

December 28, 2021

SyncWise
Todd Nowak
2308 Kettner Blvd., Suite B
San Diego, CA 92101

Dear Todd Nowak,

Enclosed is the EMC Wireless test report for compliance testing of the SyncWise, T10-R Tablet as tested to the requirements of the 47 CFR FCC Part 15, Subpart E (Section 15.407), RSS-247 issue 2 Feb. 2017.

Thank you for using the services of Eurofins Electrical and Electronic Testing NA, Inc. Please contact me if you have any questions regarding these results or if Eurofins E&E can be of further service to you.

Sincerely yours,

Rheine Nguyen

Documentation Department
Eurofins Electrical and Electronic Testing NA, Inc.

Reference: (\Syncwise\WIRS115230-FCC RSS WIFI 5G)



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FCC/ ISED Test Report

for the

**SyncWise
T10-R Tablet**

**Tested under
FCC Part 15, Subpart E §15.407
RSS-247 issue 2 Feb. 2017
RSS-Gen. issue 5, Amendment 1, March 2019
ANSI C63.10:2013**

Report: WIR115230-FCC RSS WIFI 5G

Prepared For:

**SyncWise
2308 Kettner Blvd., Suite B
San Diego, CA 92101**

**Prepared By:
Eurofins Electrical and Electronic Testing NA, Inc.
3162 Belick St.
Santa Clara CA, 95054**

FCC/ ISED Test Report

for the

**SyncWise
T10-R Tablet**

Standard

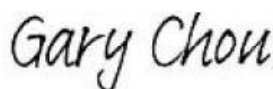
FCC Part 15, Subpart E §15.407

RSS-247 issue 2 Feb. 2017

RSS-Gen. issue 5, Amendment 1, March 2019

ANSI C63.10:2013

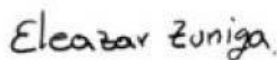
Report: WIR115230-FCC RSS WIFI 5G



Gary Chou

Wireless Engineering Manager, Wireless Laboratory

Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of Part 22 Subpart H and Part 24 Subpart E and Part 27 Subpart L of the FCC Rules under normal use and maintenance.



Eleazar Zuniga,
Director, Wireless Laboratory

Report Status Sheet

Revision	Report Date	Reason for Revision
Ø	December 28, 2021	Initial Issue.

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I. Executive Summary

A. Purpose of Test

An EMC evaluation was performed to determine compliance of the Syncwise, T10-R Tablet, with the requirements of FCC Part 15.407, RSS-247. All references are to the most current version of Title 47 of the Code of Federal Regulations in effect. In accordance with PVG-04 technical requirements, the following data is presented in support of the Certification of the T10-R Tablet. Syncwise should retain a copy of this document which should be kept on file for at least two years after the manufacturing of the T10-R Tablet, has been **permanently** discontinued.

B. Executive Summary

The following tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 15.407, RSS-247 in accordance with Syncwise, purchase order number 1084. All tests were conducted using measurement procedure.

FCC Reference	Description	Compliance
§ 15.209(a) § 15.205(a) § 15.407 (b)	Spurious Radiated Emissions	Compliant
RSS Reference	Description	Compliance
RSS-247 §6.2.1~ 4 (2)	Radiated Spurious Emissions	Compliant

Note: For other test information please refer to FCC ID : XMR201706SC20A report/ ISED ID: 10224A-201707SC20A

Rationale:

Per KDB 996309 D04 “Modular Transmitter Integration Guide – Guidance for Host Product Manufacturers” only spot checks are reported in this filing

II. Equipment Information

A. Overview

Eurofins Electrical and Electronic Testing NA, Inc. was contracted by Syncwise to perform testing on the T10-R Tablet, under purchase order number 1084.

This document describes the test setups, test methods, required test equipment, and the test limit criteria used to perform compliance testing of Syncwise, T10-R Tablet.

The results obtained relate only to the item(s) tested.

EUT Summary Table

Model(s) Tested:	T10-R Tablet	
Model(s) Covered:	T10-R Tablet	
Filing Status:	Original	
EUT Specifications:	Primary Power: Voltage: 12 V external power supply. AC or DC: DC Voltage Frequency: NA Number of Phases:1 Current: 0.5 Amp	
	Type of Modulations:	64QAM, 16QAM, QPSK, BPSK for OFDM
	Technology:	DSSS, OFDM
	TX Frequency Range:	802.11a, 802.11g, 802.11n (20MHz), 802.11n (40MHz)
	Product:	Tablet
	Brand:	SyncWise
	FCC ID:	2A3HW T10-R
	ISED ID:	10842AT10R
	Hardware Rev:	Syncwise 10R
	Firmware Rev:	0
	Antenna Name:	2.4/5.0/6.0 GHz ISM Flexible Polymer
	Antenna Manufacturer/Module:	J2J :2JF0202P
	Antenna Type:	Embedded Antenna
	Antenna port	U.FL

	Antenna Gain:	6.7 dBi
Analysis:	The results obtained relate only to the item(s) tested.	
Environmental Test Conditions:	Temperature: 15-35° C	
	Relative Humidity: 30-60%	
	Barometric Pressure: 860-1060 mbar	
Evaluated by:	Rafael Aguilar	
Date(s):	December 28, 2021	

General Description of Applied Standards

B. References

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart E §15.407

FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

RSS-247 issue 2 Feb. 2017

RSS-Gen. issue 5, Amendment 1, March 2019

ANSI C63.10:2013

C. Test Site

All testing was performed at Eurofins Electrical and Electronic Testing NA, Inc., 3162 Belick St. Santa Clara, CA 95054. All equipment used in making physical determinations is accurate and bears recent traceability to the National Institute of Standards and Technology.

Eurofins Electrical and Electronic Testing NA, Inc. has been accredited by the American Association for Laboratory Accreditation (A2LA) (Certificate #: 0591.02) in accordance with ISO/IEC 17025:2017.

Eurofins Electrical and Electronic Testing NA, Inc. is part of the Eurofins Electrical & Electronics (E&E) global compliance network.

D. Measurement Uncertainty

Test Method	Typical Expanded Uncertainty	K	Confidence Level
RF Frequencies	±4.52 Hz	2	95%
RF Power Conducted Emissions	±2.32 dB	2	95%
RF Power Conducted Spurious Emissions	±2.25 dB	2	95%
RF Power Radiated Emissions	±3.01 dB	2	95%

Uncertainty Calculations Summary**E. Modifications****a) Modifications to EUT**

No modifications were made to the EUT.

b) Modifications to Test Standard

No modifications were made to the test standard.

F. Disposition of EUT

The test sample including all support equipment (if any), submitted to the Electromagnetic Compatibility Lab for testing was returned to Syncwise upon completion of testing.

III. Electromagnetic Compatibility Criteria for Intentional Radiators

Radiated Emission and Bandage Measurement

Limits of Radiated Emission and Bandage Measurement:

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are 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.

Limits of unwanted emission out of the restricted bands:

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3m	
		PK:74 (dBμV/m)	AV:54 (dBμV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	☒ 15.407(b)(4)(i)	PK:-27 (dBm/MHz) ^{*1} PK:10 (dBm/MHz) ^{*2} PK:15.6 (dBm/MHz) ^{*3} PK:27 (dBm/MHz) ^{*4}	PK: 68.2(dBμV/m) ^{*1} PK:105.2 (dBμV/m) ^{*2} PK: 110.8(dBμV/m) ^{*3} PK:122.2 (dBμV/m) ^{*4}
	☐ 15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
^{*1} beyond 75 MHz or more above of the band edge.		^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

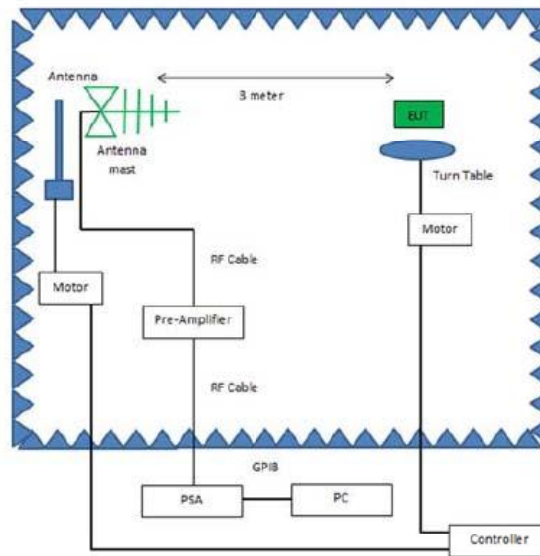
Note:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

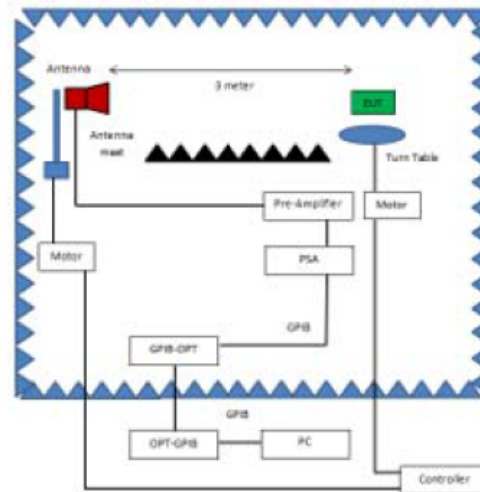
$$E = \frac{1000000}{3} \sqrt{30 P} \text{ } \mu\text{V/m, where P is the eirp (Watts).}$$

Test Procedures:

The transmitter was turned on. Measurements were performed of the low, mid and high Channels. The EUT was rotated orthogonally through all three axes. Plots shown are corrected for both antenna correction factor and distance and compared to a 3 m limit line. Only noise floor was measured above 18 GHz.



Radiated Emissions, Below 1GHz, Test Setup



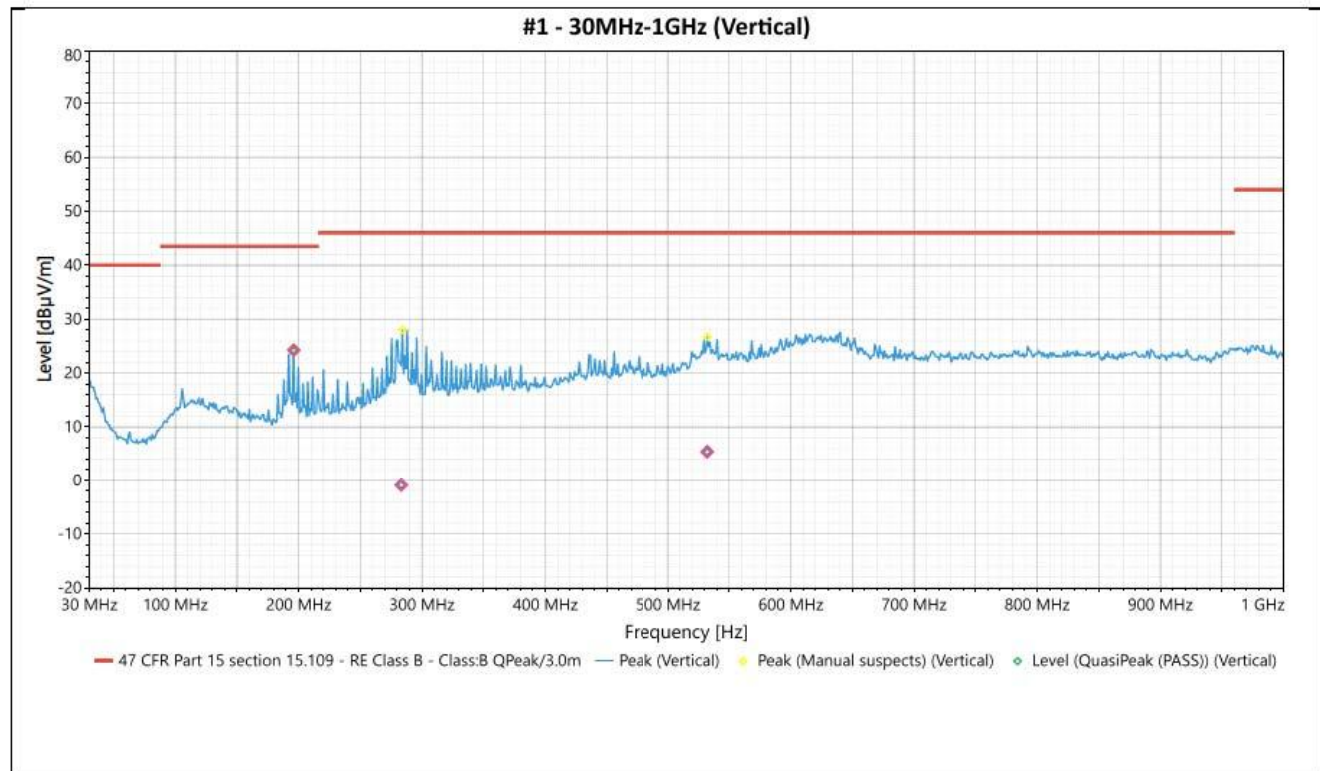
Radiated Emissions, Above 1GHz, Test Setup

Test Date(s): 10/27/2021

Test Data

Below 1GHz Worst-Case Data:

CHANNEL	802.11n Channel 40	DETECTOR FUNCTION	Quasi Peak
FREQUENCY RANGE	30MHz – 1GHz		



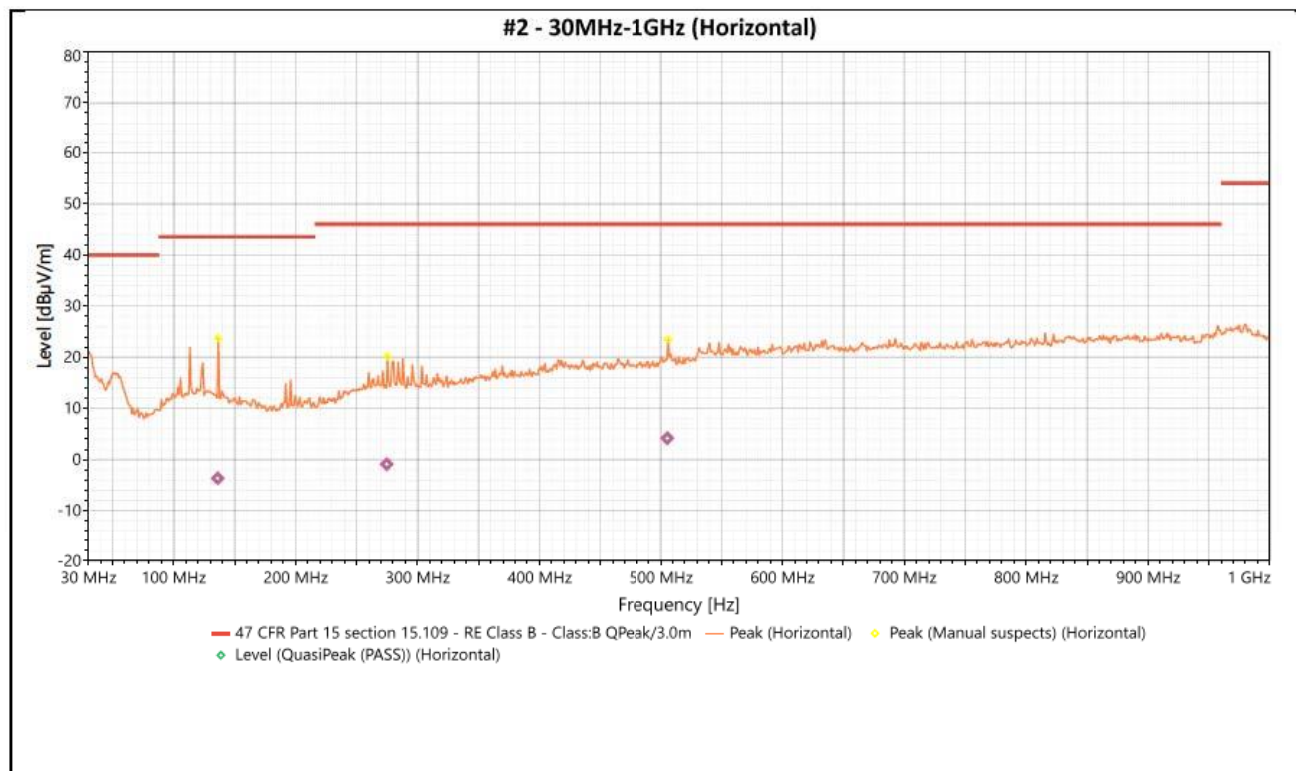
Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Pass/Fail
1	196.002	Vertical	24.231	43.5	-19.269	1.44	57	-15.6	Pass
2	283.276	Vertical	-0.925	46	-46.925	2.23	195	-12.26	Pass
3	532.148	Vertical	5.382	46	-40.618	2.84	135	-6.34	Pass

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Cable Loss (dB) + AF (dB)
2. AF (dB/m) = Antenna Factor (dB/m) – Preamplifier Gain (dB).
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

Below 1GHz Worst-Case Data:

CHANNEL	802.11n Channel 40	DETECTOR FUNCTION	Quasi Peak
FREQUENCY RANGE	30MHz – 1GHz		



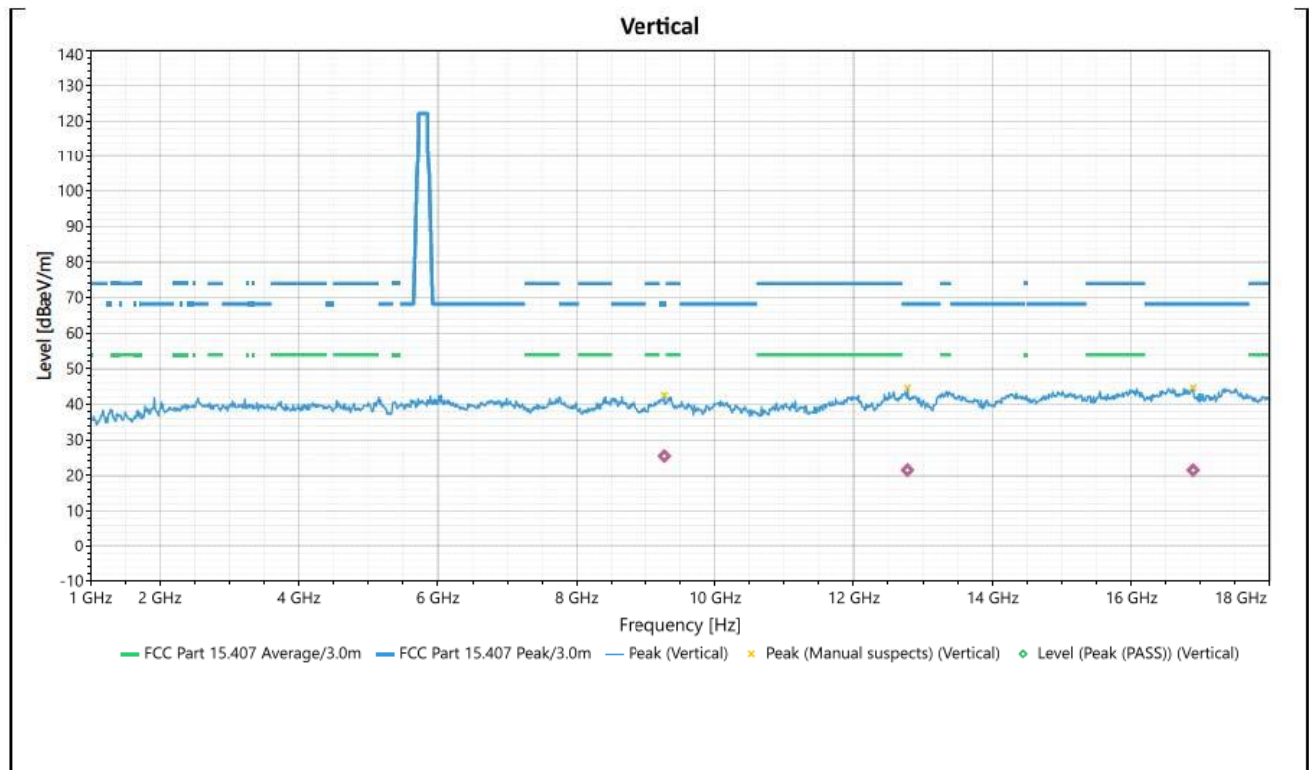
Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Pass/Fail
1	136.22	Horizontal	-3.664	43.5	-47.164	3.85	58	-13.71	Pass
2	274.678	Horizontal	-0.922	46	-46.922	1.81	33	-11.99	Pass
3	505.502	Horizontal	4.172	46	-41.828	1.64	226	-7.13	Pass

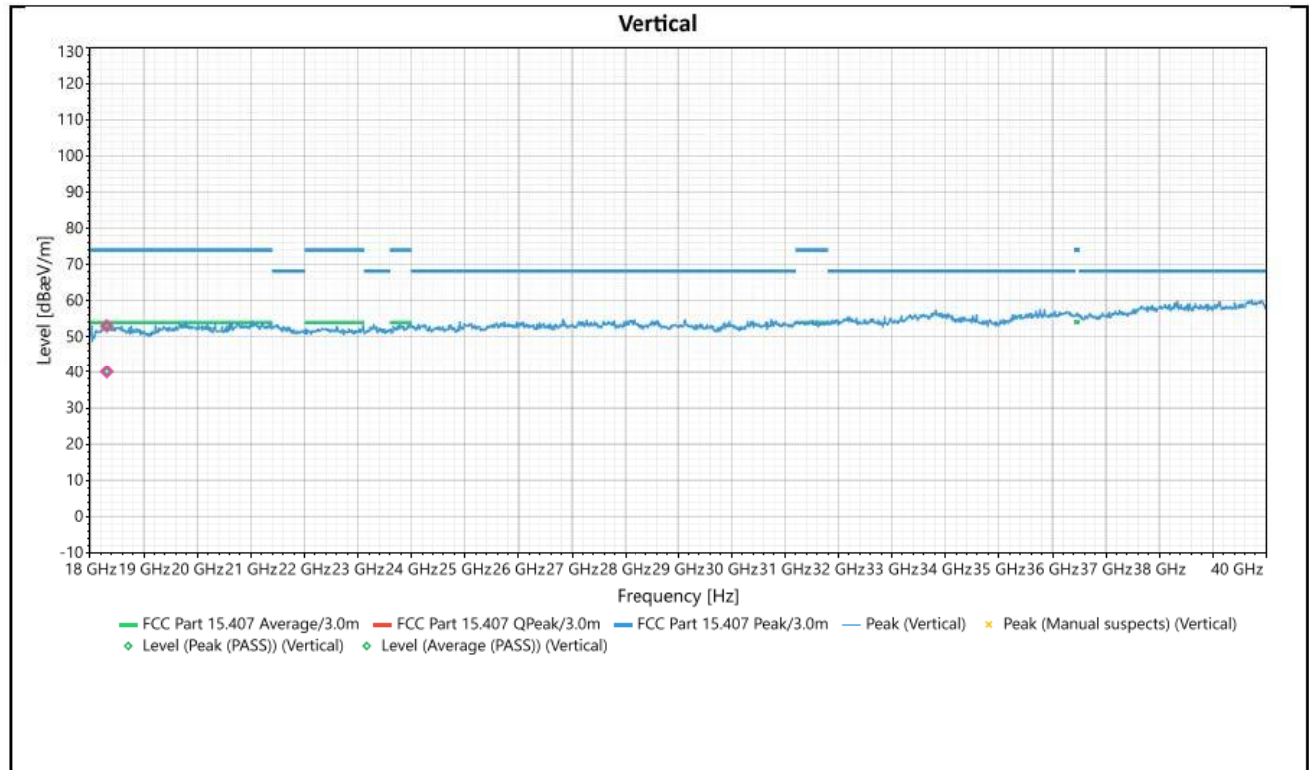
REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Cable Loss (dB) + AF (dB)
2. AF (dB/m) = Antenna Factor (dB/m) – Preamplifier Gain (dB).
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

Above 1GHz Test Data:

CHANNEL	802.11a 5180 MHz	DETECTOR FUNCTION	Prak/Average
FREQUENCY RANGE	1GHz-40GHz		



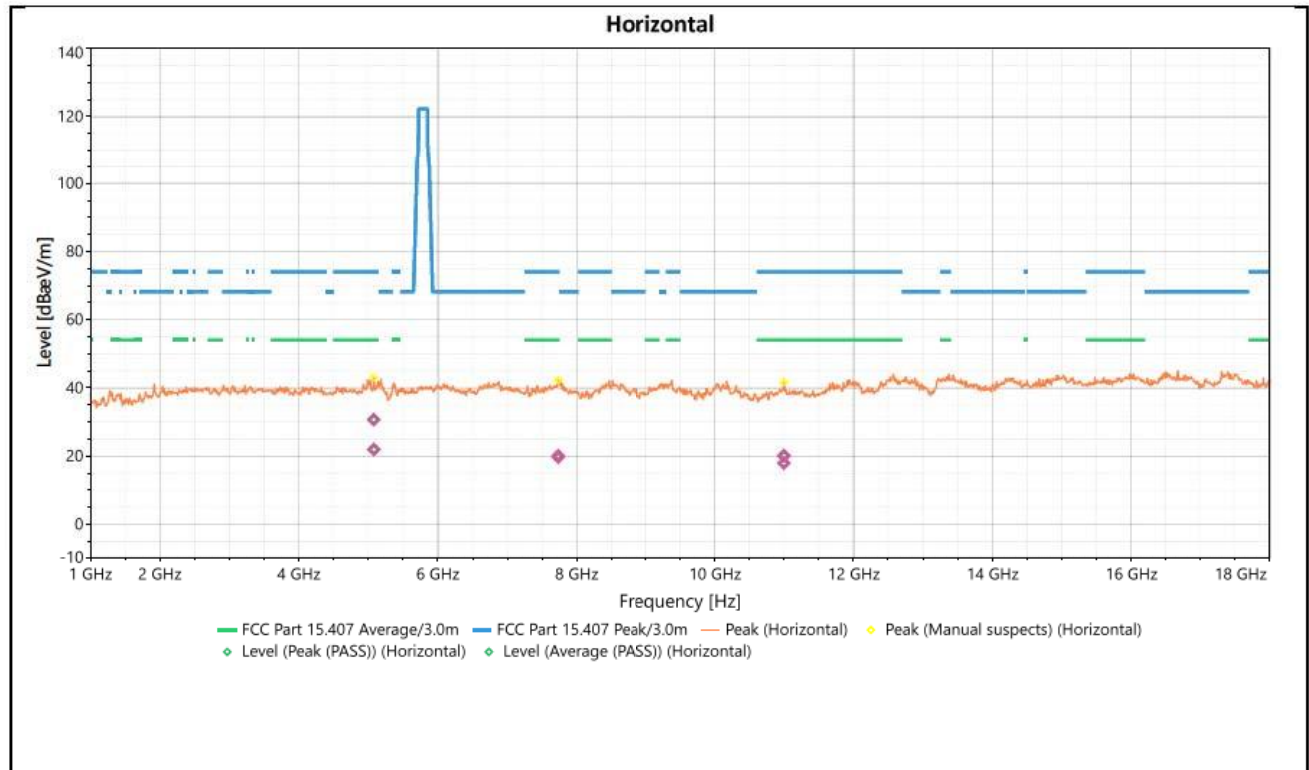


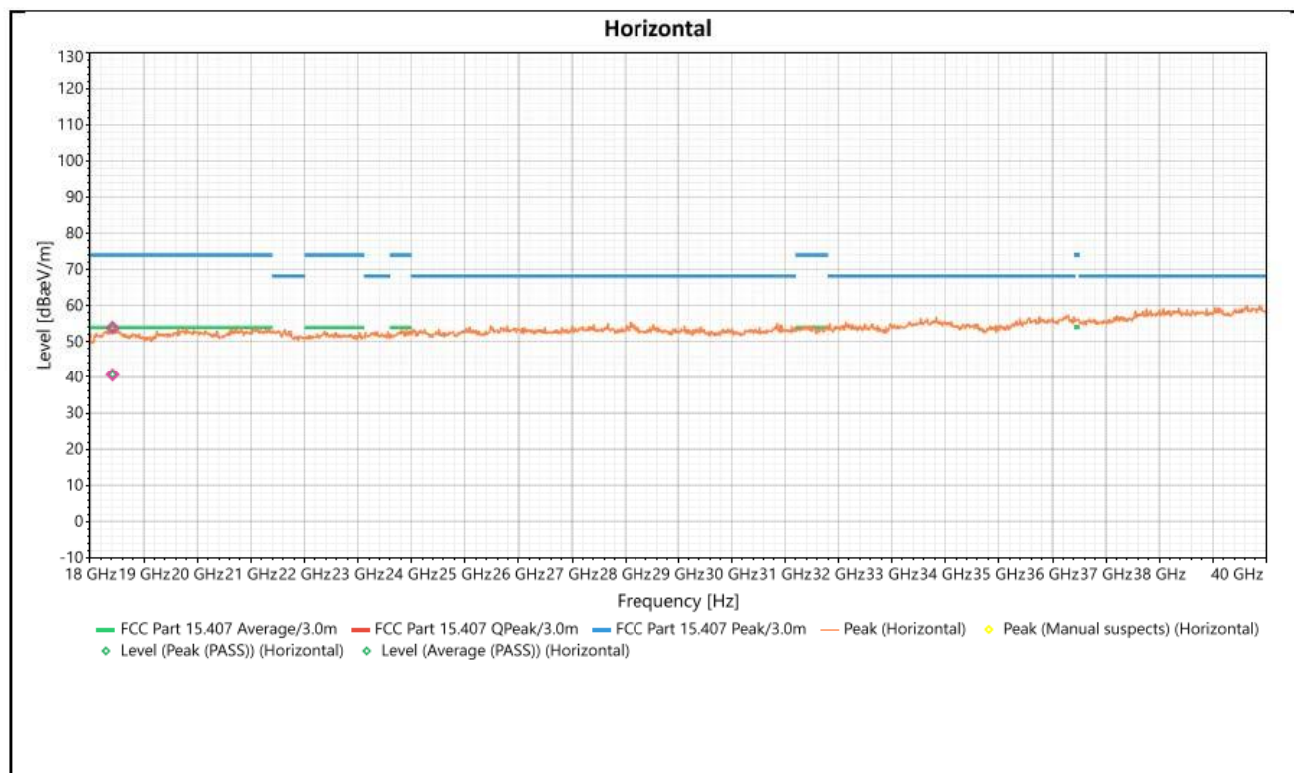
Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	6844.468	Vertical	25.496	68.23	-42.734	1.04	73	2.19	Peak (PASS)
2	9507.264	Vertical	21.537	68.23	-46.693	1.8	148	3.85	Peak (PASS)
3	11933.46	Vertical	21.508	68.23	-46.722	1.04	55	4.13	Peak (PASS)
4	18310.19	Vertical	53.03	74	-20.97	1	328	6.69	Peak (PASS)
5	18310.19	Vertical	40.039	54	-13.961	1	328	6.69	Average (PASS)

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

Frequency	802.11a 5180 MHz	DETECTOR FUNCTION	Prak/Average
FREQUENCY RANGE	1GHz-40GHz		



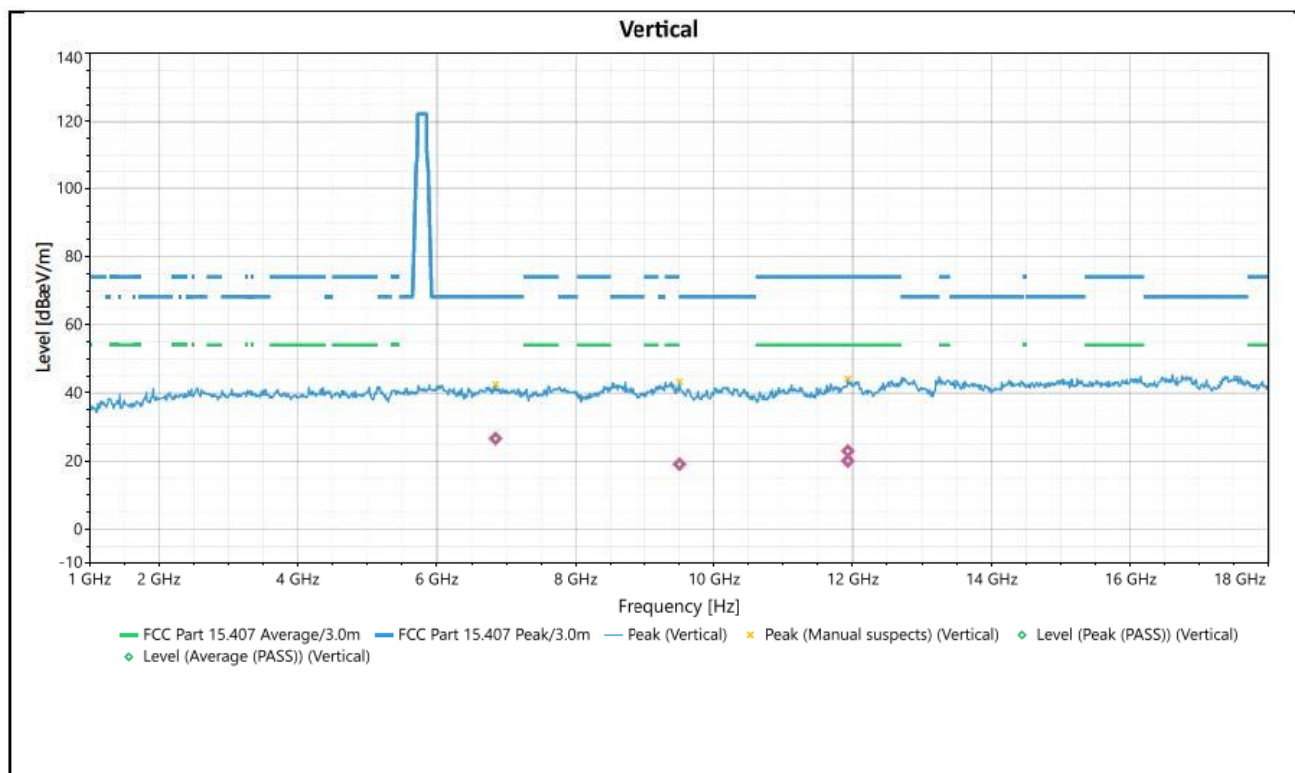


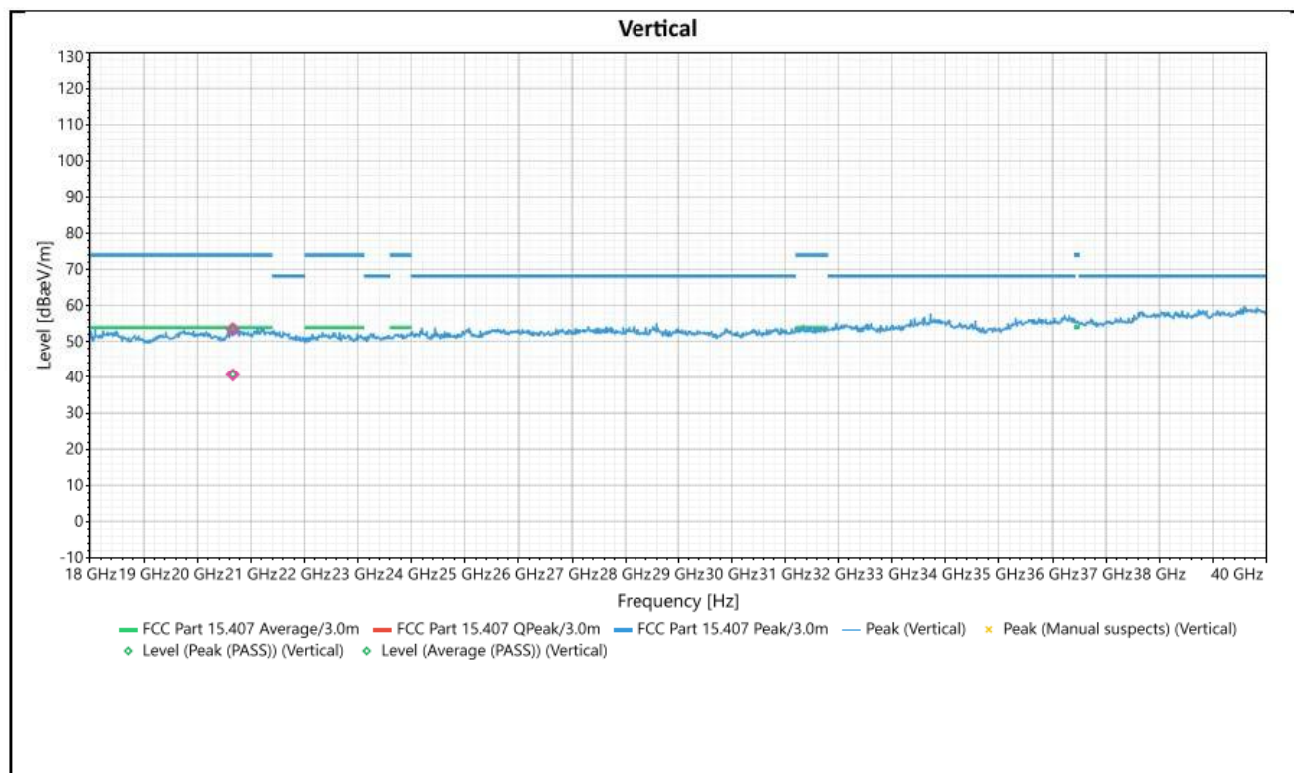
Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	5078.254	Horizontal	30.712	74	-43.288	1.91	277	1.2	Peak (PASS)
2	5078.254	Horizontal	21.968	54	-32.032	1.91	277	1.2	Average (PASS)
3	7732.754	Horizontal	20.092	74	-53.908	1.8	241	2.26	Peak (PASS)
4	7732.754	Horizontal	19.728	54	-34.272	1.8	241	2.26	Average (PASS)
5	10997.45	Horizontal	17.942	74	-56.058	1.8	92	2.82	Peak (PASS)
6	10997.45	Horizontal	20.124	54	-33.876	1.8	92	2.82	Average (PASS)
7	18417.9	Horizontal	53.921	74	-20.079	1.44	127	6.46	Peak (PASS)
8	18417.9	Horizontal	40.663	54	-13.337	1.44	127	6.46	Average (PASS)

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

CHANNEL	802.11a 5200 MHz	DETECTOR FUNCTION	Prak/Average
FREQUENCY RANGE	1GHz-40GHz		



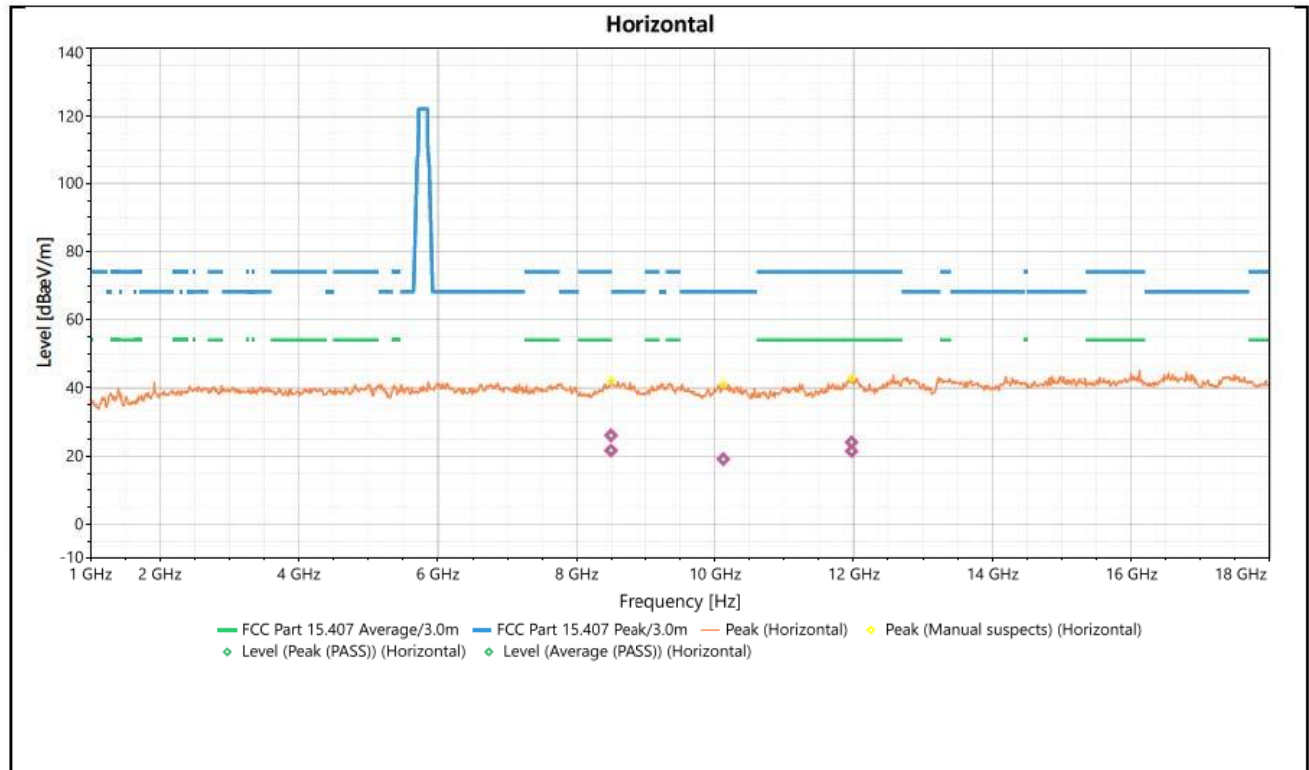


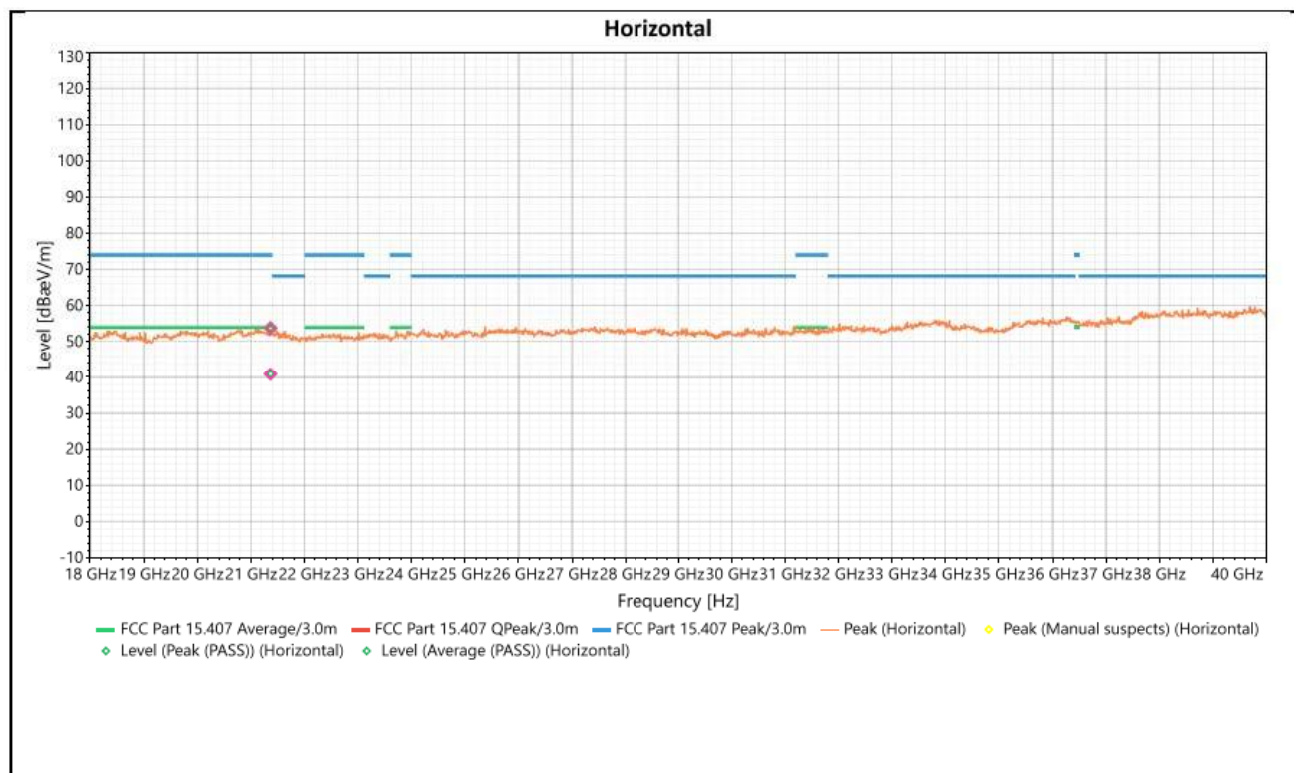
Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	6844.468	Vertical	26.644	68.23	-41.586	1	203	2.22	Peak (PASS)
2	9507.264	Vertical	19.137	68.23	-49.093	1.37	350	2.14	Peak (PASS)
3	11933.46	Vertical	20.084	74	-53.916	1.69	147	3.53	Peak (PASS)
4	11933.46	Vertical	22.942	54	-31.058	1.69	147	3.53	Average (PASS)
5	21368.1	Vertical	53.803	74	-20.197	1.34	357	8.19	Peak (PASS)
6	21368.1	Vertical	40.865	54	-13.135	1.34	357	8.19	Average (PASS)

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

Frequency	802.11a 5200 MHz	DETECTOR FUNCTION	Prak/Average
FREQUENCY RANGE	1GHz-40GHz		



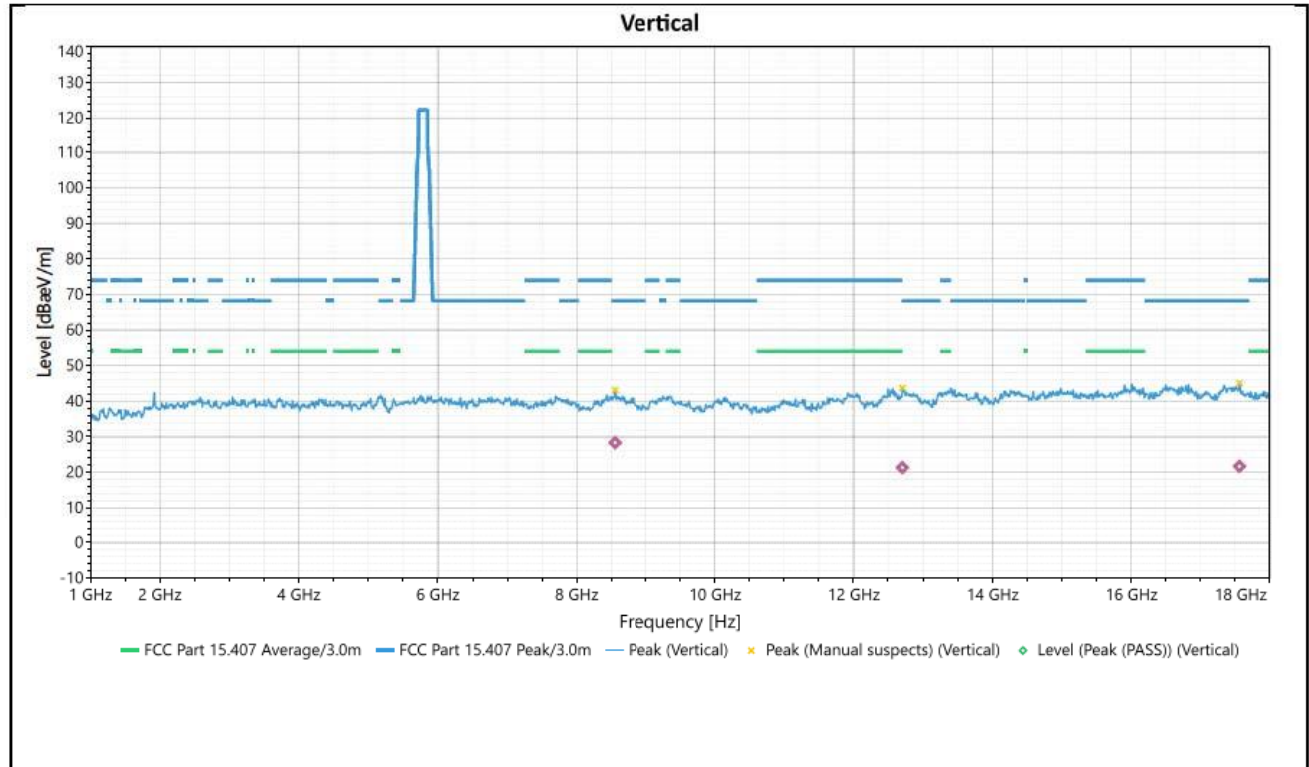


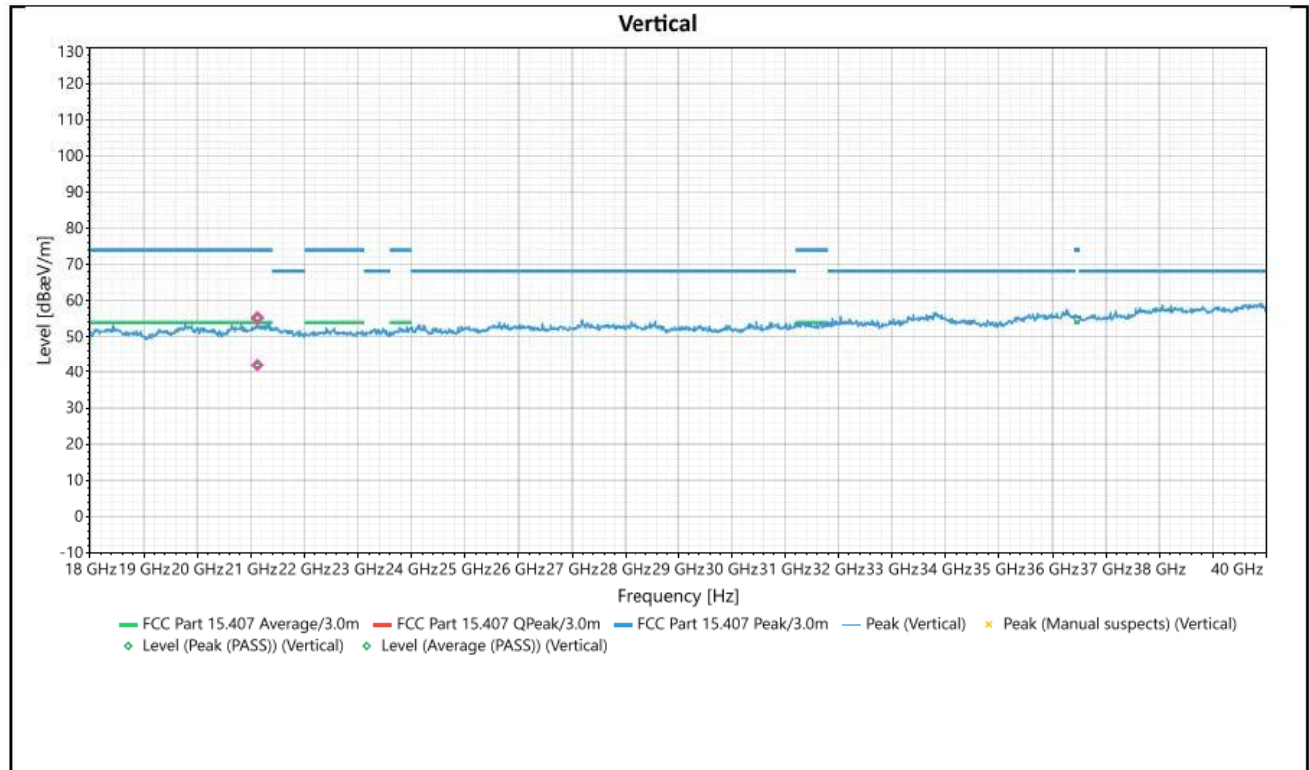
Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	8492.365	Horizontal	26.088	74	-47.912	1.03	278	2.11	Peak (PASS)
2	8492.365	Horizontal	21.664	54	-32.336	1.03	278	2.11	Average (PASS)
3	10123.67	Horizontal	19.143	68.23	-49.087	1.16	111	2.53	Peak (PASS)
4	11972.9	Horizontal	21.513	74	-52.487	1.9	360	3.72	Peak (PASS)
5	11972.9	Horizontal	24.108	54	-29.892	1.9	360	3.72	Average (PASS)
6	21368.1	Horizontal	53.803	74	-20.197	1.34	357	8.19	Peak (PASS)
7	21368.1	Horizontal	40.865	54	-13.135	1.34	357	8.19	Average (PASS)

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains

CHANNEL	802.11a 5240 MHz	DETECTOR FUNCTION	Prak/Average
FREQUENCY RANGE	1GHz-40GHz		





Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	8552.567	Vertical	28.304	68.23	-39.926	2	166	2.14	Peak (PASS)
2	12705.53	Vertical	21.359	68.23	-46.871	2	350	3.79	Peak (PASS)
3	17562.08	Vertical	21.69	68.23	-46.54	1.14	91	2.82	Peak (PASS)
4	21121.7	Vertical	55.278	74	-18.722	1.02	85	8.59	Peak (PASS)
5	21121.7	Vertical	42.022	54	-11.978	1.02	85	8.59	Average (PASS)

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin agains