



FCC TEST REPORT

Application No: AR/2019/40003
Applicant: Huawei Technologies Co., Ltd.
Address of Applicant: Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
Manufacturer: Huawei Technologies Co., Ltd.
Address of Manufacturer: Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
EUT Description: Smart Phone
Model No.: ELE-L29m/ELE-L09m
Trade Mark: HUAWEI
FCC ID: QISELE-LX9M
Standards: 47 CFR FCC Part 2, Subpart J
47 CFR Part 15, Subpart C
Test Method: KDB558074 D01 15.247 Meas Guidance v05
ANSI C63.10 (2013)
Date of Receipt: 2019/4/25
Date of Test: 2019/4/25 to 2019/4/29
Date of Issue: 2019/5/2

Test Result:	PASS *
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. * In the configuration tested, the EUT complied with the standards specified above.

Derek Yang

Derek Yang

Wireless Laboratory Manager



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (Testing Center) FCC Laboratory

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1 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00		2019/5/2		Original

Authorized for issue by:			
Tested By		 _____ (Mike Hu) /Project Engineer	2019/5/2

Checked By		 _____ (David Chen) /Reviewer	2019/5/2

			Date





2 Test Summary

Test Item	Test Requirement	Test method	Test Result	Result
AC Power Line Conducted Emission	15.207	ANSI C63.10 2013	Clause 4.1	PASS
Radiated Spurious Emissions	15.247(d);15.205/15.209	ANSI C63.10 2013	Clause 4.2	PASS
Restricted bands around fundamental frequency (Radiated Emission)	15.247(d);15.205/15.209	ANSI C63.10 2013	Clause 4.3	PASS

Remark:

The difference between model ELE-L04m and model ELE -L29m is show in the below table:

	Model	ELE-L04m	ELE-L29m
Licensed Frequency	LTE BAND	FCC Band: B2/B4/ B5/B7/B12/B17/B26/B38/ B41 (2535~2655MHz) /B66	FCC Band: B2/B4/ B5/B7/B12/B17/B26/B38/ B41 (2535~2655MHz)
	UMTS BAND	the same	the same
	GSM	the same	the same
	IC	the same	the same
	Antenna	the same	the same
	NFC	the same	the same
Unlicensed Frequency	Bluetooth	the same	the same
	2.4G Wi-Fi	the same	the same
	5.8G Wi-Fi	the same	the same
	IC	the same	the same
	Antenna	the same	the same
Hardware	Ram / Rom	the same	the same
	Camera	the same	the same
	PCB	the same	the same
	USB Port	the same	the same
	SIM	one	two
	Hardware version	the same	the same
RF	RF circuit	The hardware channel of WCDMA B4 and LTE B2/4/7(include CA band) is different, Irrelevant to other frequency bands	The hardware channel of WCDMA B4 and LTE B2/4/7(include CA band) is different, Irrelevant to other frequency bands
Appearance	Dimension	the same	the same
	Color	different	different
Accessory	Battery	the same	the same



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External Charger	the same	the same
USB label	the same	the same
Earphone	the same	the same

The mobile phone ELE-L29m and ELE-L09m are LTE/UMTS/GSM mobile phone with Bluetooth. The differences between ELE-L29m and ELE-L09m are showed in the following table. ELE-L09m delete one SIM by software. Other parts of the mobile phone are the same, including the appearance, the antenna, Chipset, Bluetooth mode, Wifi mode, Adapter, Battery, and so on.

	ELE-L29m	ELE-L09m
GSM four bands	the same	the same
WCDMA bands	the same	the same
LTE bands	the same	the same
SIM card	Two	One
NFC	the same	the same
External camera	the same	the same
internal camera	the same	the same
FLASH	the same	the same
Mainboard	the same	the same
PCB layout	the same	the same
Appearance	the same	the same
Bluetooth mode	the same	the same
WLAN mode	the same	the same
BT/ WLAN antenna	the same	the same
GSM/ WCDMA /LTE antenna	the same	The same
Adapter	the same	the same
Battery	the same	the same
Chipset	the same	the same
Memory	the same	the same
RF Parameter	the same	the same
Dimension	the same	the same
Main Frequency NV	the same	the same

- 1, Only AC Power Line Conducted Emissions, Unwanted Emissions that fall Outside of the Restricted Bands(Radiated) and Unwanted Emissions in the Restricted Bands (Radiated) were tested, and the data displayed in this report.
- 2, According to the difference above, all the items contained in this report were performed on ELE-L04m, the data of ELE-L29m and ELE-L09m can refer to ELE-L04m (Original Report NO.: AR/2019/4000301)



Contents

1	VERSION.....	2
2	TEST SUMMARY.....	3
3	GENERAL INFORMATION.....	6
3.1	CLIENT INFORMATION.....	6
3.2	TEST LOCATION.....	6
3.3	TEST FACILITY.....	6
3.4	GENERAL DESCRIPTION OF EUT.....	7
3.5	TEST ENVIRONMENT AND MODE.....	9
3.6	DESCRIPTION OF SUPPORT UNITS.....	9
4	TEST RESULTS AND MEASUREMENT DATA.....	10
4.1	AC POWER LINE CONDUCTED EMISSIONS.....	10
4.2	RADIATED SPURIOUS EMISSIONS.....	14
4.2.1	<i>Radiated emission below 1GHz.....</i>	<i>17</i>
4.2.2	<i>Transmitter emission above 1GHz.....</i>	<i>19</i>
4.3	RESTRICTED BANDS AROUND FUNDAMENTAL FREQUENCY.....	61
4.3.1	ANT1.....	63
4.3.1	CDD & MIMO.....	79
5	MEASUREMENT UNCERTAINTY (95% CONFIDENCE LEVELS, K=2).....	91
6	EQUIPMENT LIST.....	92
7	PHOTOGRAPHS - EUT CONSTRUCTIONAL DETAILS.....	93



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3 General Information

3.1 Client Information

Applicant:	Huawei Technologies Co., Ltd.
Address of Applicant:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
Manufacturer:	Huawei Technologies Co., Ltd.
Address of Manufacturer:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C

3.2 Test Location

Company:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
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E-mail:	ee.shenzhen@sgs.com

3.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• **Industry Canada (IC)**

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.



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3.4 General Description of EUT

EUT Description::	Smart Phone
Model No.:	ELE-L29m/ELE-L09m
Trade Mark:	HUAWEI
Hardware Version:	HL3ELLEM
Software Version:	5.0.1.130 (SP2C432E131R1P11)
IEEE 802.11 WLAN Mode Supported	☒ 802.11B (20 MHz channel bandwidth), ☒ 802.11G (20 MHz channel bandwidth) ☒ 802.11N (20 MHz channel bandwidth), ☒ 802.11N (40 MHz channel bandwidth)
Operation Frequency:	2400 MHz -2483.5MHz $f_c = 2407 \text{ MHz} + N * 5 \text{ MHz}$, where: - f_c = "Operating Frequency" in MHz, - N = "Channel Number" with the range from 1 to 11 for the 20 MHz channel bandwidth, or 3 to 9 for the 40 MHz channel bandwidth.
Type of Modulation:	IEEE for 802.11B: DSSS IEEE for 802.11G : OFDM IEEE for 802.11N(HT20) : OFDM IEEE for 802.11N(HT40) : OFDM
Sample Type:	☒ Portable Device, ☐ Module
Antenna Type:	☐ External, ☒ Integrated
Antenna Ports	☒ Ant 1, ☐ Ant 2, ☐ Ant 3
Smart System	☒ SISO (for 802.11B/G/N), ☒ MIMO (for 802.11N): 2 Tx & 2 Rx, ☐ Diversity (for 802.11B/G) : Tx & Rx
Antenna Gain:	Ant1:-2.56dBi; Ant2:-7.17dBi
Power Supply	☒ AC/DC Adapter; ☐ Battery ☐ PoE;; ☐ Other:
Adapter	Model: HW-050450B00 Manufacturer: Huawei Technologies Co.,Ltd. Input Voltage: 100V-240V~50/60Hz, 0.75A Output Voltage: 5V ☒ 2A OR 4.5V ☒ 5A OR 5V ☒ 4.5A Model: HW-050450E00 Manufacturer: Huawei Technologies Co.,Ltd. Input Voltage: 100V-240V~50/60Hz, 0.75A Output Voltage: 5V ☒ 2A OR 4.5V ☒ 5A OR 5V ☒ 4.5A Model: HW-050450U00 Manufacturer: Huawei Technologies Co.,Ltd. Input Voltage: 100V-240V~50/60Hz, 0.75A Output Voltage: 5V ☒ 2A OR 4.5V ☒ 5A OR 5V ☒ 4.5A Model: HW-050450A00



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	Manufacturer: Huawei Technologies Co.,Ltd. Input Voltage: 100V-240V~50/60Hz, 0.75A Output Voltage: 5V === 2A OR 4.5V === 5A OR 5V === 4.5A Model: HW-050450E01 Manufacturer: Huawei Technologies Co.,Ltd. Input Voltage: 100V-240V~50/60Hz, 0.75A Output Voltage: 5V === 2A OR 4.5V === 5A OR 5V === 4.5A Model: HW-050450A01 Manufacturer: Huawei Technologies Co.,Ltd. Input Voltage: 100V-240V~50/60Hz, 0.75A Output Voltage: 5V === 2A OR 4.5V === 5A OR 5V === 4.5A
Rechargeable Li-ion	Battery Model: HB436380ECW Rated capacity: 3550mAh Nominal Voltage: === +3.85V Charging Voltage: === +4.43V

Operation Frequency of each channel (802.11B/G/N HT20)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		
Operation Frequency of each channel (802.11N HT40)							
Channel	Frequency	Channel	Frequency	Channel	Frequency		
3	2422MHz	6	2437MHz	9	2452MHz		
4	2427MHz	7	2442MHz				
5	2432MHz	8	2447MHz				

Remark:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency for 802.11B/G/N (HT20)	Frequency for 802.11N (HT40)
The Lowest channel	2412MHz	2422MHz
The Middle channel	2437MHz	2437MHz
The Highest channel	2462MHz	2452MHz



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3.5 Test Environment and Mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	50 % RH
Atmospheric Pressure:	101.30 KPa
Test mode:	
Transmitting mode:	Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.

3.6 Description of Support Units

The EUT has been tested independent unit.



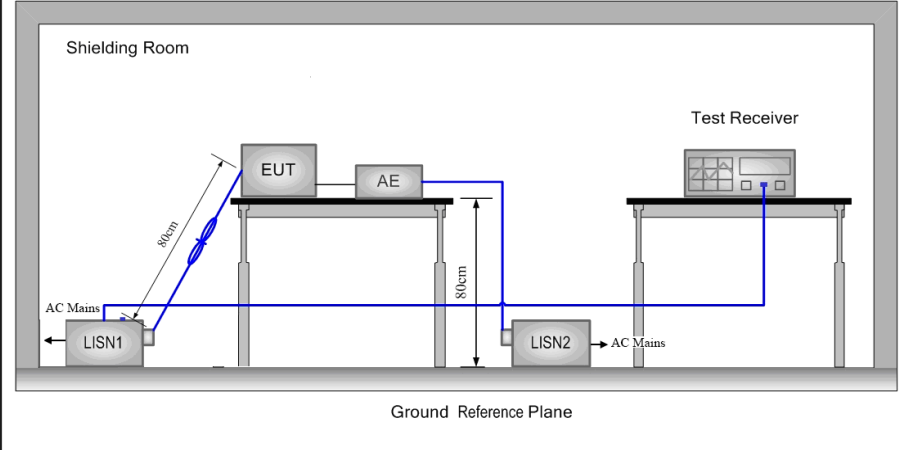
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4 Test results and Measurement Data

4.1 AC Power Line Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.207		
Test Method:	ANSI C63.10: 2013		
Test Frequency Range:	150kHz to 30MHz		
Limit:	Frequency range (MHz)	Limit (dBuV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
* Decreases with the logarithm of the frequency.			
Test Procedure:	1) The mains terminal disturbance voltage test was conducted in a shielded room. 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a $50\Omega/50\mu\text{H} + 5\Omega$ linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.		



Test Setup:	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates at lowest, middle and highest channel. Charge + Transmitting mode.
Final Test Mode:	Through Pre-scan, find the 1Mbps of rate of 802.11B at lowest channel is the worst case. Charge + Transmitting mode. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass



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Shenzhen Branch Testing Center, EMC Laboratory.

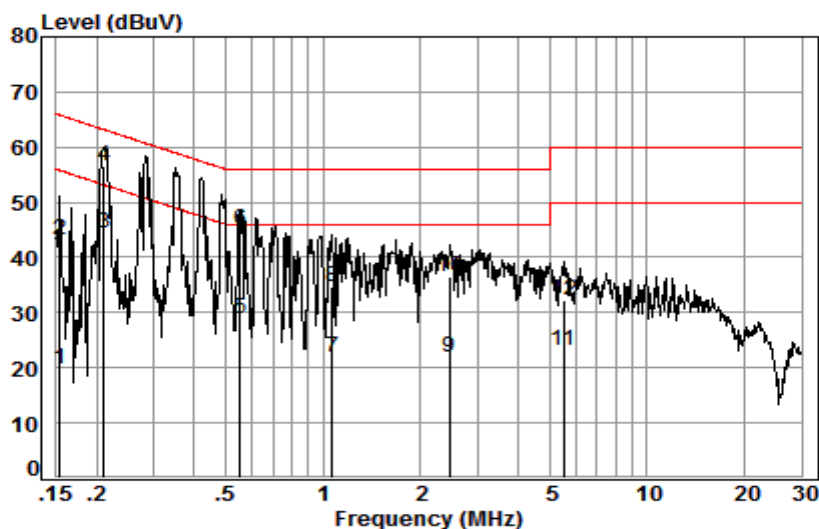
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Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Live Line:



Site : Shielding Room

Condition: Line

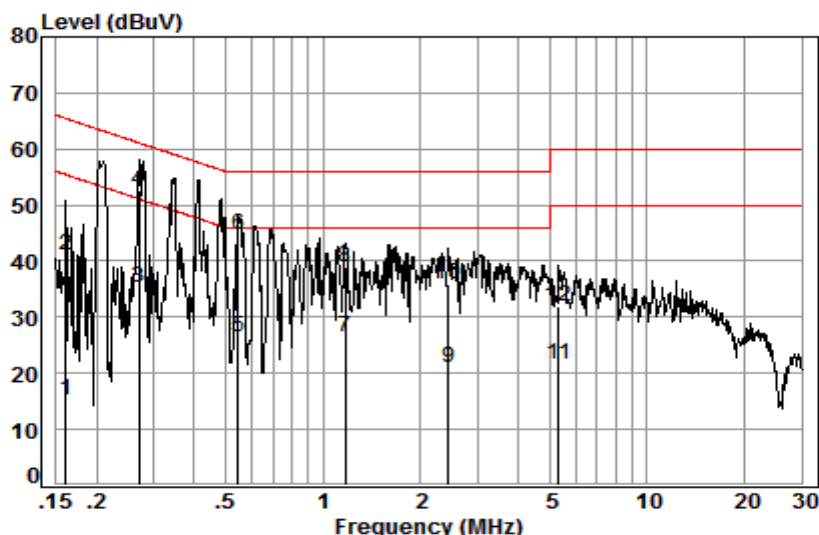
Job No. : 13093CR

Test mode: b

	Freq	Cable Loss	LISN Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.15	0.01	9.66	10.18	19.85	55.78	-35.93	Average
2	0.15	0.01	9.66	33.42	43.09	65.78	-22.69	QP
3	0.21	0.02	9.66	34.58	44.26	53.18	-8.92	Average
4	0.21	0.02	9.66	46.98	56.66	63.18	-6.52	QP
5	0.56	0.06	9.67	19.15	28.88	46.00	-17.12	Average
6	0.56	0.06	9.67	35.43	45.16	56.00	-10.84	QP
7	1.07	0.10	9.74	11.94	21.78	46.00	-24.22	Average
8	1.07	0.10	9.74	24.93	34.77	56.00	-21.23	QP
9	2.45	0.16	9.71	12.11	21.98	46.00	-24.02	Average
10	2.45	0.16	9.71	26.68	36.55	56.00	-19.45	QP
11	5.53	0.17	9.75	13.28	23.20	50.00	-26.80	Average
12	5.53	0.17	9.75	22.37	32.29	60.00	-27.71	QP



Neutral Line:



Site : Shielding Room
 Condition: Neutral
 Job No. : 13093CR
 Test mode: b

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.16	0.01	9.64	5.59	15.24	55.43	-40.19	Average
2	0.16	0.01	9.64	31.27	40.92	65.43	-24.51	QP
3	0.27	0.03	9.64	25.54	35.21	51.12	-15.91	Average
4	0.27	0.03	9.64	43.10	52.77	61.12	-8.35	QP
5	0.55	0.06	9.64	16.89	26.59	46.00	-19.41	Average
6	0.55	0.06	9.64	35.05	44.75	56.00	-11.25	QP
7	1.17	0.11	9.70	16.74	26.55	46.00	-19.45	Average
8	1.17	0.11	9.70	29.19	39.00	56.00	-17.00	QP
9	2.43	0.16	9.68	11.08	20.92	46.00	-25.08	Average
10	2.43	0.16	9.68	26.14	35.98	56.00	-20.02	QP
11	5.33	0.17	9.72	11.74	21.63	50.00	-28.37	Average
12	5.33	0.17	9.72	22.10	31.99	60.00	-28.01	QP

Remarks:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.



4.2 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205				
Test Method:	ANSI C63.10 :2013 Section 11.12				
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	100 kHz	300kHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz-88MHz	100	40.0	Quasi-peak	3
	88MHz-216MHz	150	43.5	Quasi-peak	3
	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3
	Remark: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.				

Test Setup:	
-------------	--



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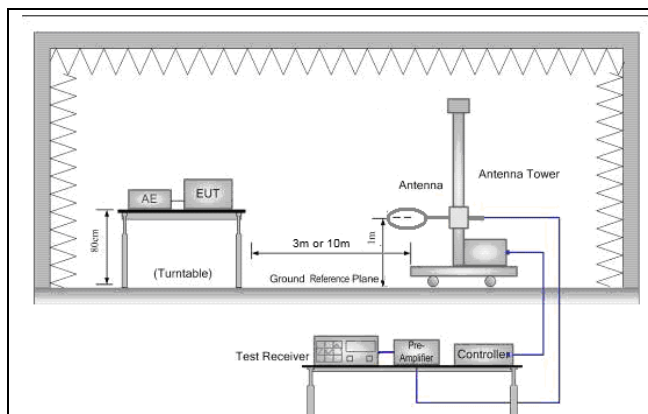


Figure 1. Below 30MHz

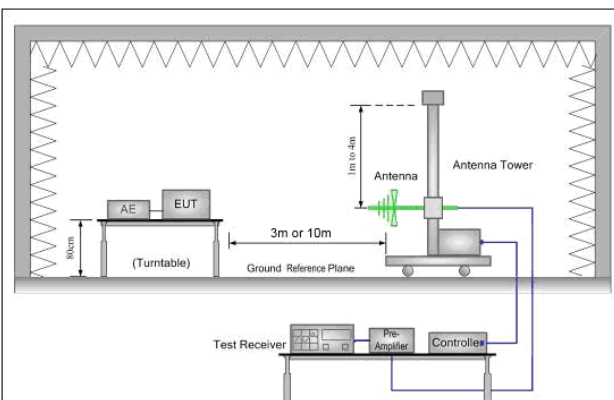


Figure 2. 30MHz to 1GHz

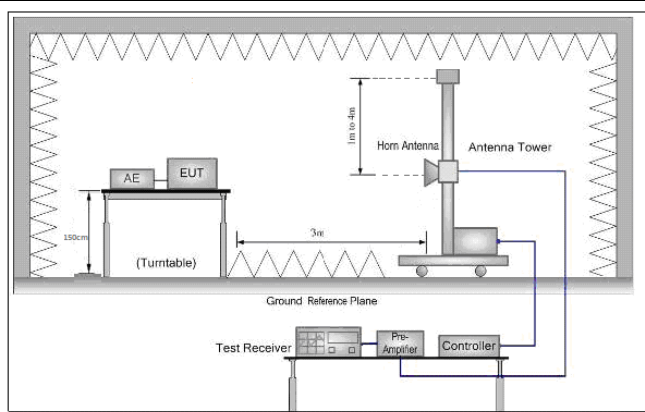


Figure 3. Above 1 GHz

Test Procedure:

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be

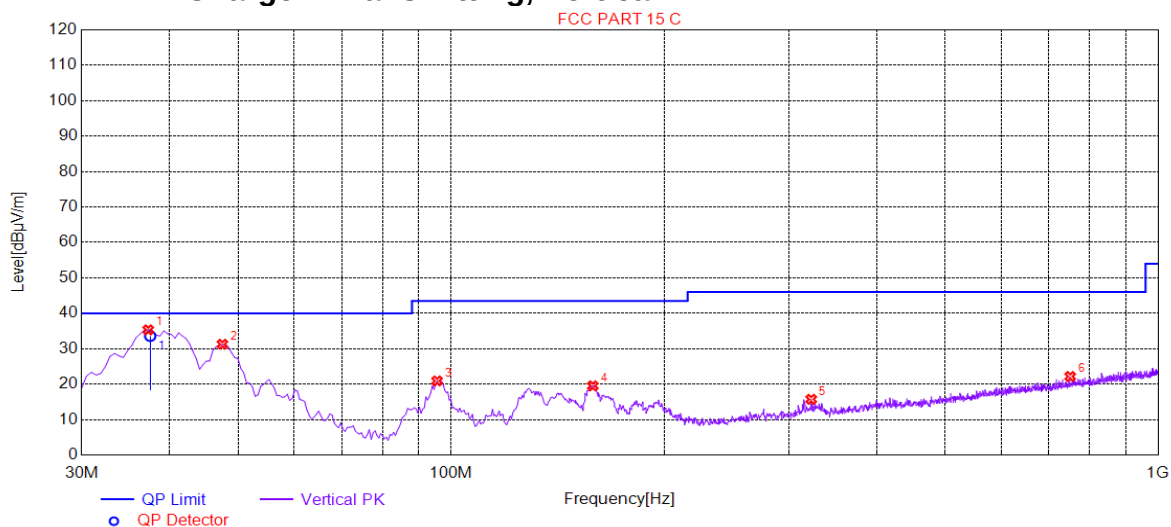


	re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. h. Test the EUT in the lowest channel, the middle channel ,the Highest channel i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case. j. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates. Charge + Transmitting mode.
Final Test Mode:	Pretest the EUT at Charge + Transmitting mode. Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G; 6.5Mbps of rate is the worst case of 802.11N(HT20); 13.5Mbps of rate is the worst case of 802.11N(HT40) For below 1GHz, through Pre-scan, find the 1Mbps of rate of 802.11B at lowest channel is the worst case. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass



4.2.1 Radiated emission below 1GHz

4.2.1.1 Charge + Transmitting, Vertical

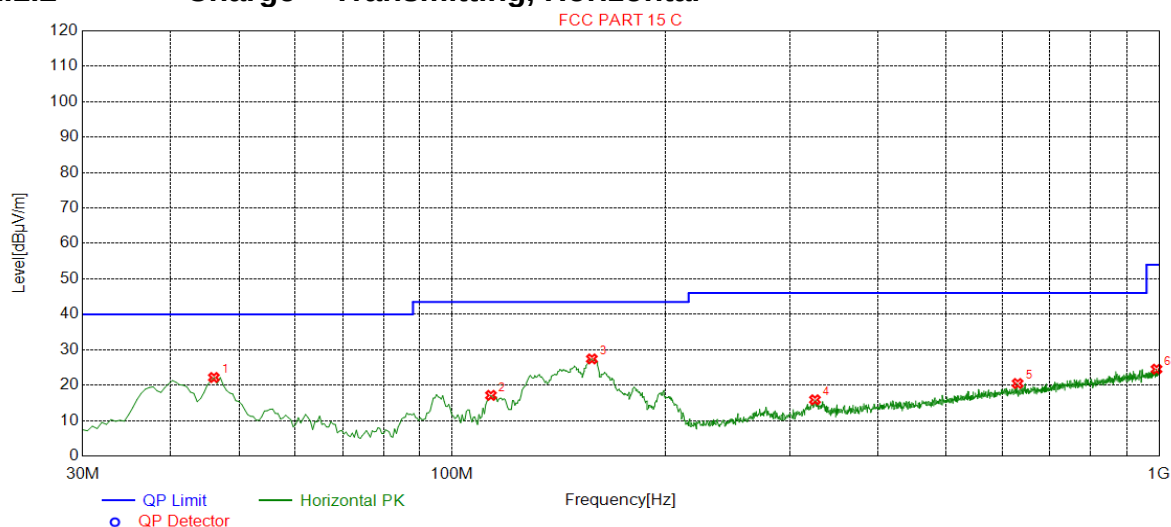


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	37.2786	35.33	-32.03	40.00	4.67	100	288	Vertical
2	47.4687	31.27	-30.20	40.00	8.73	100	234	Vertical
3	95.5078	20.91	-32.47	43.50	22.59	100	86	Vertical
4	158.589	19.52	-34.37	43.50	23.98	200	167	Vertical
5	323.086	15.73	-27.18	46.00	30.27	100	126	Vertical
6	751.070	22.17	-17.41	46.00	23.83	100	57	Vertical



4.2.1.2 Charge + Transmitting, Horizontal



Suspected List

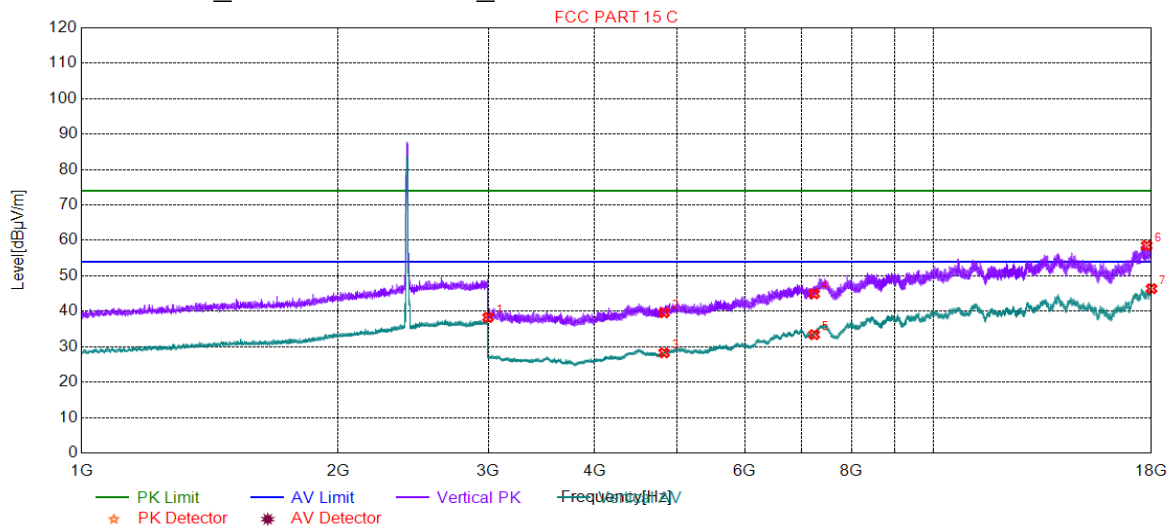
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1	46.0130	22.16	-30.20	40.00	17.84	200	24	Horizontal
2	113.461	17.13	-32.23	43.50	26.37	200	282	Horizontal
3	157.618	27.41	-34.41	43.50	16.09	200	88	Horizontal
4	325.998	15.88	-27.10	46.00	30.12	100	215	Horizontal
5	630.730	20.48	-19.65	46.00	25.52	100	206	Horizontal
6	991.750	24.52	-13.97	54.00	29.48	100	159	Horizontal



4.2.2 Transmitter emission above 1GHz

4.2.2.1 ANT1

4.2.2.1.1 802.11B_Lowest Channel_ Vertical

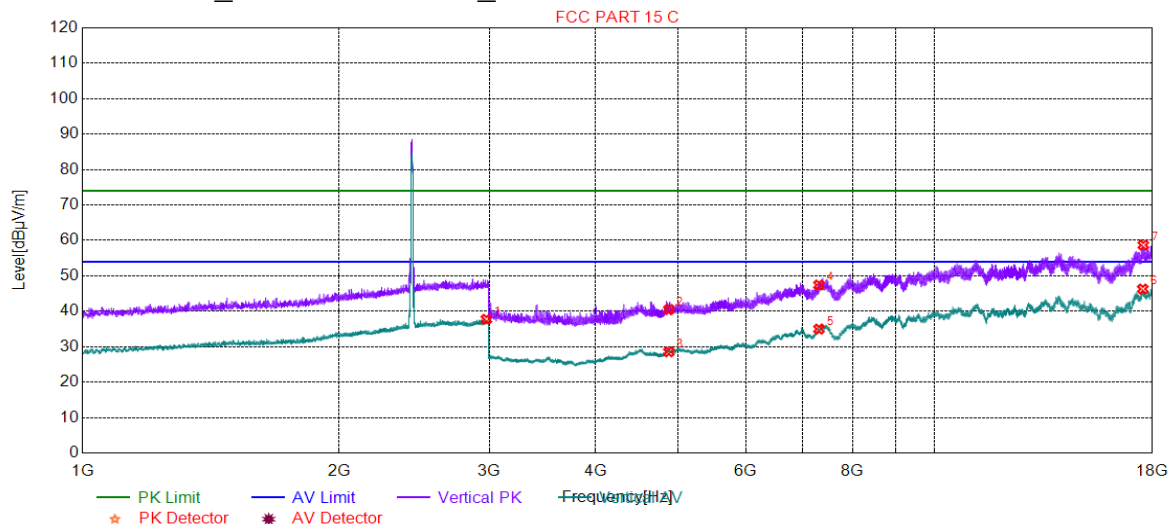


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2998.49	38.27	2.33	54.00	15.73	150	125	Vertical
2	4824.00	39.57	-20.09	74.00	34.43	150	76	Vertical
3	4824.00	28.27	-20.09	54.00	25.73	150	330	Vertical
4	7236.00	44.95	-12.40	74.00	29.05	150	40	Vertical
5	7236.00	33.40	-12.40	54.00	20.60	150	282	Vertical
6	17765.9	58.54	-0.84	74.00	15.46	150	132	Vertical
7	17999.0	46.39	-0.36	54.00	7.61	150	174	Vertical



4.2.2.1.2 802.11B_ Middle Channel_ Vertical

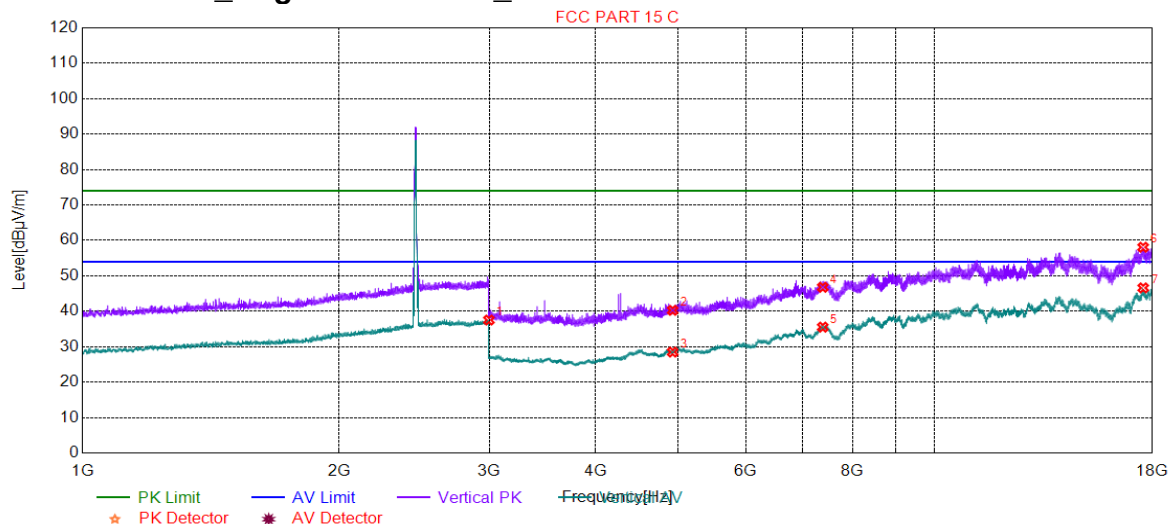


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2976.99	37.75	2.31	54.00	16.25	150	52	Vertical
2	4874.00	40.49	-19.37	74.00	33.51	150	184	Vertical
3	4874.00	28.56	-19.37	54.00	25.44	150	124	Vertical
4	7311.00	47.43	-11.50	74.00	26.57	150	305	Vertical
5	7311.00	34.99	-11.50	54.00	19.01	150	27	Vertical
6	17533.4	46.29	0.78	54.00	7.71	150	154	Vertical
7	17558.4	58.69	1.10	74.00	15.31	150	239	Vertical



4.2.2.1.3 802.11B_ Highest Channel_ Vertical

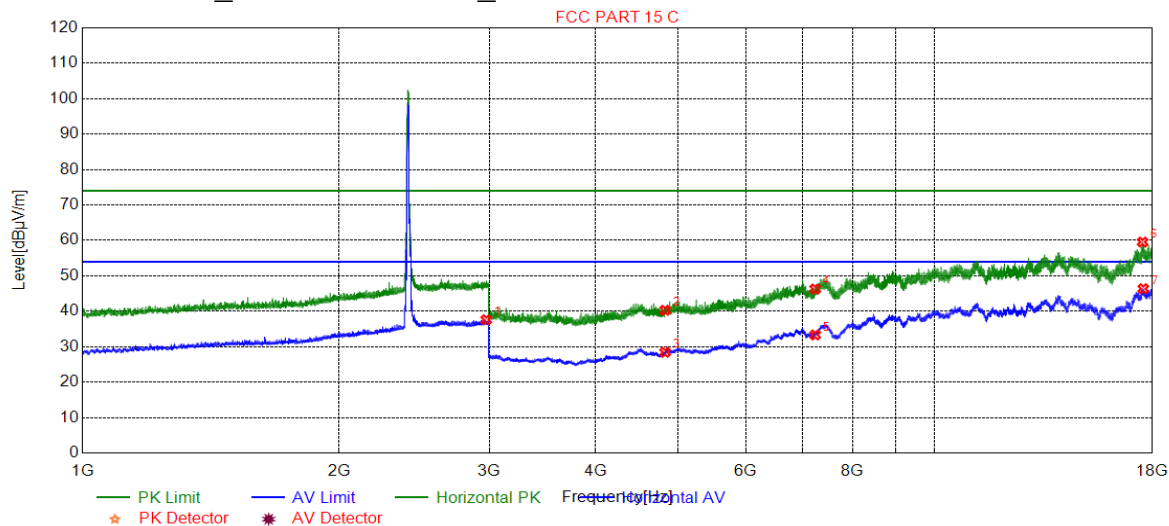


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2997.49	37.53	2.33	54.00	16.47	150	204	Vertical
2	4924.00	40.27	-18.87	74.00	33.73	150	184	Vertical
3	4924.00	28.49	-18.87	54.00	25.51	150	244	Vertical
4	7386.00	46.78	-10.72	74.00	27.22	150	64	Vertical
5	7386.00	35.53	-10.72	54.00	18.47	150	268	Vertical
6	17549.9	58.08	0.99	74.00	15.92	150	47	Vertical
7	17553.9	46.60	1.04	54.00	7.40	150	132	Vertical



4.2.2.1.4 802.11B_Lowest Channel_ Horizontal

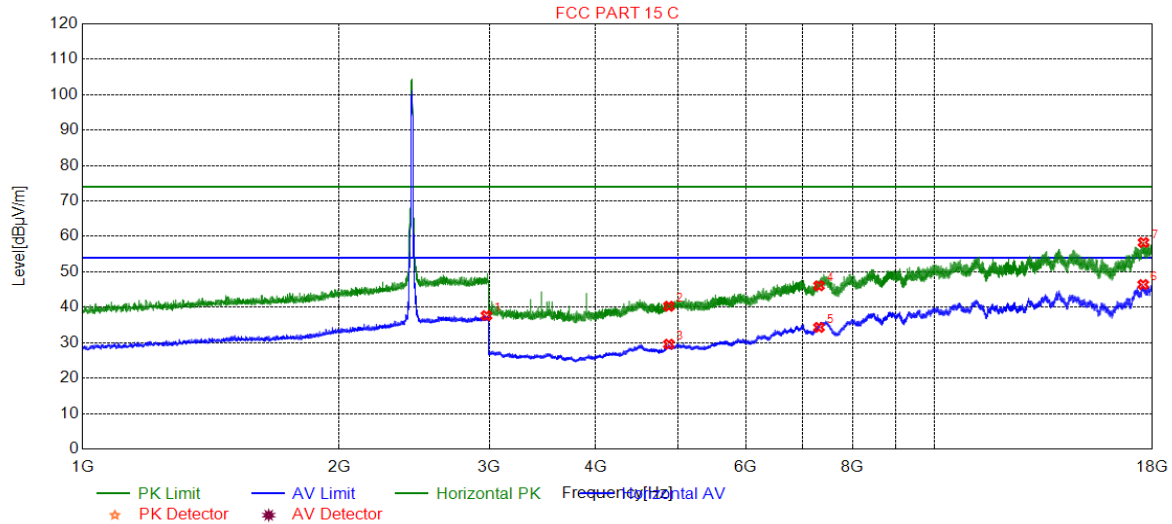


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2975.99	37.61	2.31	54.00	16.39	150	274	Horizontal
2	4824.00	40.29	-20.09	74.00	33.71	150	244	Horizontal
3	4824.00	28.43	-20.09	54.00	25.57	150	64	Horizontal
4	7236.00	46.30	-12.40	74.00	27.70	150	352	Horizontal
5	7236.00	33.32	-12.40	54.00	20.68	150	100	Horizontal
6	17523.9	59.54	0.66	74.00	14.46	150	5	Horizontal
7	17555.4	46.37	1.06	54.00	7.63	150	344	Horizontal



4.2.2.1.5 802.11B_ Middle Channel_ Horizontal



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2977.49	37.65	2.31	54.00	16.35	150	332	Horizontal
2	4874.00	40.30	-19.37	74.00	33.70	150	354	Horizontal
3	4874.00	29.58	-19.37	54.00	24.42	150	64	Horizontal
4	7311.00	46.08	-11.50	74.00	27.92	150	136	Horizontal
5	7311.00	34.33	-11.50	54.00	19.67	150	184	Horizontal
6	17551.4	46.42	1.01	54.00	7.58	150	260	Horizontal
7	17568.9	58.29	1.23	74.00	15.71	150	5	Horizontal



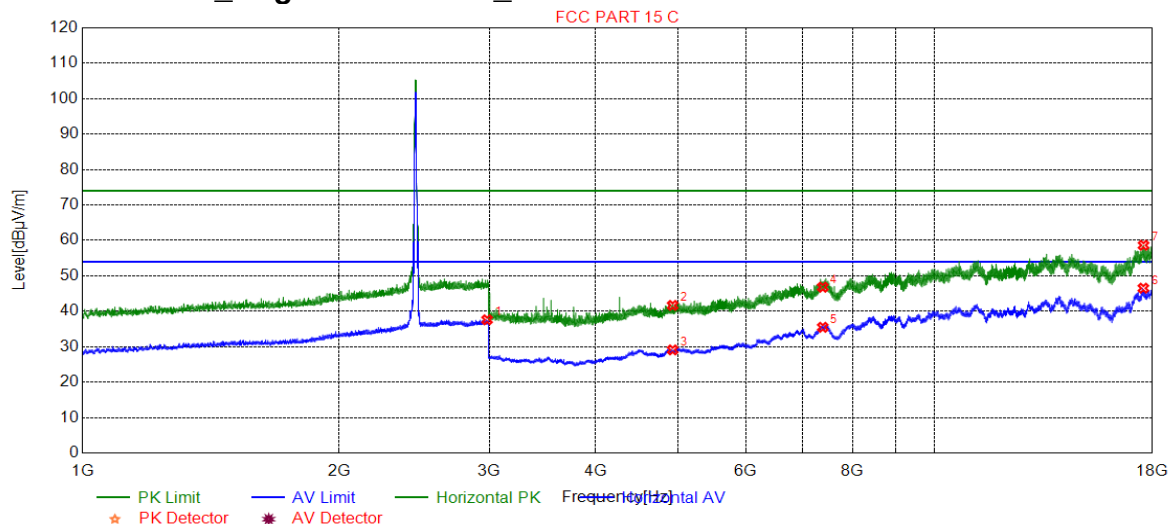
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4.2.2.1.6 802.11B_ Highest Channel_ Horizontal

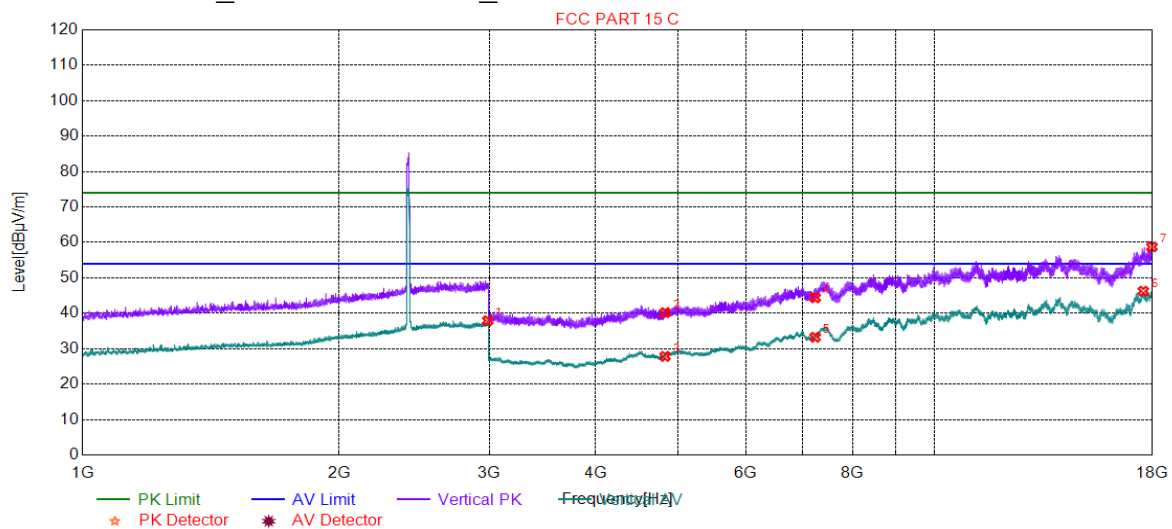


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2982.49	37.60	2.32	54.00	16.40	150	89	Horizontal
2	4924.00	41.66	-18.87	74.00	32.34	150	262	Horizontal
3	4924.00	29.11	-18.87	54.00	24.89	150	250	Horizontal
4	7386.00	46.80	-10.72	74.00	27.20	150	203	Horizontal
5	7386.00	35.49	-10.72	54.00	18.51	150	290	Horizontal
6	17562.4	46.52	1.15	54.00	7.48	150	191	Horizontal
7	17568.4	58.63	1.23	74.00	15.37	150	345	Horizontal



4.2.2.1.7 802.11G_Lowest Channel_Vertical

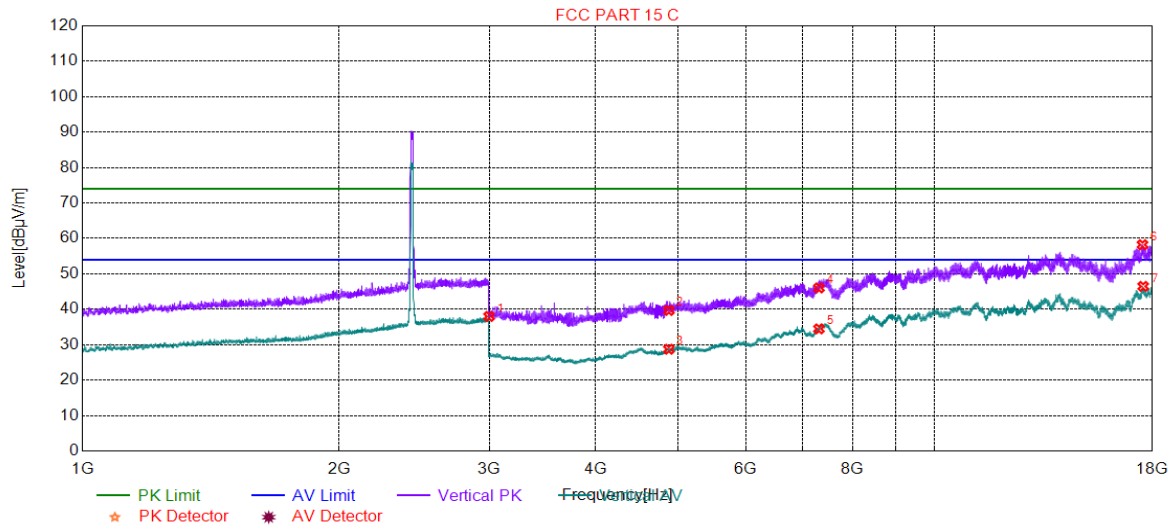


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2988.49	37.92	2.32	54.00	16.08	150	79	Vertical
2	4824.00	40.19	-20.09	74.00	33.81	150	280	Vertical
3	4824.00	27.84	-20.09	54.00	26.16	150	28	Vertical
4	7236.00	44.38	-12.40	74.00	29.62	150	172	Vertical
5	7236.00	33.25	-12.40	54.00	20.75	150	184	Vertical
6	17558.4	46.24	1.10	54.00	7.76	150	323	Vertical
7	17972.4	58.75	-0.56	74.00	15.25	150	174	Vertical



4.2.2.1.8 802.11G_ Middle Channel_ Vertical

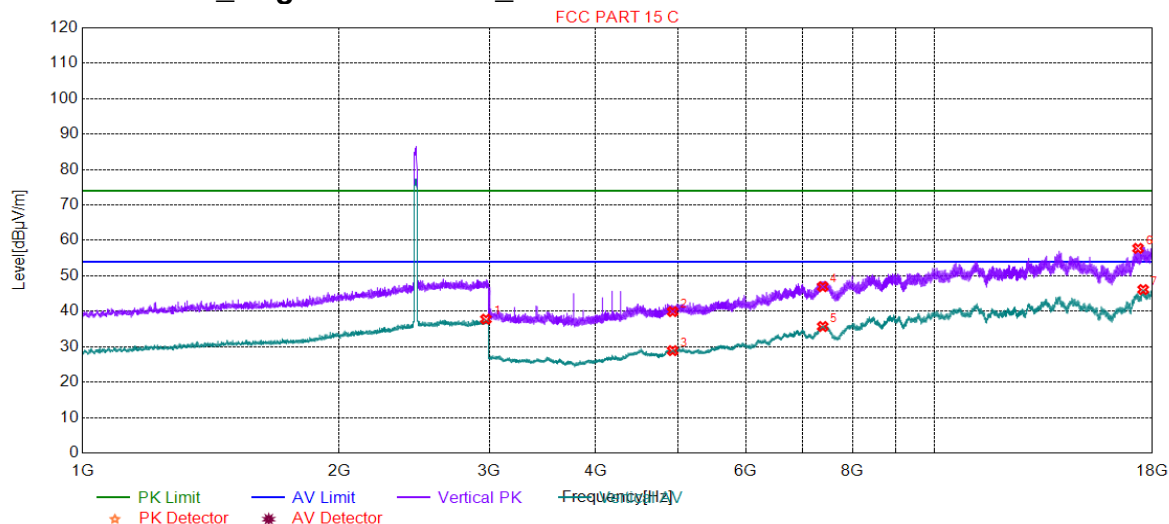


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2998.99	37.98	2.33	54.00	16.02	150	335	Vertical
2	4874.00	39.68	-19.37	74.00	34.32	150	233	Vertical
3	4874.00	28.73	-19.37	54.00	25.27	150	270	Vertical
4	7311.00	46.03	-11.50	74.00	27.97	150	329	Vertical
5	7311.00	34.48	-11.50	54.00	19.52	150	88	Vertical
6	17520.9	58.23	0.62	74.00	15.77	150	25	Vertical
7	17552.9	46.47	1.03	54.00	7.53	150	89	Vertical



4.2.2.1.9 802.11G_ Highest Channel_ Vertical

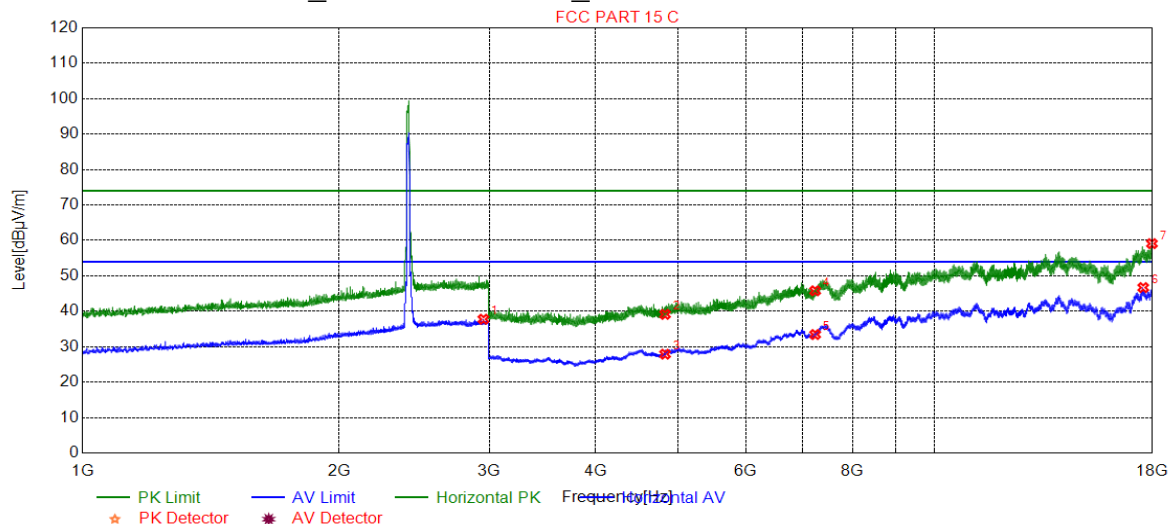


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2973.49	37.77	2.31	54.00	16.23	150	327	Vertical
2	4924.00	39.91	-18.87	74.00	34.09	150	317	Vertical
3	4924.00	28.89	-18.87	54.00	25.11	150	360	Vertical
4	7386.00	46.95	-10.72	74.00	27.05	150	16	Vertical
5	7386.00	35.70	-10.72	54.00	18.30	150	257	Vertical
6	17310.9	57.76	-1.15	74.00	16.24	150	110	Vertical
7	17551.9	46.13	1.02	54.00	7.87	150	153	Vertical



4.2.2.1.10 802.11G_Lowest Channel_Horizontal

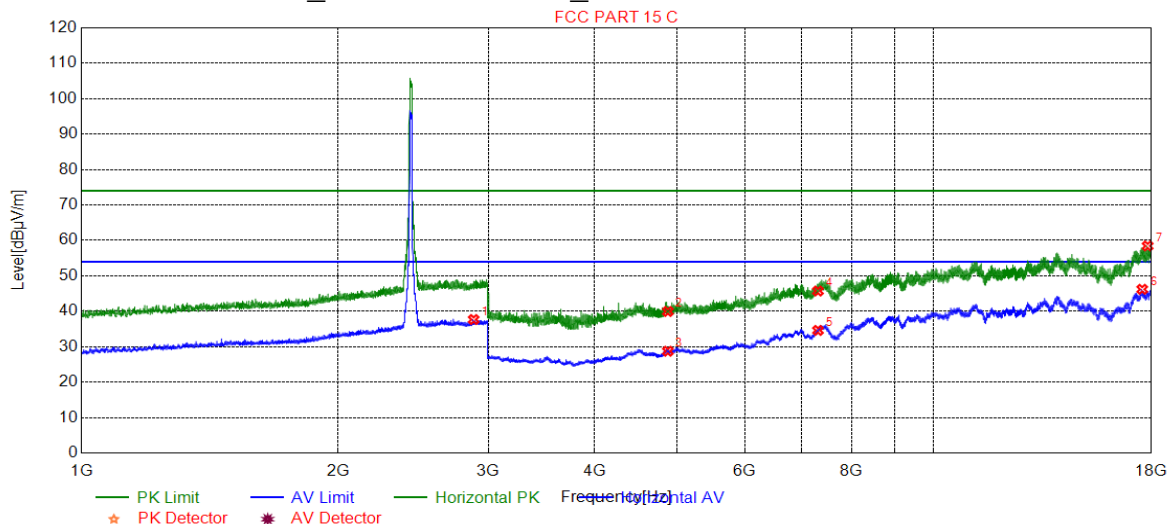


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2953.48	37.76	2.30	54.00	16.24	150	17	Horizontal
2	4824.00	39.13	-20.09	74.00	34.87	150	329	Horizontal
3	4824.00	27.90	-20.09	54.00	26.10	150	136	Horizontal
4	7236.00	45.78	-12.40	74.00	28.22	150	173	Horizontal
5	7236.00	33.45	-12.40	54.00	20.55	150	28	Horizontal
6	17554.4	46.69	1.05	54.00	7.31	150	260	Horizontal
7	17972.9	59.10	-0.56	74.00	14.90	150	174	Horizontal



4.2.2.1.11 802.11G_ Middle Channel_ Horizontal

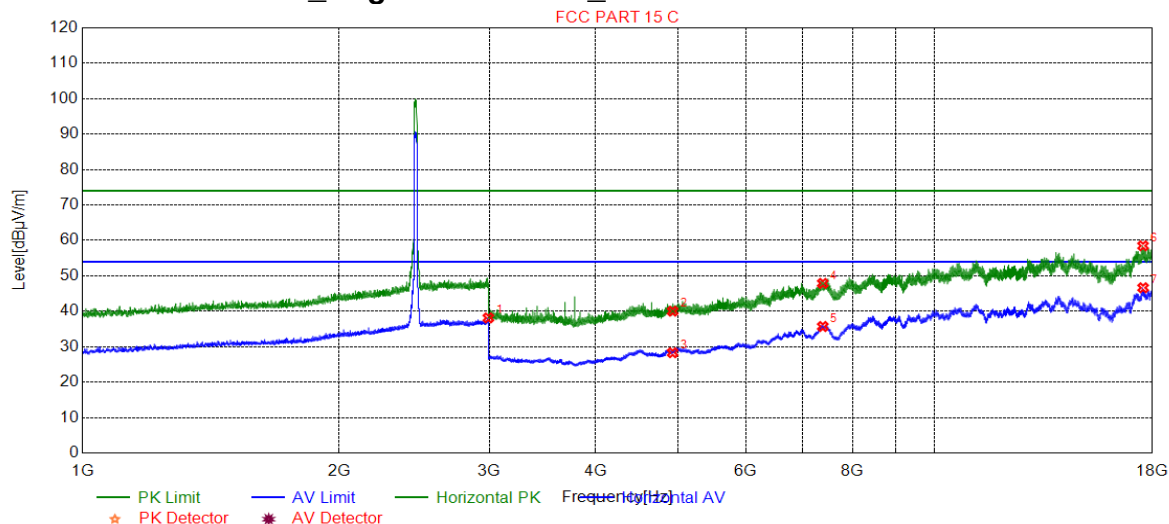


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2884.47	37.68	2.24	54.00	16.32	150	289	Horizontal
2	4874.00	39.95	-19.37	74.00	34.05	150	209	Horizontal
3	4874.00	28.73	-19.37	54.00	25.27	150	149	Horizontal
4	7311.00	45.72	-11.50	74.00	28.28	150	233	Horizontal
5	7311.00	34.61	-11.50	54.00	19.39	150	40	Horizontal
6	17554.4	46.21	1.05	54.00	7.79	150	89	Horizontal
7	17814.4	58.44	-0.82	74.00	15.56	150	68	Horizontal



4.2.2.1.12 802.11G_ Highest Channel_ Horizontal

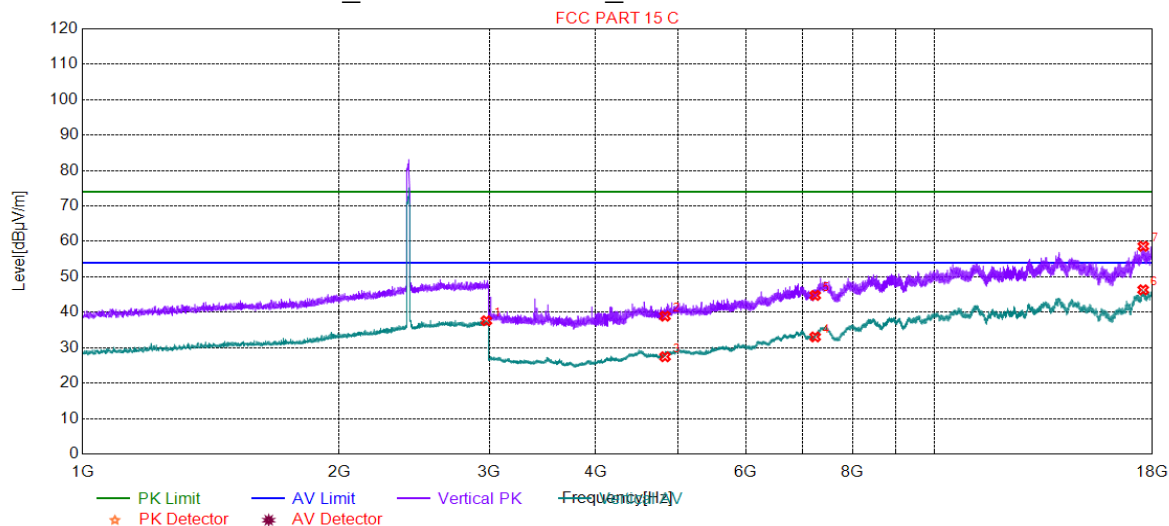


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2992.99	38.13	2.33	54.00	15.87	150	285	Horizontal
2	4924.00	40.03	-18.87	74.00	33.97	150	112	Horizontal
3	4924.00	28.30	-18.87	54.00	25.70	150	124	Horizontal
4	7386.00	47.88	-10.72	74.00	26.12	150	245	Horizontal
5	7386.00	35.71	-10.72	54.00	18.29	150	360	Horizontal
6	17545.9	58.48	0.94	74.00	15.52	150	68	Horizontal
7	17548.9	46.64	0.98	54.00	7.36	150	46	Horizontal



4.2.2.1.13 802.11N20_Lowest Channel_Vertical

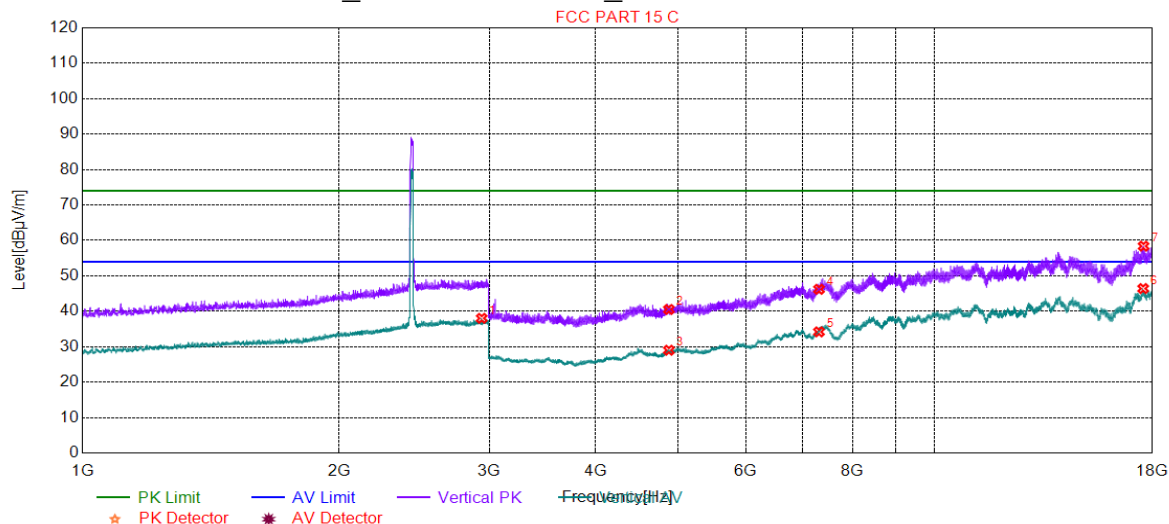


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2976.49	37.61	2.31	54.00	16.39	150	202	Vertical
2	4824.00	38.90	-20.09	74.00	35.10	150	207	Vertical
3	4824.00	27.45	-20.09	54.00	26.55	150	195	Vertical
4	7236.00	33.05	-12.40	54.00	20.95	150	16	Vertical
5	7236.00	44.77	-12.40	74.00	29.23	150	290	Vertical
6	17551.4	46.34	1.01	54.00	7.66	150	196	Vertical
7	17555.4	58.62	1.06	74.00	15.38	150	344	Vertical



4.2.2.1.14 802.11N20_ Middle Channel_ Vertical

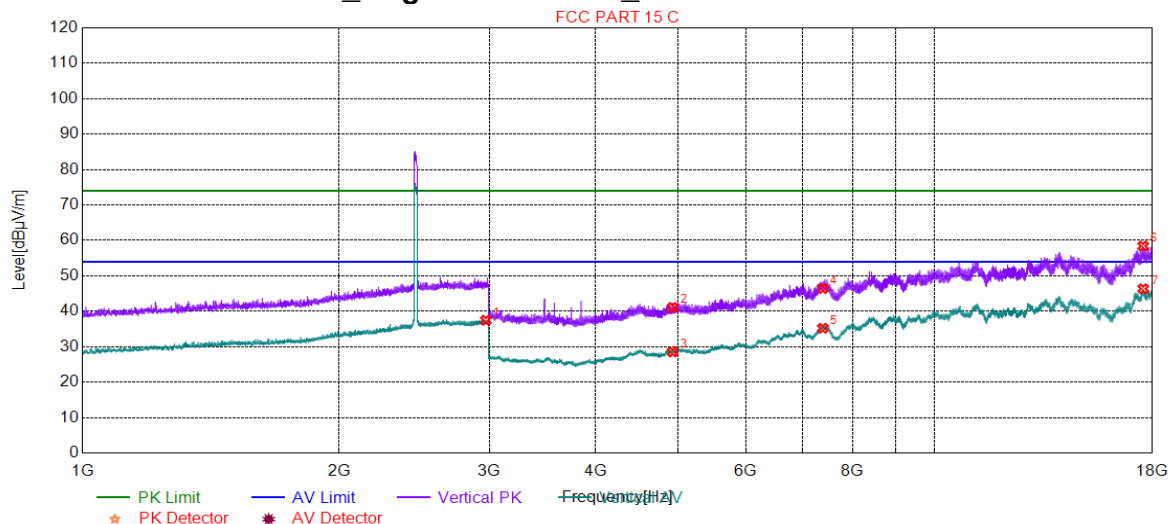


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2939.48	38.02	2.29	54.00	15.98	150	232	Vertical
2	4874.00	40.52	-19.37	74.00	33.48	150	304	Vertical
3	4874.00	29.01	-19.37	54.00	24.99	150	341	Vertical
4	7311.00	46.21	-11.50	74.00	27.79	150	257	Vertical
5	7311.00	34.19	-11.50	54.00	19.81	150	64	Vertical
6	17551.4	46.42	1.01	54.00	7.58	150	132	Vertical
7	17570.9	58.39	1.26	74.00	15.61	150	4	Vertical



4.2.2.1.15 802.11N20_ Highest Channel_ Vertical

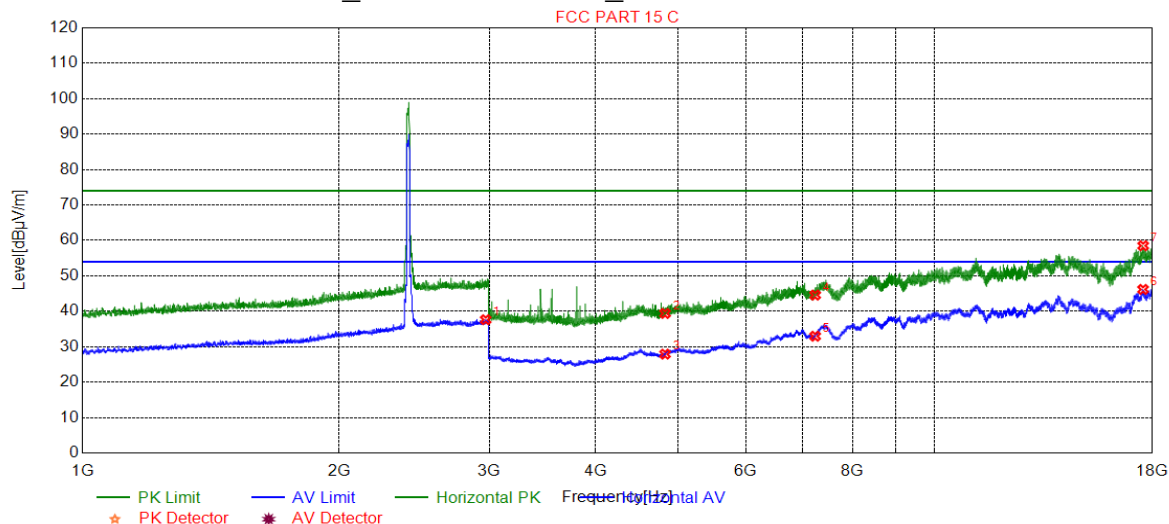


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2972.49	37.47	2.31	54.00	16.53	150	41	Vertical
2	4924.00	41.08	-18.87	74.00	32.92	150	328	Vertical
3	4924.00	28.54	-18.87	54.00	25.46	150	255	Vertical
4	7386.00	46.43	-10.72	74.00	27.57	150	303	Vertical
5	7386.00	35.21	-10.72	54.00	18.79	150	243	Vertical
6	17549.4	58.41	0.98	74.00	15.59	150	281	Vertical
7	17554.9	46.35	1.05	54.00	7.65	150	68	Vertical



4.2.2.1.16 802.11N20_Lowest Channel_Horizontal

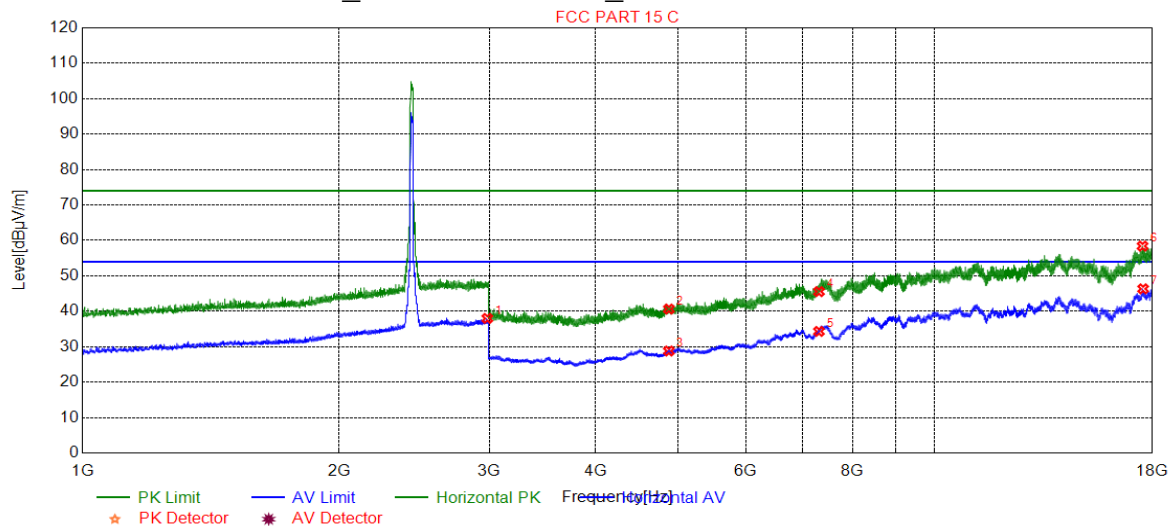


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2971.49	37.63	2.31	54.00	16.37	150	79	Horizontal
2	4824.00	39.39	-20.09	74.00	34.61	150	214	Horizontal
3	4824.00	27.91	-20.09	54.00	26.09	150	104	Horizontal
4	7236.00	44.57	-12.40	74.00	29.43	150	178	Horizontal
5	7236.00	32.97	-12.40	54.00	21.03	150	214	Horizontal
6	17547.4	46.17	0.96	54.00	7.83	150	260	Horizontal
7	17551.4	58.50	1.01	74.00	15.50	150	132	Horizontal



4.2.2.1.17 802.11N20_ Middle Channel_ Horizontal

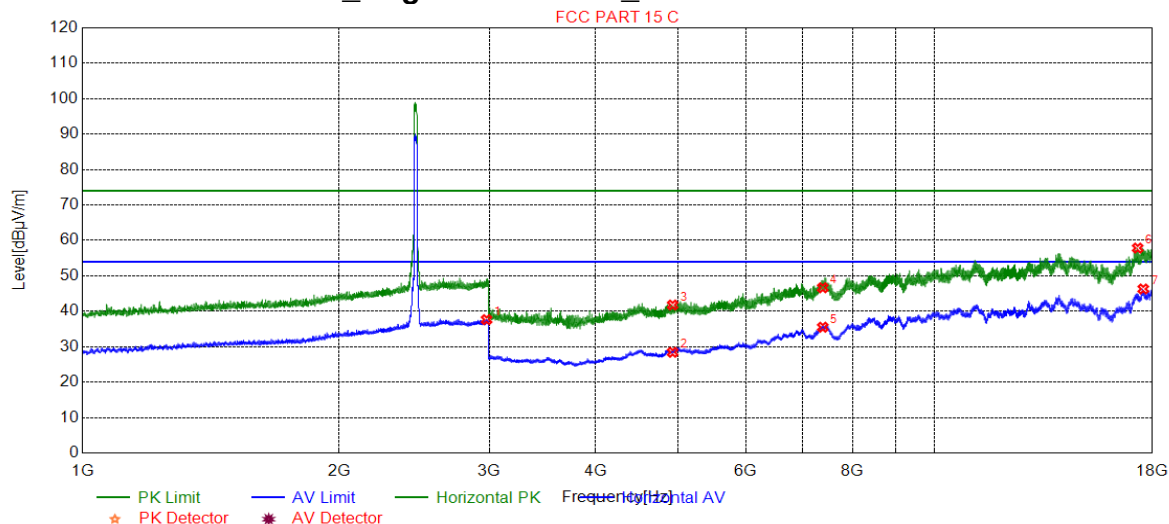


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2984.49	37.99	2.32	54.00	16.01	150	236	Horizontal
2	4874.00	40.64	-19.37	74.00	33.36	150	76	Horizontal
3	4874.00	28.79	-19.37	54.00	25.21	150	153	Horizontal
4	7311.00	45.56	-11.50	74.00	28.44	150	213	Horizontal
5	7311.00	34.32	-11.50	54.00	19.68	150	225	Horizontal
6	17522.9	58.40	0.64	74.00	15.60	150	153	Horizontal
7	17549.4	46.34	0.98	54.00	7.66	150	217	Horizontal



4.2.2.1.18 802.11N20_ Highest Channel_ Horizontal

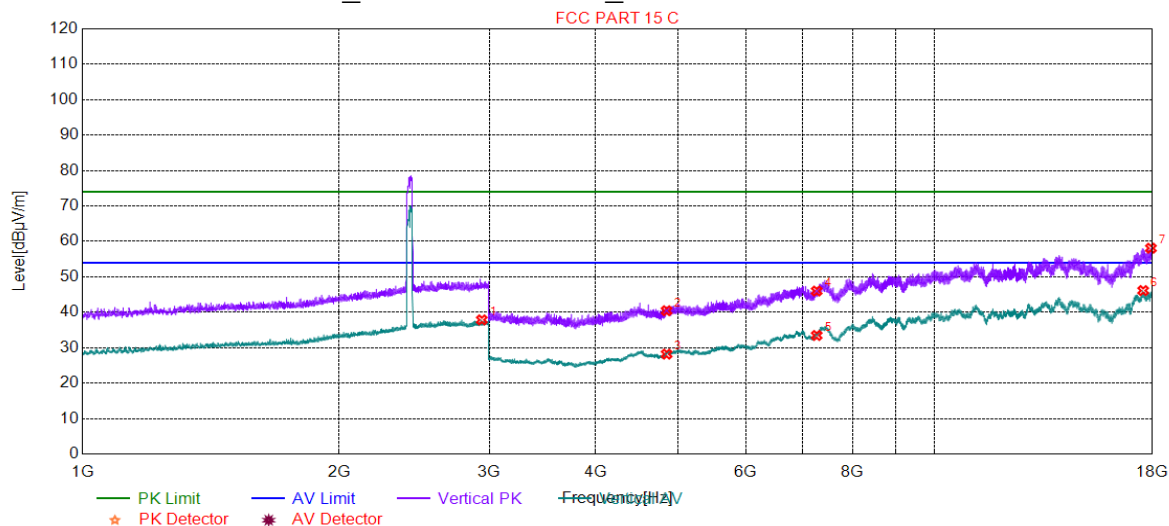


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2978.49	37.64	2.31	54.00	16.36	150	158	Horizontal
2	4924.00	28.43	-18.87	54.00	25.57	150	40	Horizontal
3	4924.00	41.78	-18.87	74.00	32.22	150	267	Horizontal
4	7386.00	46.65	-10.72	74.00	27.35	150	117	Horizontal
5	7386.00	35.51	-10.72	54.00	18.49	150	28	Horizontal
6	17292.9	57.84	-1.20	74.00	16.16	150	260	Horizontal
7	17557.4	46.30	1.09	54.00	7.70	150	27	Horizontal



4.2.2.1.19 802.11N40_Lowest Channel_Vertical

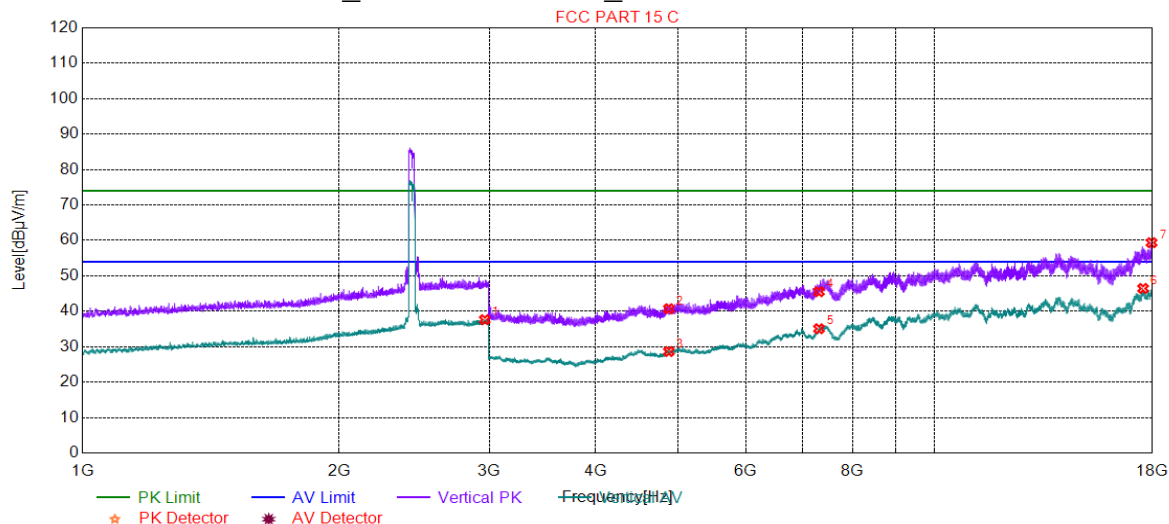


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2940.48	37.86	2.29	54.00	16.14	150	80	Vertical
2	4844.00	40.44	-19.80	74.00	33.56	150	360	Vertical
3	4844.00	28.20	-19.80	54.00	25.80	150	126	Vertical
4	7266.00	46.00	-12.03	74.00	28.00	150	102	Vertical
5	7266.00	33.47	-12.03	54.00	20.53	150	90	Vertical
6	17551.9	46.13	1.02	54.00	7.87	150	344	Vertical
7	17922.9	58.09	-0.94	74.00	15.91	150	300	Vertical



4.2.2.1.20 802.11N40_ Middle Channel_ Vertical

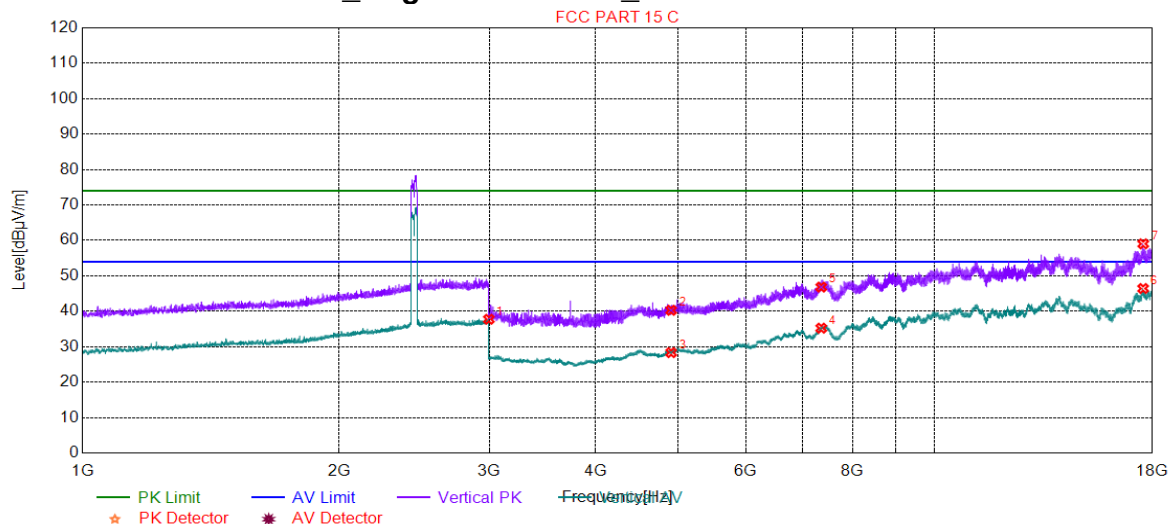


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2963.99	37.63	2.30	54.00	16.37	150	54	Vertical
2	4874.00	40.71	-19.37	74.00	33.29	150	52	Vertical
3	4874.00	28.64	-19.37	54.00	25.36	150	112	Vertical
4	7311.00	45.53	-11.50	74.00	28.47	150	100	Vertical
5	7311.00	35.08	-11.50	54.00	18.92	150	148	Vertical
6	17547.9	46.44	0.96	54.00	7.56	150	302	Vertical
7	17955.9	59.36	-0.68	74.00	14.64	150	46	Vertical



4.2.2.1.21 802.11N40_ Highest Channel_ Vertical

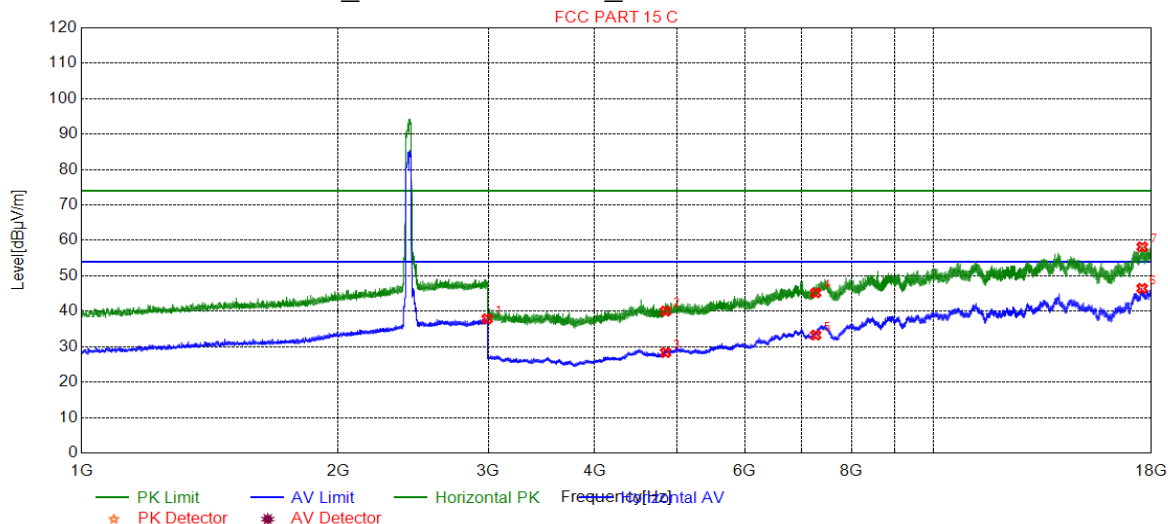


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2996.99	37.75	2.33	54.00	16.25	150	250	Vertical
2	4904.00	40.28	-18.98	74.00	33.72	150	28	Vertical
3	4904.00	28.34	-18.98	54.00	25.66	150	244	Vertical
4	7356.00	35.24	-11.03	54.00	18.76	150	208	Vertical
5	7356.00	46.83	-11.03	74.00	27.17	150	100	Vertical
6	17549.9	46.43	0.99	54.00	7.57	150	238	Vertical
7	17554.4	59.04	1.05	74.00	14.96	150	281	Vertical



4.2.2.1.22 802.11N40_Lowest Channel_Horizontal

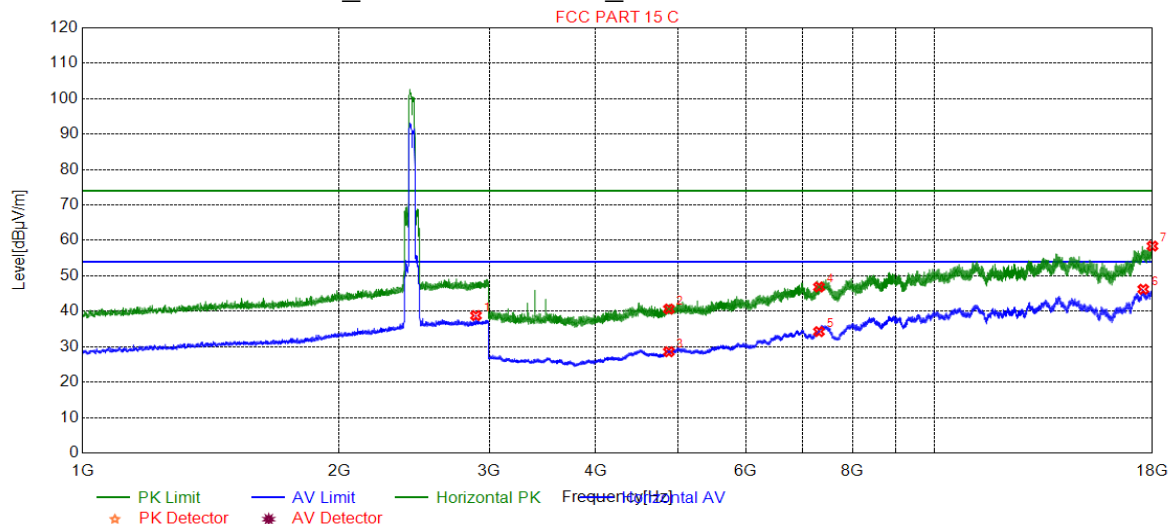


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2990.99	37.88	2.32	54.00	16.12	150	343	Horizontal
2	4844.00	40.04	-19.80	74.00	33.96	150	142	Horizontal
3	4844.00	28.37	-19.80	54.00	25.63	150	303	Horizontal
4	7266.00	45.21	-12.03	74.00	28.79	150	228	Horizontal
5	7266.00	33.28	-12.03	54.00	20.72	150	327	Horizontal
6	17551.4	46.46	1.01	54.00	7.54	150	132	Horizontal
7	17554.4	58.18	1.05	74.00	15.82	150	323	Horizontal



4.2.2.1.23 802.11N40_ Middle Channel_ Horizontal

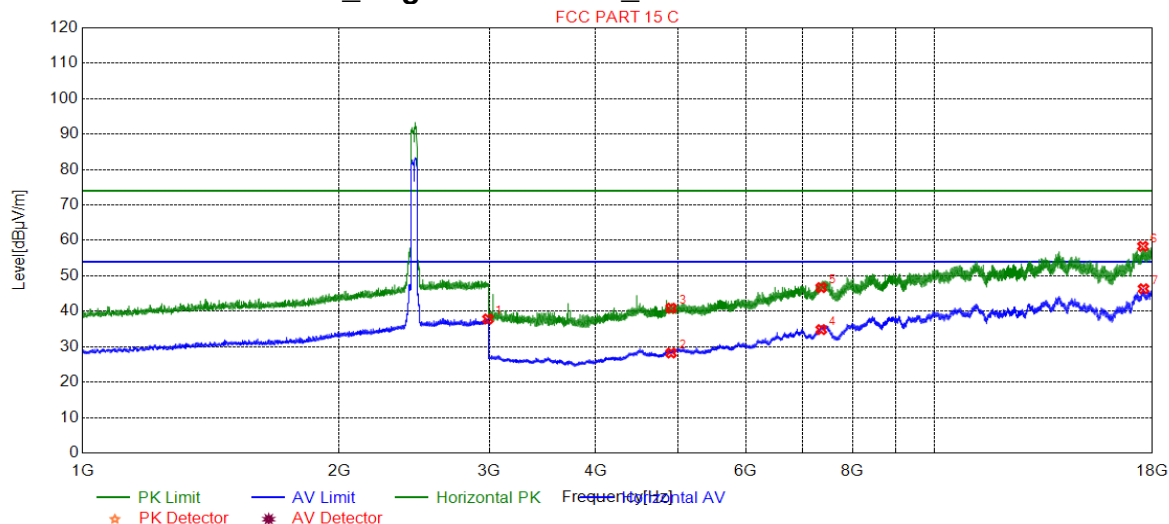


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2894.47	38.80	2.25	54.00	15.20	150	268	Horizontal
2	4874.00	40.64	-19.37	74.00	33.36	150	291	Horizontal
3	4874.00	28.58	-19.37	54.00	25.42	150	339	Horizontal
4	7311.00	46.86	-11.50	74.00	27.14	150	88	Horizontal
5	7311.00	34.26	-11.50	54.00	19.74	150	28	Horizontal
6	17556.9	46.22	1.08	54.00	7.78	150	344	Horizontal
7	17996.4	58.41	-0.38	74.00	15.59	150	174	Horizontal



4.2.2.1.24 802.11N40_ Highest Channel_ Horizontal



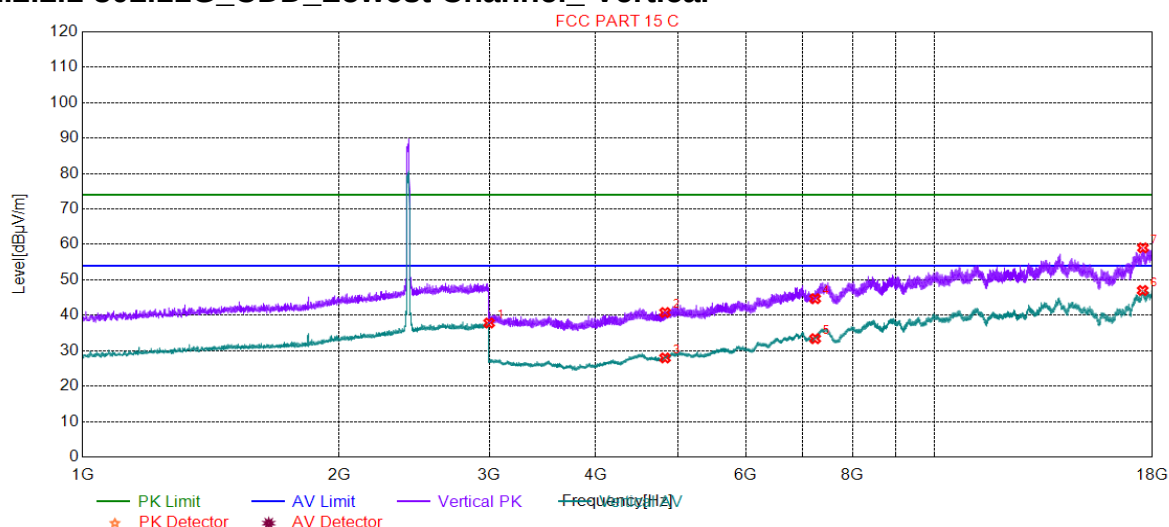
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2989.49	37.83	2.32	54.00	16.17	150	150	Horizontal
2	4904.00	28.22	-18.98	54.00	25.78	150	354	Horizontal
3	4904.00	40.88	-18.98	74.00	33.12	150	136	Horizontal
4	7356.00	34.83	-11.03	54.00	19.17	150	148	Horizontal
5	7356.00	46.68	-11.03	74.00	27.32	150	221	Horizontal
6	17540.9	58.34	0.87	74.00	15.66	150	66	Horizontal
7	17568.9	46.36	1.23	54.00	7.64	150	45	Horizontal



4.2.2.2 CDD & MIMO

4.2.2.2.1 802.11G_CDD_Lowest Channel_Vertical

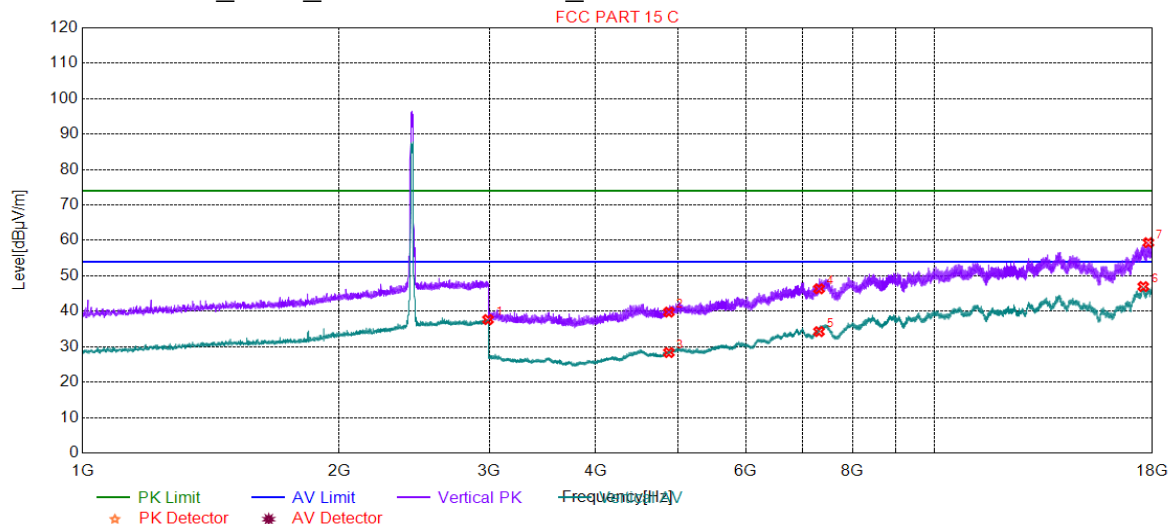


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2998.99	37.83	2.33	54.00	16.17	150	66	Vertical
2	4824.00	40.78	-20.09	74.00	33.22	150	288	Vertical
3	4824.00	27.96	-20.09	54.00	26.04	150	288	Vertical
4	7236.00	44.69	-12.40	74.00	29.31	150	351	Vertical
5	7236.00	33.40	-12.40	54.00	20.60	150	27	Vertical
6	17526.9	47.00	0.70	54.00	7.00	150	258	Vertical
7	17540.9	59.03	0.87	74.00	14.97	150	322	Vertical



4.2.2.2.2 802.11G_CDD_ Middle Channel_ Vertical

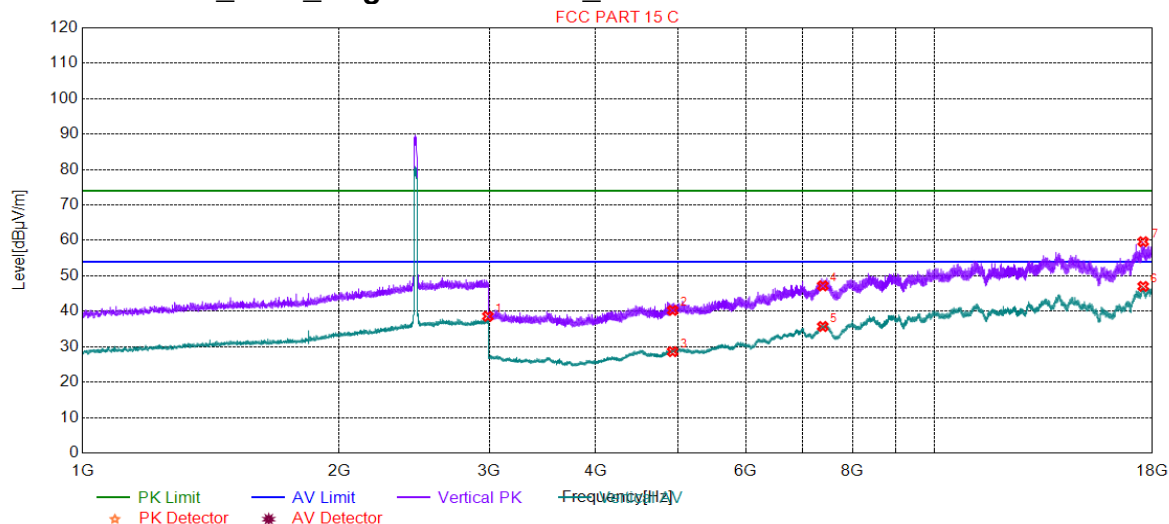


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2989.99	37.66	2.32	54.00	16.34	150	184	Vertical
2	4874.00	39.77	-19.37	74.00	34.23	150	66	Vertical
3	4874.00	28.35	-19.37	54.00	25.65	150	233	Vertical
4	7311.00	46.34	-11.50	74.00	27.66	150	358	Vertical
5	7311.00	34.27	-11.50	54.00	19.73	150	152	Vertical
6	17555.4	46.97	1.06	54.00	7.03	150	228	Vertical
7	17802.4	59.37	-0.78	74.00	14.63	150	314	Vertical



4.2.2.2.3 802.11G_CDD_ Highest Channel_ Vertical

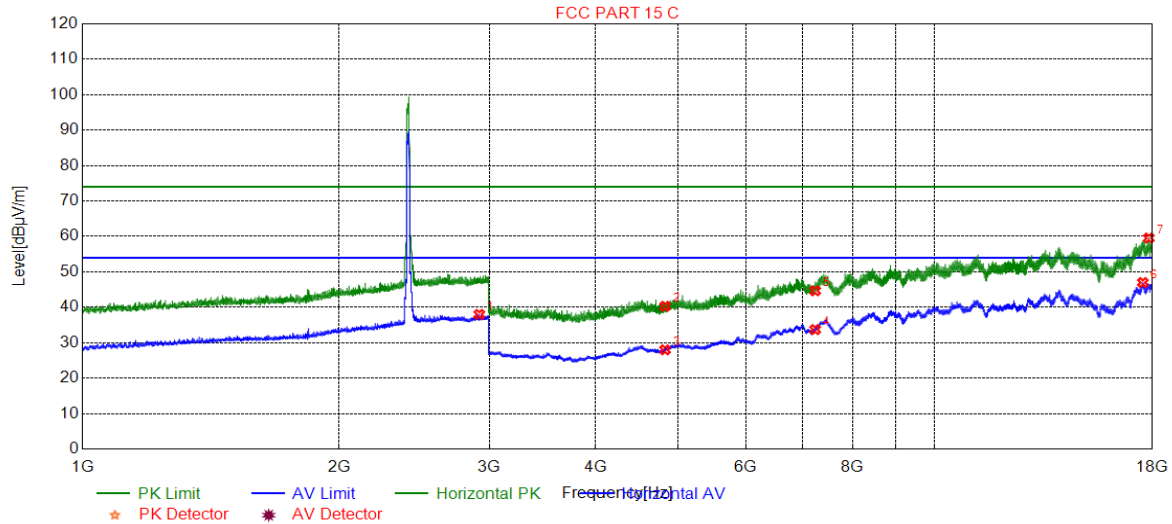


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2988.99	38.57	2.32	54.00	15.43	150	58	Vertical
2	4924.00	40.26	-18.87	74.00	33.74	150	243	Vertical
3	4924.00	28.61	-18.87	54.00	25.39	150	18	Vertical
4	7386.00	47.18	-10.72	74.00	26.82	150	67	Vertical
5	7386.00	35.71	-10.72	54.00	18.29	150	164	Vertical
6	17552.4	47.02	1.02	54.00	6.98	150	59	Vertical
7	17553.4	59.64	1.03	74.00	14.36	150	285	Vertical



4.2.2.2.4 802.11G_CDD_Lowest Channel_Horizontal

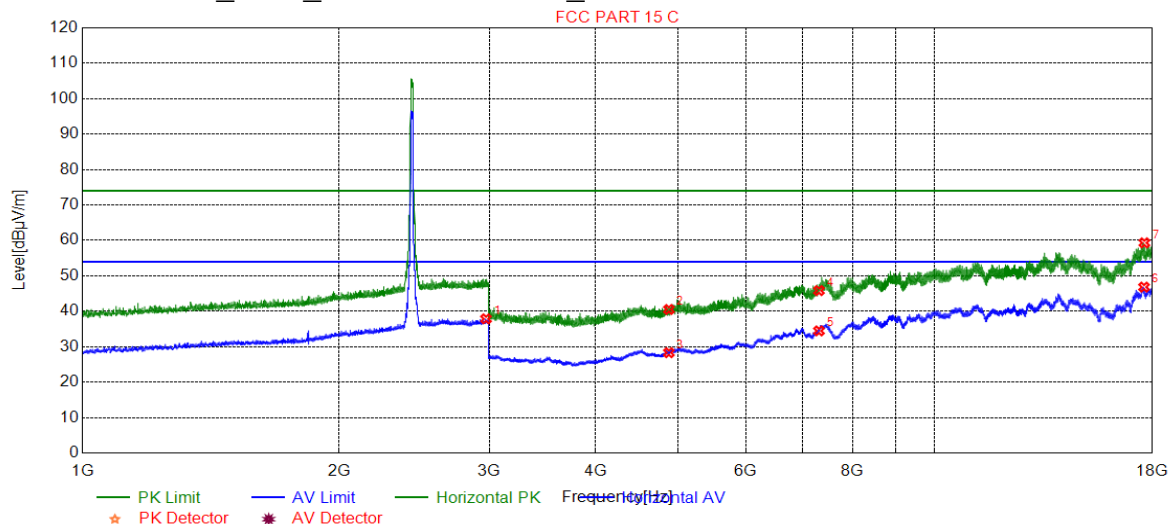


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2920.48	38.00	2.27	54.00	16.00	150	326	Horizontal
2	4824.00	40.29	-20.09	74.00	33.71	150	52	Horizontal
3	4824.00	28.00	-20.09	54.00	26.00	150	360	Horizontal
4	7236.00	33.71	-12.40	54.00	20.29	150	149	Horizontal
5	7236.00	44.65	-12.40	74.00	29.35	150	294	Horizontal
6	17536.4	46.98	0.82	54.00	7.02	150	302	Horizontal
7	17821.9	59.55	-0.84	74.00	14.45	150	46	Horizontal



4.2.2.2.5 802.11G_CDD_ Middle Channel_ Horizontal

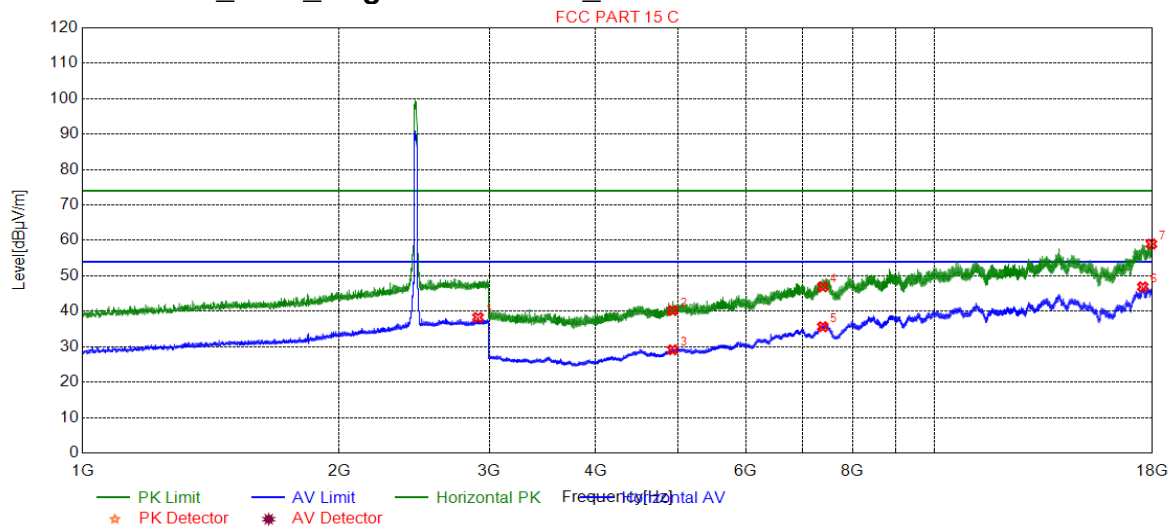


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2973.99	37.86	2.31	54.00	16.14	150	226	Horizontal
2	4874.00	40.52	-19.37	74.00	33.48	150	18	Horizontal
3	4874.00	28.32	-19.37	54.00	25.68	150	18	Horizontal
4	7311.00	45.84	-11.50	74.00	28.16	150	304	Horizontal
5	7311.00	34.47	-11.50	54.00	19.53	150	224	Horizontal
6	17592.4	46.83	1.53	54.00	7.17	150	30	Horizontal
7	17607.9	59.32	1.42	74.00	14.68	150	171	Horizontal



4.2.2.2.6 802.11G_CDD_ Highest Channel_ Horizontal

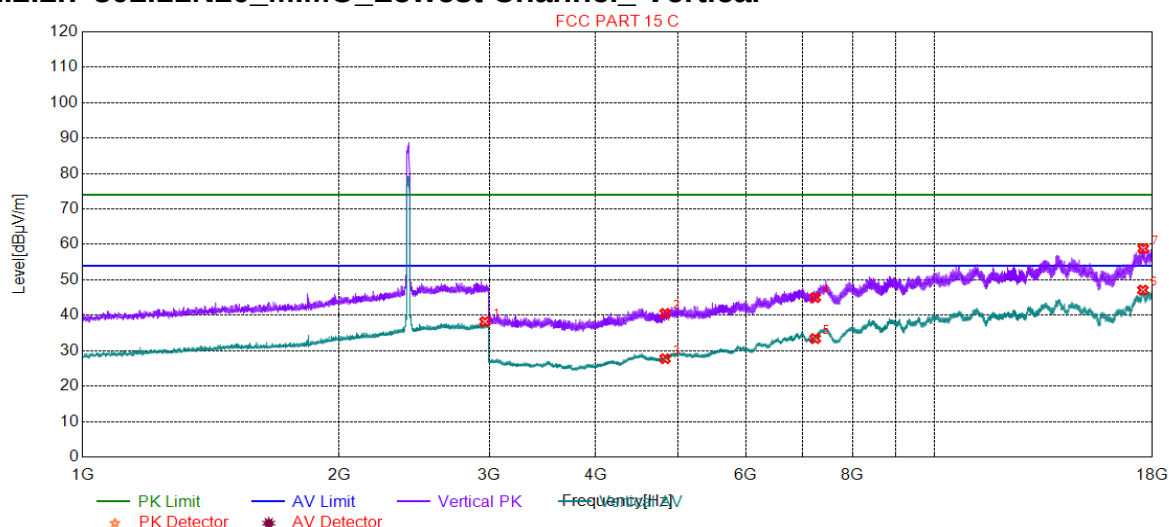


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2910.47	38.27	2.27	54.00	15.73	150	285	Horizontal
2	4924.00	40.20	-18.87	74.00	33.80	150	339	Horizontal
3	4924.00	29.13	-18.87	54.00	24.87	150	18	Horizontal
4	7386.00	46.91	-10.72	74.00	27.09	150	339	Horizontal
5	7386.00	35.64	-10.72	54.00	18.36	150	307	Horizontal
6	17533.9	46.89	0.78	54.00	7.11	150	87	Horizontal
7	17946.4	59.00	-0.76	74.00	15.00	150	228	Horizontal



4.2.2.2.7 802.11N20_MIMO_Lowest Channel_Vertical

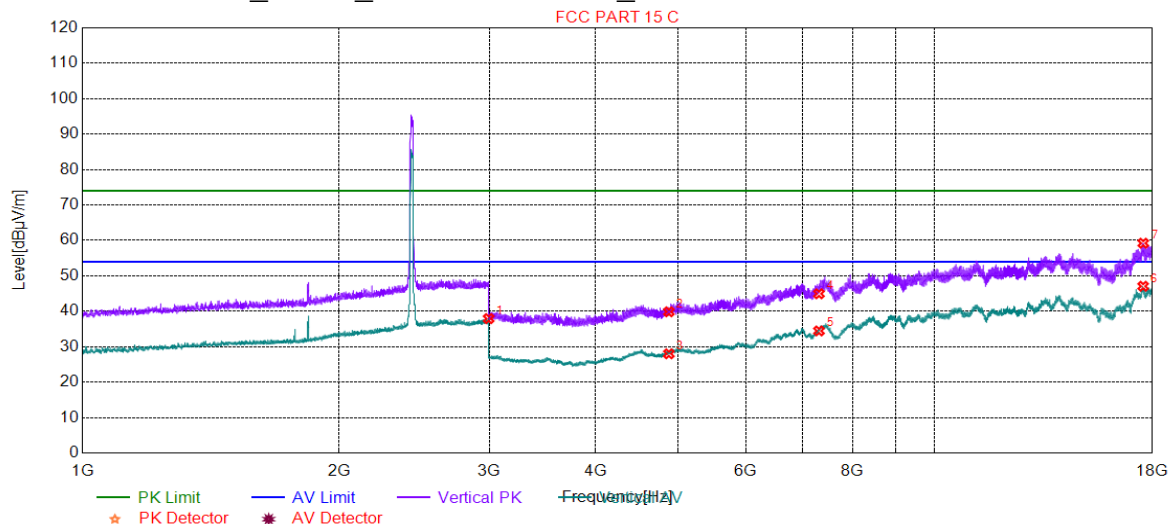


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2965.49	38.21	2.31	54.00	15.79	150	88	Vertical
2	4824.00	40.53	-20.09	74.00	33.47	150	211	Vertical
3	4824.00	27.74	-20.09	54.00	26.26	150	179	Vertical
4	7236.00	45.01	-12.40	74.00	28.99	150	99	Vertical
5	7236.00	33.43	-12.40	54.00	20.57	150	66	Vertical
6	17537.9	47.11	0.84	54.00	6.89	150	314	Vertical
7	17554.9	58.83	1.05	74.00	15.17	150	257	Vertical



4.2.2.2.8 802.11N20_MIMO_Middle Channel_Vertical

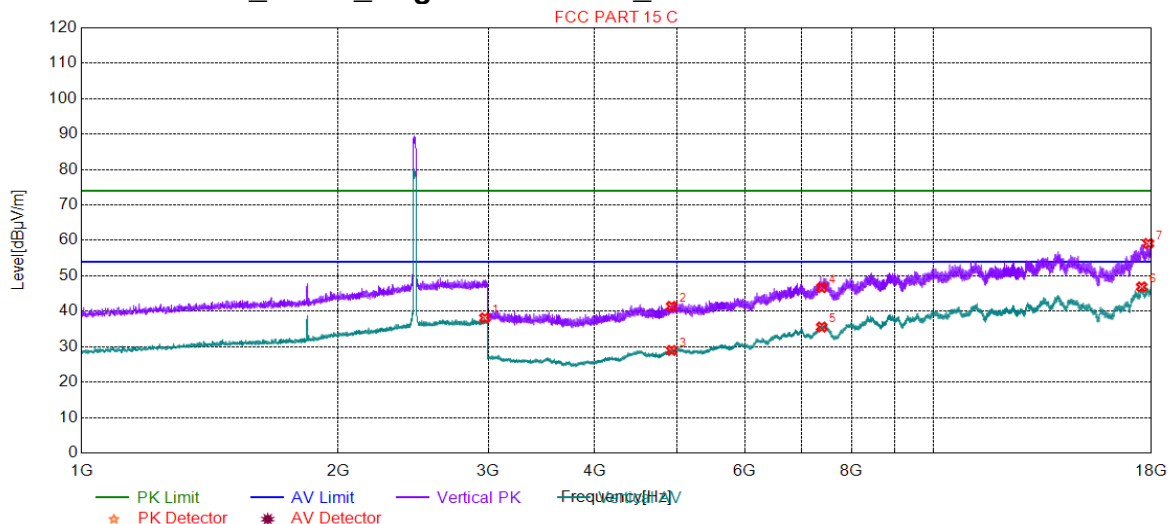


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2995.49	37.93	2.33	54.00	16.07	150	137	Vertical
2	4874.00	39.86	-19.37	74.00	34.14	150	18	Vertical
3	4874.00	28.01	-19.37	54.00	25.99	150	270	Vertical
4	7311.00	44.95	-11.50	74.00	29.05	150	173	Vertical
5	7311.00	34.46	-11.50	54.00	19.54	150	360	Vertical
6	17550.4	47.07	1.00	54.00	6.93	150	116	Vertical
7	17555.4	59.22	1.06	74.00	14.78	150	229	Vertical



4.2.2.2.9 802.11N20_MIMO_Highest Channel_Vertical

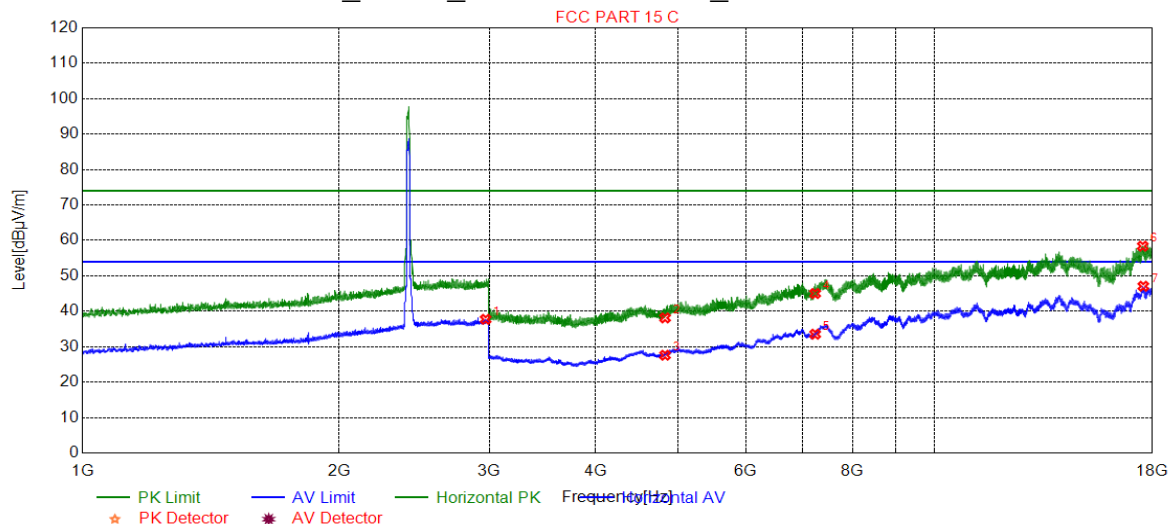


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2972.49	38.13	2.31	54.00	15.87	150	264	Vertical
2	4924.00	41.41	-18.87	74.00	32.59	150	301	Vertical
3	4924.00	28.96	-18.87	54.00	25.04	150	178	Vertical
4	7386.00	46.69	-10.72	74.00	27.31	150	51	Vertical
5	7386.00	35.56	-10.72	54.00	18.44	150	147	Vertical
6	17529.9	46.88	0.73	54.00	7.12	150	342	Vertical
7	17848.9	59.14	-0.94	74.00	14.86	150	307	Vertical



4.2.2.2.10 802.11N20_MIMO_Lowest Channel_Horizontal

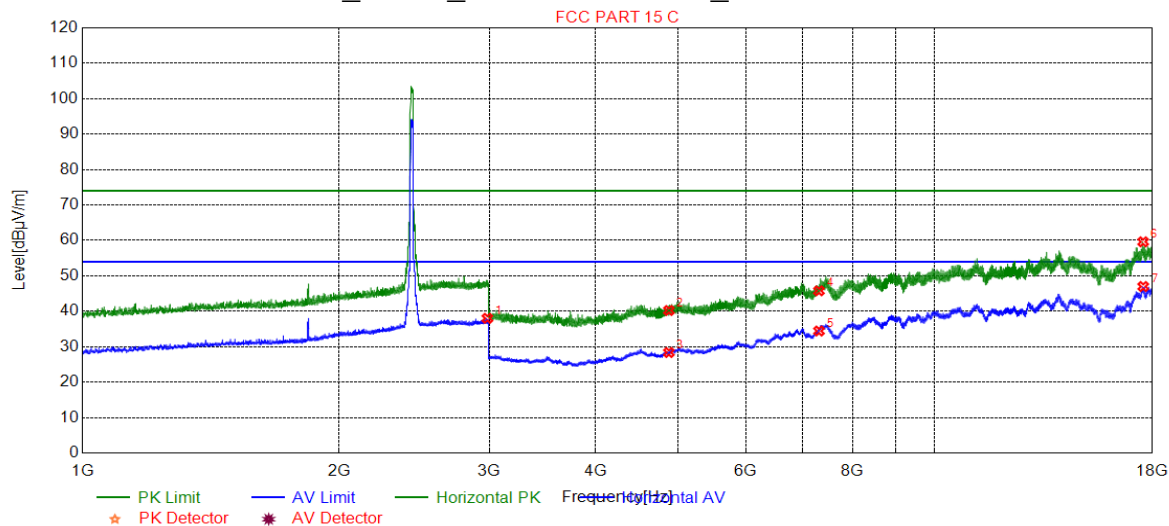


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2970.99	37.73	2.31	54.00	16.27	150	112	Horizontal
2	4824.00	38.13	-20.09	74.00	35.87	150	161	Horizontal
3	4824.00	27.60	-20.09	54.00	26.40	150	92	Horizontal
4	7236.00	45.02	-12.40	74.00	28.98	150	242	Horizontal
5	7236.00	33.54	-12.40	54.00	20.46	150	274	Horizontal
6	17530.4	58.38	0.74	74.00	15.62	150	314	Horizontal
7	17557.4	47.07	1.09	54.00	6.93	150	74	Horizontal



4.2.2.2.11 802.11N20_MIMO_Middle Channel_Horizontal

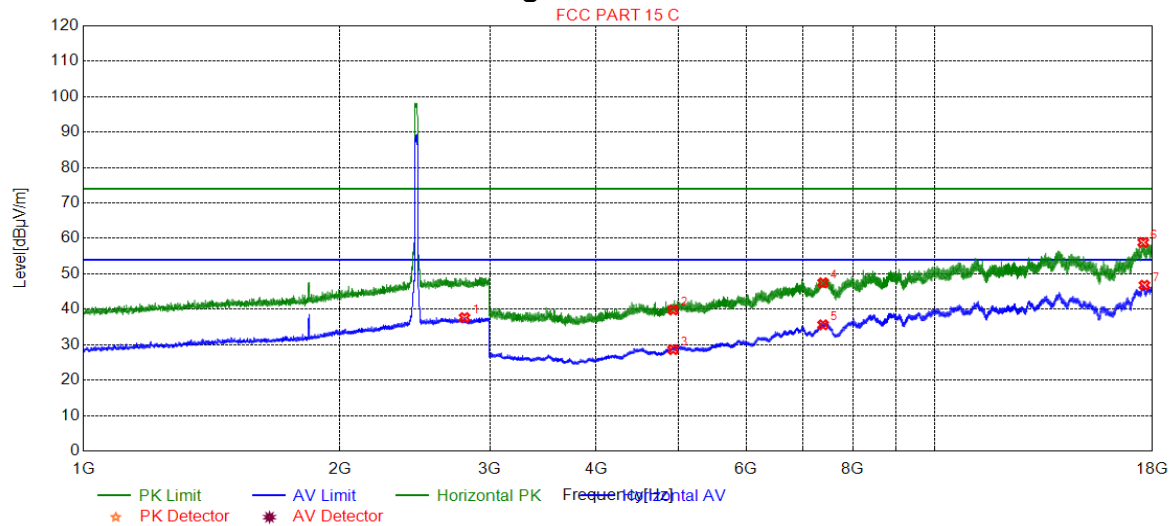


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2984.99	38.02	2.32	54.00	15.98	150	138	Horizontal
2	4874.00	40.22	-19.37	74.00	33.78	150	320	Horizontal
3	4874.00	28.37	-19.37	54.00	25.63	150	338	Horizontal
4	7311.00	45.78	-11.50	74.00	28.22	150	34	Horizontal
5	7311.00	34.44	-11.50	54.00	19.56	150	98	Horizontal
6	17550.9	59.61	1.00	74.00	14.39	150	110	Horizontal
7	17554.4	46.99	1.05	54.00	7.01	150	82	Horizontal



4.2.2.2.12 802.11N20_MIMO_Highest Channel_Horizontal

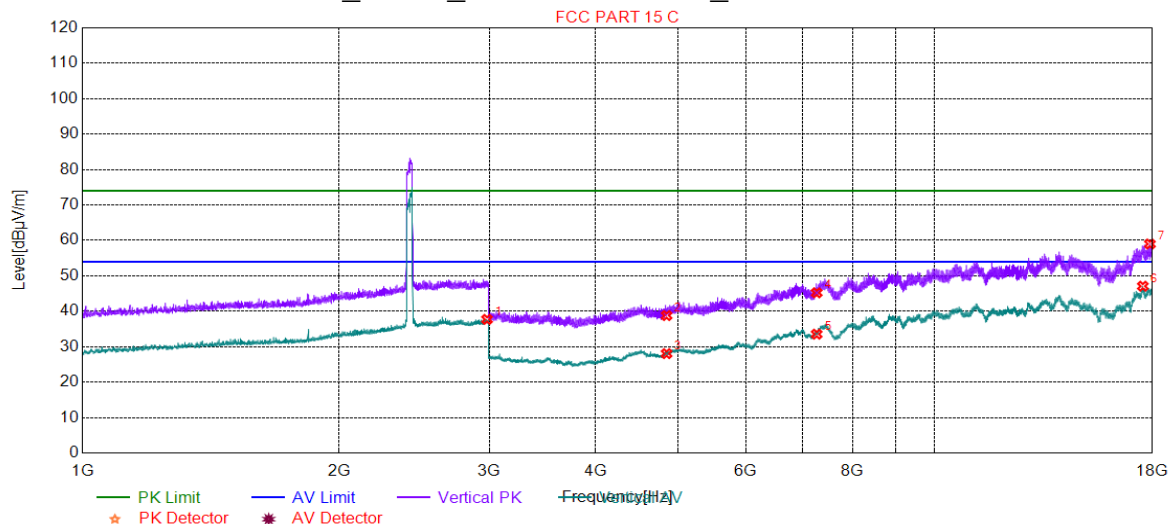


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2801.95	37.64	2.14	54.00	16.36	150	33	Horizontal
2	4924.00	39.81	-18.87	74.00	34.19	150	34	Horizontal
3	4924.00	28.62	-18.87	54.00	25.38	150	292	Horizontal
4	7386.00	47.47	-10.72	74.00	26.53	150	180	Horizontal
5	7386.00	35.62	-10.72	54.00	18.38	150	276	Horizontal
6	17551.9	58.86	1.02	74.00	15.14	150	171	Horizontal
7	17607.4	46.79	1.44	54.00	7.21	150	314	Horizontal



4.2.2.2.13 802.11N40_MIMO_Lowest Channel_Vertical

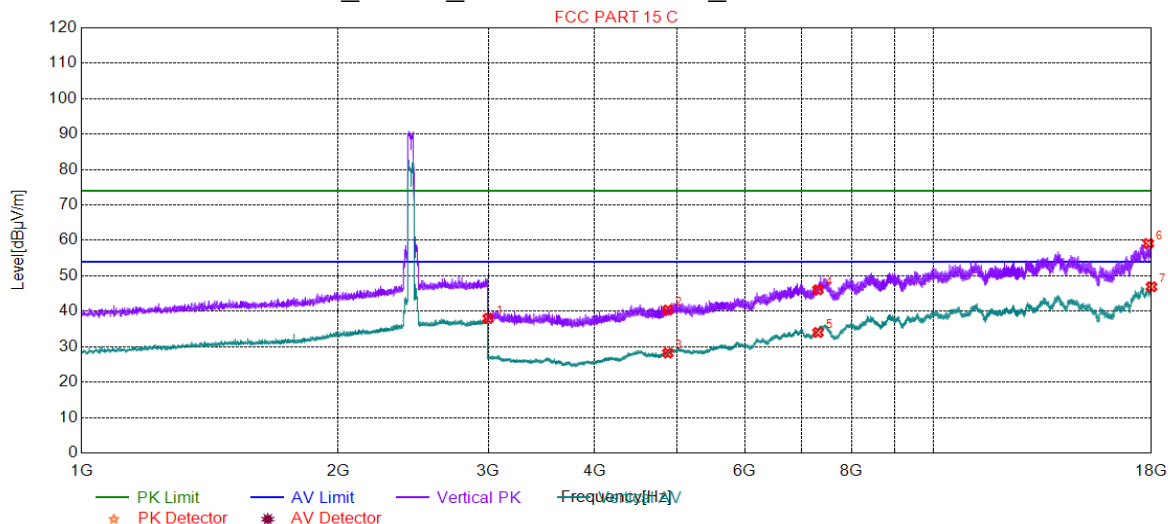


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2981.99	37.72	2.32	54.00	16.28	150	21	Vertical
2	4844.00	38.80	-19.80	74.00	35.20	150	307	Vertical
3	4844.00	28.06	-19.80	54.00	25.94	150	275	Vertical
4	7266.00	45.22	-12.03	74.00	28.78	150	50	Vertical
5	7266.00	33.55	-12.03	54.00	20.45	150	34	Vertical
6	17535.4	47.08	0.80	54.00	6.92	150	200	Vertical
7	17874.9	58.99	-1.02	74.00	15.01	150	257	Vertical



4.2.2.2.14 802.11N40_MIMO_Middle Channel_Vertical

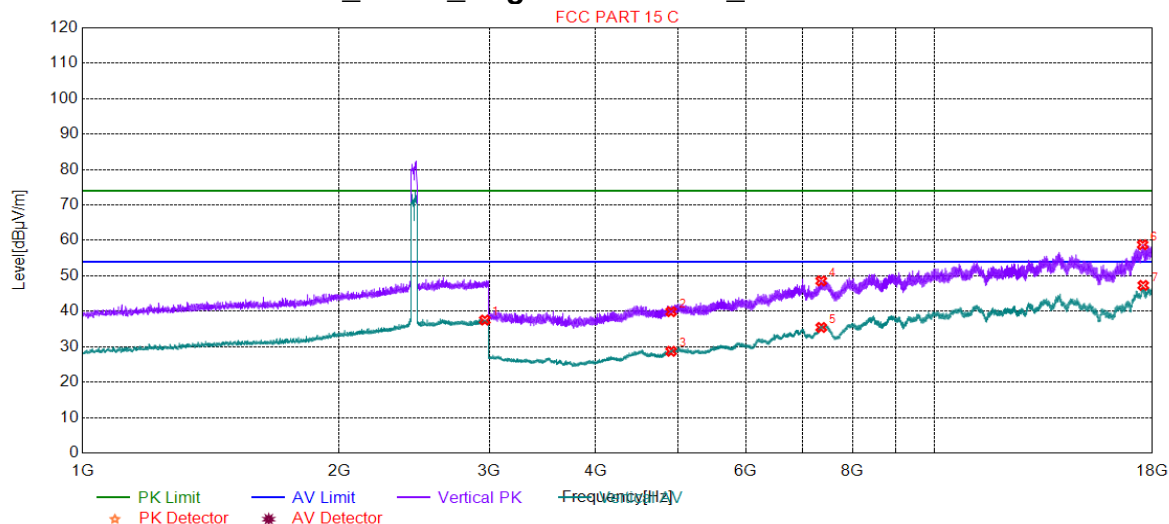


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2998.99	38.00	2.33	54.00	16.00	150	287	Vertical
2	4874.00	40.38	-19.37	74.00	33.62	150	214	Vertical
3	4874.00	28.23	-19.37	54.00	25.77	150	178	Vertical
4	7311.00	46.08	-11.50	74.00	27.92	150	18	Vertical
5	7311.00	34.02	-11.50	54.00	19.98	150	214	Vertical
6	17848.9	59.14	-0.94	74.00	14.86	150	307	Vertical
7	18000.0	46.93	-0.35	54.00	7.07	150	25	Vertical



4.2.2.2.15 802.11N40_MIMO_Highest Channel_Vertical

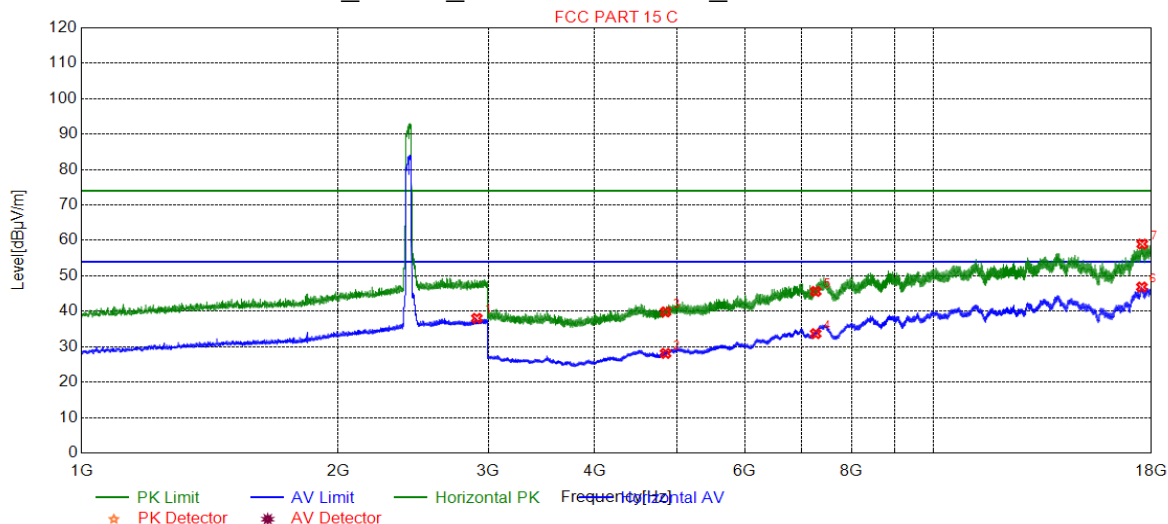


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2964.49	37.53	2.31	54.00	16.47	150	217	Vertical
2	4904.00	39.89	-18.98	74.00	34.11	150	260	Vertical
3	4904.00	28.70	-18.98	54.00	25.30	150	211	Vertical
4	7356.00	48.57	-11.03	74.00	25.43	150	211	Vertical
5	7356.00	35.44	-11.03	54.00	18.56	150	260	Vertical
6	17527.4	58.79	0.70	74.00	15.21	150	199	Vertical
7	17553.4	47.31	1.03	54.00	6.69	150	342	Vertical



4.2.2.2.16 802.11N40_MIMO_Lowest Channel_Horizontal

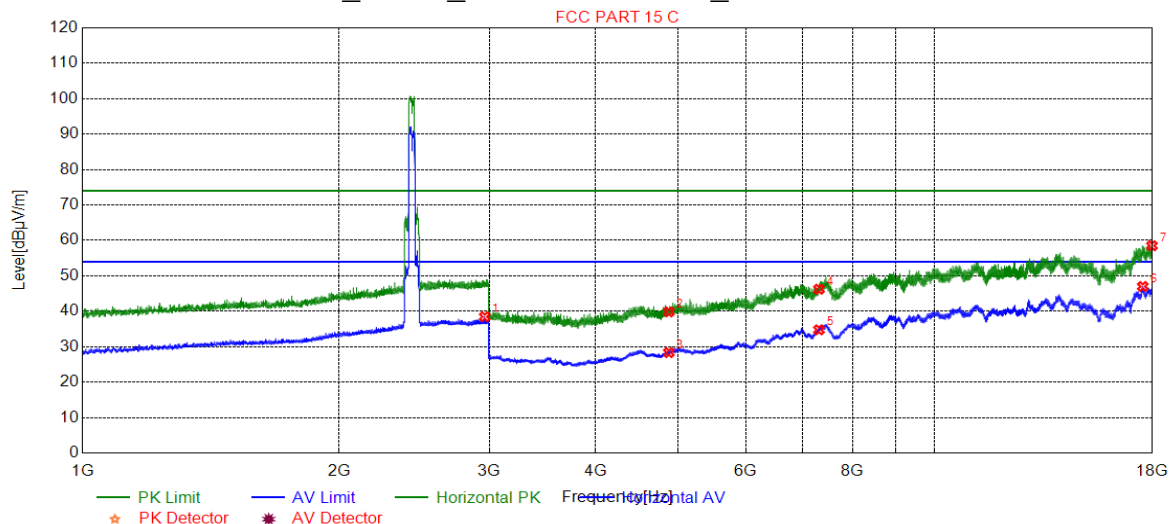


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2909.47	38.03	2.27	54.00	15.97	150	175	Horizontal
2	4844.00	28.12	-19.80	54.00	25.88	150	280	Horizontal
3	4844.00	39.82	-19.80	74.00	34.18	150	82	Horizontal
4	7266.00	33.69	-12.03	54.00	20.31	150	18	Horizontal
5	7266.00	45.60	-12.03	74.00	28.40	150	18	Horizontal
6	17537.4	46.86	0.83	54.00	7.14	150	25	Horizontal
7	17552.9	58.97	1.03	74.00	15.03	150	342	Horizontal



4.2.2.2.17 802.11N40_MIMO_Middle Channel_Horizontal

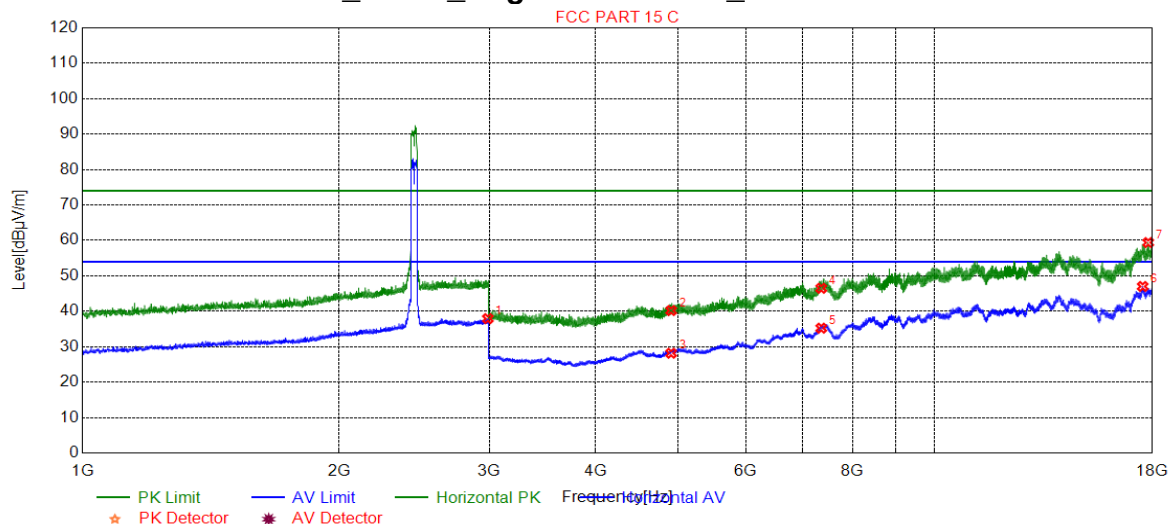


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2963.49	38.47	2.30	54.00	15.53	150	137	Horizontal
2	4874.00	39.83	-19.37	74.00	34.17	150	69	Horizontal
3	4874.00	28.34	-19.37	54.00	25.66	150	141	Horizontal
4	7311.00	46.24	-11.50	74.00	27.76	150	270	Horizontal
5	7311.00	34.77	-11.50	54.00	19.23	150	359	Horizontal
6	17533.4	47.00	0.78	54.00	7.00	150	313	Horizontal
7	17975.9	58.51	-0.53	74.00	15.49	150	54	Horizontal



4.2.2.2.18 802.11N40_MIMO_Highest Channel_Horizontal



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2988.99	37.93	2.32	54.00	16.07	150	325	Horizontal
2	4904.00	40.21	-18.98	74.00	33.79	150	71	Horizontal
3	4904.00	28.16	-18.98	54.00	25.84	150	151	Horizontal
4	7356.00	46.49	-11.03	74.00	27.51	150	280	Horizontal
5	7356.00	35.24	-11.03	54.00	18.76	150	358	Horizontal
6	17529.9	47.01	0.73	54.00	6.99	150	111	Horizontal
7	17793.4	59.40	-0.78	74.00	14.60	150	308	Horizontal

Remark:

- 1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
- 2) Scan from 9kHz to 25GHz, the disturbance between 9KHz to 30MHz and 18GHz to 25GHz was very low, and the above harmonics were the highest point could be found when testing, The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 3) As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.
- 4) All Modes have been tested, but only the worst case data displayed in this report.



4.3 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205		
Test Method:	ANSI C63.10: 2013 Section 11.12		
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)		
Limit:	Frequency	Limit (dBuV/m @3m)	Remark
	30MHz-88MHz	40.0	Quasi-peak Value
	88MHz-216MHz	43.5	Quasi-peak Value
	216MHz-960MHz	46.0	Quasi-peak Value
	960MHz-1GHz	54.0	Quasi-peak Value
	Above 1GHz	54.0	Average Value
		74.0	Peak Value
Test Setup:			

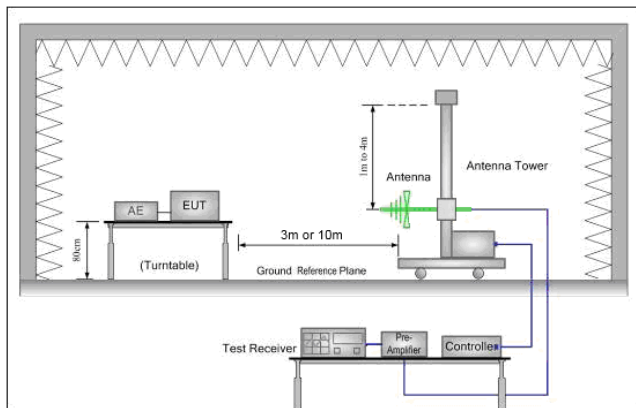


Figure 1. 30MHz to 1GHz

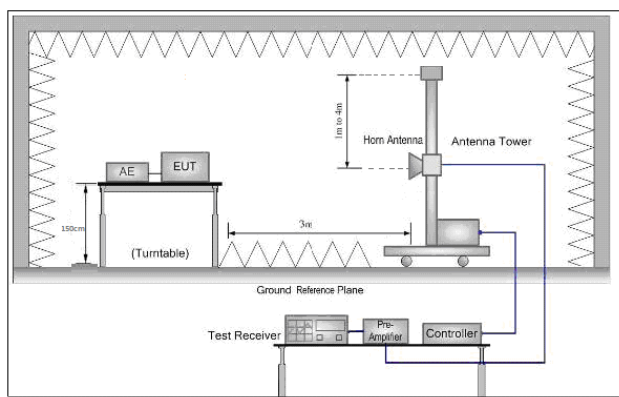


Figure 2. Above 1 GHz



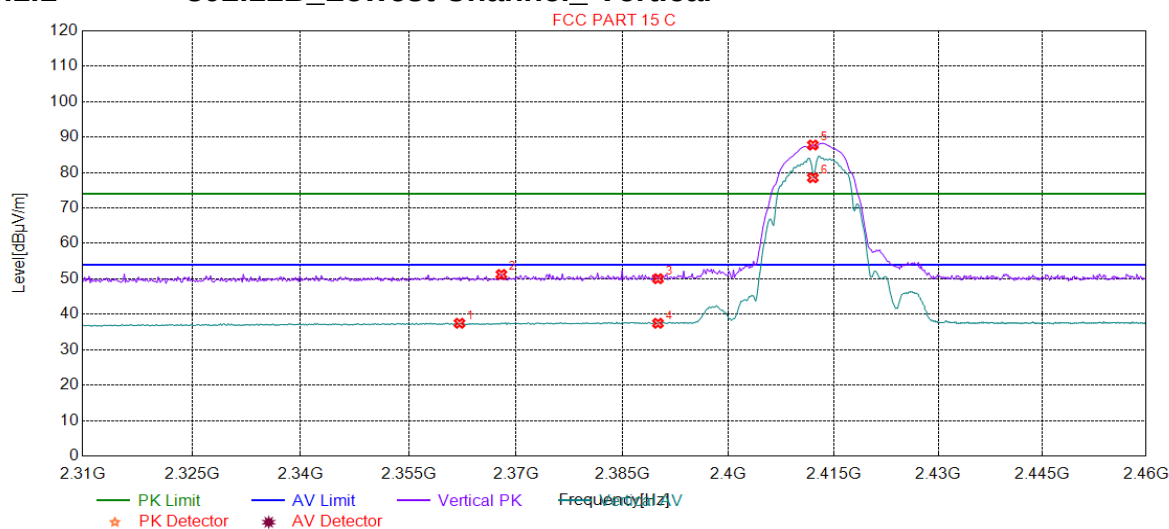
Test Procedure:	a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. g. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel h. Test the EUT in the lowest channel , the Highest channel i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case. j. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates. Charge + Transmitting mode.
Final Test Mode:	Pretest the EUT at Charge +Transmitting mode. Through Pre-scan, find the 1Mbps of rate is the worst case of 802.11B; 6Mbps of rate is the worst case of 802.11G ; 6.5Mbps of rate is the worst case of 802.11N(HT20); 13.5Mbps of rate is the worst case of 802.11N(HT40). Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass



Test plot as follows:

4.3.1 ANT1

4.3.1.1 802.11B_Lowest Channel_Vertical

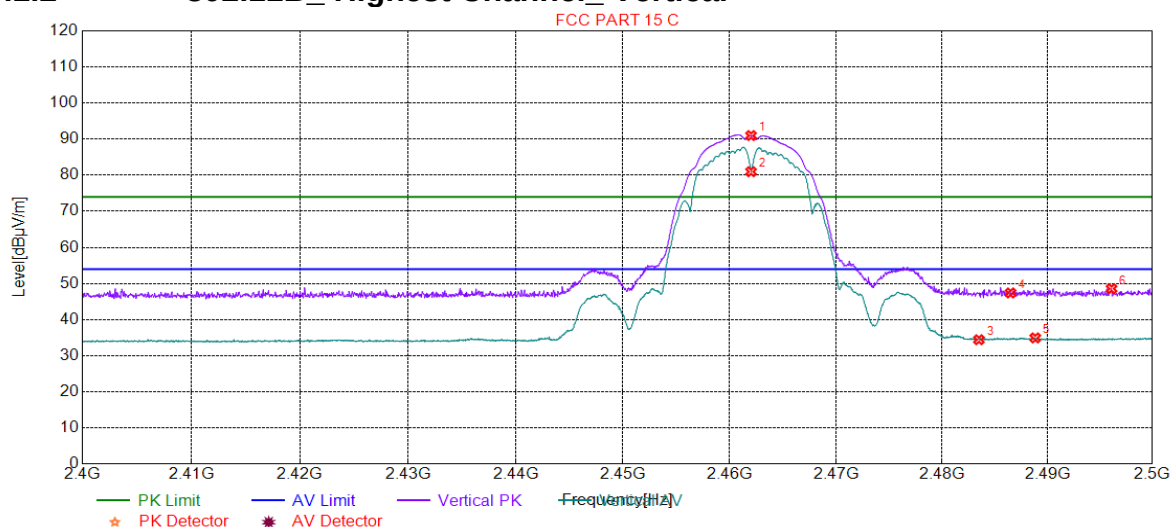


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2362.10	37.46	1.12	54.00	16.54	150	319	Vertical
2	2367.95	51.25	1.15	74.00	22.75	150	322	Vertical
3	2390.00	50.04	1.25	74.00	23.96	150	60	Vertical
4	2390.00	37.46	1.25	54.00	16.54	150	316	Vertical
5	2412.00	87.77	1.32	74.00	-13.77	150	168	Vertical
6	2412.00	78.54	1.32	54.00	-24.54	150	23	Vertical



4.3.1.2 802.11B_ Highest Channel_ Vertical

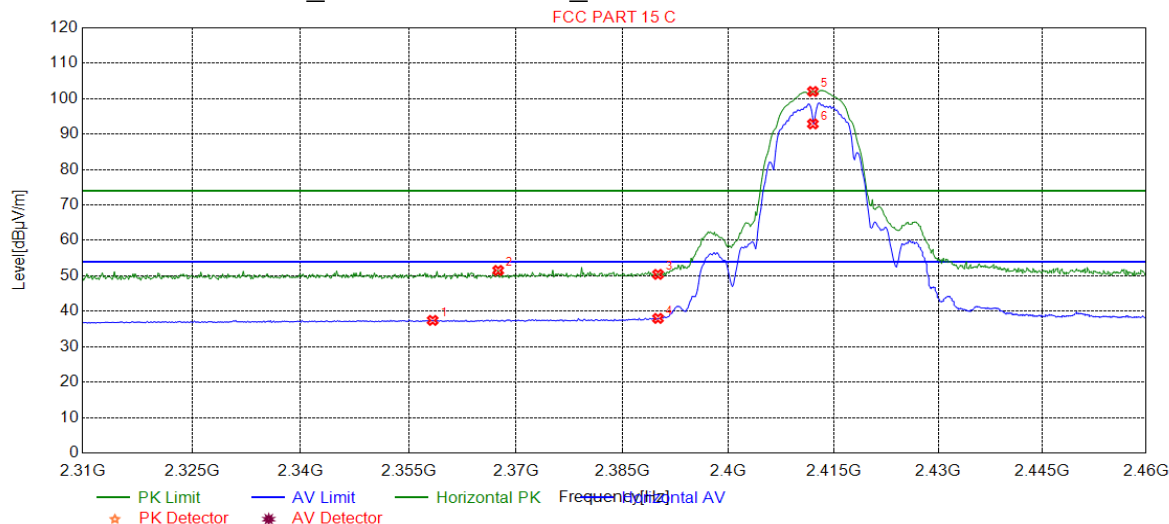


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.00	90.98	1.46	74.00	-16.98	150	2	Vertical
2	2462.00	80.97	1.46	54.00	-26.97	150	0	Vertical
3	2483.50	34.42	1.52	54.00	19.58	150	209	Vertical
4	2486.50	47.38	1.53	74.00	26.62	150	88	Vertical
5	2488.84	34.92	1.54	54.00	19.08	150	84	Vertical
6	2496.09	48.55	1.56	74.00	25.45	150	95	Vertical



4.3.1.3 802.11B_Lowest Channel_Horizontal

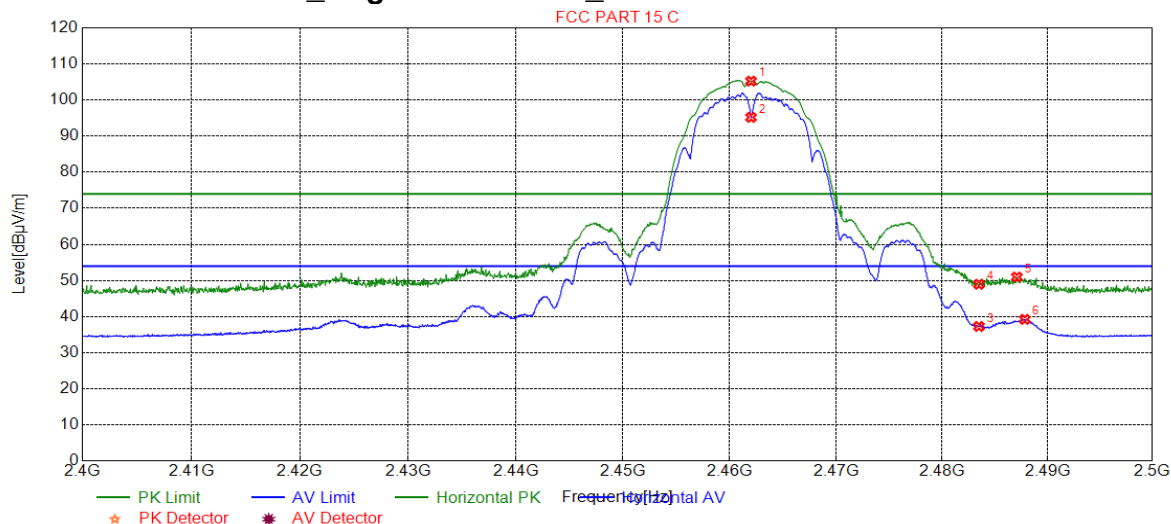


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2358.34	37.43	1.11	54.00	16.57	150	322	Horizontal
2	2367.50	51.53	1.15	74.00	22.47	150	228	Horizontal
3	2390.00	50.42	1.25	74.00	23.58	150	47	Horizontal
4	2390.00	38.00	1.25	54.00	16.00	150	35	Horizontal
5	2412.00	102.04	1.32	74.00	-28.04	150	53	Horizontal
6	2412.00	92.89	1.32	54.00	-38.89	150	50	Horizontal



4.3.1.4 802.11B_ Highest Channel_ Horizontal



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.00	105.23	1.46	74.00	-31.23	150	48	Horizontal
2	2462.00	95.20	1.46	54.00	-41.20	150	59	Horizontal
3	2483.50	37.27	1.52	54.00	16.73	150	44	Horizontal
4	2483.50	48.96	1.52	74.00	25.04	150	67	Horizontal
5	2487.09	50.96	1.53	74.00	23.04	150	25	Horizontal
6	2487.84	39.23	1.54	54.00	14.77	150	44	Horizontal



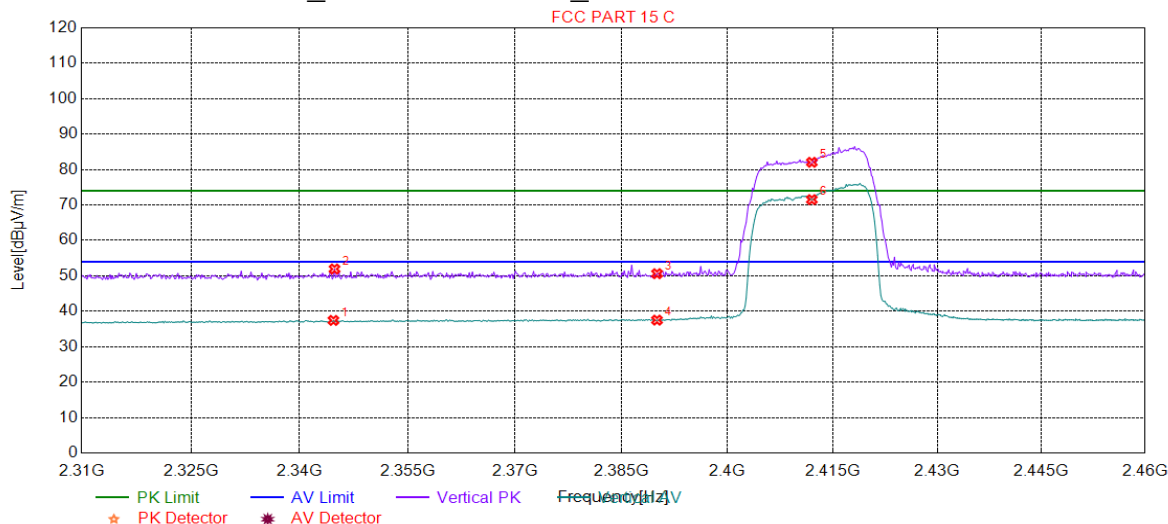
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4.3.1.5 802.11G_Lowest Channel_Vertical



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2344.68	37.43	1.05	54.00	16.57	150	6	Vertical
2	2344.83	51.93	1.05	74.00	22.07	150	286	Vertical
3	2390.00	50.62	1.25	74.00	23.38	150	15	Vertical
4	2390.00	37.51	1.25	54.00	16.49	150	27	Vertical
5	2412.00	82.05	1.32	74.00	-8.05	150	24	Vertical
6	2412.00	71.52	1.32	54.00	-17.52	150	346	Vertical



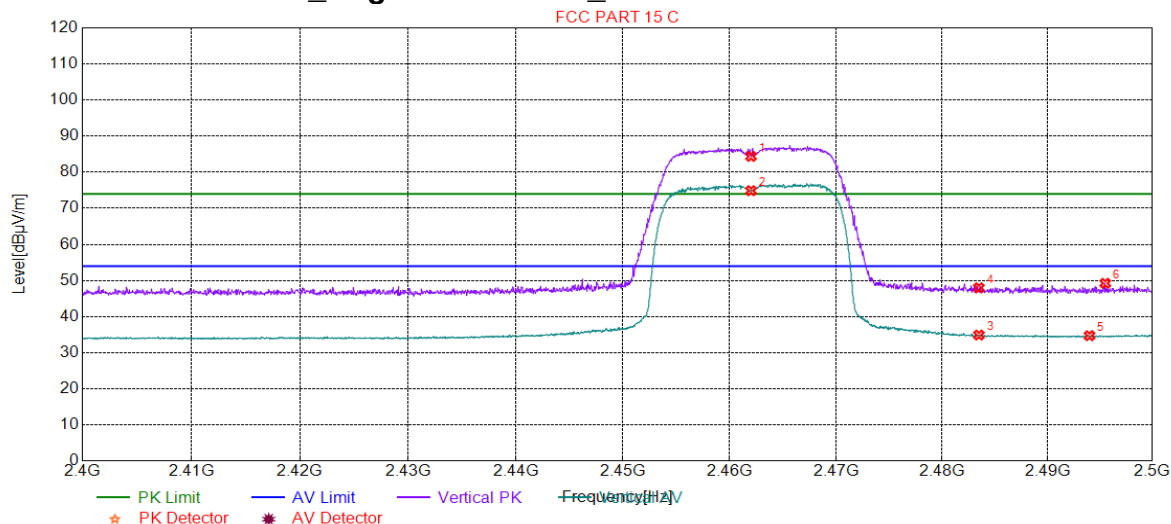
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4.3.1.6 802.11G_ Highest Channel_ Vertical



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.00	84.38	1.46	74.00	-10.38	150	32	Vertical
2	2462.00	74.87	1.46	54.00	-20.87	150	36	Vertical
3	2483.50	34.89	1.52	54.00	19.11	150	28	Vertical
4	2483.50	47.97	1.52	74.00	26.03	150	28	Vertical
5	2493.99	34.72	1.55	54.00	19.28	150	240	Vertical
6	2495.49	49.22	1.56	74.00	24.78	150	16	Vertical



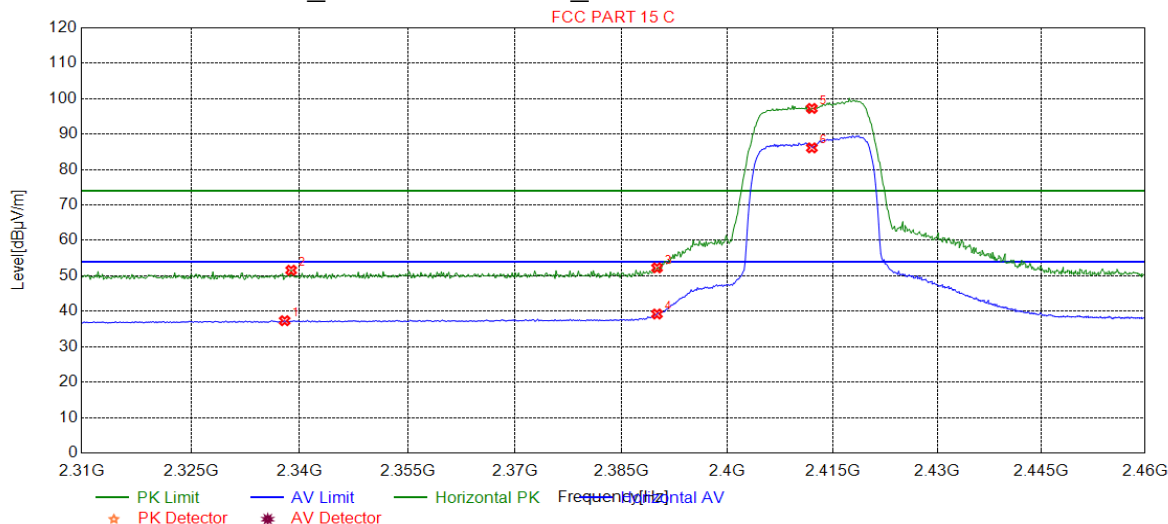
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4.3.1.7 802.11G_Lowest Channel_ Horizontal



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2337.92	37.34	1.02	54.00	16.66	150	138	Horizontal
2	2338.82	51.59	1.02	74.00	22.41	150	168	Horizontal
3	2390.00	52.26	1.25	74.00	21.74	150	56	Horizontal
4	2390.00	39.23	1.25	54.00	14.77	150	38	Horizontal
5	2412.00	97.25	1.32	74.00	-23.25	150	56	Horizontal
6	2412.00	86.12	1.32	54.00	-32.12	150	41	Horizontal



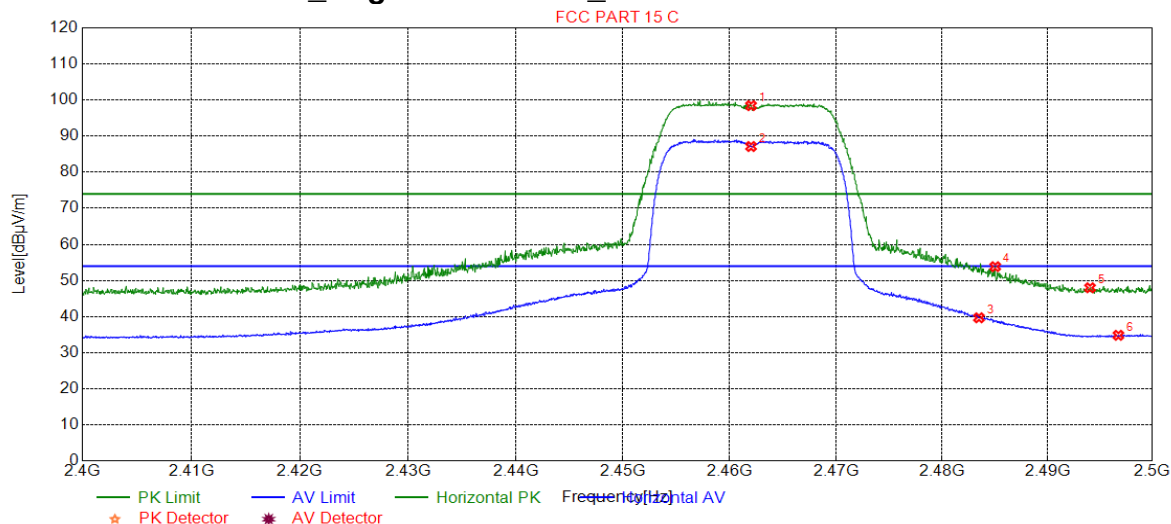
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4.3.1.8 802.11G_ Highest Channel_ Horizontal



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.00	98.44	1.46	74.00	-24.44	150	63	Horizontal
2	2462.00	87.12	1.46	54.00	-33.12	150	59	Horizontal
3	2483.50	39.67	1.52	54.00	14.33	150	33	Horizontal
4	2485.04	53.83	1.53	74.00	20.17	150	44	Horizontal
5	2494.04	47.98	1.55	74.00	26.02	150	125	Horizontal
6	2496.74	34.82	1.56	54.00	19.18	150	269	Horizontal



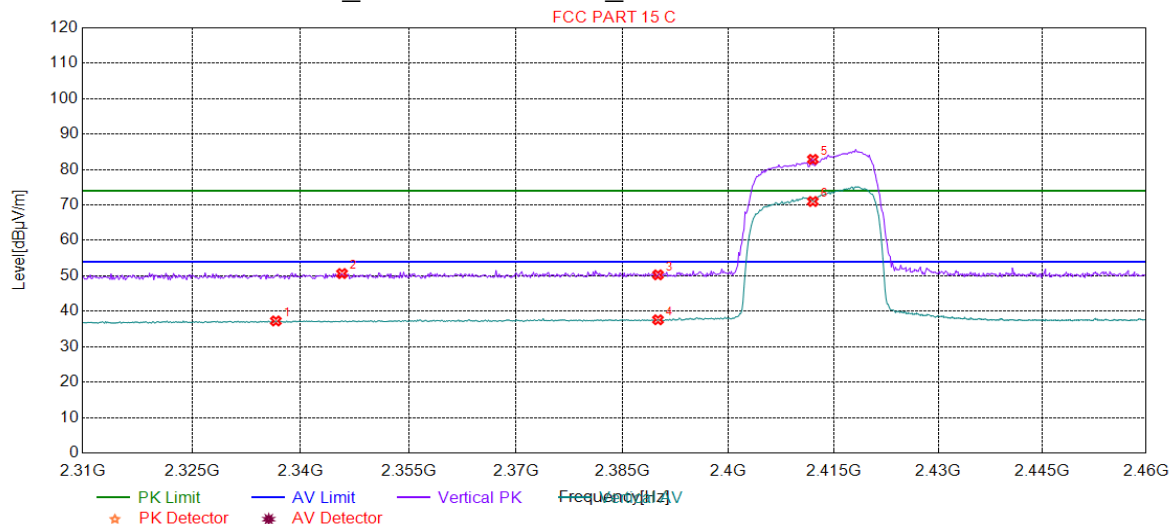
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4.3.1.9 802.11N20_Lowest Channel_Vertical



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2336.57	37.27	1.01	54.00	16.73	150	334	Vertical
2	2345.73	50.66	1.05	74.00	23.34	150	222	Vertical
3	2390.00	50.29	1.25	74.00	23.71	150	346	Vertical
4	2390.00	37.60	1.25	54.00	16.40	150	20	Vertical
5	2412.00	82.88	1.32	74.00	-8.88	150	26	Vertical
6	2412.00	70.99	1.32	54.00	-16.99	150	29	Vertical



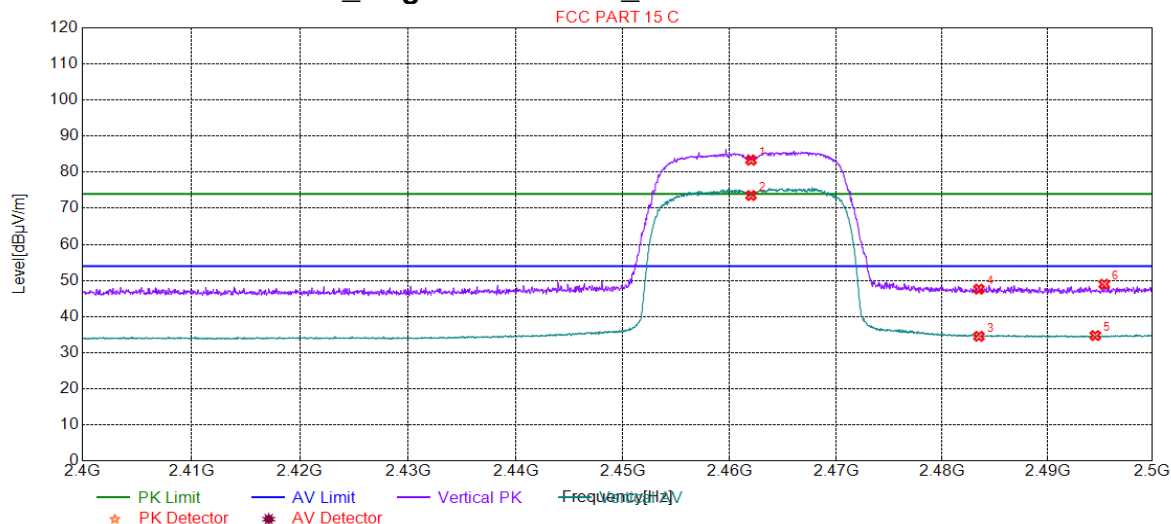
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4.3.1.10 802.11N20_ Highest Channel_ Vertical



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.00	83.33	1.46	74.00	-9.33	150	31	Vertical
2	2462.00	73.53	1.46	54.00	-19.53	150	31	Vertical
3	2483.50	34.53	1.52	54.00	19.47	150	172	Vertical
4	2483.50	47.60	1.52	74.00	26.40	150	31	Vertical
5	2494.54	34.74	1.55	54.00	19.26	150	39	Vertical
6	2495.39	48.96	1.56	74.00	25.04	150	198	Vertical



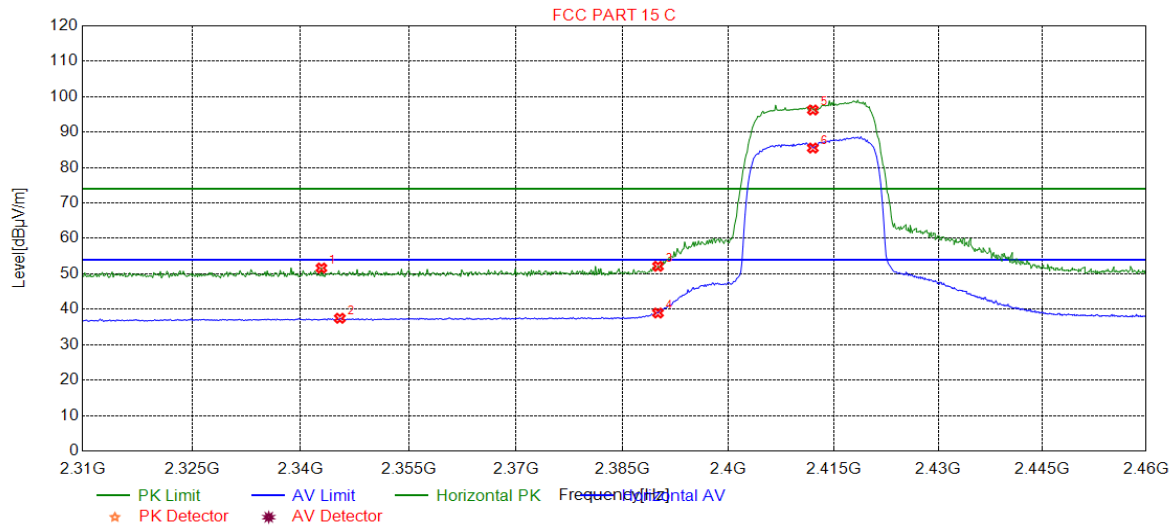
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4.3.1.11 802.11N20_Lowest Channel_Horizontal

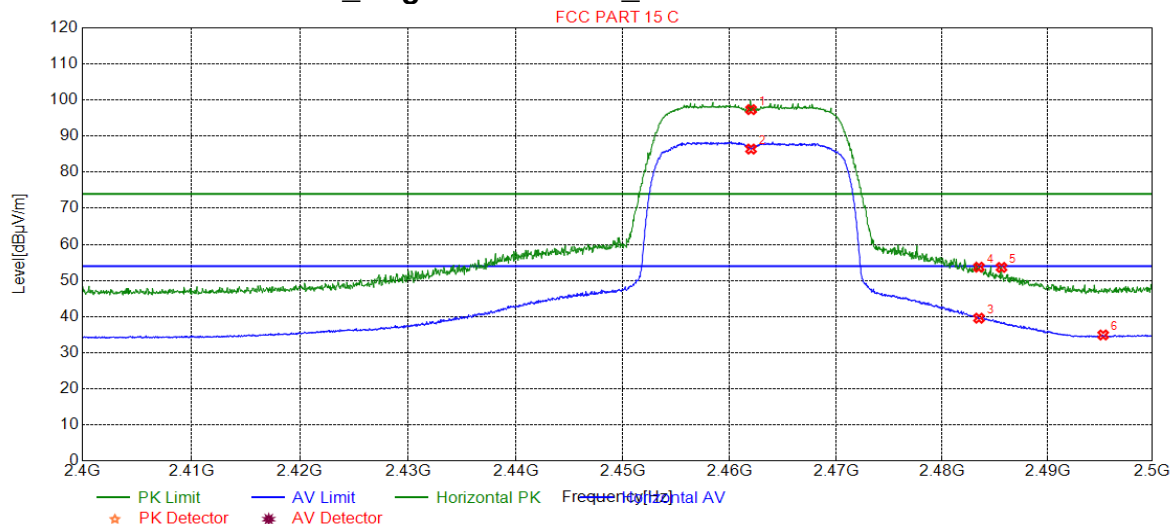


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2342.88	51.65	1.04	74.00	22.35	150	48	Horizontal
2	2345.43	37.47	1.05	54.00	16.53	150	328	Horizontal
3	2390.00	52.13	1.25	74.00	21.87	150	41	Horizontal
4	2390.00	38.95	1.25	54.00	15.05	150	32	Horizontal
5	2412.00	96.24	1.32	74.00	-22.24	150	29	Horizontal
6	2412.00	85.51	1.32	54.00	-31.51	150	54	Horizontal



4.3.1.12 802.11N20_ Highest Channel_ Horizontal

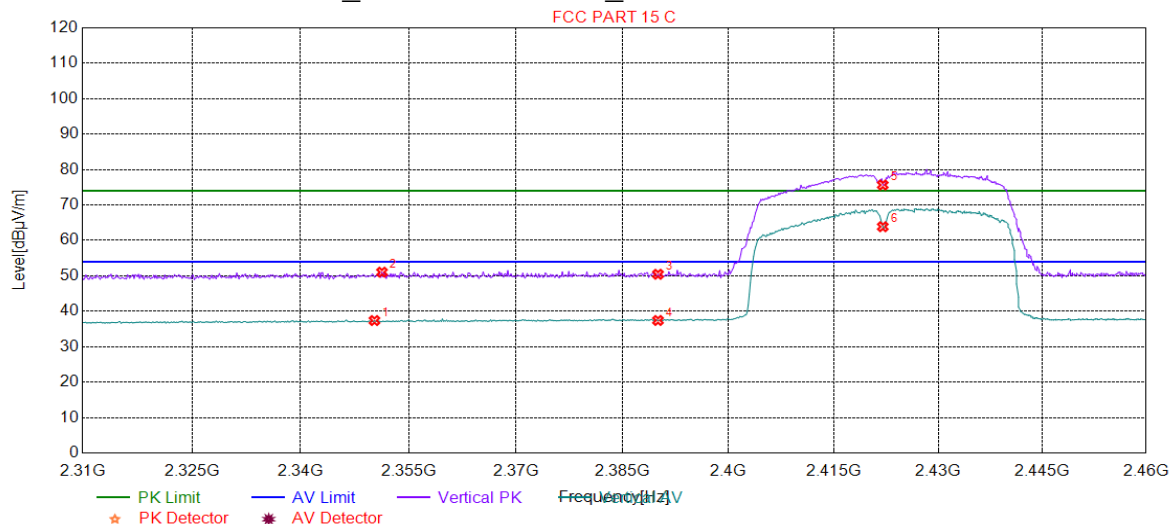


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.00	97.34	1.46	74.00	-23.34	150	97	Horizontal
2	2462.00	86.41	1.46	54.00	-32.41	150	51	Horizontal
3	2483.50	39.55	1.52	54.00	14.45	150	51	Horizontal
4	2483.50	53.69	1.52	74.00	20.31	150	36	Horizontal
5	2485.64	53.62	1.53	74.00	20.38	150	32	Horizontal
6	2495.29	34.90	1.56	54.00	19.10	150	14	Horizontal



4.3.1.13 802.11N40_Lowest Channel_Vertical

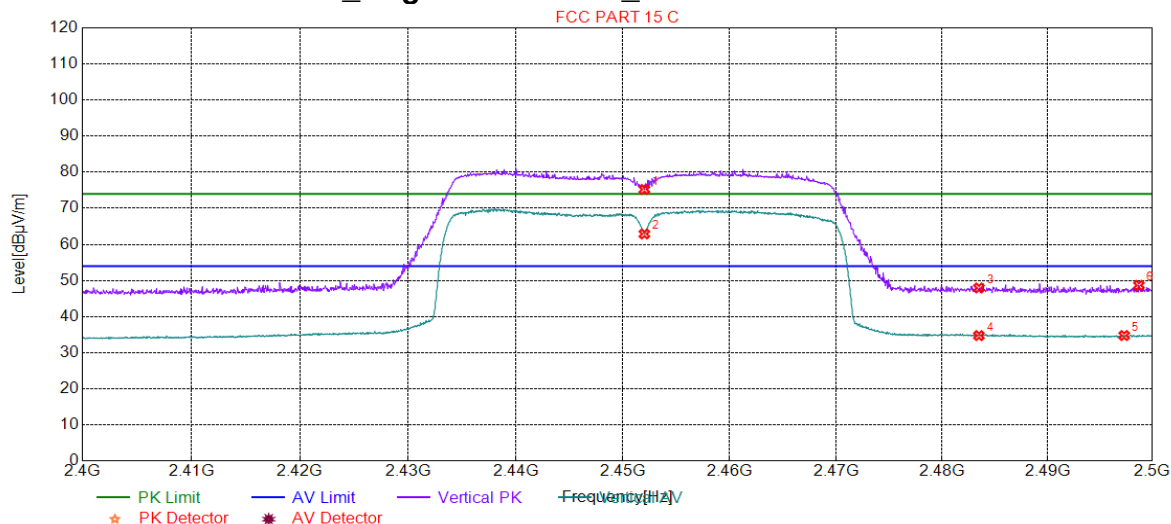


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2350.24	37.39	1.07	54.00	16.61	150	216	Vertical
2	2351.29	51.04	1.08	74.00	22.96	150	109	Vertical
3	2390.00	50.45	1.25	74.00	23.55	150	64	Vertical
4	2390.00	37.42	1.25	54.00	16.58	150	182	Vertical
5	2422.00	75.65	1.35	74.00	-1.65	150	85	Vertical
6	2422.00	63.87	1.35	54.00	-9.87	150	85	Vertical



4.3.1.14 802.11N40_ Highest Channel_ Vertical

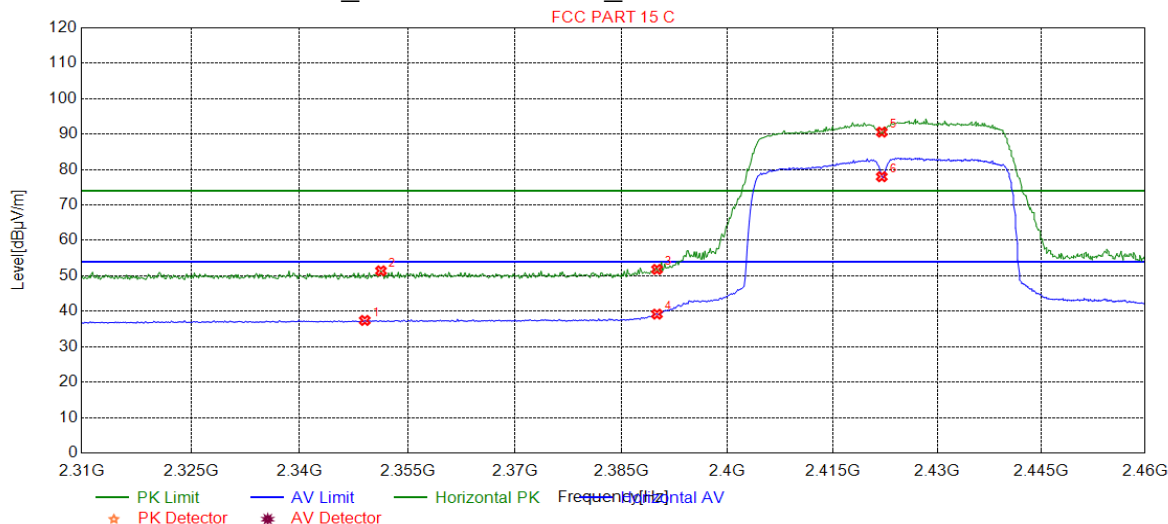


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2452.00	75.22	1.44	74.00	-1.22	150	356	Vertical
2	2452.00	62.89	1.44	54.00	-8.89	150	356	Vertical
3	2483.50	47.93	1.52	74.00	26.07	150	78	Vertical
4	2483.50	34.73	1.52	54.00	19.27	150	143	Vertical
5	2497.29	34.75	1.56	54.00	19.25	150	112	Vertical
6	2498.69	48.65	1.57	74.00	25.35	150	108	Vertical



4.3.1.15 802.11N40_Lowest Channel_Horizontal

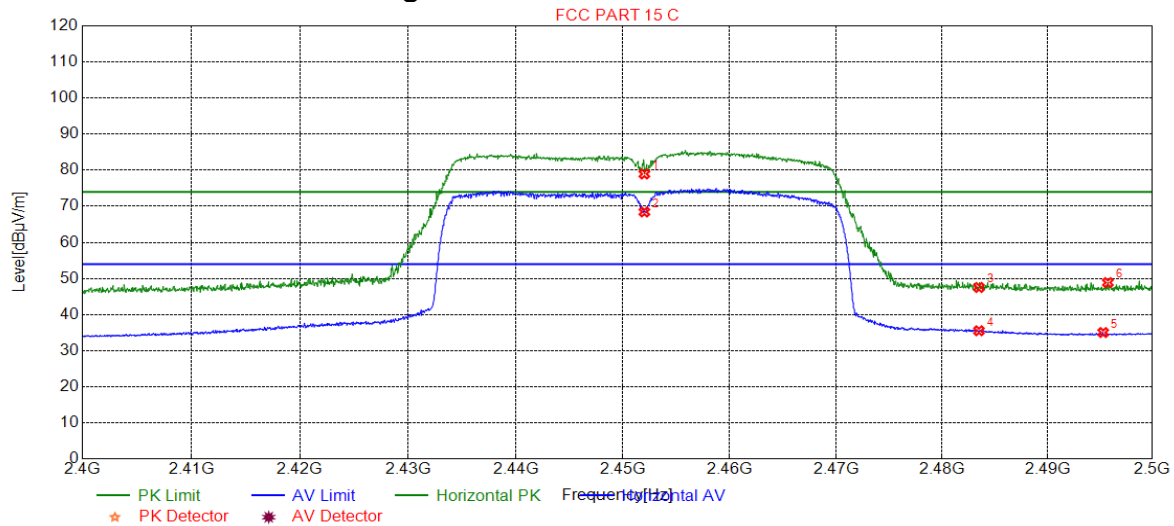


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2349.03	37.42	1.07	54.00	16.58	150	116	Horizontal
2	2351.29	51.42	1.08	74.00	22.58	150	269	Horizontal
3	2390.00	51.83	1.25	74.00	22.17	150	50	Horizontal
4	2390.00	39.20	1.25	54.00	14.80	150	47	Horizontal
5	2422.00	90.57	1.35	74.00	-16.57	150	59	Horizontal
6	2422.00	77.98	1.35	54.00	-23.98	150	47	Horizontal



4.3.1.16 802.11N40_ Highest Channel_ Horizontal



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2452.00	78.95	1.44	74.00	-4.95	150	110	Horizontal
2	2452.00	68.43	1.44	54.00	-14.43	150	117	Horizontal
3	2483.50	47.52	1.52	74.00	26.48	150	114	Horizontal
4	2483.50	35.52	1.52	54.00	18.48	150	114	Horizontal
5	2495.29	35.03	1.56	54.00	18.97	150	304	Horizontal
6	2495.74	48.87	1.56	74.00	25.13	150	209	Horizontal



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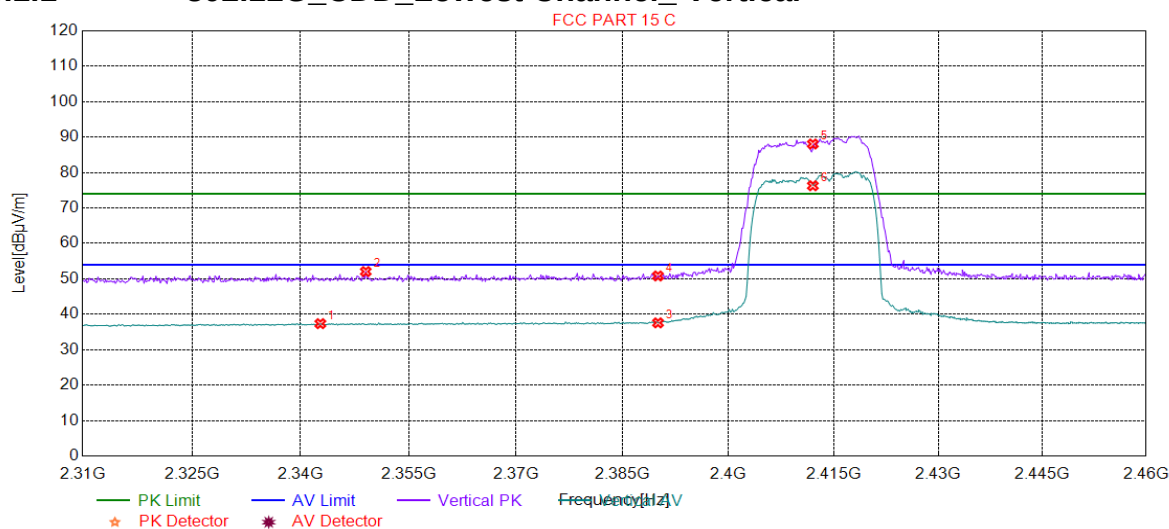
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4.3.1 CDD & MIMO

4.3.1.1 802.11G_CDD_Lowest Channel_Vertical

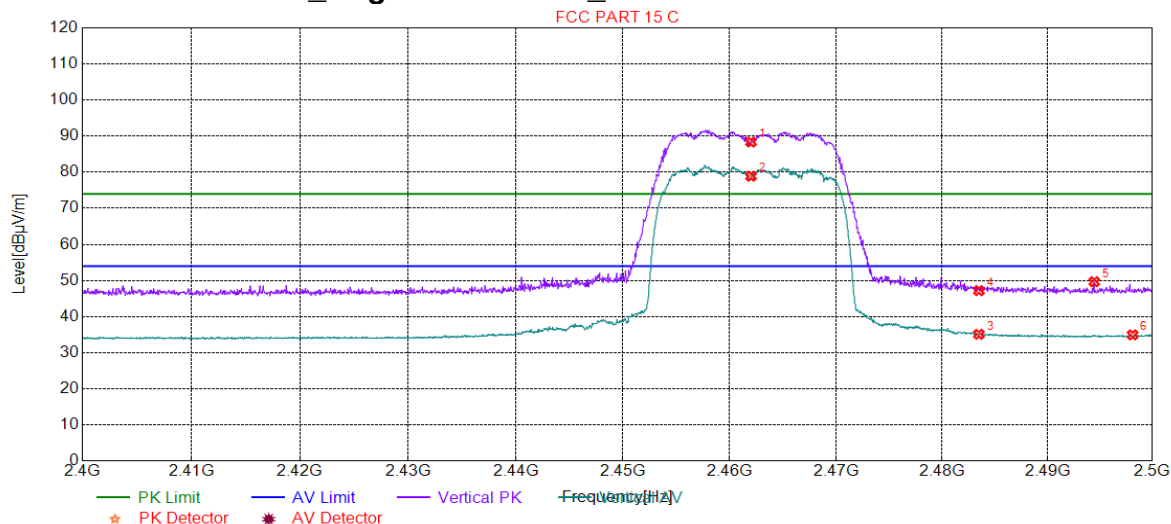


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2342.73	37.36	1.04	54.00	16.64	150	88	Vertical
2	2349.03	52.06	1.07	74.00	21.94	150	134	Vertical
3	2390.00	37.58	1.25	54.00	16.42	150	307	Vertical
4	2390.00	50.82	1.25	74.00	23.18	150	76	Vertical
5	2412.00	88.06	1.32	74.00	-14.06	150	73	Vertical
6	2412.00	76.28	1.32	54.00	-22.28	150	61	Vertical



4.3.1.2 802.11G_ Highest Channel_ Vertical



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.00	88.36	1.46	74.00	-14.36	150	56	Vertical
2	2462.00	78.90	1.46	54.00	-24.90	150	56	Vertical
3	2483.50	35.10	1.52	54.00	18.90	150	33	Vertical
4	2483.50	47.18	1.52	74.00	26.82	150	175	Vertical
5	2494.44	49.66	1.55	74.00	24.34	150	335	Vertical
6	2498.09	34.93	1.56	54.00	19.07	150	48	Vertical



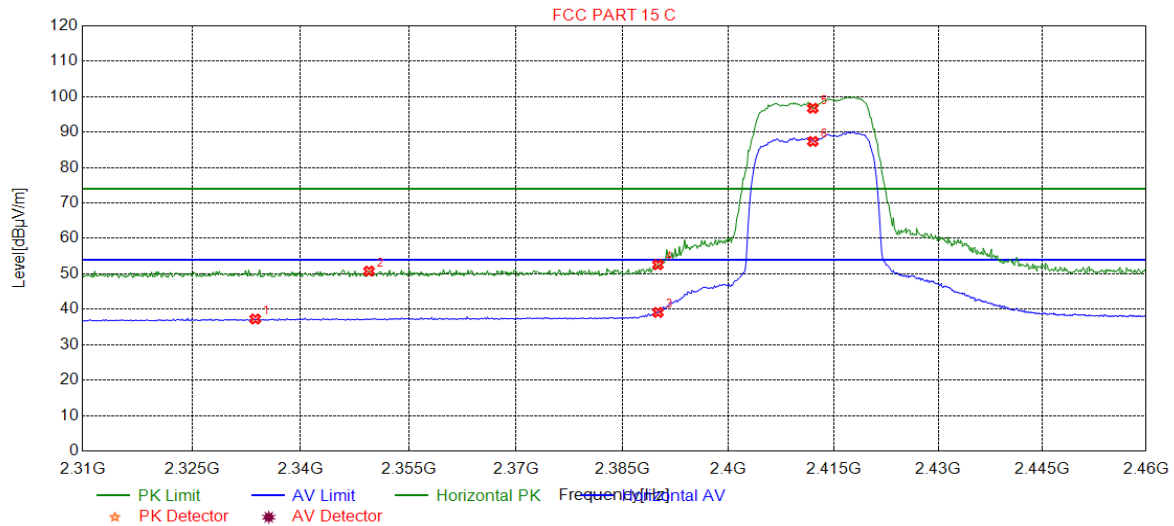
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4.3.1.3 802.11G_CDDLowest Channel_ Horizontal



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2333.72	37.26	1.00	54.00	16.74	150	251	Horizontal
2	2349.48	50.78	1.07	74.00	23.22	150	117	Horizontal
3	2390.00	39.14	1.25	54.00	14.86	150	81	Horizontal
4	2390.00	52.58	1.25	74.00	21.42	150	117	Horizontal
5	2412.00	96.74	1.32	74.00	-22.74	150	78	Horizontal
6	2412.00	87.37	1.32	54.00	-33.37	150	78	Horizontal



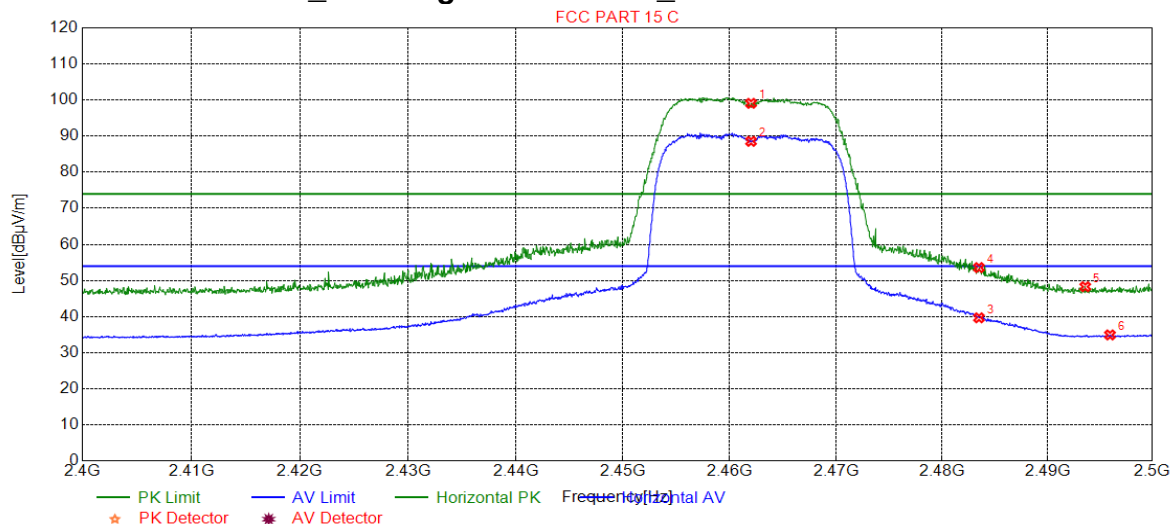
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4.3.1.4 802.11G_CDD Highest Channel_ Horizontal

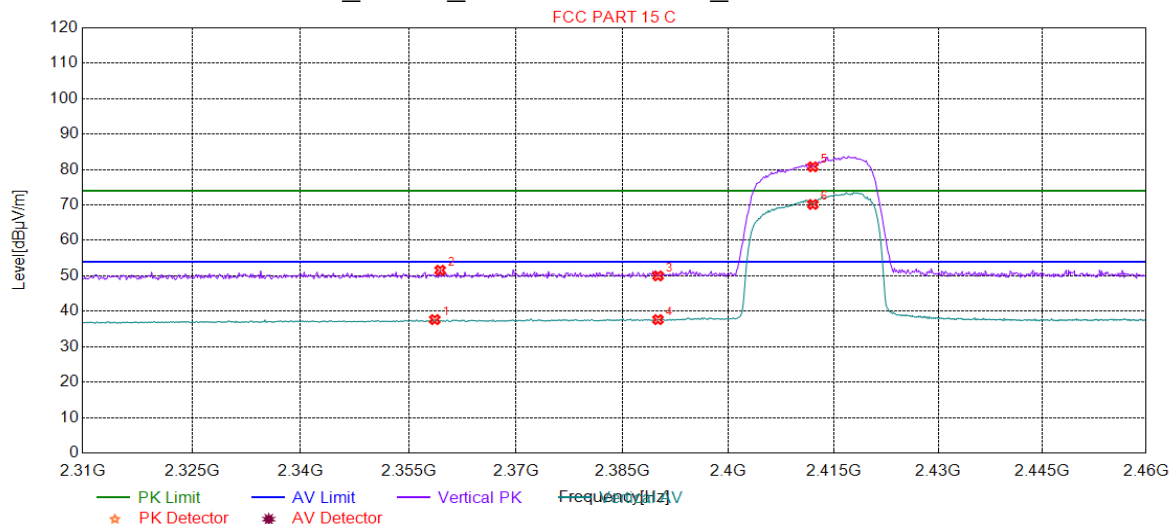


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.00	99.08	1.46	74.00	-25.08	150	40	Horizontal
2	2462.00	88.54	1.46	54.00	-34.54	150	59	Horizontal
3	2483.50	39.66	1.52	54.00	14.34	150	59	Horizontal
4	2483.50	53.58	1.52	74.00	20.42	150	32	Horizontal
5	2493.59	48.27	1.55	74.00	25.73	150	166	Horizontal
6	2495.94	34.92	1.56	54.00	19.08	150	170	Horizontal



4.3.1.5 802.11N20_MIMO_Lowest Channel_ Vertical



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2358.64	37.66	1.11	54.00	16.34	150	156	Vertical
2	2359.39	51.58	1.11	74.00	22.42	150	147	Vertical
3	2390.00	49.99	1.25	74.00	24.01	150	57	Vertical
4	2390.00	37.66	1.25	54.00	16.34	150	0	Vertical
5	2412.00	80.78	1.32	74.00	-6.78	150	162	Vertical
6	2412.00	70.16	1.32	54.00	-16.16	150	165	Vertical



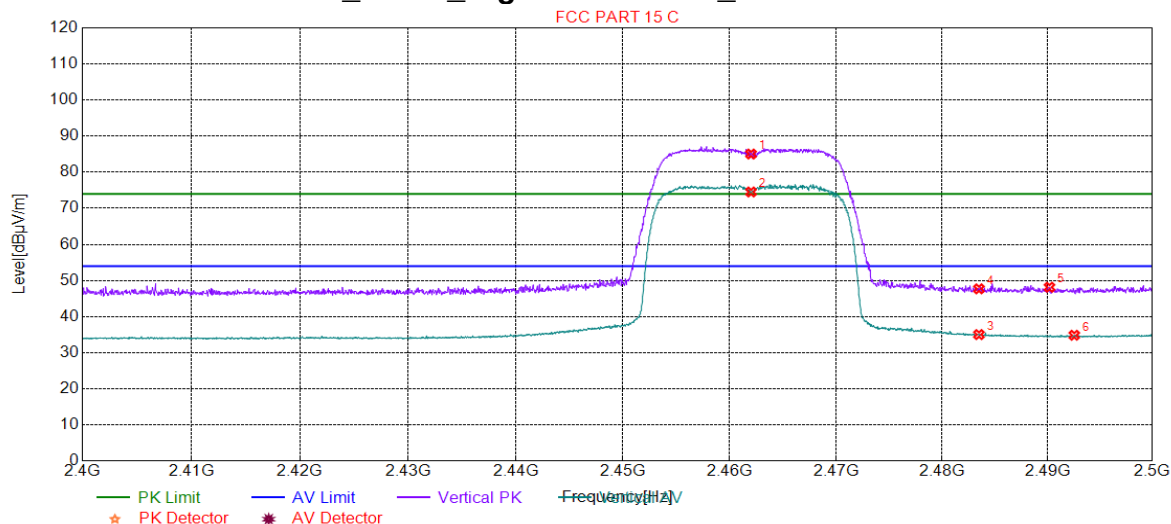
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4.3.1.6 802.11N20_MIMO_Highest Channel_Vertical

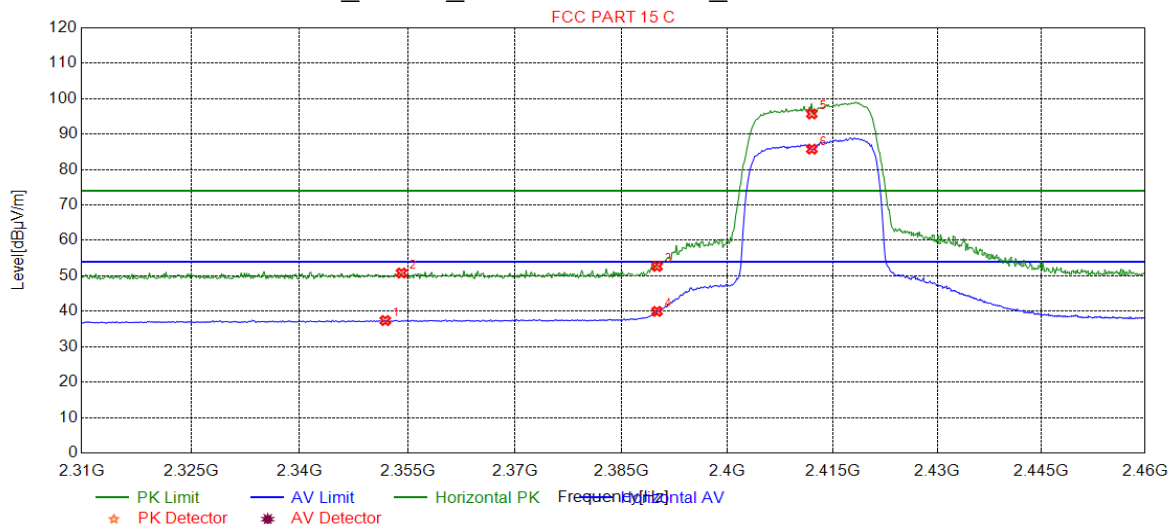


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.00	85.04	1.46	74.00	-11.04	150	346	Vertical
2	2462.00	74.53	1.46	54.00	-20.53	150	60	Vertical
3	2483.50	35.02	1.52	54.00	18.98	150	346	Vertical
4	2483.50	47.69	1.52	74.00	26.31	150	251	Vertical
5	2490.19	48.13	1.54	74.00	25.87	150	281	Vertical
6	2492.54	34.83	1.55	54.00	19.17	150	102	Vertical



4.3.1.7 802.11N20_MIMO_Lowest Channel_Horizontal



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2351.89	37.39	1.08	54.00	16.61	150	166	Horizontal
2	2354.14	50.80	1.09	74.00	23.20	150	259	Horizontal
3	2390.00	52.68	1.25	74.00	21.32	150	42	Horizontal
4	2390.00	39.98	1.25	54.00	14.02	150	36	Horizontal
5	2412.00	95.71	1.32	74.00	-21.71	150	87	Horizontal
6	2412.00	85.78	1.32	54.00	-31.78	150	39	Horizontal



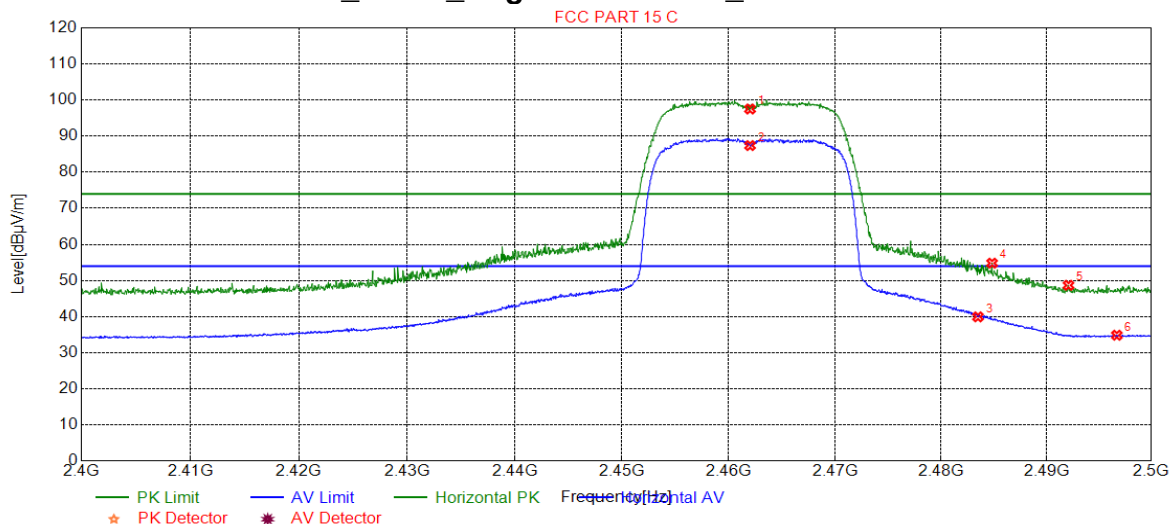
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4.3.1.8 802.11N20_MIMO_Highest Channel_Horizontal

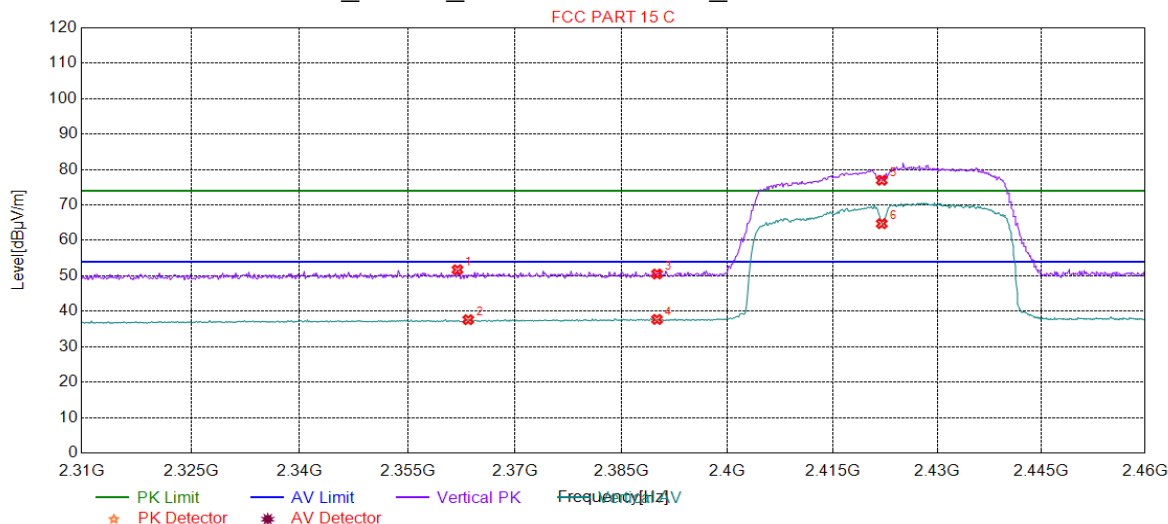


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.00	97.51	1.46	74.00	-23.51	150	59	Horizontal
2	2462.00	87.38	1.46	54.00	-33.38	150	59	Horizontal
3	2483.50	39.92	1.52	54.00	14.08	150	44	Horizontal
4	2484.84	54.80	1.53	74.00	19.20	150	40	Horizontal
5	2492.09	48.67	1.55	74.00	25.33	150	272	Horizontal
6	2496.69	34.84	1.56	54.00	19.16	150	310	Horizontal



4.3.1.9 802.11N40_MIMO_Lowest Channel_ Vertical

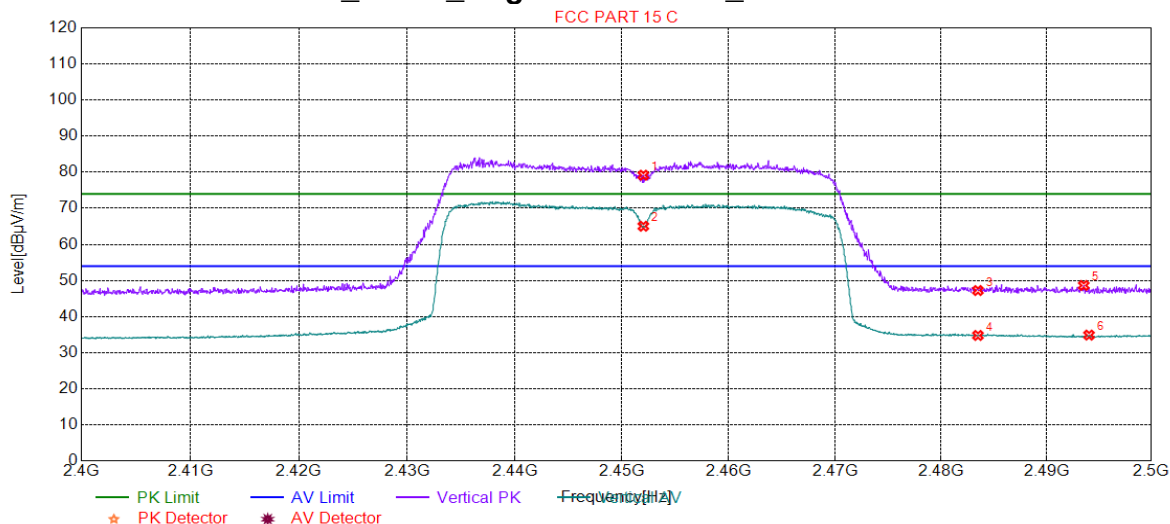


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2361.95	51.72	1.12	74.00	22.28	150	194	Vertical
2	2363.45	37.63	1.13	54.00	16.37	150	328	Vertical
3	2390.00	50.53	1.25	74.00	23.47	150	178	Vertical
4	2390.00	37.71	1.25	54.00	16.29	150	124	Vertical
5	2422.00	76.97	1.35	74.00	-2.97	150	130	Vertical
6	2422.00	64.73	1.35	54.00	-10.73	150	130	Vertical



4.3.1.10 802.11N40_MIMO_Highest Channel_Vertical



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2452.00	79.17	1.44	74.00	-5.17	150	131	Vertical
2	2452.00	65.04	1.44	54.00	-11.04	150	25	Vertical
3	2483.50	47.22	1.52	74.00	26.78	150	52	Vertical
4	2483.50	34.78	1.52	54.00	19.22	150	108	Vertical
5	2493.54	48.62	1.55	74.00	25.38	150	329	Vertical
6	2494.04	34.87	1.55	54.00	19.13	150	139	Vertical



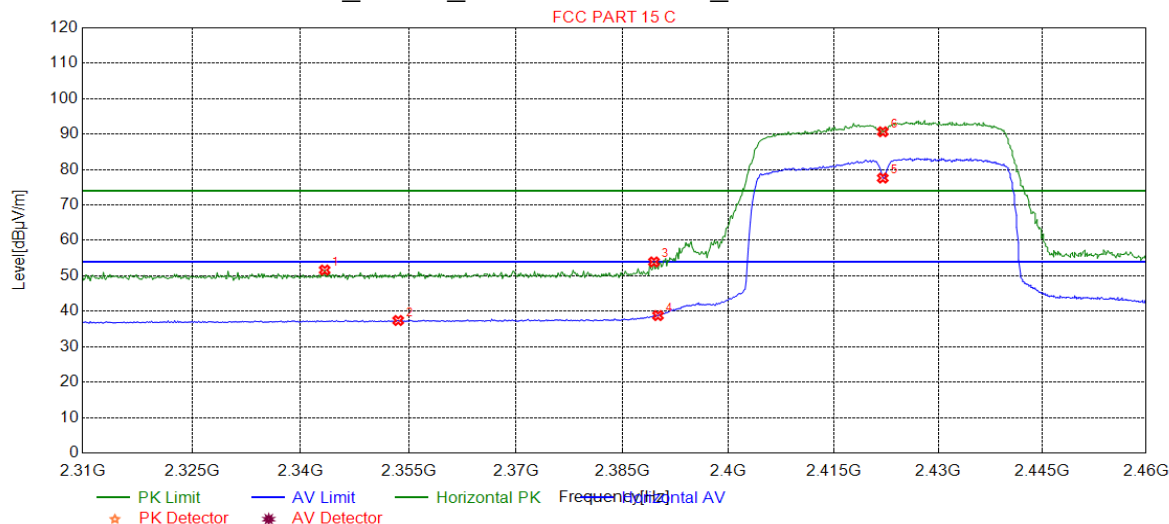
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4.3.1.11 802.11N40_MIMO_Lowest Channel_Horizontal

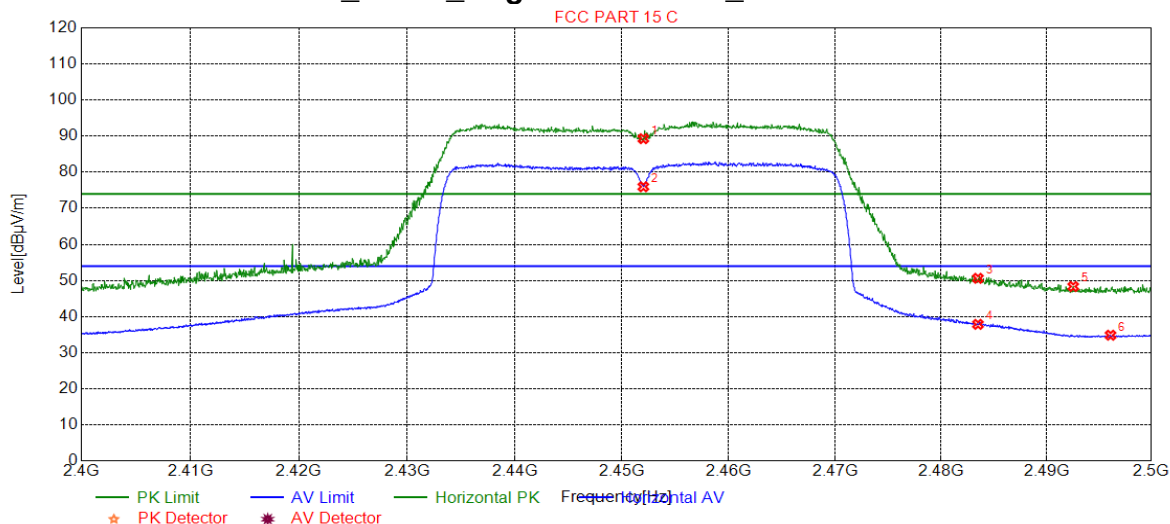


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2343.33	51.65	1.04	74.00	22.35	150	181	Horizontal
2	2353.54	37.40	1.09	54.00	16.60	150	84	Horizontal
3	2389.42	53.95	1.24	74.00	20.05	150	74	Horizontal
4	2390.00	38.79	1.25	54.00	15.21	150	53	Horizontal
5	2422.00	77.60	1.35	54.00	-23.60	150	35	Horizontal
6	2422.00	90.67	1.35	74.00	-16.67	150	62	Horizontal



4.3.1.12 802.11N40_MIMO_Highest Channel_Horizontal



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2452.00	89.29	1.44	74.00	-15.29	150	50	Horizontal
2	2452.00	75.97	1.44	54.00	-21.97	150	39	Horizontal
3	2483.50	50.60	1.52	74.00	23.40	150	96	Horizontal
4	2483.50	37.85	1.52	54.00	16.15	150	96	Horizontal
5	2492.54	48.33	1.55	74.00	25.67	150	346	Horizontal
6	2496.09	34.84	1.56	54.00	19.16	150	20	Horizontal

Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

All Modes have been tested, but only the worst case data displayed in this report.



5 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radiated Spurious emission test	±4.5dB (30MHz-1GHz)
		±4.8dB (1GHz-25GHz)
2	Conduct emission test	±3.12 dB (9KHz- 30MHz)
3	Temperature test	±1°C
4	Humidity test	±3%
5	DC and low frequency voltages	±0.5%



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6 Equipment List

Conducted Emission					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Duedate
				(yyyy-mm-dd)	(yyyy-mm-dd)
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2017/5/10	2020/5/9
LISN	Rohde & Schwarz	ENV216	SEM007-01	2018/9/2	2019/9/2
LISN	ETS-LINDGREN	Feb-16	SEM007-02	2019/3/2	2020/3/1
Measurement Software	AUDIX	e3 V5.4.1221d	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2018/7/12	2019/7/11
2 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T2-02	EMC0122	2019/2/11	2020/2/10
EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-02	2019/3/2	2020/3/1
RF conducted test					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Duedate
				(yyyy-mm-dd)	(yyyy-mm-dd)
DC Power Supply	Agilent Technologies Inc	66311B	W009-09	2018/9/15	2019/9/15
Signal Analyzer	Rohde & Schwarz	FSV	W025-05	2019/1/13	2020/1/12
Coaxial Cable	SGS	N/A	SEM031-01	2018/7/13	2019/7/12
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2018/9/2	2019/9/2
Temperature Chamber	GIANT FORCE	ICT-150-40-CP-AR	W027-03	2018/11/27	2019/11/27
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2018/9/2	2019/9/2
RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2017/8/5	2020/8/4
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2018/7/12	2019/7/11
MXE EMI Receiver (20Hz-8.4GHz)	Agilent Technologies	N9038A	SEM004-05	2018/9/2	2019/9/2
BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2017/6/27	2020/6/26
Pre-amplifier (0.1-1.3GHz)	Agilent Technologies	8447D	SEM005-01	2019/3/2	2020/3/1
RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018/3/13	2021/3/12
Measurement Software	AUDIX	e3V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2018/7/12	2019/7/11
EXA Signal Analyzer (10Hz-26.5GHz)	Agilent Technologies Inc	N9010A	SEM004-09	2019/4/12	2020/4/11
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-01	2017/6/27	2020/6/26
Horn Antenna (0.8-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018/4/13	2021/4/12
Pre-amplifier(0.1-1.3GHz)	HP	8447D	SEM005-02	2018/9/2	2019/9/2
Low Noise Amplifier(100MHz-18GHz)	Black Diamond Series	BDLNA-0118-352810	SEM005-05	2018/9/27	2019/9/27
Horn Antenna (15-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2017/10/17	2020/10/16
Pre-amplifier(18-26GHz)	Rohde & Schwarz	CH14-H052	SEM005-17	2019/3/2	2020/3/1
Band filter	N/A	N/A	SEM023-01	N/A	N/A



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RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2018/3/31	2021/3/30
EMI Test Receiver (9k-7GHz)	Rohde & Schwarz	ESR	SEM004-03	2019/3/2	2020/3/1
Trilog-Broadband Antenna(25M-2GHz)	Schwarzbeck	VULB9168	SEM003-18	2016/6/29	2019/6/28
Pre-amplifier (9k-1GHz)	Sonoma	310N	SEM005-03	2019/4/12	2020/4/11
Loop Antenna (9kHz-30MHz)	ETS-Lindgren	6502	SEM003-08	2017/8/22	2020/8/21
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM029-01	2018/7/12	2019/7/11

7 Photographs - EUT Constructional Details

Refer to Appendix A - Photographs of EUT Constructional Details for AR/2019/40003..

The End

