	56.00	20.29	500.0	9.000	L1	GND	10.1	
2.481	---	28.77	46.00	17.23	500.0	9.000	L1	GND	10.1	
2.481	37.77	---	56.00	18.23	500.0	9.000	L1	GND	10.1	
3.144	---	27.06	46.00	18.94	500.0	9.000	L1	GND	10.1	
3.144	36.19	---	56.00	19.81	500.0	9.000	L1	GND	10.1	
4.127	---	27.01	46.00	18.99	500.0	9.000	L1	GND	10.1	
4.127	37.80	---	56.00	18.20	500.0	9.000	L1	GND	10.1	



Plot # 4

Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)	Comment
0.712	---	27.84	46.00	18.16	500.0	9.000	N	GND	10.0	
0.712	38.02	---	56.00	17.98	500.0	9.000	N	GND	10.0	
0.988	---	27.33	46.00	18.67	500.0	9.000	N	GND	10.1	
0.988	37.94	---	56.00	18.06	500.0	9.000	N	GND	10.1	
4.544	---	27.21	46.00	18.79	500.0	9.000	N	GND	10.1	
4.544	36.83	---	56.00	19.17	500.0	9.000	N	GND	10.1	
4.553	---	27.46	46.00	18.54	500.0	9.000	N	GND	10.1	
4.553	37.06	---	56.00	18.94	500.0	9.000	N	GND	10.1	
4.654	---	27.29	46.00	18.71	500.0	9.000	N	GND	10.1	
4.654	37.02	---	56.00	18.98	500.0	9.000	N	GND	10.1	
4.891	---	27.27	46.00	18.73	500.0	9.000	N	GND	10.1	
4.891	37.80	---	56.00	18.20	500.0	9.000	N	GND	10.1	



9 Test setup photos

Setup photos are included in supporting file name: “EMC_ROHDE-003-22001_FCC_18_Setup_Photos”

10 Test Equipment And Ancillaries Used For Testing

Item Name	Manufacturer	Model	Serial #	Calibration Cycle	Last Calibration Date
Biconlog Antenna	A.H. Systems	BiLA2G	569	2 years	11/16/2021
Horn Antenna	ETS Lindgren	3115	35111	2 years	09/30/2021
Horn Antenna	ETS Lindgren	3117-PA	169547	2 years	09/10/2020
EMI Test Receiver	R&S	ESW44	101715	2 years	09/14/2021
Digital Thermometer	Control Company	Model:36934-164	191872028	2 years	10/20/2021
Line Impedance Stabilization Network	FCC	FCC-LISN-50-25-2-08	08014	2 years	08/31/2021
Horn Antenna	MI-WAVE	261U-25/383	N/A	3 years	06/11/2020
Horn Antenna	MI-WAVE	261E-25/387	N/A	3 years	06/11/2020
Horn Antenna	MI-WAVE	261F-25/378	N/A	3 years	06/11/2020
Horn Antenna	MI-WAVE	261G-25/387	N/A	3 years	06/11/2020
Horn Antenna	Flann Microwave	32240-20	273388	3 years	08/19/2020
Harmonic Mixer	Radiometer Physics	FS-Z60	101025	3 years	01/22/2020
Harmonic Mixer	Radiometer Physics	FS-Z90	102088	3 years	02/19/2020
Harmonic Mixer	Radiometer Physics	FS-Z140	101145	3 years	02/24/2020
Harmonic Mixer	Radiometer Physics	FS-Z220	101037	3 years	03/23/2020
Harmonic Mixer	Radiometer Physics	FS-Z325	100943	3 years	02/27/2020

Note: Equipment used meets the measurement uncertainty requirements as required per applicable standards for 95% confidence levels. Calibration due dates, unless defined specifically, falls on the last day of the month. Items indicated “N/A” for cal status either do not specifically require calibration or is internally characterized before use.

11 Revision History

Date	Report Name	Changes to report	Report prepared by
2021-06-09	EMC_ROHDE-003-22001_FCC_18	Initial Version	Cheng Song
2021-06-21	EMC_ROHDE-003-22001_FCC_18_Rev1	Updated typo in Section 10	Cheng Song

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