Regulatory Test Report

Prepared for Harman International Industries, Inc.

This report presents detailed information on

R1 INT ER 3B HW4

R1 INT RW 3B HW4

Prepared by:

Aravind Buddana

Engineer III

Approved by:

Jason Kanakry

General Manager

Issue date: 05/09/2025

Report No: J23134_R1 INT ER-RW 3B HW4_ Simultaneous Transmission_TR5 v1

This test result relates only to the described test object.
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The test is traceable to national standard or related international standard

Contents

1. Test Request Information

Test Request #:	7700206793
Test Requested By:	Pranav Patel Harman International Industries, Inc. 30001 Cabot Drive, Novi, MI 48377
Test item Description:	R1 INT ER 3B HW4, R1 INT RW 3B HW4
Part Number:	P68711112AA, 2182
DUT Sample Number:	J23134 ER 3B#001, J23134 RW 3B#001
FVIN :	FCA-MY24.MNL-OD.4214
Hardware Version of DUT:	N/A
Software Version of DUT:	N/A
Component Category of DUT:	N/A
FCC ID:	2AHPN-BE2882 (R1 INT ER 3B HW4) 2AHPN-BE2883 (R1 INT RW 3B HW4)
ISED ID:	6434C-BE2882
Type of Test:	FCC/ISED Certification
Test Method:	CFR Title 47 FCC Part 15.247, ISED Canada RSS-247 Issue 3, ISED Canada RSS-Gen Issue 5, FCC KDB 558074 D01 15.247 Measurement Guidance v05 and ANSI C63.10-2013 CFR Title 47 FCC Part 15.407, FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 and ANSI C63.10-2013
Deviations from standard:	None
Approved Test Plan Number:	N/A
Test Plan Revision:	N/A
Date Test Sample Received:	03-03-2025
Date Test Started:	05-02-2025
Date Test Finished:	05-07-2025

2. Test Laboratory Information

Location of Test Lab:	The radiated and conducted emissions test sites are located at Bureau Veritas 815 N. Opdyke Rd #100, Auburn Hills, MI 48326, Phone: +1-248-836-4700
Key Contact:	Jason Kanakry (General Manager) Jason.Kanakry@BureauVeritas.com Phone: +1-248-836-4747
Laboratory Accreditations:	BUREAU VERITAS CONSUMER PRODUCTS SERVICES, INC is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories.
ISO/IEC 17025:2017:	5678.01
FCC Test Site Number:	US1278 (242530)
IC Test Site Number:	US0229 (26240)

3. Statement of Conformity

RSS-GEN	RSS 247	Part 15	Comments
6.4		15.15(b)	There are no controls accessible to the user that varies the output power to operate in violation of the regulatory requirements.
		15.19	The label is shown in the label exhibit.
		15.21	Information to the user is shown in the instruction manual exhibit.
		15.27	No special accessories are required for compliance.
3.2		15.31	The EUT was tested in accordance with the measurement standards in this section.
6.13.2		15.33	Frequency range was investigated according to this section, unless noted in specific rule section under which the equipment operates.
6.13.1		15.35	The EUT emissions were measured using the measurement detector and bandwidth specified in this section, unless noted in specific rule section under which the equipment operates.
6.8		15.203	EUT employs integrated PCB antenna with Bluetooth at -1.24dBi WLAN 2.4G at -0.12dBi gain. WLAN 5G UNII-1 at 2.67dBi and UNII-3 at 1.52dBi
8.10		15.205 15.209	The fundamental is not in a Restricted band and the spurious and harmonic emissions in the Restricted bands comply with the general emission limits of 15.209 or RSS-Gen as applicable
8.8		15.207	N/A. EUT is vehicle battery powered only.

4. Radiated Testing

4.1 Test Summary

This test report supports an application for **R1 INT ER 3B HW4** and **R1 INT RW 3B HW4** Testing pursuant to

CFR Title 47 FCC Part 15.247, ISED Canada RSS-247 Issue 3, ISED Canada RSS-Gen Issue 5, FCC KDB 558074 D01 15.247 Measurement Guidance v05 and ANSI C63.10-2013.

CFR Title 47 FCC Part 15.407, FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 and ANSI C63.10-2013

Bluetooth Classic	
Details	**Description**
Frequency Range (MHz)	2402 – 2483.5
Modulations Supported	GFSK, π/4 DQPSK, 8DPSK
Number of Channels	79
DUT S/N	J23134 ER 3B#001 J23134 RW 3B#001
DUT Model	R1 INT ER 3B HW4 R1 INT RW 3B HW4
DUT Operating Mode	Bluetooth Test Mode
DUT Operating Voltage	12V
Tested Modulation	8PSK (3-DH1)
Tested Channels	0
Start Date	05-02-2025
End Date	05-07-2025
Tested By	SS/AB
Temperature/Humidity	Temperature:22.1°C Humidity:.42.8%
Comments	Band reject filters in the range of 2.4 & 5 GHz are used for spurious measurements.

Antenna	**Frequency Range**	**Polarization**	**Result Over/Under Limit**	**Notes**
Log Periodic	30MHz-1GHz	Horizontal	☐Over ☒Under	√
		Vertical	☐Over ☒Under	√
Horn	1GHz-18GHz	Horizontal	☐Over ☒Under	√
		Vertical	☐Over ☒Under	√
		Vertical	☐Over ☒Under	√

Notes: √ meets the requirements of the acceptance criteria.

WLAN 2.4GHz	
Details	**Description**
Frequency Range (MHz)	2400 – 2483.5
WLAN Modes Supported	802.11b, 802.11g, 802.11n
Number of Channels	11
DUT S/N	J23134 ER 3B#001 J23134 RW 3B#001
DUT Model	R1 INT ER 3B HW4 R1 INT RW 3B HW4
DUT Operating Mode	WLAN Test Mode
DUT Operating Voltage	12V
Tested Modes	802.11b, 802.11g
Tested Channels	6
Comment	Meets Requirements
Start Date	05-02-2025
End Date	05-07-2025
Tested By	SS/AB
Temperature/Humidity	Temperature:22.1°C Humidity:.42.8%
Comments	Band reject filters in the range of 2.4 & 5 GHz are used for spurious measurements.

Antenna	**Frequency Range**	**Polarization**	**Result Over/Under Limit**	**Notes**
Log Periodic	30MHz-1GHz	Horizontal	☐Over ☒Under	√
		Vertical	☐Over ☒Under	√
Horn	1GHz-18GHz	Horizontal	☐Over ☒Under	√
		Vertical	☐Over ☒Under	√
		Vertical	☐Over ☒Under	√

Notes: √ meets the requirements of the acceptance criteria.

WLAN 5GHz	
Details	**Description**
Frequency Range (MHz)	5180 – 5825
WLAN Modes Supported	802.11a, 802.11n, 802.11ac
Number of Channels	12
DUT S/N	J23134 ER 3B#001 J23134 RW 3B#001
DUT Model	R1 INT ER 3B HW4 R1 INT RW 3B HW4
DUT Operating Mode	WLAN Test Mode
DUT Operating Voltage	12V
Tested Modes	802.11n
Tested Channels	165
Start Date	05-02-2025
End Date	05-07-2025
Tested By	SS/AB
Temperature/Humidity	Temperature:22.1°C Humidity:.42.8%
Comments	Band reject filters in the range of 2.4 & 5 GHz are used for spurious measurements.

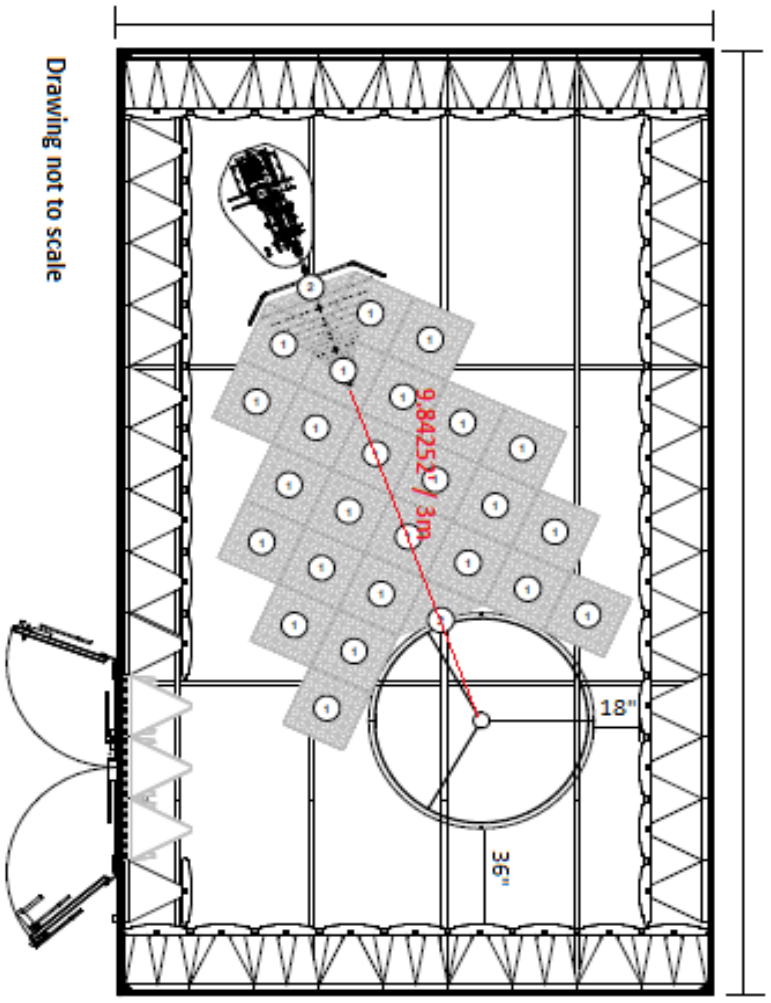
Antenna	**Frequency Range**	**Polarization**	**Result Over/Under Limit**	**Notes**
Log Periodic	30MHz-1GHz	Horizontal	☐Over ☒Under	√
		Vertical	☐Over ☒Under	√
Horn	1GHz-18GHz	Horizontal	☐Over ☒Under	√
		Vertical	☐Over ☒Under	√
Horn	18GHz-40GHz	Horizontal	☐Over ☒Under	√
		Vertical	☐Over ☒Under	√

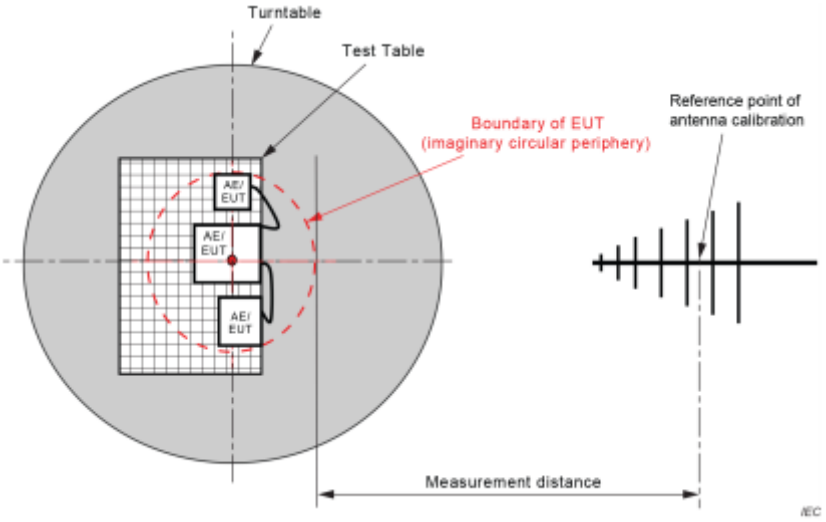
4.2 Test Setup

Semi-Anechoic Chamber Test Site-3 meter

Chamber Location	815 N Opdyke Rd Auburn Hills, Michigan 48326
Chamber Manufacturer:	ETS-Lindgren
Chamber Type	Semi-Anechoic
Model	FACT™ 3-2.0 Plus
Chamber Dimensions (L x W x H)	18'x18'x30'
Quiet Zone Diameter	2.0 meters
Quiet Zone Test Heights	1 & 2 meters (front only)
Test Distance	3.0 meters
Test Frequency Range	1-40 GHz
Measured Performance	4.87 dB Site sVSWR

Chamber Dimensions




Turntable
Test Table
Boundary of EUT
(imaginary circular periphery)
Reference point of
antenna calibration
AE/
EUT
AE/
EUT
AE/
EUT
Measurement distance
IEC

4.3 Test Equipment Used

ID #	Equipment	Manufacturer	Model #	Serial #	Cal Due
BVD0217	Receiver 2Hz-44GHz	Rohde & Schwarz	ESW44	101871	4/18/2026
BVD0118	Antenna Mast Position Controller	ETS	7006-001	00214778/00214648	N/A
BVD0111	3 Meter Anechoic Chamber	ETS	N/A	N/A	N/A
BVD0247	Turn Table	ETS	920250	N/A	N/A
BVD0323	Foam Test Table For 3 Meter Chamber	ETS-Lindgren	LDT-1.5	N/A	N/A
BVD0069	Bore Sight Tower	ETS	2171B	226732	N/A
BVD0312	Optima 12V Blue top Marine battery	Optima	D34M	N/A	N/A
BVD0187	Preamplifier 25dB cal to 100kHz-1GHz	Rohde & Schwarz	TS-PR1	102080	6/27/2025
BVD0184	Preamplifier 29dB 1-18GHz	Rohde & Schwarz	TS-PR18	101646	7/13/2025
BVD0185	Preamplifier 45dB 18-40GHz	Rohde & Schwarz	TS-PR1840	100064	7/13/2025
BVD0011	Loop Antenna 9kHz-30MHz	Rohde & Schwarz	FMZB1519B	145	6/10/2025
BVD0021	UltraLog Antenna 30-6000MHz	Rohde & Schwarz	HL562E	101113	6/26/2025
BVD0267	Double Ridge Waveguide 800MHz-18GHz	Rohde & Schwarz	HF907	102832	6/27/2025
BVD0320	18-40GHz Horn Antenna	L3 Narda ATM	PNR 180-442-KF	136164-01	7/15/2025
BVD0045	Field Probe Mast	Rohde & Schwarz	TS-FPMA	N/A	N/A
BVD0480	Band Reject Filter 50dB from 2400 to 2500MHz	Micro-Tronics	BRM50702	G482	6/17/2025
BVD0481	Band Reject Filter 40dB from 5150 to 5880MHz	Micro-Tronics	BRM50716	G336	6/17/2025
BVD0394	Double Shielded N-Type Cable 6.9 Meter	Rohde & Schwarz	N-Type	N/A	4/7/2026
BVD0398	Double Shielded N-Type Cable 2 Meter	Rohde & Schwarz	N-Type	N/A	4/7/2026
BVD0563	RF Cable Assembly	Huber+Suhner, inc	SUCOFLEX 102A	502215/2A	10/30/2025
BVD0407	Double Shielded N-Type Cable 410mm (For PreAmp)	Rohde & Schwarz	N-Type	N/A	10/15/2025
BVD0495	SMA Shielded Cable approx 100mm (for Pre-Amp)	Rohde & Schwarz	SMA-Type	N/A	7/15/2025
BVD0587	Double Shielded N-Type Cable 440mm (For PreAmp)	Winchester Interconnect	250-251-660157 REV A	N/A	7/3/2025
BVD0229	Temp and Humidity Meter	Fluke	971	12001009	5/23/2025

Equipment List (Software)

ID #	Equipment	Manufacturer	Model	Version No.	
N/A	EMC Test Software	Rodhe & Schwarz	EMC32	2024.0.8.0	N/A

Customer Supplied Equipment

ID #	Equipment	Manufacturer	Model	Serial #	Version No.
N/A	Harness	Harman	N/A	N/A	N/A
N/A	Display Unit	MOBIS	BMM6100000	231107 01	N/A
N/A	Shark Fin Antenna	Alfa Romeo	B901	719147	N/A
N/A	Antenna	Aptiv	APN35409682	N/A	N/A
N/A	Camera	N/A	23295906C	N/A	N/A
N/A	MFGBridge_Tool/Dut labtool	N/A	N/A	N/A	2.0.0.89

4.4 Test Limits and Procedures

Radiated emissions that fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a). Other emissions shall be at least 20dB below the highest level of the desired power.

Frequencies (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (meters)
0.009 ~ 0.490	2400/F(kHz)	48.5 - 13.8	300
0.490 ~ 1.705	24000/F(kHz)	33.8 - 23	30
1.705 ~ 30.0	30,	29.54	30
30 ~ 88	100	40.0	3
88 ~ 216	150	43.5	3
216 ~ 960	200	46.0	3
Above 960	500	54.0	3

Note:

a) The lower limit shall apply at the transition frequencies.

b) As per 15.35(b), for frequencies above 1000MHz, the field strength limits based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

c) For performing measurements at a specified distance of 3m, the values are extrapolated using extrapolation factor.
Frequencies below 30MHz are extrapolated using 40dB/decade.
Frequencies above 30MHz are extrapolated using 20dB/decade.

Frequencies (MHz)	Formula for Limits derivation for below 30MHz	Limits for frequencies below 30MHz (dBuV/m)
0.009 ~ 0.490	2400/F(kHz) + 40 Log (300m/3m)	128.5 ~ 93.8
0.490 ~ 1.705	24000/F(kHz) + 40 Log (30m/3m)	73.8 ~ 62.96
1.705 ~ 30.0	29.54 + 40 Log (30m/3m)	69.54

Radiated emissions that fall in restricted bands, as defined in RSS-GEN Section 8.10 must also comply with radiated emissions limits specified in RSS-GEN Section 8.9

The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω.

The measurement procedures are as per 789033 D02 General UNII Test Procedures New Rules v02r01, ISED RSS-247 6.2

The Limits for Unwanted emissions out of the Restricted Bands are as follows.

Procedure	Limits	
	Peak (dBµV/m)	Average (dBµV/m)
KDB 789033 D02 General UNII Test Procedures New Rules v02r01	74	54

§ 15.407

(b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15–5.25 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(2) For transmitters operating in the 5.25–5.35 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(3) For transmitters operating in the 5.47–5.725 GHz band: All emissions outside of the 5.47–5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(4) For transmitters operating in the 5.725–5.85 GHz band:

(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Procedure	Peak Limit (dBµV/m)
15.407(b)(1)	68.2
15.407(b)(2)	
15.407(b)(3)	
15.407(b)(4)	As stated above

1. The table height for emissions measurements
   i) Below 1 GHz, the table height is 80 cm above the reference ground plane.
   ii) Above 1 GHz, the table height is 1.5 m
2. Measurements performed with the EUT rotated from 0° to 360°, the antenna height scanned between 1m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

4.5 Test Data

Uncertainty

Radiated Emissions (30MHz to 40GHz)

Test Engineer Initials: SS/AB

The test is to measure the radiated emissions of the EUT. Some error sources that can contribute to the total uncertainty:

- Uncertainty of the receiver
- Uncertainty of the antenna
- Uncertainty of cables
- Uncertainty due to the mismatches
- NSA Calibration
- Etc., details see the below table

30MHz to 1GHZ

Source of Uncertainty	Value (dB)	ProbabilityDistribution	Division	Sensitivity Coefficient	Expanded Uncertainty
Receiver Reading	0.12	Rectangular	1.732	1	0.069284
Cable Insertion Loss	0.21	Normal	2	1	0.105
Filter Insertion Loss	0.25	Normal	2	1	0.125
Antenna Factor	0.65	Normal	2	1	0.325
Receiver CW accuracy	0.5	Rectangular	1.732	1	0.2886836
Pulse Amplitude Response	1.5	Rectangular	1.732	1	0.86605081
PRF Response	1.5	Rectangular	1.732	1	0.86605081
Mismatch Filter – Receiver	0.25	U-Shape	2.449	1	0.1768033
NSA Calibration	4.0	Triangular	1.414	1	1.633332
ETS Foam Table (LDT-1.5)	1.8	Rectangular	1.732	1	1.039261
Combined Standard Uncertainty (square root of the sum of the squares)					2.113781
Expanded Uncertainty (K=2)					**4.227562**

The total derived measurement uncertainty is +/- 4.228 dB

1GHz to 40GHz

Source of Uncertainty	Value (dB)	Probability Distribution	Division	Sensitivity Coefficient	Expanded Uncertainty
Receiver Reading	0.12	Rectangular	1.732	1	0.069284
Cable Insertion Loss	0.21	Normal	2	1	0.105000
Filter Insertion Loss	0.25	Normal	2	1	0.125000
Antenna Factor	0.65	Normal	2	1	0.325000
Receiver CW accuracy	0.5	Rectangular	1.732	1	0.2886836
Pulse Amplitude Response	1.5	Rectangular	1.732	1	0.866051
PRF Response	1.5	Rectangular	1.732	1	0.866051
Mismatch Filter – Receiver	0.25	U-Shape	1.414	1	0.176803
VSWR Calibration	2.0	Triangular	2.449	1	0.816659
ETS Foam Table (LDT-1.5)	1.8	Rectangular	1.732	1	1.039261
Combined Standard Uncertainty (square root of the sum of the squares)					1.869213
Expanded Uncertainty (K=2)					**3.738426**

The total derived measurement uncertainty is +/- 3.738 dB.

Remarks:

1. Level Q-Peak Reading (dBµV/m) = Raw Q-Peak Level + Correction Factor
2. Correction Factor (dB) = Antenna Factor + Cable Loss – Preamplifier Gain
3. Margin = Level Q-Peak Reading – Limit

Remarks:

1. Level Peak Reading (dBµV/m) = Raw Peak Level + Correction Factor
2. Correction Factor (dB) = Antenna Factor + Cable Loss – Preamplifier Gain
3. Margin = Level Peak Reading – Limit

Remarks:

1. Level Average Reading (dBµV/m) = Raw Average Level + Correction Factor
2. Correction Factor (dB) = Antenna Factor + Cable Loss – Preamplifier Gain
3. Margin = Level Average Reading – Limit

4.5.1 R1 INT ER 3B HW4

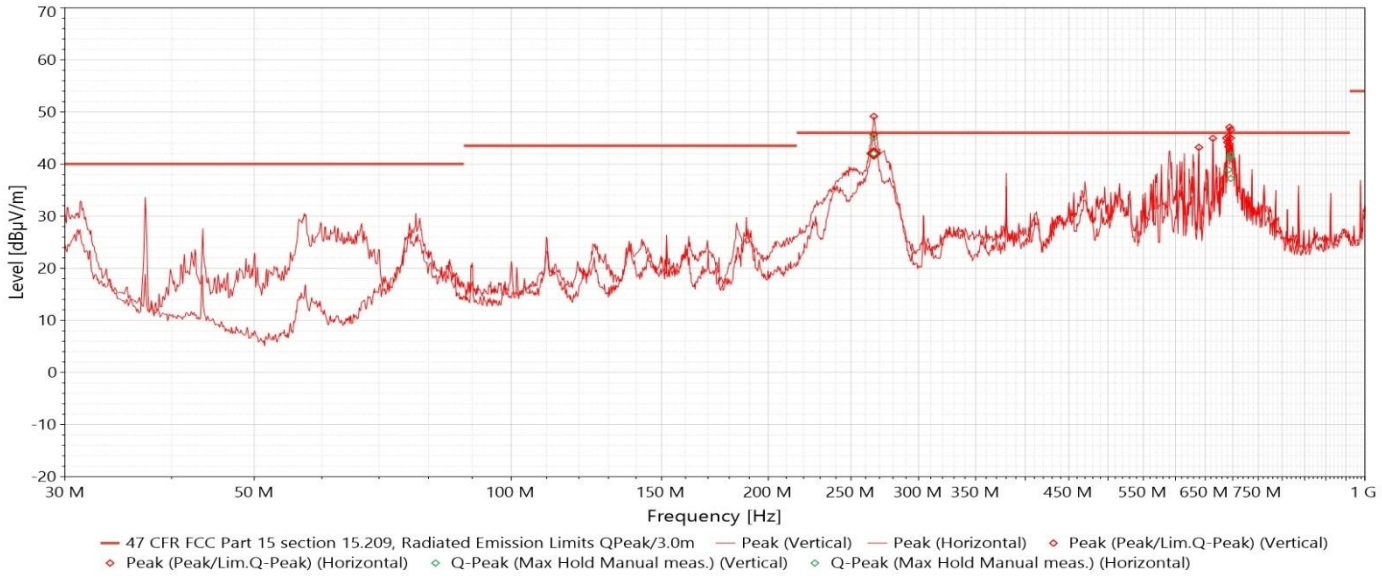
4.5.1.1 Bluetooth Classic + WLAN 2.4G + WLAN 5G

J23134 ER 3B#001_BT-3DH1-CH0_2.4G-802.11g-6Mbps-CH6_5G-802.11ac-MCS0-CH165_30MHz-1GHz

5/7/2025 4:26:02 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	265.83799MHz	42.02	-12.86	46.00	-3.98	1.25	354.90	Vertical	Passed
2.	696.08683MHz	37.22	-4.10	46.00	-8.78	1.50	40.10	Vertical	Passed
3.	265.89505MHz	45.10	-12.16	46.00	-0.90	1.00	128.90	Horizontal	Passed
4.	692.09248MHz	38.91	-2.90	46.00	-7.09	1.25	46.10	Horizontal	Passed
5.	694.03259MHz	41.12	-2.90	46.00	-4.88	1.25	58.10	Horizontal	Passed
6.	696.08683MHz	41.76	-2.89	46.00	-4.24	1.25	58.10	Horizontal	Passed

Overall Graphs:



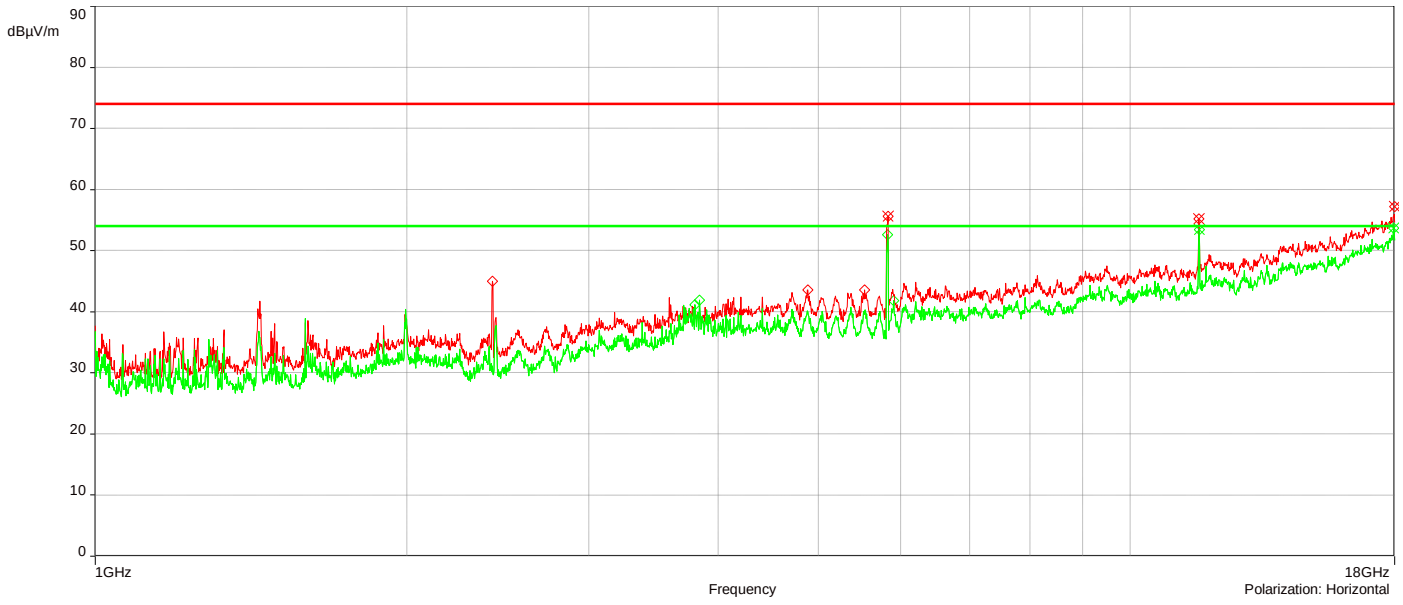
J23134 ER 3B#001_BT-3DH1-CH0_2.4G-802.11g-6Mbps-CH6_5G-802.11ac-MCS0-CH165_1-18GHz

5/6/2025 10:39:58 AM

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.828642GHz	49.56	7.10	74.00	-24.44	1.00	161.60	Vertical	Passed
2.	11.651813GHz	56.44	12.83	74.00	-17.56	4.00	69.00	Vertical	Passed
3.	17.996GHz	56.05	22.64	74.00	-17.95	1.50	141.00	Vertical	Passed
4.	5.8326421GHz	55.66	7.14	74.00	-18.34	1.00	36.00	Horizontal	Passed
5.	11.647313GHz	55.17	12.84	74.00	-18.83	1.00	83.80	Horizontal	Passed
6.	17.996GHz	57.22	22.60	74.00	-16.78	3.00	30.20	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	3.9810877GHz	32.26	3.49	54.00	-21.74	1.00	0.10	Vertical	Passed
2.	3.9990882GHz	32.24	3.51	54.00	-21.76	1.00	0.10	Vertical	Passed
3.	11.651813GHz	44.25	12.83	54.00	-9.75	4.00	69.00	Vertical	Passed
4.	17.964999GHz	53.05	21.98	54.00	-0.95	4.00	181.70	Vertical	Passed
5.	11.651813GHz	43.74	12.86	54.00	-10.26	4.00	359.90	Horizontal	Passed
6.	17.964999GHz	53.21	21.94	54.00	-0.79	4.00	359.90	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
1GHz
18GHz
Frequency
Polarization: Vertical

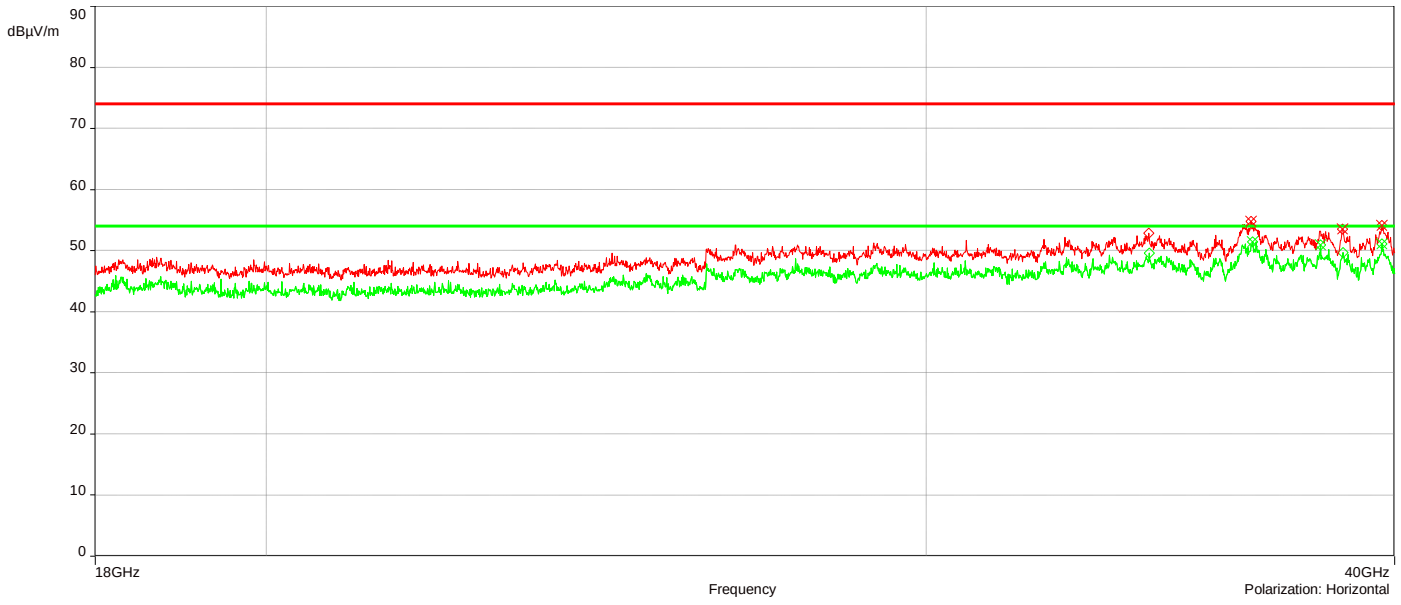
J23134 ER 3B#001_BT-3DH1-CH0_2.4G-802.11g-6Mbps-CH6_5G-802.11ac-MCS0-CH165_18-40GHz

5/2/2025 11:13:08 AM

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	36.46242GHz	54.37	5.13	74.00	-19.63	3.11	314.90	Vertical	Passed
2.	38.736971GHz	53.68	7.34	74.00	-20.32	1.85	202.40	Vertical	Passed
3.	39.693993GHz	53.91	8.29	74.00	-20.09	1.40	44.90	Vertical	Passed
4.	36.618423GHz	54.79	4.59	74.00	-19.21	3.98	89.90	Horizontal	Passed
5.	38.742971GHz	53.53	7.43	74.00	-20.47	2.55	22.40	Horizontal	Passed
6.	39.692493GHz	54.12	8.27	74.00	-19.88	2.61	314.90	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	36.48892GHz	51.70	4.75	54.00	-2.30	2.83	337.40	Vertical	Passed
2.	38.412464GHz	50.51	6.51	54.00	-3.49	1.05	67.40	Vertical	Passed
3.	39.731494GHz	51.30	8.18	54.00	-2.70	1.44	157.40	Vertical	Passed
4.	36.656924GHz	51.44	4.76	54.00	-2.56	1.82	224.90	Horizontal	Passed
5.	38.21946GHz	50.96	7.02	54.00	-3.04	3.48	337.40	Horizontal	Passed
6.	39.692493GHz	51.10	8.27	54.00	-2.90	2.61	314.90	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
18GHz
Frequency
40GHz
Polarization: Vertical

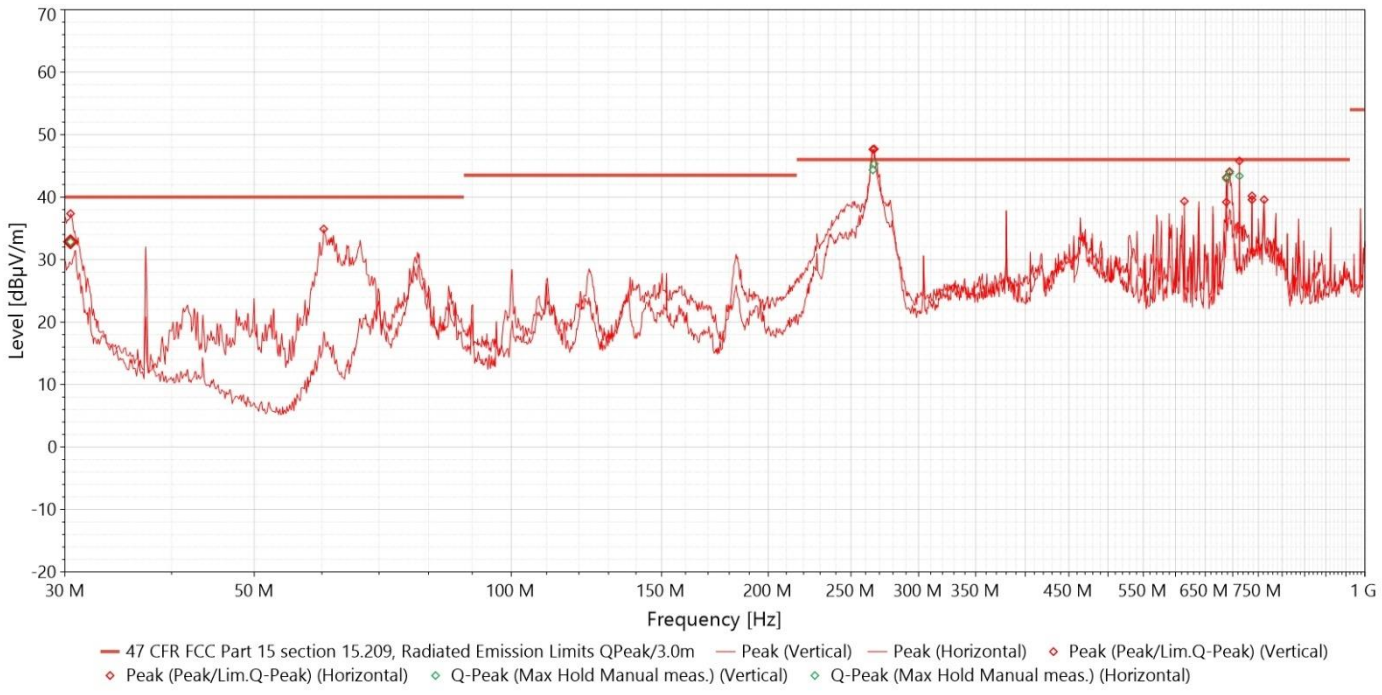
4.5.1.2 WLAN 2.4G + WLAN 5G

J23134 ER 3B#001_2.4G-802.11g-6Mbps-CH6_5G-802.11ac-MCS0-CH165_30MHz-1GHz

5/7/2025 1:04:25 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	30.456497MHz	32.85	-7.08	40.00	-7.15	1.00	101.90	Vertical	Passed
2.	265.21031MHz	44.34	-12.87	46.00	-1.66	1.00	130.10	Vertical	Passed
3.	266.23743MHz	45.34	-12.16	46.00	-0.66	1.25	318.10	Horizontal	Passed
4.	688.09812MHz	42.93	-3.02	46.00	-3.07	1.25	54.10	Horizontal	Passed
5.	694.03259MHz	43.87	-2.90	46.00	-2.13	1.25	60.90	Horizontal	Passed
6.	712.74898MHz	43.38	-2.70	46.00	-2.62	1.25	26.10	Horizontal	Passed

Overall Graphs:



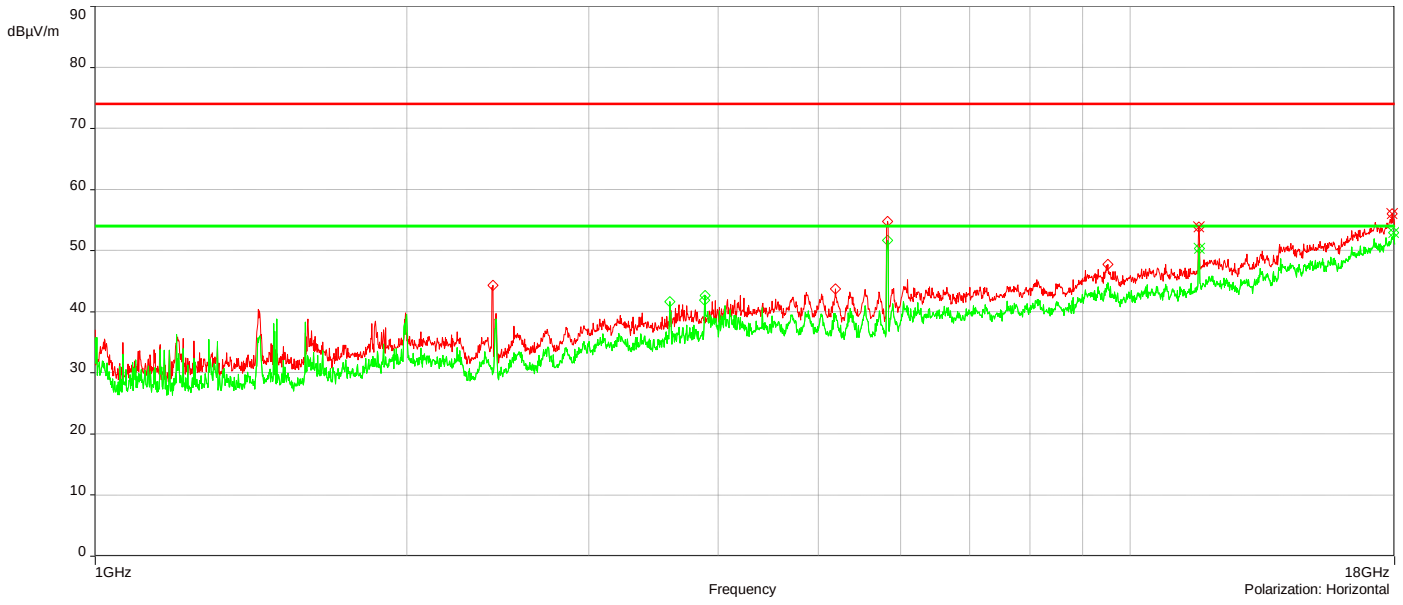
J23134 ER 3B#001_2.4G-802.11g-6Mbps-CH6_5G-802.11ac-MCS0-CH165_1-18GHz

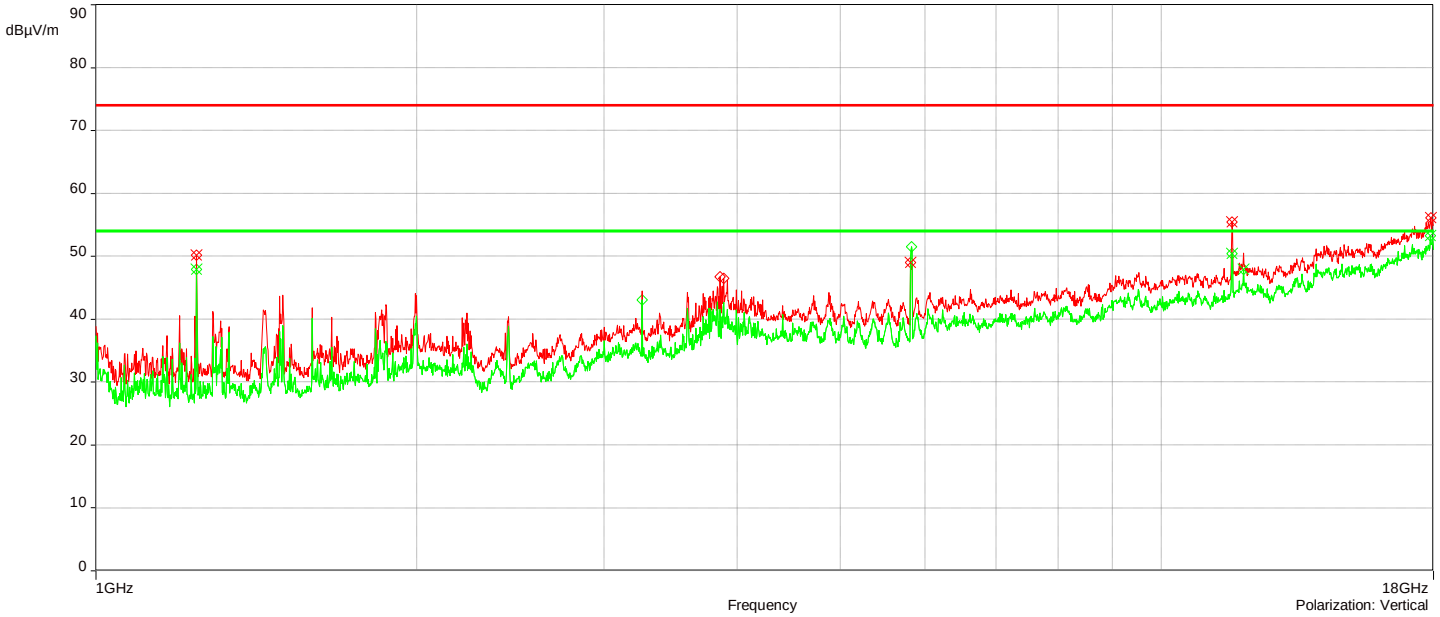
5/6/2025 11:09:27 AM

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
7.	1.2425071GHz	50.20	-7.78	74.00	-23.80	3.50	239.70	Vertical	Passed
8.	5.8166417GHz	49.05	7.05	74.00	-24.95	1.00	162.00	Vertical	Passed
9.	11.647813GHz	55.48	12.81	74.00	-18.52	1.50	33.60	Vertical	Passed
10.	17.890497GHz	56.13	21.09	74.00	-17.87	1.50	99.70	Vertical	Passed
11.	11.644313GHz	53.87	12.82	74.00	-20.13	1.50	297.50	Horizontal	Passed
12.	17.888497GHz	56.09	21.18	74.00	-17.91	2.50	0.20	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
7.	1.2425071GHz	22.63	-7.78	54.00	-31.37	3.50	239.70	Vertical	Passed
8.	11.647813GHz	47.23	12.81	54.00	-6.77	1.50	33.60	Vertical	Passed
9.	11.939322GHz	43.46	13.57	54.00	-10.54	1.50	71.80	Vertical	Passed
10.	17.883497GHz	52.85	21.07	54.00	-1.15	3.50	353.30	Vertical	Passed
11.	11.657813GHz	43.39	12.89	54.00	-10.61	4.00	359.90	Horizontal	Passed
12.	17.963499GHz	53.07	21.91	54.00	-0.93	3.00	359.90	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
1GHz
Frequency
18GHz
Polarization: Vertical

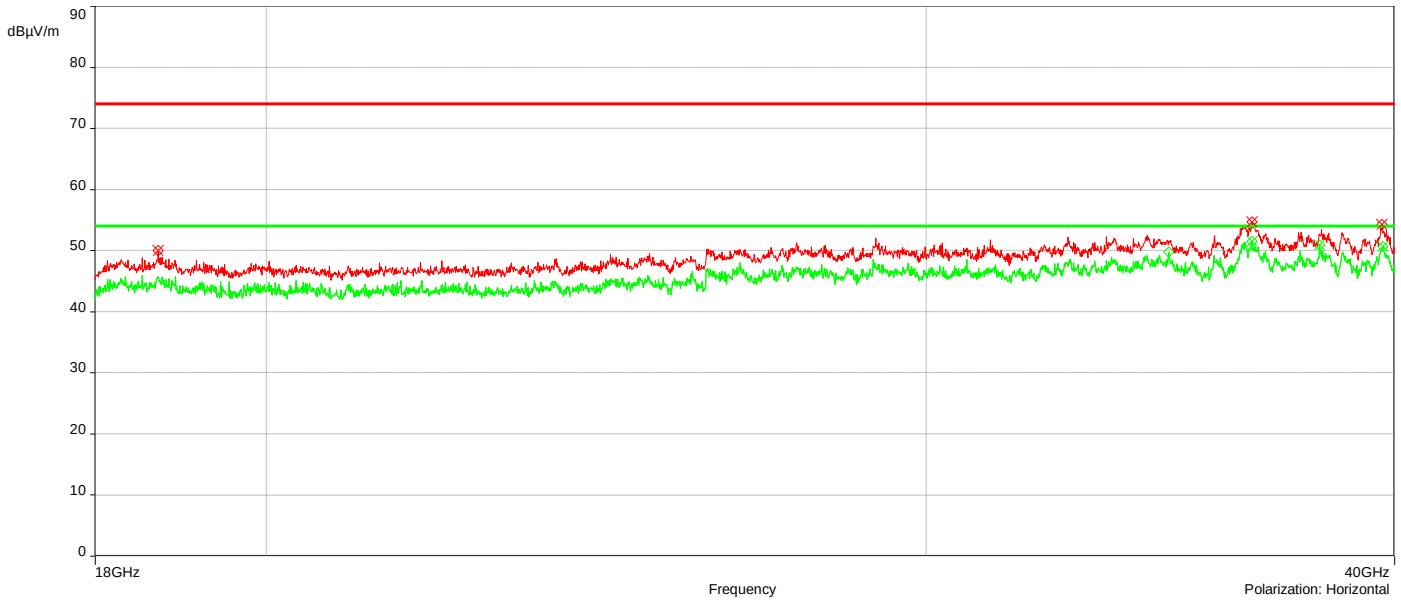
J23134 ER 3B#001_2.4G-802.11g-6Mbps-CH6_5G-802.11ac-MCS0-CH165_18-40GHz

5/2/2025 10:48:32 AM

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	34.27937GHz	53.20	7.24	74.00	-20.80	1.49	0.00	Vertical	Passed
2.	36.652424GHz	54.17	4.74	74.00	-19.83	1.03	22.70	Vertical	Passed
3.	39.679493GHz	54.09	8.05	74.00	-19.91	1.26	315.10	Vertical	Passed
4.	18.710516GHz	50.00	1.04	74.00	-24.00	1.84	22.70	Horizontal	Passed
5.	36.644924GHz	54.71	4.72	74.00	-19.29	1.65	67.60	Horizontal	Passed
6.	39.687993GHz	54.28	8.24	74.00	-19.72	3.87	225.00	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	36.453419GHz	51.33	5.26	54.00	-2.67	2.17	157.50	Vertical	Passed
2.	38.744971GHz	49.81	7.50	54.00	-4.19	1.59	292.60	Vertical	Passed
3.	39.688993GHz	51.07	8.24	54.00	-2.93	3.49	67.60	Vertical	Passed
4.	36.644924GHz	51.50	4.72	54.00	-2.50	1.65	67.60	Horizontal	Passed
5.	38.199959GHz	50.94	7.11	54.00	-3.06	3.09	90.20	Horizontal	Passed
6.	39.715494GHz	50.73	8.24	54.00	-3.27	2.91	225.00	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
18GHz
Frequency
40GHz
Polarization: Vertical

4.5.2 R1 INT RW 3B HW4

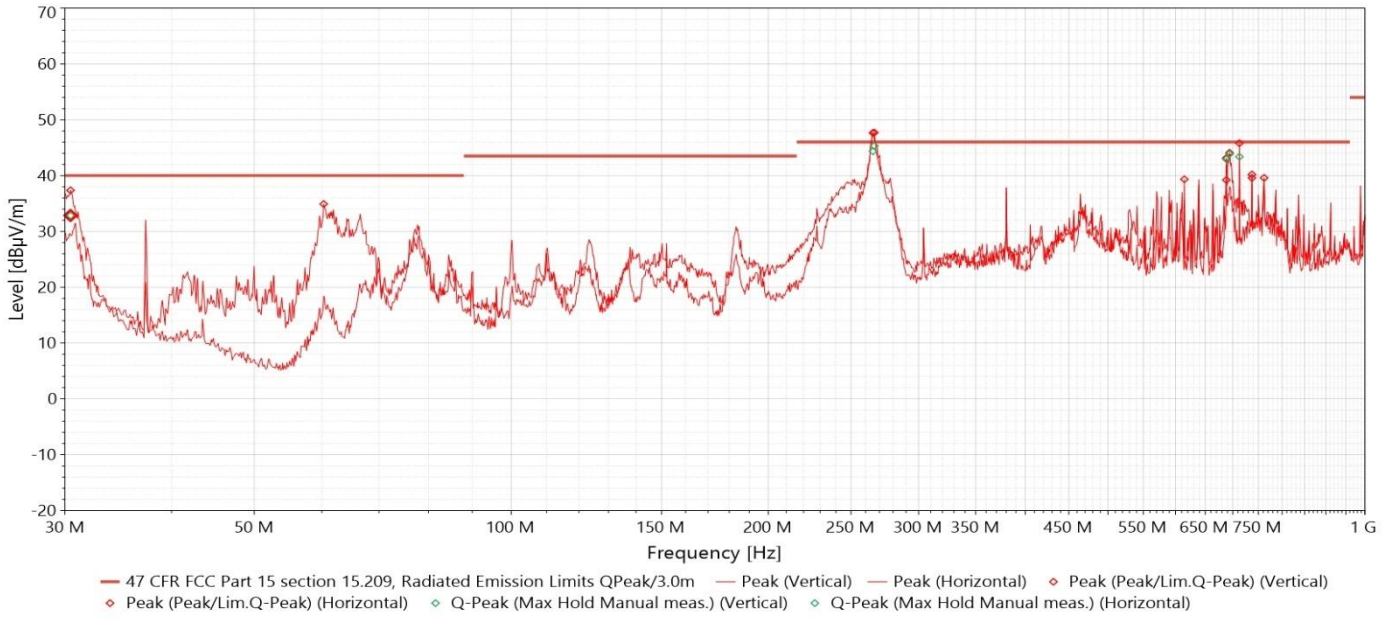
4.5.2.1 Bluetooth Classic + WLAN 2.4G + WLAN 5G

J23134 RW 3B#001_BT-3DH1-CH0_2.4G-802.11b-1Mbps-CH6_5G-802.11ac-MCS0-CH165_30MHz-1GHz

5/7/2025 3:18:46 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	261.55833MHz	40.56	-12.98	46.00	-5.44	1.00	337.90	Vertical	Passed
2.	265.6668MHz	45.18	-12.16	46.00	-0.82	1.00	108.10	Horizontal	Passed
3.	704.07553MHz	40.24	-2.74	46.00	-5.76	1.00	67.90	Horizontal	Passed
4.	706.07271MHz	39.88	-2.85	46.00	-6.12	1.25	40.10	Horizontal	Passed
5.	708.06989MHz	38.61	-2.73	46.00	-7.39	1.00	59.10	Horizontal	Passed
6.	710.06706MHz	40.24	-2.72	46.00	-5.76	1.00	62.10	Horizontal	Passed

Overall Graphs:



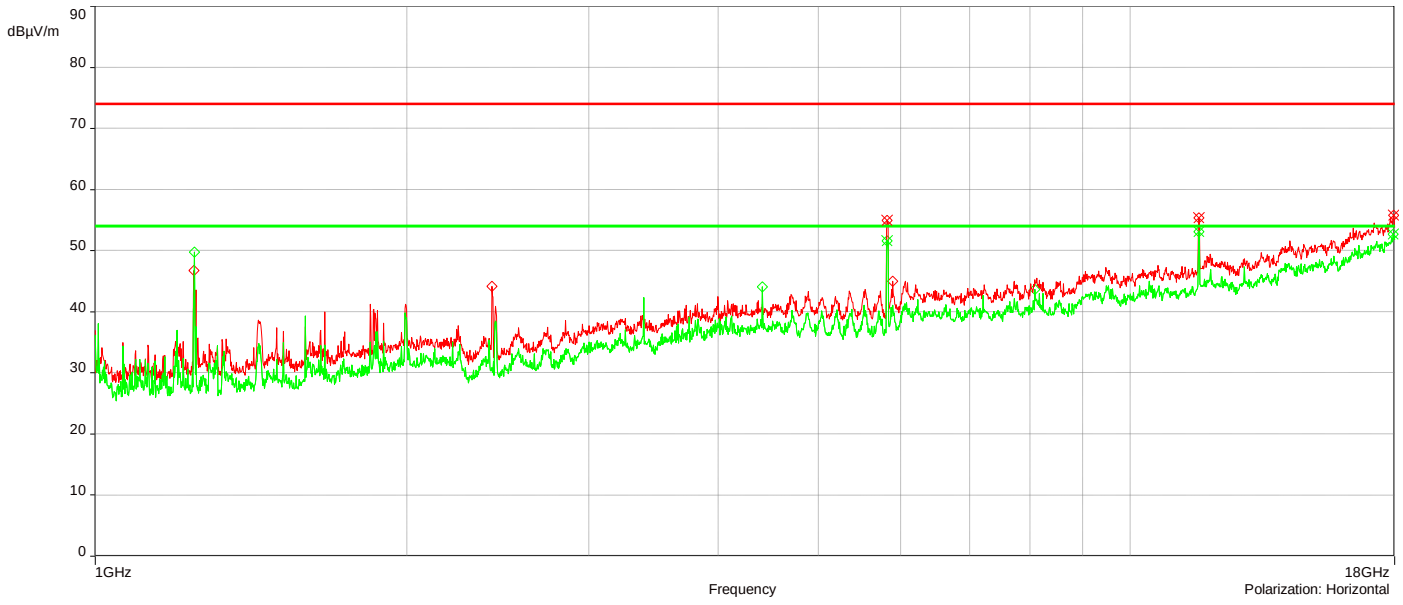
J23134 RW 3B#001_BT-3DH1-CH0_2.4G-802.11b-1Mbps-CH6_5G-802.11ac-MCS0-CH165_1-18GHz

5/6/2025 11:48:50 AM

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	1.2465073GHz	52.31	-7.75	74.00	-21.69	3.00	245.20	Vertical	Passed
2.	11.640813GHz	57.33	12.78	74.00	-16.67	4.00	58.30	Vertical	Passed
3.	18GHz	55.94	22.72	74.00	-18.06	4.00	197.10	Vertical	Passed
4.	5.8171417GHz	54.98	7.06	74.00	-19.02	1.50	38.20	Horizontal	Passed
5.	11.649313GHz	55.41	12.85	74.00	-18.59	1.00	315.60	Horizontal	Passed
6.	17.965499GHz	55.79	21.96	74.00	-18.21	4.00	185.10	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.8196418GHz	36.25	7.06	54.00	-17.75	1.50	0.20	Vertical	Passed
2.	11.651313GHz	49.51	12.82	54.00	-4.49	4.00	58.30	Vertical	Passed
3.	17.940998GHz	52.53	21.51	54.00	-1.47	3.00	95.30	Vertical	Passed
4.	5.8181417GHz	48.70	7.06	54.00	-5.3	1.00	45.20	Horizontal	Passed
5.	11.651313GHz	43.77	12.86	54.00	-10.23	4.00	0.00	Horizontal	Passed
6.	17.931498GHz	52.86	21.40	54.00	-1.14	4.00	290.00	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
1GHz
Frequency
18GHz
Polarization: Vertical

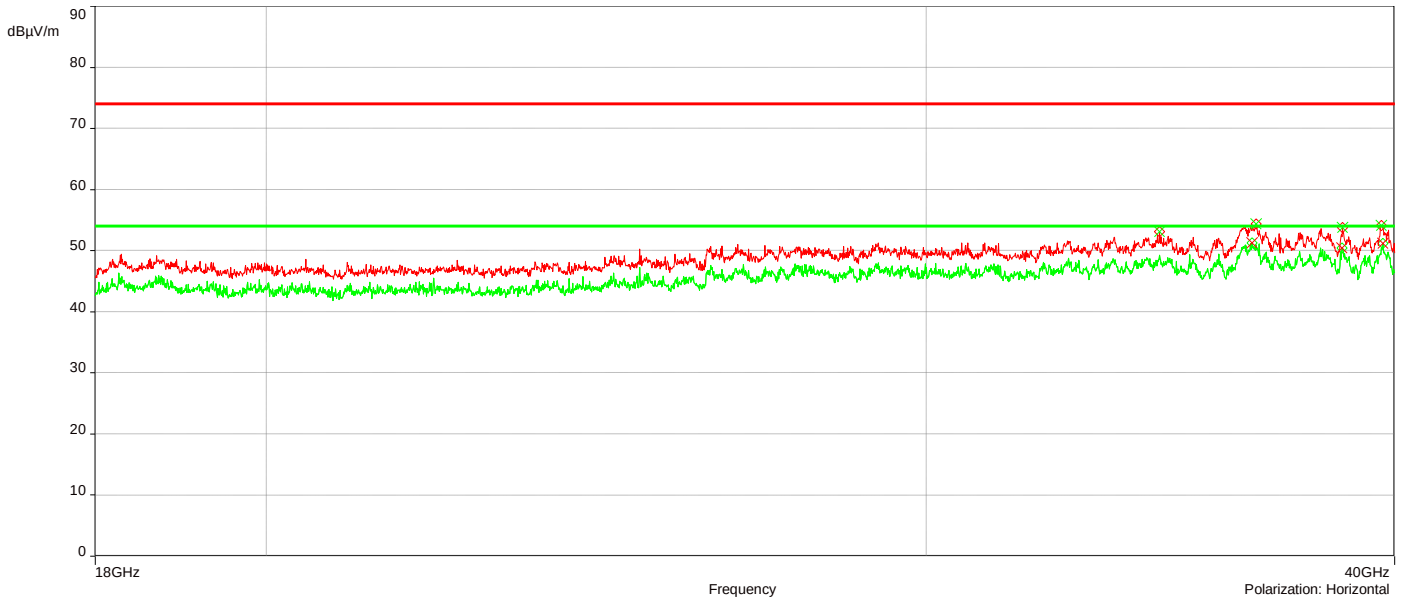
J23134 RW 3B#001_BT-3DH1-CH0_2.4G-802.11b-1Mbps-CH6_5G-802.11ac-MCS0-CH165_18-40GHz

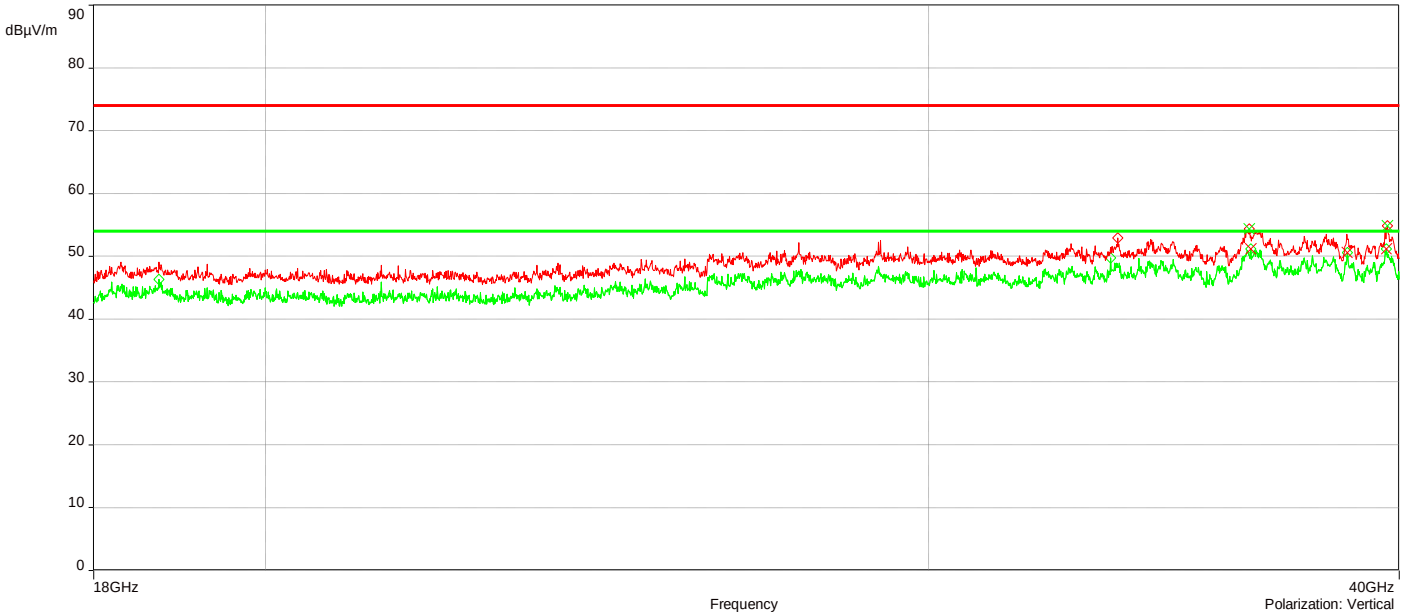
5/2/2025 10:21:00 AM

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	36.49242GHz	54.38	4.68	74.00	-19.62	1.03	89.90	Vertical	Passed
2.	39.716994GHz	54.86	8.27	74.00	-19.14	1.03	44.90	Vertical	Passed
3.	34.616878GHz	53.09	7.62	74.00	-20.91	3.59	269.90	Horizontal	Passed
4.	36.733426GHz	54.35	5.26	74.00	-19.65	2.72	112.40	Horizontal	Passed
5.	38.741471GHz	53.76	7.40	74.00	-20.24	4.00	67.40	Horizontal	Passed
6.	39.675493GHz	54.13	7.94	74.00	-19.87	2.00	89.90	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	36.526421GHz	51.22	3.71	54.00	-2.78	1.78	179.90	Vertical	Passed
2.	38.746972GHz	50.58	7.50	54.00	-3.42	3.97	247.40	Vertical	Passed
3.	39.687993GHz	51.19	8.24	54.00	-2.81	1.65	202.40	Vertical	Passed
4.	36.639924GHz	51.32	4.71	54.00	-2.68	2.36	292.40	Horizontal	Passed
5.	38.725971GHz	50.46	7.08	54.00	-3.54	3.31	157.40	Horizontal	Passed
6.	39.706993GHz	51.24	8.30	54.00	-2.76	1.41	0.20	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
18GHz
Frequency
40GHz
Polarization: Vertical

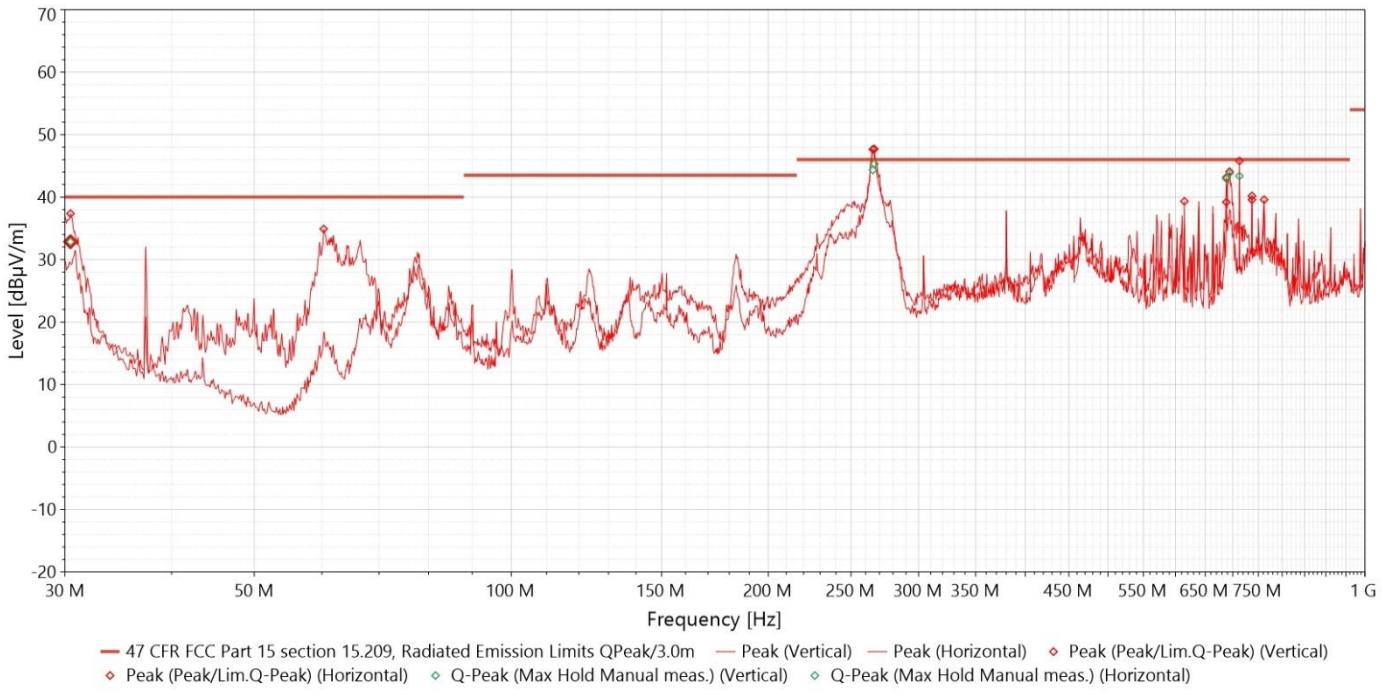
4.5.2.2 WLAN 2.4G + WLAN 5G

J23134 RW 3B#001_2.4G-802.11b-1Mbps-CH6_5G-802.11ac-MCS0-CH165_30MHz-1GHz

5/7/2025 3:46:21 PM

No	Frequency (MHz)	Level Q-Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	264.75381MHz	41.16	-12.88	46.00	-4.84	1.75	358.90	Vertical	Passed
2.	264.925MHz	45.47	-12.19	46.00	-0.53	1.00	112.90	Horizontal	Passed
3.	704.07553MHz	38.55	-2.74	46.00	-7.45	1.25	39.10	Horizontal	Passed
4.	706.07271MHz	39.01	-2.85	46.00	-6.99	1.00	59.10	Horizontal	Passed
5.	712.74898MHz	39.20	-2.70	46.00	-6.80	1.25	50.90	Horizontal	Passed
6.	749.26878MHz	35.15	-2.11	46.00	-10.85	1.25	0.10	Horizontal	Passed

Overall Graphs:



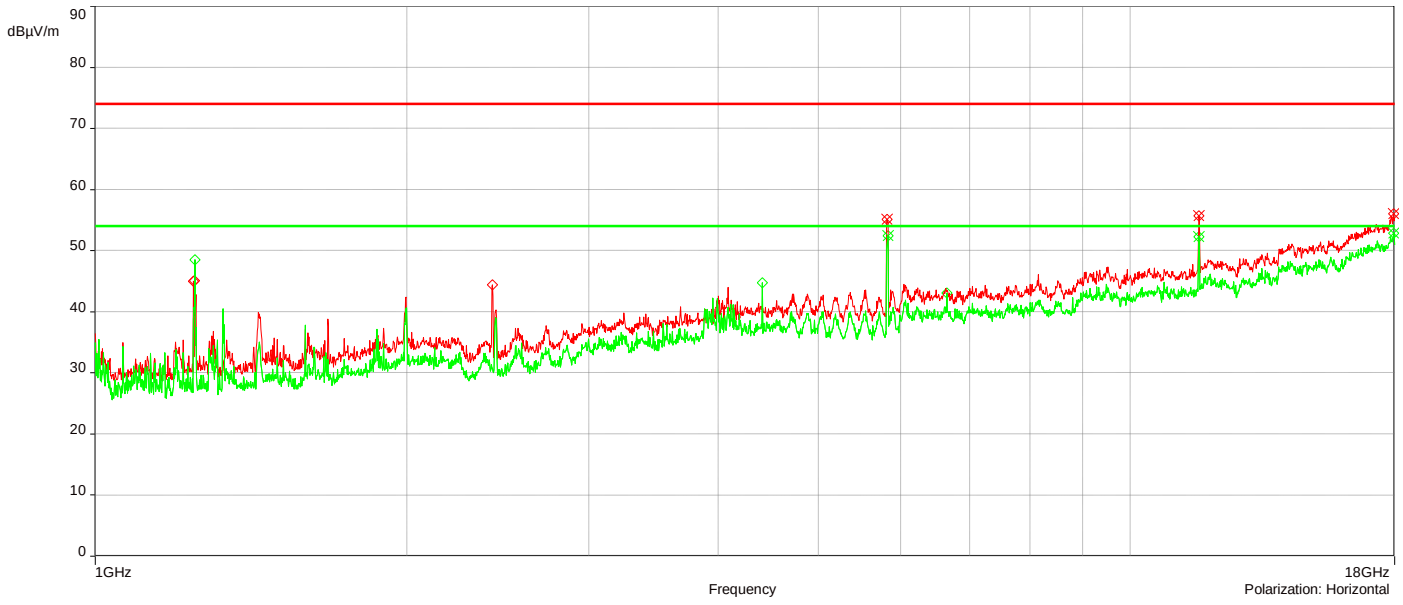
J23134 RW 3B#001_2.4G-802.11b-1Mbps-CH6_5G-802.11ac-MCS0-CH165_1-18GHz

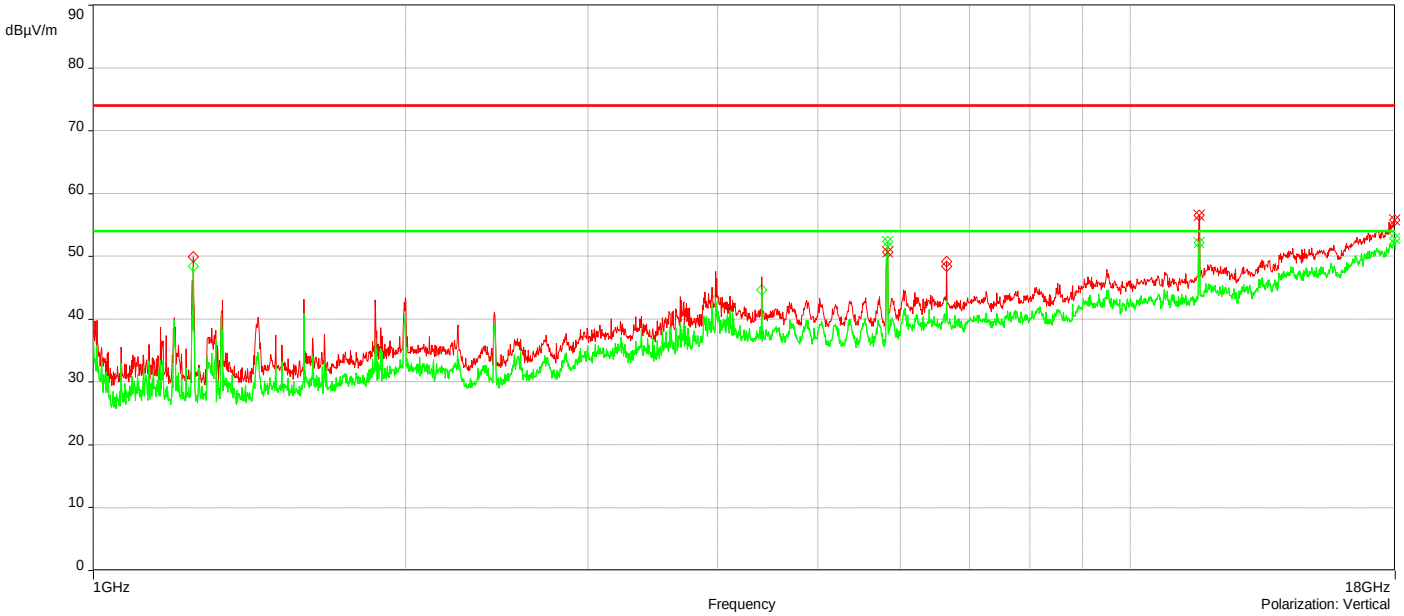
5/6/2025 12:09:27 PM

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	5.8331422GHz	50.71	7.12	74.00	-23.29	1.00	161.50	Vertical	Passed
2.	11.650813GHz	56.54	12.82	74.00	-17.46	1.50	34.20	Vertical	Passed
3.	17.981499GHz	55.77	22.36	74.00	-18.23	1.50	204.40	Vertical	Passed
4.	5.8211418GHz	55.11	7.08	74.00	-18.89	1.50	50.30	Horizontal	Passed
5.	11.650813GHz	55.71	12.86	74.00	-18.29	1.00	305.30	Horizontal	Passed
6.	17.962499GHz	56.03	21.89	74.00	-17.97	1.50	307.80	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	5.8321421GHz	35.33	7.12	54.00	-18.67	1.50	0.00	Vertical	Passed
2.	11.648813GHz	47.60	12.81	54.00	-6.4	3.00	42.60	Vertical	Passed
3.	17.970999GHz	52.99	22.12	54.00	-1.01	3.00	244.60	Vertical	Passed
4.	5.8321421GHz	48.92	7.14	54.00	-5.08	1.50	41.20	Horizontal	Passed
5.	11.650313GHz	46.82	12.85	54.00	-7.18	1.00	71.10	Horizontal	Passed
6.	17.954999GHz	53.12	21.71	54.00	-0.88	4.00	0.10	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
1GHz
Frequency
18GHz
Polarization: Vertical

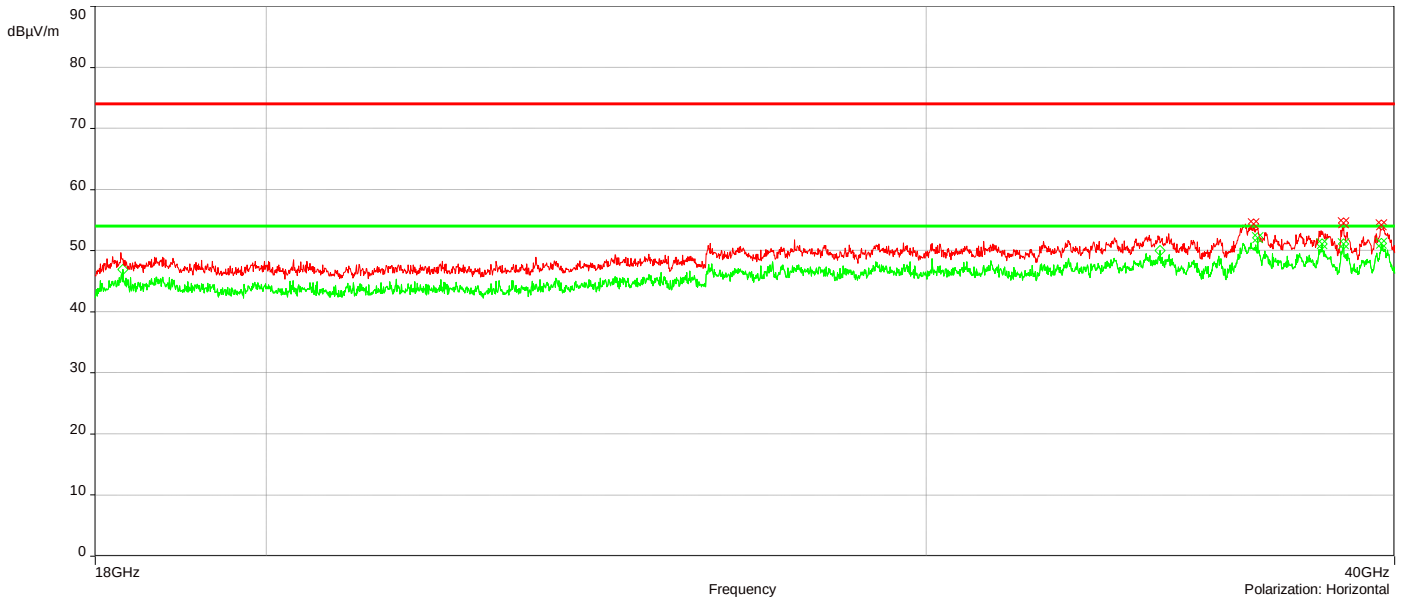
J23134 RW 3B#001_2.4G-802.11b-1Mbps-CH6_5G-802.11ac-MCS0-CH165_18-40GHz

5/2/2025 9:56:34 AM

No	Frequency (MHz)	Level Peak Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgement
1.	34.306371GHz	53.44	7.50	74.00	-20.56	4.00	337.40	Vertical	Passed
2.	36.664424GHz	54.99	4.79	74.00	-19.01	2.74	67.70	Vertical	Passed
3.	39.720994GHz	54.80	8.25	74.00	-19.20	3.96	337.40	Vertical	Passed
4.	36.673924GHz	54.38	4.83	74.00	-19.62	2.52	225.00	Horizontal	Passed
5.	38.768472GHz	54.52	6.93	74.00	-19.48	2.39	337.40	Horizontal	Passed
6.	39.679993GHz	54.21	8.07	74.00	-19.79	2.16	90.00	Horizontal	Passed

No	Frequency (MHz)	Level Average Reading (dBµV/m)	Correction Factor (dB)	Limit dBµV/m	Margin (dB)	Height (m)	Angle (°)	Polarization	Judgment
1.	36.436419GHz	51.86	5.16	54.00	-2.14	3.42	337.40	Vertical	Passed
2.	39.705493GHz	52.98	8.32	54.00	-1.02	2.92	157.60	Vertical	Passed
3.	36.766927GHz	52.08	5.45	54.00	-1.92	1.58	225.00	Horizontal	Passed
4.	38.25646GHz	51.11	6.68	54.00	-2.89	1.97	225.00	Horizontal	Passed
5.	38.768472GHz	51.15	6.93	54.00	-2.85	2.39	337.40	Horizontal	Passed
6.	39.675493GHz	51.23	7.94	54.00	-2.77	3.00	292.60	Horizontal	Passed

Overall Graphs:




dBµV/m
90
80
70
60
50
40
30
20
10
0
18GHz
Frequency
40GHz
Polarization: Vertical

Document Revisions

Version	Date	Modifier	Changes
1.0	05-09-2025	Aravind Buddana	• Initial Draft

End of document