Test Report

For:
Visteon Corporation

Marketing Name:
Battery Pack Control Module

Model Name:
BPCMFX

Product Description:
Battery Pack Control Module

FCC ID: NT8-BPCMFX
IC: 3043A-BPCMFX

Applied Rules and Standards:
47 CFR Part 15.247 (DTS)
RSS-247 Issue 3 (DTS) & RSS-Gen Issue 5

REPORT #: EMC_VISTE_006_24001_FCC15247_DTS_BPCMFX

DATE: 2024-11-08

A2LA Accredited

IC recognized # 3462B

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CETECOM Inc. is a Delaware Corporation with Corporation number: 2905571

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1 Assessment

The following device was evaluated against the applicable criteria specified in

- FCC rules Parts 15.247 of Title 47 of the Code of Federal Regulations and
- ISED Canada standard RSS-247 Issue 3.

No deviations were ascertained.

Company	Description	Model #
Visteon Corporation	Battery Pack Control Module	BPCMFX

Responsible for the Report:

Date	Section	Name	Signature
2024-11-08	Compliance	Guangcheng Huang (Senior EMC Test Engineer)	

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:	Ilarina, Alvin
Project Manager:	Baskaran, Akanksha

2.2 Identification of the Client

Applicant's Name:	Visteon Corporation
Street Address:	One Village Center Drive
City/Zip Code	Van Buren Township, MI/48111
Country	USA

2.3 Identification of the Manufacturer

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

3 Equipment Under Test (EUT)

3.1 EUT Specifications

Model No:	BPCMFX
Marketing Name:	Battery Pack Control Module
HW Version:	VPRE1F-12A650-MH
SW Version:	SWE201-28418-006F01
FCC ID:	NT8-BPCMFX
IC:	3043A-BPCMFX
FWIN:	1.0
HVIN:	BPCMFX
PMN:	Battery Pack Control Module
Product Description:	Battery Pack Control Module
Power Supply / Rated operating Voltage Range:	Min. 8 V, Nom 13.5 V, Max. 16 V powered by the vehicle battery power system
Operating Temperature Range	-40 °C to +85 °C
Sample Revision	Production
EUT Dimensions	12.4 cm X 40.86 cm X 0+ 3.47 cm
Note: All information provided by the client.	

3.2 Radio Specifications

Embedded Radio Technologies	Integrating 2 ADI Proprietary Protocol: 1.- ADRF8951 chipset 2.- ADRF8951 chipset
Frequency Range / number of channels:	1.- ADRF8951 chipset: Low Power 2.4 GHz wBMS radio Frequency Range: 2405 - 2480 MHz Channels: 0-15 2.- ADRF8951 chipset: Low Power 2.4 GHz wBMS radio Frequency Range: 2405 - 2480 MHz Channels: 0-15
Rated max. EIRP	1.- ADRF8951 chipset: 12 dBm 2.- ADRF8951 chipset: 12 dBm
Tested radio technology	Integrating 2 ADI Proprietary Protocol
Antenna Type / Gain	1. Part No. 1001013 Product: 2.4 GHz FR4 Antenna 2. Part No. 1001013 Product: 2.4 GHz FR4 Antenna
Modes of Operation	1.- ADRF8951 chipset: Proprietary Protocol: 802.15.4 2400 MHz - 2483.5 MHz ISM Band Modulation: GFSK Nominal Channel Bandwitdth: 5 MHz Duty Cycle: 27% 2.- ADRF8951 chipset: Proprietary Protocol: 802.15.4 2400 MHz - 2483.5 MHz ISM Band Modulation: GFSK Nominal Channel Bandwitdth: 5 MHz Duty Cycle: 27%
Note: All information provided by the client.	

3.3 EUT Sample details

EUT #	Serial Number	HW Version	SW Version	Notes/Comments
1	BPCMFX	VPRE1F-12A650-MH	SWE201-28418-006F01	Radiated EUT

3.4 Accessory Equipment (AE) details

AE #	Type	Model	Manufacturer	Serial Number
1	USB-Dongle	PL2303TA	HiLetgo	NA
2	Harness cables	Power ON cables	NA	NA
3	AC/DC Adaptor	GST36U12-P1J	Mean Well	None

Note: all AEs are only used for setup the test mode. They are disconnected before the test.

3.5 Test Sample Configuration

EUT Set-up #	Combination of AE used for test set up	Comments
1	EUT#1+AE3	The radio of the EUT is configured according to requirement of each test case for the radiated test

3.6 Mode of Operation

Mode #	Mode of Operation	Comments
1	TX	Continuously transmission modulated signal

3.7 Justification for Worst Case Mode of Operation

During the testing process, the EUT was tested with transmitter sets on low, mid and high channels, and highest possible duty cycle is higher than 98%. For radiated measurements, all data in this report shows the worst case between horizontal and vertical antenna polarizations and for all orientations of the EUT.

4 Subject of Investigation

The objective of the measurements done by CETECOM Inc. was to assess the performance of the EUT according to the relevant requirements specified in chapter 1.

4.1 Test procedures and standards applied

- FCC part 15, Subpart C §15.247
- KDB 558074 D01 15.247 Meas Guidance v05r02
- RSS-247 issue 3
- RSS-Gen issue 5 April 2018
- ANSI C63.10:2013

5 Measurement Results Summary

Test Specification	Test Case	Temperature and Voltage Conditions	Mode	Pass	NA	NP	Result
FCC §15.247(a)(2) RSS-247 5.2(a) RSS-Gen 6.7	Emission Bandwidth	Nominal	TX	☐	☐	☑	See Note 1,3
FCC §15.247(e) RSS-247 5.2(b)	Power Spectral Density	Nominal	TX	☐	☐	☑	See Note 1,5
FCC §15.247(b)(3) RSS-247 5.4(d)	Maximum Conducted Output Power and EIRP	Nominal	TX	☐	☐	☑	See Note 1,4
FCC §15.247(d) RSS-247 5.5	Band Edge Compliance Unrestricted Band Edges	Nominal	TX	☐	☐	☑	See Note 1,6
FCC §15.247; 15.209; 15.205 RSS-Gen 8.9; 8.10	Band Edge Compliance Restricted Band Edges	Nominal	TX	☐	☐	☑	See Note 1,6
§15.247(d); §15.209 RSS-Gen 6.13	TX Spurious Emissions-Radiated	Nominal	TX	☑	☐	☐	Complies
§15.207(a) RSS Gen 8.8	AC Conducted Emissions	Nominal	TX	☐	☐	☑	See Note 1,2

Note 1: NA= Not Applicable, NP= Not Performed
Note 2: This device does not connect to AC mains network
Note 3: Leveraged from report # EMC_VISTE_002_23001_FCC15247_DTS_BPCMFX_Rev2, Section 8.1(FCC ID: NT8-BPCMFX)
Note 4: Leveraged from report # EMC_VISTE_002_23001_FCC15247_DTS_BPCMFX_Rev2, Section 8.2 (FCC ID: NT8-BPCMFX)
Note 5: Leveraged from report # EMC_VISTE_002_23001_FCC15247_DTS_BPCMFX_Rev2, Section 8.3 (FCC ID: NT8-BPCMFX)
Note 6: Leveraged from report # EMC_VISTE_002_23001_FCC15247_DTS_BPCMFX_Rev2, Section 8.5 &8.6 (FCC ID: NT8-BPCMFX)

6 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=2.

Radiated measurement

Measurement System		EMC Lab 1	EMC Lab 2
Conducted emissions (mains port)	150 kHz – 30 MHz	2.47 dB	N/A
Radiated emissions	9 kHz – 30 MHz	2.68 dB	2.53 dB
	30 – 100 MHz	4.39 dB	3.85 dB
	100 MHz – 1 GHz	5.65 dB	5.24 dB
	1 – 6 GHz	5.0 dB	4.88 dB
	6 – 18 GHz	4.76 dB	4.58 dB
	18 – 40 GHz	4.65 dB	4.61 dB

RF conducted measurement ±0.5 dB

According to TR 102 273 a multiplicative propagation of error is assumed for RF measurement systems. For this reason the RMS method is applied to dB values and not to linear values as appropriate for additive propagation of error. Also used: http://physics.nist.gov/cuu/Uncertainty/typeb.html. The above calculated uncertainties apply to direct application of the Substitution method. The Substitution method is always used when the EUT comes closer than 3dB to the limit.

6.1 Environmental Conditions During Testing:

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

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

6.2 Dates of Testing:

2024-10-03 -- 2024-10-04

6.3 Decision Rule:

Cetecom advanced follows ILAC G8:2019 chapter 4.2.1 (Simple Acceptance Rule).

Only the measured values related to their corresponding limits will be used to decide whether the equipment under test meets the requirements of the test standards listed in chapter 3. The measurement uncertainty is mentioned in this test report, See chapter 9, but is not taken into account – neither to the limits nor to the measurement results. Measurement results with a smaller margin to the corresponding limits than the measurement uncertainty have a potential risk of more than 5% that the decision might be wrong.

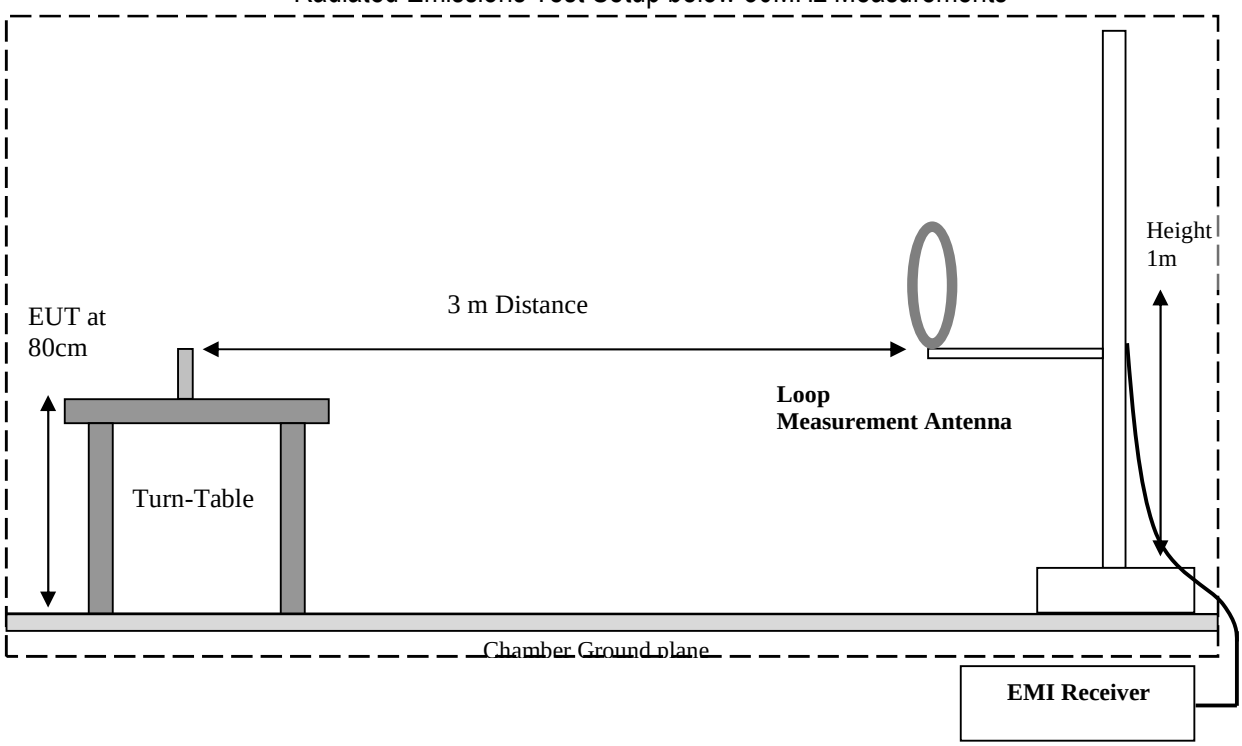
7 Measurement Procedures

7.1 Radiated Measurement

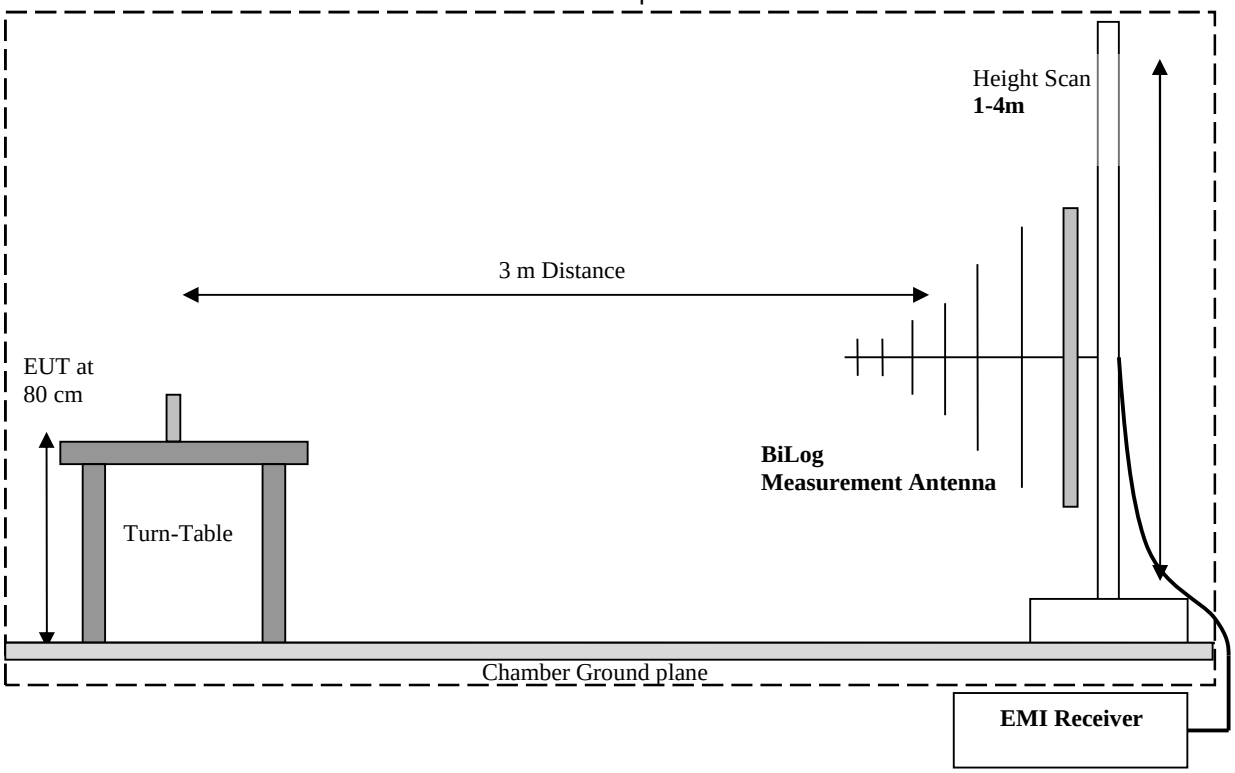
The radiated measurement is performed according to ANSI C63.10 (2013)

- The exploratory measurement is accomplished by running a matrix of 16 sweeps over the required frequency range with R&S Test-SW EMC32 for 360° continuous measurement of the turntable, two orthogonal positions of the EUT and both antenna polarizations. This procedure exceeds the requirement of the above standards to cover the 3 orthogonal axis of the EUT. A max peak detector is utilized during the exploratory measurement. The Test-SW creates an overall maximum trace for all 12 sweeps and saves the settings for each point of this trace. The maximum trace is part of the test report.
- The highest six emissions are selected with an automatic algorithm of EMC32 searching for peaks in the noise floor and ensuring that broadband signals are not selected multiple times.
- The maxima are then put through the final measurement and again maximized in a 90deg range of the turntable, fine search in frequency domain and height scan between 1m and 4m.
- The above procedure is repeated for all possible ways of power supply to EUT and for all supported modulations.
- In case there are no emissions above noise floor level only the maximum trace is reported as described above.
- The results are split into up to 4 frequency ranges due to antenna bandwidth restrictions. A magnetic loop is used from 9 kHz to 30 MHz, a Biconilog antenna is used from 30 MHz to 1 GHz, and two different horn antennas are used to cover frequencies up to 40 GHz.

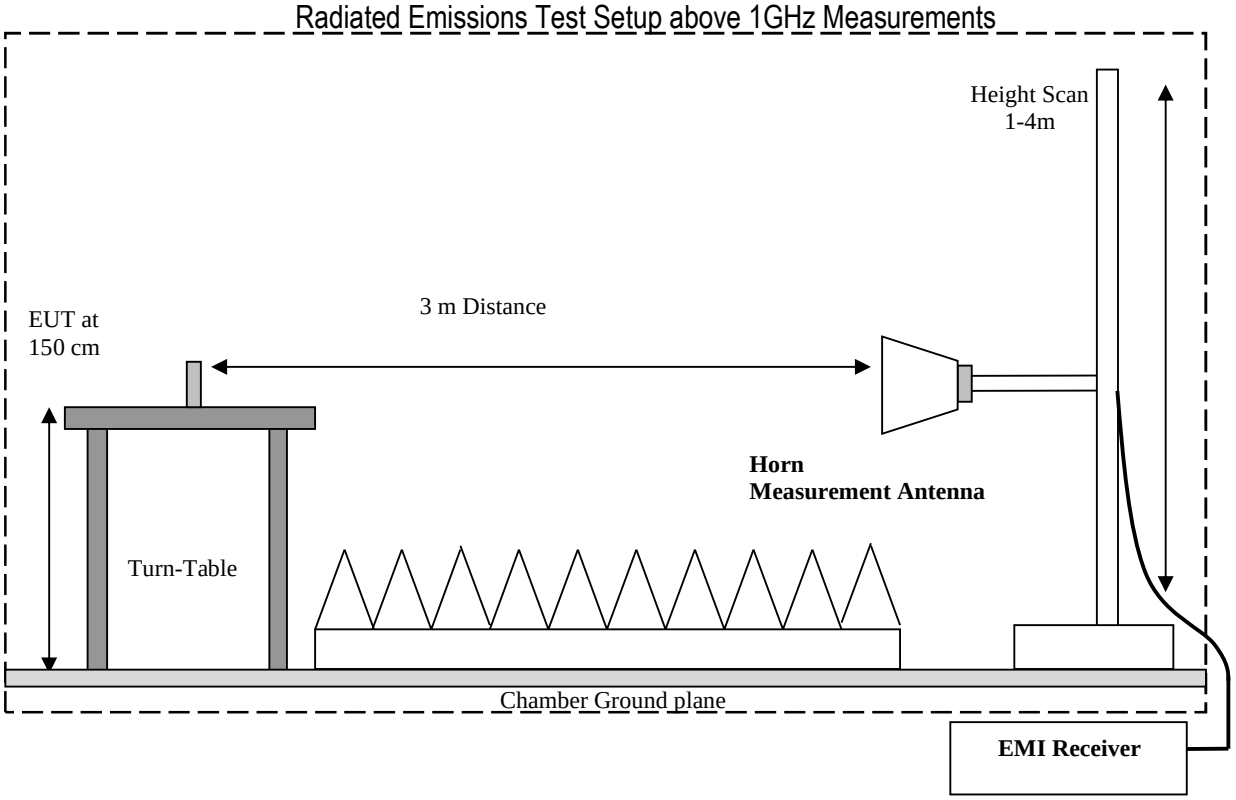
Radiated Emissions Test Setup below 30MHz Measurements



Radiated Emissions Test Setup 30MHz-1GHz Measurements



Radiated Emissions Test Setup above 1GHz Measurements



7.1.1 Sample Calculations for Field Strength Measurements

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

1. Measured reading in dBµV
2. Cable Loss between the receiving antenna and SA in dB and
3. 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:

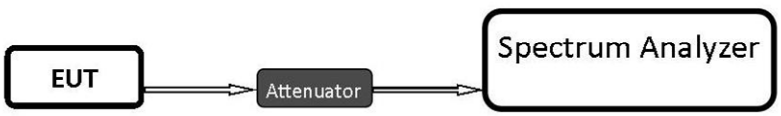
Frequency (MHz)	Measured SA (dBµV)	Cable Loss (dB)	Antenna Factor Correction (dB)	Field Strength Result (dBµV/m)
1000	80.5	3.5	14	98.0

7.2 Power Line Conducted Measurement Procedure

AC Power Line conducted emissions measurements performed according to: ANSI C63.4 (2014)

7.3 RF Conducted Measurement Procedure

Testing procedures are based on 558074 D01 15.247 Meas Guidance v05r02 – "GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES" - April 2, 2019, by the Federal Communications Commission, Office of Engineering and Technology, Laboratory Division.



- Connect the equipment as shown in the above diagram.
- Adjust the settings of the SA (Rohde-Schwarz Spectrum Analyzer) to connect the EUT at the required mode of test.
- Measurements are to be performed with the EUT set to the low, middle and high channels and for worst case modulation schemes.

8 Test Result Data

8.1 Radiated Transmitter Spurious Emissions

8.1.1 Measurement according to FCC 558074 D01 15.247 Meas Guidance v05r02

Spectrum Analyzer Settings:

- Frequency = 9 KHz – 30 MHz
- RBW = 9 KHz
- Detector: Peak

- Frequency = 30 MHz – 1 GHz
- Detector = Peak / Quasi-Peak
- RBW= 120 KHz (<1GHz)

- Frequency > 1 GHz
- Detector = Peak / Average
- RBW = 1 MHz

- Radiated spurious emissions shall be measured for the transmit frequencies, transmit power, and data rate for the lowest, middle and highest channel in each frequency band of operation and for the highest gain antenna for each antenna type, and using the appropriate parameters and test requirements.
- The highest (or worst-case) data rate shall be recorded for each measurement.
- For testing frequencies below 30 MHz at distance other than the specified in the standard, the limit conversion is calculated by using the FCC materials for the ANSI 63 committee issued on January, 27 1991.

8.1.2 Limits:

FCC §15.247

- In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

FCC §15.209 & RSS-Gen 8.9

- Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency of emission (MHz)	Field strength (µV/m)	Measurement Distance (m)	Field strength @ 3m (dBµV/m)
0.009–0.490	2400/F(kHz) / ---------	300	-
0.490–1.705	24000/F(kHz) / --------	30	-
1.705–30.0	30 / (29.5)	30	-
30–88	100	3	40 dBµV/m
88–216	150	3	43.5 dBµV/m
216–960	200	3	46 dBµV/m
Above 960	500	3	54 dBµV/m

FCC §15.205 & RSS-Gen 8.10

- Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			

- Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).
  *PEAK LIMIT= 74 dBµV/m
  *AVG. LIMIT= 54 dBµV/m

8.1.3 Test conditions and setup:

Ambient Temperature	EUT Set-Up #	EUT operating mode	Power Input
22.3 °C	1	TX	nominal

8.1.4 Measurement result:

Plot #	Radio / Channel #	Scan Frequency	Limit	Result
1-5	Low	9 kHz – 26 GHz	See section 8.1.2	Pass
6-10	Mid	9 kHz – 26 GHz	See section 8.1.2	Pass
11-15	High	9 kHz – 26 GHz	See section 8.1.2	Pass

Note 1: Two identical antenna ports on the EUT are tested individually, with only one antenna transmitting at a time.
Note 2: During normal operation of the EUT, the two antennas do not transmit simultaneously.
Note 3: Limited tests on the left antenna port are conducted to verify if the two identical ports exhibit similar performance.

8.1.5 Measurement Plots:

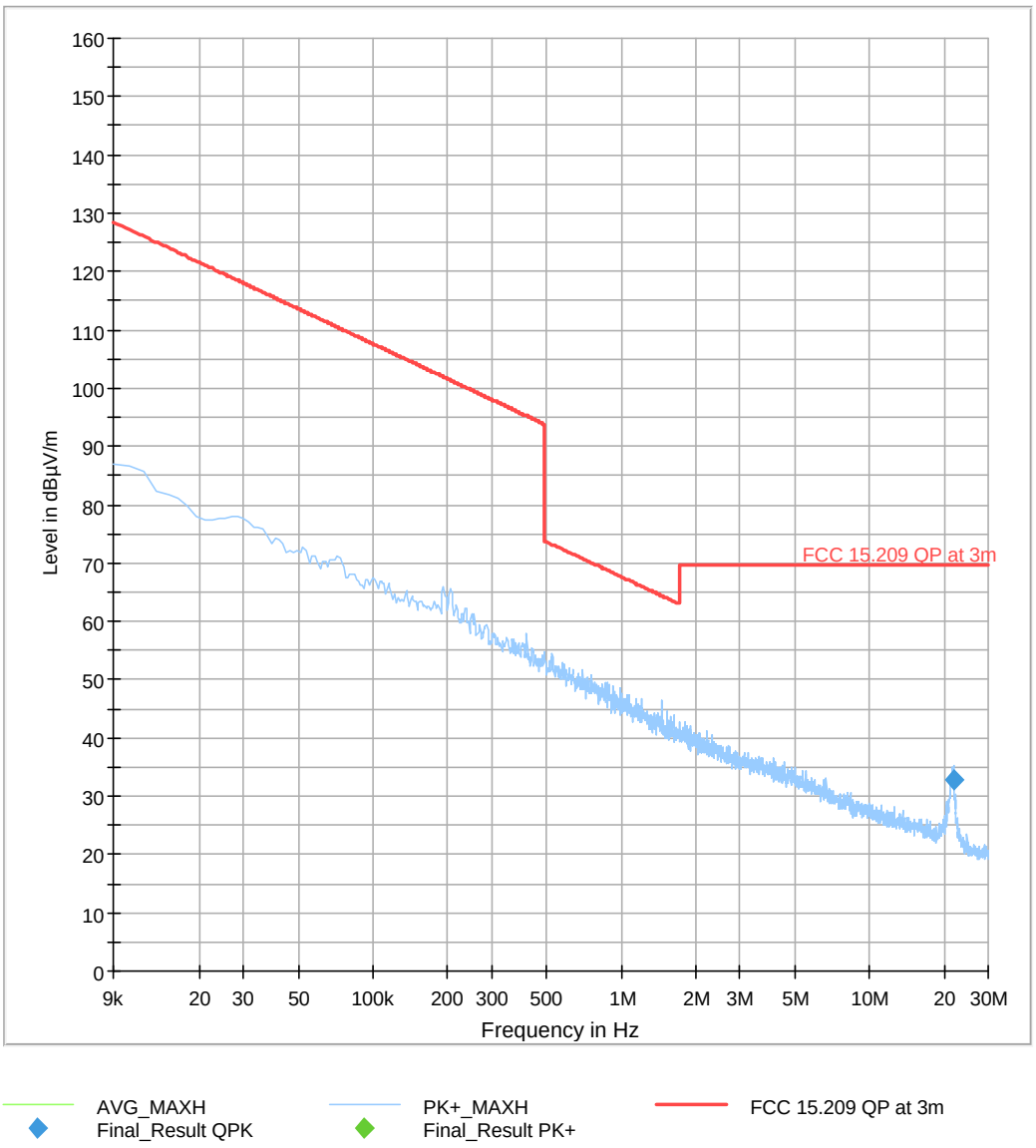
Plot # 1

9 kHz - 30 MHz

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Sig Path (dB)
21.654	32.913	---	69.50	36.59	500.0	9.000	100.0	H	46.0	17.0	0.5

Frequency (MHz)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
21.654	0.0	16.5	15.9



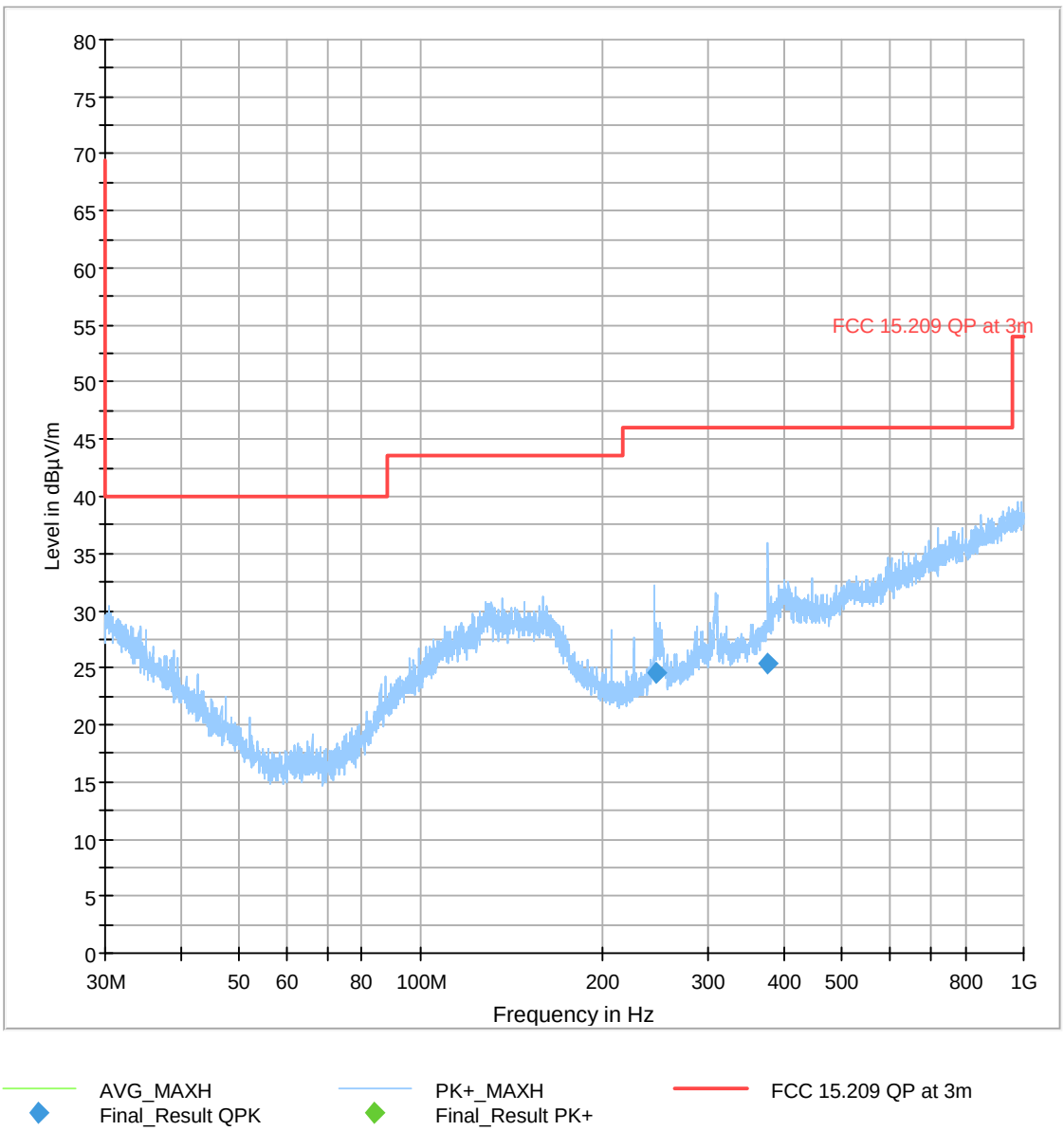
Plot # 2

30 MHz - 1 GHz

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Sig Path (dB)
246.447	24.483	---	46.02	21.54	500.0	120.000	254.0	H	104.0	23.6	1.7
375.597	25.353	---	46.02	20.67	500.0	120.000	107.0	H	177.0	23.7	2.1

Frequency (MHz)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
246.447	0.0	21.9	0.9
375.597	0.0	21.6	1.7



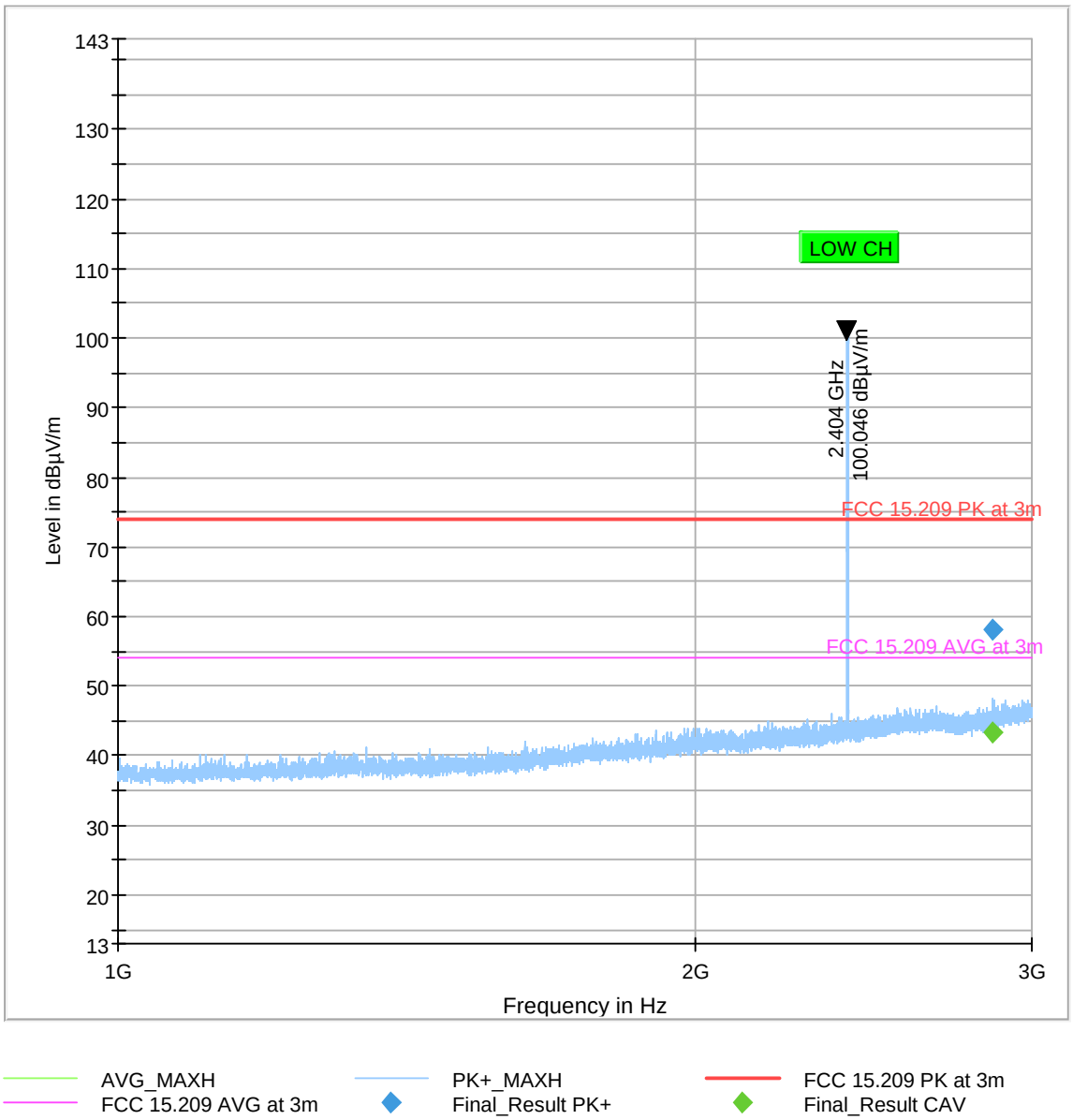
Plot # 3

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)	Sig Path (dB)
2862.411	---	43.371	53.98	10.61	500.0	1000.000	133.0	V	-25.0	35.3	6.2
2862.411	58.214	---	73.98	15.77	500.0	1000.000	133.0	V	-25.0	35.3	6.2

Frequency (MHz)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
2862.411	0.0	29.2	8.0
2862.411	0.0	29.2	22.9



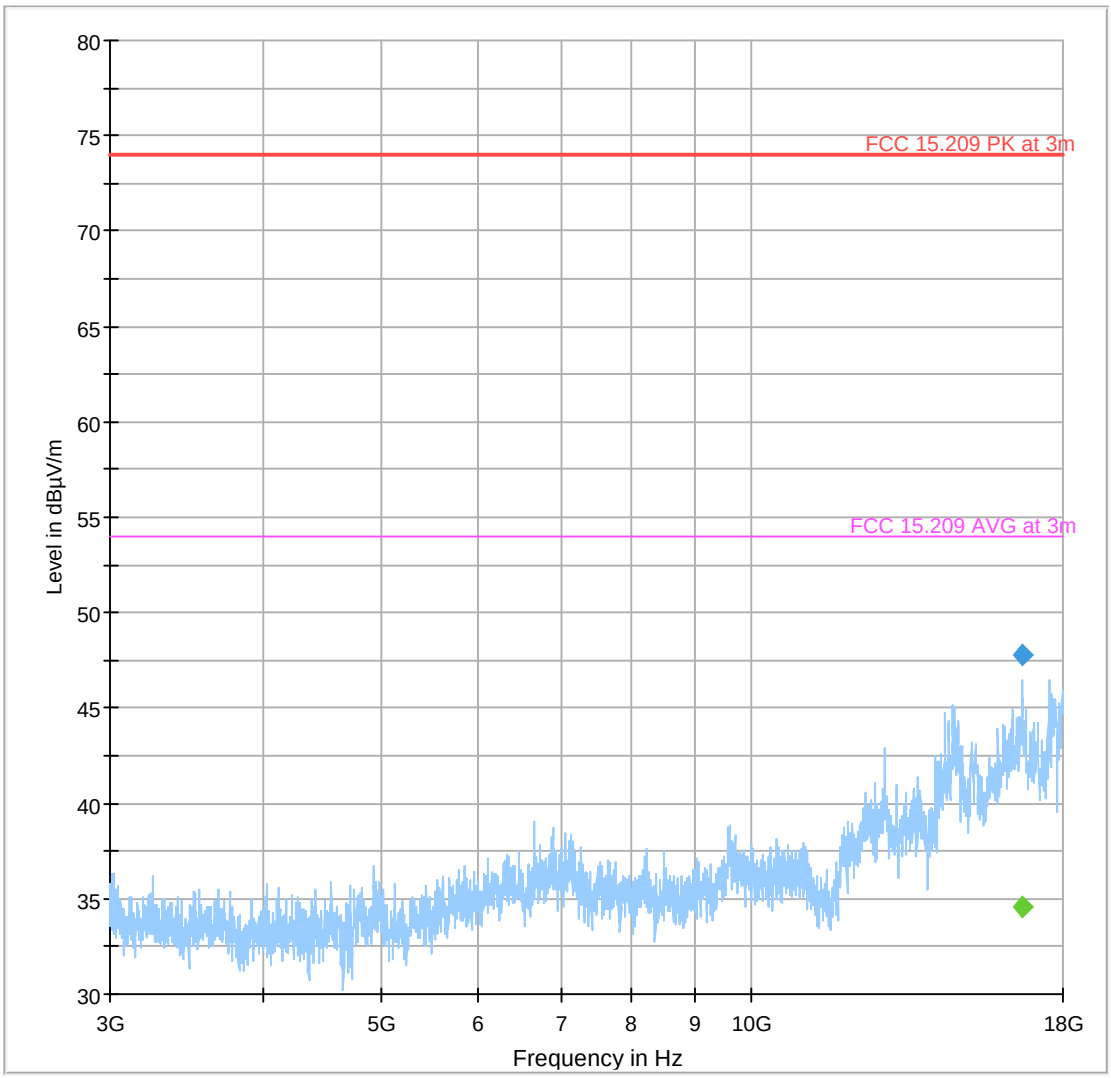
Plot # 4

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)	Sig Path (dB)
16683.750	---	34.606	53.98	19.37	500.0	1000.000	330.0	H	124.0	14.3	15.2
16683.750	47.770	---	73.98	26.21	500.0	1000.000	330.0	H	124.0	14.3	15.2

Frequency (MHz)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
16683.750	-42.2	41.3	20.3
16683.750	-42.2	41.3	33.5



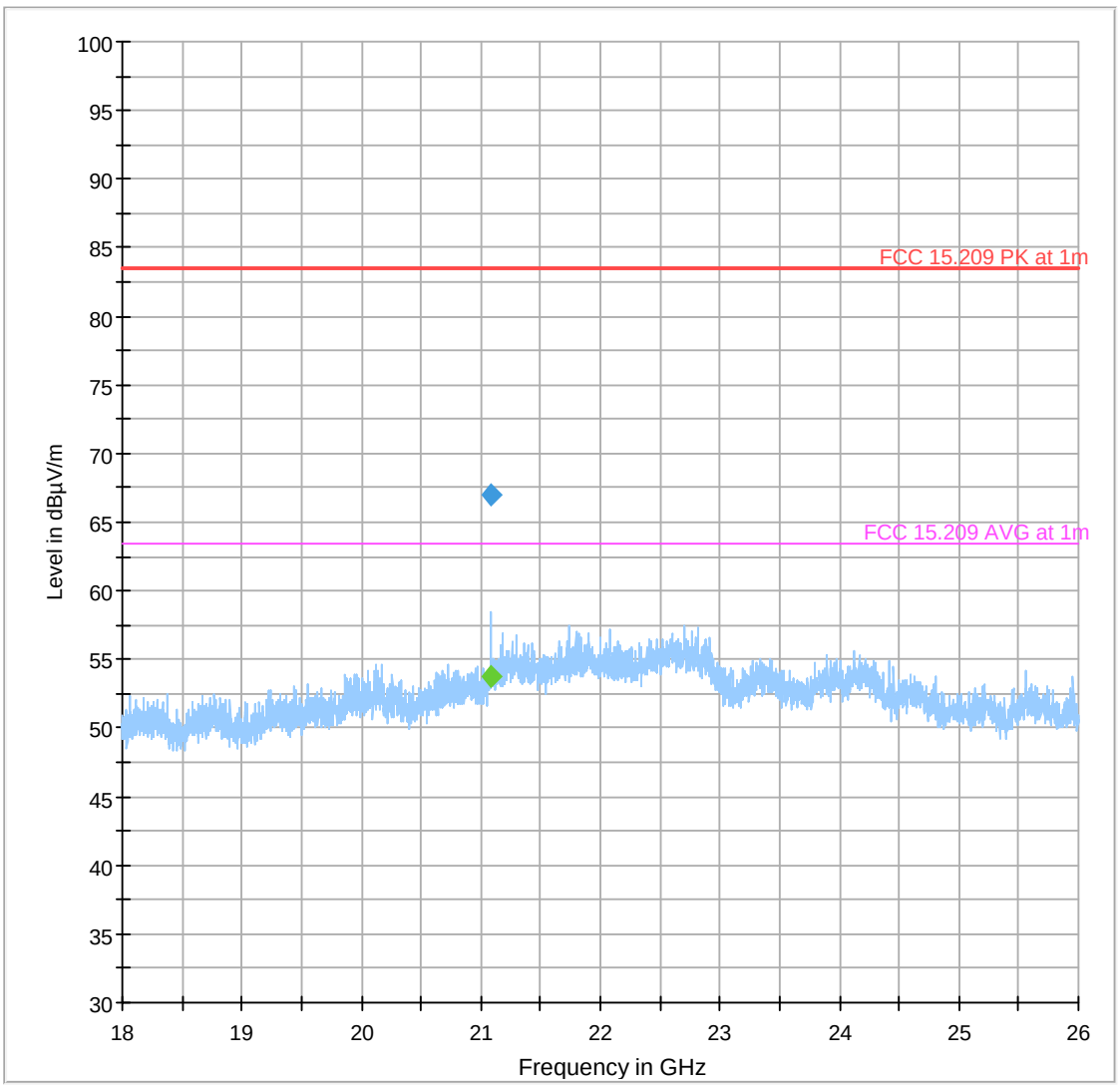
Plot # 5

18 - 26 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)	Sig Path (dB)
21087.250	---	53.738	63.50	9.76	500.0	1000.000	100.0	V	296.0	18.5	9.3
21087.250	66.968	---	83.50	16.53	500.0	1000.000	100.0	V	296.0	18.5	9.3

Frequency (MHz)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
21087.250	0.0	9.2	35.2
21087.250	0.0	9.2	48.5



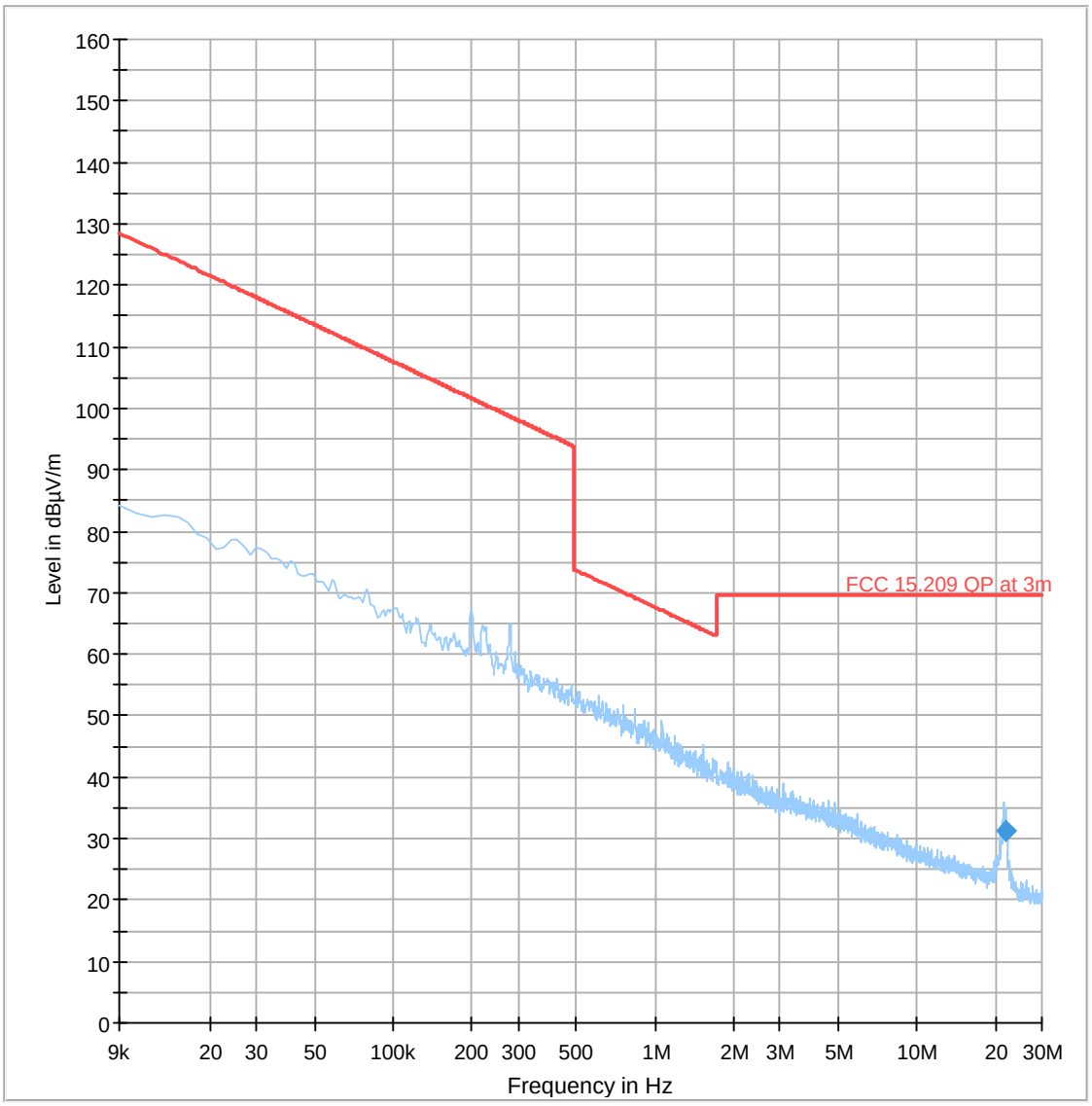
Plot # 6

9 kHz - 30 MHz

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Sig Path (dB)
21.737	31.135	---	69.50	38.37	500.0	9.000	100.0	H	307.0	17.0	0.5

Frequency (MHz)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
21.737	0.0	16.5	14.1



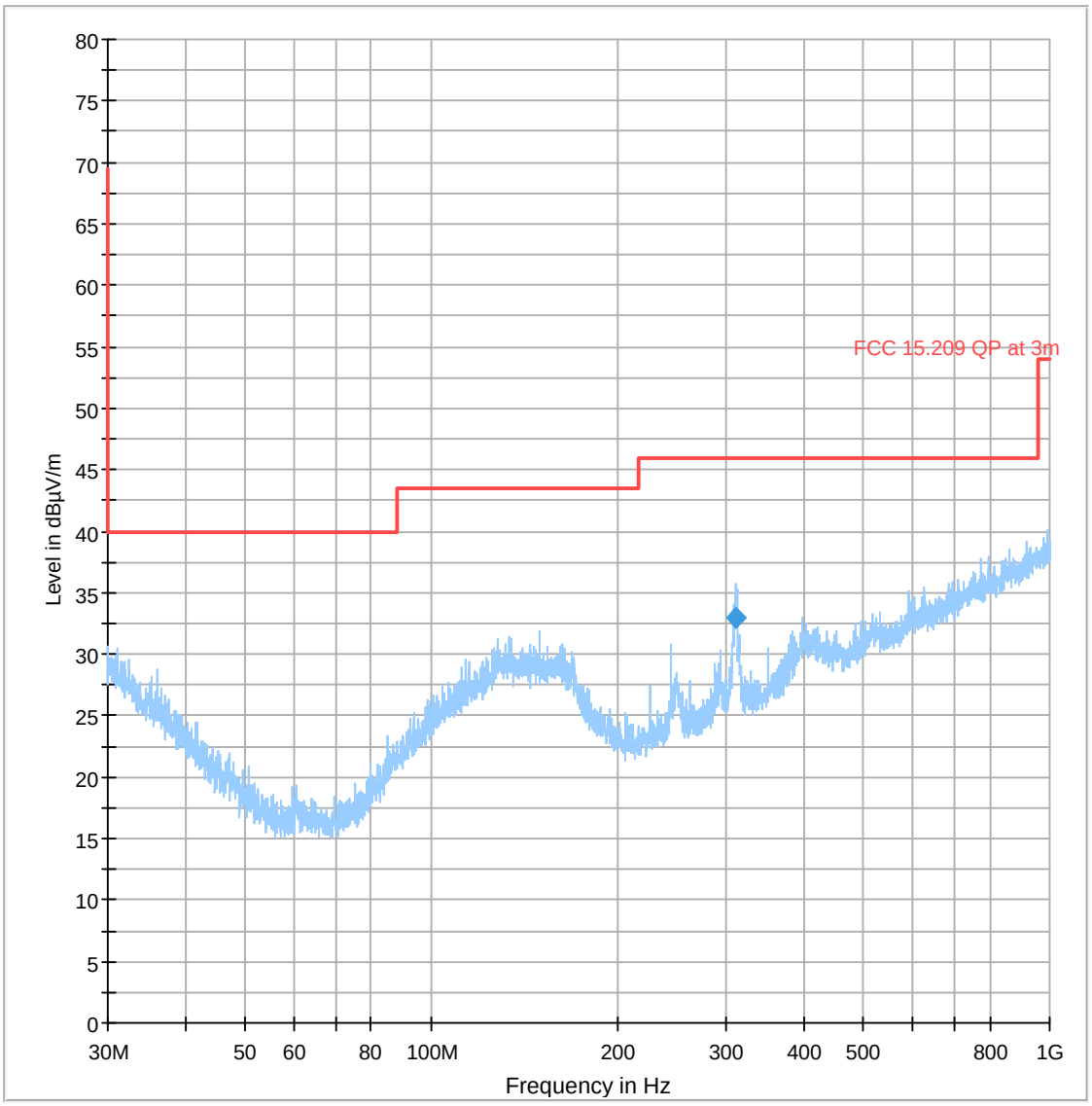
Plot # 7

30 MHz – 1 GHz

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Sig Path (dB)
310.849	32.980	---	46.02	13.04	500.0	120.000	117.0	H	104.0	22.6	1.9

Frequency (MHz)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
310.849	0.0	20.7	10.4



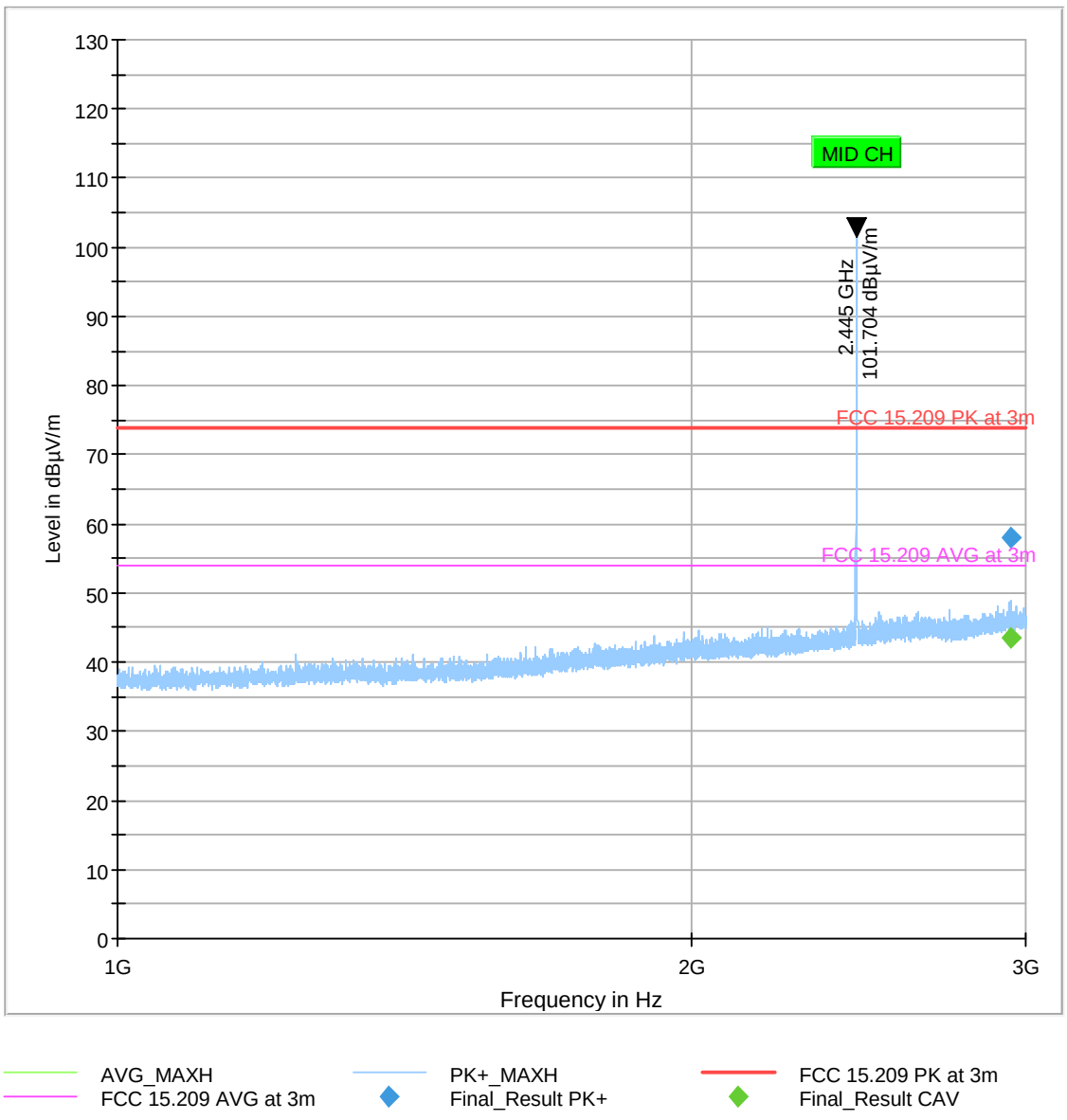
Plot # 8

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
2949.714	58.118	---	73.98	15.86	500.0	1000.000	272.0	H
2949.714	---	43.513	53.98	10.47	500.0	1000.000	272.0	H

Frequency (MHz)	Azimuth (deg)	Corr. (dB/m)	Sig Path (dB)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
2949.714	290.0	35.7	6.1	0.0	29.7	22.4
2949.714	290.0	35.7	6.1	0.0	29.7	7.8



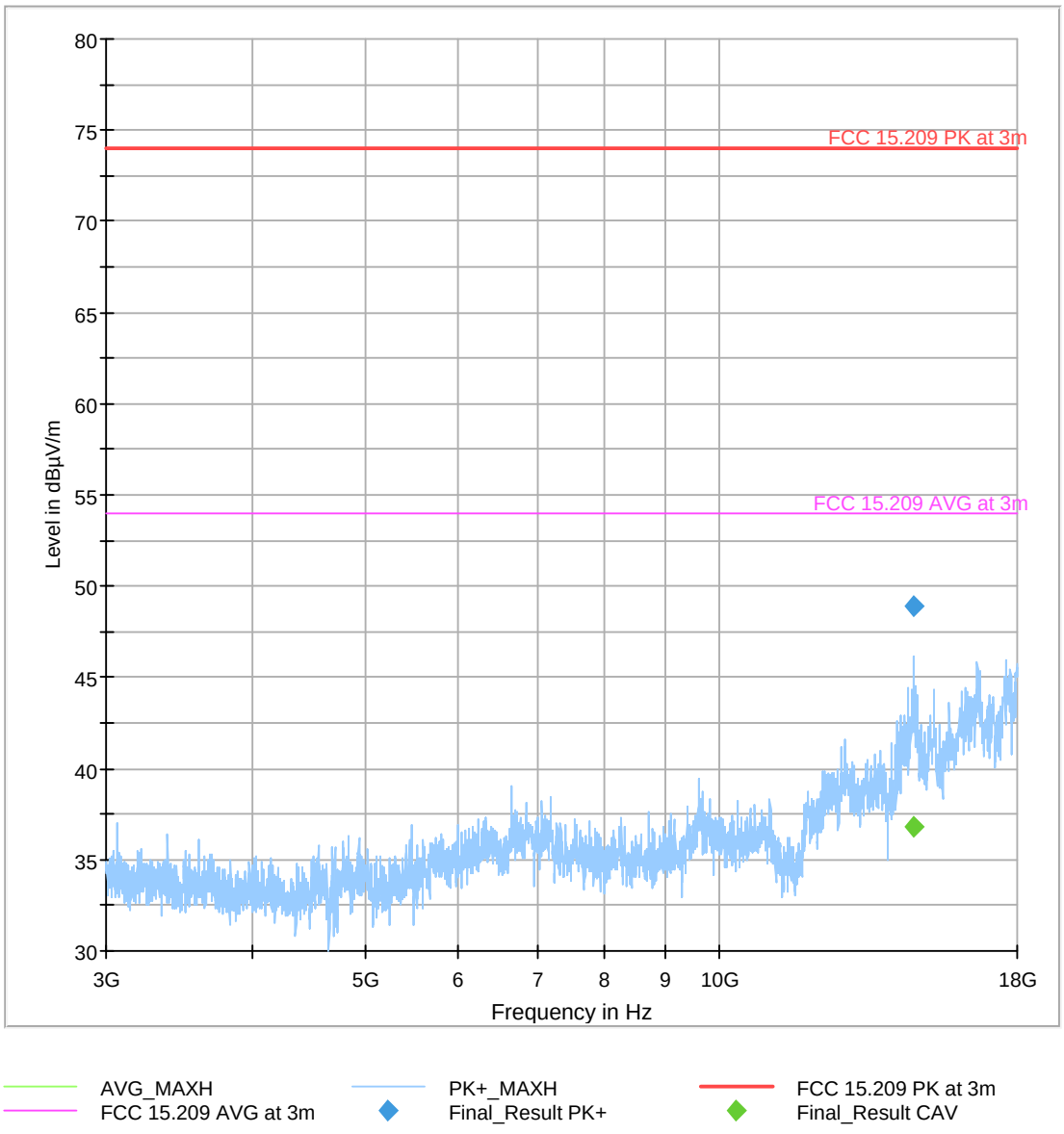
Plot # 9

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)	Sig Path (dB)
14667.250	---	36.806	53.98	17.17	500.0	1000.000	259.0	V	275.0	10.1	13.9
14667.250	48.934	---	73.98	25.05	500.0	1000.000	259.0	V	275.0	10.1	13.9

Frequency (MHz)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
14667.250	-45.0	41.2	26.7
14667.250	-45.0	41.2	38.9



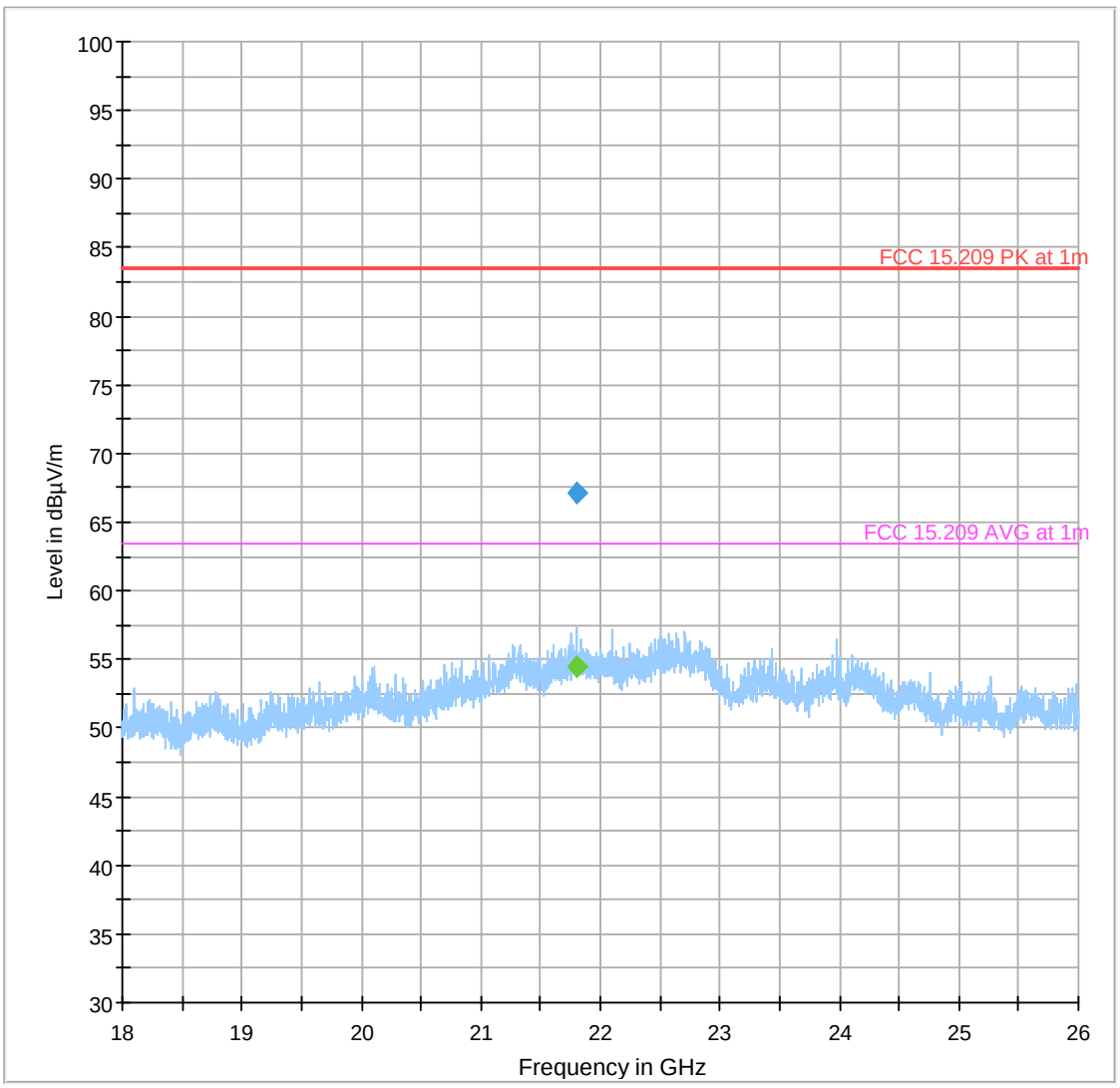
Plot # 10

18 – 26 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)	Sig Path (dB)
21802.000	---	54.406	63.50	9.09	500.0	1000.000	100.0	H	132.0	19.2	9.5
21802.000	67.113	---	83.50	16.39	500.0	1000.000	100.0	H	132.0	19.2	9.5

Frequency (MHz)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
21802.000	0.0	9.7	35.2
21802.000	0.0	9.7	47.9



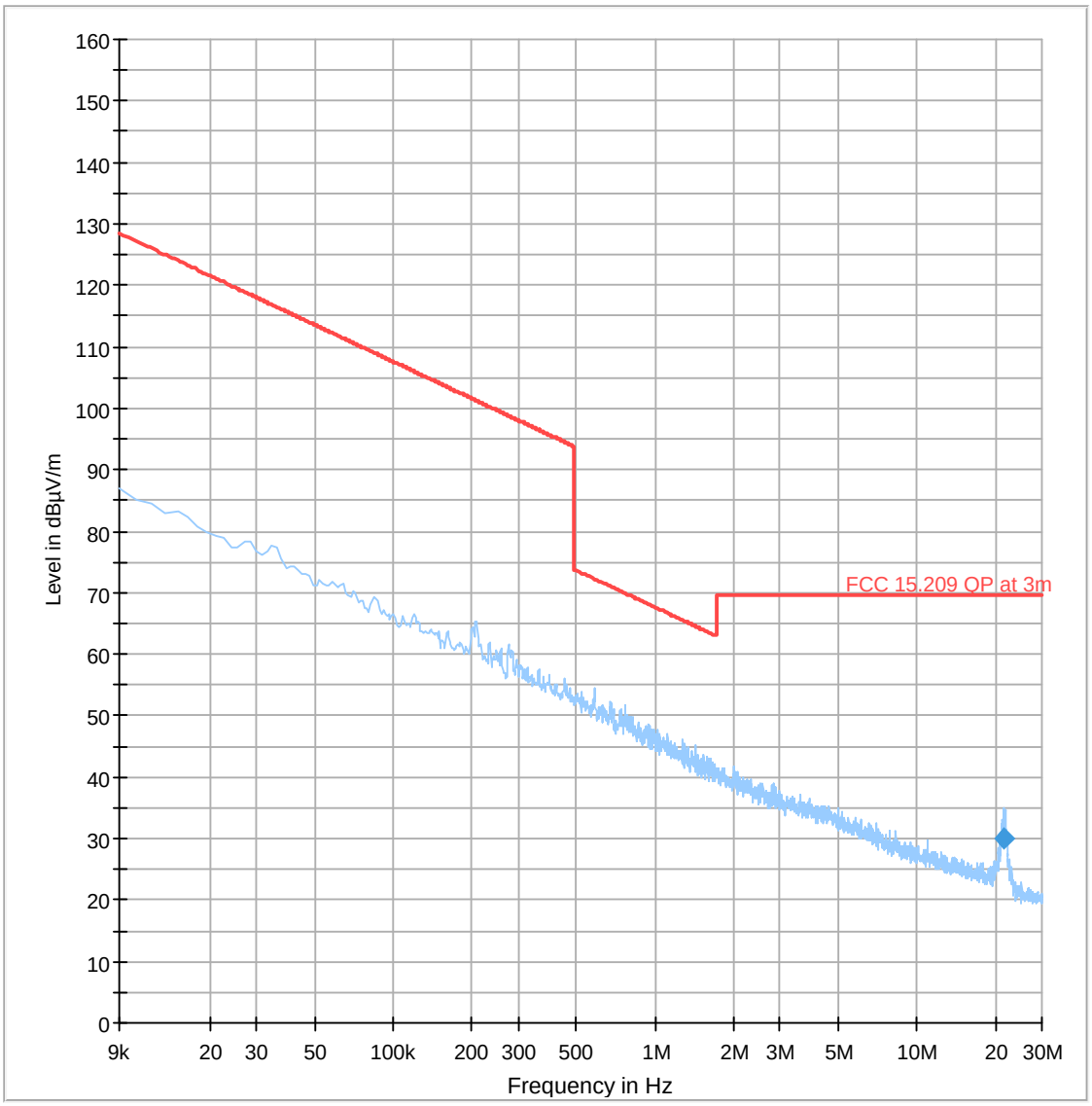
Plot # 11

9KHz – 30 MHz

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Sig Path (dB)
21.404	30.008	---	69.50	39.49	500.0	9.000	100.0	V	282.0	17.1	0.5

Frequency (MHz)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
21.404	0.0	16.6	12.9



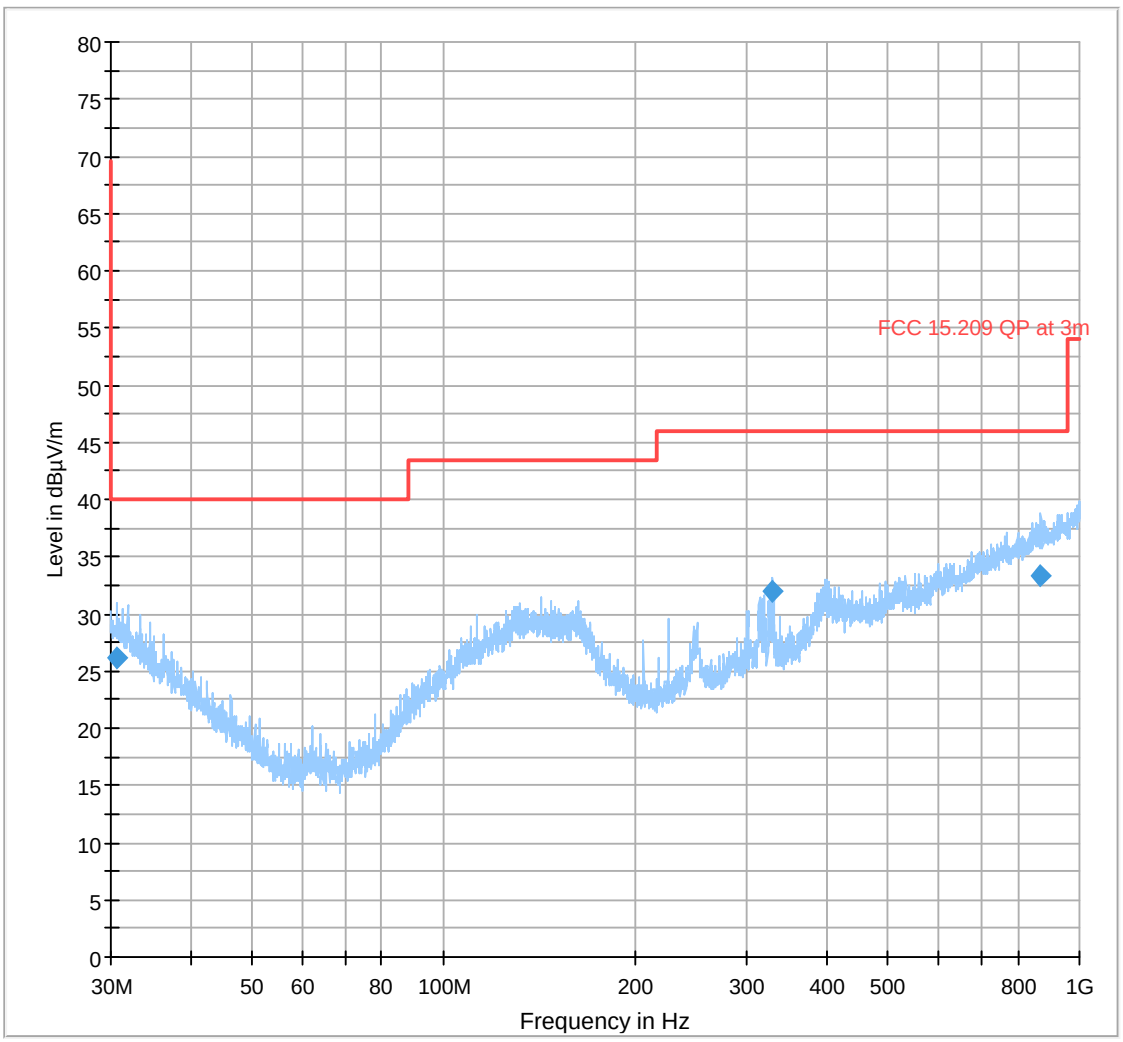
Plot # 12

30 MHz – 1 GHz

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Sig Path (dB)
30.581	26.221	---	40.00	13.78	500.0	120.000	288.0	H	335.0	25.4	0.7
328.454	31.989	---	46.02	14.03	500.0	120.000	100.0	H	75.0	22.9	2.0
868.335	33.417	---	46.02	12.60	500.0	120.000	356.0	H	30.0	31.8	3.1

Frequency (MHz)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
30.581	0.0	24.7	0.8
328.454	0.0	20.9	9.1
868.335	0.0	28.7	1.6



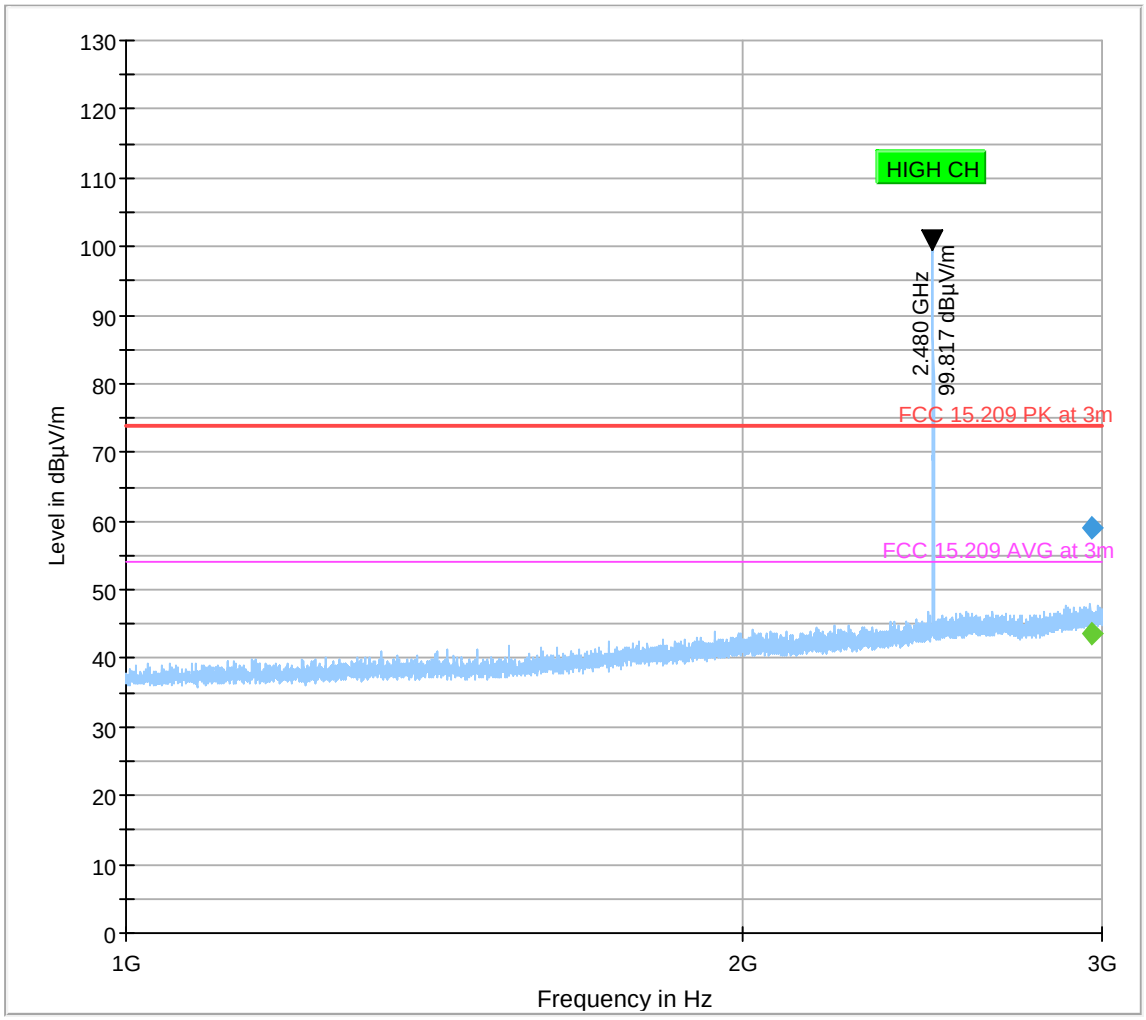
Plot # 13

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)	Sig Path (dB)
2964.143	58.914	---	73.98	15.07	500.0	1000.000	100.0	V	6.0	35.8	6.1
2964.143	---	43.556	53.98	10.42	500.0	1000.000	100.0	V	6.0	35.8	6.1

Frequency (MHz)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
2964.143	0.0	29.7	23.2
2964.143	0.0	29.7	7.8



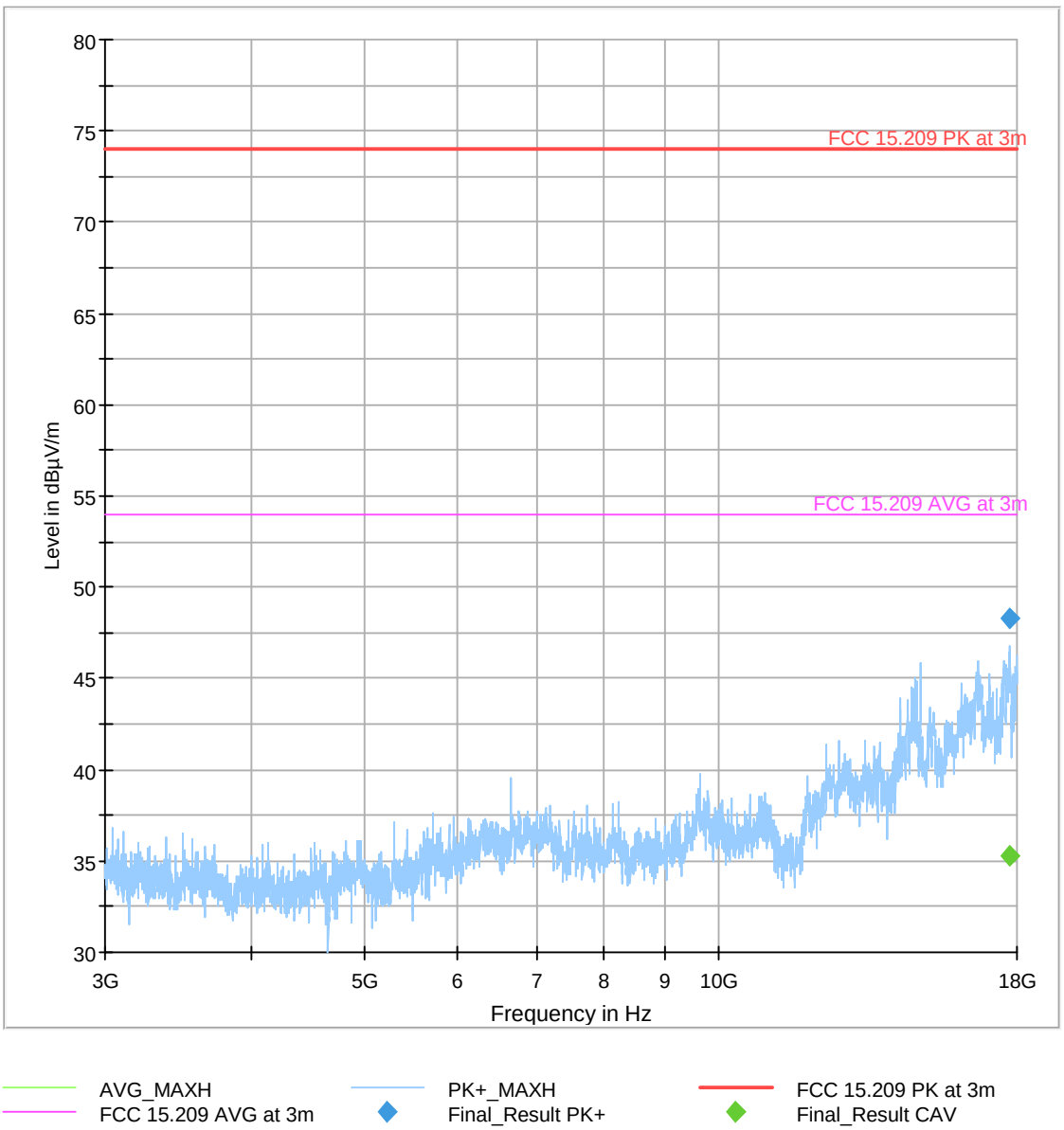
Plot # 14

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)	Sig Path (dB)
17769.250	---	35.323	53.98	18.66	500.0	1000.000	400.0	V	184.0	15.2	16.4
17769.250	48.250	---	73.98	25.73	500.0	1000.000	400.0	V	184.0	15.2	16.4

Frequency (MHz)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
17769.250	-42.6	41.5	20.1
17769.250	-42.6	41.5	33.0



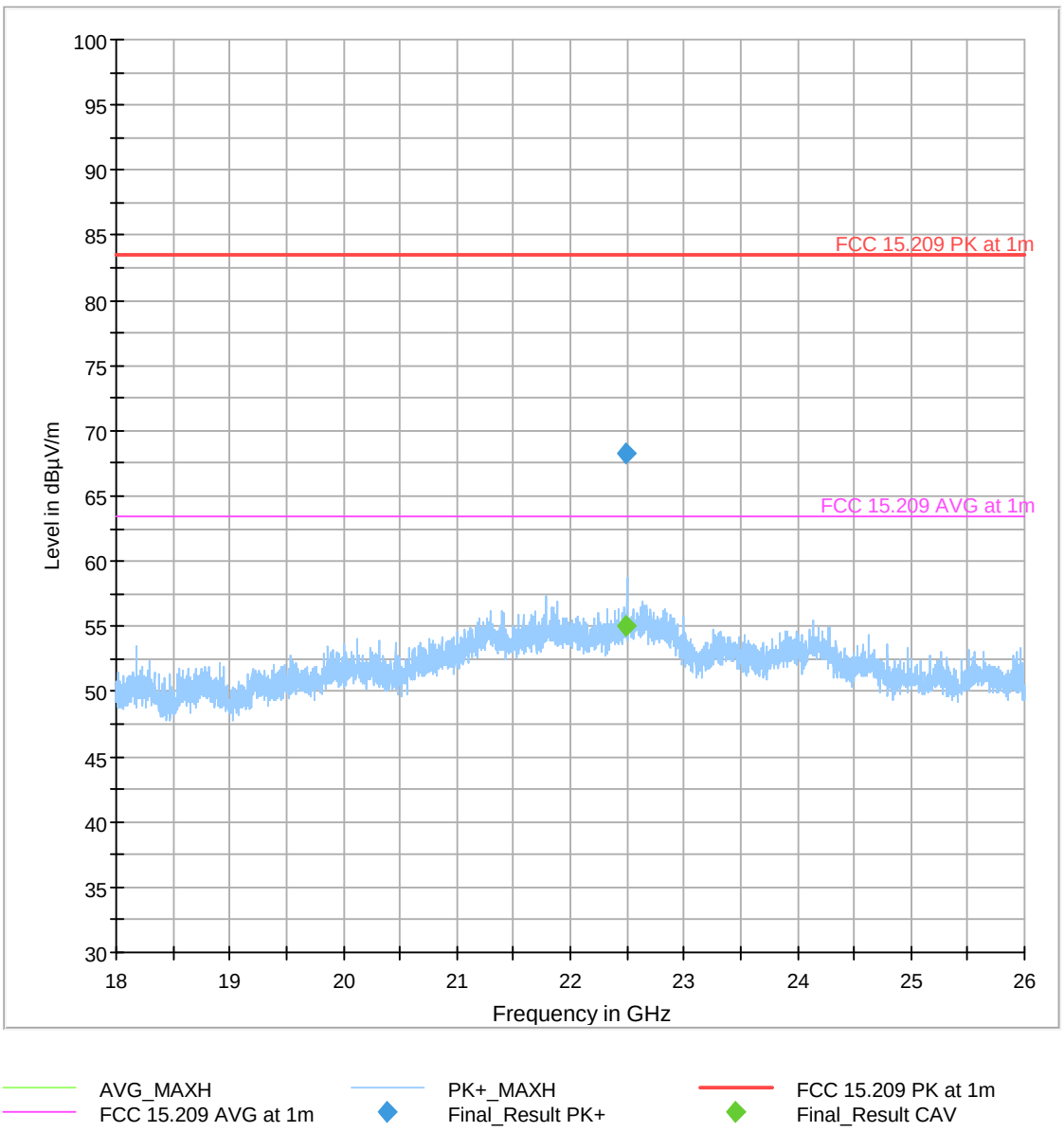
Plot # 15

18 – 26 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)	Sig Path (dB)
22497.750	---	55.108	63.50	8.39	500.0	1000.000	100.0	H	67.0	19.9	9.8
22497.750	68.285	---	83.50	15.21	500.0	1000.000	100.0	H	67.0	19.9	9.8

Frequency (MHz)	Preamp (dB)	Trd Corr. (dB/m)	Raw Rec (dBµV)
22497.750	0.0	10.1	35.2
22497.750	0.0	10.1	48.4



9 Test setup photos

Setup photos are included in supporting file name:
"EMC_VISTE_006_24001_FCC15247_DTS_BPCMFX_Setup_Photos.pdf"

10 Test Equipment And Ancillaries Used For Testing

Equipment Type	Manufacturer	Model	Serial #	Calibration Cycle	Last Calibration Date
Biconlog Antenna	ETS Lindgren	BiLA2G	00063983	3 YEARS	8/14/2023
HORN ANTENNA	EMCO	3115	00035114	3 YEARS	09/13/2023
HORN ANTENNA	ETS LINDGREN	3117-PA	166067	3 YEARS	09/25/2023
HORN ANTENNA	ETS LINDGREN	3116C-PA	00169535	3 YEARS	10/26/2023
DIGITAL THRMOMETER	CONTROL COMPANY	4410,90080-03	230713059	3 YEARS	10/18/2023
Spectrum Analyzer	Rohde & Schwarz	FSU. Spectrum Analyzer	100189	3 YEARS	5/27/2022
PASSIVE LOOP ANTENNA	ETS-LINDGREN	6512	00164698	3 YEARS	6/9/2023
EMI RECEIVER	R&S	ESW44	101715	2 YEARS	10/24/2023
Thermometer	Control Company	4410,90080-03	23071341	2 YEARS	10/18/2023
EMC32 Test Software	R&S	Version 10.50.40	-	-	-

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 "NA" for cal status either do not specifically require calibration or is internally characterized before use.

11 Revision History

Date	Report name	Changes to report	Prepared by
2024-11-08	EMC_VISTE_006_24001_FCC15247_DTS_BPCMFX	Initial Version	Guangcheng Huang

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