



FCC Test Report

FOR:
Trapeze Software Group, Inc.

Model Name:
Ranger 4 EVDO A

Product Description:
Rugged and compact vehicular compute

FCC ID: RZ3RAN45728A

Applied Rules and Standards:
47 CFR Part 15.247

REPORT #: EMC_TRAPZ_006_18001_15.247_WLAN

DATE: 02/23/2018



A2LA Accredited

IC recognized #
3462B-2

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1 Assessment

The following device as further described in section 3 of this report was evaluated for radiated spurious emissions in simultaneous transmission of unlicensed and cellular radios according to criteria specified in FCC rules Parts 15.247 of Title 47 of the Code of Federal Regulations.

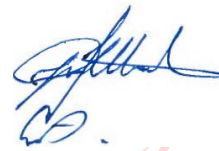
No deviations were ascertained.

Responsible for Testing Laboratory:

James Donnellan
(Lab Manager)

02/23/2018 Compliance

Date	Section	Name	Signature
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Responsible for the Report:

Digitally signed by ISSA
GHANMA
DN: cn=ISSA
GHANMA, c=US,
o=CETECOM Inc.,
email=issa.
ghanma@cetecom.com
Date: 2018.02.23
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Issa Ghanma
(EMC Engineer)

02/23/2018 Compliance

Date	Section	Name	Signature
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The test results of this test report relate exclusively to the test item specified in Section 3.

CETECOM Inc. USA does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of CETECOM Inc. USA.

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
Director Radio Com. and EMC:	James Donnellan
Responsible Project Leader:	Laith Saman

2.2 Identification of the Client

Applicant's Name:	Trapeze Software Group, Inc.
Street Address:	10, 2175 29 Street NE
City/Zip Code	Calgary, AB, T17 7H8
Country	Canada
Contact Person:	Stephen Hickie
Phone No.	403-777-3760 x826
e-mail:	stephen.hickie@trapezegroup.com

2.3 Identification of the Manufacturer

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

3 Equipment under Test (EUT)

3.1 EUT Specifications

Model No	Ranger 4 EVDO A
FCC-ID	RZ3RAN45728A
Product Description	Rugged and compact vehicular compute
Module Information	
Module Name and Number:	Redpine RS9110-N-11-02
FCC ID:	XF6-RS9110N1102
Frequency Range / number of channels:	Nominal band: 2400 MHz – 2483.5 MHz; 2412 MHz (Ch. 1) – 2462 (Ch.11), 11 channels
Type(s) of Modulation:	802.11b/g/n
Modes of Operation:	Fix channel transmission
Antenna type and gain as declared:	Flexible printed circuit with 3 dBi
Max. declared output Powers form modular grant:	0.0404 Watts
Power Supply/ Rated Operating Voltage Range:	Low 6V / Nom 12V / High 36V
Operating Temperature Range	-30 °C to 65 °C
Other Radios included in the device:	Cellular: Sierra Wireless MC5728\ FCC ID: N7N-MC5728, GPS LEA-6H
Sample Revision	☐ Prototype Unit; ☒ Production Unit; ☐ Pre-Production
EUT Dimensions	7 in X 8 in X 4 in
Weight	2.5 lbs.
EUT Diameter	☒ < 60 cm ☐ Other _____

3.2 EUT Sample details

EUT #	Serial Number	HW Version	SW Version	Notes/Comments
1	31-7038016	4.3	1.03	Radiated Emissions

3.3 Accessory Equipment (AE) details

AE #	Type	Model	Manufacturer	Serial Number	Comments
1	Power supply	3A-621DN12	CUI INC	ETS120500UTC-P5P-SZ	In reality the unit will be connected to a vehicular battery. This accessory used for testing only.

3.4 Test Sample Configuration

Set-up #	EUT / AE used for set-up	Comments
1	EUT #1 + AE #1	Radiated Measurements

3.5 Mode of Operation details

Mode of Operation	Description of Operating modes	Additional Information
Op. 1	802.11b and CDMA 800 Co-Transmission	Wi-Fi 2.4 GHz b mode tested on Low, Mid, High channels Co-Transmit with CDMA 800 Mid channel The internal antenna was connected.

3.6 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 maximum power and duty cycle Co-Transmit with CDMA 800 (The highest conducted output power of Cellular radio from modular grant).

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 transmitter spurious emission of the EUT according to the relevant requirements specified in FCC rules Part 15.247 of Title 47 of the Code of Federal Regulations.

This test report is to support a request for new equipment authorization under the: FCC ID: RZ3RAN45728A

The conducted module test data can be obtained under the FCC Filing ID: XF6-RS9110N1102.

5 Measurement Results Summary

Test Specification	Test Case	Temperature and Voltage Conditions	Mode	Pass	NA	NP	Result
§15.247(a)(2)	Emission Bandwidth	Nominal	-	☐	☐	☒	Note 1 Note 3 Complies
§15.247(e)	Power Spectral Density	Nominal	-	☐	☐	☒	Note 1 Note 3 Complies
§15.247(b)(3)	Maximum Conducted Output Power and EIRP	Nominal	-	☐	☐	☒	Note 1 Note 3 Complies
§15.247(d)	Band edge compliance Unrestricted Band Edges	Nominal	-	☐	☐	☒	Note 1 Note 3 Complies
§15.247; 15.209; 15.205	Band edge compliance Restricted Band Edges	Nominal	-	☐	☐	☒	Note 1 Note 3 Complies
§15.247(d) §15.209(a)	TX Spurious emissions- Radiated	Nominal	802.11b	☒	☐	☐	Complies
§15.207(a)	AC Conducted Emissions	Nominal	-	☐	☒	☐	Note 1 Note 2 Complies

Note1: NA= Not Applicable; NP= Not Performed.

Note2: Device does not connect to AC main power.

Note3: Leveraged from module certification FCC Filing ID: XF6-RS9110N1102

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=1.

Radiated measurement

9 kHz to 30 MHz	±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)

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:

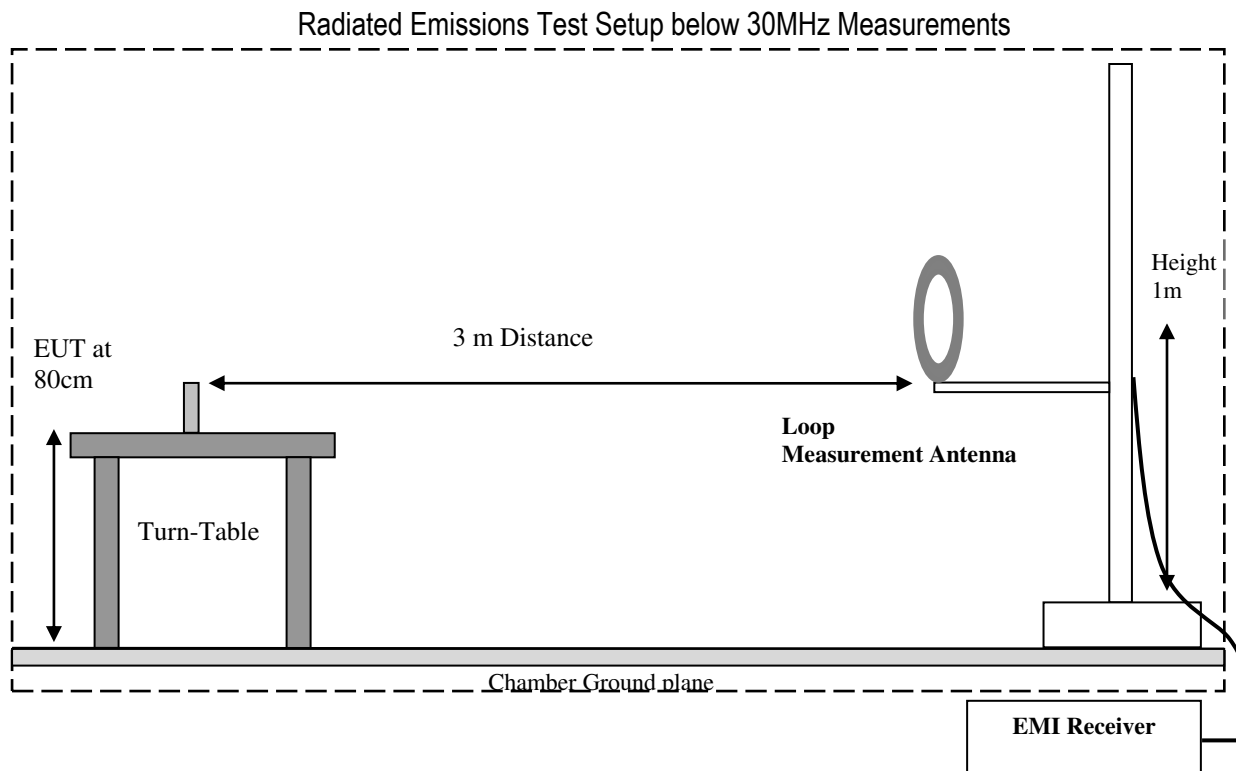
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7 Measurement Procedures

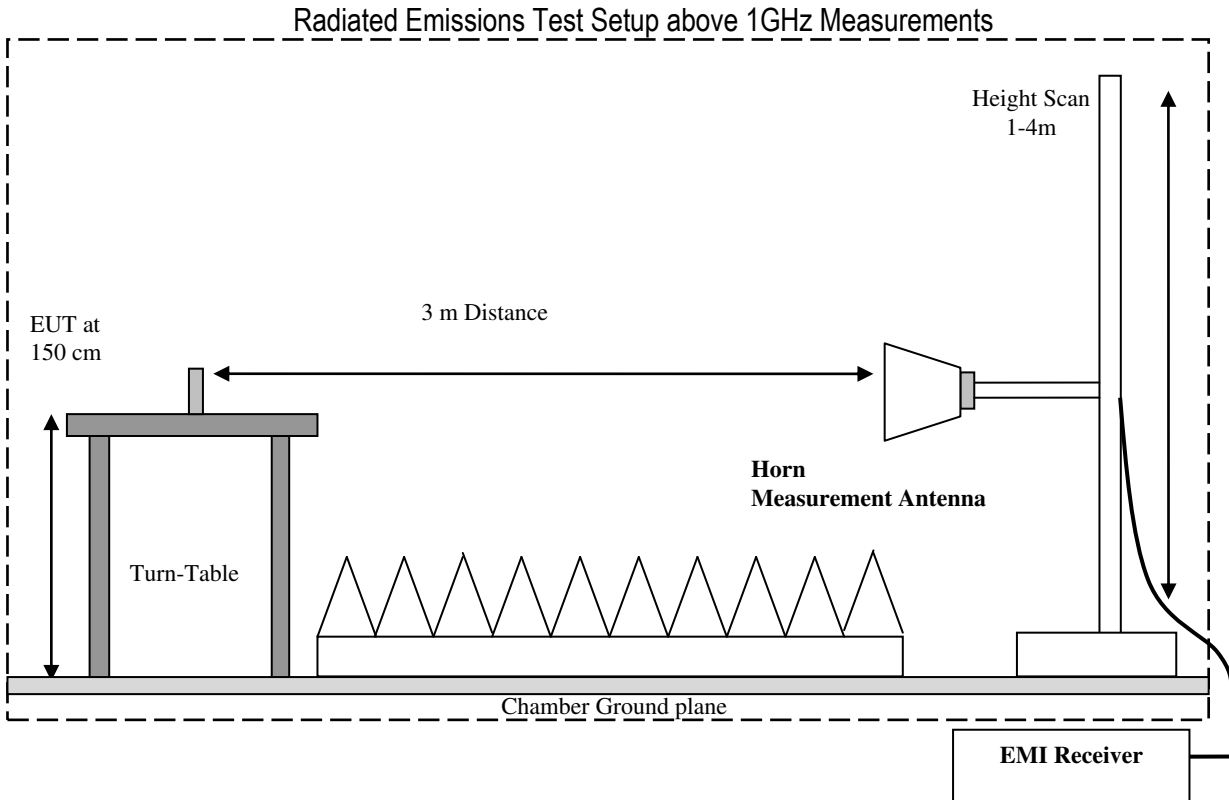
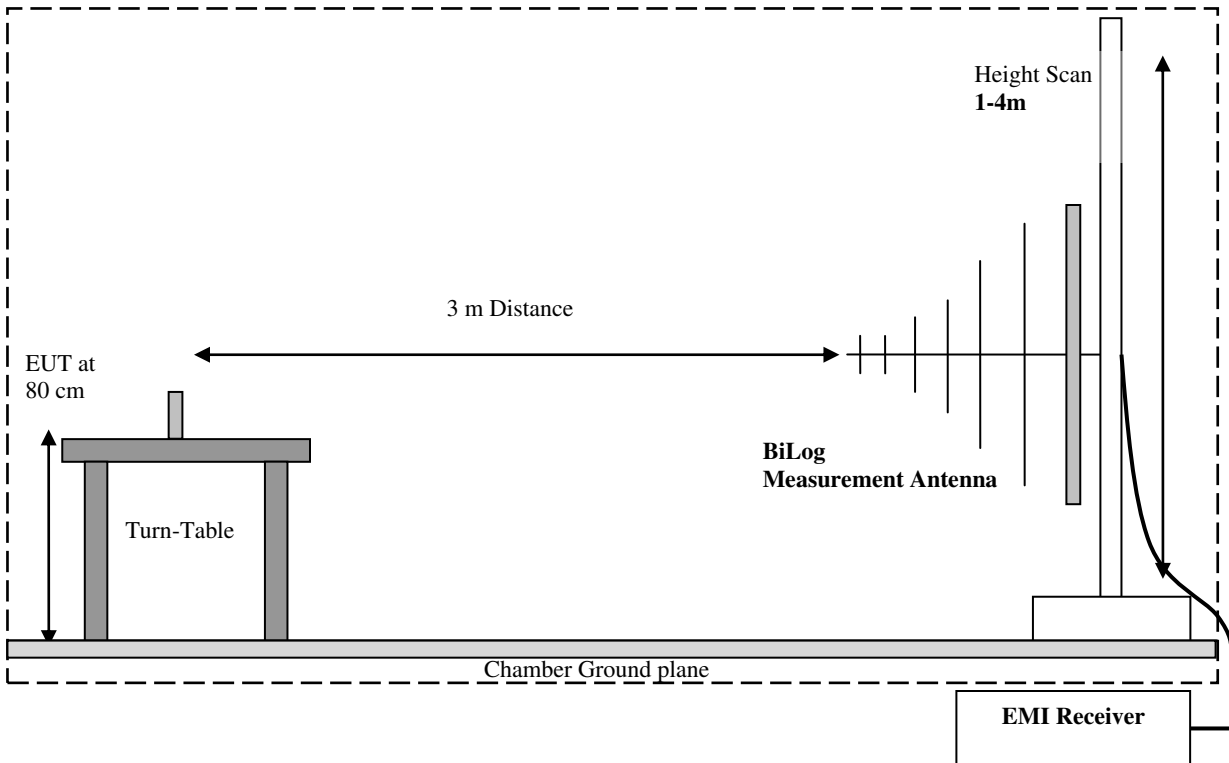
7.1 Radiated Measurement

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 4 positions 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 10 highest 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 up 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 30MHz-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 dB μ V
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:

$$FS \text{ (dB}\mu\text{V/m)} = \text{Measured Value on SA (dB}\mu\text{V)} - \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}$$

Example:

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

8 Test Result Data

8.1 Radiated Transmitter Spurious Emissions and Restricted Bands

8.1.1 Measurement according to ANSI C63.10 (2013)

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 at distance other than the specified in the standard, the limit conversion is calculated by using 40 dB/decade extrapolation factor as follow: Conversion factor (CF) = $40 \log (D/d) = 40 \log (300\text{m} / 3\text{m}) = 80\text{dB}$

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

- 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 ($\mu\text{V/m}$)	Measurement Distance (m)	Field strength @ 3m (dB $\mu\text{V/m}$)
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 dB $\mu\text{V/m}$
88–216	150	3	43.5 dB $\mu\text{V/m}$
216–960	200	3	46 dB $\mu\text{V/m}$
Above 960	500	3	54 dB $\mu\text{V/m}$

FCC §15.205

- 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
10.495-0.505	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 dB $\mu\text{V/m}$

*AVG. LIMIT= 54 dB $\mu\text{V/m}$

8.1.3 Test conditions and setup:

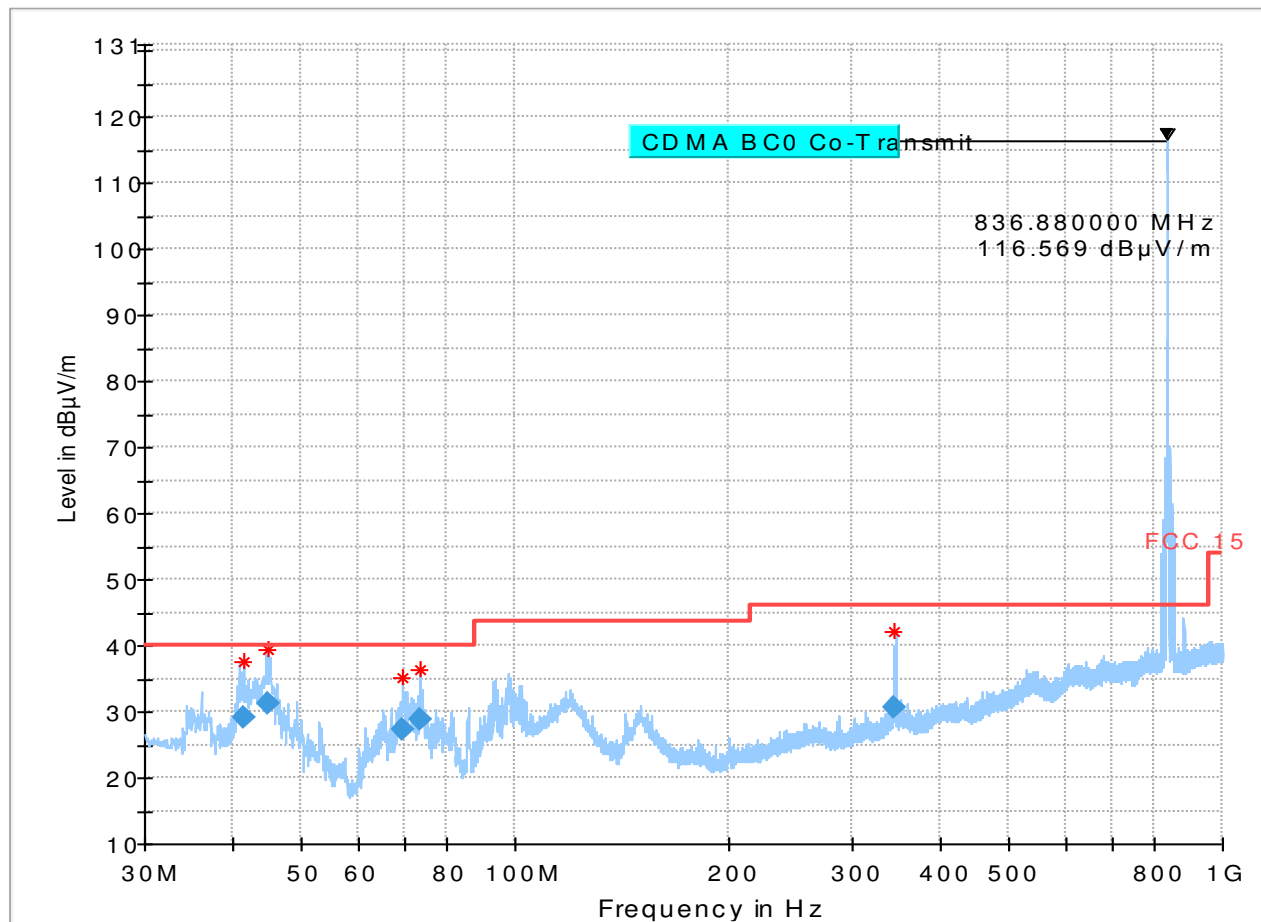
Ambient Temperature	EUT Set-Up #	EUT operating mode	Power Input
23° C	1	802.11b continuous fixed channel Co-Transmission with Cellular CDMA 800.	Power supply

8.1.4 Measurement result:

Plot #	Mode	Channel #	Scan Frequency	Highest emission in dBμV/m	Frequency of highest emission in MHz	Limit	Result
1-3	802.11 b	1	30 MHz – 18 GHz	58.88	1673	Section 8.1.2	Pass
4-8	802.11 b	6	9 kHz – 26 GHz	60.82	0.1018	Section 8.1.2	Pass
9-11	802.11 b	11	30 MHz – 18 GHz	53.24	1673	Section 8.1.2	Pass

8.1.5 Measurement Plots:**Plot #1 Radiated Emissions: 30 MHz – 1 GHz****Modulation: 802.11b****Channel: 1****Final Result**

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
41.308300	29.08	40.00	10.92	200.0	120.000	140.0	V	173.0	9.7
44.824100	31.12	40.00	8.88	200.0	120.000	151.0	V	169.0	8.5
69.612100	27.20	40.00	12.80	200.0	120.000	140.0	V	18.0	8.1
73.554000	28.76	40.00	11.24	200.0	120.000	150.0	V	27.0	8.8
344.600600	30.64	46.02	15.38	200.0	120.000	166.0	V	279.0	17.4



Preview Result 2-AVG Critical_Freqs PK+ Preview Result 1-PK+ FCC 15 Critical_Freqs AVG Final_Result QPK

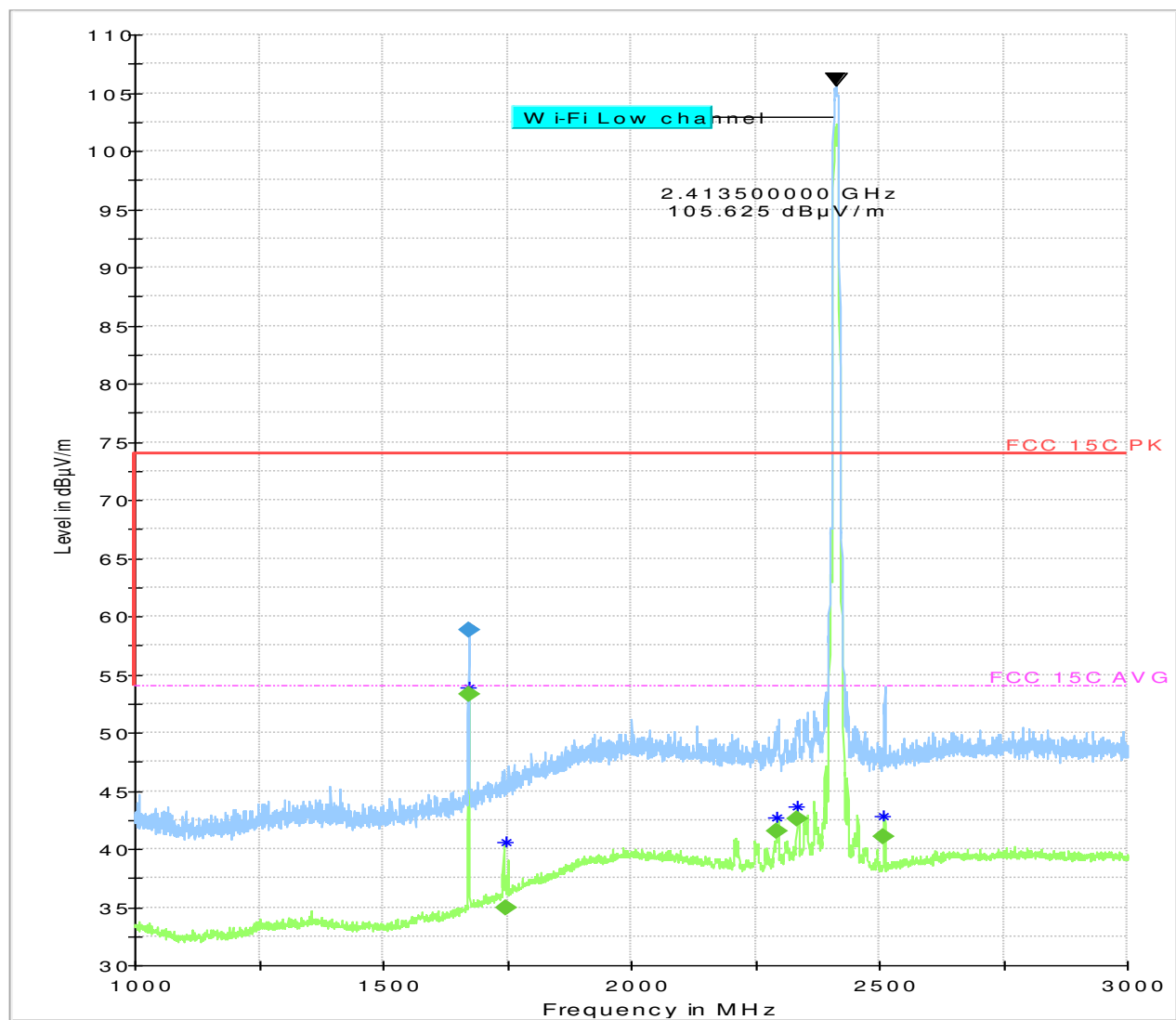
Plot #2 Radiated Emissions: 1 – 3 GHz

Modulation: 802.11b

Channel: 1

Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	RMS (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1672.925000	---	53.25	53.98	0.73	10.0	1000.000	100.0	V	156.0	-10.3
1673.690000	58.88	---	74.00	15.12	10.0	1000.000	100.0	V	161.0	-10.3
1746.855000	---	34.91	53.98	19.07	10.0	1000.000	350.0	V	-143.0	-9.3
2294.170000	---	41.49	53.98	12.49	10.0	1000.000	100.0	H	148.0	-7.2
2334.670000	---	42.55	53.98	11.43	10.0	1000.000	100.0	H	157.0	-7.0
2509.000000	---	41.11	53.98	12.87	10.0	1000.000	100.0	V	300.0	-7.4

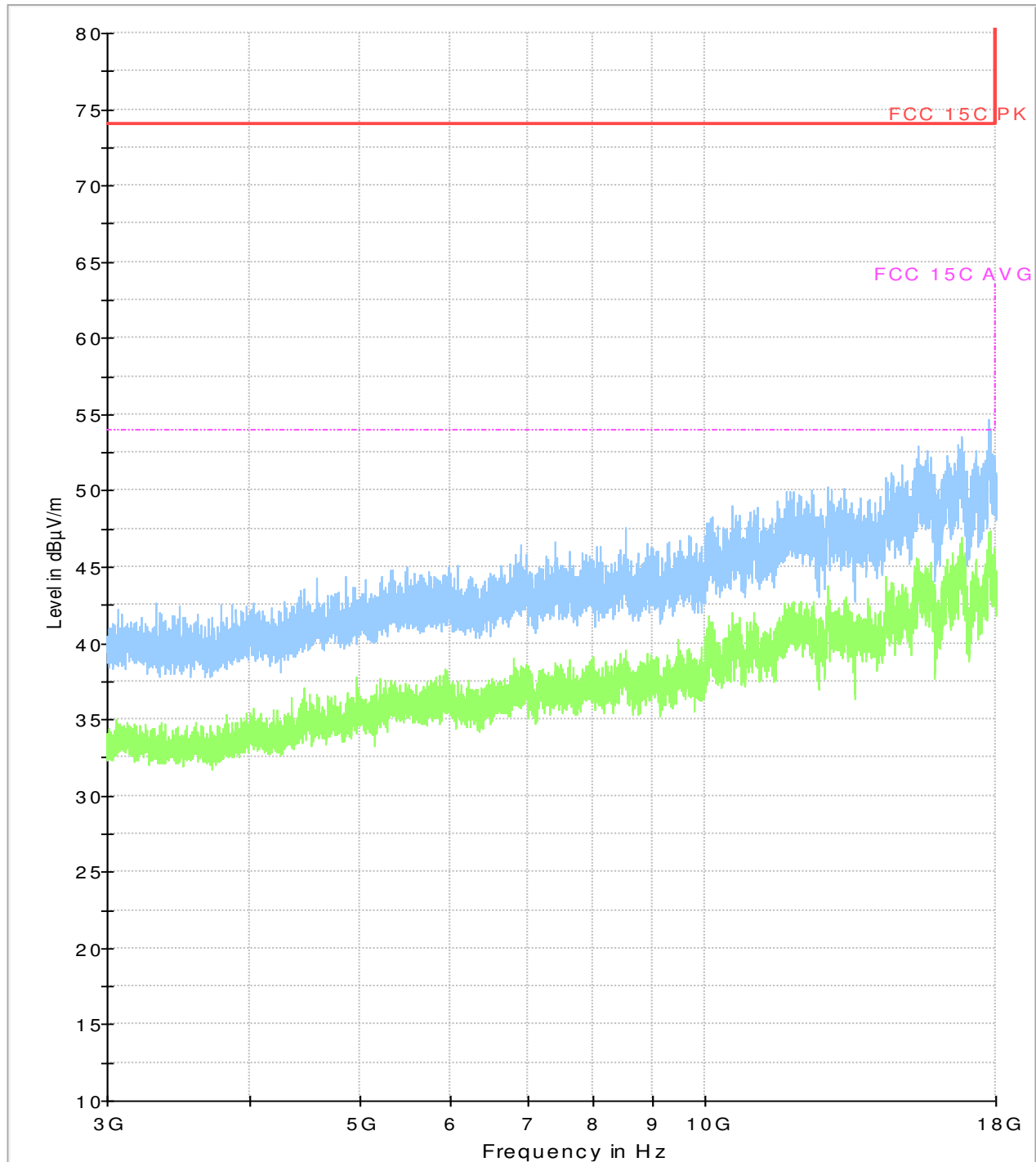


Preview Result 2-RMS Preview Result 1-PK+ Critical_Freqs RMS
Critical_Freqs PK+ FCC 15C PK Final_Result RMS
Final_Result PK+ Final_Result RMS

Plot #3 Radiated Emissions: 3-18 GHz

Modulation: 802.11b

Channel: 1



Preview Result 2-RMS	Preview Result 1-PK+	* Critical_Freqs RMS
* Critical_Freqs PK+	FCC 15C PK	* FCC 15C AVG
◆ Final_Result QPK	◆ Final_Result RMS	

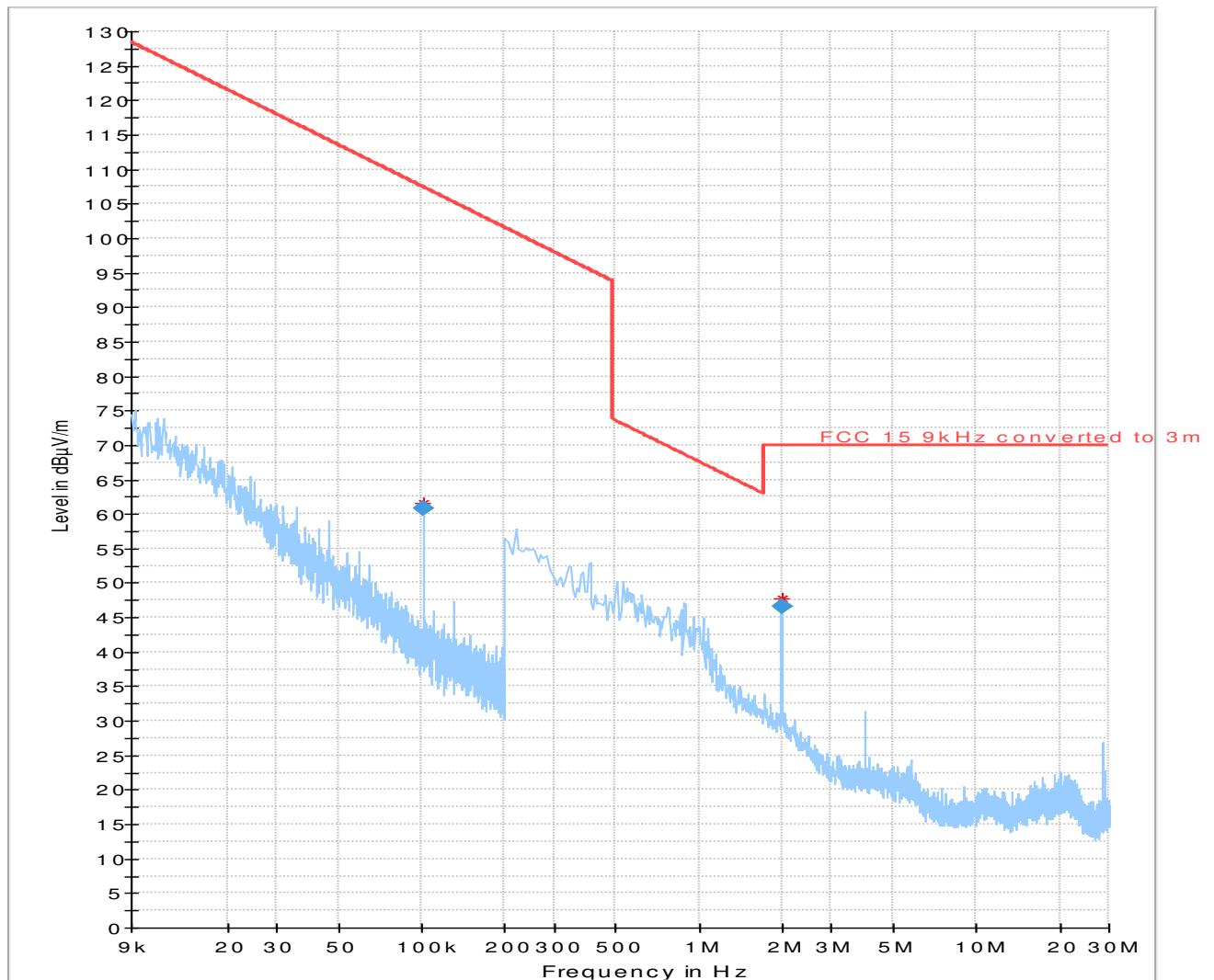
Plot # 4 Radiated Emissions: 9 KHz – 30 MHz

Modulation: 802.11b

Channel: 6

Final_Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
0.101800	60.82	107.44	46.62	500.0	0.100	107.0	H	-85.0	40.7
1.983908	46.67	70.00	23.33	500.0	9.000	107.0	V	-14.0	18.3



Preview Result 2-RMS
Critical_Freqs RMS
FCC 15 9kHz converted to 3m
Final_Result RMS

Preview Result 1-PK+
Critical_Freqs PK+
Final_Result QPK

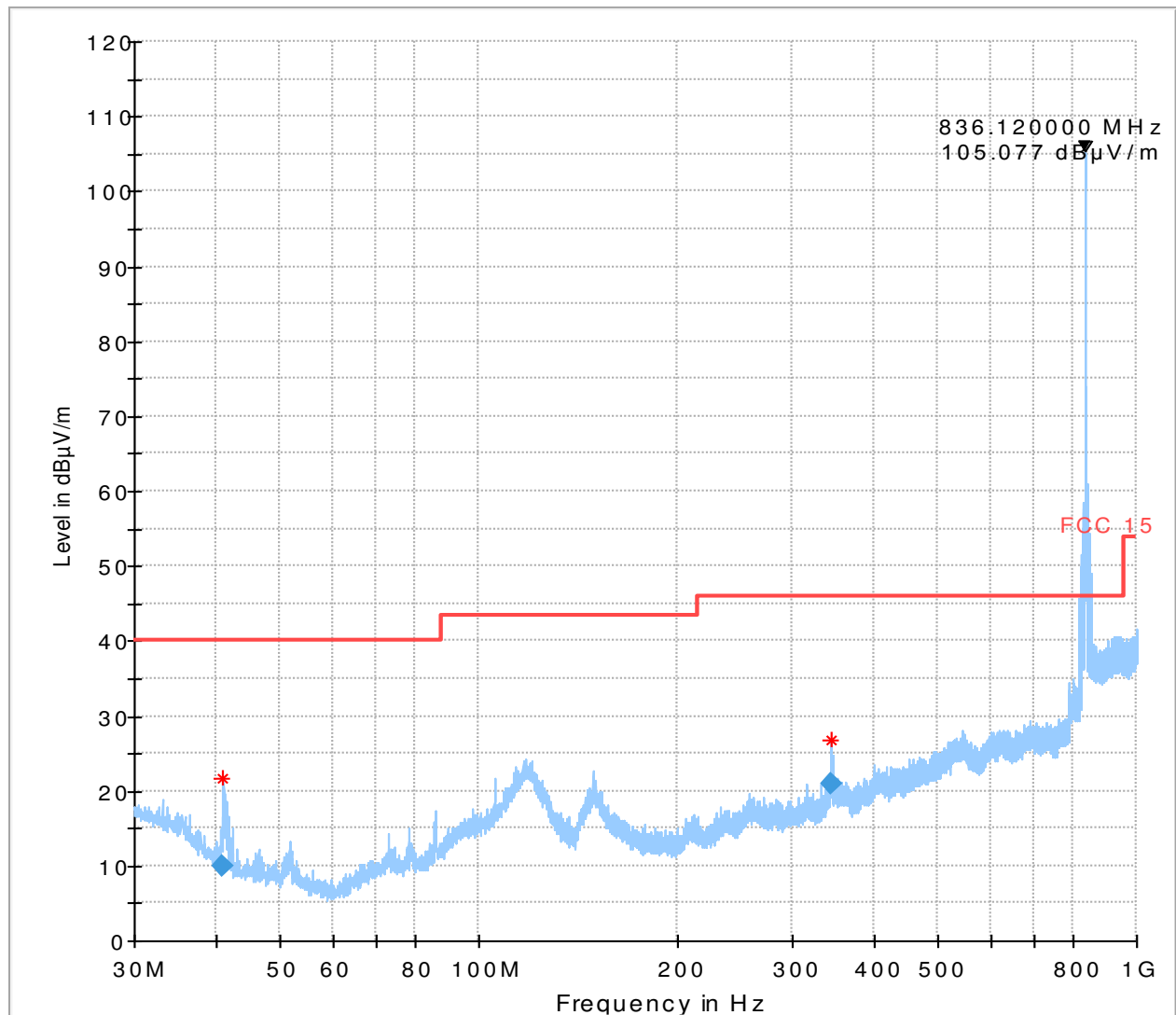
Plot #5 Radiated Emissions: 30 MHz – 1 GHz

Modulation: 802.11b

Channel: 6

Final_Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
40.916000	9.90	40.00	30.10	10.0	120.000	147.0	V	239.0	10.2
343.776000	20.95	46.02	25.07	10.0	120.000	300.0	V	271.0	18.3



* Preview Result 2-AVG Critical_Freqs PK+ Preview Result 1-PK+ FCC 15 Critical_Freqs AVG Final_Result QPK

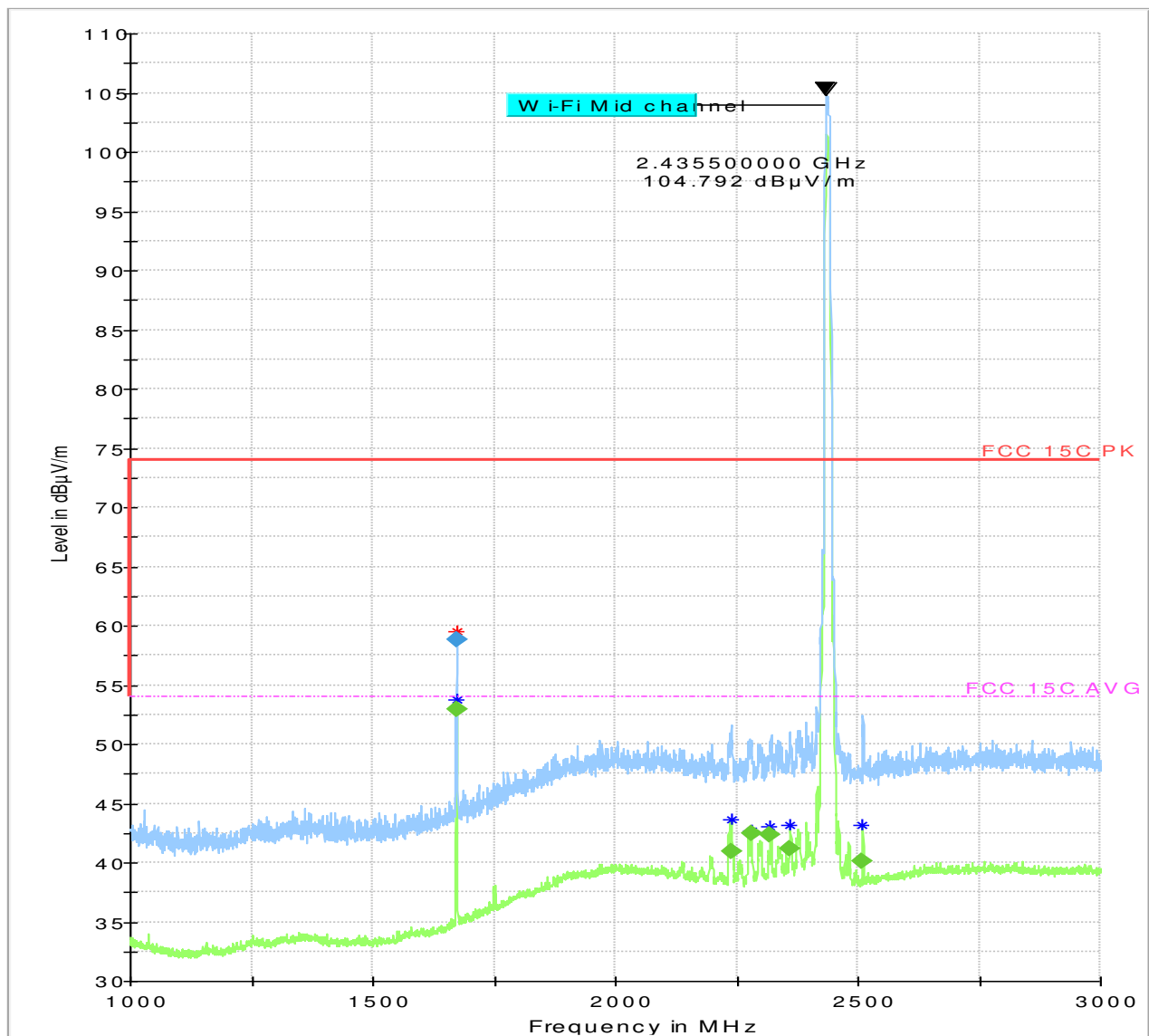
Plot #6 Radiated Emissions: 1 – 3 GHz

Modulation: 802.11b

Channel: 6

Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	RMS (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1672.885000	---	52.90	53.98	1.08	10.0	1000.000	108.0	V	167.0	-10.3
1673.475000	58.85	---	74.00	15.15	10.0	1000.000	108.0	V	168.0	-10.3
2239.090000	---	40.96	53.98	13.02	10.0	1000.000	100.0	H	146.0	-7.1
2279.435000	---	42.49	53.98	11.49	10.0	1000.000	100.0	H	165.0	-7.2
2319.940000	---	42.35	53.98	11.63	10.0	1000.000	100.0	H	153.0	-7.1
2359.515000	---	41.19	53.98	12.79	10.0	1000.000	100.0	H	150.0	-6.9
2509.305000	---	40.16	53.98	13.82	10.0	1000.000	108.0	V	289.0	-7.4



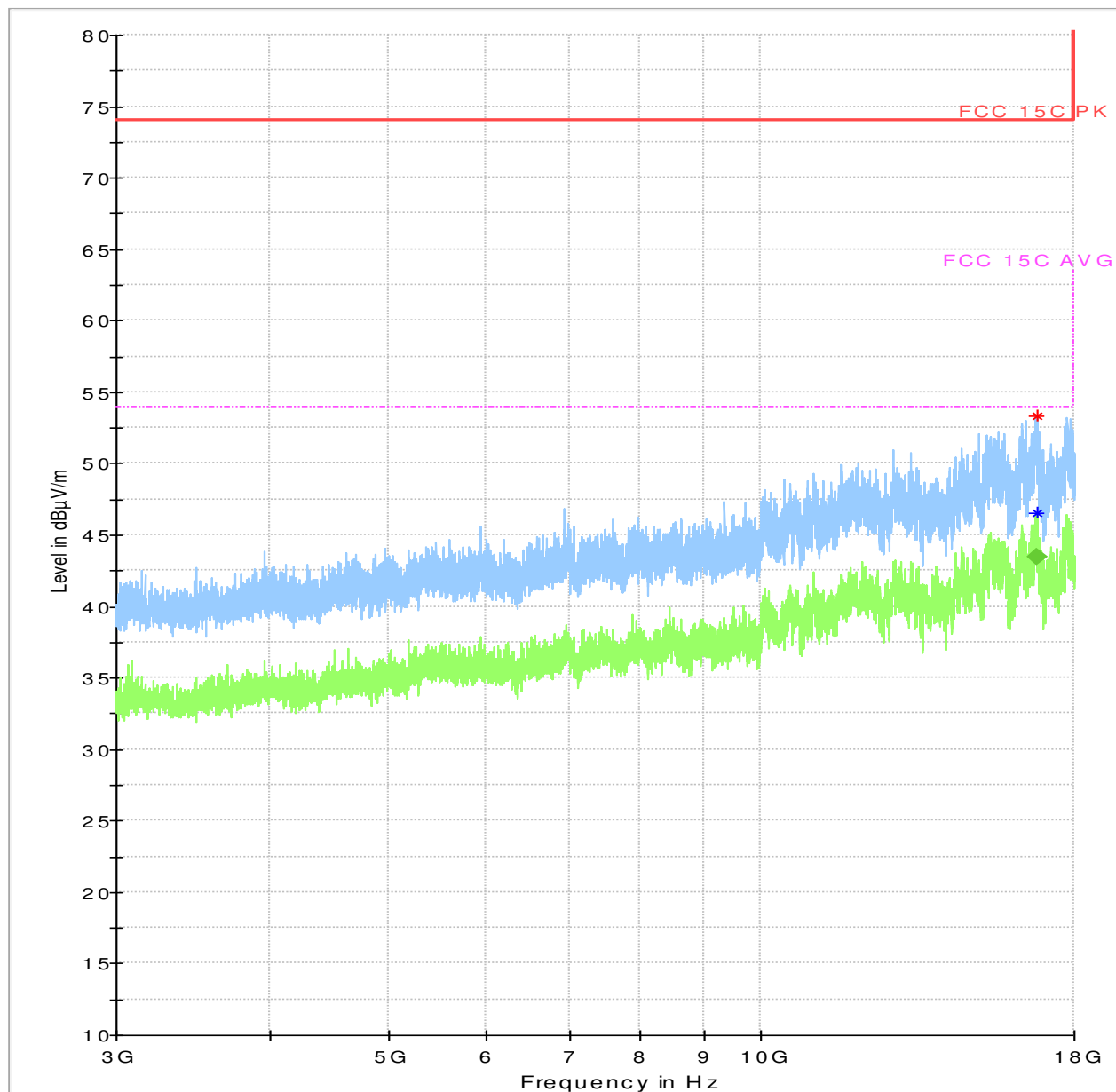
Plot #7 Radiated Emissions: 3-18 GHz

Modulation: 802.11b

Channel: 6

Final_Result

Frequency (MHz)	RMS (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
16786.434000	43.50	53.98	10.47	10.0	1000.000	161.0	H	69.0	-11.5

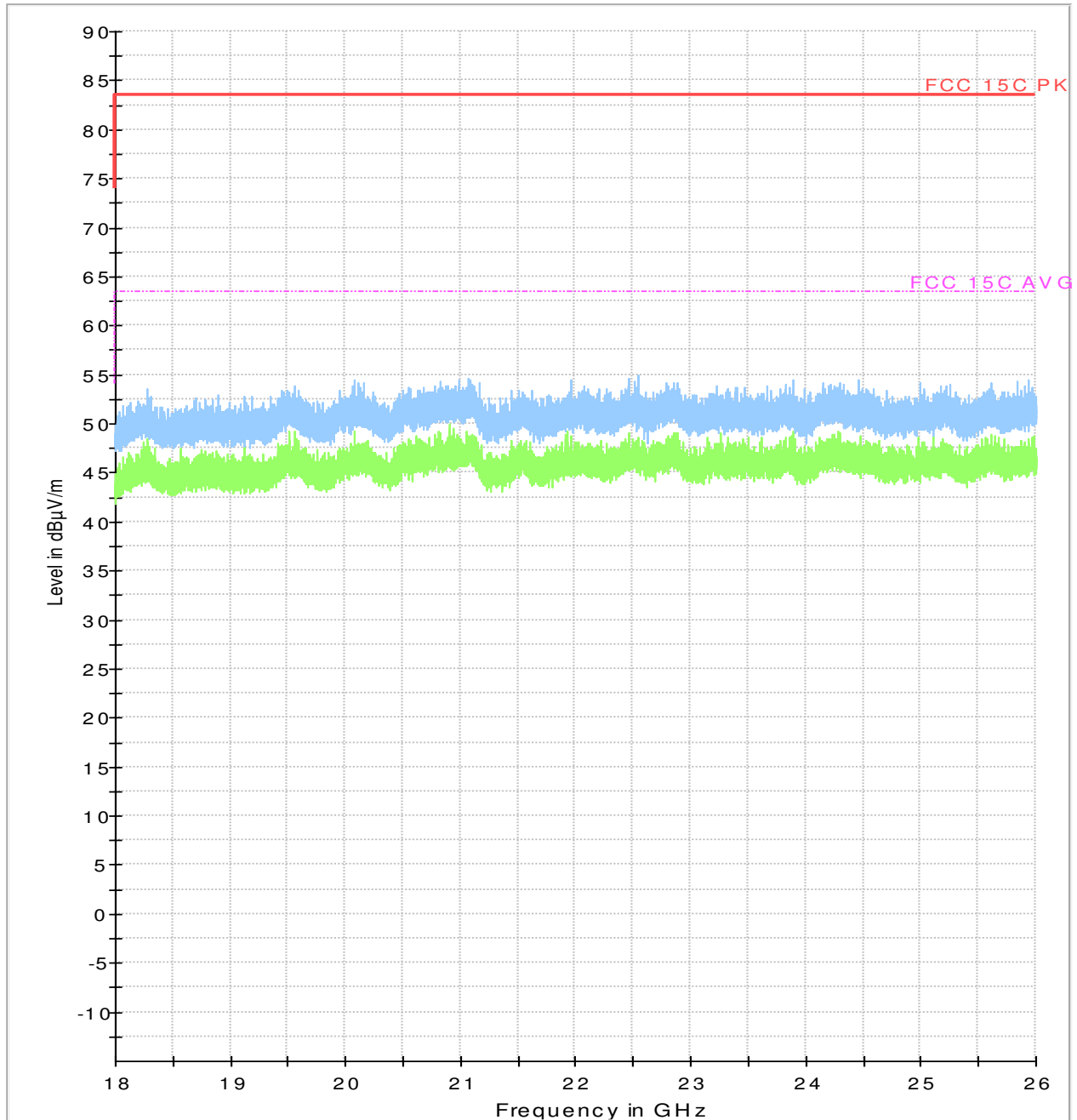


Preview Result 2-RMS Preview Result 1-PK+ * Critical_Freqs RMS
Critical_Freqs PK+ FCC 15C PK Final_Result QPK Final_Result RMS FCC 15C AVG

Plot #8 Radiated Emissions: 18 – 26 GHz

Modulation: 802.11b

Channel: 6



Preview Result 2-RMS	Preview Result 1-PK+	Critical_Freqs RMS
Critical_Freqs PK+	FCC 15C PK	FCC 15C AVG
Final_Result QPK	Final_Result RMS	

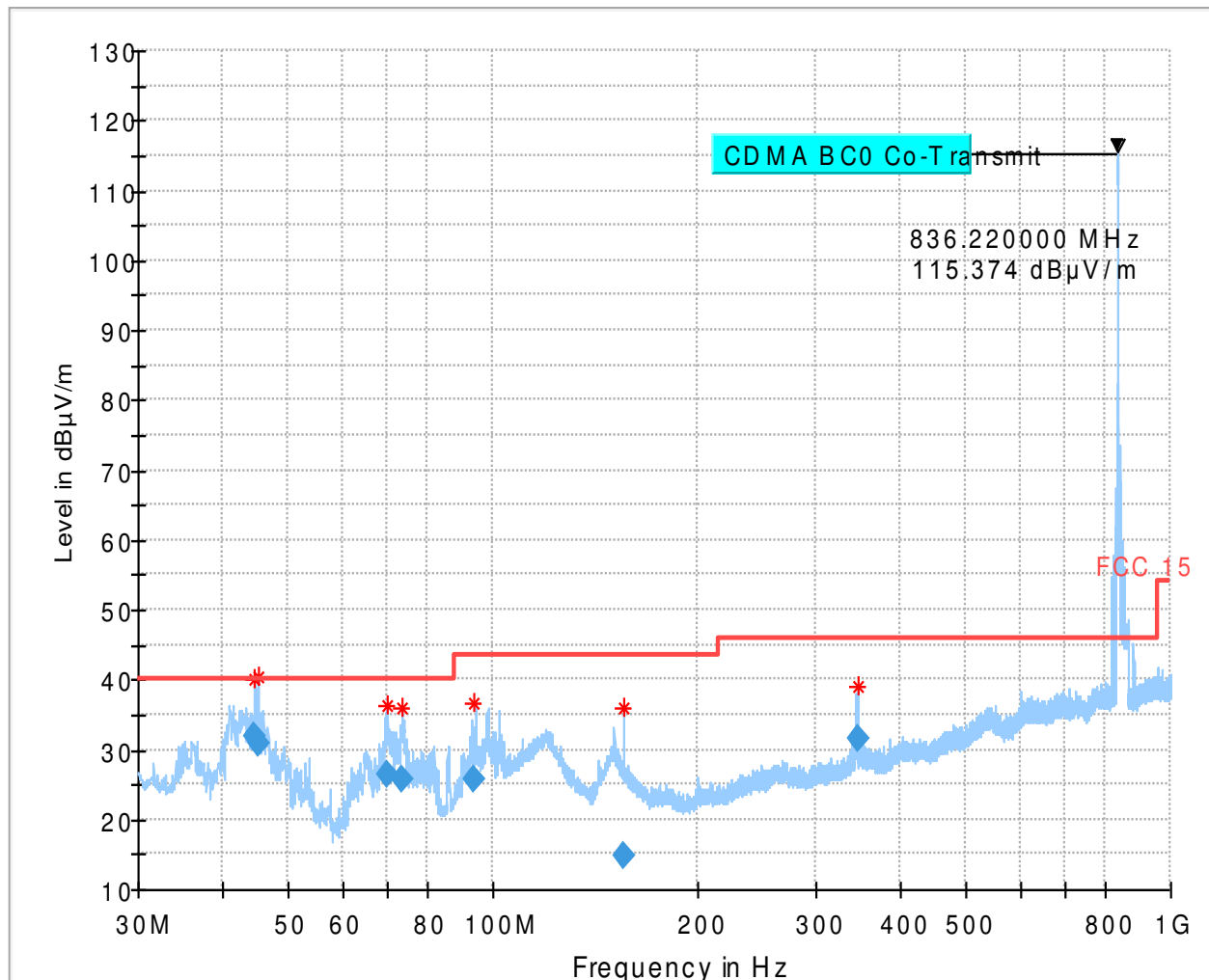
Plot #9 Radiated Emissions: 30MHz – 1GHz

Modulation: 802.11b

Channel: 11

Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
44.616400	31.90	40.00	8.10	200.0	120.000	150.0	V	136.0	8.6
45.125500	31.02	40.00	8.98	200.0	120.000	140.0	V	136.0	8.4
69.910700	26.25	40.00	13.75	200.0	120.000	166.0	V	-11.0	8.2
73.734800	25.81	40.00	14.19	200.0	120.000	183.0	V	9.0	8.8
94.100000	25.56	43.52	17.96	200.0	120.000	150.0	V	-21.0	13.1
156.207800	14.69	43.52	28.83	200.0	120.000	140.0	H	127.0	16.3
344.874600	31.42	46.02	14.60	200.0	120.000	167.0	V	282.0	17.4



— Preview Result 2-AVG — Preview Result 1-PK+ ♦ Critical_Freqs AVG
* Critical_Freqs PK+ — FCC 15 ♦ Final_Result QPK

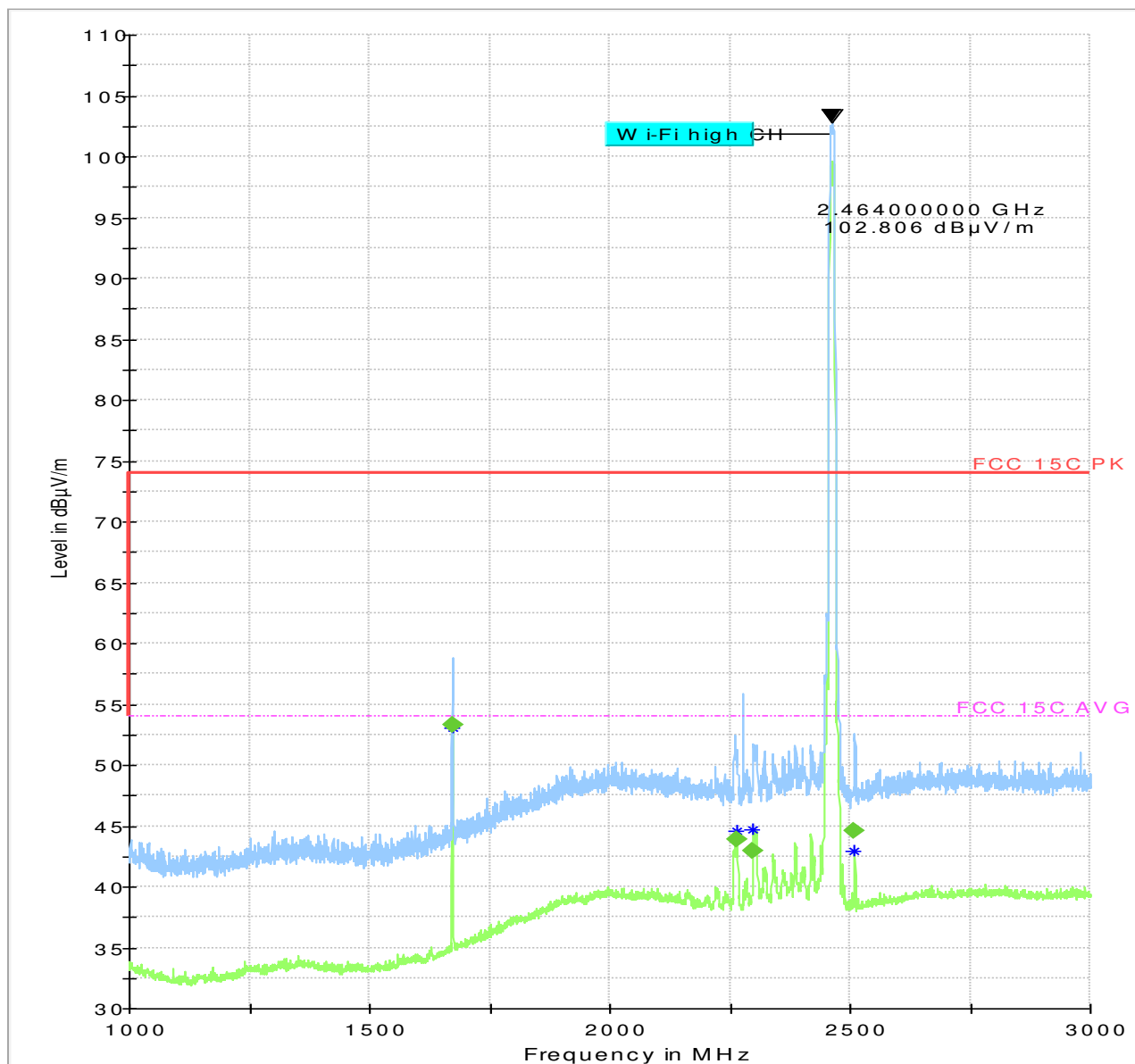
Plot #10 Radiated Emissions: 1 – 3GHz

Modulation: 802.11b

Channel: 11

Final Result

Frequency (MHz)	RMS (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1673.230000	53.24	53.98	0.74	10.0	1000.000	108.0	V	138.0	-10.3
2264.200000	43.86	53.98	10.12	10.0	1000.000	100.0	H	149.0	-7.2
2298.975000	42.91	53.98	11.07	10.0	1000.000	100.0	H	153.0	-7.2
2509.080000	44.59	53.98	9.39	10.0	1000.000	309.0	V	158.0	-7.4



Preview Result 2-RMS
Critical_Freqs PK+
Final_Result QPK

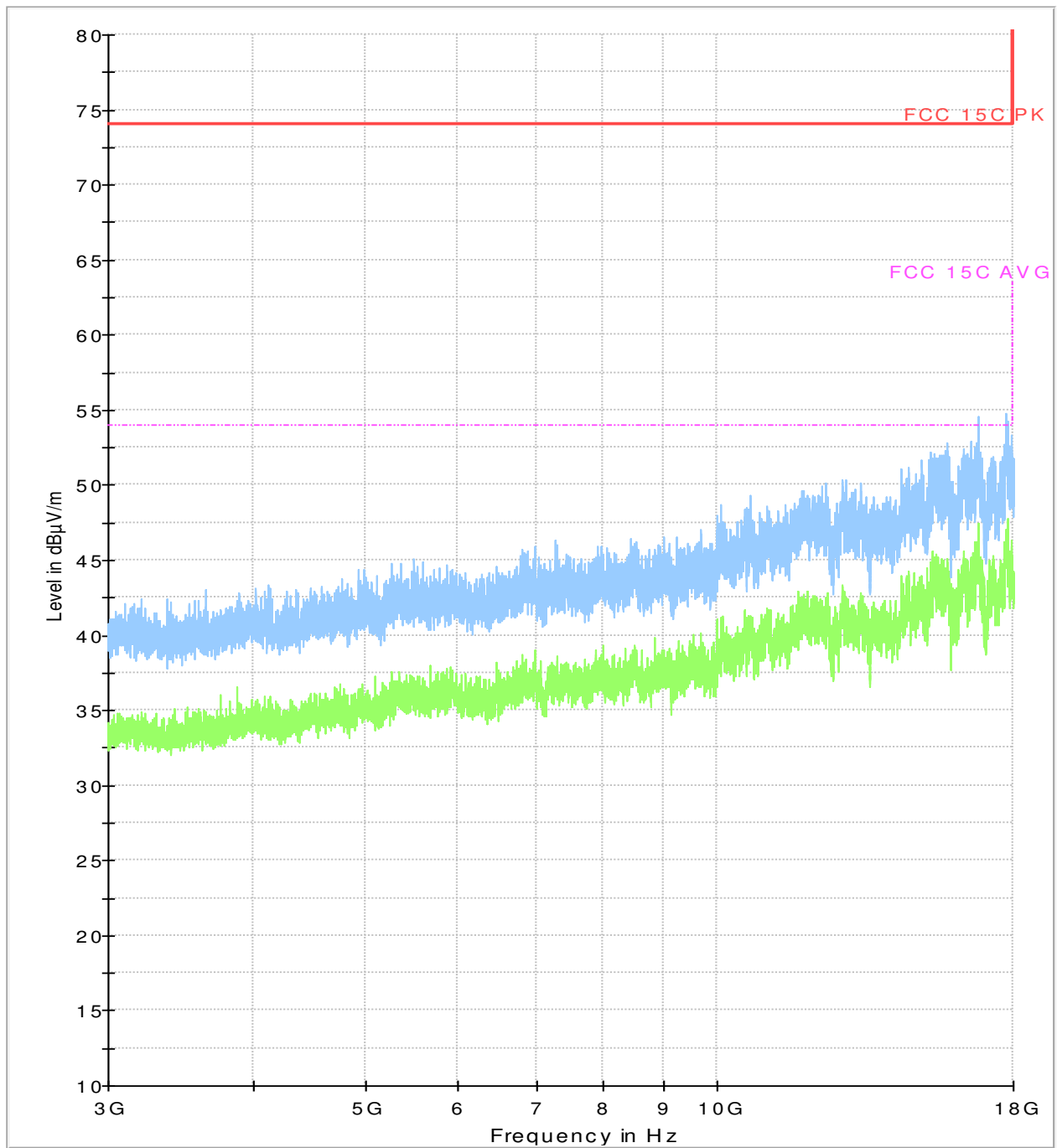
Preview Result 1-PK+
FCC 15C PK
Final_Result RMS

* Critical_Freqs RMS
* FCC 15C AVG

Plot #11 Radiated Emissions: 3-18 GHz

Modulation: 802.11b

Channel: 11



Preview Result 2-RMS	Preview Result 1-PK+	Critical_Freqs RMS
Critical_Freqs PK+	FCC 15C PK	FCC 15C AVG
Final_Result QPK	Final_Result RMS	

9 Test setup photos

Setup photos are included in supporting file name: "EMC_TRAPZ_006_18001_FCC_Setup_Photos.pdf"

10 Test Equipment And Ancillaries Used For Testing

Equipment Type	Manufacturer	Model	Serial #	Calibration Cycle	Last Calibration Date
PASSIVE LOOP ANTENNA	ETS LINDGREN	6512	00164698	3 YEARS	08/08/2017
BILOG ANTENNA	TESEO	CBL 6141B	41106	3 YEARS	11/01/2017
BILOG ANTENNA	EMCO	3142E	166067	3 YEARS	06/27/2017
HORN ANTENNA	ETS LINDGREN	3117	00167061	3 YEARS	08/08/2017
HORN ANTENNA	ETS LINDGREN	3116C	00166821	3 YEARS	09/24/2017
SPECTRUM ANALYZER	R&S	FSU26	200065	2 YEARS	03/07/2017
WIDEBAND RADIO COMMUNICATION	R&S	CMW500	127068	2 YEARS	07/01/2017
SIGNAL ANALYZER	R&S	FSV 40	101022	2 YEARS	07/05/2017
TEST RECEIVER	R&S	ESU.EMI	100256	3YEARS	01/31/2018
COMPACT DIGITAL BAROMETER	CONTROL COMPANY	35519-055	91119547	1 YEARS	06/05/2017
THRMOMETER HUMIDIY	DICKSON	TM320	16253639	1 YEARS	11/02/2017

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
02/23/2018	EMC_NETRA_002_17001_15.247_WLAN	Initial Version	Issa Ghanma