FCC TEST REPORT

(Part 15, Subpart E)

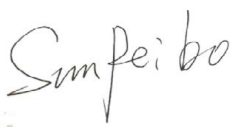
Applicant:	HMD Global Oy
Address:	Bertel Jungin aukio 9, 02600 Espoo, Finland

Manufacturer or Supplier:	HMD Global Oy
Address:	Bertel Jungin aukio 9, 02600 Espoo, Finland
Product:	Mobile phone
Brand Name:	HMD
Model Name:	H1715V
FCC ID:	2AJOTTA-1715
Date of tests:	Jan. 13, 2025～Mar. 20, 2025

The tests have been carried out according to the requirements of the following standard:

☒ **FCC Part 15, Subpart E, Section 15.407**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Hanwen Xu	Approved by Peibo Sun
Engineer / Mobile Department	Manager / Mobile Department
	
Date: Mar. 20, 2025	Date: Mar. 20, 2025

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-NQN2412090210RF03	Original release	Mar. 20, 2025

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART E		
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**
15.407(b)(9)	AC Power Conducted Emission	Compliance
15.407(b) (1/2/3/4/5)	Radiated Emission & Band Edge Measurement	Compliance
15.407(a/1/2/3)	Maximum conducted output Power	Compliance
15.407(a/1/2/3)	Peak Power Spectral Density	Compliance
15.407(a)(2)(12)	26 dB Bandwidth	Compliance
15.407(e)	6 dB Bandwidth	Compliance
15.203	Antenna Requirement	Compliance

NOTE:

1. Except the data of RSE and Band Edge Measurement, other data please refer to Appendix.
2. For 802.11n HT20/ ac VHT20 and 802.11n HT40 / ac VHT40 mode, the whole testing is assessed only 802.11n HT20/ HT40 by referring to their higher conducted power.
3. Only the worse data was reported.
4. For radiated emission testing，all supported channels, bandwidths and modes have been tested, the report only shown the worst-case data of each sub-band.

***Test Lab Information Reference**

Lab A:

Huarui 7Layers High Technology (Suzhou) Co., Ltd.

Lab Address:

Tower N, Innovation Center, 88 Zuyi Road, High-tech District, Suzhou City, Anhui Province

Accredited Test Lab Cert 6613.01

The FCC Site Registration No. is 434559; The Designation No. is CN1325.

1.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	UNCERTAINTY
AC Power Conducted emissions	±2.70dB
Radiated emissions (9KHz~30MHz)	±2.68dB
Radiated emissions (30MHz~1GHz)	±4.98dB
Radiated emissions (1GHz ~6GHz)	±4.70dB
Radiated emissions (6GHz ~18GHz)	±4.60dB
Radiated emissions (18GHz ~40GHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Conducted Output power	±2.06dB
Power Spectral Density	±0.85 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT*	Mobile phone	
BRAND NAME*	HMD	
MODEL NAME*	H1715V	
NOMINAL VOLTAGE*	3.87V	
MODULATION *	OFDM	
TRANSFER RATE*	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps	
	802.11n: up to 300.0Mbps	
	802.11ac: up to 866.7Mbps	
OPERATING FREQUENCY*	5180~5240MHz, 5260~5320MHz	
	5500~5720MHz, 5745~5825MHz	
NUMBER OF CHANNEL	5180~5240MHz	4 for 802.11a,802.11n/ac (20MHz)
		2 for 802.11n/ac (40MHz)
		1 for 802.11ac (80MHz)
	5260~5320MHz	4 for 802.11a,802.11n/ac (20MHz)
		2 for 802.11n/ac (40MHz)
		1 for 802.11ac (80MHz)
	5500~5720MHz	12 for 802.11a, 802.11n/ac (20MHz)
		6 for 802.11n/ac (40MHz)
		3 for 802.11ac (80MHz)
	5745~5825MHz	5 for 802.11a, 802.11n/ac (20MHz)
		2 for 802.11n/ac (40MHz)
		1 for 802.11ac (80MHz)
MAX. OUTPUT POWER	87.50mW for 5180 ~ 5240MHz	
	80.91mW for 5260 ~ 5320MHz	
	69.50mW for 5500 ~ 5720MHz	
	82.99mW for 5745 ~ 5825MHz	

ANTENNA TYPE*	PIFA Antenna	
ANTENNA GAIN*	5180 ~ 5240MHz	0.3dBi
	5260 ~ 5320MHz	-0.6dBi
	5500 ~ 5720MHz	-0.2dBi
	5745 ~ 5825MHz	-0.4dBi
HW VERSION*	V1.0	
SW VERSION*	000T_0_310	
I/O PORTS*	Refer to user's manual	
CABLE SUPPLIED*	N/A	

NOTE:

1. ***Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, Test Lab is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
2. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
3. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
802.11a	1TX/1RX
802.11n/802.11ac (20MHz)	1TX/1RX
802.11n/802.11ac (40MHz)	1TX/1RX
802.11ac (80MHz)	1TX/1RX

4. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
5. Antenna gain and EUT conducted cable loss are provided by the customer, and the laboratory will record the results based on these items that involve these two parameters.
6. The differences between the sample 1 and sample 2 as Listings below, others are the same. And only the worst case was shown in the test report.

Object	**Sample 1** **1st source**		**Sample 2** **2nd source**	
	Specifications	**Supplier**	**Specifications**	**Supplier**
Display	JL-P067P003-05	Jinglong	Y92321	Digital
Memory（RAM)	FLXC2004G-N1	Longsys	BWCGBX32N2A-32G	Biwin
Memory（ROM)	MEMDNN064G-M1D03	Longsys	BWCTAMV11X64G	Biwin

Motor	C0830H-C138ZN-021	KunWang	CY0830-05-FPC-182	Chaoying
FPS Side fingerprint	SA-FC15X00-1470-B0	Shenao	HT.ZN-2832B	Huate
Mic	SM2718B381YR2-01	Rayking	S150B381-155	Goertek
GPS LNA	AW5005EDNR	AWINIC	WS7916DE	WILL

List of Accessory:

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
Battery	HMD	HUNAN GAOYUAN BATTERY CO.,LTD	CH426385	Capacity：3.87Vdc, 4000mAh
USB Cable	Saibao	Saibao (Jiangxi) Industry Co.,Ltd.	SZN-A046A	Signal Line,1.0meter
USB Cable	Juwei	Huizhou Juwei Electronics Co.,Ltd	JWUB1913-ZN01H	Signal Line,1.0meter
Adapter	HMD	Shenzhen Baijunda Electronic Co., Ltd.	HAD-010U	I/P: 100- 240 Vac, 50/60Hz, 0.35 A, O/P: 5.0 Vdc, 2.0A 10.0W

2.2 DESCRIPTION OF TEST MODES

FOR 5180~5240MHz			
802.11a, 802.11n, 802.11ac (20MHz)			
CHANNEL	**FREQUENCY**	**CHANNEL**	**FREQUENCY**
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

802.11n, 802.11ac (40MHz)			
CHANNEL	**FREQUENCY**	**CHANNEL**	**FREQUENCY**
38	5190 MHz	46	5230 MHz

802.11ac (80MHz)			
CHANNEL	**FREQUENCY**	**CHANNEL**	**FREQUENCY**
42	5210 MHz		

FOR 5260 ~ 5320MHz			
802.11a, 802.11n, 802.11ac (20MHz)			
CHANNEL	**FREQUENCY**	**CHANNEL**	**FREQUENCY**
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

802.11n, 802.11ac (40MHz)			
CHANNEL	**FREQUENCY**	**CHANNEL**	**FREQUENCY**
54	5270 MHz	62	5310 MHz

802.11ac (80MHz)			
CHANNEL	**FREQUENCY**	**CHANNEL**	**FREQUENCY**
58	5290 MHz		

FOR 5500 ~ 5720MHz			
802.11a, 802.11n, 802.11ac (20MHz)			
CHANNEL	**FREQUENCY**	**CHANNEL**	**FREQUENCY**
100	5500 MHz	124	5620MHz
104	5520 MHz	128	5640MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz	144	5720 MHz

802.11n, 802.11ac (40MHz)			
CHANNEL	**FREQUENCY**	**CHANNEL**	**FREQUENCY**
102	5510 MHz	126	5630MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

802.11ac (80MHz)			
CHANNEL	**FREQUENCY**	**CHANNEL**	**FREQUENCY**
106	5530 MHz	122	5610 MHz
138	5690 MHz		

FOR 5745 ~ 5825MHz			
802.11a, 802.11n, 802.11ac (20MHz)			
CHANNEL	**FREQUENCY**	**CHANNEL**	**FREQUENCY**
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 MHz		

802.11n, 802.11ac (40MHz)			
CHANNEL	**FREQUENCY**	**CHANNEL**	**FREQUENCY**
142	5710 MHz	159	5795 MHz
151	5755 MHz		

802.11ac (80MHz)			
CHANNEL	**FREQUENCY**	**CHANNEL**	**FREQUENCY**
138	5690 MHz	155	5775 MHz

2.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	**-**	**Powered by Adapter with wifi(5G) link**
B	-	-	-	√	Powered by Battery with wifi(5G) link
C	-	-	-	-	Powered by USB with wifi(5G) link

Where **RE≥1G:** Radiated Emission above 1GHz **RE<1G:** Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

NOTE:
The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane.**
NOTE: "-"means no effect

RADIATED EMISSION TEST (BELOW 1GHz):

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36	OFDM	6.0

RADIATED EMISSION TEST (ABOVE 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ The following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
A	802.11n (20MHz)		36 to 48	36, 40, 48	OFDM	MCS0
A	802.11n (40MHz)		38 to 46	38, 46	OFDM	MCS0
A	802.11ac (80MHz)		42	42	OFDM	MCS0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
A	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	MCS0
A	802.11n (40MHz)		54 to 62	54, 62	OFDM	MCS0
A	802.11ac (80MHz)		58	58	OFDM	MCS0
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
A	802.11n (20MHz)		100 to 144	100, 116, 140, 144	OFDM	MCS0
A	802.11n (40MHz)		102 to 142	102, 110, 134,142	OFDM	MCS0
A	802.11ac (80MHz)		106 to 138	106, 122, 138	OFDM	MCS0
A	802.11a	5745-5825	149 to 165	149, 157,165	OFDM	6.0
A	802.11n (20MHz)		149 to 165	149, 157,165	OFDM	MCS0
A	802.11n (40MHz)		151 to 159	151, 159	OFDM	MCS0
A	802.11ac (80MHz)		155	155	OFDM	MCS0

POWER LINE CONDUCTED EMISSION TEST:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ The following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11ac(80MHz)	5500-5720	106 to 138	138	OFDM	MCS0

BANDEDGE MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ The following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
A	802.11n(20MHz)		36 to 48	36, 40, 48	OFDM	MCS0
A	802.11n (40MHz)		38 to 46	38, 46	OFDM	MCS0
A	802.11ac (80MHz)		42	42	OFDM	MCS0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
A	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	MCS0
A	802.11n (40MHz)		54 to 62	54, 62	OFDM	MCS0
A	802.11ac (80MHz)		58	58	OFDM	MCS0
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
A	802.11n (20MHz)		100 to 144	100, 116, 140, 144	OFDM	MCS0
A	802.11n (40MHz)		102 to 142	102, 110, 134,142	OFDM	MCS0
A	802.11ac (80MHz)		106 to 138	106, 122, 138	OFDM	MCS0
A	802.11a	5745-5825	149 to 165	149, 157,165	OFDM	6.0
A	802.11n (20MHz)		149 to 165	149, 157,165	OFDM	MCS0
A	802.11n (40MHz)		151 to 159	151, 159	OFDM	MCS0
A	802.11ac (80MHz)		155	155	OFDM	MCS0

ANTENNA PORT CONDUCTED MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ The following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
A	802.11n (20MHz)		36 to 48	36, 40, 48	OFDM	MCS0
A	802.11n (40MHz)		38 to 46	38, 46	OFDM	MCS0
A	802.11ac (80MHz)		42	42	OFDM	MCS0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
A	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	MCS0
A	802.11n (40MHz)		54 to 62	54, 62	OFDM	MCS0
A	802.11ac (80MHz)		58	58	OFDM	MCS0
A	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
A	802.11n (20MHz)		100 to 144	100, 116, 140, 144	OFDM	MCS0
A	802.11n (40MHz)		102 to 142	102, 110, 134,142	OFDM	MCS0
A	802.11ac (80MHz)		106 to 138	106, 122, 138	OFDM	MCS0
A	802.11a	5745-5825	149 to 165	149, 157,165	OFDM	6.0
A	802.11n (20MHz)		149 to 165	149, 157,165	OFDM	MCS0
A	802.11n (40MHz)		151 to 159	151, 159	OFDM	MCS0
A	802.11ac (80MHz)		155	155	OFDM	MCS0

TEST CONDITION			
APPLICABLE TO	**ENVIRONMENTAL CONDITIONS**	**INPUT POWER**	**TESTED BY**
RE<1G	23deg. C, 70%RH	DC 5.0V By Adapter	Hanwen Xu
RE≥1G	23deg. C, 70%RH	DC 5.0V By Adapter	Hanwen Xu
PLC	25deg. C, 52%RH	DC 5.0V By Adapter	Hanwen Xu
APCM	25deg. C, 60%RH	DC 3.87V By Battery	Hanwen Xu

2.3 DUTY CYCLE OF TEST SIGNAL

Please Refer to Appendix of this test report.

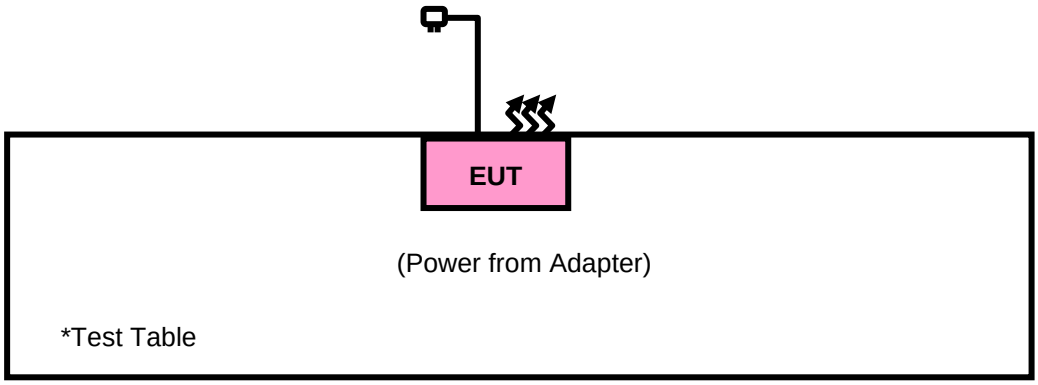
2.4 DESCRIPTION OF SUPPORT UNITS

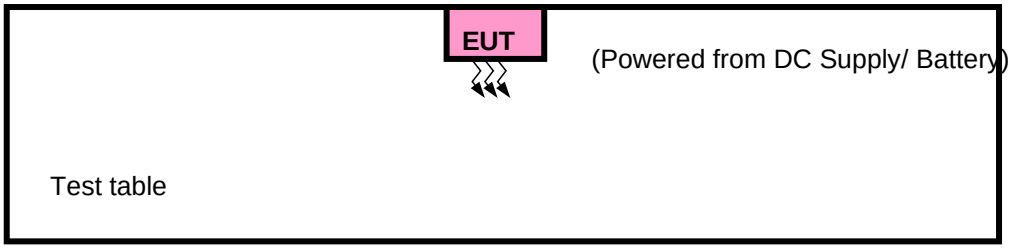
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

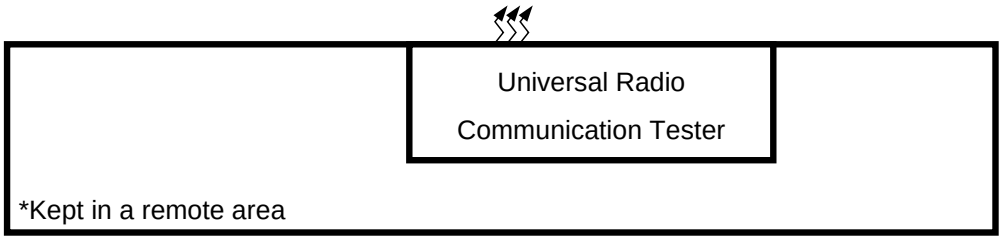
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Laptop	Lenovo	Thinkpad E14	SL10W47313	N/A
2	Adapter	N/A	N/A	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	AC Line: Unshielded, Detachable 1.5m
2	USB Line: Unshielded, Detachable, 1.0m;

2.4.1 CONFIGURATION OF SYSTEM UNDER TEST







2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart E (15.407)
KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
ANSI C63.10-2020

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

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (Certification). The test report has been issued separately.

3 TEST TYPES AND RESULTS

3.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

3.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

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

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

3.1.2 LIMITS OF UNWANTED EMISSION

RESTRICTED BANDS	**APPLICABLE TO**	**LIMIT**	
	789033 D02 General UNII Test Procedures New Rules v02r01	**FIELD STRENGTH AT 3m (dBµV/m)**	
		PK : 74	AV : 54
OUT OF THE RESTRICTED BANDS	**APPLICABLE TO**	**EIRP LIMIT (dBm/MHz)**	**EQUIVALENT FIELD STRENGTH AT 3m (dBµV/m)**
	15.407(b)(1)	PK : -27	PK : 68.2
	15.407(b)(2)		
	15.407(b)(3)		
	15.407(b)(4)	See note 2 (FCC 16-24)	

NOTE:

1. The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength: $E = \frac{1000000\sqrt{30P}}{3}$ µV/m, where P is the eirp (Watts).
2. All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

3.1.3 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.29,24	Aug.28,26
Pre-Amplifier	R&S	SCU08F1	101028	Sep.15,24	Sep.14,26
Signal Generator	R&S	SMB100A	182185	Feb.15,24	Feb.14,26
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-01Chamber	Nov.25,22	Nov.24,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-02Chamber	Nov.25,22	Nov.24,25
EMI TEST Receiver	R&S	ESW44	101973	Feb.24,24	Feb.23,26
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Feb.27,24	Feb.26,26
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.21,24	Aug.20,26
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Feb.22,24	Feb.21,26
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.21,24	Aug.20,26
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.22,24	Feb.21,26
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.26,24	Jun.25,26
Test Software	ELEKTRA	ELEKTRA4.32	N/A	N/A	N/A
Open Switch and Control Unit	R&S	OSP220	101964	N/A	N/A
DC Source	HYELEC	HY3010B	551016	Aug.30,24	Aug.29,26
Hygrothermograph	DELI	20210528	SZ014	Sep.05,24	Sep.04,26
6DB attenuator	Tonscend Technology Co., Ltd	N/A	23062787	N/A	N/A
PC	LENOVO	E14	HRSW0024	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-7.00M	N/A	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-4.00M	N/A	N/A	N/A
CABLE	R&S	W13.02	N/A	Apr.27,24	Apr.26,26
CABLE	R&S	W12.14	N/A	Apr.27,24	Apr.26,26

NOTE:

1. The calibration interval of the above test instruments is 12/ 24 / 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 3m Chamber.
3. The FCC Site Registration No. is 434559; The Designation No. is CN1325.

3.1.4 TEST PROCEDURES

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

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its 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.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. 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.

NOTE:

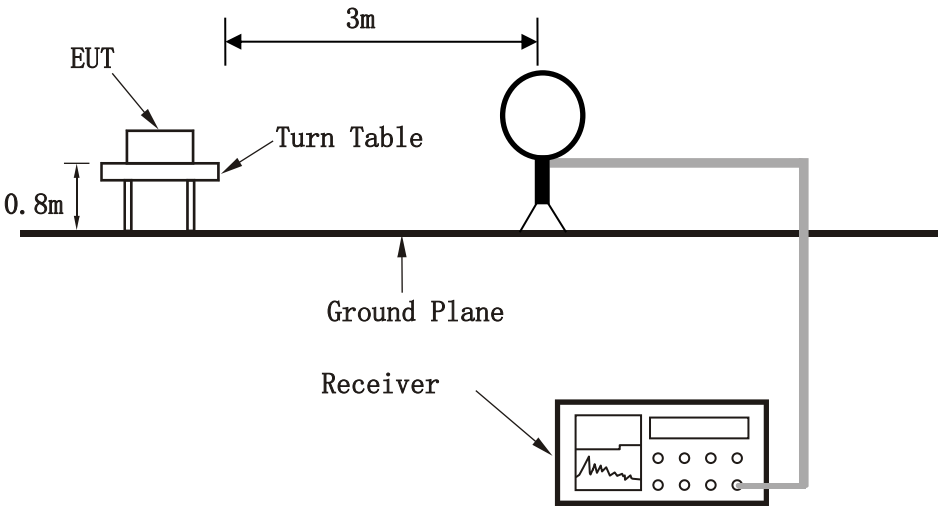
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated, and the worst-case emissions are reported.

3.1.5 DEVIATION FROM TEST STANDARD

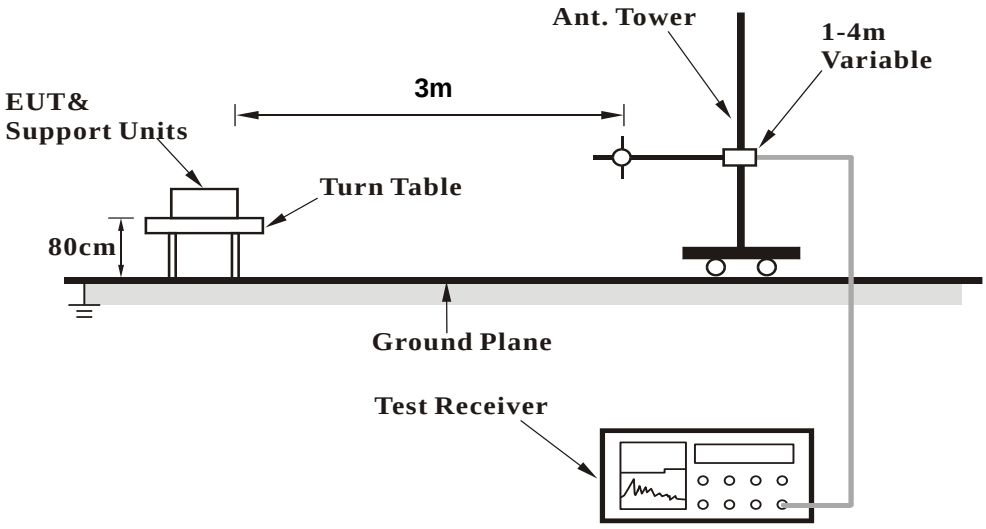
No deviation.

3.1.6 TEST SETUP

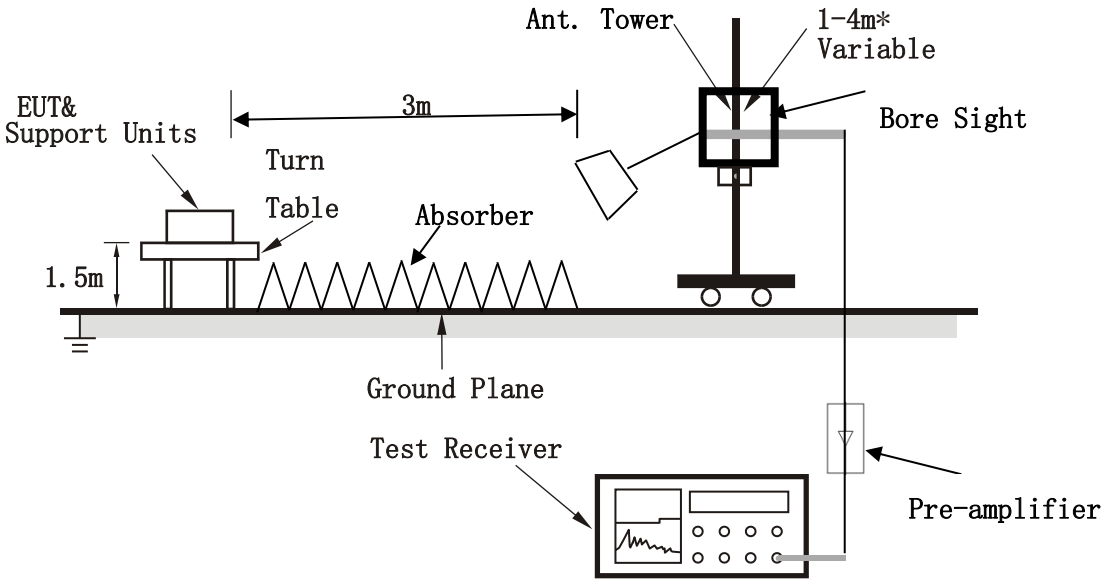
<Frequency Range 9KHz~30MHz >



< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna

Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

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

3.1.7 EUT OPERATING CONDITION

a. Set the EUT under full load condition and placed them on a testing table.

b. Set the transmitter part of EUT under transmission condition continuously at specific channel frequency.

c. The necessary accessories enable the EUT in full functions.

3.1.8 TEST RESULTS

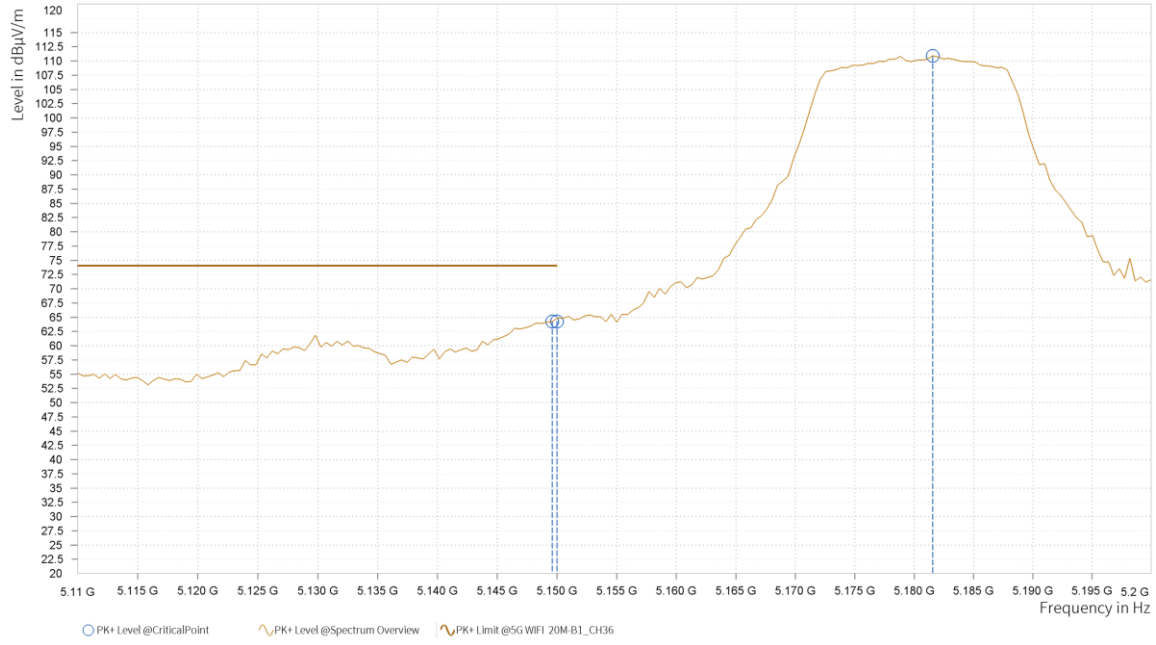
NOTE ： The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

BAND EDGE MEASUREMENT BADN 1

802.11a			
CHANNEL	TX Channel 36	**DETECTOR**	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	**FUNCTION**	Average (AV)

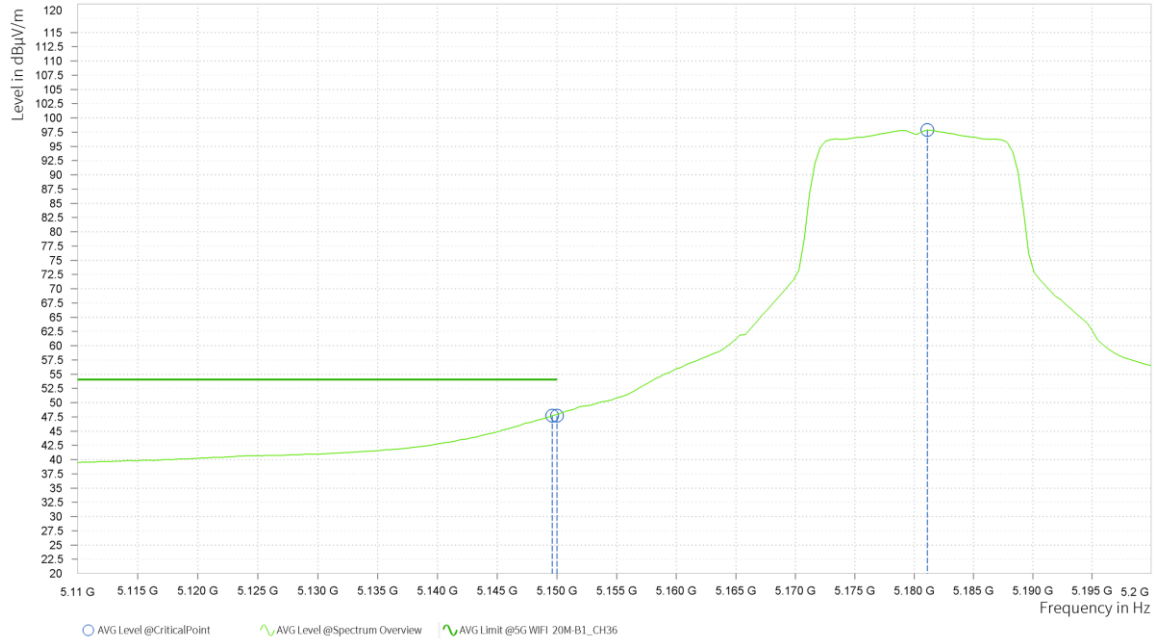
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,149.600	64.25	74.00	9.75	15.21	H	342.2	1.00
1	5,150.000	64.25	74.00	9.75	15.21	H	342.2	1.00
1	5,181.550	110.91			16.20	H	293.6	1.00

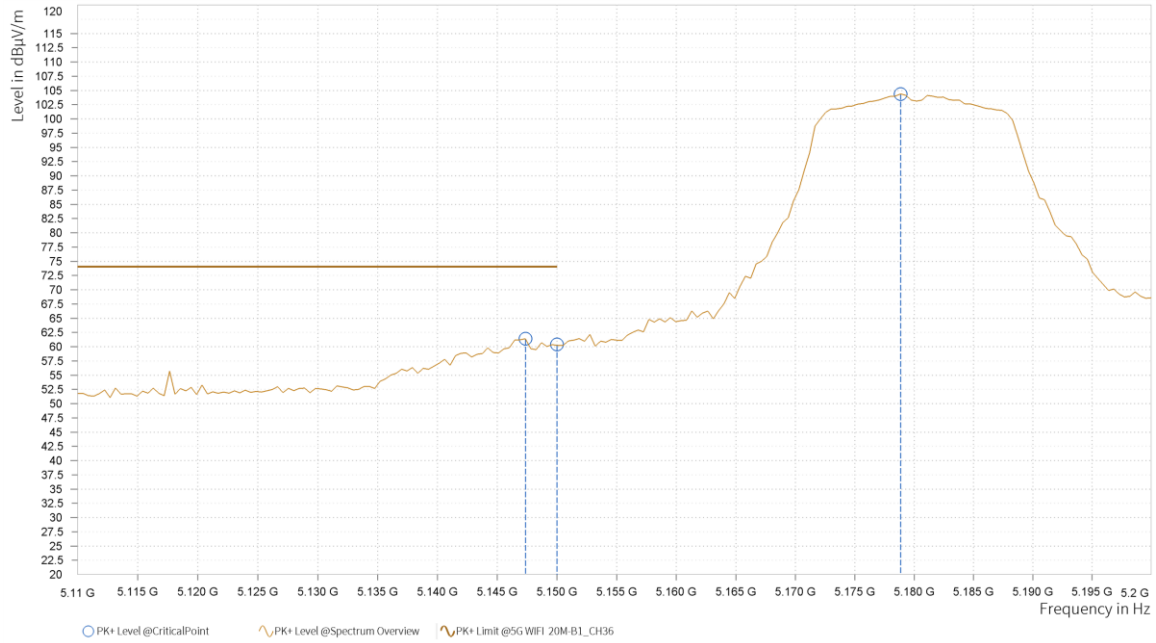


ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

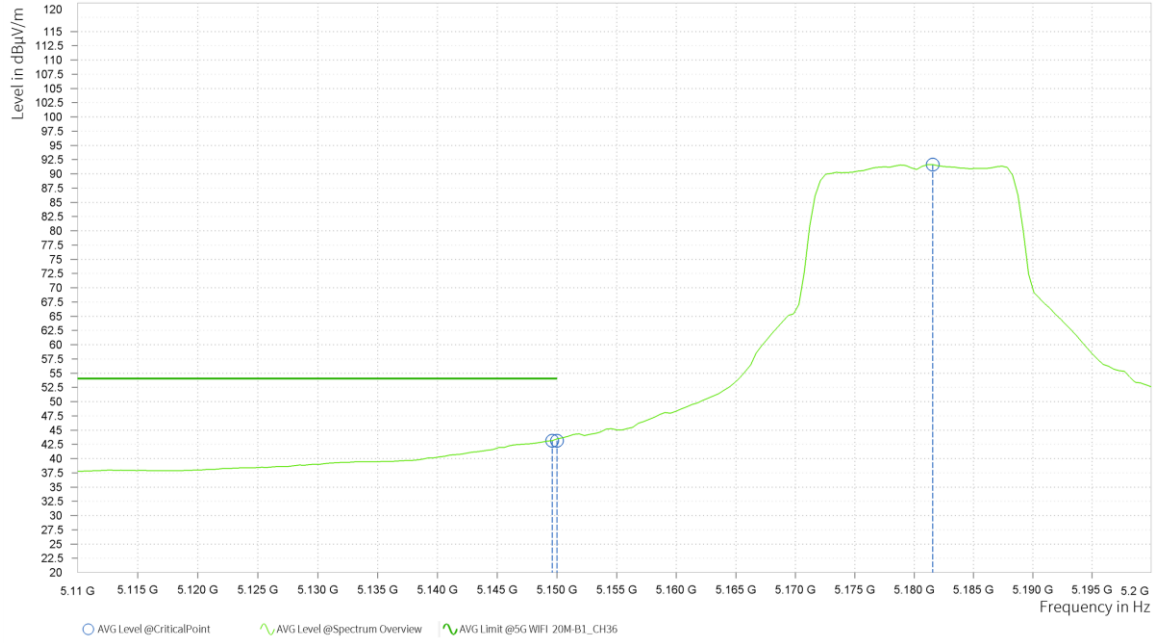
Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,149.600	47.70	54.00	6.30	15.21	H	359	2.00
1	5,150.000	47.70	54.00	6.30	15.21	H	359	2.00
1	5,181.100	97.87			16.18	H	292.4	1.00



ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,147.350	61.40	74.00	12.60	15.14	V	279.3	1.00
1	5,150.000	60.37	74.00	13.63	15.21	V	279.3	1.00
1	5,178.850	104.38			16.11	V	43.8	1.00



ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,149.600	43.16	54.00	10.84	15.21	V	46.2	1.00
1	5,150.000	43.16	54.00	10.84	15.21	V	46.2	1.00
1	5,181.550	91.63			16.20	V	46.2	1.00



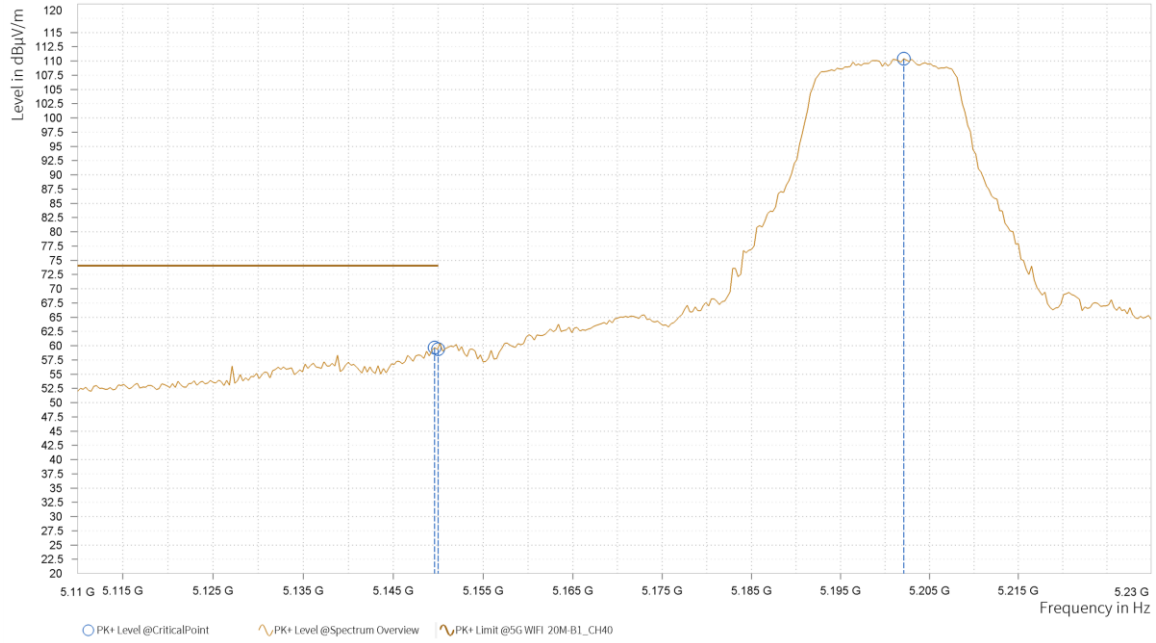
REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value- Emission level.
3. 5180MHz: Fundamental frequency.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

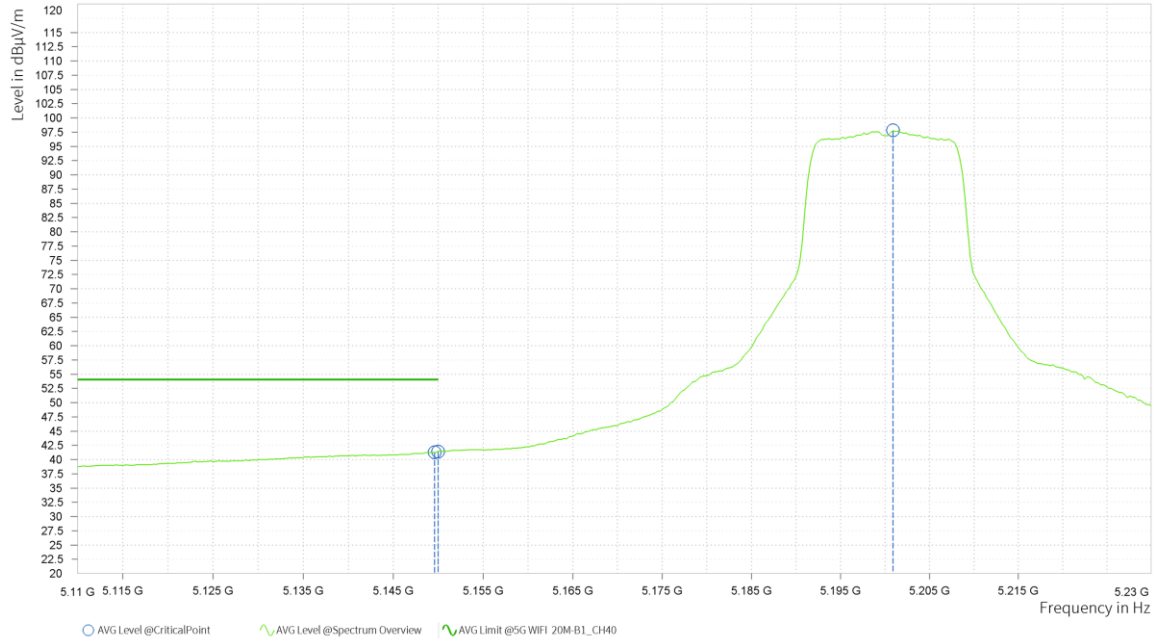
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,149.600	59.65	74.00	14.35	15.21	H	2	2.00
2	5,150.000	59.36	74.00	14.64	15.21	H	1	2.00
2	5,202.100	110.40			16.63	H	296	1.00



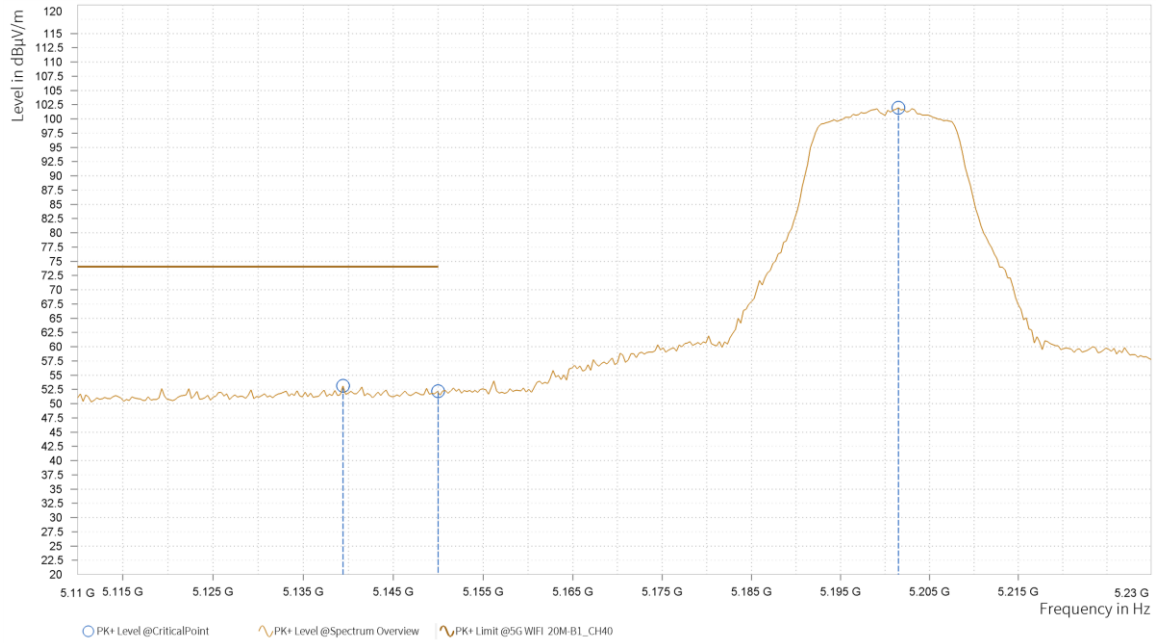
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,149.600	41.26	54.00	12.74	15.21	H	359	2.00
2	5,150.000	41.37	54.00	12.63	15.21	H	359	2.00
2	5,200.900	97.80			16.63	H	359	2.00

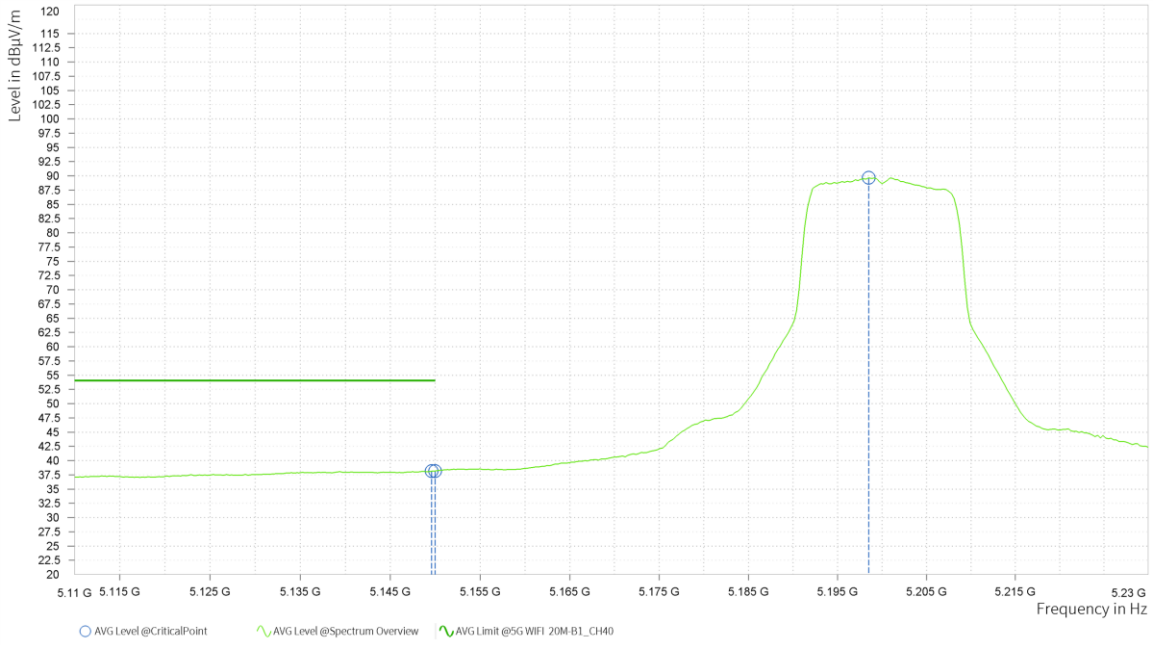


ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,139.400	53.12	74.00	20.88	14.91	V	359.1	1.00
2	5,150.000	52.17	74.00	21.83	15.21	V	0.9	2.00
2	5,201.500	101.96			16.63	V	315.2	2.00



ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,149.600	38.13	54.00	15.87	15.21	V	46.1	1.00
2	5,150.000	38.15	54.00	15.85	15.21	V	212.3	2.00
2	5,198.500	89.64			16.64	V	314	2.00



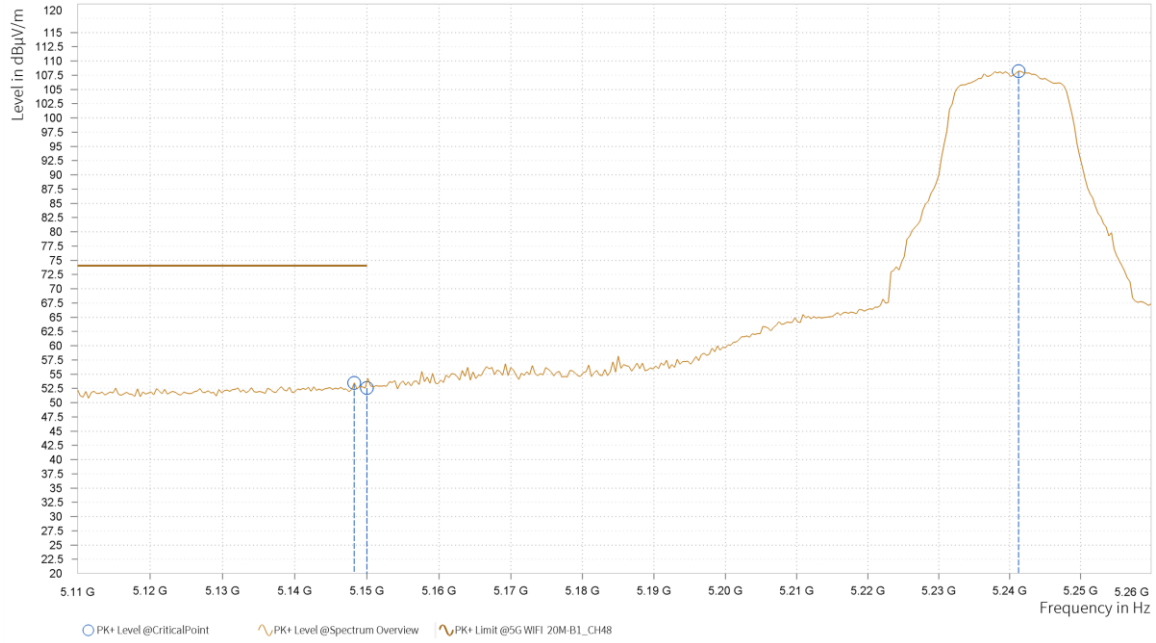
REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value- Emission level.
3. 5200MHz: Fundamental frequency.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

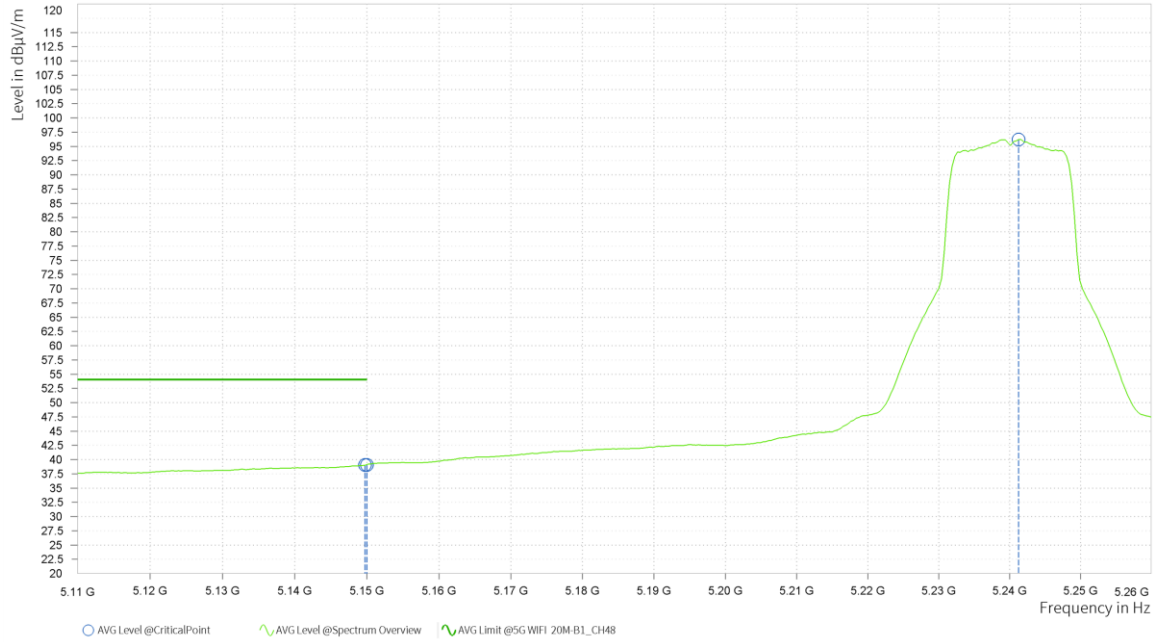
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
3	5,148.250	53.49	74.00	20.51	15.17	H	300.8	1.00
3	5,150.000	52.55	74.00	21.45	15.21	H	359.1	1.00
3	5,241.250	108.22			16.45	H	359	2.00

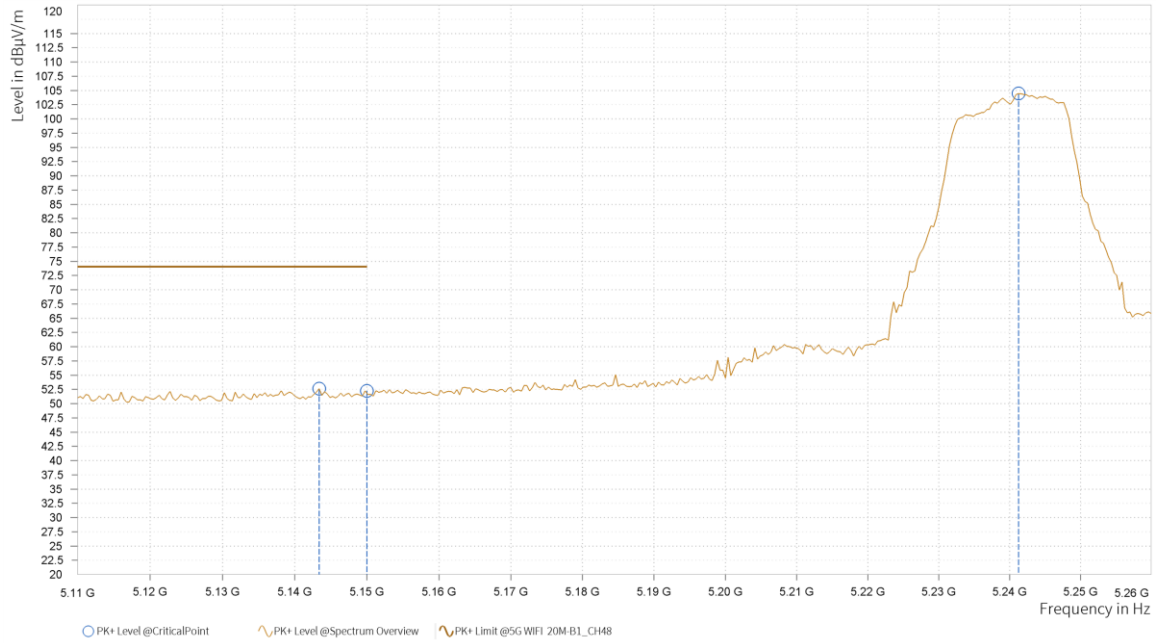


ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

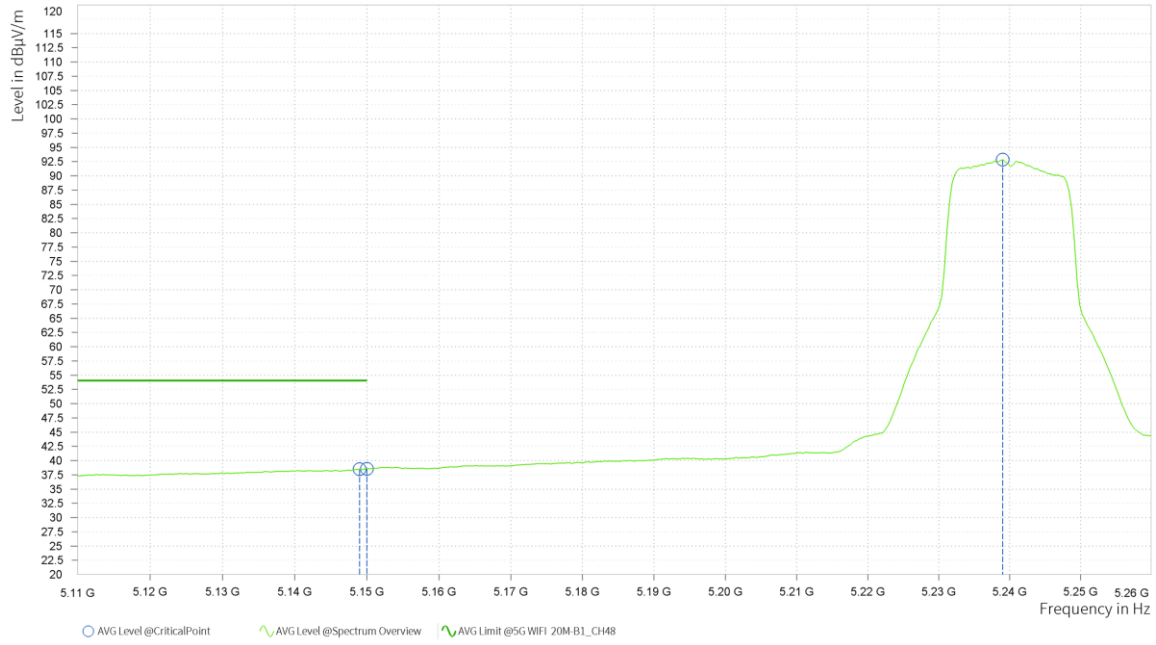
Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
3	5,149.750	39.03	54.00	14.97	15.21	H	0.9	2.00
3	5,150.000	39.03	54.00	14.97	15.21	H	0.9	2.00
3	5,241.250	96.19			16.45	H	359	2.00



ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
3	5,143.375	52.65	74.00	21.35	15.02	V	0.9	2.00
3	5,150.000	52.24	74.00	21.76	15.21	V	359	1.00
3	5,241.250	104.44			16.45	V	52.1	1.00



ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
3	5,149.000	38.49	54.00	15.51	15.19	V	286.4	1.00
3	5,150.000	38.56	54.00	15.44	15.21	V	286.4	1.00
3	5,239.000	92.86			16.46	V	47.3	1.00



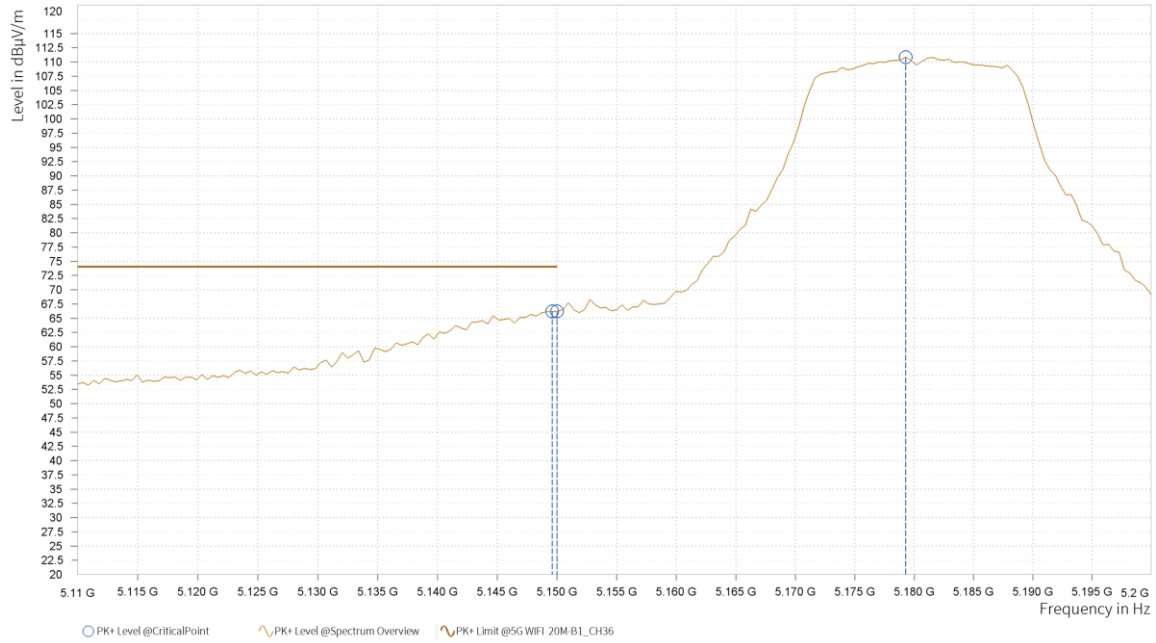
REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value- Emission level.
3. 5240MHz: Fundamental frequency.

802.11n (20MHz)			
CHANNEL	TX Channel 36	**DETECTOR FUNCTION**	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

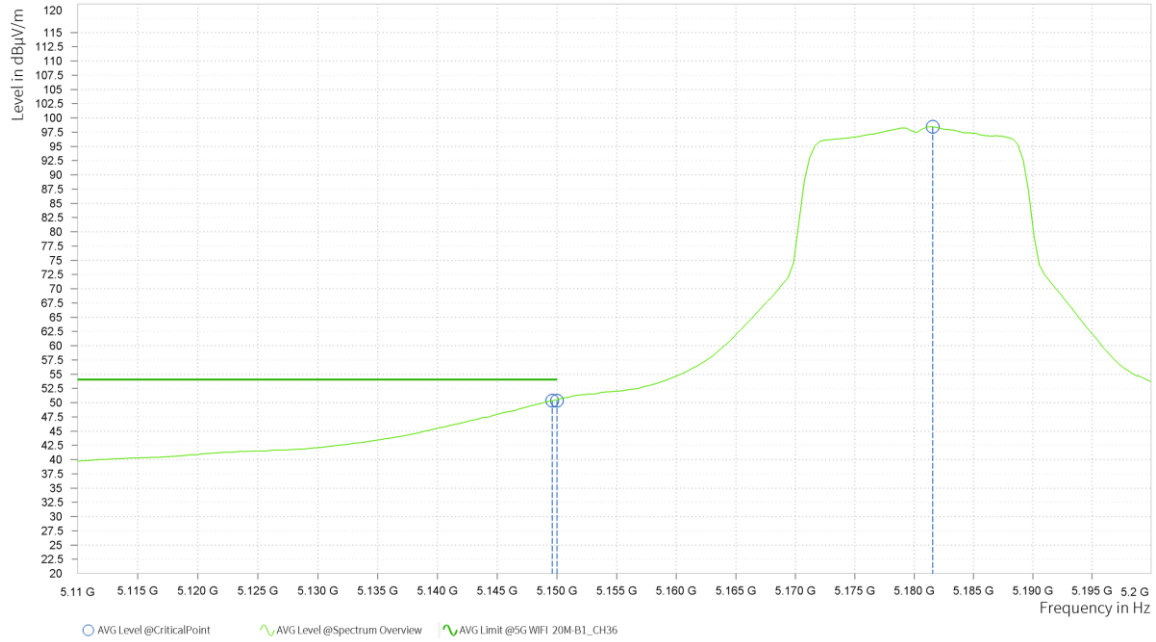
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,149.600	66.19	74.00	7.81	15.21	H	359.1	1.00
1	5,150.000	66.19	74.00	7.81	15.21	H	359.1	1.00
1	5,179.300	110.87			16.13	H	316.4	1.00



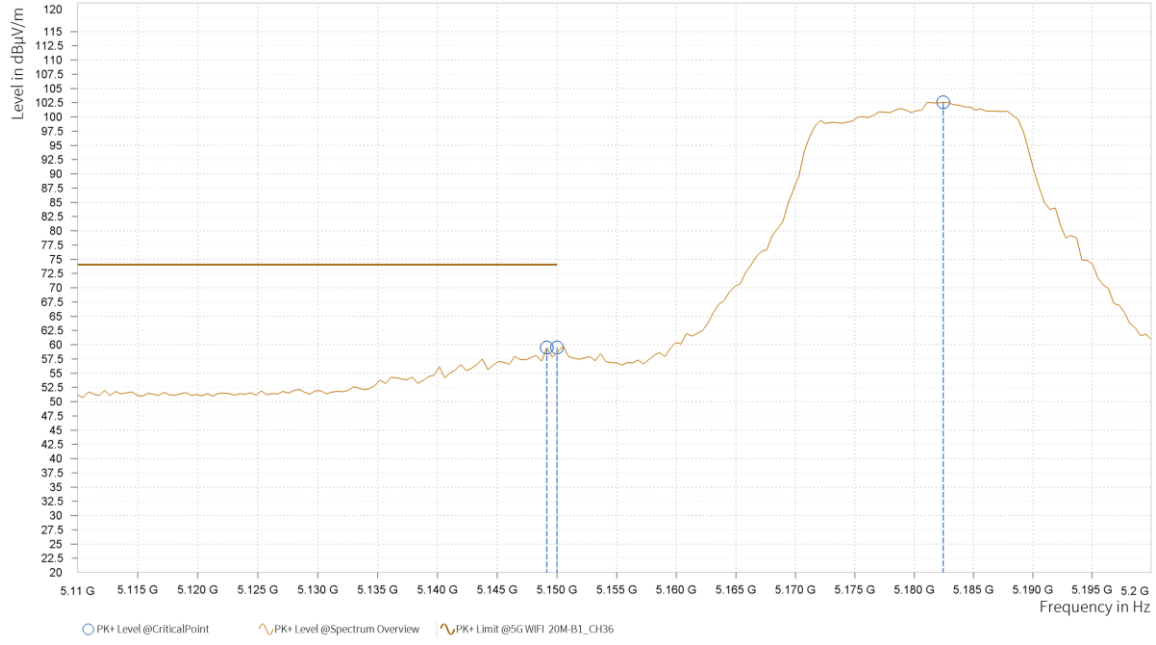
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,149.600	50.34	54.00	3.66	15.21	H	359	1.00
1	5,150.000	50.34	54.00	3.66	15.21	H	359	1.00
1	5,181.550	98.43			16.20	H	305.6	1.00

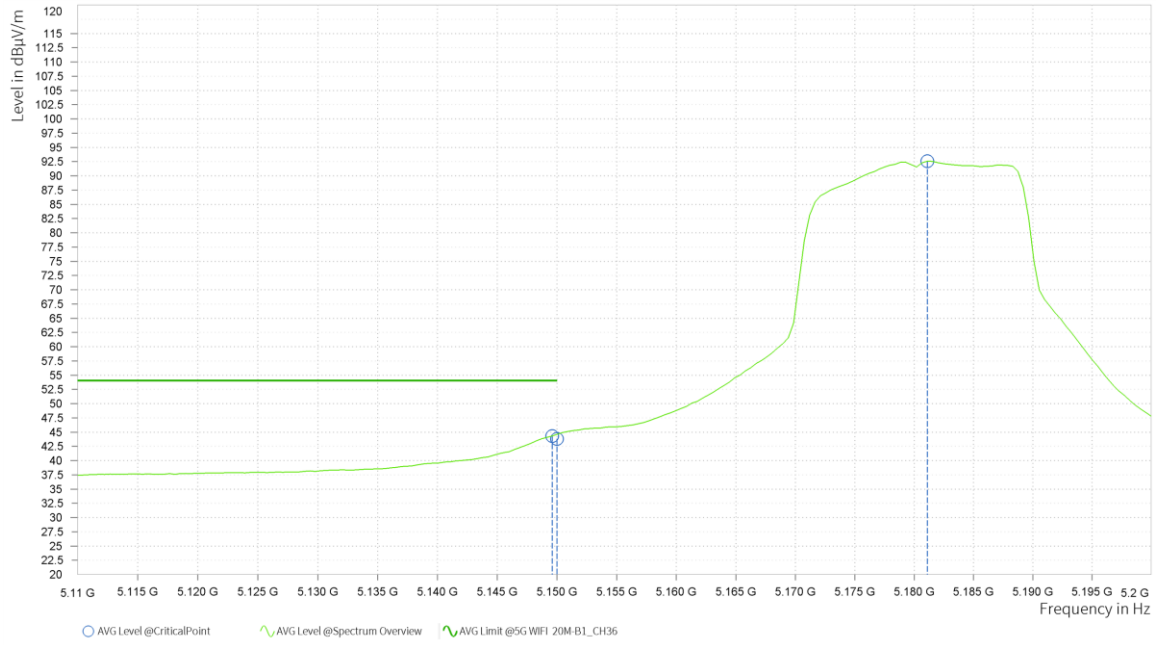


ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,149.150	59.49	74.00	14.51	15.19	V	7.3	1.00
1	5,150.000	59.49	74.00	14.51	15.19	V	7.3	1.00
1	5,182.450	102.57			16.22	V	209.9	2.00



ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,149.600	44.32	54.00	9.68	15.21	V	96.4	2.00
1	5,150.000	43.82	54.00	10.18	15.18	V	96.4	2.00
1	5,181.100	92.57			16.18	V	96.4	2.00



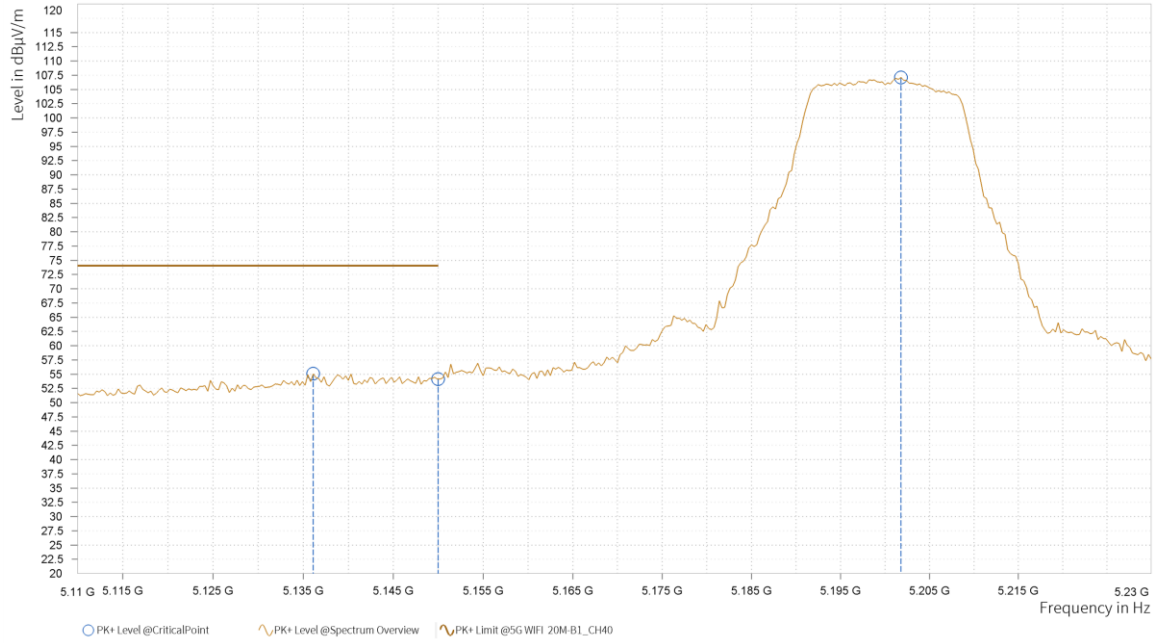
REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value- Emission level.
3. 5180MHz: Fundamental frequency.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

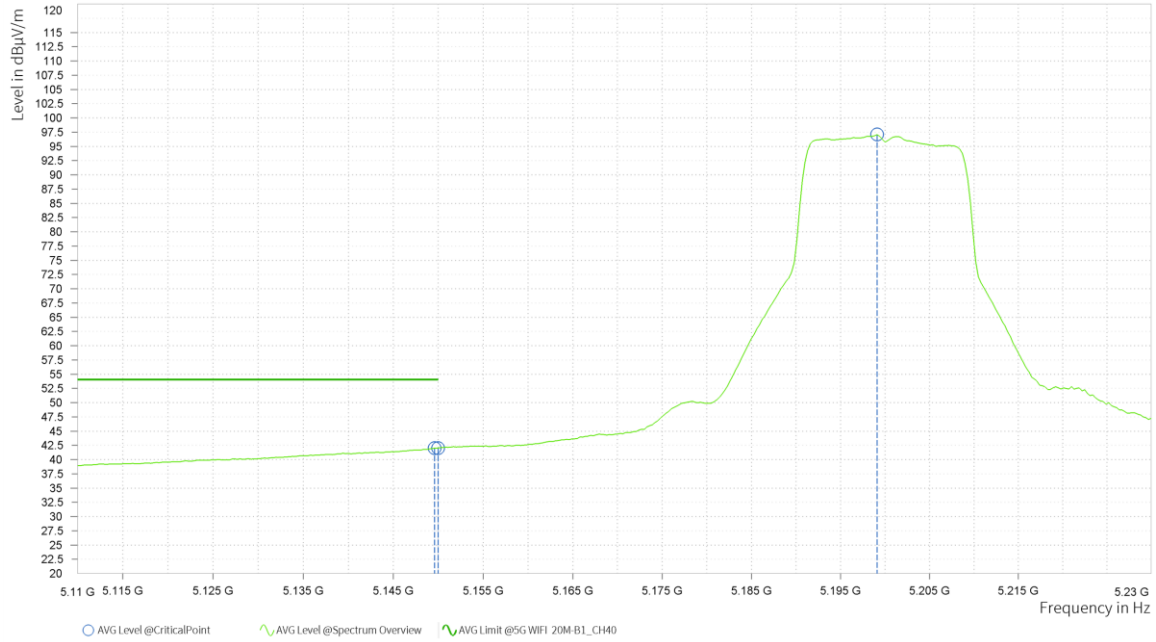
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,136.100	55.08	74.00	18.92	14.81	H	1	1.00
2	5,150.000	54.12	74.00	19.88	15.21	H	269.6	1.00
2	5,201.800	107.11			16.63	H	359	1.00



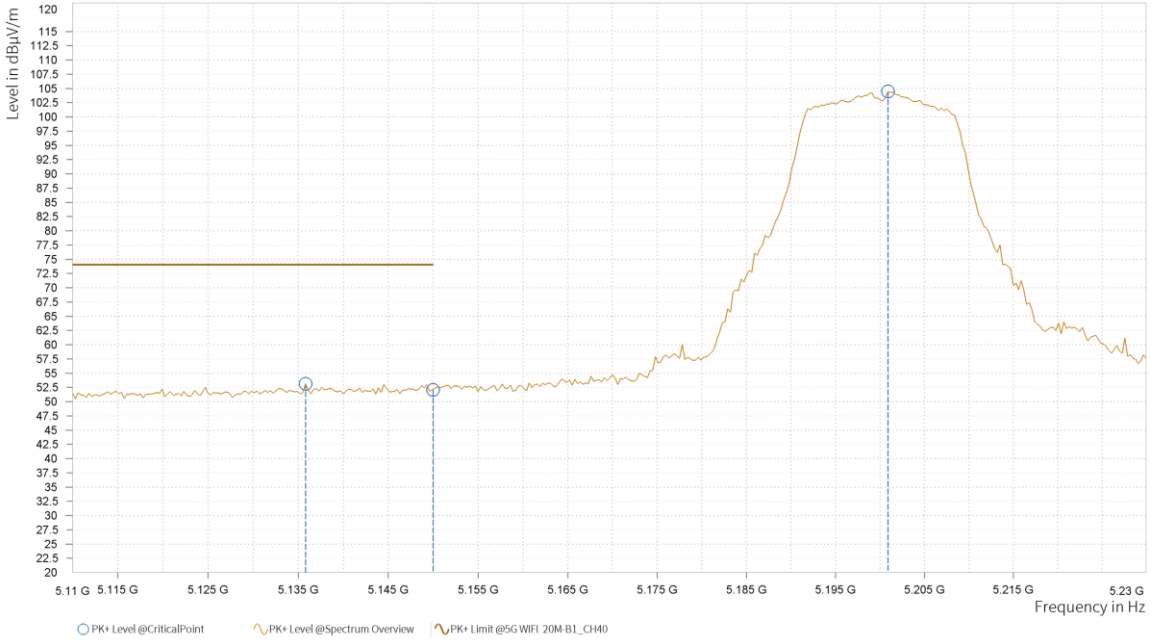
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,149.600	42.01	54.00	11.99	15.21	H	308	1.00
2	5,150.000	42.01	54.00	11.99	15.21	H	308	1.00
2	5,199.100	97.07			16.64	H	308	1.00

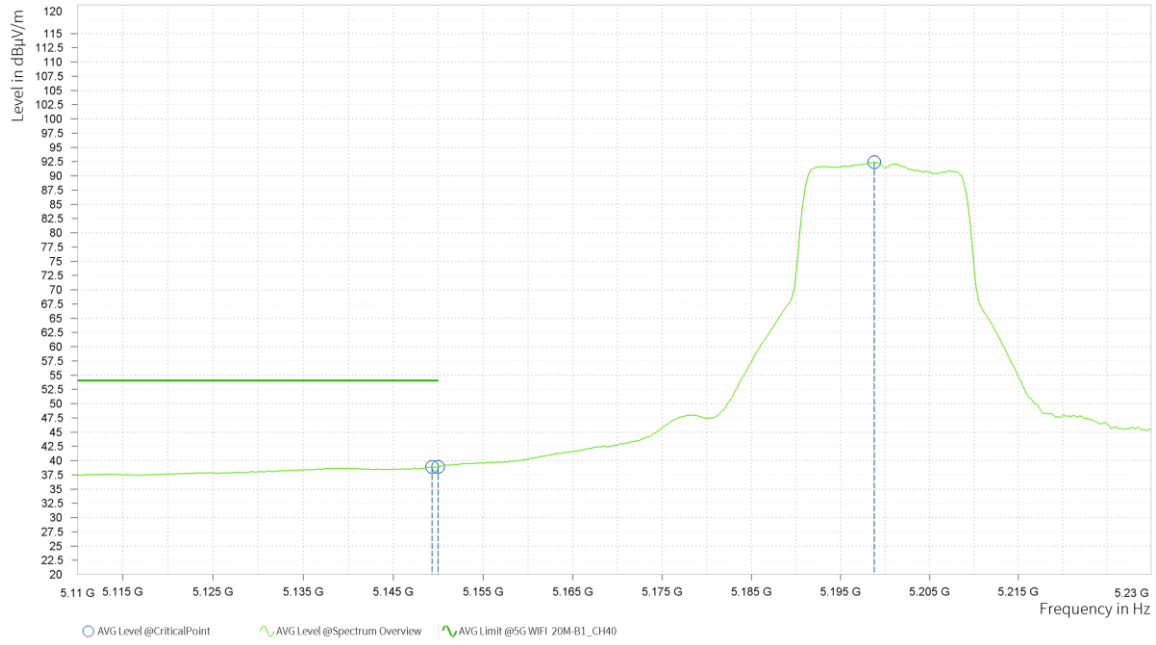


ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,135.800	53.15	74.00	20.85	14.80	V	45	1.00
2	5,150.000	52.06	74.00	21.94	15.21	V	119	2.00
2	5,200.900	104.47			16.63	V	169.4	2.00



ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,149.300	38.91	54.00	15.09	15.20	V	129.8	2.00
2	5,150.000	38.89	54.00	15.11	15.21	V	257.8	1.00
2	5,198.800	92.42			16.64	V	257.8	1.00



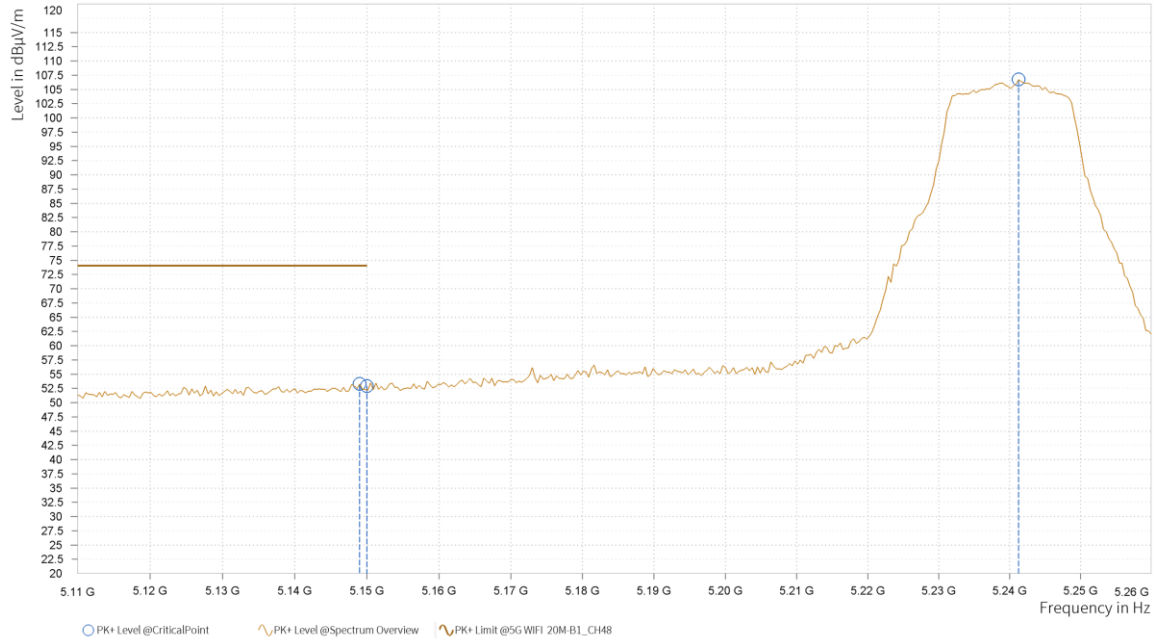
REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value- Emission level.
3. 5200MHz: Fundamental frequency.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

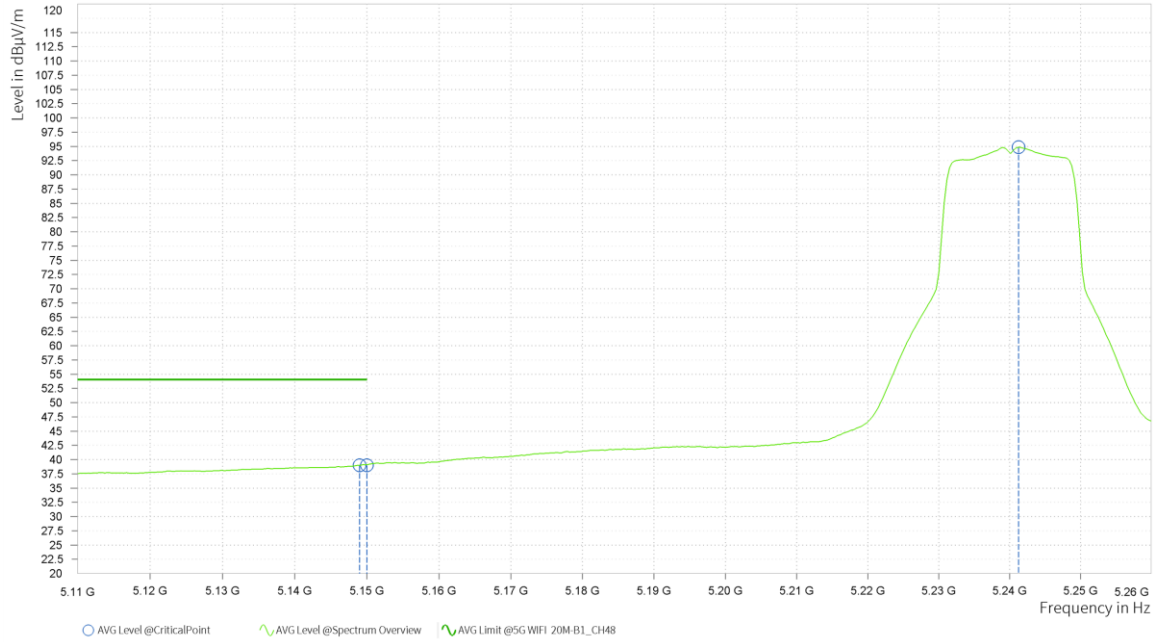
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
3	5,149.000	53.29	74.00	20.71	15.19	H	359	1.00
3	5,150.000	52.91	74.00	21.09	15.17	H	359	1.00
3	5,241.250	106.74			16.45	H	359	1.00

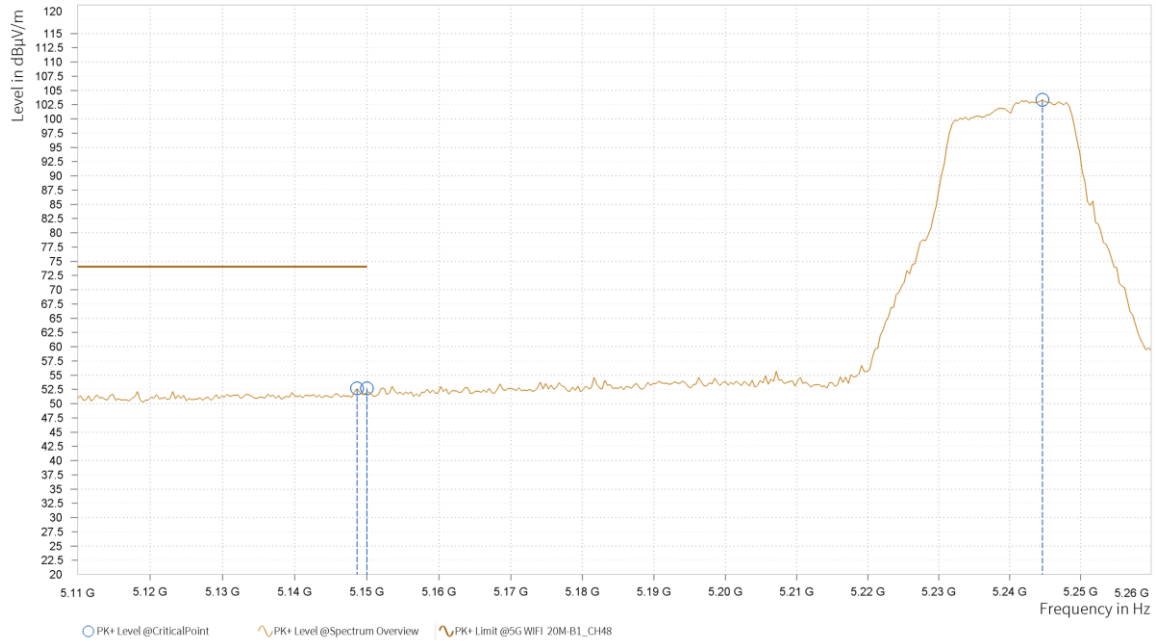


ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

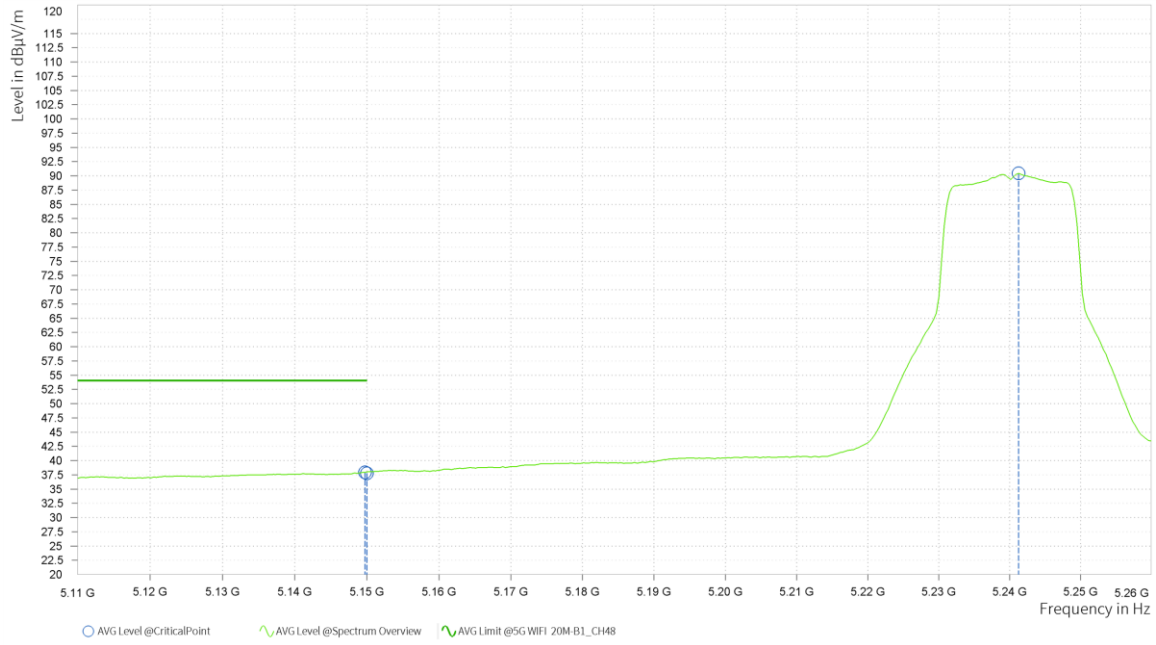
Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
3	5,149.000	38.97	54.00	15.03	15.19	H	359.1	1.00
3	5,150.000	38.97	54.00	15.03	15.19	H	359.1	1.00
3	5,241.250	94.87			16.45	H	359.1	1.00



ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
3	5,148.625	52.67	74.00	21.33	15.18	V	16.4	2.00
3	5,150.000	52.67	74.00	21.33	15.18	V	16.4	2.00
3	5,244.630	103.38			16.44	V	42.6	1.00



ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
3	5,149.750	37.94	54.00	16.06	15.21	V	1	1.00
3	5,150.000	37.77	54.00	16.23	15.18	V	30.6	1.00
3	5,241.250	90.43			16.45	V	30.6	1.00



REMARKS:

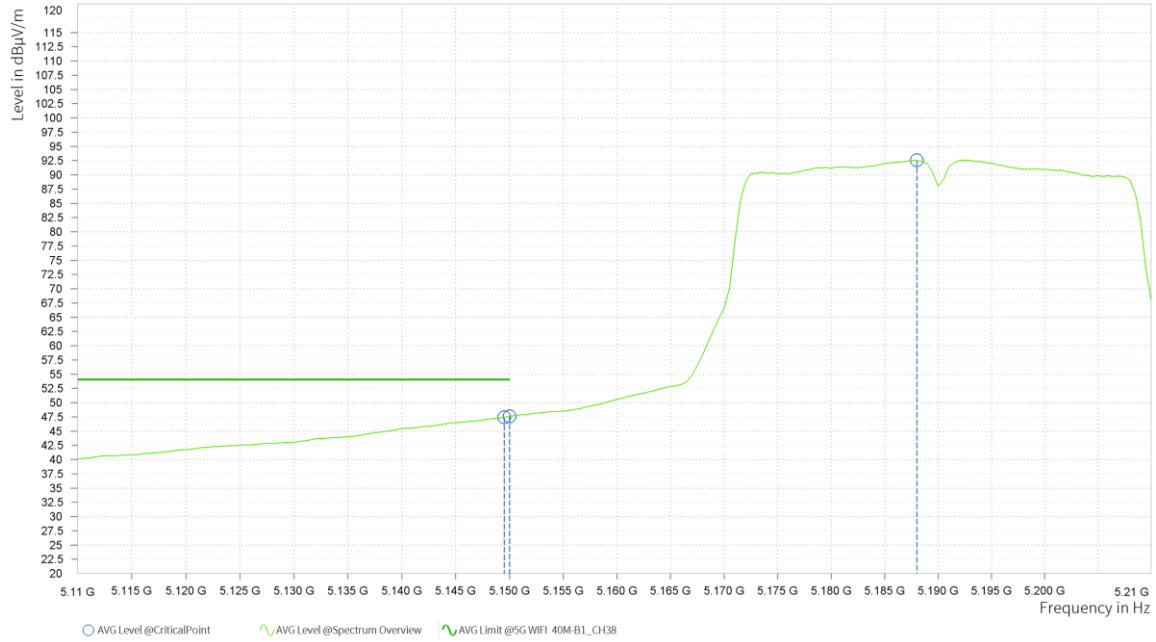
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value- Emission level.
3. 5240MHz: Fundamental frequency.

802.11n (40MHz)			
CHANNEL	TX Channel 38	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

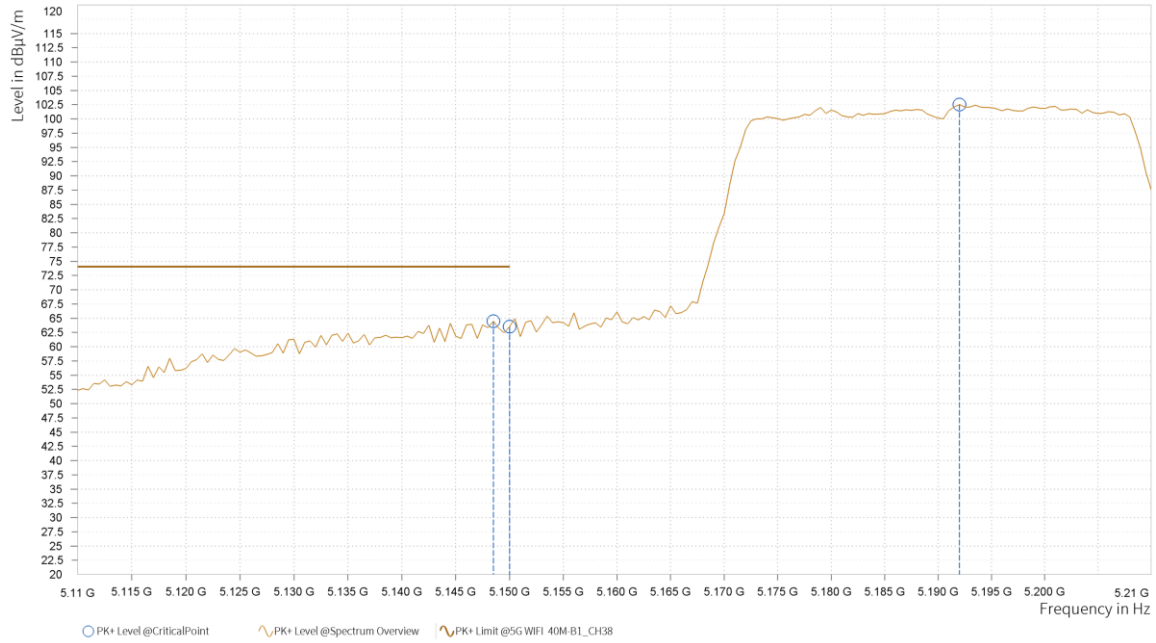
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,149.000	69.39	74.00	4.61	15.19	H	285.8	1.00
1	5,150.000	68.25	74.00	5.75	15.22	H	0.9	2.00
1	5,192.500	105.70			16.54	H	359	1.00

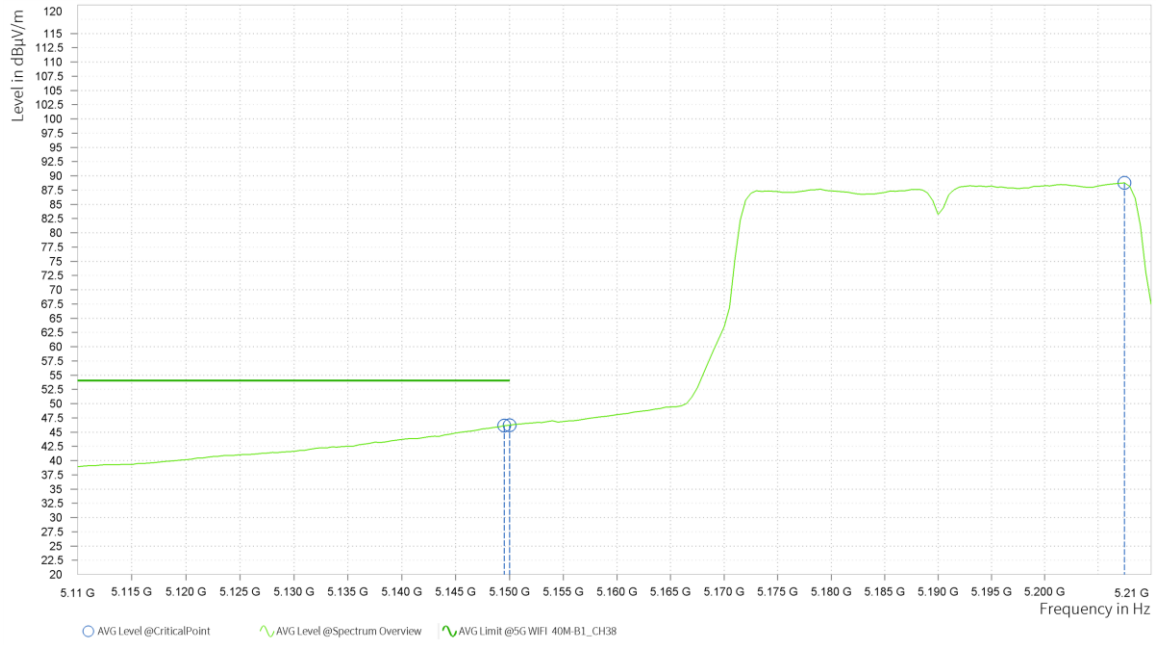
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,149.500	47.44	54.00	6.56	15.20	H	295.3	1.00
1	5,150.000	47.60	54.00	6.40	15.22	H	295.3	1.00
1	5,188.000	92.59			16.40	H	341.8	2.00



ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,148.500	64.48	74.00	9.52	15.17	V	92.2	2.00
1	5,150.000	63.52	74.00	10.48	15.22	V	163.4	1.00
1	5,192.000	102.53			16.52	V	48.1	1.00



ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,149.500	46.13	54.00	7.87	15.20	V	95.3	2.00
1	5,150.000	46.21	54.00	7.79	15.22	V	95.3	2.00
1	5,207.500	88.77			16.60	V	69	2.00



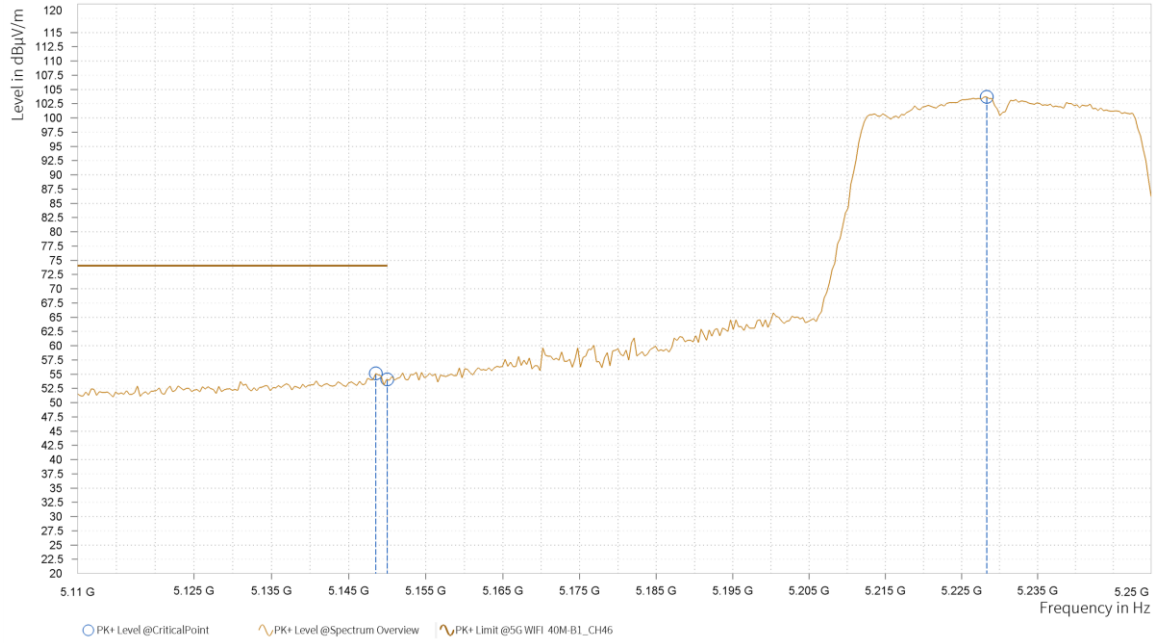
REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
2. Margin value = Limit value- Emission level.
3. 5190MHz: Fundamental frequency.

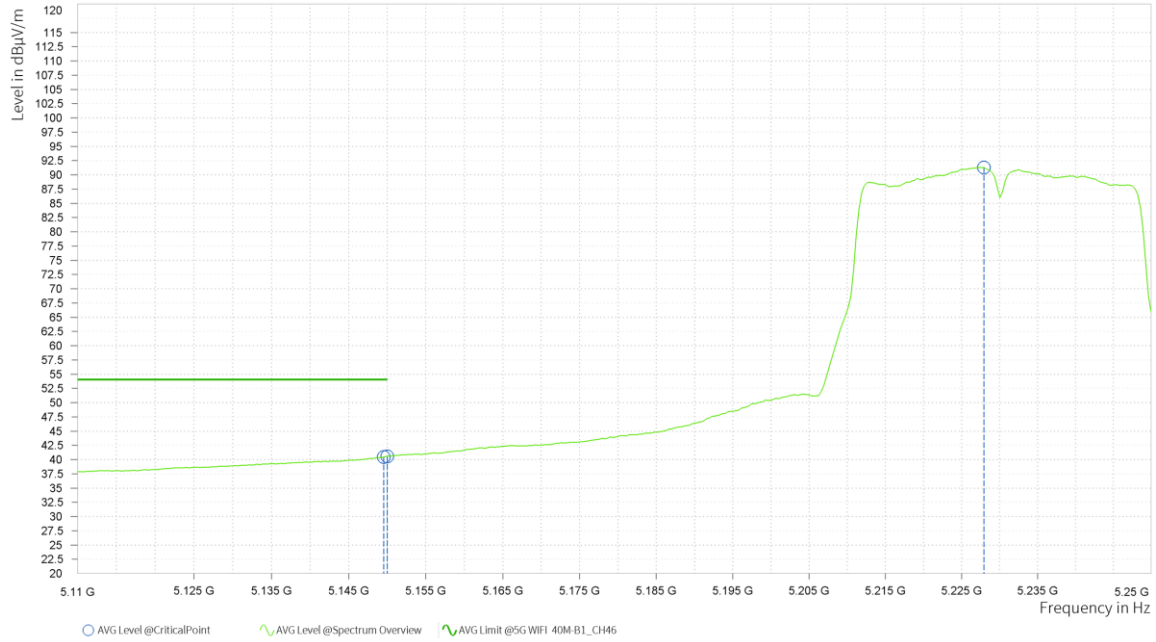
CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,148.500	55.11	74.00	18.89	15.17	H	359.1	1.00
2	5,150.000	54.06	74.00	19.94	15.21	H	359.1	1.00
2	5,228.300	103.67			16.51	H	359.1	1.00



ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,149.550	40.47	54.00	13.53	15.20	H	290.5	1.00
2	5,150.000	40.57	54.00	13.43	15.21	H	359.1	1.00
2	5,227.950	91.30			16.51	H	355.6	2.00



ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Limit [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,134.150	52.57	74.00	21.43	14.76	V	136.5	1.00
2	5,150.000	51.35	74.00	22.65	15.21	V	136.5	1.00
2	5,227.600	100.99			16.51	V	83.4	1.00