

Prüfbericht-Nr.: <i>Test report no.:</i>	CN21Y2RP 001	Auftrags-Nr.: <i>Order no.:</i>	168296675	Seite 1 von 23 <i>Page 1 of 23</i>
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2020-12-22	
Auftraggeber: <i>Client:</i>	Phyn LLC 1855 Del Amo Blvd, Torrance, CA 90501, United States of America			
Prüfgegenstand: <i>Test item:</i>	Phyn Water Sensor			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	PHYCF006 (Trademark: PHYN)			
Auftrags-Inhalt: <i>Order content:</i>	FCC & IC approval			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.247 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 CFR47 FCC Part 15: Subpart B Section 15.109 CFR47 FCC Part 2: Section 2.1091 RSS-247 Issue 2 February 2017 RSS-Gen Issue 5 March 2019 RSS-102 Issue 5 March 2015 ICES-003 Issue 7 October 2020			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2021-01-05	Please refer to photo documents		
Prüfmuster-Nr.: <i>Test sample no.:</i>	A002976750-001 to 003			
Prüfzeitraum: <i>Testing period:</i>	2021-01-12 – 2021-02-01			
Ort der Prüfung: <i>Place of testing:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von: <i>tested by:</i>	genehmigt von: <i>authorized by:</i>			
Datum: <i>Date:</i> 2021-03-08	Ausstellungsdatum: <i>Issue date:</i> 2021-03-08			
Stellung / Position	Senior Project Engineer	Stellung / Position	Department Manager	
Sonstiges / Other:	FCC ID: 2ANC3PHYCF006 IC: 22979-PHYCF006; HVIN: PHYCF006			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged:</i>			
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specifications(s) F(ail) = failed a.m. test specifications(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

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Test Summary

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 MAXIMUM PEAK CONDUCTED OUTPUT POWER

RESULT: Pass

5.1.3 CONDUCTED POWER SPECTRAL DENSITY

RESULT: Pass

5.1.4 99%dB BANDWIDTH

RESULT: Pass

5.1.5 6dB BANDWIDTH

RESULT: Pass

5.1.6 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHz BANDWIDTH

RESULT: Pass

5.1.7 RADIATED SPURIOUS EMISSION

RESULT: Pass

5.1.8 RADIATED EMISSIONS

RESULT: Pass

6.1.1 ELECTROMAGNETIC FIELDS

RESULT: Pass

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1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Photographs of the Test Set-up

Appendix B: Test Results of Conducted Testing

Appendix C: Test Results of Radiated Testing

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.

No. 362 Huanguan Road Middle, Longhua District, 518110, Shenzhen, P. R. China.

FCC Registration No.: 694916

IC Registration No.: 25069

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2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Radio Spectrum Testing				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
Wireless Connectivity Tester	R&S	CMW270	101375	10.08.2021
Signal Analyzer	R&S	FSV 40	101441	10.08.2021
Vector Signal Generator	R&S	SMBV100A	263301	10.08.2021
Signal Generator	R&S	SMB100A	115186	10.08.2021
OSP	R&S	OSP 150	101017	10.12.2021
Control PC	DELL	OptiPlex 7050	FTJZ9P2	N/A
Test Software	R&S	WMS32 (V11.00.00)	N/A	N/A
Power Meter	R&S	NRP2	107105	10.12.2021
Power Sensor	R&S	NRP-Z81	105677	10.09.2021
Humid & Temp Programmable Tester	BOST	NTH090-60	19040801	10.04.2021
Shielding Room 8#	Albatross	SR8	APC17151-SR8	23.07.2021
Unwanted Emission Testing				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
EMI Test Receiver	R&S	ESR 7	102021	11.08.2021
Signal Analyzer	R&S	FSV 40	101439	10.08.2021
System Controller Interface	R&S	SCI-100	S10010038	N/A
Filterbank	R&S	Wlan	100759	10.08.2021
OSP	R&S	OSP 120	102040	N/A
Pre-amplifier	R&S	SCU08F1	08320031	10.08.2021
Amplifier	R&S	SCU-18F	180070	10.08.2021
Amplifier	R&S	SCU40A	100475	10.09.2021
Trilog Broadband Antenna (30 MHz - 7 GHz)	Schwarzbeck	VULB 9162	193	08.08.2022
Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218717	08.08.2022
Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19067	08.08.2022
Active Loop Antenna	Schwarzbeck	FMZB 1513	302	13.09.2022
Wideband Ridged Horn Antenna (12-18 GHz)	Steatite	QMS-00208	18313	02.09.2021
Test software	R&S	EMC32 (V10.60.10)	N/A	N/A

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Control PC	Dell	OptiPlex 7050	36NV9P2	N/A
3m Semi-Anechoic Chamber	Albatross	SAC-3m	APC17151-SAC	06.07.2021
Radiated Emission Testing				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
3m SAC	ETS	SAC3	CT001632-Q1362	23.08.2021
EMI Test Receiver	R&S	ESR7	102111	23.01.2022
Horn Antenna	R&S	HF907	102706	01.09.2021
Preamplifier	FIT	SCU-18F	180077	19.08.2021
Active magnetic loop antenna	SCHWARZBECK	FMZB1519B	00080	19.08.2021
Trilog-Broadband antenna	SCHWARZBECK	VULB9168	0945	12.09.2021
Switching Controller Interface	R&S	OSP 120	102039	N/A
EMC32 test software	R&S	EMC32(Ver.10.50.01)	N/A	N/A

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table.

Item		Extended Uncertainty
Radiated Emission (30-1000MHz)	Field strength (dBμV/m)	4.27dB
Radiated Emission (above 1000MHz)	Field strength (dBμV/m)	4.46dB
Radio Spectrum		± 1.5 dB

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B & C of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at No. 362 Huanguan Road Middle, Longhua District, 518110, Shenzhen, P. R. China. is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The EUT is a Phyn Water Sensor, it supports 802.11 b/g/n-HT20 wireless technology.

This product has two alternative sensor cable:

- 1、Phyn Water Sensor Extension Node(PHYCF007)
- 2、Phyn Water Sensor Cable(PHYCF008)

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment	Phyn Water Sensor
Type Designation	PHYCF006
Trade Mark	PHYN
FCC ID	2ANC3PHYCF006
IC	22979-PHYCF006
HVIN	PHYCF006
Operating Voltage	DC 3V via 2*AA batteries
Testing Voltage	DC 3V
Technical Specification of Wi-Fi 802.11 b/g/n Wi-Fi	
Operating Frequency	2412 - 2462 MHz for 802.11b/g/n(HT20)
Type of Modulation	DSSS(DBPSK/DQPSK/CCK) OFDM(BPSK/QPSK/16QAM/64QAM)
Data Rate	1/2/5.5/11 Mbps for 802.11b 6/9/12/18/24/36/48/54 Mbps for 802.11g MCS0 ~ MCS7 for 802.11n
Channel Number	11 channels for 802.11b/g/n(HT20)
Channel Separation	5 MHz
Antenna Type	Integral Antenna
Gain	2.50 dBi

Table 3: RF Channel and Frequency of Wi-Fi 802.11 b/g/n

RF Channel and Frequency of Wi-Fi b/g/n(HT20)					
RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
01	2412	05	2432	09	2452
02	2417	06	2437	10	2457
03	2422	07	2442	11	2462
04	2427	08	2447	/	/

Test frequencies are lowest channel: 2412 MHz, middle channel: 2437 MHz and highest channel: 2462 MHz for 802.11b/g/n(HT20)

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Wi-Fi 802.11 b/g/n wireless transmitting
 - 1. Low channel
 - 2. Middle channel
 - 3. High channel
- B. On, Connect to router via Wi-Fi
- C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Application Form
- Block Diagram
- FCC/IC Label and Location Info
- Operation Description
- Photo Document
- Schematics
- User Manual

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.10: 2013.

4.3 Special Accessories and Auxiliary Equipment

Table 4: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N
Notebook	LENOVO	ThinkPad X260	PC0GP71G
Router	HUAWEI	B310As	N/A

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 30MHz)

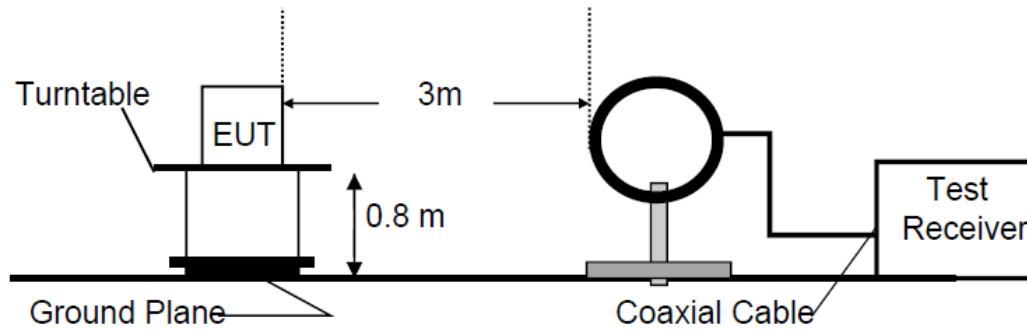


Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

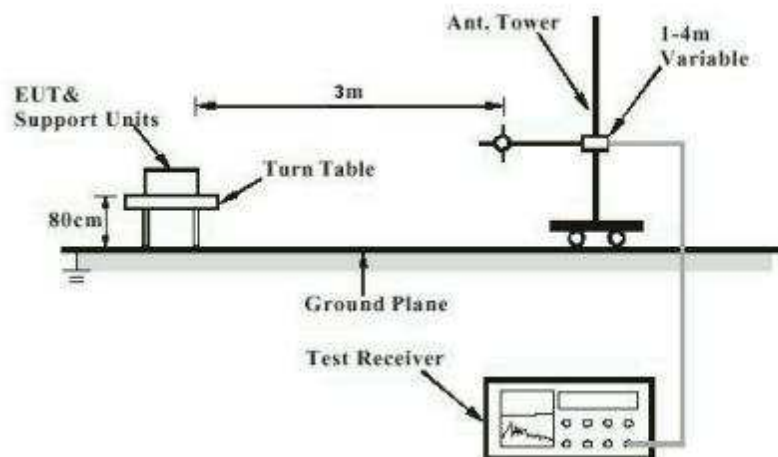


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

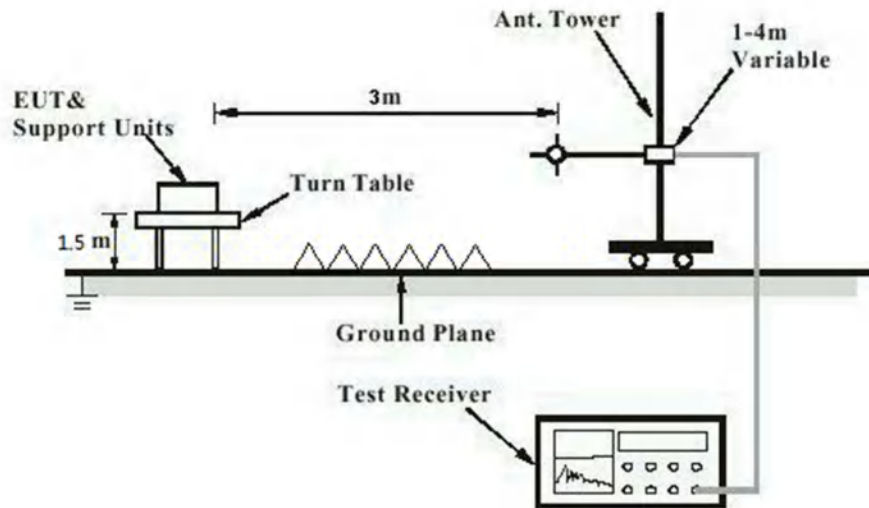
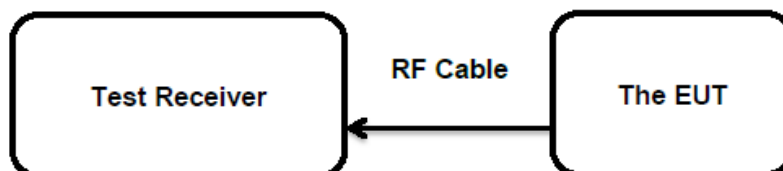


Diagram of Measurement Configuration for Conducted Transmitter Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:

Pass

Test Specification

Test standard	:	FCC Part 15.247(b)(4) and Part 15.203
Limit	:	the use of antennas with directional gains that do not exceed 6 dBi

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is 2.5 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

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5.1.2 Maximum Peak Conducted Output Power

RESULT:

Pass

Test Specification

Test standard : FCC Part 15.247(b)(3)
RSS-247 Clause 5.4(2)&(4)
Basic standard : ANSI C63.10: 2013
Limits : < 1 Watt (Maximum Conducted Peak Power)
e.i.r.p. <4W
Kind of test site : Shielded Room

Test Setup

Date of testing : 2021.01.29
Input voltage : DC 3V
Operation mode : A
Test channel : Low / Middle / High
Ambient temperature : 25 °C
Relative humidity : 56 %
Atmospheric pressure : 101 kPa

For details refer to following test result.

Table 5: Test Result of Maximum Peak Conducted Output Power, Wi-Fi 802.11 b/g/n

Mode	802.11b			802.11g		
Data Rate	1Mbps			6Mbps		
Channel	1	6	11	1	6	11
Frequency (MHz)	2412	2437	2462	2412	2437	2462
Peak. Power (dBm)	16.8	12.9	12.9	19.3	20.4	19.4
Mode	802.11n HT20					
Data Rate	MCS0 6.5Mbps					
Channel	1	6	11			
Frequency (MHz)	2412	2437	2462			
Peak. Power (dBm)	16.5	20.3	16.8			

Note: The cable loss is taken into account in results and the e.i.r.p. is 22.9 dBm less than 4W (36 dBm).

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5.1.3 Conducted Power Spectral Density

RESULT:

Pass

Test Specification

Test standard : FCC Part 15.247(e)
RSS-247 Clause 5.2(2)
Basic standard : ANSI C63.10: 2013
Limits : 8 dBm / 3kHz
Kind of test site : Shielded Room

Test Setup

Date of testing : 2021.01.29
Input voltage : DC 3V
Operation mode : A
Test channel : Low / Middle / High
Ambient temperature : 25 °C
Relative humidity : 56 %
Atmospheric pressure : 101 kPa

For details refer to following test result.

Table 6: Test Result of Power Spectral Density

Test Mode	Data Rate	Frequency (MHz)	Measured Peak Power Spectral Density (dBm/3KHz)
802.11b	1 Mbps	2412	-11.48
		2437	-15.34
		2462	-14.51
802.11g	6 Mbps	2412	-11.51
		2437	-12.71
		2462	-12.34
802.11n (HT20)	MCS0	2412	-13.74
		2437	-11.85
		2462	-13.58
Maximum Measured Value			-11.48

Note: The cable loss is taken into account in results.

For the measurement records, refer to the appendix B.

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5.1.4 99%dB Bandwidth

RESULT:

Pass

Test Specification

Test standard : RSS-Gen clause 6.7
Basic standard : ANSI C63.10: 2013
Kind of test site : Shielded Room

Test Setup

Date of testing : 2021.01.12
Input voltage : DC 3V
Operation mode : A
Test channel : Low / Middle / High
Ambient temperature : 25 °C
Relative humidity : 56 %
Atmospheric pressure : 101 kPa

Table 7: Test Result of 99% Bandwidth

Test Mode	Data Rate	Frequency (MHz)	99% Bandwidth (MHz)	Limit (MHz)
802.11b	1 Mbps	2412	14.100	/
		2437	13.900	
		2462	13.900	
802.11g	6 Mbps	2412	16.500	
		2437	16.600	
		2462	16.400	
802.11n (HT20)	MCS0	2412	17.500	
		2437	17.600	
		2462	17.500	
Minimum Measured Value			13.900	

For the measurement records, refer to the appendix B.

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5.1.5 6dB Bandwidth

RESULT:

Pass

Test Specification

Test standard : FCC Part 15.247(a)(2)
RSS-247 Clause 5.2(a)
Basic standard : ANSI C63.10: 2013
Limits : > 500 KHz
Kind of test site : Shielded Room

Test Setup

Date of testing : 2021.01.12
Input voltage : DC 3V
Operation mode : A
Test channel : Low / Middle / High
Ambient temperature : 25 °C
Relative humidity : 56 %
Atmospheric pressure : 101 kPa

For details refer to following test result.

Table 8: Test Result of 6dB Bandwidth

Test Mode	Data Rate	Frequency (MHz)	-6dB Bandwidth (MHz)	Limit (kHz)
802.11b	1 Mbps	2412	9.15	> 500
		2437	9.15	
		2462	9.15	
802.11g	6 Mbps	2412	15.20	
		2437	15.15	
		2462	15.20	
802.11n (HT20)	MCS0	2412	15.20	
		2437	15.20	
		2462	15.20	
Minimum Measured Value			9.15	

For the measurement records, refer to the appendix B.

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5.1.6 Conducted Spurious Emissions Measured in 100 kHz Bandwidth

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.247(d) RSS-247 Clause 5.5
Basic standard	: ANSI C63.10: 2013
Limits	: 30dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power); In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a)
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2021.01.12
Input voltage	: DC 3V
Operation mode	: A
Test channel	: Low / Middle / High
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

Test results of 100kHz Bandwidth of Frequency Band Edge by Conducted method refer to test plots, and compliance is achieved as well.

For the measurement records, refer to the appendix B.

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5.1.7 Radiated Spurious Emission

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.247(d) & FCC Part 15.205 RSS-247 Clause 3.3 & 5.5
Basic standard	: ANSI C63.10: 2013
Limits	: Refer to 15.209(a) of FCC part 15.247(d) RSS-Gen Table 4 & Table 5
Kind of test site	: 3m Semi-anechoic Chamber

Test Setup

Date of testing	: 2021.01.18 – 2021.01.26
Input voltage	: DC 3V
Operation mode	: A
Test channel	: Low / Middle / High
Ambient temperature	: 23°C
Relative humidity	: 47 %
Atmospheric pressure	: 101 kPa

Remark:

Testing was carried out within frequency range 9kHz to the tenth harmonics. Only the worst case spurious emissions configuration of the each mode were reported.

For the measurement records, refer to the appendix C.

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5.1.8 Radiated Emissions

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.109(a) & ICES-003
Basic standard	: ANSI C63.4:2014
Frequency range	: 30 - 6000MHz
Classification	: Class B
Limit	: FCC Part 15.109(a) ICES-003 Table 2 & Table 4
Kind of test site	: 10m Semi-anechoic Chamber

Test Setup

Date of testing	: 2021.02.01
Input voltage	: DC 3V
Operation mode	: B
Earthing	: Not connected
Ambient temperature	: 23 °C
Relative humidity	: 48 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the following test plots.

Remark: The limit of below radiated emission test data is from FCC part 15.109, it also meets the limit of ICES-003 issue 7.

6 Safety Human Exposure

6.1 Radio Frequency Exposure Compliance

6.1.1 Electromagnetic Fields

RESULT:

Pass

Test Specification

Test standard

: CFR47 FCC Part 2: Section 2.1091

CFR47 FCC Part 1: Section 1.1310

FCC KDB Publication 447498 v06

FCC KDB Publication 865664 D02 v01r02

OET Bulletin 65 (Edition 97-01)

RSS-102 Issue 5 March 2015

FCC requirement: Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 20cm normally can be maintained between the user and the device.

MPE Calculation Method according to OET Bulletin 65

Power Density: $S_{(mW/cm^2)} = PG/4\pi R^2$ or $EIRP/4\pi R^2$

Where:

S = power density (mW/cm²)

P = power input to the antenna (mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (cm)

The nominal maximum conducted output power specified:

802.11b/g/n: 20.40 dBm

From the peak RF output power, the minimum mobile separation distance, d=20 cm, as well as the antenna gain (2.5 dBi 802.11b/g/n), the RF power density can be calculated as below:

For 802.11b/g/n: $S_{(mW/cm^2)} = PG/4\pi R^2 = 0.039 \text{ mW/cm}^2$

Limits for Maximum Permissible Exposure (MPE) according to FCC Part 1.1310: 1.0 mW/cm²

➤ **IC requirements:** The EUT shall comply with the requirement of RSS-102 section 2.5.2.

Exemption from Routine Evaluation Limits – RF Exposure Evaluation

RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;

- RF exposure evaluation exempted power for 2.4G DTS: 2.676 W

The nominal maximum conducted output power specified:

802.11b/g/n: 20.40 dBm

Antenna Gain: 2.5 dBi 802.11b/g/n

The Max. e.i.r.p. for 802.11b/g/n: 22.9 dBm = 0.195 W

The e.i.r.p. for the EUT is less than the RF exposure evaluation exempted power. So RF exposure evaluation is not required.

“RF Radiation Exposure Statement Caution: This Transmitter must be installed to provide a separation distance of at least 20 cm from all persons.”

7 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix A.

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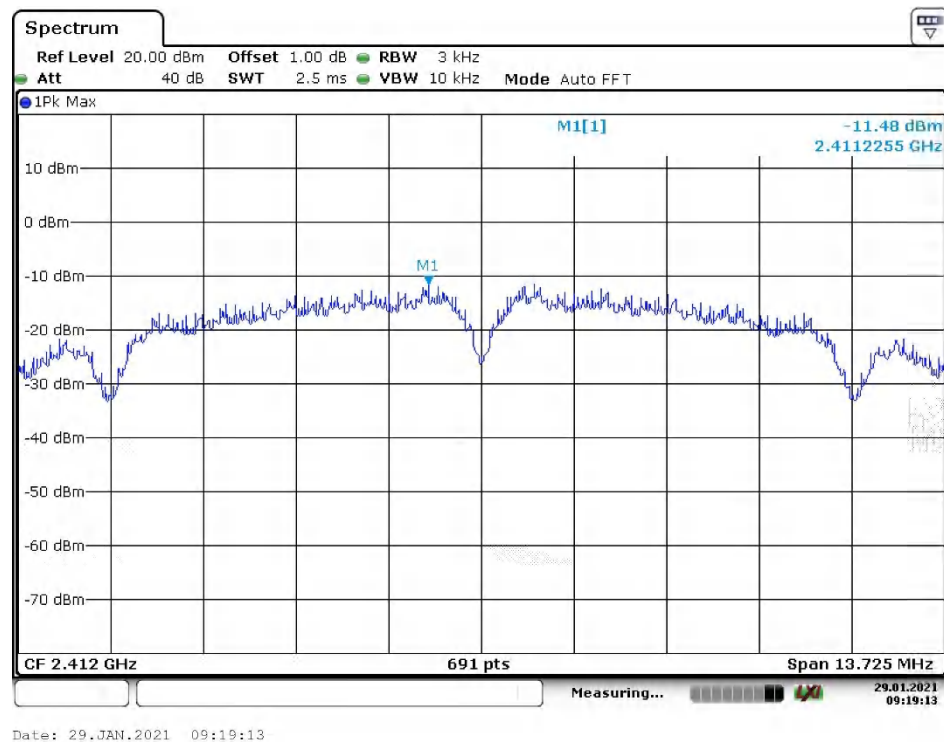
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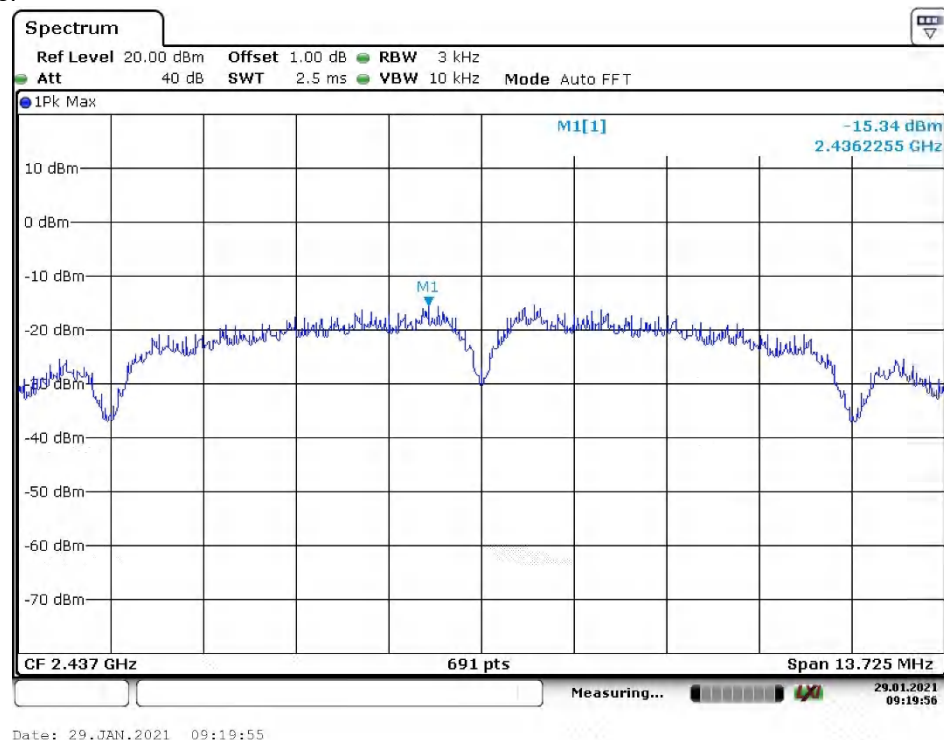
Appendix B.1: Conducted Power Spectral Density

Wi-Fi 802.11 b mode, 1 Mbps

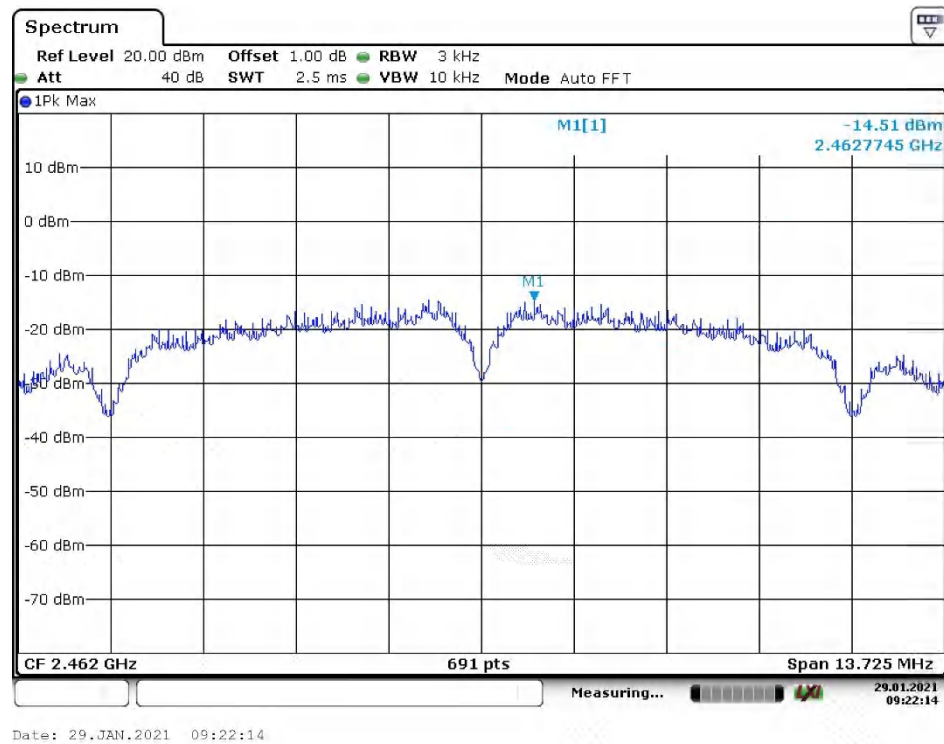
Low Channel



Middle Channel

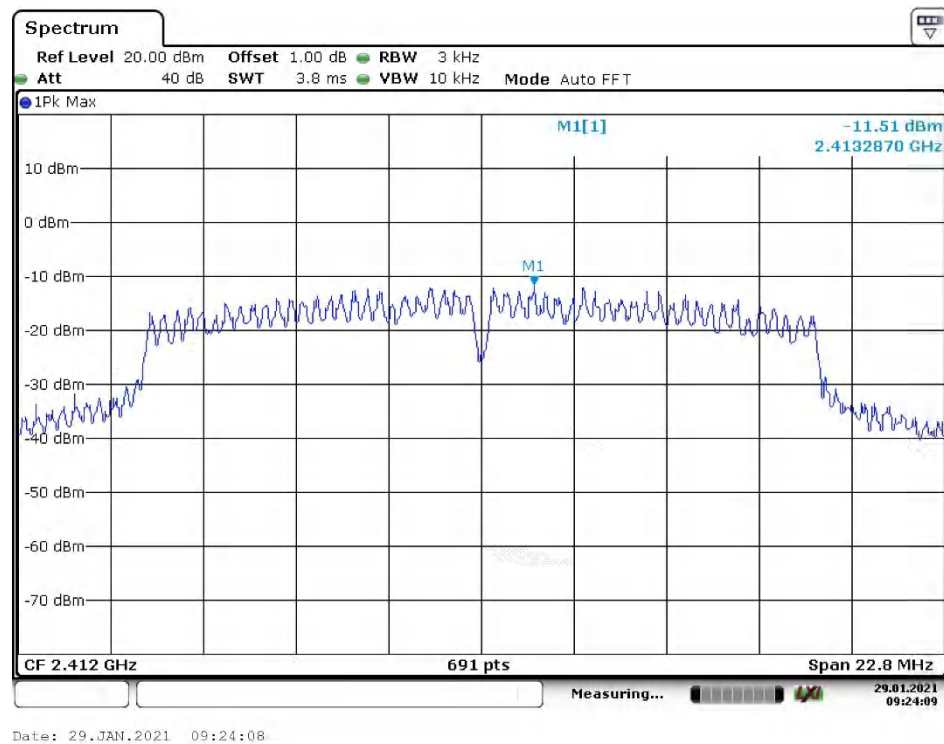


High Channel

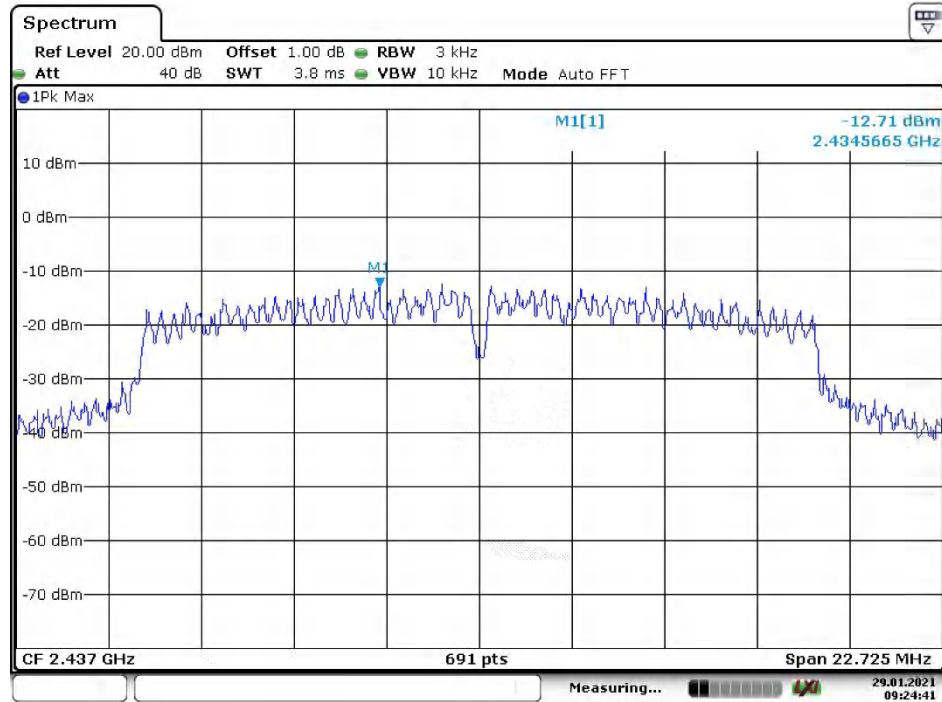


Wi-Fi 802.11 g mode, 6 Mbps

Low Channel

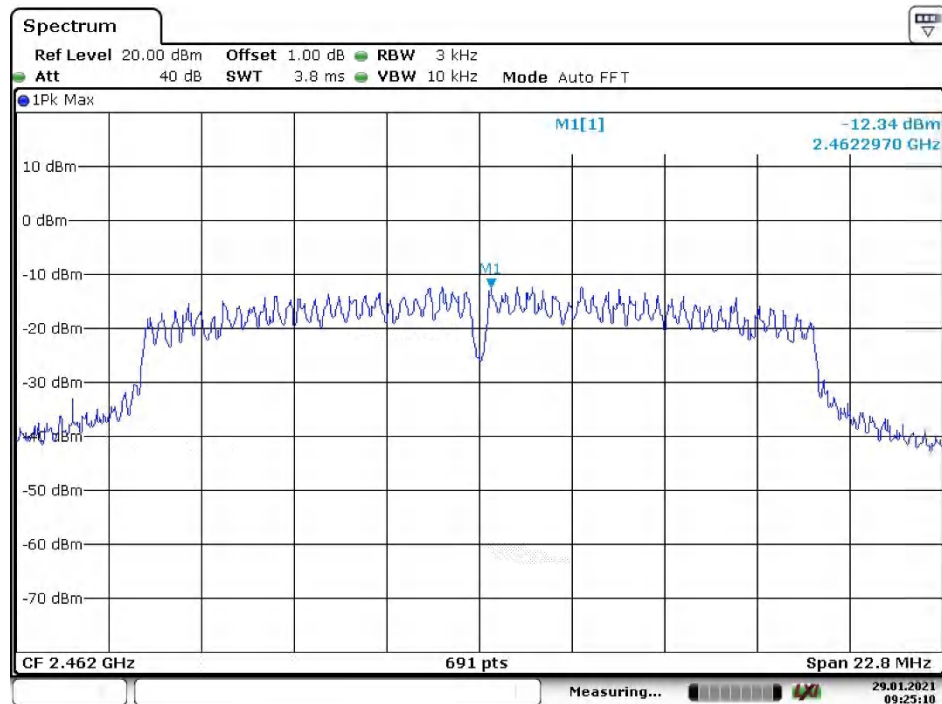


Middle Channel



Date: 29.JAN.2021 09:24:41

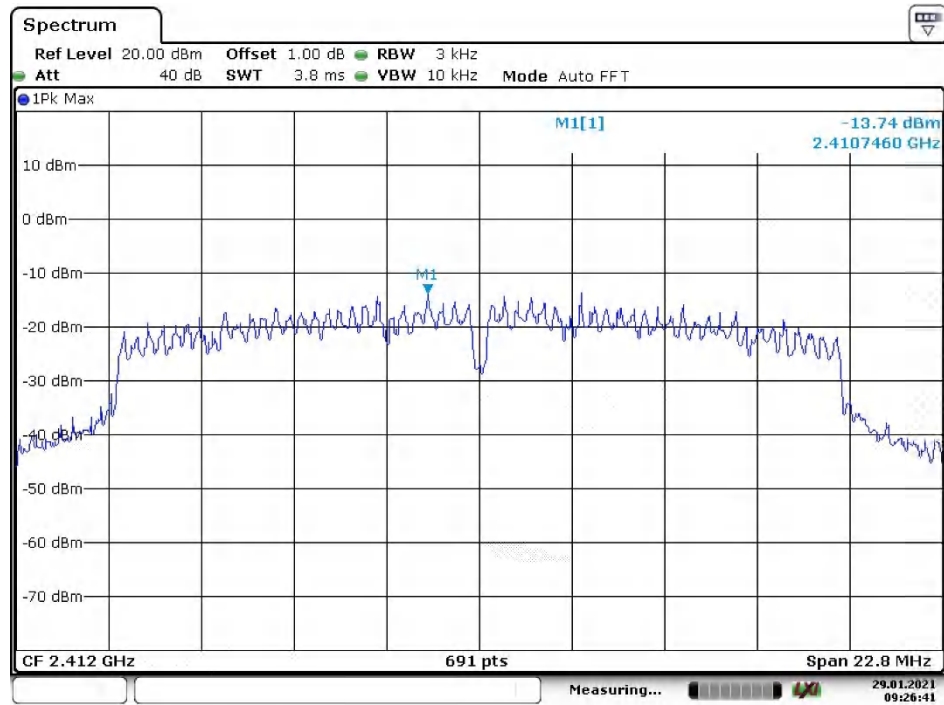
High Channel



Date: 29.JAN.2021 09:25:10

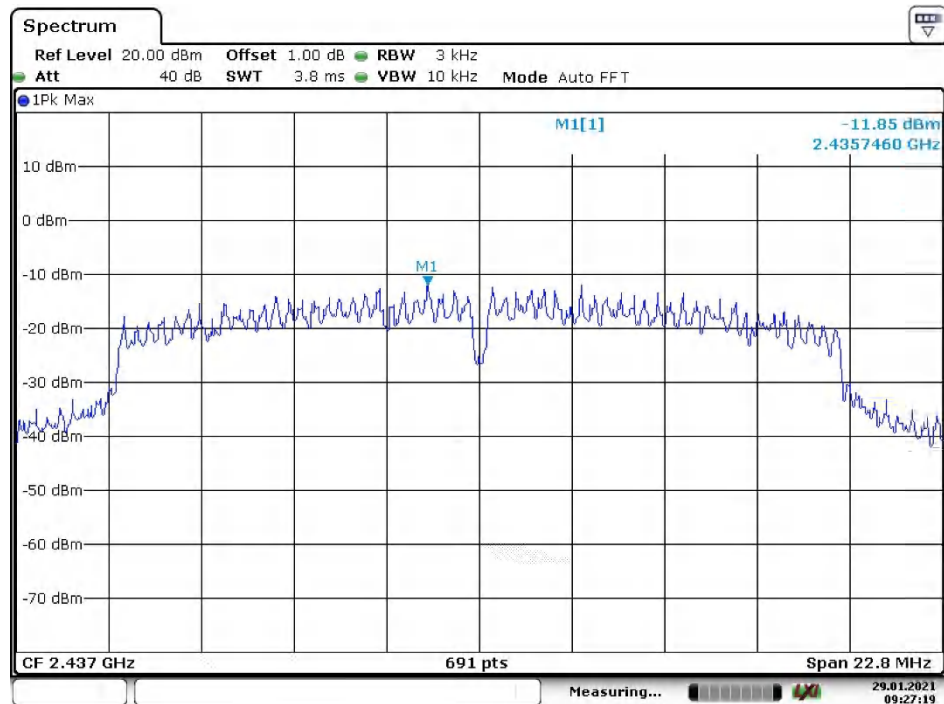
Wi-Fi 802.11 n(HT20) mode, MCS0

Low Channel



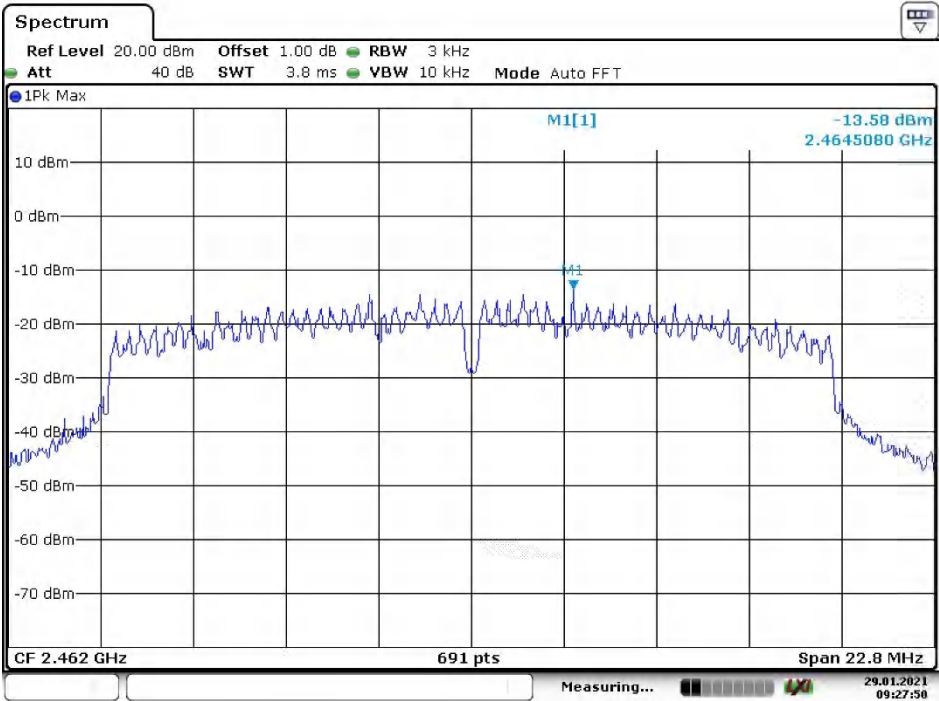
Date: 29.JAN.2021 09:26:40

Middle Channel



Date: 29.JAN.2021 09:27:19

High Channel



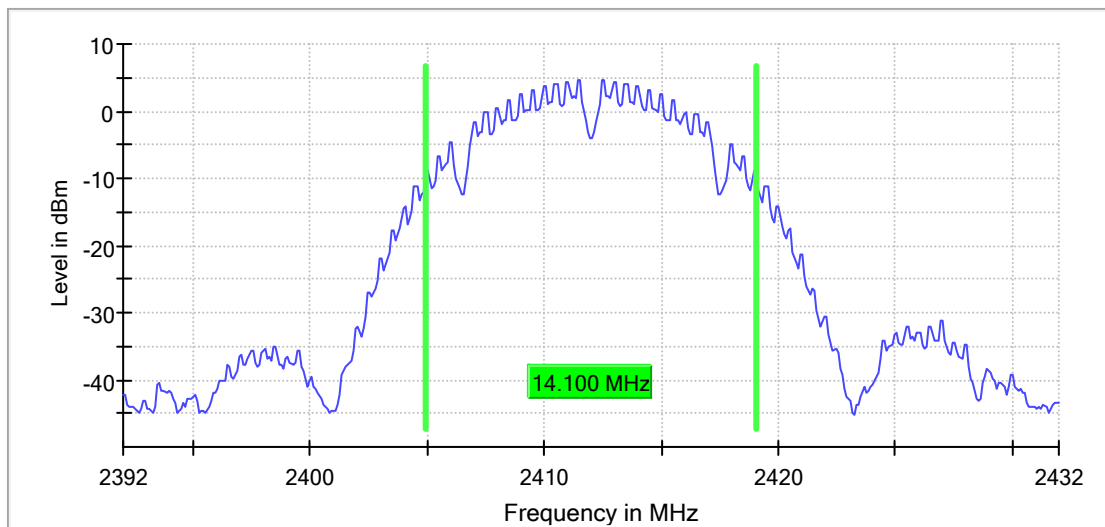
Date: 29.JAN.2021 09:27:50

Appendix B.2: 99% Bandwidth

Wi-Fi 802.11 b mode, 1 Mbps

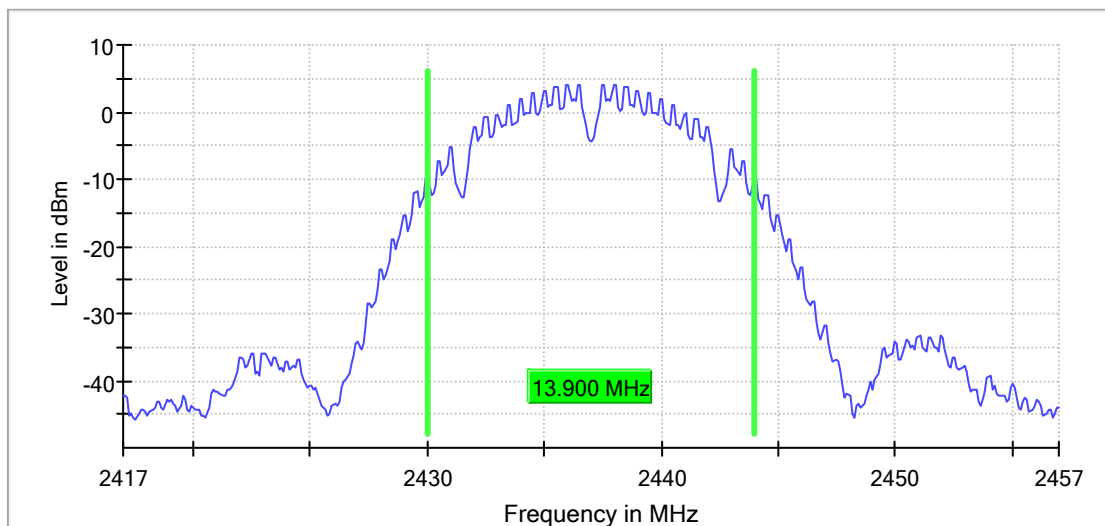
Low Channel
RBW=200KHz, VBW=1MHz

99 % Bandwidth

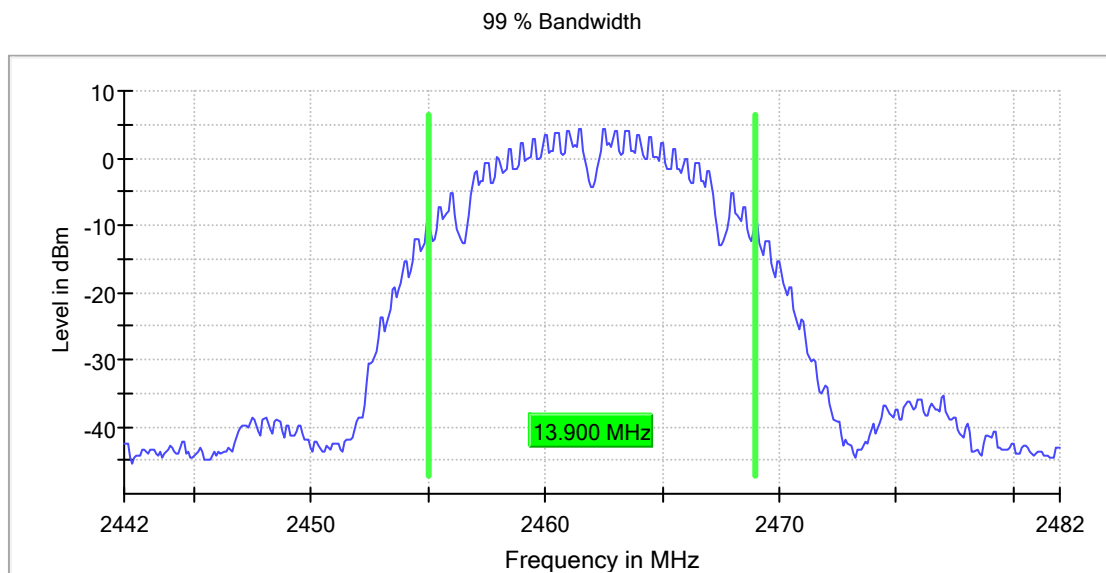


Middle Channel
RBW=200KHz, VBW=1MHz

99 % Bandwidth

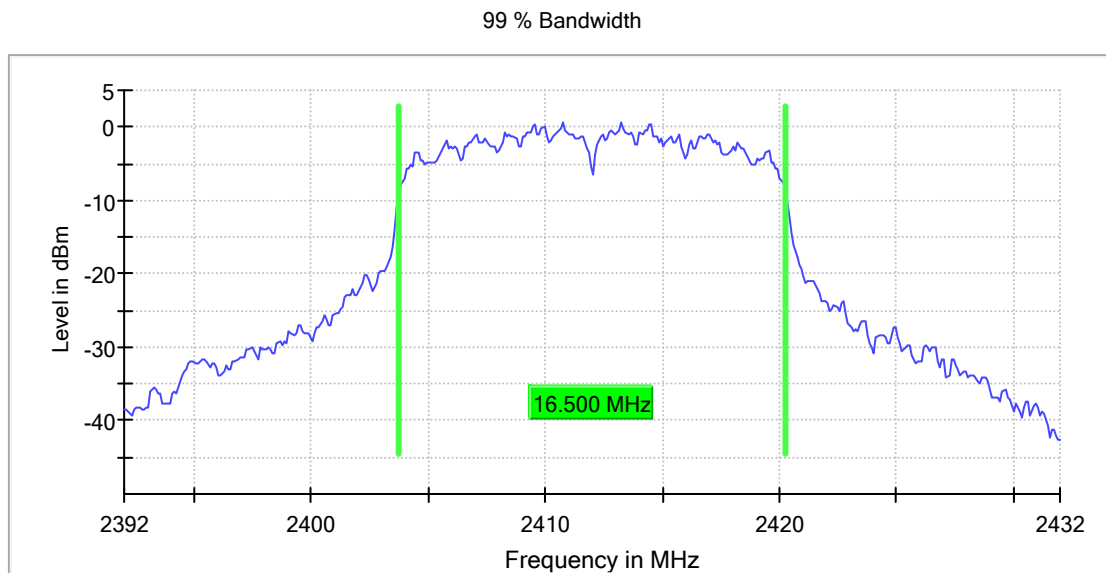


High Channel
RBW=200KHz, VBW=1MHz



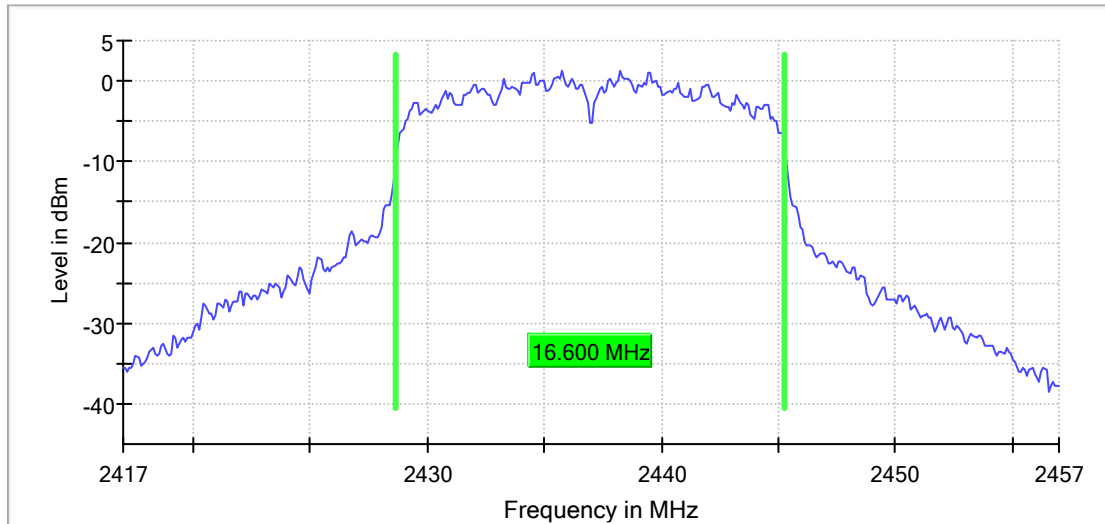
Wi-Fi 802.11 g mode, 6 Mbps

Low Channel
RBW=200KHz, VBW=1MHz



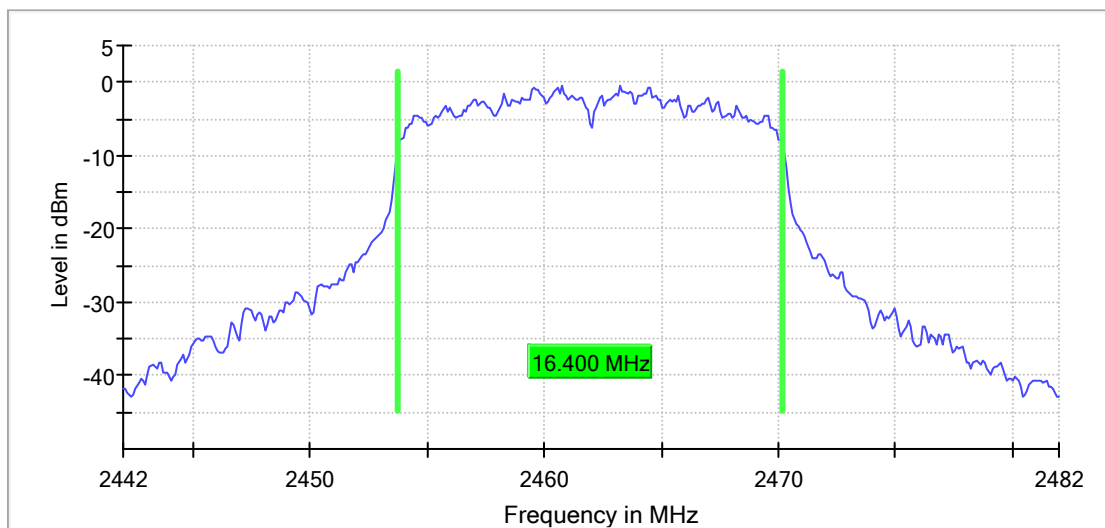
Middle Channel
RBW=200KHz, VBW=1MHz

99 % Bandwidth



High Channel
RBW=200KHz, VBW=1MHz

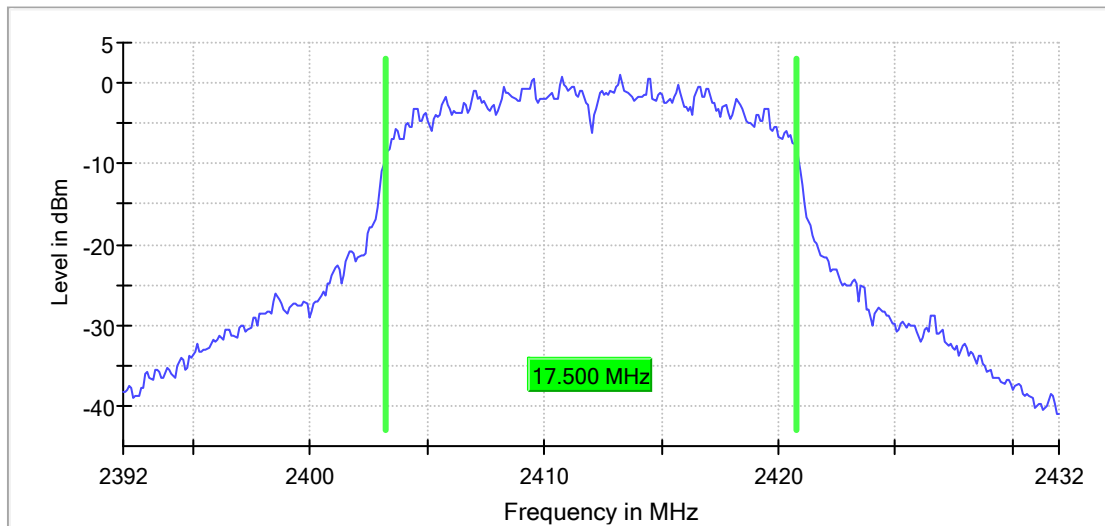
99 % Bandwidth



Wi-Fi 802.11 n(HT20) mode, MCS0

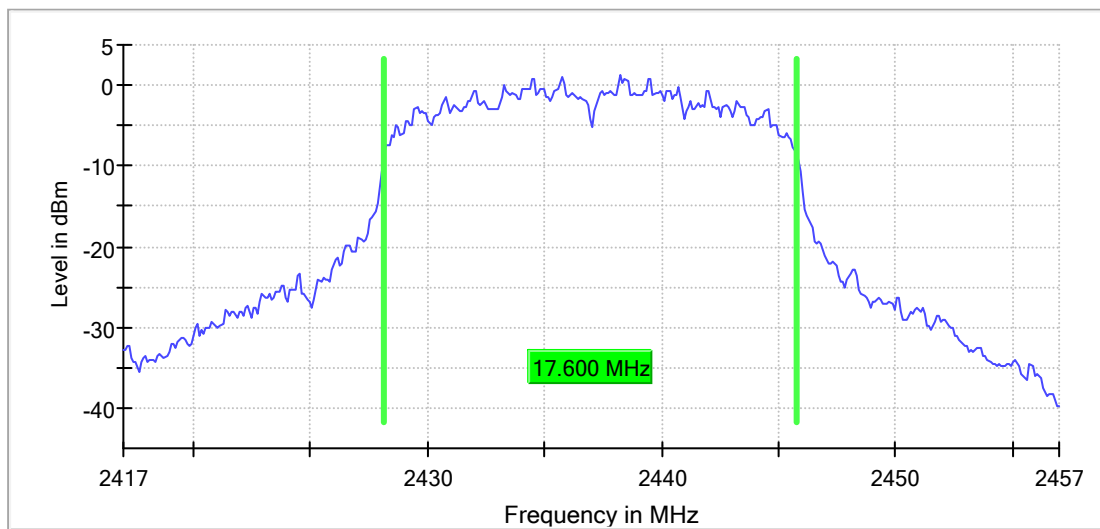
Low Channel
RBW=200KHz, VBW=1MHz

99 % Bandwidth



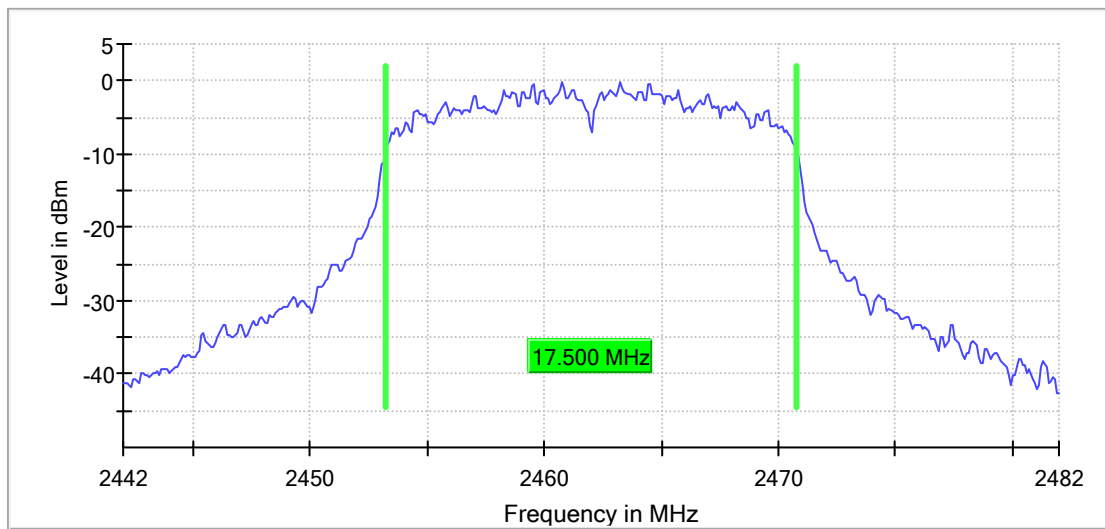
Middle Channel
RBW=200KHz, VBW=1MHz

99 % Bandwidth



High Channel
RBW=200KHz, VBW=1MHz

99 % Bandwidth

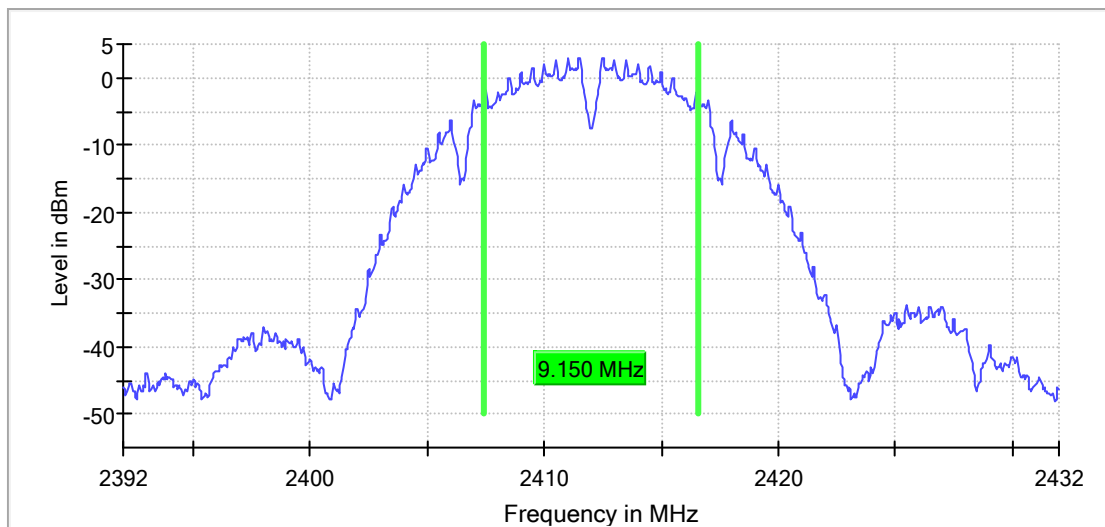


Appendix B.3: 6dB Bandwidth

Wi-Fi 802.11 b mode, 1 Mbps

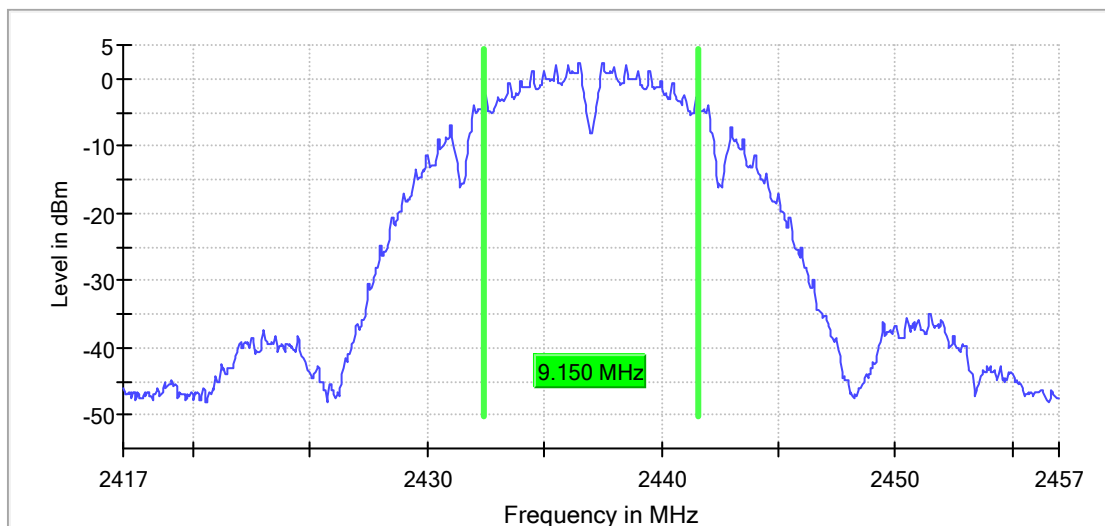
Low Channel
RBW=100KHz, VBW=300KHz

6 dB Bandwidth



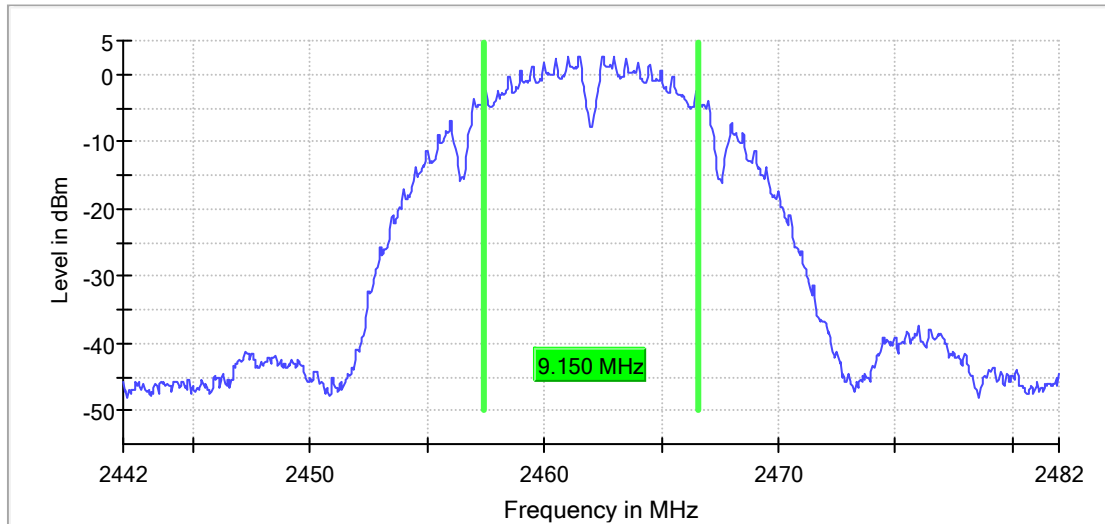
Middle Channel
RBW=100KHz, VBW=300KHz

6 dB Bandwidth



High Channel
RBW=100KHz, VBW=300KHz

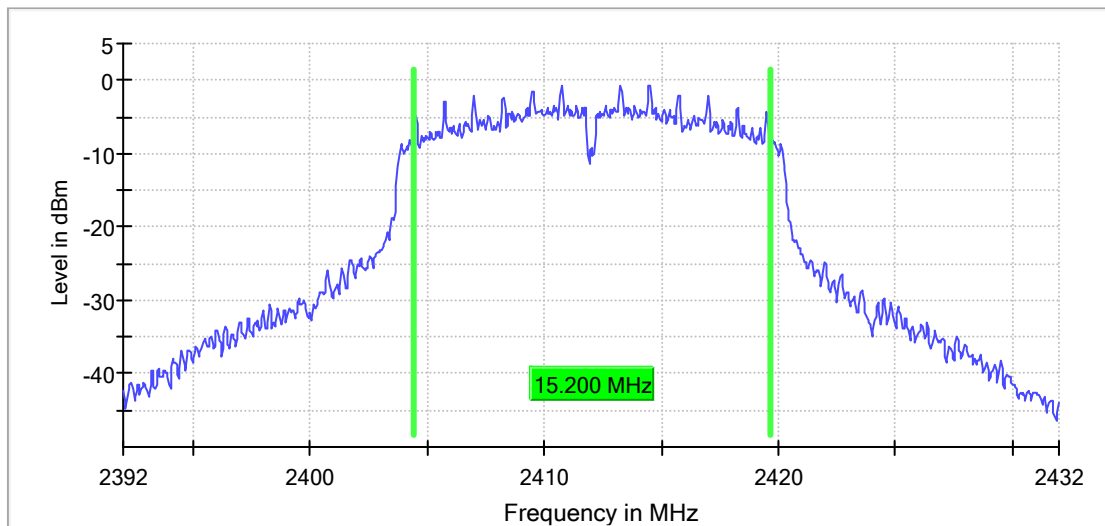
6 dB Bandwidth



Wi-Fi 802.11 g mode, 6 Mbps

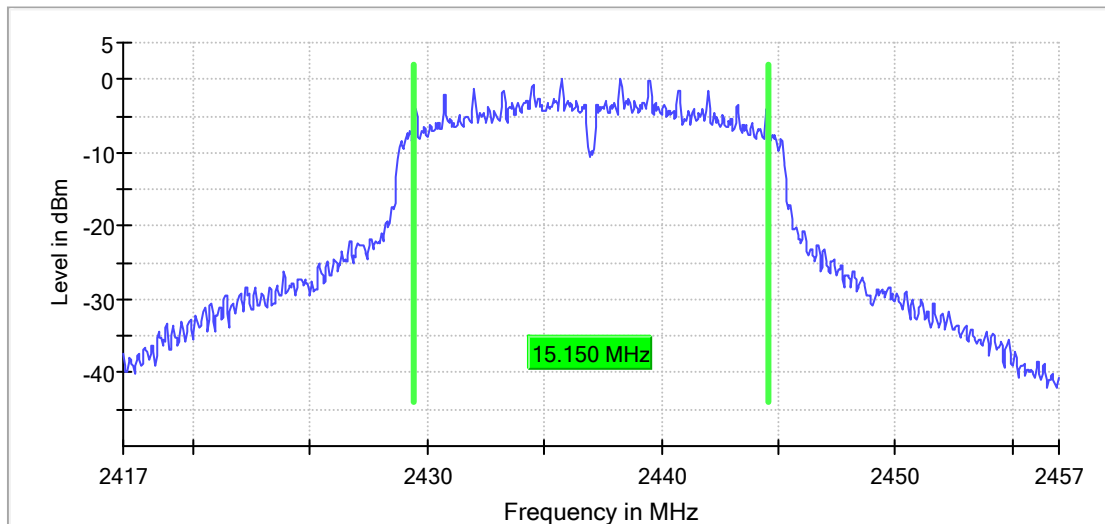
Low Channel
RBW=100KHz, VBW=300KHz

6 dB Bandwidth



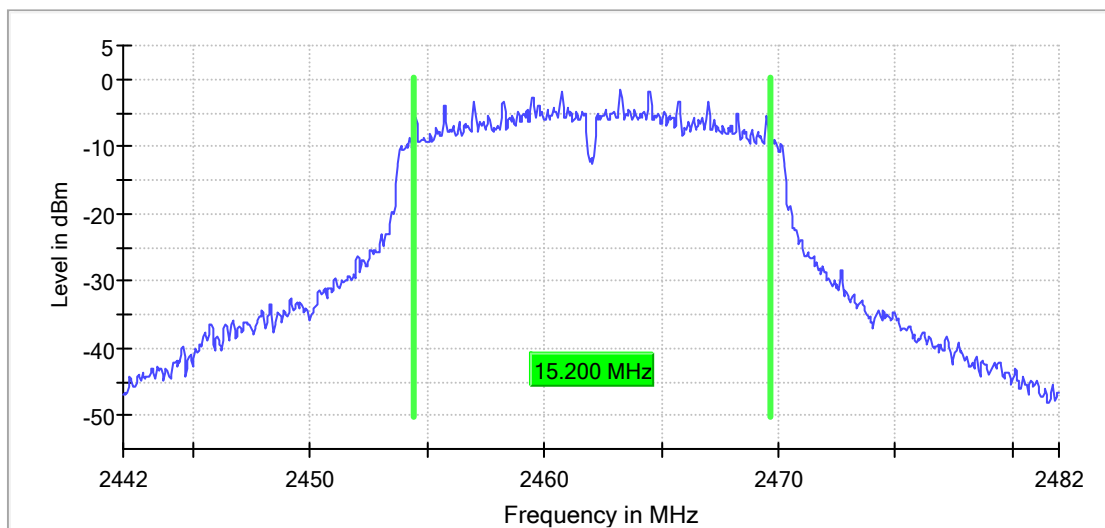
Middle Channel
RBW=100KHz, VBW=300KHz

6 dB Bandwidth



High Channel
RBW=100KHz, VBW=300KHz

6 dB Bandwidth

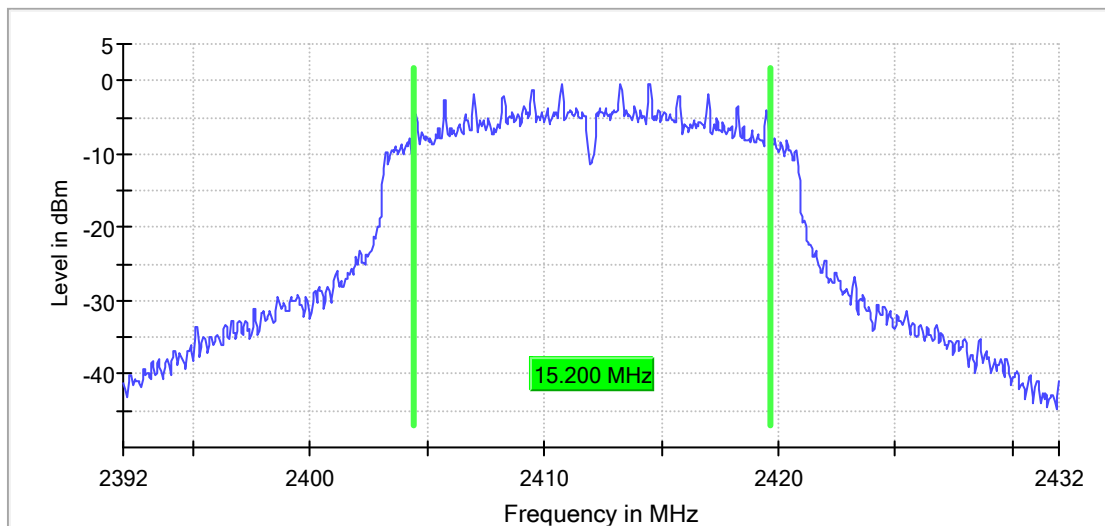


Wi-Fi 802.11 n(HT20) mode, MCS0

Low Channel

RBW=100KHz, VBW=300KHz

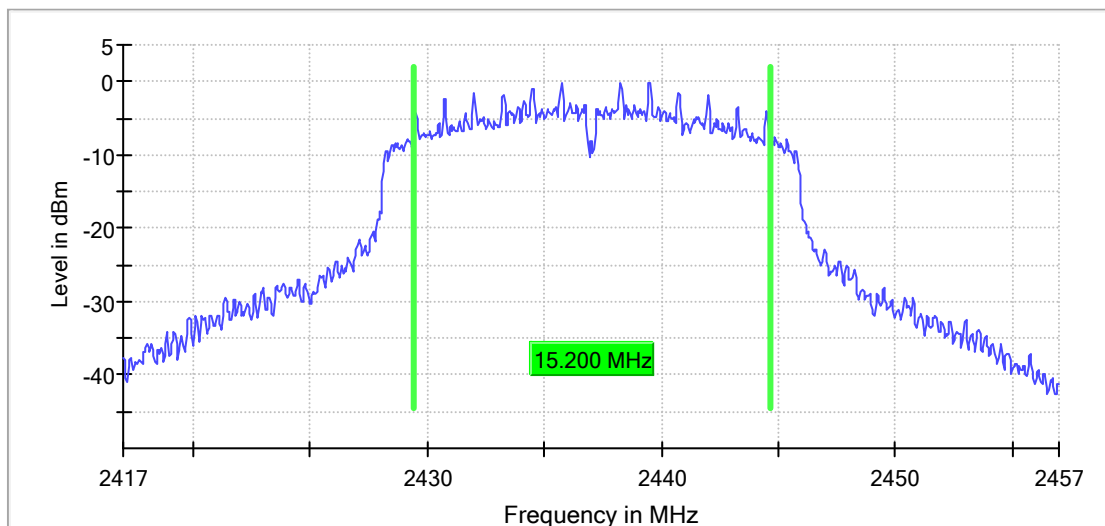
6 dB Bandwidth



Middle Channel

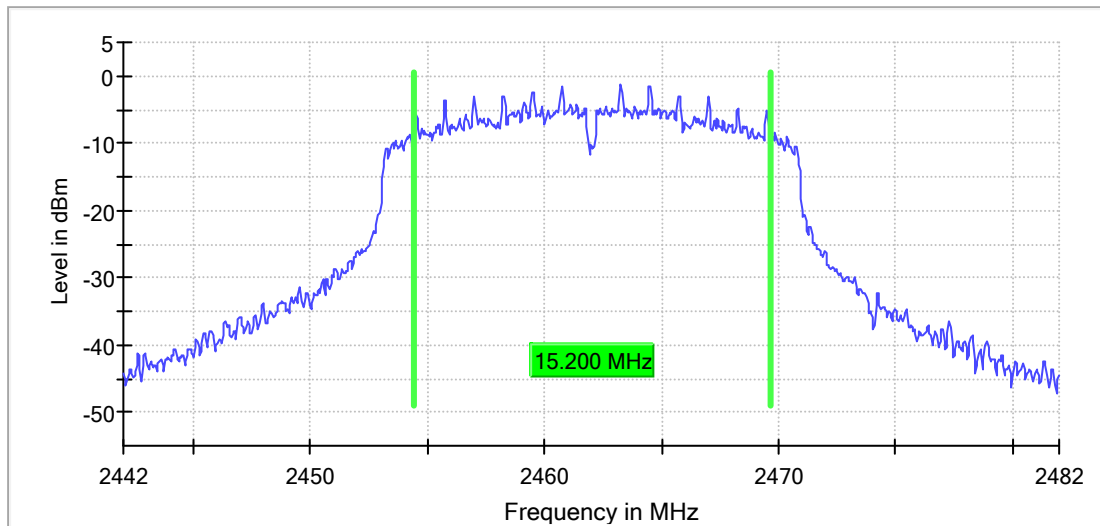
RBW=100KHz, VBW=300KHz

6 dB Bandwidth



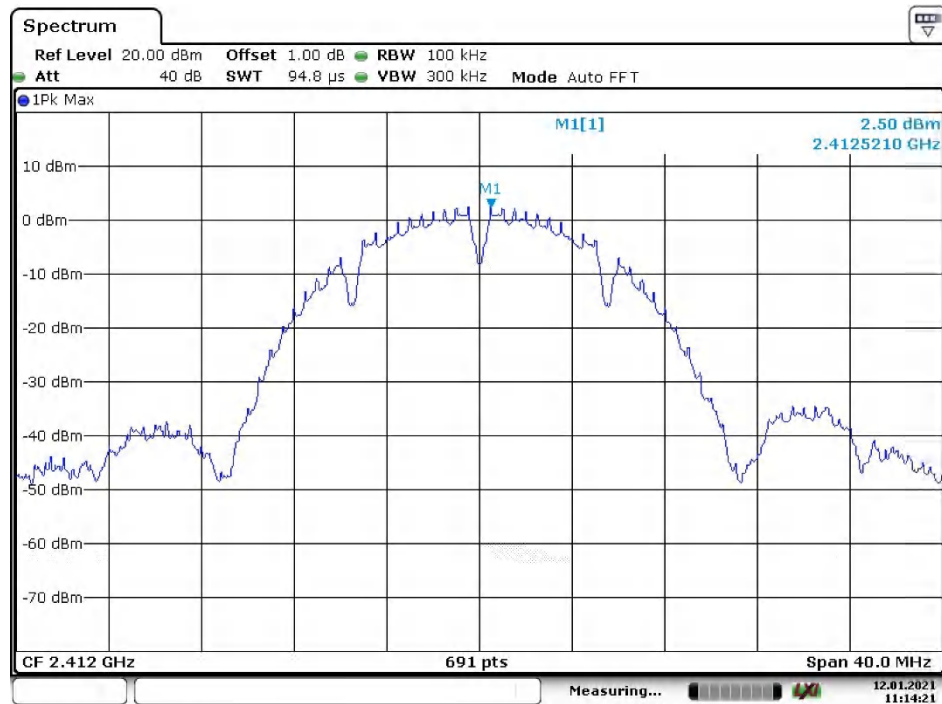
High Channel
RBW=100KHz, VBW=300KHz

6 dB Bandwidth

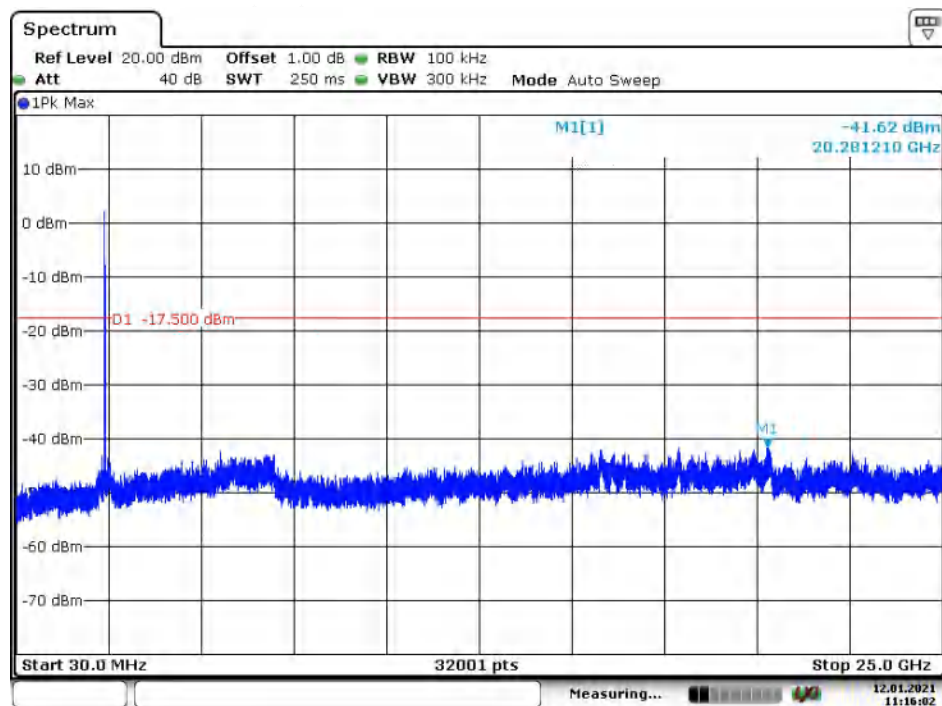


Appendix B.4: Conducted Spurious Emissions Measured in 100 kHz Bandwidth

Wi-Fi 802.11 b mode, 1 Mbps
Low Channel

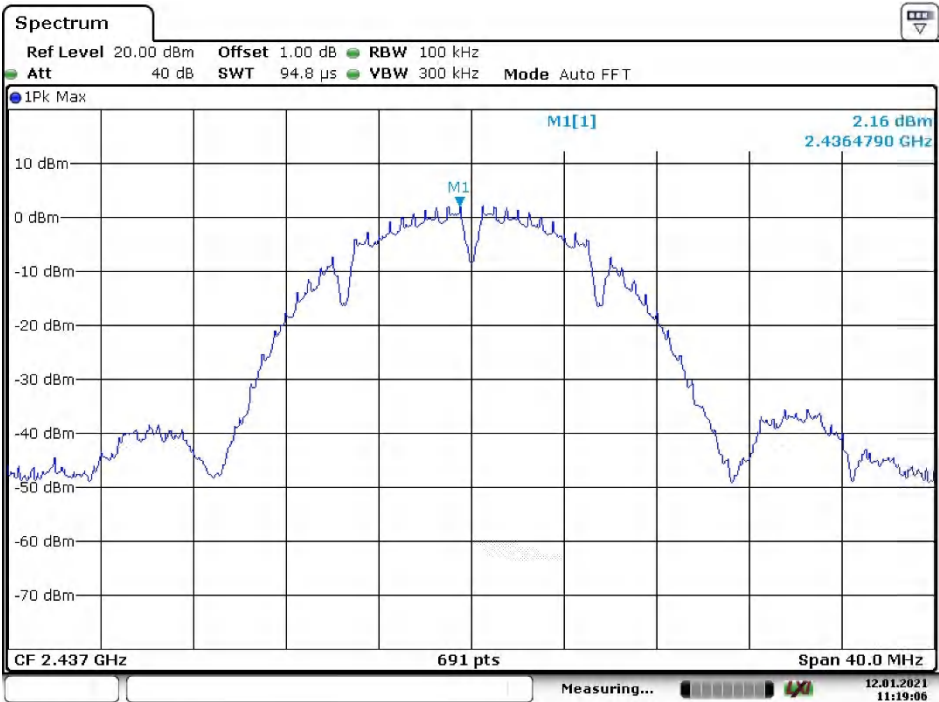


Date: 12.JAN.2021 11:14:22

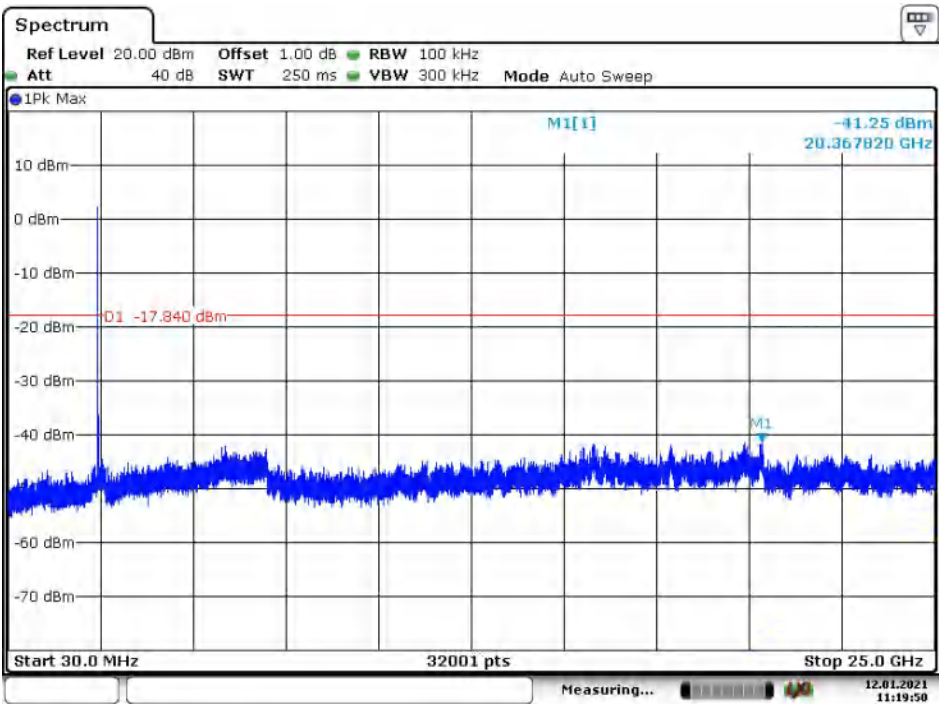


Date: 12.JAN.2021 11:16:02

Middle Channel

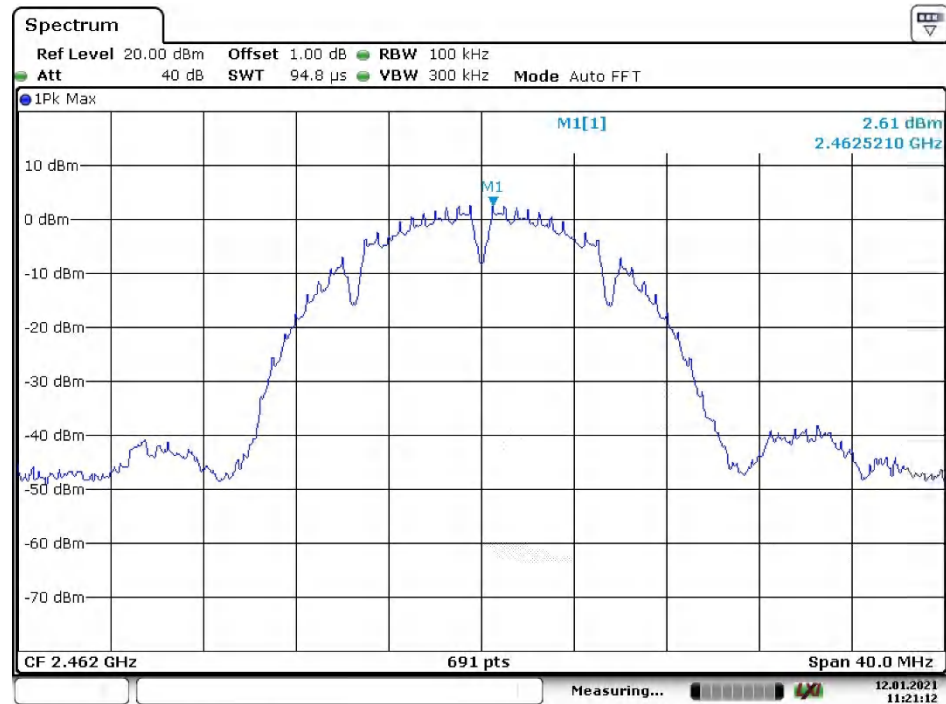


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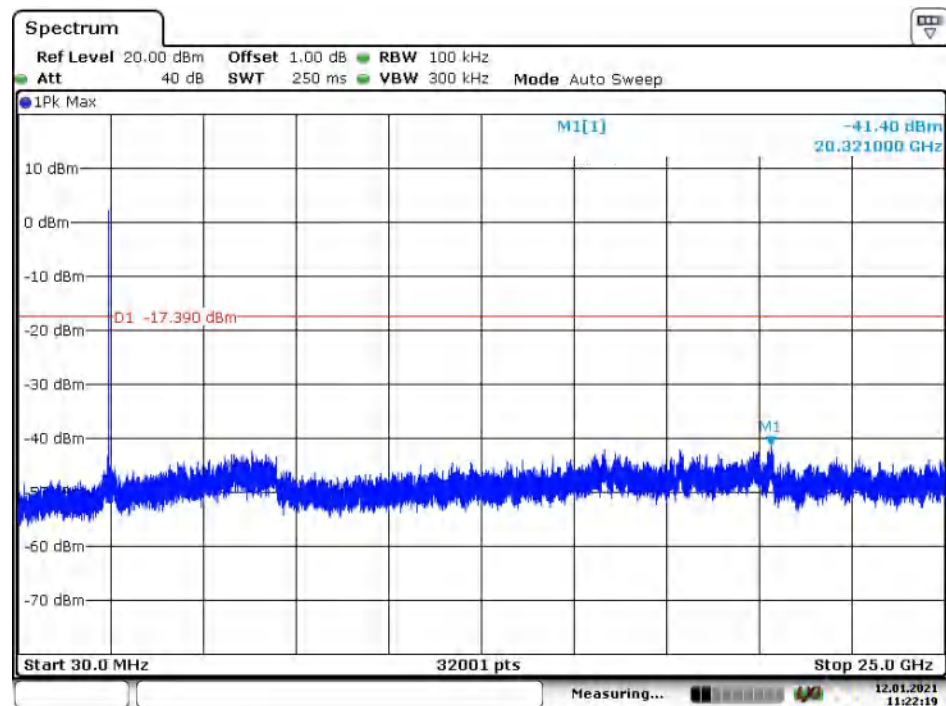


Date: 12.JAN.2021 11:19:51

High Channel

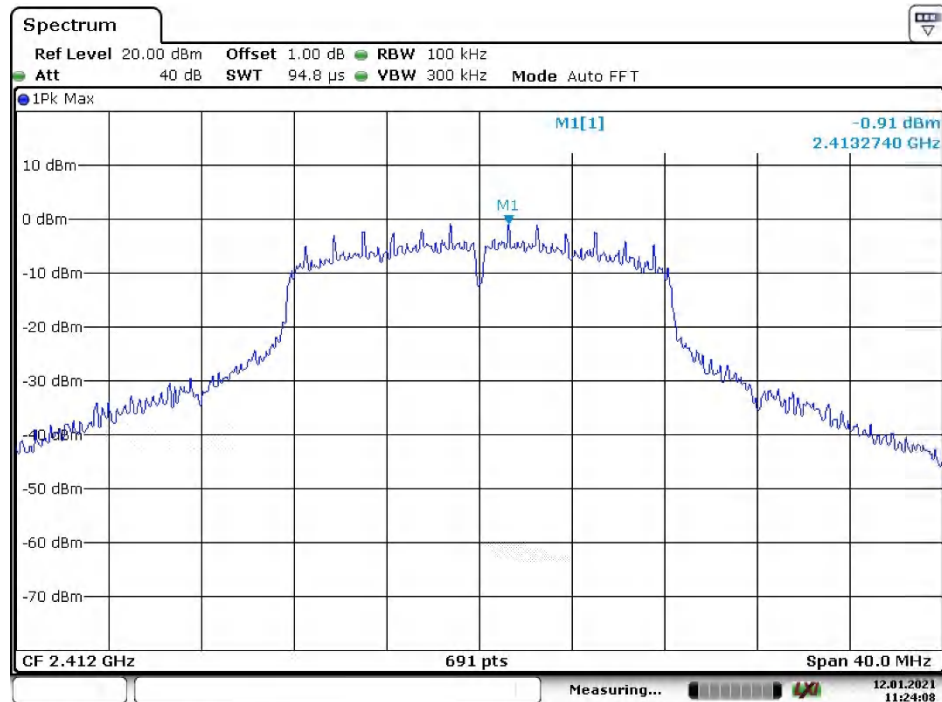


Date: 12.JAN.2021 11:21:12

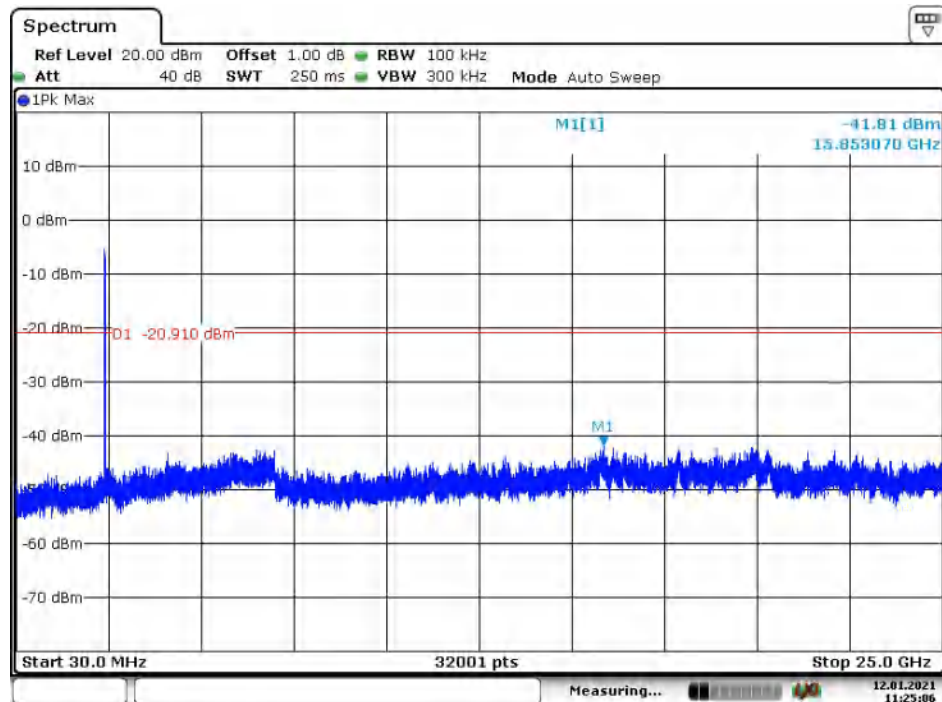


Date: 12.JAN.2021 11:22:20

Wi-Fi 802.11 g mode, 6 Mbps
Low Channel

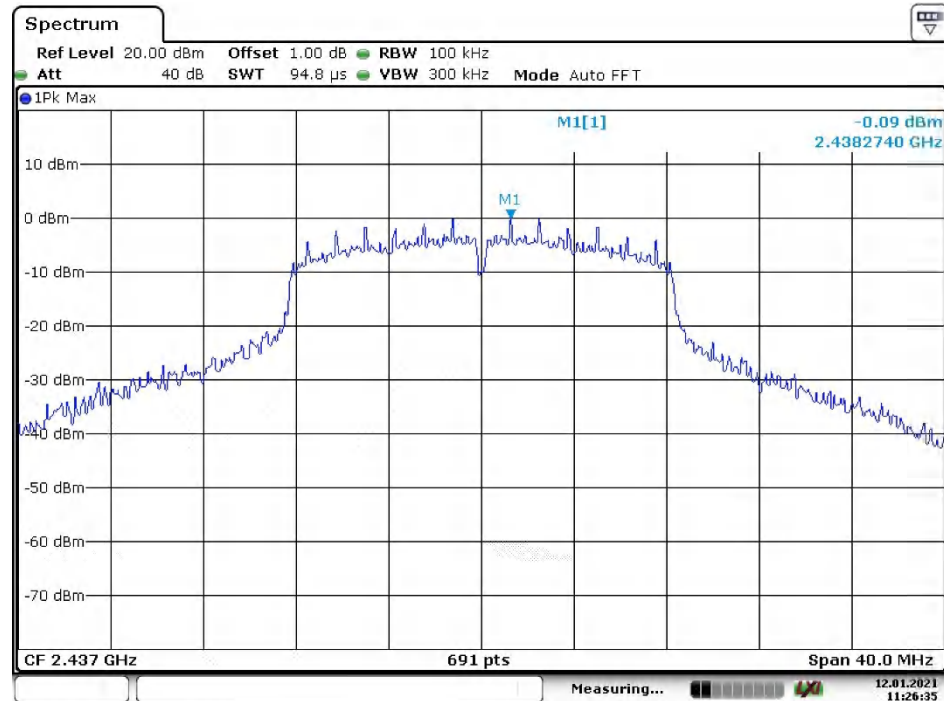


Date: 12.JAN.2021 11:24:09

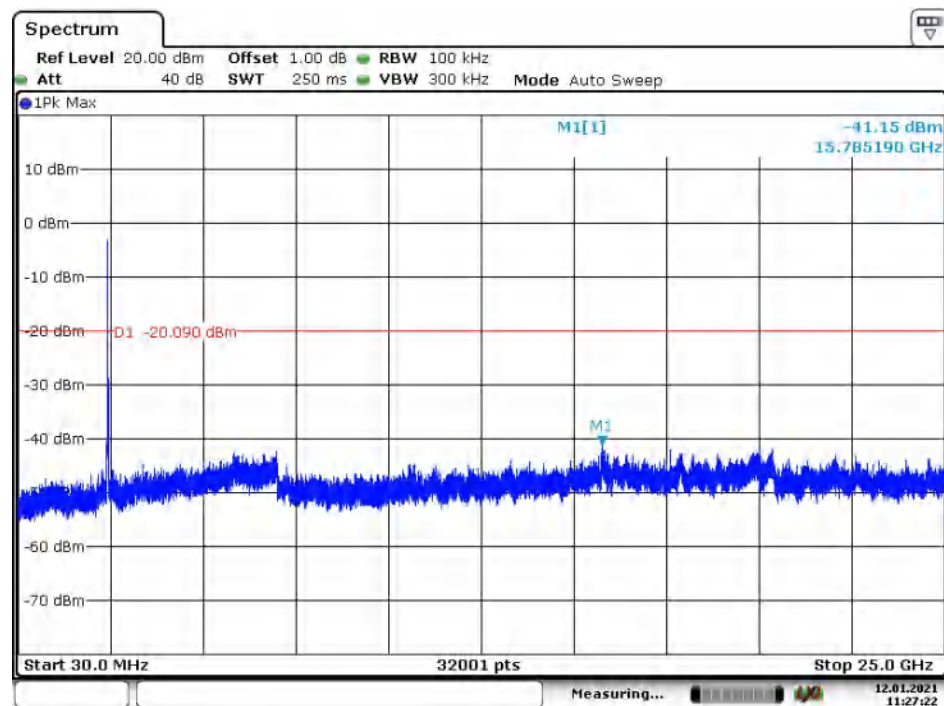


Date: 12.JAN.2021 11:25:06

Middle Channel

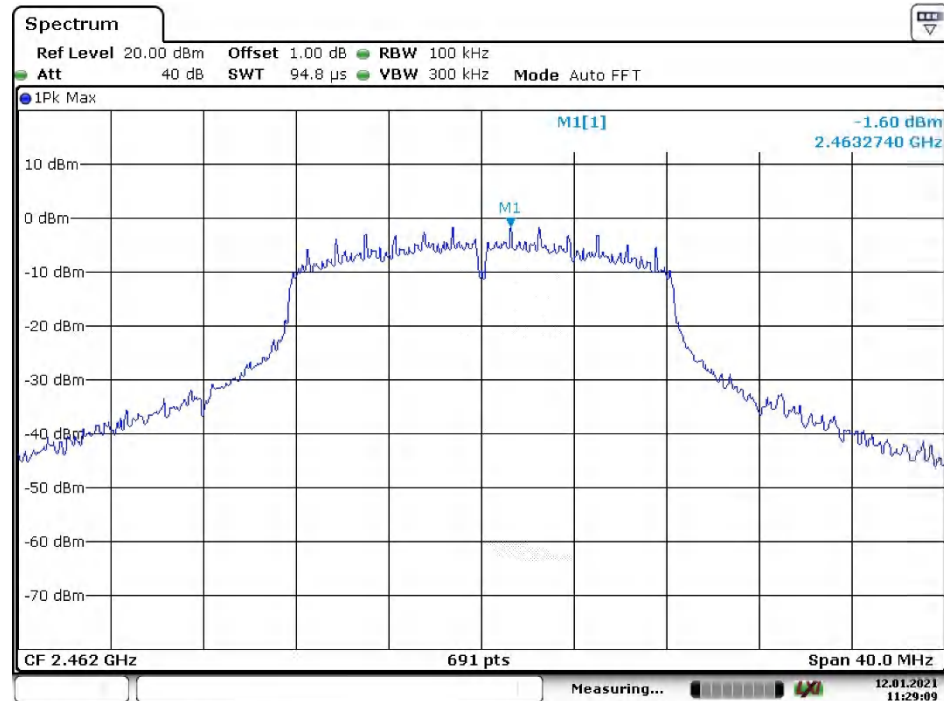


Date: 12.JAN.2021 11:26:36

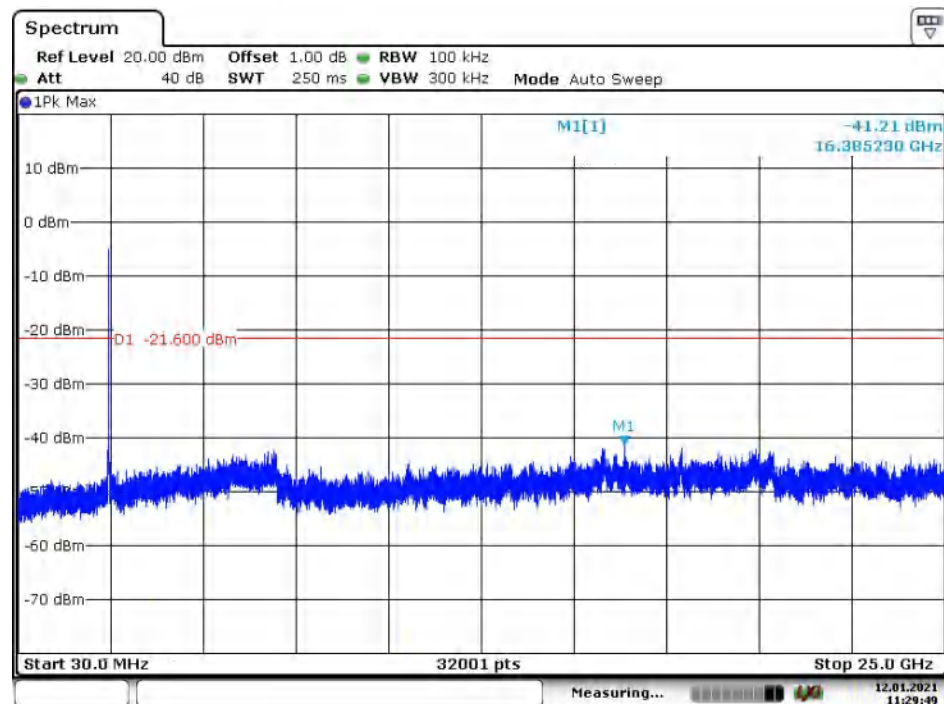


Date: 12.JAN.2021 11:27:23

High Channel

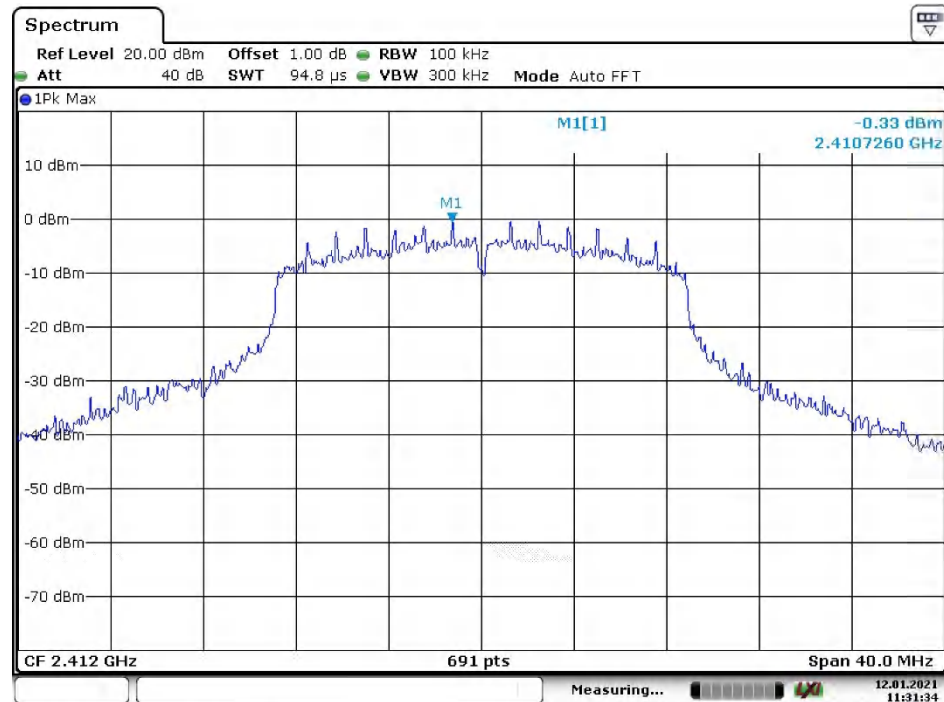


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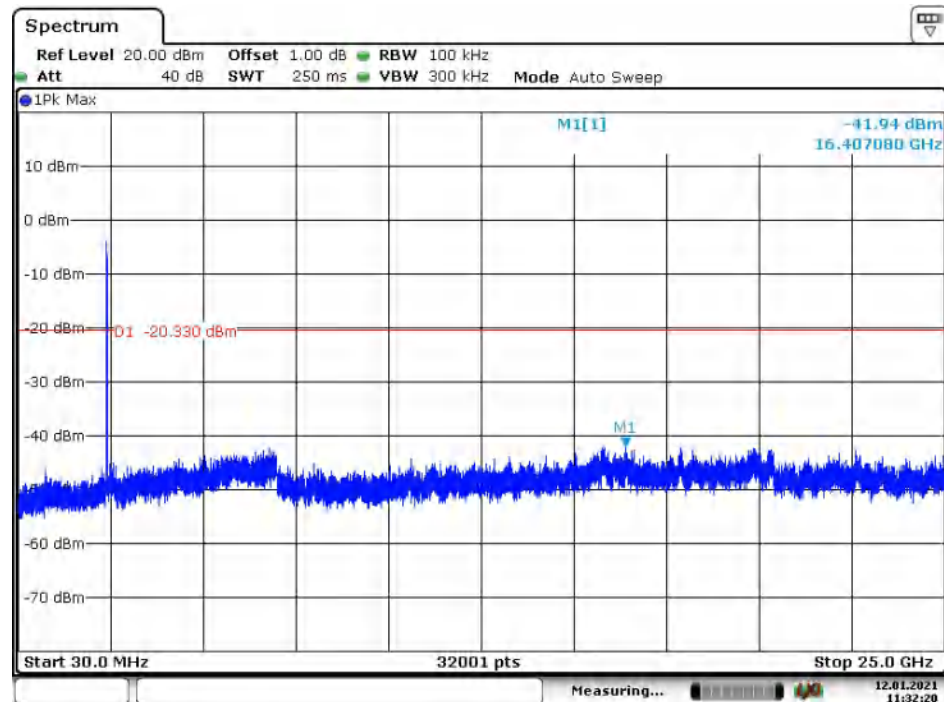


Date: 12.JAN.2021 11:29:49

Wi-Fi 802.11 n(HT20) mode, MCS0
Low Channel

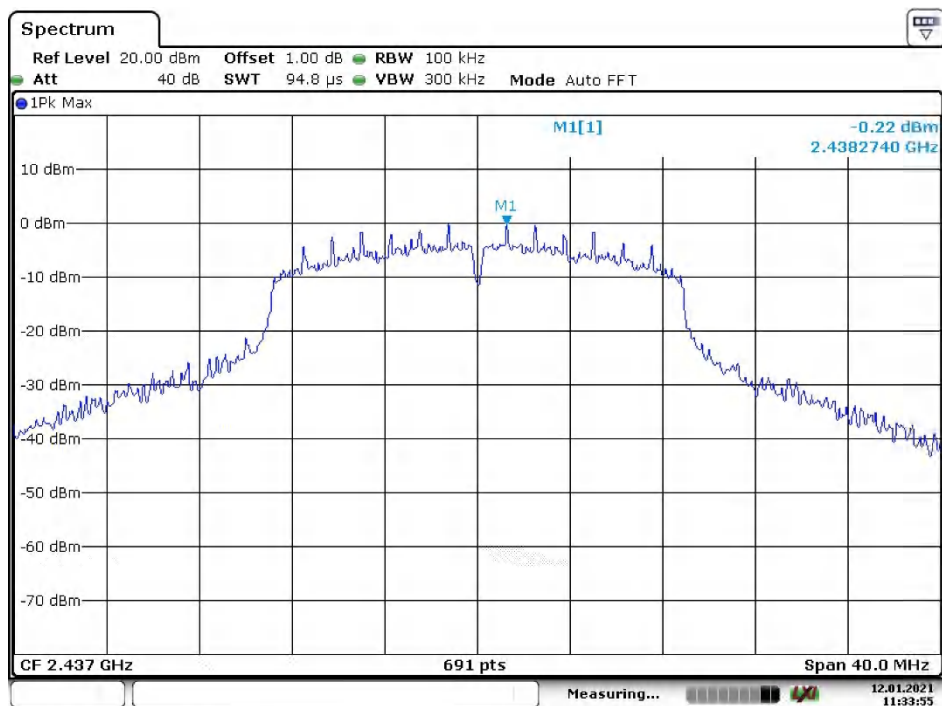


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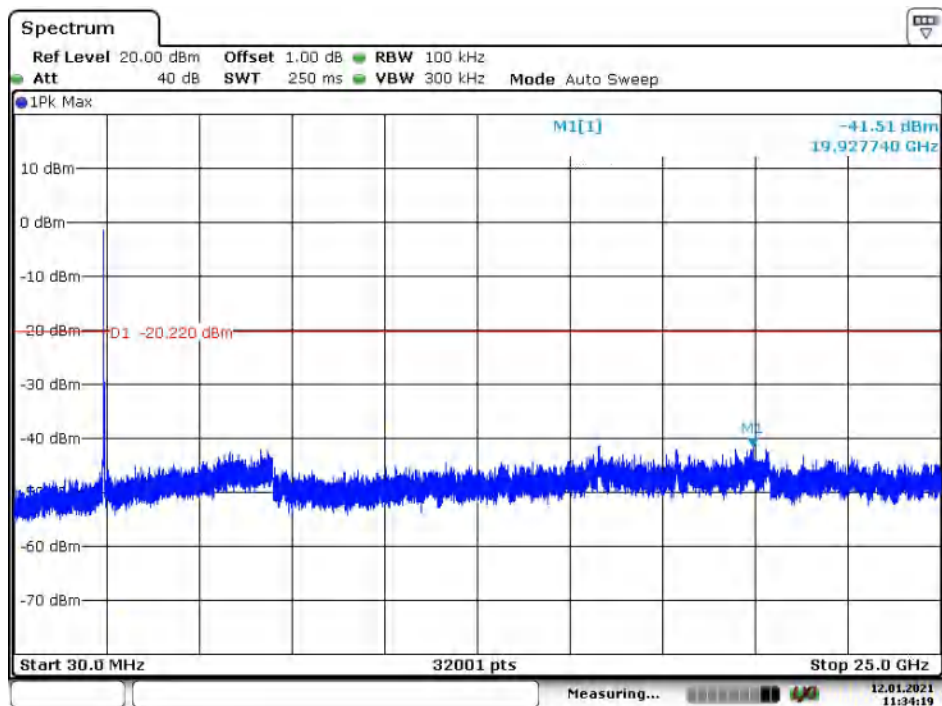


Date: 12.JAN.2021 11:32:20

Middle Channel

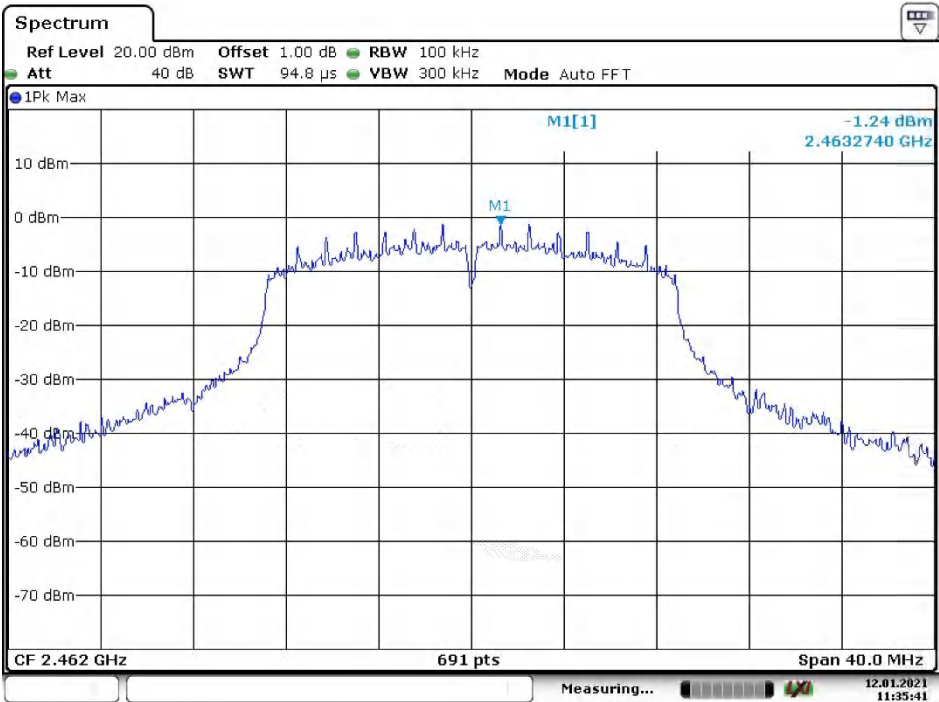


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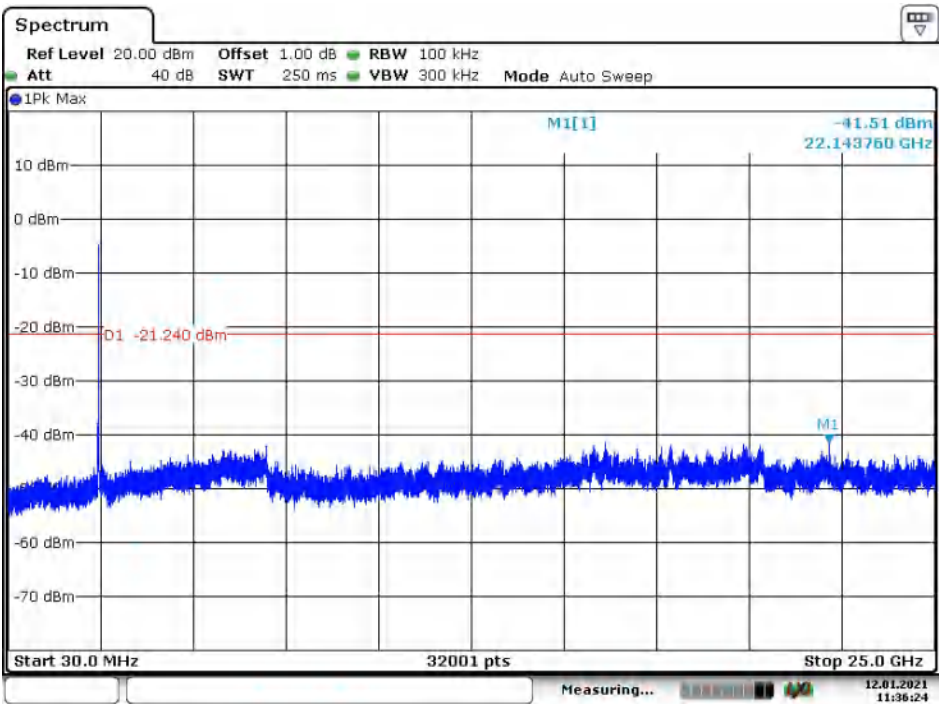


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High Channel

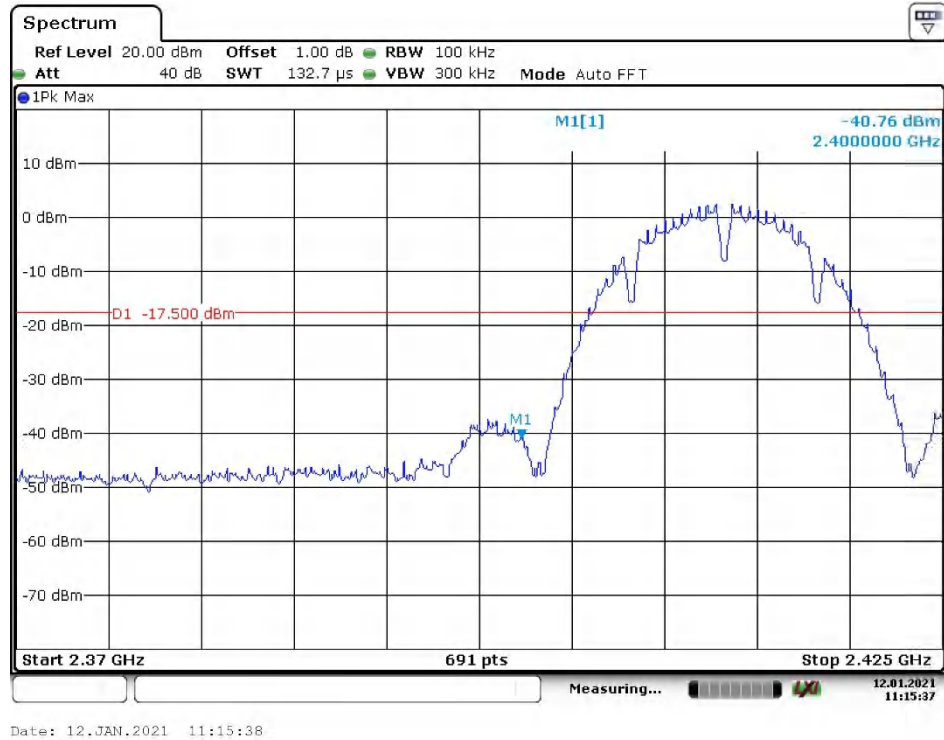


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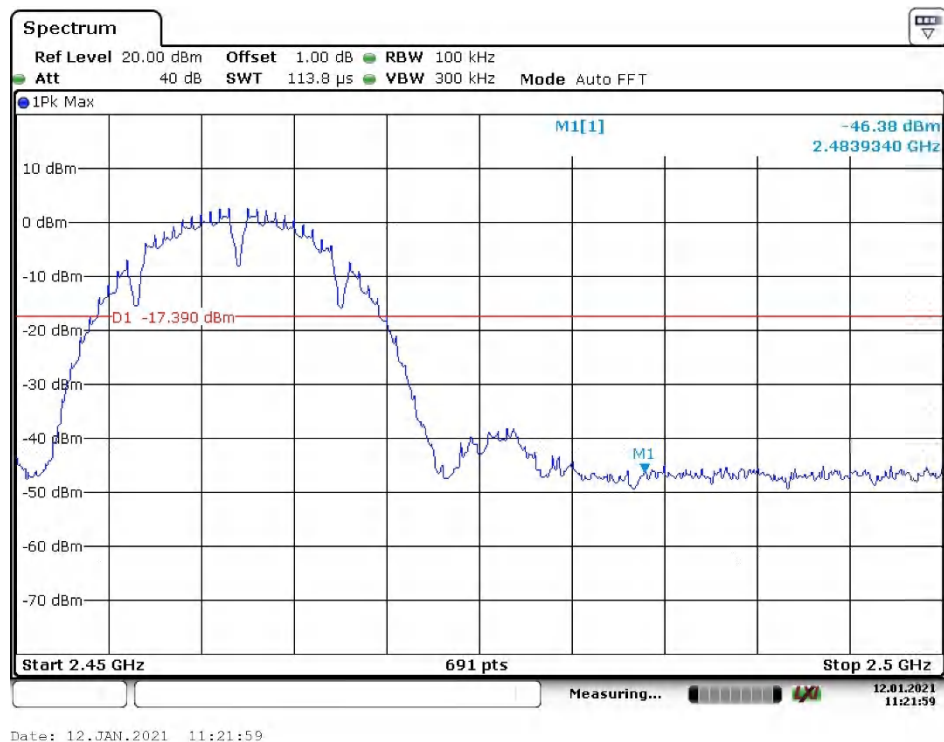


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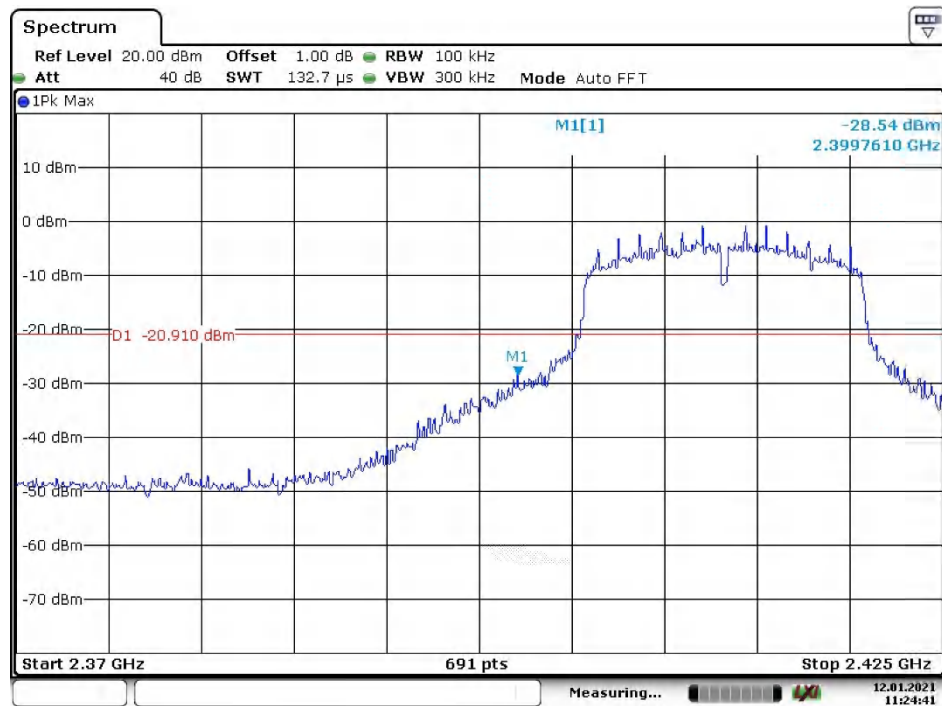
Wi-Fi 802.11 b mode, Band Edge
Low Channel



High Channel

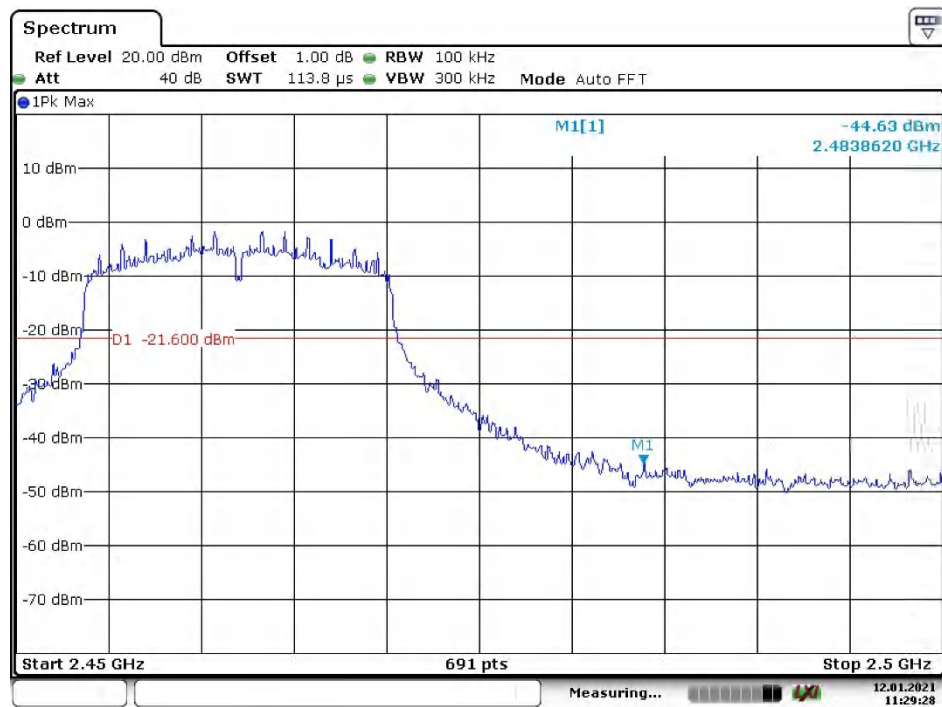


Wi-Fi 802.11 g mode, Band Edge
Low Channel



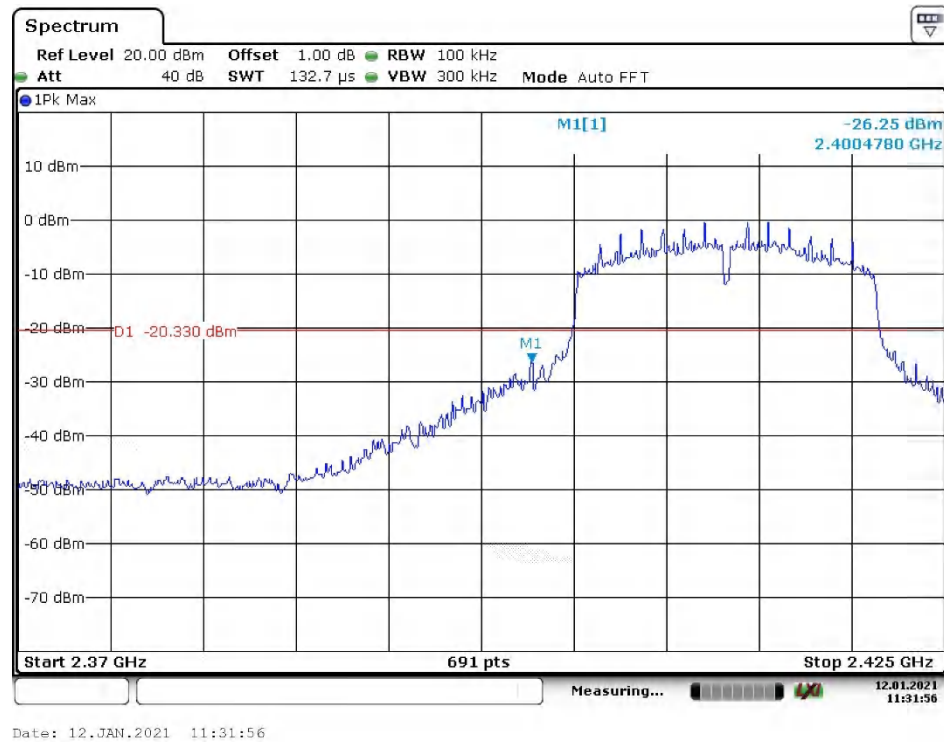
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High Channel

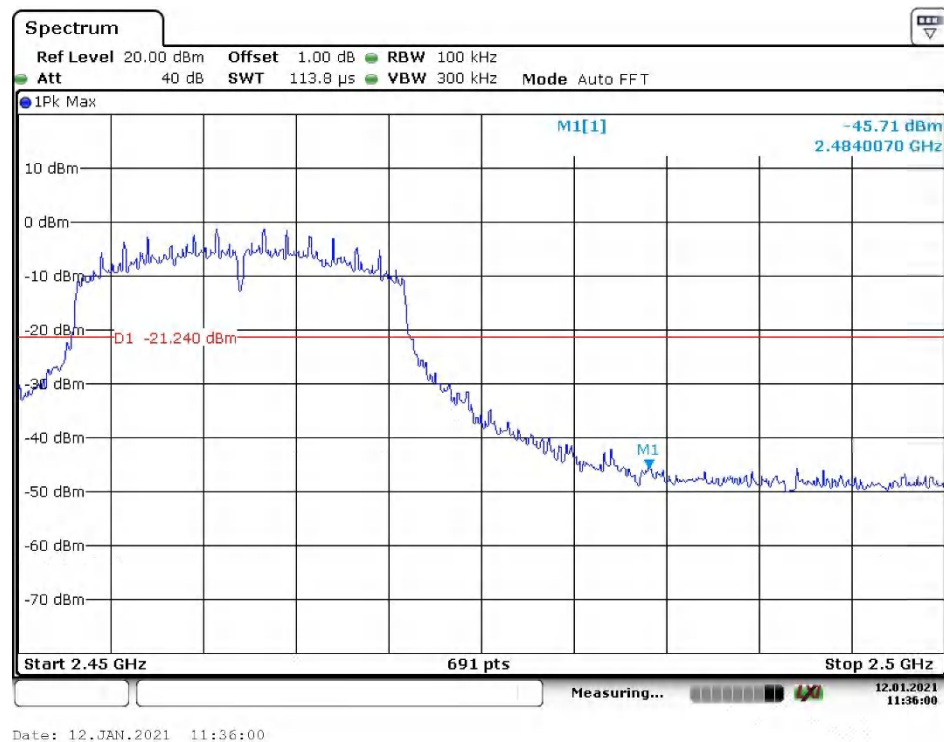


Date: 12.JAN.2021 11:29:29

Wi-Fi 802.11 n(HT20) mode, Band Edge
Low Channel



High Channel



Appendix C: Test Results of Radiated Testing

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Note 1: Testing was carried out within frequency range 9 kHz to the tenth harmonics. The measurement results below 30MHz and above 18GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

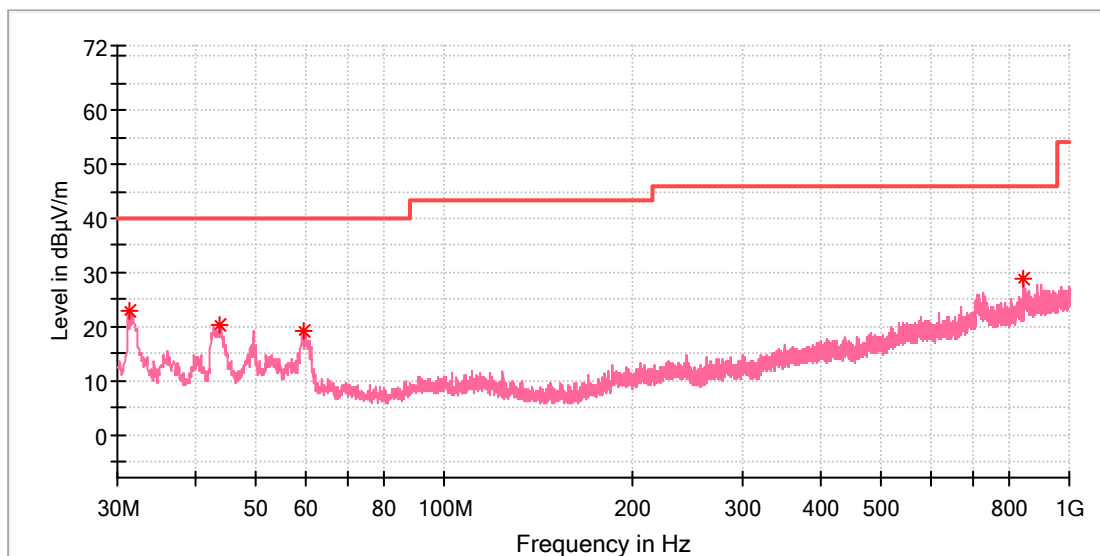
Appendix C.1: Test Results of Radiated Spurious Emissions

Wi-Fi 802.11 b mode, 1 Mbps

30MHz - 1GHz

EUT Information

EUT Name:	Phyn Water Sensor
Model:	PHYCF006
Test Mode:	WiFi 2.4G_11b_Ch1
Test Voltage::	Battery
Remark:	Temp 24 Humi:47%
Test Standard:	FCC 15.247
Tested By:	Alano Qu
Reviewed By:	Terry Yin

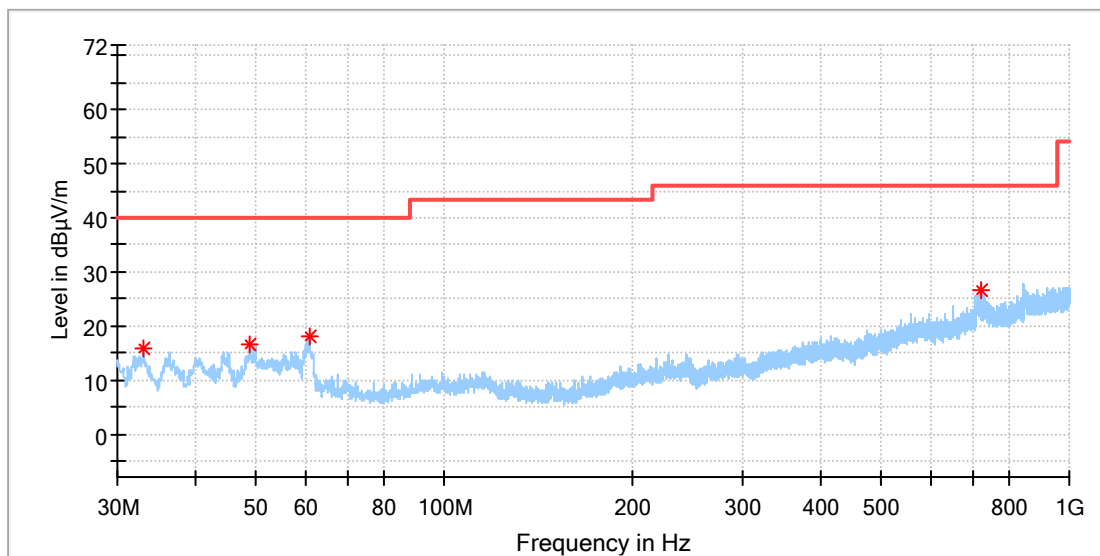


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
31.261000	22.80	---	40.00	17.20	100.0	V	41.0	-23.1
43.725500	20.35	---	40.00	19.65	100.0	V	5.0	-19.4
59.633500	19.02	---	40.00	20.98	100.0	V	232.0	-19.3
845.042500	28.88	---	46.00	17.12	100.0	V	162.0	-6.0

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11b_Ch1
Test Voltage:: Battery
Remark: Temp 24 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

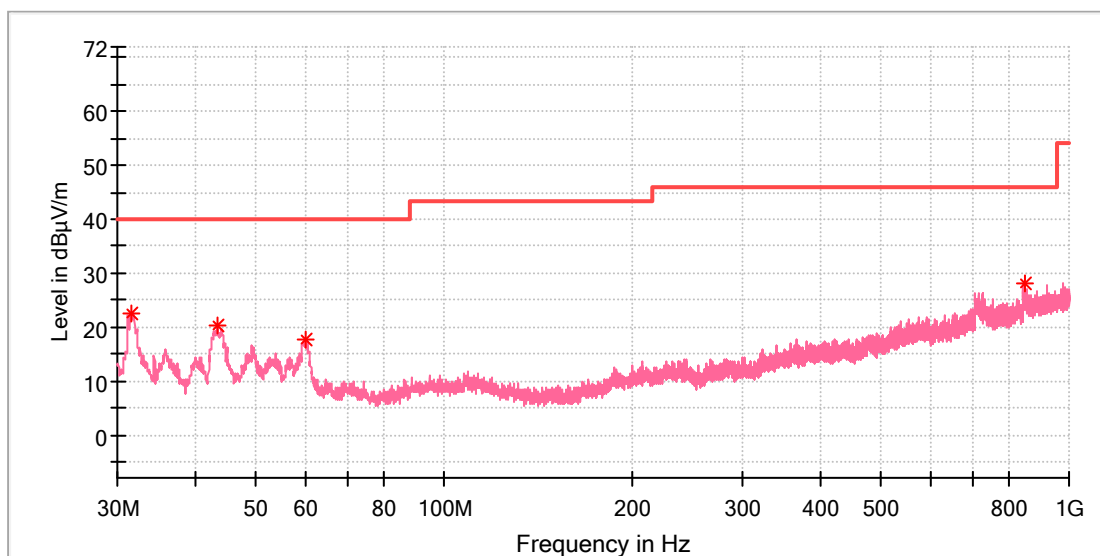


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
33.055500	15.68	---	40.00	24.32	100.0	H	297.0	-22.8
49.012000	16.57	---	40.00	23.43	100.0	H	162.0	-18.6
60.749000	17.86	---	40.00	22.14	100.0	H	2.0	-19.5
720.009500	26.76	---	46.00	19.24	100.0	H	288.0	-8.1

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11b_Ch11
Test Voltage:: Battery
Remark: Temp 24 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

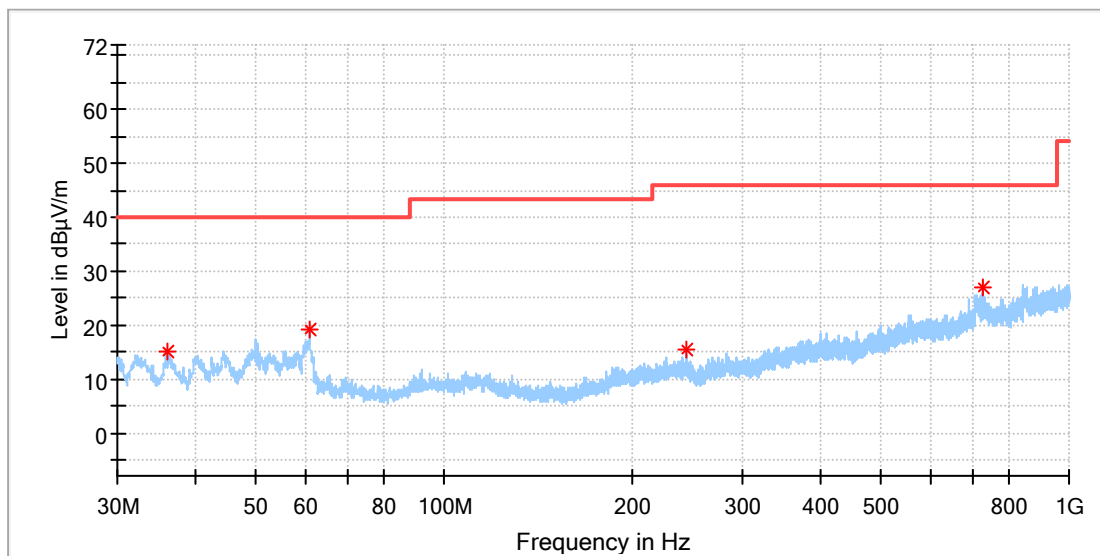


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
31.649000	22.33	---	40.00	17.67	100.0	V	339.0	-23.0
43.337500	20.34	---	40.00	19.66	100.0	V	339.0	-19.5
60.167000	17.68	---	40.00	22.32	100.0	V	349.0	-19.3
847.273500	28.12	---	46.00	17.88	100.0	V	217.0	-6.0

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11b_Ch11
Test Voltage:: Battery
Remark: Temp 24 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



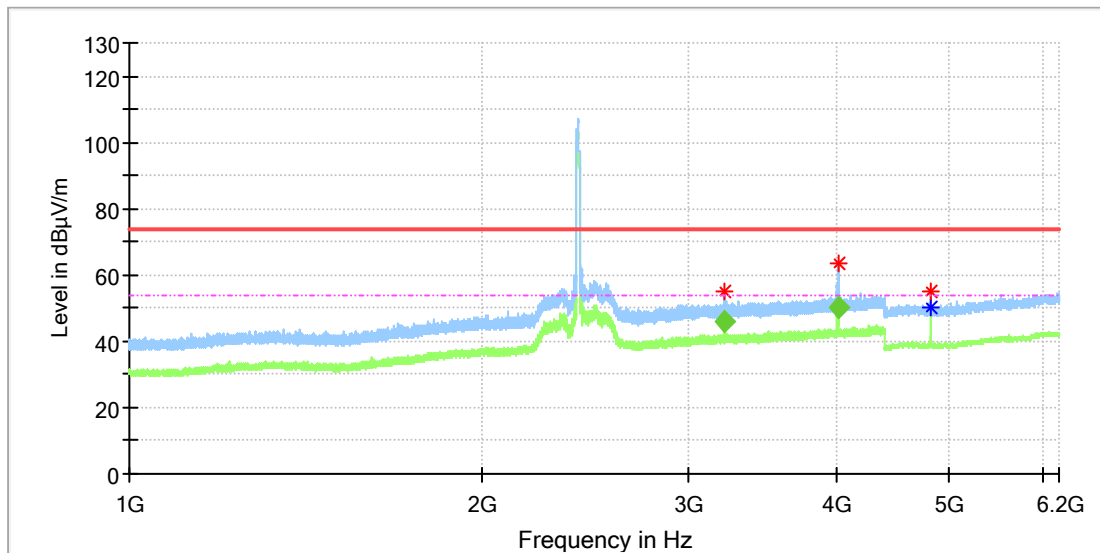
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
35.965500	14.98	---	40.00	25.02	100.0	H	267.0	-21.9
60.991500	19.31	---	40.00	20.69	100.0	H	34.0	-19.5
243.594000	15.52	---	46.00	30.48	100.0	H	351.0	-17.9
728.448500	26.85	---	46.00	19.15	100.0	H	267.0	-7.9

1GHz - 6.2GHz

EUT Information

EUT Name:	Phyn Water Sensor
Model:	PHYCF006
Test Mode:	WiFi 2.4G_11b_Ch1
Test Voltage::	DC 3V
Remark:	Temp 22 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Alano Qu
Reviewed By:	Terry Yin



Critical Freqs

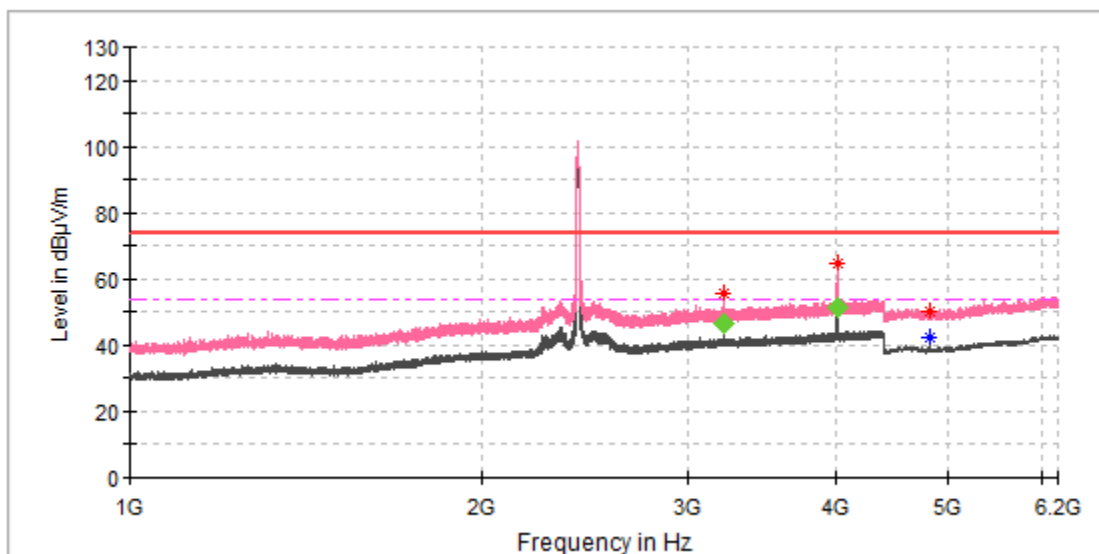
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3216.290000	54.79	---	74.00	19.21	100.0	H	238.0	8.6
4018.860000	63.75	---	74.00	10.25	100.0	H	26.0	10.1
4823.500000	55.04	---	74.00	18.96	100.0	H	0.0	11.8
4824.000000	---	49.99	54.00	4.01	100.0	H	0.0	11.8

Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3216.078000	---	45.88	54.00	8.12	100.0	H	233.0	8.6
4018.964000	---	50.27	54.00	3.73	105.0	H	25.0	10.1

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11b_Ch1
Test Voltage:: DC 3V
Remark: Temp 22 Humi:50%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



Critical_Freqs

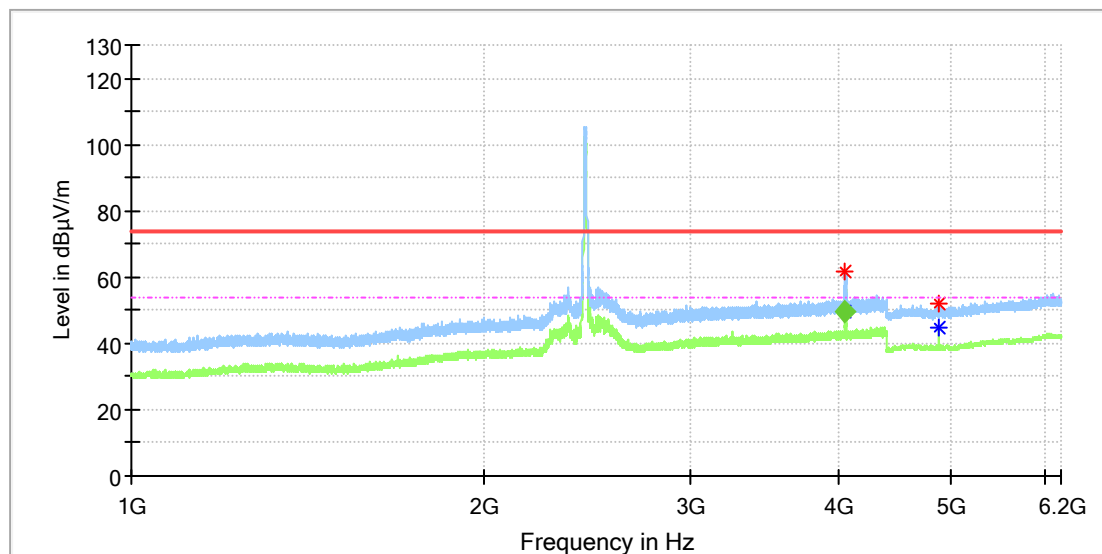
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3216.290000	55.77	---	74.00	18.23	100.0	V	78.0	8.6
4018.860000	64.71	---	74.00	9.29	100.0	V	276.0	10.1
4824.000000	49.93	---	74.00	24.07	100.0	V	339.0	11.8
4824.000000	---	42.33	54.00	11.67	100.0	V	339.0	11.8

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3215.979000	---	46.59	54.00	7.41	105.0	V	86.0	8.6
4019.111000	---	50.98	54.00	3.02	100.0	V	271.0	10.1

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11b_Ch6
Test Voltage:: DC 3V
Remark: Temp 22 Humi:50%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



Critical_Freqs

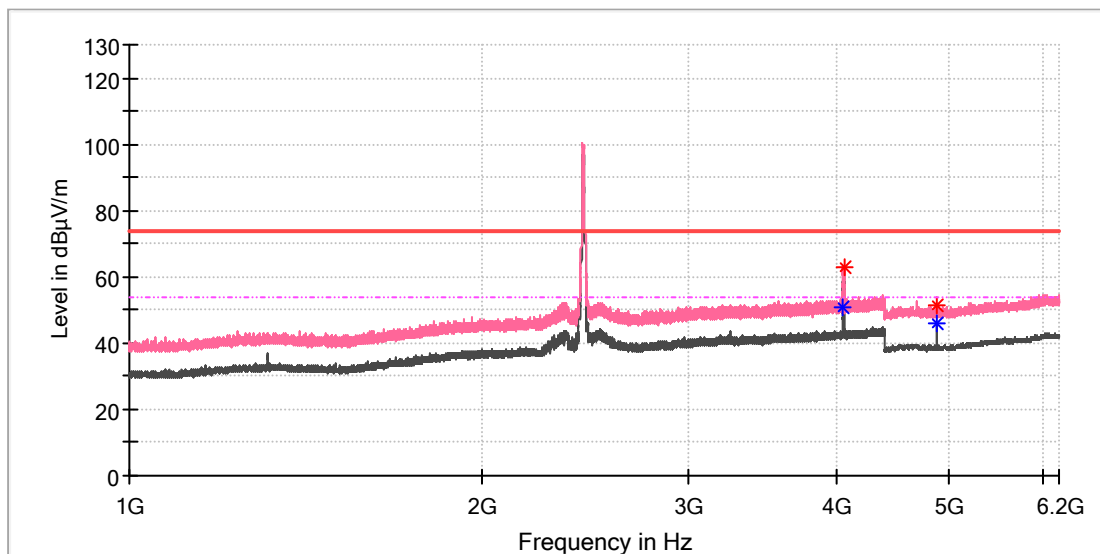
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4061.057500	---	49.57	54.00	4.43	104.0	H	150.0	10.1
4062.577000	61.39	---	74.00	12.61	100.0	H	141.0	10.1
4874.000000	51.90	---	74.00	22.10	100.0	H	342.0	11.8
4874.000000	---	44.56	54.00	9.44	100.0	H	342.0	11.8

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4061.057500	---	49.58	54.00	4.42	105.0	H	150.0	10.1

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11b_Ch6
Test Voltage:: DC 3V
Remark: Temp 22 Humi:50%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

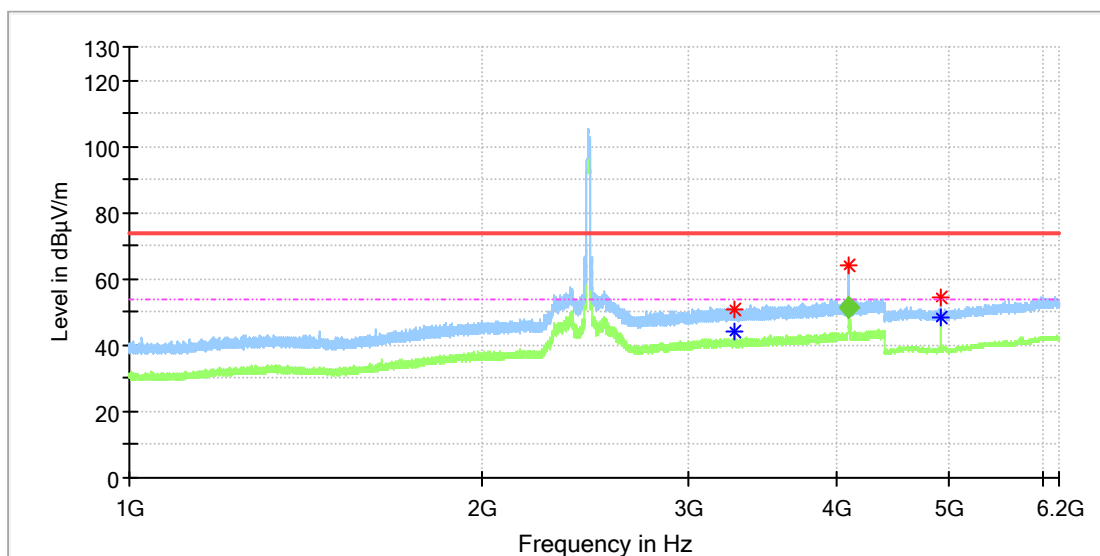


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4062.481500	---	50.96	54.00	3.04	100.0	V	303.0	10.1
4063.259000	63.13	---	74.00	10.87	100.0	V	308.0	10.1
4874.000000	51.35	---	74.00	22.65	100.0	V	35.0	11.8
4874.000000	---	46.07	54.00	7.93	100.0	V	35.0	11.8

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11b_Ch11
Test Voltage:: DC 3V
Remark: Temp 22 Humi:50%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



Critical_Freqs

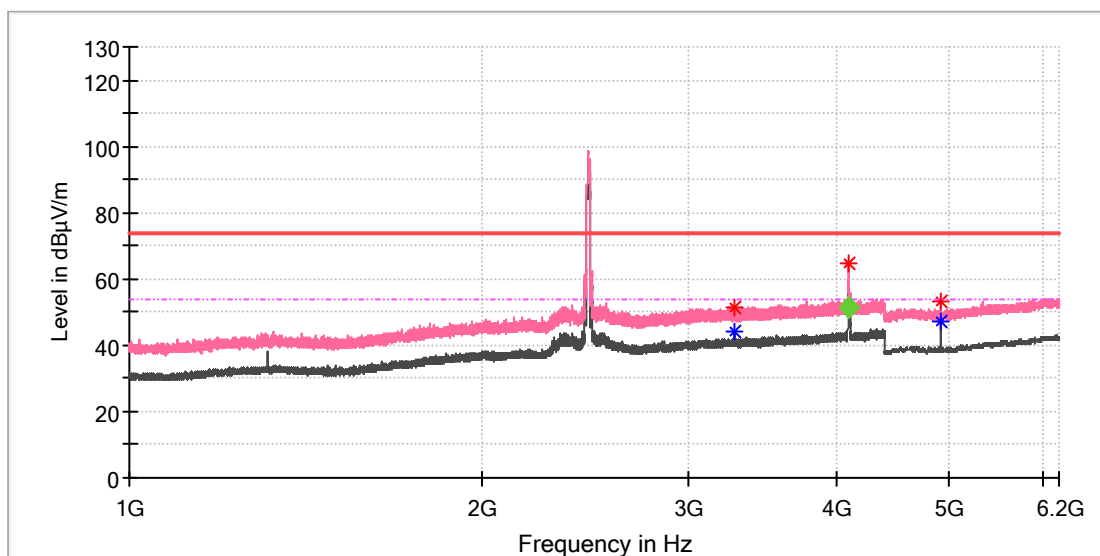
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3282.590000	---	44.24	54.00	9.76	100.0	H	202.0	8.5
3282.930000	50.88	---	74.00	23.12	100.0	H	278.0	8.5
4104.869500	63.91	---	74.00	10.09	100.0	H	95.0	10.1
4924.000000	54.19	---	74.00	19.81	100.0	H	290.0	11.8
4924.000000	---	48.49	54.00	5.51	100.0	H	290.0	11.8

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4102.393000	---	51.51	54.00	2.49	100.0	H	93.0	10.1

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11b_Ch11
Test Voltage:: DC 3V
Remark: Temp 22 Humi:50%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3282.590000	51.20	---	74.00	22.80	100.0	V	337.0	8.5
3282.760000	---	44.15	54.00	9.85	100.0	V	46.0	8.5
4105.050000	64.41	---	74.00	9.59	100.0	V	0.0	10.1
4923.500000	53.06	---	74.00	20.94	100.0	V	256.0	11.8
4924.000000	---	47.16	54.00	6.84	100.0	V	38.0	11.8

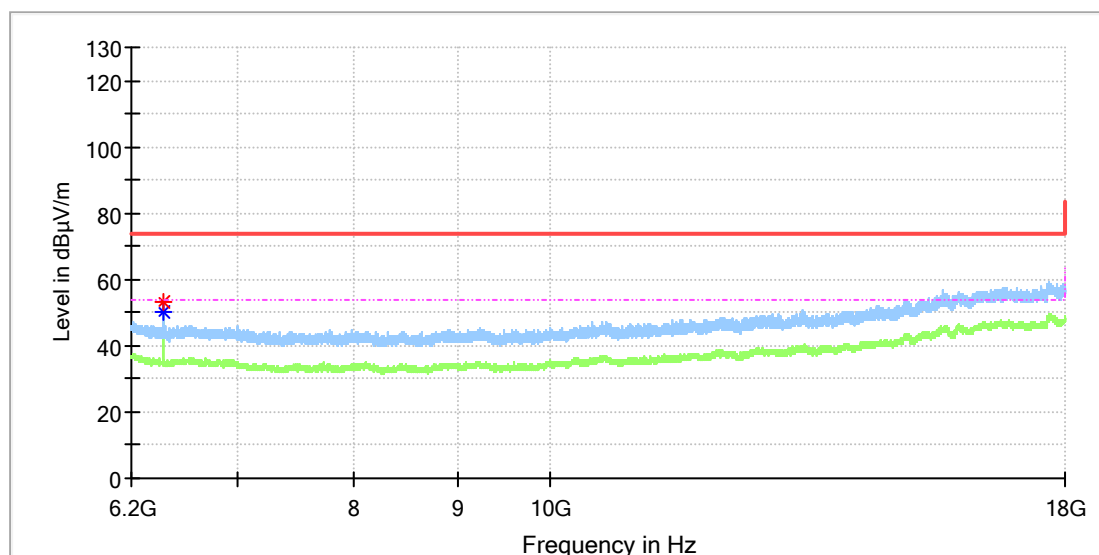
Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4104.440000	---	51.40	54.00	2.60	100.0	V	297.0	10.1

6.2GHz - 18GHz

EUT Information

EUT Name:	Phyn Water Sensor
Model:	PHYCF006
Test Mode:	WiFi 2.4G_11b_Ch1
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:47%
Test Standard:	FCC 15.247
Tested By:	Alano Qu
Reviewed By:	Terry Yin

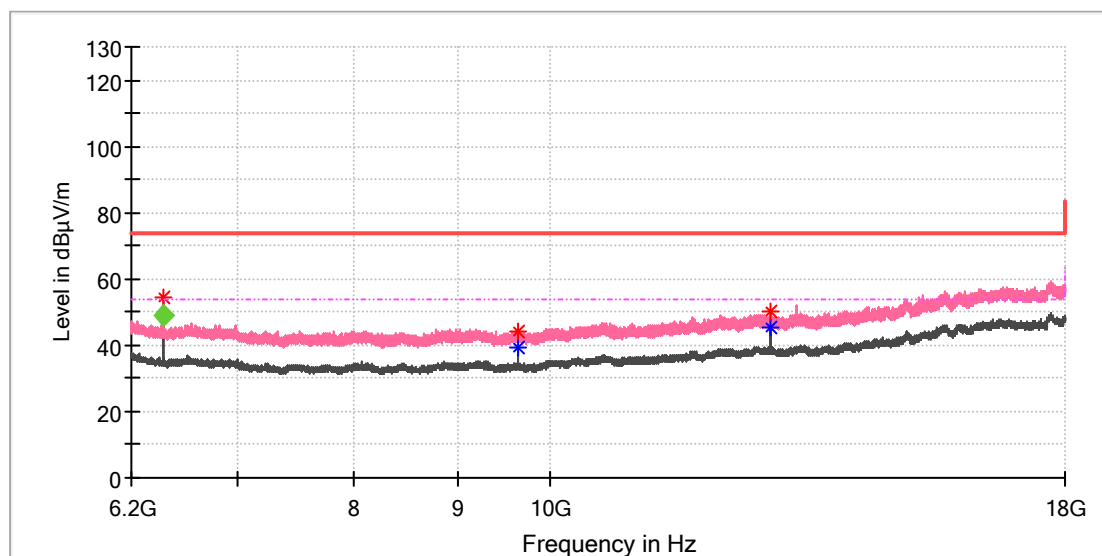


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6431.575000	52.98	---	74.00	21.02	100.0	H	207.0	8.8
6432.066667	---	50.42	54.00	3.58	100.0	H	178.0	8.7

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11b_Ch1
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



Critical_Freqs

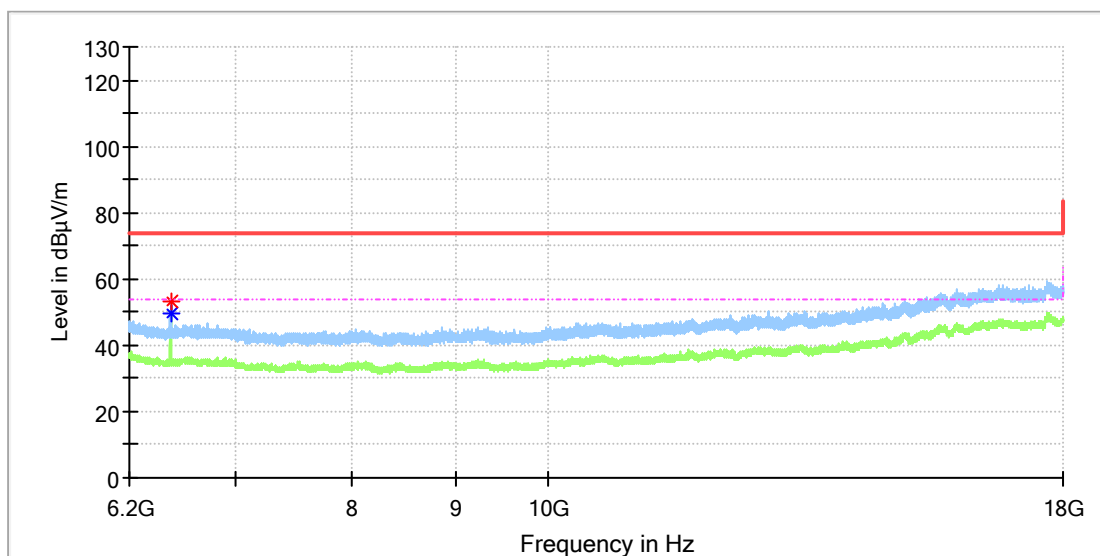
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6431.575000	54.54	---	74.00	19.46	100.0	V	318.0	8.8
9648.058333	44.38	---	74.00	29.62	100.0	V	67.0	10.4
9648.058333	---	39.34	54.00	14.66	100.0	V	67.0	10.4
12864.050000	---	45.48	54.00	8.52	100.0	V	164.0	15.4
12864.541667	50.10	---	74.00	23.90	100.0	V	164.0	15.4

Final_Result

Frequency (MHz)	QuasiPeak (dBμV/m)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6432.051667	---	49.19	54.00	4.81	100.0	V	313.0	8.7

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11b_Ch6
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

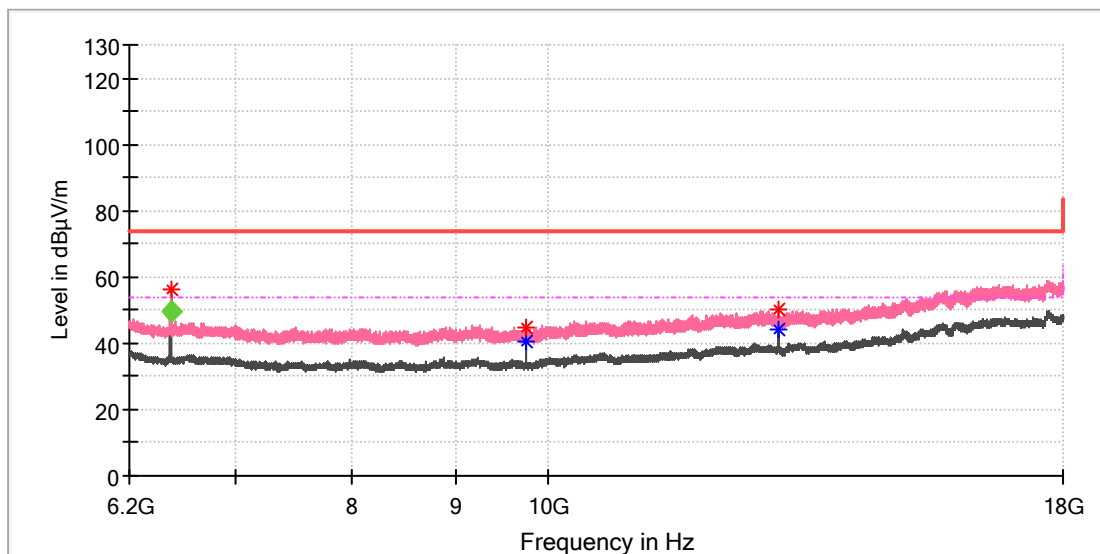


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6498.933333	53.13	---	74.00	20.87	100.0	H	155.0	8.8
6498.933333	---	49.38	54.00	4.62	100.0	H	155.0	8.8

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11b_Ch6
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



Critical_Freqs

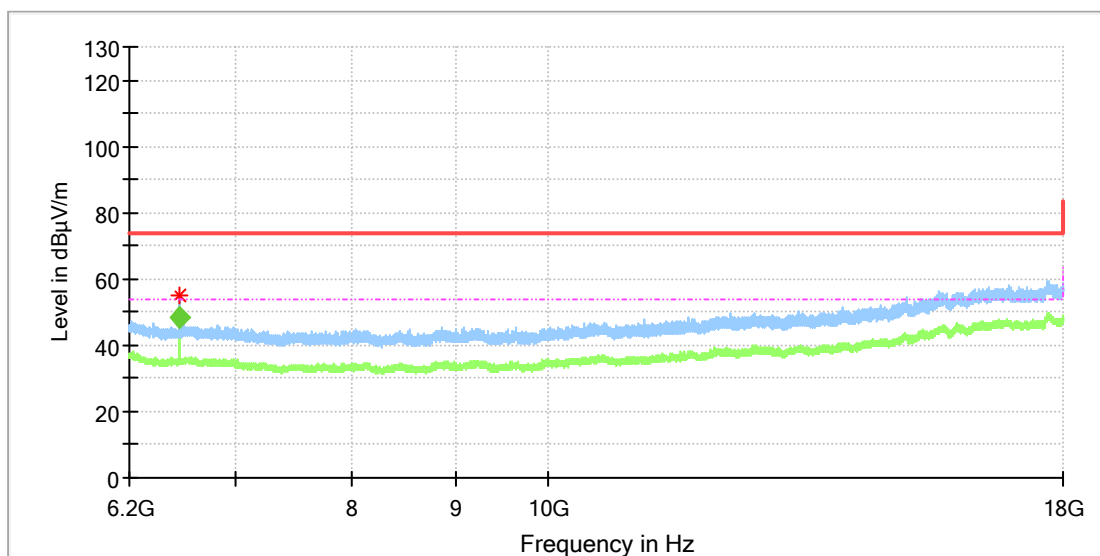
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6498.441667	56.03	---	74.00	17.97	100.0	V	310.0	8.8
9747.866667	---	40.68	54.00	13.32	100.0	V	84.0	10.4
9748.358333	44.91	---	74.00	29.09	100.0	V	70.0	10.4
12997.783333	50.02	---	74.00	23.98	100.0	V	339.0	15.5
12997.783333	---	43.98	54.00	10.02	100.0	V	339.0	15.5

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6498.790834	---	49.63	54.00	4.37	100.0	V	305.0	8.8

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11b_Ch11
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



Critical_Freqs

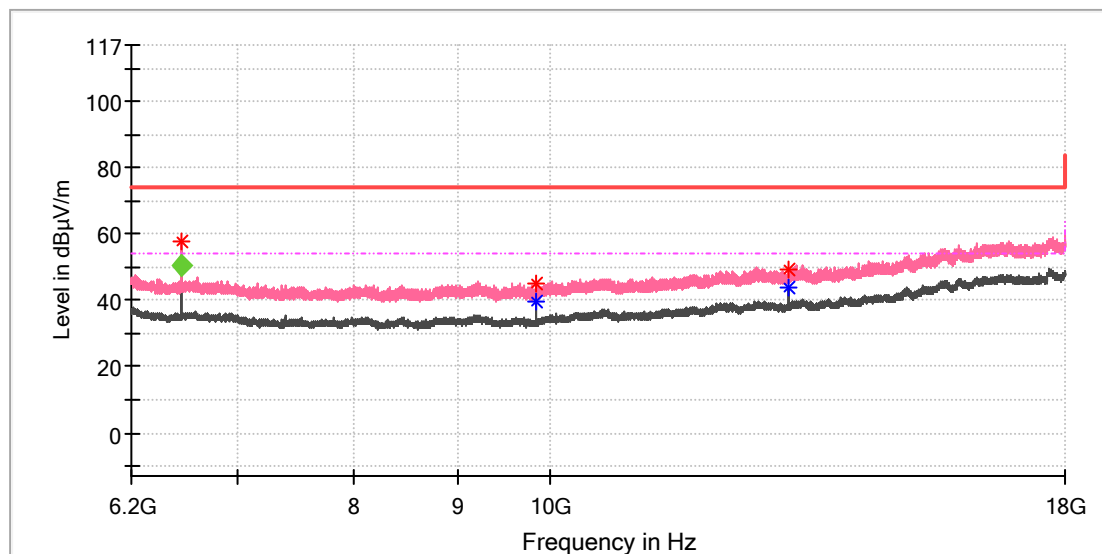
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6565.308333	55.26	---	74.00	18.74	100.0	H	161.0	8.7

Final_Result

Frequency (MHz)	QuasiPeak (dBμV/m)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6565.445833	---	48.58	54.00	5.42	105.0	H	156.0	8.7

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11b_Ch11
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6565.308333	57.58	---	74.00	16.42	100.0	V	271.0	8.7
9848.166667	45.01	---	74.00	28.99	100.0	V	108.0	10.6
9848.166667	---	39.54	54.00	14.46	100.0	V	108.0	10.6
13130.533333	49.42	---	74.00	24.58	100.0	V	0.0	15.4
13130.533333	---	43.78	54.00	10.22	100.0	V	0.0	15.4

Final_Result

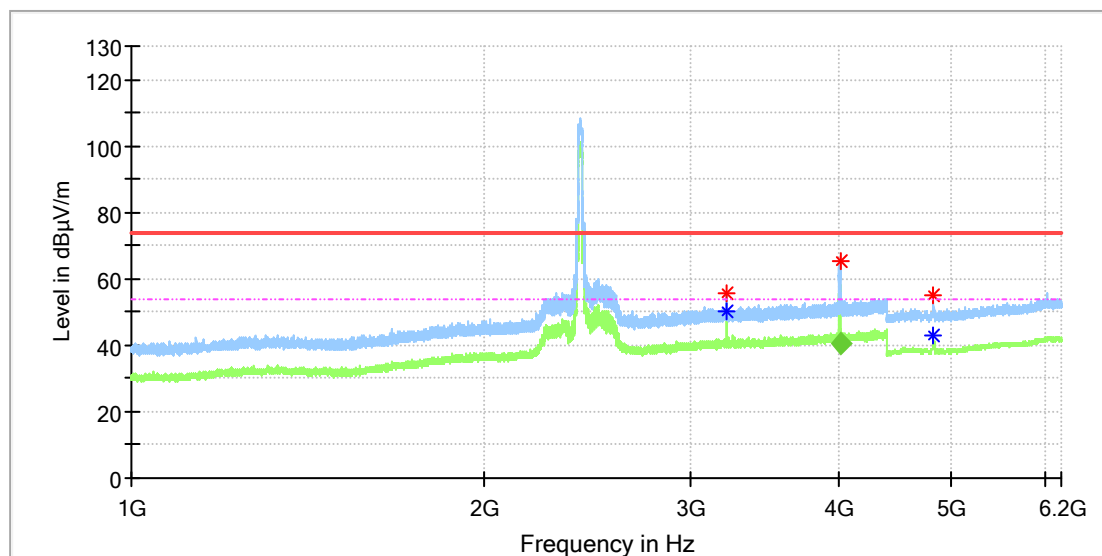
Frequency (MHz)	QuasiPeak (dBμV/m)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6565.407500	---	50.56	54.00	3.44	100.0	V	266.0	8.7

Wi-Fi 802.11 g mode, 6Mbps

1GHz - 6.2GHz

EUT Information

EUT Name:	Phyn Water Sensor
Model:	PHYCF006
Test Mode:	WiFi 2.4G_11g_Ch1
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:47%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

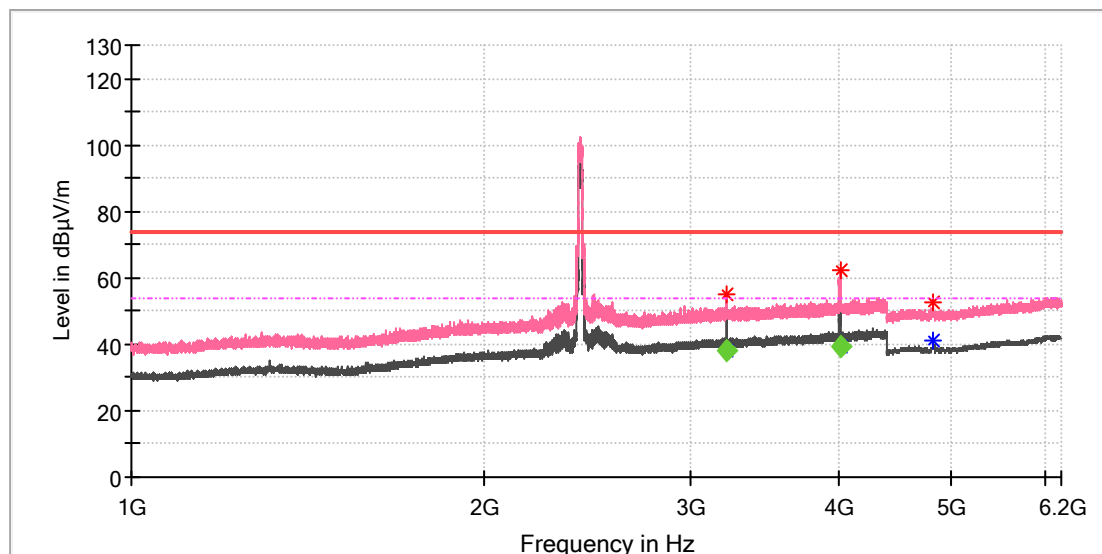
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3215.950000	---	50.23	54.00	3.77	100.0	H	242.0	8.6
3216.120000	55.71	---	74.00	18.29	100.0	H	261.0	8.6
4017.670000	65.40	---	74.00	8.60	100.0	H	261.0	10.1
4822.500000	54.91	---	74.00	19.09	100.0	H	220.0	11.8
4822.500000	---	43.03	54.00	10.97	100.0	H	220.0	11.8

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4018.530000	---	40.37	54.00	13.63	100.0	H	249.0	10.1

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11g_Ch1
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

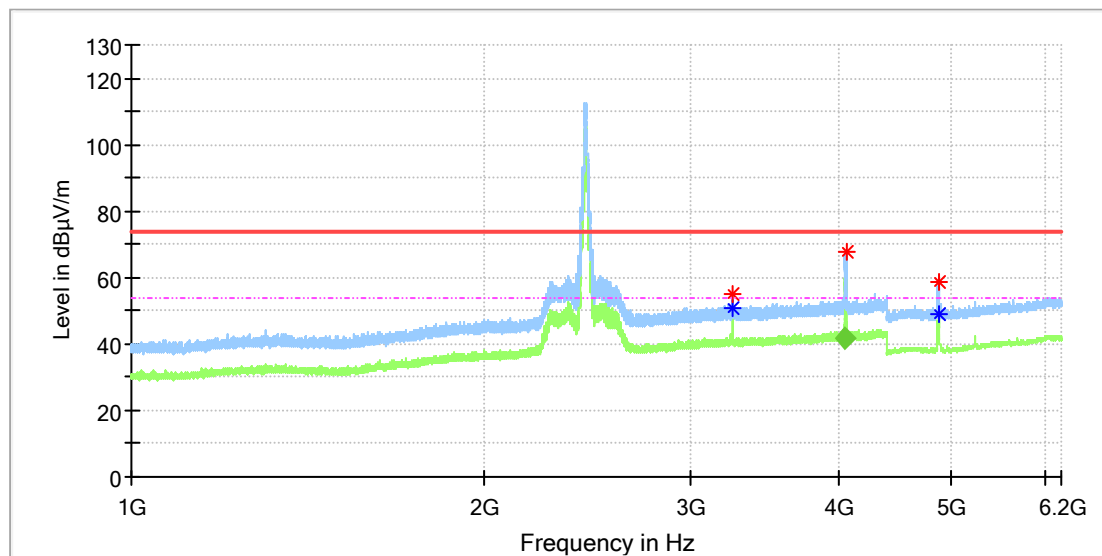
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3215.950000	54.96	---	74.00	19.04	100.0	V	38.0	8.6
3216.042000	---	38.21	54.00	15.79	100.0	V	36.0	8.6
4018.180000	62.17	---	74.00	11.83	100.0	V	263.0	10.1
4018.930000	---	39.23	54.00	14.77	100.0	V	154.0	10.1
4821.000000	---	40.96	54.00	13.04	100.0	V	221.0	11.8
4823.500000	52.54	---	74.00	21.46	100.0	V	193.0	11.8

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3216.042000	---	38.14	54.00	15.86	100.0	V	36.0	8.6
4018.930000	---	39.27	54.00	14.73	100.0	V	154.0	10.1

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11g_Ch6
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical Freqs

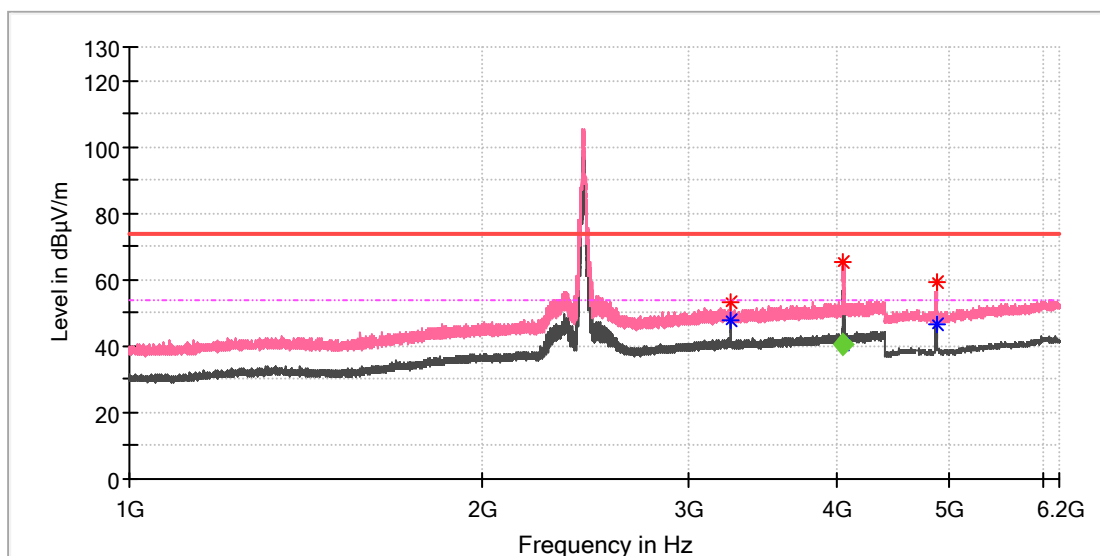
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3249.440000	55.26	---	74.00	18.74	100.0	H	282.0	8.5
3249.440000	---	51.06	54.00	2.94	100.0	H	282.0	8.5
4066.630000	67.63	---	74.00	6.37	100.0	H	249.0	10.1
4876.000000	58.69	---	74.00	15.31	100.0	H	252.0	11.8
4876.000000	---	48.75	54.00	5.25	100.0	H	252.0	11.8

Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4060.478500	---	41.79	54.00	12.21	100.0	H	244.0	10.1

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11g_Ch6
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

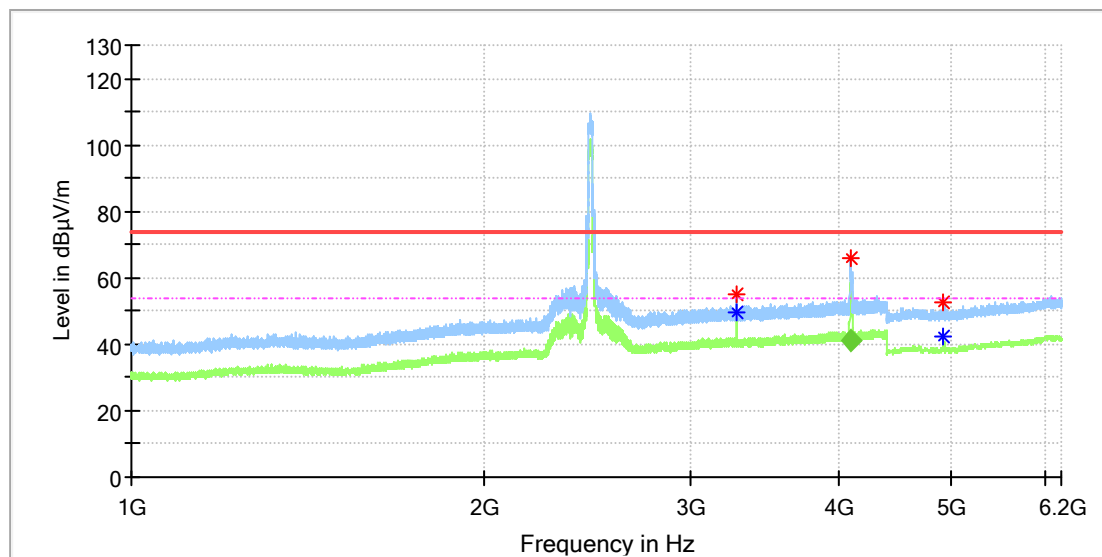
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3249.270000	53.00	---	74.00	21.00	100.0	V	185.0	8.5
3249.780000	---	47.86	54.00	6.14	100.0	V	355.0	8.5
4059.320000	65.18	---	74.00	8.82	100.0	V	161.0	10.1
4060.603500	---	40.78	54.00	13.22	103.0	V	259.0	10.1
4876.500000	---	46.84	54.00	7.16	100.0	V	209.0	11.8
4877.000000	59.22	---	74.00	14.79	100.0	V	344.0	11.8

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4060.603500	---	40.76	54.00	13.24	105.0	V	259.0	10.1

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11g_Ch11
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

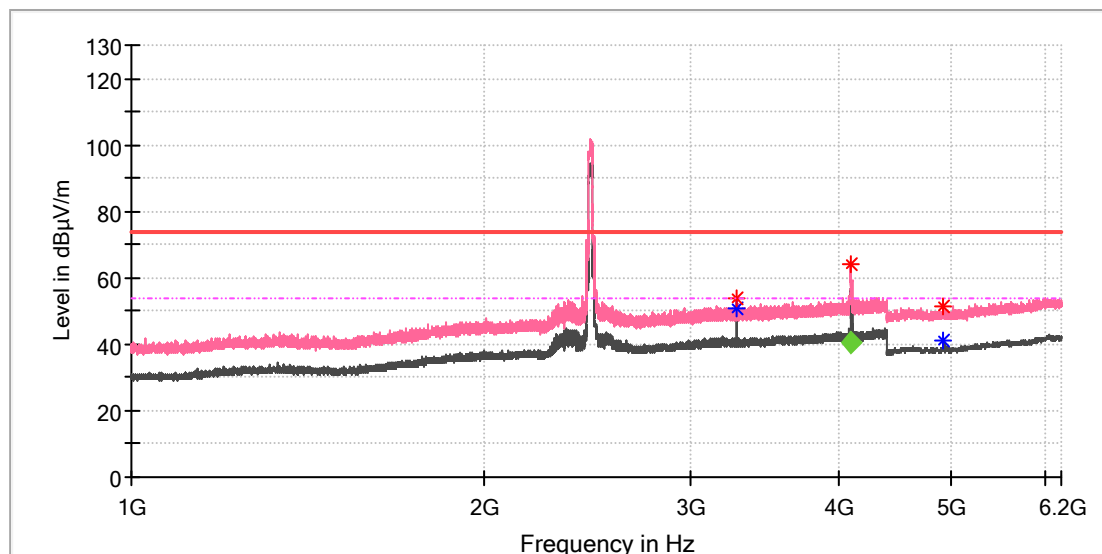
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3282.930000	55.29	---	74.00	18.71	100.0	H	284.0	8.5
3282.930000	---	49.64	54.00	4.36	100.0	H	284.0	8.5
4105.560000	65.69	---	74.00	8.31	100.0	H	250.0	10.1
4922.000000	52.43	---	74.00	21.57	100.0	H	250.0	11.8
4922.000000	---	42.18	54.00	11.82	100.0	H	250.0	11.8

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4102.053500	---	41.19	54.00	12.81	105.0	H	283.0	10.1

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11g_Ch11
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3282.590000	---	50.57	54.00	3.43	100.0	V	47.0	8.5
3282.760000	53.55	---	74.00	20.45	100.0	V	47.0	8.5
4100.800000	64.39	---	74.00	9.61	100.0	V	264.0	10.1
4920.500000	---	40.89	54.00	13.11	100.0	V	214.0	11.8
4922.500000	51.34	---	74.00	22.66	100.0	V	359.0	11.8

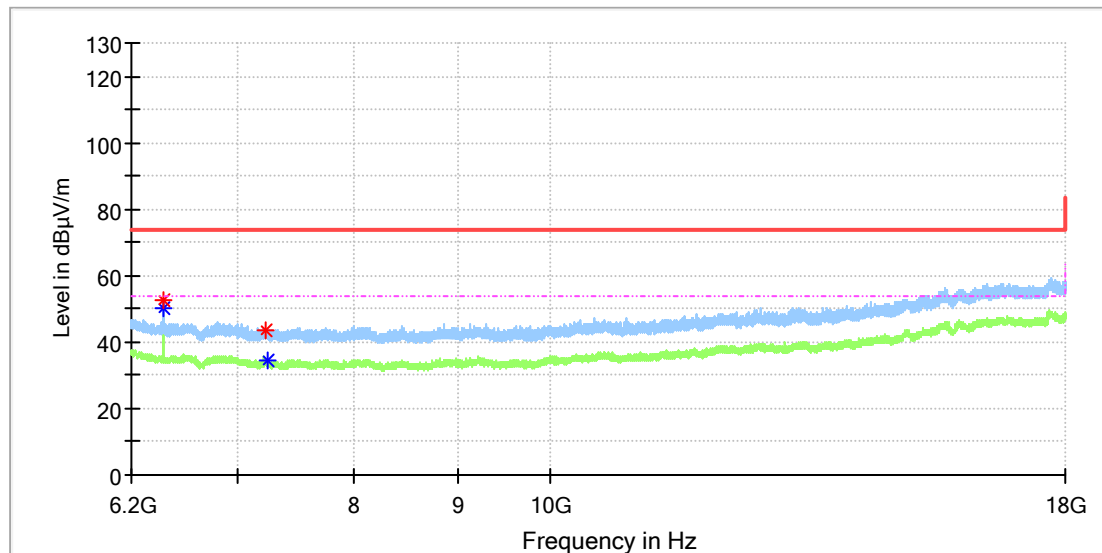
Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4101.987500	---	40.60	54.00	13.40	100.0	V	250.0	10.1

6.2GHz - 18GHz

EUT Information

EUT Name:	Phyn Water Sensor
Model:	PHYCF006
Test Mode:	WiFi 2.4G_11g_Ch1
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:47%
Test Standard:	FCC 15.247
Tested By:	Alano Qu
Reviewed By:	Terry Yin

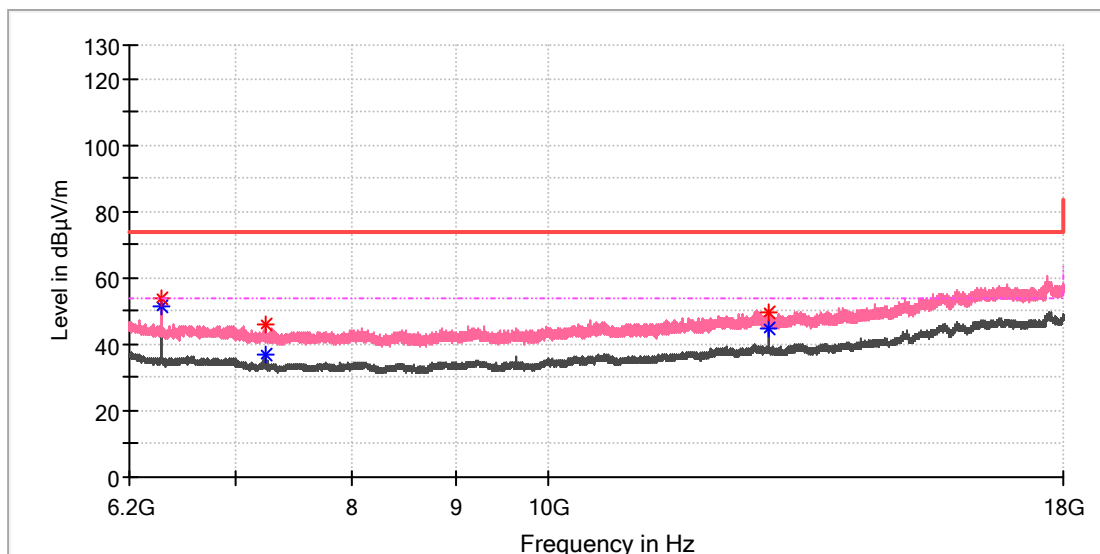


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6432.066667	52.87	---	74.00	21.13	100.0	H	315.0	8.7
6432.066667	---	49.94	54.00	4.06	100.0	H	315.0	8.7
7233.483333	43.68	---	74.00	30.32	100.0	H	342.0	8.6
7239.383333	---	34.74	54.00	19.26	100.0	H	315.0	8.6

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11g_Ch1
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

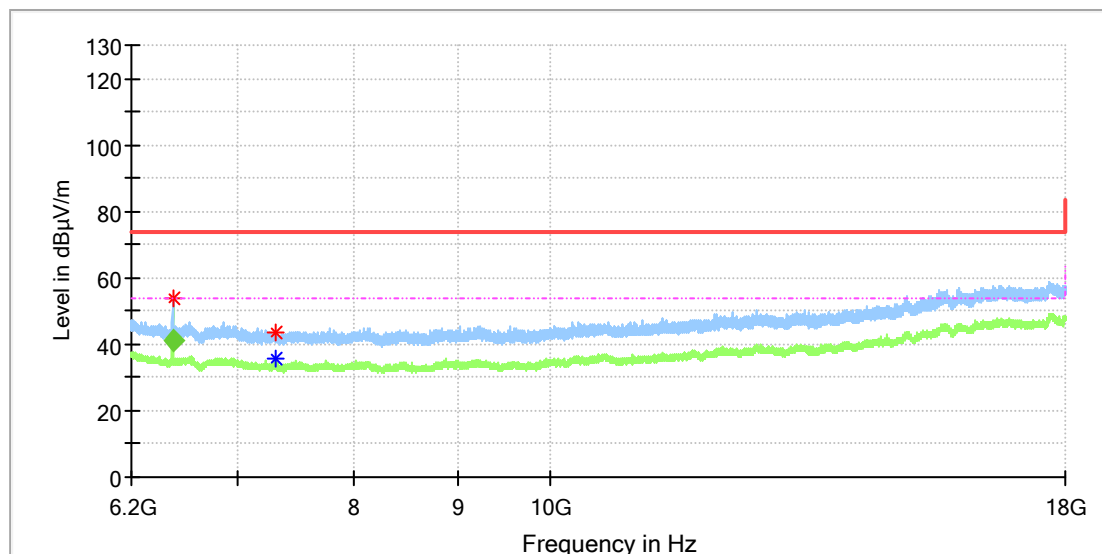


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6431.575000	53.92	---	74.00	20.08	100.0	V	0.0	8.8
6432.066667	---	51.56	54.00	2.44	100.0	V	0.0	8.7
7236.925000	45.69	---	74.00	28.31	100.0	V	270.0	8.6
7238.400000	---	36.73	54.00	17.27	100.0	V	270.0	8.6
12864.050000	---	44.54	54.00	9.46	100.0	V	228.0	15.4
12864.541667	49.49	---	74.00	24.51	100.0	V	228.0	15.4

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11g_Ch6
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



Critical_Freqs

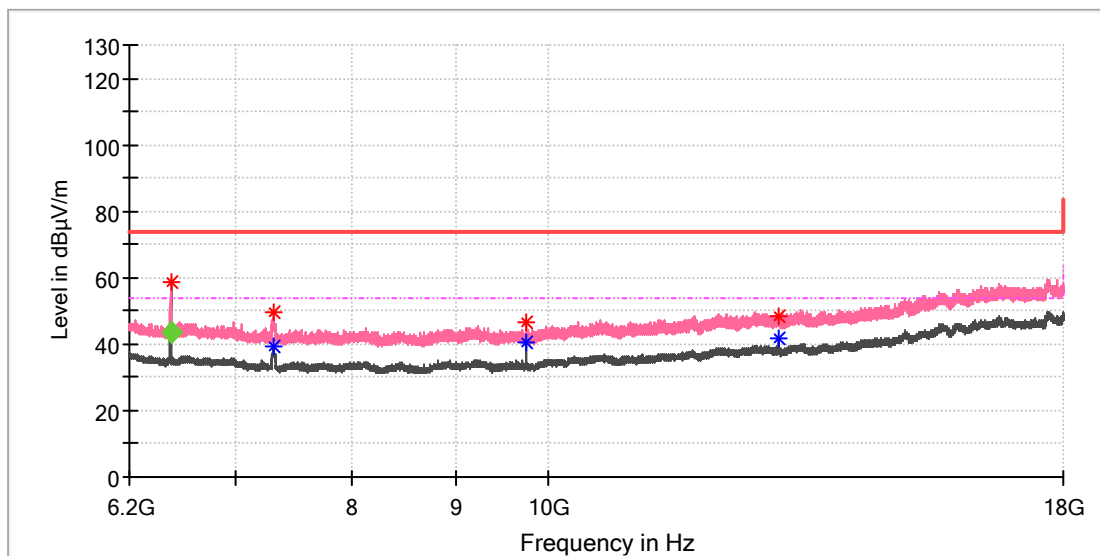
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6498.441667	53.90	---	74.00	20.10	100.0	H	100.0	8.8
7307.725000	---	35.84	54.00	18.16	100.0	H	305.0	8.3
7310.675000	43.68	---	74.00	30.32	100.0	H	144.0	8.2

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6498.812917	---	41.32	54.00	12.68	100.0	H	98.0	8.8

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11g_Ch6
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



Critical Freqs

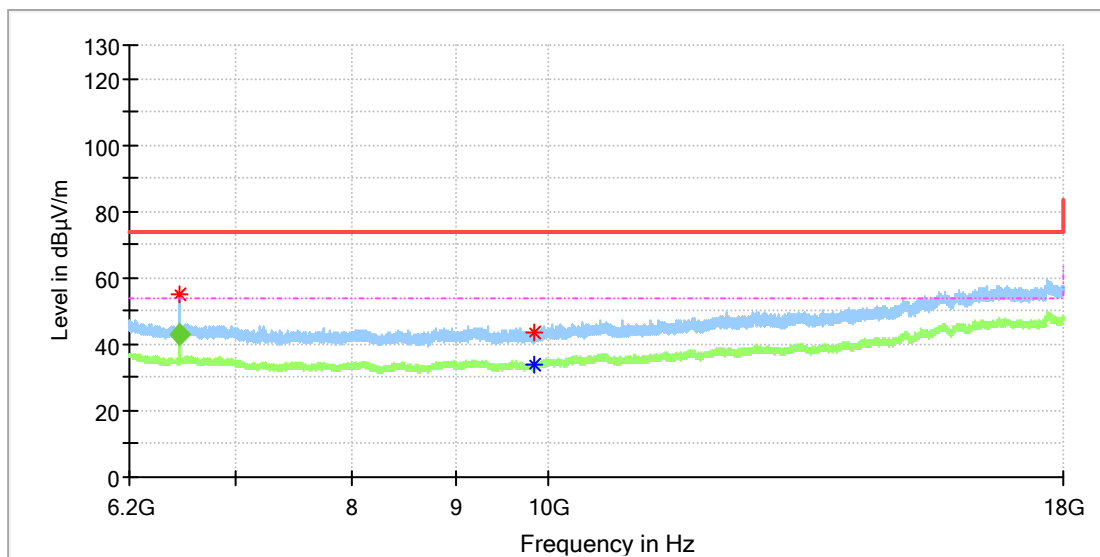
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6498.441667	58.43	---	74.00	15.57	100.0	V	60.0	8.8
7306.250000	49.70	---	74.00	24.30	100.0	V	247.0	8.3
7317.558333	---	39.53	54.00	14.47	100.0	V	17.0	8.2
9747.866667	46.31	---	74.00	27.69	100.0	V	172.0	10.4
9748.358333	---	40.53	54.00	13.47	100.0	V	172.0	10.4
12997.783333	---	41.76	54.00	12.24	100.0	V	73.0	15.5
12998.275000	48.17	---	74.00	25.83	100.0	V	261.0	15.5

Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6498.741667	---	43.56	54.00	10.44	100.0	V	55.0	8.8

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11g_Ch11
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



Critical_Freqs

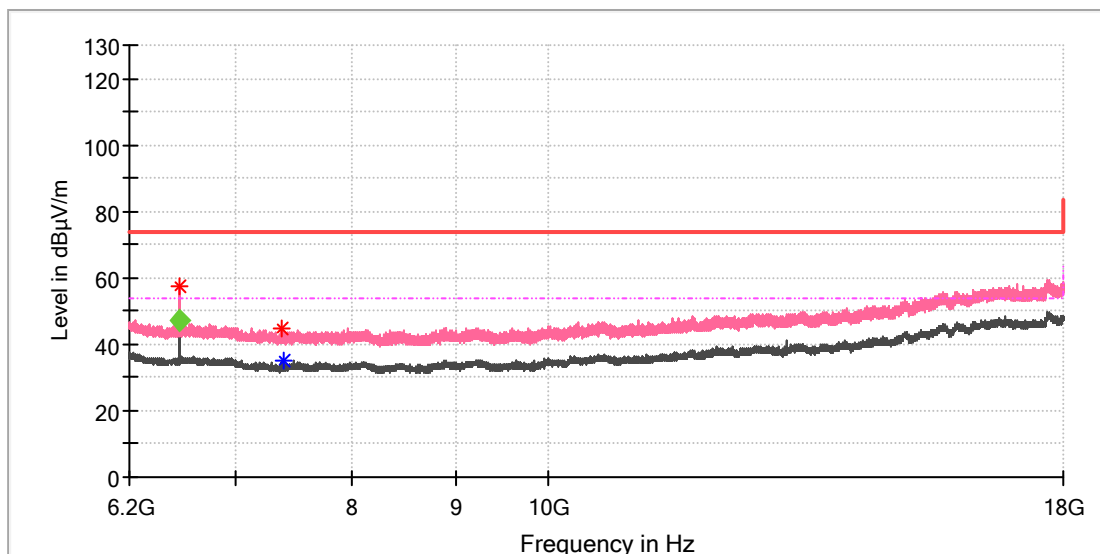
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6565.308333	55.27	---	74.00	18.73	100.0	H	104.0	8.7
9847.675000	43.32	---	74.00	30.68	100.0	H	75.0	10.6
9848.166667	---	33.68	54.00	20.32	100.0	H	217.0	10.6

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6565.381666	---	42.68	54.00	11.32	100.0	H	99.0	8.7

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11g_Ch11
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6564.816667	57.25	---	74.00	16.75	100.0	V	221.0	8.7
7384.425000	44.49	---	74.00	29.51	100.0	V	277.0	8.2
7386.883333	---	35.32	54.00	18.68	100.0	V	80.0	8.2

Final_Result

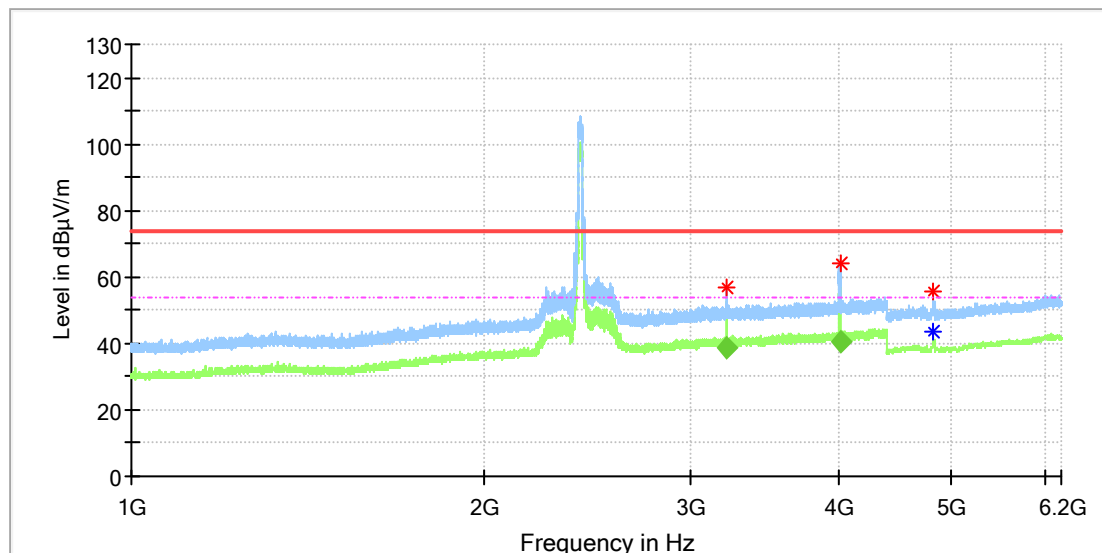
Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6565.430417	---	47.12	54.00	6.88	100.0	V	219.0	8.7

Wi-Fi 802.11 n(HT20) mode, MCS0

1GHz - 6.2GHz

EUT Information

EUT Name:	Phyn Water Sensor
Model:	PHYCF006
Test Mode:	WiFi 2.4G_11n20_Ch1
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:47%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

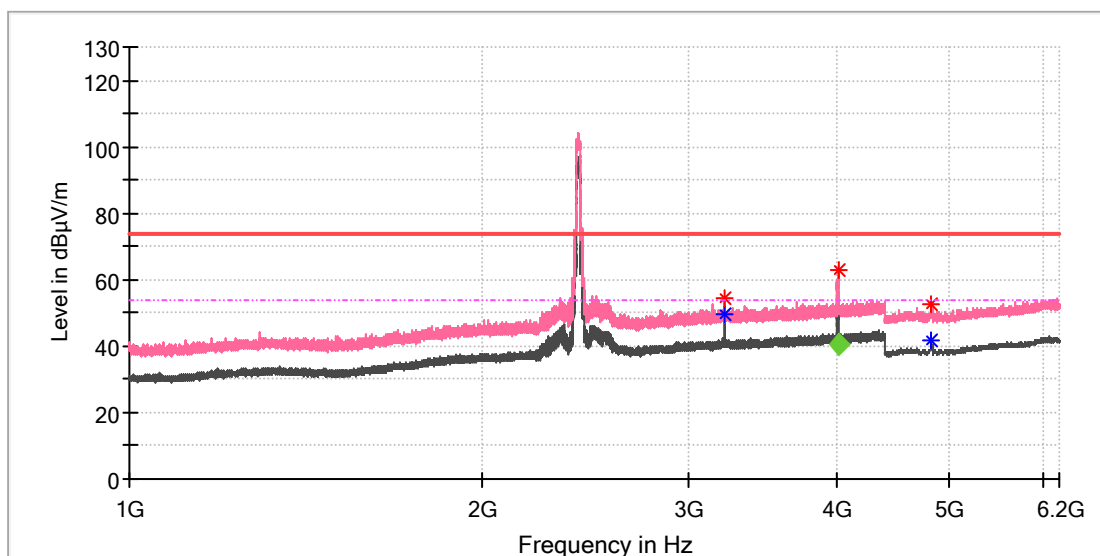
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3216.120000	57.12	---	74.00	16.88	100.0	H	15.0	8.6
4017.670000	64.02	---	74.00	9.98	100.0	H	252.0	10.1
4820.500000	55.85	---	74.00	18.15	100.0	H	211.0	11.8
4823.000000	---	43.46	54.00	10.54	100.0	H	219.0	11.8

Final_Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3216.082000	---	38.79	54.00	15.21	100.0	H	10.0	8.6
4018.768500	---	40.78	54.00	13.22	100.0	H	250.0	10.1

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11n20_Ch1
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical Freqs

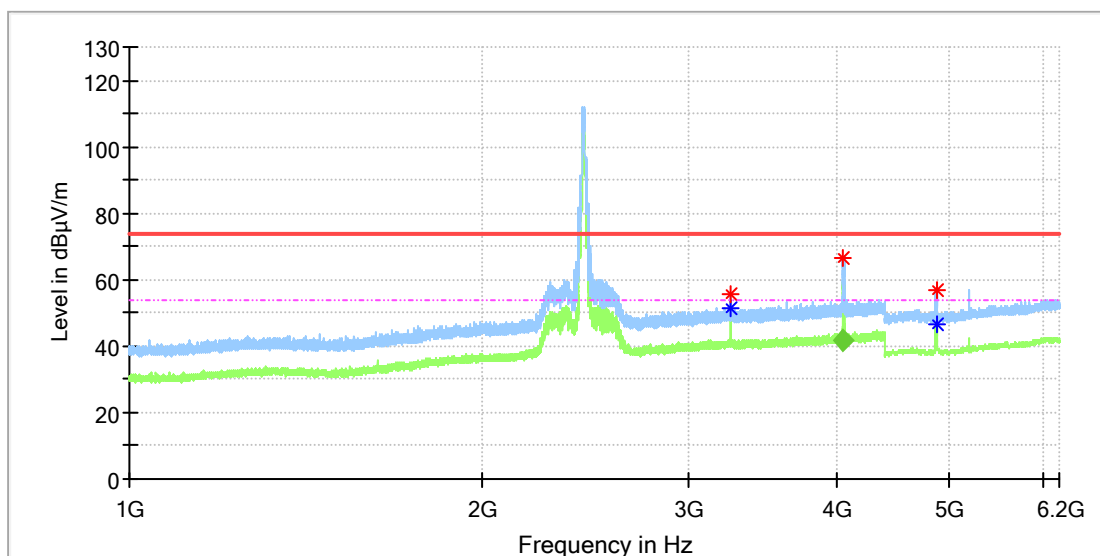
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3216.120000	54.32	---	74.00	19.68	100.0	V	354.0	8.6
3216.290000	---	49.75	54.00	4.25	100.0	V	354.0	8.6
4021.240000	62.71	---	74.00	11.29	100.0	V	163.0	10.1
4820.500000	---	41.57	54.00	12.43	100.0	V	214.0	11.8
4823.500000	52.49	---	74.00	21.51	100.0	V	355.0	11.8

Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4018.838500	---	40.27	54.00	13.73	105.0	V	169.0	10.1

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11n20_Ch6
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical Freqs

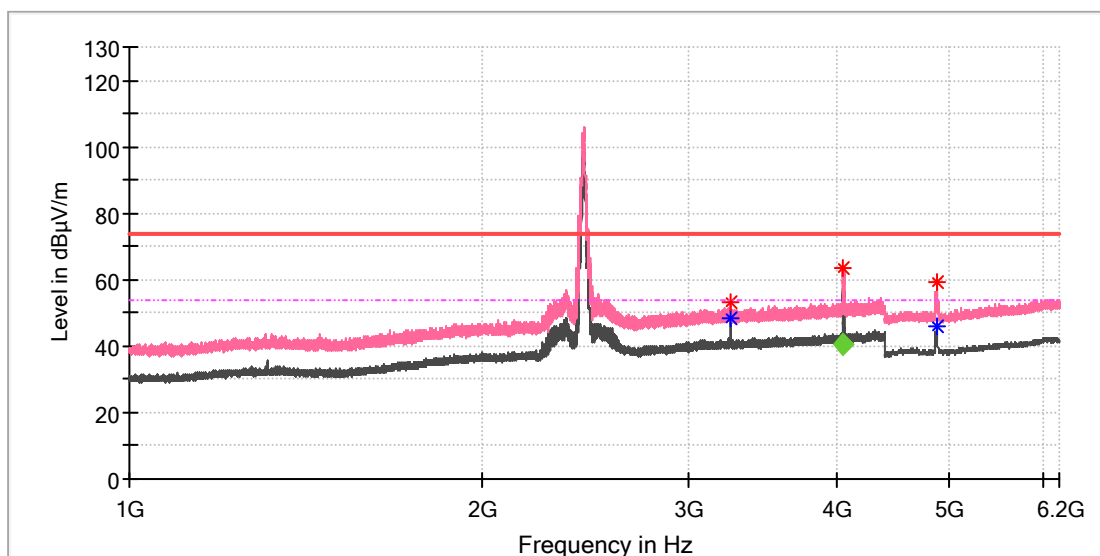
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3249.100000	55.82	---	74.00	18.18	100.0	H	6.0	8.5
3249.270000	---	51.57	54.00	2.43	100.0	H	173.0	8.5
4058.300000	66.34	---	74.00	7.66	100.0	H	284.0	10.1
4871.000000	57.05	---	74.00	16.95	100.0	H	214.0	11.8
4873.000000	---	46.63	54.00	7.37	100.0	H	214.0	11.8

Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4060.398000	---	41.63	54.00	12.37	100.0	H	239.0	10.1

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11n20_Ch6
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical Freqs

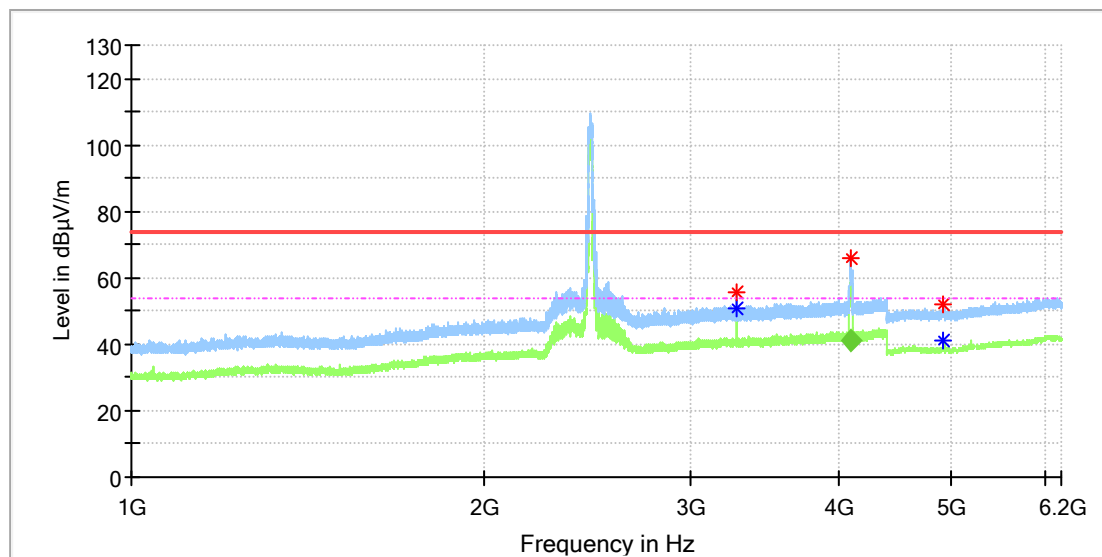
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3249.270000	---	48.07	54.00	5.93	100.0	V	215.0	8.5
3249.440000	53.05	---	74.00	20.95	100.0	V	215.0	8.5
4057.280000	63.68	---	74.00	10.32	100.0	V	170.0	10.1
4872.000000	---	46.16	54.00	7.84	100.0	V	222.0	11.8
4872.500000	59.29	---	74.00	14.71	100.0	V	214.0	11.8

Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4060.413000	---	40.76	54.00	13.24	100.0	V	165.0	10.1

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11n20_Ch11
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

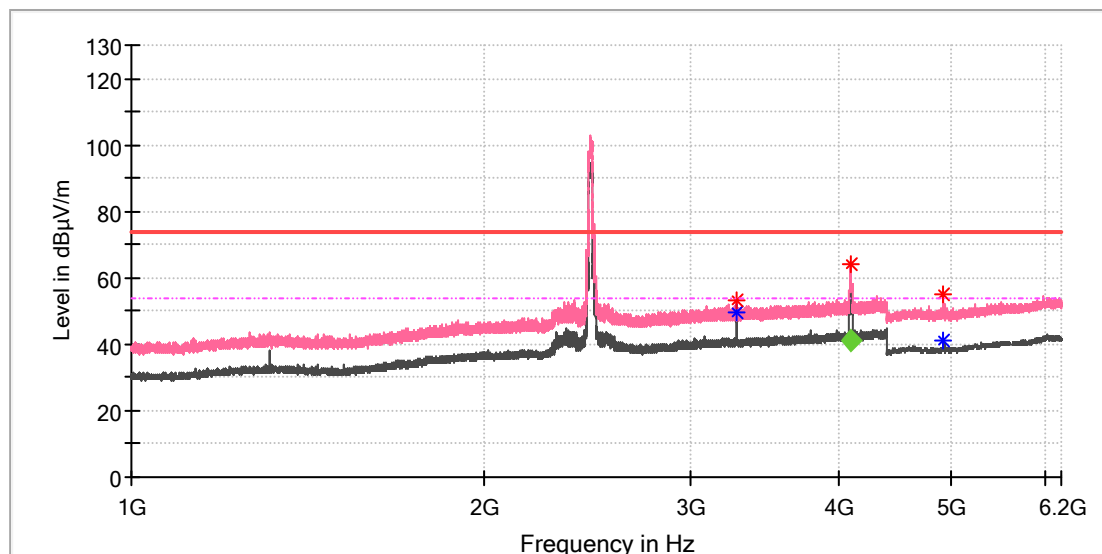
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3282.590000	---	50.49	54.00	3.51	100.0	H	19.0	8.5
3282.760000	55.42	---	74.00	18.58	100.0	H	19.0	8.5
4104.540000	65.94	---	74.00	8.06	100.0	H	275.0	10.1
4923.000000	---	40.92	54.00	13.08	100.0	H	253.0	11.8
4924.500000	52.21	---	74.00	21.79	100.0	H	246.0	11.8

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4102.027500	---	41.34	54.00	12.66	100.0	H	284.0	10.1

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11n20_Ch11
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3282.590000	53.33	---	74.00	20.67	100.0	V	0.0	8.5
3282.760000	---	49.39	54.00	4.61	100.0	V	332.0	8.5
4106.070000	63.98	---	74.00	10.02	100.0	V	263.0	10.1
4920.500000	54.75	---	74.00	19.25	100.0	V	207.0	11.8
4920.500000	---	41.22	54.00	12.78	100.0	V	207.0	11.8

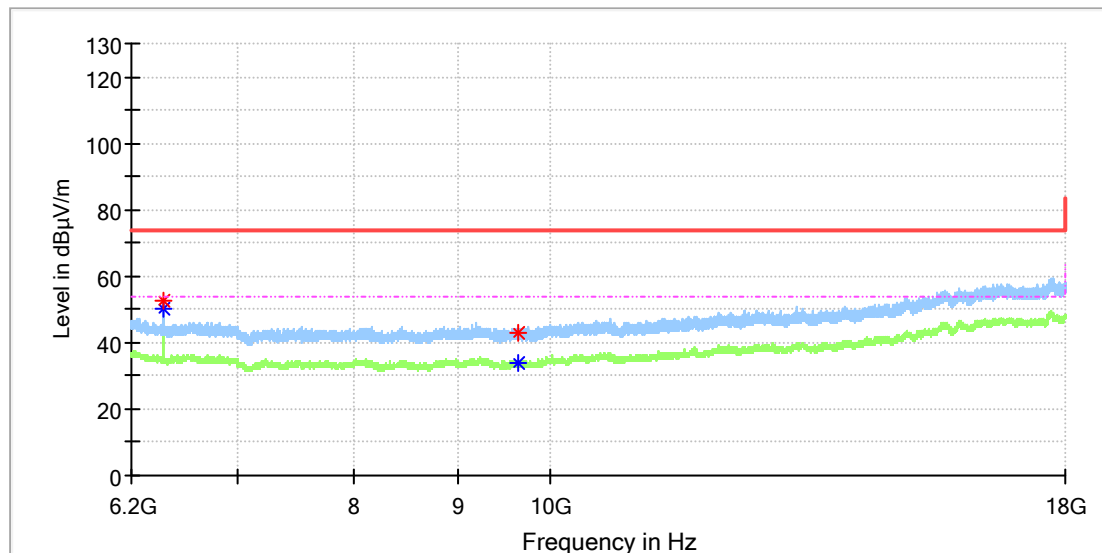
Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4104.650500	---	40.88	54.00	13.12	100.0	V	258.0	10.1

6.2GHz - 18GHz

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11n20_Ch1
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

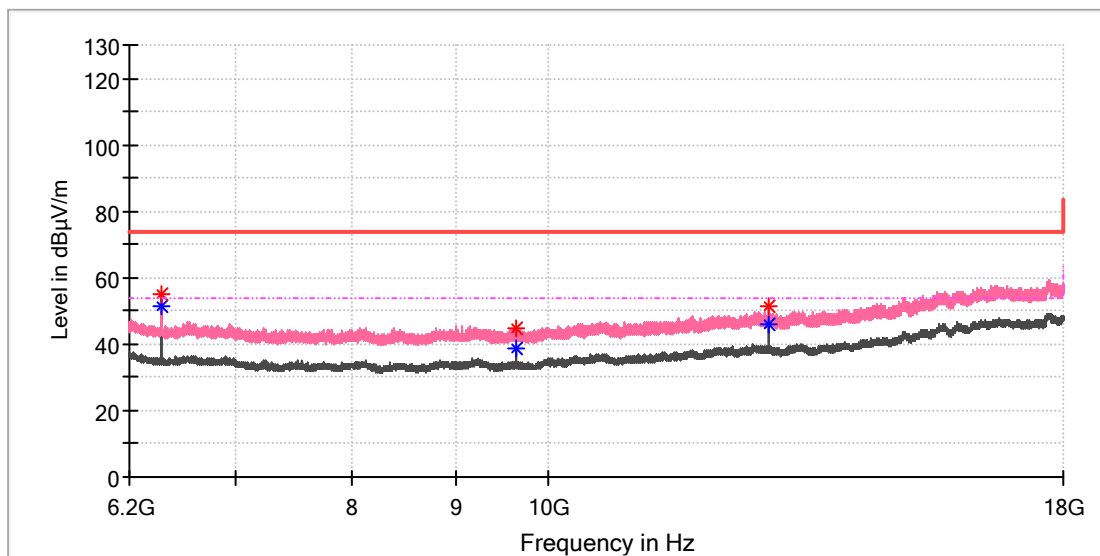


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6431.575000	52.47	---	74.00	21.53	100.0	H	16.0	8.8
6432.066667	---	50.23	54.00	3.77	100.0	H	278.0	8.7
9644.616667	42.86	---	74.00	31.14	100.0	H	68.0	10.4
9650.025000	---	34.06	54.00	19.94	100.0	H	108.0	10.4

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11n20_Ch1
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

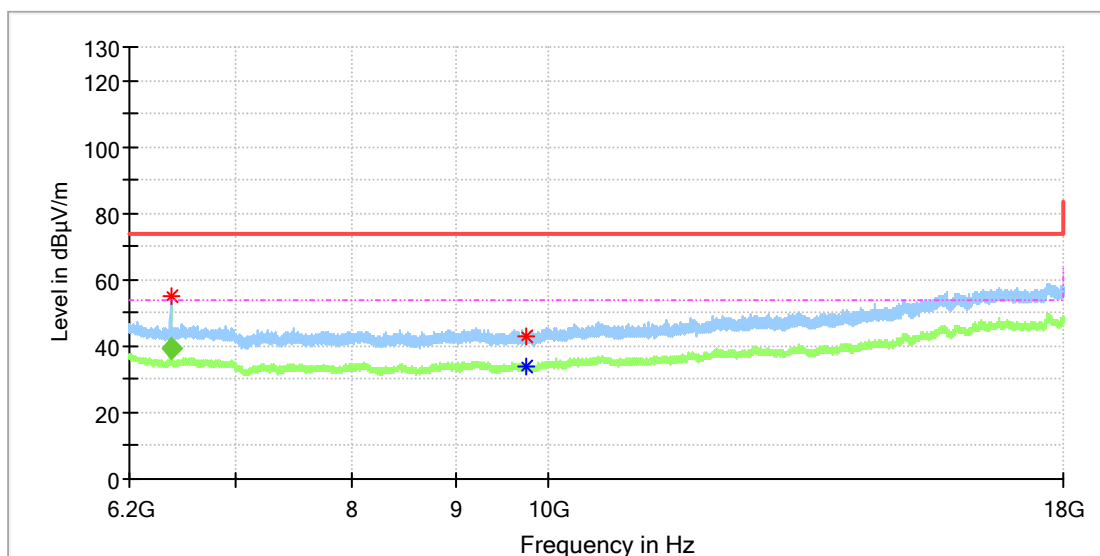


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6431.575000	54.74	---	74.00	19.26	100.0	V	190.0	8.8
6432.066667	---	51.55	54.00	2.45	100.0	V	190.0	8.7
9648.058333	44.83	---	74.00	29.17	100.0	V	190.0	10.4
9648.058333	---	38.62	54.00	15.38	100.0	V	190.0	10.4
12864.050000	---	46.25	54.00	7.75	100.0	V	261.0	15.4
12864.541667	51.24	---	74.00	22.76	100.0	V	261.0	15.4

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11n20_Ch6
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



Critical Freqs

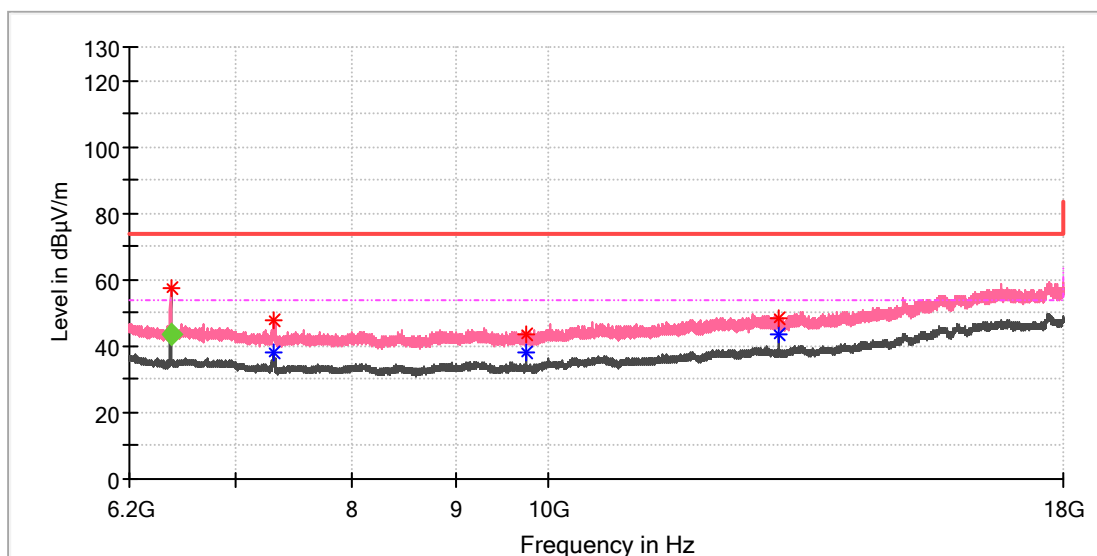
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6498.441667	54.75	---	74.00	19.25	100.0	H	263.0	8.8
9747.866667	42.81	---	74.00	31.19	100.0	H	332.0	10.4
9747.866667	---	33.81	54.00	20.19	100.0	H	332.0	10.4

Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6498.810834	---	39.39	54.00	14.61	100.0	H	258.0	8.8

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11n20_Ch6
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



Critical Freqs

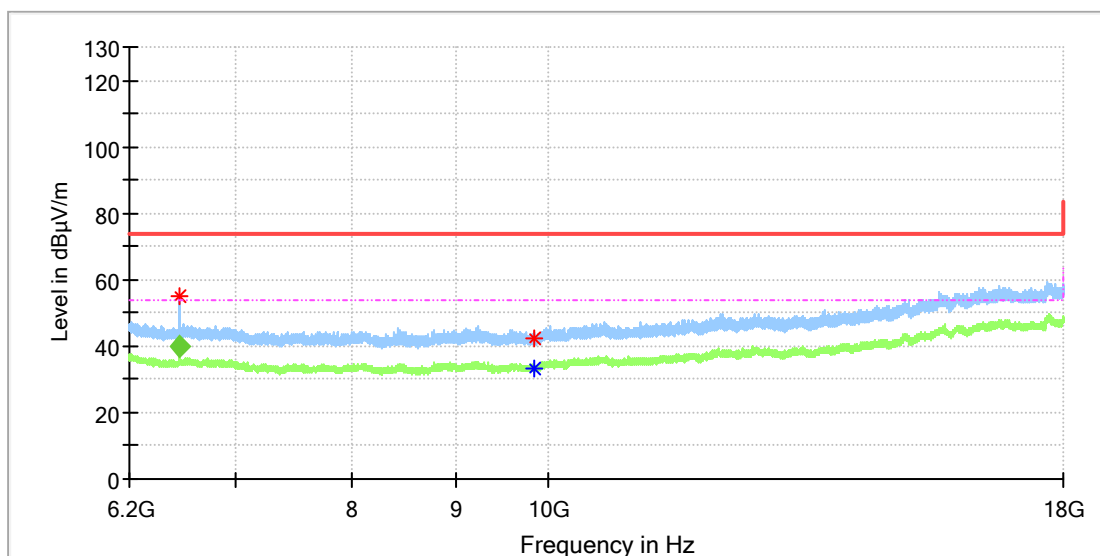
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6497.950000	57.31	---	74.00	16.69	100.0	V	60.0	8.8
7308.216667	---	38.01	54.00	15.99	100.0	V	17.0	8.2
7309.691667	47.54	---	74.00	26.46	100.0	V	17.0	8.2
9747.866667	---	37.96	54.00	16.04	100.0	V	211.0	10.4
9748.358333	43.47	---	74.00	30.53	100.0	V	211.0	10.4
12997.783333	48.37	---	74.00	25.63	100.0	V	225.0	15.5
12997.783333	---	43.28	54.00	10.72	100.0	V	225.0	15.5

Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6498.765417	---	43.60	54.00	10.40	100.0	V	55.0	8.8

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11n20_Ch11
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



Critical Freqs

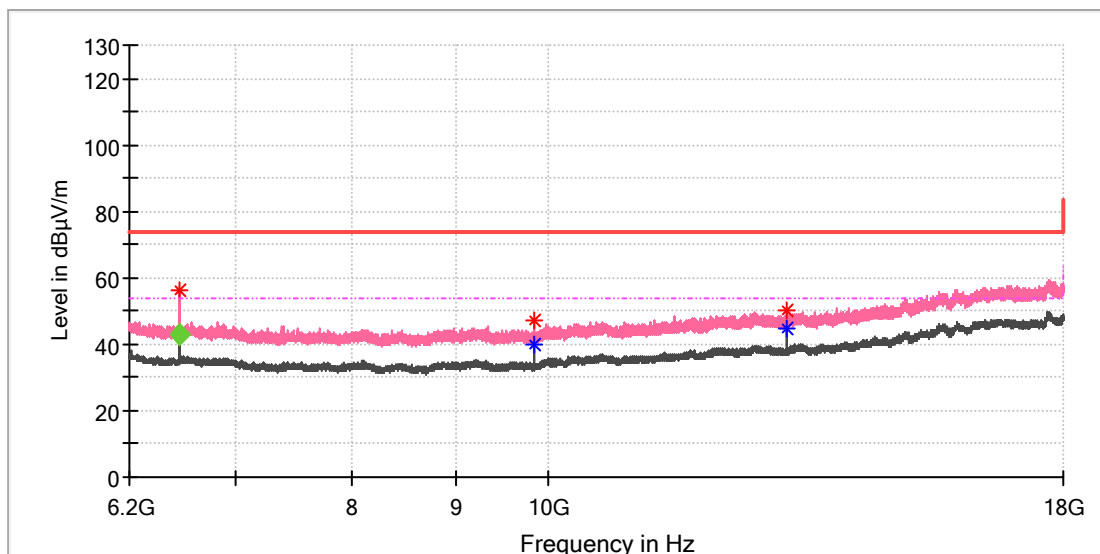
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6565.308333	55.14	---	74.00	18.86	100.0	H	6.0	8.7
9847.675000	42.45	---	74.00	31.55	100.0	H	60.0	10.6
9848.166667	---	33.19	54.00	20.81	100.0	H	33.0	10.6

Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6565.451250	---	39.82	54.00	14.18	105.0	H	1.0	8.7

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11n20_Ch11
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6564.816667	56.03	---	74.00	17.97	100.0	V	0.0	8.7
9848.166667	46.99	---	74.00	27.01	100.0	V	179.0	10.6
9848.166667	---	39.98	54.00	14.02	100.0	V	179.0	10.6
13131.025000	---	44.91	54.00	9.09	100.0	V	164.0	15.4
13131.516667	50.06	---	74.00	23.94	100.0	V	164.0	15.4

Final_Result

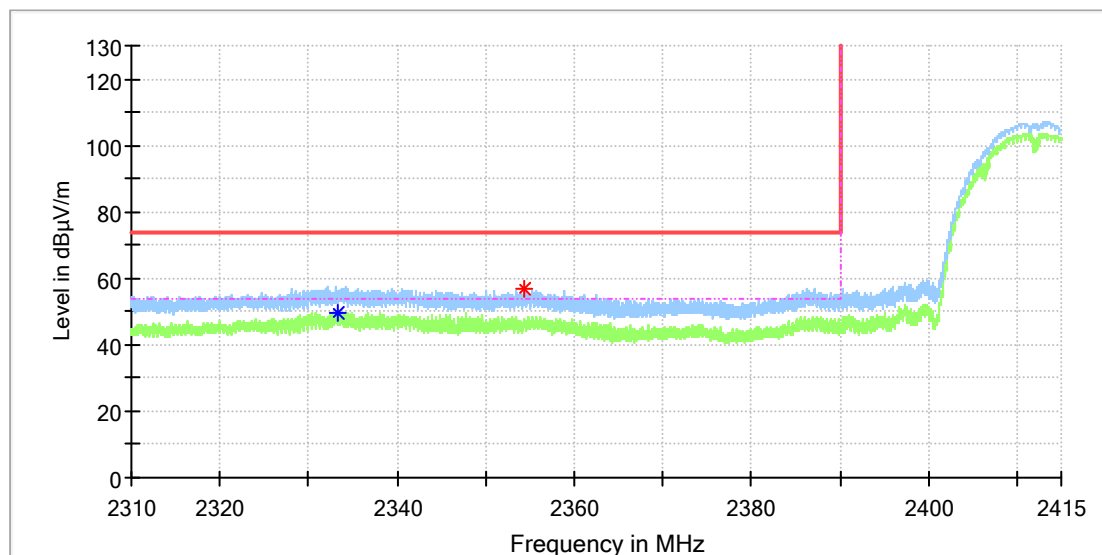
Frequency (MHz)	QuasiPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
6565.378333	---	42.68	54.00	11.32	100.0	V	355.0	8.7

Appendix C.2: Test Results of Radiated Emissions in Restricted Bands

Wi-Fi 802.11 b mode, 1 Mbps
Low channel

EUT Information

EUT Name:	Phyn Water Sensor
Model:	PHYCF006
Test Mode:	WiFi 2.4G_11b_Ch1
Test Voltage::	DC 3V
Remark:	Temp 22 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Alano Qu
Reviewed By:	Terry Yin

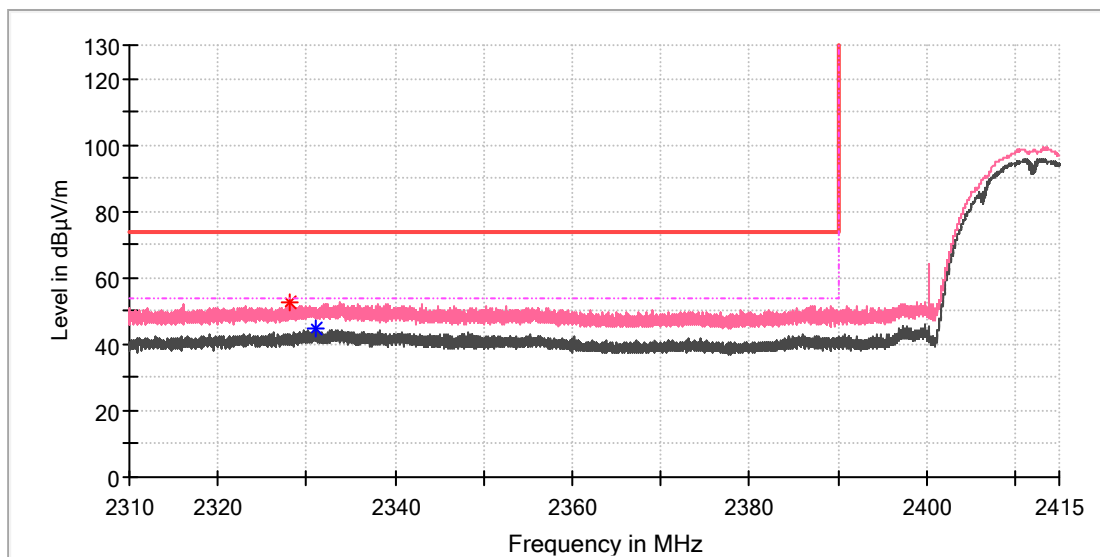


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2333.205000	---	49.76	54.00	4.24	100.0	H	233.0	6.7
2354.441250	56.90	---	74.00	17.10	100.0	H	233.0	6.9

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11b_Ch1
Test Voltage:: DC 3V
Remark: Temp 22 Humi:50%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



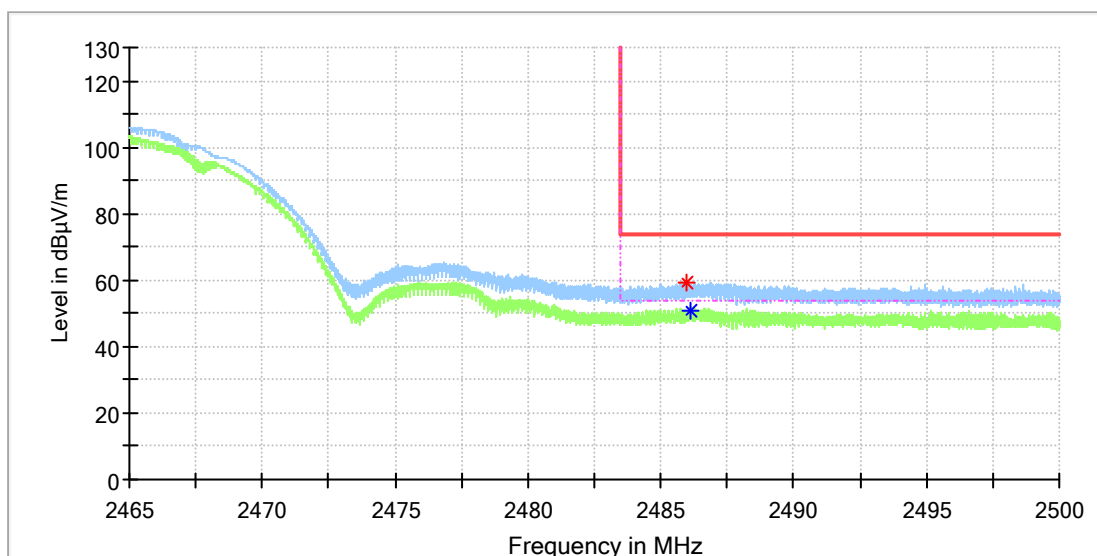
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2328.159750	52.89	---	74.00	21.11	100.0	V	271.0	6.7
2331.042000	---	44.55	54.00	9.45	100.0	V	271.0	6.7

High channel

EUT Information

EUT Name:	Phyn Water Sensor
Model:	PHYCF006
Test Mode:	WiFi 2.4G_11b_Ch11
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:47%
Test Standard:	FCC 15.247
Tested By:	Alano Qu
Reviewed By:	Terry Yin

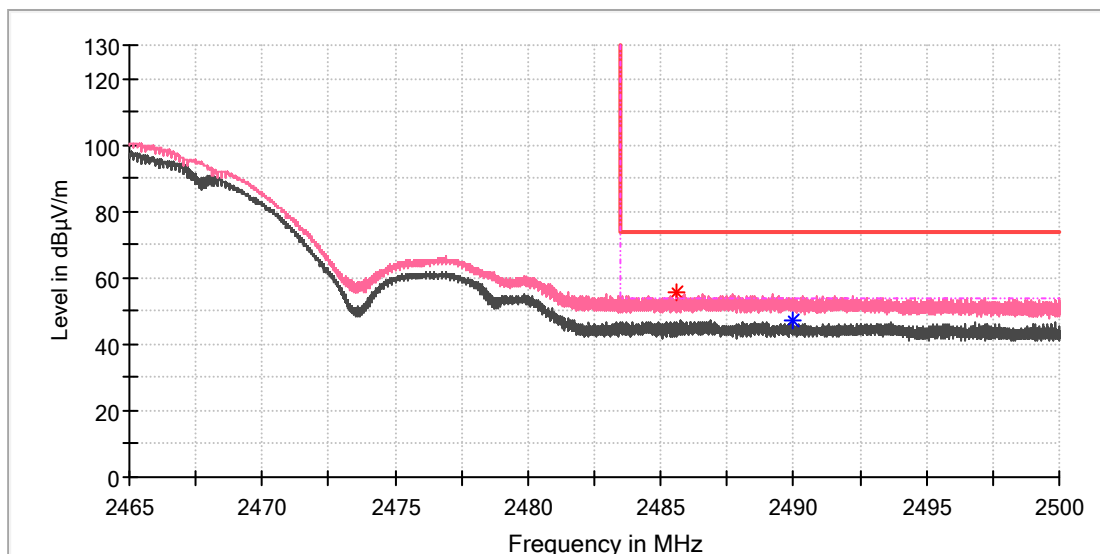


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2485.935250	59.33	---	74.00	14.67	100.0	H	207.0	7.4
2486.108500	---	50.91	54.00	3.09	100.0	H	67.0	7.4

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11b_Ch11
Test Voltage:: DC 3V
Remark: Temp 22 Humi:50%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



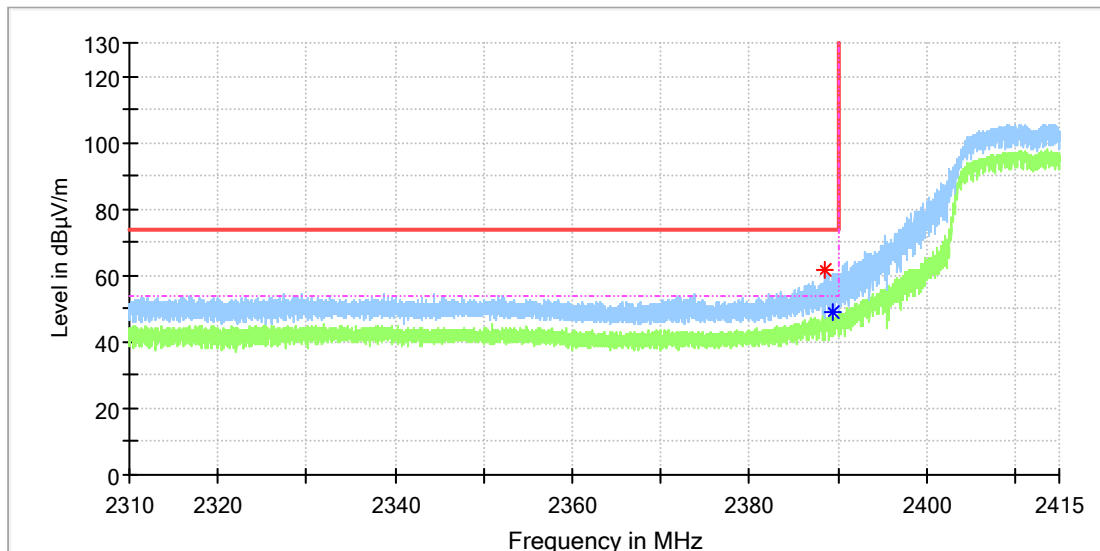
Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2485.594000	55.50	---	74.00	18.50	100.0	V	347.0	7.4
2489.995250	---	47.30	54.00	6.70	100.0	V	238.0	7.4

**Wi-Fi 802.11 g mode, 6 Mbps
Low channel**

EUT Information

EUT Name:	Phyn Water Sensor
Model:	PHYCF006
Test Mode:	WiFi 2.4G_11g_Ch1
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:47%
Test Standard:	FCC 15.247
Tested By:	Alano Qu
Reviewed By:	Terry Yin

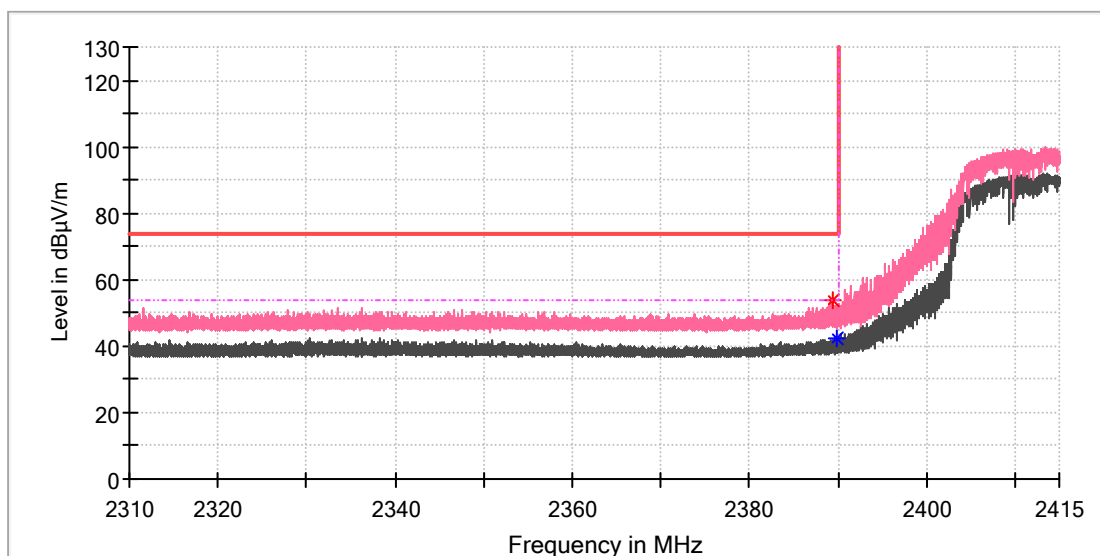


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2388.519000	61.50	---	74.00	12.50	100.0	H	58.0	7.0
2389.416750	---	48.92	54.00	5.08	100.0	H	71.0	7.0

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11g_Ch1
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



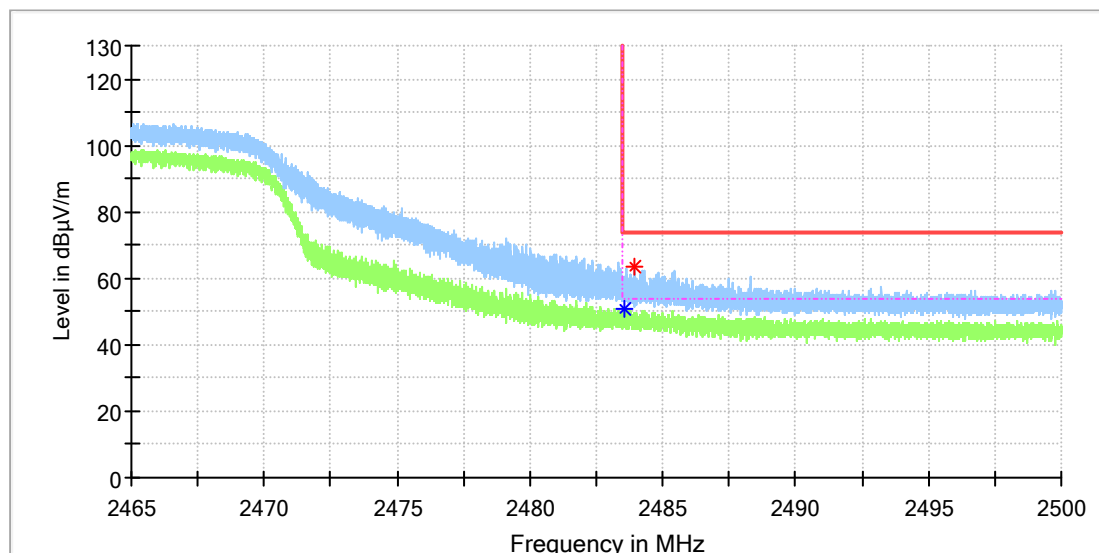
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2389.427250	53.87	---	74.00	20.13	100.0	V	68.0	7.0
2389.868250	---	42.20	54.00	11.80	100.0	V	80.0	7.0

High channel

EUT Information

EUT Name:	Phyn Water Sensor
Model:	PHYCF006
Test Mode:	WiFi 2.4G_11g_Ch11
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:47%
Test Standard:	FCC 15.247
Tested By:	Alano Qu
Reviewed By:	Terry Yin

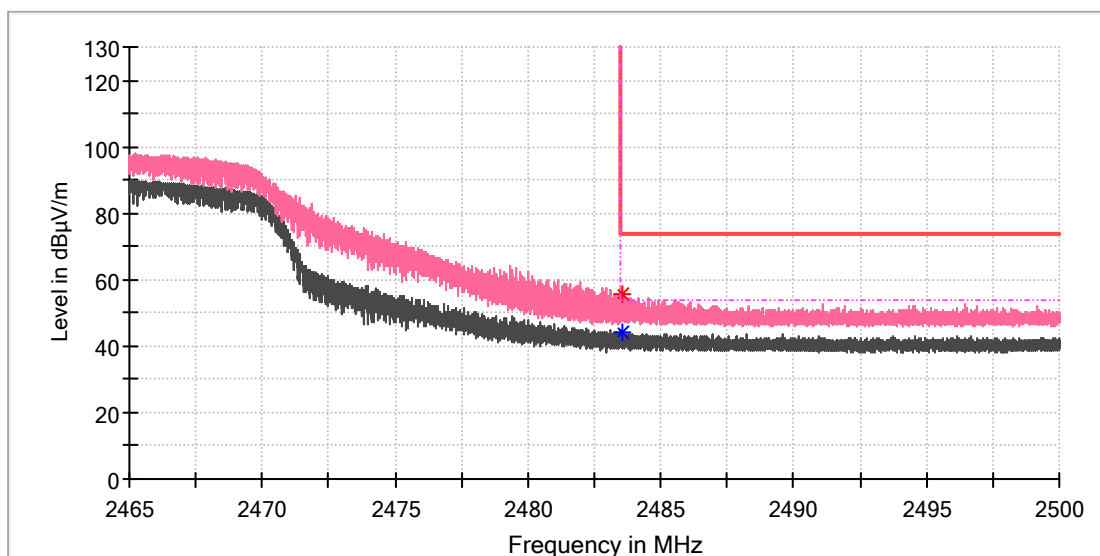


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.551750	---	50.80	54.00	3.20	100.0	H	217.0	7.4
2483.929750	63.64	---	74.00	10.36	100.0	H	59.0	7.4

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11g_Ch11
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



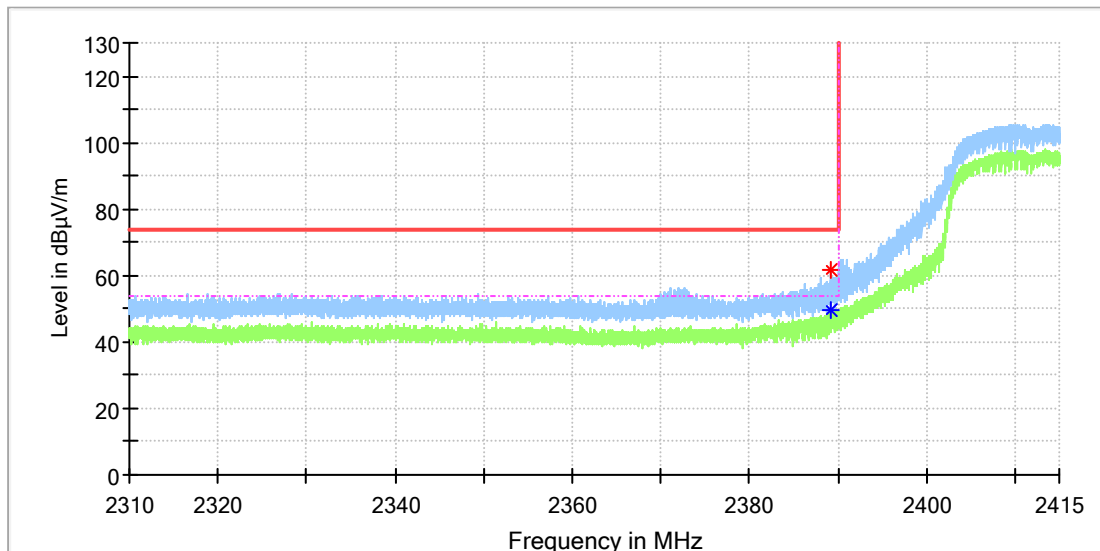
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.569250	---	44.39	54.00	9.61	100.0	V	111.0	7.4
2483.590250	55.79	---	74.00	18.21	100.0	V	87.0	7.4

Wi-Fi 802.11 n(HT20) mode, MCS0
Low channel

EUT Information

EUT Name:	Phyn Water Sensor
Model:	PHYCF006
Test Mode:	WiFi 2.4G_11n20_Ch1
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:47%
Test Standard:	FCC 15.247
Tested By:	Alano Qu
Reviewed By:	Terry Yin

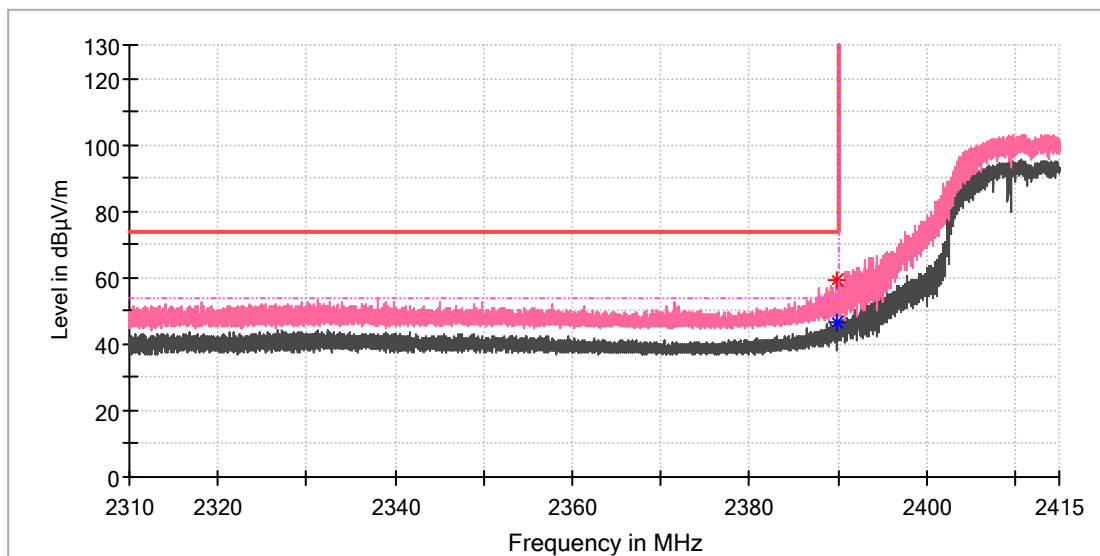


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2389.154250	---	49.51	54.00	4.49	100.0	H	60.0	7.0
2389.269750	61.44	---	74.00	12.56	100.0	H	73.0	7.0

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: WiFi 2.4G_11n20_Ch1
Test Voltage:: DC 3V
Remark: Temp 23 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin



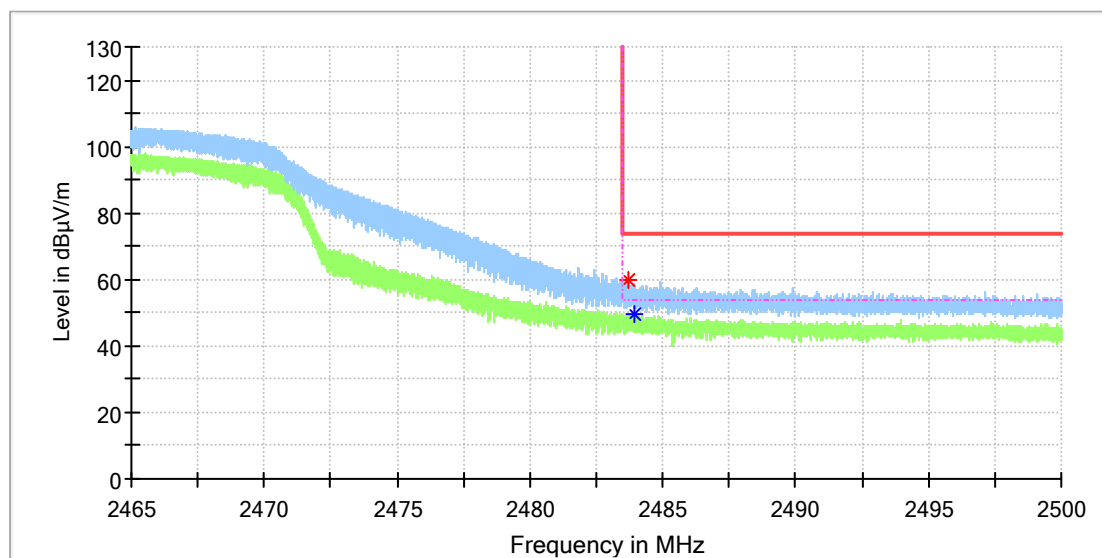
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2389.826250	---	46.66	54.00	7.34	100.0	V	90.0	7.0
2389.947000	59.03	---	74.00	14.97	100.0	V	13.0	7.0

High channel

EUT Information

EUT Name:	Phyn Water Sensor
Model:	PHYCF006
Test Mode:	WiFi 2.4G_11n20_Ch11
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:47%
Test Standard:	FCC 15.247
Tested By:	Alano Qu
Reviewed By:	Terry Yin

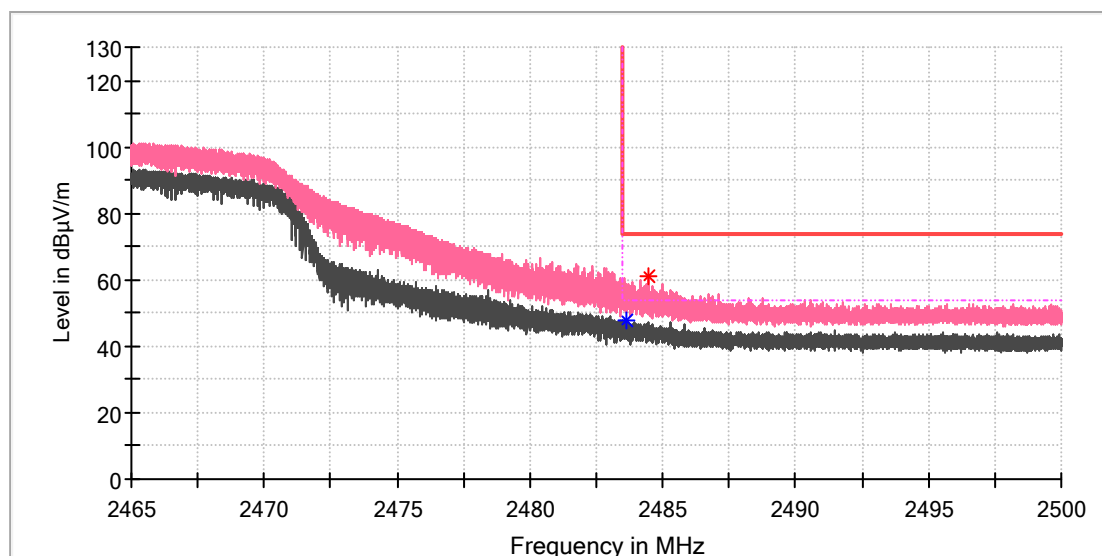


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.742500	59.99	---	74.00	14.01	100.0	H	195.0	7.4
2483.936750	---	49.69	54.00	4.31	100.0	H	205.0	7.4

EUT Information

EUT Name:	Phyn Water Sensor
Model:	PHYCF006
Test Mode:	WiFi 2.4G_11n20_Ch11
Test Voltage::	DC 3V
Remark:	Temp 23 Humi:47%
Test Standard:	FCC 15.247
Tested By:	Alano Qu
Reviewed By:	Terry Yin



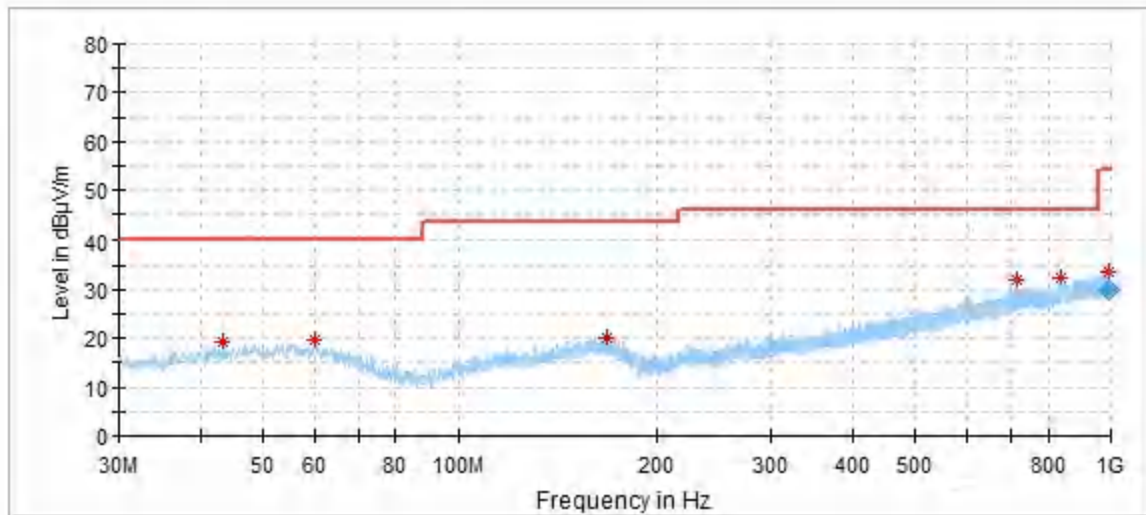
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.595500	---	47.98	54.00	6.02	100.0	V	120.0	7.4
2484.433750	60.94	---	74.00	13.06	100.0	V	120.0	7.4

Appendix C.3: Test Results of Radiated Emissions

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: On
Test Voltage: DC 3V
Test By: Jianhua L
Review By: Gary chen
Remark: 3m Chamber



Critical_Freqs

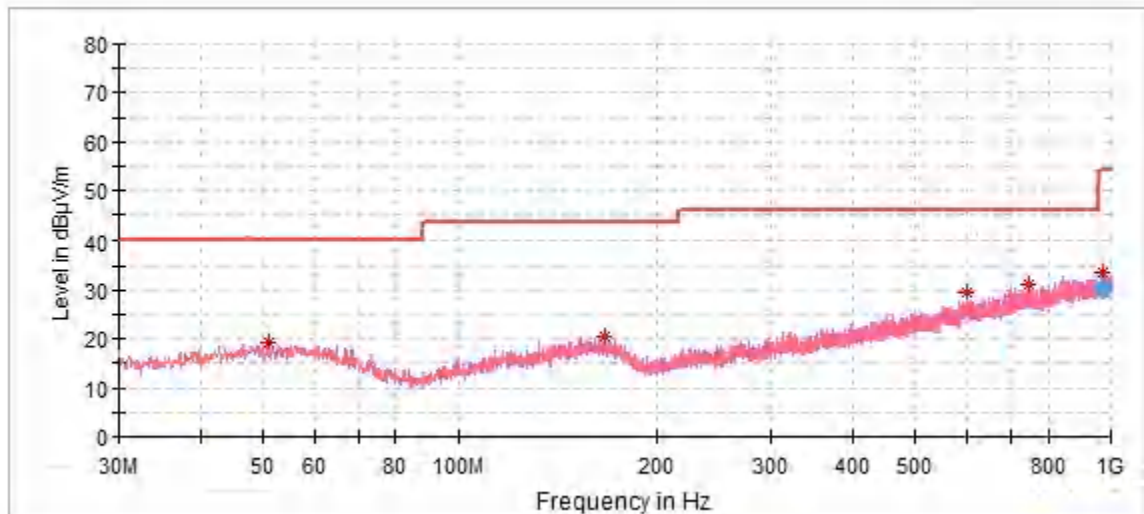
Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
43.483000	19.11	40.00	20.89	200.0	H	144.0	20
59.973000	19.86	40.00	20.14	100.0	H	55.0	21
167.255000	20.18	43.50	23.32	100.0	H	0.0	21
717.439000	32.02	46.00	13.98	200.0	H	0.0	29
834.906000	32.40	46.00	13.60	100.0	H	31.0	31
991.136000	33.61	54.00	20.39	299.0	H	163.0	32

Final_Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
991.136000	30.09	54.00	23.91	1000.0	120.000	300.0	H	163.0	32

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: On
Test Voltage: DC 3V
Test By: Jianhua L
Review By: Gary chen
Remark: 3m Chamber



Critical_Freqs

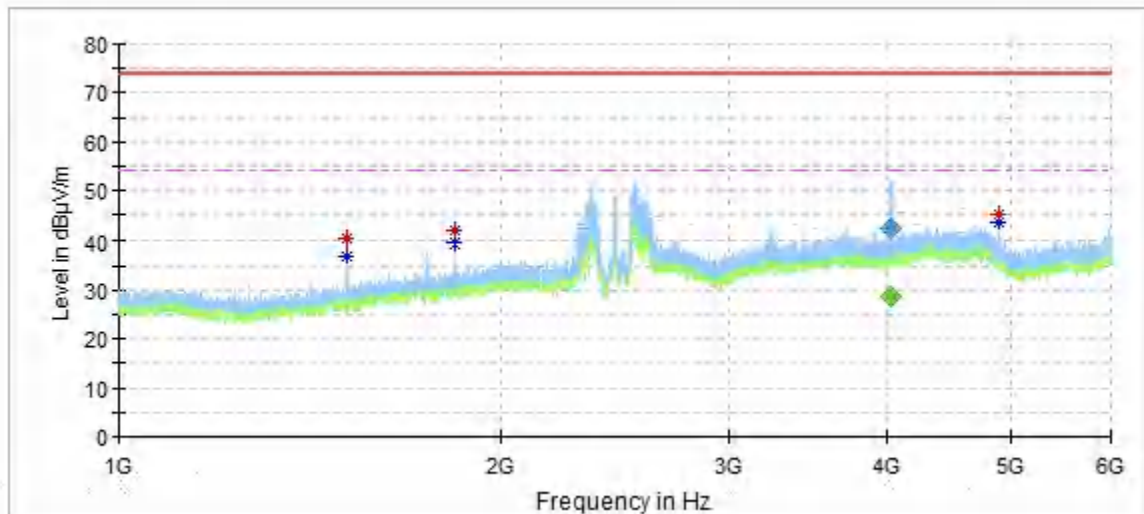
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
51.049000	19.34	40.00	20.66	200.0	V	70.0	21
166.479000	20.60	43.50	22.90	100.0	V	352.0	21
599.972000	29.40	46.00	16.60	200.0	V	170.0	28
747.509000	31.33	46.00	14.67	100.0	V	105.0	30
969.602000	33.80	54.00	20.20	164.0	V	76.0	32

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
969.602000	30.17	54.00	23.83	1000.0	120.000	164.0	V	76.0	32

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: On
Test Voltage: DC 3V
Test By: Jianhua L
Review By: Gary chen
Remark: 3m Chamber



Critical_Freqs

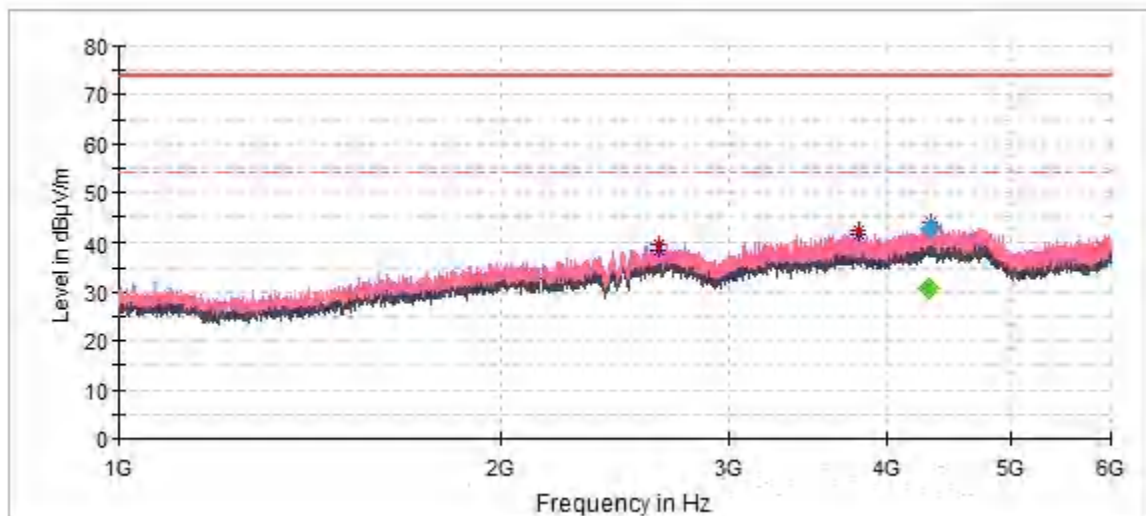
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1509.500000	40.14	---	74.00	33.86	100.0	H	356.0	-11
1509.500000	---	36.74	54.00	17.26	100.0	H	356.0	-11
1839.500000	41.73	---	74.00	32.27	100.0	H	356.0	-9
1839.500000	---	39.38	54.00	14.62	100.0	H	356.0	-9
4029.900000	42.82	---	74.00	31.18	100.0	H	146.0	0
4034.300000	---	28.98	54.00	25.02	100.0	H	122.0	0
4896.500000	45.07	---	74.00	28.93	200.0	H	11.0	1
4896.500000	---	43.29	54.00	10.71	200.0	H	11.0	1

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4029.900000	42.06	---	74.00	31.94	100.0	H	146.0	0
4034.300000	---	28.87	54.00	25.13	100.0	H	122.0	0

EUT Information

EUT Name: Phyn Water Sensor
Model: PHYCF006
Test Mode: On
Test Voltage: DC 3V
Test By: Jianhua L
Review By: Gary chen
Remark: 3m Chamber



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2646.500000	39.31	---	74.00	34.69	100.0	V	140.0	-3
2646.500000	---	38.39	54.00	15.61	100.0	V	140.0	-3
3808.000000	---	41.47	54.00	12.53	100.0	V	208.0	0
3808.000000	42.38	---	74.00	31.62	100.0	V	208.0	0
4322.800000	---	30.93	54.00	23.07	100.0	V	225.0	2
4324.000000	43.72	---	74.00	30.28	100.0	V	253.0	2

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4322.800000	---	30.88	54.00	23.12	100.0	V	225.0	2
4324.000000	42.62	---	74.00	31.38	100.0	V	253.0	2