TESTING LABORATORY
CERTIFICATE#4323.01

FCC PART 15.247

TEST REPORT

For

Changzhou Shincobroad Electronics Co.,Ltd

No.8 West Taihu Road, Xinbei District, Changzhou, 213022 China

FCC ID: 2AOP9-82BS4K20

Report Type:	**Product Type:**
Original Report	4k ULTRA HD TV

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Report Number:	RKSA200609002-00B
Report Date:	2020-09-14
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	Changzhou Shincobroad Electronics Co.,Ltd
Tested Model:	82BS4K20
Series Model:	50BS4K19, 50BS4K20, 50ES20, 50SEF4KUHD, 50ES25, 50ESF35, 50SVL01, 50SVL19, 50SVL20, 50MVT20, 50SVL80, 50SBF4KUHD, 50FSVT30, 50BSF90, 50SVL25, 50MVT25, 50SVL85, 50BSF4K35, 50FSVT35, 50BSF95, 50VS4K20, 50VS80, 50VSF90, 50VS85, 50VSF95, 55SEF4KUHD, 55BS4K19, 55BS4K20, 55ES20, 55ES25, 55ESF35, 55SBF4KUHD, 55FSVT30, 55BSF90, 55SVL19, 55CSV02, 55SVL01, 55SVL20, 55MVT20, 55SVL80, 55CSV20, 55SVL25, 55MVT25, 55SVL85, 55BSF4K35, 55FSVT35, 55BSF95, 55VSF90, 55VS4K20, 55VS80, 55VS85, 55VSF95, 55QSL01, 58SEF4KUHD, 58BS4K19, 58BS4K20, 58ES20, 58ES25, 58ESF35, 58SBF4KUHD, 58FSVT30, 58BSF90, 58SVL19, 58SVL20, 58MVT20, 58SVL80, 58SVL25, 58MVT25, 58SVL85, 58BSF4K35, 58FSVT35, 58BSF95, 58VSF90, 58VS4K20, 58VS80, 58VS85, 58VSF95, 65BS4K19, 65BS4K20, 65ES20, 65SEF4KUHD, 65ES25, 65ESF35, 65SVL19, 65CSV02, 65SVL01, 65SVL20, 65MVT20, 65SVL80, 65CSV20, 65SBF4KUHD, 65FSVT30, 65BSF90, 65SVL25, 65MVT25, 65SVL85, 65BSF4K35, 65FSVT35, 65BSF95, 65VS4K20, 65VS80, 65VSF90, 65VS85, 65VSF95, 65QSL01, 65TGY20, 75BS4K19, 75BS4K20, 75ES20, 75SEF4KUHD, 75ES25, 75ESF35, 75SVL19, 75SVL20, 75MVT20, 75SVL80, 75SBF4KUHD, 75FSVT30, 75BSF90, 75SVL25, 75MVT25, 75SVL85, 75BSF4K35, 75FSVT35, 75BSF95, 75VNET4K, 75VS4K20, 75VS80, 75VSF90, 75VS85, 75VSF95, 82BS4K19, 82ES20, 82SEF4KUHD, 82ES25, 82ESF35, 82SBF4KUHD, 82FSVT30, 82BSF90, 82SVL19, 82SVL20, 82MVT20, 82SVL80, 82SVL25, 82MVT25, 82SVL85, 82BSF4K35, 82FSVT35, 82BSF95, 82VS4K20, 82VS80, 82VSF90, 82VS85, 82VSF95
Model Difference:	See declaration letter
Product Type:	4k ULTRA HD TV
Power Supply:	AC 120 V
RF Function:	2.4G Wi-Fi
Operating Band/Frequency:	2412-2462 MHz(802.11b/g/n20), 2422~2452 MHz(802.11n40)
Channel Number:	11(802.11b/g/n20), 7(802.11n40)
Channel Separation:	5MHz
Modulation Type	DSSS,OFDM
Antenna Type:	Chain 0/ Chain 1: PIFA Antenna
Maximum Antenna Gain:	Chain 0/ Chain 1: 0.0dBi

**All measurement and test data in this report was gathered from production sample serial number: 20200609002 (Assigned by the BACL. The EUT supplied by the applicant was received on 2020-06-09.*

Objective

This report is prepared on behalf of *Changzhou Shincobroad Electronics Co.,Ltd* in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communication Commissions' rules.

The tests were performed in order to determine Compliant with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Related Submittal(s)/Grant(s)

No related submittal/grant.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliant Testing of Unlicensed Wireless Devices and FCC 558074 D01 15.247 Meas Guidance v05r02.

All emissions measurement was performed at Bay Area Compliant Laboratories Corp. (Kunshan). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Measurement Uncertainty

Item		Uncertainty
AC Power Lines Conducted Emissions		3.19dB
RF conducted test with spectrum		0.9dB
RF Output Power with Power meter		0.5dB
Radiated emission	30MHz~1GHz	6.11dB
	1GHz~6GHz	4.45dB
	6GHz~18GHz	5.23dB
	18GHz~40GHz	5.65dB
Occupied Bandwidth		0.5kHz
Temperature		1.0℃
Humidity		6%

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu province, China.

Bay Area Compliance Laboratories Corp. (Kunshan) Lab is accredited to ISO/IEC 17025 by A2LA (Lab code: 4323.01) and the FCC designation No. CN1185 under the FCC KDB 974614 D01 and CAB identifier CN0004 under the ISED requirement. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

Test channel list is as below:

For 802.11b, 802.11g and 802.11n-HT20 mode, EUT was tested with Channel 1, 6 and 11;

For 802.11n-HT40 mode, EUT was tested with Channel 3, 6 and 9.

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

Note: 802.11b/g supports SISO, 802.11n20/40 supports SISO and MIMO mode. For Radiated Emission, according to pretest, the worst case is 802.11n20/40 MIMO mode. 802.11n20/40 MIMO mode test data were recorded in the report.

For Conducted Test:
802.11b/g: each transmit chains were tested
802.11n: each transmit chains were tested

For Radiated Test:
For 802.11b/g: SISO for each transmit chain
For 802.11n: MIMO for two transmit chains

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

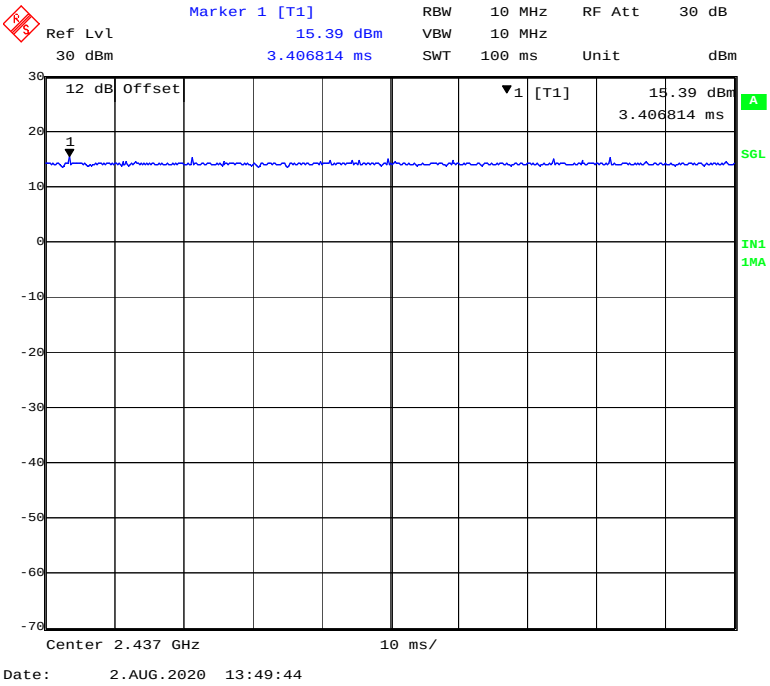
RF test tool: Secure CRT

Pre-scan with all the data rates, and the worst case was performed as below:

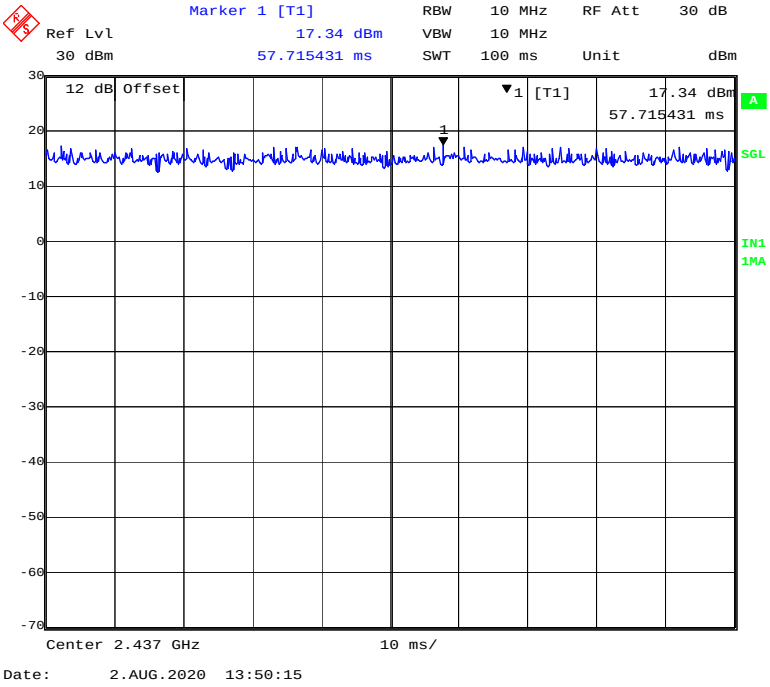
Mode	Data Rate	Power Setting		
		Chain 0	Chain 1	Chain 0+1
802.11b	1Mbps	15	15	15
802.11g	6 Mbps	15	15	15
802.11n-HT20	MCS0	15	15	15
802.11n-HT40	MCS0	15	15	15

Duty Cycle (Chain 0):

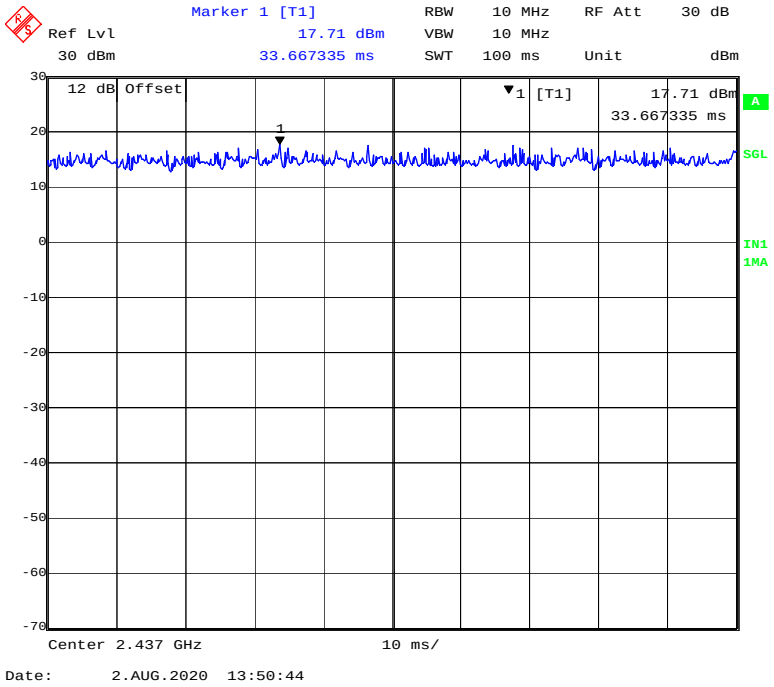
802.11b Mode Middle Channel



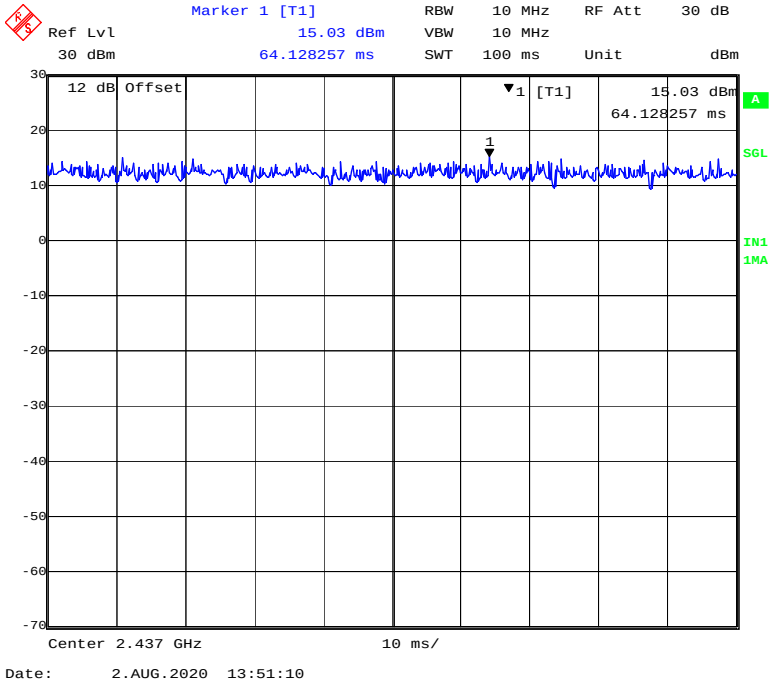
802.11g Mode Middle Channel



802.11n-HT20 Mode Middle Channel

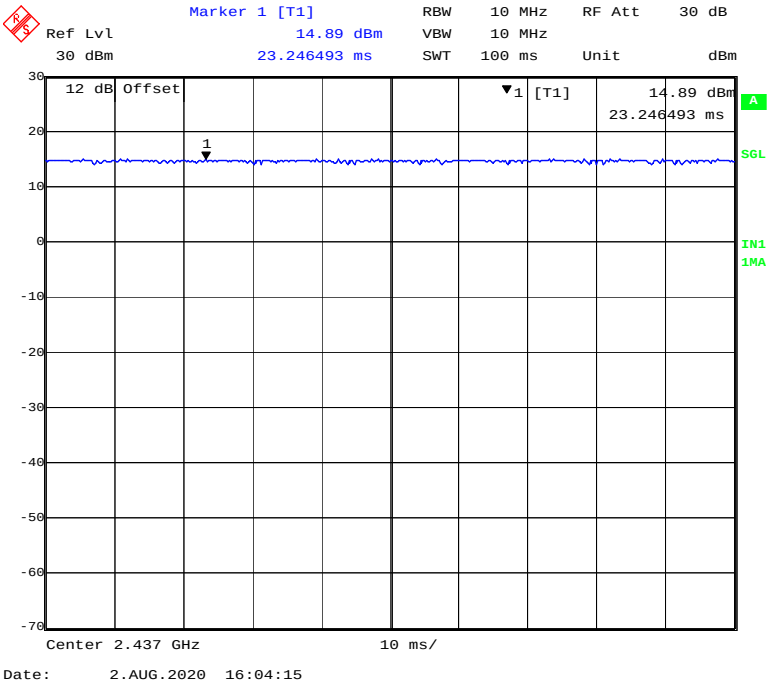


802.11n-HT40 Mode Middle Channel

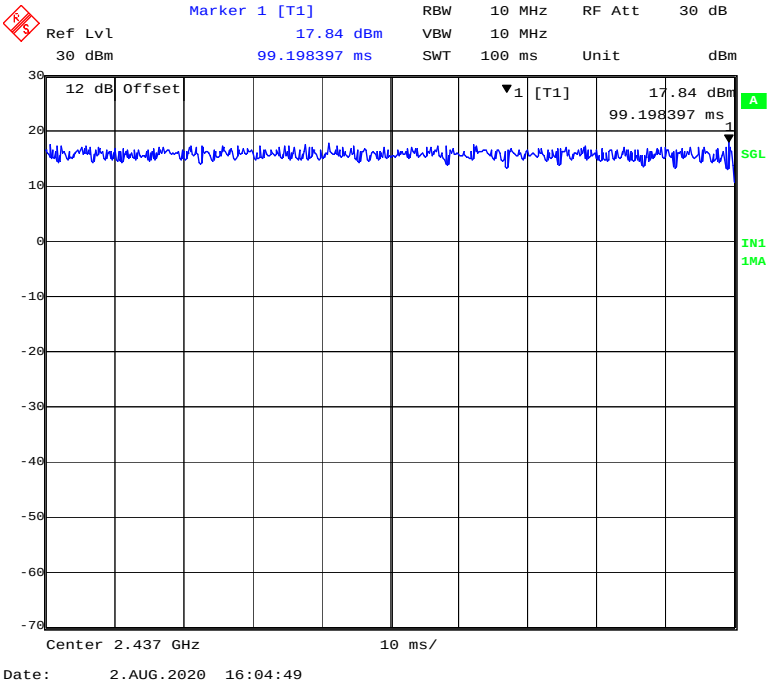


Duty Cycle (Chain1):

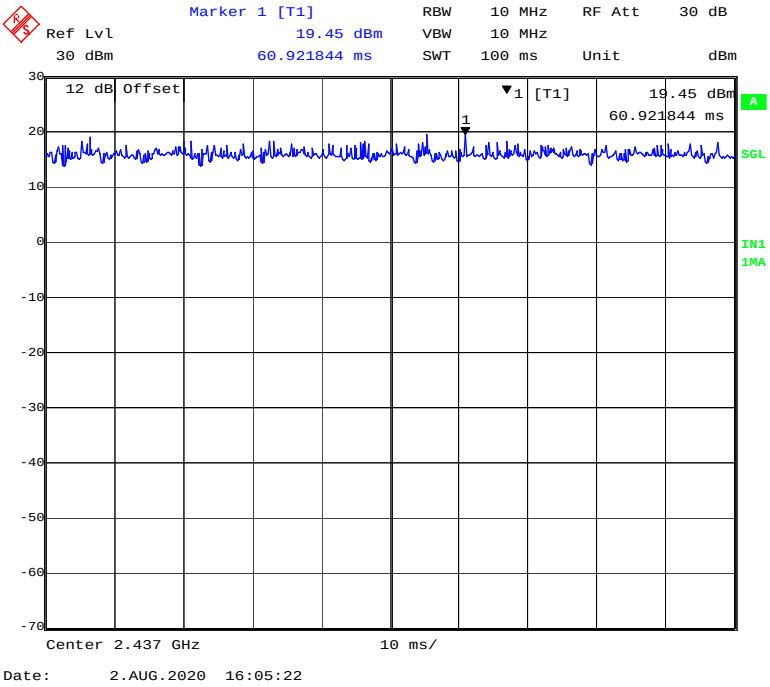
802.11b Mode Middle Channel



802.11g Mode Middle Channel

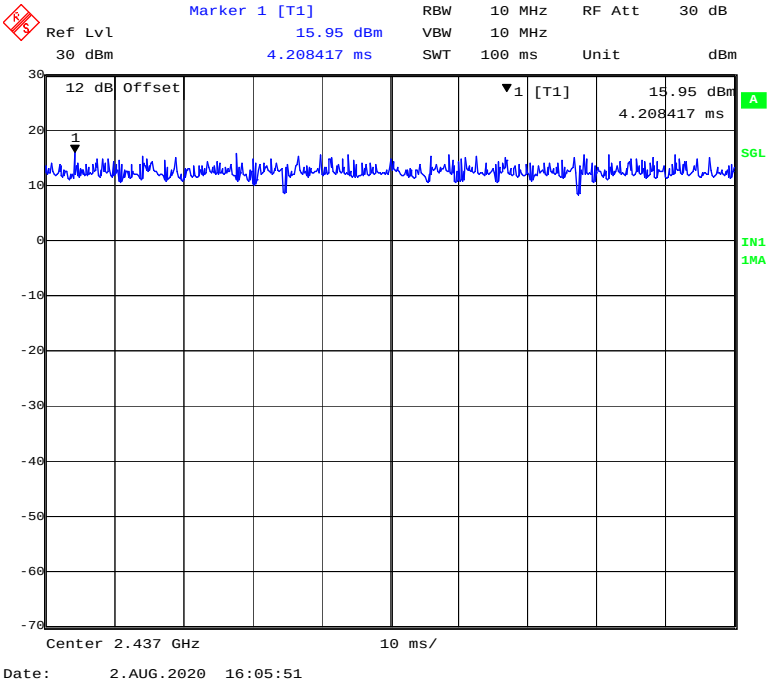


802.11n-HT20 Mode Middle Channel



Date: 2.AUG.2020 16:05:22

802.11n-HT40 Mode Middle Channel



Date: 2.AUG.2020 16:05:51

Chain 0

Mode	Duty Cycle (%)	T(ms)	1/T(kHz)	10log(1/x)
802.11b	100	/	/	0
802.11g	100	/	/	0
802.11n-HT20	100	/	/	0
802.11n-HT40	100	/	/	0

Chain 1

Mode	Duty Cycle (%)	T(ms)	1/T(kHz)	10log(1/x)
802.11b	100	/	/	0
802.11g	100	/	/	0
802.11n-HT20	100	/	/	0
802.11n-HT40	100	/	/	0

Note: "x" means the Duty Cycle.

Support Equipment List and Details

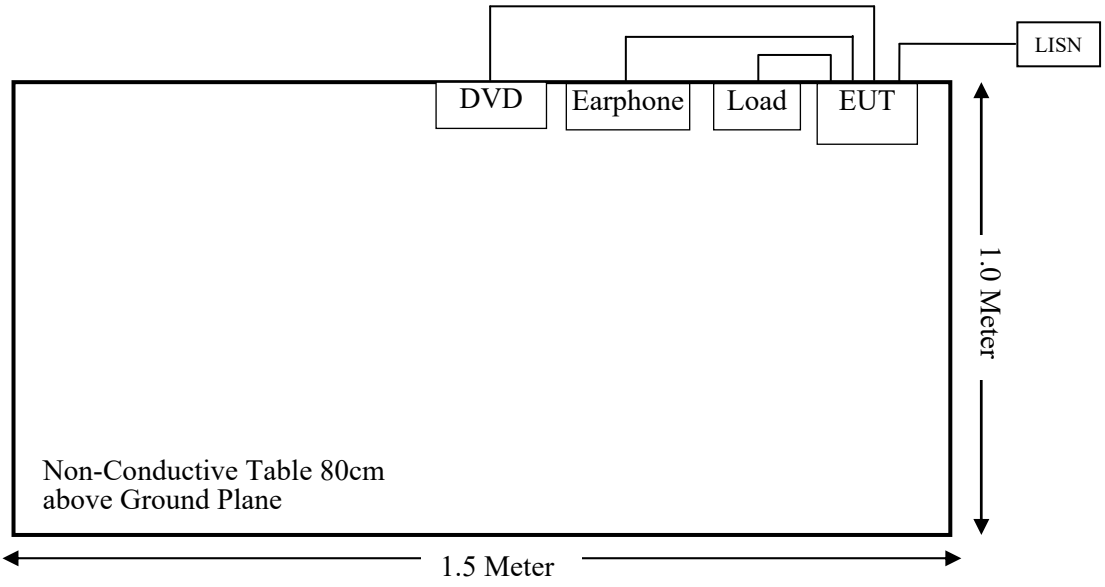
Manufacturer	Description	Model	Serial Number
/	Load	5Ω	/
BBK ELECTRONICS CORP.,LTD	DVD	DV703	/

External I/O Cable

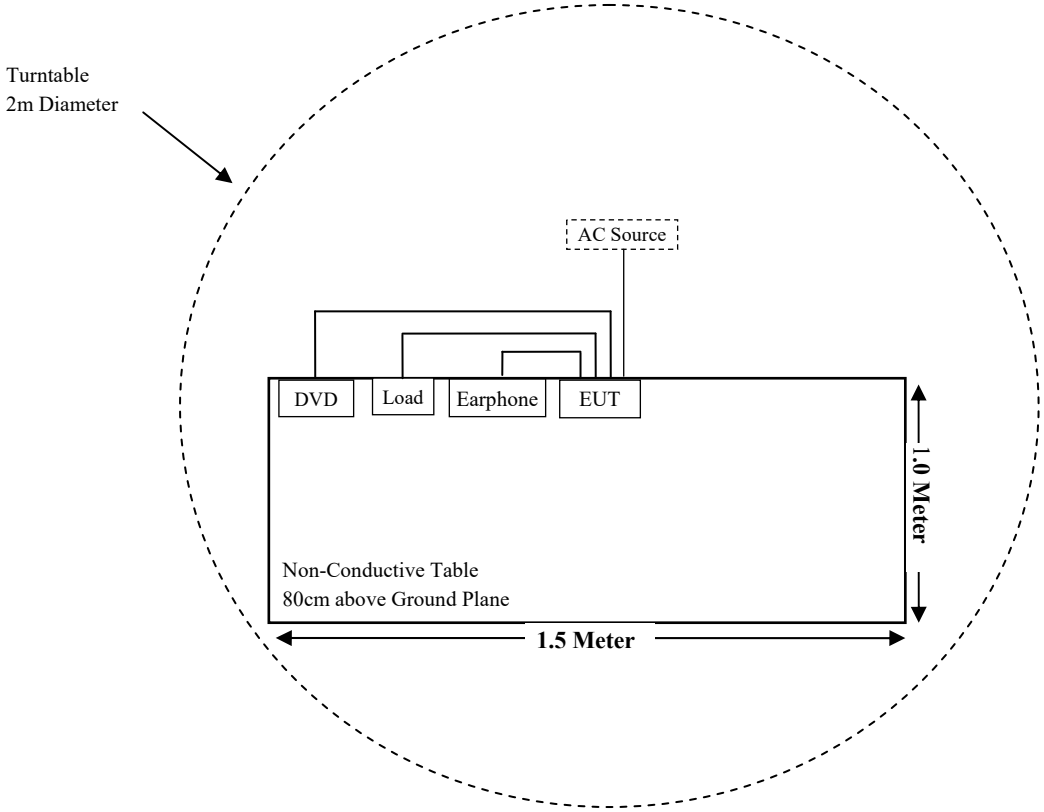
Cable Description	Length (m)	From	To
Power cable	1.0	EUT	LISN/AC Source
Audio cable	2.0	EUT	Earphone
Power cable	2.0	EUT	Load
RJ45 cable	2.0	EUT	DVD

Block Diagram of Test Setup

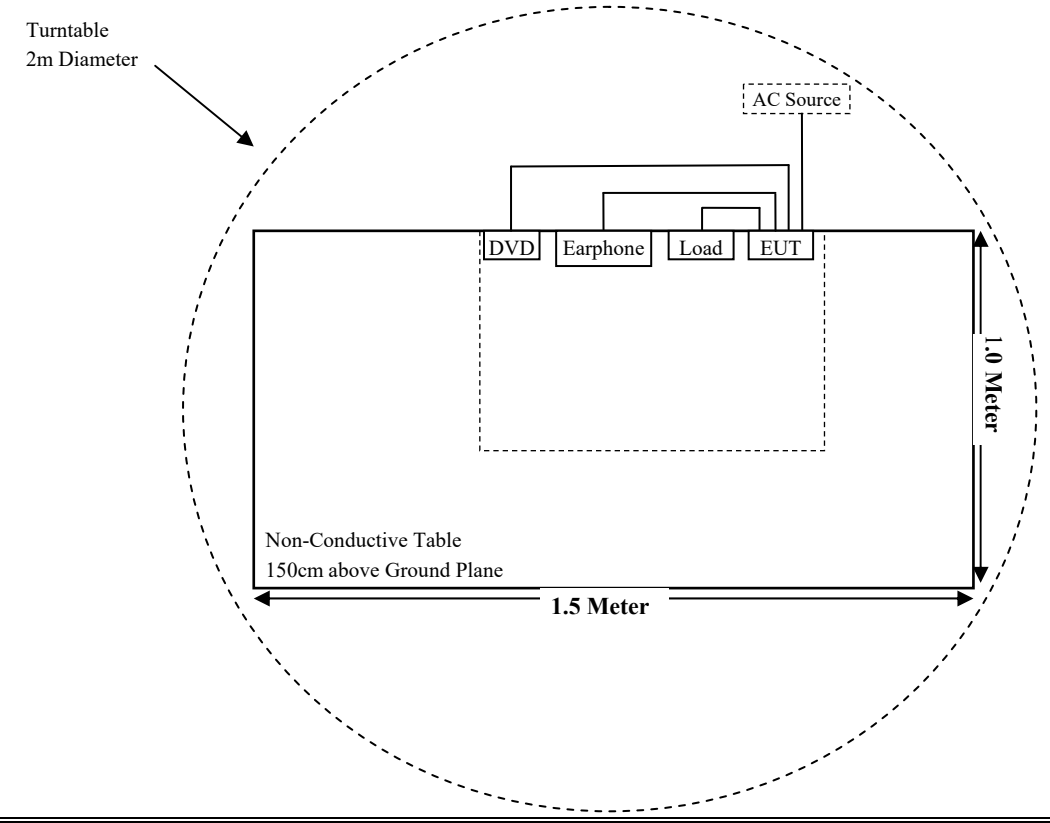
For Conducted Emissions:(Worst mode: EUT connect DVD)



For Radiated Emissions(Below 1GHz): (Worst mode: EUT connect DVD)



For Radiated Emissions(Above 1GHz): (Worst mode: EUT connect DVD)



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1310 & §2.1091	MAXIMUM PERMISSIBLE EXPOSURE (MPE)	Compliant
§15.203	Antenna Requirement	Compliant
§15.207 (a)	AC Line Conducted Emissions	Compliant
§15.247(d)	Spurious Emissions at Antenna Port	Compliant
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliant
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliant
§15.247(b)(3)	Maximum Conducted Output Power	Compliant
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliant
§15.247(e)	Power Spectral Density	Compliant

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test（Chamber 1#）					
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2019-12-14	2020-12-13
Sunol Sciences	Broadband Antenna	JB3	A090413-1	2017-12-26	2020-12-25
Sonoma Instrument	Pre-amplifier	310N	171205	2019-08-14	2020-08-13
Sonoma Instrument	Pre-amplifier	310N	171205	2020-08-14	2021-08-13
Rohde & Schwarz	Auto test Software	EMC32	100361	/	/
MICRO-COAX	Coaxial Cable	Cable-8	008	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-8	008	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-9	009	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-9	009	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-10	010	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-10	010	2020-08-15	2021-08-14
Radiated Emission Test（Chamber 2#）					
Rohde & Schwarz	EMI Test Receiver	ESU40	100207	2020-04-01	2021-03-31
Rohde & Schwarz	EMI Test Receiver	ESU40	100207	2020-04-01	2021-03-31
ETS-LINDGREN	Horn Antenna	3115	9207-3900	2020-07-15	2023-07-14
ETS-LINDGREN	Horn Antenna	3116	00084159	2020-01-17	2023-01-16
A.H.Systems, inc	Amplifier	PAM-0118P	512	2020-02-20	2021-02-19
SELECTOR	Amplifier	EM18G40G	060726	2020-03-22	2021-03-21
SELECTOR	Amplifier	EM18G40G	060726	2020-03-22	2021-03-21
MICRO-TRONICS	Band Reject Filter	BRM50702	G024	2019-08-05	2020-08-04
MICRO-TRONICS	Band Reject Filter	BRM50702	G024	2020-08-05	2021-08-04
Rohde & Schwarz	Auto test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-6	006	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-6	006	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-11	011	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-11	011	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-12	012	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-12	012	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-13	013	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-13	013	2020-08-15	2021-08-14

RF Conducted Test					
Rohde & Schwarz	Signal Analyzer	FSIQ26	836131/0009	2019-12-14	2020-12-13
Agilent	Power Meter	N1912A	MY5000492	2019-11-18	2020-11-17
Agilent	Power Sensor	N1921A	MY54210024	2019-11-18	2020-11-17
Narda	Attenuator	10dB	010	2019-08-15	2020-08-14
Narda	Attenuator	10dB	010	2020-08-15	2021-08-14
CHANGZHOU SHINCOBROAD ELECTRONICS Co., Ltd	RF Cable	CHANGZHOU SHINCOBROAD ELECTRONICS Co., Ltd C01	C01	Each Time	N/A
Conducted Emission Test					
ROHDE&SCHWARZ	EMI Test receiver	ESR	1316.3003K03-101746-zn	2020-07-11	2021-07-10
Rohde & Schwarz	LISN	ENV216	3560655016	2019-12-14	2020-12-13
Audix	Test Software	e3	V9	---	---
Rohde & Schwarz	Pulse limiter	ESH3-Z2	0357.8810.54	2019-08-10	2020-08-09
Rohde & Schwarz	Pulse limiter	ESH3-Z2	0357.8810.54	2020-08-10	2021-08-09
MICRO-COAX	Coaxial Cable	Cable-15	015	2019-08-15	2020-08-14
MICRO-COAX	Coaxial Cable	Cable-15	015	2020-08-15	2021-08-14

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC §1.1310 & §2.1091 –MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart §2.1091 and subpart §1.1310, 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 of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

Calculated Formulary:
Predication of MPE limit at a given distance
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

Calculated Data (worst case):

Mode	Frequency Range (MHz)	Antenna Gain		Tune-up Output Power		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
		(dBi)	(numeric)	(dBm)	(mW)			
802.11b	2412~2462	0.00	1.00	18.00	63.10	20	0.0126	1.0
802.11g		0.00	1.00	17.50	56.23	20	0.0112	1.0
802.11n-HT20		0.00	1.00	20.00	100.00	20	0.0199	1.0
802.11n-HT40	2422~2452	0.00	1.00	20.00	100.00	20	0.0199	1.0

Note: The tune-up output power was declared by the manufacturer.

Conclusion: The device meets MPE at distance 20cm.

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine Compliant with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.
And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT has two PIFA antennas for Wi-Fi and the antenna gain is 0dBi, which was permanently attached, fulfill the requirement of this section. Please refer to the EUT photos.

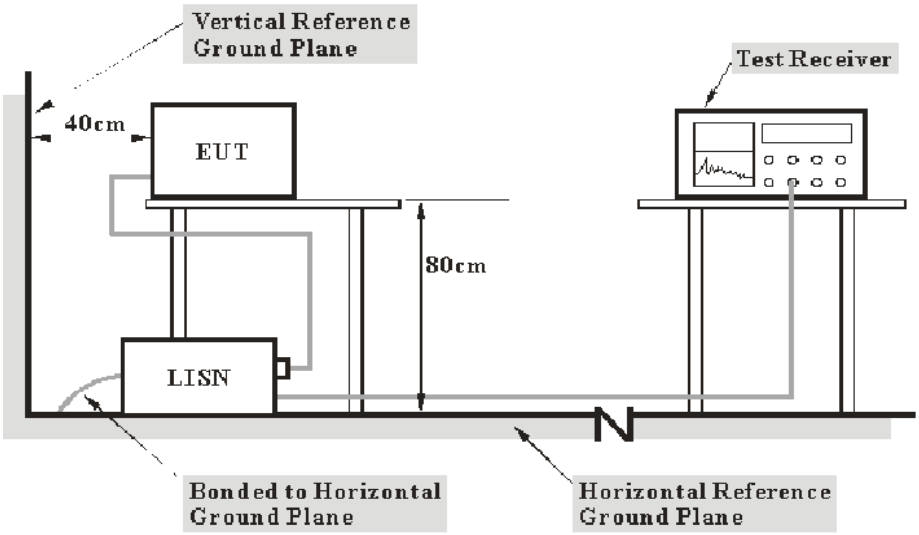
Result: Compliant.

FCC §15.207 (a) - AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a)

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The measurement procedure of EUT setup is according with ANSI C63.10-2013. The related limit was specified in FCC Part 15.207.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

ANSI C63.10-2013 clause 6.2

During the conducted emission test, the PoE was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All final data was recorded in the Quasi-peak and average detection mode.

Corrected Factor & Over Limit Calculation

The Corrected factor is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

Corrected Factor (dB) = LISN VDF (dB) + Cable Loss (dB) + Transient Limiter Attenuation (dB)

The "**Over Limit**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over Limit of 7 dB means the emission is 7 dB above the limit. The equation for Over Limit calculation is as follows:

Over Limit (dB) = Read level (dBμV) + Factor (dB) - Limit (dBμV)

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207.

Test Data

Environmental Conditions

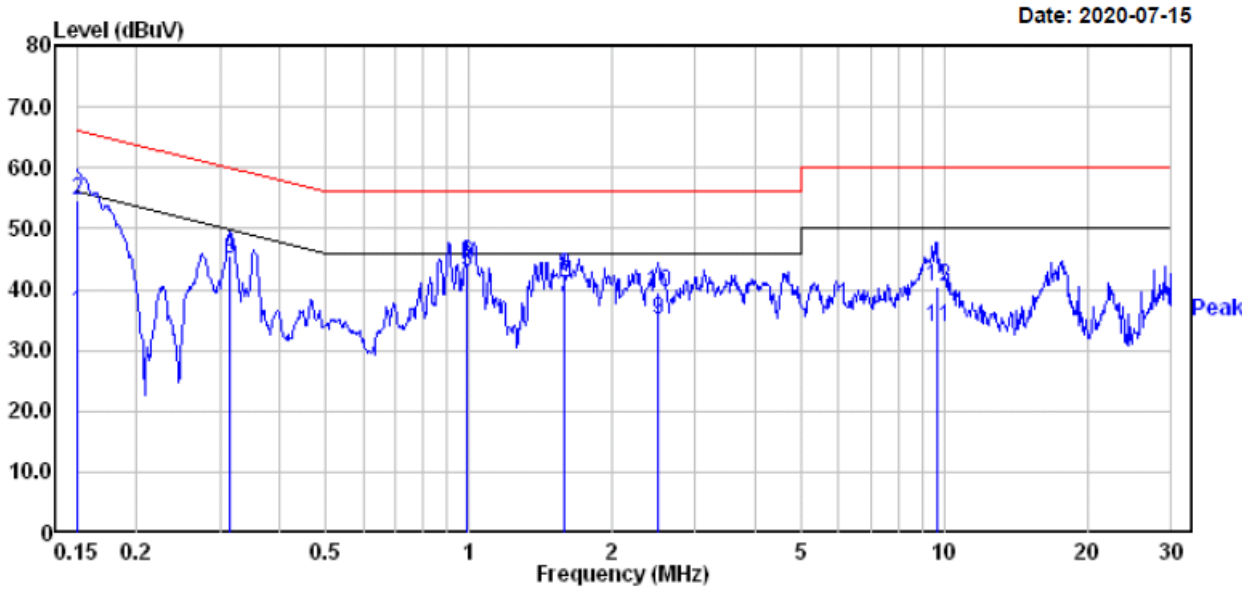
Temperature:	24.2-26.3 ℃
Relative Humidity:	51-74 %
ATM Pressure:	101.3-102.4 kPa

The testing was performed by CK Huang from 2020-07-15 to 2020-08-20.

EUT operation mode: Transmitting in 802.11n-HT20 mode high channel (worst case)

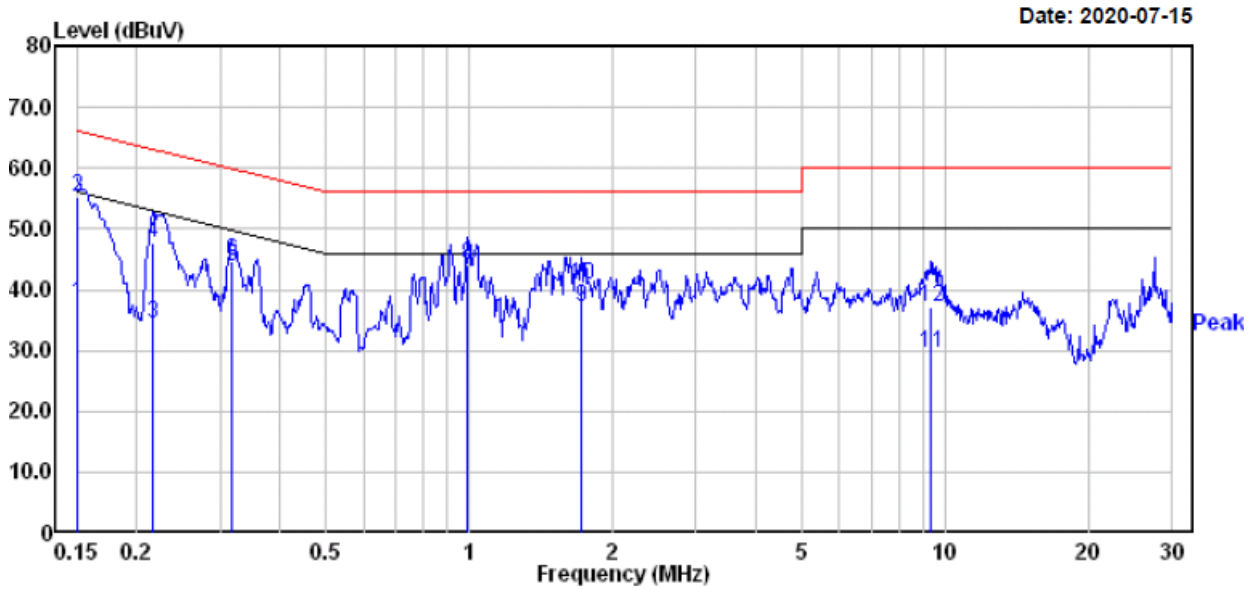
Test Model: 50SVL20

AC 120V/60 Hz, Line



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.150	16.30	19.82	36.12	56.00	-19.88	Average
2	0.150	34.90	19.82	54.72	66.00	-11.28	QP
3	0.315	25.30	19.82	45.12	49.84	-4.72	Average
4	0.315	25.80	19.82	45.62	59.84	-14.22	QP
5	0.989	23.00	19.81	42.81	46.00	-3.19	Average
6	0.989	24.50	19.81	44.31	56.00	-11.69	QP
7	1.585	18.79	19.85	38.64	46.00	-7.36	Average
8	1.585	22.29	19.85	42.14	56.00	-13.86	QP
9	2.500	15.60	19.48	35.08	46.00	-10.92	Average
10	2.500	20.10	19.48	39.58	56.00	-16.42	QP
11	9.705	14.40	19.55	33.95	50.00	-16.05	Average
12	9.705	20.90	19.55	40.45	60.00	-19.55	QP

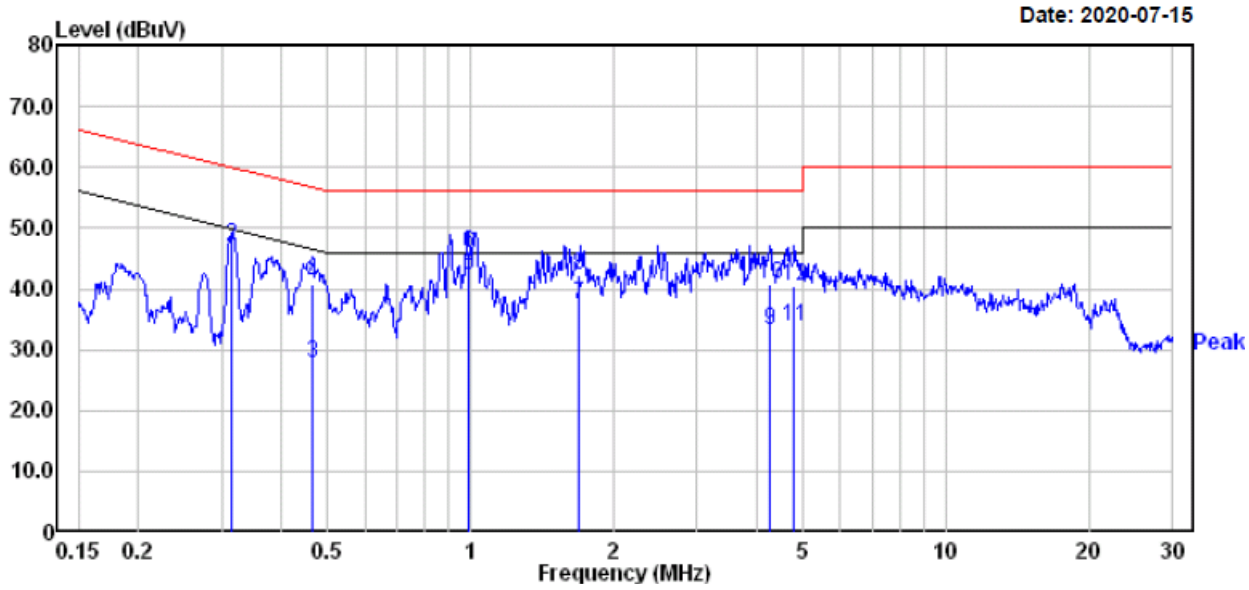
AC 120V/60 Hz, Neutral



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.150	17.80	19.82	37.62	56.00	-18.38	Average
2	0.150	35.40	19.82	55.22	66.00	-10.78	QP
3	0.216	14.50	19.82	34.32	52.96	-18.64	Average
4	0.216	27.80	19.82	47.62	62.96	-15.34	QP
5	0.317	24.10	19.82	43.92	49.79	-5.87	Average
6	0.317	24.80	19.82	44.62	59.79	-15.17	QP
7	0.994	22.30	19.82	42.12	46.00	-3.88	Average
8	0.994	24.40	19.82	44.22	56.00	-11.78	QP
9	1.716	17.20	19.84	37.04	46.00	-8.96	Average
10	1.716	20.90	19.84	40.74	56.00	-15.26	QP
11	9.352	9.90	19.55	29.45	50.00	-20.55	Average
12	9.352	17.50	19.55	37.05	60.00	-22.95	QP

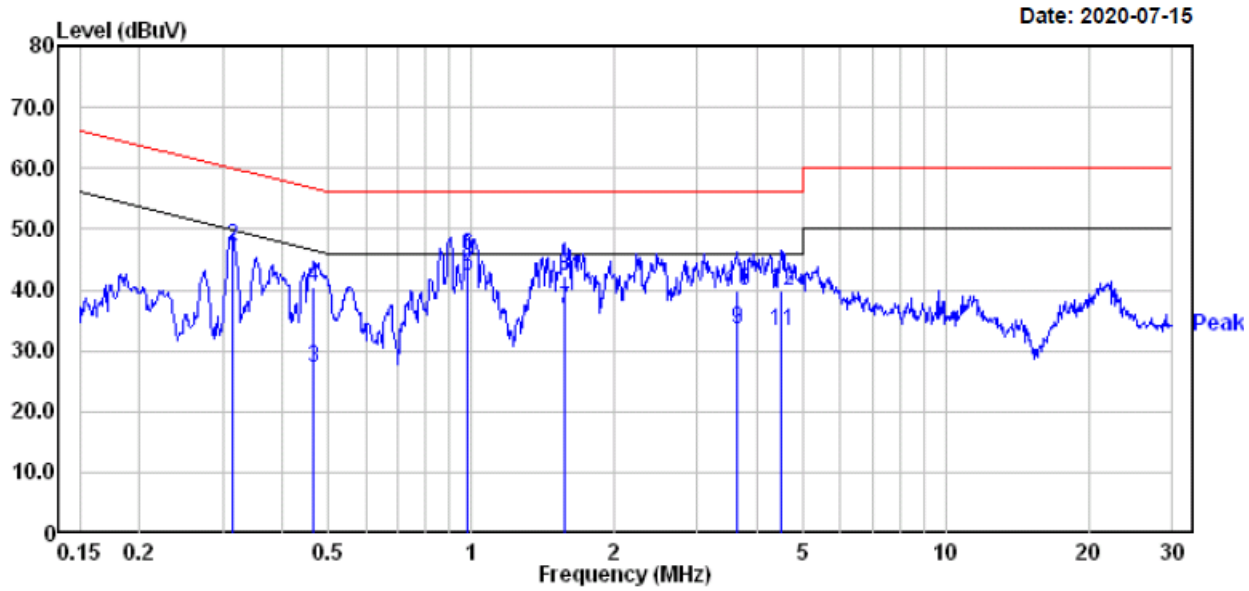
Test Model: 55VS4K20

AC 120V/60 Hz, Line



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.315	25.30	19.82	45.12	49.84	-4.72	Average
2	0.315	27.20	19.82	47.02	59.84	-12.82	QP
3	0.464	8.00	19.75	27.75	46.63	-18.88	Average
4	0.464	21.00	19.75	40.75	56.63	-15.88	QP
5	0.989	22.50	19.81	42.31	46.00	-3.69	Average
6	0.989	26.00	19.81	45.81	56.00	-10.19	QP
7	1.698	17.50	19.84	37.34	46.00	-8.66	Average
8	1.698	22.50	19.84	42.34	56.00	-13.66	QP
9	4.269	13.71	19.47	33.18	46.00	-12.82	Average
10	4.269	21.21	19.47	40.68	56.00	-15.32	QP
11	4.797	14.30	19.49	33.79	46.00	-12.21	Average
12	4.797	20.90	19.49	40.39	56.00	-15.61	QP

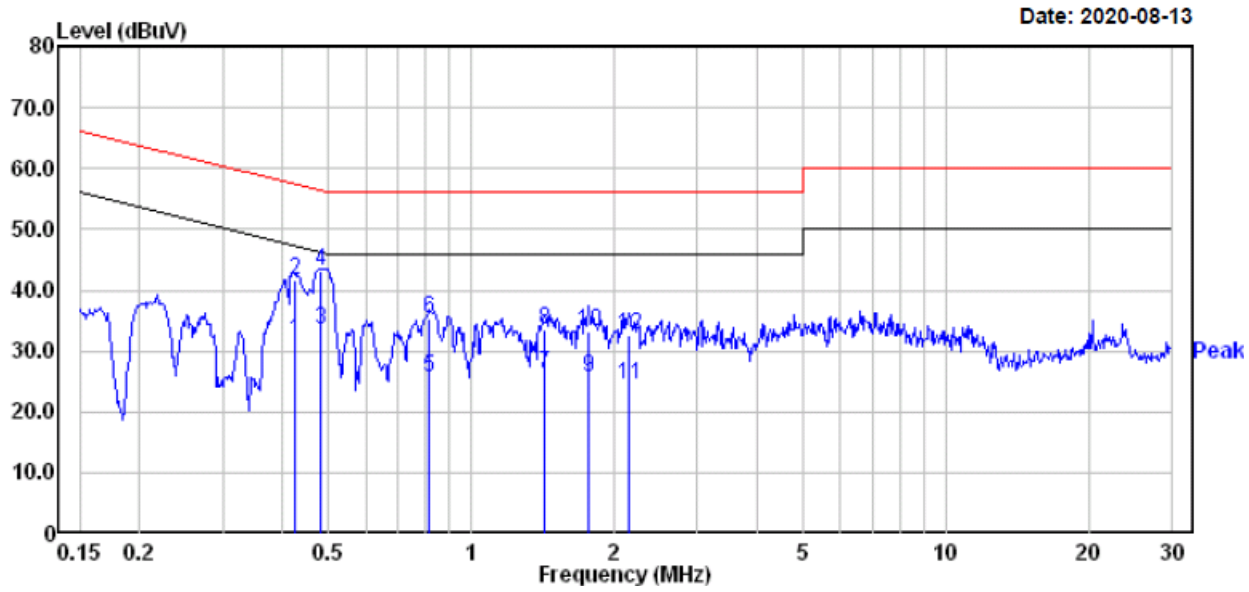
AC 120V/60 Hz, Neutral



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.313	25.40	19.82	45.22	49.88	-4.66	Average
2	0.313	27.40	19.82	47.22	59.88	-12.66	QP
3	0.466	7.30	19.75	27.05	46.58	-19.53	Average
4	0.466	20.80	19.75	40.55	56.58	-16.03	QP
5	0.984	22.60	19.81	42.41	46.00	-3.59	Average
6	0.984	25.90	19.81	45.71	56.00	-10.29	QP
7	1.568	17.09	19.85	36.94	46.00	-9.06	Average
8	1.568	22.49	19.85	42.34	56.00	-13.66	QP
9	3.642	13.90	19.47	33.37	46.00	-12.63	Average
10	3.642	20.40	19.47	39.87	56.00	-16.13	QP
11	4.501	13.59	19.49	33.08	46.00	-12.92	Average
12	4.501	20.29	19.49	39.78	56.00	-16.22	QP

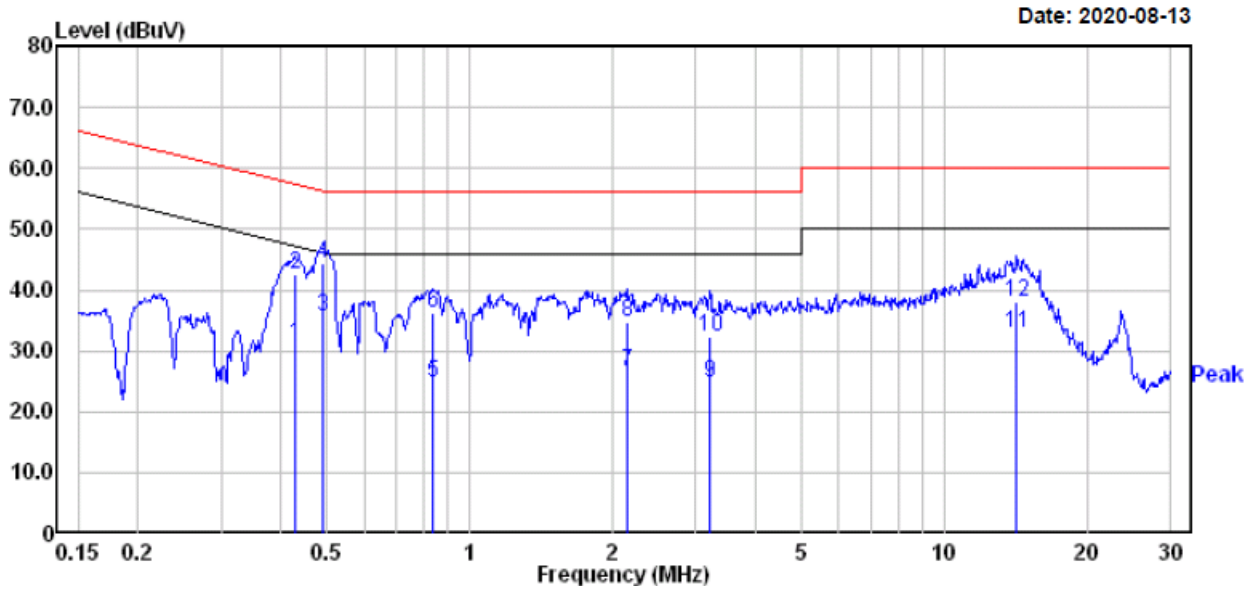
Test Model: 58SVL20

AC 120V/60 Hz, Line



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.426	11.90	19.75	31.65	47.33	-15.68	Average
2	0.426	22.00	19.75	41.75	57.33	-15.58	QP
3	0.484	13.90	19.76	33.66	46.27	-12.61	Average
4	0.484	23.50	19.76	43.26	56.27	-13.01	QP
5	0.817	6.01	19.70	25.71	46.00	-20.29	Average
6	0.817	15.61	19.70	35.31	56.00	-20.69	QP
7	1.433	6.41	19.83	26.24	46.00	-19.76	Average
8	1.433	13.71	19.83	33.54	56.00	-22.46	QP
9	1.762	5.70	19.84	25.54	46.00	-20.46	Average
10	1.762	13.40	19.84	33.24	56.00	-22.76	QP
11	2.144	4.70	19.72	24.42	46.00	-21.58	Average
12	2.144	12.80	19.72	32.52	56.00	-23.48	QP

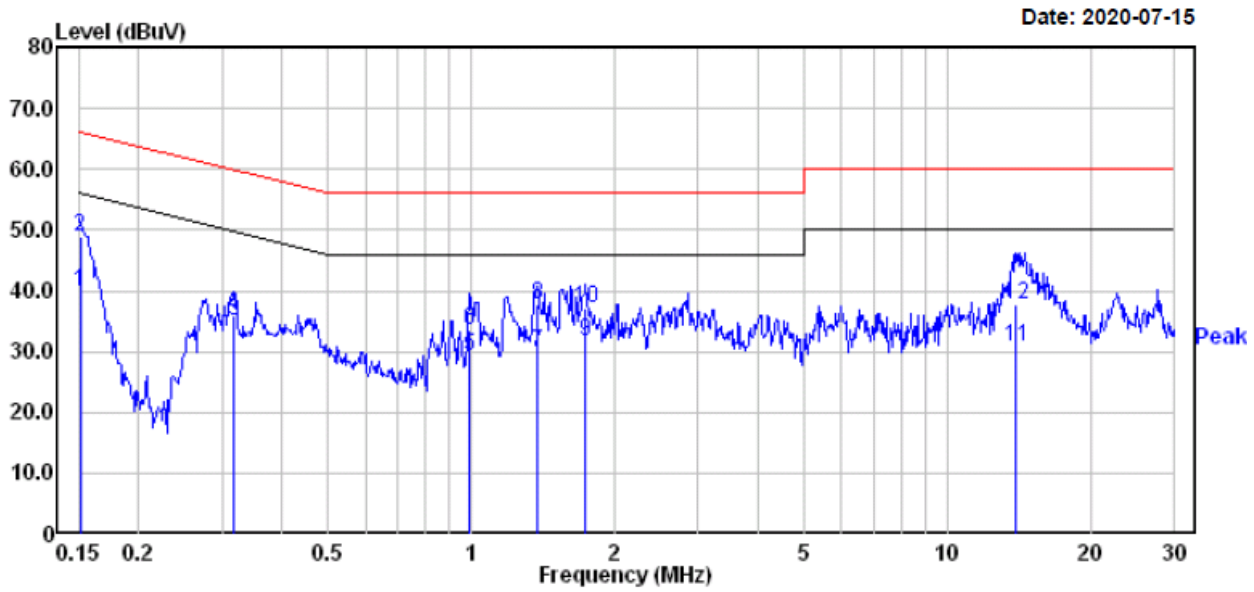
AC 120V/60 Hz, Neutral



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.428	11.20	19.75	30.95	47.29	-16.34	Average
2	0.428	22.80	19.75	42.55	57.29	-14.74	QP
3	0.492	15.80	19.76	35.56	46.14	-10.58	Average
4	0.492	24.50	19.76	44.26	56.14	-11.88	QP
5	0.839	5.00	19.71	24.71	46.00	-21.29	Average
6	0.839	16.40	19.71	36.11	56.00	-19.89	QP
7	2.144	6.90	19.72	26.62	46.00	-19.38	Average
8	2.144	15.10	19.72	34.82	56.00	-21.18	QP
9	3.207	5.40	19.46	24.86	46.00	-21.14	Average
10	3.207	12.70	19.46	32.16	56.00	-23.84	QP
11	14.213	13.20	19.62	32.82	50.00	-17.18	Average
12	14.213	18.40	19.62	38.02	60.00	-21.98	QP

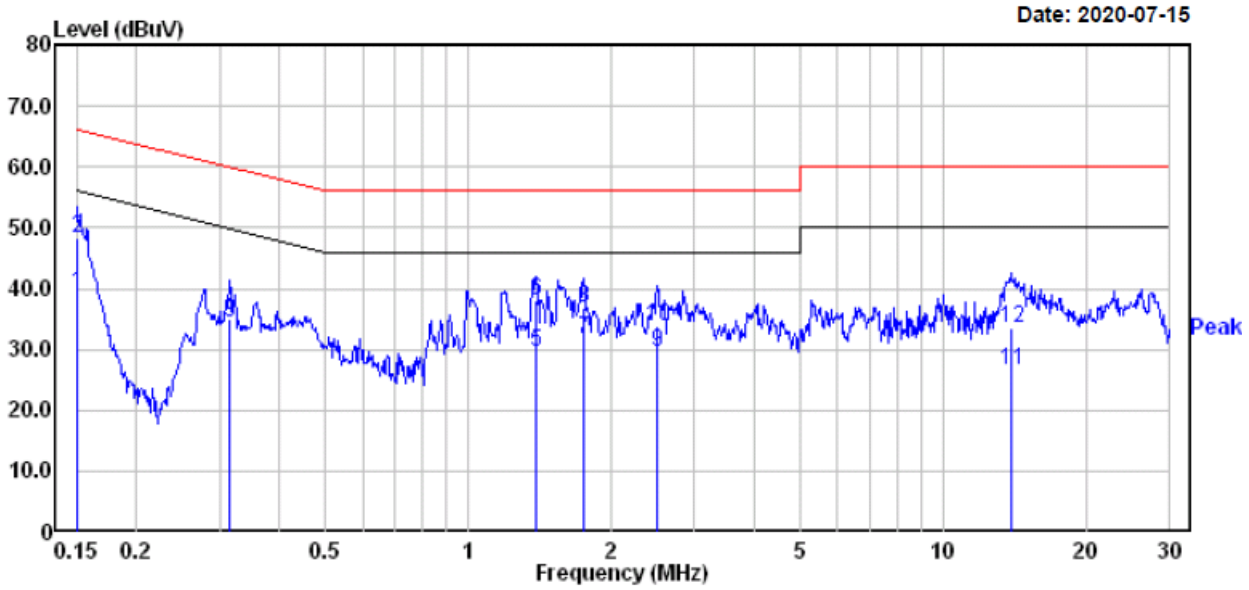
Test Model: 65VS4K20

AC 120V/60 Hz, Line



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.151	20.00	19.82	39.82	55.96	-16.14	Average
2	0.151	29.10	19.82	48.92	65.96	-17.04	QP
3	0.317	15.30	19.82	35.12	49.79	-14.67	Average
4	0.317	16.20	19.82	36.02	59.79	-23.77	QP
5	0.994	9.60	19.82	29.42	46.00	-16.58	Average
6	0.994	13.60	19.82	33.42	56.00	-22.58	QP
7	1.381	10.20	19.83	30.03	46.00	-15.97	Average
8	1.381	17.80	19.83	37.63	56.00	-18.37	QP
9	1.744	11.87	19.84	31.71	46.00	-14.29	Average
10	1.744	17.20	19.84	37.04	56.00	-18.96	QP
11	13.989	11.21	19.61	30.82	50.00	-19.18	Average
12	13.989	18.21	19.61	37.82	60.00	-22.18	QP

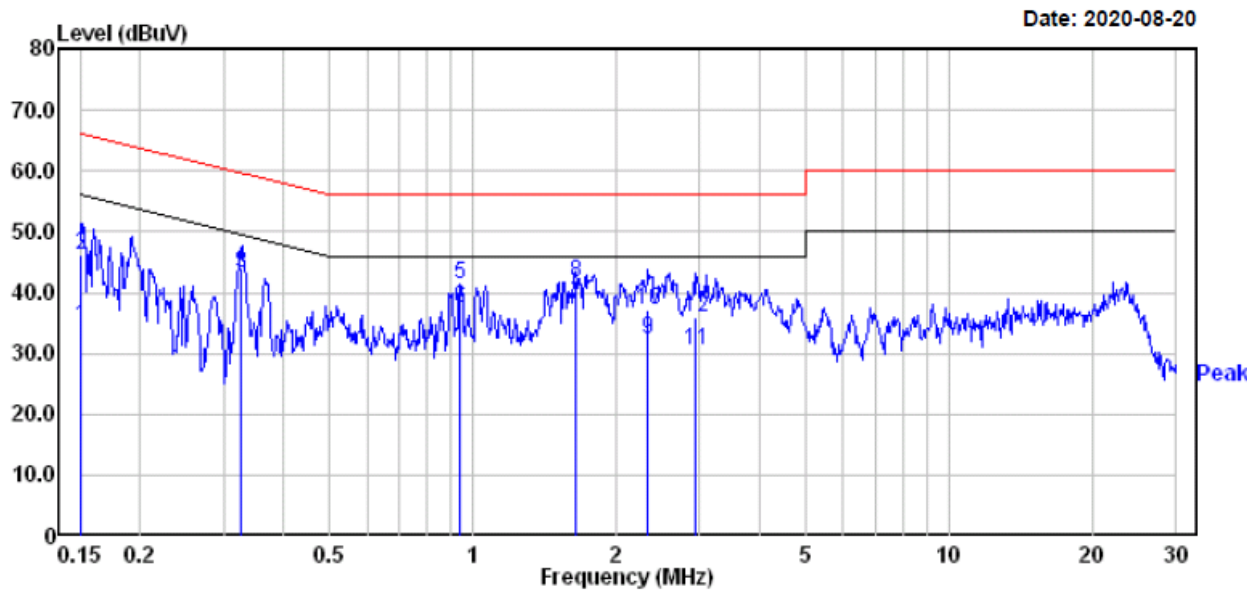
AC 120V/60 Hz, Neutral



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.150	19.50	19.82	39.32	56.00	-16.68	Average
2	0.150	28.60	19.82	48.42	66.00	-17.58	QP
3	0.315	14.70	19.82	34.52	49.84	-15.32	Average
4	0.315	15.30	19.82	35.12	59.84	-24.72	QP
5	1.388	9.90	19.83	29.73	46.00	-16.27	Average
6	1.388	18.20	19.83	38.03	56.00	-17.97	QP
7	1.753	11.90	19.84	31.74	46.00	-14.26	Average
8	1.753	17.00	19.84	36.84	56.00	-19.16	QP
9	2.500	10.00	19.48	29.48	46.00	-16.52	Average
10	2.500	14.30	19.48	33.78	56.00	-22.22	QP
11	13.915	7.00	19.61	26.61	50.00	-23.39	Average
12	13.915	13.80	19.61	33.41	60.00	-26.59	QP

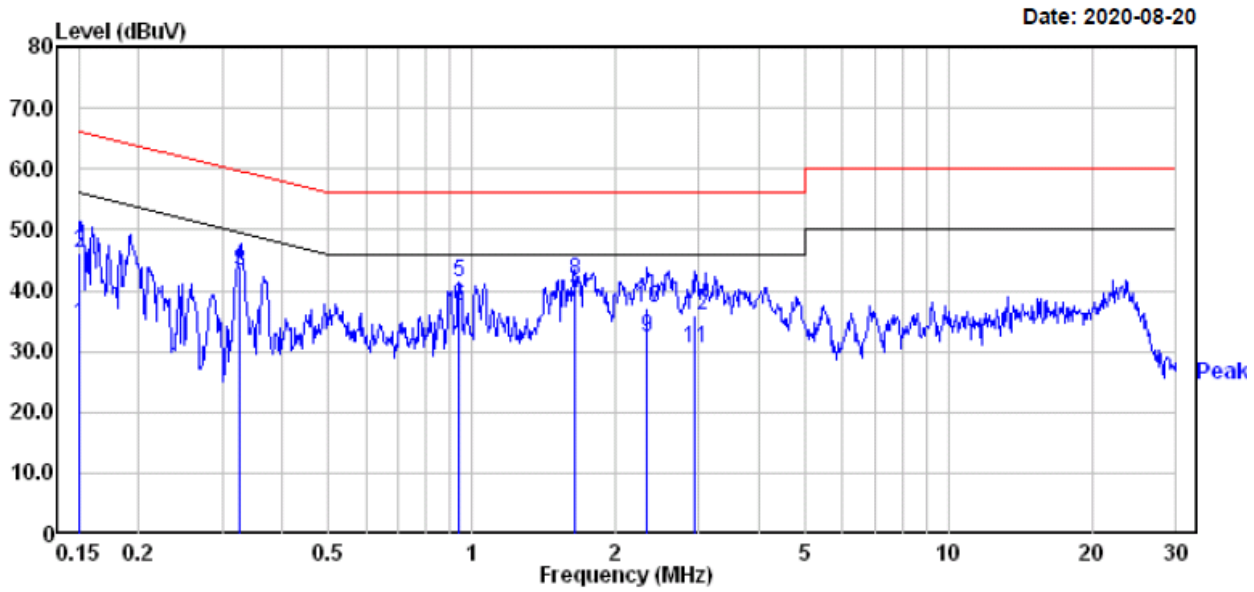
Test Model: 75SVL20

AC 120V/60 Hz, Line



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.150	14.70	19.82	34.52	56.00	-21.48	Average
2	0.150	26.50	19.82	46.32	66.00	-19.68	QP
3	0.325	23.30	19.82	43.12	49.57	-6.45	Average
4	0.325	24.20	19.82	44.02	59.57	-15.55	QP
5	0.943	21.55	19.77	41.32	46.00	-4.68	Average
6	0.943	17.55	19.77	37.32	56.00	-18.68	QP
7	1.645	18.10	19.84	37.94	46.00	-8.06	Average
8	1.645	21.70	19.84	41.54	56.00	-14.46	QP
9	2.334	12.80	19.58	32.38	46.00	-13.62	Average
10	2.334	17.60	19.58	37.18	56.00	-18.82	QP
11	2.946	11.00	19.46	30.46	46.00	-15.54	Average
12	2.946	16.50	19.46	35.96	56.00	-20.04	QP

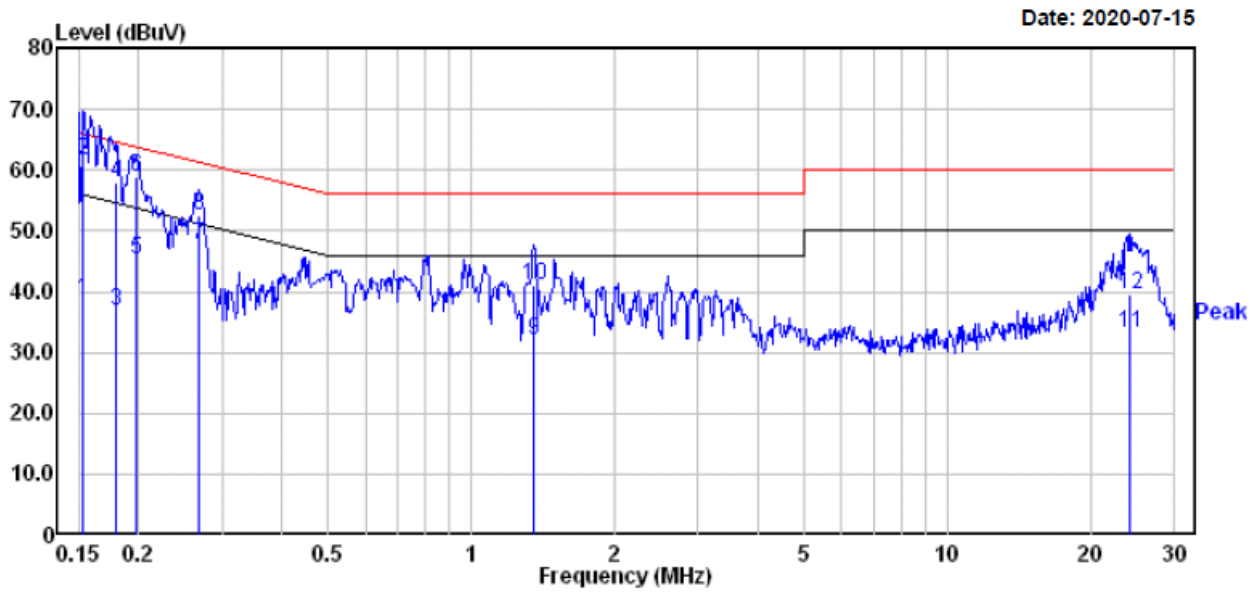
AC 120V/60 Hz, Neutral



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.150	14.70	19.82	34.52	56.00	-21.48	Average
2	0.150	26.50	19.82	46.32	66.00	-19.68	QP
3	0.325	23.30	19.82	43.12	49.57	-6.45	Average
4	0.325	24.20	19.82	44.02	59.57	-15.55	QP
5	0.943	21.55	19.77	41.32	46.00	-4.68	Average
6	0.943	17.55	19.77	37.32	56.00	-18.68	QP
7	1.645	18.10	19.84	37.94	46.00	-8.06	Average
8	1.645	21.70	19.84	41.54	56.00	-14.46	QP
9	2.334	12.80	19.58	32.38	46.00	-13.62	Average
10	2.334	17.60	19.58	37.18	56.00	-18.82	QP
11	2.946	11.00	19.46	30.46	46.00	-15.54	Average
12	2.946	16.50	19.46	35.96	56.00	-20.04	QP

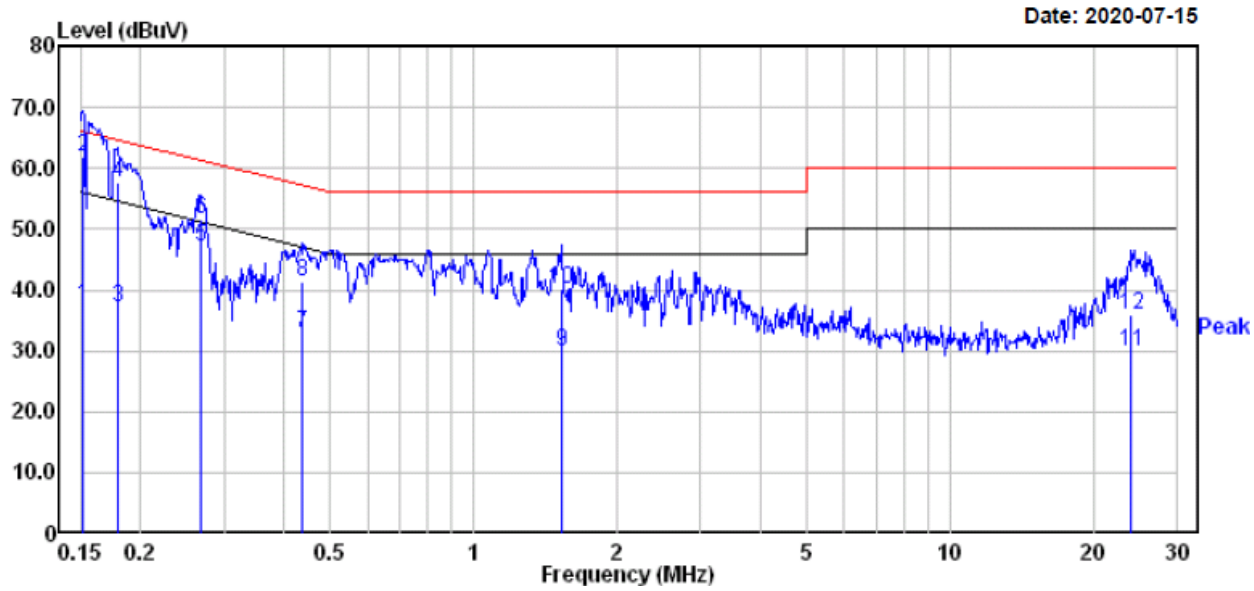
Test Model: 82BS4K20

AC 120V/60 Hz, Line



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.153	18.90	19.82	38.72	55.82	-17.10	Average
2	0.153	41.90	19.82	61.72	65.82	-4.10	QP
3	0.180	17.00	19.83	36.83	54.50	-17.67	Average
4	0.180	38.00	19.83	57.83	64.50	-6.67	QP
5	0.198	25.40	19.82	45.22	53.71	-8.49	Average
6	0.198	39.10	19.82	58.92	63.71	-4.79	QP
7	0.269	27.98	19.82	47.80	51.16	-3.36	Average
8	0.269	32.80	19.82	52.62	61.16	-8.54	QP
9	1.352	12.10	19.83	31.93	46.00	-14.07	Average
10	1.352	21.10	19.83	40.93	56.00	-15.07	QP
11	24.271	13.40	19.73	33.13	50.00	-16.87	Average
12	24.271	19.90	19.73	39.63	60.00	-20.37	QP

AC 120V/60 Hz, Neutral



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.152	17.70	19.82	37.52	55.91	-18.39	Average
2	0.152	42.00	19.82	61.82	65.91	-4.09	QP
3	0.179	17.30	19.83	37.13	54.55	-17.42	Average
4	0.179	37.80	19.83	57.63	64.55	-6.92	QP
5	0.267	27.20	19.82	47.02	51.20	-4.18	Average
6	0.267	31.80	19.82	51.62	61.20	-9.58	QP
7	0.437	13.20	19.75	32.95	47.11	-14.16	Average
8	0.437	21.50	19.75	41.25	57.11	-15.86	QP
9	1.527	9.89	19.85	29.74	46.00	-16.26	Average
10	1.527	20.29	19.85	40.14	56.00	-15.86	QP
11	24.015	10.10	19.74	29.84	50.00	-20.16	Average
12	24.015	16.20	19.74	35.94	60.00	-24.06	QP

Note:

1) Factor (dB) = LISN VDF (dB) + Cable Loss (dB) + Transient Limiter Attenuation (dB)
2) Over Limit (dB) = Read level (dBµV) + Factor (dB) - Limit (dBµV)

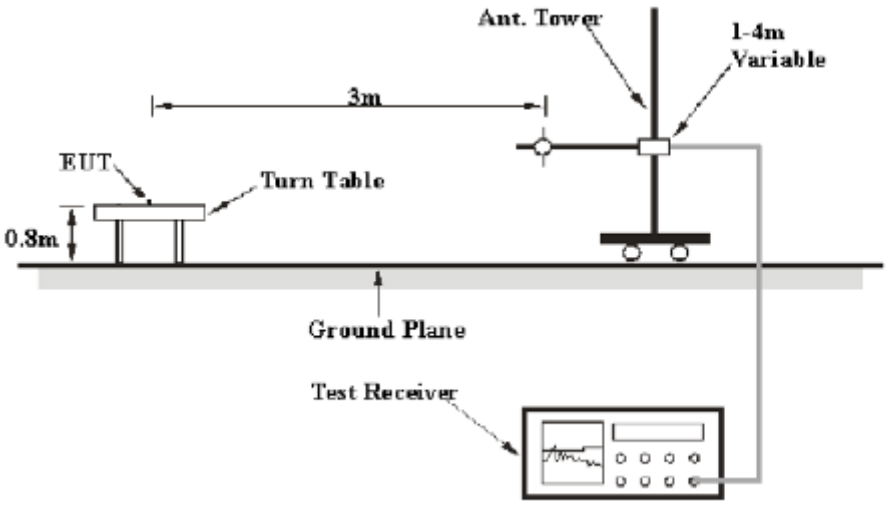
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

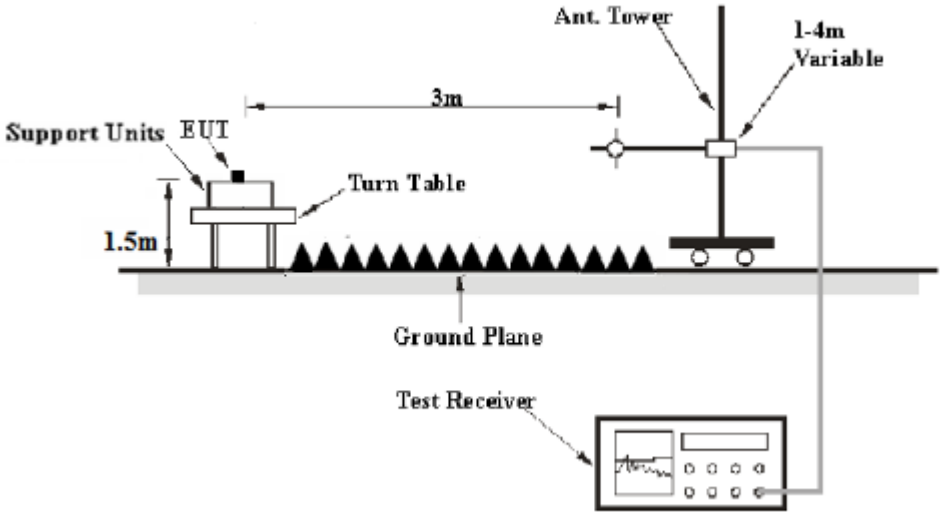
FCC §15.247 (d); §15.209; §15.205;

EUT Setup

Below 1 GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.247 limits.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 25 GHz.

During the radiated emission test, the EMI test receiver setup was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1GHz	1MHz	3 MHz	/	PK
	1MHz	3 MHz	/	Ave.

Test Procedure

According to ANSI C63.10-2013 clause 6.5, 6.6 and 6.7.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30MHz - 1GHz, peak and Average detection mode for frequencies above 1 GHz.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude (dBμV /m) = Meter Reading (dBμV) + Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB)

The "**Margin**" column of the following data tables indicates the degree of Compliant with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin (dB) = Limit (dBμV/m) – Corrected Amplitude (dBμV /m)

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.205, 15.209 and 15.247.

Test Data

Environmental Conditions

Temperature:	21.6~26.6 ℃
Relative Humidity:	48~75 %
ATM Pressure:	101.1~102.2kPa

The testing was performed by CK Huang from 2020-07-15 to 2020-08-23.

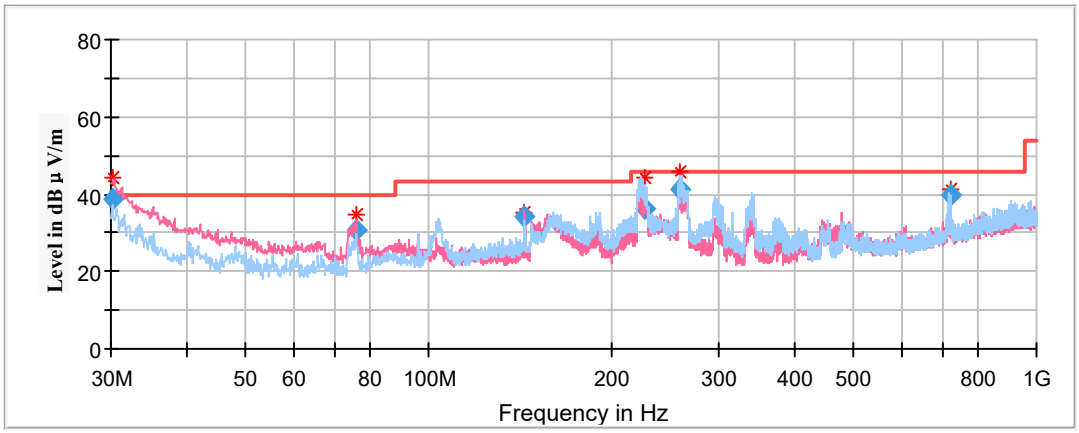
EUT operation mode: Transmitting

Test Model: 50SVL20

Spurious Emission Test:

30MHz-1GHz:

Pre-scan with 802.11b, 802.11g, 802.11n-HT20 and 802.11n-HT40 modes of operation in the X,Y and Z axes of orientation, the worst case ***high channel of 802.11 n-HT20 mode in Z-axis of orientation*** *was recorded*



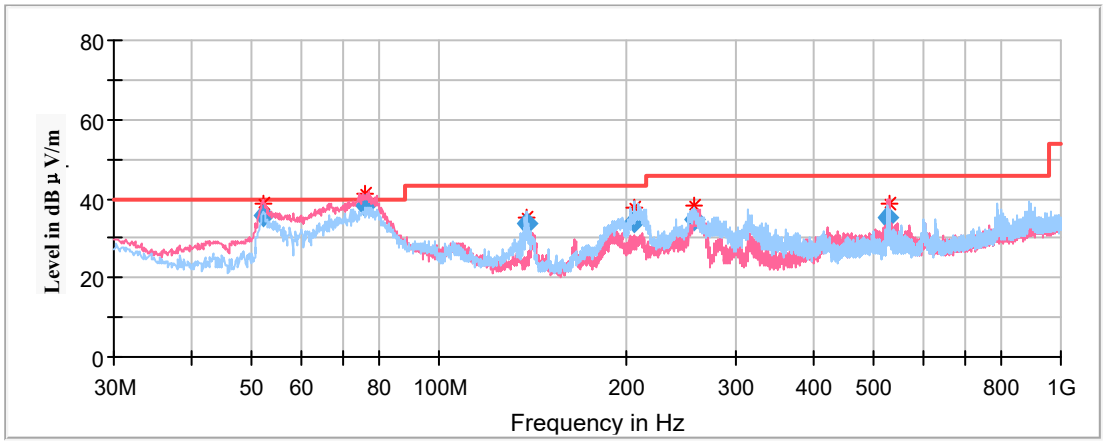
Frequency (MHz)	Corrected Amplitude QuasiPeak (dBµV/m)	Rx Antenna Height (cm)	Rx Antenna Polar (H/V)	Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
30.292030	38.84	100.0	V	198.0	-4.6	40.00	1.16
76.142700	30.85	100.0	V	156.0	-18.0	40.00	9.15
143.988800	34.41	100.0	V	156.0	-12.5	43.50	9.09
225.972550	36.10	200.0	H	170.0	-12.7	46.00	9.90
258.119650	41.40	100.0	H	119.0	-12.3	46.00	4.60
720.585500	39.83	100.0	H	119.0	-2.7	46.00	6.17

Test Model: 55VS4K20

Spurious Emission Test:

30MHz-1GHz:

Pre-scan with 802.11b, 802.11g, 802.11n-HT20 and 802.11n-HT40 modes of operation in the X,Y and Z axes of orientation, the worst case ***high channel of 802.11 n-HT20 mode in Z-axis of orientation*** *was recorded*



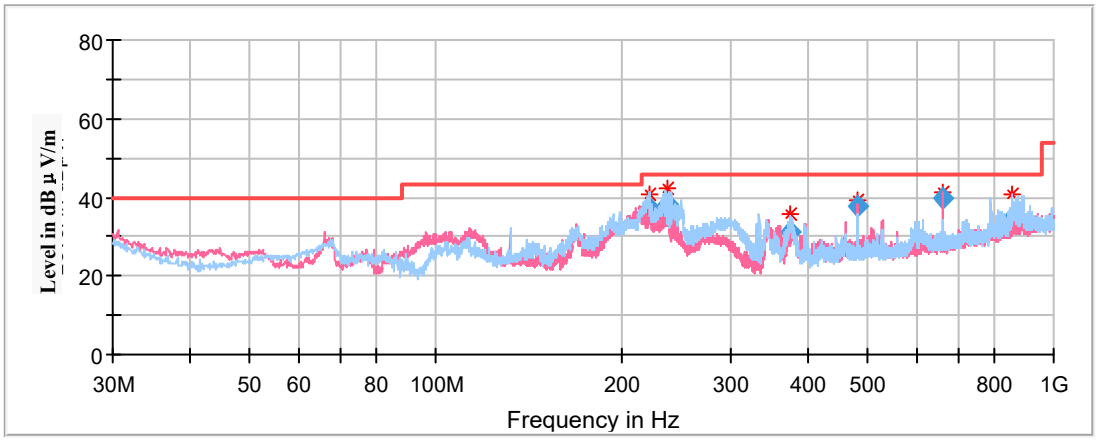
Frequency (MHz)	Corrected Amplitude	Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	QuasiPeak (dBµV/m)	Height (cm)	Polar (H/V)				
52.012300	35.60	100.0	V	358.0	-18.1	40.00	4.40
76.080250	38.13	100.0	V	191.0	-18.0	40.00	1.87
138.767600	33.62	200.0	H	179.0	-12.3	43.50	9.88
206.023200	33.97	100.0	H	233.0	-12.7	43.50	9.53
256.255650	34.49	100.0	H	233.0	-12.4	46.00	11.51
527.829100	35.25	200.0	V	187.0	-5.9	46.00	10.75

Test Model: 58SVL20

Spurious Emission Test:

30MHz-1GHz:

Pre-scan with 802.11b, 802.11g, 802.11n-HT20 and 802.11n-HT40 modes of operation in the X,Y and Z axes of orientation, the worst case ***high channel of 802.11 n-HT20 mode in Z-axis of orientation*** *was recorded*



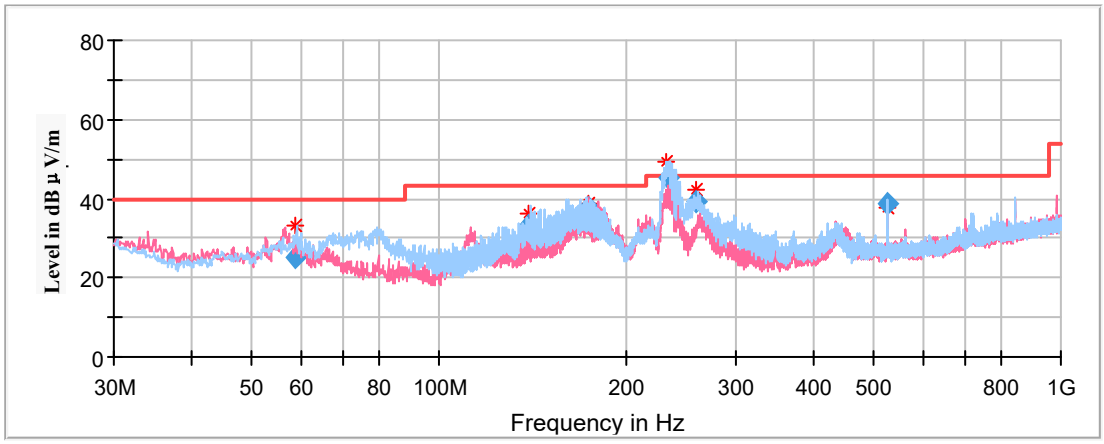
Frequency (MHz)	Corrected Amplitude	Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	QuasiPeak (dBµV/m)	Height (cm)	Polar (H/V)				
221.003300	37.37	100.0	H	111.0	-12.7	46.00	8.63
237.266800	38.49	100.0	H	222.0	-12.6	46.00	7.51
375.753450	31.11	100.0	H	222.0	-9.2	46.00	14.89
482.614550	37.83	100.0	V	228.0	-6.5	46.00	8.17
659.998800	39.55	100.0	V	6.0	-4.0	46.00	6.45
858.219700	34.52	200.0	H	262.0	-0.5	46.00	11.48

Test Model: 65VS4K20

Spurious Emission Test:

30MHz-1GHz:

Pre-scan with 802.11b, 802.11g, 802.11n-HT20 and 802.11n-HT40 modes of operation in the X,Y and Z axes of orientation, the worst case ***high channel of 802.11 n-HT20 mode in Z-axis of orientation*** *was recorded*



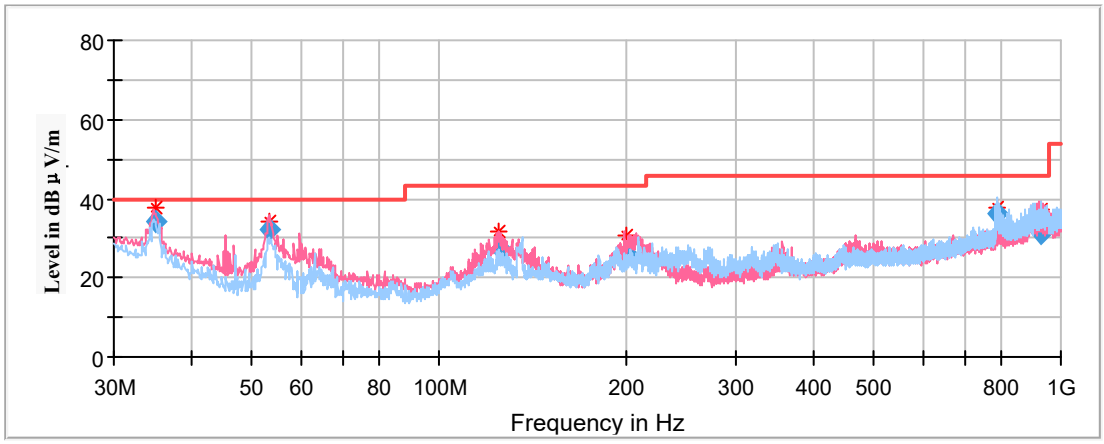
Frequency (MHz)	Corrected Amplitude	Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	QuasiPeak (dBµV/m)	Height (cm)	Polar (H/V)				
58.621450	25.16	200.0	H	154.0	-18.3	40.00	14.84
139.807600	33.21	200.0	H	133.0	-12.4	43.50	10.29
173.933600	37.81	200.0	H	117.0	-13.8	43.50	5.69
233.326950	45.11	100.0	H	139.0	-12.6	46.00	0.88
259.407850	39.04	100.0	H	225.0	-12.3	46.00	6.96
527.658950	38.67	200.0	H	217.0	-5.9	46.00	7.33

Test Model: 75SVL20

Spurious Emission Test:

30MHz-1GHz:

Pre-scan with 802.11b, 802.11g, 802.11n-HT20 and 802.11n-HT40 modes of operation in the X,Y and Z axes of orientation, the worst case ***high channel of 802.11 n-HT20 mode in Z-axis of orientation*** *was recorded*



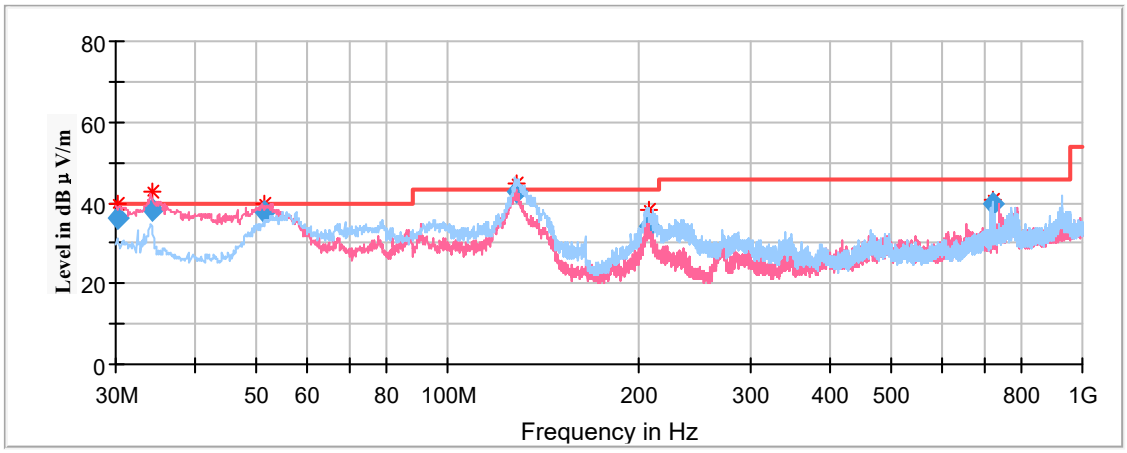
Frequency (MHz)	Corrected Amplitude	Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	QuasiPeak (dBµV/m)	Height (cm)	Polar (H/V)				
34.943250	34.23	100.0	V	8.0	-7.7	40.00	5.77
53.467600	31.98	100.0	V	66.0	-18.1	40.00	8.02
125.507800	26.98	100.0	V	177.0	-11.8	43.50	16.52
199.366200	25.92	100.0	V	29.0	-12.8	43.50	17.58
790.889150	36.44	100.0	H	167.0	-1.6	46.00	9.56
928.161350	31.36	100.0	H	173.0	0.8	46.00	14.64

Test Model: 82BS4K20

Spurious Emission Test:

30MHz-1GHz:

Pre-scan with 802.11b, 802.11g, 802.11n-HT20 and 802.11n-HT40 modes of operation in the X,Y and Z axes of orientation, the worst case ***high channel of 802.11 n-HT20 mode in Z-axis of orientation*** *was recorded*



Frequency (MHz)	Corrected Amplitude	Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	QuasiPeak (dBµV/m)	Height (cm)	Polar (H/V)				
30.147859	36.37	100.0	V	120.0	-4.5	40.00	3.63
34.217300	38.08	100.0	V	135.0	-7.2	40.00	0.92
51.575450	37.88	100.0	V	240.0	-18.0	40.00	2.12
128.843900	42.84	200.0	H	99.0	-12.0	43.50	0.66
207.037500	34.01	100.0	H	109.0	-12.7	43.50	9.49
720.011800	39.96	200.0	H	104.0	-2.7	46.00	6.04

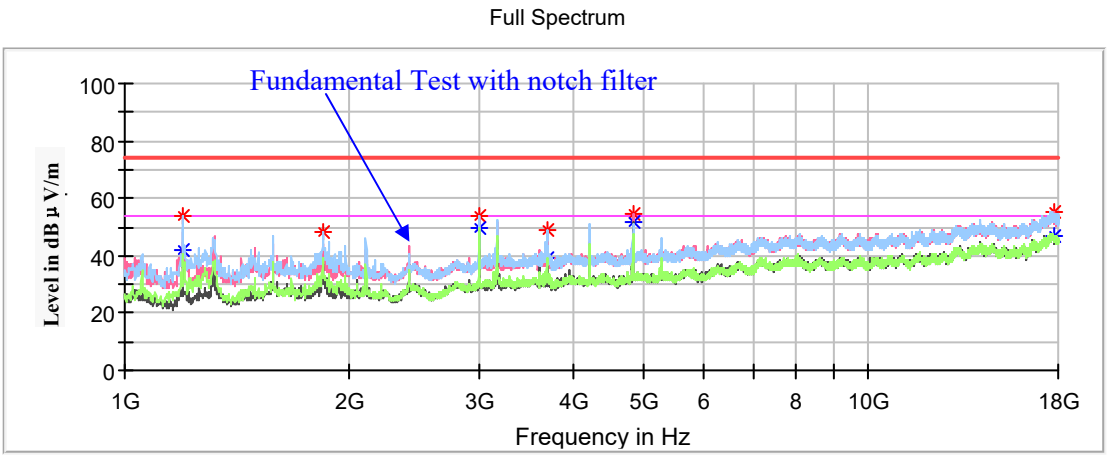
Test Model: 50SVL20

1GHz-18GHz:

802.11b Mode(Chain 0):
*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

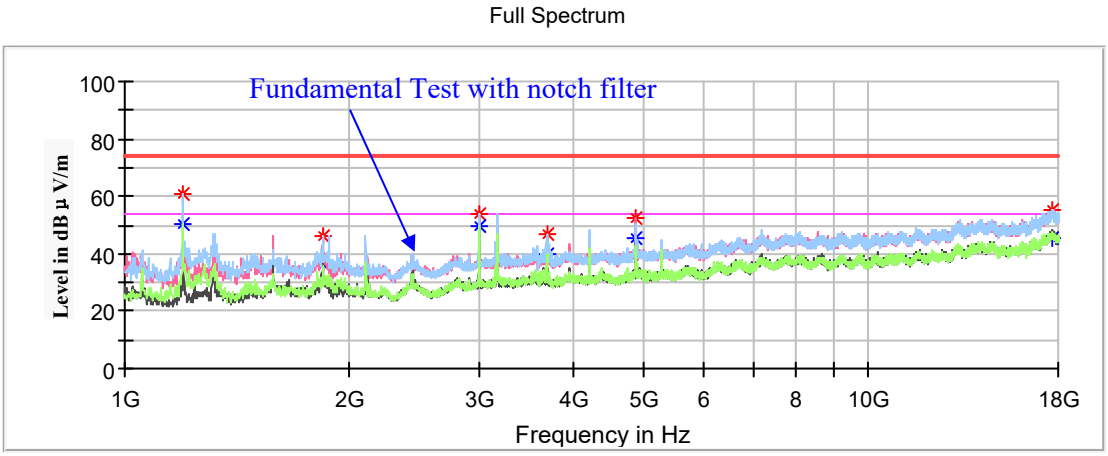
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBµV/m) = Corrected Factor (dB/m) + Reading (dBµV)
   Margin (dB) = Limit (dBµV/m) – Corrected Amplitude (dBµV/m)

Low Channel: 2412MHz



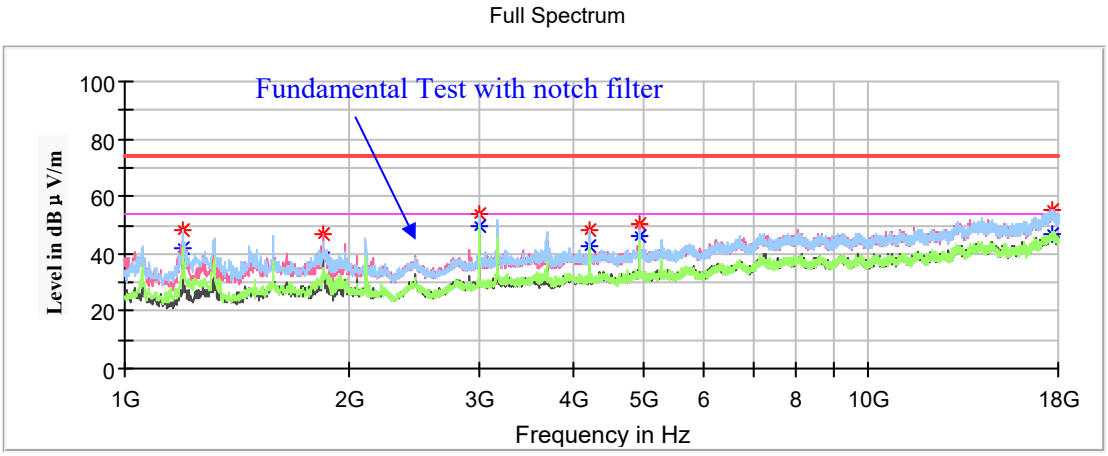
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	53.64	---	200.0	H	147.0	-18.0	74.00	20.36
1198.900000	---	42.22	200.0	H	147.0	-18.0	54.00	11.78
1844.900000	48.05	---	150.0	H	170.0	-15.1	74.00	25.95
1844.900000	---	39.41	150.0	H	170.0	-15.1	54.00	14.59
2990.700000	53.89	---	150.0	V	191.0	-10.1	74.00	20.11
2990.700000	---	49.39	150.0	V	191.0	-10.1	54.00	4.61
3692.800000	---	39.24	150.0	H	253.0	-8.1	54.00	14.76
3692.800000	49.07	---	150.0	H	253.0	-8.1	74.00	24.93
4824.000000	---	51.94	150.0	V	166.0	-5.5	54.00	2.06
4824.000000	54.81	---	150.0	V	166.0	-5.5	74.00	19.19
17755.200000	---	47.04	150.0	V	166.0	8.8	54.00	6.96
17755.200000	55.26	---	150.0	V	166.0	8.8	74.00	18.74

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	---	50.37	200.0	H	109.0	-18.0	54.00	3.63
1198.900000	60.71	---	200.0	H	109.0	-18.0	74.00	13.29
1844.900000	46.20	---	150.0	V	215.0	-15.1	74.00	27.80
1844.900000	---	36.50	150.0	V	215.0	-15.1	54.00	17.50
2990.700000	54.06	---	150.0	H	189.0	-10.1	74.00	19.94
2990.700000	---	49.35	150.0	H	189.0	-10.1	54.00	4.65
3692.800000	47.18	---	200.0	H	239.0	-8.1	74.00	26.82
3692.800000	---	39.86	200.0	H	239.0	-8.1	54.00	14.14
4874.000000	52.17	---	150.0	V	163.0	-5.4	74.00	21.83
4874.000000	---	45.11	150.0	V	163.0	-5.4	54.00	8.89
17719.500000	55.07	---	200.0	H	225.0	8.9	74.00	18.93
17719.500000	---	45.77	200.0	H	225.0	8.9	54.00	8.23

High Channel: 2462MHz

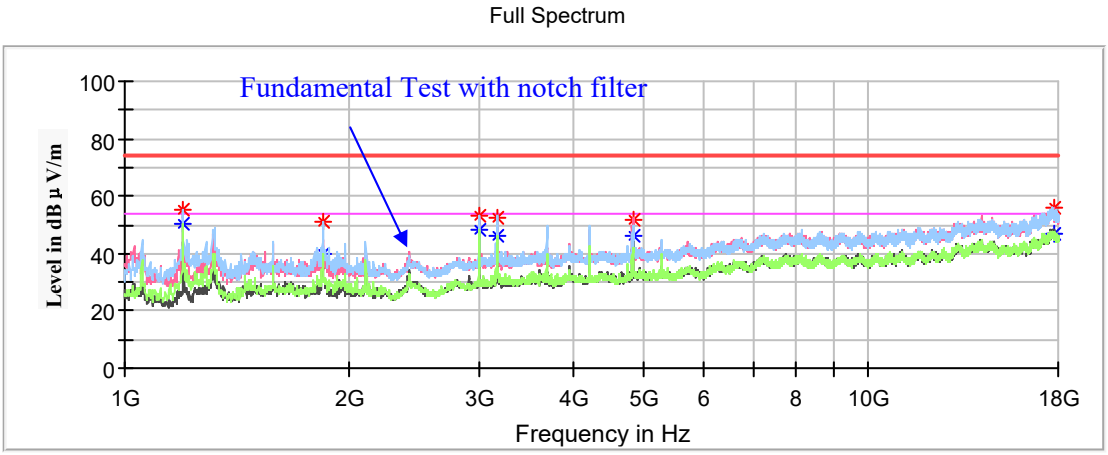


Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	48.03	---	200.0	H	203.0	-18.0	74.00	25.97
1198.900000	---	42.22	200.0	H	203.0	-18.0	54.00	11.78
1846.600000	47.01	---	150.0	V	225.0	-15.0	74.00	26.99
1846.600000	---	38.38	150.0	V	225.0	-15.0	54.00	15.62
2990.700000	---	49.49	150.0	H	170.0	-10.1	54.00	4.51
2990.700000	54.05	---	150.0	H	170.0	-10.1	74.00	19.95
4219.800000	---	42.34	150.0	H	222.0	-6.7	54.00	11.66
4219.800000	48.00	---	150.0	H	222.0	-6.7	74.00	26.00
4924.000000	50.20	---	200.0	V	143.0	-5.3	74.00	23.80
4924.000000	---	46.25	200.0	V	143.0	-5.3	54.00	7.75
17663.400000	---	46.79	200.0	V	260.0	8.9	54.00	7.21
17663.400000	55.35	---	200.0	V	260.0	8.9	74.00	18.65

802.11g Mode (Chain 0):
*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

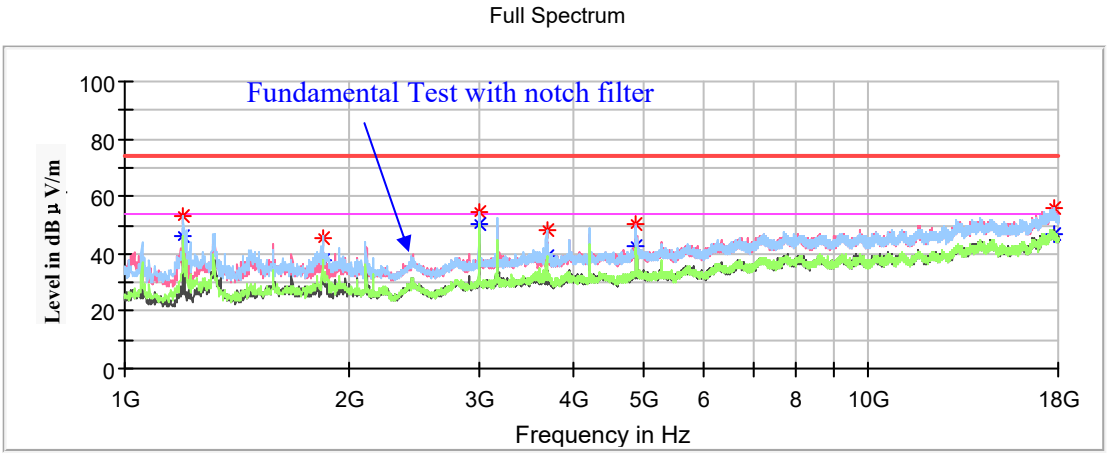
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBµV/m) = Corrected Factor (dB/m) + Reading (dBµV)
   Margin (dB) = Limit (dBµV/m) – Corrected Amplitude (dBµV/m)

Low Channel: 2412MHz



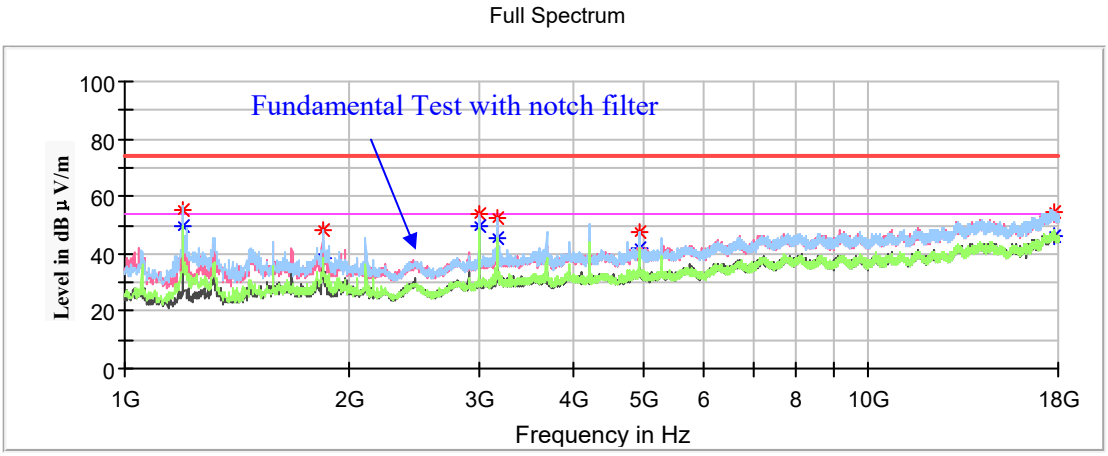
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	---	50.57	150.0	H	95.0	-18.0	54.00	3.43
1198.900000	55.07	---	150.0	H	95.0	-18.0	74.00	18.93
1844.900000	---	39.55	200.0	H	177.0	-15.1	54.00	14.45
1844.900000	50.92	---	200.0	H	177.0	-15.1	74.00	23.08
2990.700000	---	48.52	150.0	H	214.0	-10.1	54.00	5.48
2990.700000	53.20	---	150.0	H	214.0	-10.1	74.00	20.80
3165.800000	---	46.03	150.0	H	202.0	-9.7	54.00	7.97
3165.800000	52.78	---	150.0	H	202.0	-9.7	74.00	21.22
4824.000000	---	46.47	150.0	V	160.0	-5.5	54.00	7.53
4824.000000	51.80	---	150.0	V	160.0	-5.5	74.00	22.20
17738.200000	---	47.11	150.0	H	341.0	8.8	54.00	6.89
17738.200000	55.67	---	150.0	H	341.0	8.8	74.00	18.33

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	53.40	---	150.0	H	143.0	-18.0	74.00	20.60
1198.900000	---	46.06	150.0	H	143.0	-18.0	54.00	7.94
1844.900000	45.79	---	150.0	H	222.0	-15.1	74.00	28.21
1844.900000	---	37.99	150.0	H	222.0	-15.1	54.00	16.01
2990.700000	---	50.01	150.0	H	170.0	-10.1	54.00	3.99
2990.700000	54.64	---	150.0	H	170.0	-10.1	74.00	19.36
3692.800000	48.25	---	200.0	H	235.0	-8.1	74.00	25.75
3692.800000	---	39.47	200.0	H	235.0	-8.1	54.00	14.53
4874.000000	50.31	---	150.0	V	159.0	-5.4	74.00	23.69
4874.000000	---	42.66	150.0	V	159.0	-5.4	54.00	11.34
17729.700000	---	46.71	200.0	H	3.0	8.8	54.00	7.29
17729.700000	55.90	---	200.0	H	3.0	8.8	74.00	18.10

High Channel: 2462MHz

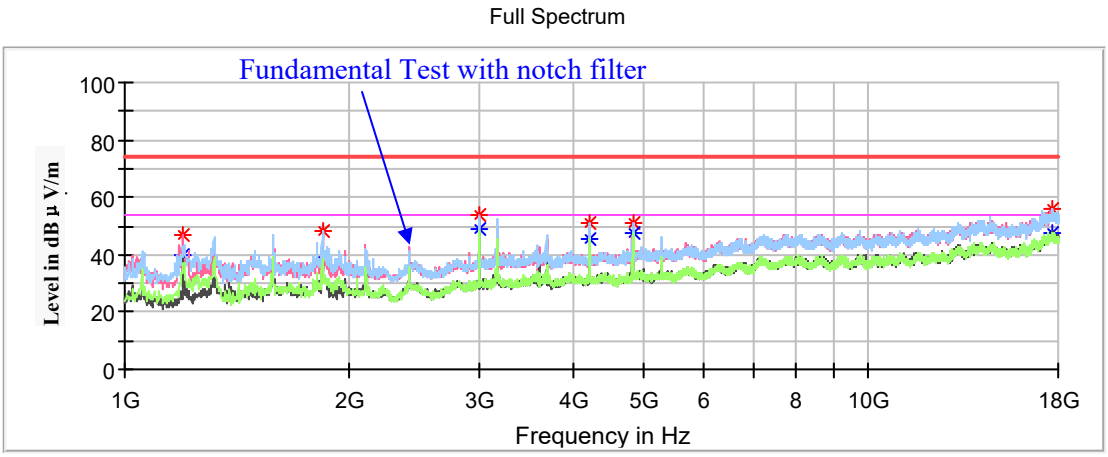


Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	---	49.94	150.0	H	91.0	-18.0	54.00	4.06
1198.900000	55.54	---	150.0	H	91.0	-18.0	74.00	18.46
1844.900000	---	38.14	150.0	H	170.0	-15.1	54.00	15.86
1844.900000	48.27	---	150.0	H	170.0	-15.1	74.00	25.73
2990.700000	---	49.46	150.0	V	191.0	-10.1	54.00	4.54
2990.700000	54.01	---	150.0	V	191.0	-10.1	74.00	19.99
3164.100000	---	45.42	150.0	H	209.0	-9.7	54.00	8.58
3164.100000	52.63	---	150.0	H	209.0	-9.7	74.00	21.37
4924.000000	---	41.90	150.0	H	209.0	-5.3	54.00	12.10
4924.000000	47.57	---	150.0	H	209.0	-5.3	74.00	26.43
17785.800000	---	46.02	200.0	V	329.0	8.8	54.00	7.98
17785.800000	54.59	---	200.0	V	329.0	8.8	74.00	19.41

802.11b Mode(Chain 1):
*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

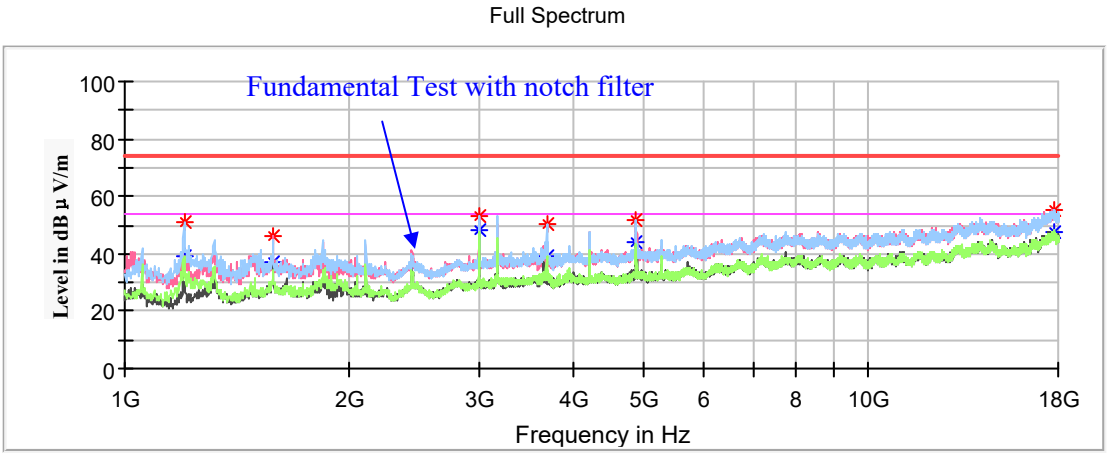
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBµV/m) = Corrected Factor (dB/m) + Reading (dBµV)
   Margin (dB) = Limit (dBµV/m) – Corrected Amplitude (dBµV/m)

Low Channel: 2412MHz



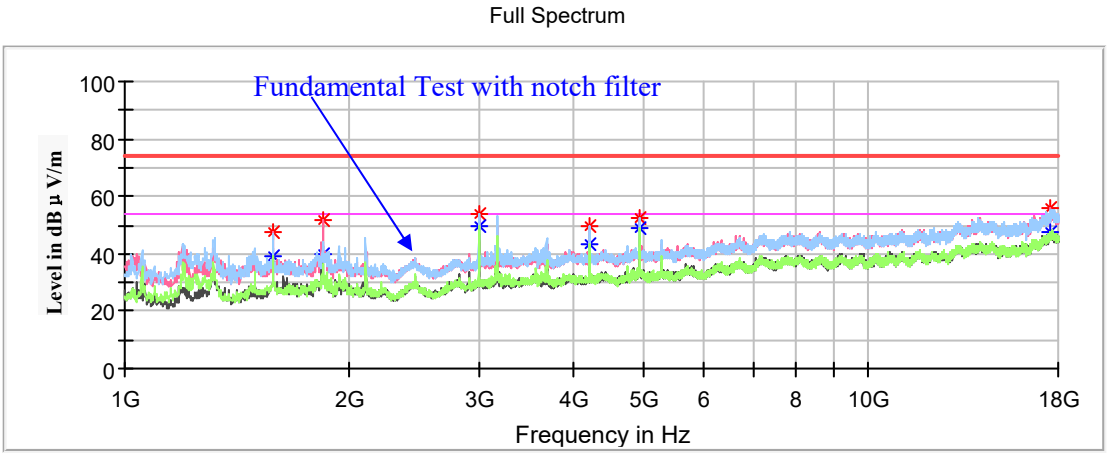
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	---	40.17	150.0	V	204.0	-18.0	54.00	13.83
1198.900000	47.07	---	150.0	V	204.0	-18.0	74.00	26.93
1846.600000	---	37.88	200.0	H	174.0	-15.0	54.00	16.12
1846.600000	48.46	---	200.0	H	174.0	-15.0	74.00	25.54
2990.700000	54.16	---	150.0	V	190.0	-10.1	74.00	19.84
2990.700000	---	49.27	150.0	V	190.0	-10.1	54.00	4.73
4219.800000	---	45.75	150.0	H	188.0	-6.7	54.00	8.25
4219.800000	50.95	---	150.0	H	188.0	-6.7	74.00	23.05
4824.000000	---	47.68	150.0	H	120.0	-5.5	54.00	6.32
4824.000000	50.91	---	150.0	H	120.0	-5.5	74.00	23.09
17680.400000	---	47.36	200.0	V	352.0	8.9	54.00	6.64
17680.400000	55.73	---	200.0	V	352.0	8.9	74.00	18.27

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1202.300000	---	38.87	150.0	H	81.0	-18.0	54.00	15.13
1202.300000	51.05	---	150.0	H	81.0	-18.0	74.00	22.95
1581.400000	---	37.28	200.0	V	143.0	-16.1	54.00	16.72
1581.400000	46.31	---	200.0	V	143.0	-16.1	74.00	27.69
2990.700000	---	47.97	150.0	H	186.0	-10.1	54.00	6.03
2990.700000	52.84	---	150.0	H	186.0	-10.1	74.00	21.16
3691.100000	---	39.43	150.0	H	227.0	-8.1	54.00	14.57
3691.100000	50.05	---	150.0	H	227.0	-8.1	74.00	23.95
4872.000000	---	43.96	150.0	V	160.0	-5.4	54.00	10.04
4872.000000	51.65	---	150.0	V	160.0	-5.4	74.00	22.35
17733.100000	---	47.38	150.0	H	148.0	8.8	54.00	6.62
17733.100000	55.41	---	150.0	H	148.0	8.8	74.00	18.59

High Channel: 2462MHz

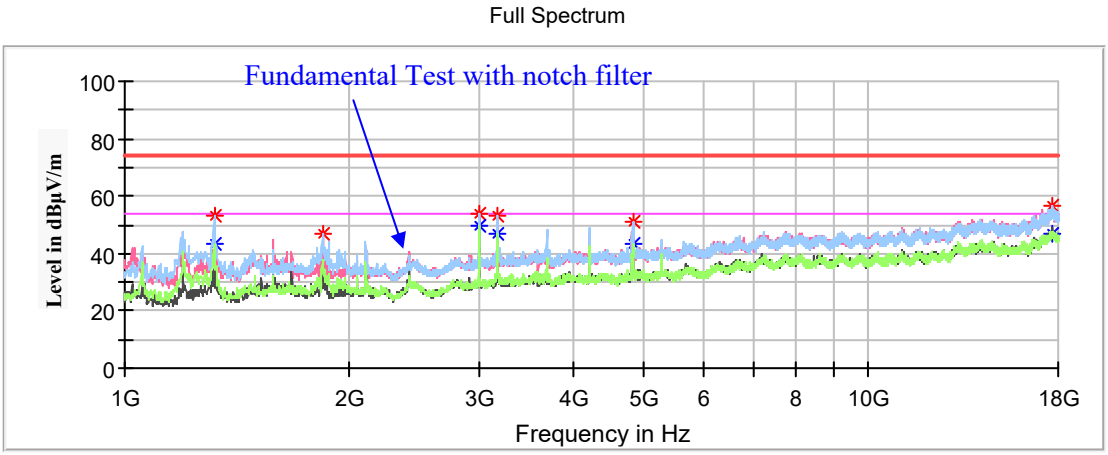


Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1581.400000	---	39.41	200.0	V	223.0	-16.1	54.00	14.59
1581.400000	47.85	---	200.0	V	223.0	-16.1	74.00	26.15
1846.600000	---	39.57	150.0	V	212.0	-15.0	54.00	14.43
1846.600000	51.96	---	150.0	V	212.0	-15.0	74.00	22.04
2990.700000	53.68	---	150.0	H	170.0	-10.1	74.00	20.32
2990.700000	---	49.32	150.0	H	170.0	-10.1	54.00	4.68
4219.800000	---	43.40	150.0	H	196.0	-6.7	54.00	10.60
4219.800000	49.94	---	150.0	H	196.0	-6.7	74.00	24.06
4924.000000	---	49.15	150.0	H	196.0	-5.3	54.00	4.85
4924.000000	52.53	---	150.0	H	196.0	-5.3	74.00	21.47
17564.800000	---	47.27	200.0	V	77.0	8.9	54.00	6.73
17564.800000	55.85	---	200.0	V	77.0	8.9	74.00	18.15

802.11g Mode (Chain 1):
*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

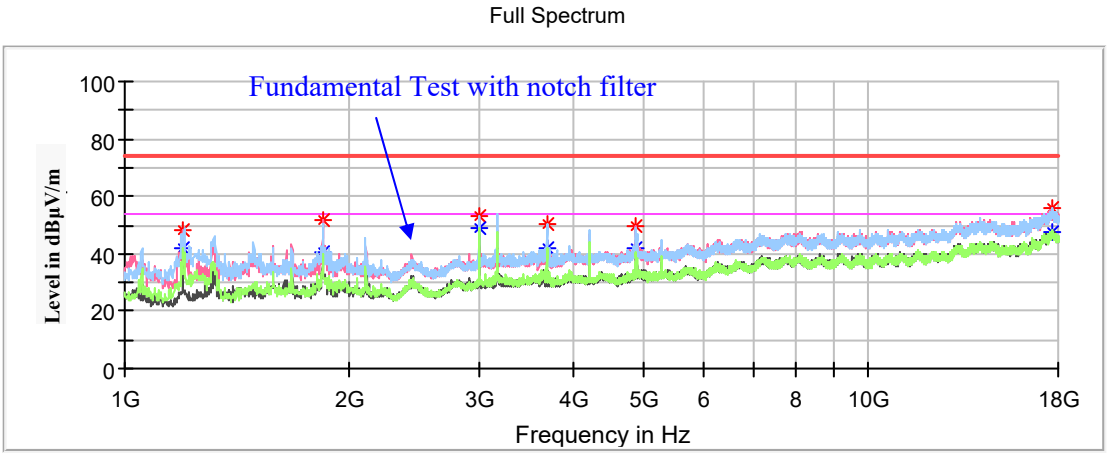
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBµV /m) = Corrected Factor (dB/m) + Reading (dBµV)
   Margin (dB) = Limit (dBµV/m) – Corrected Amplitude (dBµV /m)

Low Channel: 2412MHz



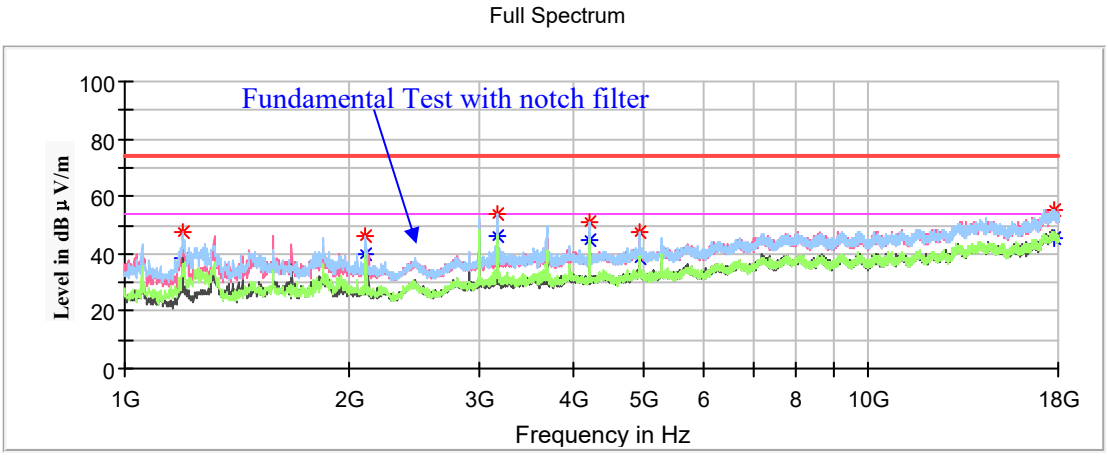
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1317.900000	---	43.44	150.0	H	248.0	-17.3	54.00	10.56
1317.900000	53.20	---	150.0	H	248.0	-17.3	74.00	20.80
1844.900000	---	37.62	200.0	H	172.0	-15.1	54.00	16.38
1844.900000	46.78	---	200.0	H	172.0	-15.1	74.00	27.22
2990.700000	---	49.48	150.0	V	194.0	-10.1	54.00	4.52
2990.700000	53.56	---	150.0	V	194.0	-10.1	74.00	20.44
3165.800000	---	46.55	150.0	H	210.0	-9.7	54.00	7.45
3165.800000	53.31	---	150.0	H	210.0	-9.7	74.00	20.69
4824.000000	50.84	---	150.0	V	154.0	-5.5	74.00	23.16
4824.000000	---	43.10	150.0	V	154.0	-5.5	54.00	10.90
17636.200000	---	46.98	200.0	V	214.0	8.9	54.00	7.02
17636.200000	56.35	---	200.0	V	214.0	8.9	74.00	17.65

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	48.17	---	200.0	H	185.0	-18.0	74.00	25.83
1198.900000	---	42.13	200.0	H	185.0	-18.0	54.00	11.87
1844.900000	51.58	---	150.0	V	211.0	-15.1	74.00	22.42
1844.900000	---	40.72	150.0	V	211.0	-15.1	54.00	13.28
2990.700000	---	48.62	150.0	H	215.0	-10.1	54.00	5.38
2990.700000	53.10	---	150.0	H	215.0	-10.1	74.00	20.90
3692.800000	50.38	---	150.0	H	228.0	-8.1	74.00	23.62
3692.800000	---	41.73	150.0	H	228.0	-8.1	54.00	12.27
4874.000000	49.63	---	150.0	V	159.0	-5.4	74.00	24.37
4874.000000	---	42.27	150.0	V	159.0	-5.4	54.00	11.73
17671.900000	---	47.43	200.0	V	298.0	8.9	54.00	6.57
17671.900000	55.86	---	200.0	V	298.0	8.9	74.00	18.14

High Channel: 2462MHz



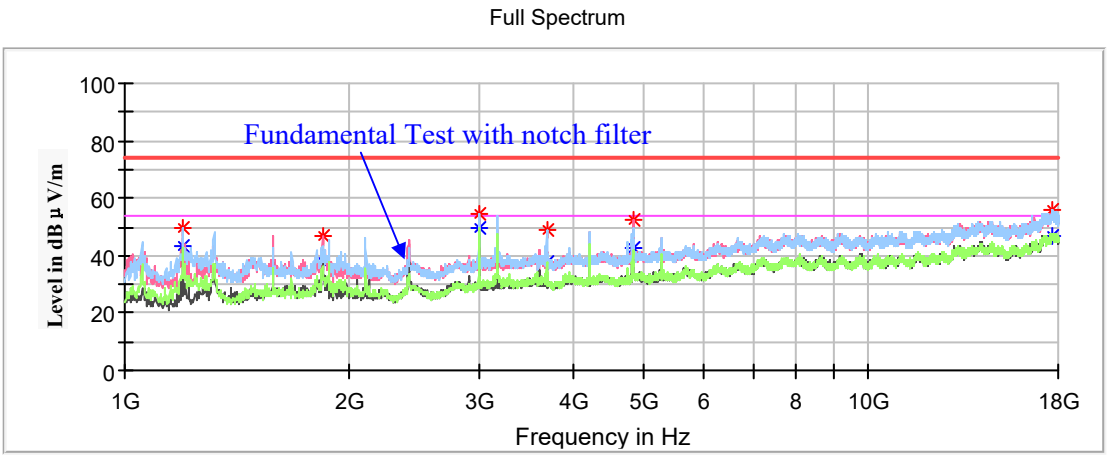
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	47.26	---	150.0	V	134.0	-18.0	74.00	26.74
1198.900000	---	38.30	150.0	V	134.0	-18.0	54.00	15.70
2110.100000	---	40.21	150.0	H	189.0	-14.0	54.00	13.79
2110.100000	46.26	---	150.0	H	189.0	-14.0	74.00	27.74
3165.800000	---	45.91	150.0	H	202.0	-9.7	54.00	8.09
3165.800000	53.65	---	150.0	H	202.0	-9.7	74.00	20.35
4219.800000	---	44.66	150.0	H	176.0	-6.7	54.00	9.34
4219.800000	50.86	---	150.0	H	176.0	-6.7	74.00	23.14
4924.000000	---	38.42	150.0	H	189.0	-5.3	54.00	15.58
4924.000000	47.59	---	150.0	H	189.0	-5.3	74.00	26.41
17824.900000	55.48	---	200.0	V	329.0	8.8	74.00	18.52
17824.900000	---	45.33	200.0	V	329.0	8.8	54.00	8.67

802.11n-HT20 Mode(Chain 0& Chain 1 transmitting simultaneously):

*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

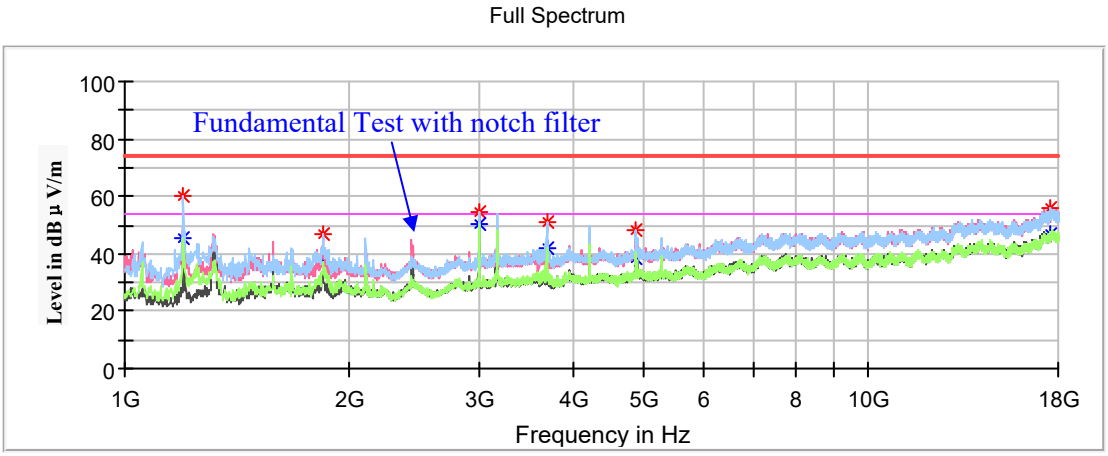
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBμV/m) = Corrected Factor (dB/m) + Reading (dBμV)
   Margin (dB) = Limit (dBμV/m) – Corrected Amplitude (dBμV/m)

Low Channel : 2412MHz



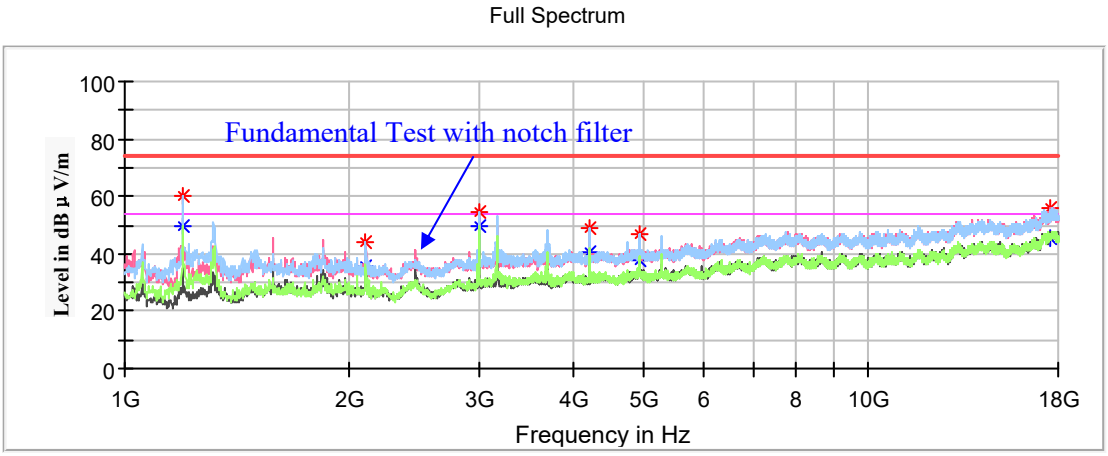
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
1198.900000	---	43.70	200.0	V	143.0	-18.0	54.00	10.30
1198.900000	49.86	---	200.0	V	143.0	-18.0	74.00	24.14
1843.200000	---	37.68	150.0	V	212.0	-15.1	54.00	16.32
1843.200000	46.59	---	150.0	V	212.0	-15.1	74.00	27.41
2990.700000	---	49.79	150.0	H	171.0	-10.1	54.00	4.21
2990.700000	54.75	---	150.0	H	171.0	-10.1	74.00	19.25
3691.100000	---	37.46	150.0	H	223.0	-8.1	54.00	16.54
3691.100000	49.00	---	150.0	H	223.0	-8.1	74.00	25.00
4824.000000	52.24	---	150.0	V	160.0	-5.5	74.00	21.76
4824.000000	---	42.75	150.0	V	160.0	-5.5	54.00	11.25
17661.700000	---	46.58	150.0	V	299.0	8.9	54.00	7.42
17661.700000	55.78	---	150.0	V	299.0	8.9	74.00	18.22

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1200.600000	60.03	---	150.0	H	104.0	-18.0	74.00	13.97
1200.600000	---	45.67	150.0	H	104.0	-18.0	54.00	8.33
1844.900000	---	37.27	200.0	H	164.0	-15.1	54.00	16.73
1844.900000	46.71	---	200.0	H	164.0	-15.1	74.00	27.29
2990.700000	54.56	---	150.0	V	190.0	-10.1	74.00	19.44
2990.700000	---	50.06	150.0	V	190.0	-10.1	54.00	3.94
3692.800000	---	42.23	150.0	H	223.0	-8.1	54.00	11.77
3692.800000	50.78	---	150.0	H	223.0	-8.1	74.00	23.22
4874.000000	---	38.45	150.0	H	151.0	-5.5	54.00	15.55
4874.000000	48.15	---	150.0	H	151.0	-5.5	74.00	25.85
17590.300000	---	46.58	200.0	H	164.0	8.9	54.00	7.42
17590.300000	55.73	---	200.0	H	164.0	8.9	74.00	18.27

High Channel : 2462MHz



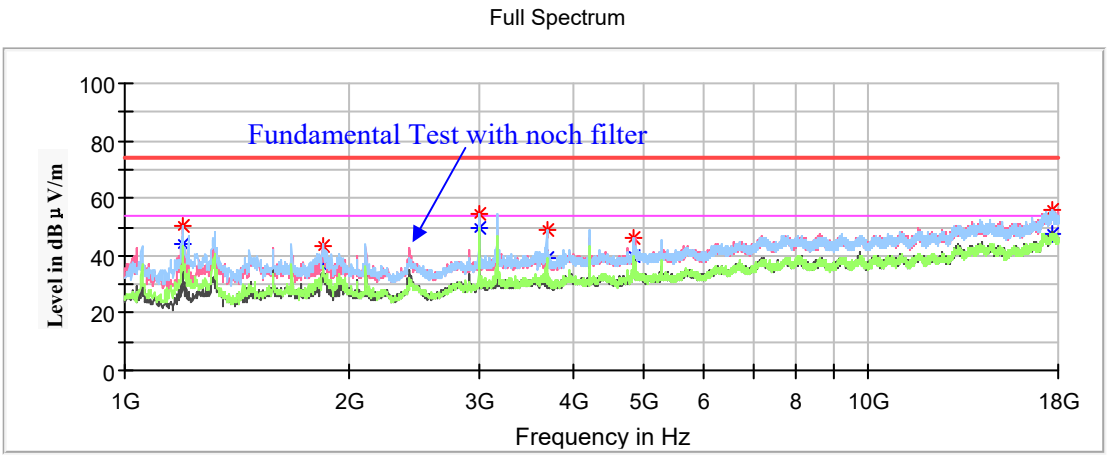
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	60.01	---	150.0	H	122.0	-18.0	74.00	13.99
1198.900000	---	49.59	150.0	H	122.0	-18.0	54.00	4.41
2108.400000	---	35.94	150.0	H	199.0	-14.0	54.00	18.06
2108.400000	44.23	---	150.0	H	199.0	-14.0	74.00	29.77
2990.700000	54.57	---	150.0	H	214.0	-10.1	74.00	19.43
2990.700000	---	49.91	150.0	H	214.0	-10.1	54.00	4.09
4221.500000	---	40.61	200.0	H	202.0	-6.7	54.00	13.39
4221.500000	49.04	---	200.0	H	202.0	-6.7	74.00	24.96
4924.000000	---	37.74	200.0	H	137.0	-5.3	54.00	16.26
4924.000000	46.82	---	200.0	H	137.0	-5.3	74.00	27.18
17575.000000	56.09	---	150.0	V	0.0	8.9	74.00	17.91
17575.000000	---	45.68	150.0	V	0.0	8.9	54.00	8.32

802.11n-HT40 Mode(Chain 0& Chain 1 transmitting simultaneously):

*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

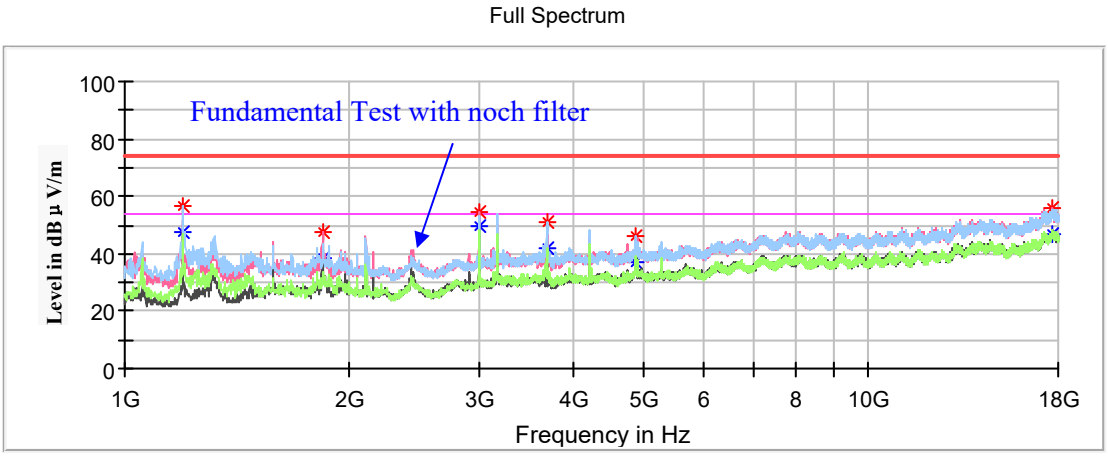
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBμV/m) = Corrected Factor (dB/m) + Reading (dBμV)
   Margin (dB) = Limit (dBμV/m) – Corrected Amplitude (dBμV/m)

Low Channel : 2422MHz



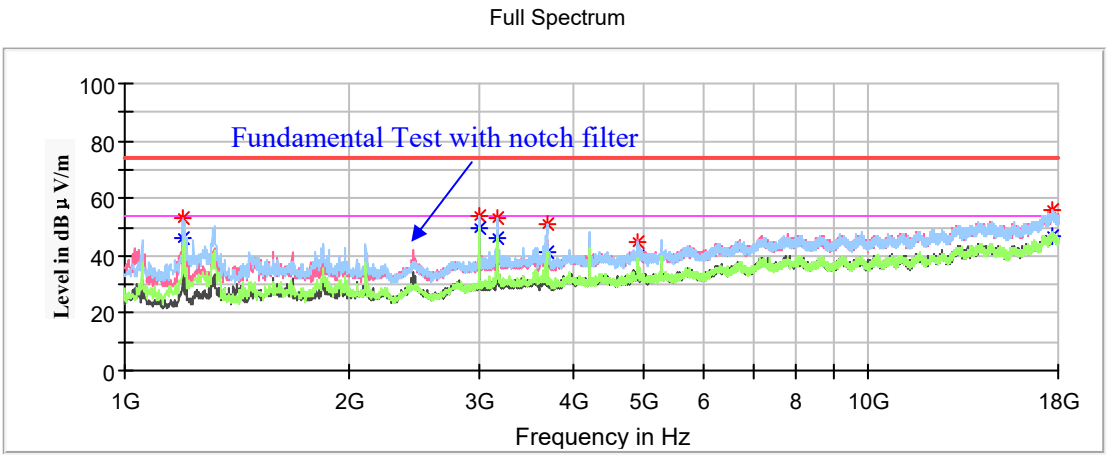
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
1198.900000	50.63	---	200.0	V	133.0	-18.0	74.00	23.37
1198.900000	---	44.01	200.0	V	133.0	-18.0	54.00	9.99
1846.600000	43.48	---	150.0	H	171.0	-15.0	74.00	30.52
1846.600000	---	36.52	150.0	H	171.0	-15.0	54.00	17.48
2990.700000	---	49.84	150.0	H	171.0	-10.1	54.00	4.16
2990.700000	54.52	---	150.0	H	171.0	-10.1	74.00	19.48
3692.800000	---	38.93	150.0	H	224.0	-8.1	54.00	15.07
3692.800000	48.89	---	150.0	H	224.0	-8.1	74.00	25.11
4844.000000	46.41	---	150.0	H	198.0	-5.5	74.00	27.59
4844.000000	---	40.09	150.0	H	198.0	-5.5	54.00	13.91
17646.400000	---	47.39	150.0	V	300.0	8.9	54.00	6.61
17646.400000	55.86	---	150.0	V	300.0	8.9	74.00	18.14

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	---	47.45	150.0	H	78.0	-18.0	54.00	6.55
1198.900000	56.63	---	150.0	H	78.0	-18.0	74.00	17.37
1844.900000	---	38.61	150.0	V	217.0	-15.1	54.00	15.39
1844.900000	47.68	---	150.0	V	217.0	-15.1	74.00	26.32
2990.700000	54.33	---	150.0	V	190.0	-10.1	74.00	19.67
2990.700000	---	49.92	150.0	V	190.0	-10.1	54.00	4.08
3692.800000	---	41.99	150.0	H	228.0	-8.1	54.00	12.01
3692.800000	51.03	---	150.0	H	228.0	-8.1	74.00	22.97
4874.000000	---	37.10	150.0	H	202.0	-5.5	54.00	16.90
4874.000000	46.22	---	150.0	H	202.0	-5.5	74.00	27.78
17714.400000	---	46.77	200.0	V	95.0	8.9	54.00	7.23
17714.400000	55.78	---	200.0	V	95.0	8.9	74.00	18.22

High Channel : 2452MHz

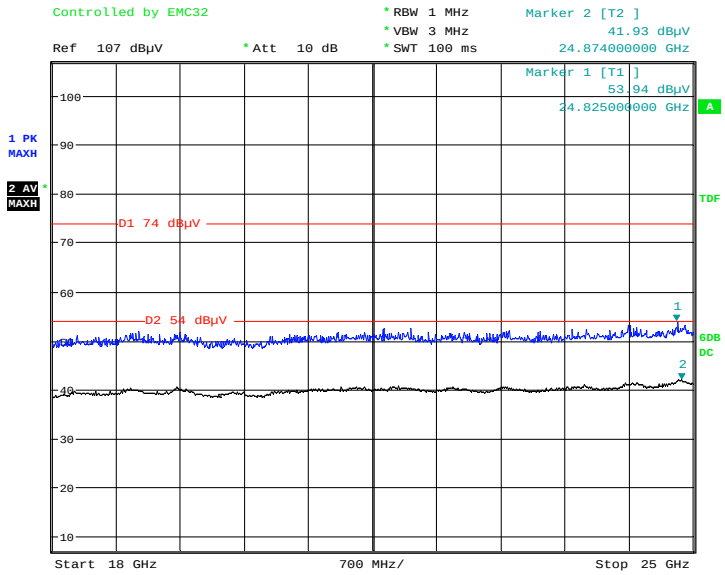


Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	53.09	---	200.0	V	159.0	-18.0	74.00	20.91
1198.900000	---	46.24	200.0	V	159.0	-18.0	54.00	7.76
2990.700000	---	49.76	150.0	H	171.0	-10.1	54.00	4.24
2990.700000	54.00	---	150.0	H	171.0	-10.1	74.00	20.00
3164.100000	53.22	---	150.0	H	211.0	-9.7	74.00	20.78
3164.100000	---	45.98	150.0	H	211.0	-9.7	54.00	8.02
3692.800000	---	41.27	200.0	H	243.0	-8.1	54.00	12.73
3692.800000	51.29	---	200.0	H	243.0	-8.1	74.00	22.71
4904.000000	44.90	---	150.0	V	159.0	-5.4	74.00	29.10
4904.000000	---	39.77	150.0	V	159.0	-5.4	54.00	14.23
17646.400000	---	47.19	150.0	H	251.0	8.9	54.00	6.81
17646.400000	56.21	---	150.0	H	224.0	8.9	74.00	17.79

18GHz-25GHz(worst case):

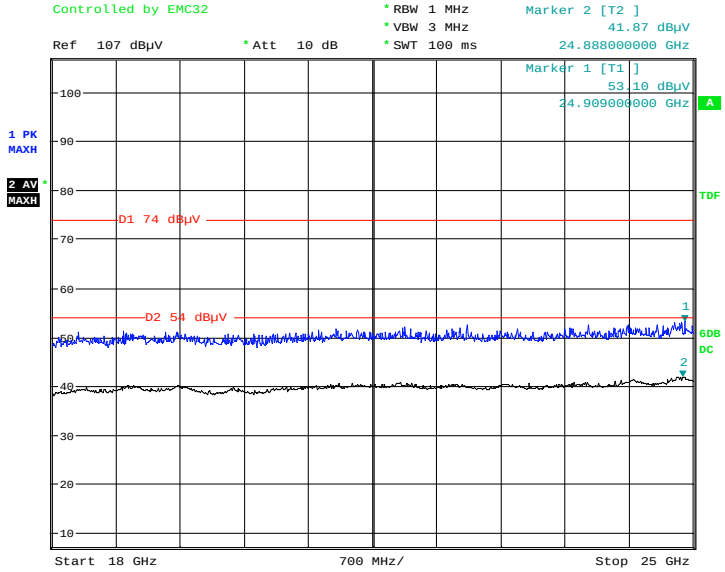
Pre-scan with 802.11b, 802.11g, 802.11n-HT20 and 802.11n-HT40 modes of operation in the X,Y and Z axes of orientation, the worst case ***high channel of 802.11 n-HT20 mode in Z-axis of orientation*** *was recorded*

Horizontal



Date: 15.JUL.2020 21:59:57

Vertical



Date: 15.JUL.2020 22:00:24

Restricted Bands Emissions Test:

Note:
1. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB)
   Corrected Amplitude (dBμV/m) = Corrected Factor (dB/m) + Reading (dBμV)
   Margin (dB) = Limit (dBμV/m) – Corrected Amplitude (dBμV/m)

2. The test distance is 1.5m, the limit at 1.5m is below:
   Average (dBμV/m) = 54.00 dBμV/m +20*log10(3/1.5)=60.00 dBμV/m
   MaxPeak (dBμV/m) = 74.00 dBμV/m +20*log10(3/1.5)=80.00 dBμV/m

802.11b Mode (Chain 0): *(Pre-scan in the X, Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2412MHz								
2389.00	---	36.63	200.0	H	265.0	-2.9	54.00	17.37
2389.00	48.89	---	200.0	H	265.0	-2.9	74.00	25.11
High Channel: 2462MHz								
2483.50	43.44	---	150.0	H	254.0	-2.5	74.00	30.56
2483.50	---	37.56	150.0	H	254.0	-2.5	54.00	16.44

802.11g Mode (Chain 0): *(Pre-scan in the X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2412MHz								
2389.00	---	38.32	150.0	H	146.0	-2.9	54.00	15.68
2389.00	47.63	---	150.0	H	146.0	-2.9	74.00	26.37
High Channel: 2462MHz								
2483.50	---	39.53	150.0	H	185.0	-2.5	54.00	14.47
2483.50	45.75	---	150.0	H	185.0	-2.5	74.00	28.25

802.11b Mode (Chain 1): *(Pre-scan in the X, Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2412MHz								
2389.00	---	35.57	150.0	H	173.0	-2.9	54.00	18.43
2389.00	46.81	---	150.0	H	173.0	-2.9	74.00	27.19
High Channel: 2462MHz								
2483.50	---	36.43	150.0	H	34.0	-2.5	54.00	17.57
2483.50	46.31	---	150.0	H	34.0	-2.5	74.00	27.69

802.11g Mode (Chain 1): *(Pre-scan in the X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2412MHz								
2390.00	---	36.69	150.0	H	215.0	-2.9	54.00	17.31
2390.00	47.26	---	150.0	H	215.0	-2.9	74.00	26.74
High Channel: 2462MHz								
2483.50	---	39.56	150.0	H	185.0	-2.5	54.00	14.44
2483.50	48.02	---	150.0	H	185.0	-2.5	74.00	25.98

802.11n-HT20 Mode (*Chain 0& Chain 1*): *(Pre-scan in the X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2412MHz								
2390.00	---	44.95	150.0	V	205.0	-2.9	54.00	9.05
2390.00	51.89	---	150.0	V	205.0	-2.9	74.00	22.11
High Channel: 2462MHz								
2483.50	---	40.96	150.0	V	204.0	-2.5	54.00	13.04
2483.50	49.38	---	150.0	V	204.0	-2.5	74.00	24.62

802.11n-HT40 Mode (*Chain 0& Chain 1*): *(Pre-scan in the X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2422MHz								
2390.00	---	47.59	150.0	V	205.0	-2.9	54.00	6.41
2390.00	56.99	---	150.0	V	205.0	-2.9	74.00	17.01
High Channel: 2452MHz								
2483.50	---	49.22	150.0	V	197.0	-2.5	54.00	4.78
2483.50	54.52	---	150.0	V	197.0	-2.5	74.00	19.48

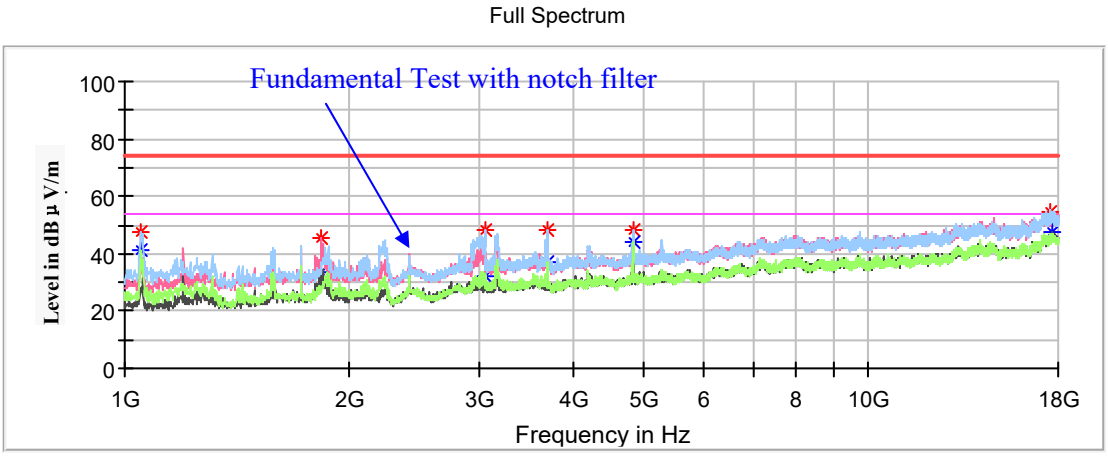
Test Model: 55VS4K20

1GHz-18GHz:

802.11b Mode(Chain 0):
*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

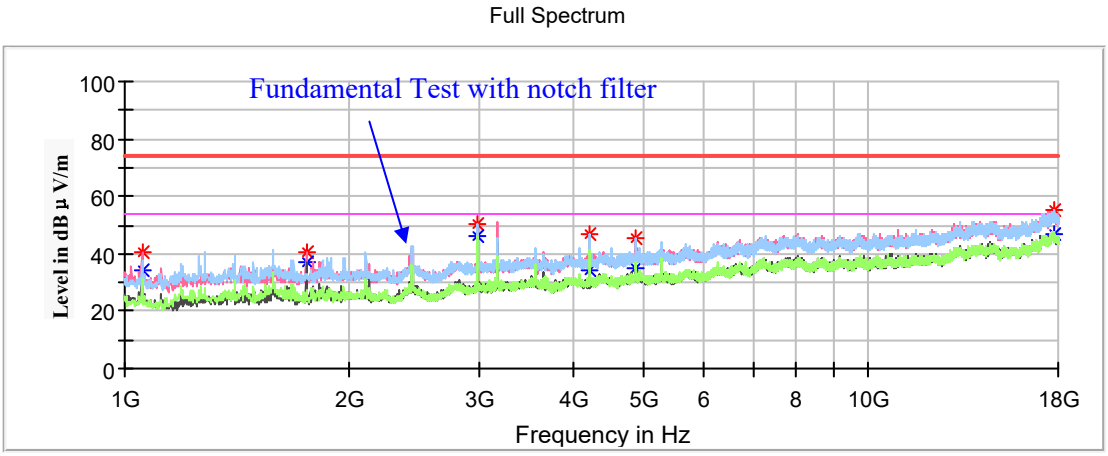
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBµV/m) = Corrected Factor (dB/m) + Reading (dBµV)
   Margin (dB) = Limit (dBµV/m) – Corrected Amplitude (dBµV/m)

Low Channel: 2412MHz



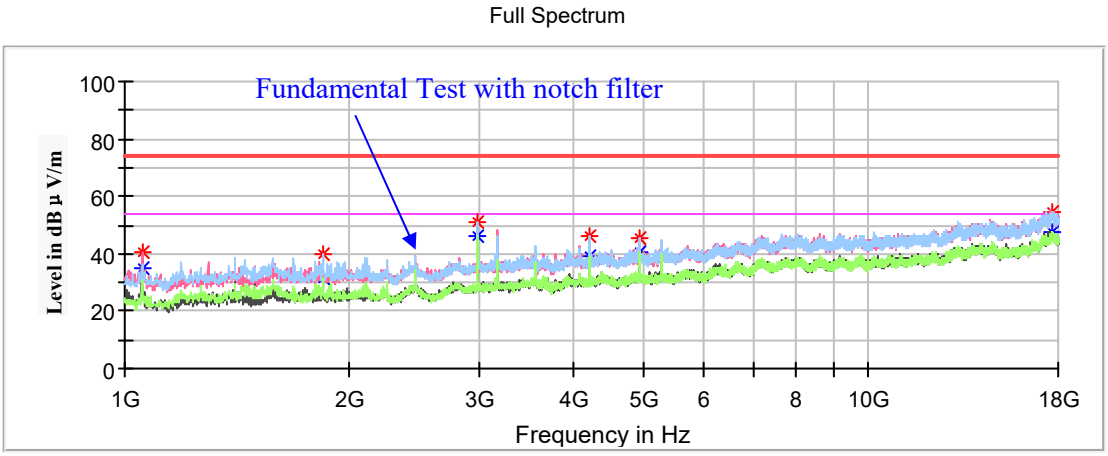
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1052.700000	47.27	---	150.0	H	241.0	-18.8	74.00	26.73
1052.700000	---	41.27	150.0	H	241.0	-18.8	54.00	12.73
1838.100000	---	33.92	150.0	V	103.0	-15.1	54.00	20.08
1838.100000	45.27	---	150.0	V	103.0	-15.1	74.00	28.73
3051.900000	---	32.06	150.0	H	254.0	-10.0	54.00	21.94
3051.900000	48.24	---	150.0	H	254.0	-10.0	74.00	25.76
3701.300000	---	36.82	150.0	H	227.0	-8.1	54.00	17.18
3701.300000	48.23	---	150.0	H	227.0	-8.1	74.00	25.77
4824.000000	---	43.99	150.0	H	162.0	-5.5	54.00	10.01
4824.000000	48.05	---	150.0	H	162.0	-5.5	74.00	25.95
17605.600000	54.70	---	150.0	H	359.0	8.9	74.00	19.30
17620.900000	---	47.30	150.0	H	359.0	8.9	54.00	6.70

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1054.400000	40.26	---	150.0	V	143.0	-18.8	74.00	33.74
1054.400000	---	34.46	150.0	V	143.0	-18.8	54.00	19.54
1753.100000	40.50	---	150.0	V	355.0	-15.4	74.00	33.50
1753.100000	---	36.76	150.0	V	355.0	-15.4	54.00	17.24
2982.200000	50.63	---	150.0	H	255.0	-10.2	74.00	23.37
2982.200000	---	46.29	150.0	H	255.0	-10.2	54.00	7.71
4223.200000	---	34.27	150.0	H	23.0	-6.6	54.00	19.73
4223.200000	47.00	---	150.0	H	23.0	-6.6	74.00	27.00
4874.000000	45.31	---	150.0	H	335.0	-5.4	74.00	28.69
4874.000000	---	35.30	150.0	H	335.0	-5.4	54.00	18.70
17796.000000	55.24	---	150.0	V	48.0	8.8	74.00	18.76
17796.000000	---	46.67	150.0	V	48.0	8.8	54.00	7.33

High Channel: 2462MHz

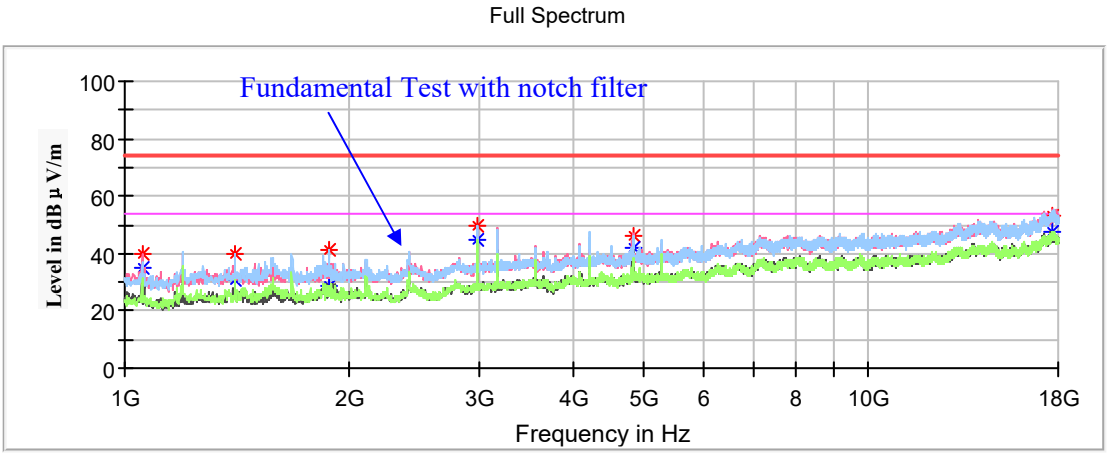


Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1054.400000	---	35.20	150.0	V	148.0	-18.8	54.00	18.80
1054.400000	40.62	---	150.0	V	148.0	-18.8	74.00	33.38
1846.600000	40.16	---	150.0	H	185.0	-15.0	74.00	33.84
1846.600000	---	31.35	150.0	H	185.0	-15.0	54.00	22.65
2982.200000	---	46.20	150.0	H	251.0	-10.2	54.00	7.80
2982.200000	50.79	---	150.0	H	251.0	-10.2	74.00	23.21
4219.800000	---	38.82	150.0	H	185.0	-6.7	54.00	15.18
4219.800000	46.26	---	150.0	H	185.0	-6.7	74.00	27.74
4924.000000	---	40.35	150.0	H	352.0	-5.3	54.00	13.65
4924.000000	45.64	---	150.0	H	352.0	-5.3	74.00	28.36
17646.400000	54.76	---	150.0	H	198.0	8.9	74.00	19.24
17646.400000	---	47.70	150.0	H	198.0	8.9	54.00	6.30

802.11g Mode (Chain 0):
*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

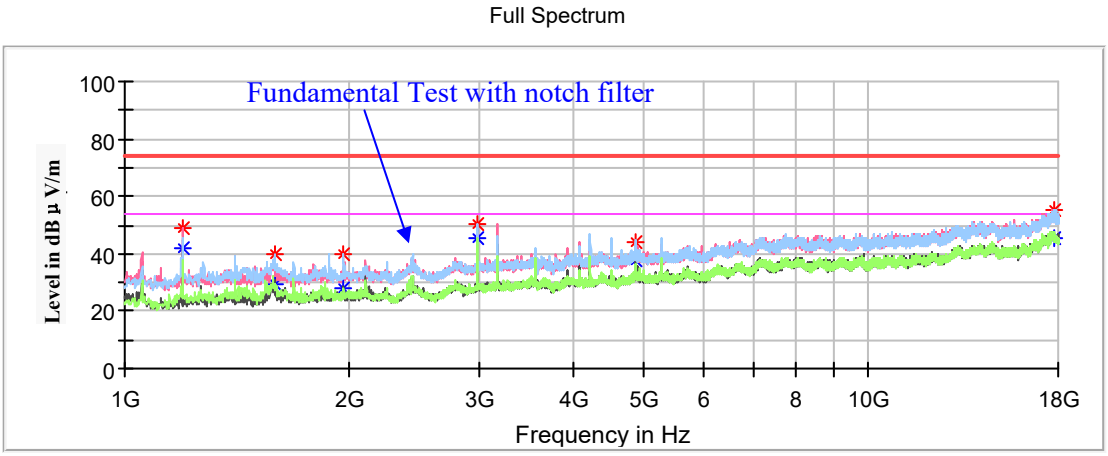
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBµV/m) = Corrected Factor (dB/m) + Reading (dBµV)
   Margin (dB) = Limit (dBµV/m) – Corrected Amplitude (dBµV/m)

Low Channel: 2412MHz



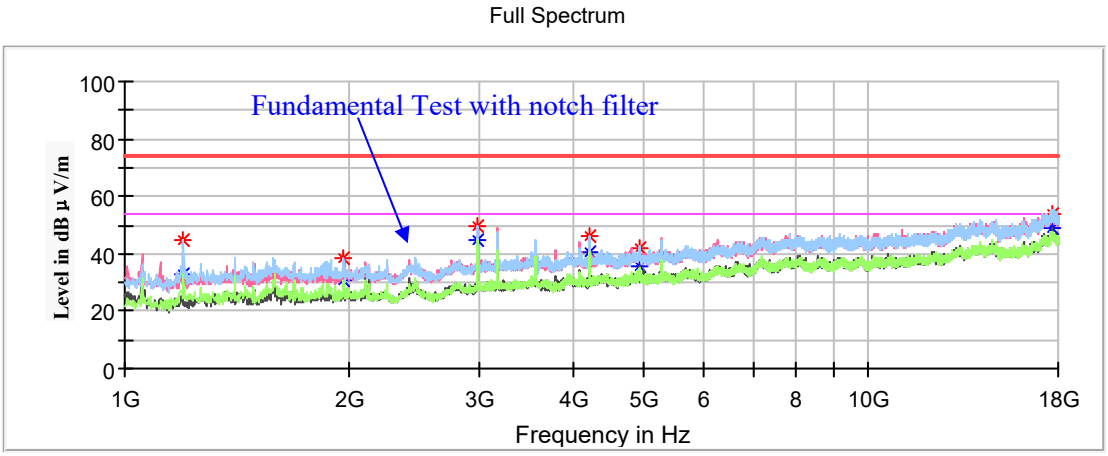
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1054.400000	---	34.75	150.0	V	148.0	-18.8	54.00	19.25
1054.400000	39.89	---	150.0	V	148.0	-18.8	74.00	34.11
1406.300000	39.85	---	150.0	H	138.0	-16.9	74.00	34.15
1406.300000	---	30.97	150.0	H	138.0	-16.9	54.00	23.03
1884.000000	---	28.81	150.0	H	163.0	-14.9	54.00	25.19
1884.000000	41.08	---	150.0	H	163.0	-14.9	74.00	32.92
2982.200000	---	45.09	150.0	H	255.0	-10.2	54.00	8.91
2982.200000	49.66	---	150.0	H	255.0	-10.2	74.00	24.34
4824.000000	46.44	---	150.0	V	200.0	-5.5	74.00	27.56
4824.000000	---	42.23	150.0	V	200.0	-5.5	54.00	11.77
17695.700000	53.26	---	150.0	V	187.0	8.9	74.00	20.74
17695.700000	---	47.76	150.0	V	187.0	8.9	54.00	6.24

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	48.75	---	150.0	V	118.0	-18.0	74.00	25.25
1198.900000	---	41.80	150.0	V	118.0	-18.0	54.00	12.20
1588.200000	---	29.33	150.0	H	106.0	-16.0	54.00	24.67
1588.200000	40.04	---	150.0	H	106.0	-16.0	74.00	33.96
1969.000000	---	27.95	150.0	H	93.0	-14.6	54.00	26.05
1969.000000	39.68	---	150.0	H	93.0	-14.6	74.00	34.32
2982.200000	---	45.63	150.0	H	255.0	-10.2	54.00	8.37
2982.200000	50.52	---	150.0	H	255.0	-10.2	74.00	23.48
4874.000000	---	37.47	150.0	V	105.0	-5.4	54.00	16.53
4874.000000	43.86	---	150.0	V	105.0	-5.4	74.00	30.14
17773.900000	---	45.72	150.0	V	76.0	8.8	54.00	8.28
17773.900000	55.48	---	150.0	V	76.0	8.8	74.00	18.52

High Channel: 2462MHz

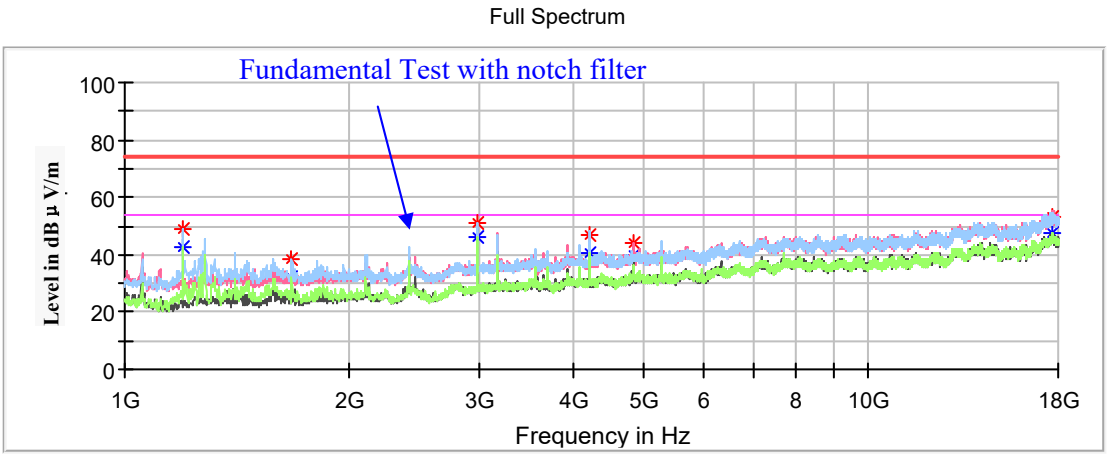


Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	---	33.18	150.0	H	150.0	-18.0	54.00	20.82
1198.900000	44.56	---	150.0	H	150.0	-18.0	74.00	29.44
1970.700000	---	30.47	150.0	H	98.0	-14.6	54.00	23.53
1970.700000	38.25	---	150.0	H	98.0	-14.6	74.00	35.75
2982.200000	---	44.87	150.0	V	256.0	-10.2	54.00	9.13
2982.200000	49.75	---	150.0	V	256.0	-10.2	74.00	24.25
4219.800000	46.35	---	150.0	H	189.0	-6.7	74.00	27.65
4219.800000	---	40.31	150.0	H	189.0	-6.7	54.00	13.69
4924.000000	42.08	---	150.0	H	227.0	-5.3	74.00	31.92
4924.000000	---	35.53	150.0	H	227.0	-5.3	54.00	18.47
17634.500000	53.86	---	150.0	V	56.0	8.9	74.00	20.14
17634.500000	---	48.63	150.0	V	56.0	8.9	54.00	5.37

802.11b Mode(Chain 1):
*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

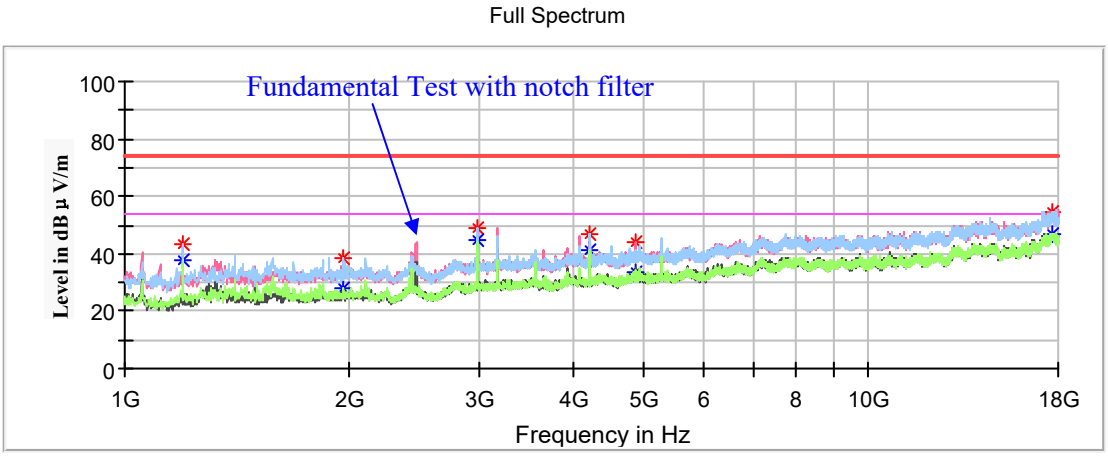
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBµV/m) = Corrected Factor (dB/m) + Reading (dBµV)
   Margin (dB) = Limit (dBµV/m) – Corrected Amplitude (dBµV/m)

Low Channel: 2412MHz



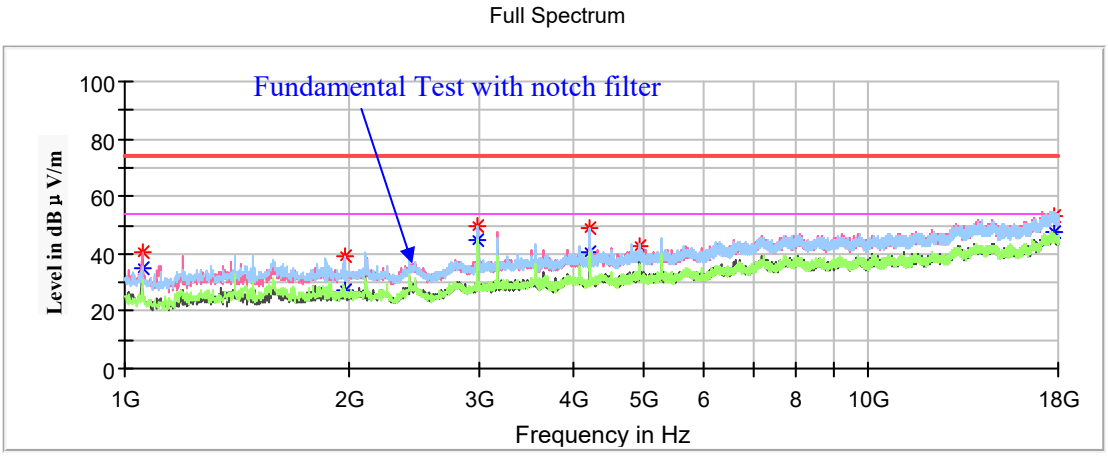
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	---	42.87	150.0	H	203.0	-18.0	54.00	11.13
1198.900000	48.86	---	150.0	H	203.0	-18.0	74.00	25.14
1678.300000	38.11	---	150.0	H	203.0	-15.7	74.00	35.89
1678.300000	---	32.14	150.0	H	203.0	-15.7	54.00	21.86
2982.200000	---	46.31	150.0	H	241.0	-10.2	54.00	7.69
2982.200000	51.20	---	150.0	H	241.0	-10.2	74.00	22.80
4219.800000	46.58	---	150.0	H	177.0	-6.7	74.00	27.42
4219.800000	---	40.62	150.0	H	177.0	-6.7	54.00	13.38
4824.000000	44.01	---	150.0	V	103.0	-5.5	74.00	29.99
4824.000000	---	40.15	150.0	V	103.0	-5.5	54.00	13.85
17651.500000	53.24	---	150.0	H	124.0	8.9	74.00	20.76
17651.500000	---	47.69	150.0	H	124.0	8.9	54.00	6.31

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	---	37.68	150.0	H	275.0	-18.0	54.00	16.32
1198.900000	43.26	---	150.0	H	275.0	-18.0	74.00	30.74
1969.000000	---	28.11	150.0	H	263.0	-14.6	54.00	25.89
1969.000000	38.46	---	150.0	H	263.0	-14.6	74.00	35.54
2982.200000	---	44.47	150.0	V	224.0	-10.2	54.00	9.53
2982.200000	49.08	---	150.0	V	224.0	-10.2	74.00	24.92
4219.800000	---	41.59	150.0	H	185.0	-6.7	54.00	12.41
4219.800000	46.93	---	150.0	H	185.0	-6.7	74.00	27.07
4874.000000	---	33.49	150.0	V	108.0	-5.4	54.00	20.51
4874.000000	44.00	---	150.0	V	108.0	-5.4	74.00	30.00
17717.800000	---	47.13	150.0	V	288.0	8.9	54.00	6.87
17719.500000	54.39	---	150.0	V	288.0	8.9	74.00	19.61

High Channel: 2462MHz

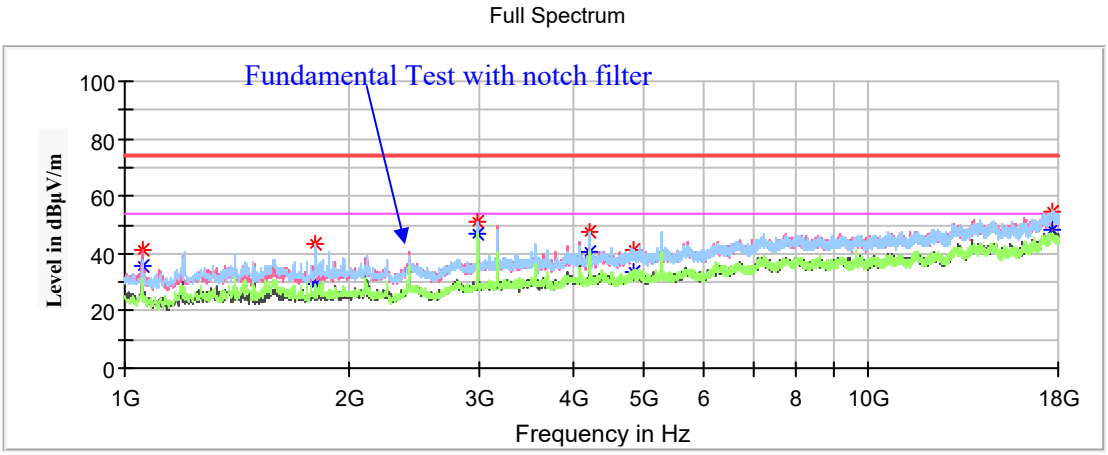


Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1054.400000	40.61	---	150.0	V	159.0	-18.8	74.00	33.39
1054.400000	---	34.90	150.0	V	159.0	-18.8	54.00	19.10
1972.400000	---	27.25	150.0	H	120.0	-14.6	54.00	26.75
1972.400000	39.24	---	150.0	H	120.0	-14.6	74.00	34.76
2982.200000	49.42	---	150.0	H	250.0	-10.2	74.00	24.58
2982.200000	---	44.97	150.0	H	250.0	-10.2	54.00	9.03
4219.800000	49.19	---	150.0	H	186.0	-6.7	74.00	24.81
4219.800000	---	40.47	150.0	H	186.0	-6.7	54.00	13.53
4924.000000	42.90	---	150.0	V	225.0	-5.3	74.00	31.10
4924.000000	---	39.13	150.0	V	225.0	-5.3	54.00	14.87
17724.600000	53.27	---	150.0	H	339.0	8.8	74.00	20.73
17724.600000	---	47.71	150.0	H	339.0	8.8	54.00	6.29

802.11g Mode (Chain 1):
*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

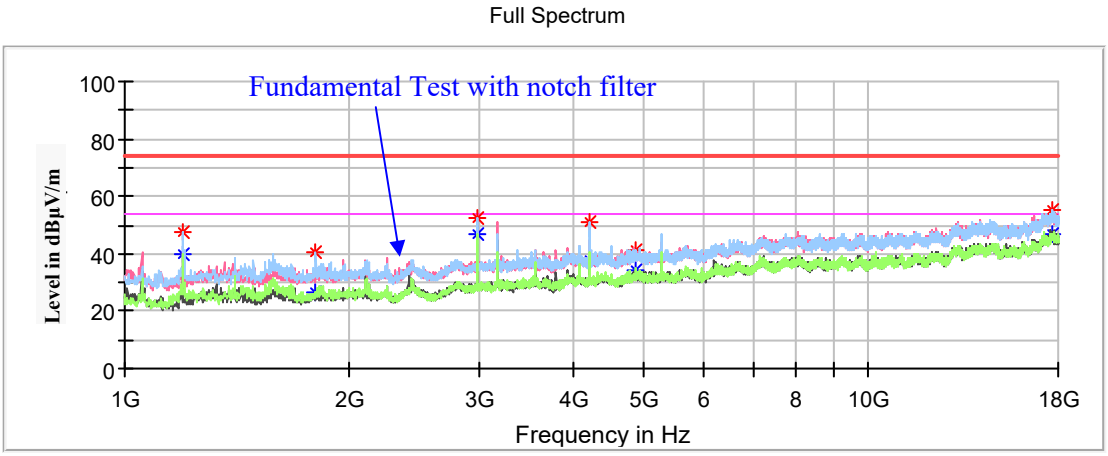
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBµV /m) = Corrected Factor (dB/m) + Reading (dBµV)
   Margin (dB) = Limit (dBµV/m) – Corrected Amplitude (dBµV /m)

Low Channel: 2412MHz



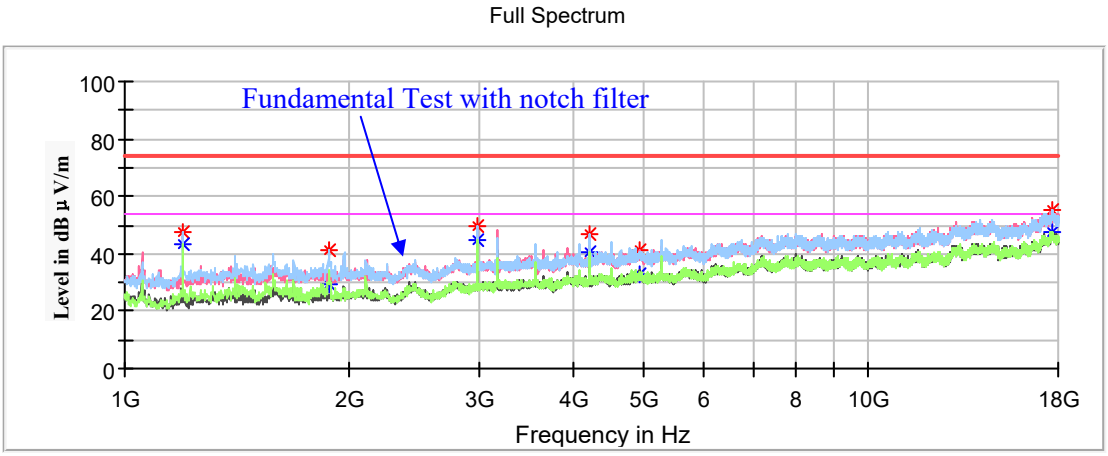
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1054.400000	---	35.86	150.0	V	152.0	-18.8	54.00	18.14
1054.400000	41.57	---	150.0	V	152.0	-18.8	74.00	32.43
1807.500000	---	29.41	150.0	H	185.0	-15.2	54.00	24.59
1807.500000	43.17	---	150.0	H	185.0	-15.2	74.00	30.83
2982.200000	---	46.51	150.0	H	249.0	-10.2	54.00	7.49
2982.200000	51.22	---	150.0	H	249.0	-10.2	74.00	22.78
4219.800000	---	40.49	150.0	H	185.0	-6.7	54.00	13.51
4219.800000	47.58	---	150.0	H	185.0	-6.7	74.00	26.42
4824.000000	---	33.41	150.0	V	47.0	-5.5	54.00	20.59
4824.000000	40.94	---	150.0	V	47.0	-5.5	74.00	33.06
17660.000000	---	47.96	150.0	V	217.0	8.9	54.00	6.04
17661.700000	54.62	---	150.0	V	217.0	8.9	74.00	19.38

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	---	39.96	150.0	H	219.0	-18.0	54.00	14.04
1198.900000	47.28	---	150.0	H	219.0	-18.0	74.00	26.72
1807.500000	40.46	---	150.0	H	245.0	-15.2	74.00	33.54
1807.500000	---	26.85	150.0	H	245.0	-15.2	54.00	27.15
2982.200000	52.11	---	150.0	H	245.0	-10.2	74.00	21.89
2982.200000	---	47.18	150.0	H	245.0	-10.2	54.00	6.82
4223.200000	---	38.02	150.0	H	119.0	-6.6	54.00	15.98
4223.200000	50.82	---	150.0	H	119.0	-6.6	74.00	23.18
4874.000000	---	34.15	150.0	V	192.0	-5.4	54.00	19.85
4874.000000	41.01	---	150.0	V	192.0	-5.4	74.00	32.99
17704.200000	---	46.61	150.0	H	63.0	8.9	54.00	7.39
17704.200000	55.31	---	150.0	H	63.0	8.9	74.00	18.69

High Channel: 2462MHz



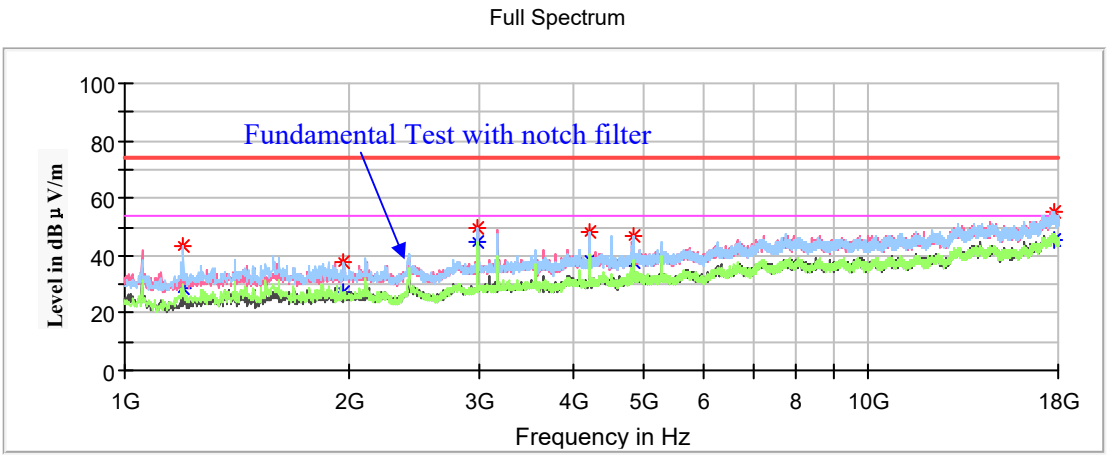
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	---	43.05	150.0	H	225.0	-18.0	54.00	10.95
1198.900000	47.71	---	150.0	H	225.0	-18.0	74.00	26.29
1884.000000	---	29.43	150.0	H	160.0	-14.9	54.00	24.57
1884.000000	41.00	---	150.0	H	160.0	-14.9	74.00	33.00
2982.200000	49.47	---	150.0	V	224.0	-10.2	74.00	24.53
2982.200000	---	45.00	150.0	V	224.0	-10.2	54.00	9.00
4219.800000	46.70	---	150.0	H	186.0	-6.7	74.00	27.30
4219.800000	---	40.81	150.0	H	186.0	-6.7	54.00	13.19
4924.000000	---	33.21	150.0	V	107.0	-5.3	54.00	20.79
4924.000000	41.47	---	150.0	V	107.0	-5.3	74.00	32.53
17658.300000	55.54	---	150.0	H	2.0	8.9	74.00	18.46
17658.300000	---	47.33	150.0	H	2.0	8.9	54.00	6.67

802.11n-HT20 Mode(Chain 0& Chain 1 transmitting simultaneously):

*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

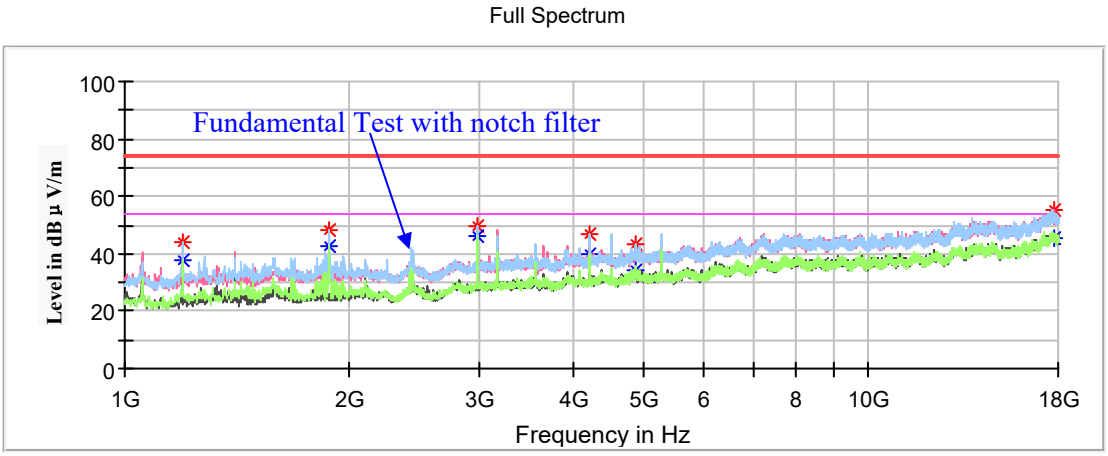
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBμV/m) = Corrected Factor (dB/m) + Reading (dBμV)
   Margin (dB) = Limit (dBμV/m) – Corrected Amplitude (dBμV/m)

Low Channel : 2412MHz



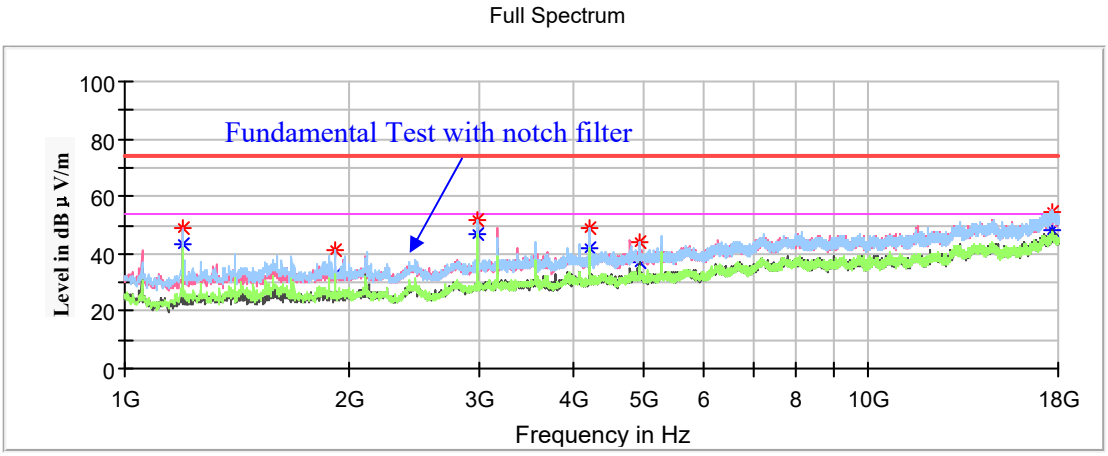
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
1198.900000	---	28.63	150.0	V	277.0	-18.0	54.00	25.37
1198.900000	43.41	---	150.0	V	277.0	-18.0	74.00	30.59
1970.700000	---	27.59	150.0	H	105.0	-14.6	54.00	26.41
1970.700000	37.55	---	150.0	H	105.0	-14.6	74.00	36.45
2982.200000	49.78	---	150.0	H	198.0	-10.2	74.00	24.22
2982.200000	---	44.70	150.0	H	198.0	-10.2	54.00	9.30
4221.500000	48.08	---	150.0	H	118.0	-6.7	74.00	25.92
4221.500000	---	38.66	150.0	H	118.0	-6.7	54.00	15.34
4825.000000	---	37.56	150.0	H	105.0	-5.5	54.00	16.44
4825.000000	46.90	---	150.0	H	105.0	-5.5	74.00	27.10
17743.300000	55.47	---	150.0	H	339.0	8.8	74.00	18.53
17743.300000	---	45.32	150.0	H	339.0	8.8	54.00	8.68

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	44.23	---	150.0	H	261.0	-18.0	74.00	29.77
1198.900000	---	37.47	150.0	H	261.0	-18.0	54.00	16.53
1884.000000	---	42.36	150.0	H	197.0	-14.9	54.00	11.64
1884.000000	48.11	---	150.0	H	197.0	-14.9	74.00	25.89
2982.200000	---	45.82	150.0	H	248.0	-10.2	54.00	8.18
2982.200000	49.95	---	150.0	H	248.0	-10.2	74.00	24.05
4219.800000	46.96	---	150.0	H	184.0	-6.7	74.00	27.04
4219.800000	---	40.20	150.0	H	184.0	-6.7	54.00	13.80
4874.000000	---	34.05	150.0	H	197.0	-5.4	54.00	19.95
4874.000000	43.20	---	150.0	H	197.0	-5.4	74.00	30.80
17753.500000	---	45.32	150.0	V	121.0	8.8	54.00	8.68
17753.500000	55.19	---	150.0	V	121.0	8.8	74.00	18.81

High Channel : 2462MHz



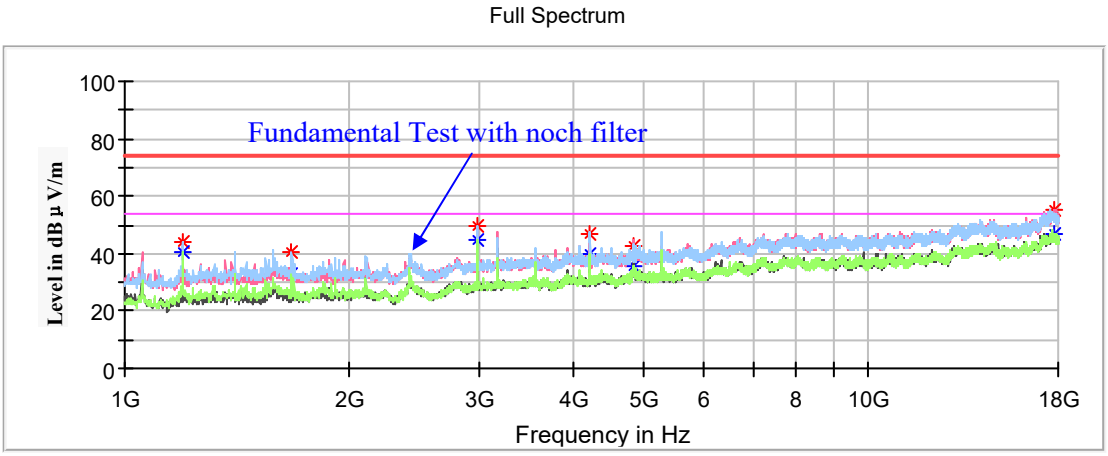
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	---	43.09	150.0	V	123.0	-18.0	54.00	10.91
1198.900000	49.17	---	150.0	V	123.0	-18.0	74.00	24.83
1919.700000	---	32.67	150.0	H	202.0	-14.8	54.00	21.33
1919.700000	41.10	---	150.0	H	202.0	-14.8	74.00	32.90
2982.200000	52.07	---	150.0	H	150.0	-10.2	74.00	21.93
2982.200000	---	46.64	150.0	H	150.0	-10.2	54.00	7.36
4219.800000	---	41.64	150.0	H	189.0	-6.7	54.00	12.36
4219.800000	48.67	---	150.0	H	189.0	-6.7	74.00	25.33
4924.000000	---	37.27	150.0	V	215.0	-5.3	54.00	16.73
4924.000000	44.15	---	150.0	V	215.0	-5.3	74.00	29.85
17677.000000	54.68	---	150.0	V	352.0	8.9	74.00	19.32
17677.000000	---	48.47	150.0	V	352.0	8.9	54.00	5.53

802.11n-HT40 Mode(Chain 0& Chain 1 transmitting simultaneously):

*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

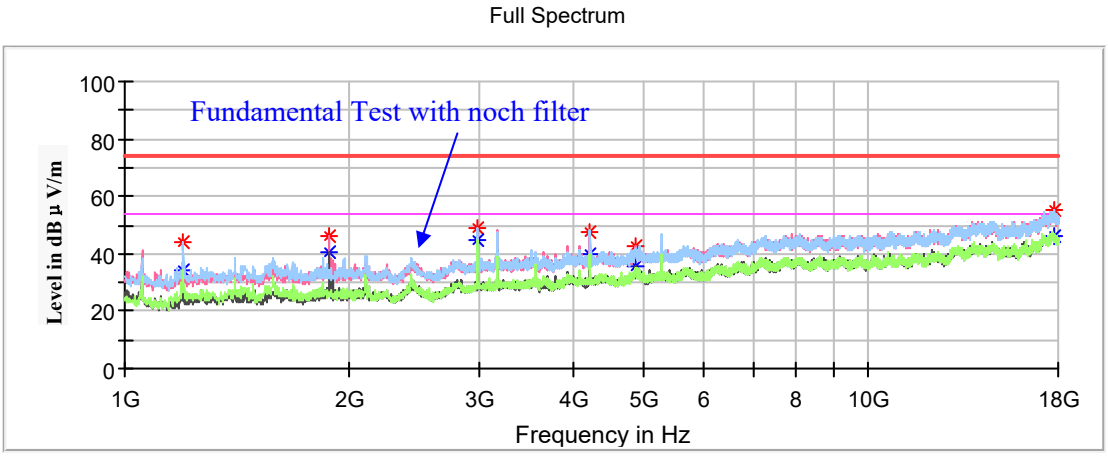
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBμV/m) = Corrected Factor (dB/m) + Reading (dBμV)
   Margin (dB) = Limit (dBμV/m) – Corrected Amplitude (dBμV/m)

Low Channel : 2422MHz



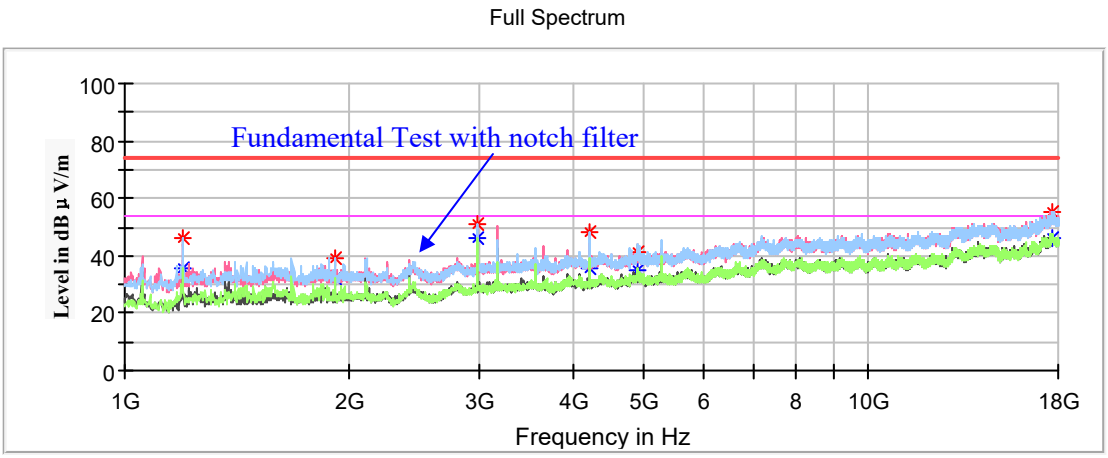
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
1198.900000	---	40.25	150.0	H	237.0	-18.0	54.00	13.75
1198.900000	44.35	---	150.0	H	237.0	-18.0	74.00	29.65
1678.300000	40.58	---	150.0	H	198.0	-15.7	74.00	33.42
1678.300000	---	33.06	150.0	H	198.0	-15.7	54.00	20.94
2982.200000	49.76	---	150.0	H	249.0	-10.2	74.00	24.24
2982.200000	---	44.79	150.0	H	249.0	-10.2	54.00	9.21
4219.800000	46.66	---	150.0	H	211.0	-6.7	74.00	27.34
4219.800000	---	40.11	150.0	H	211.0	-6.7	54.00	13.89
4844.000000	---	35.47	150.0	H	211.0	-5.5	54.00	18.53
4844.000000	42.60	---	150.0	H	211.0	-5.5	74.00	31.40
17785.800000	---	46.60	150.0	V	224.0	8.8	54.00	7.40
17785.800000	55.26	---	150.0	V	224.0	8.8	74.00	18.74

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	---	34.02	150.0	H	237.0	-18.0	54.00	19.98
1198.900000	43.82	---	150.0	H	237.0	-18.0	74.00	30.18
1882.300000	---	40.37	150.0	V	225.0	-14.9	54.00	13.63
1882.300000	45.90	---	150.0	V	225.0	-14.9	74.00	28.10
2982.200000	---	44.80	150.0	H	250.0	-10.2	54.00	9.20
2982.200000	49.07	---	150.0	H	250.0	-10.2	74.00	24.93
4219.800000	---	39.82	150.0	H	186.0	-6.7	54.00	14.18
4219.800000	47.28	---	150.0	H	186.0	-6.7	74.00	26.72
4874.000000	---	35.52	150.0	V	212.0	-5.4	54.00	18.48
4874.000000	42.84	---	150.0	V	212.0	-5.4	74.00	31.16
17777.300000	---	46.24	150.0	H	0.0	8.8	54.00	7.76
17777.300000	54.92	---	150.0	H	0.0	8.8	74.00	19.08

High Channel : 2452MHz

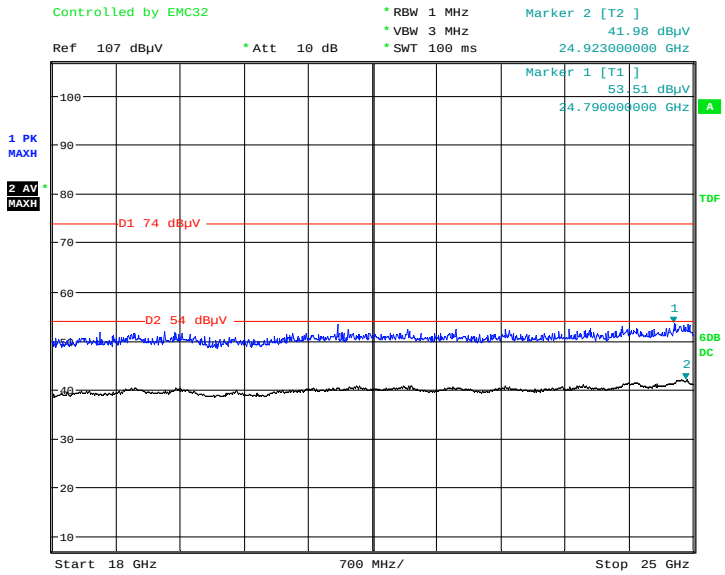


Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	---	35.96	150.0	H	215.0	-18.0	54.00	18.04
1198.900000	46.34	---	150.0	H	215.0	-18.0	74.00	27.66
1919.700000	---	32.05	150.0	H	202.0	-14.8	54.00	21.95
1919.700000	38.92	---	150.0	H	202.0	-14.8	74.00	35.08
2982.200000	---	46.30	150.0	H	240.0	-10.2	54.00	7.70
2982.200000	50.89	---	150.0	H	240.0	-10.2	74.00	23.11
4223.200000	---	35.96	150.0	H	118.0	-6.6	54.00	18.04
4223.200000	48.41	---	150.0	H	118.0	-6.6	74.00	25.59
4904.000000	---	35.07	150.0	V	215.0	-5.4	54.00	18.93
4904.000000	41.35	---	150.0	V	215.0	-5.4	74.00	32.65
17636.200000	---	46.39	150.0	V	15.0	8.9	54.00	7.61
17636.200000	55.50	---	150.0	V	15.0	8.9	74.00	18.50

18GHz-25GHz(worst case):

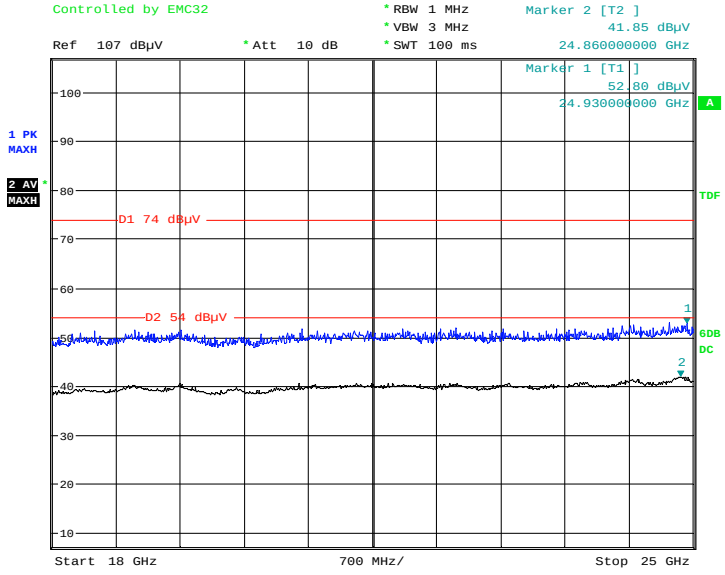
Pre-scan with 802.11b, 802.11g, 802.11n-HT20 and 802.11n-HT40 modes of operation in the X,Y and Z axes of orientation, the worst case ***high channel of 802.11 n-HT20 mode in Z-axis of orientation*** *was recorded*

Horizontal



Date: 15.JUL.2020 22:16:41

Vertical



Date: 15.JUL.2020 22:30:05

Restricted Bands Emissions Test:

Note:
1. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB)
   Corrected Amplitude (dBμV/m) = Corrected Factor (dB/m) + Reading (dBμV)
   Margin (dB) = Limit (dBμV/m) – Corrected Amplitude (dBμV/m)

2. The test distance is 1.5m, the limit at 1.5m is below:
   Average (dBμV/m) = 54.00 dBμV/m +20*log10(3/1.5)=60.00 dBμV/m
   MaxPeak (dBμV/m) = 74.00 dBμV/m +20*log10(3/1.5)=80.00 dBμV/m

802.11b Mode (Chain 0): *(Pre-scan in the X, Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2412MHz								
2389.00	41.90	---	150.0	H	60.0	-2.9	74.00	32.10
2389.00	---	37.00	150.0	H	60.0	-2.9	54.00	17.00
High Channel: 2462MHz								
2483.50	43.27	---	150.0	H	225.0	-2.5	74.00	30.73
2483.50	---	37.80	150.0	H	225.0	-2.5	54.00	16.20

802.11g Mode (Chain 0): *(Pre-scan in the X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2412MHz								
2389.00	43.96	---	150.0	H	170.0	-2.9	74.00	30.04
2389.00	---	38.72	150.0	H	170.0	-2.9	54.00	15.28
High Channel: 2462MHz								
2483.50	43.91	---	200.0	H	178.0	-2.5	74.00	30.09
2483.50	---	38.81	200.0	H	178.0	-2.5	54.00	15.19

802.11b Mode (Chain 1): *(Pre-scan in the X, Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2412MHz								
2389.00	43.82	---	150.0	H	326.0	-2.9	74.00	30.18
2389.00	---	37.34	150.0	H	326.0	-2.9	54.00	16.66
High Channel: 2462MHz								
2483.50	43.35	---	150.0	H	221.0	-2.5	74.00	30.65
2483.50	---	37.44	150.0	H	221.0	-2.5	54.00	16.56

802.11g Mode (Chain 1): *(Pre-scan in the X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2412MHz								
2390.00	44.64	---	150.0	H	220.0	-2.9	74.00	29.36
2390.00	---	38.00	150.0	H	220.0	-2.9	54.00	16.00
High Channel: 2462MHz								
2483.50	43.22	---	150.0	H	256.0	-2.5	74.00	30.78
2483.50	---	37.53	150.0	H	256.0	-2.5	54.00	16.47

802.11n-HT20 Mode (*Chain 0& Chain 1*): *(Pre-scan in the X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2412MHz								
2390.00	45.88	---	150.0	H	162.0	-2.9	74.00	28.12
2390.00	---	39.54	150.0	H	162.0	-2.9	54.00	14.46
High Channel: 2462MHz								
2483.50	45.39	---	150.0	H	98.0	-2.5	74.00	28.61
2483.50	---	38.92	150.0	H	98.0	-2.5	54.00	15.08

802.11n-HT40 Mode (*Chain 0& Chain 1*): *(Pre-scan in the X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2422MHz								
2390.00	48.17	---	150.0	H	168.0	-2.9	74.00	25.83
2390.00	---	43.14	150.0	H	168.0	-2.9	54.00	10.86
High Channel: 2452MHz								
2483.50	50.99	---	150.0	H	196.0	-2.5	74.00	23.01
2483.50	---	44.49	150.0	H	196.0	-2.5	54.00	9.51

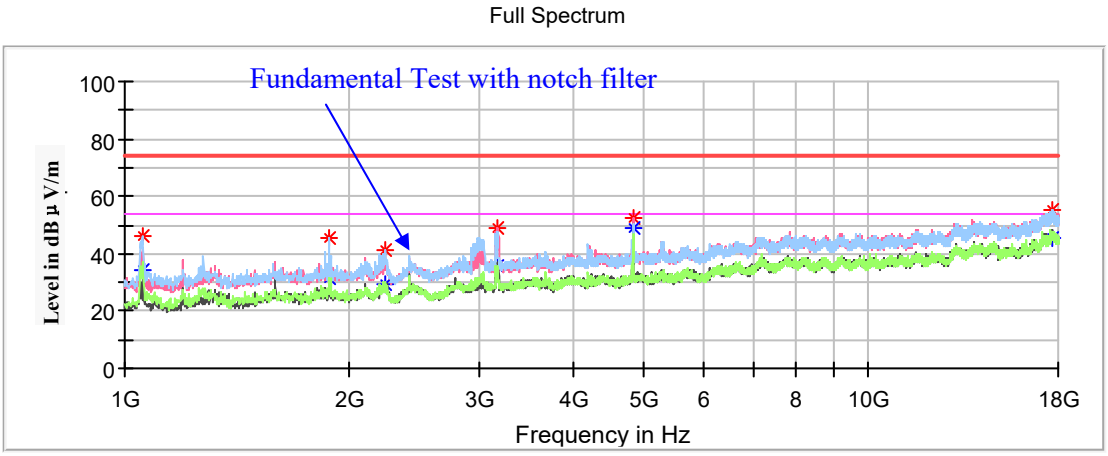
Test Model: 58SVL20

1GHz-18GHz:

802.11b Mode(Chain 0):
*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

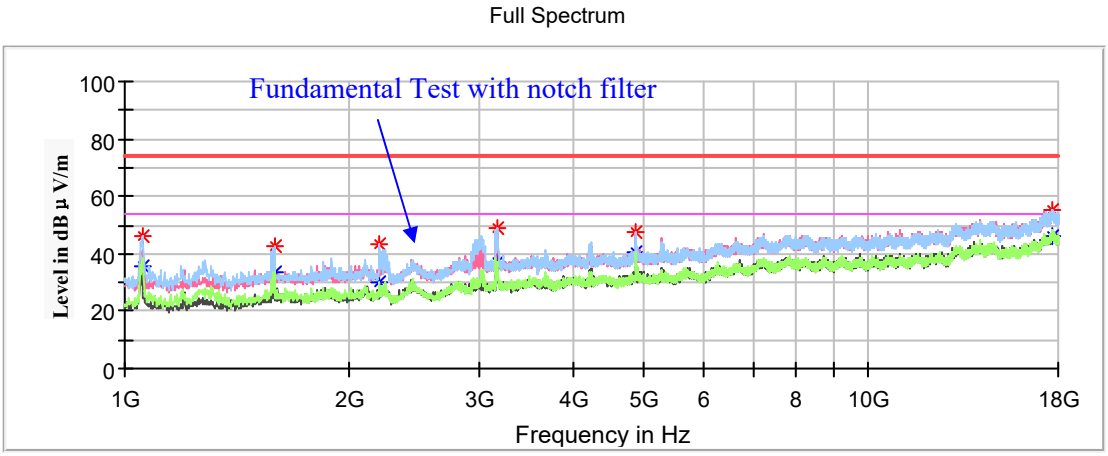
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBµV/m) = Corrected Factor (dB/m) + Reading (dBµV)
   Margin (dB) = Limit (dBµV/m) – Corrected Amplitude (dBµV/m)

Low Channel: 2412MHz



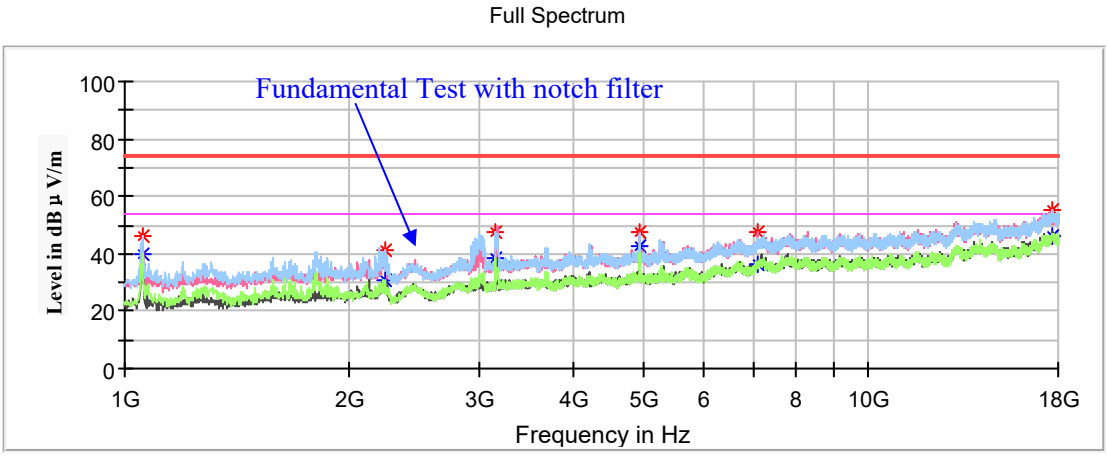
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1054.400000	---	34.17	150.0	H	140.0	-18.8	54.00	19.83
1054.400000	45.93	---	150.0	H	140.0	-18.8	74.00	28.07
1880.600000	---	31.22	100.0	H	257.0	-14.9	54.00	22.78
1880.600000	45.71	---	100.0	H	257.0	-14.9	74.00	28.29
2235.900000	---	29.26	150.0	H	89.0	-13.5	54.00	24.74
2235.900000	41.26	---	150.0	H	89.0	-13.5	74.00	32.74
3160.700000	---	35.71	150.0	V	129.0	-9.7	54.00	18.29
3160.700000	49.25	---	150.0	V	129.0	-9.7	74.00	24.75
4824.000000	---	49.11	100.0	V	182.0	-5.5	54.00	4.89
4824.000000	52.13	---	100.0	V	182.0	-5.5	74.00	21.87
17617.500000	---	45.76	100.0	V	220.0	8.9	54.00	8.24
17617.500000	55.34	---	100.0	V	220.0	8.9	74.00	18.66

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1057.800000	---	35.38	150.0	H	229.0	-18.8	54.00	18.62
1057.800000	46.35	---	150.0	H	229.0	-18.8	74.00	27.65
1588.200000	---	33.59	100.0	H	113.0	-16.0	54.00	20.41
1588.200000	42.95	---	100.0	H	113.0	-16.0	74.00	31.05
2195.100000	---	29.96	100.0	H	269.0	-13.7	54.00	24.04
2195.100000	43.09	---	100.0	H	269.0	-13.7	74.00	30.91
3164.100000	---	37.01	100.0	H	202.0	-9.7	54.00	16.99
3164.100000	48.68	---	100.0	H	202.0	-9.7	74.00	25.32
4874.000000	---	40.67	150.0	H	176.0	-5.4	54.00	13.33
4874.000000	47.66	---	150.0	H	176.0	-5.4	74.00	26.34
17658.300000	---	46.00	150.0	V	0.0	8.9	54.00	8.00
17658.300000	55.19	---	150.0	V	0.0	8.9	74.00	18.81

High Channel: 2462MHz

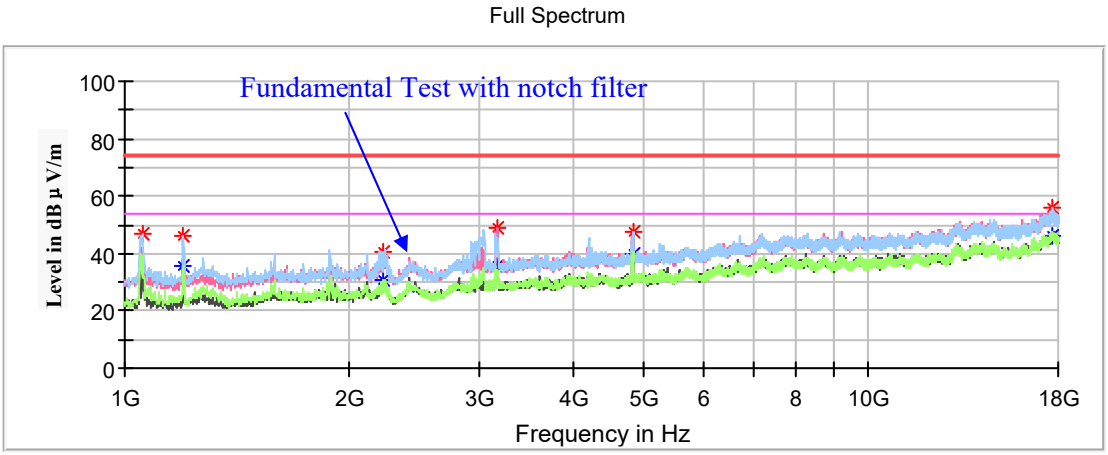


Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1057.800000	---	39.89	150.0	H	256.0	-18.8	54.00	14.11
1057.800000	46.02	---	150.0	H	256.0	-18.8	74.00	27.98
2239.300000	---	31.03	100.0	H	88.0	-13.5	54.00	22.97
2239.300000	41.39	---	100.0	H	88.0	-13.5	74.00	32.61
3153.900000	---	38.68	100.0	H	203.0	-9.7	54.00	15.32
3153.900000	47.81	---	100.0	H	203.0	-9.7	74.00	26.19
4924.000000	---	42.64	150.0	V	182.0	-5.3	54.00	11.36
4924.000000	47.40	---	150.0	V	182.0	-5.3	74.00	26.60
7113.200000	---	36.57	150.0	V	50.0	0.2	54.00	17.43
7113.200000	47.28	---	150.0	V	50.0	0.2	74.00	26.72
17671.900000	---	46.31	100.0	H	25.0	8.9	54.00	7.69
17671.900000	55.56	---	100.0	H	25.0	8.9	74.00	18.44

802.11g Mode (Chain 0):
*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

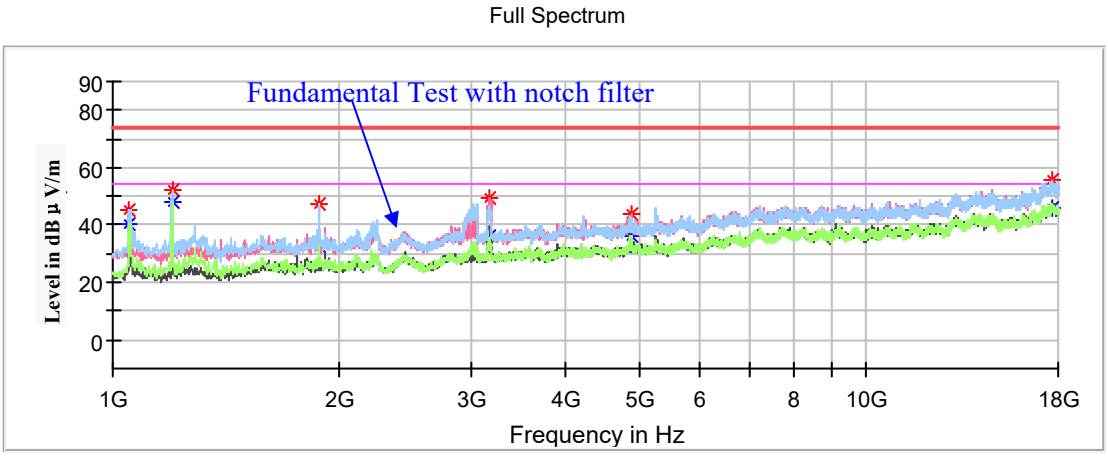
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBµV/m) = Corrected Factor (dB/m) + Reading (dBµV)
   Margin (dB) = Limit (dBµV/m) – Corrected Amplitude (dBµV/m)

Low Channel: 2412MHz



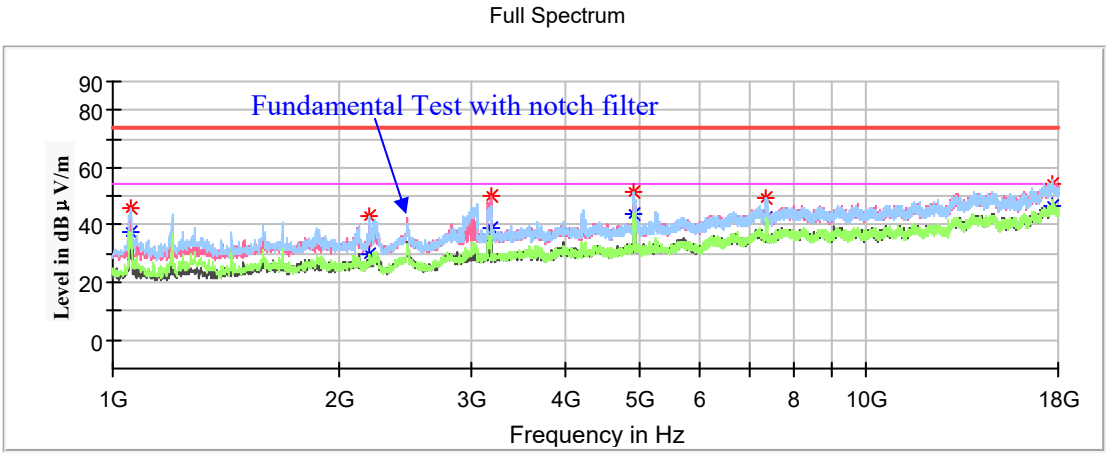
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1054.400000	---	31.68	100.0	H	235.0	-18.8	54.00	22.32
1054.400000	47.14	---	100.0	H	235.0	-18.8	74.00	26.86
1200.600000	---	35.92	150.0	H	235.0	-18.0	54.00	18.08
1200.600000	46.20	---	150.0	H	235.0	-18.0	74.00	27.80
2225.700000	---	31.06	100.0	H	78.0	-13.5	54.00	22.94
2225.700000	40.85	---	100.0	H	78.0	-13.5	74.00	33.15
3167.500000	---	35.70	150.0	V	137.0	-9.7	54.00	18.30
3167.500000	49.13	---	150.0	V	137.0	-9.7	74.00	24.87
4824.000000	---	40.10	100.0	H	210.0	-5.6	54.00	13.90
4824.000000	47.36	---	100.0	H	210.0	-5.6	74.00	26.64
17697.400000	55.77	---	150.0	H	304.0	8.9	74.00	18.23
17697.400000	---	46.44	150.0	H	304.0	8.9	54.00	7.56

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1049.300000	45.51	---	150.0	H	234.0	-18.8	74.00	28.49
1049.300000	---	40.49	150.0	H	234.0	-18.8	54.00	13.51
1198.900000	---	48.34	100.0	H	234.0	-18.0	54.00	5.66
1198.900000	52.35	---	100.0	H	234.0	-18.0	74.00	21.65
1877.200000	---	32.63	150.0	H	157.0	-14.9	54.00	21.37
1877.200000	47.17	---	150.0	H	157.0	-14.9	74.00	26.83
3160.700000	---	35.98	100.0	V	140.0	-9.7	54.00	18.02
3160.700000	49.17	---	100.0	V	140.0	-9.7	74.00	24.83
4874.000000	---	35.99	150.0	V	231.0	-5.4	54.00	18.01
4874.000000	43.69	---	150.0	V	231.0	-5.4	74.00	30.31
17704.200000	---	45.96	100.0	V	13.0	8.9	54.00	8.04
17704.200000	55.51	---	100.0	V	13.0	8.9	74.00	18.49

High Channel: 2462MHz

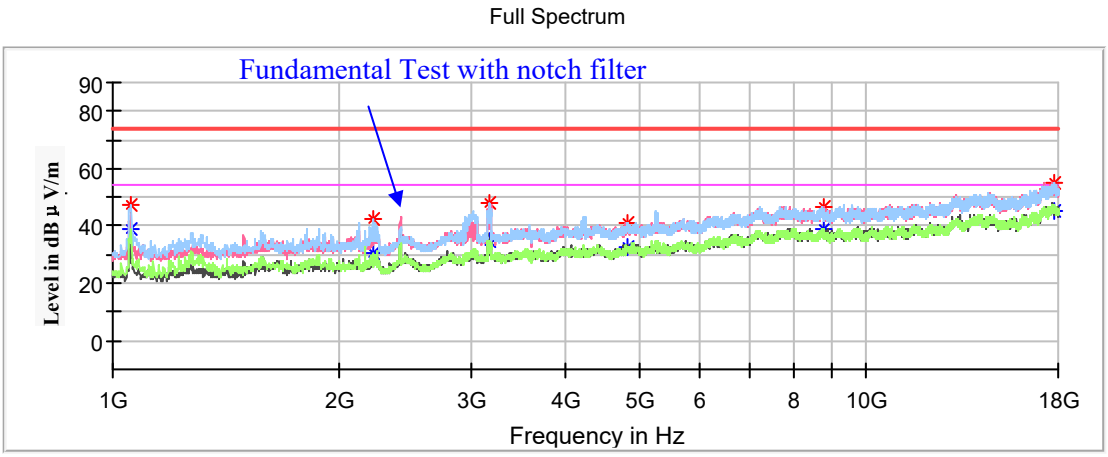


Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1059.500000	46.19	---	100.0	H	120.0	-18.7	74.00	27.81
1059.500000	---	37.26	100.0	H	120.0	-18.7	54.00	16.74
2195.100000	---	29.51	150.0	H	80.0	-13.7	54.00	24.49
2195.100000	42.85	---	100.0	H	80.0	-13.7	74.00	31.15
3172.600000	50.24	---	150.0	V	140.0	-9.7	74.00	23.76
3172.600000	---	38.70	100.0	V	140.0	-9.7	54.00	15.30
4924.000000	51.29	---	100.0	H	160.0	-5.3	74.00	22.71
4924.000000	---	43.62	150.0	H	160.0	-5.3	54.00	10.38
7383.500000	49.19	---	150.0	H	134.0	0.8	74.00	24.81
7383.500000	---	42.30	100.0	H	134.0	0.8	54.00	11.70
17661.700000	---	46.81	150.0	V	1.0	8.9	54.00	7.19
17661.700000	54.58	---	100.0	V	1.0	8.9	74.00	19.42

802.11b Mode(Chain 1):
*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

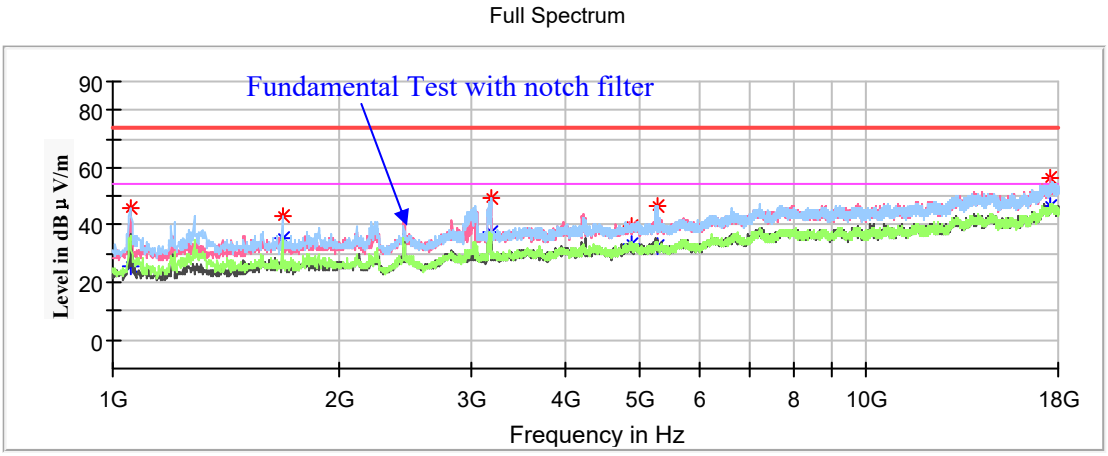
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBμV/m) = Corrected Factor (dB/m) + Reading (dBμV)
   Margin (dB) = Limit (dBμV/m) – Corrected Amplitude (dBμV/m)

Low Channel: 2412MHz



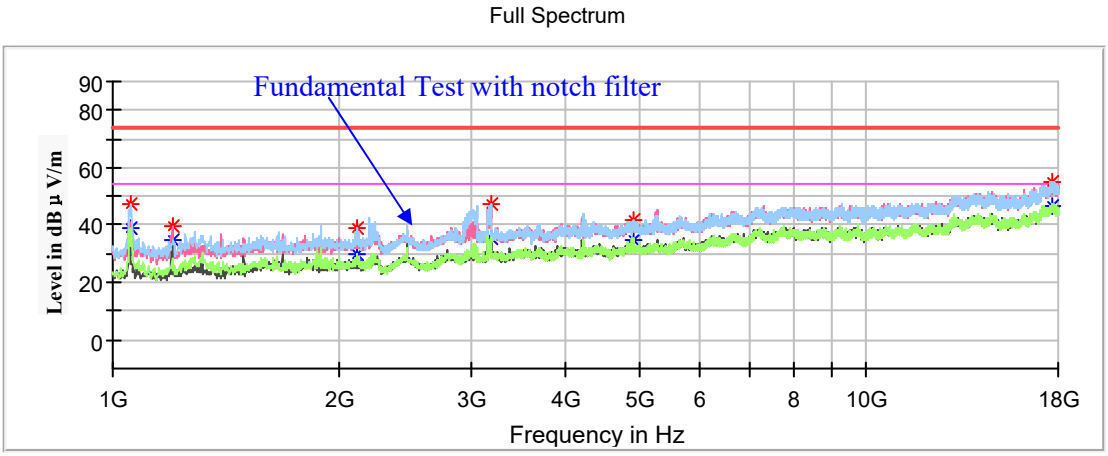
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
1059.500000	---	39.17	150.0	H	242.0	-18.7	54.00	14.83
1059.500000	47.66	---	150.0	H	242.0	-18.7	74.00	26.34
2210.400000	---	30.65	100.0	H	95.0	-13.6	54.00	23.35
2210.400000	42.27	---	100.0	H	95.0	-13.6	74.00	31.73
3170.900000	---	34.81	150.0	H	108.0	-9.7	54.00	19.19
3170.900000	47.74	---	150.0	H	108.0	-9.7	74.00	26.26
4824.000000	---	32.66	100.0	H	358.0	-5.5	54.00	21.34
4824.000000	41.23	---	100.0	H	358.0	-5.5	74.00	32.77
8787.700000	---	38.60	100.0	H	229.0	1.6	54.00	15.40
8787.700000	46.31	---	100.0	H	229.0	1.6	74.00	27.69
17745.000000	---	45.49	100.0	V	323.0	8.8	54.00	8.51
17745.000000	55.24	---	100.0	V	323.0	8.8	74.00	18.76

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1054.400000	---	25.65	100.0	V	253.0	-18.8	54.00	28.35
1054.400000	45.60	---	100.0	V	253.0	-18.8	74.00	28.40
1678.300000	42.80	---	150.0	H	215.0	-15.7	74.00	31.20
1678.300000	---	35.74	150.0	H	215.0	-15.7	54.00	18.26
3176.000000	---	37.46	150.0	V	130.0	-9.6	54.00	16.54
3176.000000	49.11	---	150.0	V	130.0	-9.6	74.00	24.89
4874.000000	---	33.12	150.0	H	49.0	-5.4	54.00	20.88
4874.000000	39.82	---	150.0	H	49.0	-5.4	74.00	34.18
5277.200000	---	32.62	100.0	H	215.0	-4.5	54.00	21.38
5277.200000	46.63	---	100.0	H	215.0	-4.5	74.00	27.37
17603.900000	---	46.64	150.0	V	345.0	8.9	54.00	7.36
17603.900000	56.68	---	150.0	V	345.0	8.9	74.00	17.32

High Channel: 2462MHz

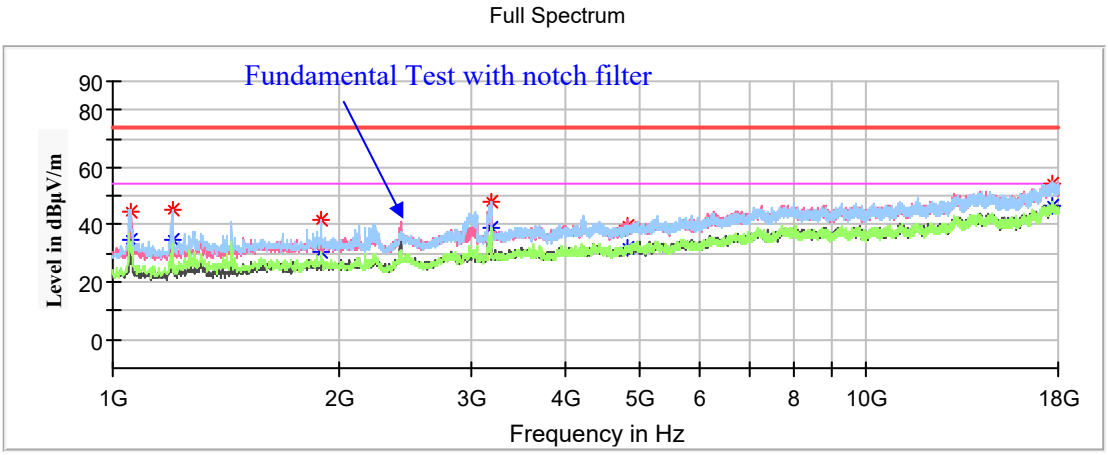


Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1059.500000	---	38.61	150.0	H	237.0	-18.7	54.00	15.39
1059.500000	47.63	---	150.0	H	237.0	-18.7	74.00	26.37
1198.900000	39.74	---	100.0	V	290.0	-18.0	74.00	34.26
1198.900000	---	35.00	100.0	V	290.0	-18.0	54.00	19.00
2110.100000	---	29.60	150.0	H	120.0	-14.0	54.00	24.40
2110.100000	39.02	---	150.0	H	120.0	-14.0	74.00	34.98
3176.000000	---	35.31	100.0	H	197.0	-9.6	54.00	18.69
3176.000000	47.45	---	100.0	H	197.0	-9.6	74.00	26.55
4924.000000	---	34.95	150.0	V	188.0	-5.3	54.00	19.05
4924.000000	41.48	---	150.0	V	188.0	-5.3	74.00	32.52
17675.300000	---	46.51	100.0	H	318.0	8.9	54.00	7.49
17675.300000	55.31	---	100.0	H	318.0	8.9	74.00	18.69

802.11g Mode (Chain 1):
*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

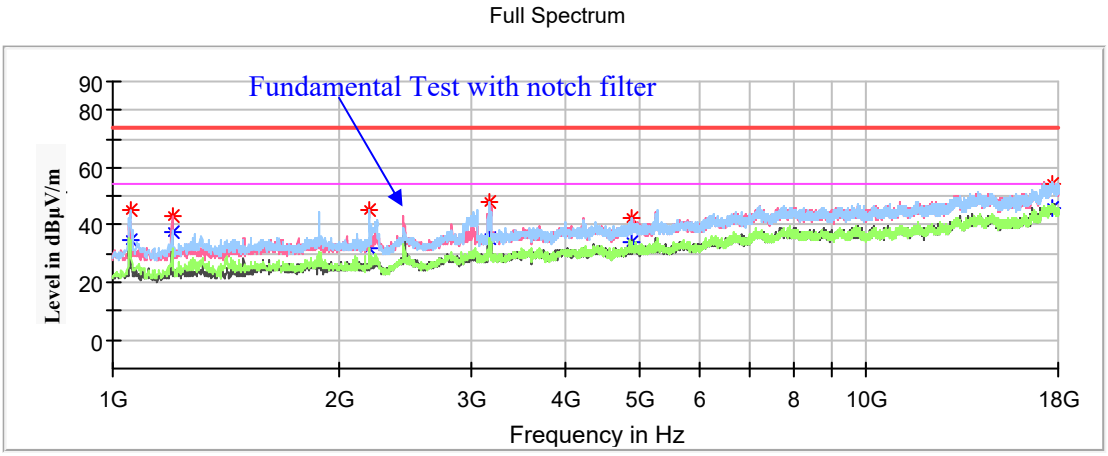
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBµV /m) = Corrected Factor (dB/m) + Reading (dBµV)
   Margin (dB) = Limit (dBµV/m) – Corrected Amplitude (dBµV /m)

Low Channel: 2412MHz



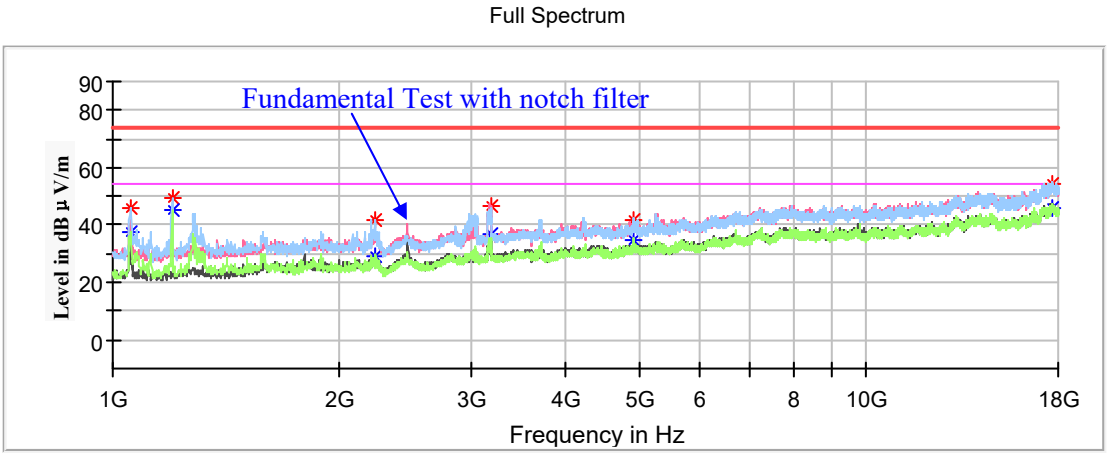
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1059.500000	---	35.09	150.0	V	143.0	-18.7	54.00	18.91
1059.500000	44.49	---	150.0	V	143.0	-18.7	74.00	29.51
1198.900000	---	35.00	100.0	V	196.0	-18.0	54.00	19.00
1198.900000	44.95	---	100.0	V	196.0	-18.0	74.00	29.05
1890.800000	---	30.29	150.0	H	163.0	-14.9	54.00	23.71
1890.800000	41.87	---	150.0	H	163.0	-14.9	74.00	32.13
3177.700000	---	38.90	150.0	H	202.0	-9.6	54.00	15.10
3177.700000	48.12	---	150.0	H	202.0	-9.6	74.00	25.88
4824.000000	---	31.63	150.0	V	215.0	-5.5	54.00	22.37
4824.000000	39.47	---	150.0	V	215.0	-5.5	74.00	34.53
17692.300000	---	46.44	100.0	H	18.0	8.9	54.00	7.56
17692.300000	54.64	---	100.0	H	18.0	8.9	74.00	19.36

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1054.400000	---	34.62	100.0	H	126.0	-18.8	54.00	19.38
1054.400000	45.01	---	100.0	H	126.0	-18.8	74.00	28.99
1198.900000	---	37.37	150.0	V	175.0	-18.0	54.00	16.63
1198.900000	43.15	---	150.0	V	175.0	-18.0	74.00	30.85
2193.400000	---	32.07	100.0	H	270.0	-13.7	54.00	21.93
2193.400000	45.31	---	100.0	H	270.0	-13.7	74.00	28.69
3155.600000	47.94	---	150.0	H	203.0	-9.7	74.00	26.06
3155.600000	---	35.73	150.0	H	203.0	-9.7	54.00	18.27
4874.000000	---	34.20	150.0	H	177.0	-5.4	54.00	19.80
4874.000000	42.63	---	150.0	H	177.0	-5.4	74.00	31.37
17705.900000	---	45.64	100.0	V	109.0	8.9	54.00	8.36
17705.900000	54.52	---	100.0	V	109.0	8.9	74.00	19.48

High Channel: 2462MHz



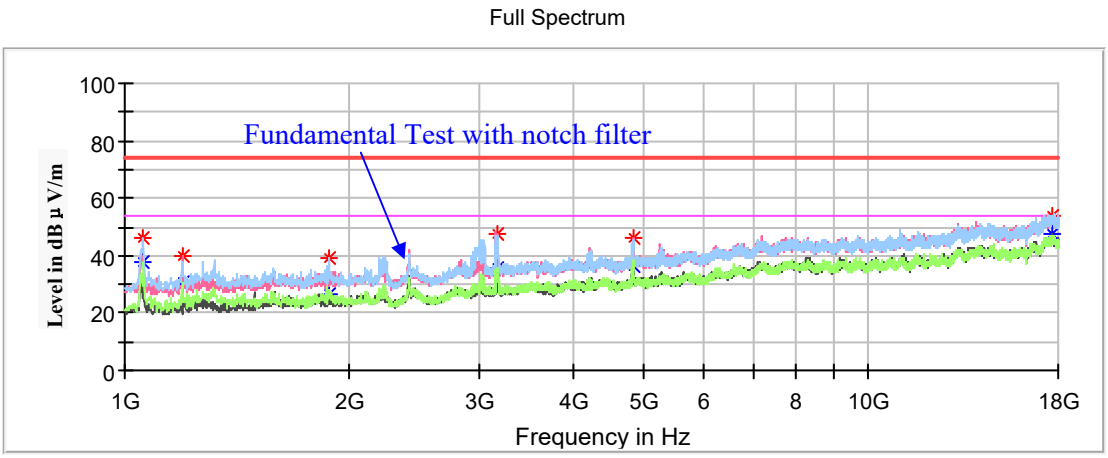
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1057.800000	46.02	---	150.0	H	240.0	-18.8	74.00	27.98
1057.800000	---	37.85	150.0	H	240.0	-18.8	54.00	16.15
1198.900000	---	45.17	100.0	H	228.0	-18.0	54.00	8.83
1198.900000	49.27	---	100.0	H	228.0	-18.0	74.00	24.73
2234.200000	---	29.12	100.0	H	82.0	-13.5	54.00	24.88
2234.200000	41.67	---	100.0	H	82.0	-13.5	74.00	32.33
3176.000000	---	37.18	150.0	V	122.0	-9.6	54.00	16.82
3176.000000	46.80	---	150.0	V	122.0	-9.6	74.00	27.20
4924.000000	---	34.47	150.0	H	254.0	-5.3	54.00	19.53
4924.000000	41.55	---	150.0	H	254.0	-5.3	74.00	32.45
17644.700000	---	46.27	100.0	H	215.0	8.9	54.00	7.73
17644.700000	54.07	---	100.0	H	215.0	8.9	74.00	19.93

802.11n-HT20 Mode(Chain 0& Chain 1 transmitting simultaneously):

*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

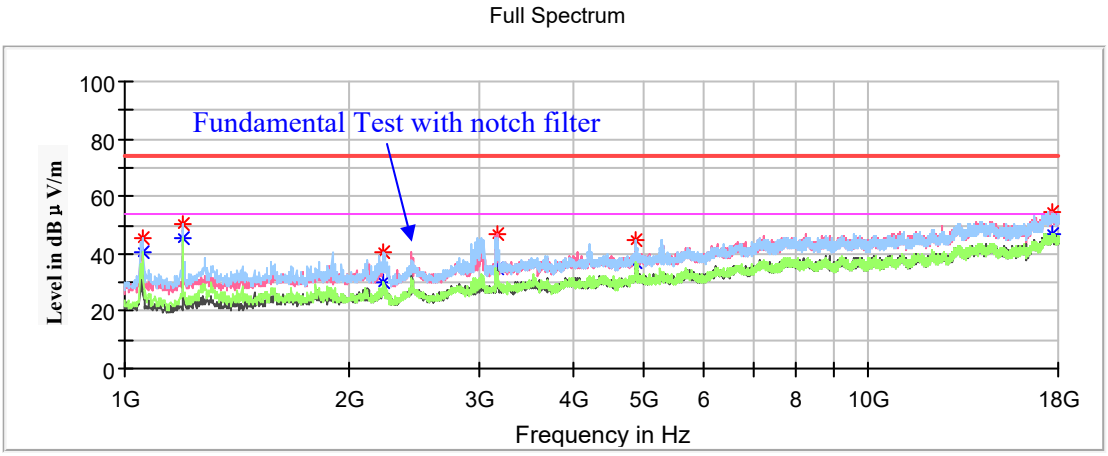
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBμV/m) = Corrected Factor (dB/m) + Reading (dBμV)
   Margin (dB) = Limit (dBμV/m) – Corrected Amplitude (dBμV/m)

Low Channel : 2412MHz



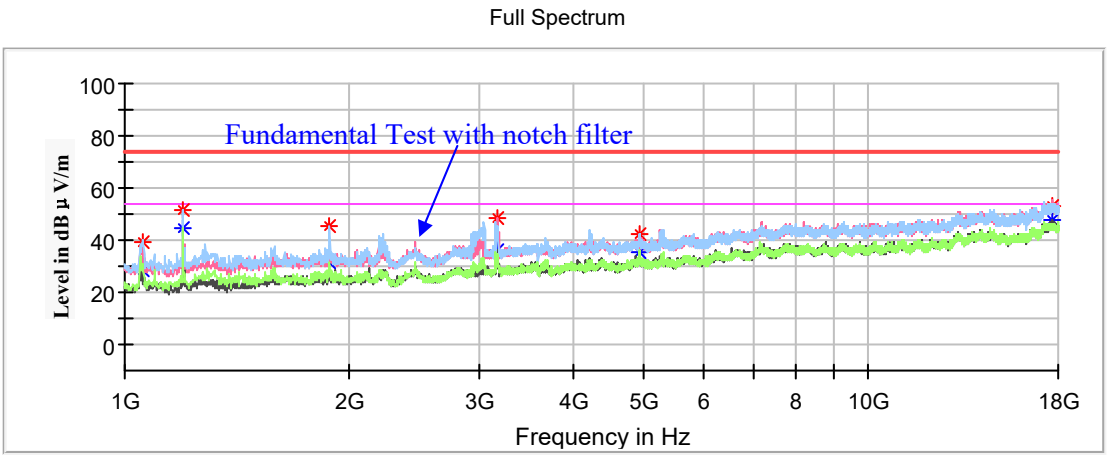
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
1059.500000	46.29	---	150.0	H	233.0	-18.7	74.00	27.71
1059.500000	---	37.89	150.0	H	233.0	-18.7	54.00	16.11
1198.900000	40.03	---	100.0	V	305.0	-18.0	74.00	33.97
1198.900000	---	31.09	100.0	V	305.0	-18.0	54.00	22.91
1882.300000	---	26.52	150.0	H	182.0	-14.9	54.00	27.48
1882.300000	39.14	---	150.0	H	182.0	-14.9	74.00	34.86
3174.300000	47.87	---	150.0	V	131.0	-9.7	74.00	26.13
3174.300000	---	35.41	150.0	V	131.0	-9.7	54.00	18.59
4824.000000	45.81	---	100.0	V	131.0	-5.5	74.00	28.19
4824.000000	---	36.61	100.0	V	131.0	-5.5	54.00	17.39
17688.900000	---	47.37	150.0	V	157.0	8.9	54.00	6.63
17688.900000	54.06	---	150.0	V	157.0	8.9	74.00	19.94

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1057.800000	---	40.74	150.0	H	230.0	-18.8	54.00	13.26
1057.800000	45.77	---	150.0	H	230.0	-18.8	74.00	28.23
1198.900000	50.16	---	100.0	H	230.0	-18.0	74.00	23.84
1198.900000	---	45.75	100.0	H	230.0	-18.0	54.00	8.25
2232.500000	---	29.92	150.0	H	79.0	-13.5	54.00	24.08
2232.500000	40.73	---	150.0	H	79.0	-13.5	74.00	33.27
3174.300000	47.06	---	150.0	V	140.0	-9.7	74.00	26.94
3174.300000	---	34.65	150.0	V	140.0	-9.7	54.00	19.35
4874.000000	44.93	---	100.0	H	173.0	-5.4	74.00	29.07
4874.000000	---	37.04	100.0	H	173.0	-5.4	54.00	16.96
17685.500000	---	46.91	150.0	V	76.0	8.9	54.00	7.09
17685.500000	54.54	---	150.0	V	76.0	8.9	74.00	19.46

High Channel : 2462MHz



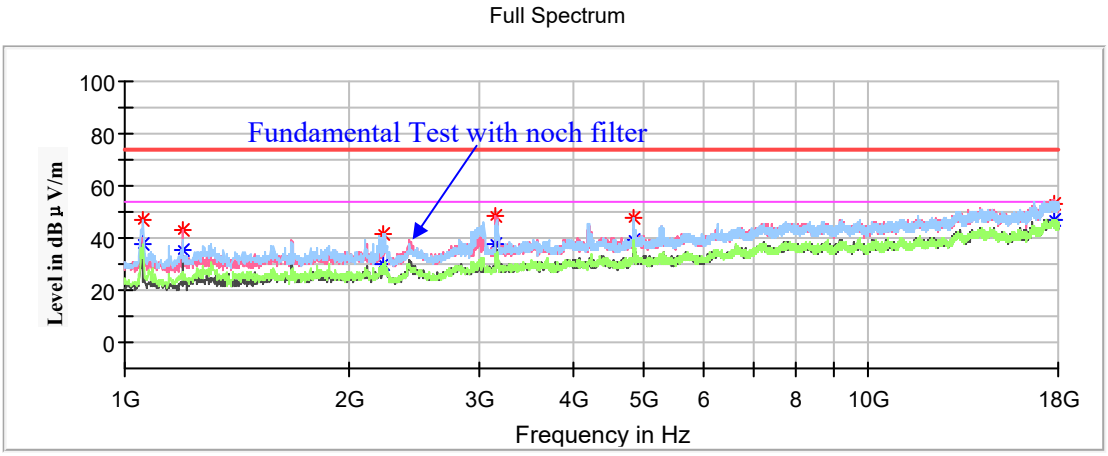
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1054.400000	---	28.58	150.0	H	132.0	-18.8	54.00	25.42
1054.400000	39.09	---	150.0	H	132.0	-18.8	74.00	34.91
1198.900000	51.62	---	150.0	H	242.0	-18.0	74.00	22.38
1198.900000	---	44.39	150.0	H	242.0	-18.0	54.00	9.61
1887.400000	45.41	---	150.0	H	255.0	-14.9	74.00	28.59
1887.400000	---	31.88	150.0	H	255.0	-14.9	54.00	22.12
3170.900000	---	35.79	150.0	V	129.0	-9.7	54.00	18.21
3170.900000	48.80	---	150.0	V	129.0	-9.7	74.00	25.20
4924.000000	---	35.48	100.0	V	195.0	-5.3	54.00	18.52
4924.000000	42.53	---	100.0	V	195.0	-5.3	74.00	31.47
17649.800000	53.28	---	100.0	V	336.0	8.9	74.00	20.72
17649.800000	---	47.33	100.0	V	336.0	8.9	54.00	6.67

802.11n-HT40 Mode(Chain 0& Chain 1 transmitting simultaneously):

*(Pre-scan in the X,Y and Z axes of orientation, the worst case **Z-axis of orientation** was recorded)*

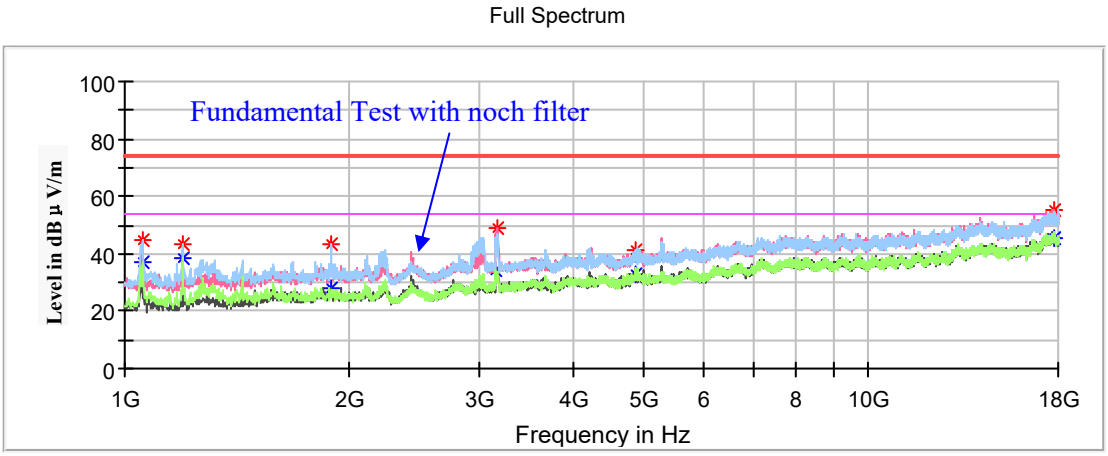
Note:
1. This test was performed with the 2.4-2.5GHz notch filter.
2. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB) – Amplifier Factor (dB)
   Corrected Amplitude (dBμV/m) = Corrected Factor (dB/m) + Reading (dBμV)
   Margin (dB) = Limit (dBμV/m) – Corrected Amplitude (dBμV/m)

Low Channel : 2422MHz



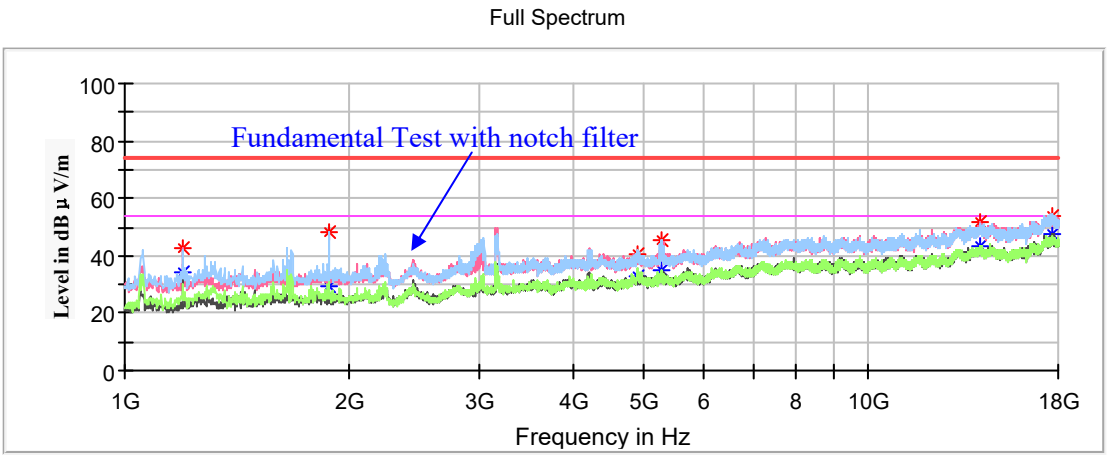
Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
1059.500000	46.55	---	150.0	H	242.0	-18.7	74.00	27.45
1059.500000	---	37.92	150.0	H	242.0	-18.7	54.00	16.08
1198.900000	43.44	---	100.0	V	214.0	-18.0	74.00	30.56
1198.900000	---	35.16	100.0	V	214.0	-18.0	54.00	18.84
2227.400000	---	30.16	100.0	H	88.0	-13.5	54.00	23.84
2227.400000	41.86	---	100.0	H	88.0	-13.5	74.00	32.14
3152.200000	---	37.35	150.0	V	130.0	-9.7	54.00	16.65
3152.200000	48.65	---	150.0	V	130.0	-9.7	74.00	25.35
4844.000000	---	39.19	100.0	H	203.0	-5.5	54.00	14.81
4844.000000	47.32	---	100.0	H	203.0	-5.5	74.00	26.68
17755.200000	52.92	---	150.0	V	330.0	8.8	74.00	21.08
17755.200000	---	47.26	150.0	V	330.0	8.8	54.00	6.74

Middle Channel: 2437MHz



Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1057.800000	---	36.95	100.0	V	243.0	-18.8	54.00	17.05
1057.800000	44.82	---	100.0	V	243.0	-18.8	74.00	29.18
1198.900000	43.05	---	150.0	H	101.0	-18.0	74.00	30.95
1198.900000	---	38.39	150.0	H	101.0	-18.0	54.00	15.61
1892.500000	---	27.77	100.0	H	189.0	-14.9	54.00	26.23
1892.500000	43.43	---	100.0	H	189.0	-14.9	74.00	30.57
3160.700000	---	34.22	100.0	V	136.0	-9.7	54.00	19.78
3160.700000	49.10	---	100.0	V	136.0	-9.7	74.00	24.90
4874.000000	---	32.58	150.0	V	123.0	-5.4	54.00	21.42
4874.000000	41.06	---	150.0	V	123.0	-5.4	74.00	32.94
17734.800000	---	45.64	100.0	H	352.0	8.8	54.00	8.36
17734.800000	55.17	---	100.0	H	352.0	8.8	74.00	18.83

High Channel : 2452MHz

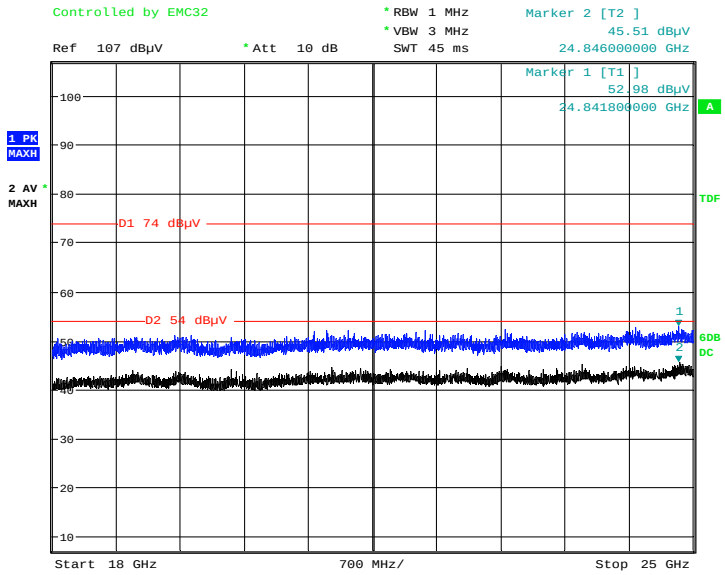


Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
	MaxPeak (dBµV/m)	Average (dBµV/m)	Height (cm)	Polar (H/V)				
1198.900000	42.74	---	150.0	V	214.0	-18.0	74.00	31.26
1198.900000	---	34.60	150.0	V	214.0	-18.0	54.00	19.40
1880.600000	---	29.68	100.0	H	190.0	-14.9	54.00	24.32
1880.600000	48.05	---	100.0	H	190.0	-14.9	74.00	25.95
4904.000000	---	33.07	100.0	V	187.0	-5.4	54.00	20.93
4904.000000	40.79	---	100.0	V	187.0	-5.4	74.00	33.21
5265.300000	45.77	---	150.0	H	216.0	-4.5	74.00	28.23
5265.300000	---	35.16	150.0	H	216.0	-4.5	54.00	18.84
14152.900000	---	43.47	150.0	V	303.0	6.3	54.00	10.53
14152.900000	51.80	---	150.0	V	303.0	6.3	74.00	22.20
17687.200000	53.65	---	100.0	V	54.0	8.9	74.00	20.35
17687.200000	---	47.41	100.0	V	54.0	8.9	54.00	6.59

18GHz-25GHz(worst case):

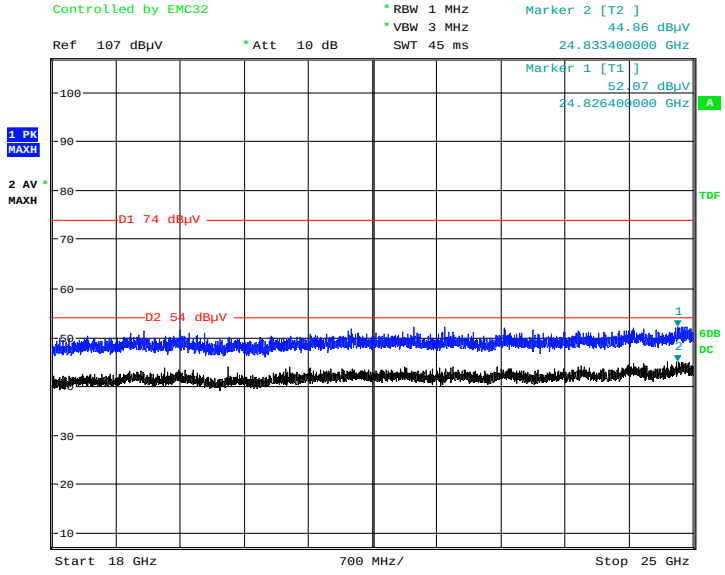
Pre-scan with 802.11b, 802.11g, 802.11n-HT20 and 802.11n-HT40 modes of operation in the X,Y and Z axes of orientation, the worst case ***high channel of 802.11 n-HT20 mode in Z-axis of orientation*** *was recorded*

Horizontal



Date: 27.JUL.2020 17:44:30

Vertical



Date: 27.JUL.2020 18:00:12

Restricted Bands Emissions Test:

Note:
1. Corrected Factor (dB/m) = Antenna factor (RX) (dB/m) + Cable Loss (dB)
   Corrected Amplitude (dBμV/m) = Corrected Factor (dB/m) + Reading (dBμV)
   Margin (dB) = Limit (dBμV/m) – Corrected Amplitude (dBμV/m)

2. The test distance is 1.5m, the limit at 1.5m is below:
   Average (dBμV/m) = 54.00 dBμV/m +20*log10(3/1.5)=60.00 dBμV/m
   MaxPeak (dBμV/m) = 74.00 dBμV/m +20*log10(3/1.5)=80.00 dBμV/m

802.11b Mode (Chain 0): *(Pre-scan in the X, Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2412MHz								
2389.00	44.91	---	150.0	V	190.0	-2.9	74.00	29.09
2389.00	---	37.54	150.0	V	190.0	-2.9	54.00	16.46
High Channel: 2462MHz								
2483.50	44.04	---	100.0	V	348.0	-2.5	74.00	29.96
2483.50	---	38.28	100.0	V	348.0	-2.5	54.00	15.72

802.11g Mode (Chain 0): *(Pre-scan in the X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2412MHz								
2389.00	43.88	---	150.0	V	165.0	-2.9	74.00	30.12
2389.00	---	38.40	150.0	V	165.0	-2.9	54.00	15.60
High Channel: 2462MHz								
2483.50	44.72	---	100.0	V	348.0	-2.5	74.00	29.28
2483.50	---	38.10	100.0	V	348.0	-2.5	54.00	15.90

802.11b Mode (Chain 1): *(Pre-scan in the X, Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2412MHz								
2389.00	42.75	---	150.0	V	143.0	-2.9	74.00	31.25
2389.00	---	35.99	150.0	V	143.0	-2.9	54.00	18.01
High Channel: 2462MHz								
2483.50	45.03	---	100.0	V	178.0	-2.5	74.00	28.97
2483.50	---	39.49	100.0	V	178.0	-2.5	54.00	14.51

802.11g Mode (Chain 1): *(Pre-scan in the X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2412MHz								
2390.00	44.03	---	150.0	V	170.0	-2.9	74.00	29.97
2390.00	---	36.85	150.0	V	170.0	-2.9	54.00	17.15
High Channel: 2462MHz								
2483.50	45.04	---	100.0	V	186.0	-2.5	74.00	28.96
2483.50	---	38.94	100.0	V	186.0	-2.5	54.00	15.06

802.11n-HT20 Mode (*Chain 0& Chain 1*): *(Pre-scan in the X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2412MHz								
2390.00	44.48	---	150.0	V	169.0	-2.9	74.00	29.52
2390.00	---	39.03	150.0	V	169.0	-2.9	54.00	14.97
High Channel: 2462MHz								
2483.50	45.26	---	100.0	V	169.0	-2.5	74.00	28.74
2483.50	---	39.60	100.0	V	169.0	-2.5	54.00	14.40

802.11n-HT40 Mode (*Chain 0& Chain 1*): *(Pre-scan in the X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)*

Frequency (MHz)	Corrected Amplitude		Rx Antenna		Turntable Degree	Corrected Factor (dB/m)	Limit (dBμV/m)	Margin (dB)
	MaxPeak (dBμV/m)	Average (dBμV/m)	Height (cm)	Polar (H/V)				
Low Channel: 2422MHz								
2390.00	47.68	---	100.0	V	189.0	-2.9	74.00	26.32
2390.00	---	43.62	100.0	V	189.0	-2.9	54.00	10.38
High Channel: 2452MHz								
2483.50	48.54	---	150.0	V	177.0	-2.5	74.00	25.46
2483.50	---	43.96	150.0	V	177.0	-2.5	54.00	10.04