

FCC TEST REPORT

(Part 15, Subpart E)

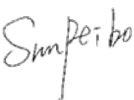
Applicant:	HMD Global Oy
Address:	Bertel Jungin aukio 9 Espoo 02600 Finland

Manufacturer or Supplier:	HMD Global Oy
Address:	Bertel Jungin aukio 9 Espoo 02600 Finland
Product:	Smart Phone
Brand Name:	NOKIA
Model Name:	TA-1584
FCC ID:	2AJOTTA-1584
Date of tests:	May. 04, 2023 ~ Jun. 01, 2023

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 Chao Wu Engineer / Mobile Department	Approved by Peibo Sun Manager / Mobile Department
 Date: Jun. 01, 2023	 Date: Jun. 01, 2023

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Test Report No.: PSZ-NQN2303280110RF06

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSZ-NQN2303280110RF06	Original release	Jun. 01, 2023

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)(6)	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(i)	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 the appendix.
2. Only the worse data were report.

***Test Lab Information Reference**

Lab A:

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

Lab Address:

Tower N, Innovation Center, 88 Zhuyi 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	Smart Phone
BRAND NAME	NOKIA
MODEL NAME	TA-1584
NOMINAL VOLTAGE	5.0Vdc(adapter) 3.85Vdc (Li-ion, battery)
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 866.6Mbps
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. 802.11ac(80MHz) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n/ac (20MHz)/ 2 for 802.11n/ac(40MHz) 1 for 802. 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)
AVERAGE POWER	50.00 mW for 5180 ~ 5240MHz 50.70 mW for 5260 ~ 5320MHz 46.77 mW for 5500 ~ 5720MHz 49.55 mW for 5745 ~ 5825MHz
ANTENNA TYPE	PIFA Antenna
ANTENNA GAIN	1.5dBi for 5180 ~ 5240MHz 1dBi for 5260 ~ 5320MHz 1.6dBi for 5500 ~ 5720MHz 3dBi for 5745 ~ 5825MHz
HW VERSION	V1.0
SW VERSION	04US_0_023



I/O PORTS	Refer to user's manual
CABLE SUPPLIED	USB cable: non-shielded cable, with w/o ferrite core, 1.0 meter

NOTE:

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- 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

- For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
- The product of TA-1584(FCC ID: 2AJOTTA-1584) only the following manufacturer of key parts is different between the first and second supply, other parameters are the same:

N O.	Change Description		specificatons	first supplier	specificatons	second supplier
1	PCBA	3GB LPDDR	3GB	Longsys	RAM;DDR4;3GB ;4266Mbps;FBG A-200;10*15*0.9	Samsung
2		32GB EMMC	32GB	Longsys	32GB	Biwin
3		PCB	105X131.6MM	Huashen	105X131.6MM	SUNTAK
4	LCM	LCD	6.3"HKC incell, 720X1560 FocalTech: FT8006S-AN, GG3	TCL	6.3" HKC incell, 720X1560 Chipone: ICNL9911C	Iceutron
5	Front camera	Camera	5M;FF	Holitech	5M;FF	TXD
6	Macro	Camera	13M;PDAF;	Sunwin	13M;PDAF;	TXD
7	CAM	Camera	2M;FF	Imaging	2M;FF	Holitech
8	Acoustic	Vibrator	Φ8*3mm	ChaoYing	Φ8*3mm	HONGZHIF A



9		FPC	N/A	ZRXD	N/A	XINYE
10	LED		P2016F-W55WM0M2AB5C 2-0002	RUNLITE	SJ-FT2016-DHZ 1N5257-01	SUIJING
11	Battery		3000mAh	Highpower	3000mAh	GAOYUAN
12	Glass		30.09X12.02X0.50 mm	Dottone	30.09X12.02X0.50mm	Lesu

5. List of Accessory:

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
Battery 1	Highpower	Huizhou Highpower Technology Co., Ltd.	CH396078	Capacity: 3.85 Vdc, 3000mAh
Battery 2	GaoYuan	HUNAN GAOYUAN BATTERY CO.,LTD	CH396078	Capacity: 3.85 Vdc, 3000mAh
AC Adapter	Baijunda	Baijunda Group Co., Ltd	AD-010U	I/P: 100-240Vac, 0.35A, O/P: 5.0Vdc, 2.0A
USB Cable	Saibao	Saibao (Jiangxi) Industrial Co., Ltd	SZN-A018A	Signal Line, 1.0meter

2.2 DESCRIPTION OF TEST MODES

FOR 5180 ~ 5240MHz

4 channels are provided for 802.11a, 802.11n, 802.11ac (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n, 802.11ac(40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
42	5210 MHz		

FOR 5260 ~ 5320MHz

4 channels are provided for 802.11a, 802.11n, 802.11ac (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

2 channels are provided for 802.11n, 802.11ac(40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
58	5290 MHz		

**FOR 5500 ~ 5720MHz**

12 channels are provided for 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

6 channels are provided for 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

3 channel is provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
106	5530 MHz	138	5690 MHz
122	5610 MHz		

FOR 5745 ~ 5825MHz

5 channels are provided for 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		

2 channels are provided for 802.11n, 802.11ac(40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
142	5710 MHz	159	5795 MHz
151	5755 MHz		

1 channel is provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY
155	5775 MHz



2.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE $\geq$ 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 $\geq$ 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).
- ☒ 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 (20MHz)	5745-5825	144 to 165	165	OFDM	MCS0

**RADIATED EMISSION TEST (ABOVE 1GHz):**

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

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

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).
- ☒ 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, 48	OFDM	6.0
A	802.11n/ac (20MHz)		36 to 48	36, 48	OFDM	MCS0
A	802.11n/ac (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/ac (20MHz)		52 to 64	52, 60, 64	OFDM	MCS0
A	802.11n/ac (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/ac (20MHz)		100 to 144	100, 116, 140, 144	OFDM	MCS0
A	802.11n/ac (40MHz)		102 to 142	102, 110, 134, 142	OFDM	MCS0
A	802.11ac (80MHz)		106 to 138	106, 138	OFDM	MCS0
A	802.11a	5745-5825	144 to 165	144, 149, 157, 165	OFDM	6.0
A	802.11n/ac (20MHz)		144 to 165	144, 149, 157, 165	OFDM	MCS0
A	802.11n/ac (40MHz)		142 to 159	142, 151, 159	OFDM	MCS0
A	802.11ac (80MHz)		138, 155	138, 155	OFDM	MCS0

ANTENNA PORT CONDUCTED MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATIO N	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 48	OFDM	6.0
A	802.11n/ac (20MHz)		36 to 48	36, 48	OFDM	MCS0
A	802.11n/ac (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/ac (20MHz)		52 to 64	52, 60, 64	OFDM	MCS0
A	802.11n/ac (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/ac (20MHz)		100 to 144	100, 116, 140, 144	OFDM	MCS0
A	802.11n/ac (40MHz)		102 to 142	102, 110, 134, 142	OFDM	MCS0
A	802.11ac (80MHz)		106 to 138	106, 138	OFDM	MCS0
A	802.11a	5745-5825	144 to 165	144, 149, 157, 165	OFDM	6.0
A	802.11n/ac (20MHz)		144 to 165	144, 149, 157, 165	OFDM	MCS0
A	802.11n/ac (40MHz)		142 to 159	142, 151, 159	OFDM	MCS0
A	802.11ac (80MHz)		138, 155	138, 155	OFDM	MCS0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE<1G	23deg. C, 70%RH	DC 5V By Adapter	Chao Wu
RE≥1G	23deg. C, 70%RH	DC 5V By Adapter	Chao Wu
PLC	25deg. C, 52%RH	DC 5V By Adapter	Chao Wu
APCM	25deg. C, 60%RH	DC 5V By Adapter	Chao Wu

2.3 DUTY CYCLE OF TEST SIGNAL

Please Refer to Appendix Of this test report.

WORST-CASE DATA:

Measured Duty Cycle		
Mode		Duty Cycle [%]
		ANT1/2
5GHZ	11a	98.09
	11n20	98.20
	11n40	96.42
	11ac20	98.21
	11ac40	96.24
	11ac80	92.66

Note:

Duty cycle of test signal is < 98%, duty factor shall be considered.

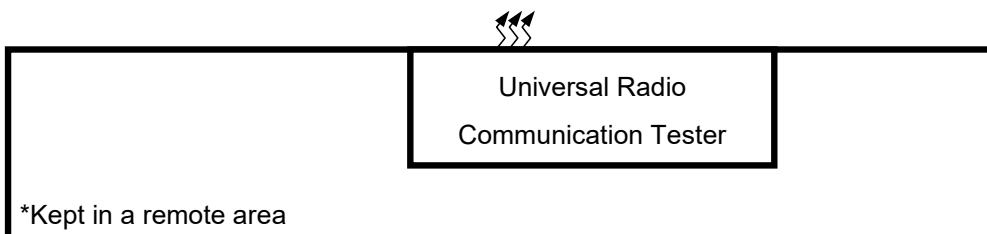
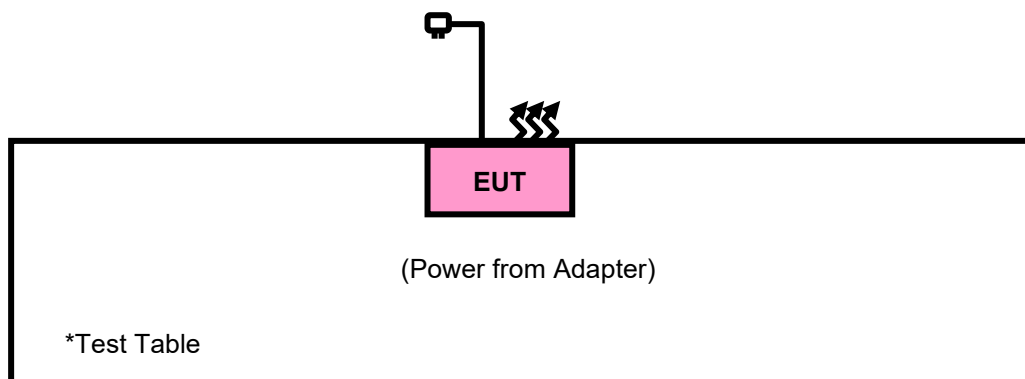
2.4 DESCRIPTION OF SUPPORT UNITS

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	Thnikpad L440	R90FTFKP	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A

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 C63.10-2013

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: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \quad \mu\text{V/m, where } P \text{ is the eirp (Watts).}$$

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.30,22	Aug.29,24
Pre-Amplifier	R&S	SCU08F1	101028	Sep.16,22	Sep.15,24
Signal Generator	R&S	SMB100A	182185	Feb.16,22	Feb.15,24
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.25,22	Feb.24,24
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Feb.28,22	Feb.27,24
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.22,22	Aug.21,24
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Feb.23,22	Feb.22,24
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.22,22	Aug.21,24
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.23,22	Feb.22,24
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.27,22	Jun.26,24
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.31,22	Aug.30,24
Hygrothermograph	DELI	20210528	SZ014	Sep.06,22	Sep.05,24
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.28,23	Oct.27,23
CABLE	R&S	W12.14	N/A	Apr.28,23	Oct.27,23

NOTE: 1. The calibration interval of the above test instruments is 6 months or 24 months or 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 525120; The Designation No. is CN1171.

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:

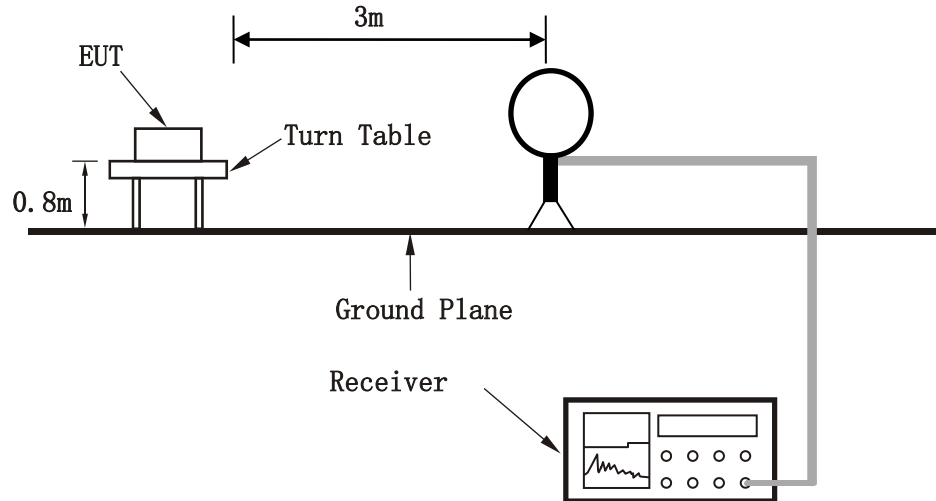
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency 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 ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) 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

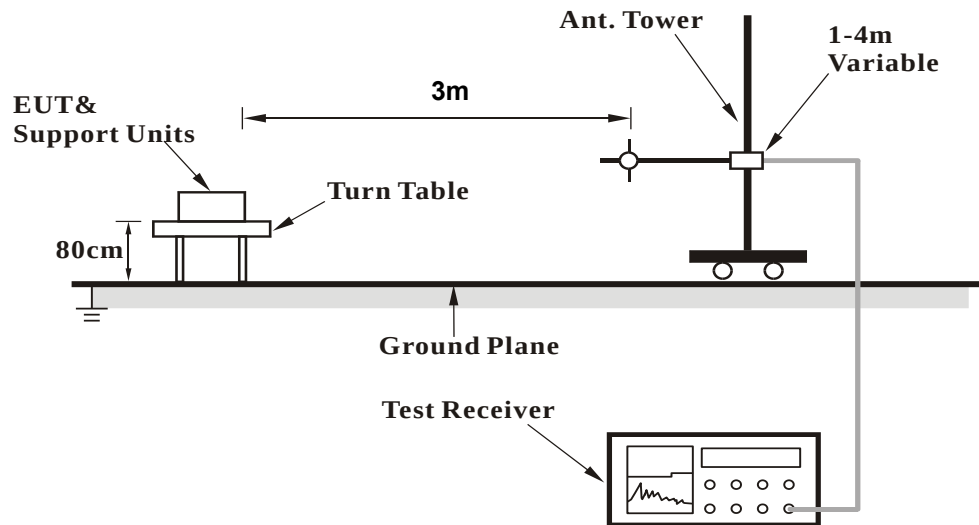
No deviation.

3.1.6 TEST SETUP

<Frequency Range 9KHz~30MHz >

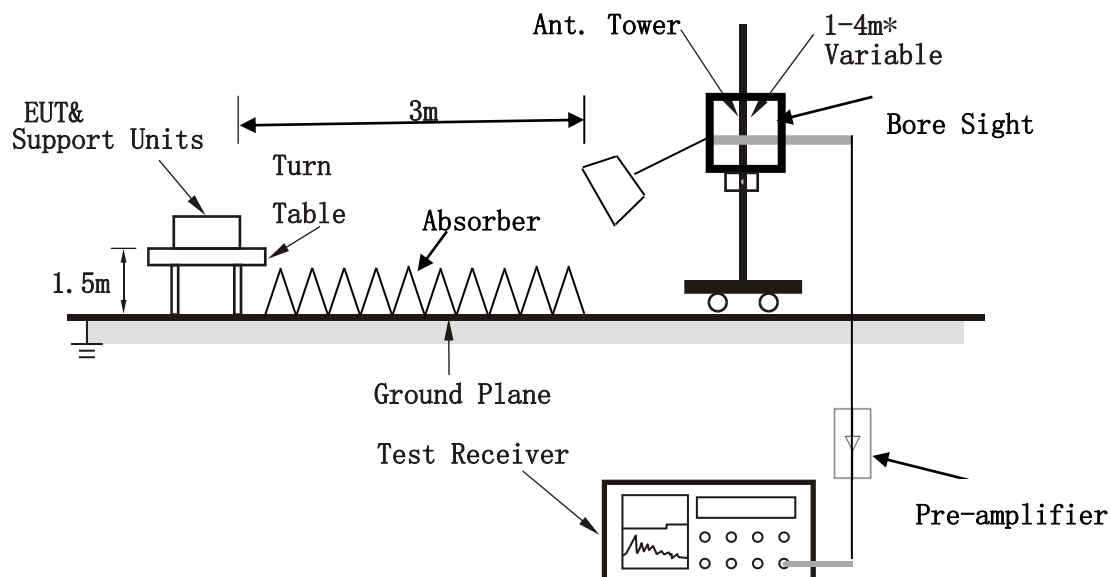


< Frequency Range 30MHz~1GHz >





<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

- Set the EUT under full load condition and placed them on a testing table.
- Set the transmitter part of EUT under transmission condition continuously at specific channel frequency.
- 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

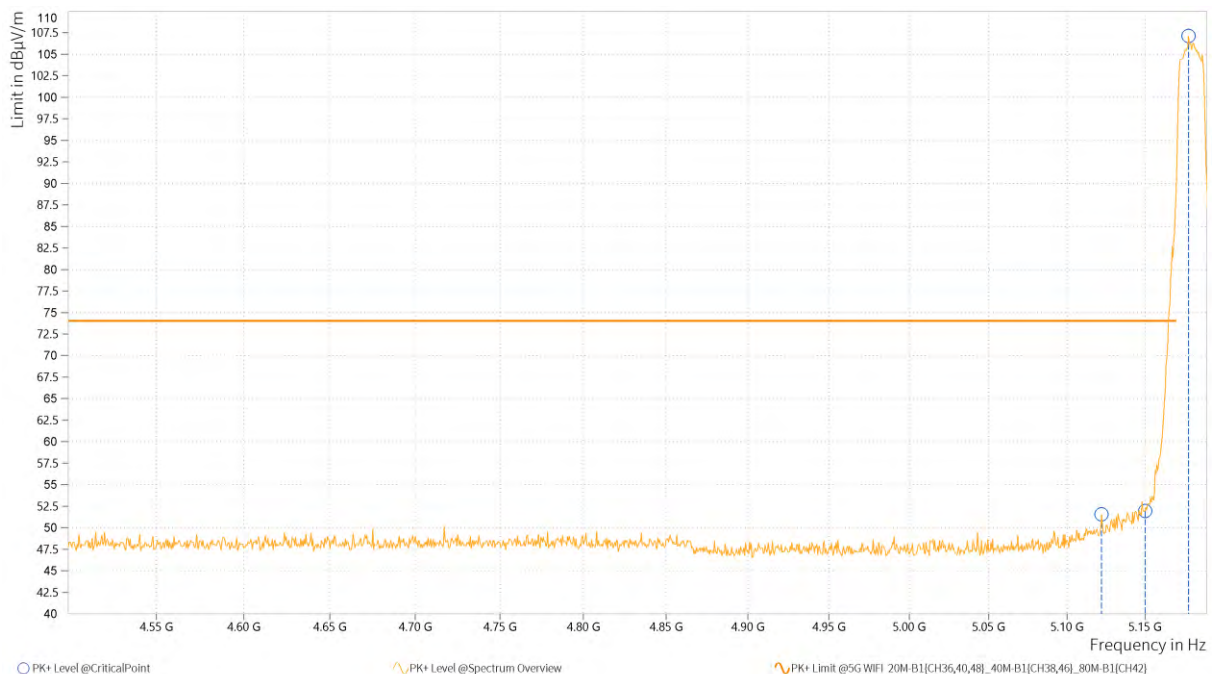
Band 1

802.11a

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

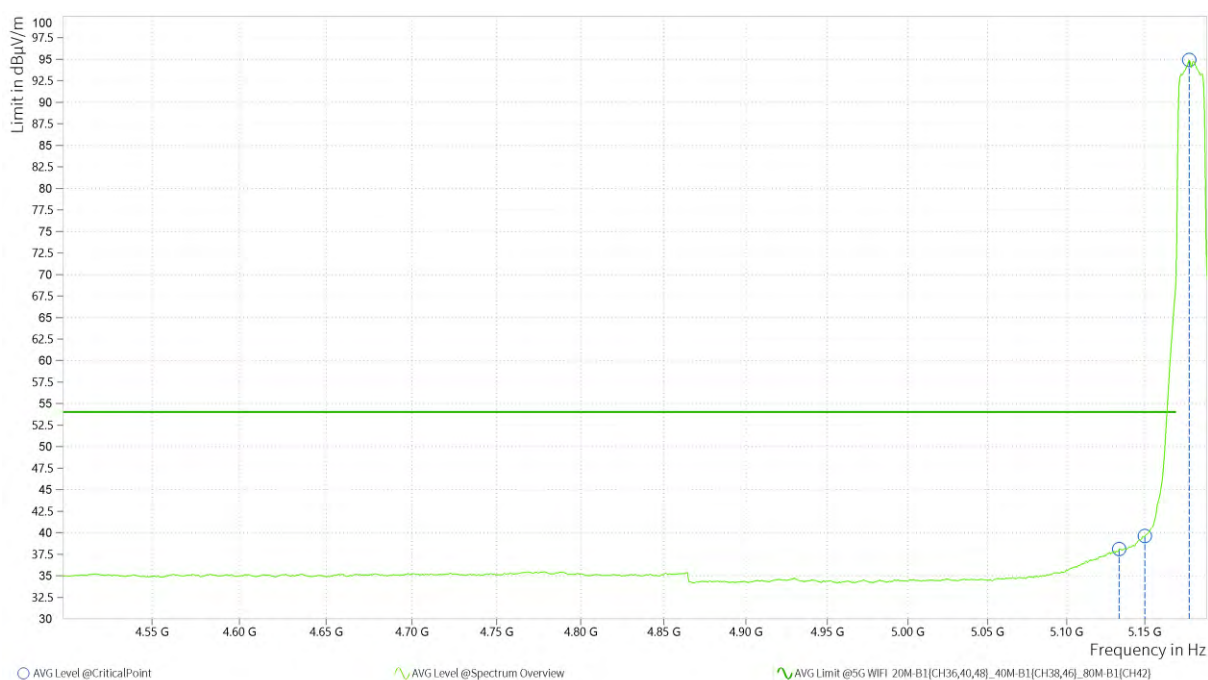
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,122.000	51.54	74.00	22.46	10.85	H	355.7	1
1	5,150.000	51.94	74.00	22.06	10.91	H	359.1	1
1	5,178.000	107.14			10.99	H	1	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,133.500	38.10	54.00	15.90	10.87	H	1	1
1	5,150.000	39.61	54.00	14.39	10.91	H	1	1
1	5,178.500	94.92			10.99	H	1	1



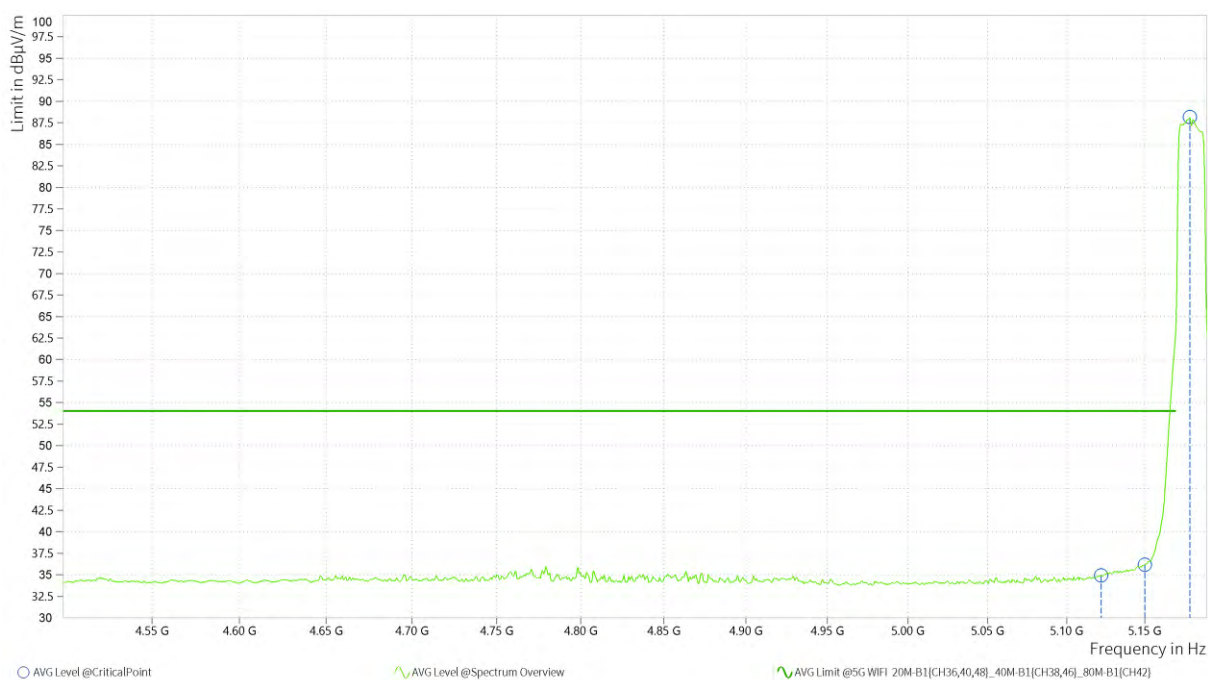
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,127.500	49.48	74.00	24.52	10.86	V	183.4	1
1	5,150.000	47.92	74.00	26.08	10.91	V	183.4	1
1	5,179.000	101.08			10.99	V	183.4	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,122.000	34.91	54.00	19.09	10.85	V	172.6	1
1	5,150.000	36.18	54.00	17.82	10.91	V	172.6	1
1	5,179.000	88.17			10.99	V	172.6	1

**REMARKS:**

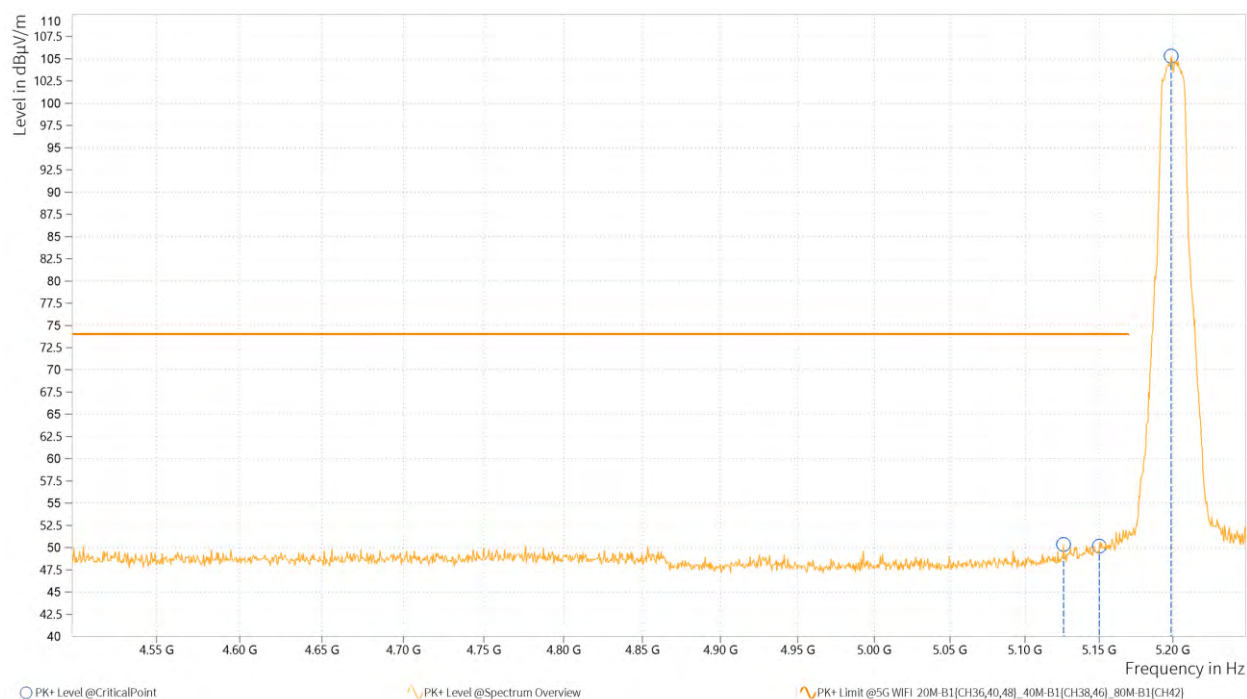
- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value- Emission level.
- 5180MHz: Fundamental frequency.



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]
1	5,125.781	50.36	74.00	23.64	10.85	H	359	1
1	5,150.000	50.18	74.00	23.82	10.91	H	1	1
1	5,198.910	105.32			11.06	H	18.9	2





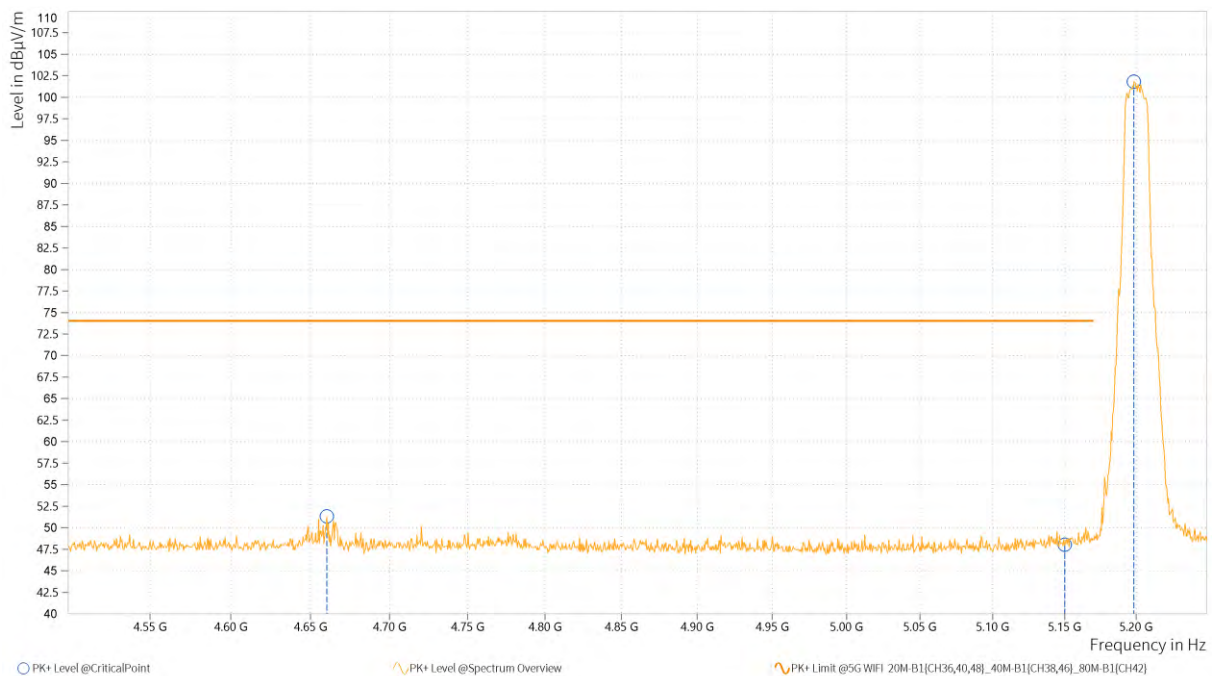
Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,864.688	35.38	54.00	18.62	10.43	H	346.1	2
1	5,150.000	36.99	54.00	17.01	10.91	H	3.7	1
1	5,201.250	93.06			11.06	H	14.2	1





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	4,660.313	51.32	74.00	22.68	10.39	V	177.6	2
1	5,150.000	48.02	74.00	25.98	10.91	V	213.8	2
1	5,198.440	101.83			11.06	V	206.8	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,952.344	35.81	54.00	18.19	10.55	V	190.6	2
1	5,150.000	34.97	54.00	19.03	10.91	V	205.4	1
1	5,198.906	89.75			11.06	V	205.4	1



REMARKS:

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



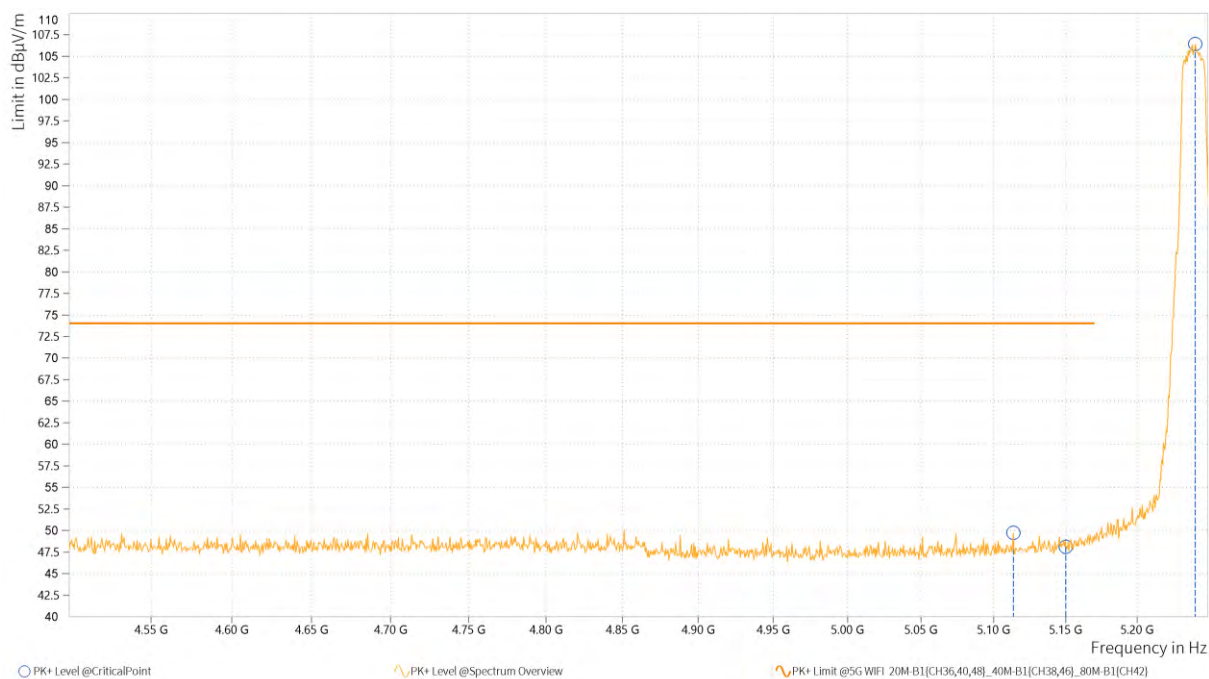
BUREAU
VERITAS

Test Report No.: PSZ-NQN2303280110RF06

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]
1	5,113.500	49.75	74.00	24.25	10.83	H	356.1	1
1	5,150.000	48.12	74.00	25.88	10.91	H	1	2
1	5,241.000	106.42			11.19	H	1	1

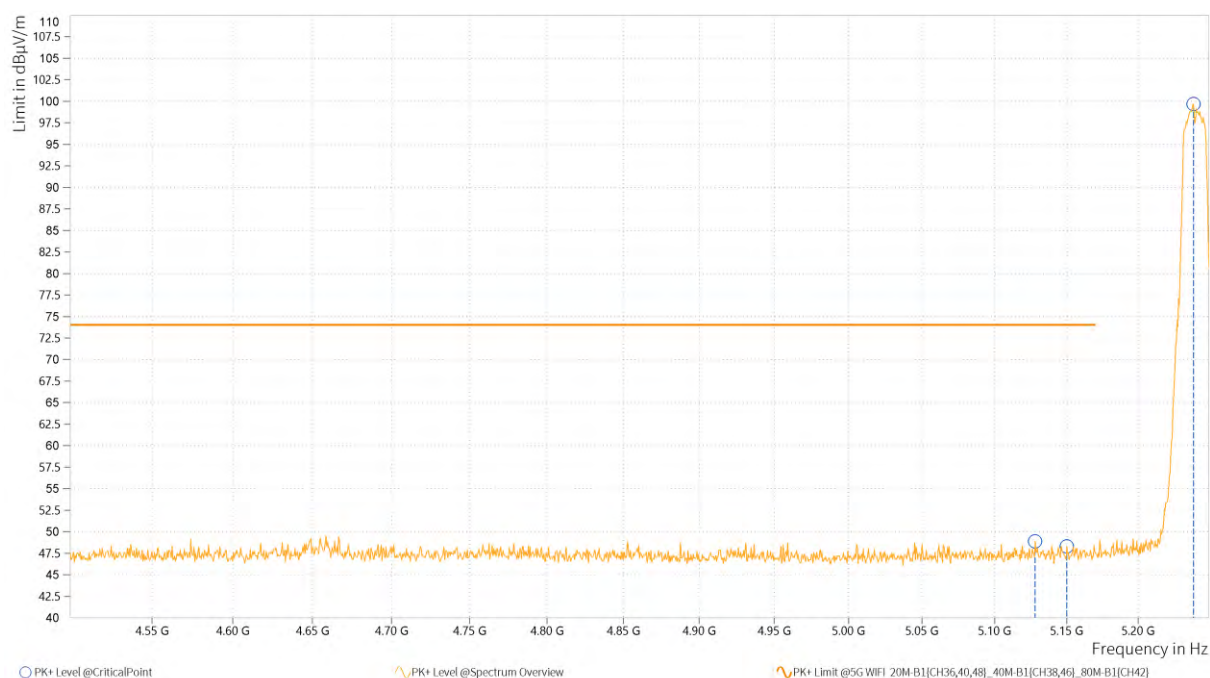


Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,864.500	35.29	54.00	18.71	10.43	H	247.9	1
1	5,150.000	35.42	54.00	18.58	10.91	H	359	1
1	5,239.000	94.25			11.19	H	1	1



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	5,128.000	48.89	74.00	25.11	10.86	V	104.6	1
1	5,150.000	48.31	74.00	25.69	10.91	V	46	1
1	5,239.000	99.69			11.19	V	271	2





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,804.500	36.92	54.00	17.08	10.43	V	195.6	2
1	5,150.000	34.23	54.00	19.77	10.91	V	164.3	1
1	5,239.000	89.57			11.19	V	164.3	1



REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value- Emission level.
- 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	5,142.500	53.24	74.00	20.76	10.89	H	1	1
1	5,150.000	53.04	74.00	20.96	10.91	H	357.4	1
1	5,178.500	106.03			10.99	H	1	1



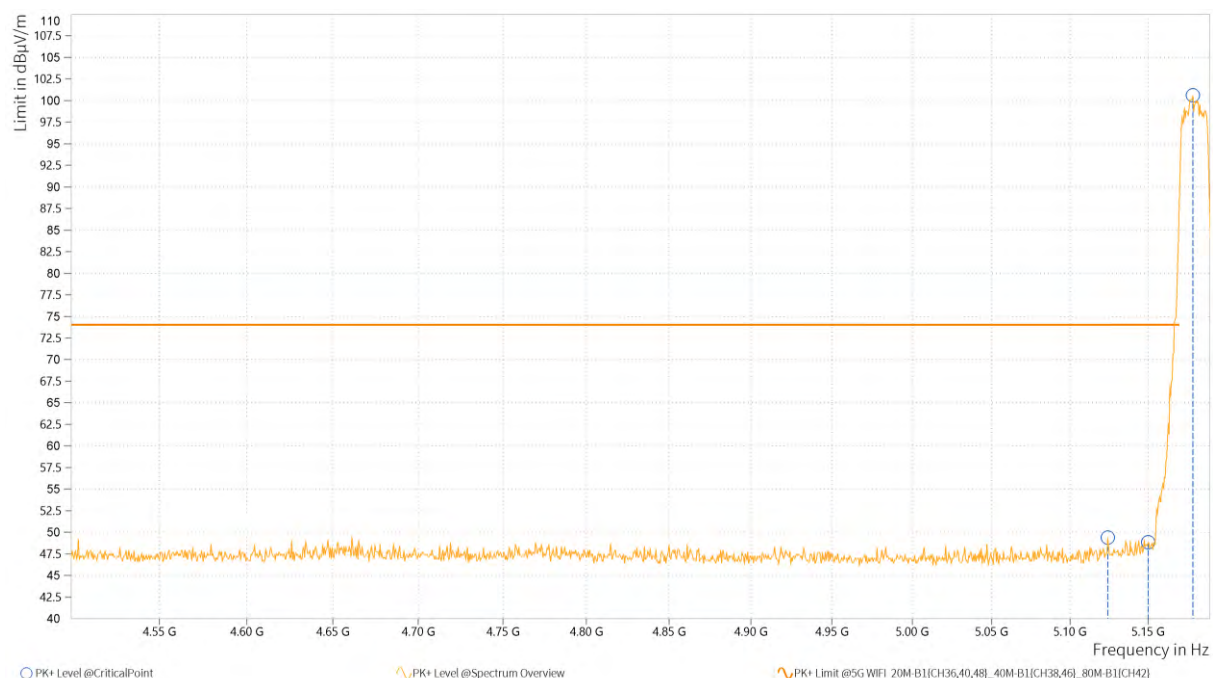


Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,110.000	36.54	54.00	17.46	10.82	H	1	1
1	5,150.000	39.75	54.00	14.25	10.91	H	1	1
1	5,181.000	94.20			11.00	H	1	1



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	5,124.000	49.40	74.00	24.60	10.85	V	42.4	1
1	5,150.000	48.86	74.00	25.14	10.91	V	185.9	1
1	5,179.000	100.60			10.99	V	185.9	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,804.000	37.10	54.00	16.90	10.43	V	195.6	2
1	5,150.000	35.41	54.00	18.59	10.91	V	165.5	1
1	5,179.000	85.37			10.99	V	5	1



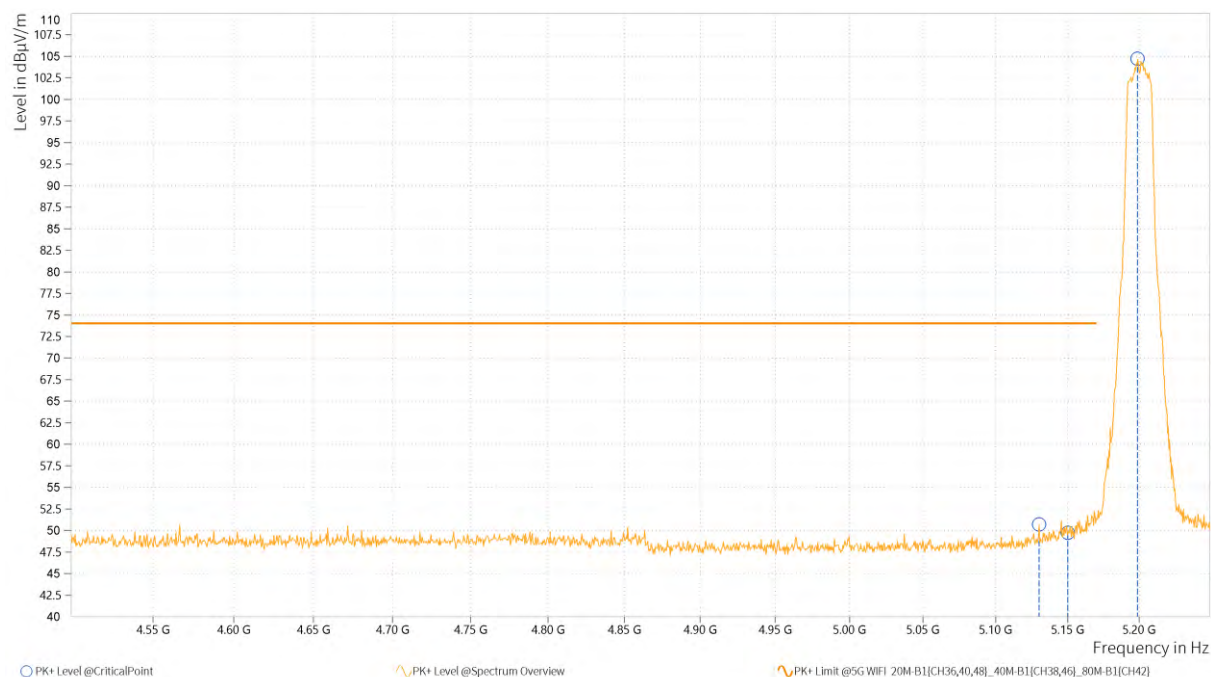
REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value- Emission level.
2. 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]
1	5,130.000	50.70	74.00	23.30	10.86	H	285.2	1
1	5,150.000	49.74	74.00	24.26	10.91	H	27.9	2
1	5,198.910	104.72			11.06	H	1	1



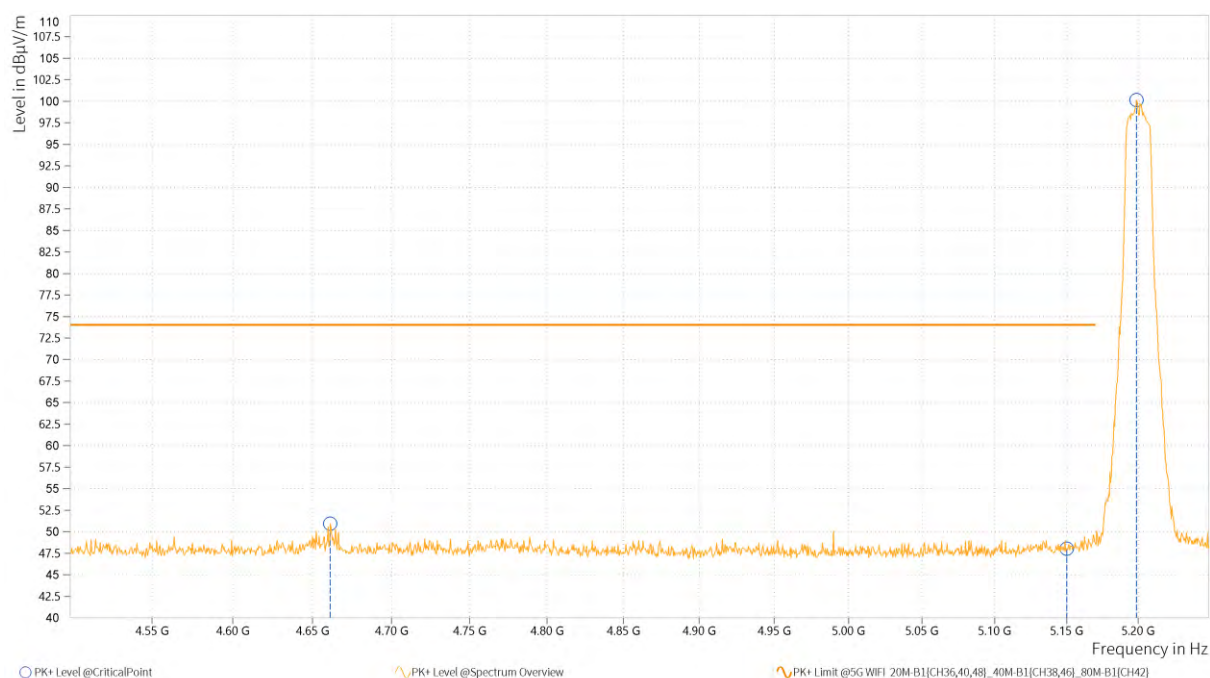


Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,864.219	35.41	54.00	18.59	10.42	H	104.9	1
1	5,150.000	36.46	54.00	17.54	10.91	H	3.7	1
1	5,201.250	92.44			11.06	H	1	1



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	4,661.250	50.95	74.00	23.05	10.39	V	179.2	2
1	5,150.000	48.01	74.00	25.99	10.91	V	249.7	1
1	5,198.910	100.16			11.06	V	202.8	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,051.719	36.12	54.00	17.88	10.69	V	192.1	2
1	5,150.000	34.81	54.00	19.19	10.91	V	216	2
1	5,198.906	88.52			11.06	V	204.3	1



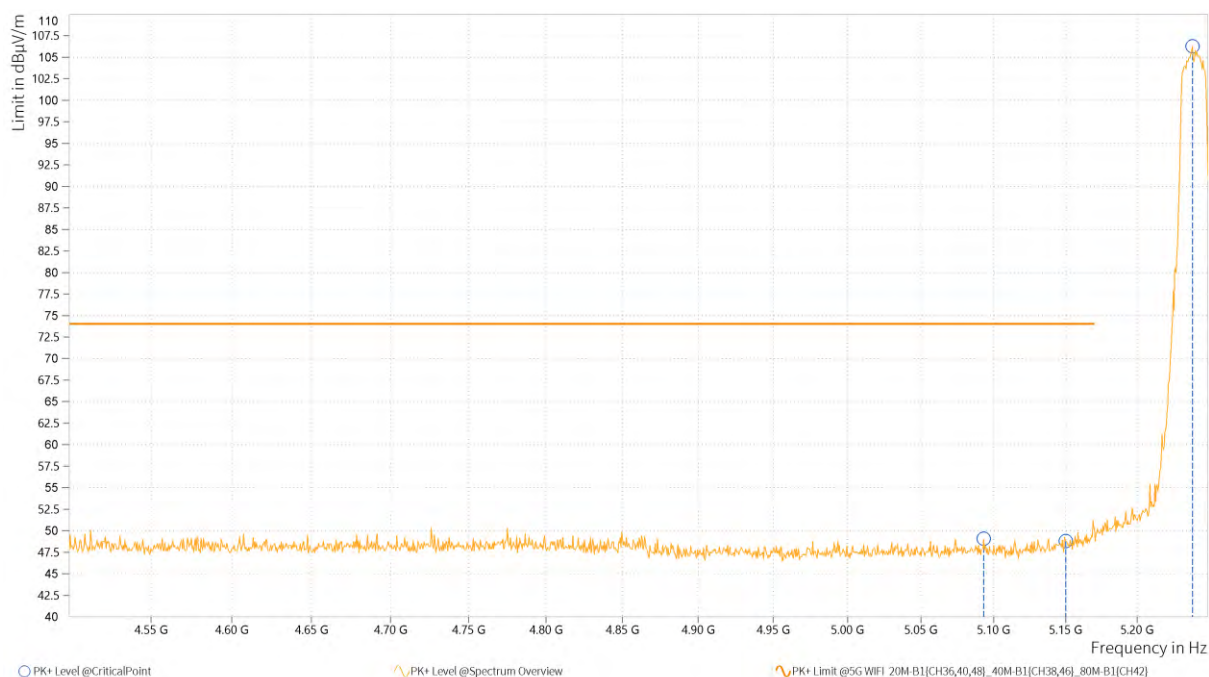
REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value- Emission level.
- 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]
1	5,093.000	49.06	74.00	24.94	10.78	H	359	1
1	5,150.000	48.82	74.00	25.18	10.91	H	359	2
1	5,239.000	106.29			11.19	H	1	1

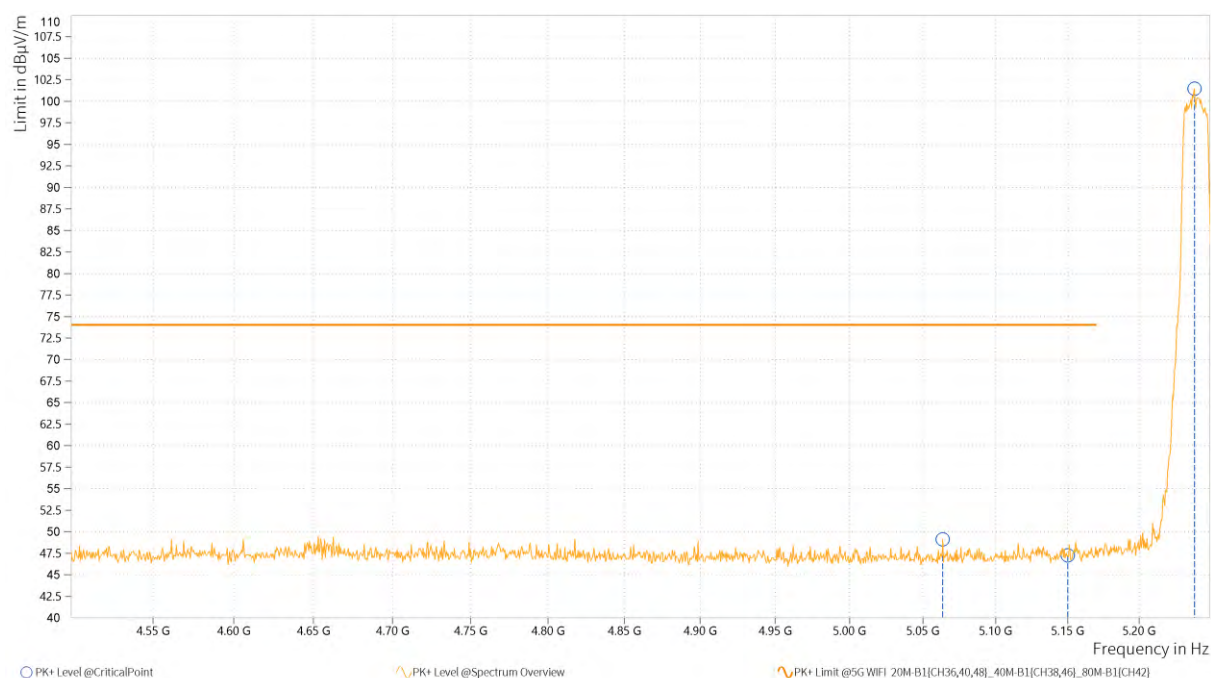


Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,864.500	35.35	54.00	18.65	10.43	H	359	1
1	5,150.000	35.62	54.00	18.38	10.91	H	359	1
1	5,241.000	93.67			11.19	H	1	1



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	5,063.500	49.13	74.00	24.87	10.72	V	231.3	1
1	5,150.000	47.27	74.00	26.73	10.91	V	175.3	2
1	5,239.000	101.48			11.19	V	183.4	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,055.500	34.84	54.00	19.16	10.70	V	194.4	2
1	5,150.000	34.17	54.00	19.83	10.91	V	164.3	1
1	5,239.000	88.84			11.19	V	164.3	1



REMARKS:

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

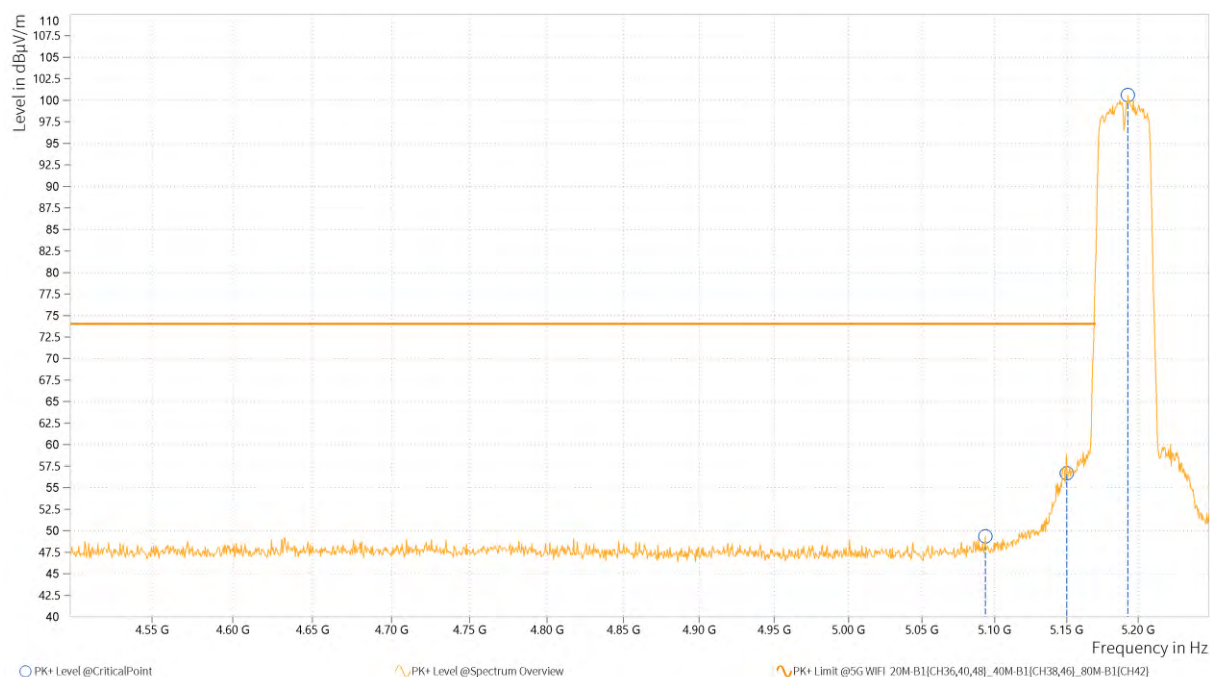


802.11n (40MHz)

CHANNEL	TX Channel 38	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	5,093.438	49.36	74.00	24.64	10.78	H	359	1
1	5,150.000	56.66	74.00	17.34	10.91	H	1	1
1	5,192.810	100.60			11.04	H	1	1





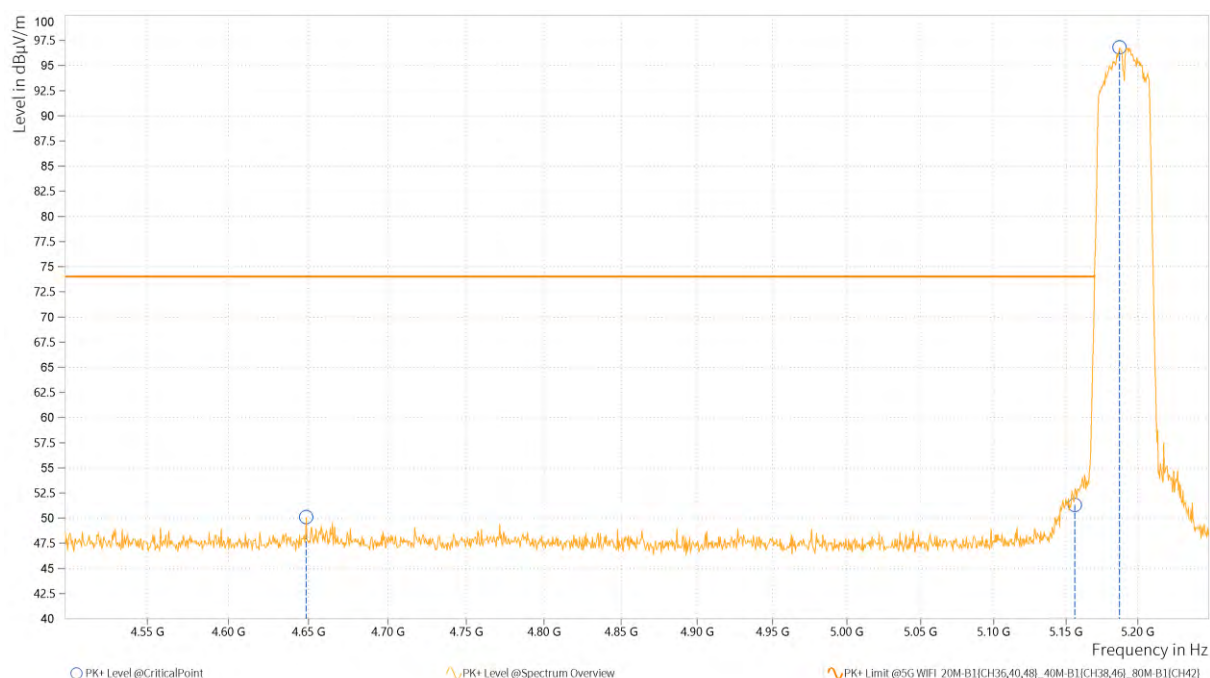
Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,139.844	39.15	54.00	14.85	10.88	H	330.6	1
1	5,150.000	42.37	54.00	11.63	10.91	H	330.6	1
1	5,187.656	88.01			11.02	H	1	1





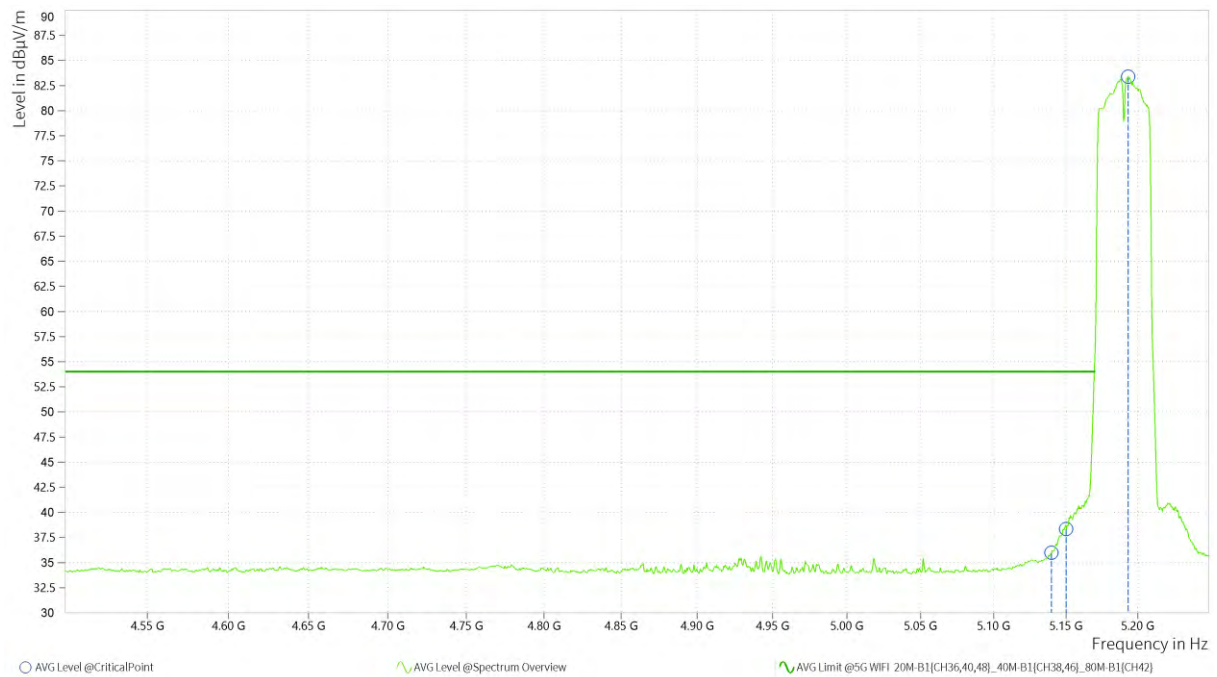
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,648.594	50.09	74.00	23.91	10.38	V	180.9	2
1	5,156.000	51.30	74.00	22.70	10.91	V	180.9	2
1	5,187.188	96.80			11.02	V	179	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,139.844	35.97	54.00	18.03	10.88	V	148.6	1
1	5,150.000	38.34	54.00	15.66	10.91	V	188	1
1	5,193.281	83.40			11.04	V	148.6	1



REMARKS:

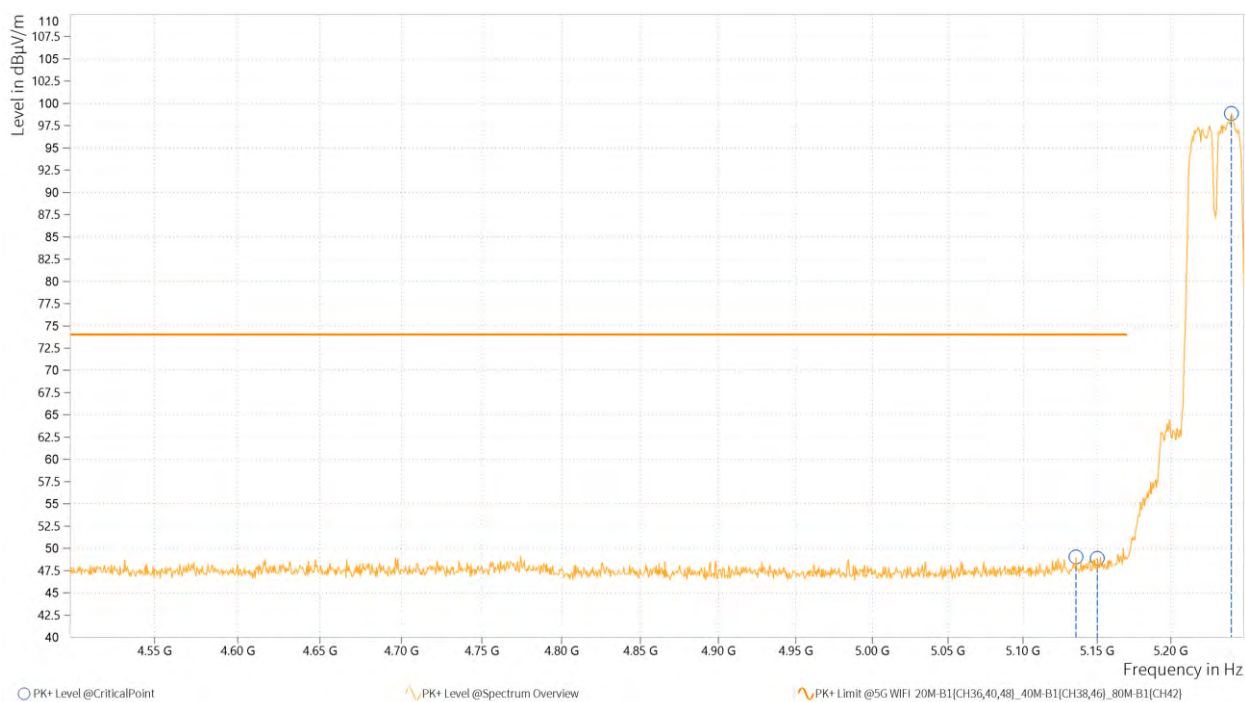
- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value- Emission level.
- 5190MHz: Fundamental frequency.



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 [dB μ V/m]	PK+ Limit [dB μ V/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,135.625	49.03	74.00	24.97	10.88	H	8.7	2
1	5,150.000	48.88	74.00	25.12	10.91	H	1	2
1	5,241.563	98.88			11.19	H	1	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,130.938	34.59	54.00	19.41	10.87	H	294.6	1
1	5,150.000	34.75	54.00	19.25	10.91	H	1	1
1	5,241.094	87.13			11.19	H	1	1



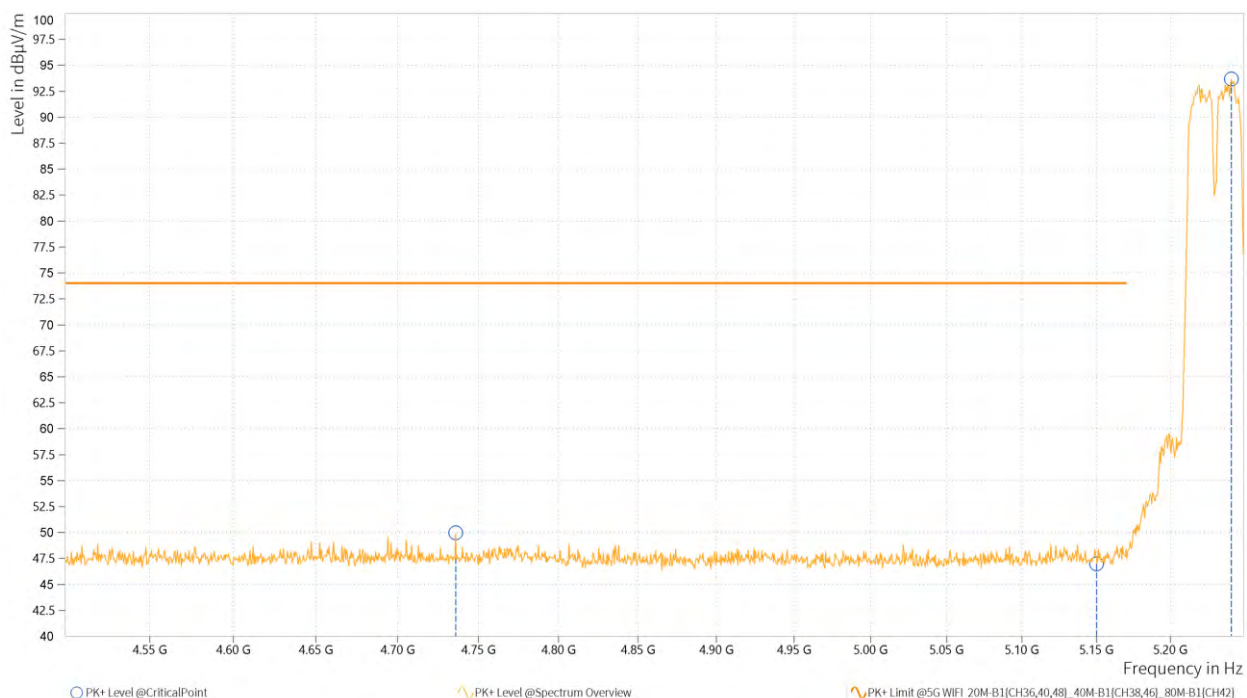


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Test Report No.: PSZ-NQN2303280110RF06

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	4,735.781	49.96	74.00	24.04	10.43	V	321.5	2
1	5,150.000	46.97	74.00	27.03	10.91	V	302.8	1
1	5,241.563	93.68			11.19	V	146.9	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,951.875	35.04	54.00	18.96	10.55	V	208.6	2
1	5,150.000	34.27	54.00	19.73	10.91	V	5	1
1	5,219.063	82.45			11.12	V	246.2	2



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value- Emission level.
2. 5230MHz: Fundamental frequency.

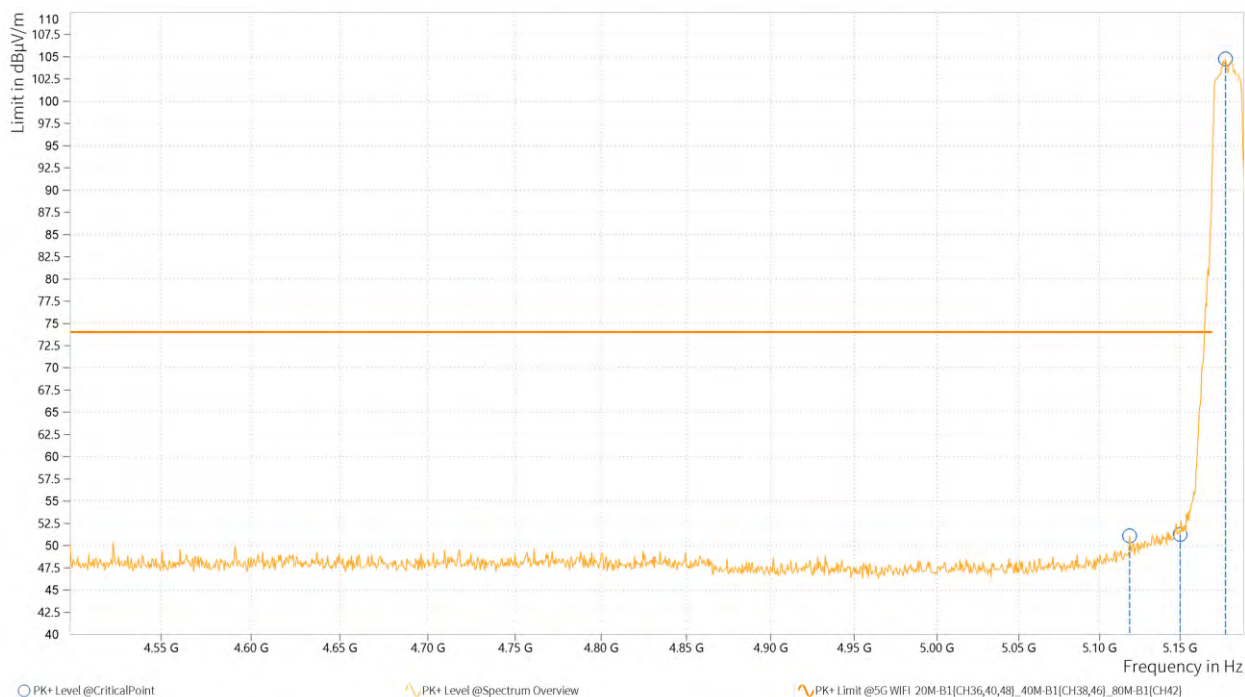


802.11ac (20MHz)

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	5,118.500	51.10	74.00	22.90	10.84	H	359.2	1
1	5,150.000	51.23	74.00	22.77	10.91	H	357	1
1	5,178.500	104.77			10.99	H	1	1





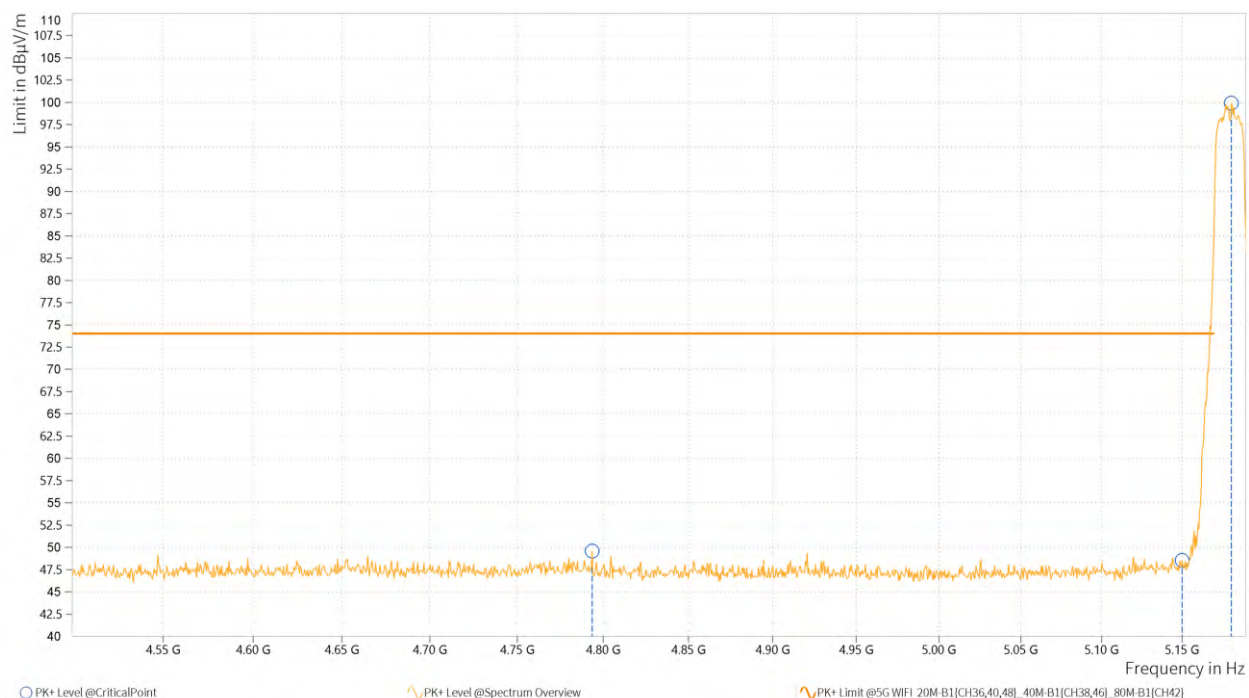
Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,864.500	35.31	54.00	18.69	10.43	H	359.1	1
1	5,150.000	38.99	54.00	15.01	10.91	H	359.1	1
1	5,181.500	92.73			11.00	H	1	1





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	4,793.500	49.58	74.00	24.42	10.43	V	0.9	2
1	5,150.000	48.53	74.00	25.47	10.91	V	0.9	2
1	5,181.000	99.90			11.00	V	185.8	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,146.000	35.23	54.00	18.77	10.90	V	166.8	1
1	5,150.000	35.07	54.00	18.93	10.91	V	166.8	1
1	5,181.500	86.57			11.00	V	166.8	1



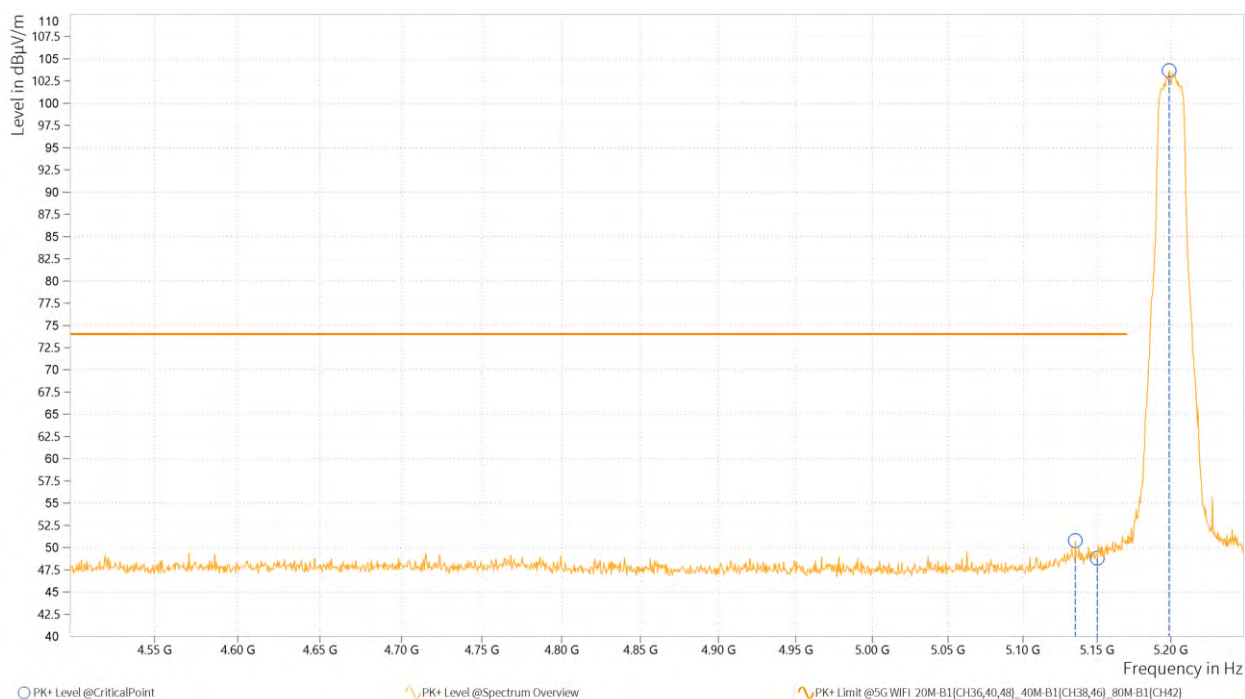
REMARKS:

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

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

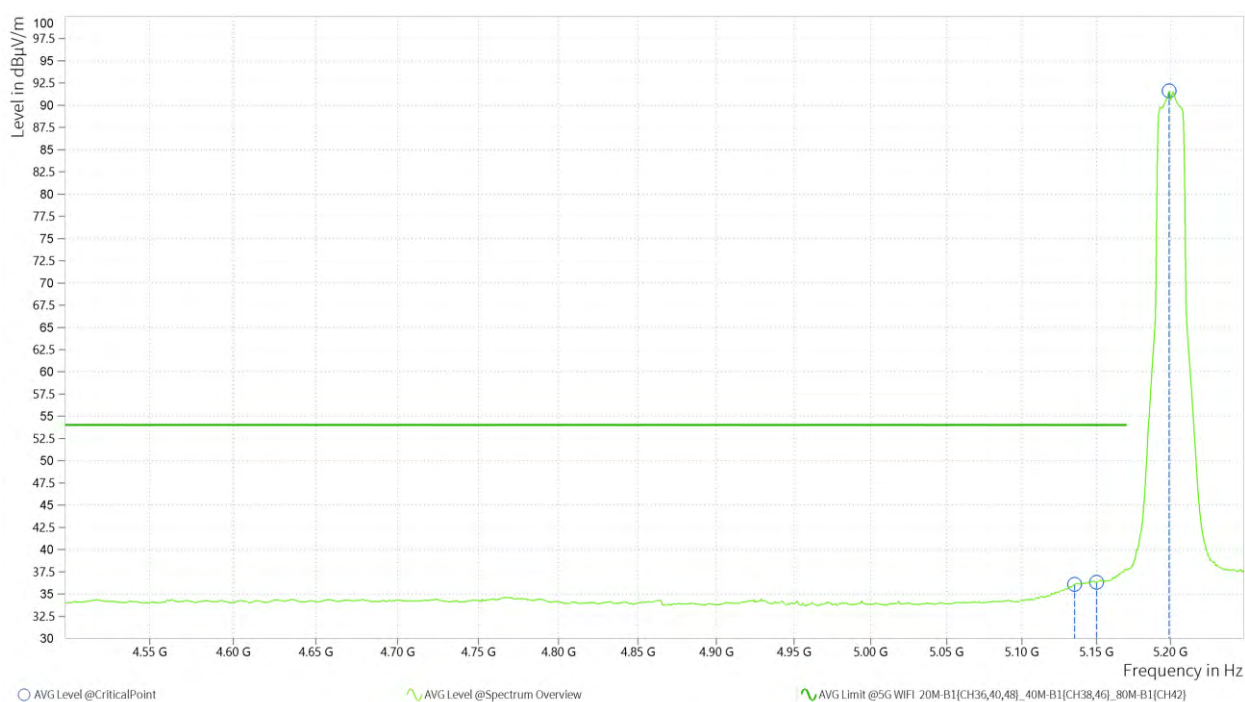
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,135.156	50.78	74.00	23.22	10.87	H	345.8	1
1	5,150.000	48.80	74.00	25.20	10.91	H	345.8	1
1	5,198.910	103.66			11.06	H	1	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,135.156	36.11	54.00	17.89	10.87	H	3.4	1
1	5,150.000	36.33	54.00	17.67	10.91	H	3.4	1
1	5,198.906	91.62			11.06	H	1	1



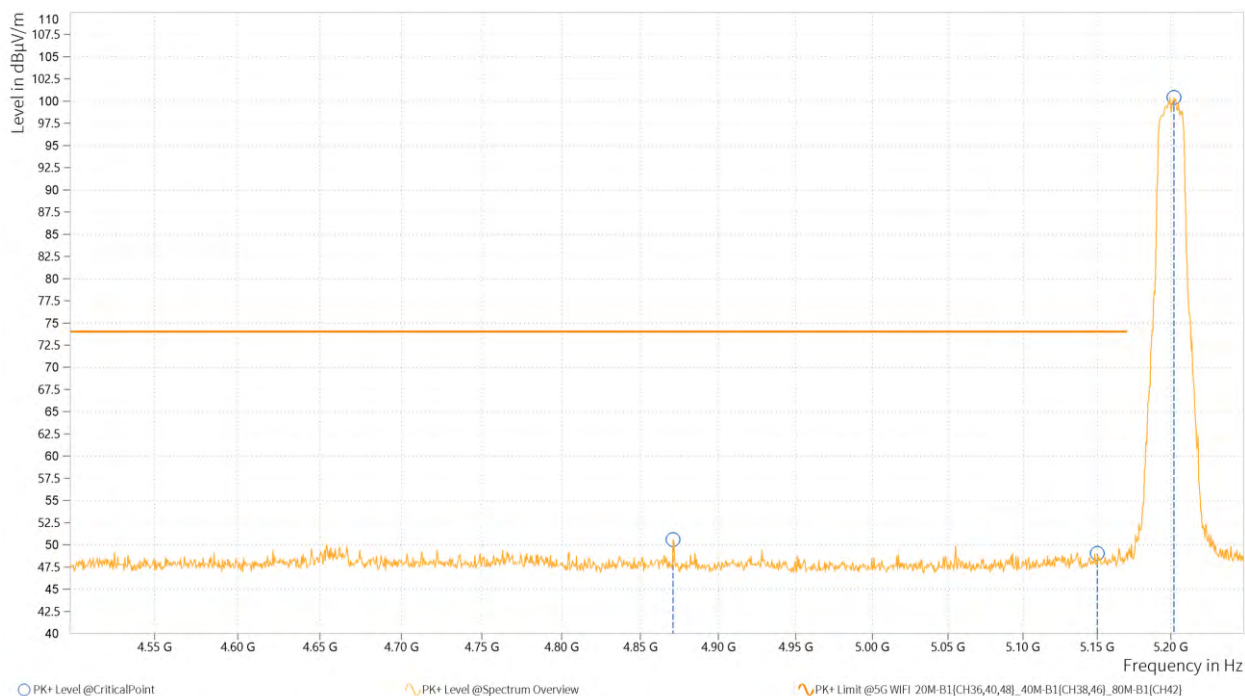


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Test Report No.: PSZ-NQN2303280110RF06

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	4,870.781	50.59	74.00	23.41	10.44	V	356.9	2
1	5,150.000	49.04	74.00	24.96	10.91	V	196	1
1	5,202.190	100.43			11.07	V	196	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,951.875	35.94	54.00	18.06	10.55	V	192.1	2
1	5,150.000	34.79	54.00	19.21	10.91	V	168.2	2
1	5,198.906	86.16			11.06	V	203.4	1



REMARKS:

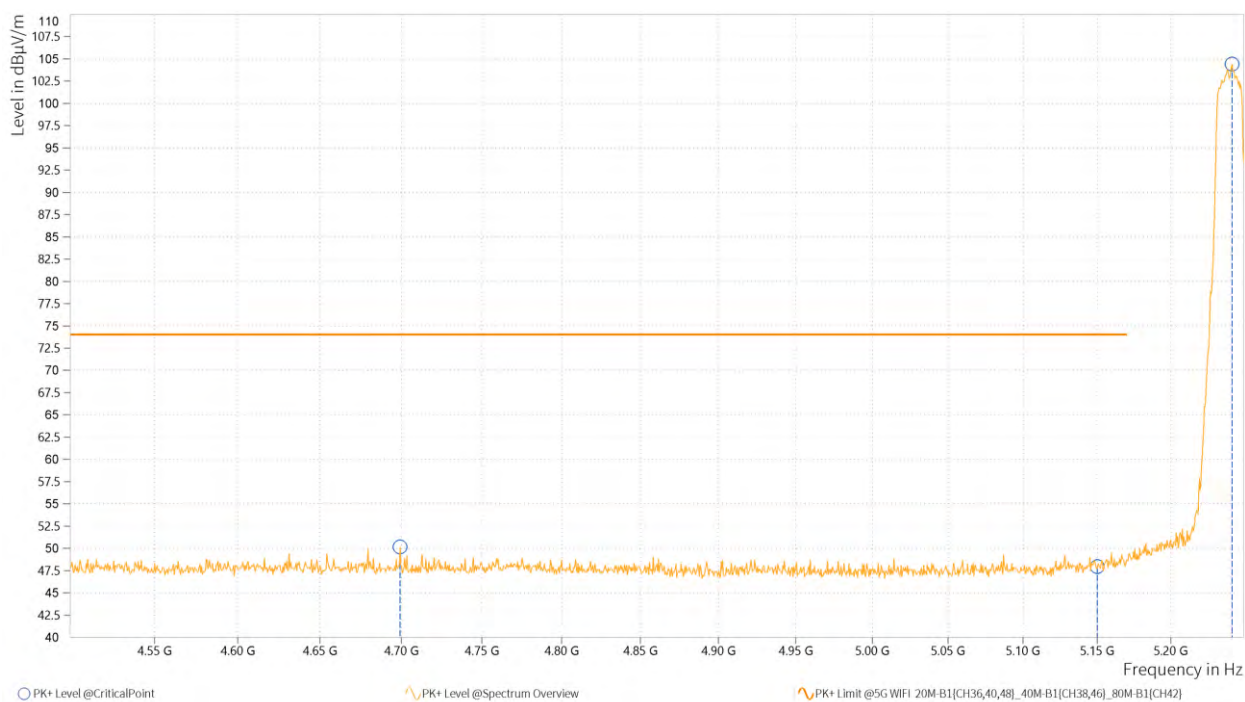
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value- Emission level.
2. 5200MHz: Fundamental frequency.



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]
1	4,699.219	50.16	74.00	23.84	10.42	H	209.1	1
1	5,150.000	47.93	74.00	26.07	10.91	H	173.6	1
1	5,242.030	104.42			11.20	H	3.8	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,136.094	34.66	54.00	19.34	10.88	H	347	1
1	5,150.000	34.65	54.00	19.35	10.91	H	359.1	1
1	5,239.219	91.97			11.19	H	1	1



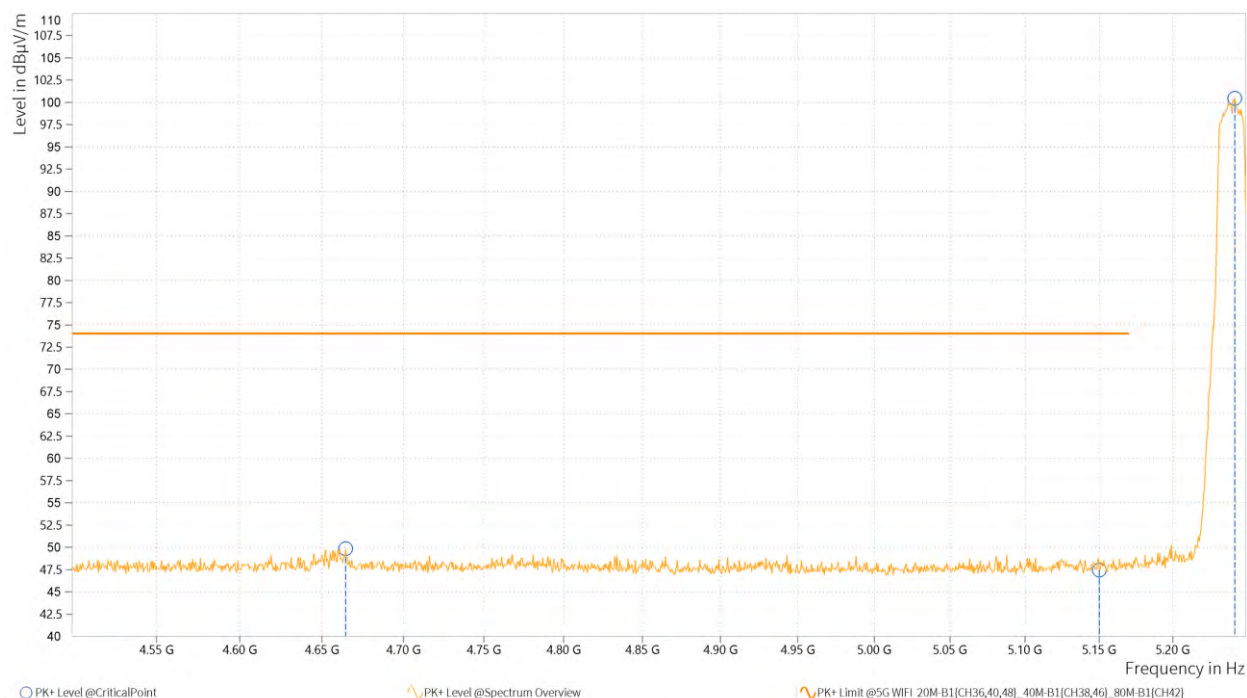


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VERITAS

Test Report No.: PSZ-NQN2303280110RF06

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	4,664.531	49.84	74.00	24.16	10.39	V	180.3	2
1	5,150.000	47.46	74.00	26.54	10.91	V	299.2	2
1	5,242.500	100.46			11.20	V	195.6	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,055.469	35.78	54.00	18.22	10.70	V	194.7	2
1	5,150.000	34.34	54.00	19.66	10.91	V	171.1	2
1	5,241.563	87.96			11.19	V	198.3	1



REMARKS:

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

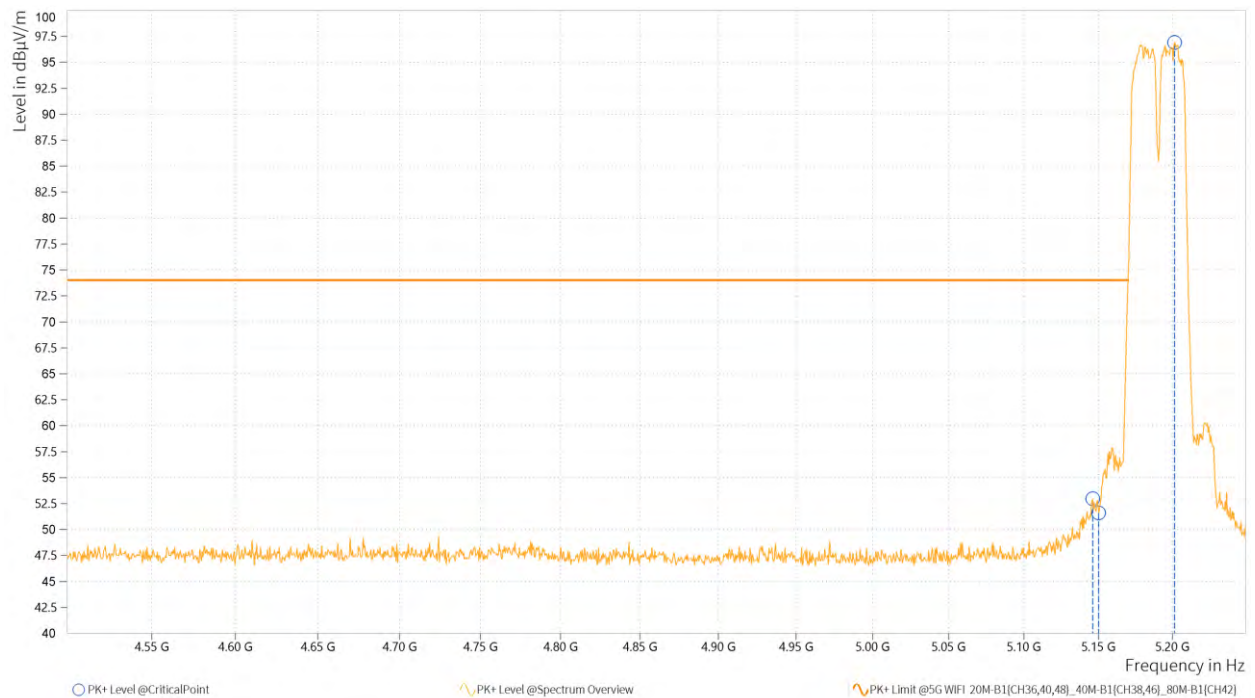


802.11ac (40MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dB μ V/m]	PK+ Limit [dB μ V/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,145.938	52.96	74.00	21.04	10.90	H	359	1
1	5,150.000	51.59	74.00	22.41	10.91	H	334.1	1
1	5,201.250	96.90			11.06	H	297.3	1



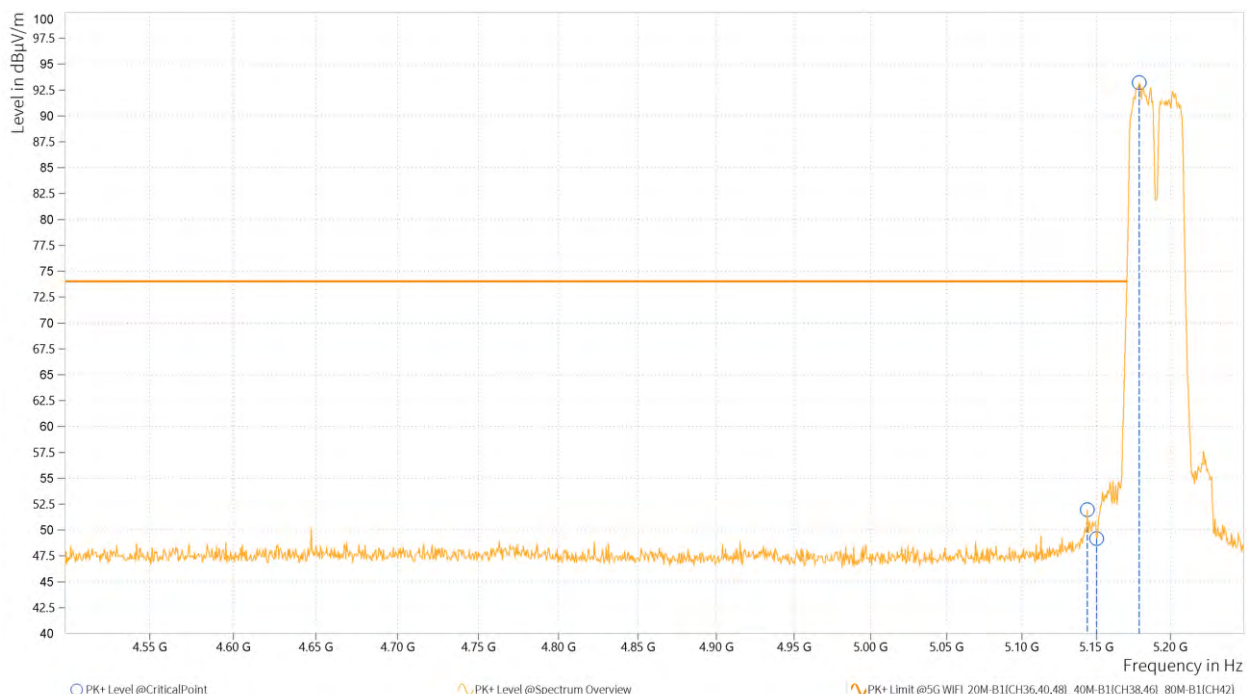


Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,146.875	40.23	54.00	13.77	10.90	H	295.6	1
1	5,150.000	39.92	54.00	14.08	10.91	H	295.6	1
1	5,202.656	86.49			11.07	H	1	1



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	5,143.594	51.95	74.00	22.05	10.89	V	147.8	1
1	5,150.000	49.19	74.00	24.81	10.91	V	185.4	1
1	5,178.750	93.21			10.99	V	4.5	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,148.750	37.24	54.00	16.76	10.90	V	149.5	1
1	5,150.000	36.87	54.00	17.13	10.91	V	186.2	1
1	5,179.219	81.76			10.99	V	5	1



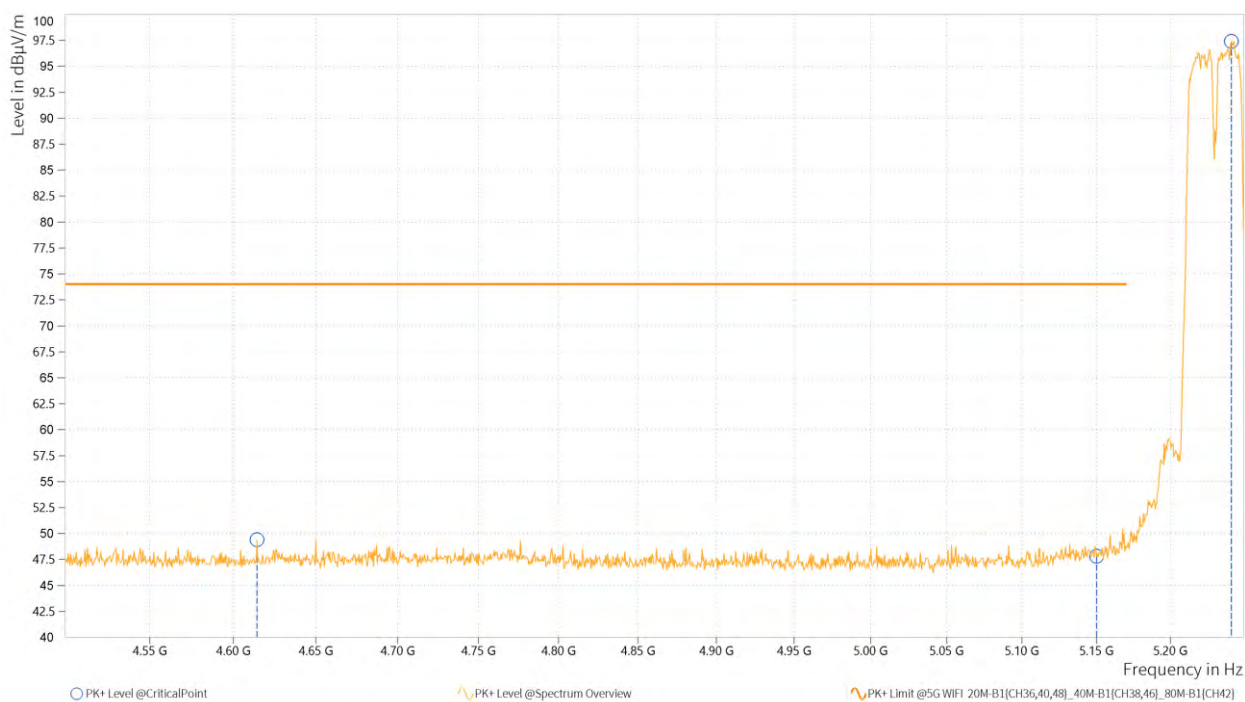
REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value- Emission level.
2. 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]
1	4,614.375	49.41	74.00	24.59	10.36	H	284.9	2
1	5,150.000	47.80	74.00	26.20	10.91	H	1	2
1	5,241.563	97.42			11.19	H	1	1





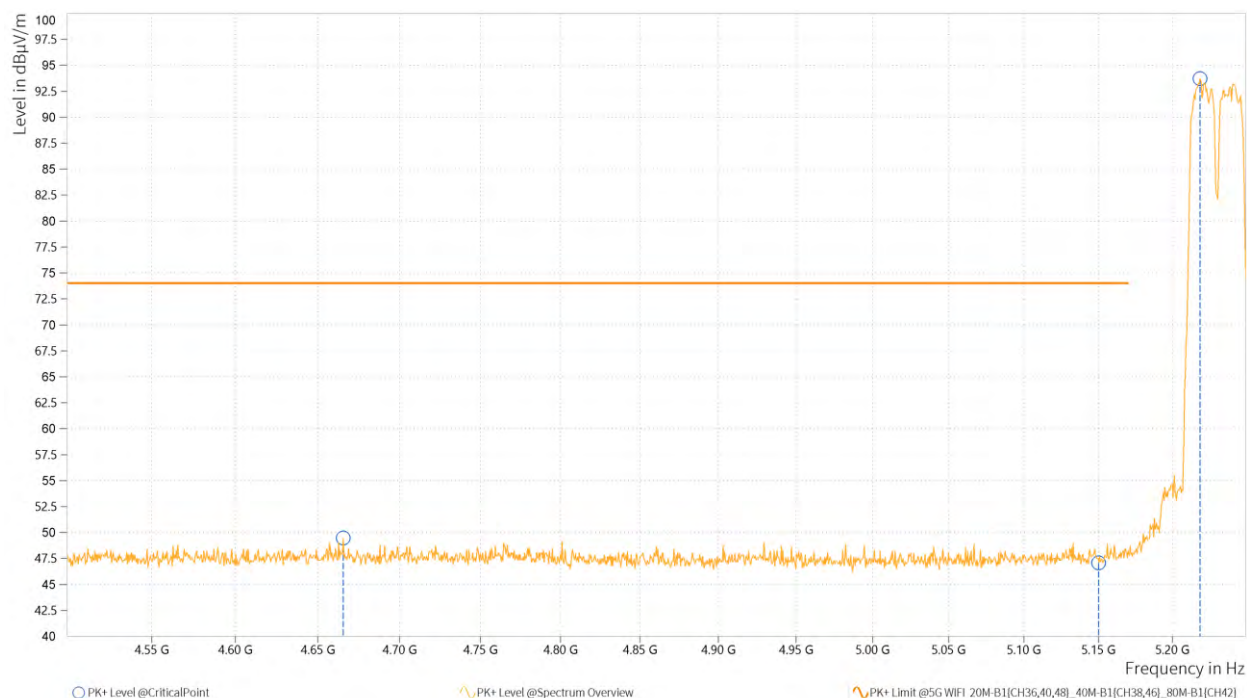
Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,147.813	35.23	54.00	18.77	10.90	H	1	1
1	5,150.000	35.34	54.00	18.66	10.91	H	1	1
1	5,241.563	86.37			11.19	H	359.1	1





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	4,665.469	49.47	74.00	24.53	10.40	V	150.5	1
1	5,150.000	47.08	74.00	26.92	10.91	V	2.4	2
1	5,218.594	93.72			11.12	V	355	2





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,143.125	34.60	54.00	19.40	10.89	V	151.3	1
1	5,150.000	34.45	54.00	19.55	10.91	V	355	2
1	5,219.063	82.50			11.12	V	355	2



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value- Emission level.
2. 5230MHz: Fundamental frequency.

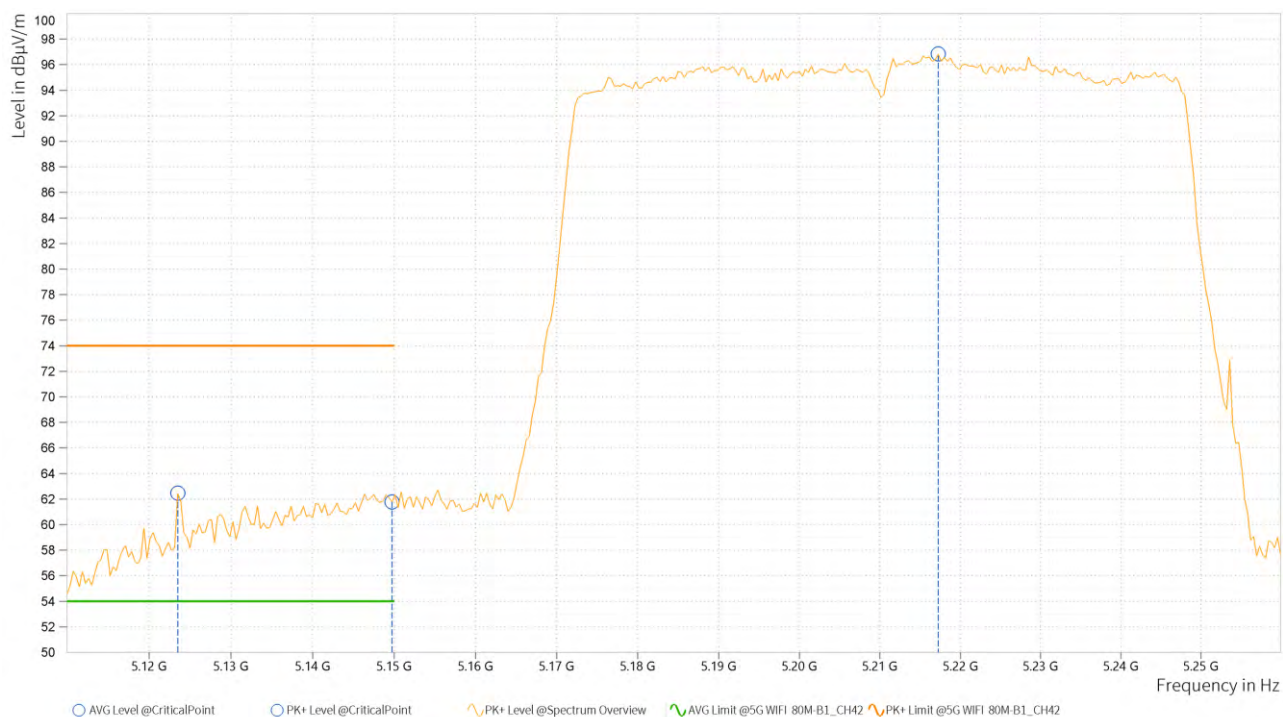


802.11ac (80MHz)

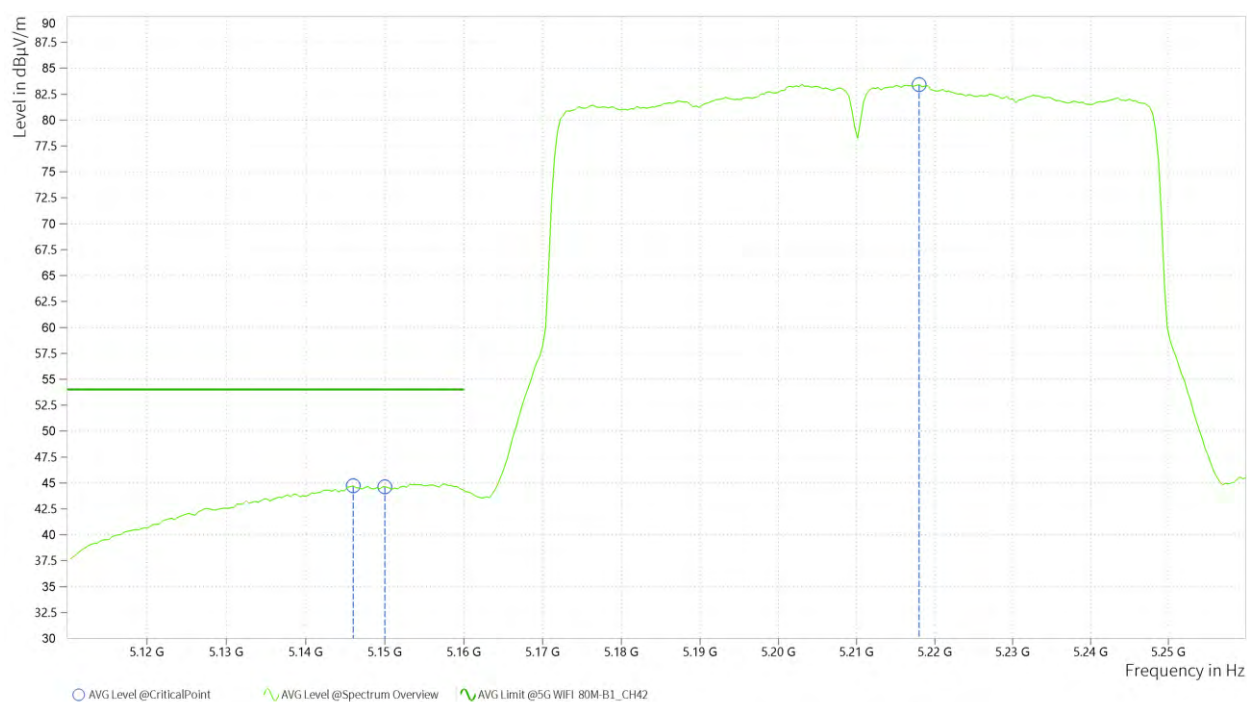
CHANNEL	TX Channel 42	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	5,123.500	62.45	74.00	11.55	11.91	H	5	1
1	5,149.750	61.79	74.00	12.21	12.00	H	359.1	2
1	5,217.250	96.83			12.12	H	349.3	2



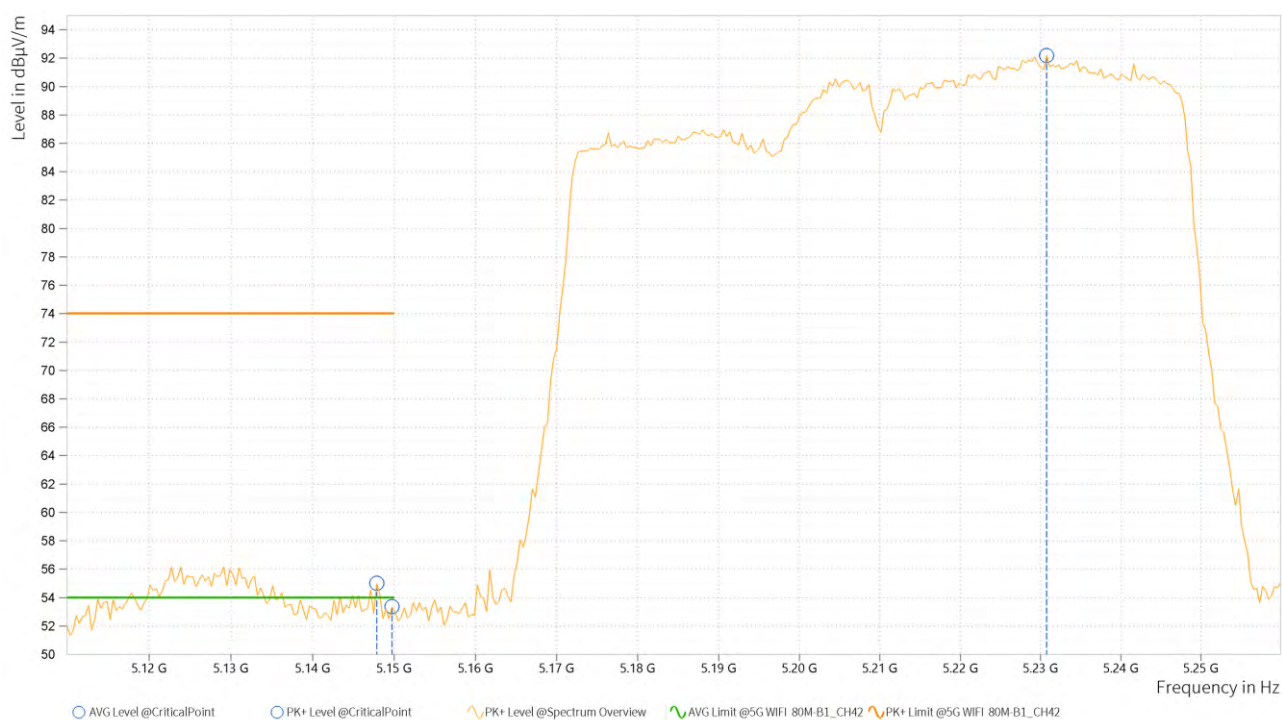
Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
8	5,146.000	44.72	54.00	9.28	10.90	H	359.1	1
8	5,150.000	44.61	54.00	9.39	10.91	H	359.1	1
8	5,218.000	83.42			11.12	H	343	1





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	5,147.875	55.01	74.00	18.99	11.99	V	175.1	1
1	5,149.750	53.35	74.00	20.65	12.00	V	175.1	2
1	5,230.750	92.18			12.08	V	85.5	2



Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
8	5,147.875	40.35	54.00	13.65	10.90	V	184.4	1
8	5,150.000	40.06	54.00	13.94	10.91	V	184.4	1
8	5,203.750	78.00			11.07	V	220.3	1



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value- Emission level.
2. 5210MHz: Fundamental frequency.



Band 2:
802.11a

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

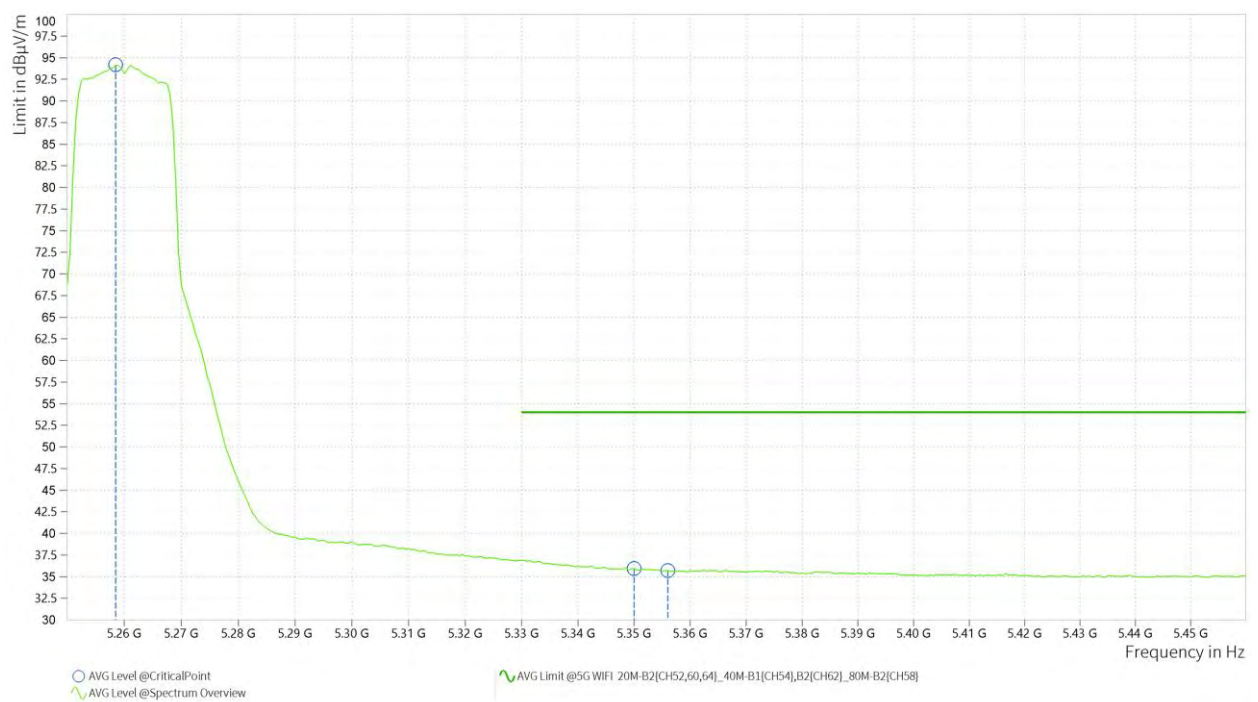
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,258.500	107.09			11.23	H	1	1
1	5,350.000	48.16	74.00	25.84	11.31	H	230	1
1	5,353.500	49.67	74.00	24.33	11.31	H	359.1	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,258.500	94.17			11.23	H	1	1
1	5,350.000	35.92	54.00	18.08	11.31	H	334.1	1
1	5,356.000	35.71	54.00	18.29	11.31	H	334.1	1





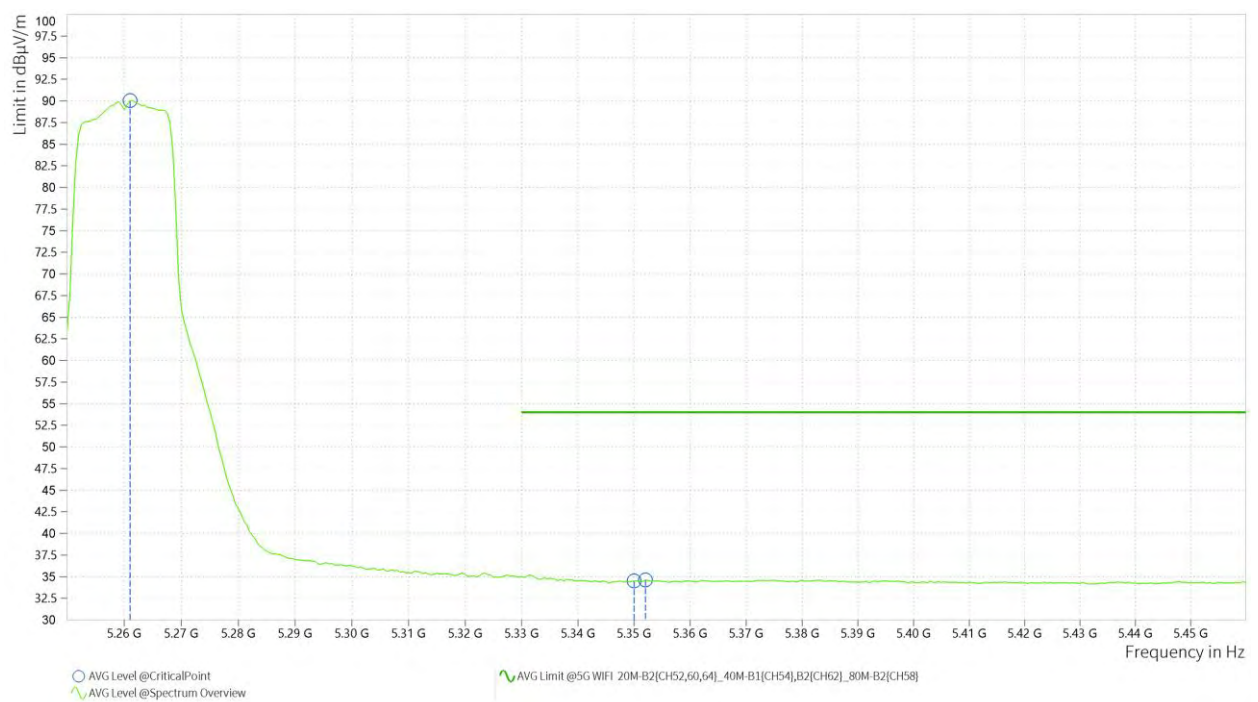
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,259.000	102.86			11.23	V	184.6	1
1	5,350.000	47.99	74.00	26.01	11.31	V	0.9	2
1	5,358.500	48.87	74.00	25.13	11.30	V	184.6	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	5,261.000	90.02			11.23	V	164.4	1
1	5,350.000	34.52	54.00	19.48	11.31	V	164.4	1
1	5,352.000	34.63	54.00	19.37	11.31	V	164.4	1



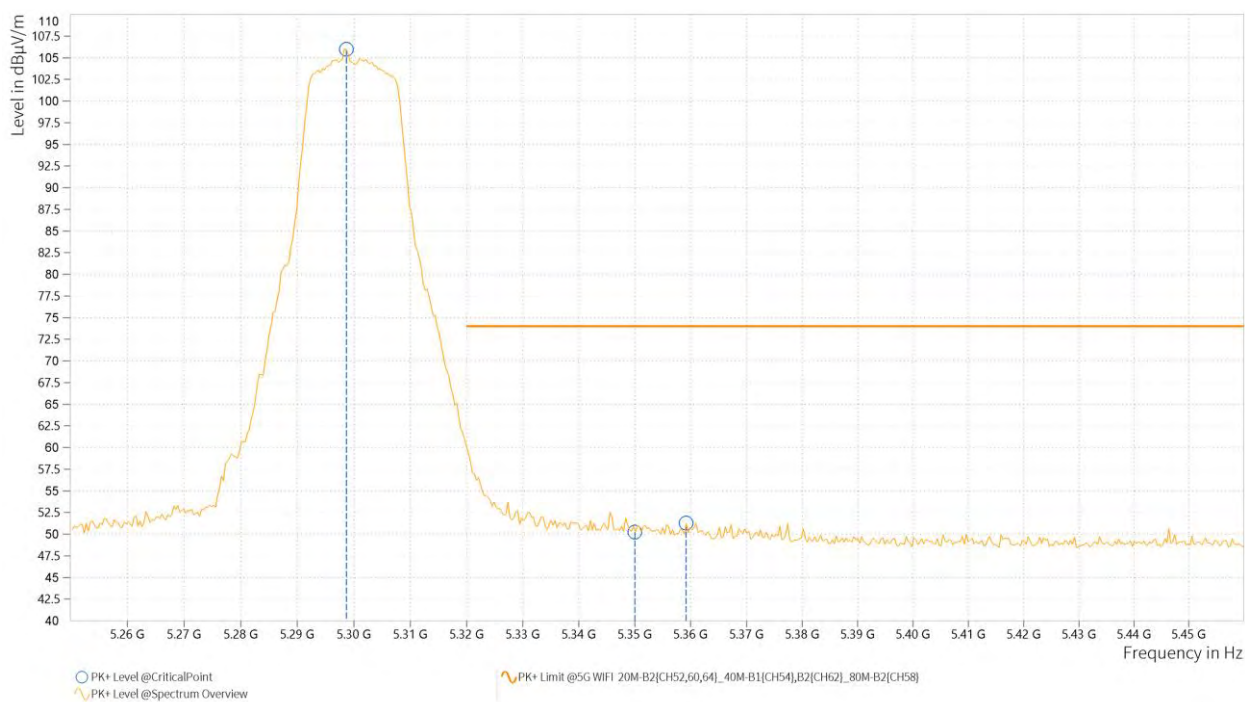
REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value- Emission level.
- 5260MHz: Fundamental frequency.

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

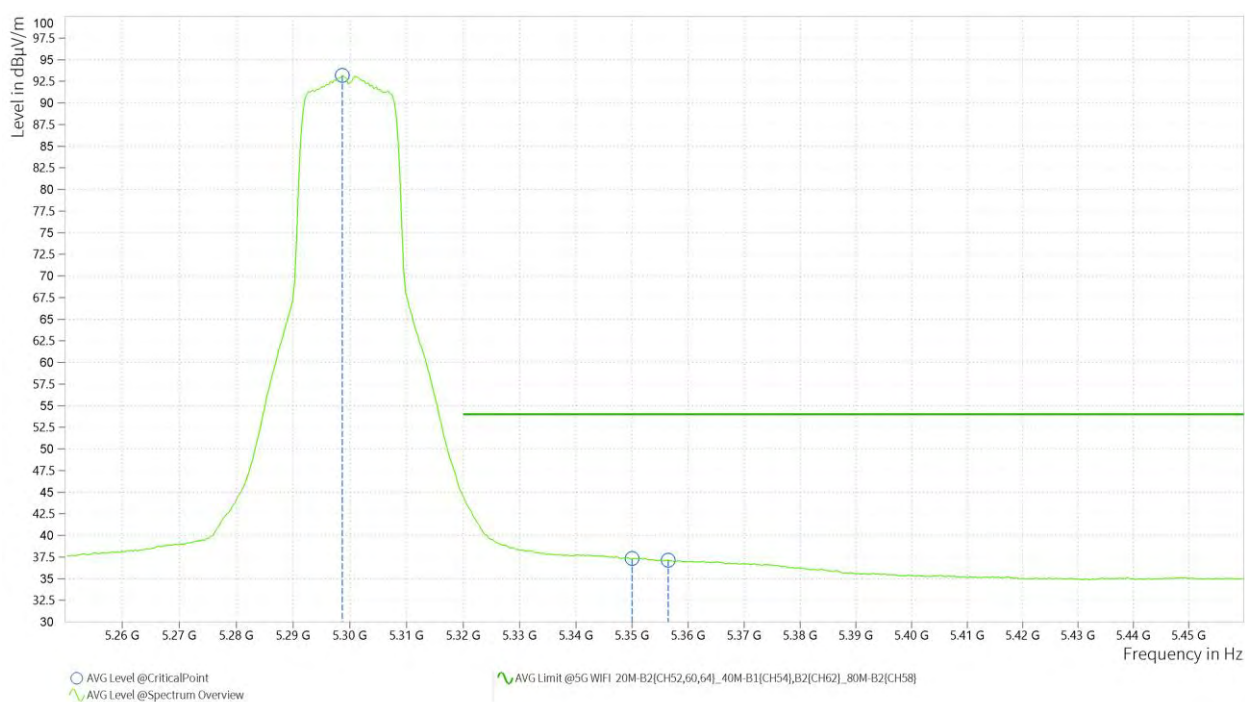
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,298.650	105.98			11.28	H	3.8	1
2	5,350.000	50.23	74.00	23.77	11.31	H	0.9	2
2	5,359.200	51.27	74.00	22.73	11.30	H	48.8	1





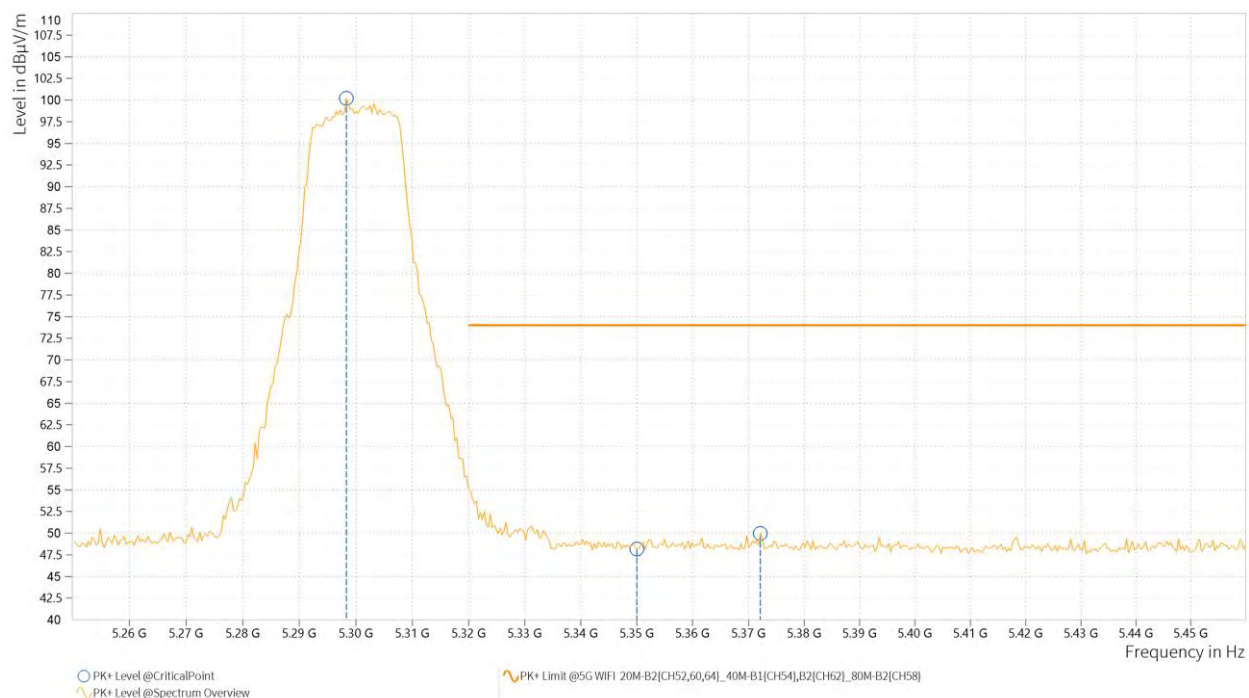
Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,298.650	93.21			11.28	H	1	1
2	5,350.000	37.33	54.00	16.67	11.31	H	13.8	1
2	5,356.400	37.15	54.00	16.85	11.30	H	13.8	1





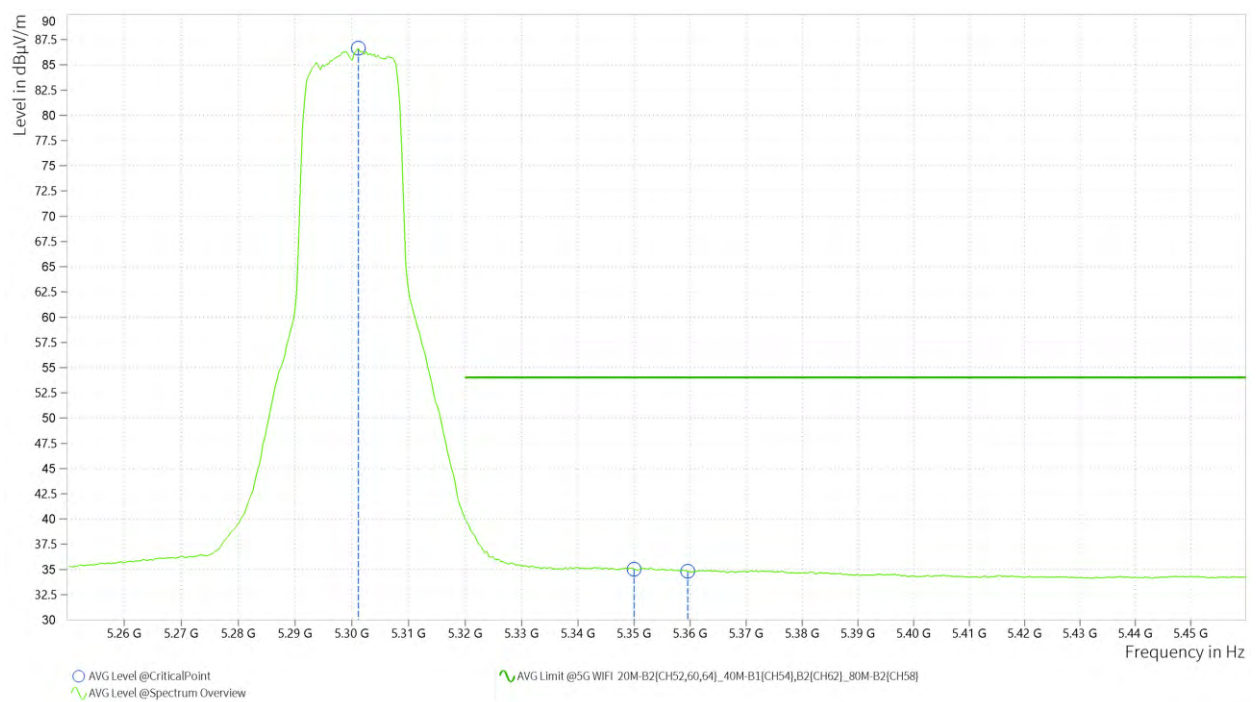
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,298.300	100.19			11.28	V	210.6	1
2	5,350.000	48.17	74.00	25.83	11.31	V	129.4	1
2	5,372.150	49.98	74.00	24.02	11.28	V	83	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,301.100	86.64			11.28	V	210.9	1
2	5,350.000	35.01	54.00	18.99	11.31	V	129.4	1
2	5,359.550	34.81	54.00	19.19	11.30	V	129.4	1



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value- Emission level.
2. 5300MHz: Fundamental frequency.

CHANNEL	TX Channel 64	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	5,321.500	105.77			11.30	H	359	1
1	5,350.000	51.81	74.00	22.19	11.31	H	359	1
1	5,356.000	52.32	74.00	21.68	11.31	H	359	1

