



Test Report - FCC Part 15.247/ DTS Head Unit Wi-Fi
FCC ID #: IPH-04932, IPH-A4932
Applicant: Garmin International Inc.

Signature:

A handwritten signature in black ink, appearing to read "Tim Royer", is written over a horizontal line.

Sr. EMC Engineer
EMC-003838-NE



Name & Title:

Tim Royer, Lab Manager

Date of Signature

12/18/25

Prepared By:

Mark Learner, Technical Writer

This test report relates only to the items tested as identified and is not valid for any subsequent changes or modifications made to the equipment under test.

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1. Applicant Information

Applicant: Garmin International Inc.
Address: 1200 East 151st Street
Olathe, KS 66062, USA

1.1 Test Result Summary

The following test procedure and guidance were used for measuring Digital Transmission System (DTS); FCC KDB 558074 D01 DTS Measurement Guidance and ANSI C63.10-2020. Full test results are available in this report.

No additions to the test methods were needed. There were no deviations, or exclusions from the test methods. No test results are from external providers or from the customer. The test results relate only to the items tested. IIA Lab Services LLC does not offer opinions and interpretations, only a pass/fail statement.

Applicable Clauses from Part 2 or KDB		
FCC Clauses	Description of the requirements	Result: (Pass, Fail, N/A)
KDB 558074 D01	Duty Cycle	Reported
KDB 558074 D01	99 % Bandwidth	Reported
KDB 558074 D01	Band-edge measurements	Pass

Applicable Clauses from Part 15.247		
FCC Clauses	Description of the requirements	Result: (Pass, Fail, N/A)
15.247 (a) (1) – (1) (iii)	FHSS hopping requirements (1, i,ii,iii)	N/A
15.247 (a) (1)	FHSS 20dB Bandwidth	N/A
15.247 (a) (2)	DTS 6dB Bandwidth	Pass
15.247 (b) (1) – (4)	Conducted output power	Pass
15.247 (c) (1) – (2)	Operation with directional antenna gains > 6 dBi	N/A
15.247 (d), 15.215 (b)	Conducted Emissions in Non-restricted bands	Pass
15.247 (d), 15.215 (b)	Conducted Emissions at the Band-edge	Pass
15.247 (e)	Power Spectral Density (PSD)	Pass
15.247 (f)	Hybrid system hopping requirements	N/A
15.247 (f)	Hybrid system Power Spectral Density	N/A
15.247 (g)	FHSS System requirements	N/A
15.247 (h)	FHSS spectrum sensing	N/A

Applicable Clauses from Part 2 and Part 15 Subpart C		
FCC Clauses	Description of the requirements	Result: (Pass, Fail, N/A)
15.203	Antenna requirements	Pass
15.205	Restricted bands of operation	Pass
15.207	AC Power Conducted Emissions	N/A
15.209	Radiated Emissions in Restricted bands	Pass
15.211	Tunnel Radio Systems	N/A
15.212 (a)	Single Modular Transmitter	N/A
15.212 (b)	Limited Modular Transmitter	N/A
15.213	Cable Locating Equipment	N/A

2. Location of Testing

2.1 Test Laboratory

IIA Lab Services LLC. is a subsidiary of Industrial Inspection & Analysis, Inc. ("IIA"). Testing was performed at IIA's permanent laboratory located at 13146 NW 86th Drive, Suite 400, Alachua, Florida 32615.

FCC test firm # 578780

FCC Designation # US1070

FCC site registration is under A2LA certificate # 0955.01

ISED Canada test site registration # 2056A

EU Notified Body # 1177

For all designations see A2LA scope # 0955.01

3. Test Sample(s) (EUT/DUT)

The test sample was received: 6/18/2025

Dates of Testing: 8/14/2025 – 12/4/2025

3.1 Description of the EUT

A description as well as unambiguous identification of the EUT(s) tested. Where more than one sample is required for technical reasons (such as the use of connected units for the purpose of conducted output power testing where the product units will have integral antennas), each specific test shall identify which unit was tested.

Identification	
FCC ID:	IPH-04932, IPH-A4932
Certified Module FCC ID:	N/A
Brief Description	Portable Digital Transceiver
Model(s) #	A04932
Firmware version	3.0.2139
Software version	0.03.1415
Serial Number	EMC-1

Both FCC ID numbers: IPH-04932 and IPH-A4932 are identical electrically and mechanically in design including Build of Materials between both products. No RF Characteristics is affected and the only difference between both products is the Software that is loaded. The Software loaded has no affect on the RF testing outcome on either products whether the product is with or without AIS. IPH-04932 (with AIS) was tested since it is the product that is going through USCG Certification

Technical Characteristics	
Frequency Range	2412 – 2462 MHz
RF O/P Power (Max.)	26.03 dBm (Peak)
Modulation	802.11 b/g/n (DSSS, OFDM)
Bandwidth & Emission Class	17.483 MHz
Number of Channels	8
Duty Cycle	91%
Antenna Connector	N/A
Voltage Rating (AC or Batt.)	12 VDC

Note: Information such as antenna gain, firmware/software numbers are provided by manufacturer and cannot be validated by the test lab.

3.2 Configuration of EUT

Band (MHz)	Mode	Number of Ant.
2400-2483.5	Transmit – 802.11b	1
2400-2483.5	Transmit – 802.11g	1
2400-2483.5	Transmit – 802.11n	1

Operating conditions during Testing:

No modifications of the device under test (including firmware, specific software settings, and input/output signal levels to the EUT).

Peripherals used during Testing:

No peripherals used.

3.3 Test Setup of EUT

Equipment, antenna, and cable arrangement. The setup of the equipment and cable or wire placement on the test site that produces the highest radiated and the highest ac power line conducted emissions shall be shown clearly and described. Information on the orientation of portable equipment during testing shall be included. Drawings or photographs may be used for this purpose.

Test Setups are included in the test report.

4. Test methods & Applicable Regulatory Limits

4.1 Test methods/Standards/Guidance:

Test procedures and guidance for measuring Digital Transmission System (DTS) are provided in the FCC KDB 558074 D01 DTS Measurement Guidance and in Clause 11 of ANSI C63.10-2020.

- 1) ANSI C63.10-2020
- 2) FCC KDB 558074 D01

4.2 Applied Limits and Regulatory Limits:

- 3) FCC CFR 47 Part 15.247 (2020)

5. Measurement Uncertainty

Parameter	Uncertainty (dB)
Conducted Emissions	± 3.14 dB
Radiated Emissions (9kHz – 30 MHz)	± 3.08 dB
Radiated Emissions (30 – 200 MHz)	± 2.16 dB
Radiated Emissions (200 – 1000 MHz)	± 2.15 dB
Radiated Emissions (1 GHz – 18 GHz)	± 2.14 dB
Radiated Emissions (18 GHz – 40 GHz)	± 2.31 dB
Note: The uncertainties provided in this table represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of K=2.	

6. Environmental Conditions

6.1 Temperature & Humidity

Measurements performed at the test site did not exceed the following:

Temperature	23 C +/- 5%
Humidity	55% +/- 5%
Barometric pressure	30.05 inHg
Note: Specific environmental conditions that are applicable to a specific test are available in the test result section.	

7. List of Test Equipment and Test Facility

The test equipment used identified by type, manufacturer, serial number, or other identification and the date on which the next calibration or service check is due.

Description of the firmware or software used to operate EUT for testing purposes.

A complete list of all test equipment used shall be included with the test report. The manufacturer's model and serial numbers, and date of last calibration, and calibration interval shall be included. Measurement cable loss, measuring instrument bandwidth and detector function, video bandwidth, if appropriate, and antenna factors shall also be included where applicable.

7.1 List of Test Equipment

Test Equipment						
Type	Device	Manufacturer	Model	SN#	Current Cal	Cal Due
Antenna	Double-Ridged Horn/ETS Horn 1	ETS-Lindgren	3117	00035923	5/31/23	5/30/2026
CHAMBER	CHAMBER	Panashield	3M	N/A	12/29/23	12/18/2025
Pre-amp	Pre-amp	RF-LAMBDA	RLNA00M45GA	NA	9/3/25	9/2/2028
Receiver	EMI Test Receiver R&S ESW44	Rohde & Schwarz	ESW44	103049	1/20/2025	1/20/2028
Receiver	EMI Test Receiver R&S ESU 40	Rohde & Schwarz	ESU 40	100320	9/18/24	9/18/2027
Power Sensor	R&S 18 GHz USB Peak Power Sensor	Rohde & Schwarz	NRP-Z85	1411.7501.02-102085-VV	11/29/23	11/28/2026

Software			
Software	Author	Version	Validation on
ESU Firmware	Rohde & Schwarz	4.43 SP3; BIOS v5.1-24-3	2018
RSCCommander	Rohde & Schwarz	1.6.4	2014
ScopeExplorer	LeCroy	v2.25.0.0	2009
Field Strength	IIA	v4.10.7.0	2016

8. Test Results

The results of the test are usually indicated in the form of tables, spectrum analyzer plots, charts, sample calculations, as appropriate for each test procedure.

A description and/or a block diagram of the test setup is usually provided.

The measurement results, along with the appropriate limits for comparison, may be presented in tabular or graphical form. In addition, any variation in the measurement environment may be reported if applicable (e.g., a significant change of temperature that could affect the cable loss and amplifier response).

Unless noted otherwise in the referenced standard, the measurements of **ac power-line conducted emissions and conducted power output** will be reported in units of dB μ V. Unless noted otherwise in the referenced standard, the measurements of **radiated emissions** will be reported in units of decibels, referenced to one microvolt per meter (dB μ V/m) for electric fields, or to one ampere per meter (dBA/m) for magnetic fields, at the distance specified in the appropriate standards or requirements. The measurements of antenna-conducted power for receivers may be reported in units of dB μ V if the impedance of the measuring instrument is also reported. Otherwise, antenna-conducted power will be reported in units of decibels referenced to one milliwatt (dBm). All formulas for data conversions and conversion factors, if used, will be included in this measurement report.

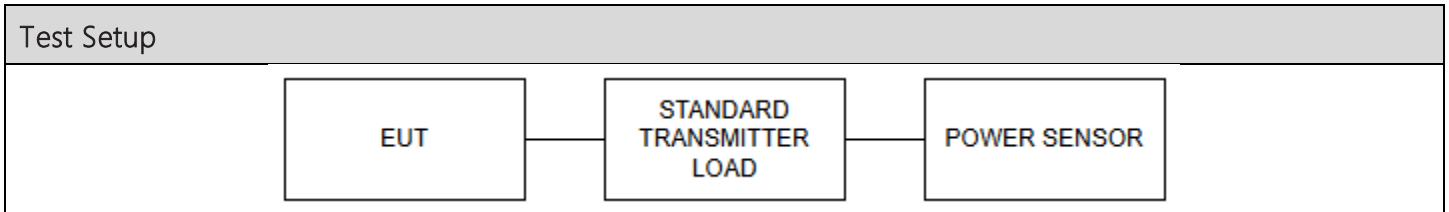
Example:

Freq (MHz)	Meter Reading	+ ACF	+CL	= FS
33	20 dB μ V	+ 10.36 dB/m	+0.40 dB	=30.36 dB μ V/m @ 3m

$EIRP = P_{cond} \text{ (dBm)} + dBi$

8.1 DTS conducted output power – 802.11b

Limits from FCC Part 15.247 (b) (3) and test procedure from ANSI C63.10-2020 section 11.9

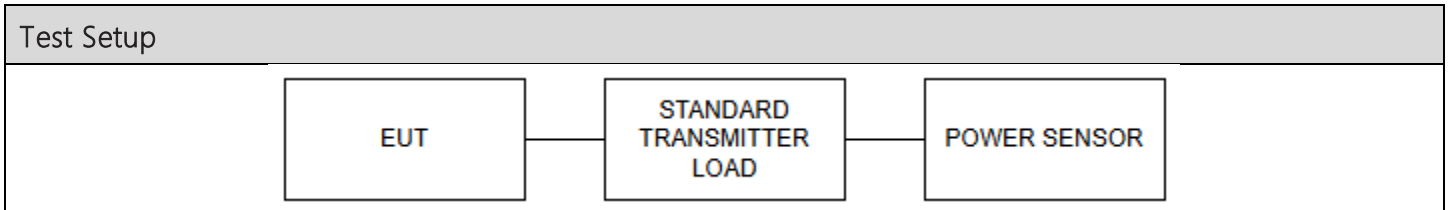


Test Results, Mode 1			
Tuned Frequency (MHz)	Average Power Output (dBm)	Peak Power Output (dBm)	Power Setting
2412	18.02	21.00	16
2432	18.19	20.99	16
2462	18.07	20.92	16

- MAXIMUM Conducted Output Power = 21.00 dBm

8.2 DTS conducted output power – 802.11g

Limits from FCC Part 15.247 (b) (3) and test procedure from ANSI C63.10-2020 section 11.9

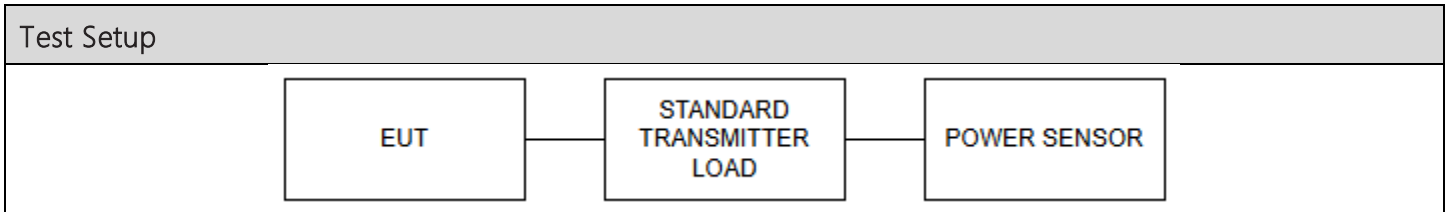


Test Results, Mode 2			
Tuned Frequency (MHz)	Average Power Output (dBm)	Peak Power Output (dBm)	Power Setting
2412	17.44	23.93	16
2432	17.63	23.57	16
2462	19.26	26.03	16

- MAXIMUM Conducted Output Power = 26.03 dBm

8.3 DTS conducted output power – 802.11n

Limits from FCC Part 15.247 (b) (3) and test procedure from ANSI C63.10-2020 section 11.9

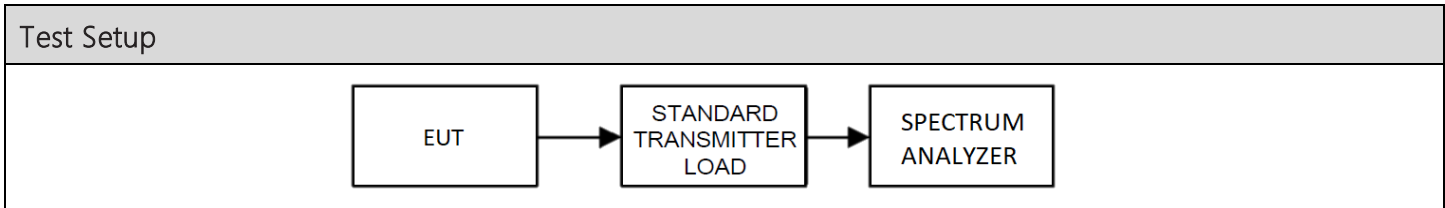


Test Results, Mode 3			
Tuned Frequency (MHz)	Average Power Output (dBm)	Peak Power Output (dBm)	Power Setting
2412	18.54	24.61	16
2432	18.96	22.58	16
2462	17.82	24.51	16

- MAXIMUM Conducted Output Power = 24.61 dBm

8.4 Occupied Bandwidth – 802.11b

Requirement from FCC KDB 558074 D01 and test procedure from ANSI C63.10-2020 section 6.9.3

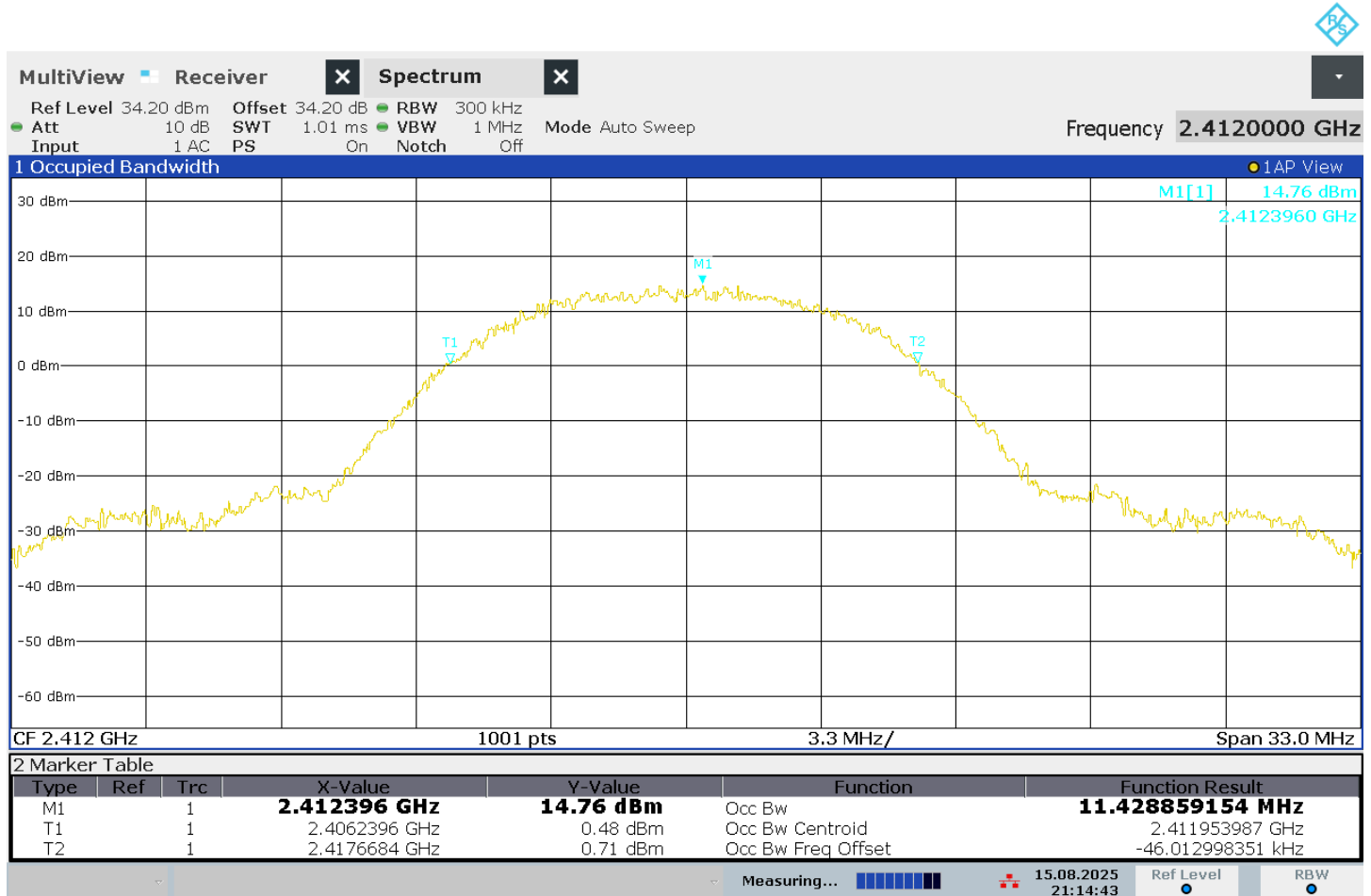


99% BW Test Results

Tuned Frequency (MHz)	99% BW (MHz)
2412	11.429
2432	11.545
2462	11.599

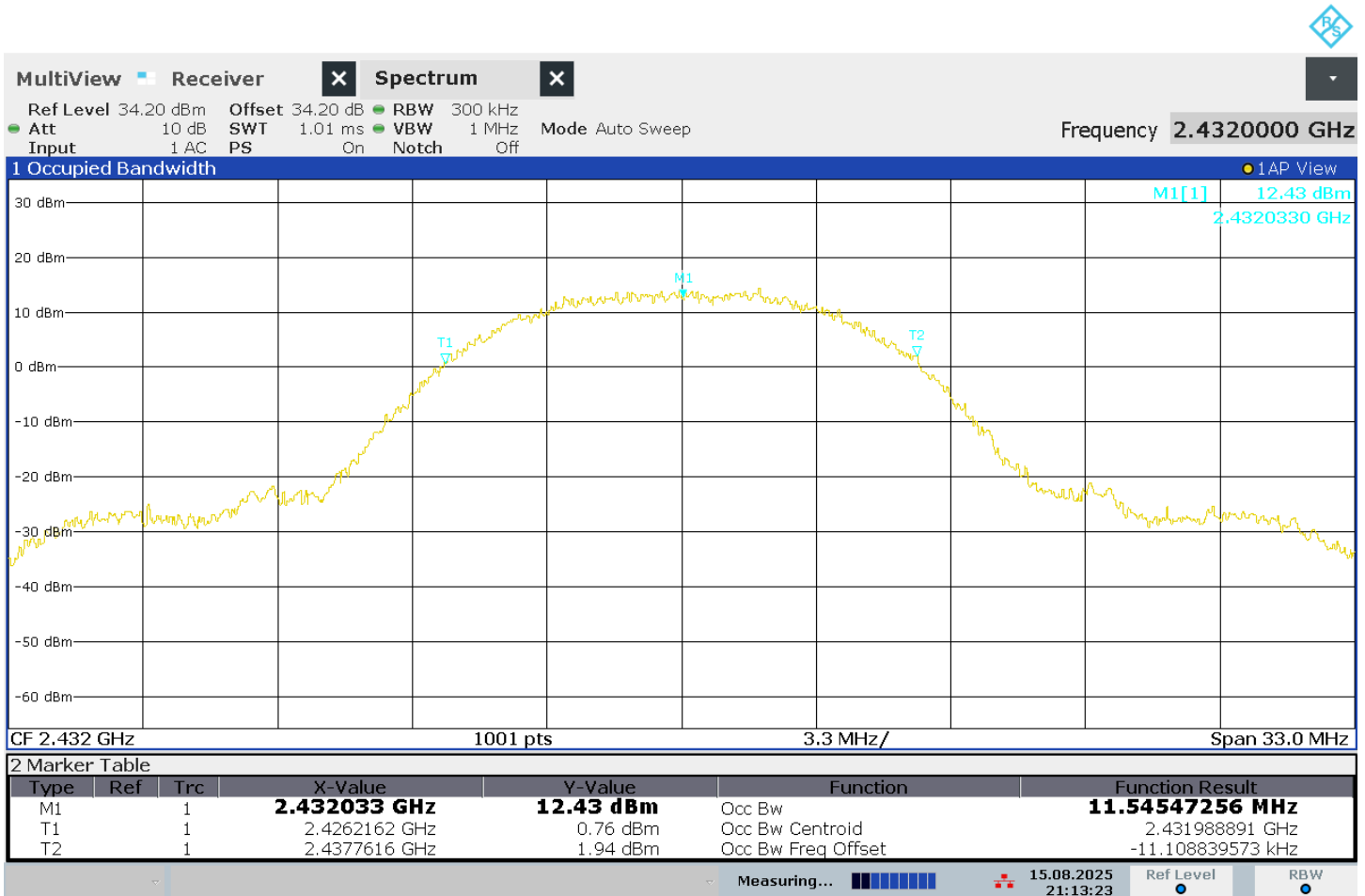
99% Occupied Bandwidth Test Data / Spectrum Plots

8.4.1 99% Bandwidth Plot, 2412 MHz



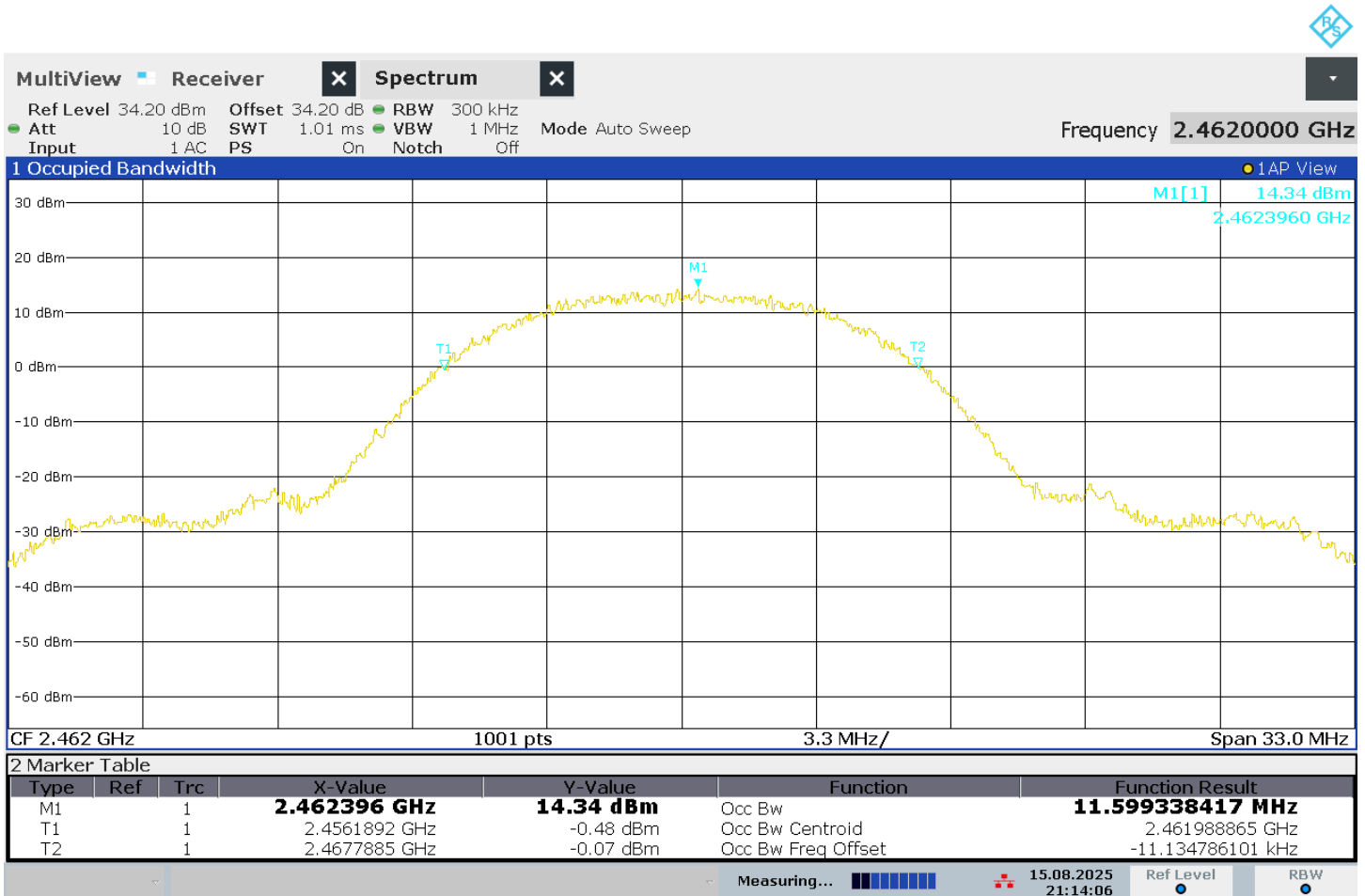
21:14:43 15.08.2025

8.4.2 99% Bandwidth Plot, 2432 MHz



21:13:23 15.08.2025

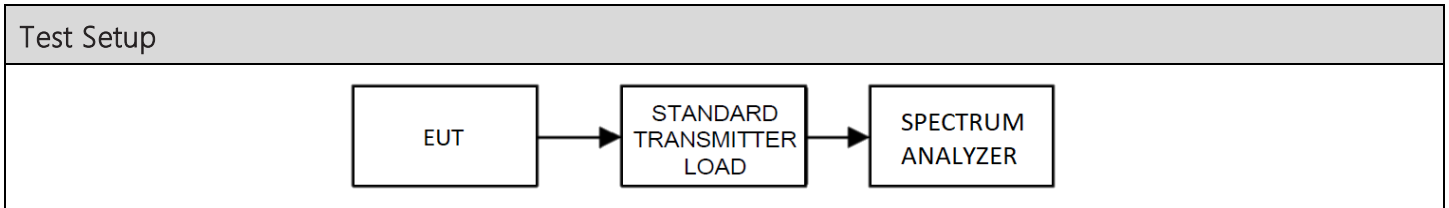
8.4.3 99% Bandwidth Plot, 2462 MHz



21:14:06 15.08.2025

8.5 Occupied Bandwidth – 802.11g

Requirement from FCC KDB 558074 D01 and test procedure from ANSI C63.10-2020 section 6.9.3

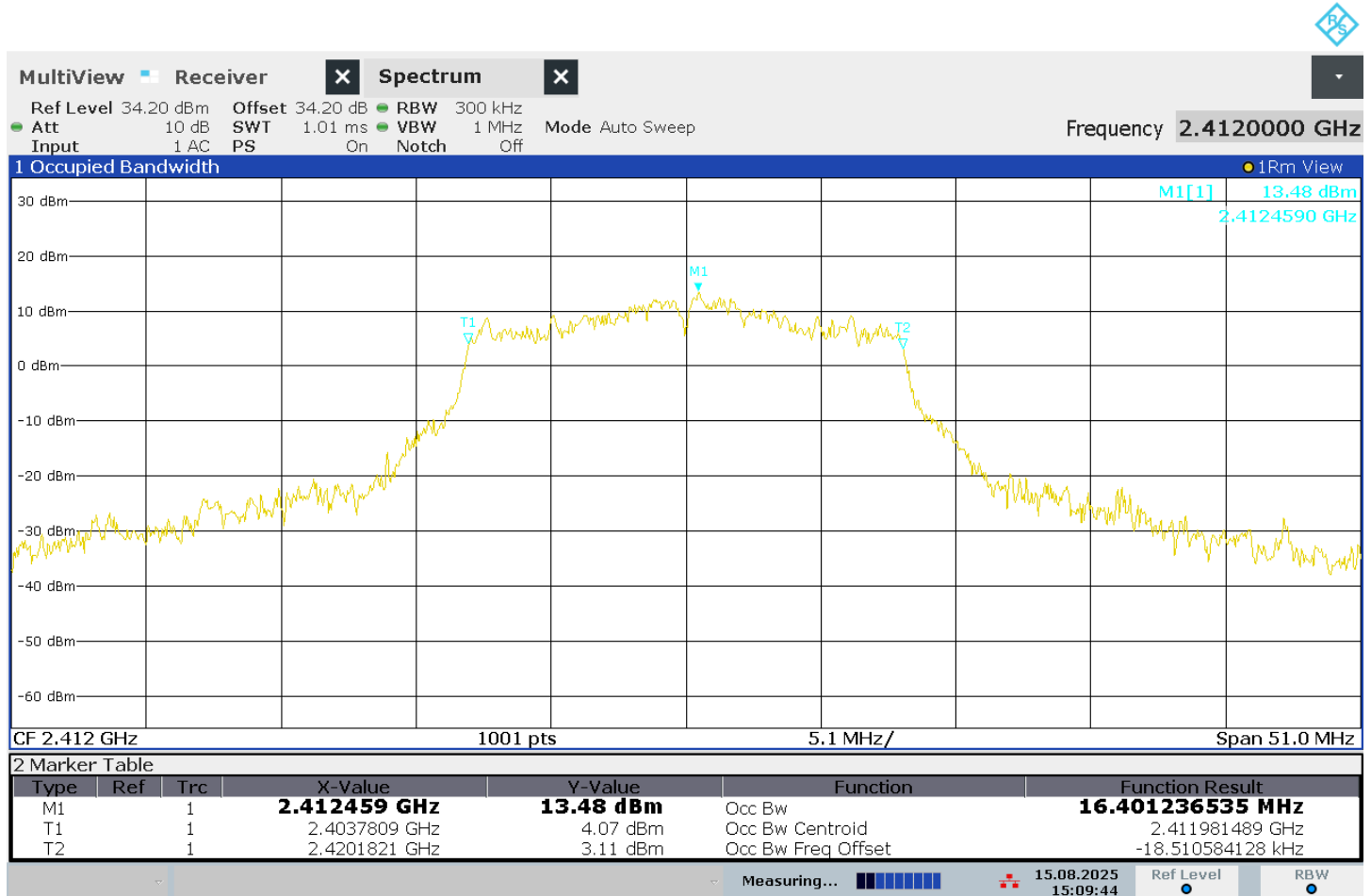


99% BW Test Results

Tuned Frequency (MHz)	99% BW (MHz)
2412	16.401
2432	16.573
2462	16.404

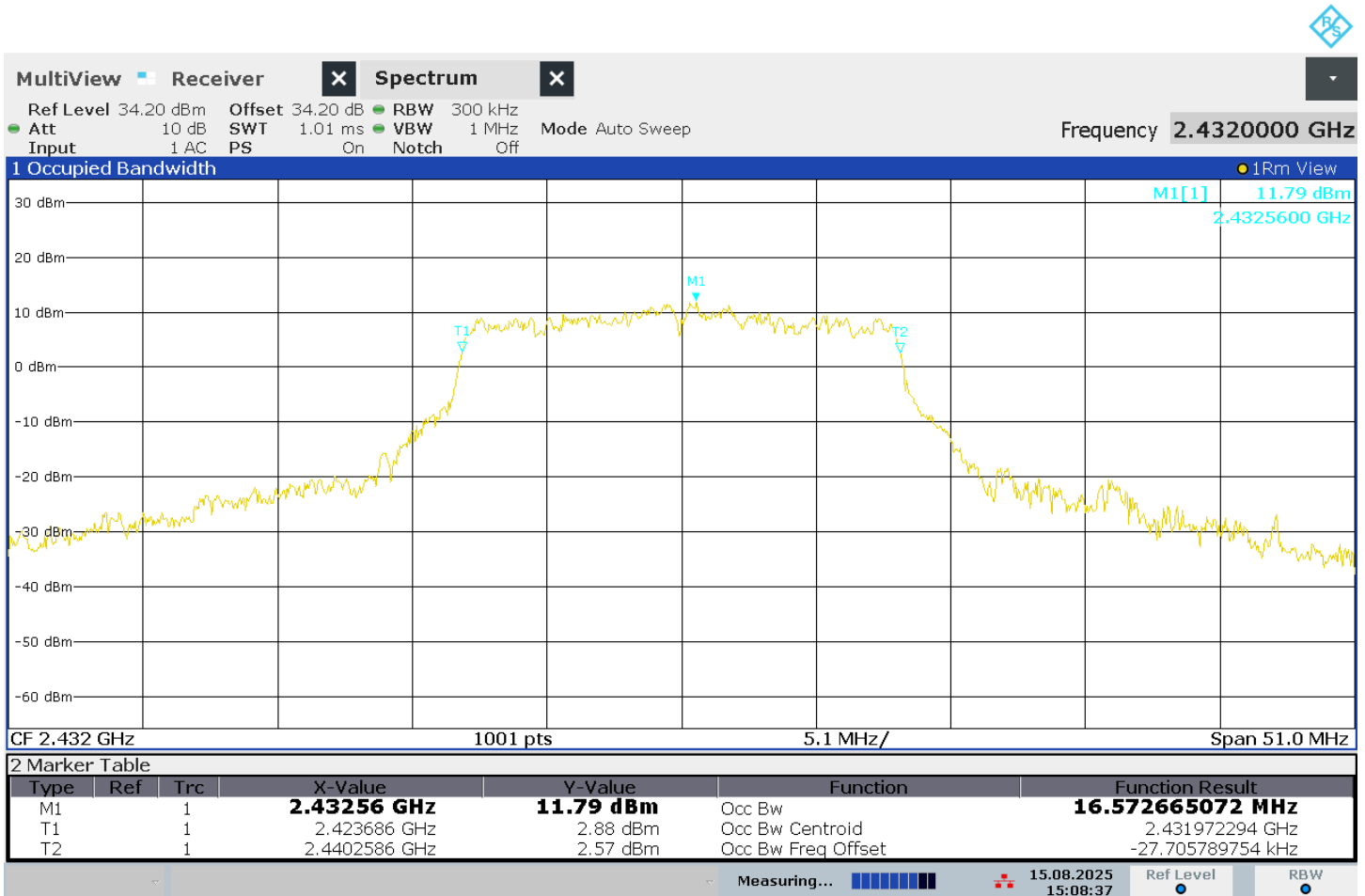
99% Occupied Bandwidth Test Data / Spectrum Plots

8.5.1 99% Bandwidth Plot, 2412 MHz



15:09:45 15.08.2025

8.5.2 99% Bandwidth Plot, 2432 MHz



15:08:38 15.08.2025

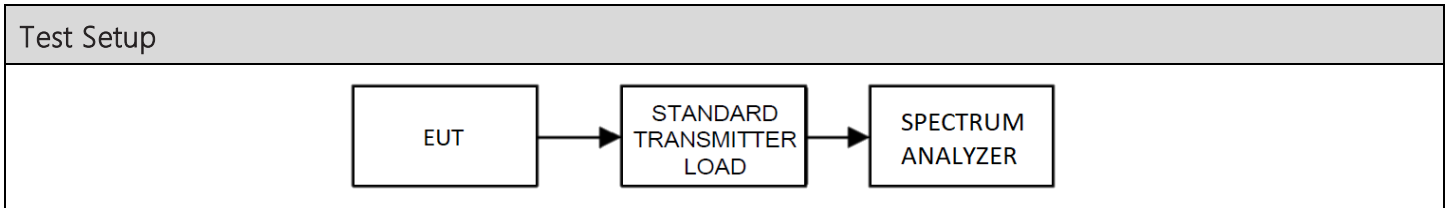
8.5.3 99% Bandwidth Plot, 2462 MHz



15:07:42 15.08.2025

8.6 Occupied Bandwidth – 802.11n

Requirement from FCC KDB 558074 D01 and test procedure from ANSI C63.10-2020 section 6.9.3



99% BW Test Results

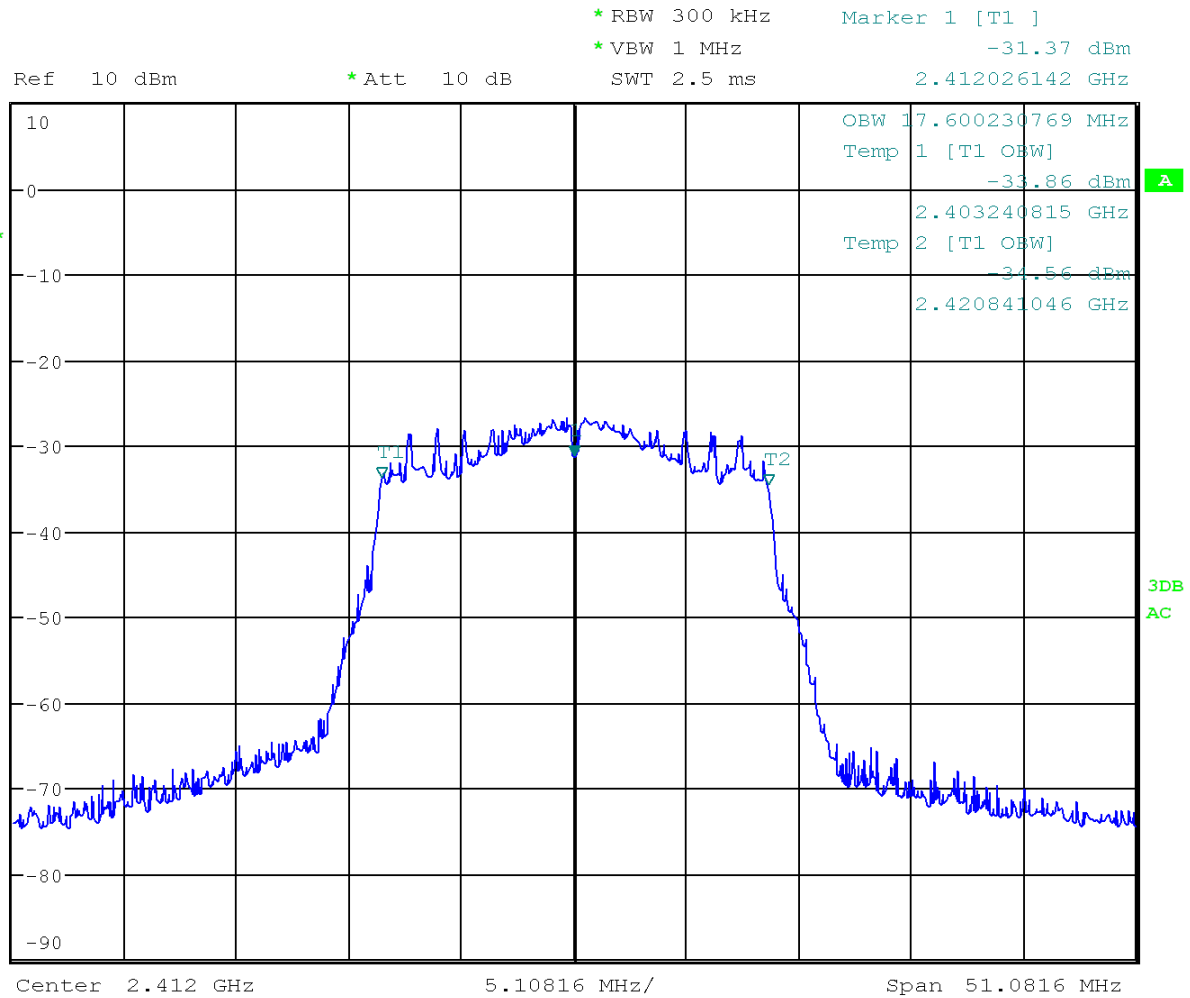
Tuned Frequency (MHz)	99% BW (MHz)
2412	17.600
2432	17.764
2462	17.682

99% Occupied Bandwidth Test Data / Spectrum Plots

8.6.1 99% Bandwidth Plot, 2412 MHz

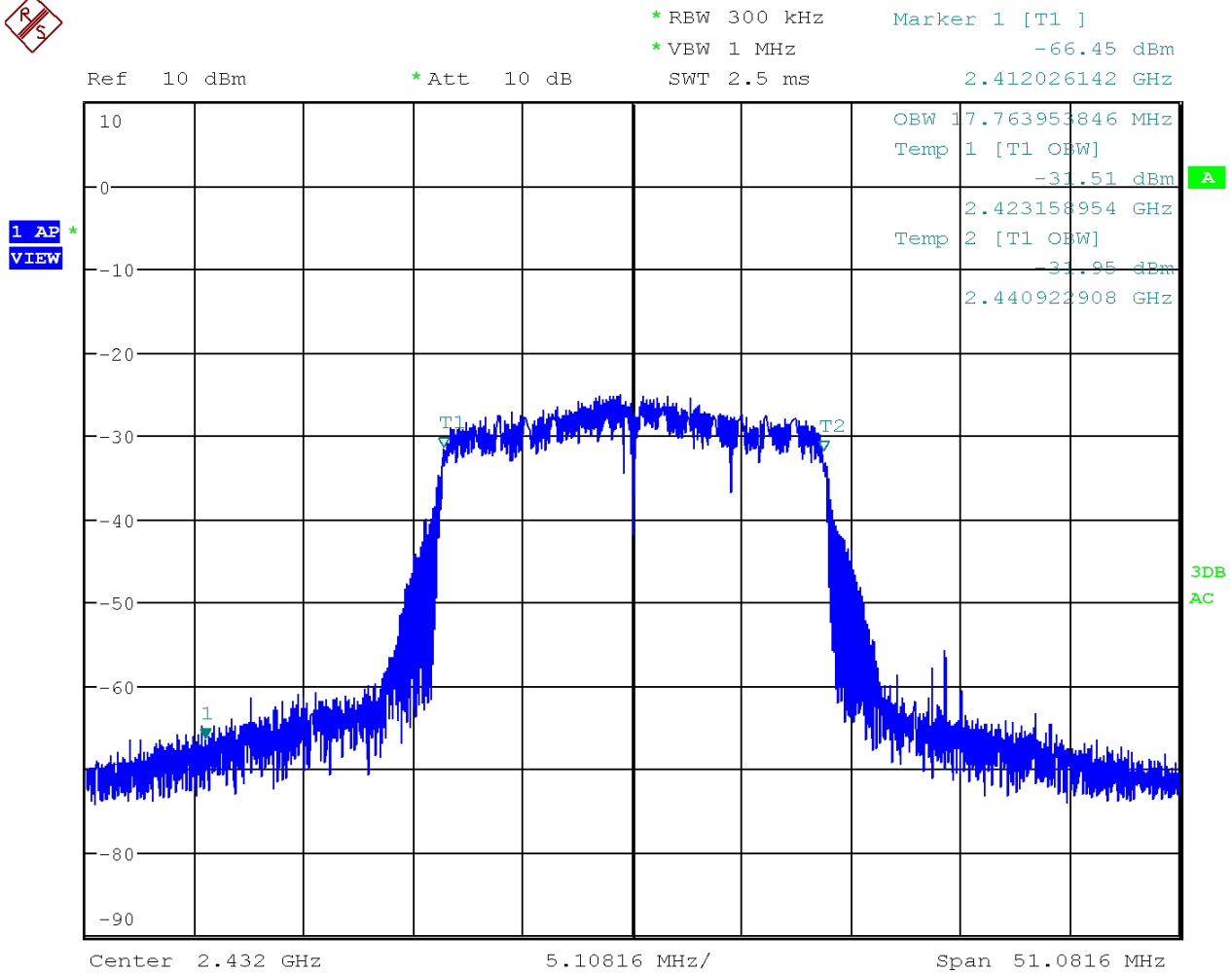


1 RM
VIEW



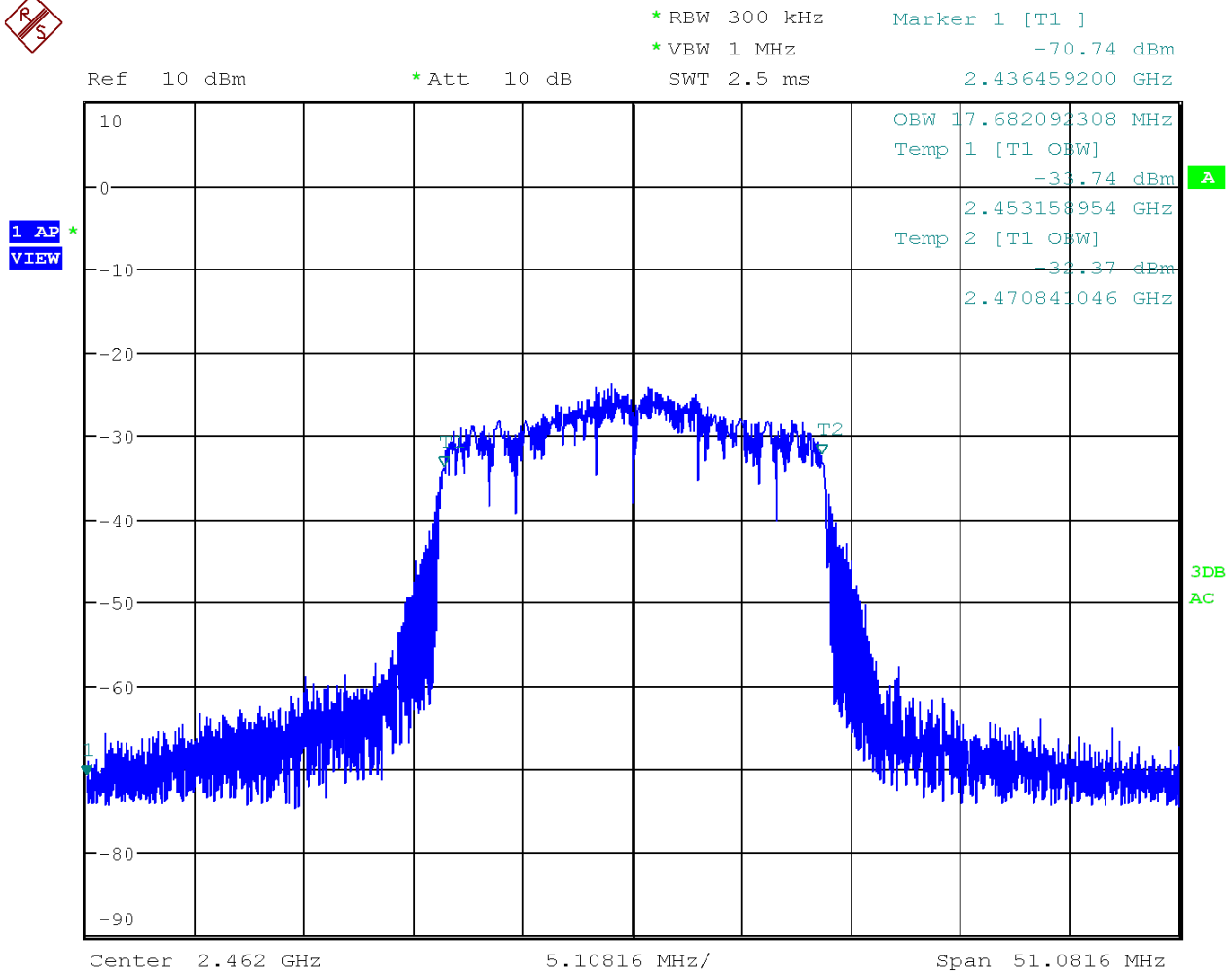
Date: 1.OCT.2025 08:49:31

8.6.2 99% Bandwidth Plot, 2432 MHz



Date: 1.OCT.2025 08:51:47

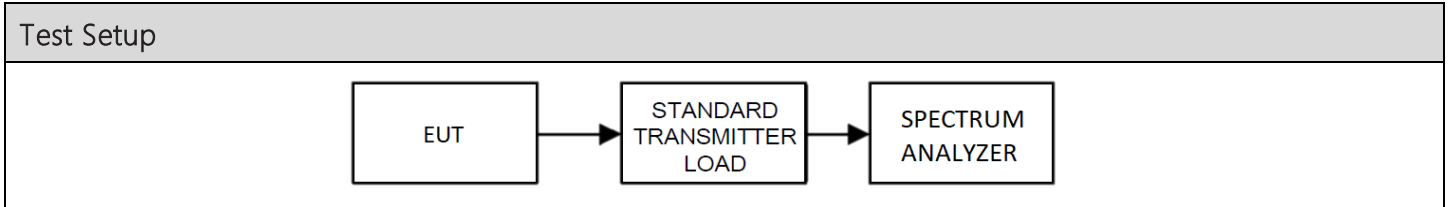
8.6.3 99% Bandwidth Plot, 2462 MHz



Date: 1.OCT.2025 08:54:02

8.7 6dB Bandwidth (DTS BW) – 802.11b

Limits from FCC Part 15.247 (a) (2) and test procedure from ANSI C63.10 -2020 section 11.8



Tuned Frequency (MHz)	6dB Bandwidth (DTS BW) (MHz)
2412	7.19
2432	6.84
2462	7.74

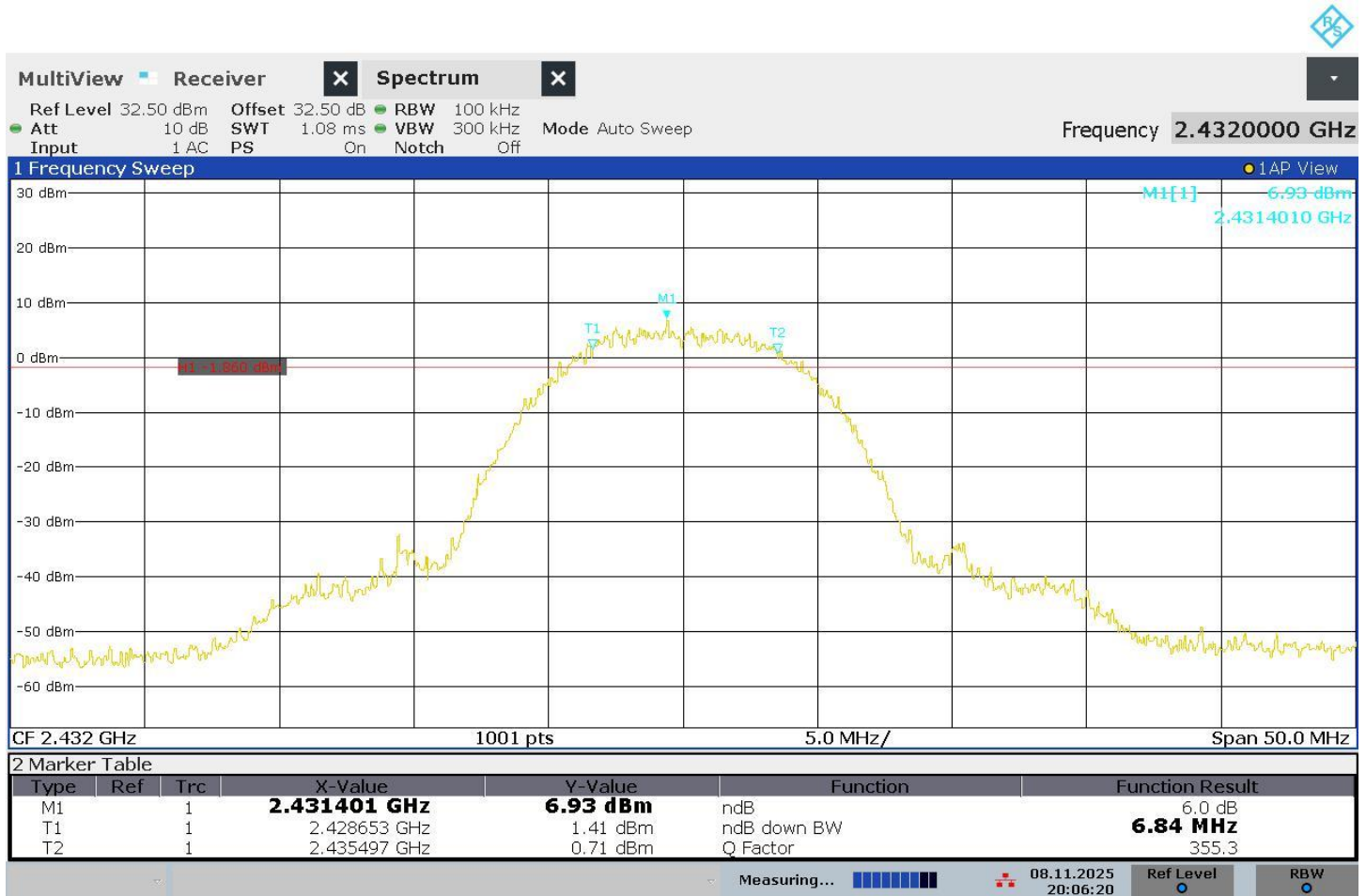
6dB BW Test Data / Spectrum Plots

8.7.1 6dB Bandwidth (DTS BW), 2412 MHz



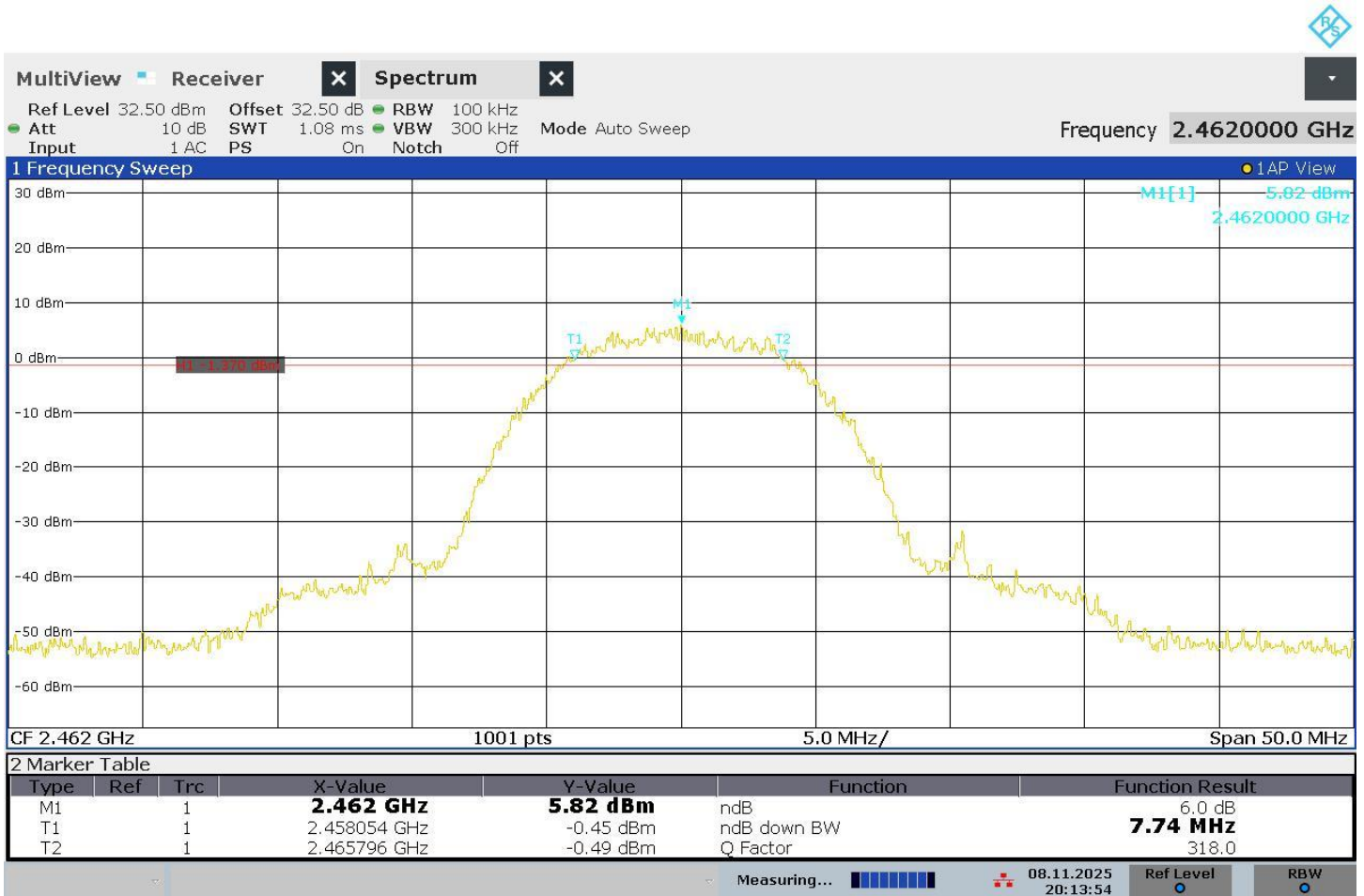
20:02:44 08.11.2025

8.7.2 6dB Bandwidth (DTS BW), 2432 MHz



20:06:20 08.11.2025

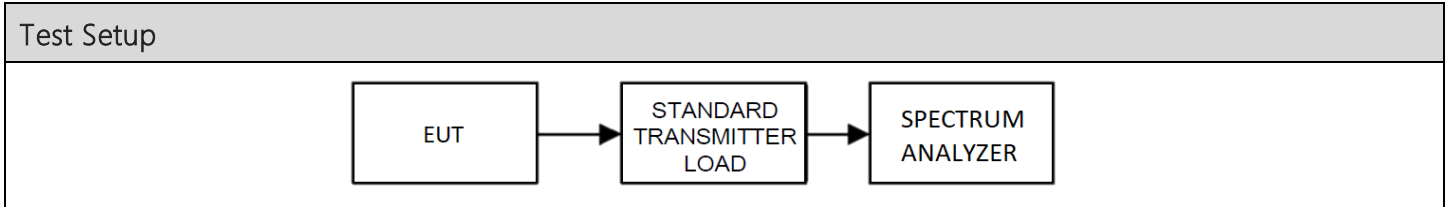
8.7.3 6dB Bandwidth (DTS BW), 2462 MHz



20:13:54 08.11.2025

8.8 6dB Bandwidth (DTS BW) – 802.11g

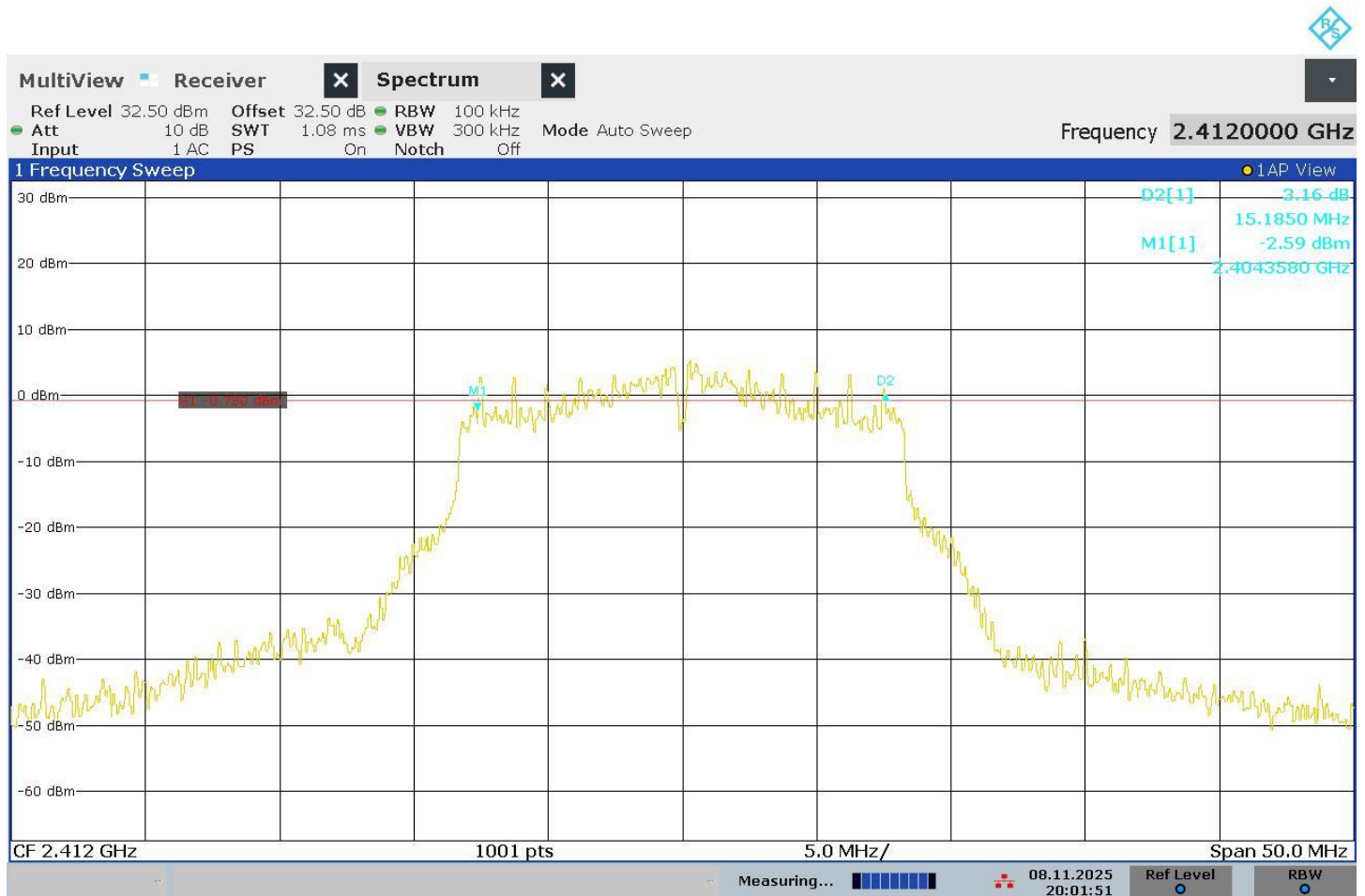
Limits from FCC Part 15.247 (a) (2) and test procedure from ANSI C63.10-2020 section 11.8



Tuned Frequency (MHz)	6dB Bandwidth (DTS BW) (MHz)
2412	15.185
2432	15.884
2462	15.335

6dB BW Test Data / Spectrum Plots

8.8.1 6dB Bandwidth (DTS BW), 2412 MHz



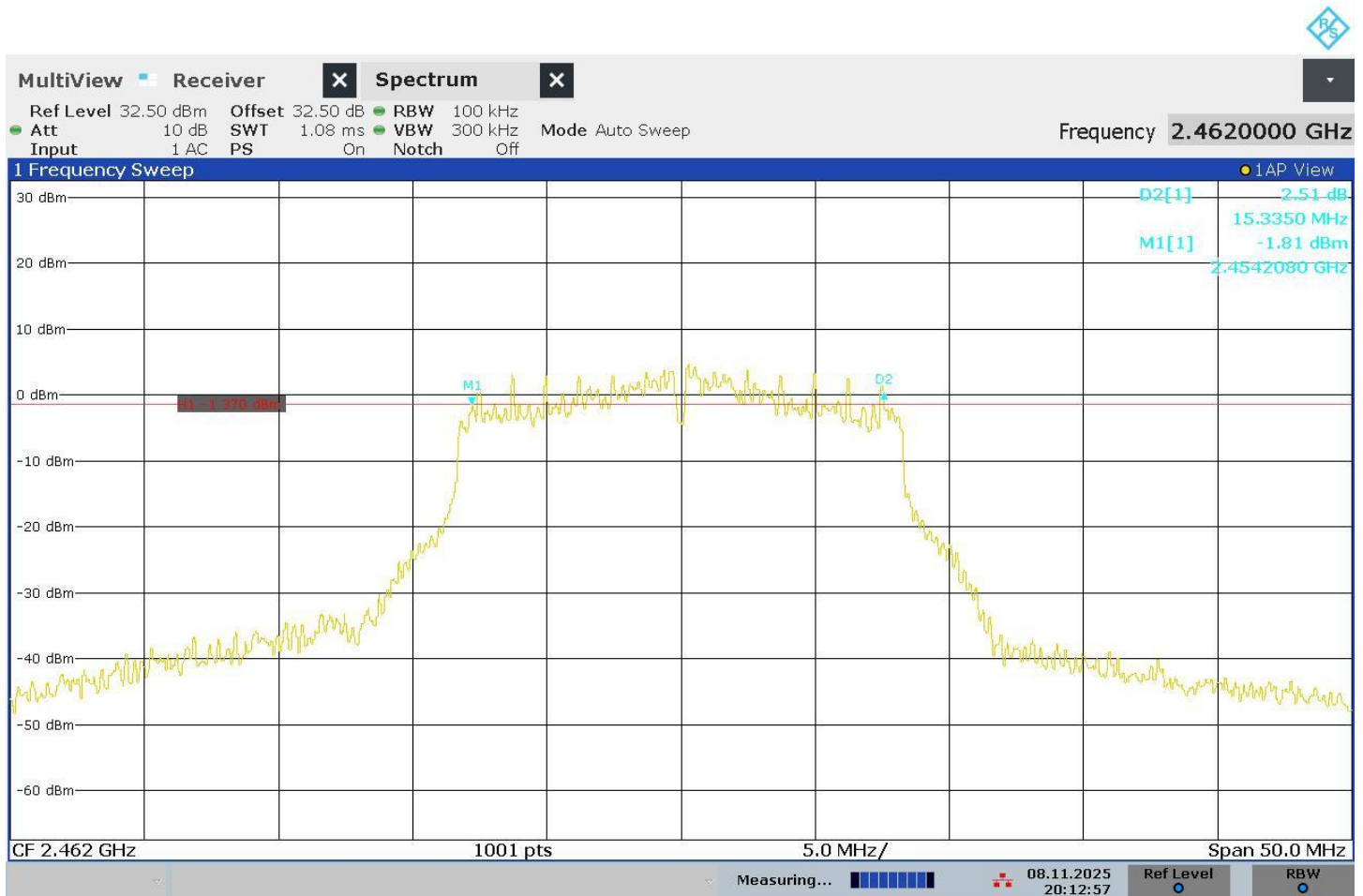
20:01:51 08.11.2025

8.8.2 6dB Bandwidth (DTS BW), 2432 MHz



20:05:20 08.11.2025

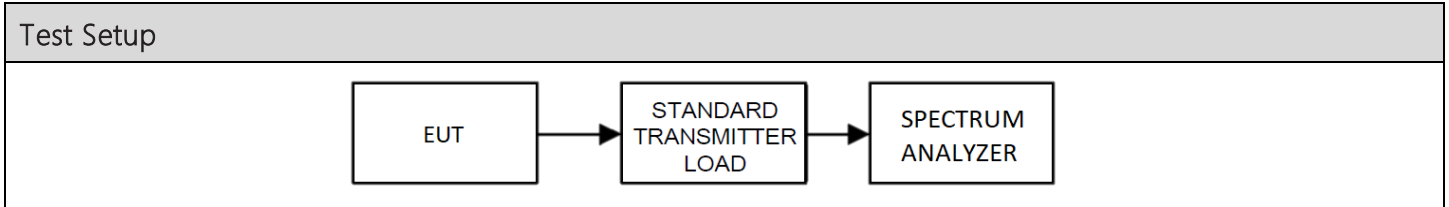
8.8.3 6dB Bandwidth (DTS BW), 2462 MHz



20:12:57 08.11.2025

8.9 6dB Bandwidth (DTS BW) – 802.11n

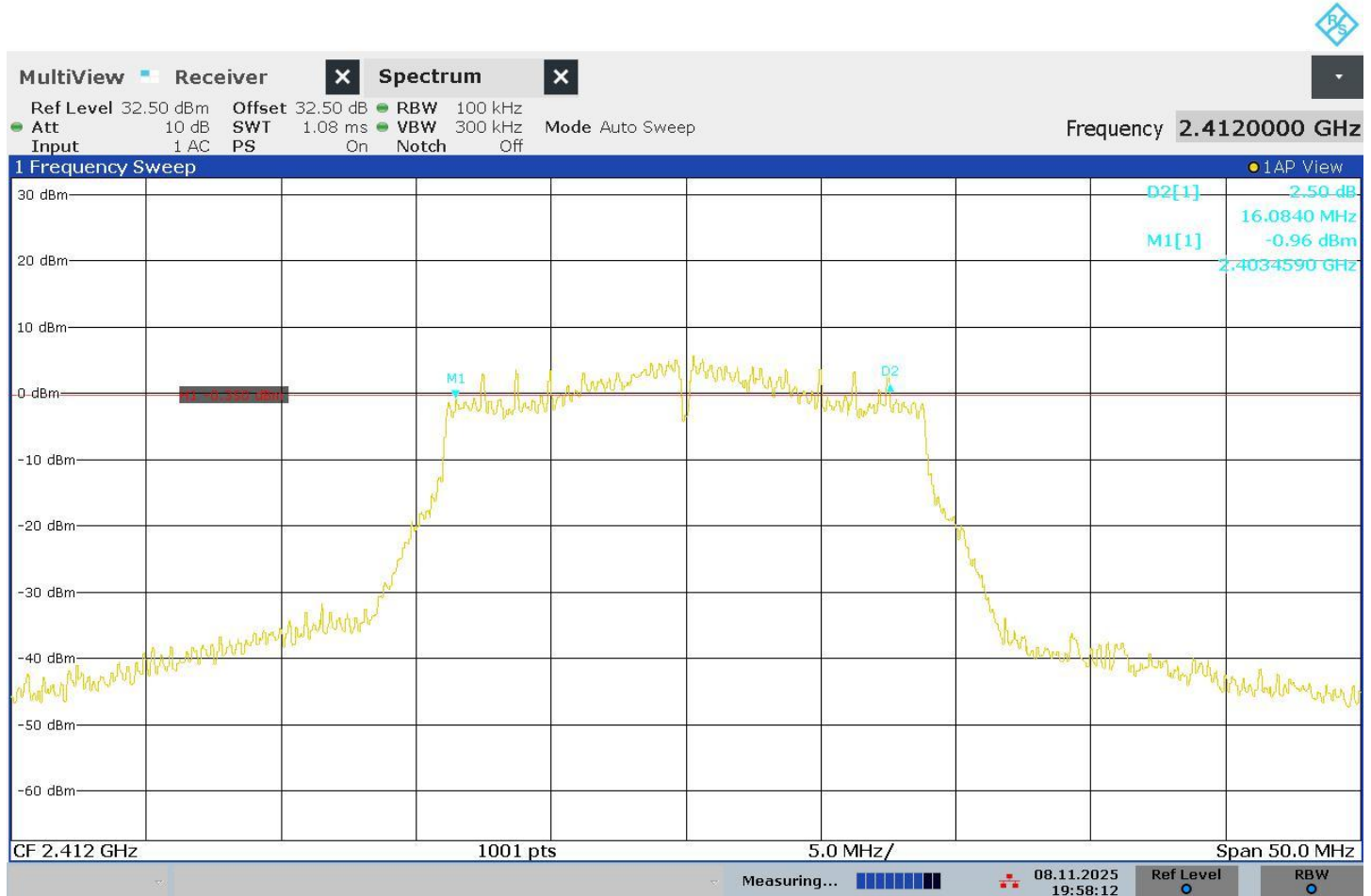
Limits from FCC Part 15.247 (a) (2) and test procedure from ANSI C63.10 -2020 section 11.8



Tuned Frequency (MHz)	6dB Bandwidth (DTS BW) (MHz)
2412	16.084
2432	17.483
2462	15.734

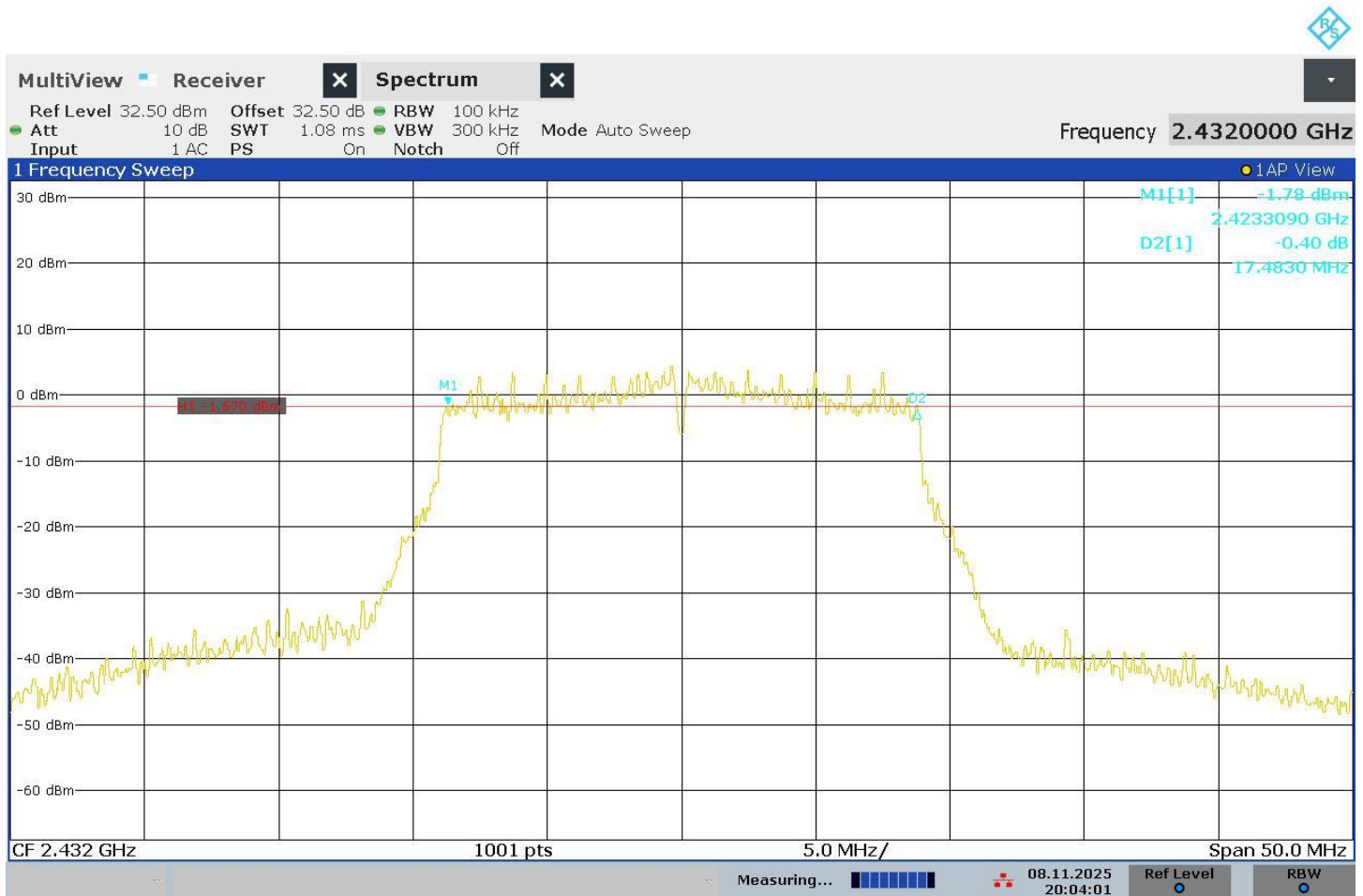
6dB BW Test Data / Spectrum Plots

8.9.1 6dB Bandwidth (DTS BW), 2412 MHz



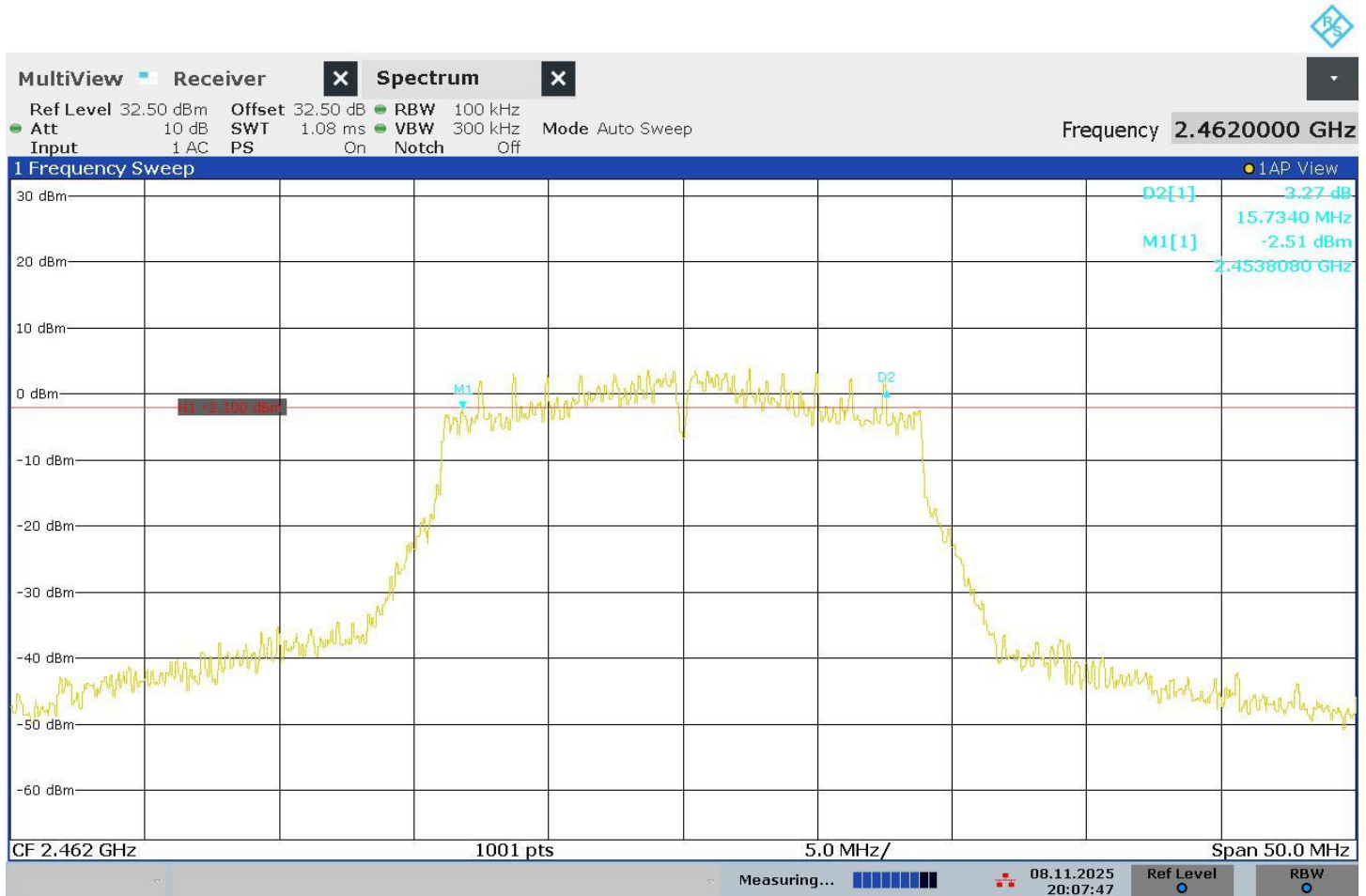
19:58:12 08.11.2025

8.9.2 6dB Bandwidth (DTS BW), 2432 MHz



20:04:01 08.11.2025

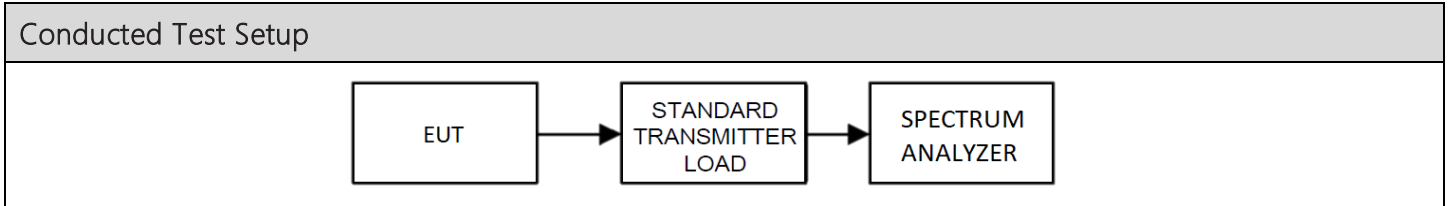
8.9.3 6dB Bandwidth (DTS BW), 2462 MHz



20:07:47 08.11.2025

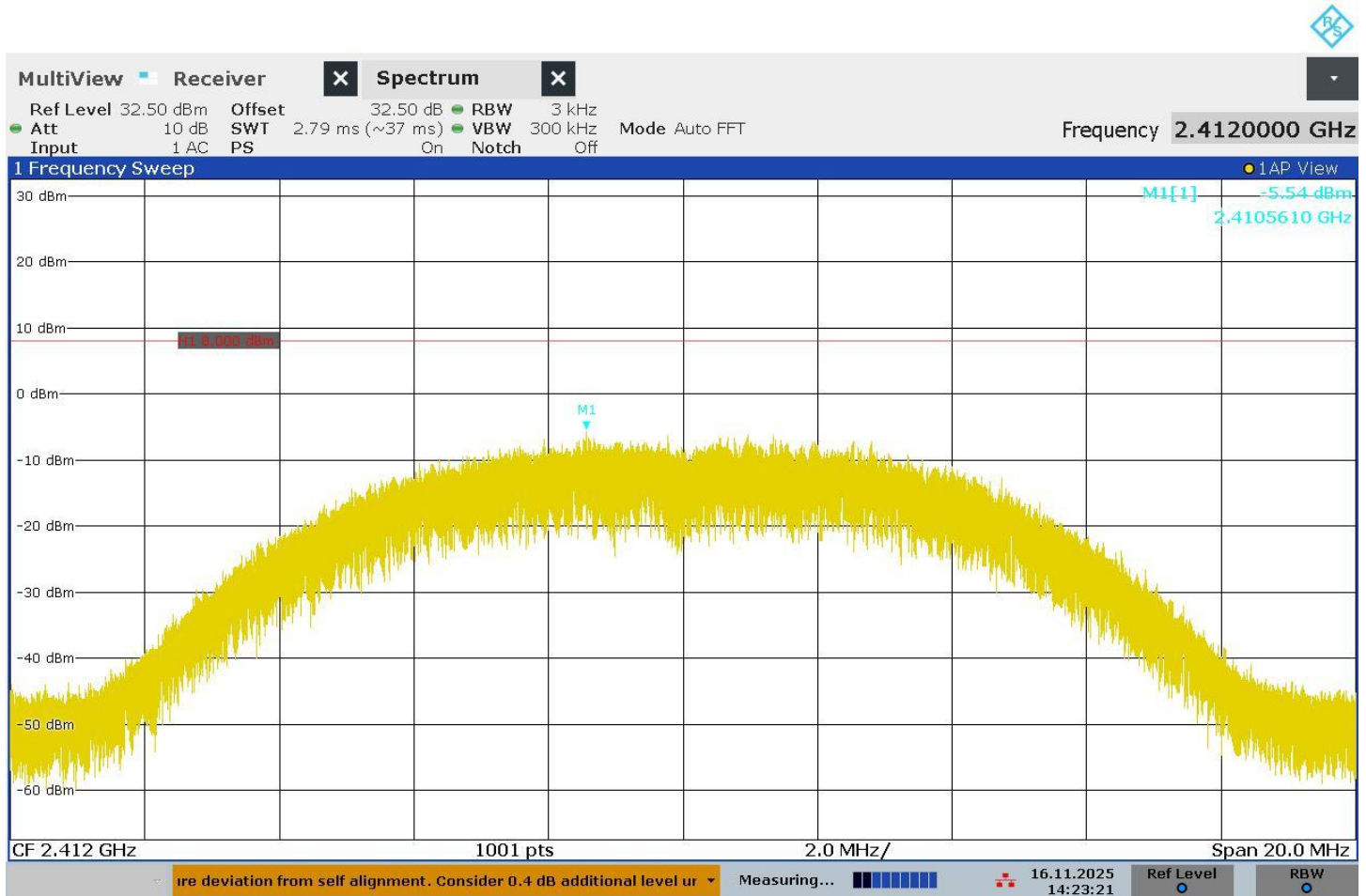
8.10 Power Spectral Density (PSD) – 802.11b

Limits from FCC Part 15.247 (e) and test procedure from ANSI C63.10-2020 section 11.10.



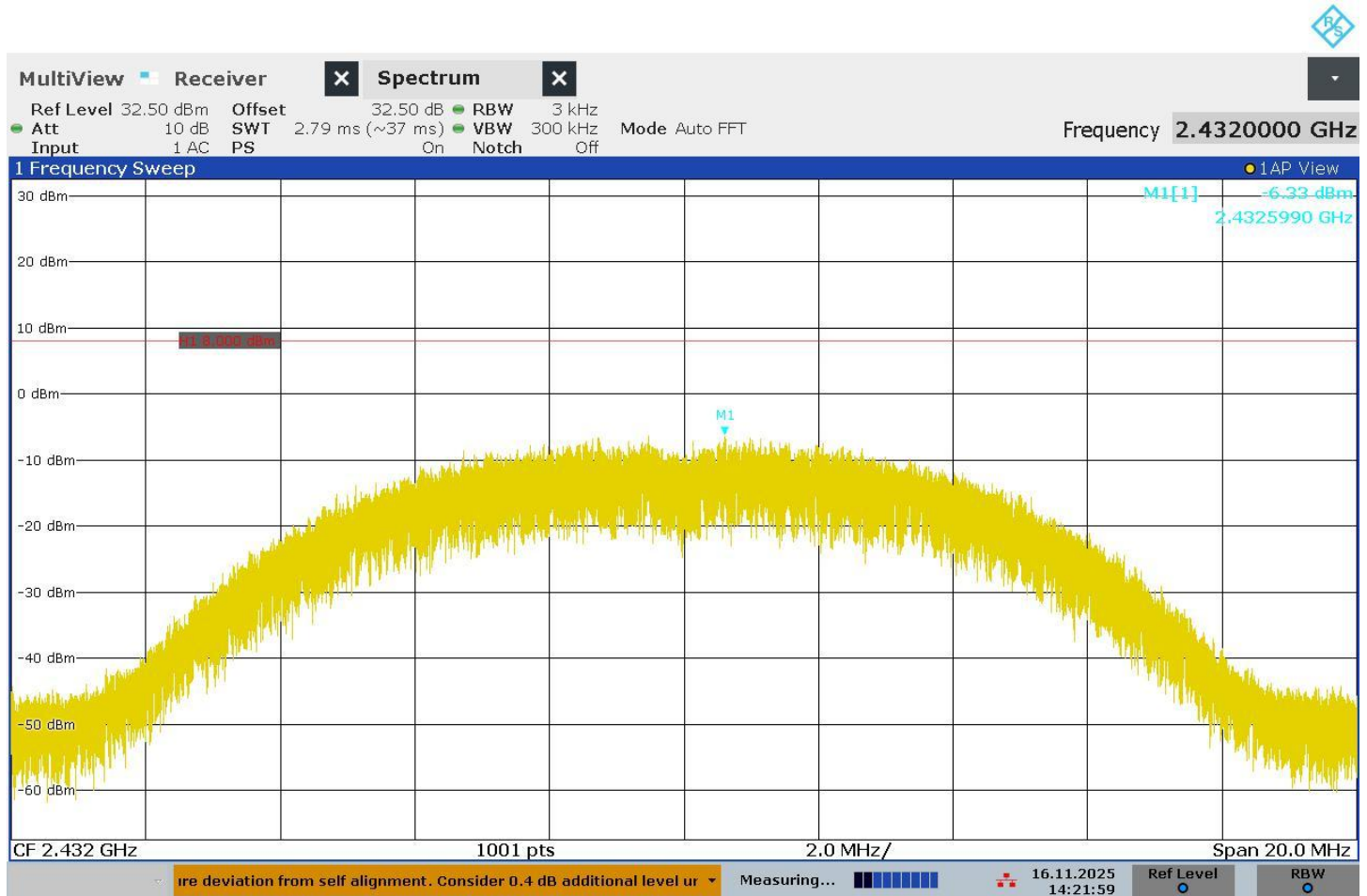
Tuned Frequency (MHz)	PSD Level (dBm)
2412	-5.54
2432	-6.33
2462	-6.49

8.10.1 Power Spectral Density (PSD), 2412 MHz



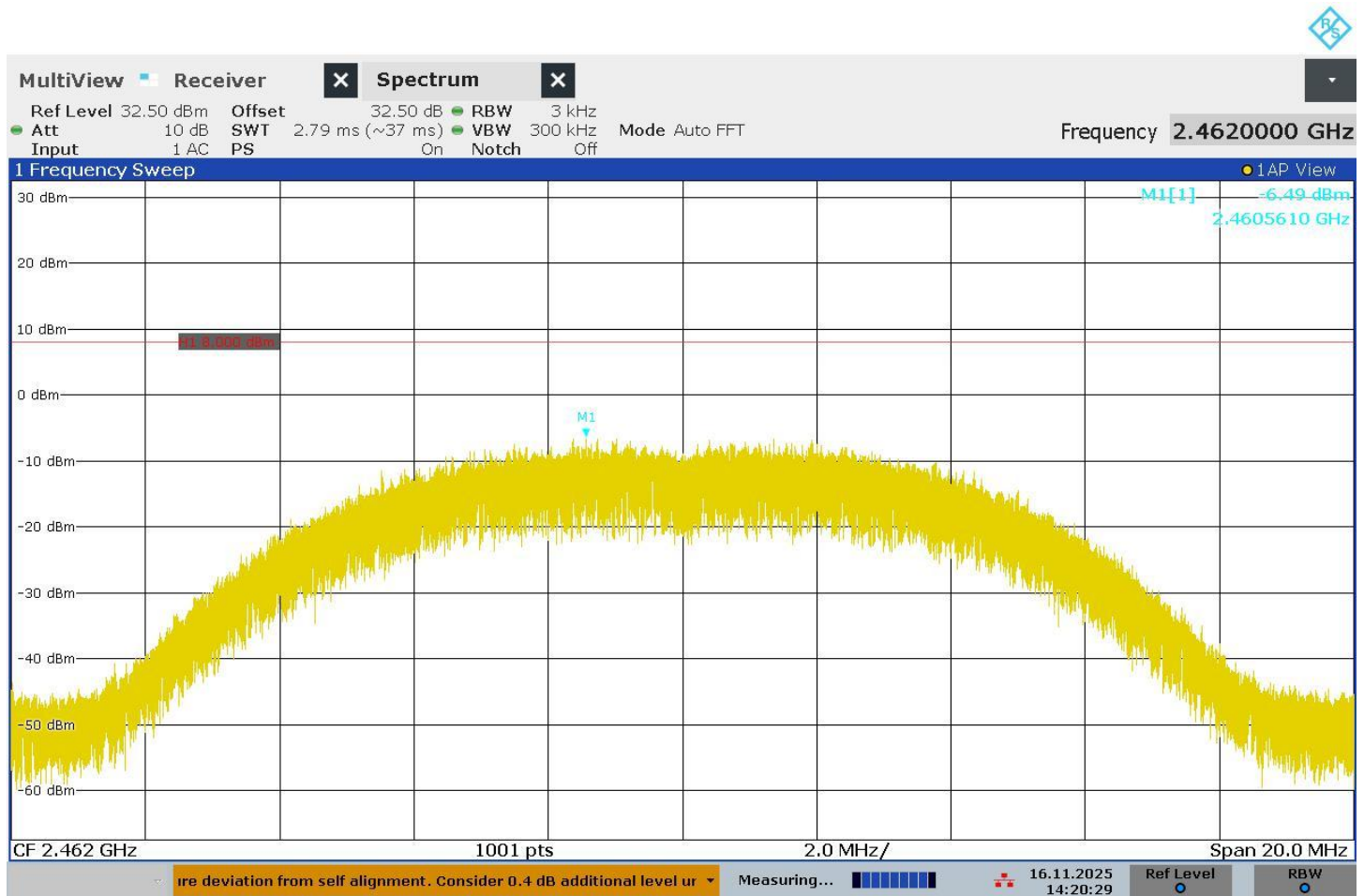
14:23:22 16.11.2025

8.10.2 Power Spectral Density (PSD), 2432 MHz



14:22:00 16.11.2025

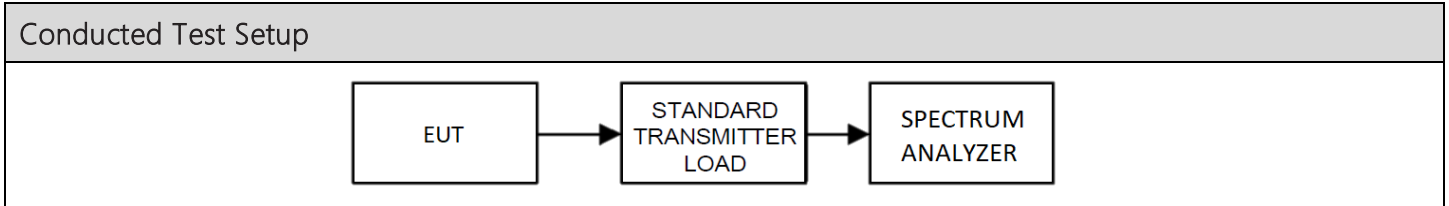
8.10.3 Power Spectral Density (PSD), 2462 MHz



14:20:30 16.11.2025

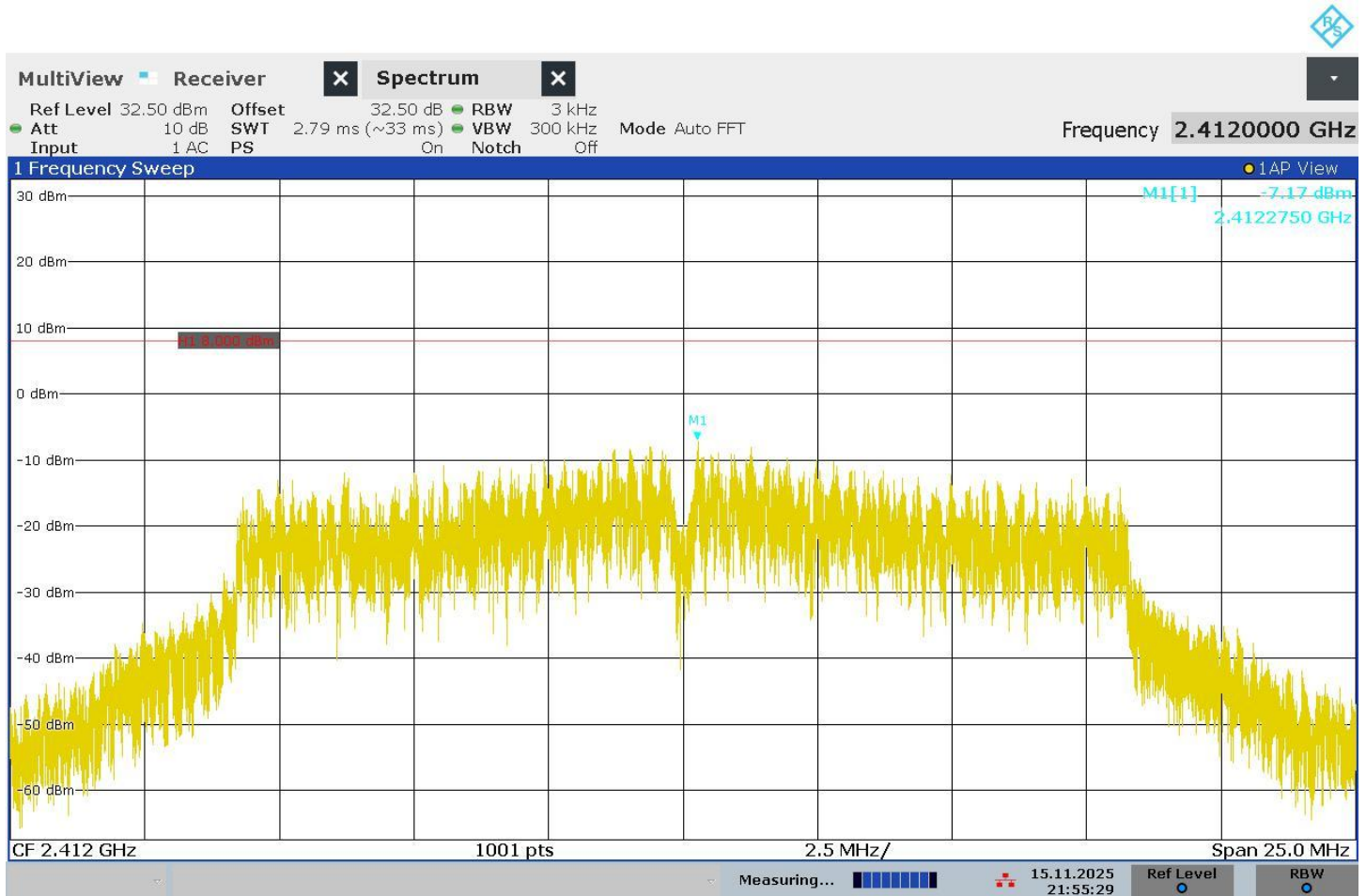
8.11 Power Spectral Density (PSD) – 802.11g

Limits from FCC Part 15.247 (e) and test procedure from ANSI C63.10-2020 section 11.10.



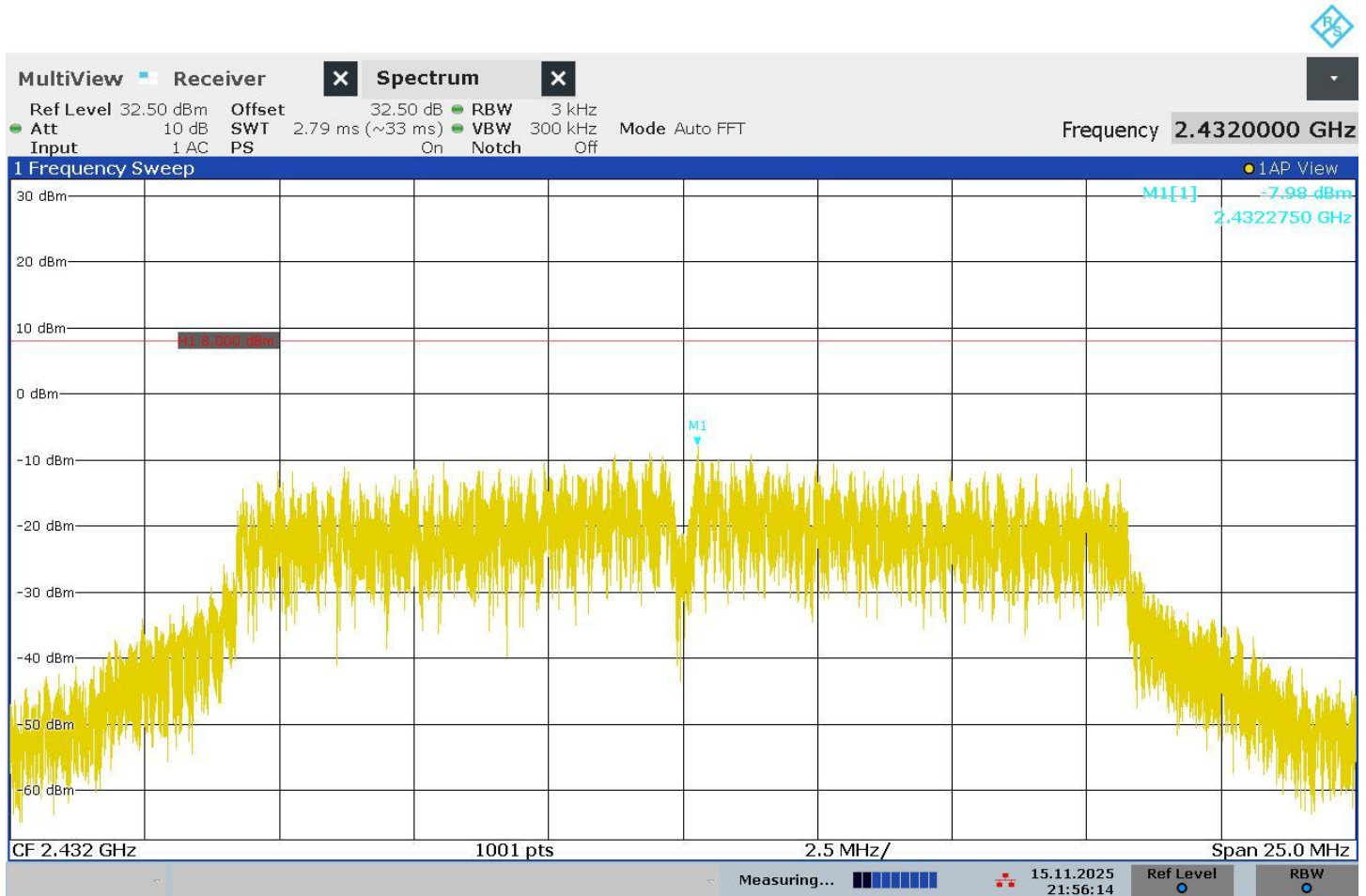
Tuned Frequency (MHz)	PSD Level (dBm)
2412	-7.17
2432	-7.98
2462	-7.40

8.11.1 Power Spectral Density (PSD), 2412 MHz



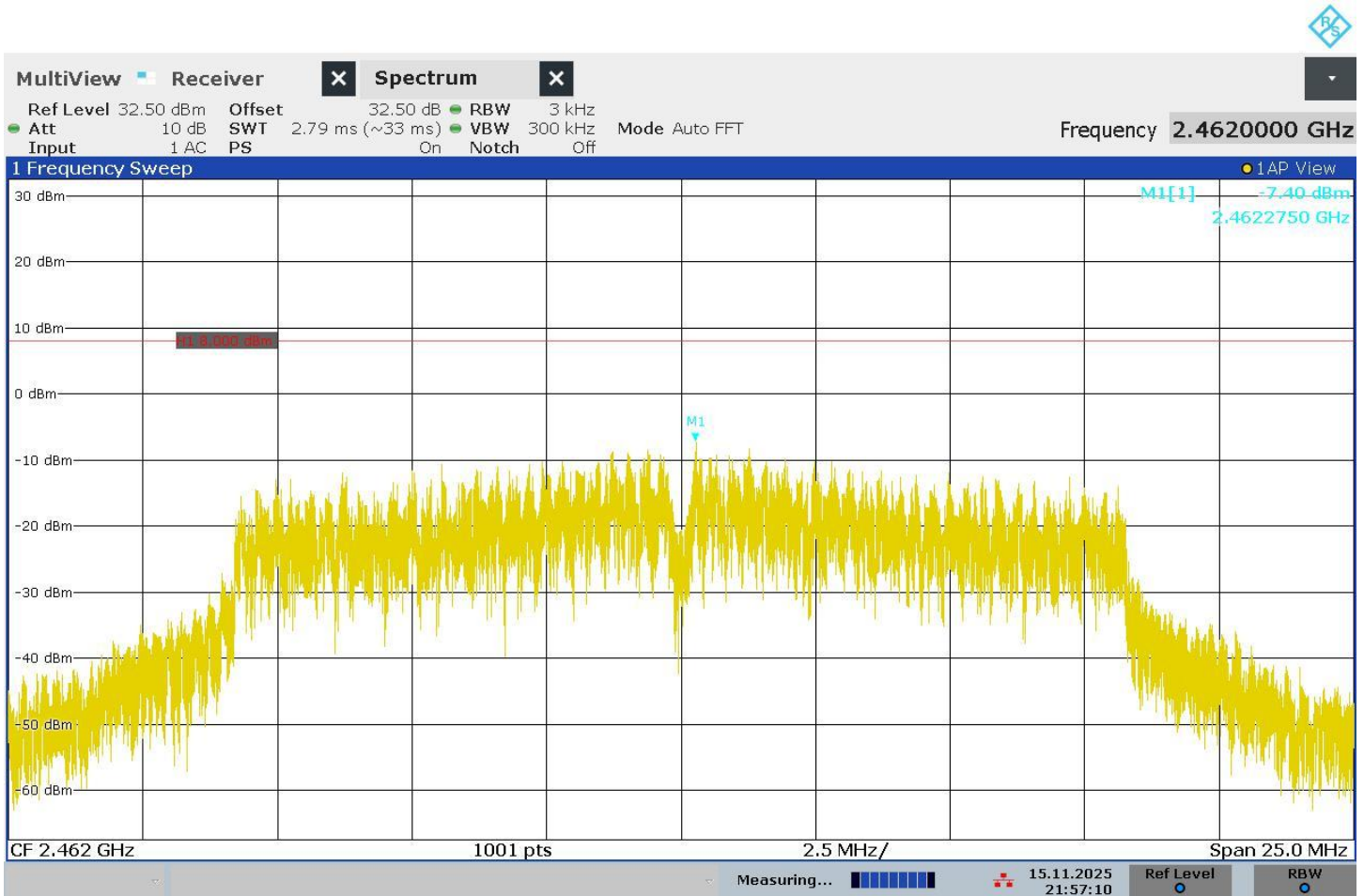
21:55:30 15.11.2025

8.11.2 Power Spectral Density (PSD), 2432 MHz



21:56:15 15.11.2025

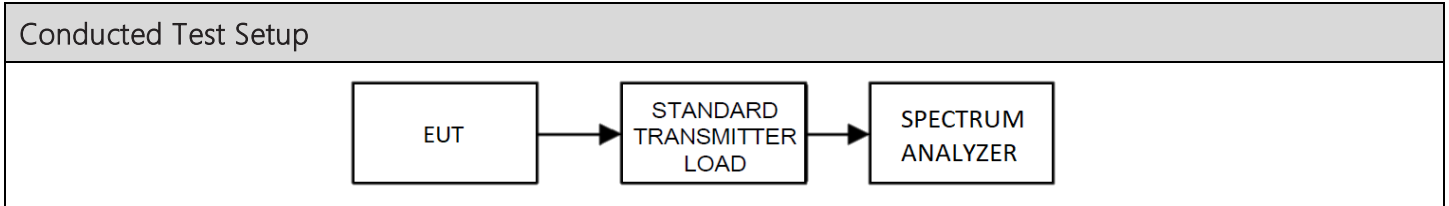
8.11.3 Power Spectral Density (PSD), 2462 MHz



21:57:11 15.11.2025

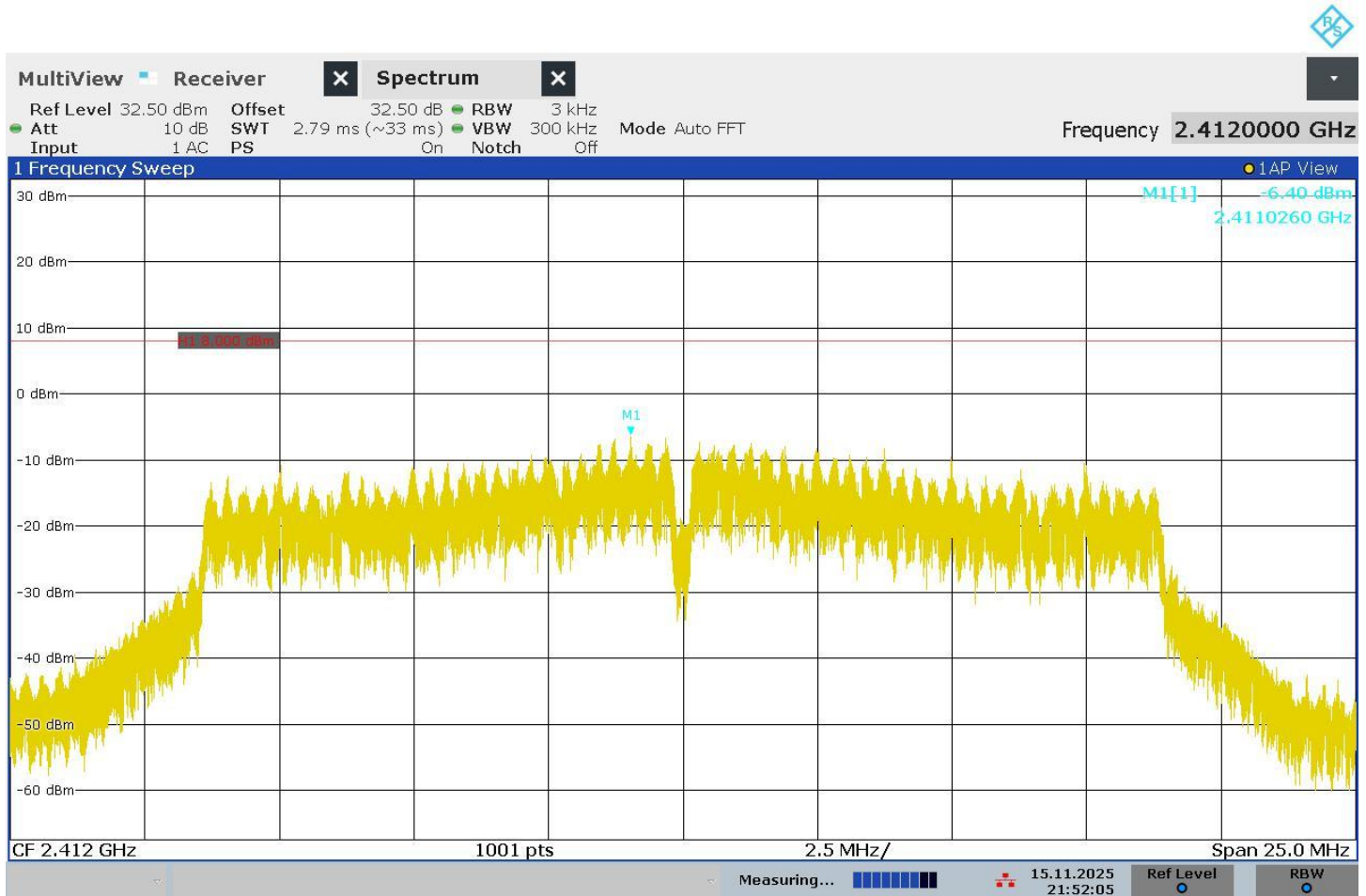
8.12 Power Spectral Density (PSD) – 802.11n

Limits from FCC Part 15.247 (e) and test procedure from ANSI C63.10-2020 section 11.10.



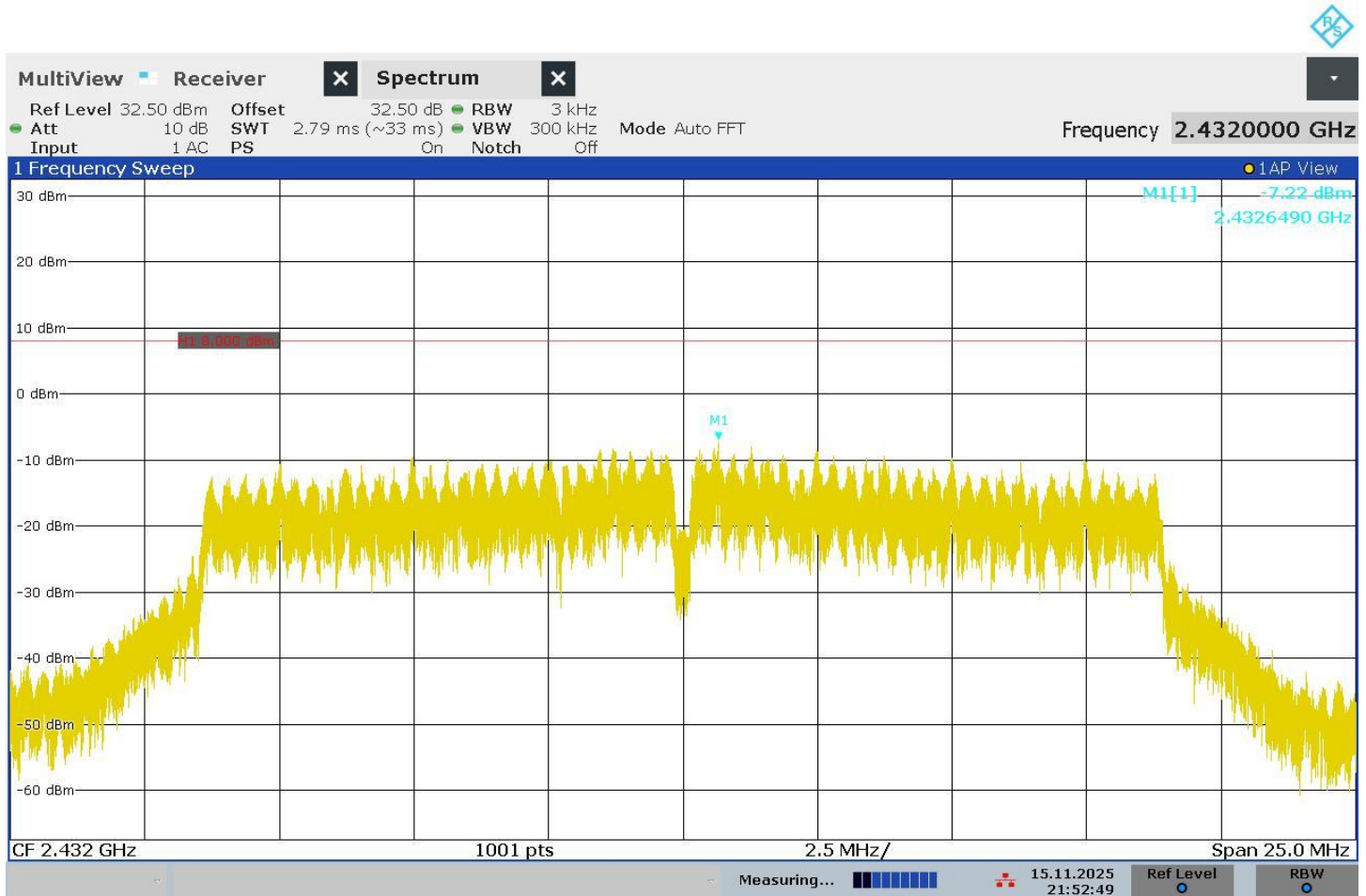
Tuned Frequency (MHz)	PSD Level (dBm)
2412	-6.40
2432	-7.22
2462	-7.30

8.12.1 Power Spectral Density (PSD), 2412 MHz



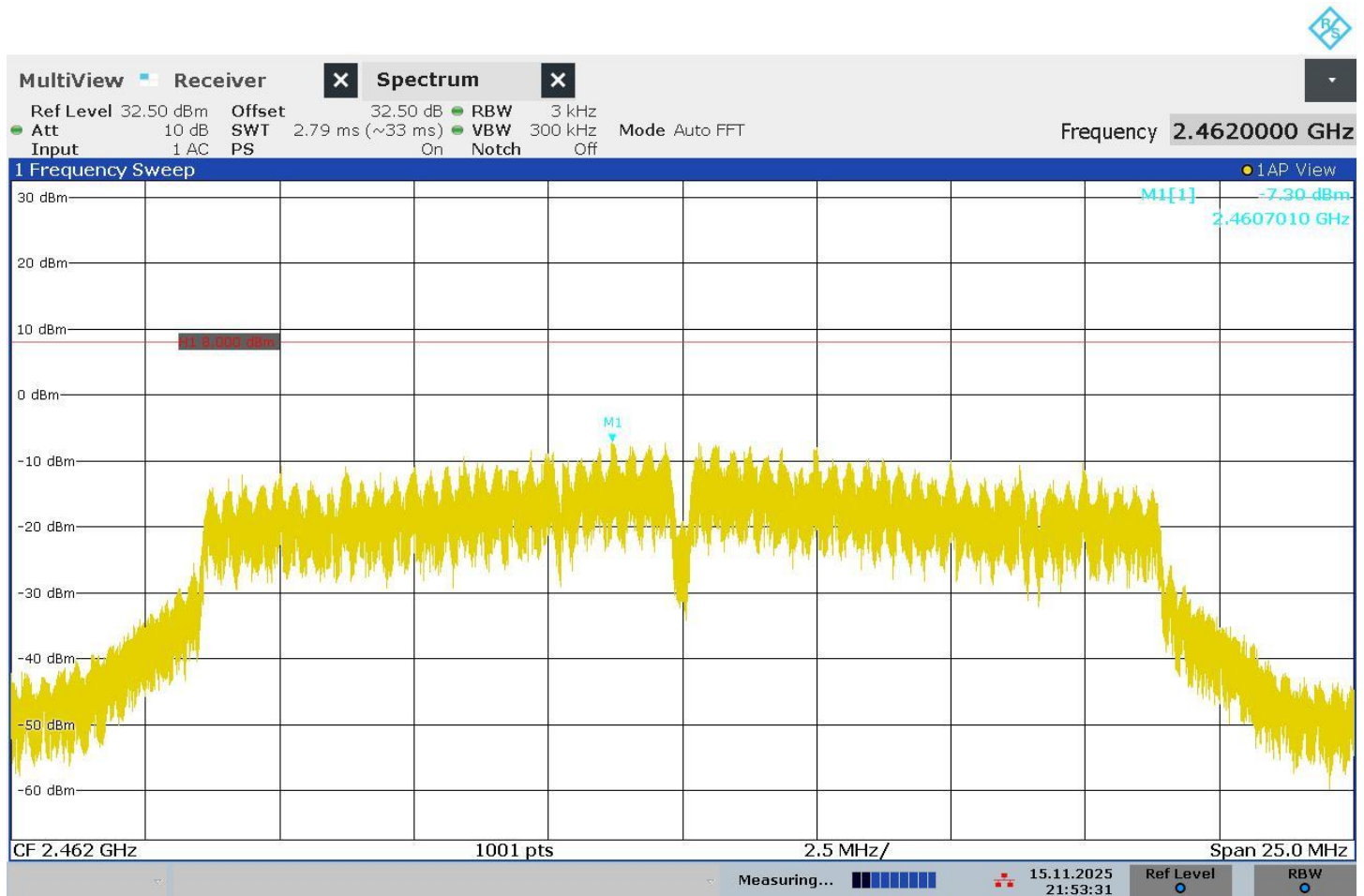
21:52:05 15.11.2025

8.12.2 Power Spectral Density (PSD), 2432 MHz



21:52:49 15.11.2025

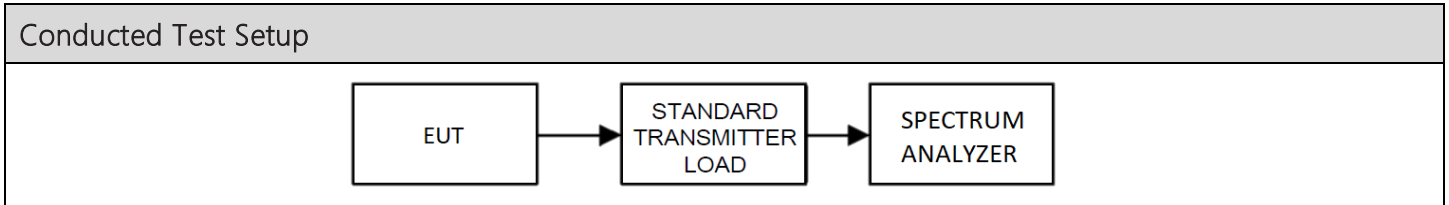
8.12.3 Power Spectral Density (PSD), 2462 MHz



21:53:32 15.11.2025

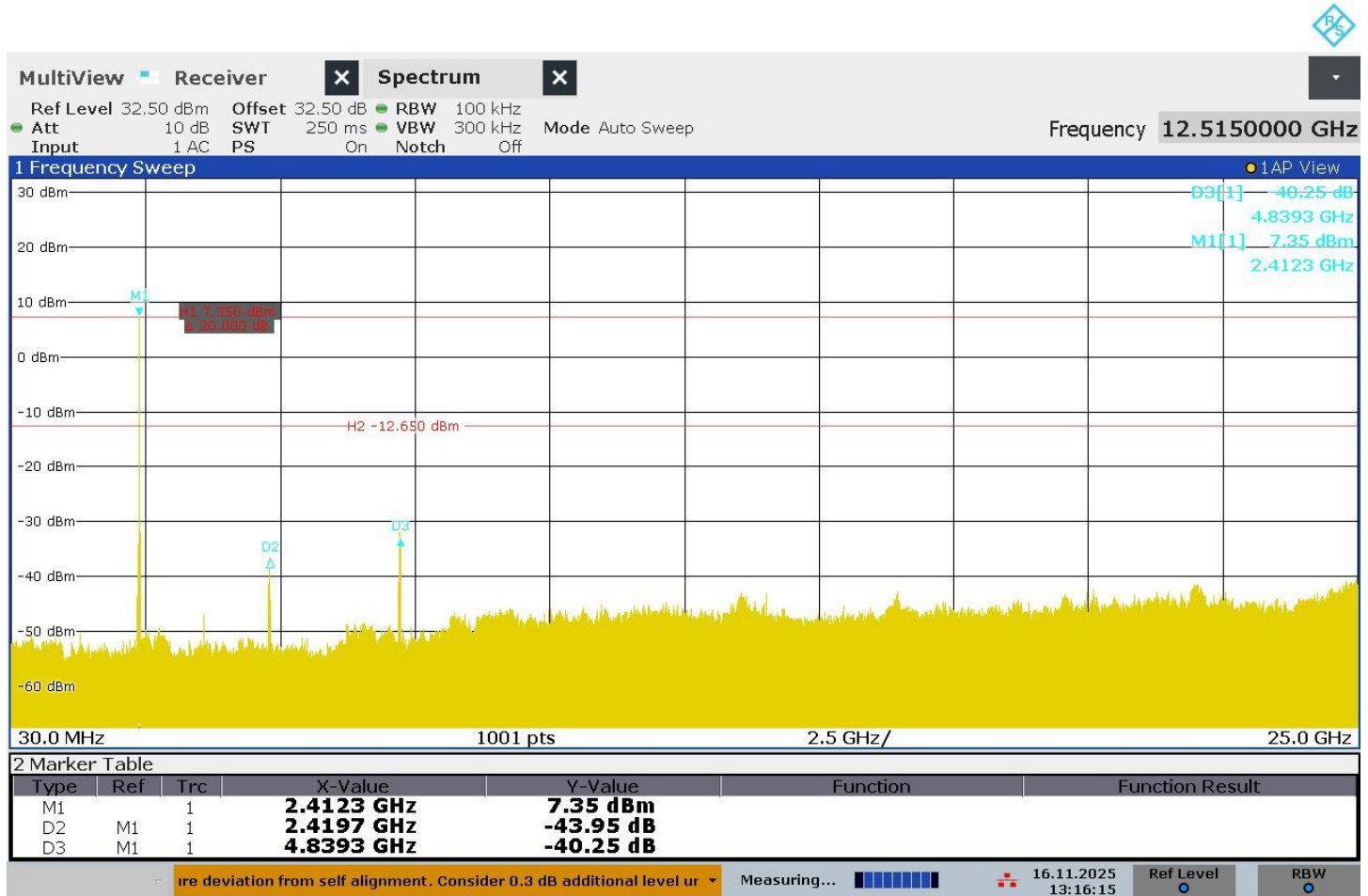
8.13 Emissions in Nonrestricted Frequency Bands (Out of Band) – 802.11b

Limits from FCC Part 15.247 (d) and 15.215 (b) and test procedure from ANSI C63.10-2020 section 7.8 or 11.11 as applicable.

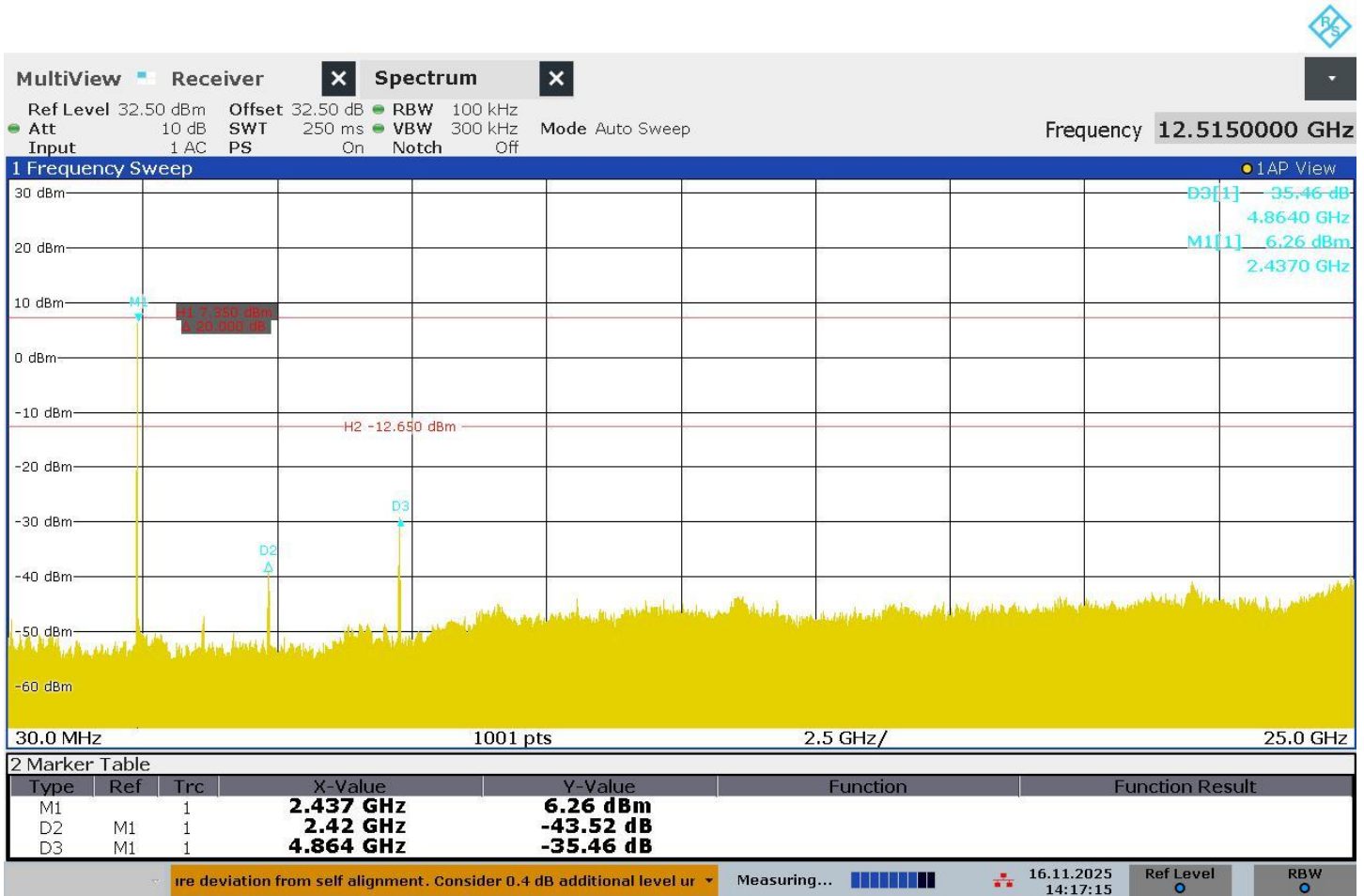


Conducted Emissions in Non-Restricted Bands, Spectrum Plots

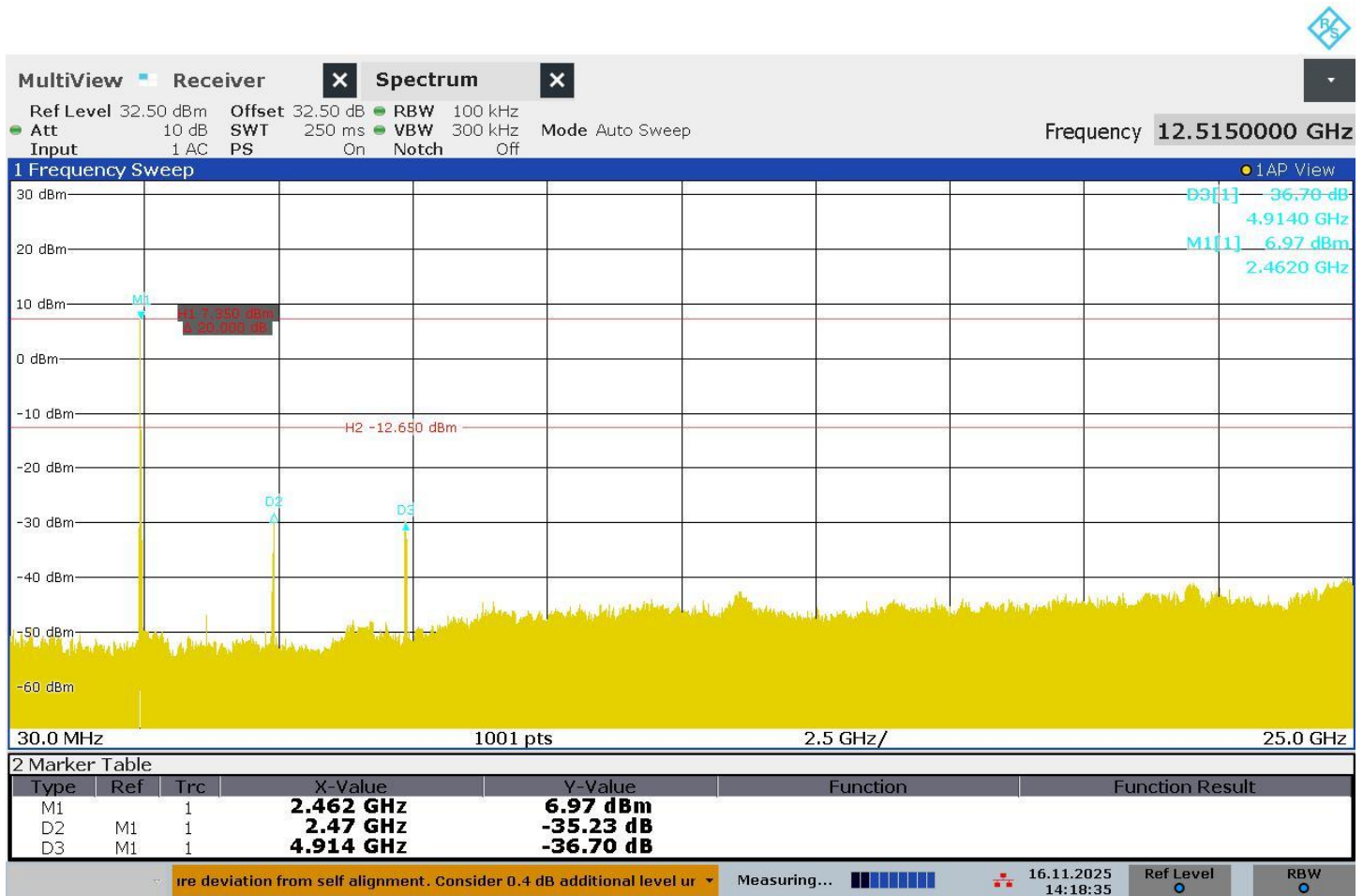
8.13.1 Conducted Emissions Plot, 2412 MHz



8.13.2 Conducted Emissions Plot, 2432 MHz



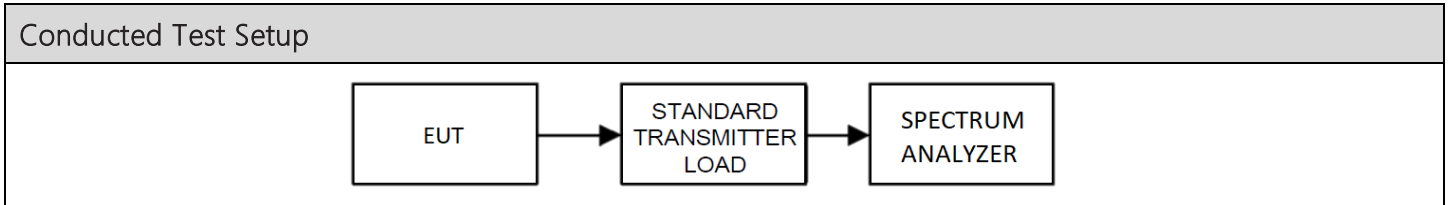
8.13.3 Conducted Emissions Plot, 2462 MHz



14:18:36 16.11.2025

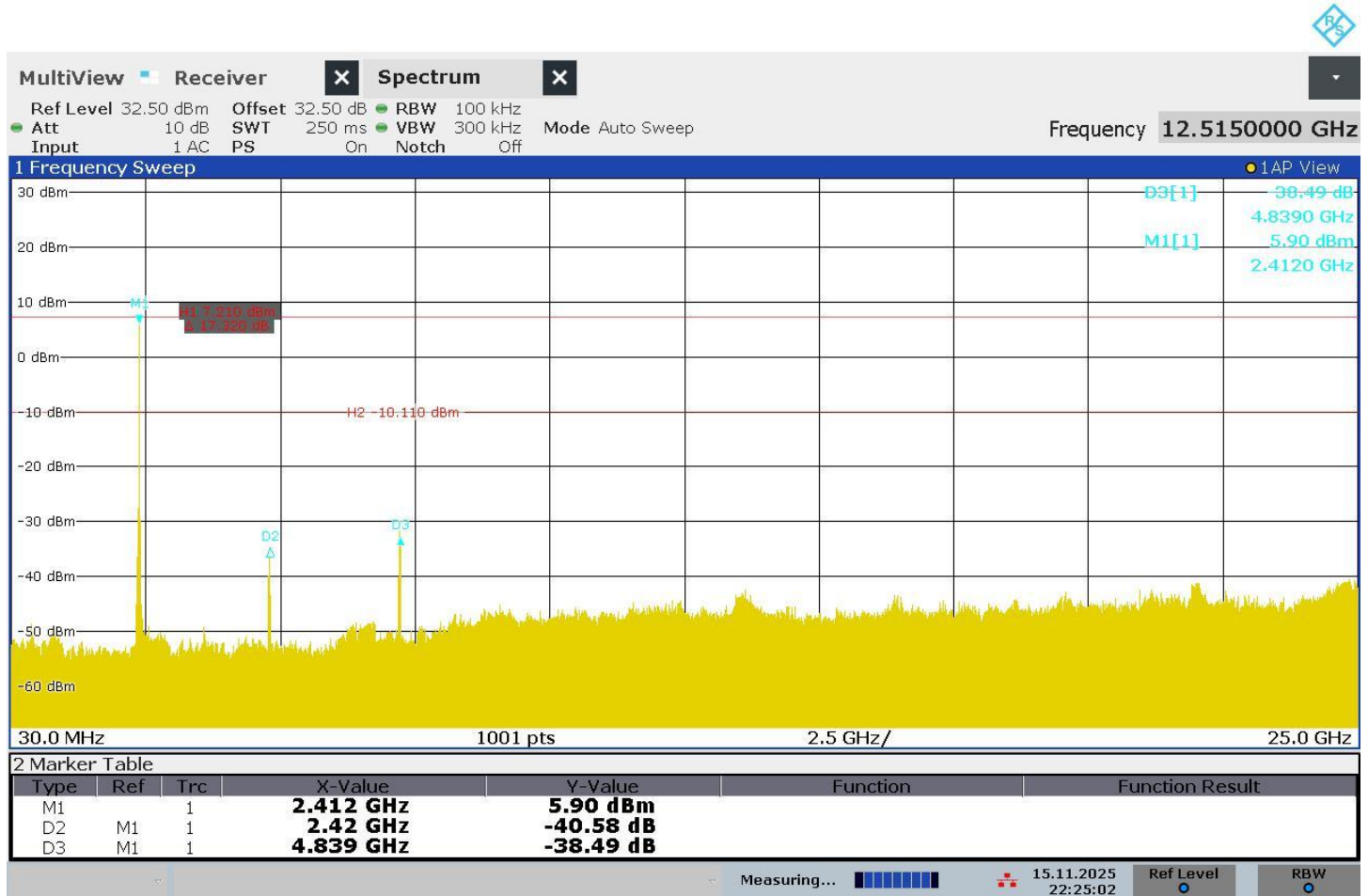
8.14 Emissions in Nonrestricted Frequency Bands (Out of Band) – 802.11g

Limits from FCC Part 15.247 (d) and 15.215 (b) and test procedure from ANSI C63.10-2020 section 7.8 or 11.11 as applicable.



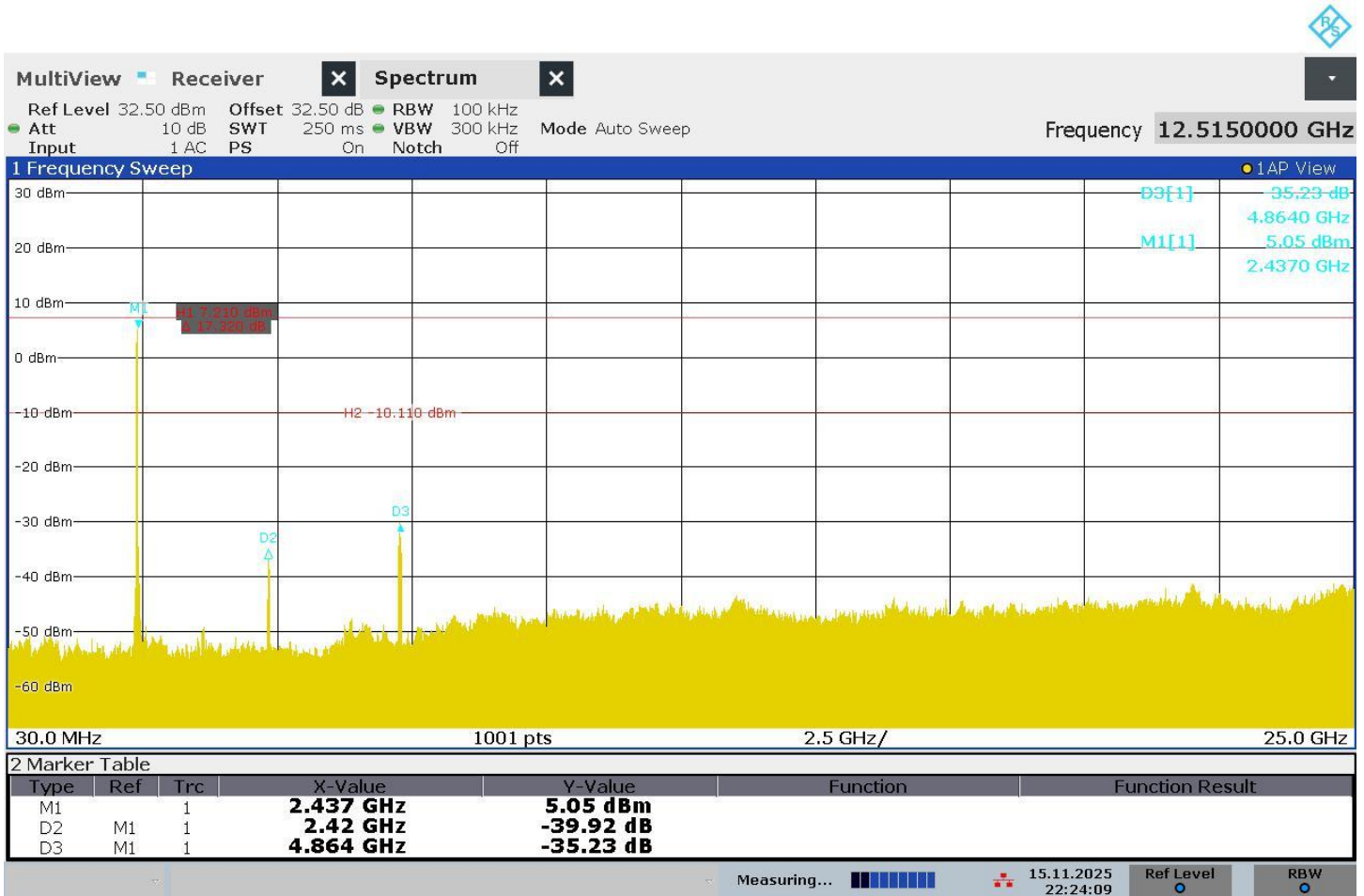
Conducted Emissions in Non-Restricted Bands, Spectrum Plots

8.14.1 Conducted Emissions Plot, 2412 MHz



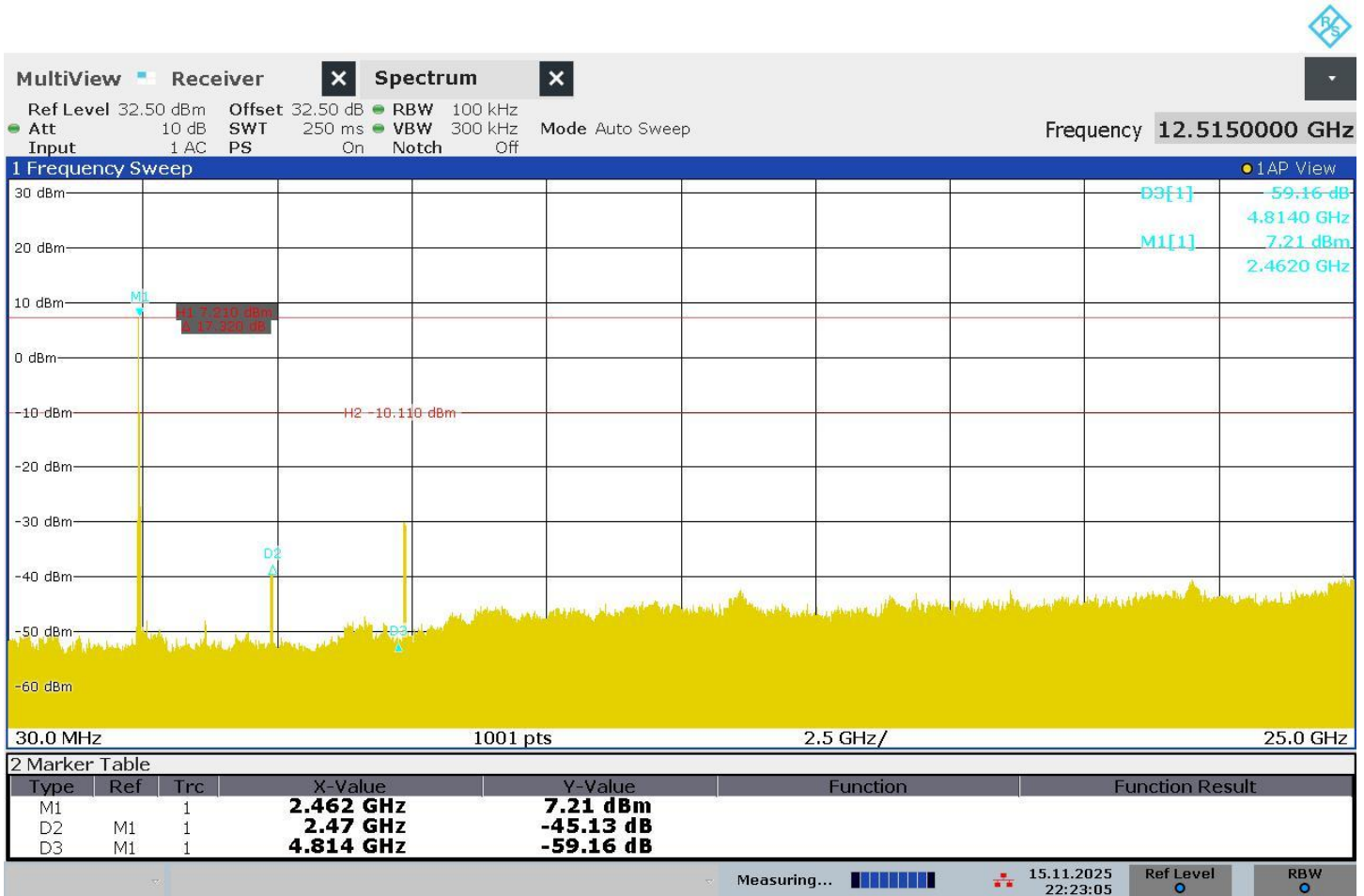
22:25:02 15.11.2025

8.14.2 Conducted Emissions Plot, 2432 MHz



22:24:09 15.11.2025

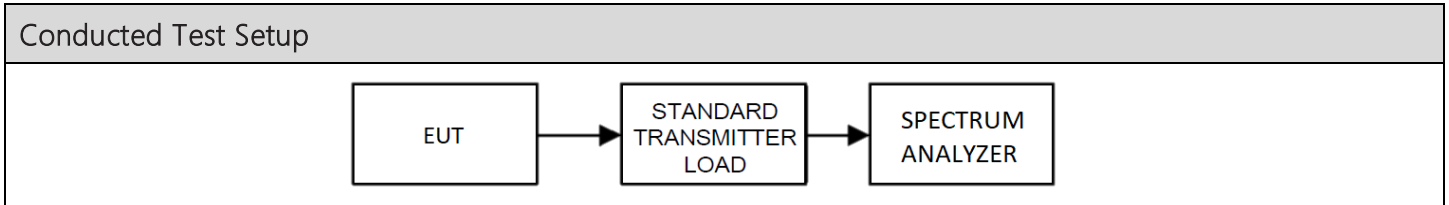
8.14.3 Conducted Emissions Plot, 2462 MHz



22:23:05 15.11.2025

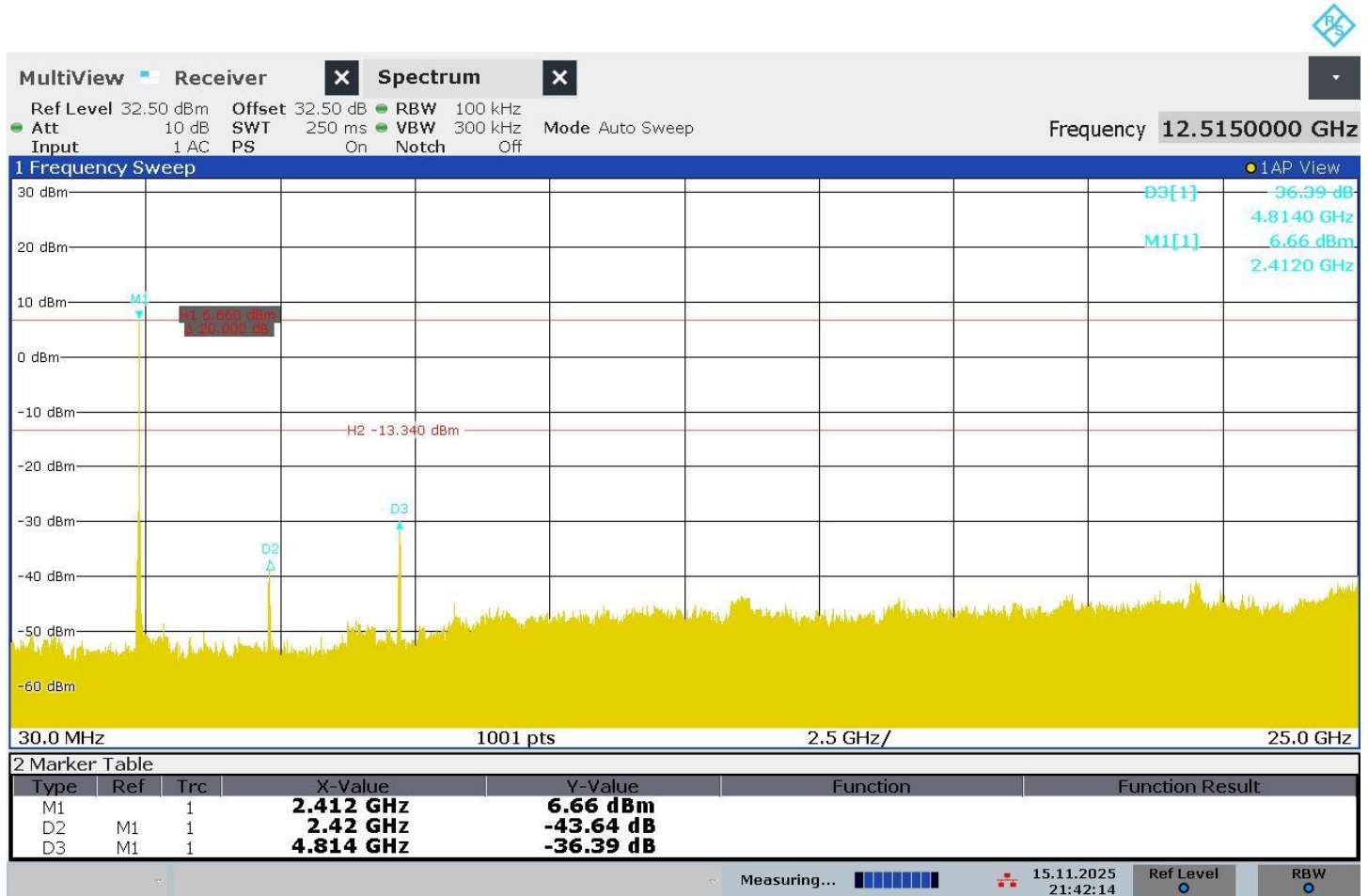
8.15 Emissions in Nonrestricted Frequency Bands (Out of Band) – 802.11n

Limits from FCC Part 15.247 (d) and 15.215 (b) and test procedure from ANSI C63.10-2020 section 7.8 or 11.11 as applicable.



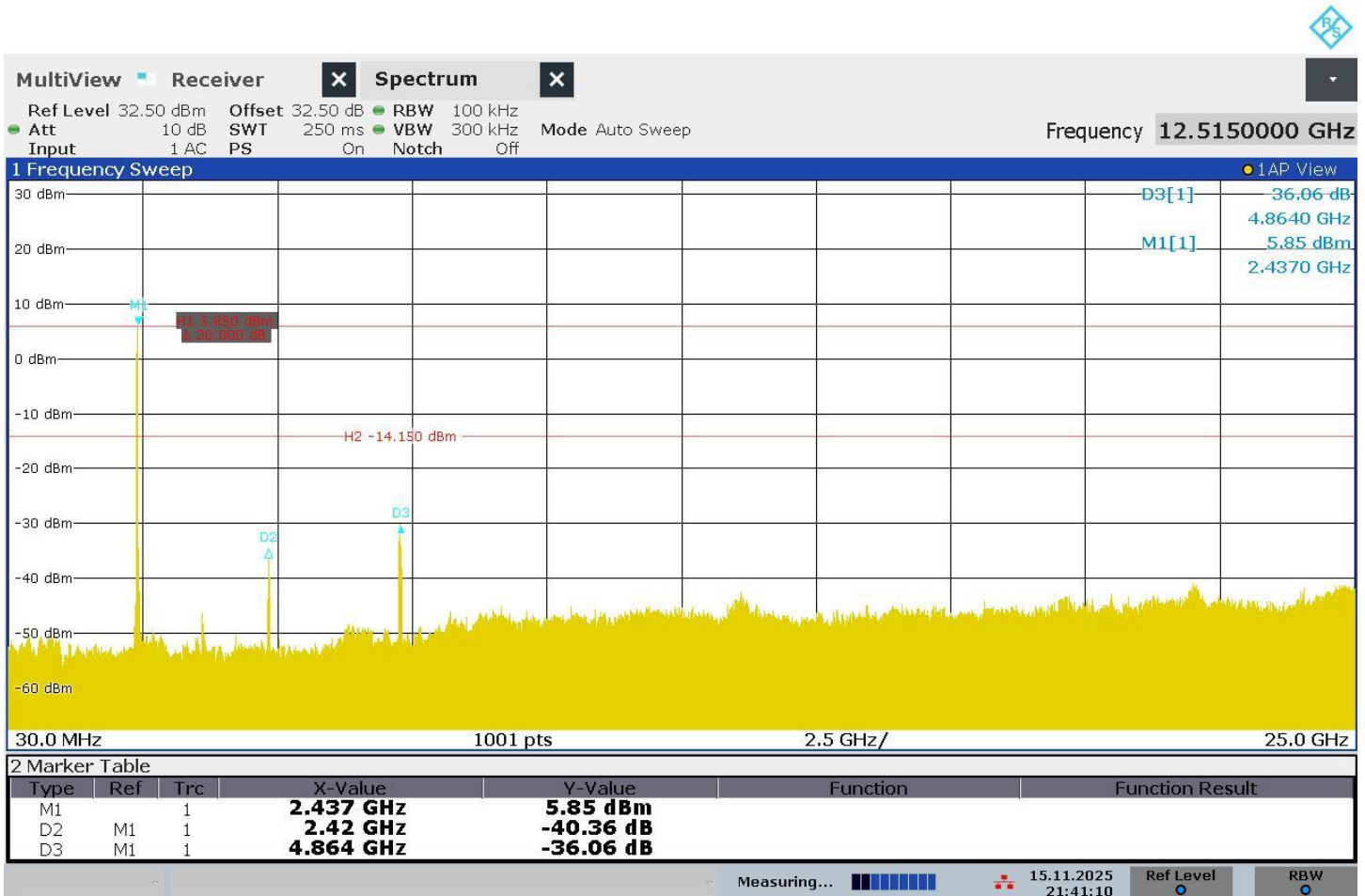
Conducted Emissions in Non-Restricted Bands, Spectrum Plots

8.15.1 Conducted Emissions Plot, 2412 MHz



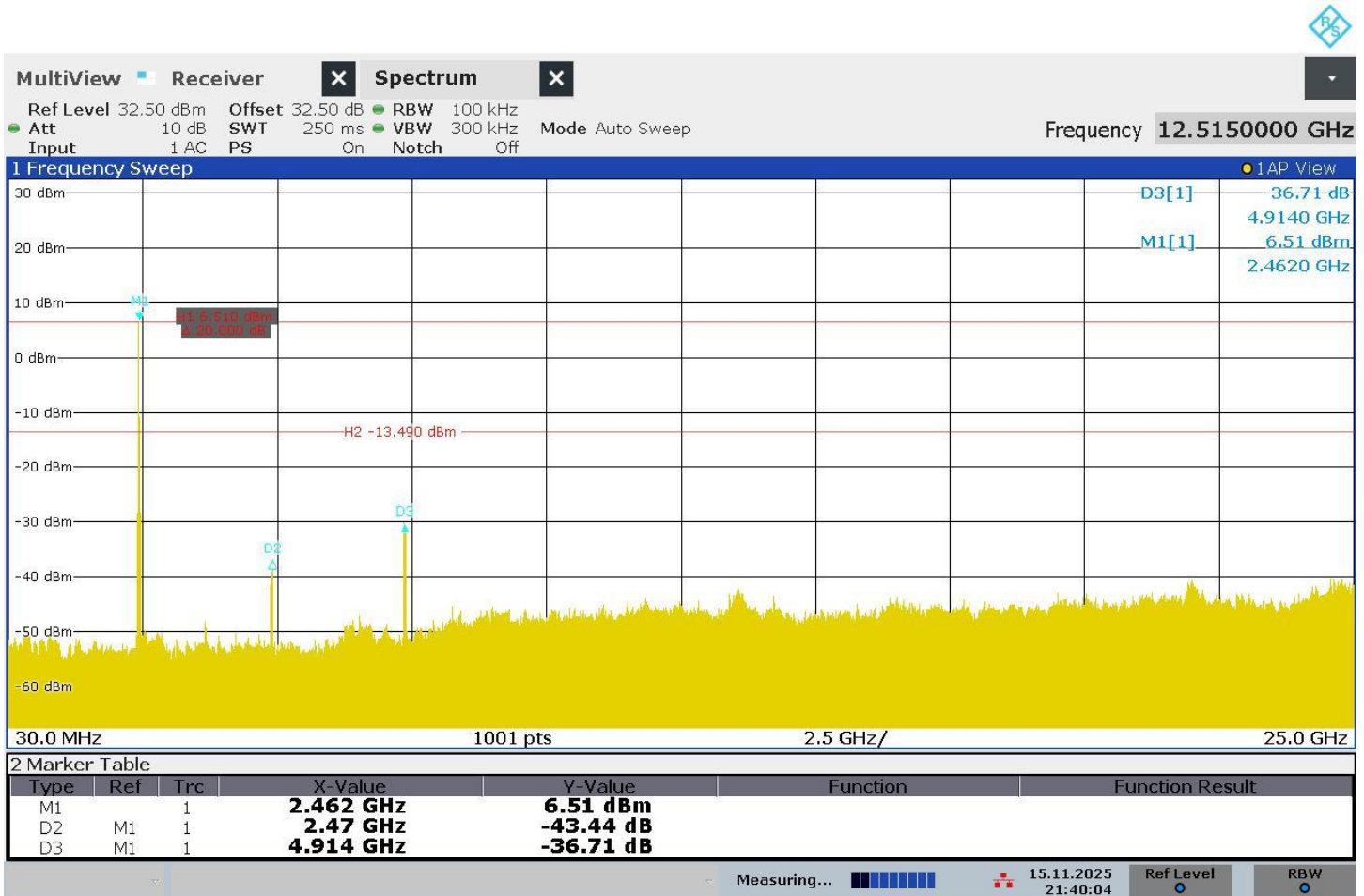
21:42:14 15.11.2025

8.15.2 Conducted Emissions Plot, 2432 MHz



21:41:10 15.11.2025

8.15.3 Conducted Emissions Plot, 2462 MHz

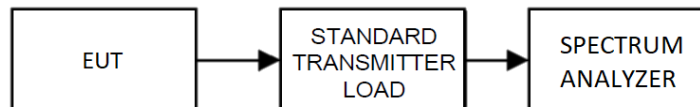


21:40:05 15.11.2025

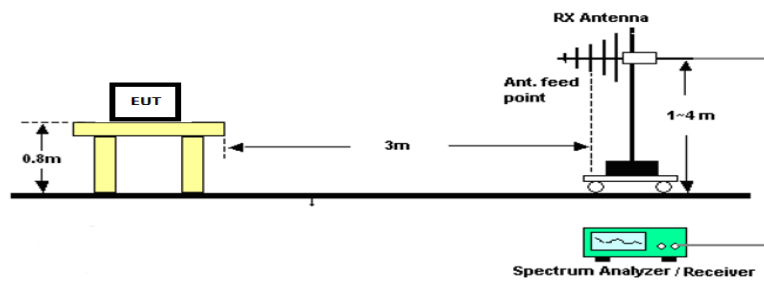
8.16 Band-edge measurements – 802.11b

Requirement from FCC KDB 558074 D01 and test procedure from ANSI C63.10-2020 section 7.8 or 11.13 as applicable.

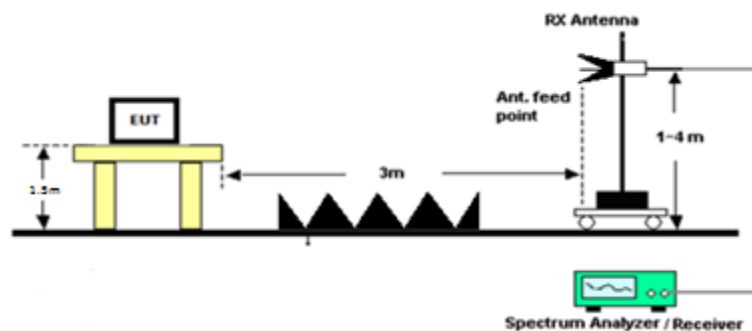
Conducted Test Setup



Radiated Test Setup, 30 – 1000 MHz

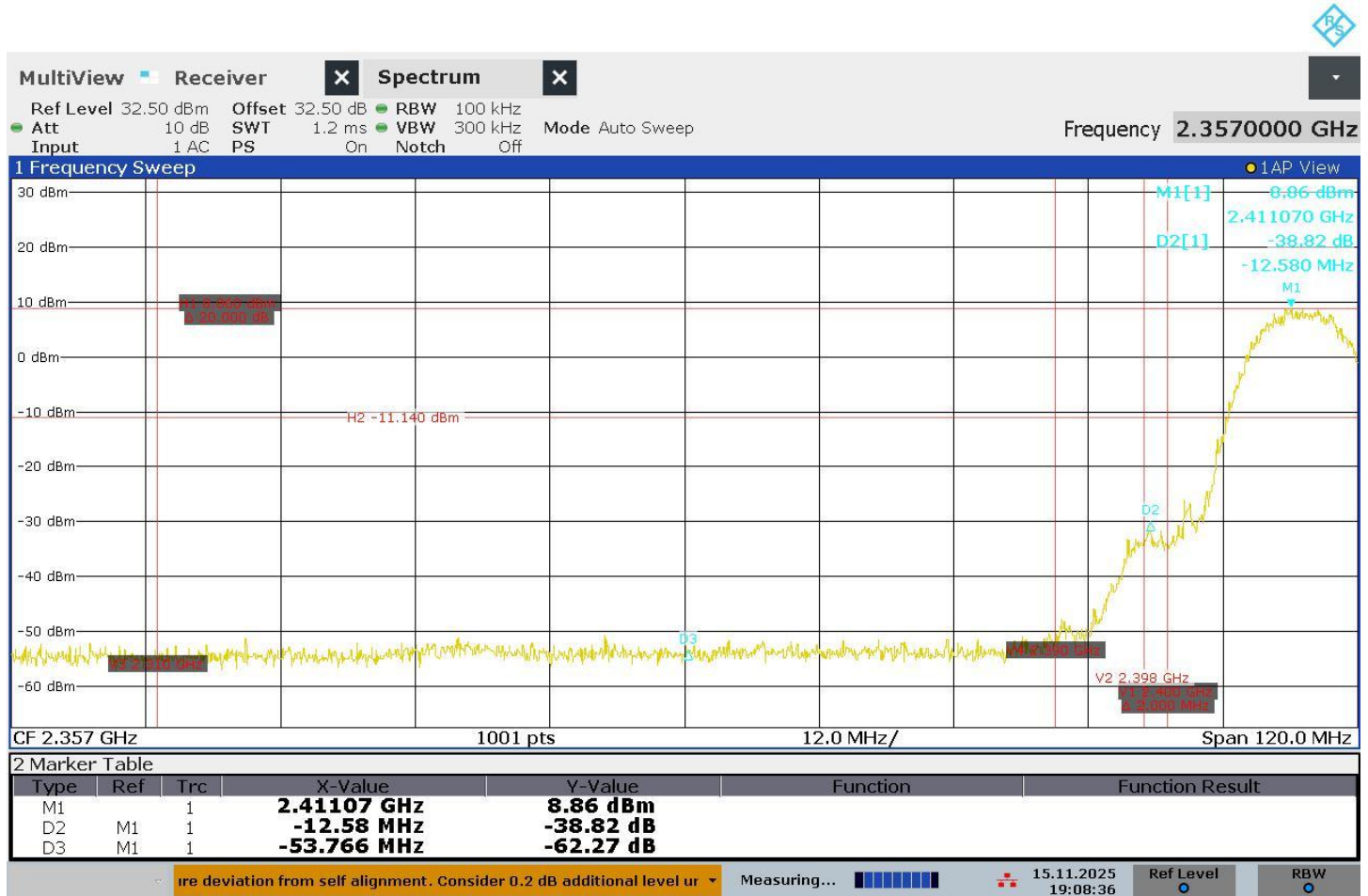


Radiated Test Setup, Above 1000 MHz

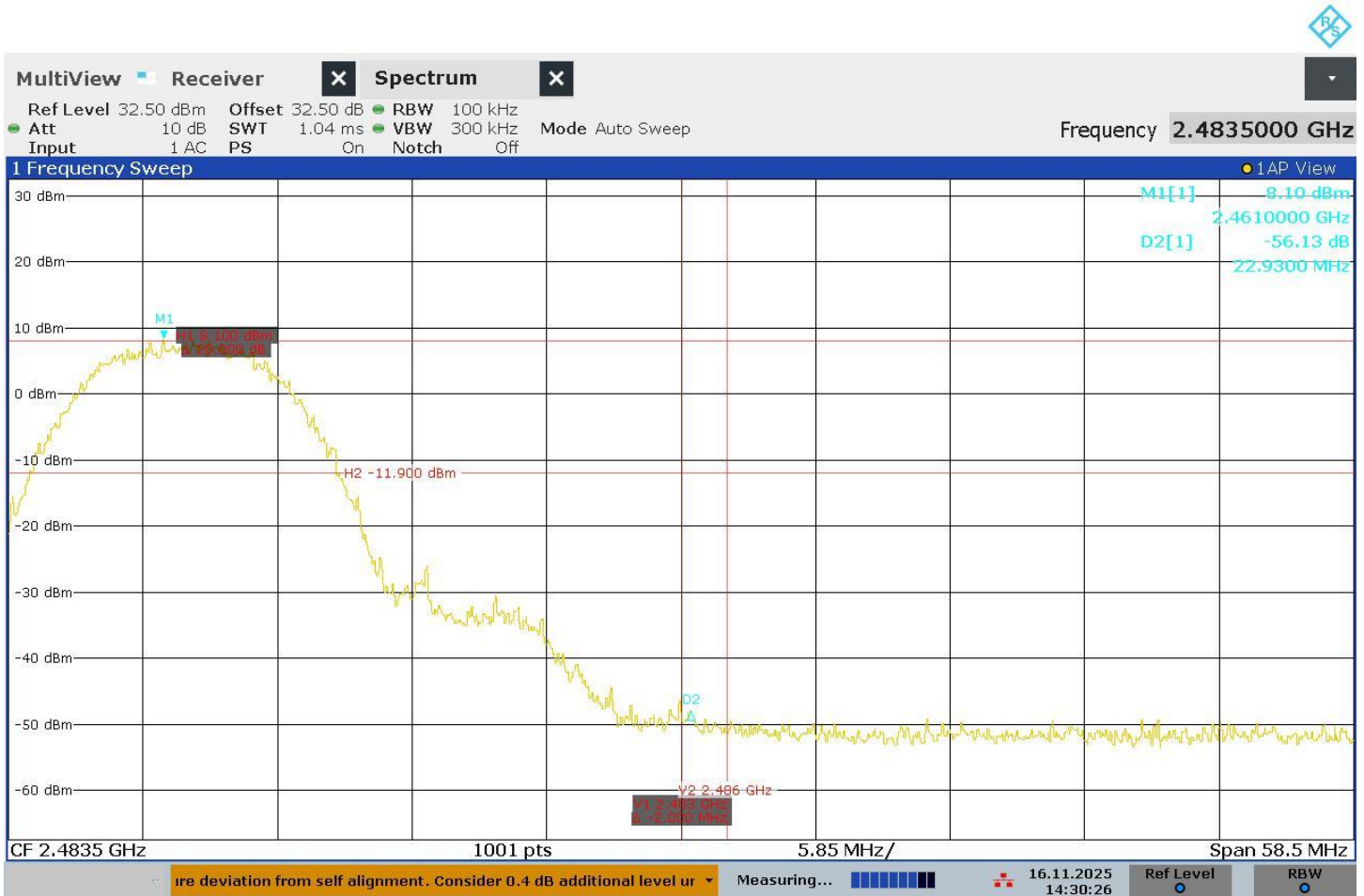


Band-edge Spectrum Plots

8.16.1 Lower Band Edge Plot



8.16.2 Upper Band Edge Plot



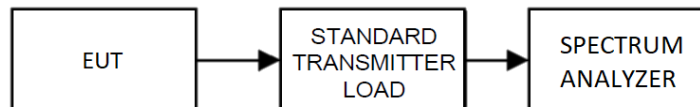
14:30:26 16.11.2025

Tuned Frequency (MHz)	Emission Frequency (MHz)	15.205 Restricted Band	15.205, 15.35, 15.247(d) Detector	Fundamental Field Strength (dBμV/m)	Delta (dBm)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2480.00	2483.93	X	PK	88.93	56.13	32.80	73.98	41.18
2480.00	2483.93	X	PK	91.03	56.13	34.90	73.98	39.08
2480.00	2483.93	X	AVG	79.63	56.13	23.50	53.98	30.48
2480.00	2483.93	X	AVG	81.83	56.13	25.70	53.98	28.28

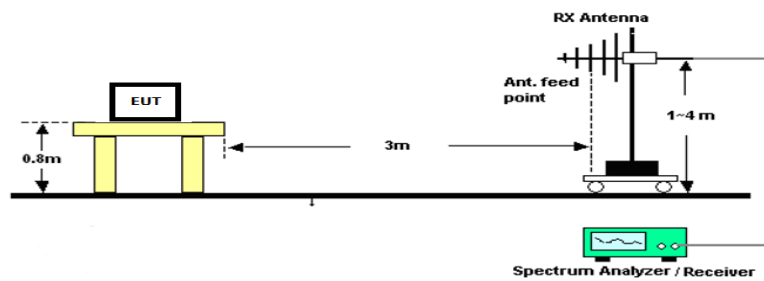
8.17 Band-edge measurements – 802.11g

Requirement from FCC KDB 558074 D01 and test procedure from ANSI C63.10-2020 section 7.8 or 11.13 as applicable.

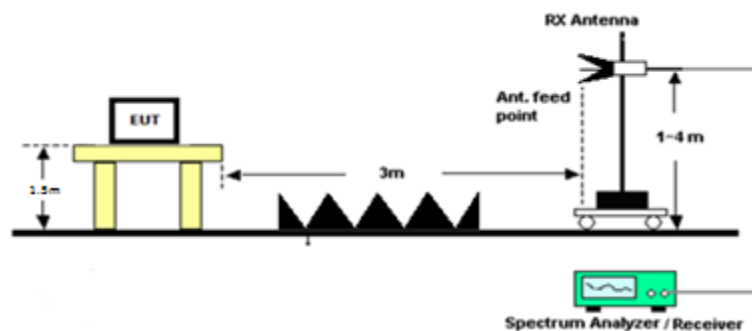
Conducted Test Setup



Radiated Test Setup, 30 – 1000 MHz

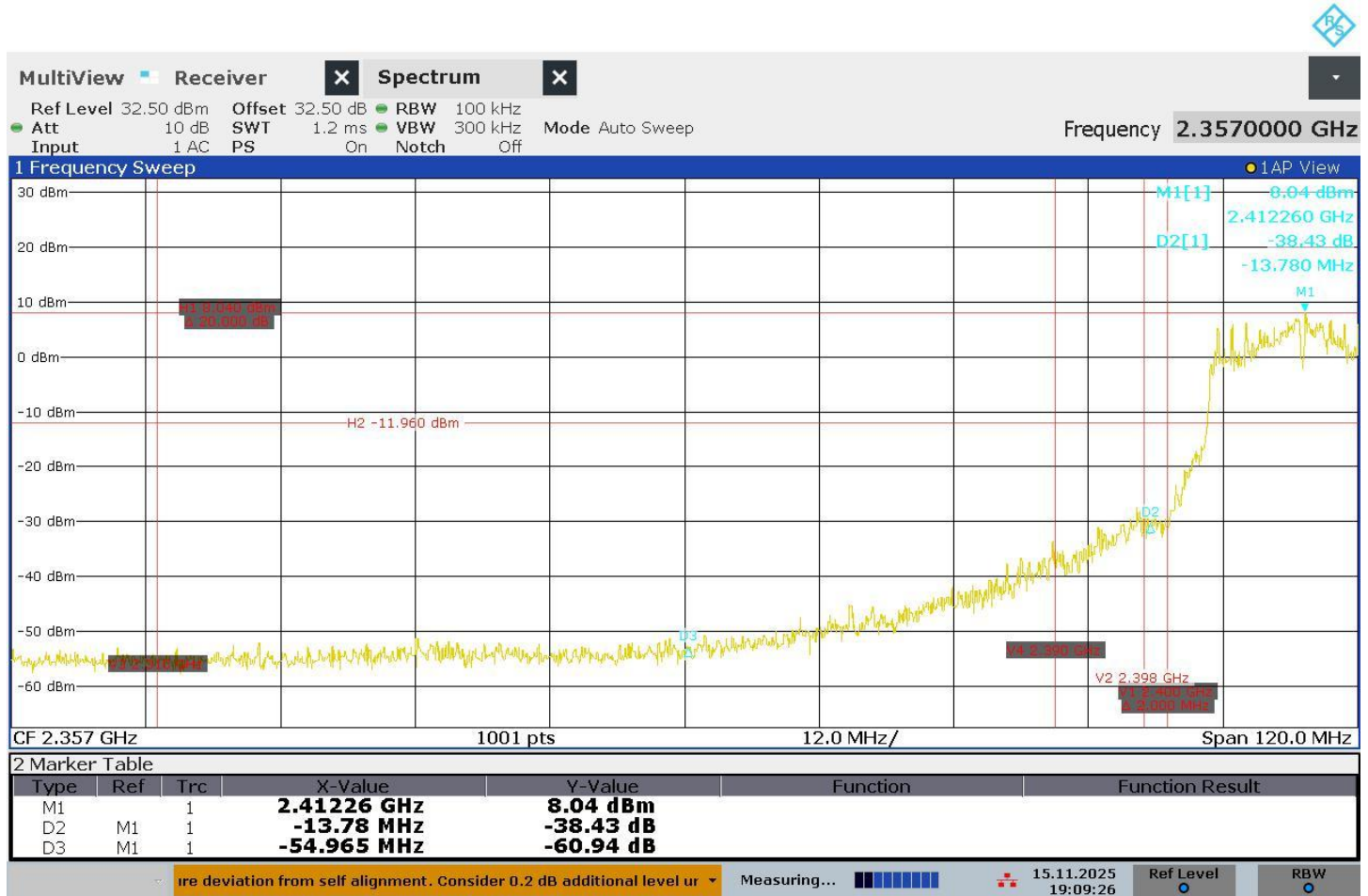


Radiated Test Setup, Above 1000 MHz

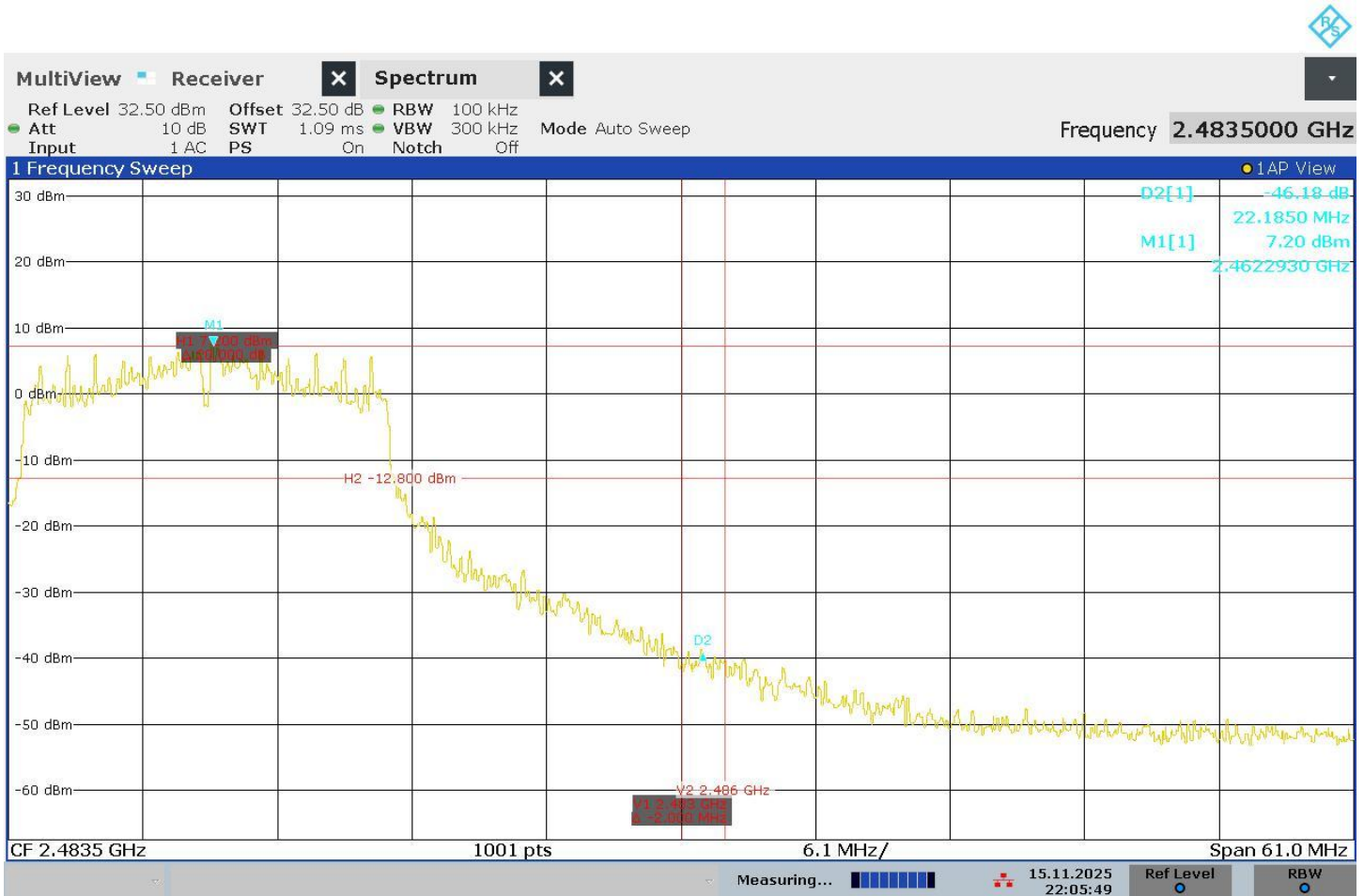


Band-edge Spectrum Plots

8.17.1 Lower Band Edge Plot



8.17.2 Upper Band Edge Plot



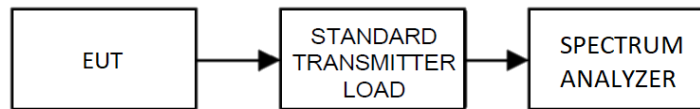
22:05:49 15.11.2025

Tuned Frequency (MHz)	Emission Frequency (MHz)	15.205 Restricted Band	15.205, 15.35, 15.247(d) Detector	Fundamental Field Strength (dBμV/m)	Delta (dBm)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2480.00	2484.48	X	PK	86.33	46.18	40.15	73.98	33.83
2480.00	2484.48	X	PK	88.63	46.18	42.45	73.98	31.53
2480.00	2484.48	X	AVG	73.63	46.18	27.45	53.98	26.53
2480.00	2484.48	X	AVG	76.03	46.18	29.85	53.98	24.13

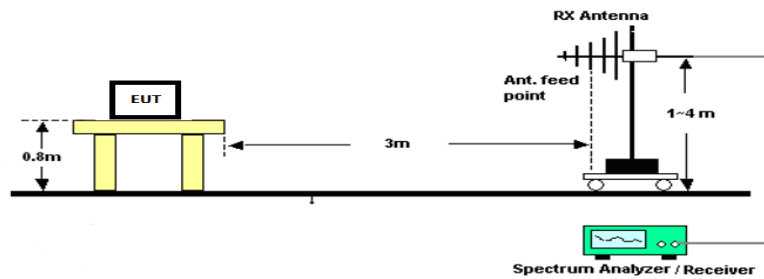
8.18 Band-edge measurements – 802.11n

Requirement from FCC KDB 558074 D01 and test procedure from ANSI C63.10-2020 section 7.8 or 11.13 as applicable.

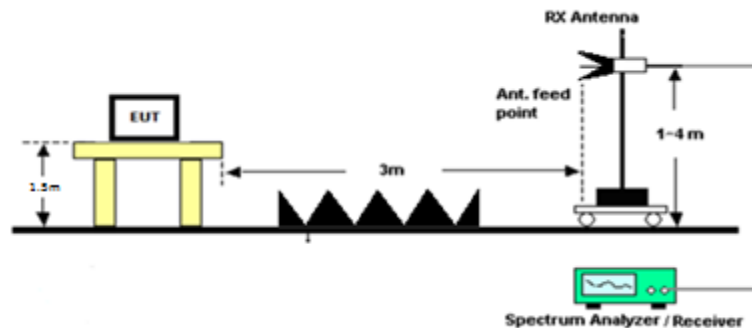
Conducted Test Setup



Radiated Test Setup, 30 – 1000 MHz

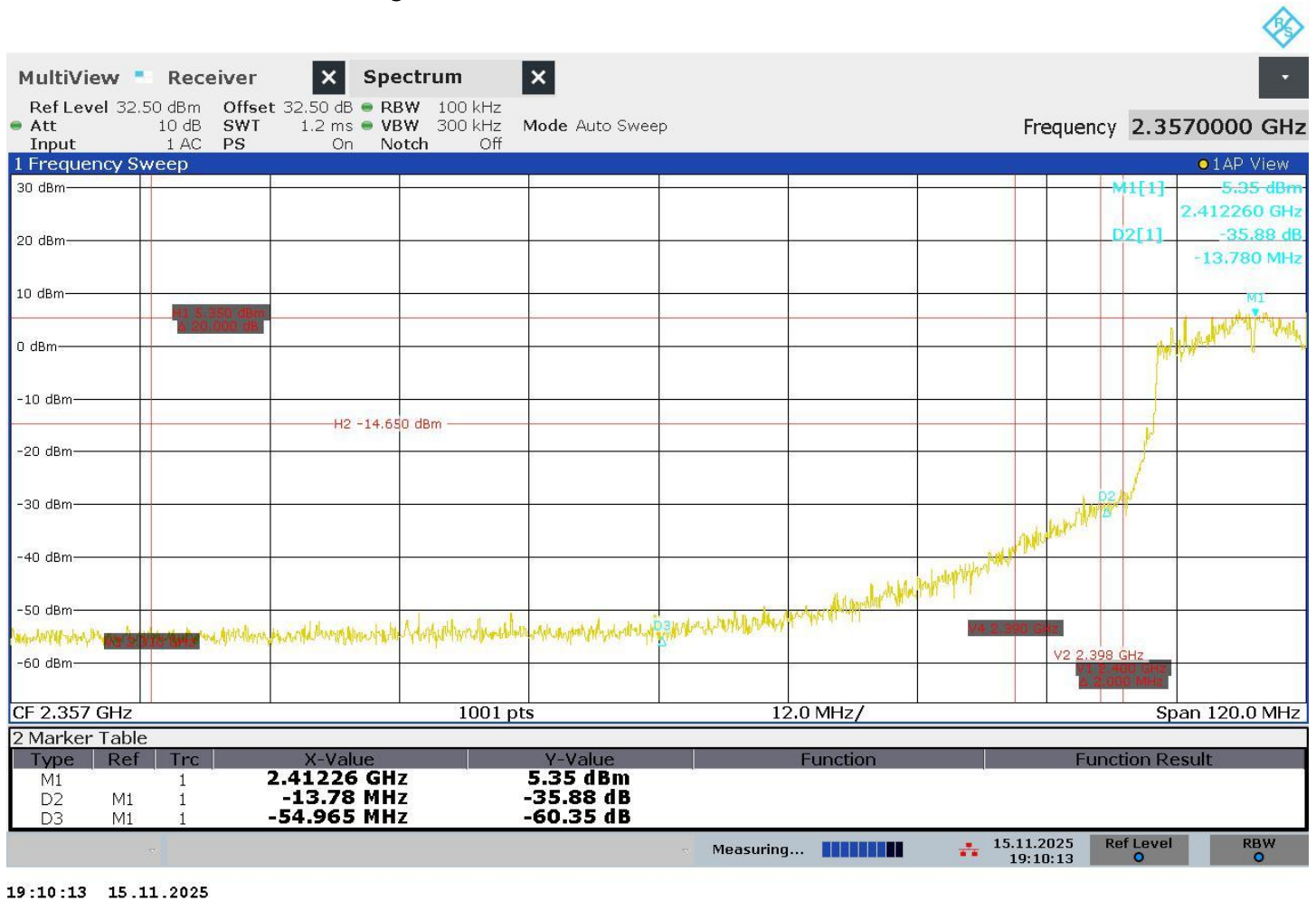


Radiated Test Setup, Above 1000 MHz

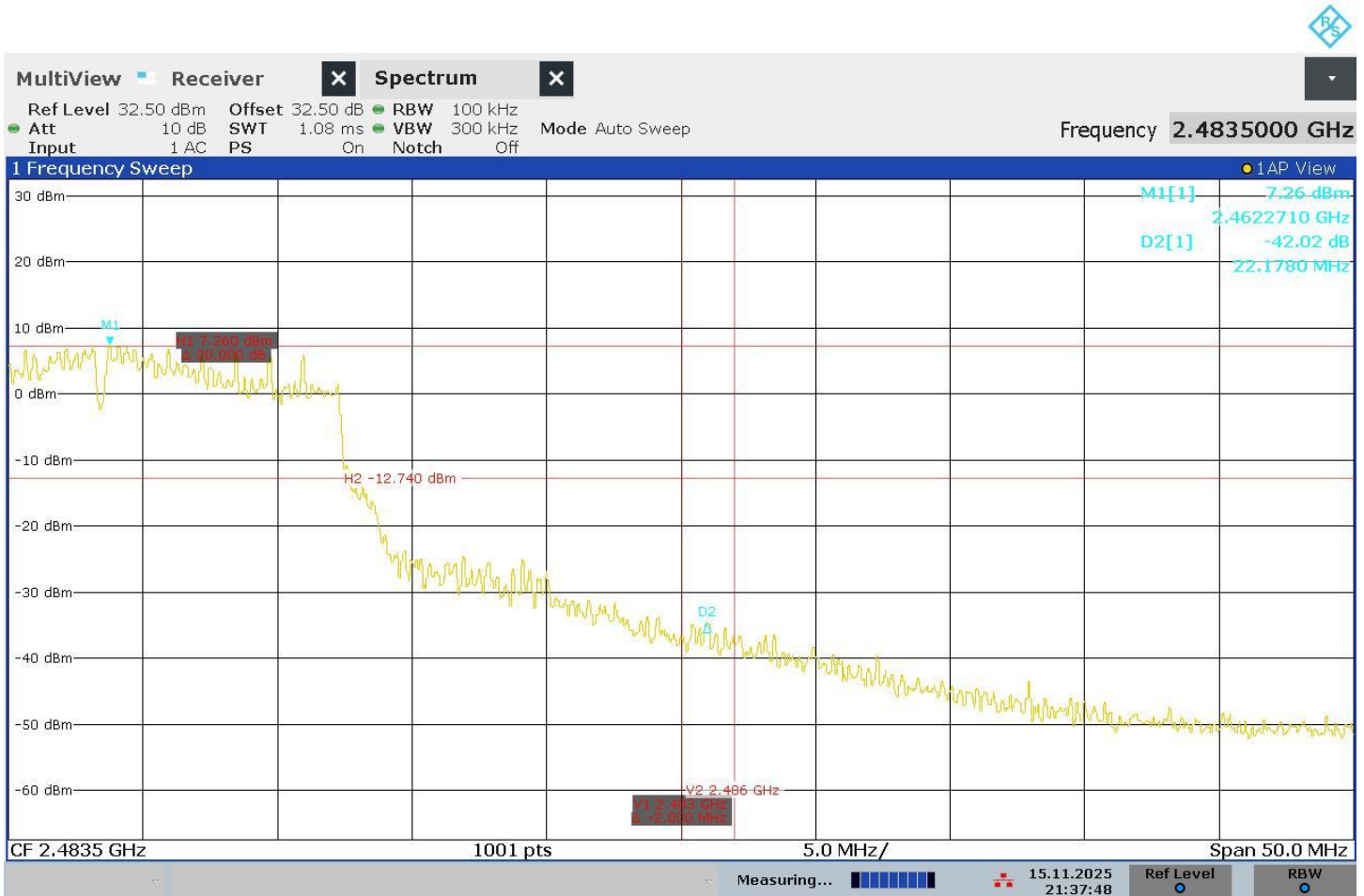


Band-edge Spectrum Plots

8.18.1 Lower Band Edge Plot



8.18.2 Upper Band Edge Plot



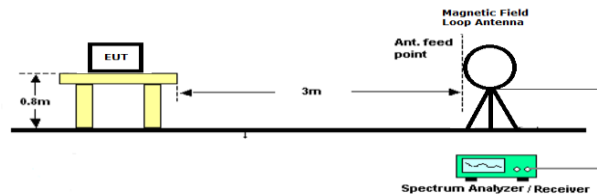
21:37:48 15.11.2025

Tuned Frequency (MHz)	Emission Frequency (MHz)	15.205 Restricted Band	15.205, 15.35, 15.247(d) Detector	Fundamental Field Strength (dBμV/m)	Delta (dBm)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2480.00	2484.45	X	PK	83.33	42.02	41.31	73.98	32.67
2480.00	2484.45	X	PK	82.33	42.02	40.31	73.98	33.67
2480.00	2484.45	X	AVG	68.33	42.02	26.31	53.98	27.67
2480.00	2484.45	X	AVG	67.43	42.02	25.41	53.98	28.57

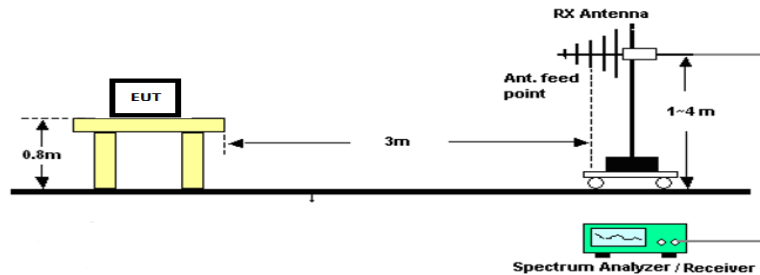
8.19 Radiated Emissions – 802.11b

Restricted Bands from FCC Part 15.205; Limits from FCC Part 15.209

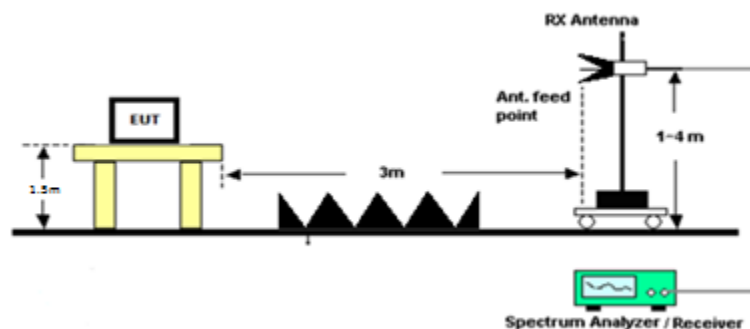
Radiated Test Setup, Below 30 MHz



Radiated Test Setup, 30 – 1000 MHz



Radiated Test Setup, Above 1000 MHz

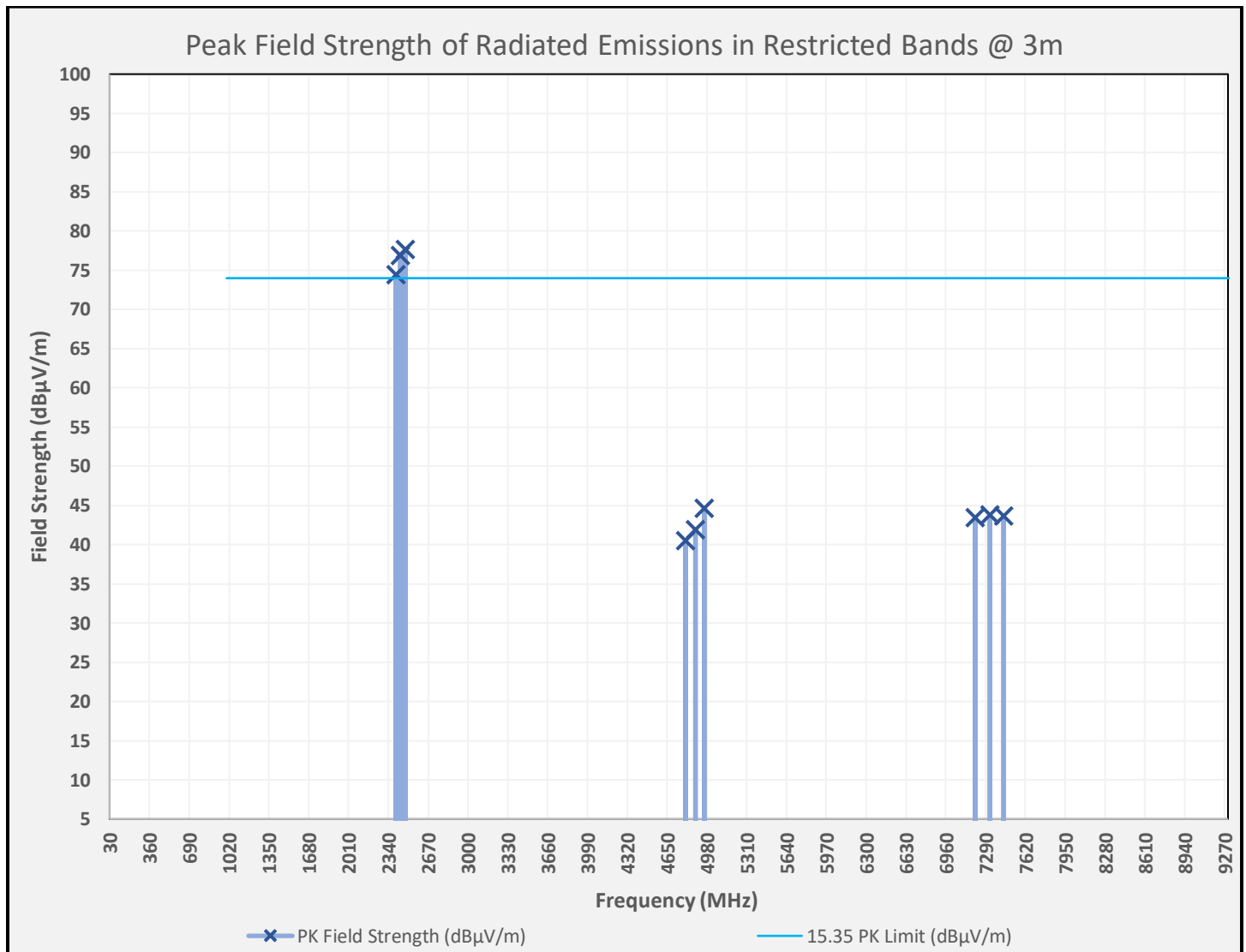


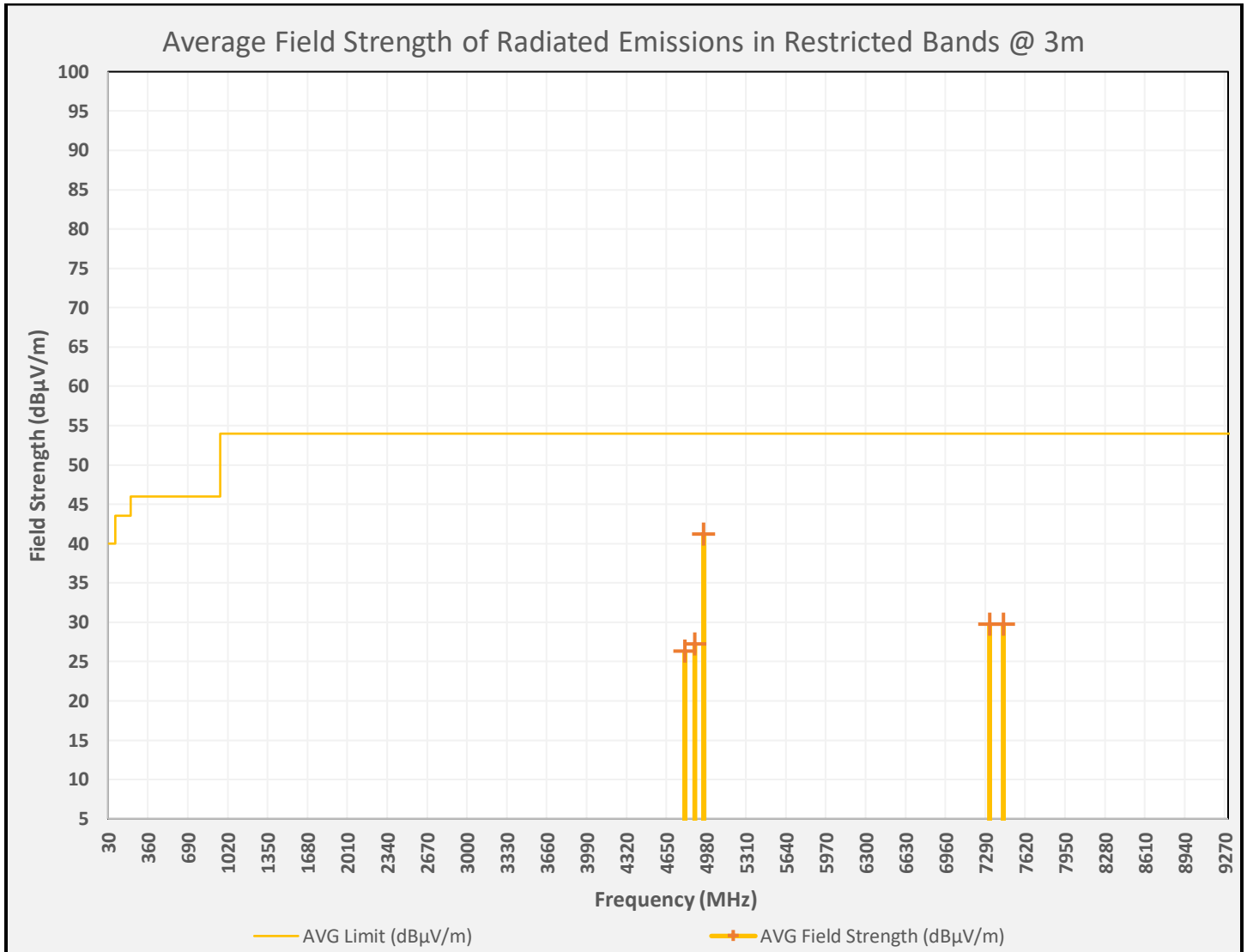
Radiated Emissions in Restricted Bands, Tabular Data

8.19.1 Radiated Emissions 9kHz - 30 MHz

No emissions were noted within 20dB of the limit.

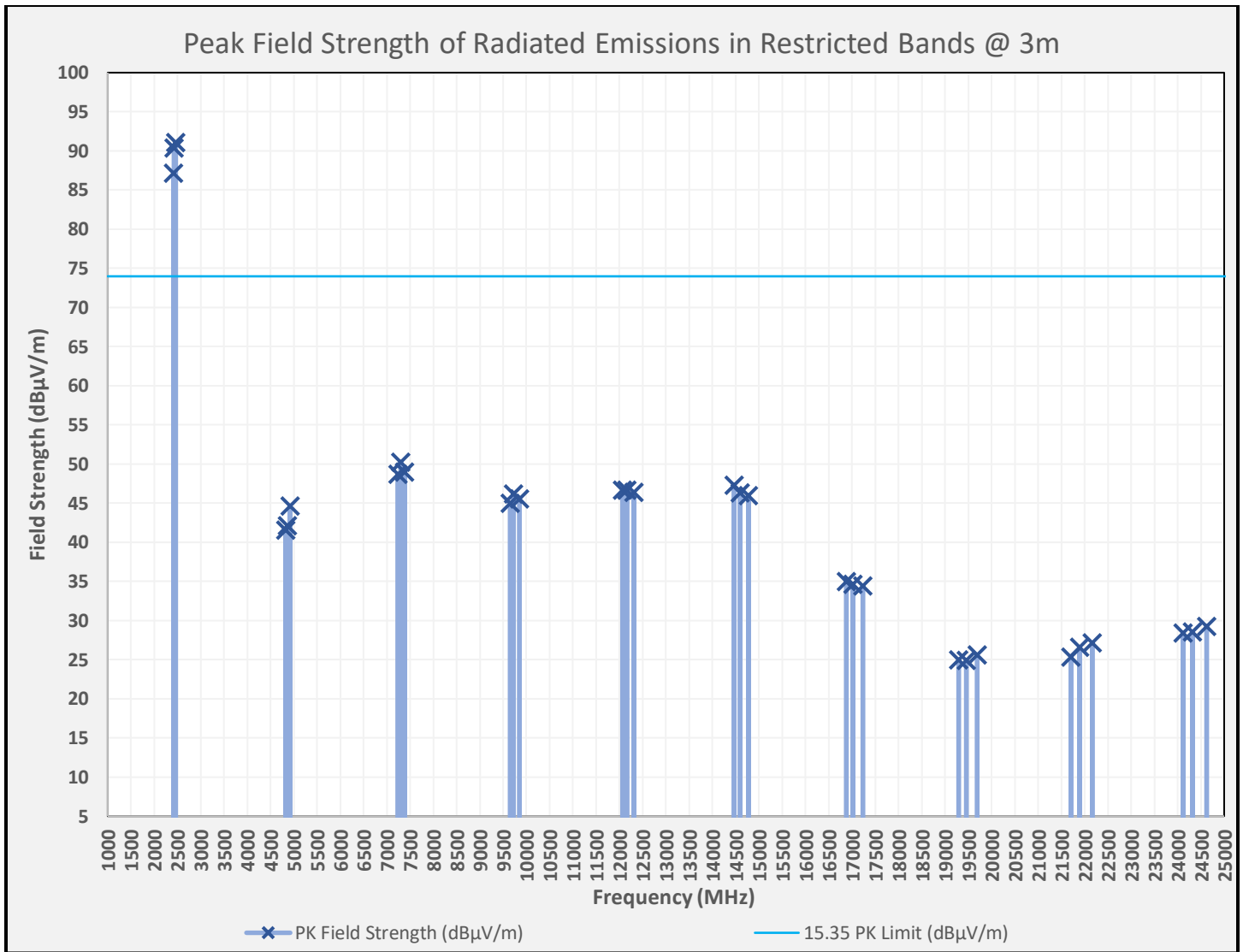
8.19.2 Radiated Emissions, 30-1000 MHz

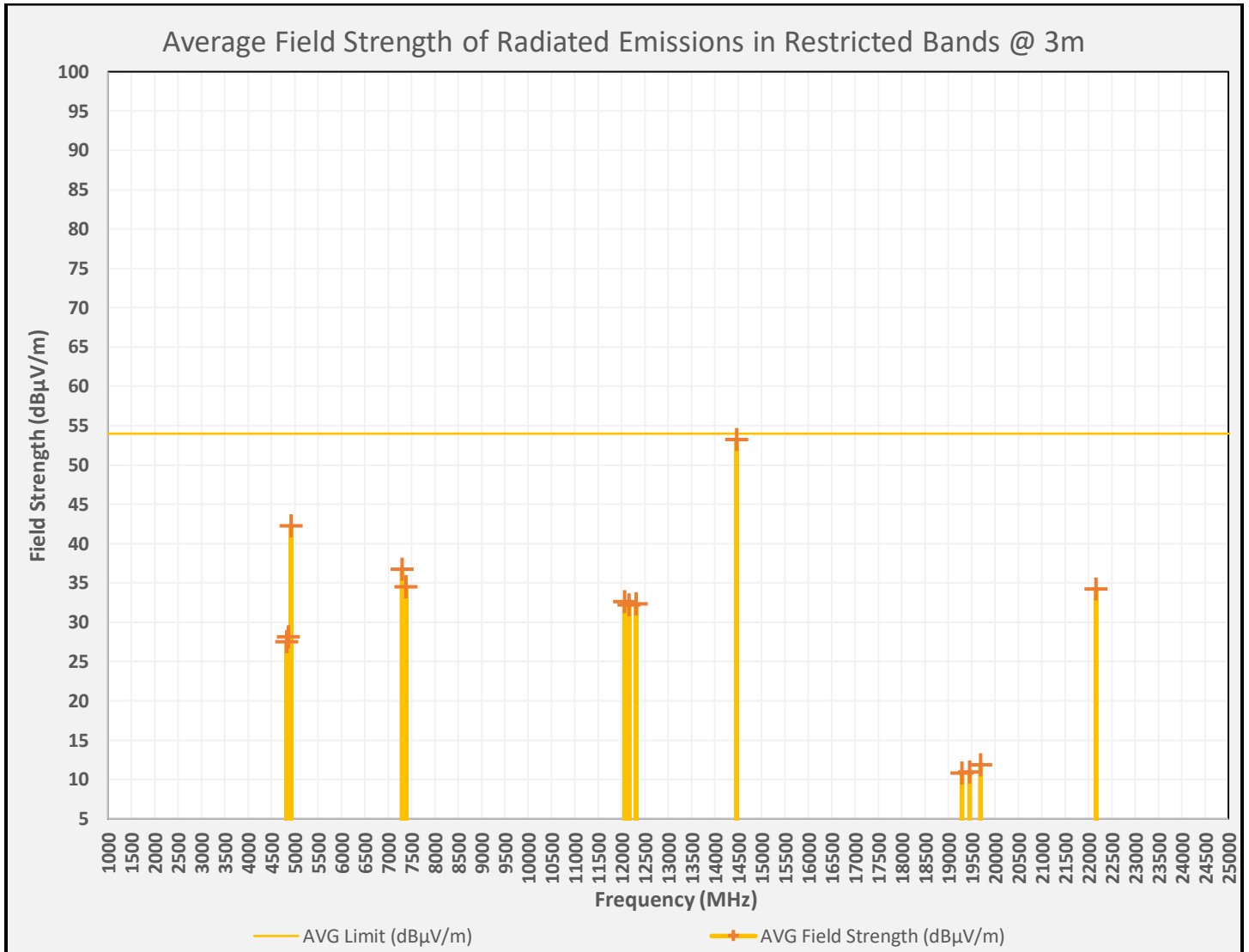




Tuned Frequency (MHz)	Emission Frequency (MHz)	15.205 Restricted Band	15.247(d) Detector	Meter Reading (dBμV)	Antenna Polarity	Coax Loss (dB)	Duty Cycle Correction (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
903.00	38.52		PK	11.84	H	0.69	0.00	13.25	3.00	25.78	40	14.22
903.00	45.88		PK	21.81	V	0.77	0.00	12.14	3.00	34.72	40	5.28
915.00	75.72		PK	17.05	H	1.04	0.00	7.04	3.00	25.14	40	14.86
915.00	75.80		PK	21.66	V	1.04	0.00	7.06	3.00	29.76	40	10.24
927.00	127.56	X	PK	21.57	H	1.28	0.00	12.37	3.00	35.22	43.5	8.28
927.00	129.65	X	PK	21.49	V	1.29	0.00	12.90	3.00	35.67	43.5	7.83
903.00	171.71	X	PK	18.86	H	1.53	0.00	15.26	3.00	35.64	43.5	7.86
903.00	155.36		PK	11.92	V	1.43	0.00	16.90	3.00	30.25	43.5	13.25
915.00	257.85	X	PK	13.47	H	1.98	0.00	12.70	3.00	28.15	46	17.85
915.00	239.10		PK	11.58	V	1.77	0.00	11.91	3.00	25.26	46	20.74
927.00	398.55		PK	9.29	H	2.29	0.00	15.90	3.00	27.48	46	18.52
903.00	418.75		PK	9.72	V	2.34	0.00	16.00	3.00	28.06	46	17.94
951.00	687.50		PK	9.18	H	3.07	0.00	20.60	3.00	32.85	46	13.16
963.00	694.23		PK	10.68	V	3.08	0.00	20.60	3.00	34.36	46	11.64
975.00	848.07		PK	8.75	H	3.48	0.00	22.00	3.00	34.23	46	11.77
987.00	917.30		PK	10.05	V	3.57	0.00	22.70	3.00	36.32	46	9.68
999.00	835.25		PK	10.20	H	3.43	0.00	21.80	3.00	35.43	46	10.57
1011.00	990.38	X	PK	10.71	V	3.74	0.00	23.34	3.00	37.79	53.98	16.19

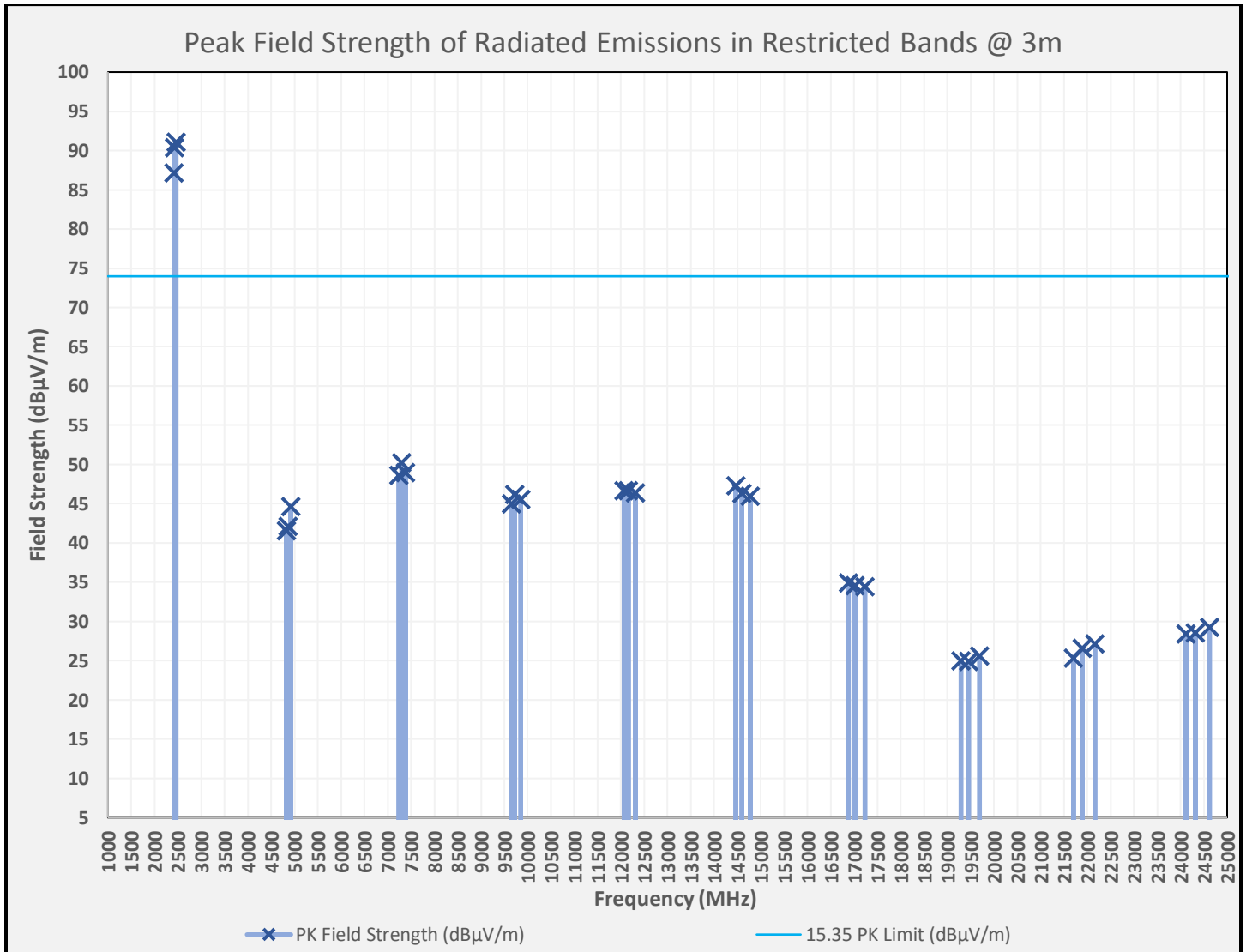
8.19.3 Radiated Emissions, 2412 MHz

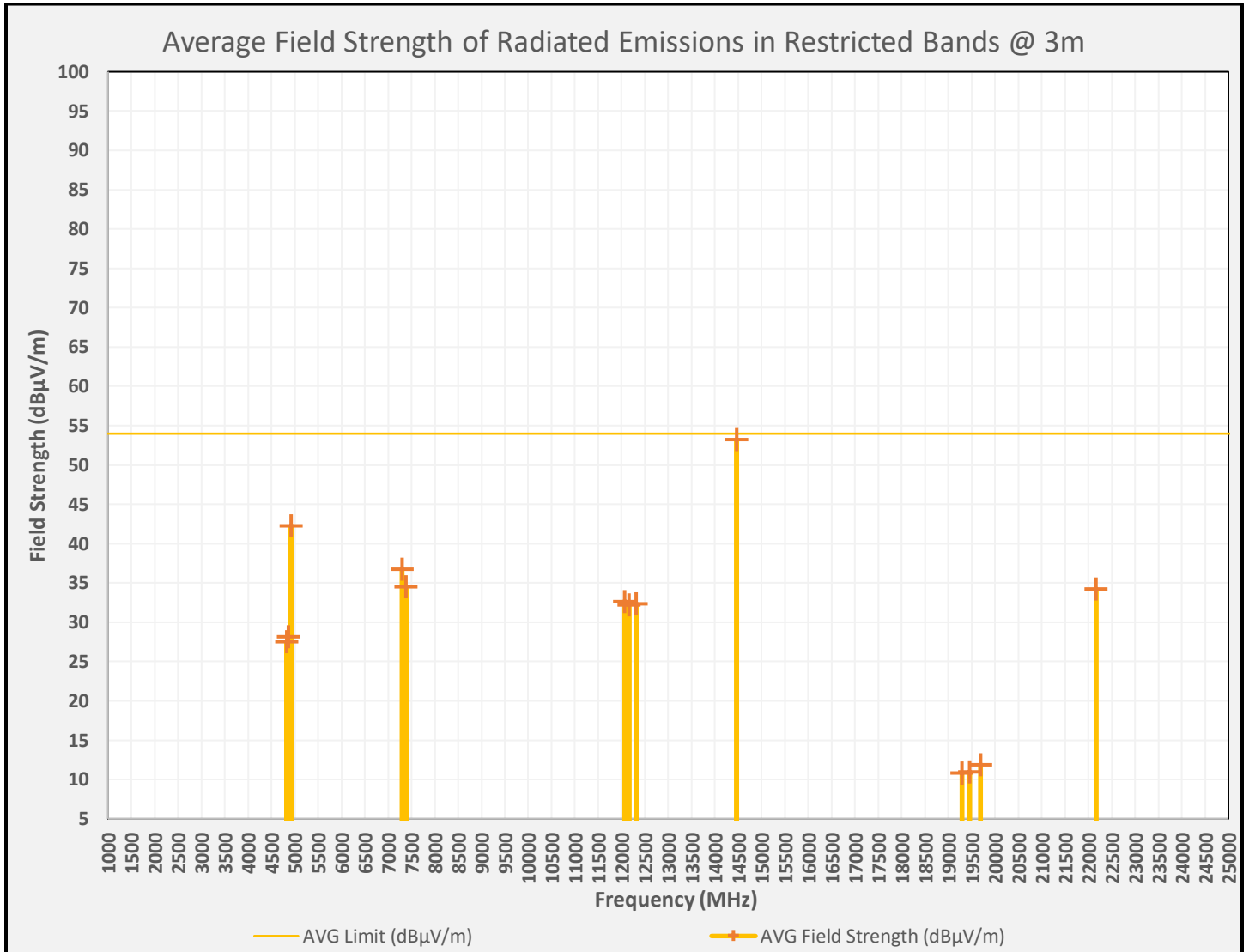




Tuned Frequency (MHz)	Emission Frequency (MHz)	15.205 Restricted Band	15.205, 15.35, 15.247(d)	Meter Reading (dBuV)	Antenna Polarity	Coax Loss (dB)	Duty Cycle Correction (dB)	Antenna Correction Factor	Distance (m)	Field Strength (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2412.00	4824.00	X	PK	0.20	H	7.15	0.00	34.18	3.00	41.53	73.98	32.45
2412.00	4824.00	X	PK	0.20	V	7.15	0.00	34.18	3.00	41.53	73.98	32.45
2412.00	4824.00	X	AVG	-13.90	H	7.15	0.00	34.18	3.00	27.43	53.98	26.55
2412.00	4824.00	X	AVG	-13.80	V	7.15	0.00	34.18	3.00	27.53	53.98	26.45
2412.00	7236.00		PK	1.30	H	9.52	0.00	36.41	3.00	47.23	53.98	6.75
2412.00	7236.00		PK	2.70	V	9.52	0.00	36.41	3.00	48.63	53.98	5.35
2412.00	9648.00		PK	-3.50	H	10.77	0.00	36.88	3.00	44.15	53.98	9.83
2412.00	9648.00		PK	-2.70	V	10.77	0.00	36.88	3.00	44.95	53.98	9.03
2412.00	12060.00	X	PK	-4.50	H	12.10	0.00	38.85	3.00	46.44	73.98	27.54
2412.00	12060.00	X	PK	-4.30	V	12.10	0.00	38.85	3.00	46.64	73.98	27.34
2412.00	12060.00	X	AVG	-18.30	H	12.10	0.00	38.85	3.00	32.64	53.98	21.34
2412.00	12060.00	X	AVG	-18.30	V	12.10	0.00	38.85	3.00	32.64	53.98	21.34
2412.00	14472.00	X	PK	-6.70	H	13.50	0.00	39.75	3.00	46.55	73.98	27.43
2412.00	14472.00	X	PK	-6.00	V	13.50	0.00	39.75	3.00	47.25	73.98	26.73
2412.00	16884.00		AVG	-22.00	H	14.68	0.00	42.24	3.00	34.92	53.98	19.06
2412.00	16884.00		AVG	-22.10	V	14.68	0.00	42.24	3.00	34.82	53.98	19.16
2412.00	19296.00	X	PK	-7.00	H	15.97	0.00	15.97	3.00	24.93	73.98	49.05
2412.00	19296.00	X	PK	-7.00	V	15.97	0.00	15.97	3.00	24.93	73.98	49.05
2412.00	19296.00	X	AVG	-21.10	H	15.97	0.00	15.97	3.00	10.83	53.98	43.15
2412.00	19296.00	X	AVG	-21.10	V	15.97	0.00	15.97	3.00	10.83	53.98	43.15
2412.00	21708.00		PK	-8.70	H	16.72	0.00	16.72	3.00	24.73	53.98	29.25
2412.00	21708.00		PK	-8.10	V	16.72	0.00	16.72	3.00	25.33	53.98	28.65
2412.00	24120.00		PK	-7.40	H	17.90	0.00	17.90	3.00	28.40	53.98	25.58
2412.00	24120.00		PK	-7.40	V	17.90	0.00	17.90	3.00	28.40	53.98	25.58

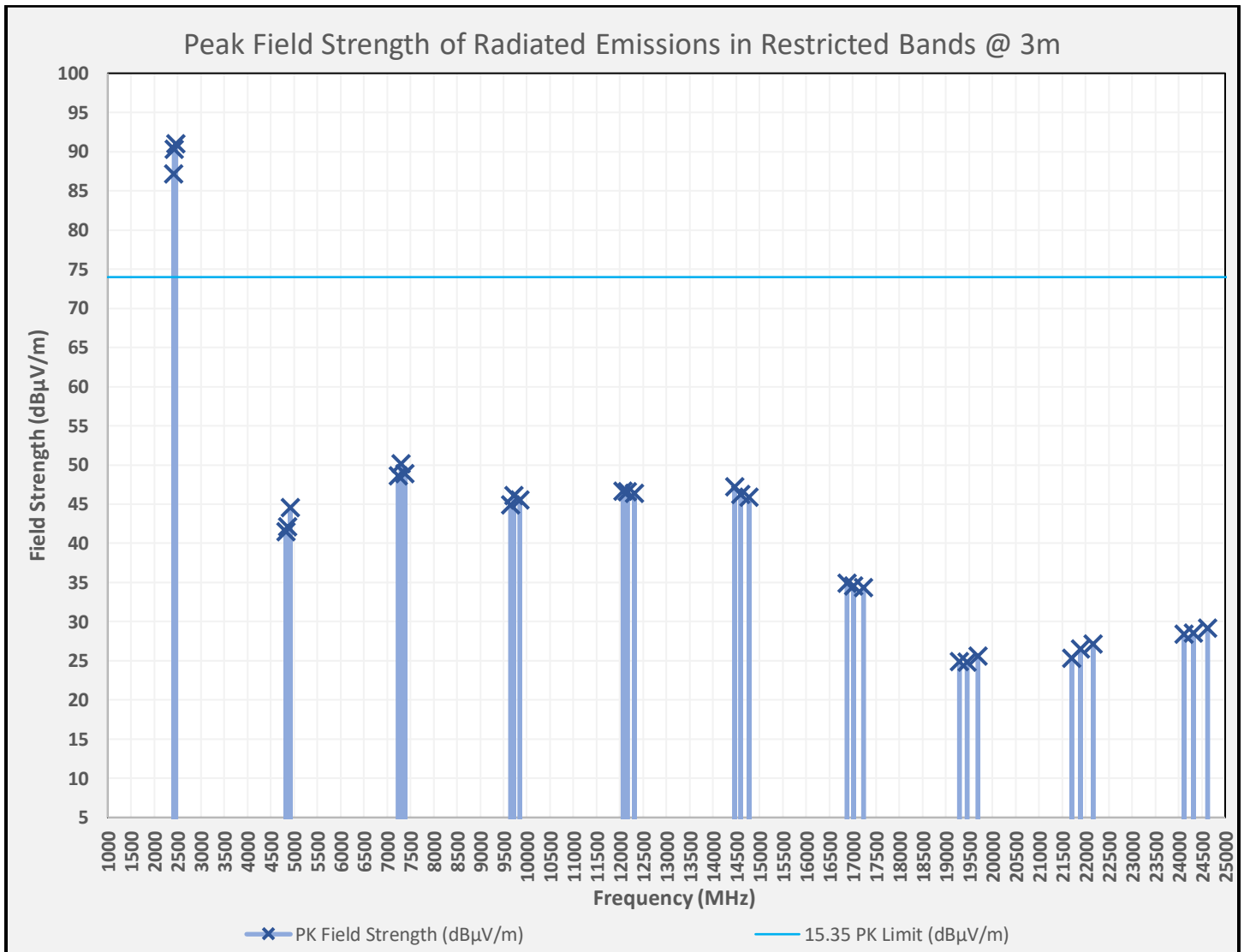
8.19.4 Radiated Emissions, 2432 MHz

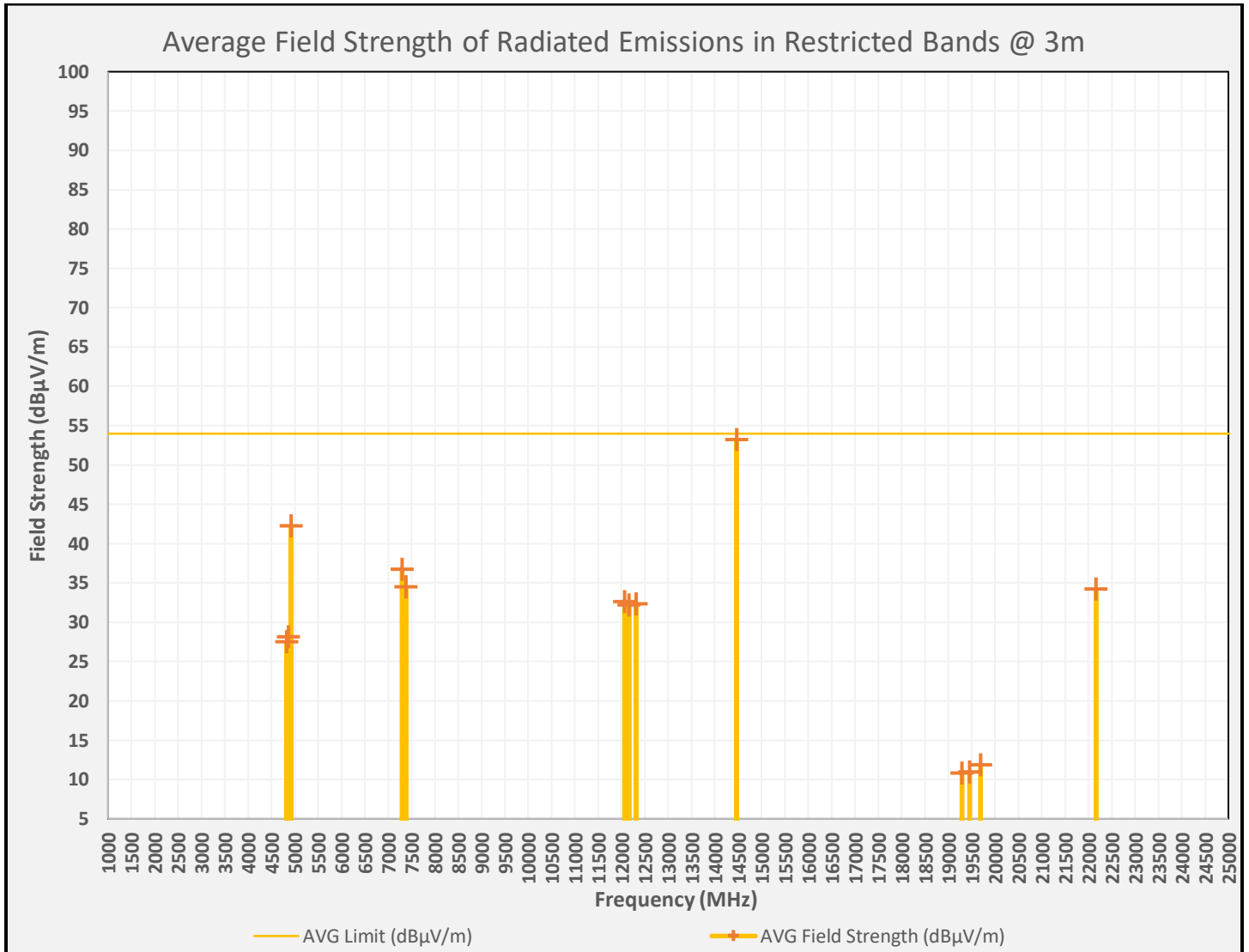




Tuned Frequency (MHz)	Emission Frequency (MHz)	15.205 Restricted Band	15.205, 15.35, 15.247(d) Detector	Meter Reading (dBμV)	Antenna Polarity	Coax Loss (dB)	Duty Cycle Correction (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2432.00	4864.00	X	PK	0.70	H	7.26	0.00	34.14	3.00	42.10	73.98	31.88
2432.00	4864.00	X	PK	0.70	V	7.26	0.00	34.14	3.00	42.10	73.98	31.88
2432.00	4864.00	X	AVG	-13.20	H	7.26	0.00	34.14	3.00	28.20	53.98	25.78
2432.00	4864.00	X	AVG	-13.30	V	7.26	0.00	34.14	3.00	28.10	53.98	25.88
2432.00	7296.00	X	PK	2.60	H	9.60	0.00	36.49	3.00	48.69	73.98	25.29
2432.00	7296.00	X	PK	4.10	V	9.60	0.00	36.49	3.00	50.19	73.98	23.79
2432.00	7296.00	X	AVG	-10.90	H	9.60	0.00	36.49	3.00	35.19	53.98	18.79
2432.00	7296.00	X	AVG	-9.30	V	9.60	0.00	36.49	3.00	36.79	53.98	17.19
2432.00	9728.00		PK	-2.20	H	10.91	0.00	37.02	3.00	45.73	53.98	8.25
2432.00	9728.00		PK	-1.80	V	10.91	0.00	37.02	3.00	46.13	53.98	7.85
2432.00	12160.00	X	PK	-5.50	H	12.43	0.00	38.91	3.00	45.84	73.98	28.14
2432.00	12160.00	X	PK	-4.70	V	12.43	0.00	38.91	3.00	46.64	73.98	27.34
2432.00	12160.00	X	AVG	-19.20	H	12.43	0.00	38.91	3.00	32.14	53.98	21.84
2432.00	12160.00	X	AVG	-19.10	V	12.43	0.00	38.91	3.00	32.24	53.98	21.74
2432.00	14592.00		PK	-7.30	H	13.78	0.00	39.81	3.00	46.29	53.98	7.69
2432.00	14592.00		PK	-7.70	V	13.78	0.00	39.81	3.00	45.89	53.98	8.09
2432.00	17024.00		AVG	-22.30	H	14.77	0.00	42.10	3.00	34.57	53.98	19.41
2432.00	17024.00		AVG	-22.40	V	14.77	0.00	42.10	3.00	34.47	53.98	19.51
2432.00	19456.00	X	PK	-6.50	H	15.69	0.00	15.69	3.00	24.88	73.98	49.10
2432.00	19456.00	X	PK	-6.90	V	15.69	0.00	15.69	3.00	24.48	73.98	49.50
2432.00	19456.00	X	AVG	-20.40	H	15.69	0.00	15.69	3.00	10.98	53.98	43.00
2432.00	19456.00	X	AVG	-20.40	V	15.69	0.00	15.69	3.00	10.98	53.98	43.00
2432.00	21888.00		PK	-7.30	H	16.83	0.00	16.83	3.00	26.37	53.98	27.61
2432.00	21888.00		PK	-7.10	V	16.83	0.00	16.83	3.00	26.57	53.98	27.41
2432.00	24320.00		PK	-7.70	H	18.12	0.00	18.12	3.00	28.54	53.98	25.44
2432.00	24320.00		PK	-7.70	V	18.12	0.00	18.12	3.00	28.54	53.98	25.44

8.19.5 Radiated Emissions, 2462 MHz



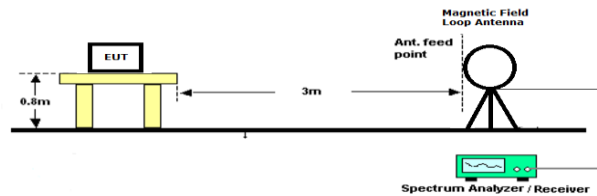


Tuned Frequency (MHz)	Emission Frequency (MHz)	15.205 Restricted Band	15.205, 15.35, 15.247(d) Detector	Meter Reading (dBμV)	Antenna Polarity	Coax Loss (dB)	Duty Cycle Correction (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2462.00	4924.00	X	PK	0.30	H	7.68	0.00	34.03	3.00	42.01	73.98	31.97
2462.00	4924.00	X	PK	0.60	V	7.68	0.00	34.03	3.00	42.31	53.98	11.67
2462.00	4924.00	X	AVG	-13.80	H	7.68	0.00	34.03	3.00	27.91	53.98	26.07
2462.00	4924.00	X	AVG	-13.20	V	7.68	0.00	34.03	3.00	28.51	53.98	25.47
2462.00	7386.00	X	PK	0.70	H	9.46	0.00	36.28	3.00	46.44	73.98	27.54
2462.00	7386.00	X	PK	3.20	V	9.46	0.00	36.28	3.00	48.94	73.98	25.04
2462.00	7386.00	X	AVG	-12.80	H	9.46	0.00	36.28	3.00	32.94	53.98	21.04
2462.00	7386.00	X	AVG	-11.20	V	9.46	0.00	36.28	3.00	34.54	53.98	19.44
2462.00	9848.00		PK	-2.80	H	11.18	0.00	37.05	3.00	45.42	53.98	8.56
2462.00	9848.00		PK	-2.70	V	11.18	0.00	37.05	3.00	45.52	53.98	8.46
2462.00	12310.00	X	PK	-5.10	H	12.27	0.00	39.21	3.00	46.38	73.98	27.60
2462.00	12310.00	X	PK	-5.20	V	12.27	0.00	39.21	3.00	46.28	73.98	27.70
2462.00	12310.00	X	AVG	-19.10	H	12.27	0.00	39.21	3.00	32.38	53.98	21.60
2462.00	12310.00	X	AVG	-19.10	V	12.27	0.00	39.21	3.00	32.38	53.98	21.60
2462.00	14772.00		PK	-7.70	H	13.39	0.00	39.95	3.00	45.64	53.98	8.34
2462.00	14772.00		PK	-7.40	V	13.39	0.00	39.95	3.00	45.94	53.98	8.04
2462.00	17234.00		AVG	-21.90	H	14.68	0.00	41.62	3.00	34.40	53.98	19.58
2462.00	17234.00		AVG	-21.90	V	14.68	0.00	41.62	3.00	34.40	53.98	19.58
2462.00	19696.00	X	PK	-6.80	H	16.20	0.00	16.20	3.00	25.60	73.98	48.38
2462.00	19696.00	X	PK	-6.80	V	16.20	0.00	16.20	3.00	25.60	73.98	48.38
2462.00	19696.00	X	AVG	-20.50	H	16.20	0.00	16.20	3.00	11.90	53.98	42.08
2462.00	19696.00	X	AVG	-20.50	V	16.20	0.00	16.20	3.00	11.90	53.98	42.08
2462.00	22158.00	X	PK	-7.20	H	17.13	0.00	17.13	3.00	27.05	73.98	46.93
2462.00	22158.00	X	PK	-7.10	V	17.13	0.00	17.13	3.00	27.15	73.98	46.83
2462.00	24620.00		PK	-7.20	H	18.15	0.00	18.15	3.00	29.09	53.98	24.89
2462.00	24620.00		PK	-7.10	V	18.15	0.00	18.15	3.00	29.19	53.98	24.79

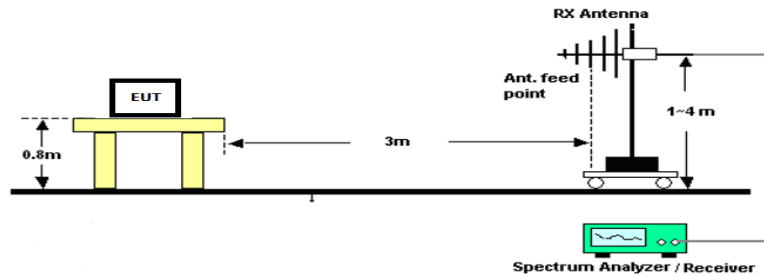
8.20 Radiated Emissions – 802.11g

Restricted Bands from FCC Part 15.205; Limits from FCC Part 15.209

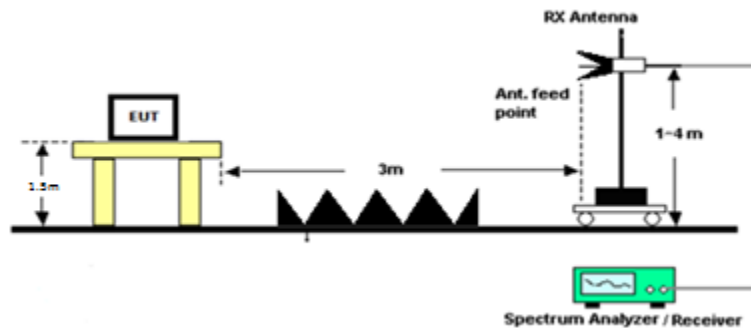
Radiated Test Setup, Below 30 MHz



Radiated Test Setup, 30 – 1000 MHz



Radiated Test Setup, Above 1000 MHz

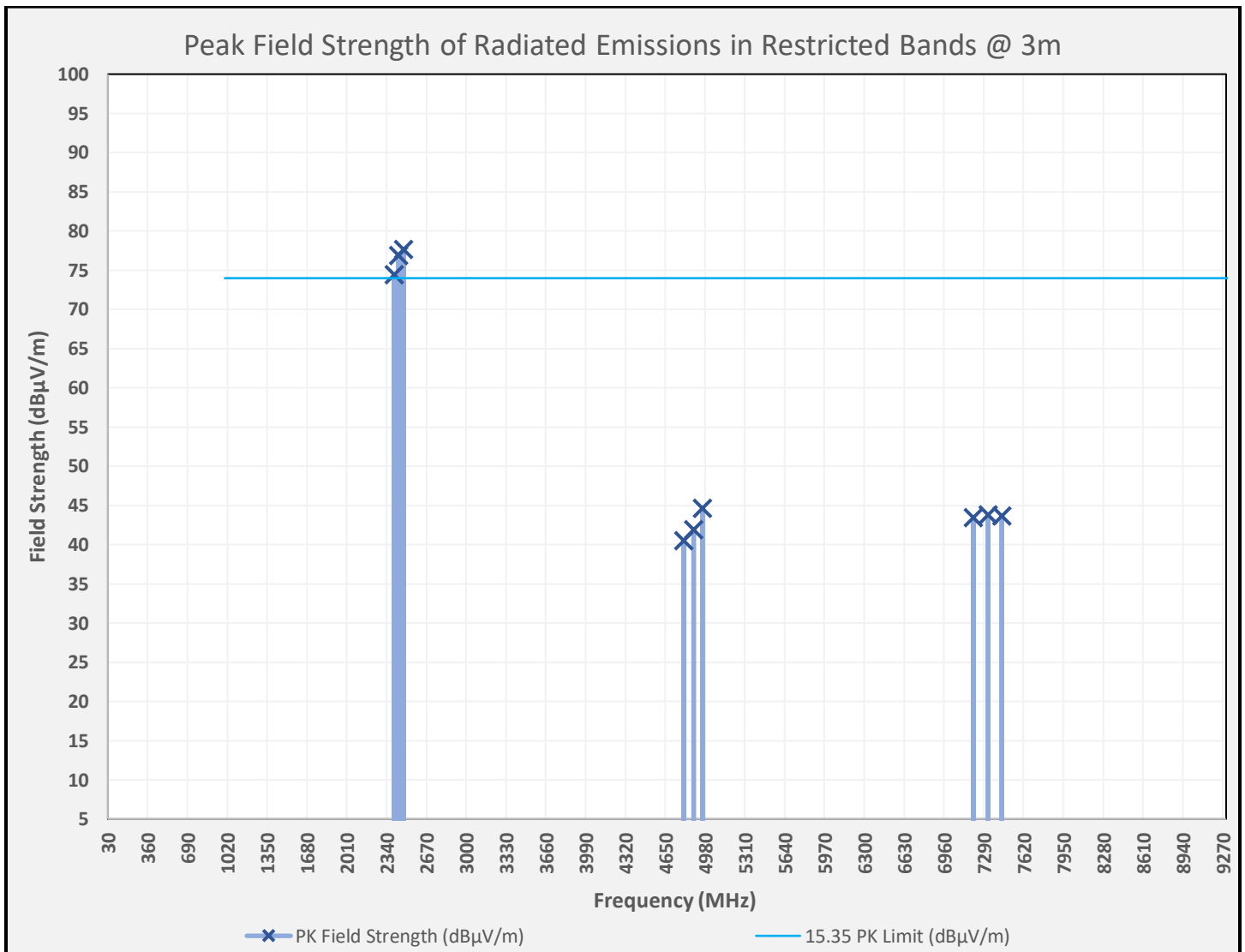


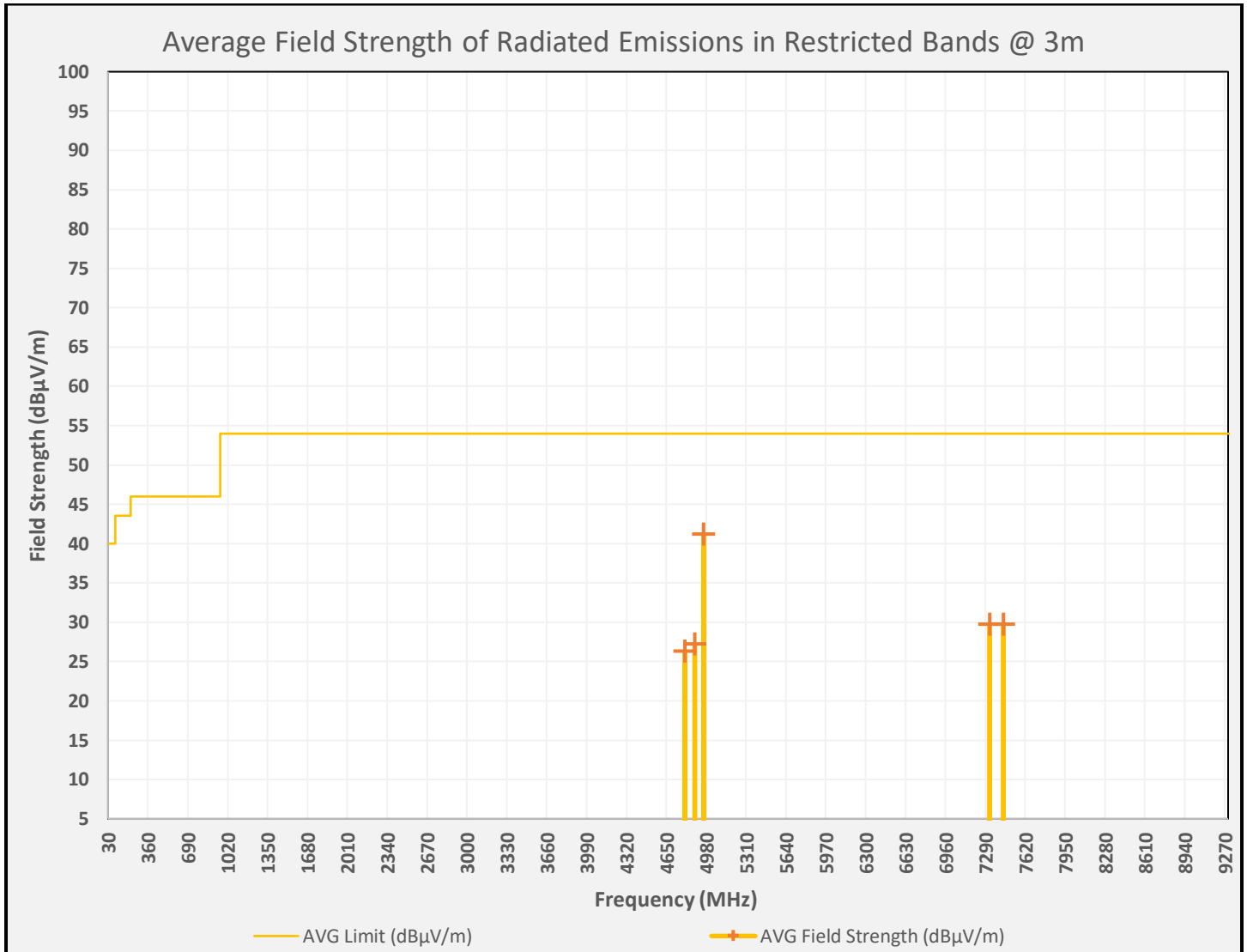
Radiated Emissions in Restricted Bands, Tabular Data

8.20.1 Radiated Emissions 9kHz - 30 MHz

No emissions were noted within 20dB of the limit.

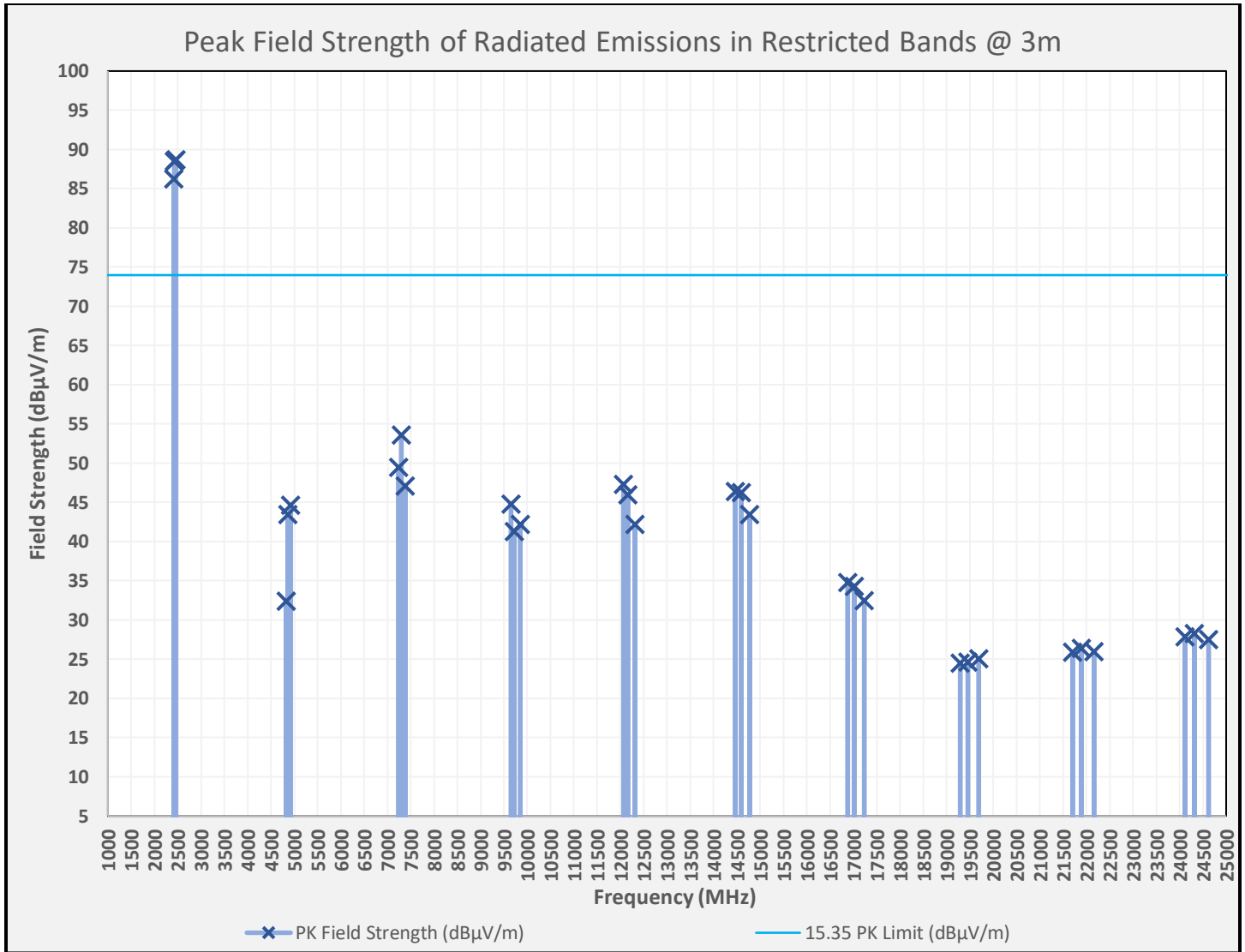
8.20.2 Radiated Emissions, 30-1000 MHz

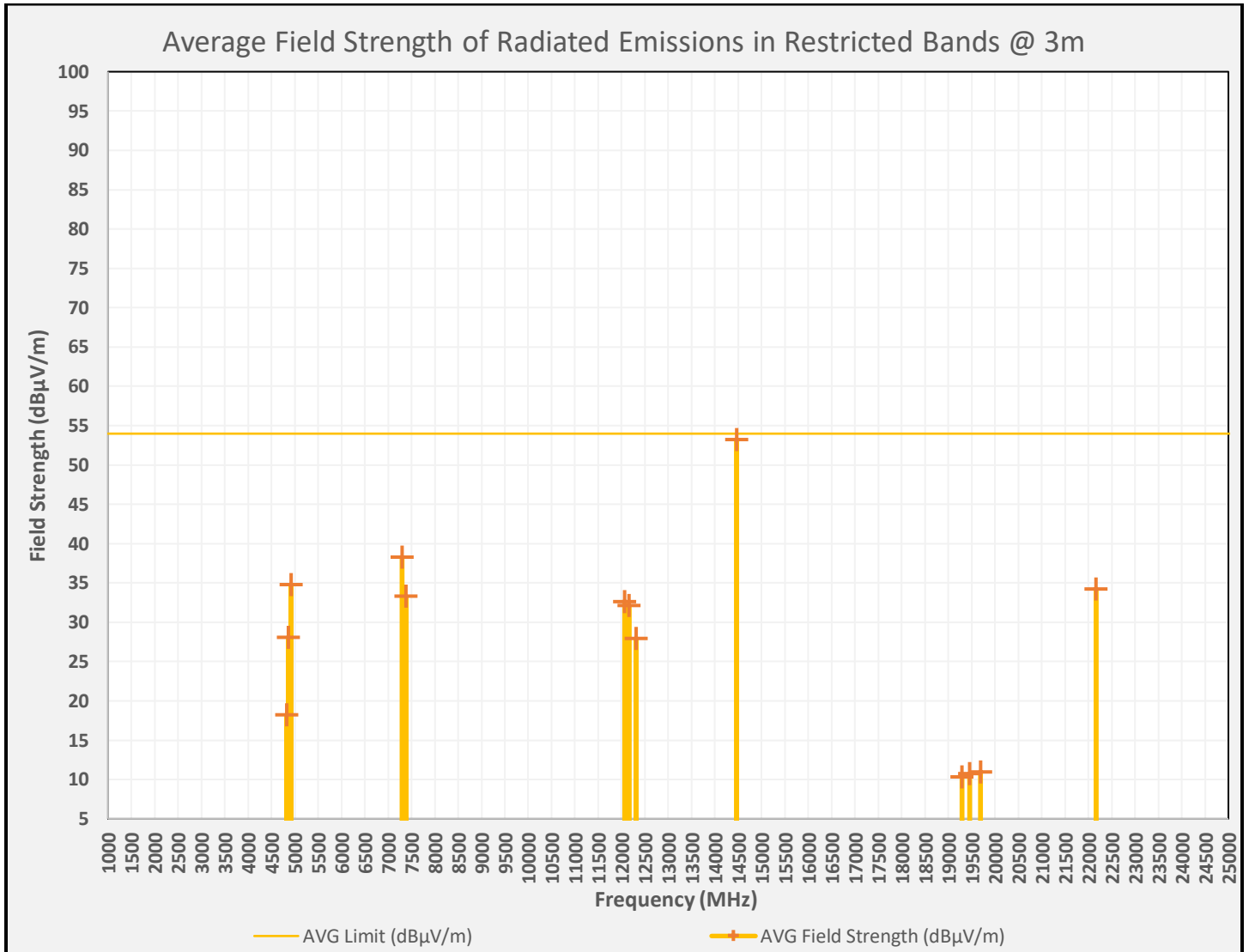




Tuned Frequency (MHz)	Emission Frequency (MHz)	15.205 Restricted Band	15.247(d) Detector	Meter Reading (dBμV)	Antenna Polarity	Coax Loss (dB)	Duty Cycle Correction (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
903.00	38.52		PK	11.84	H	0.69	0.00	13.25	3.00	25.78	40	14.22
903.00	45.88		PK	21.81	V	0.77	0.00	12.14	3.00	34.72	40	5.28
915.00	75.72		PK	17.05	H	1.04	0.00	7.04	3.00	25.14	40	14.86
915.00	75.80		PK	21.66	V	1.04	0.00	7.06	3.00	29.76	40	10.24
927.00	127.56	X	PK	21.57	H	1.28	0.00	12.37	3.00	35.22	43.5	8.28
927.00	129.65	X	PK	21.49	V	1.29	0.00	12.90	3.00	35.67	43.5	7.83
903.00	171.71	X	PK	18.86	H	1.53	0.00	15.26	3.00	35.64	43.5	7.86
903.00	155.36		PK	11.92	V	1.43	0.00	16.90	3.00	30.25	43.5	13.25
915.00	257.85	X	PK	13.47	H	1.98	0.00	12.70	3.00	28.15	46	17.85
915.00	239.10		PK	11.58	V	1.77	0.00	11.91	3.00	25.26	46	20.74
927.00	398.55		PK	9.29	H	2.29	0.00	15.90	3.00	27.48	46	18.52
903.00	418.75		PK	9.72	V	2.34	0.00	16.00	3.00	28.06	46	17.94
951.00	687.50		PK	9.18	H	3.07	0.00	20.60	3.00	32.85	46	13.16
963.00	694.23		PK	10.68	V	3.08	0.00	20.60	3.00	34.36	46	11.64
975.00	848.07		PK	8.75	H	3.48	0.00	22.00	3.00	34.23	46	11.77
987.00	917.30		PK	10.05	V	3.57	0.00	22.70	3.00	36.32	46	9.68
999.00	835.25		PK	10.20	H	3.43	0.00	21.80	3.00	35.43	46	10.57
1011.00	990.38	X	PK	10.71	V	3.74	0.00	23.34	3.00	37.79	53.98	16.19

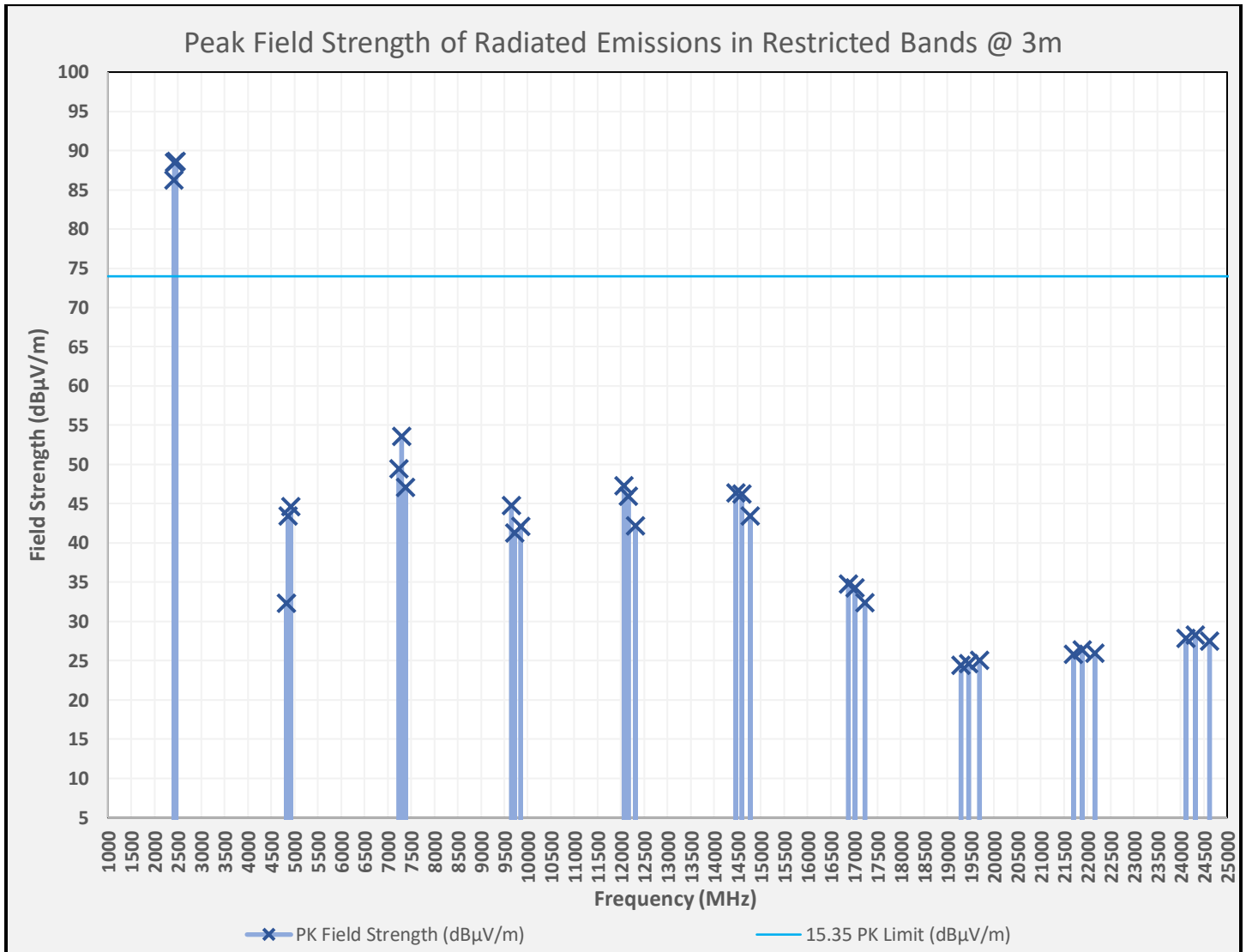
8.20.3 Radiated Emissions, 2412 MHz

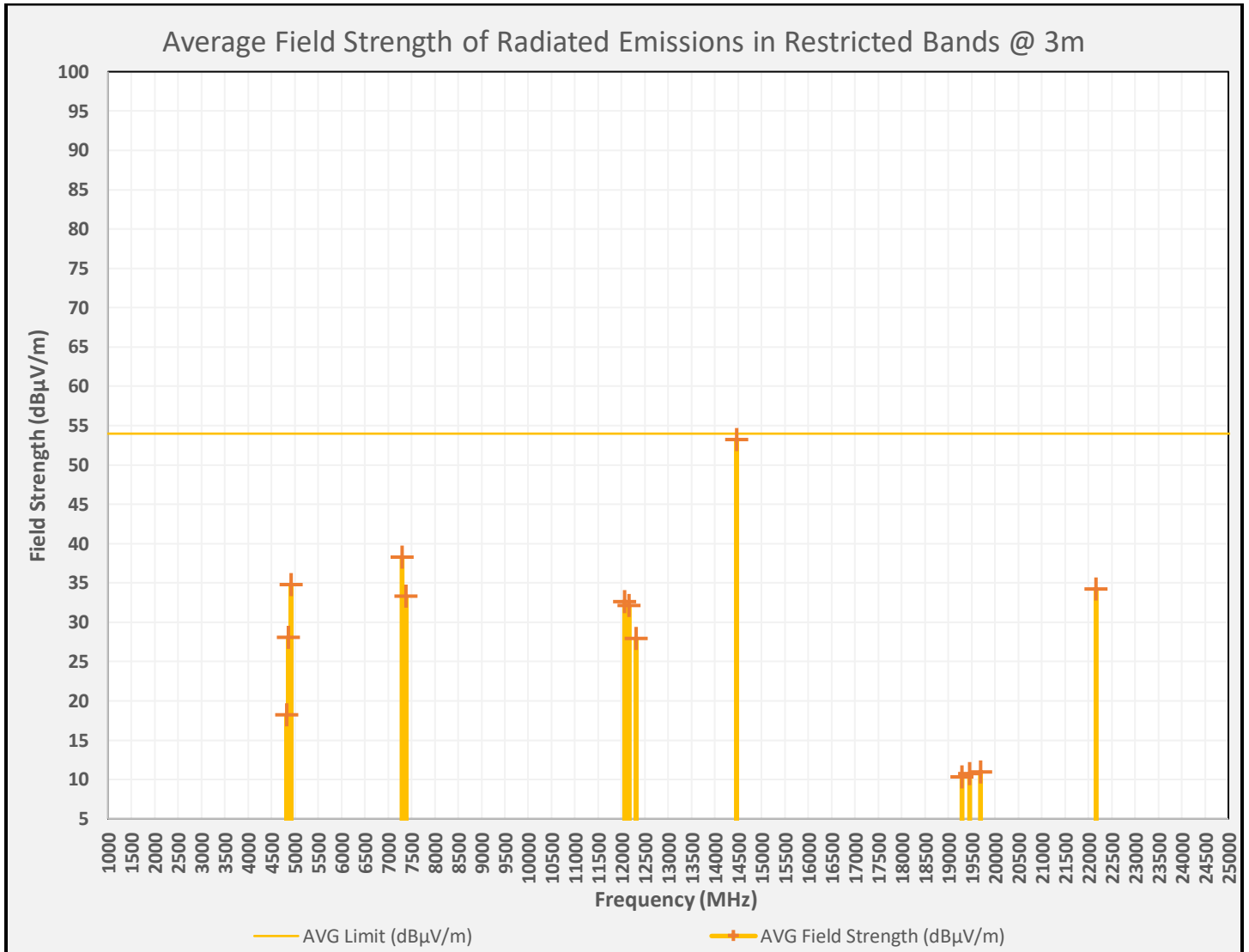




Tuned Frequency (MHz)	Emission Frequency (MHz)	15.205 Restricted Band	15.205, 15.35, 15.247(d)	Meter Reading (dBuV)	Antenna Polarity	Coax Loss (dB)	Duty Cycle Correction (dB)	Antenna Correction Factor	Distance (m)	Field Strength (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2412.00	4824.00	X	PK	-9.00	H	7.15	0.00	34.18	3.00	32.33	73.98	41.65
2412.00	4824.00	X	PK	-9.00	V	7.15	0.00	34.18	3.00	32.33	73.98	41.65
2412.00	4824.00	X	AVG	-23.40	H	7.15	0.00	34.18	3.00	17.93	53.98	36.05
2412.00	4824.00	X	AVG	-23.10	V	7.15	0.00	34.18	3.00	18.23	53.98	35.75
2412.00	7236.00		AVG	-8.10	H	9.52	0.00	36.41	3.00	37.83	53.98	16.15
2412.00	7236.00		PK	3.50	V	9.52	0.00	36.41	3.00	49.43	53.98	4.55
2412.00	9648.00		PK	-2.90	H	10.77	0.00	36.88	3.00	44.75	53.98	9.23
2412.00	9648.00		PK	-3.30	V	10.77	0.00	36.88	3.00	44.35	53.98	9.63
2412.00	12060.00	X	PK	-4.40	H	12.10	0.00	38.85	3.00	46.54	73.98	27.44
2412.00	12060.00	X	PK	-3.70	V	12.10	0.00	38.85	3.00	47.24	73.98	26.74
2412.00	12060.00	X	AVG	-18.30	H	12.10	0.00	38.85	3.00	32.64	53.98	21.34
2412.00	12060.00	X	AVG	-18.30	V	12.10	0.00	38.85	3.00	32.64	53.98	21.34
2412.00	14472.00	X	PK	-6.90	H	13.50	0.00	39.75	3.00	46.35	73.98	27.63
2412.00	14472.00	X	PK	-6.90	V	13.50	0.00	39.75	3.00	46.35	73.98	27.63
2412.00	16884.00		AVG	-22.20	H	14.68	0.00	42.24	3.00	34.72	53.98	19.26
2412.00	16884.00		AVG	-22.30	V	14.68	0.00	42.24	3.00	34.62	53.98	19.36
2412.00	19296.00	X	PK	-7.60	H	15.97	0.00	15.97	3.00	24.33	73.98	49.65
2412.00	19296.00	X	PK	-7.50	V	15.97	0.00	15.97	3.00	24.43	73.98	49.55
2412.00	19296.00	X	AVG	-21.70	H	15.97	0.00	15.97	3.00	10.23	53.98	43.75
2412.00	19296.00	X	AVG	-21.60	V	15.97	0.00	15.97	3.00	10.33	53.98	43.65
2412.00	21708.00		PK	-7.60	H	16.72	0.00	16.72	3.00	25.83	53.98	28.15
2412.00	21708.00		PK	-8.00	V	16.72	0.00	16.72	3.00	25.43	53.98	28.55
2412.00	24120.00		PK	-8.00	H	17.90	0.00	17.90	3.00	27.80	53.98	26.18
2412.00	24120.00		PK	-8.20	V	17.90	0.00	17.90	3.00	27.60	53.98	26.38

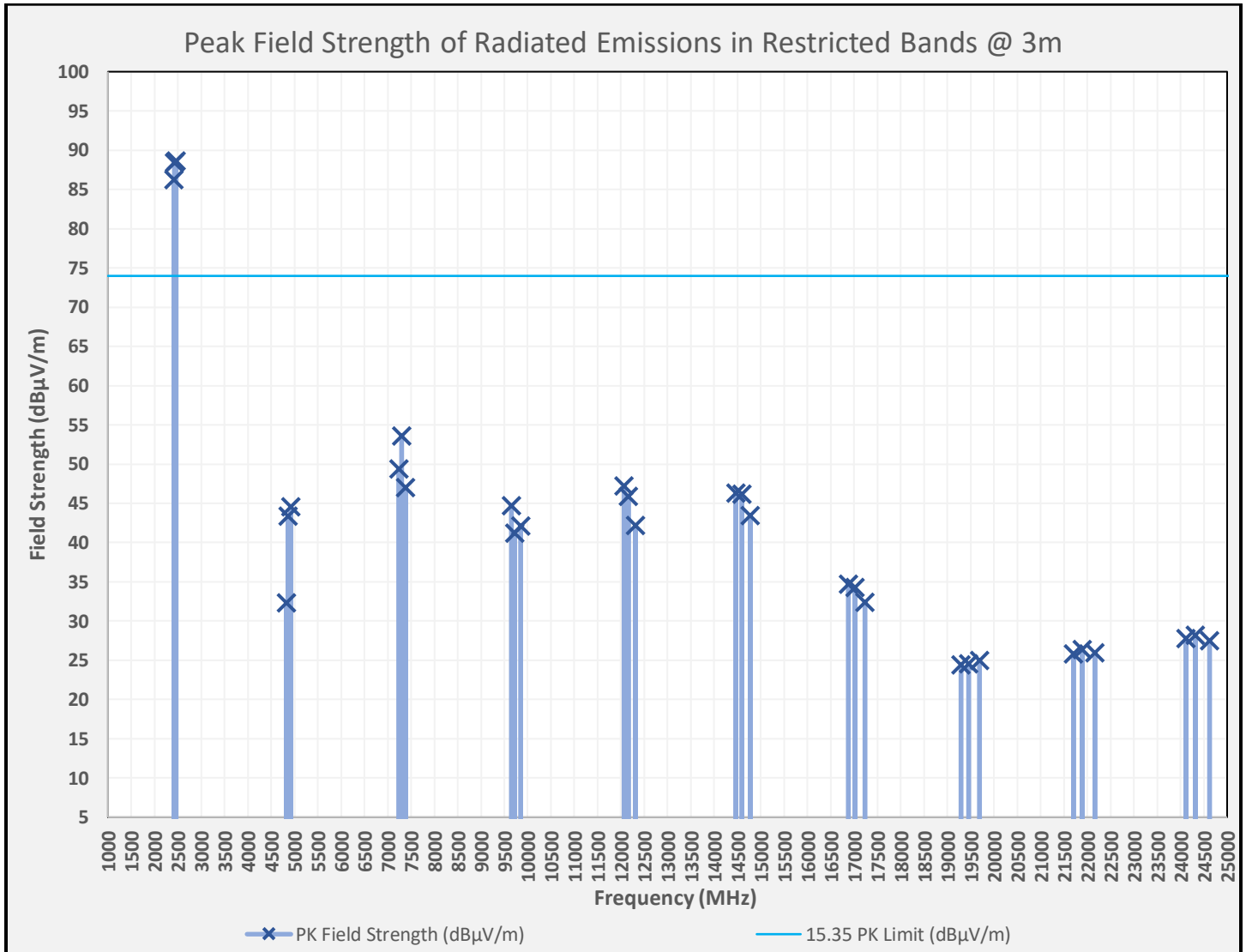
8.20.4 Radiated Emissions, 2432 MHz

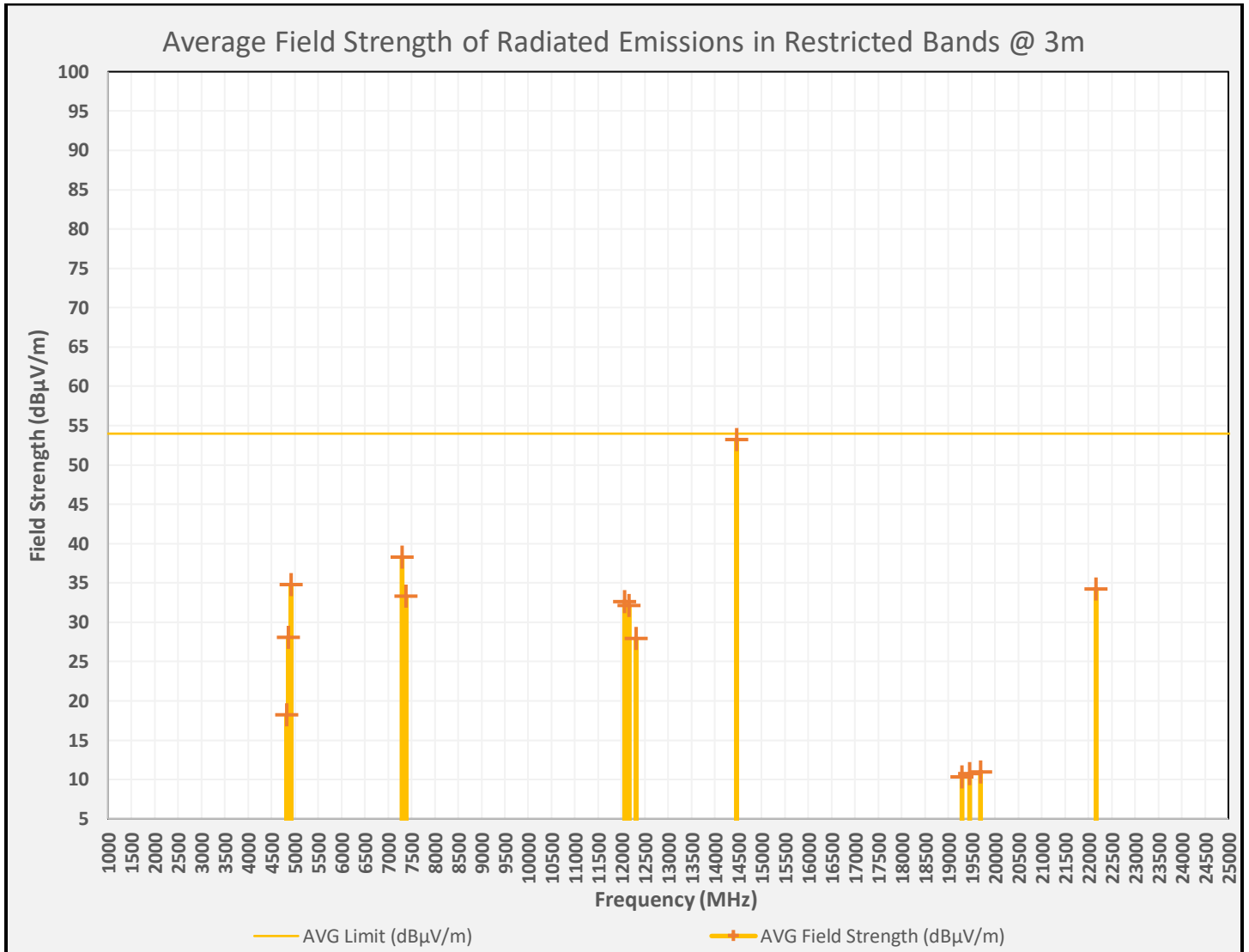




Tuned Frequency (MHz)	Emission Frequency (MHz)	15.205 Restricted Band	15.205, 15.35, 15.247(d) Detector	Meter Reading (dBμV)	Antenna Polarity	Coax Loss (dB)	Duty Cycle Correction (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2432.00	4864.00	X	PK	0.40	H	7.26	0.00	34.14	3.00	41.80	73.98	32.18
2432.00	4864.00	X	PK	2.00	V	7.26	0.00	34.14	3.00	43.40	73.98	30.58
2432.00	4864.00	X	AVG	-13.40	H	7.26	0.00	34.14	3.00	28.00	53.98	25.98
2432.00	4864.00	X	AVG	-13.30	V	7.26	0.00	34.14	3.00	28.10	53.98	25.88
2432.00	7296.00	X	PK	0.60	H	9.60	0.00	36.49	3.00	46.69	73.98	27.29
2432.00	7296.00	X	PK	7.50	V	9.60	0.00	36.49	3.00	53.59	73.98	20.39
2432.00	7296.00	X	AVG	-14.70	H	9.60	0.00	36.49	3.00	31.39	53.98	22.59
2432.00	7296.00	X	AVG	-7.80	V	9.60	0.00	36.49	3.00	38.29	53.98	15.69
2432.00	9728.00		PK	-6.90	H	10.91	0.00	37.02	3.00	41.03	53.98	12.95
2432.00	9728.00		PK	-6.70	V	10.91	0.00	37.02	3.00	41.23	53.98	12.75
2432.00	12160.00	X	PK	-5.40	H	12.43	0.00	38.91	3.00	45.94	73.98	28.04
2432.00	12160.00	X	PK	-8.70	V	12.43	0.00	38.91	3.00	42.64	73.98	31.34
2432.00	12160.00	X	AVG	-19.20	H	12.43	0.00	38.91	3.00	32.14	53.98	21.84
2432.00	12160.00	X	AVG	-22.30	V	12.43	0.00	38.91	3.00	29.04	53.98	24.94
2432.00	14592.00		PK	-7.40	H	13.78	0.00	39.81	3.00	46.19	53.98	7.79
2432.00	14592.00		PK	-7.40	V	13.78	0.00	39.81	3.00	46.19	53.98	7.79
2432.00	17024.00		AVG	-22.60	H	14.77	0.00	42.10	3.00	34.27	53.98	19.71
2432.00	17024.00		AVG	-22.60	V	14.77	0.00	42.10	3.00	34.27	53.98	19.71
2432.00	19456.00	X	PK	-7.10	H	15.69	0.00	15.69	3.00	24.28	73.98	49.70
2432.00	19456.00	X	PK	-6.80	V	15.69	0.00	15.69	3.00	24.58	73.98	49.40
2432.00	19456.00	X	AVG	-20.60	H	15.69	0.00	15.69	3.00	10.78	53.98	43.20
2432.00	19456.00	X	AVG	-20.60	V	15.69	0.00	15.69	3.00	10.78	53.98	43.20
2432.00	21888.00		PK	-7.30	H	16.83	0.00	16.83	3.00	26.37	53.98	27.61
2432.00	21888.00		PK	-7.30	V	16.83	0.00	16.83	3.00	26.37	53.98	27.61
2432.00	24320.00		PK	-8.40	H	18.12	0.00	18.12	3.00	27.84	53.98	26.14
2432.00	24320.00		PK	-8.00	V	18.12	0.00	18.12	3.00	28.24	53.98	25.74

8.20.5 Radiated Emissions, 2462 MHz



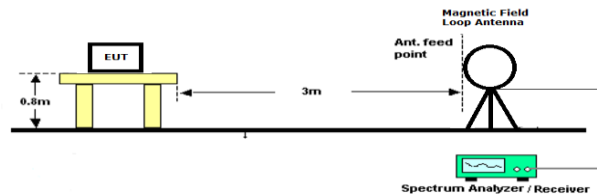


Tuned Frequency (MHz)	Emission Frequency (MHz)	15.205 Restricted Band	15.205, 15.35, 15.247(d) Detector	Meter Reading (dBµV)	Antenna Polarity	Coax Loss (dB)	Duty Cycle Correction (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2462.00	4924.00	X	PK	-8.50	H	7.68	0.00	34.03	3.00	33.21	73.98	40.77
2462.00	4924.00	X	PK	-6.90	V	7.68	0.00	34.03	3.00	34.81	53.98	19.17
2462.00	4924.00	X	AVG	-22.20	H	7.68	0.00	34.03	3.00	19.51	53.98	34.47
2462.00	4924.00	X	AVG	-20.90	V	7.68	0.00	34.03	3.00	20.81	53.98	33.17
2462.00	7386.00	X	PK	-1.30	H	9.46	0.00	36.28	3.00	44.44	73.98	29.54
2462.00	7386.00	X	PK	1.30	V	9.46	0.00	36.28	3.00	47.04	73.98	26.94
2462.00	7386.00	X	AVG	-15.00	H	9.46	0.00	36.28	3.00	30.74	53.98	23.24
2462.00	7386.00	X	AVG	-12.40	V	9.46	0.00	36.28	3.00	33.34	53.98	20.64
2462.00	9848.00		PK	-7.40	H	11.18	0.00	37.05	3.00	40.82	53.98	13.16
2462.00	9848.00		PK	-6.10	V	11.18	0.00	37.05	3.00	42.12	53.98	11.86
2462.00	12310.00	X	PK	-9.30	H	12.27	0.00	39.21	3.00	42.18	73.98	31.80
2462.00	12310.00	X	PK	-9.90	V	12.27	0.00	39.21	3.00	41.58	73.98	32.40
2462.00	12310.00	X	AVG	-23.50	H	12.27	0.00	39.21	3.00	27.98	53.98	26.00
2462.00	12310.00	X	AVG	-23.50	V	12.27	0.00	39.21	3.00	27.98	53.98	26.00
2462.00	14772.00		PK	-10.30	H	13.39	0.00	39.95	3.00	43.04	53.98	10.94
2462.00	14772.00		PK	-9.90	V	13.39	0.00	39.95	3.00	43.44	53.98	10.54
2462.00	17234.00		AVG	-23.90	H	14.68	0.00	41.62	3.00	32.40	53.98	21.58
2462.00	17234.00		AVG	-23.90	V	14.68	0.00	41.62	3.00	32.40	53.98	21.58
2462.00	19696.00	X	PK	-7.70	H	16.20	0.00	16.20	3.00	24.70	73.98	49.28
2462.00	19696.00	X	PK	-7.40	V	16.20	0.00	16.20	3.00	25.00	73.98	48.98
2462.00	19696.00	X	AVG	-21.50	H	16.20	0.00	16.20	3.00	10.90	53.98	43.08
2462.00	19696.00	X	AVG	-21.40	V	16.20	0.00	16.20	3.00	11.00	53.98	42.98
2462.00	22158.00	X	PK	-8.30	H	17.13	0.00	17.13	3.00	25.95	73.98	48.03
2462.00	22158.00	X	PK	-8.90	V	17.13	0.00	17.13	3.00	25.35	73.98	48.63
2462.00	24620.00		PK	-8.80	H	18.15	0.00	18.15	3.00	27.49	53.98	26.49
2462.00	24620.00		PK	-9.30	V	18.15	0.00	18.15	3.00	26.99	53.98	26.99

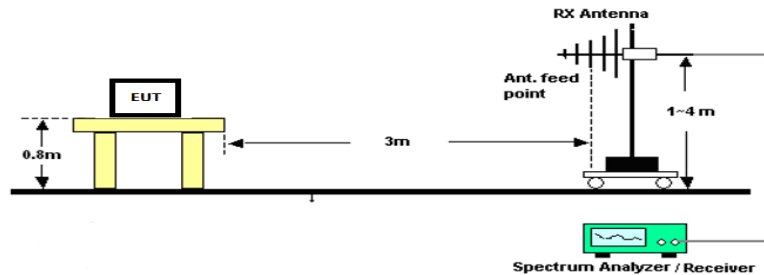
8.21 Radiated Emissions – 802.11n

Restricted Bands from FCC Part 15.205; Limits from FCC Part 15.209

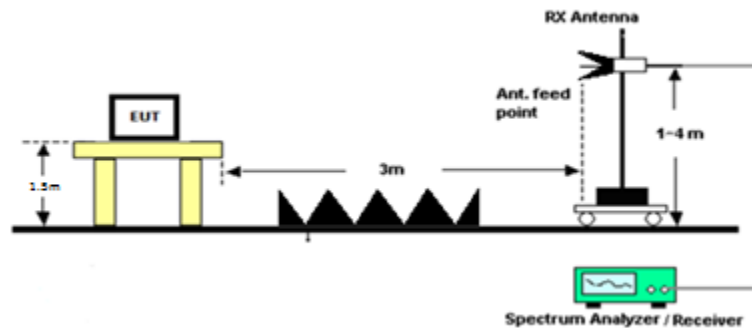
Radiated Test Setup, Below 30 MHz



Radiated Test Setup, 30 – 1000 MHz



Radiated Test Setup, Above 1000 MHz

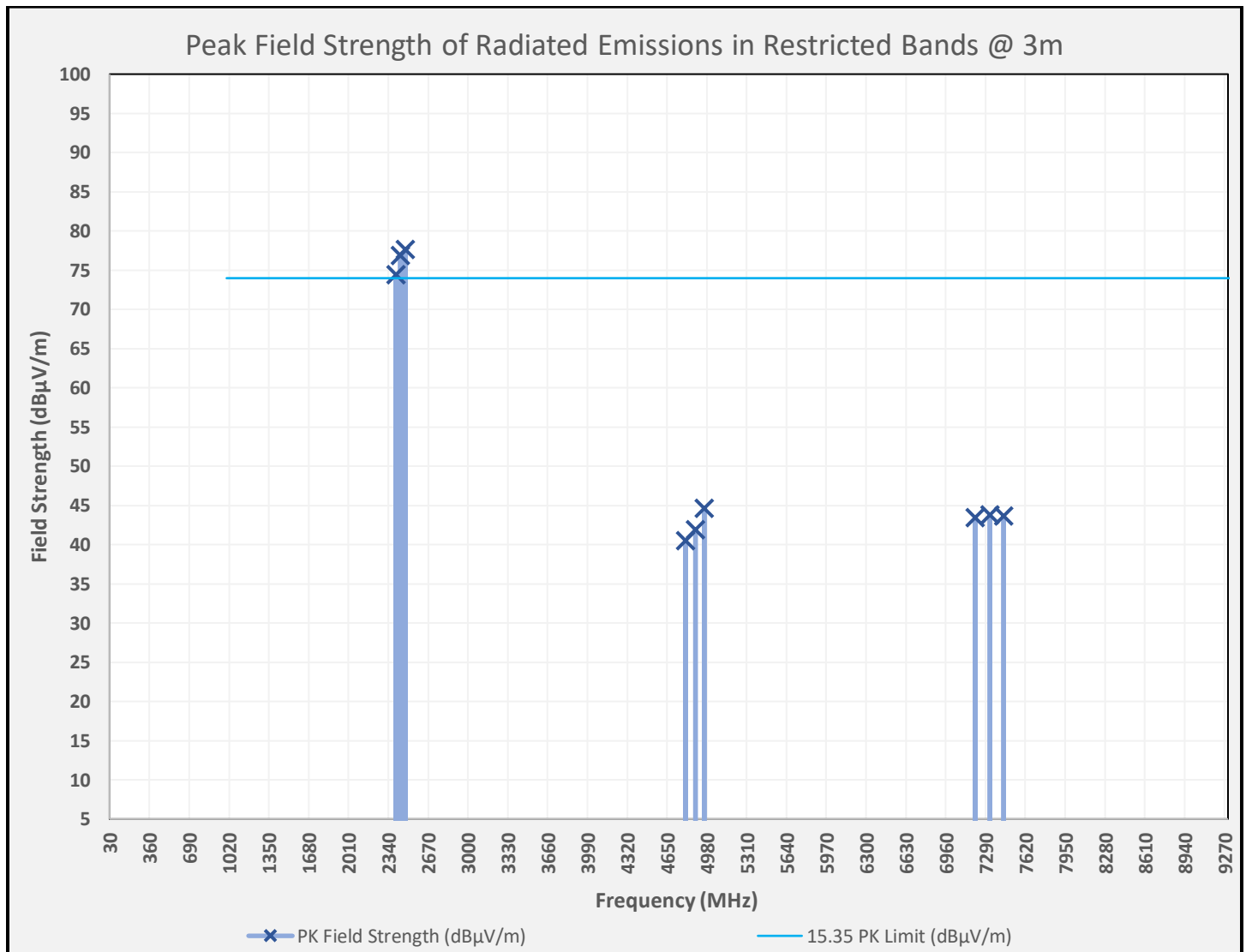


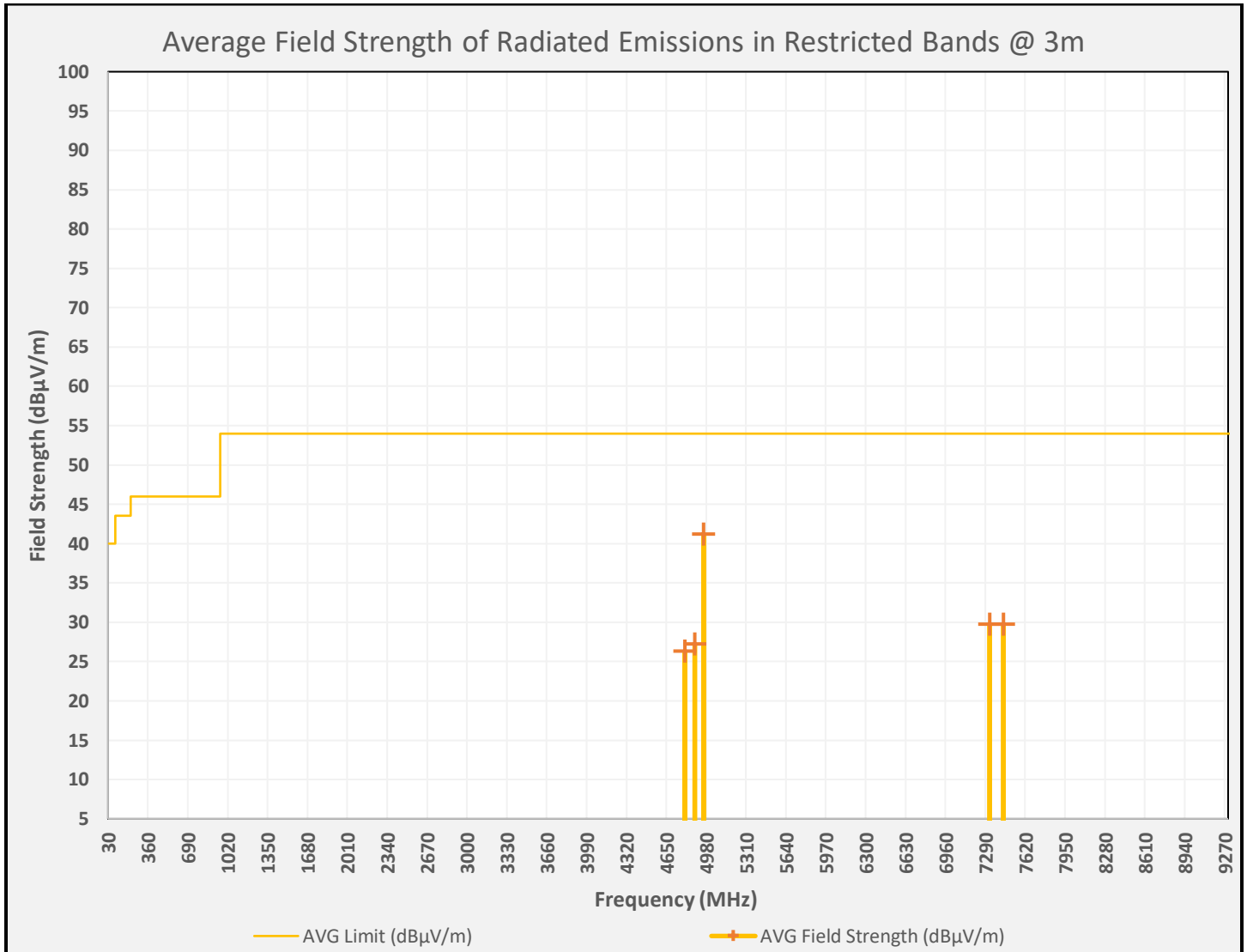
Radiated Emissions in Restricted Bands, Tabular Data

8.21.1 Radiated Emissions 9kHz - 30 MHz

No emissions were noted within 20dB of the limit.

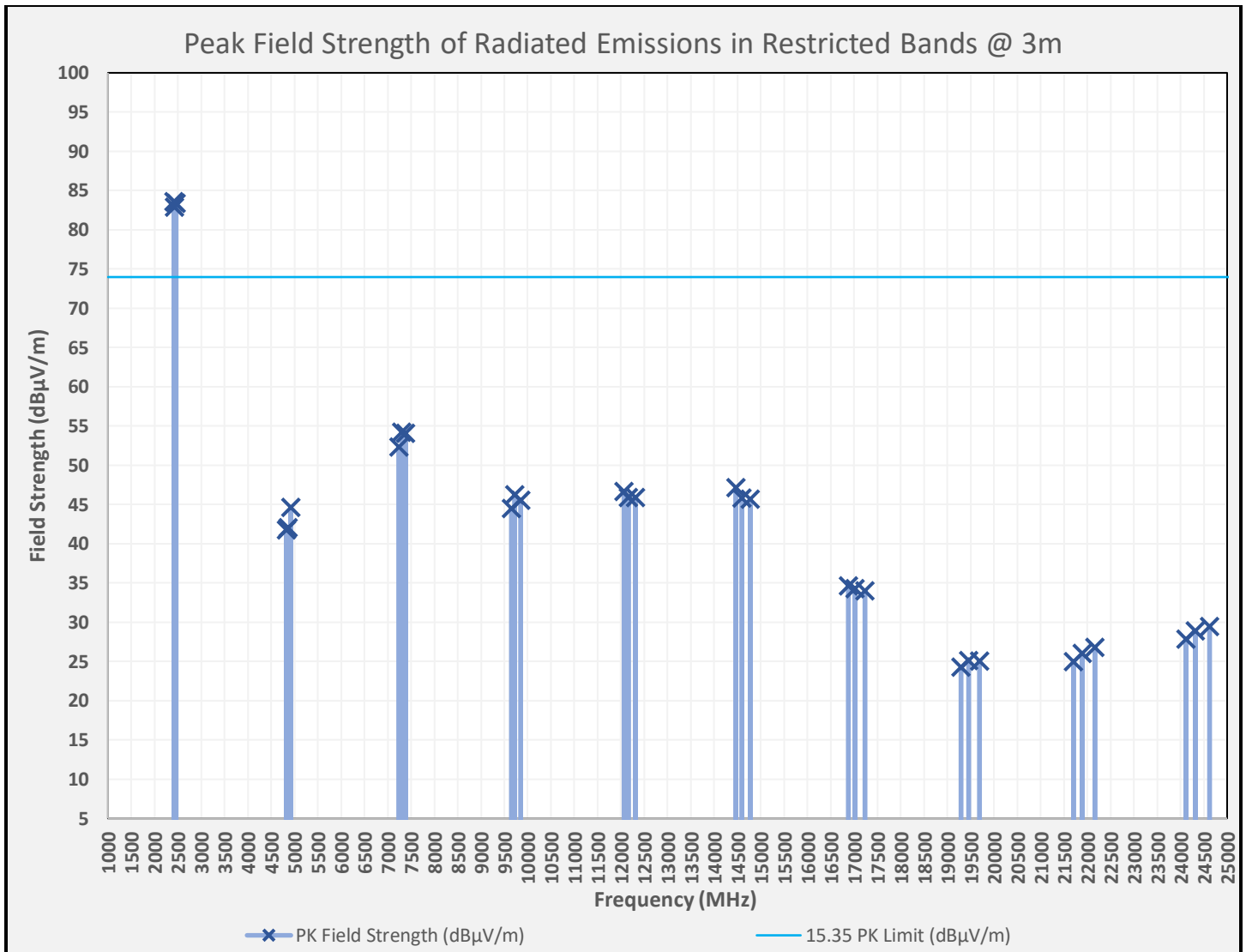
8.21.2 Radiated Emissions, 30-1000 MHz

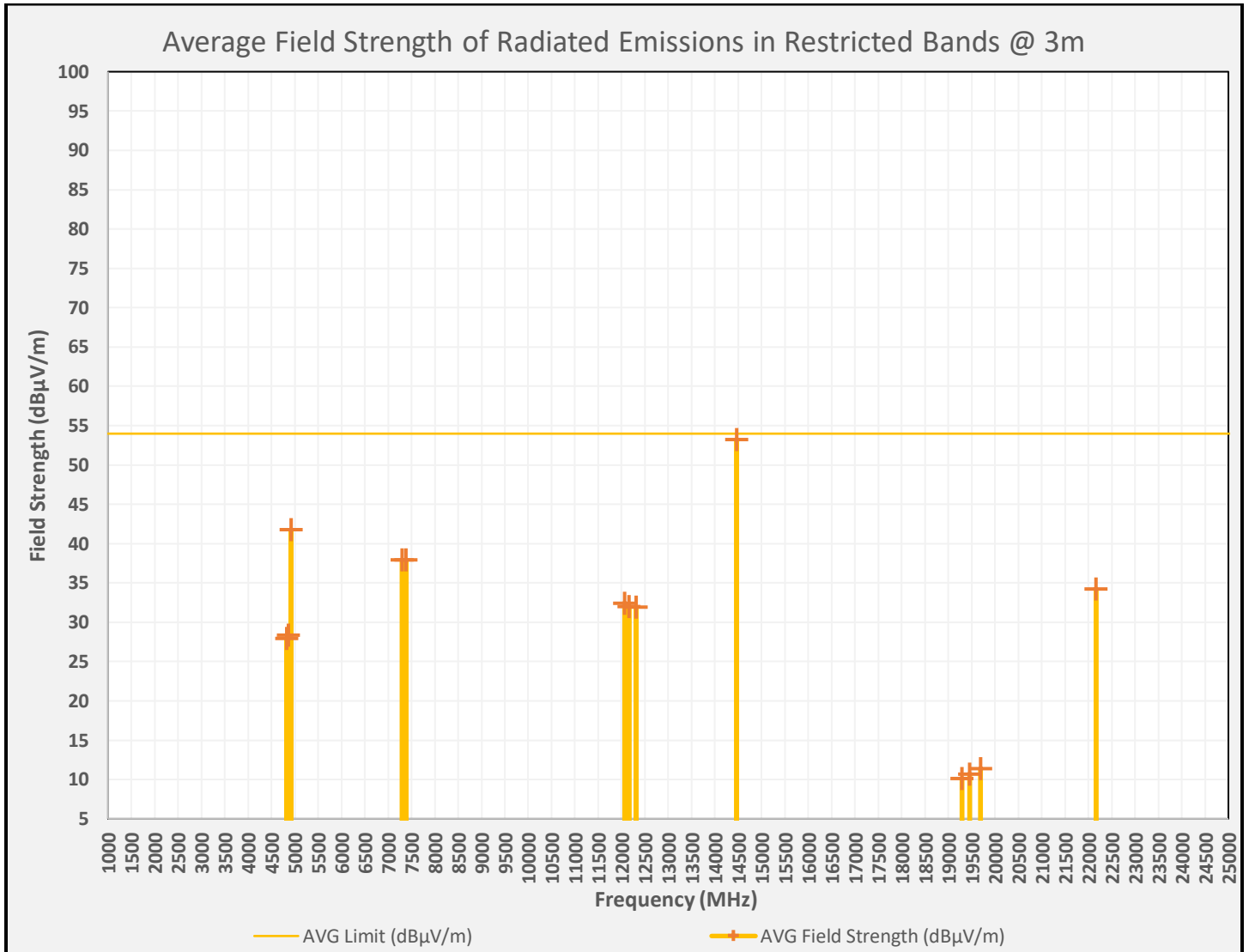




Tuned Frequency (MHz)	Emission Frequency (MHz)	15.205 Restricted Band	15.247(d) Detector	Meter Reading (dBμV)	Antenna Polarity	Coax Loss (dB)	Duty Cycle Correction (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
903.00	38.52		PK	11.84	H	0.69	0.00	13.25	3.00	25.78	40	14.22
903.00	45.88		PK	21.81	V	0.77	0.00	12.14	3.00	34.72	40	5.28
915.00	75.72		PK	17.05	H	1.04	0.00	7.04	3.00	25.14	40	14.86
915.00	75.80		PK	21.66	V	1.04	0.00	7.06	3.00	29.76	40	10.24
927.00	127.56	X	PK	21.57	H	1.28	0.00	12.37	3.00	35.22	43.5	8.28
927.00	129.65	X	PK	21.49	V	1.29	0.00	12.90	3.00	35.67	43.5	7.83
903.00	171.71	X	PK	18.86	H	1.53	0.00	15.26	3.00	35.64	43.5	7.86
903.00	155.36		PK	11.92	V	1.43	0.00	16.90	3.00	30.25	43.5	13.25
915.00	257.85	X	PK	13.47	H	1.98	0.00	12.70	3.00	28.15	46	17.85
915.00	239.10		PK	11.58	V	1.77	0.00	11.91	3.00	25.26	46	20.74
927.00	398.55		PK	9.29	H	2.29	0.00	15.90	3.00	27.48	46	18.52
903.00	418.75		PK	9.72	V	2.34	0.00	16.00	3.00	28.06	46	17.94
951.00	687.50		PK	9.18	H	3.07	0.00	20.60	3.00	32.85	46	13.16
963.00	694.23		PK	10.68	V	3.08	0.00	20.60	3.00	34.36	46	11.64
975.00	848.07		PK	8.75	H	3.48	0.00	22.00	3.00	34.23	46	11.77
987.00	917.30		PK	10.05	V	3.57	0.00	22.70	3.00	36.32	46	9.68
999.00	835.25		PK	10.20	H	3.43	0.00	21.80	3.00	35.43	46	10.57
1011.00	990.38	X	PK	10.71	V	3.74	0.00	23.34	3.00	37.79	53.98	16.19

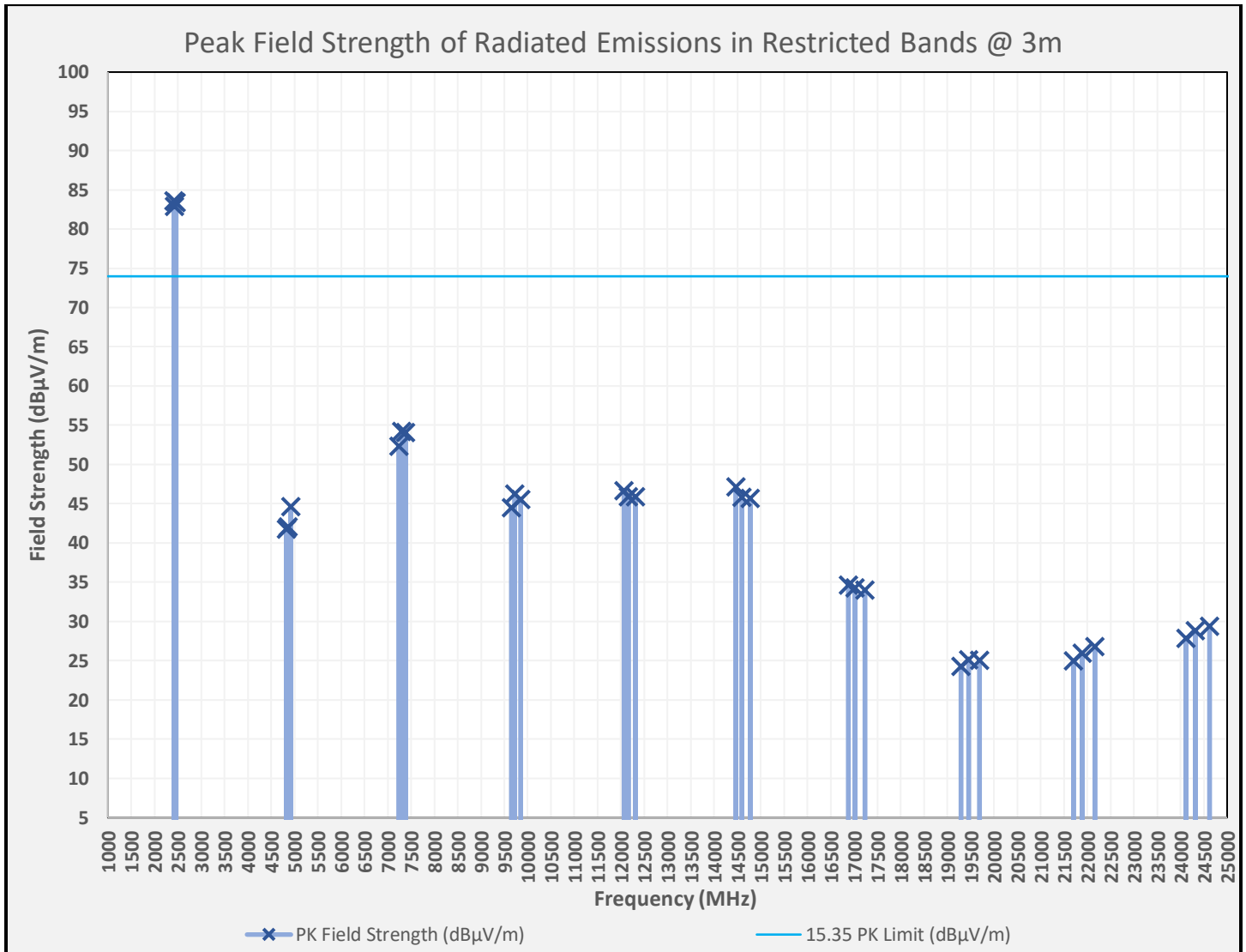
8.21.3 Radiated Emissions, 2412 MHz

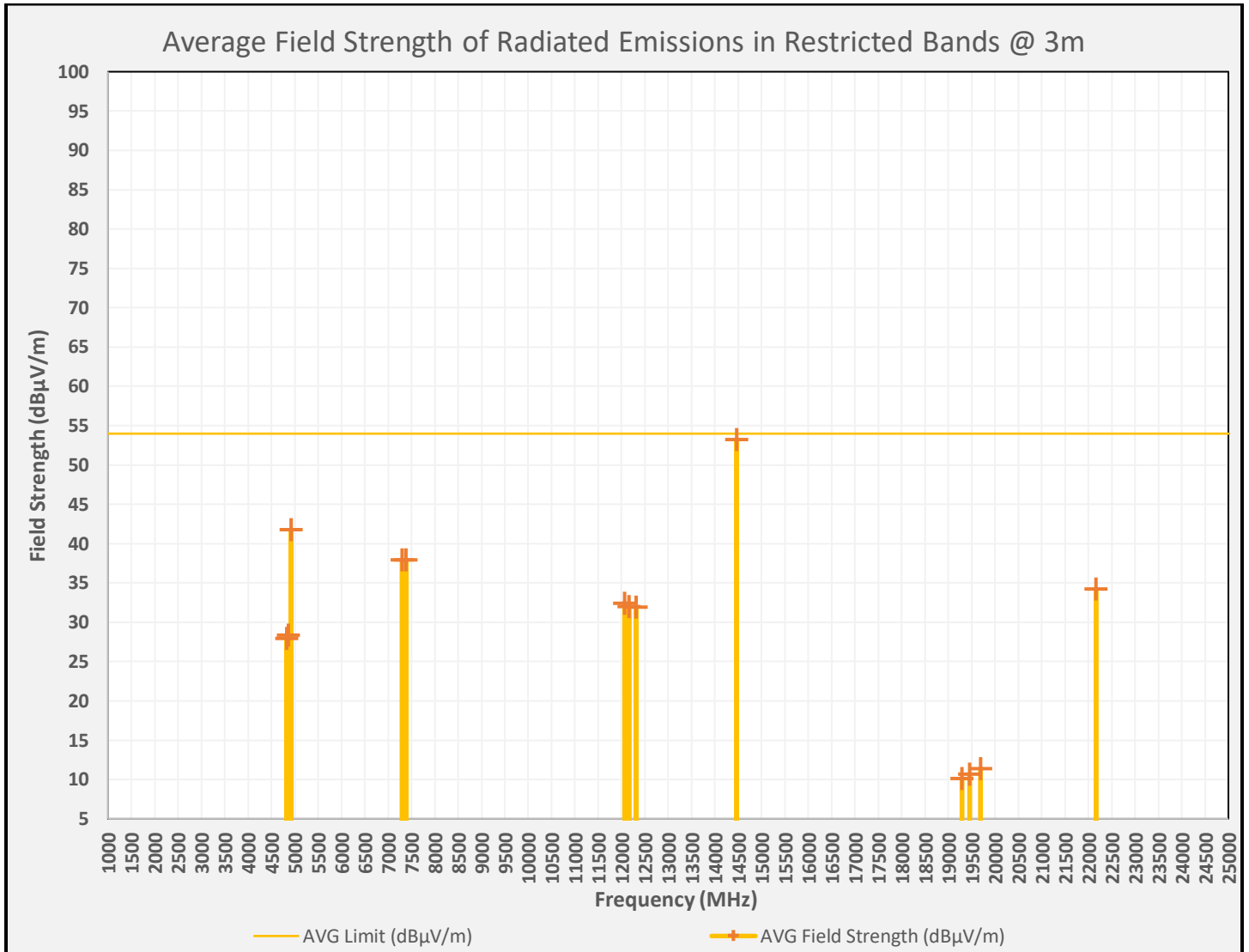




Tuned Frequency (MHz)	Emission Frequency (MHz)	15.205 Restricted Band	15.205, 15.35, 15.247(d)	Meter Reading (dBuV)	Antenna Polarity	Coax Loss (dB)	Duty Cycle Correction (dB)	Antenna Correction Factor	Distance (m)	Field Strength (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2412.00	4824.00	X	PK	0.10	H	7.15	0.00	34.18	3.00	41.43	73.98	32.55
2412.00	4824.00	X	PK	0.40	V	7.15	0.00	34.18	3.00	41.73	73.98	32.25
2412.00	4824.00	X	AVG	-13.90	H	7.15	0.00	34.18	3.00	27.43	53.98	26.55
2412.00	4824.00	X	AVG	-13.40	V	7.15	0.00	34.18	3.00	27.93	53.98	26.05
2412.00	7236.00		PK	6.40	H	9.52	0.00	36.41	3.00	52.33	53.98	1.65
2412.00	7236.00		PK	6.40	V	9.52	0.00	36.41	3.00	52.33	53.98	1.65
2412.00	9648.00		PK	-3.30	H	10.77	0.00	36.88	3.00	44.35	53.98	9.63
2412.00	9648.00		PK	-3.20	V	10.77	0.00	36.88	3.00	44.45	53.98	9.53
2412.00	12060.00	X	PK	-5.10	H	12.10	0.00	38.85	3.00	45.84	73.98	28.14
2412.00	12060.00	X	PK	-4.30	V	12.10	0.00	38.85	3.00	46.64	73.98	27.34
2412.00	12060.00	X	AVG	-18.50	H	12.10	0.00	38.85	3.00	32.44	53.98	21.54
2412.00	12060.00	X	AVG	-18.50	V	12.10	0.00	38.85	3.00	32.44	53.98	21.54
2412.00	14472.00	X	PK	-7.10	H	13.50	0.00	39.75	3.00	46.15	73.98	27.83
2412.00	14472.00	X	PK	-6.10	V	13.50	0.00	39.75	3.00	47.15	73.98	26.83
2412.00	16884.00		AVG	-22.30	H	14.68	0.00	42.24	3.00	34.62	53.98	19.36
2412.00	16884.00		AVG	-22.40	V	14.68	0.00	42.24	3.00	34.52	53.98	19.46
2412.00	19296.00	X	PK	-7.70	H	15.97	0.00	15.97	3.00	24.23	73.98	49.75
2412.00	19296.00	X	PK	-7.90	V	15.97	0.00	15.97	3.00	24.03	73.98	49.95
2412.00	19296.00	X	AVG	-21.80	H	15.97	0.00	15.97	3.00	10.13	53.98	43.85
2412.00	19296.00	X	AVG	-21.80	V	15.97	0.00	15.97	3.00	10.13	53.98	43.85
2412.00	21708.00		PK	-8.50	H	16.72	0.00	16.72	3.00	24.93	53.98	29.05
2412.00	21708.00		PK	-8.90	V	16.72	0.00	16.72	3.00	24.53	53.98	29.45
2412.00	24120.00		PK	-8.00	H	17.90	0.00	17.90	3.00	27.80	53.98	26.18
2412.00	24120.00		PK	-8.10	V	17.90	0.00	17.90	3.00	27.70	53.98	26.28

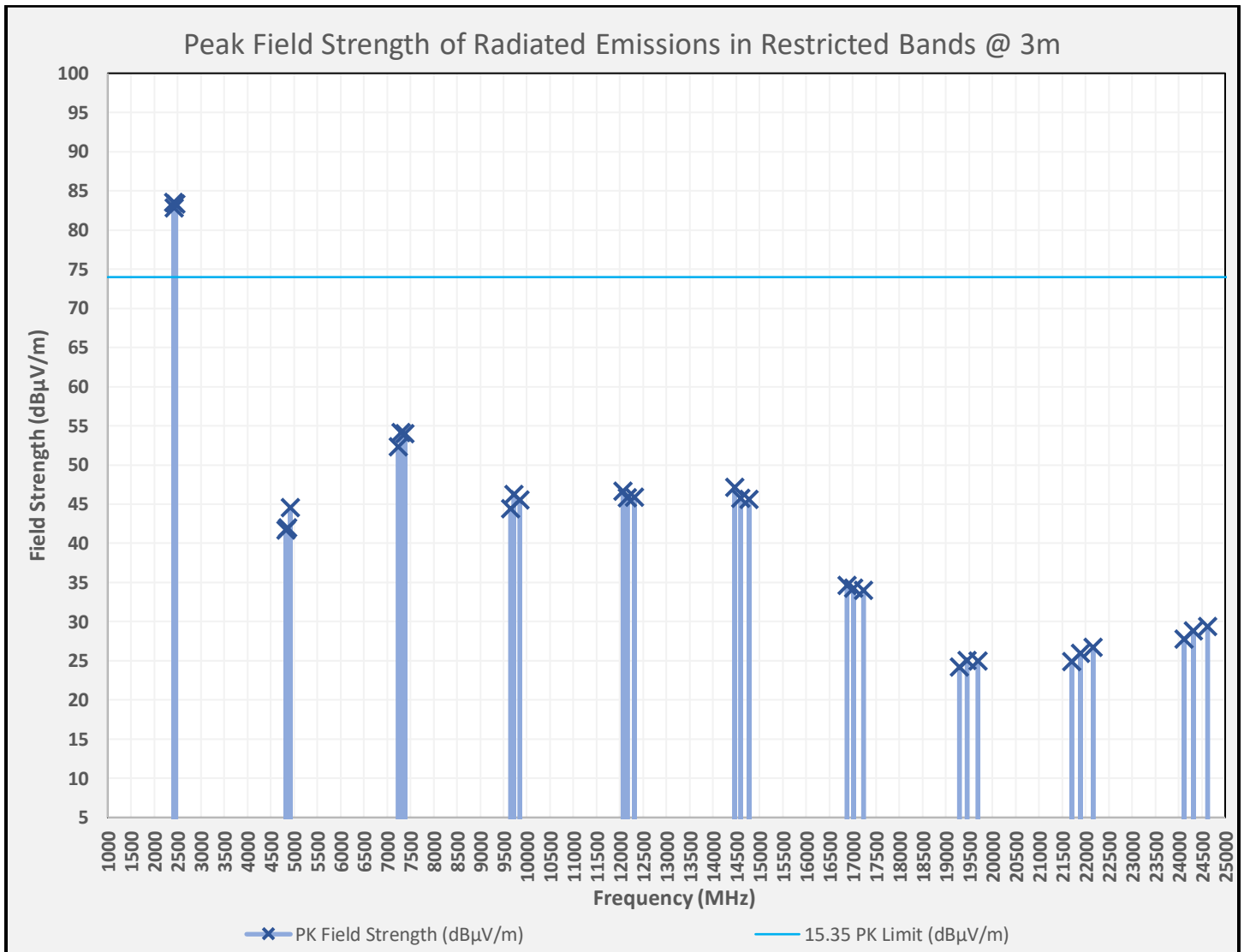
8.21.4 Radiated Emissions, 2432 MHz

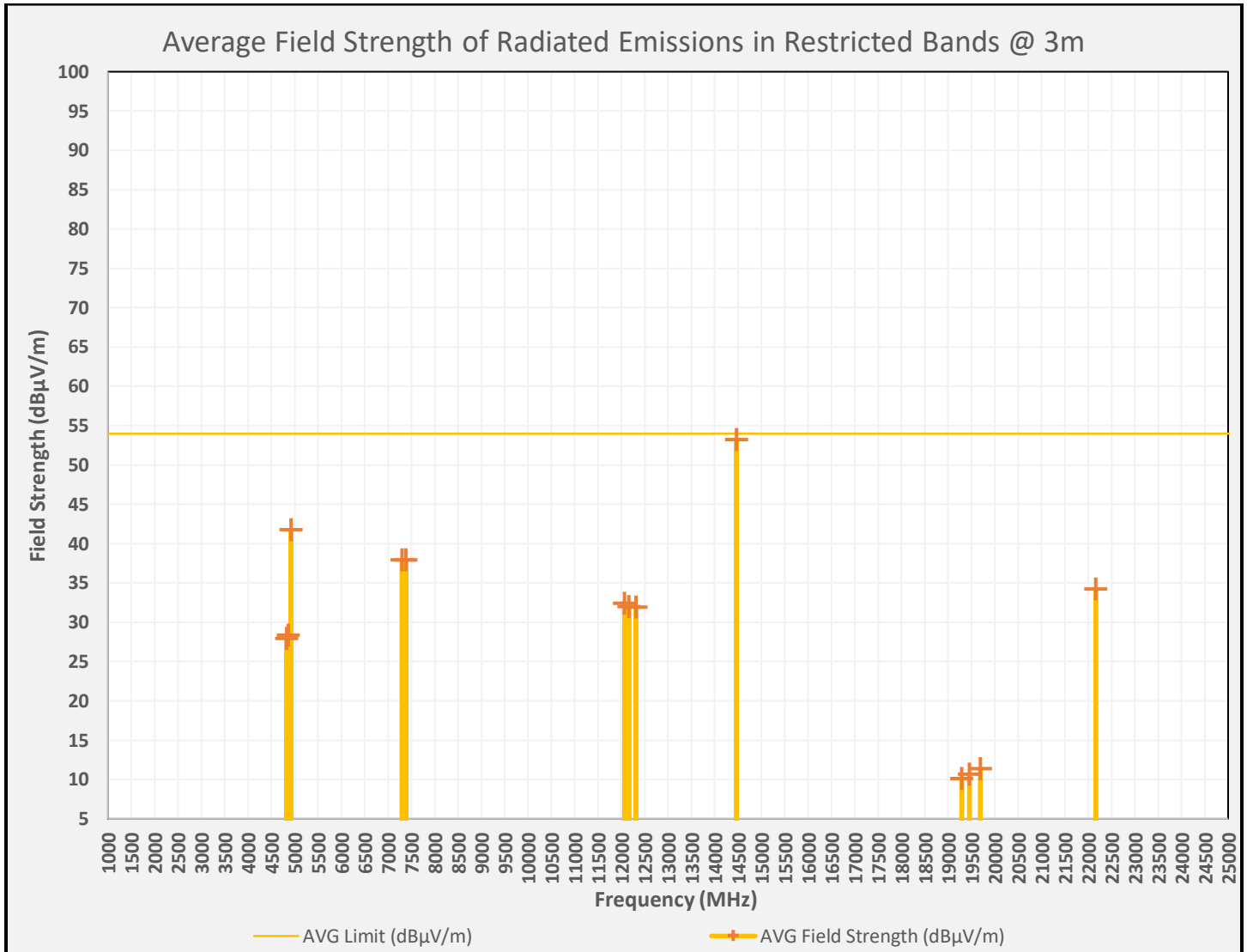




Tuned Frequency (MHz)	Emission Frequency (MHz)	15.205 Restricted Band	15.205, 15.35, 15.247(d) Detector	Meter Reading (dBμV)	Antenna Polarity	Coax Loss (dB)	Duty Cycle Correction (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2432.00	4864.00	X	PK	0.60	H	7.26	0.00	34.14	3.00	42.00	73.98	31.98
2432.00	4864.00	X	PK	0.60	V	7.26	0.00	34.14	3.00	42.00	73.98	31.98
2432.00	4864.00	X	AVG	-13.00	H	7.26	0.00	34.14	3.00	28.40	53.98	25.58
2432.00	4864.00	X	AVG	-13.00	V	7.26	0.00	34.14	3.00	28.40	53.98	25.58
2432.00	7296.00	X	PK	8.10	H	9.60	0.00	36.49	3.00	54.19	73.98	19.79
2432.00	7296.00	X	PK	7.80	V	9.60	0.00	36.49	3.00	53.89	73.98	20.09
2432.00	7296.00	X	AVG	-8.10	H	9.60	0.00	36.49	3.00	37.99	53.98	15.99
2432.00	7296.00	X	AVG	-8.10	V	9.60	0.00	36.49	3.00	37.99	53.98	15.99
2432.00	9728.00		PK	-1.70	H	10.91	0.00	37.02	3.00	46.23	53.98	7.75
2432.00	9728.00		PK	-2.10	V	10.91	0.00	37.02	3.00	45.83	53.98	8.15
2432.00	12160.00	X	PK	-5.70	H	12.43	0.00	38.91	3.00	45.64	73.98	28.34
2432.00	12160.00	X	PK	-5.50	V	12.43	0.00	38.91	3.00	45.84	73.98	28.14
2432.00	12160.00	X	AVG	-19.30	H	12.43	0.00	38.91	3.00	32.04	53.98	21.94
2432.00	12160.00	X	AVG	-19.30	V	12.43	0.00	38.91	3.00	32.04	53.98	21.94
2432.00	14592.00		PK	-7.80	H	13.78	0.00	39.81	3.00	45.79	53.98	8.19
2432.00	14592.00		PK	-8.00	V	13.78	0.00	39.81	3.00	45.59	53.98	8.39
2432.00	17024.00		AVG	-22.60	H	14.77	0.00	42.10	3.00	34.27	53.98	19.71
2432.00	17024.00		AVG	-22.60	V	14.77	0.00	42.10	3.00	34.27	53.98	19.71
2432.00	19456.00	X	PK	-6.90	H	15.69	0.00	15.69	3.00	24.48	73.98	49.50
2432.00	19456.00	X	PK	-6.30	V	15.69	0.00	15.69	3.00	25.08	73.98	48.90
2432.00	19456.00	X	AVG	-20.70	H	15.69	0.00	15.69	3.00	10.68	53.98	43.30
2432.00	19456.00	X	AVG	-20.70	V	15.69	0.00	15.69	3.00	10.68	53.98	43.30
2432.00	21888.00		PK	-8.00	H	16.83	0.00	16.83	3.00	25.67	53.98	28.31
2432.00	21888.00		PK	-7.70	V	16.83	0.00	16.83	3.00	25.97	53.98	28.01
2432.00	24320.00		PK	-7.40	H	18.12	0.00	18.12	3.00	28.84	53.98	25.14
2432.00	24320.00		PK	-7.70	V	18.12	0.00	18.12	3.00	28.54	53.98	25.44

8.21.5 Radiated Emissions, 2462 MHz





Tuned Frequency (MHz)	Emission Frequency (MHz)	15.205 Restricted Band	15.205, 15.35, 15.247(d) Detector	Meter Reading (dBμV)	Antenna Polarity	Coax Loss (dB)	Duty Cycle Correction (dB)	Antenna Correction Factor (dB/m)	Distance (m)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2462.00	4924.00	X	PK	-0.30	H	7.68	0.00	34.03	3.00	41.41	73.98	32.57
2462.00	4924.00	X	PK	0.10	V	7.68	0.00	34.03	3.00	41.81	53.98	12.17
2462.00	4924.00	X	AVG	-14.30	H	7.68	0.00	34.03	3.00	27.41	53.98	26.57
2462.00	4924.00	X	AVG	-13.50	V	7.68	0.00	34.03	3.00	28.21	53.98	25.77
2462.00	7386.00	X	PK	8.10	H	9.46	0.00	36.28	3.00	53.84	73.98	20.14
2462.00	7386.00	X	PK	8.30	V	9.46	0.00	36.28	3.00	54.04	73.98	19.94
2462.00	7386.00	X	AVG	-8.00	H	9.46	0.00	36.28	3.00	37.74	53.98	16.24
2462.00	7386.00	X	AVG	-7.80	V	9.46	0.00	36.28	3.00	37.94	53.98	16.04
2462.00	9848.00		PK	-2.70	H	11.18	0.00	37.05	3.00	45.52	53.98	8.46
2462.00	9848.00		PK	-2.80	V	11.18	0.00	37.05	3.00	45.42	53.98	8.56
2462.00	12310.00	X	PK	-5.60	H	12.27	0.00	39.21	3.00	45.88	73.98	28.10
2462.00	12310.00	X	PK	-5.60	V	12.27	0.00	39.21	3.00	45.88	73.98	28.10
2462.00	12310.00	X	AVG	-19.50	H	12.27	0.00	39.21	3.00	31.98	53.98	22.00
2462.00	12310.00	X	AVG	-19.50	V	12.27	0.00	39.21	3.00	31.98	53.98	22.00
2462.00	14772.00		PK	-7.70	H	13.39	0.00	39.95	3.00	45.64	53.98	8.34
2462.00	14772.00		PK	-8.00	V	13.39	0.00	39.95	3.00	45.34	53.98	8.64
2462.00	17234.00		AVG	-22.30	H	14.68	0.00	41.62	3.00	34.00	53.98	19.98
2462.00	17234.00		AVG	-22.30	V	14.68	0.00	41.62	3.00	34.00	53.98	19.98
2462.00	19696.00	X	PK	-7.60	H	16.20	0.00	16.20	3.00	24.80	73.98	49.18
2462.00	19696.00	X	PK	-7.40	V	16.20	0.00	16.20	3.00	25.00	73.98	48.98
2462.00	19696.00	X	AVG	-21.00	H	16.20	0.00	16.20	3.00	11.40	53.98	42.58
2462.00	19696.00	X	AVG	-21.00	V	16.20	0.00	16.20	3.00	11.40	53.98	42.58
2462.00	22158.00	X	PK	-8.10	H	17.13	0.00	17.13	3.00	26.15	73.98	47.83
2462.00	22158.00	X	PK	-7.50	V	17.13	0.00	17.13	3.00	26.75	73.98	47.23
2462.00	24620.00		PK	-7.40	H	18.15	0.00	18.15	3.00	28.89	53.98	25.09
2462.00	24620.00		PK	-6.90	V	18.15	0.00	18.15	3.00	29.39	53.98	24.59

9. ANNEX-B – Test Setup Photographs

Test setup photographs are located in a separate supplementary ANNEX-B document.

10. History of Test Report Changes

Test Report #	Revision #	Description	Date of Issue
TR_21639-25_Head Unit Wi-Fi_FCC 15.247_DTS_1	1	Initial release	12/18/25
	2	Corrected C63.10 references throughout from 2013 to 2020.	1/16/2026
	3	Updated pages 1,4	4/13/2026
	4	Updated Section 3.1	4/14/2026

END OF TEST REPORT
