

FCC IC Test Report

Report No.: FCC_IC_RF_SL21020901-SLX-160A1_2.4G_Rev_2.0

FCC ID: U4G-RHINO

IC ID: 3862E-RHINO

Test Model: QCNFA324

Received Date: 01/04/2021

Test Date: 2/15/2021- 01/13/2022

Issued Date: 01/14/2022

Applicant: Datalogic S.r.l.

Address: Via san Vitalino 13, 40012 Lippo di Calderara di Reno (BO), Italy

Issued By: Bureau Veritas Consumer Products Services, Inc.

Lab Address: 775 Montague Expressway, Milpitas, CA 95035, USA

Test Location (1): 775 Montague Expressway, Milpitas, CA 95035, USA

**FCC Registration /
Designation Number:** 540430

ISED# / CAB identifier: 4842D



TESTING CERT # 2742-01

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Release Control Record

Issue No.	Description	Date Issued
FCC_IC_SL21020901-SLX-160A1_2.4G	Original release	03/17/2021
FCC_IC_RF_SL21020901-SLX-160A1_2.4G_Rev_1.0	Updated Title page, Section 2 – Summary of Test Results, Section 2 – General information, Section 4 – Pictures of test arrangements.	12/20/2021
FCC_IC_RF_SL21020901-SLX-160A1_2.4G_Rev_2.0	Updated Antenna type, calibration list, and 18-25 GHz test results	01/14/2022

1 Certificate of Conformity

Product: PCIe 2x2 AC Wireless Module
Brand: Datalogic S.r.l
Test Model: QCNFA324
Sample Status: Engineer Sample
Applicant: Datalogic S.r.l
Test Date: 2/15/2021-01/13/2022
Standards: 47 CFR FCC Part 15, Subpart C (Section 15.247)
RSS-247 Issue2, February 2017
ANSI C63.10: 2013
RSS Gen Issue5, March 2019

The above equipment has been tested by **Bureau Veritas Consumer Products Services, Inc. Milpitas Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by :  , Date: 03/17/2021
Tony Evers / Test Engineer

Approved by :  , Date: 03/17/2021
Deon Dai / Engineer Reviewer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)				
RSS-247 Issue2, RSS Gen Issue5				
FCC	ISED Clause	Test Item	Result	Remarks
15.205 &15.209 & 15.247(d)	RSS 247 5.5C	Radiated Emissions Measurement	PASS	Meet the requirement of limit.
15.203	RSS-GEN 6.8	Antenna Requirement	PASS	Antenna connector is I- PEX MHF-4. (The device is professionally installed)

Note: N/A: Please refer to FCC ID: PPD-QCNFA324 test report no. RF140808E04

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (\pm)
Conducted Emissions at mains ports	150kHz ~ 30MHz	3.51dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	3.73dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	4.64dB
	6GHz ~ 18GHz	4.82dB
	18GHz ~ 40GHz	4.91dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	PCIe 2x2 AC Wireless Module
Brand	Datalogic S.r.l
Test Model	QCNFA324
Series Model	N/A
Status of EUT	Engineer Sample
Power Supply Rating	3.3Vdc from the host equipment
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS,OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n: up to 300Mbps
Operating Frequency	2.412 ~ 2.462GHz
Number of Channel	11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
Antenna Brand	Huber+Suhner
Antenna Type	Dual band WiFi embedded patch antenna pair
Antenna Model	1399.99.0151
Antenna Gain	1 dBi
Antenna Connector	I-PEX MHF-4

Note:

1. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.
2. Output power was verified and transmitting at full max output power. Measurements were taken prior to starting RSE testing.
3. The purpose of this report is to address the C2PC changes due to the addition of the dual patch antenna.

3.2 Description of Test Modes

11 channels are provided for 802.11b, 802.11g and 802.11n (HT20):

Channel	Frequency	Channel	Frequency
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

7 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

3.3 Test Mode Applicability and Tested Channel Details

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE \geq 1G	RE $<$ 1G	PLC	APCM	
-	√	√	-	-	-

Where RE \geq 1G: Radiated Emission above 1GHz & Bandedge Measurement
 RE $<$ 1G: Radiated Emission below 1GHz
 PLC: Power Line Conducted Emission
 APCM: Antenna Port Conducted Measurement

NOTE: The EUT had been pre-tested in positions of each 3 axis. The worst case was found when positioned on **X-plane**.

NOTE: "-" means no effect.

Radiated Emission Test (Above 1GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
-	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
-	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

Radiated Emission Test (Below 1GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11n (20MHz)	1 to 11	6	OFDM	BPSK	6.5

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE \geq 1G	25deg. C, 65%RH	120Vac, 60Hz	Tony Evers
RE $<$ 1G	25deg. C, 65%RH	120Vac, 60Hz	Tony Evers
PLC	25deg. C, 68%RH	120Vac, 60Hz	-
APCM	21deg. C, 60%RH	120Vac, 60Hz	-

3.4 Description of Support Units

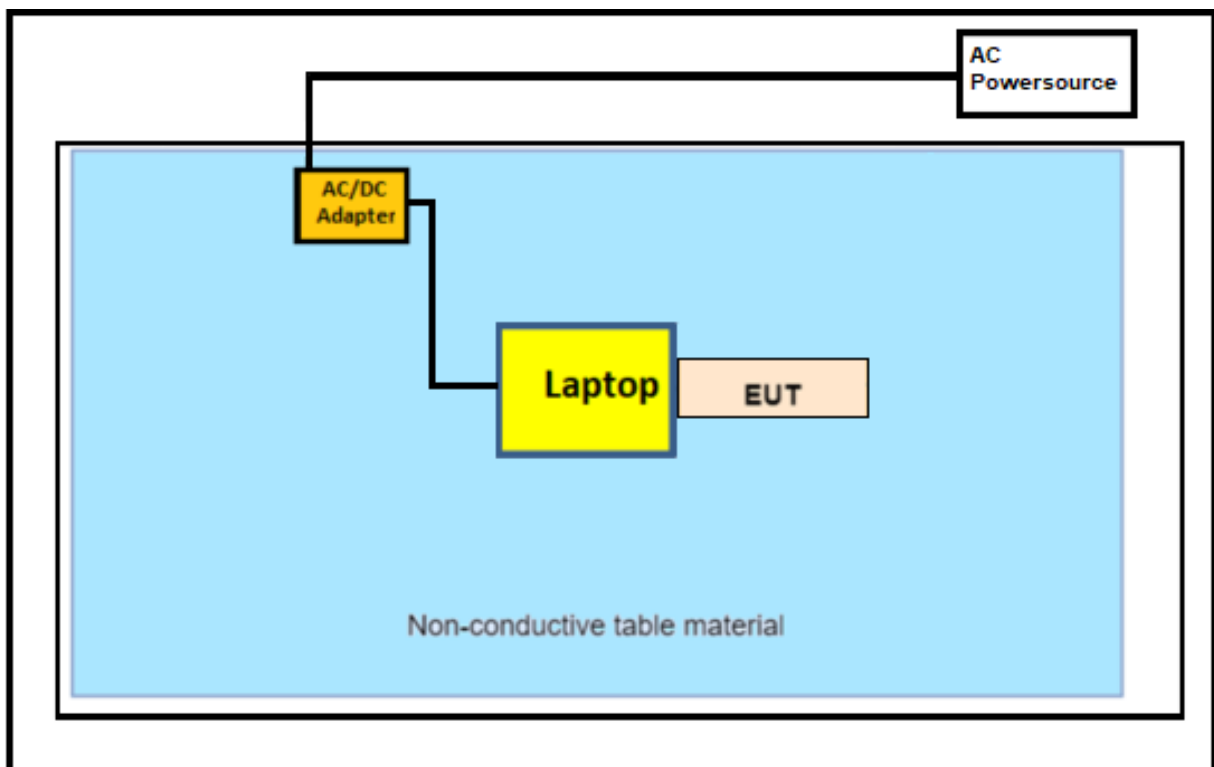
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	Dell	Latitude E6420	56CK3R1	N/A	N/A
B.	Power Supply(Laptop)	Dell	DA130PEI-00	JU012	N/A	N/A

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. EUT is connected via an express card adapter.

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

47 CFR FCC Part 15, Subpart C (Section 15.247)
RSS 247 Issue2, February 2017
RSS Gen Issue5, March 2019
KDB 558074 D01 15.247 Meas Guidance v05r01
KDB 662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

3.6 Test Types and Results

Radiated Emission Measurement

The peak field strength of emissions from 18-40GHz did not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation. Therefore, only 1-18 GHz has been included in the report.

Limits of Radiated Emission Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

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.

3.7 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
EMI Receiver Rohde and Schwarz	ESW44	1328.4100K- 101662-MH	10/23/2020	10/23/2021
Biconilog Antenna Sunol	JB1	A111717	9/4/2020	9/4/2022
Horn Antenna ETS-Lindgren	3117	218553	2/20/2020	2/20/2022
Pre-Amplifier RF-Lambda	RAMP00M50GA	18040300055	08/05/2020	08/05/2022

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
EMI Receiver Rohde and Schwarz	ESW44	1328.4100K- 101662-MH	09/22/2021	09/22/2022
Biconilog Antenna Sunol	JB1	A111717	09/04/2020	9/4/2022
Horn Antenna ETS-Lindgren	3117	218553	02/20/2020	2/20/2022
DRG Horn Antenna	SAS-117	579	08/05/2020	08/05/2022
Pre-Amplifier RF-Lambda	RAMP00M50GA	18040300055	08/05/2020	08/05/2022
Microwavetown (0.80 m)	FSB360PK-KMKM	201906110002	12/09/2021	12/09/2022
Microwavetown (6.0 m)	FSB360PK-KMKM	202103270001	12/09/2021	12/09/2022

3.8 Test Procedures

For Radiated emission below 30MHz

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

- The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

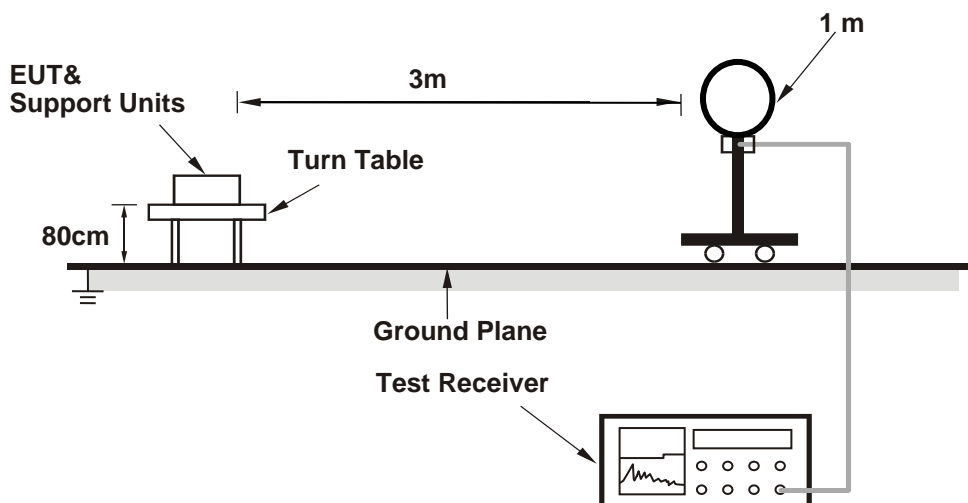
- 1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
- 3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
- 4. All modes of operation were investigated and the worst-case emissions are reported.

3.9 Deviation from Test Standard

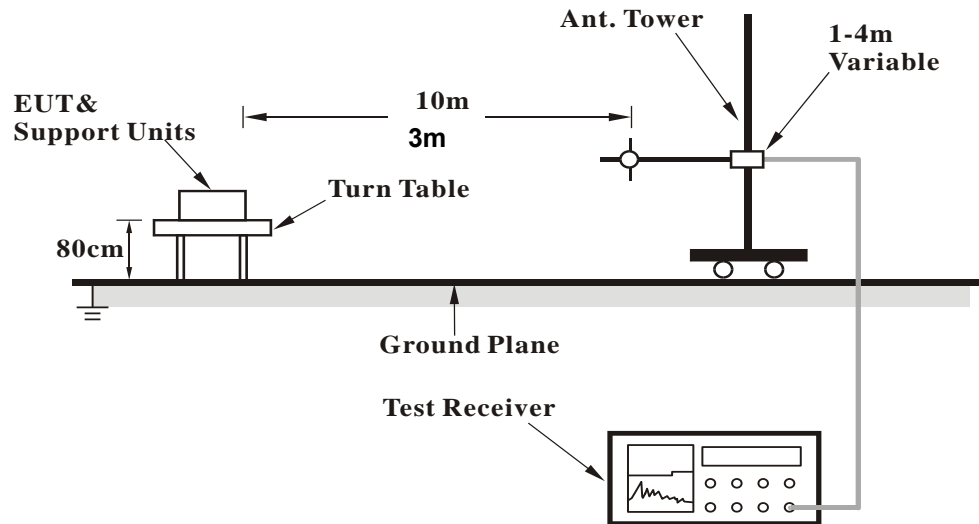
No deviation.

3.9.1 Test Setup

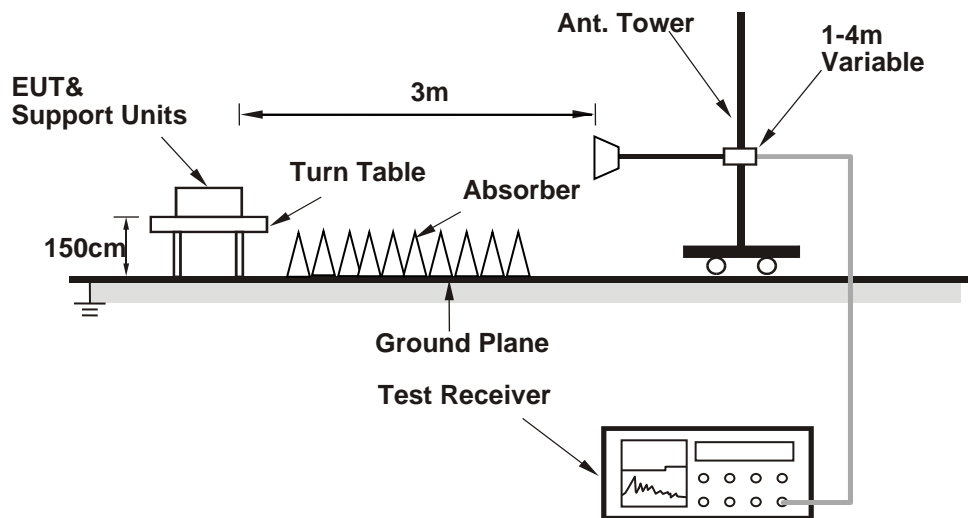
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.9.2 EUT Operating Conditions

- Connected the EUT with the Notebook Computer which is placed on the table with the EUT.
- Prepared laptop to perform channel settings
- The necessary accessories enabled the system in full functions.

3.9.3 Test Results

BELOW 1GHz WORST-CASE DATA:

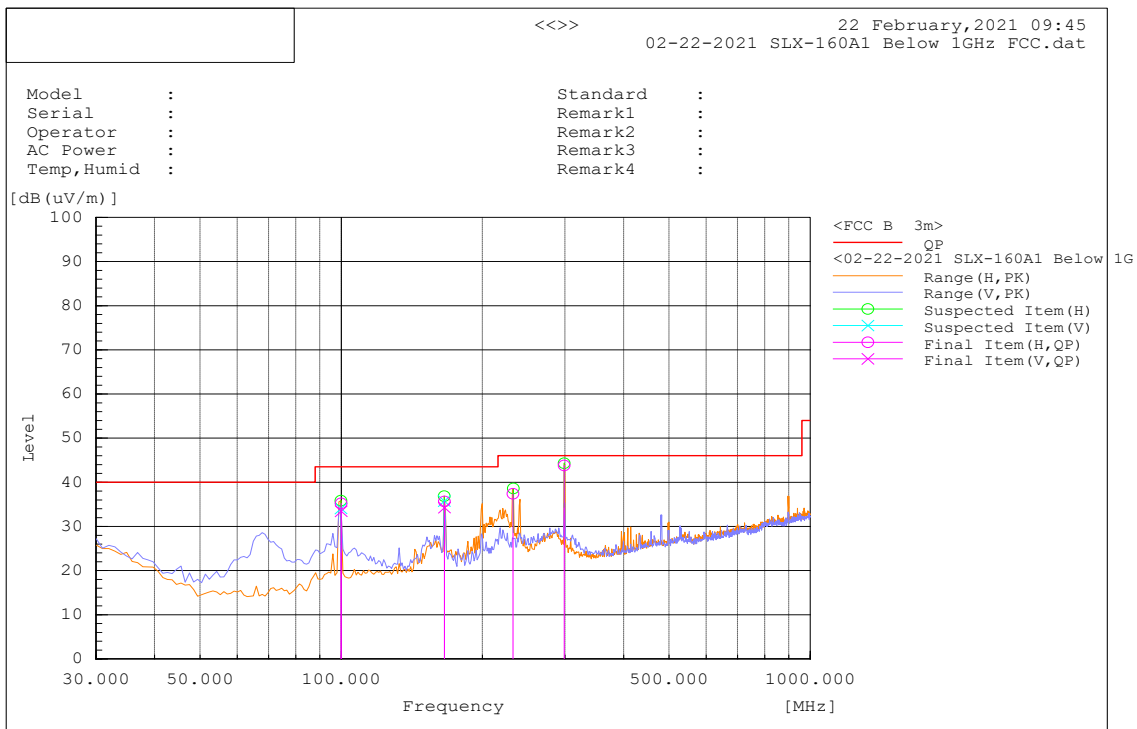
CHANNEL	802.11n Channel 6	DETECTOR FUNCTION	Quasi Peak
FREQUENCY RANGE	30MHz – 1000MHz		

ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m

	Frequency [MHz]	Pol	Reading QP [dB(uV)]	Factor [dB(1/m)]	Level QP [dB(uV/m)]	Limit\QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Pass/Fail
1	99.95*	H	19.2	16	35.2	43.5	-8.3	303	152.4	Pass
2	99.942*	V	16.9	16.6	33.5	43.5	-10	106	82.7	Pass
3	166.01	H	17	18.6	35.6	43.5	-7.9	153	242.1	Pass
4	166.025	V	15.5	18.8	34.3	43.5	-9.2	100	252.8	Pass
5	232.406*	H	19.3	18.1	37.4	46	-8.6	134	190.1	Pass
6	298.796*	H	23.3	20.5	43.8	46	-2.2	100	186.6	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. The emission levels of other frequencies were more than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. * Worst case points outside of the restricted band were measured.



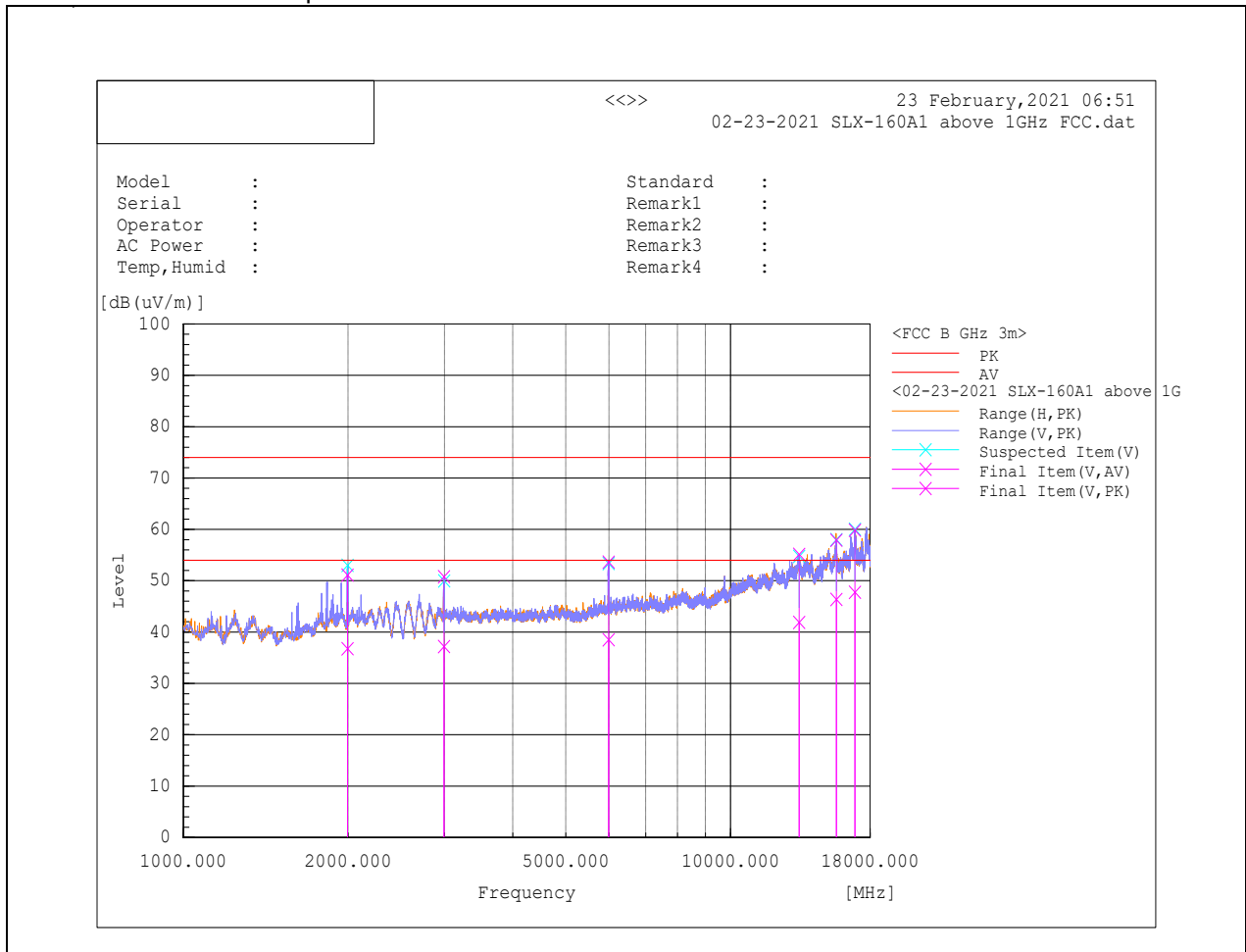
Above 1GHz WORST-CASE DATA:

CHANNEL	802.11g Channel 6	DETECTOR FUNCTION	Quasi Peak
FREQUENCY RANGE	1GHz – 18GHz		

ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m														
No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	1995.799*	V	46.4	60.7	-9.6	36.8	51.1	54	74	17.2	22.9	177	154.8	Pass
2	2995.375*	V	44.5	58.1	-7.3	37.2	50.8	54	74	16.8	23.2	291	271.5	Pass
3	5990.767*	V	39.7	54.8	-1.2	38.5	53.6	54	74	15.5	20.4	208	87.2	Pass
	13350.266	V	30.4	43.7	11.5	41.9	55.2	54	74	12.1	18.8	117	123.3	Pass
	15620.663	V	28	39.5	18.4	46.4	57.9	54	74	7.6	16.1	350	25.4	Pass
	16882.694*	V	26	38.1	21.8	47.8	59.9	54	74	6.2	14.1	321	63.7	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. The emission levels of other frequencies were more than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.
5. * Worst case points outside of the restricted band were measured.



Above 18 GHz WORST-CASE DATA:

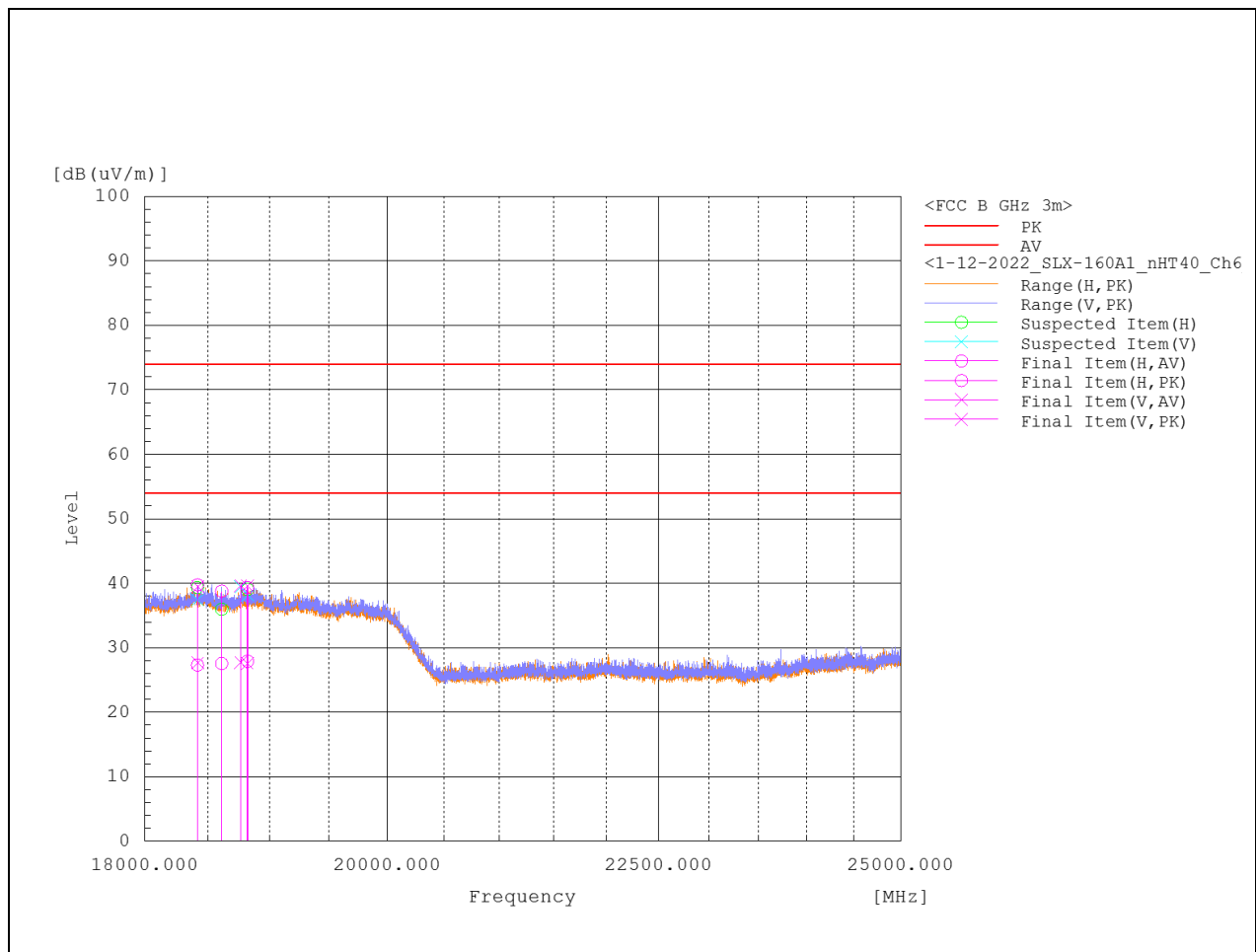
CHANNEL	802.11nHT40 Channel 6	DETECTOR FUNCTION	Quasi Peak
FREQUENCY RANGE	18GHz – 25GHz		

ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	18416.274	H	22.7	35.2	4.6	27.3	39.8	54	74	26.7	34.2	374	19.4	Pass
2	18417.022	V	23.1	34.9	4.6	27.7	39.5	54	74	26.3	34.5	162	177	Pass
3	18611.008	H	23	34.3	4.5	27.5	38.8	54	74	26.5	35.2	147	359	Pass
4	18765.5	V	23.3	35.2	4.4	27.7	39.6	54	74	26.3	34.4	283	2.7	Pass
5	18821.704	H	23.6	35	4.3	27.9	39.3	54	74	26.1	34.7	125	353.7	Pass
6	18820.56	V	23.3	35.3	4.3	27.6	39.6	54	74	26.4	34.4	298	50.4	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. The emission levels of other frequencies were more than 20dB margin against the limit.
4. Margin value = Emission level – Limit value.



Above 1GHz Test Data:
1GHz-18GHz – 802.11b – 2412MHz

ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m														
No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	1999.587*	V	45.6	62.8	-10.6	35	52.2	54	74	-19	-21.8	177	0.8	Pass
2	2991.637*	V	43.2	57.6	-9.6	33.6	48	54	74	-20.4	-26	319	97.8	Pass
3	5975.066*	V	38	53.2	-4.3	33.7	48.9	54	74	-20.3	-25.1	147	303.8	Pass

Note: * Worst case points outside of the restricted band were measured.

1GHz-18GHz- 802.11b - 2437MHz

ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m														
No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	1996.669*	V	49.1	69	-10.6	38.5	58.4	54	74	-15.5	-15.6	177	358.5	Pass
2	2036.193*	V	43.3	63.4	-10.6	32.7	52.8	54	74	-21.3	-21.2	162	0	Pass
3	5986.971*	V	38.5	52.6	-4.3	34.2	48.3	54	74	-19.8	-25.7	147	11.9	Pass

Note: * Worst case points outside of the restricted band were measured.

1GHz-18GHz – 802.11b – 2462MHz

ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m														
No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	1831.302*	V	43	55.9	-12	31	43.9	54	74	-23	-30.1	252	190.3	Pass
2	1994.243*	V	52.3	69.3	-10.6	41.7	58.7	54	74	-12.3	-15.3	177	0	Pass
3	5975.124*	V	37.9	52.8	-4.3	33.6	48.5	54	74	-20.4	-25.5	116	62.1	Pass

Note: * Worst case points outside of the restricted band were measured.

1GHz-18GHz- 802.11g - 2412MHz

ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m														
No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	1784.627*	V	43.4	60.1	-12.5	30.9	47.6	54	74	-23.1	-26.4	100	1.9	Pass
2	1828.241*	V	42.8	59.8	-12	30.8	47.8	54	74	-23.2	-26.2	313	10.7	Pass
3	1993.977*	V	49.9	69.3	-10.6	39.3	58.7	54	74	-14.7	-15.3	207	1.2	Pass

Note: * Worst case points outside of the restricted band were measured.

1GHz-18GHz – 802.11g – 2437MHz
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	13350.266	V	30.4	43.7	11.5	41.9	55.2	54	74	-12.1	-18.8	117	123.3	Pass
2	15620.663	V	28	39.5	18.4	46.4	57.9	54	74	-7.6	-16.1	350	25.4	Pass
3	16882.694	V	26	38.1	21.8	47.8	59.9	54	74	-6.2	-14.1	321	63.7	Pass

1GHz-18GHz- 802.11g - 2462MHz
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	1909.937*	V	41.6	53.7	-9.8	31.8	43.9	54	74	-22.2	-30.1	351	109.9	Pass
2	1999.466*	V	46.8	60.5	-9.6	37.2	50.9	54	74	-16.8	-23.1	100	202.7	Pass
3	5986.491*	V	38.1	54.4	-1.2	36.9	53.2	54	74	-17.1	-20.8	162	96.7	Pass

Note: * Worst case points outside of the restricted band were measured.

1GHz-18GHz- 802.11n20 - 2412MHz
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	1994.06*	V	45	61.5	-10.6	34.4	50.9	54	74	-19.6	-23.1	103	165.6	Pass
2	2999.842*	V	43.5	55.8	-9.6	33.9	46.2	54	74	-20.1	-27.8	336	84.4	Pass
3	5975.032*	V	39.8	55.8	-4.3	35.5	51.5	54	74	-18.5	-22.5	177	88.7	Pass

Note: * Worst case points outside of the restricted band were measured.

1GHz-18GHz – 802.11n20 – 2437MHz
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	1828.797*	V	41.9	55.7	-12	29.9	43.7	54	74	-24.1	-30.3	313	64.5	Pass
2	1998.137*	V	45.8	64.3	-10.6	35.2	53.7	54	74	-18.8	-20.3	207	202.5	Pass
3	5997.99*	V	39.7	51.8	-4.3	35.4	47.5	54	74	-18.6	-26.5	147	260	Pass

Note: * Worst case points outside of the restricted band were measured.

1GHz-18GHz- 802.11n20 - 2462MHz
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	1826.233*	V	42.6	61.9	-12	30.6	49.9	54	74	-23.4	-24.1	238	127.4	Pass
2	1997.986*	V	44.8	56.5	-10.6	34.2	45.9	54	74	-19.8	-28.1	132	303.4	Pass
3	5983.085*	V	36.7	50	-4.3	32.4	45.7	54	74	-21.6	-28.3	298	175.1	Pass

Note: * Worst case points outside of the restricted band were measured.

1GHz-18GHz- 802.11n40 - 2422MHz
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	1823.552*	V	40.9	55.4	-12.1	28.8	43.3	54	74	-25.2	-30.7	117	353.8	Pass
2	1995.413*	V	45.7	57	-10.6	35.1	46.4	54	74	-18.9	-27.6	177	242.6	Pass
3	5974.678*	V	38.6	53.7	-4.3	34.3	49.4	54	74	-19.7	-24.6	223	245.4	Pass

Note: * Worst case points outside of the restricted band were measured.

1GHz-18GHz – 802.11n40 – 2437MHz
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	1831.291*	V	41.3	58	-12	29.3	46	54	74	-24.7	-28	147	244.9	Pass
2	1991.387*	V	48.2	63	-10.6	37.6	52.4	54	74	-16.4	-21.6	253	202.8	Pass
3	5975.084*	V	39.5	52.9	-4.3	35.2	48.6	54	74	-18.8	-25.4	132	356.8	Pass

Note: * Worst case points outside of the restricted band were measured.

1GHz-18GHz- 802.11n40 - 2452MHz
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	1998.049*	V	48.8	66.5	-10.6	38.2	55.9	54	74	-15.8	-18.1	238	181.3	Pass
2	2999.958*	V	47.4	57.9	-9.6	37.8	48.3	54	74	-16.2	-25.7	223	81.1	Pass
3	5990.1*	V	39.5	55.5	-4.3	35.2	51.2	54	74	-18.8	-22.8	100	96	Pass

Note: * Worst case points outside of the restricted band were measured.

Above 18 GHz Test Data:
18GHz-25GHz – 802.11b – 2412MHz

ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m														
No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	18455.968	V	20.4	33	4.8	25.2	37.8	54	74	28.8	36.2	268	121.9	Pass
2	19046.168	H	21.5	32.3	3.9	25.4	36.2	54	74	28.6	37.8	276	0	Pass

18GHz-25GHz- 802.11b - 2437MHz

ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m														
No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	18772.758	V	23.1	33.9	4.4	27.5	38.3	54	74	26.5	35.7	283	167.5	Pass
2	18998.416	H	20.8	32.6	4.1	24.9	36.7	54	74	29.1	37.3	322	152.3	Pass

18GHz-25GHz – 802.11b – 2462MHz

ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m														
No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	18399.448	V	21.9	33.9	4.8	26.7	38.7	54	74	27.3	35.3	283	217	Pass
2	18762.922	H	22.2	33.8	4.4	26.6	38.2	54	74	27.4	35.8	231	135	Pass

18GHz-25GHz- 802.11g - 2412MHz

ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m														
No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	18384.092	H	22	33.8	4.9	26.9	38.7	54	74	27.1	35.3	352	83.2	Pass
2	19053.626	H	21.5	32.9	4	25.5	36.9	54	74	28.5	37.1	276	0	Pass

18GHz-25GHz – 802.11g – 2437MHz
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	18831.97	H	21.5	33.5	4.2	25.7	37.7	54	74	28.3	36.3	110	246.1	Pass
2	18886.934	V	22	33.8	4.2	26.2	38	54	74	27.8	36	291	80.6	Pass

18GHz-25GHz- 802.11g - 2462MHz
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	18786.084	V	22.1	34.3	4.3	26.4	38.6	54	74	27.6	35.4	344	114	Pass
2	18890.64	V	22.4	33.3	4.2	26.6	37.5	54	74	27.4	36.5	374	316.3	Pass

18GHz-25GHz- 802.11n20 - 2412MHz
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	18805.286	V	22.4	34.1	4.3	26.7	38.4	54	74	27.3	35.6	208	80.6	Pass
2	19127.42	V	22.4	33.2	3.9	26.3	37.1	54	74	27.7	36.9	110	97.4	Pass

18GHz-25GHz – 802.11n20 – 2437MHz
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	18772.65	V	22.1	34.3	4.4	26.5	38.7	54	74	27.5	35.3	322	254	Pass
2	19170.714	V	22.1	33.1	3.8	25.9	36.9	54	74	28.1	37.1	261	201.2	Pass

18GHz-25GHz- 802.11n20 - 2462MHz
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	18381.842	V	22.8	33.9	4.8	27.6	38.7	54	74	26.4	35.3	208	59.6	Pass
2	18677.578	V	22.7	33.8	4.6	27.3	38.4	54	74	26.7	35.6	389	342.9	Pass

18GHz-25GHz- 802.11n40 - 2422MHz
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	18814.982	V	22.5	33.6	4.3	26.8	37.9	54	74	27.2	36.1	117	64.9	Pass
2	19217.886	V	21.8	34	3.7	25.5	37.7	54	74	28.5	36.3	100	88.5	Pass

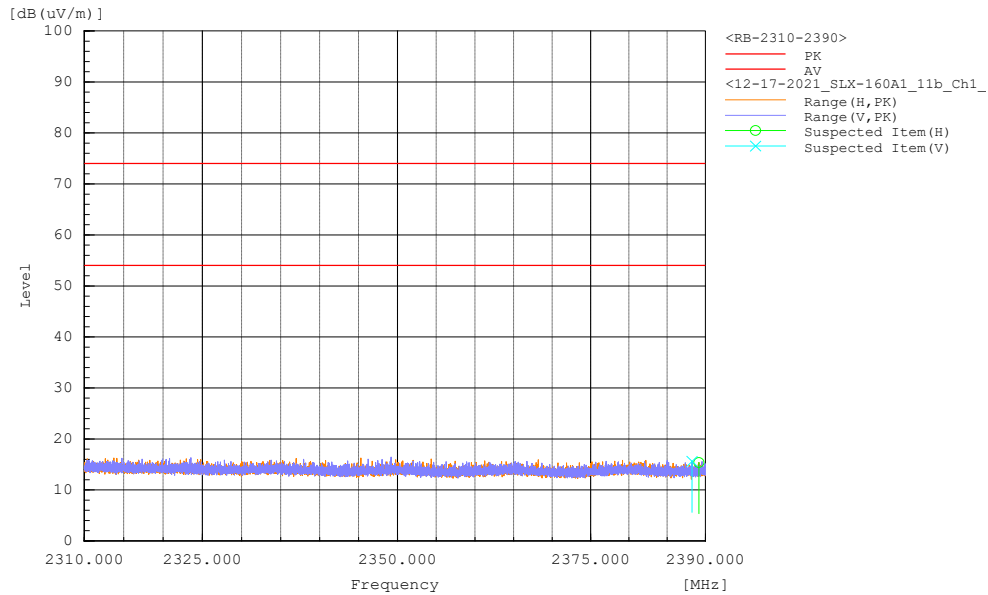
18GHz-25GHz – 802.11n40 – 2437MHz
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	18416.274	H	22.7	35.2	4.6	27.3	39.8	54	74	26.7	34.2	374	19.4	Pass
2	18417.022	V	23.1	34.9	4.6	27.7	39.5	54	74	26.3	34.5	162	177	Pass
3	18611.008	H	23	34.3	4.5	27.5	38.8	54	74	26.5	35.2	147	359	Pass
4	18765.5	V	23.3	35.2	4.4	27.7	39.6	54	74	26.3	34.4	283	2.7	Pass
5	18821.704	H	23.6	35	4.3	27.9	39.3	54	74	26.1	34.7	125	353.7	Pass
6	18820.56	V	23.3	35.3	4.3	27.6	39.6	54	74	26.4	34.4	298	50.4	Pass

18GHz-25GHz- 802.11n40 - 2452MHz
ANTENNA POLARITY & test distance: HORIZONTAL& VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	18396.07	H	Stable	24.4	34.4	4.9	29.3	39.3	54	74	24.7	34.7	261	Pass
2	18759.95	V	Stable	23.3	35.3	4.5	27.8	39.8	54	74	26.2	34.2	110	Pass

Restricted band for 2.4G Restricted band (802.11b low channel)

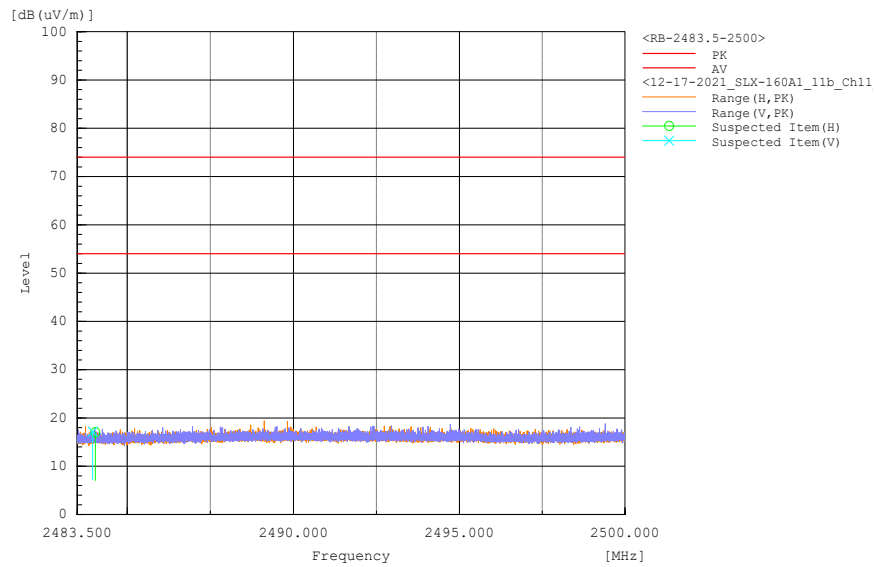


ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m												
No	Frequency [MHz]	Pol	Reading [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	2388.24	V	27.3	-11.7	15.6	54	74	38.4	58.4	200	168.8	Pass
2	2389.136	H	27.1	-11.7	15.4	54	74	38.6	58.6	100	359.4	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 Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Restricted band (802.11b high channel)



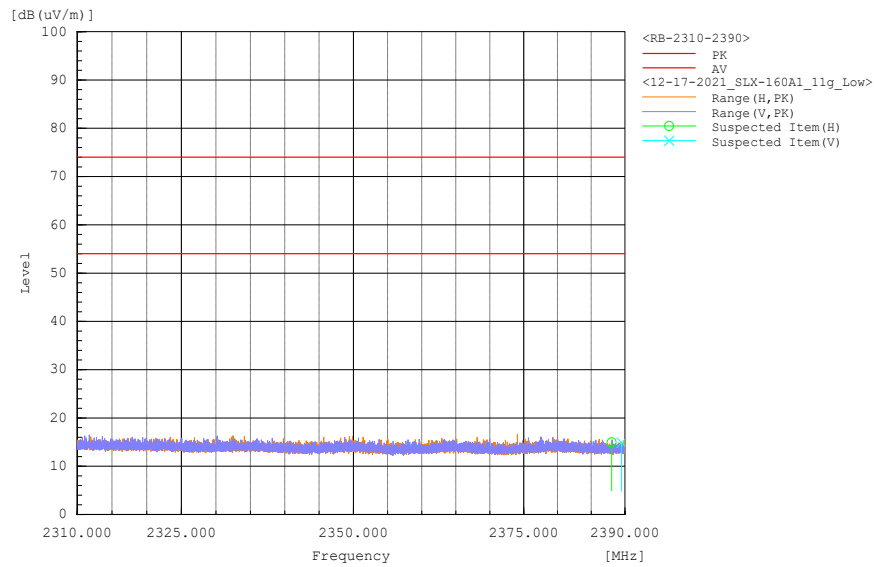
ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	2483.962	V	28.4	-11.2	17.2	54	74	36.8	56.8	200	205.9	Pass
2	2484.043	H	28.2	-11.2	17	54	74	37	57	200	0.1	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 Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Restricted band (802.11g low channel)

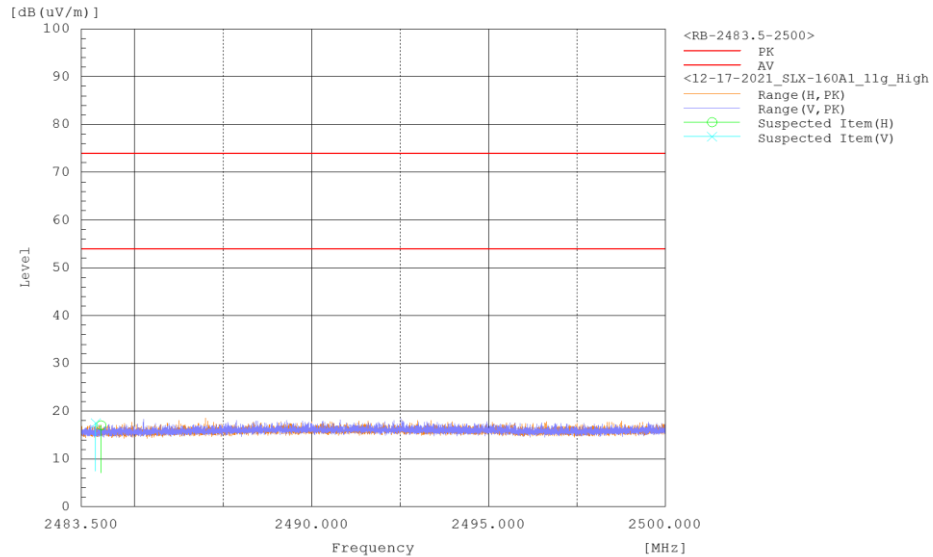


ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m												
No	Frequency [MHz]	Pol	Reading [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	2388.032	H	26.6	-11.7	14.9	54	74	39.1	59.1	100	356	Pass
2	2389.48	V	26.6	-11.7	14.9	54	74	39.1	59.1	200	355.1	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 Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Restricted band (802.11g high channel)



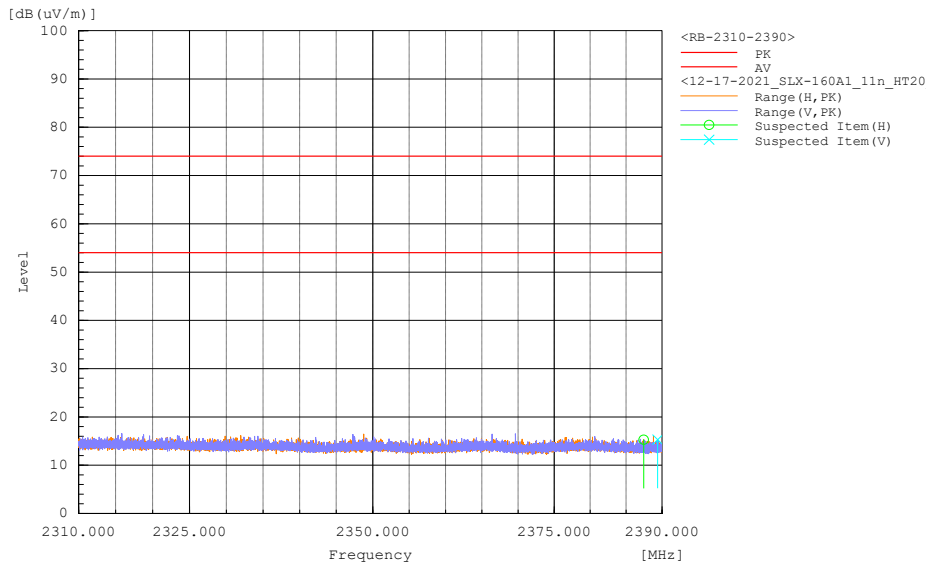
ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	2483.903	V	28.7	-11.2	17.5	54	74	36.5	56.5	100	6.1	Pass
2	2484.055	H	28.2	-11.2	17	54	74	37	57	100	327.4	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 Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Restricted band (802.11nHT20 low channel)



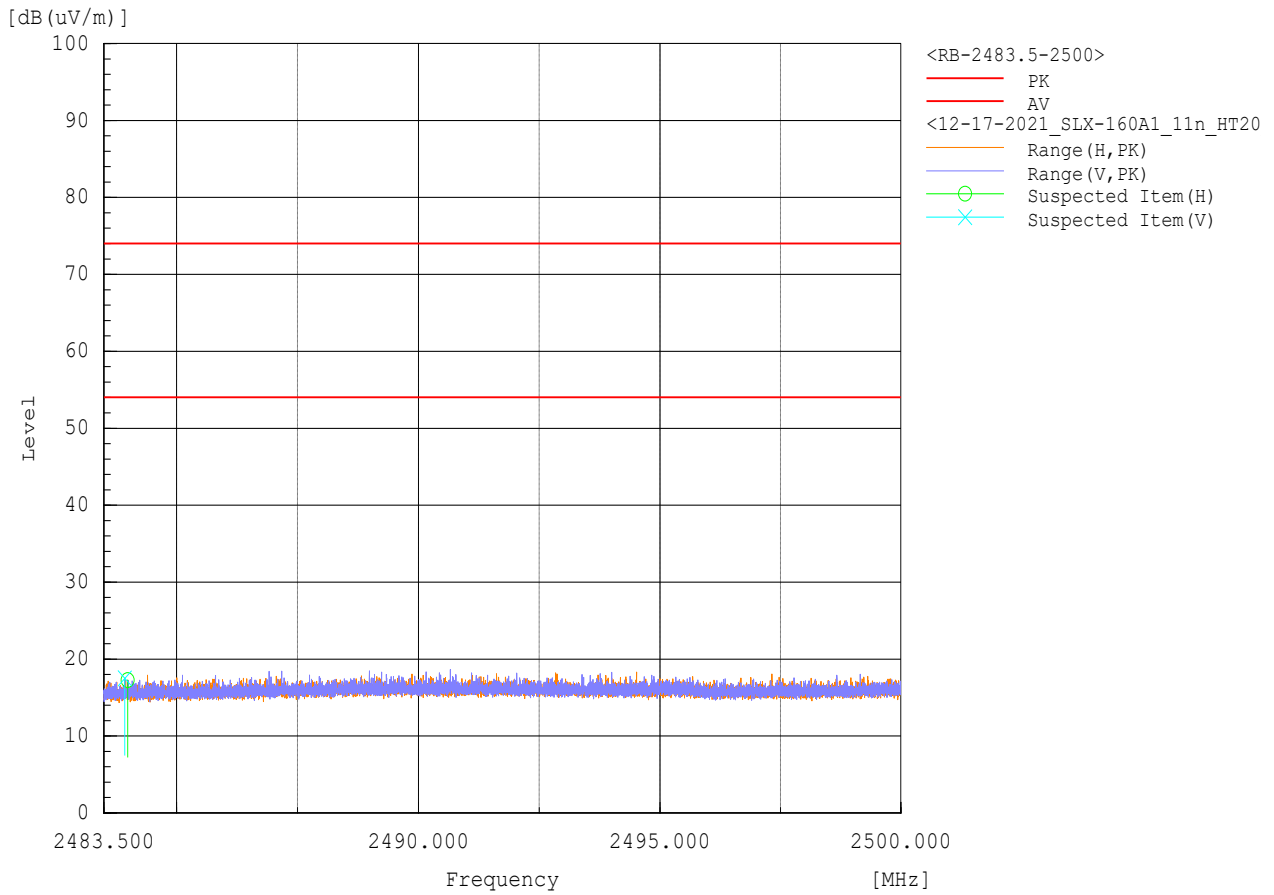
ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	2389.368	V	27	-11.7	15.3	54	74	38.7	58.7	200	352.1	Pass
2	2387.432	H	27	-11.7	15.3	54	74	38.7	58.7	100	160.6	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 Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Restricted band (802.11nHT20 high channel)

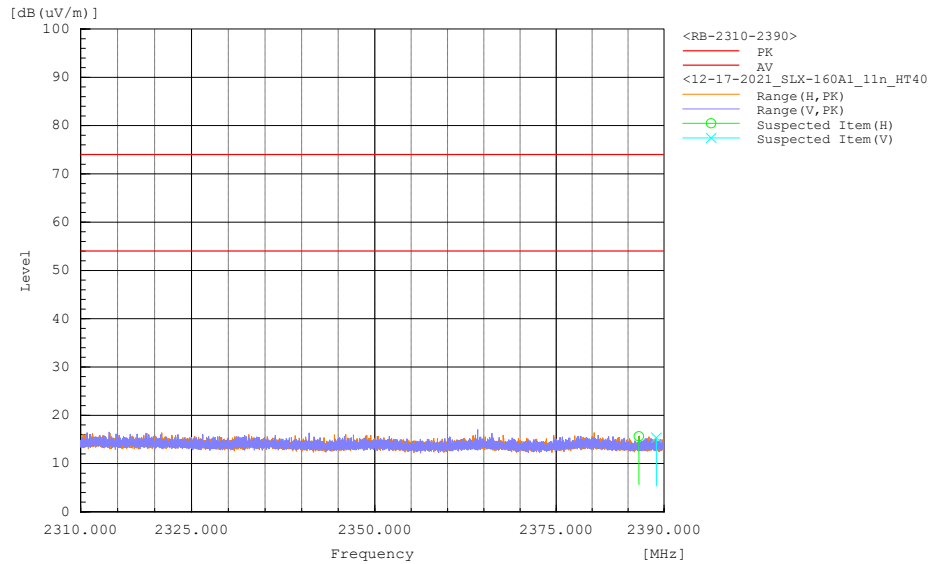


ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m												
No	Frequency [MHz]	Pol	Reading [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	2483.929	V	28.7	-11.2	17.5	54	74	36.5	56.5	200	245.7	Pass
2	2483.993	H	28.5	-11.2	17.3	54	74	36.7	56.7	100	11.8	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 Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Restricted band (802.11nHT40 low channel)



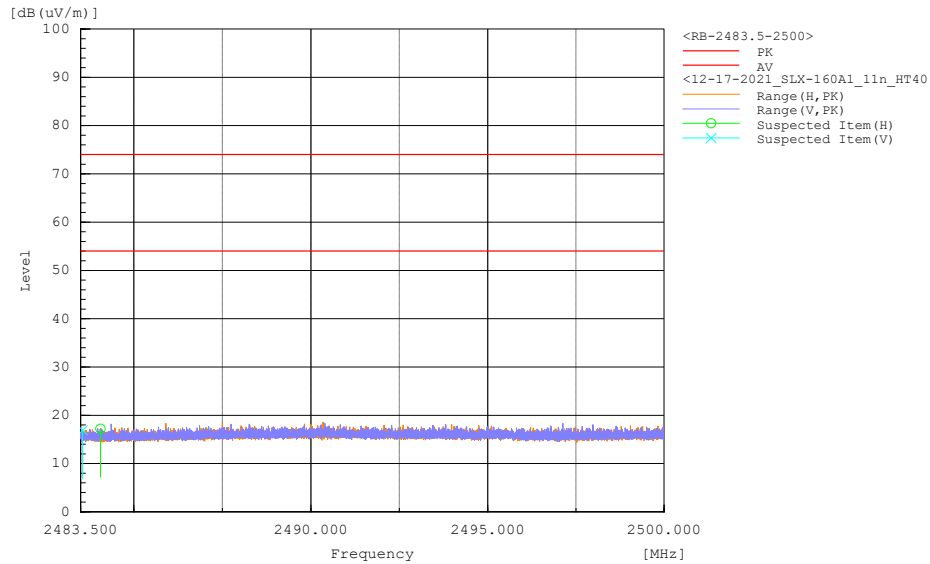
ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	2386.488	H	27.3	-11.7	15.6	54	74	38.4	58.4	100	7.8	Pass
2	2388.92	V	27.1	-11.7	15.4	54	74	38.6	58.6	100	229.4	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 Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

Restricted band (802.11nHT40 high channel)



ANTENNA POLARITY & test distance: HORIZONTAL & VERTICAL at 3 m

No	Frequency [MHz]	Pol	Reading [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit\AV [dB(uV/m)]	Limit\PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]	Height [cm]	Angle [deg]	Pass /Fail
1	2484.059	H	28.4	-11.2	17.2	54	74	36.8	56.8	100	8.9	Pass
2	2483.556	V	28.1	-11.2	16.9	54	74	37.1	57.1	100	349.1	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 Gain (dB)
3. Margin = Level (dBuV/m) - Limit value (dBuV/m)

4 Pictures of Test Arrangements

Please see setup photo file.

Appendix – Information on the Testing Laboratories

Bureau Veritas is a global leader in testing, inspection and certification (TIC) services. We help businesses improve safety, sustainability and productivity; and our clients include the majority of leading brands in retail, manufacturing and other industries. With a presence in every major country around the world, our quality assurance and compliance solutions are vital in helping our customers enhance product quality and concept-to-consumer journeys. We also assist with increasing speed to market, profitability and brand equity throughout the supply chain. Bureau Veritas is a leading wireless/IoT testing, inspection, audit and certification provider, with a global network of test laboratories to support the IoT industry in areas of connectivity, security, interoperability as well as quality, health & safety, and environmental/chemical requirements.

If you have any comments, please feel free to contact us at the following:

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The address and road map of all our labs can be found in our web site also.

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