



BUREAU VERITAS

Test Report No.: PSZ-NQN2303280110RF04



Certificate #6613.01

FCC TEST REPORT (Part 15, Subpart C)



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 C, Section 15.247**
- ANSI C63.10-2013**

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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TABLE OF CONTENTS

RELEASE CONTROL RECORD	5
1 SUMMARY OF TEST RESULTS	6
1.1 MEASUREMENT UNCERTAINTY	7
2 GENERAL INFORMATION	8
2.1 GENERAL DESCRIPTION OF EUT	8
2.2 DESCRIPTION OF TEST MODES	11
2.2.1 CONFIGURATION OF SYSTEM UNDER TEST	12
2.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL	12
2.3 DUTY CYCLE OF TEST SIGNAL	16
2.4 GENERAL DESCRIPTION OF APPLIED STANDARDS	17
2.5 DESCRIPTION OF SUPPORT UNITS	17
3 TEST TYPES AND RESULTS	18
3.1 CONDUCTED EMISSION MEASUREMENT	18
3.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT	18
3.1.2 TEST INSTRUMENTS	18
3.1.3 TEST PROCEDURES	19
3.1.4 DEVIATION FROM TEST STANDARD	19
3.1.5 TEST SETUP	20
3.1.6 EUT OPERATING CONDITIONS	20
3.1.7 TEST RESULTS	21
3.2 RADIATED EMISSION MEASUREMENT	23
3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT	23
3.2.2 TEST INSTRUMENTS	24
3.2.3 TEST PROCEDURES	25
3.2.4 DEVIATION FROM TEST STANDARD	25
3.2.5 TEST SETUP	26
3.2.6 EUT OPERATING CONDITIONS	27
3.2.7 TEST RESULTS	28
3.3 6 DB BANDWIDTH MEASUREMENT	82
3.3.1 LIMITS OF 6DB BANDWIDTH MEASUREMENT	82
3.3.2 TEST INSTRUMENTS	82
3.3.3 TEST PROCEDURE	83
3.3.4 DEVIATION FROM TEST STANDARD	84
3.3.5 TEST SETUP	84
3.3.6 EUT OPERATING CONDITIONS	84
3.3.7 TEST RESULTS	85



3.4	CONDUCTED OUTPUT POWER.....	86
3.4.1	LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT	86
3.4.2	TEST SETUP	86
3.4.3	TEST INSTRUMENTS	86
3.4.4	TEST PROCEDURES	86
3.4.5	DEVIATION FROM TEST STANDARD	86
3.4.6	EUT OPERATING CONDITIONS	86
3.4.7	TEST RESULTS	87
3.4.7.1	MAXIMUM PEAK OUTPUT POWER	87
3.4.7.2	AVERAGE OUTPUT POWER (FOR REFERENCE)	88
3.5	POWER SPECTRAL DENSITY MEASUREMENT	89
3.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	89
3.5.2	TEST SETUP	89
3.5.3	TEST INSTRUMENTS	89
3.5.4	TEST PROCEDURE	89
3.5.5	DEVIATION FROM TEST STANDARD	89
3.5.6	EUT OPERATING CONDITION	89
3.5.7	TEST RESULTS	90
3.6	OUT OF BAND EMISSION MEASUREMENT	91
3.6.1	LIMITS OF OUT OF BAND EMISSION MEASUREMENT	91
3.6.2	TEST SETUP	91
3.6.3	TEST INSTRUMENTS	91
3.6.4	TEST PROCEDURE	91
3.6.5	DEVIATION FROM TEST STANDARD	92
3.6.6	EUT OPERATING CONDITION	92
3.6.7	TEST RESULTS	92
4	PHOTOGRAPHS OF THE TEST CONFIGURATION	93
5	MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB94	
6	APPENDIX 1 WLAN 2.4G	95
	DTS BANDWIDTH	95
	TEST RESULT	95
	TEST GRAPHS	96
	MAXIMUM CONDUCTED OUTPUT POWER	103
	TEST RESULT PEAK	103
	TEST RESULT AVERAGE	104
	MAXIMUM POWER SPECTRAL DENSITY	105
	TEST RESULT	105



TEST GRAPHS	105
BAND EDGE MEASUREMENTS	111
TEST RESULT	111
TEST GRAPHS	113
CONDUCTED SPURIOUS EMISSION	117
TEST RESULT	117
TEST GRAPHS	118
DUTY CYCLE	130
TEST RESULT	130
TEST GRAPHS	132
7 APPENDIX 2 BLE	135
DTS BANDWIDTH	135
TEST RESULT	135
TEST GRAPHS	136
OCCUPIED CHANNEL BANDWIDTH	138
TEST RESULT	138
TEST GRAPHS	139
MAXIMUM CONDUCTED OUTPUT POWER	141
TEST RESULT PEAK	141
TEST RESULT AVERAGE	141
MAXIMUM POWER SPECTRAL DENSITY	142
TEST RESULT	142
TEST GRAPHS	143
BAND EDGE MEASUREMENTS	145
TEST RESULT	145
TEST GRAPHS	146
CONDUCTED SPURIOUS EMISSION	147
TEST RESULT	147
TEST GRAPHS	148
DUTY CYCLE	151
TEST RESULT	151
TEST GRAPHS	152



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Test Report No.: PSZ-NQN2303280110RF04

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSZ-NQN2303280110RF04	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 C (SECTION 15.247)			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	Test lab*
15.207	AC Power Conducted Emission	Compliance	A
15.205 15.209	Radiated Emissions	Compliance	A
15.247(d)	Out of band Emission Measurement	Compliance	A
15.247(a)(2)	6dB bandwidth	Compliance	A
15.247(b)	Conducted Output power	Compliance	A
15.247(e)	Power Spectral Density	Compliance	A
15.203	Antenna Requirement	Compliance	A

Note : 1.Except RSE · other data please refer to Appendix 1 (for WIFI-2.4G) and Appendix 2 (for BLE)
 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 (30MHz~1GMHz)	±4.98dB
Radiated emissions (1GMHz ~6GMHz)	±4.70dB
Radiated emissions (6GMHz ~18GMHz)	±4.60dB
Radiated emissions (18GMHz ~40GMHz)	±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)
MODULATION	DSSS, OFDM, GFSK
TRANSMISSION RATE	802.11b: 11/ 5.5/ 2.0 / 1.0 Mbps 802.11g: 54/ 48/ 36 / 24 / 18 / 9/ 6 Mbps 802.11n20: up to 72.2 Mbps 802.11n40: up to 150 Mbps BT_LE: 1 Mbps
OPERATING FREQUENCY	2412-2462MHz for 11b/g/n(HT20/40) 2402-2480MHz for BT-LE(GFSK)
MAX. OUTPUT POWER	WLAN: 186.209mW (Maximum) BT-LE: 4.46mW (Maximum)
ANTENNA TYPE	PIFA Antenna with 0.1dBi gain
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 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 transmitter and one receiver.

MODULATION MODE	TX/RX FUNCTION
802.11b	1TX /1RX
802.11g	1TX /1RX
802.11n (20MHz)	1TX /1RX
802.11n (40MHz)	1TX /1RX
BT_LE(1MHz)	1TX /1RX

- 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	Iceptron
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



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Test Report No.: PSZ-NQN2303280110RF04

10	LED	P2016F- W55WM0M2AB5C 2- 0002	RUNLITE	SJ-FT2016-DH Z1N5257-01	SUIJING
11	Battery	3000mAh	Highpower	3000mAh	GAOYUAN
12	Glass	30.09X12.02X0.50 mm	Dottone	30.09X12.02X0. 50mm	Lesu

4. 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

11 channels are provided for 802.11b, 802.11g and 802.11n (HT20):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		

7 channels are provided for 802.11n (HT40):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
3	2422 MHz	7	2442 MHz
4	2427 MHz	8	2447 MHz
5	2432 MHz	9	2452 MHz
6	2437 MHz		

40 channels are provided for BT-LE (GFSK):

CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480



2.2.1 CONFIGURATION OF SYSTEM UNDER TEST

Please see section 5 photographs of the test configuration for reference.

2.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case was found when positioned on Y axis for radiated emission. Following test modes were selected for the final test, and the final worst case is marked in boldface and recorded in the report:

EUT CONFIGURE MODE	APPLICABLE TO				MODE
	RE<1G	RE≥1G	PLC	APCM	
-	√	√	√	√	-

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

NOTE: No need to concern of Conducted Emission due to the EUT is powered by battery.

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
802.11n HT20	1 to 11	11	OFDM	MCS0
BT-LE	0 to 39	19	GFSK	2.0



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).

Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	1.0
802.11g	1 to 11	1, 6, 11	OFDM	6.0
802.11n HT20	1 to 11	1, 6, 11	OFDM	MCS0
802.11n HT40	3 to 9	3,6,9	OFDM	MCS0
BT-LE	0 to 39	0,19, 39	GFSK	0.125&0.5&1&2

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
802.11n HT20	1 to 11	11	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).
- Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	1.0
802.11g	1 to 11	1, 6, 11	OFDM	6.0
802.11n HT20	1 to 11	1, 6, 11	OFDM	MCS0
802.11n HT40	3 to 9	3,6,9	OFDM	MCS0
BT-LE	0 to 39	0,19, 39	GFSK	0.125&0.5&1&2



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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	1.0
802.11g	1 to 11	1, 6, 11	OFDM	6.0
802.11n HT20	1 to 11	1, 6, 11	OFDM	MCS0
802.11n HT40	3 to 9	3,6,9	OFDM	MCS0
BT-LE	0 to 39	0,19, 39	GFSK	0.125&0.5&1&2

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE	TESTED BY
RE<1G	23deg. C, 70%RH	DC 5V By Adapter	Carl Xie
RE≥1G	23deg. C, 70%RH	DC 5V By Adapter	Carl Xie
PLC	25deg. C, 52%RH	DC 5V By Adapter	Lily Zhao
APCM	25deg. C, 60%RH	DC 3.8V By Battery	Lily Zhao



2.3 Duty Cycle of Test Signal

Please Refer to Appendix1/2 Of this test report.

WORST-CASE DATA:

Measured Duty Cycle		
Mode		Duty Cycle [%]
		ANT0+1
WIFI 2.4GHz	11B	98.96
	11G	97.93
	11N20	97.79
	11N40	93.51
BT LE	BT4.0	62.50

Note:

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



2.4 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 C, Section 15.247

KDB 558074 D01 DTS Meas Guidance v05r02

ANSI C63.10-2013

Note :

1. All test items have been performed and recorded as per the above standards.
2. 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.

2.5 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	Desktop	Lenovo	M73 SFF	PC04GRQV	N/A
2	Desktop	Lenovo	M73 SFF	PC06CS27	N/A
3	Laptop	Lenovo	Thnikpad T450	PC-049PT1	N/A

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



3 TEST TYPES AND RESULTS

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBµV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

- NOTE:**
- 1.The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.
 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

3.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR3	102749	Feb.25,22	Feb.24,24
ELEKTRA test software	Rohde&Schwarz	ELEKTRA	NA	N/A	N/A
LISN network	Rohde&Schwarz	ENV216	102640	Feb.17,22	Feb.16,24
CABLE	Rohde&Schwarz	W61.01	N/A	Apr.28,23	Oct.27,23
CABLE	Rohde&Schwarz	W601	N/A	Apr.28,23	Oct.27,23

- NOTE:**
1. The test was performed in CE shielded room.
 2. The calibration interval of the above test instruments is 6 months or 24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.



3.1.3 TEST PROCEDURES

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

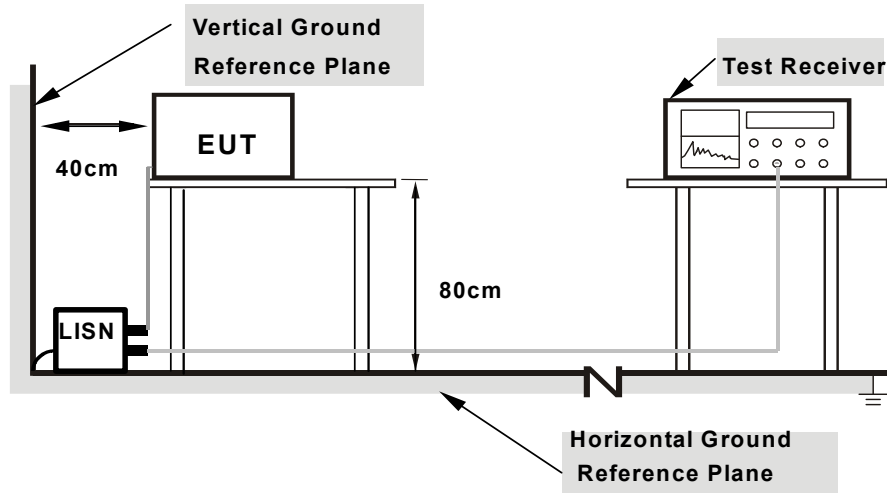
NOTE: All modes of operation were investigated and the worst-case emissions are reported.

3.1.4 DEVIATION FROM TEST STANDARD

No deviation.



3.1.5 TEST SETUP



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

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

3.1.6 EUT OPERATING CONDITIONS

- a. Turned on the power and connected of all equipment.
- b. EUT was operated according to the type used was description in manufacturer's specifications or the User's Manual.



3.1.7 TEST RESULTS

CONDUCTED WORST-CASE DATA:

Frequency Range	150KHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25deg. C, 55%RH
Tested By	Carl Xie		

Rg	Frequency [MHz]	QPK Level [dBμV]	QPK Limit [dBμV]	QPK Margin [dB]	CAV Level [dBμV]	CAV: AVG Limit [dBμV]	CAV Margin [dB]	Correction [dB]	Line	Meas. BW [kHz]
1	0.195	34.68	63.82	29.14	18.87	53.82	34.95	9.84	L1	9.000
1	0.632	37.35	56.00	18.65	20.94	46.00	25.06	9.92	L1	9.000
1	1.406	25.64	56.00	30.36	12.35	46.00	33.65	9.69	L1	9.000
1	4.061	21.83	56.00	34.17	9.08	46.00	36.92	9.61	L1	9.000
1	12.314	34.53	60.00	25.47	20.67	50.00	29.33	9.67	L1	9.000
1	17.426	35.13	60.00	24.87	15.65	50.00	34.35	9.68	L1	9.000

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Limit value -Emission level
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.





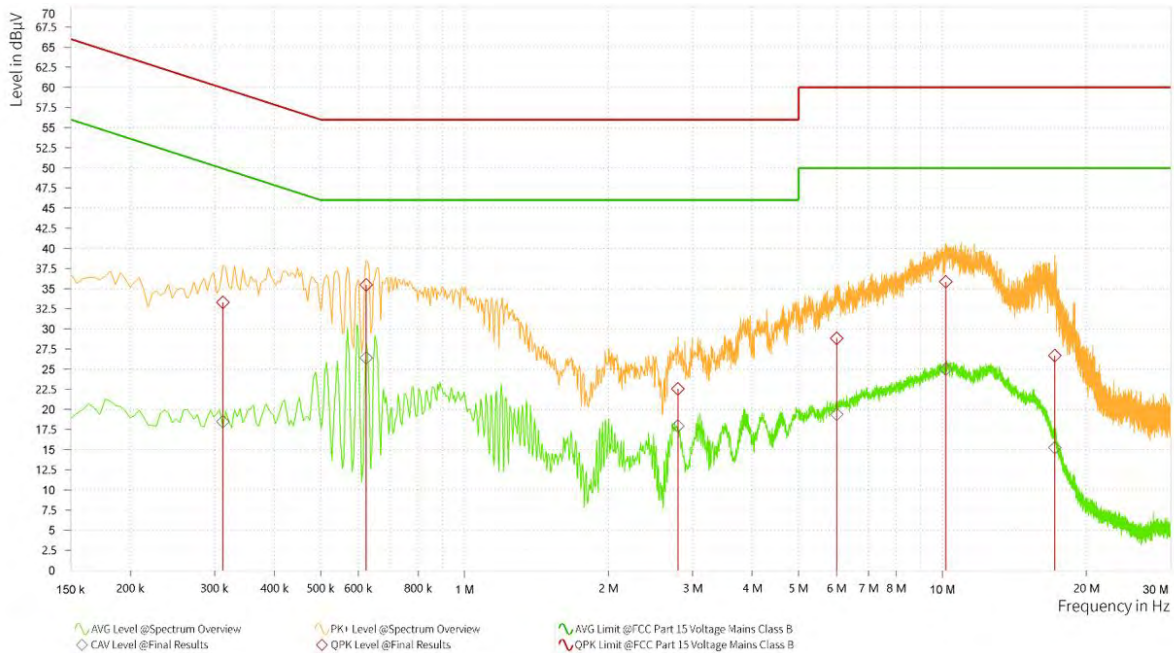
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Test Report No.: PSZ-NQN2303280110RF04

Frequency Range	150KHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25deg. C, 55%RH
Tested By	Carl Xie		

Rg	Frequency [MHz]	QPK Level [dBμV]	QPK Limit [dBμV]	QPK Margin [dB]	CAV Level [dBμV]	CAV: AVG Limit [dBμV]	CAV Margin [dB]	Correction [dB]	Line	Meas. BW [kHz]
1	0.312	33.29	59.92	26.63	18.46	49.92	31.46	9.78	N	9.000
1	0.623	35.48	56.00	20.52	26.37	46.00	19.63	9.93	N	9.000
1	2.796	22.55	56.00	33.45	17.93	46.00	28.07	9.62	N	9.000
1	6.005	28.84	60.00	31.16	19.37	50.00	30.63	9.62	N	9.000
1	10.158	35.86	60.00	24.14	25.00	50.00	25.00	9.65	N	9.000
1	17.183	26.68	60.00	33.32	15.23	50.00	34.77	9.75	N	9.000

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Limit value -Emission level
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.





3.2 RADIATED EMISSION MEASUREMENT

3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

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. As shown in 15.35(b), 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.

**3.2.2 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-E MC-01Chamber	Nov.25,22	Nov.24,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-E MC-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.



3.2.3 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. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, For battery operated equipment, the equipment tests shall be perform using fresh batteries. The turntable was rotated to maximize the emission level.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) 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.

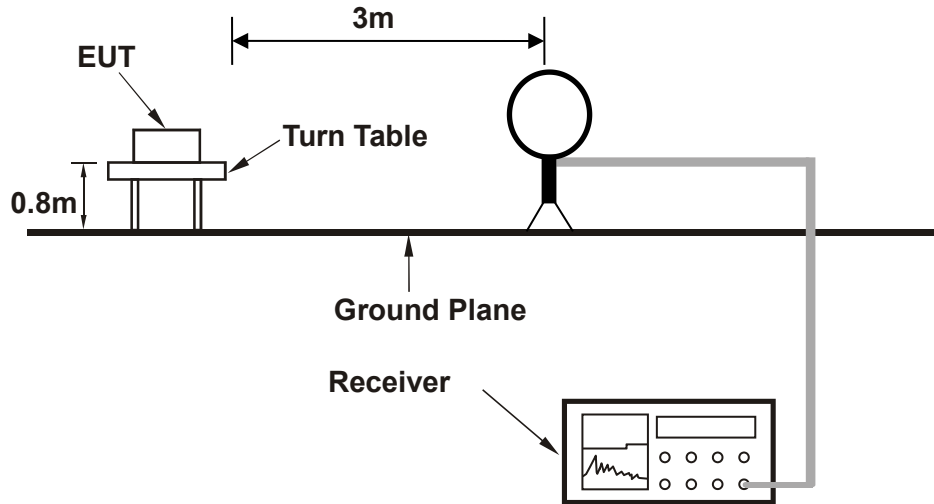
3.2.4 DEVIATION FROM TEST STANDARD

No deviation

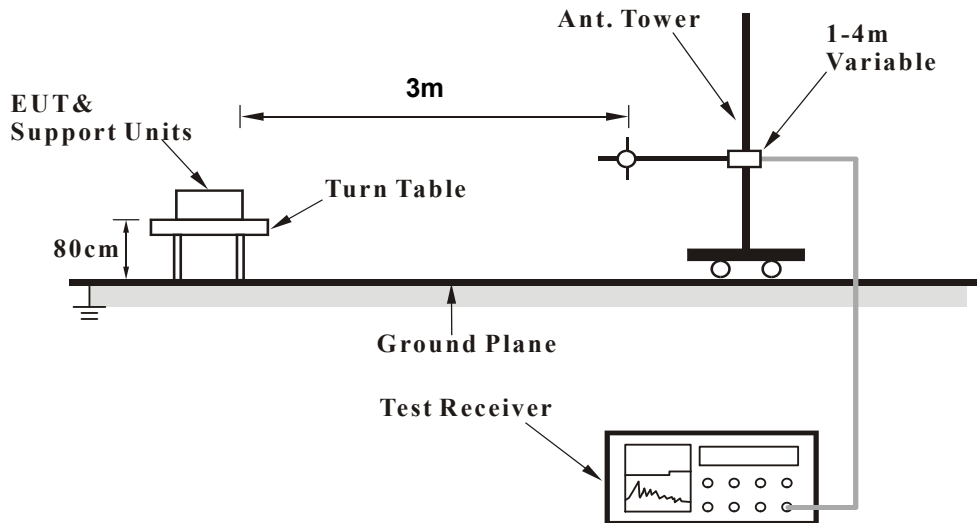


3.2.5 TEST SETUP

<Frequency Range 9KHz~30MHz >

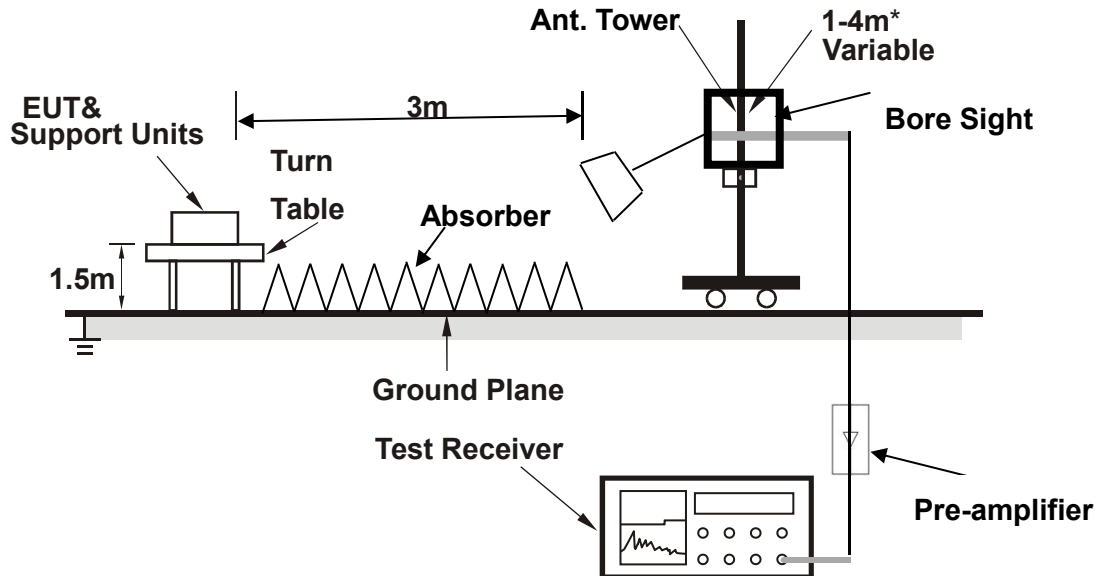


< Frequency Range 30MHz~1GHz >





<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).

3.2.6 EUT OPERATING CONDITIONS

- 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.



3.2.7 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.

BELOW 1GHz WORST-CASE DATA:

30 MHz – 1GHz data:

802.11n (20MHz)

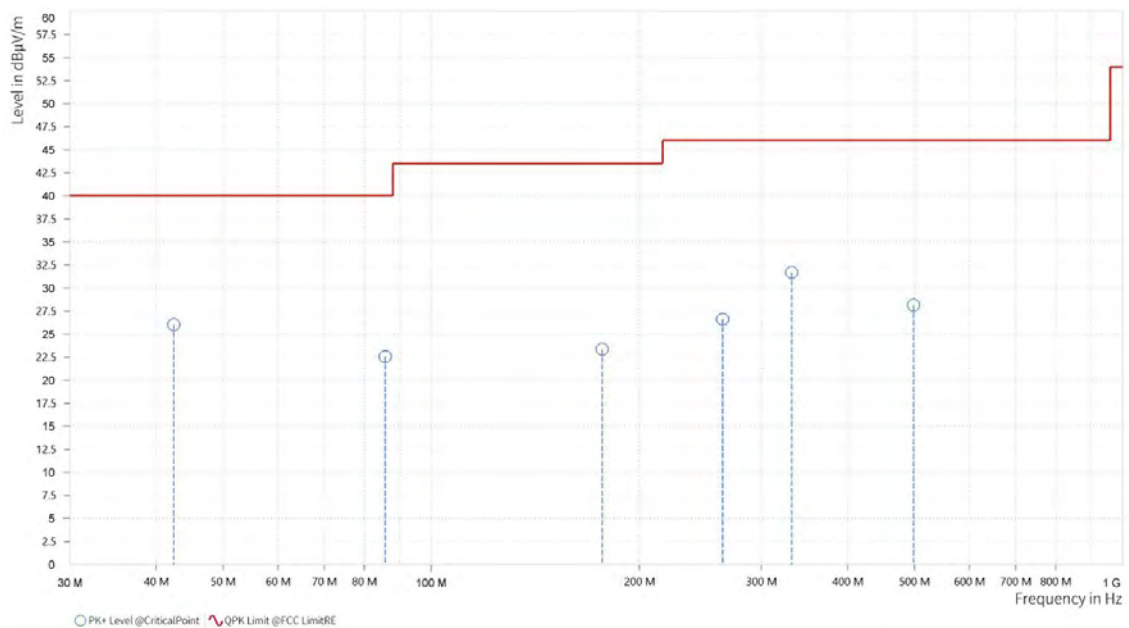
CHANNEL	TX Channel 11	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	42.416	26.02	40.00	13.98	-16.06	H	359	1
1	85.775	22.55	40.00	17.45	-20.68	H	236.8	1
1	176.616	23.37	43.50	20.13	-19.06	H	359	1
1	263.964	26.63	46.00	19.37	-15.00	H	236.8	1
1	332.107	31.71	46.00	14.29	-12.62	H	236.8	2
1	498.219	28.14	46.00	17.86	-11.81	H	117.1	2

REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Emission level – Limit value.





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Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

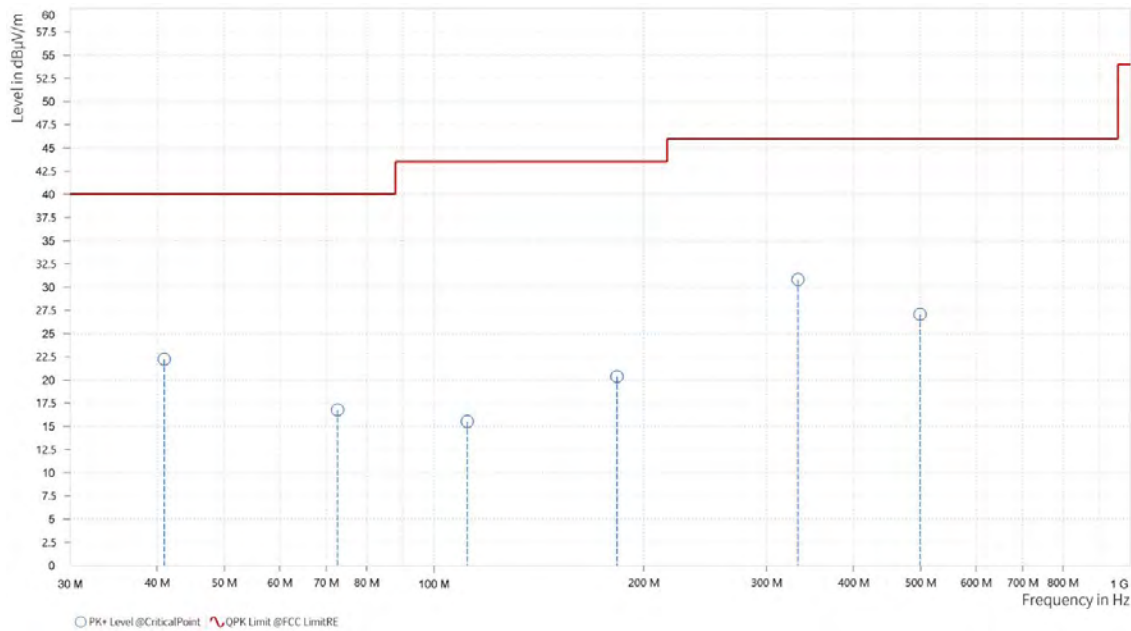
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	40.961	22.24	40.00	17.76	-16.47	V	1	1
1	72.632	16.76	40.00	23.24	-21.15	V	359	1
1	111.626	15.51	43.50	27.99	-17.88	V	353	1
1	183.066	20.36	43.50	23.14	-18.47	V	241	1
1	333.271	30.81	46.00	15.19	-12.55	V	353	2
1	498.753	27.06	46.00	18.94	-11.81	V	241	2

REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor

Margin value = Emission level – Limit value.





ABOVE 1GHz WORST-CASE DATA:

Note: 1. For radiated emissions testing · the full testing range of different modes have been scanned · only the worst case harmonic data is reported in the sheet.

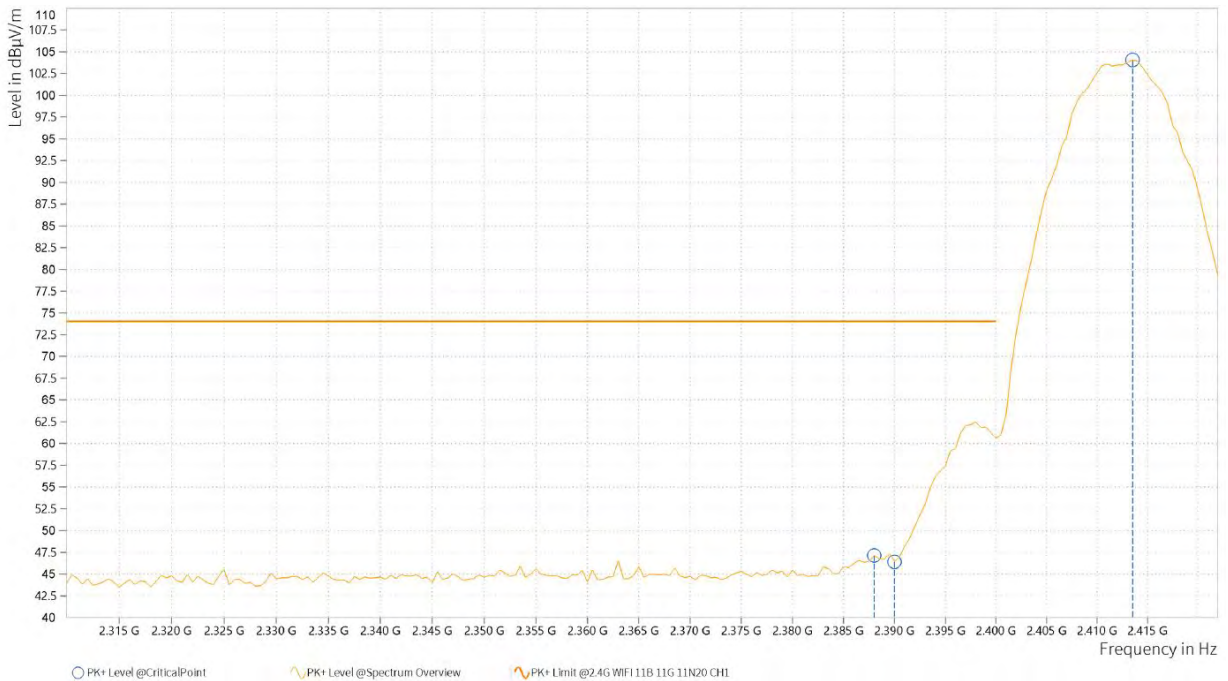
2. All other emissions were greater than 20dB below the limit was not recorded

802.11b:

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

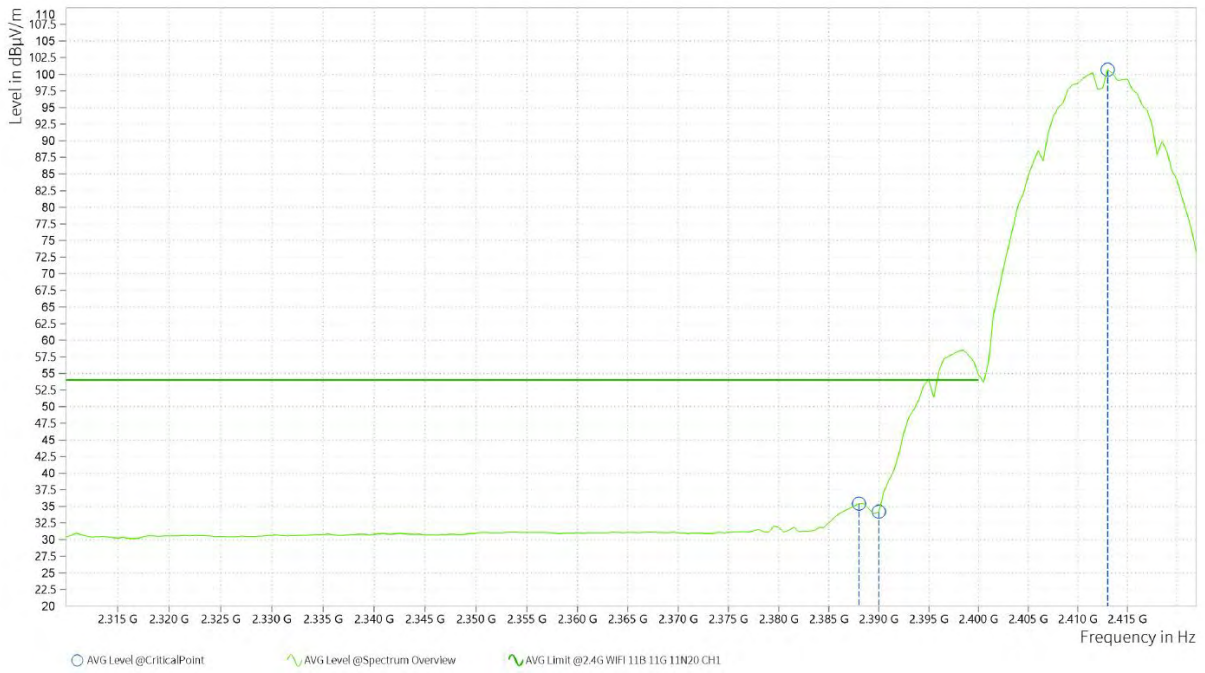
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	2,388.000	47.14	74.00	26.86	5.49	H	226.8	2
1	2,390.000	46.41	74.00	27.59	5.48	H	182.2	1
1	2,413.500	104.06			5.62	H	226.8	2





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	2,388.000	35.43	54.00	18.57	5.49	H	171.5	1
1	2,390.000	34.19	54.00	19.81	5.48	H	171.5	1
1	2,413.000	100.68			5.62	H	171.5	1





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Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

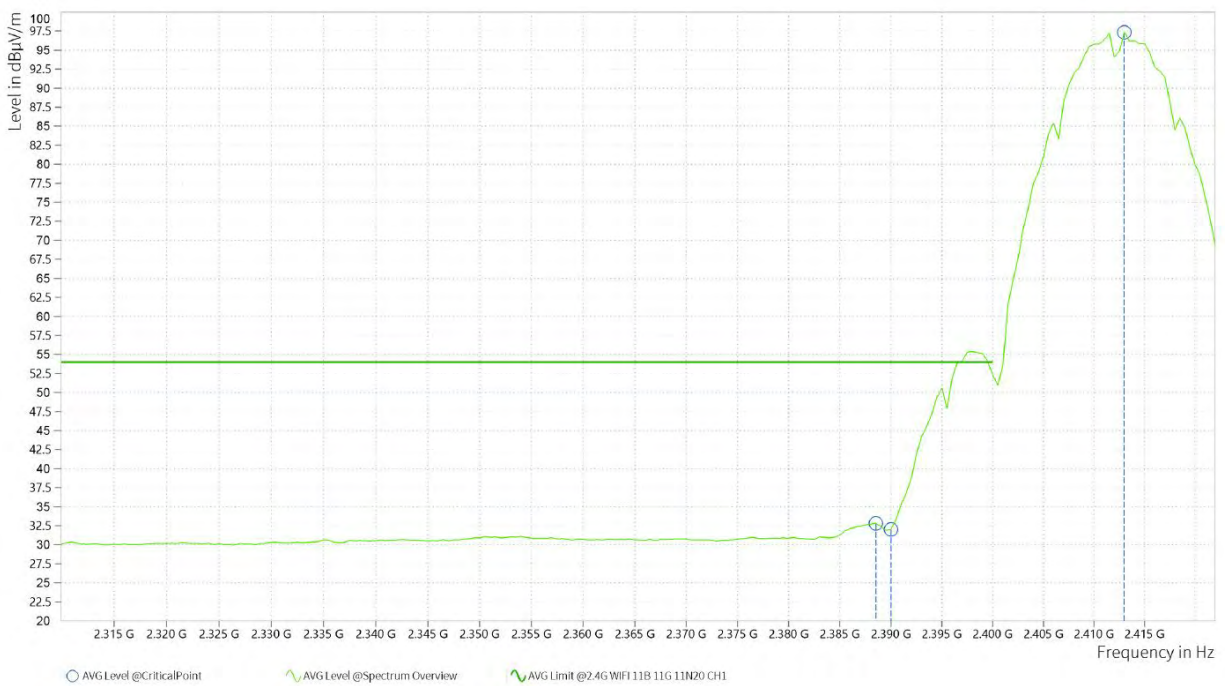
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	2,388.000	46.78	74.00	27.22	5.49	V	0.9	2
1	2,390.000	45.71	74.00	28.29	5.48	V	30.6	2
1	2,413.500	101.19			5.62	V	267.1	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	2,388.500	32.81	54.00	21.19	5.49	V	273.1	1
1	2,390.000	32.02	54.00	21.98	5.48	V	36.6	2
1	2,413.000	97.36			5.62	V	273.1	1



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value – Emission level..
2. 2412MHz: Fundamental frequency.



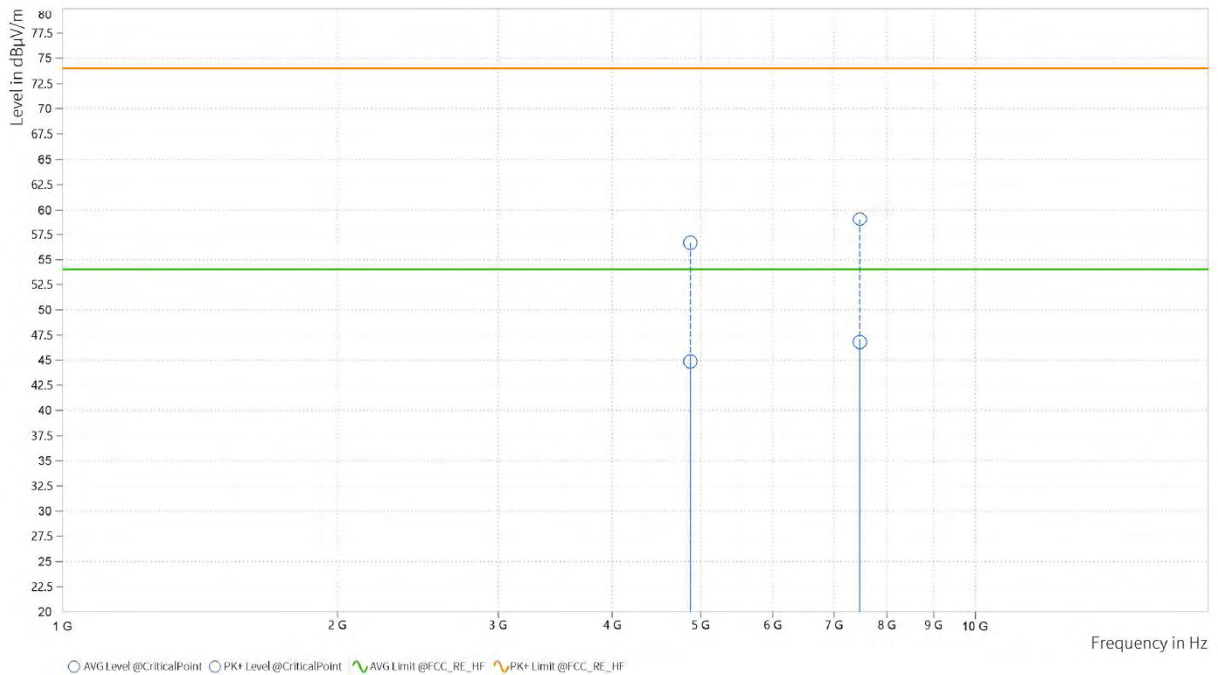
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Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,871.500	56.68	74.00	17.32	44.87	54.00	9.13	10.44	H	257	2
1	7,471.500	59.07	74.00	14.93	46.78	54.00	7.22	15.36	H	355	2





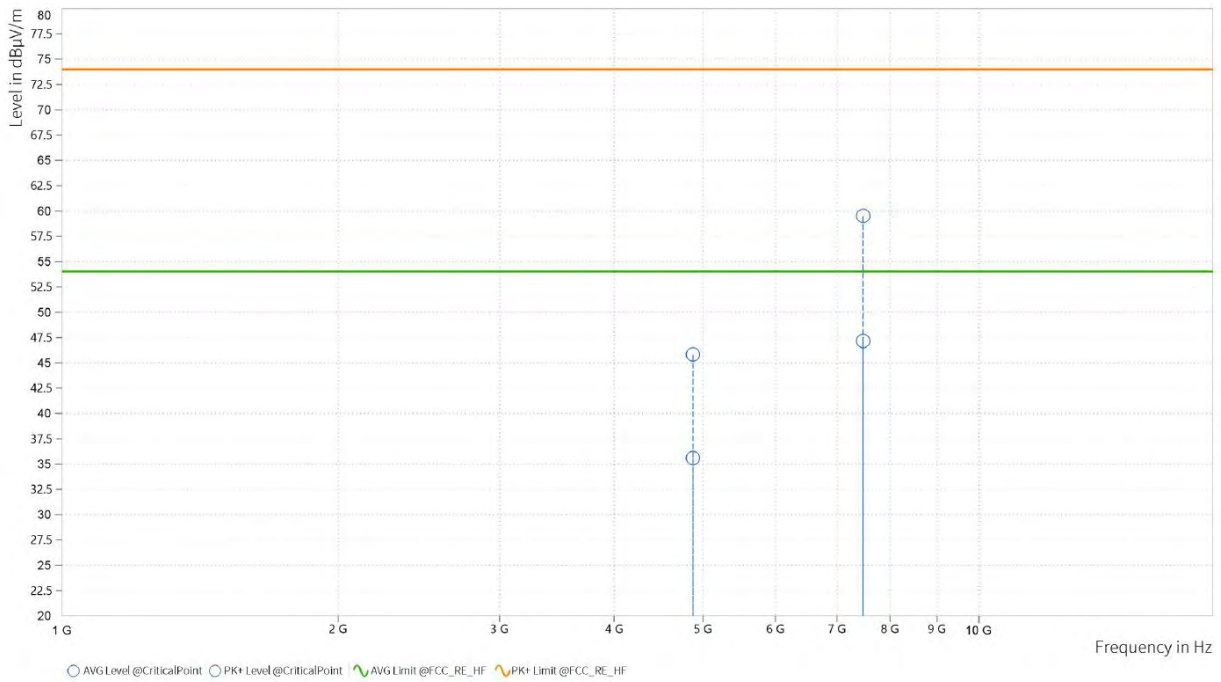
**BUREAU
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Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,874.000	45.82	74.00	28.18	35.58	54.00	18.42	10.45	V	36.6	2
1	7,475.500	59.51	74.00	14.49	47.14	54.00	6.86	15.36	V	359	2



REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value – Emission level..
- 2412MHz: Fundamental frequency.



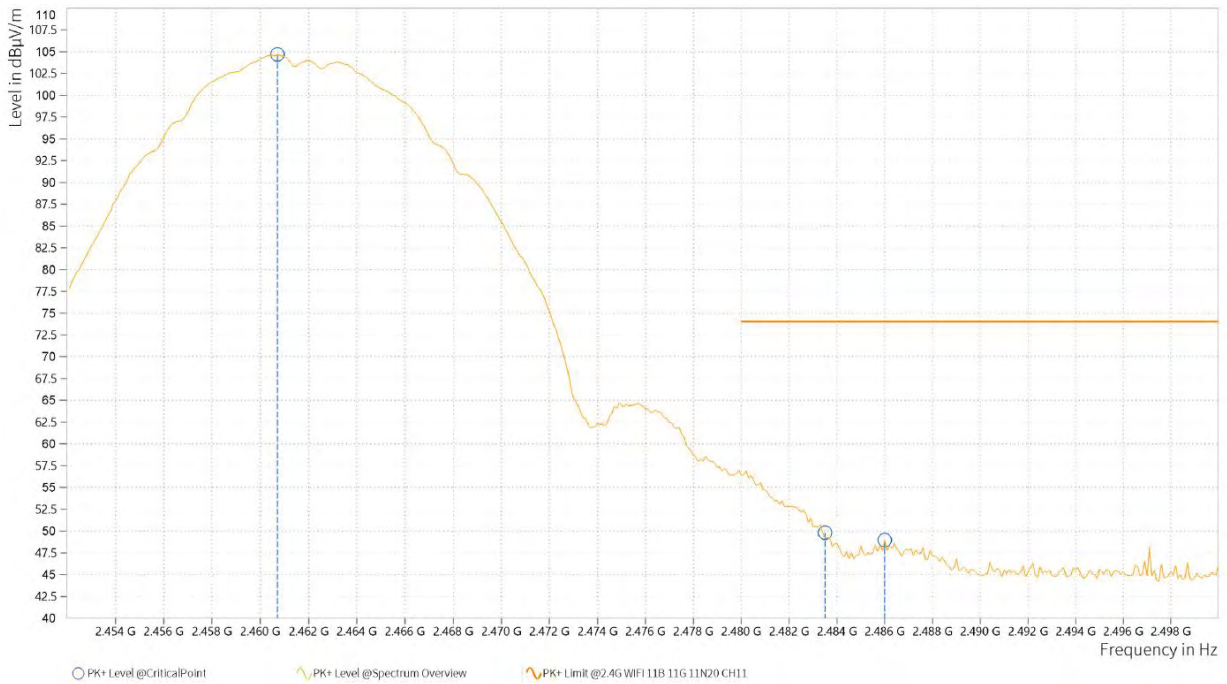
**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2,460.700	104.68			5.99	H	359.1	1
2	2,483.500	49.81	74.00	24.19	5.80	H	355.6	2
2	2,486.000	48.96	74.00	25.04	5.79	H	223.1	2

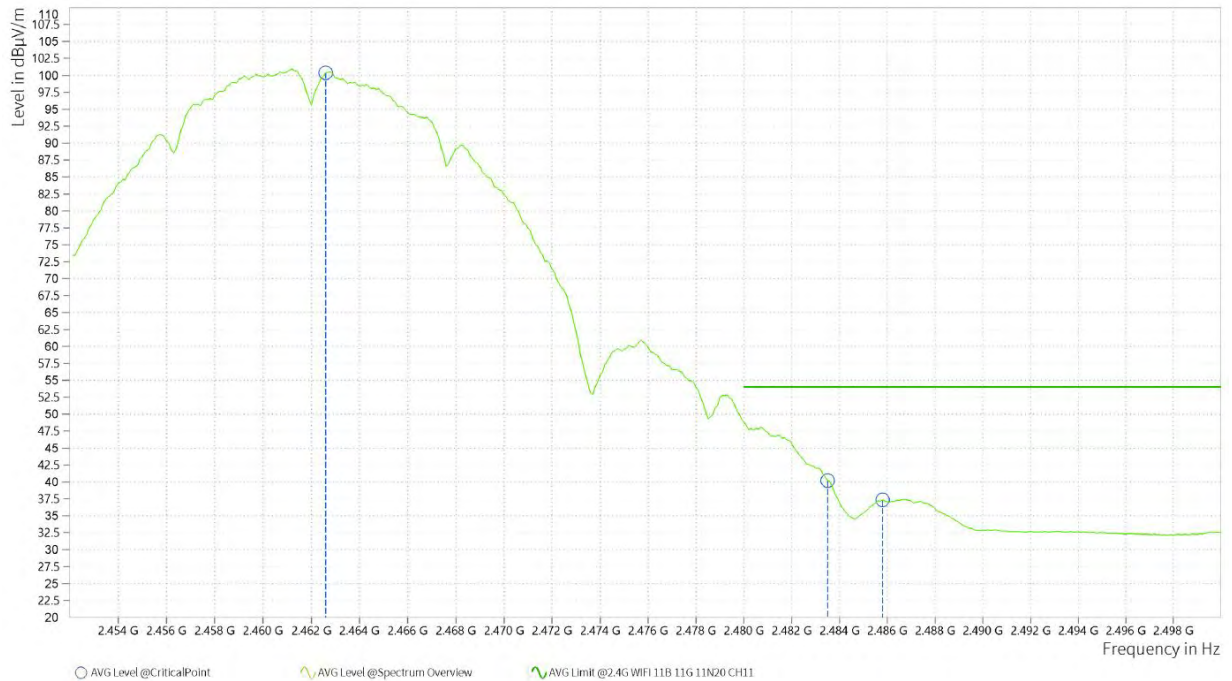




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Test Report No.: PSZ-NQN2303280110RF04

Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	2,462.600	100.40			5.97	H	359.1	1
2	2,483.500	40.18	54.00	13.82	5.80	H	223.1	2
2	2,485.800	37.33	54.00	16.67	5.79	H	223.1	2





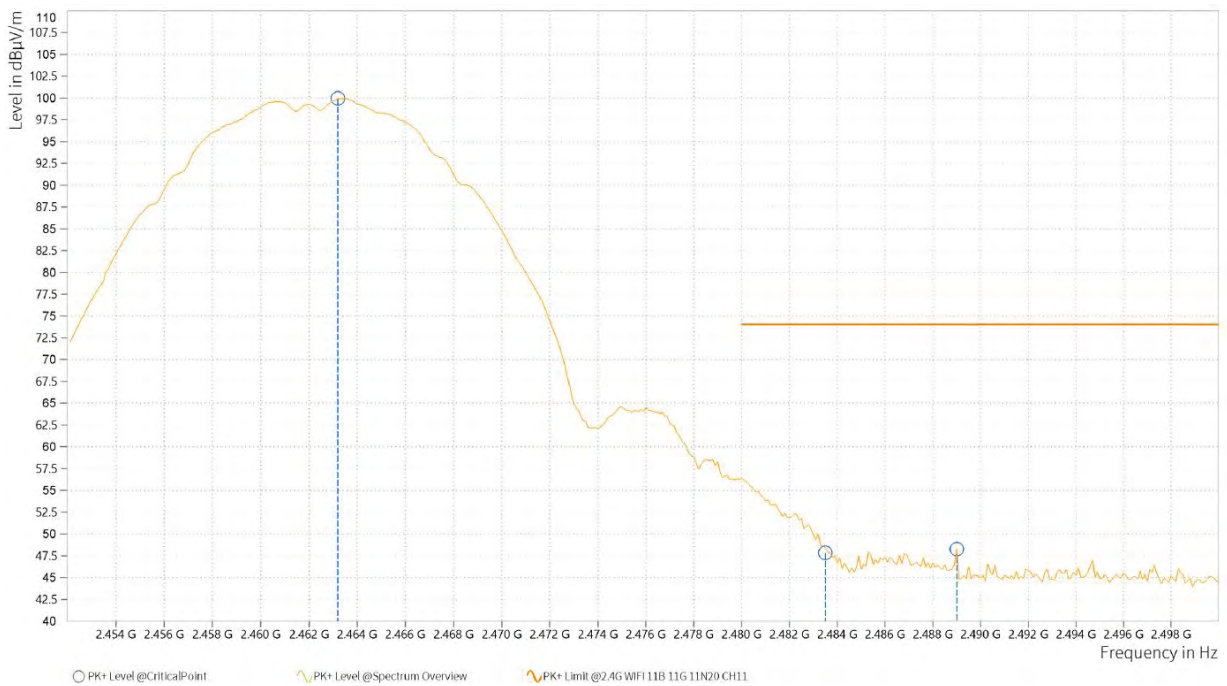
**BUREAU
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Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	2,463.200	99.94			5.97	V	208.6	1
2	2,483.500	47.83	74.00	26.17	5.80	V	280.3	1
2	2,489.000	48.27	74.00	25.73	5.78	V	66.3	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	2,462.700	101.54			5.97	V	216.9	1
2	2,483.500	38.69	54.00	15.31	5.80	V	146.4	1
2	2,486.900	37.49	54.00	16.51	5.79	V	146.4	1



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value – Emission level..
2. 2412MHz: Fundamental frequency.



802.11g

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2,385.500	46.68	74.00	27.32	5.51	H	0.9	2
1	2,390.000	55.34	74.00	18.66	5.48	H	359.1	1
1	2,410.500	104.20			5.59	H	359	1





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VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	2,387.000	34.65	54.00	19.35	5.50	H	239.7	1
1	2,390.000	39.49	54.00	14.51	5.48	H	239.7	1
1	2,413.500	91.59			5.62	H	225.5	2





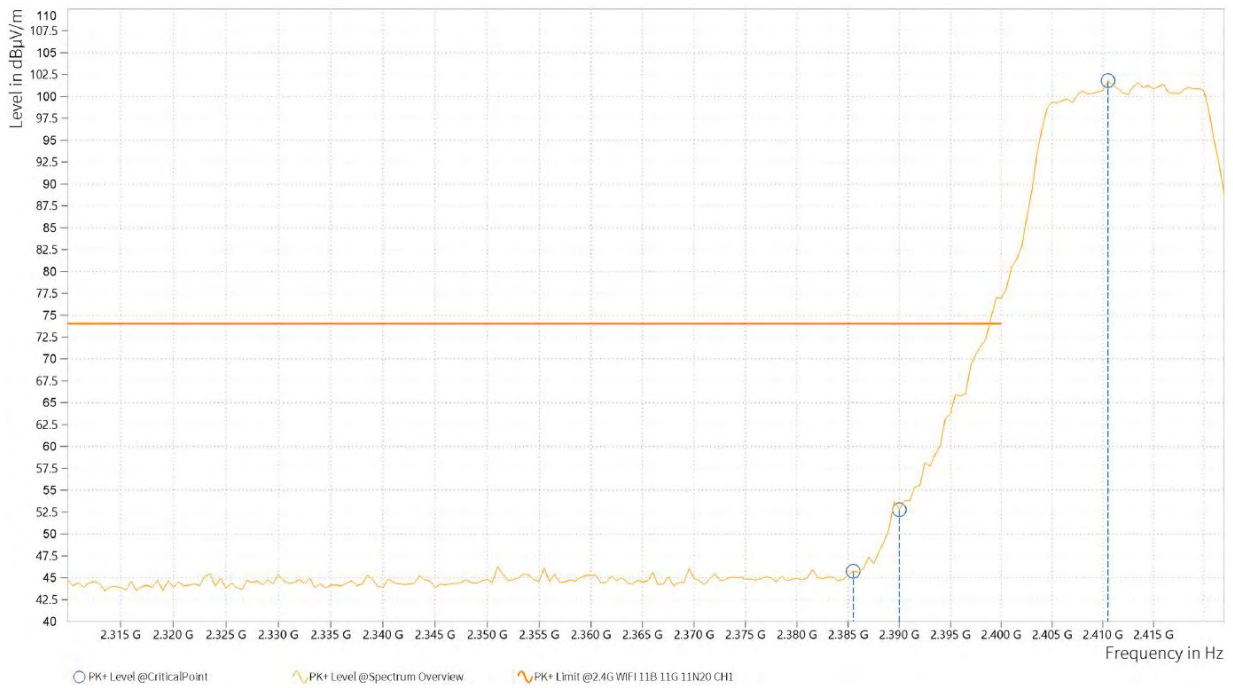
**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

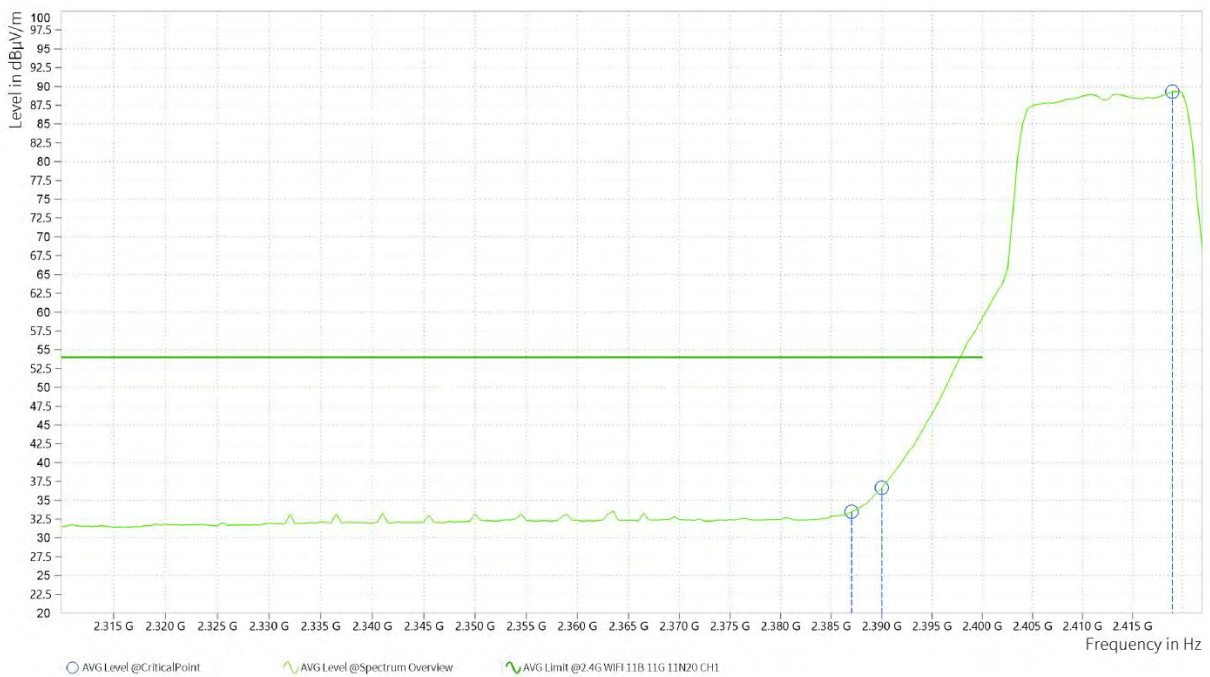
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	2,385.500	45.75	74.00	28.25	5.51	V	359	2
1	2,390.000	52.77	74.00	21.23	5.48	V	0.9	2
1	2,410.500	101.80			5.59	V	39	2





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	2,387.000	33.47	54.00	20.53	5.50	V	1	2
1	2,390.000	36.66	54.00	17.34	5.48	V	37.8	2
1	2,419.000	89.33			5.69	V	182.2	1



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value – Emission level..
2. 2412MHz: Fundamental frequency.



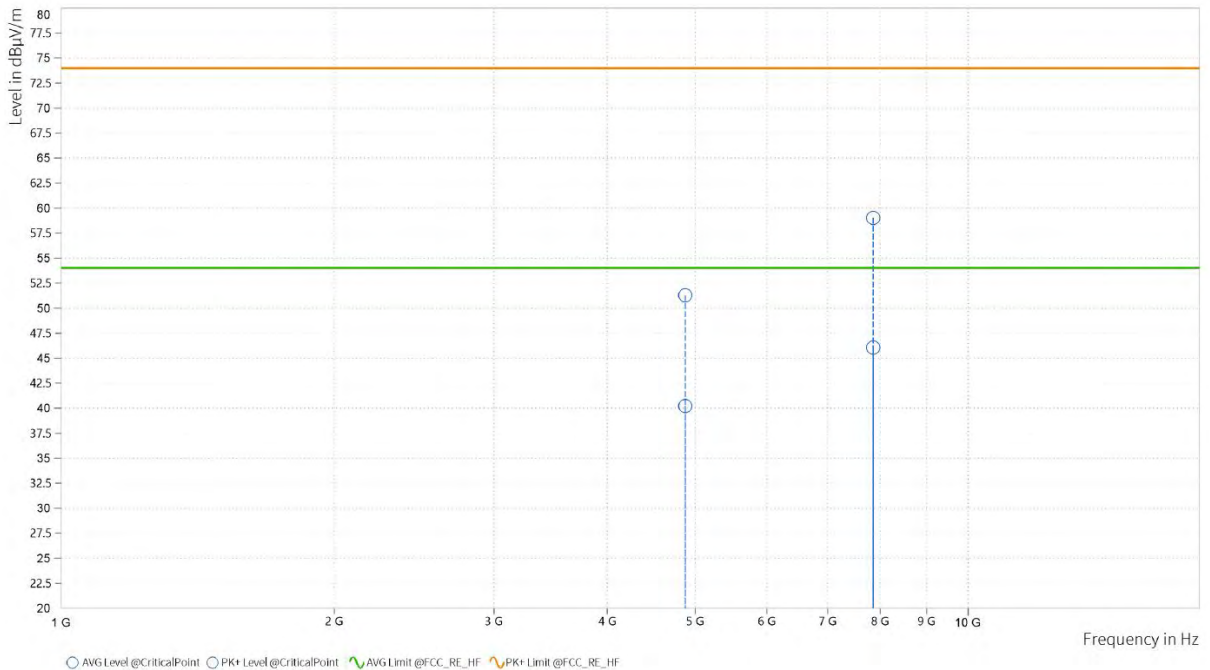
**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,874.500	51.30	74.00	22.70	40.22	54.00	13.78	10.45	H	4.5	1
1	7,858.500	59.03	74.00	14.97	46.08	54.00	7.92	15.75	H	178.2	1

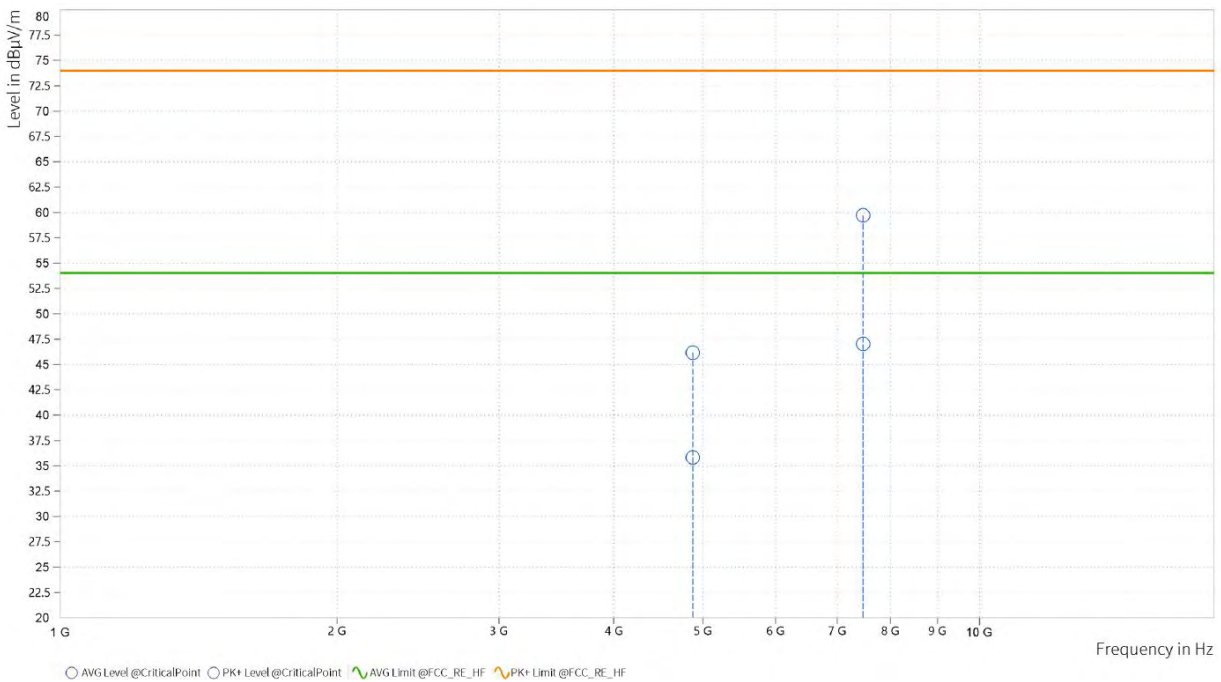




CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,874.000	46.17	74.00	27.83	35.84	54.00	18.16	10.45	V	258.8	1
1	7,470.500	59.71	74.00	14.29	47.02	54.00	6.98	15.36	V	109.2	2



REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value – Emission level..
- 2412MHz: Fundamental frequency.



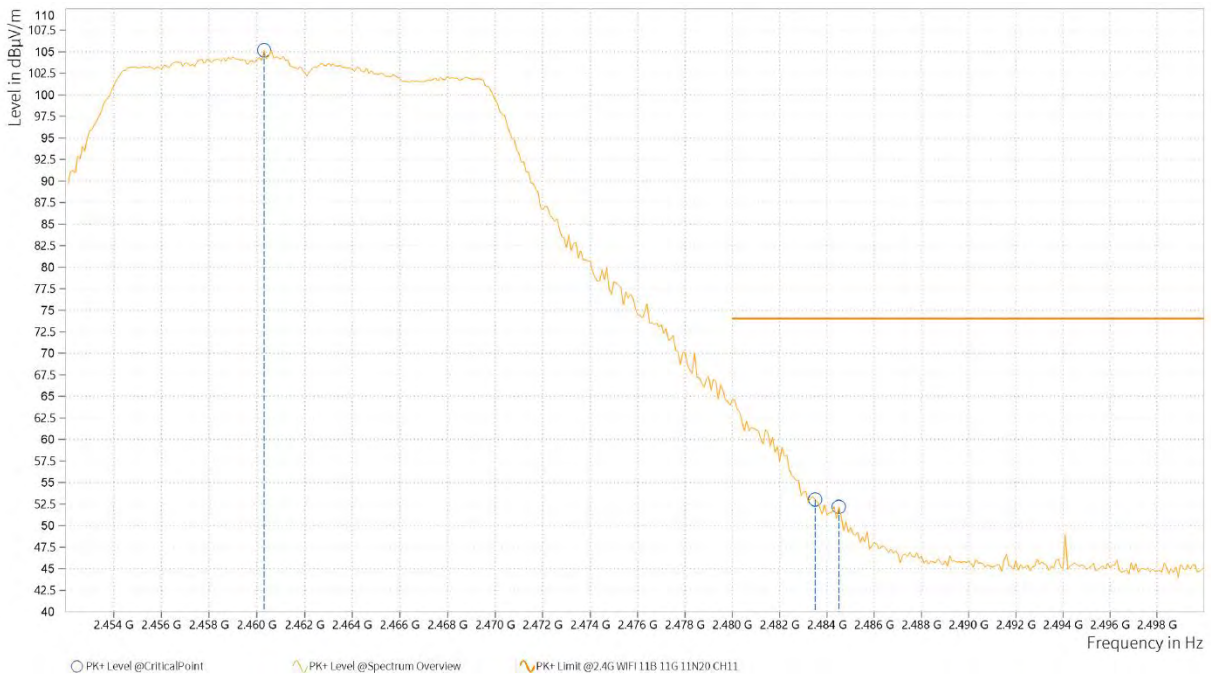
**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2,460.300	105.19			6.00	H	359.1	1
2	2,483.500	53.02	74.00	20.98	5.80	H	221.9	2
2	2,484.500	52.17	74.00	21.83	5.80	H	221.9	2

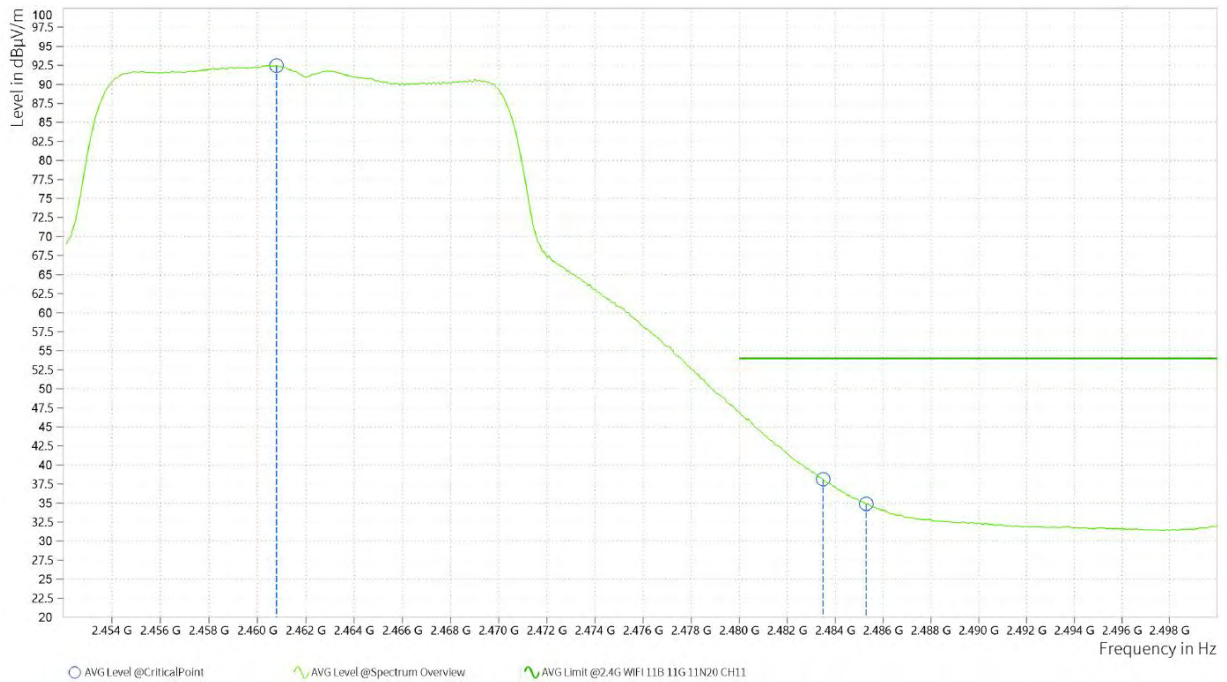




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VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	2,460.800	92.45			5.99	H	359	1
2	2,483.500	38.13	54.00	15.87	5.80	H	221.9	2
2	2,485.300	34.89	54.00	19.11	5.80	H	221.9	2





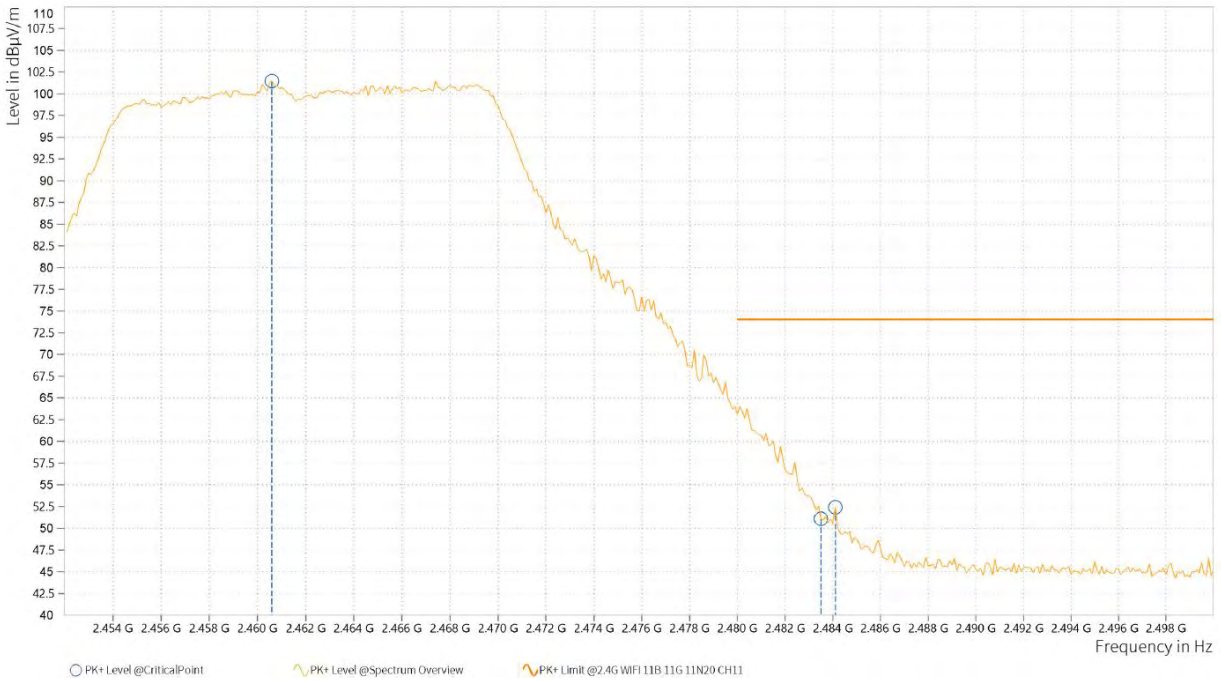
**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

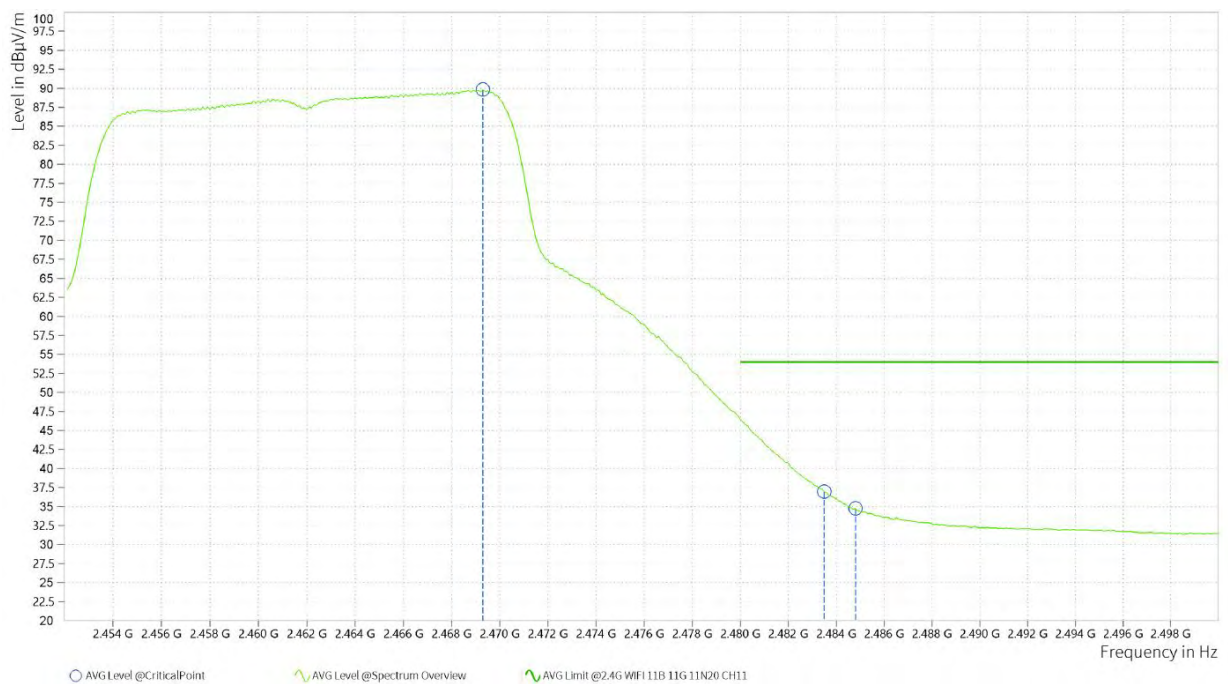
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	2,460.600	101.48			5.99	V	0.9	2
2	2,483.500	51.07	74.00	22.93	5.80	V	208.6	1
2	2,484.100	52.41	74.00	21.59	5.80	V	208.6	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	2,469.300	89.83			5.91	V	209.8	1
2	2,483.500	36.96	54.00	17.04	5.80	V	209.8	1
2	2,484.800	34.74	54.00	19.26	5.80	V	209.8	1



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value – Emission level..
2. 2412MHz: Fundamental frequency.



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VERITAS**

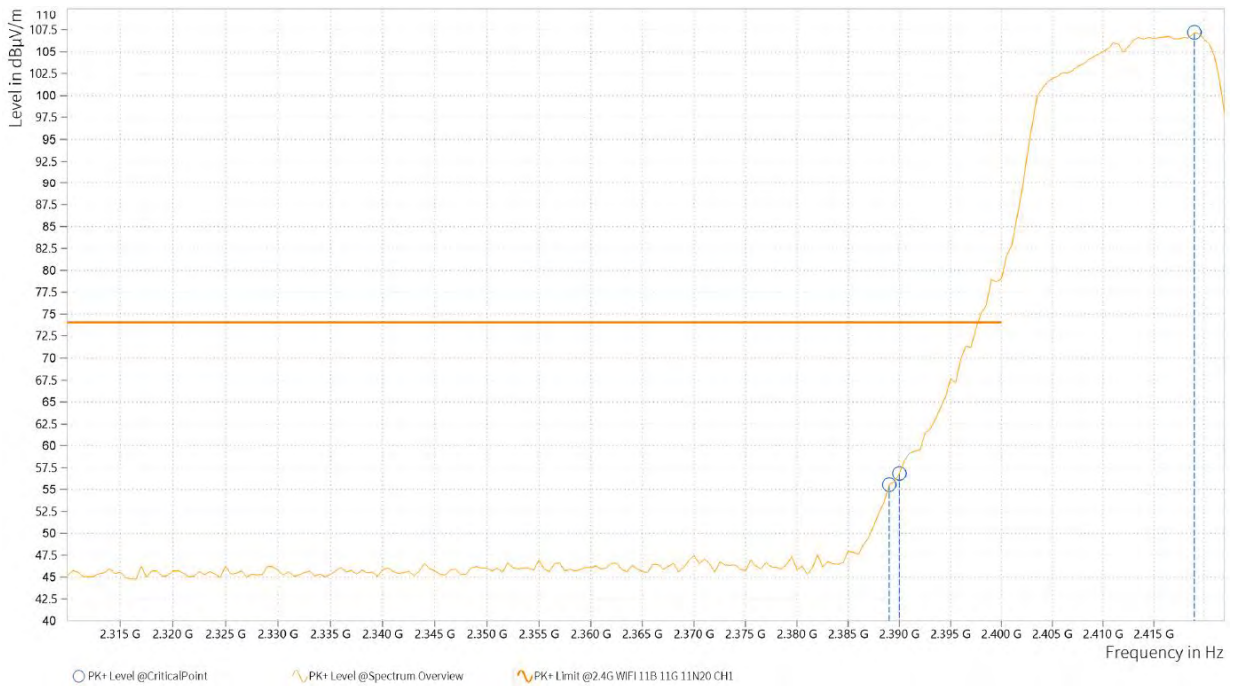
Test Report No.: PSZ-NQN2303280110RF04

802.11n (20MHz)

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2,389.000	55.57	74.00	18.43	5.49	H	317.5	2
1	2,390.000	56.83	74.00	17.17	5.48	H	317.5	2
1	2,419.000	107.19			5.69	H	182.2	1

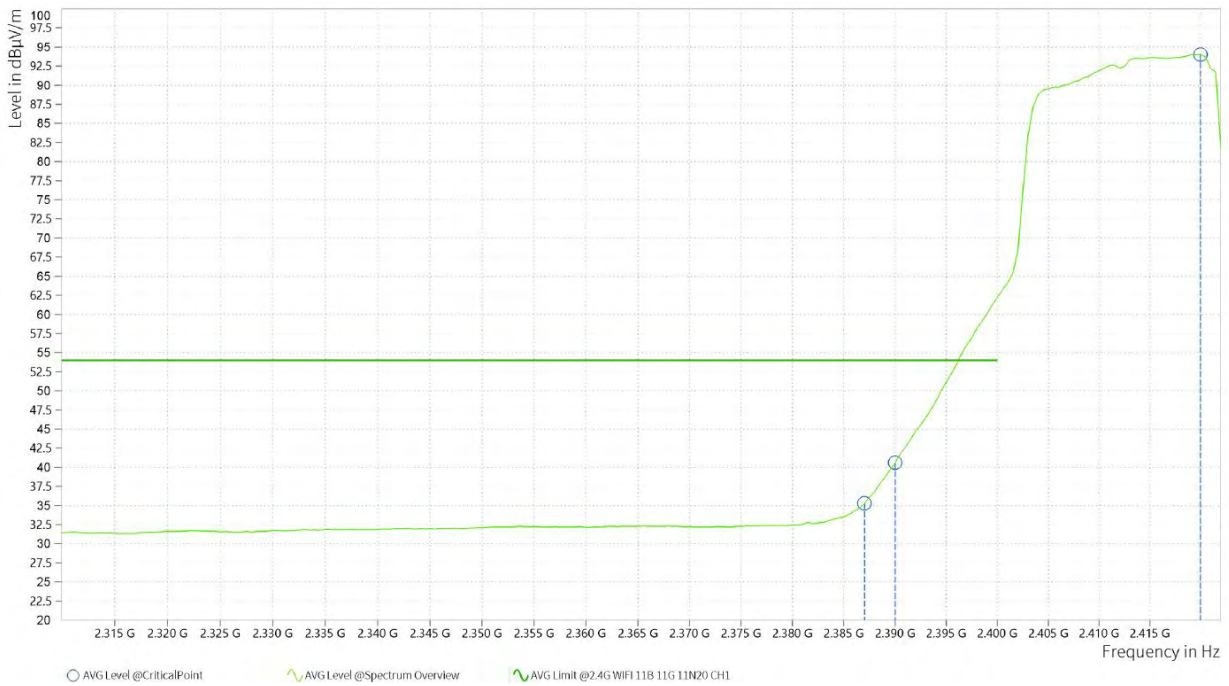




**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	2,387.000	35.30	54.00	18.70	5.50	H	318.7	2
1	2,390.000	40.59	54.00	13.41	5.48	H	318.7	2
1	2,420.000	94.04			5.71	H	182.2	1





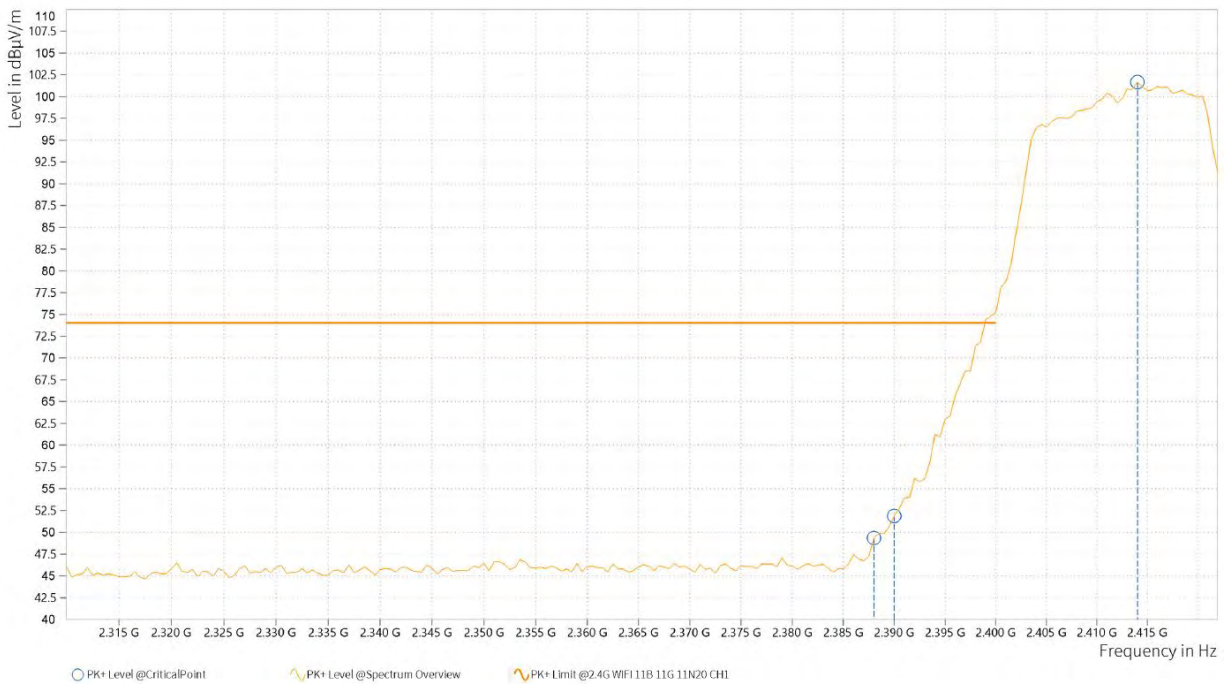
**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

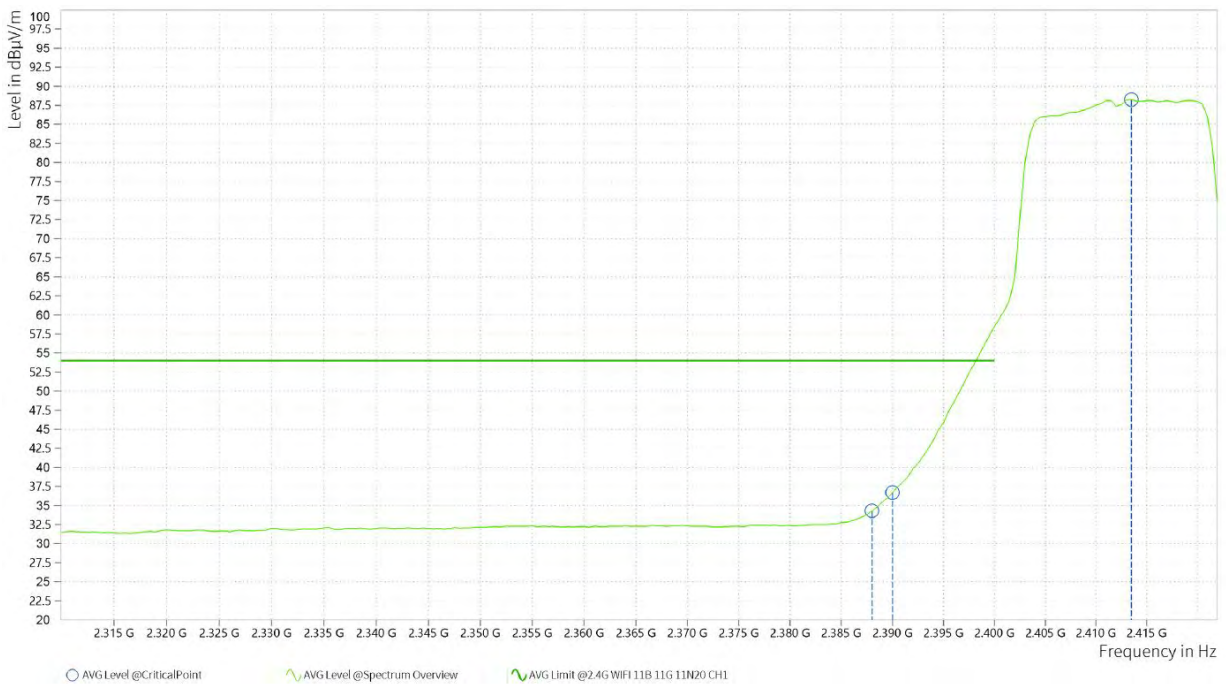
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	2,388.000	49.36	74.00	24.64	5.49	V	223.2	2
1	2,390.000	51.87	74.00	22.13	5.48	V	35.4	2
1	2,414.000	101.68			5.63	V	35.4	2





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	2,388.000	34.31	54.00	19.69	5.49	V	224.4	2
1	2,390.000	36.69	54.00	17.31	5.48	V	224.4	2
1	2,413.500	88.27			5.62	V	224.4	2



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value – Emission level..
2. 2412MHz: Fundamental frequency.



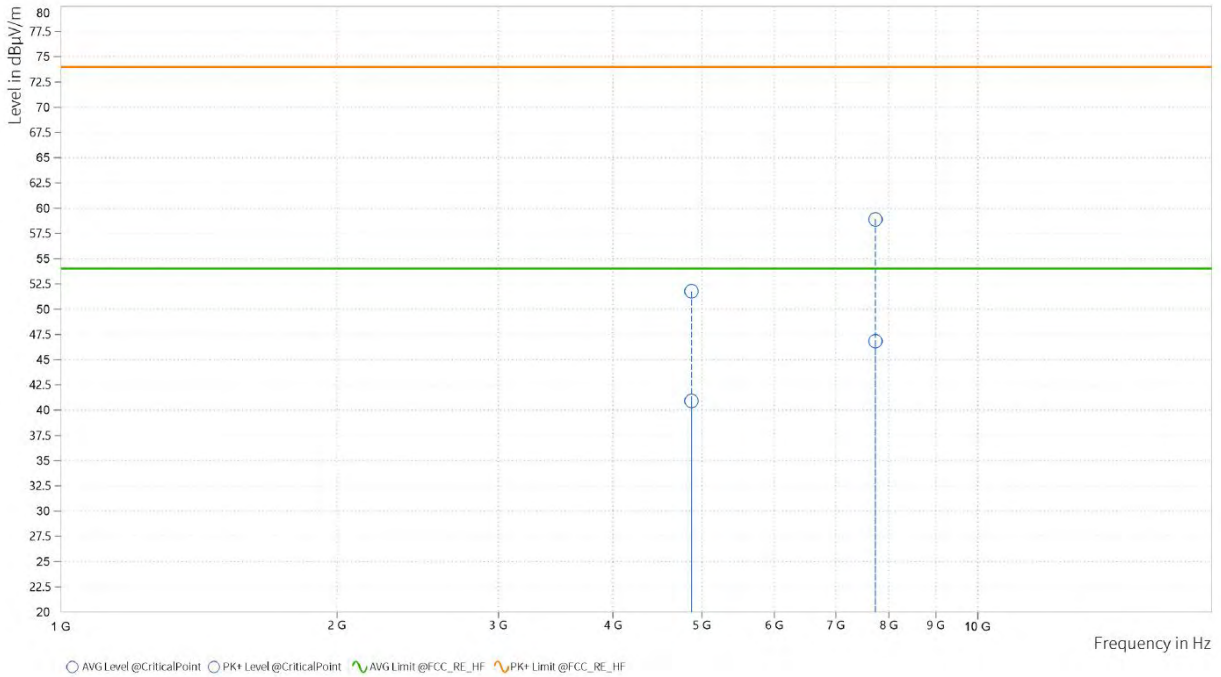
**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,872.500	51.77	74.00	22.23	40.91	54.00	13.09	10.45	H	182.6	2
1	7,734.000	58.90	74.00	15.10	46.83	54.00	7.17	15.62	H	355	2





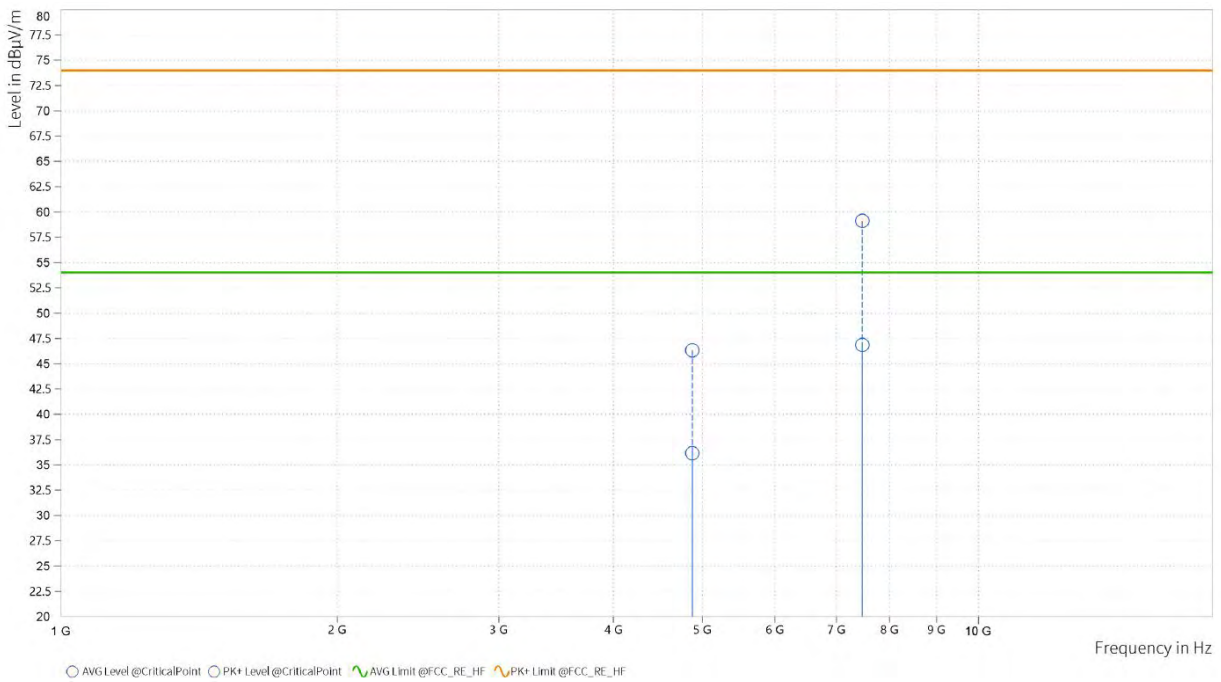
**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,874.000	46.33	74.00	27.67	36.16	54.00	17.84	10.45	V	1	2
1	7,472.000	59.12	74.00	14.88	46.84	54.00	7.16	15.36	V	37.4	2



REMARKS:

- Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value – Emission level..
- 2412MHz: Fundamental frequency.



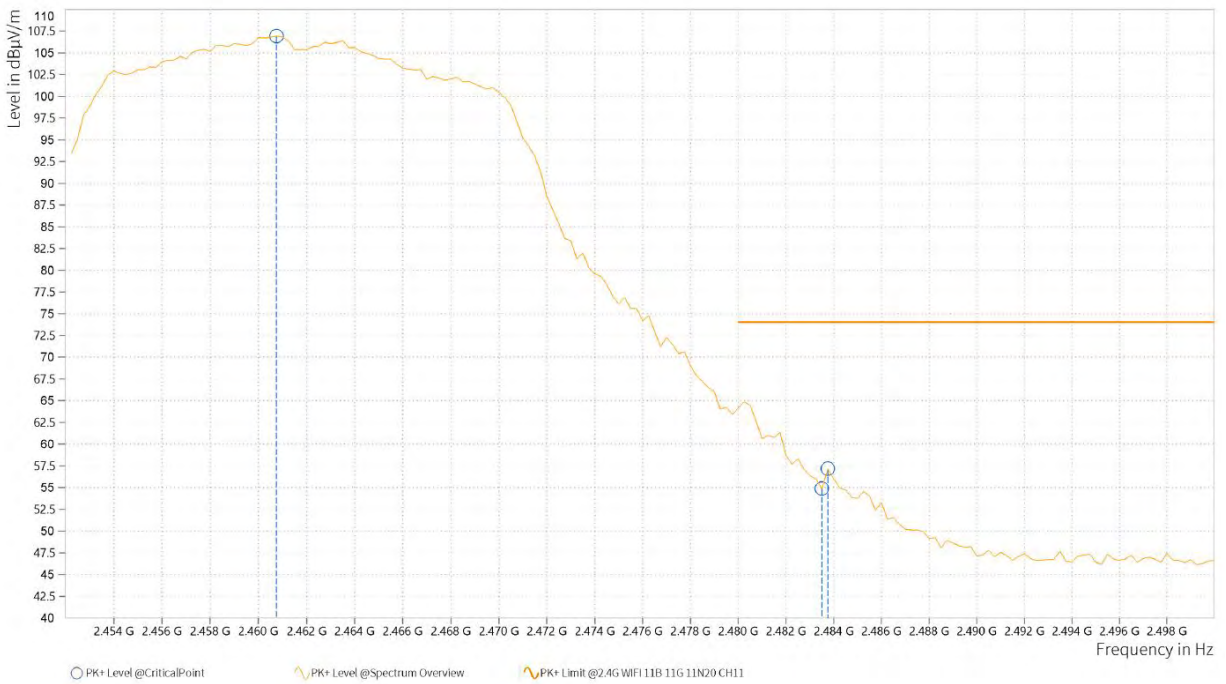
**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

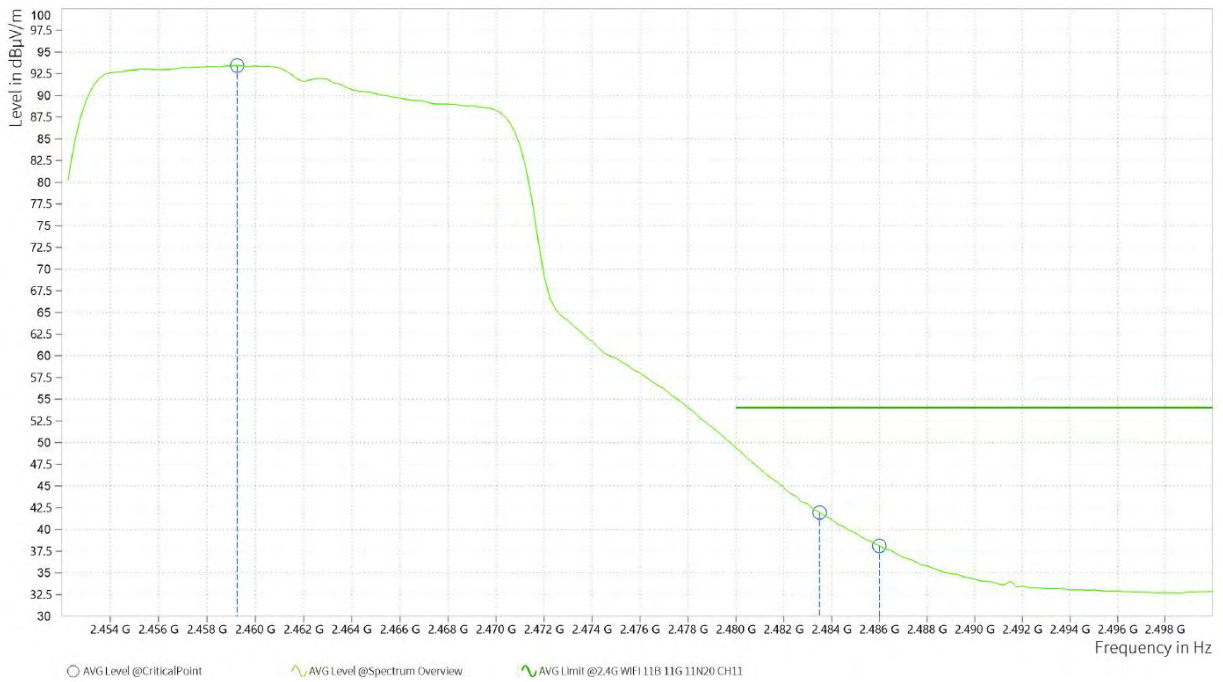
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	2,460.750	106.93			5.99	H	41.2	1
2	2,483.500	54.87	74.00	19.13	5.80	H	274,5	2
2	2,483.750	57.18	74.00	16.82	5.80	H	274.5	2





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	2,459.250	93.45			6.01	H	43.6	1
2	2,483.500	41.96	54.00	12.04	5.80	H	270.9	2
2	2,486.000	38.11	54.00	15.89	5.79	H	270.9	2





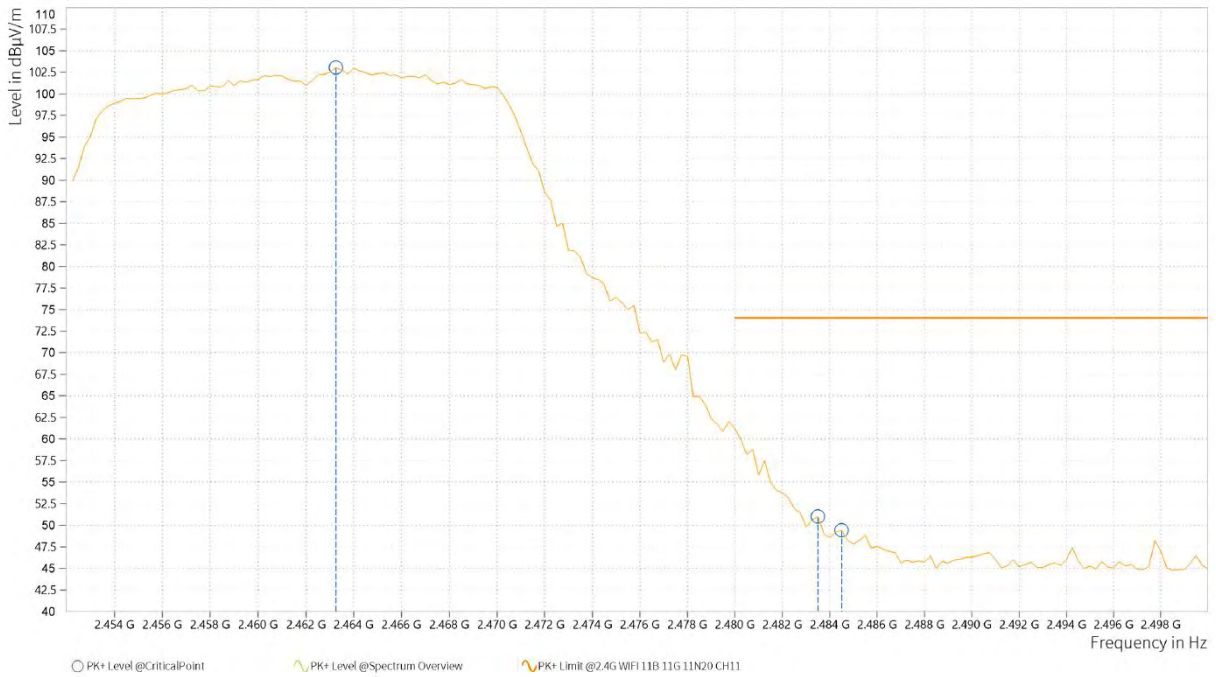
**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

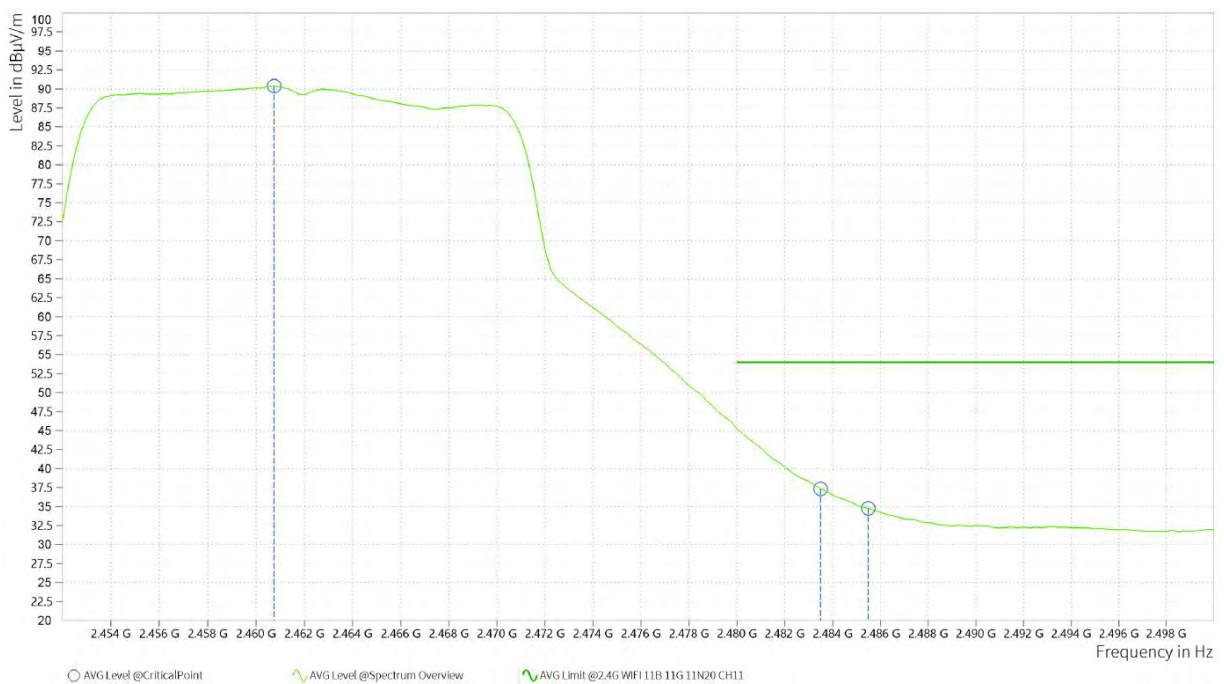
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	2,463.250	103.05			5.97	V	179.8	1
2	2,483.500	51.00	74.00	23.00	5.80	V	318.6	1
2	2,484.500	49.42	74.00	24.58	5.80	V	318.6	1





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	2,460.750	90.38			5.99	V	184.6	1
2	2,483.500	37.34	54.00	16.66	5.80	V	224.4	2
2	2,485.500	34.78	54.00	19.22	5.80	V	224.4	2



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value – Emission level..
2. 2412MHz: Fundamental frequency.

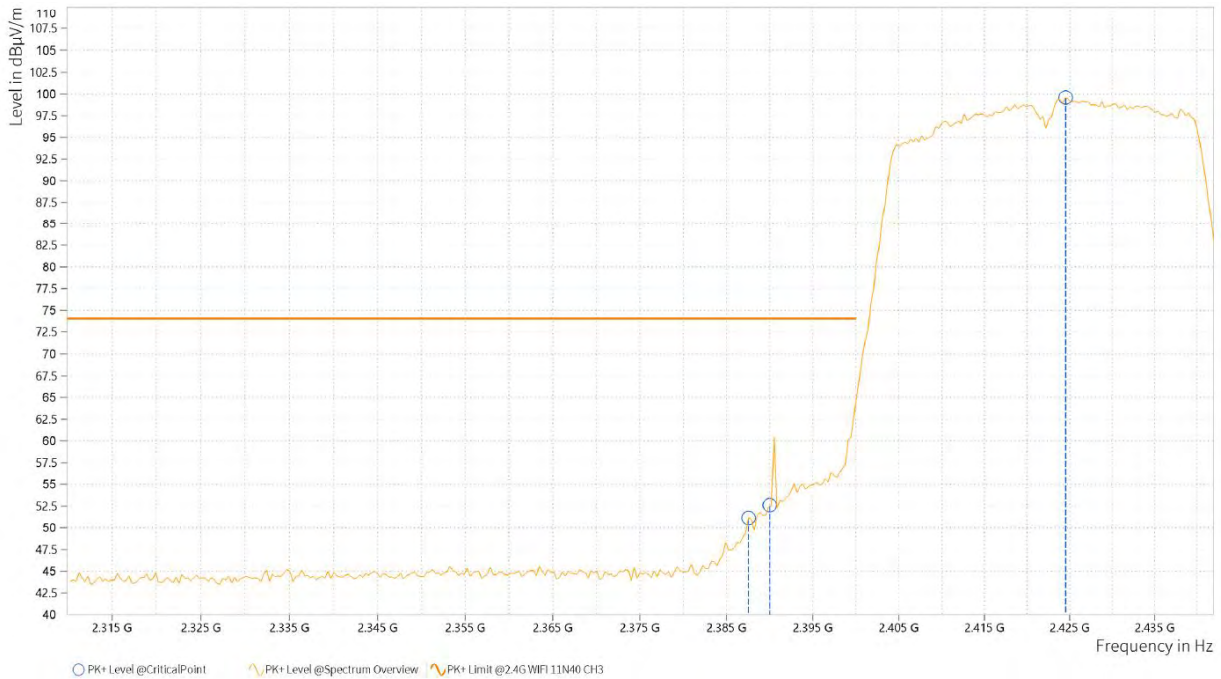


BUREAU VERITAS Test Report No.: PSZ-NQN2303280110RF04
802.11n (40MHz)

CHANNEL	TX Channel 3	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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	2,387.550	51.14	74.00	22.86	5.50	H	173.7	1
3	2,390.000	52.59	74.00	21.41	5.48	H	173.7	1
3	2,424.510	99.60			5.77	H	173.7	1





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VERITAS

Test Report No.: PSZ-NQN2303280110RF04

Rg	Frequency [MHz]	AVG Level [dB μ V/m]	AVG Limit [dB μ V/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
3	2,381.940	32.87	54.00	21.13	5.53	H	125.3	2
3	2,390.000	40.79	54.00	13.21	5.48	H	176.4	1
3	2,420.220	86.24			5.71	H	176.4	1





CHANNEL	TX Channel 3	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	2,385.570	46.86	74.00	27.14	5.51	V	41.9	2
3	2,390.000	48.37	74.00	25.63	5.49	V	254.3	2
3	2,419.560	92.98			5.70	V	182.6	2





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
3	2,352.240	31.12	54.00	22.88	5.68	V	186.2	2
3	2,390.190	35.63	54.00	18.37	5.48	V	43.8	2
3	2,424.180	82.32			5.76	V	186.2	2



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value – Emission level..
2. 2412MHz: Fundamental frequency.



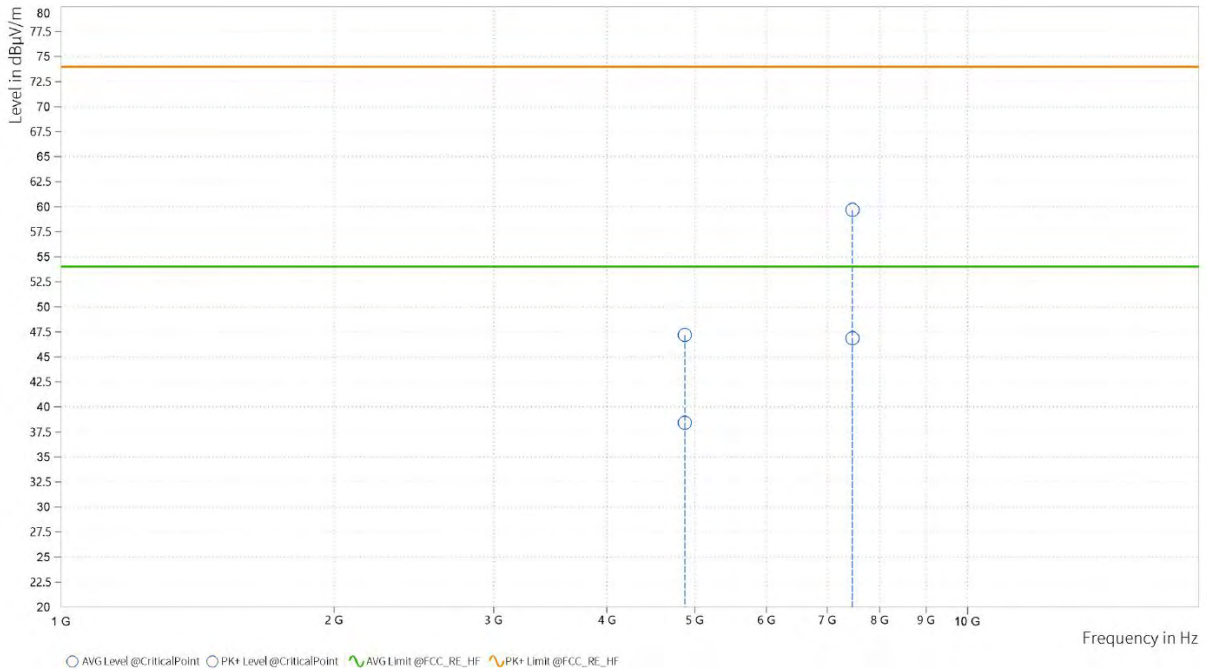
**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,874.000	47.18	74.00	26.82	38.42	54.00	15.58	10.45	H	182.6	2
1	7,466.000	59.68	74.00	14.32	46.85	54.00	7.15	15.36	H	254.3	1

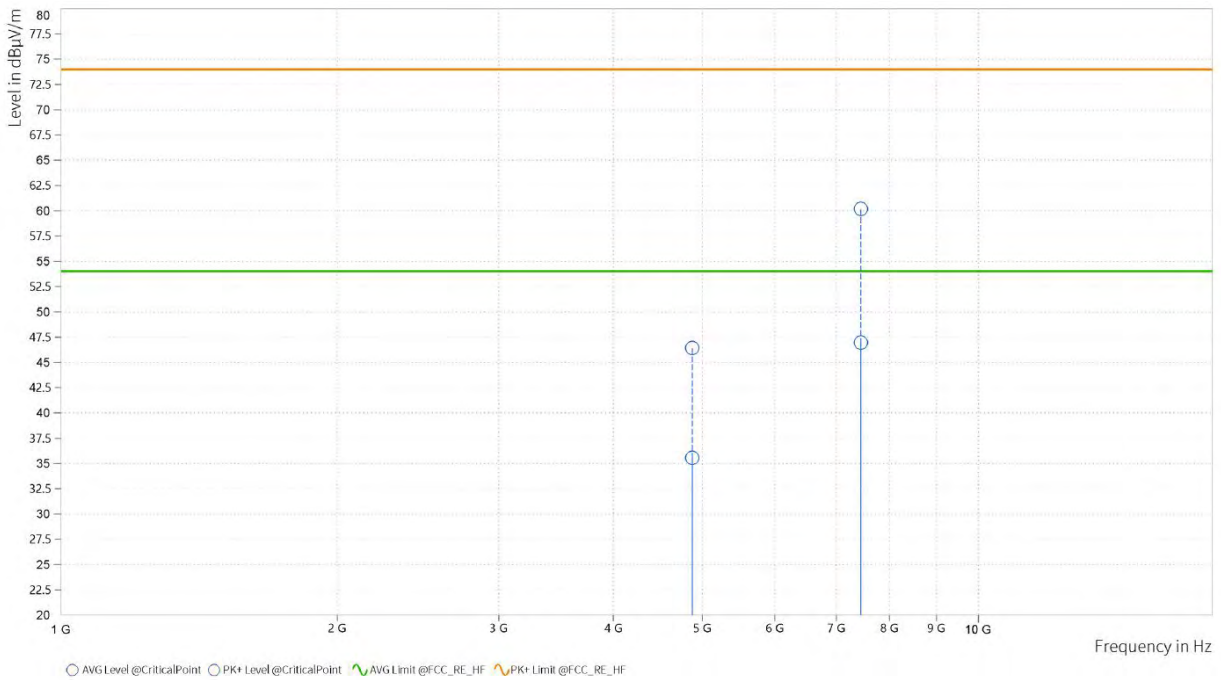




CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	4,874.000	46.41	74.00	27.59	35.54	54.00	18.46	10.45	V	255.2	2
1	7,442.500	60.19	74.00	13.81	46.96	54.00	7.04	15.35	V	34.7	2



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value – Emission level..
2. 2412MHz: Fundamental frequency.



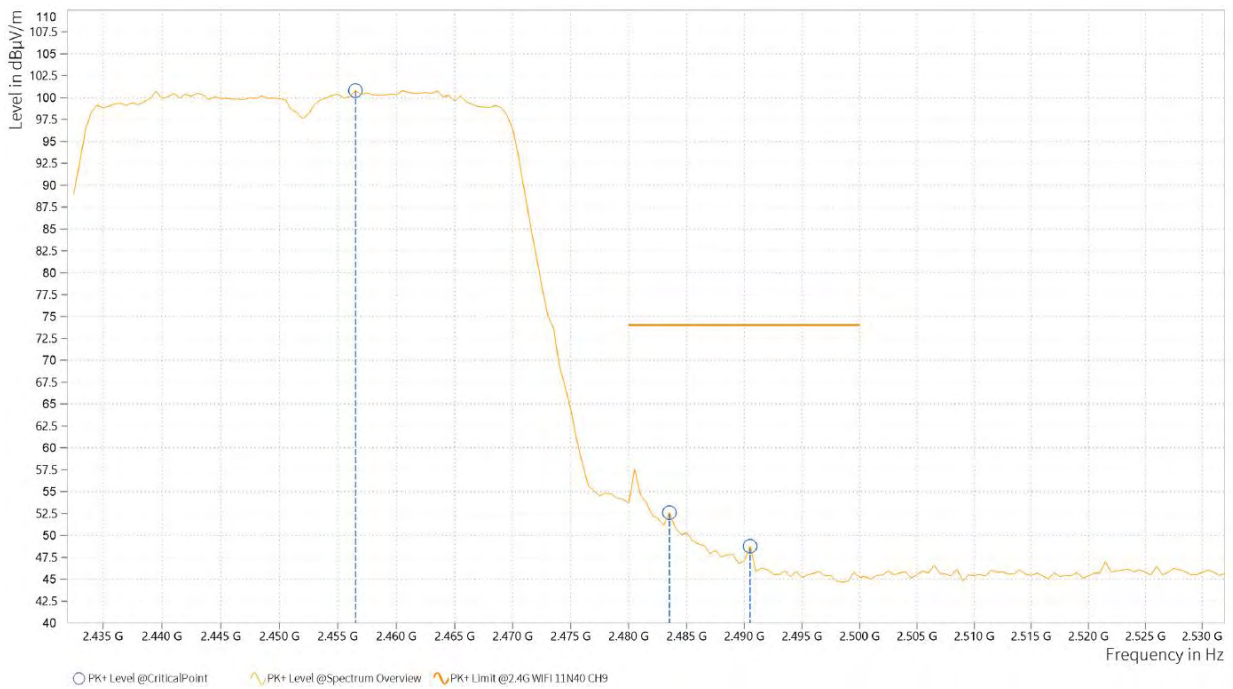
**BUREAU
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Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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]
4	2,456.500	100.82			6.03	H	255.2	2
4	2,483.500	52.61	74.00	21.39	5.80	H	220.3	2
4	2,490.500	48.76	74.00	25.24	5.77	H	337.4	1

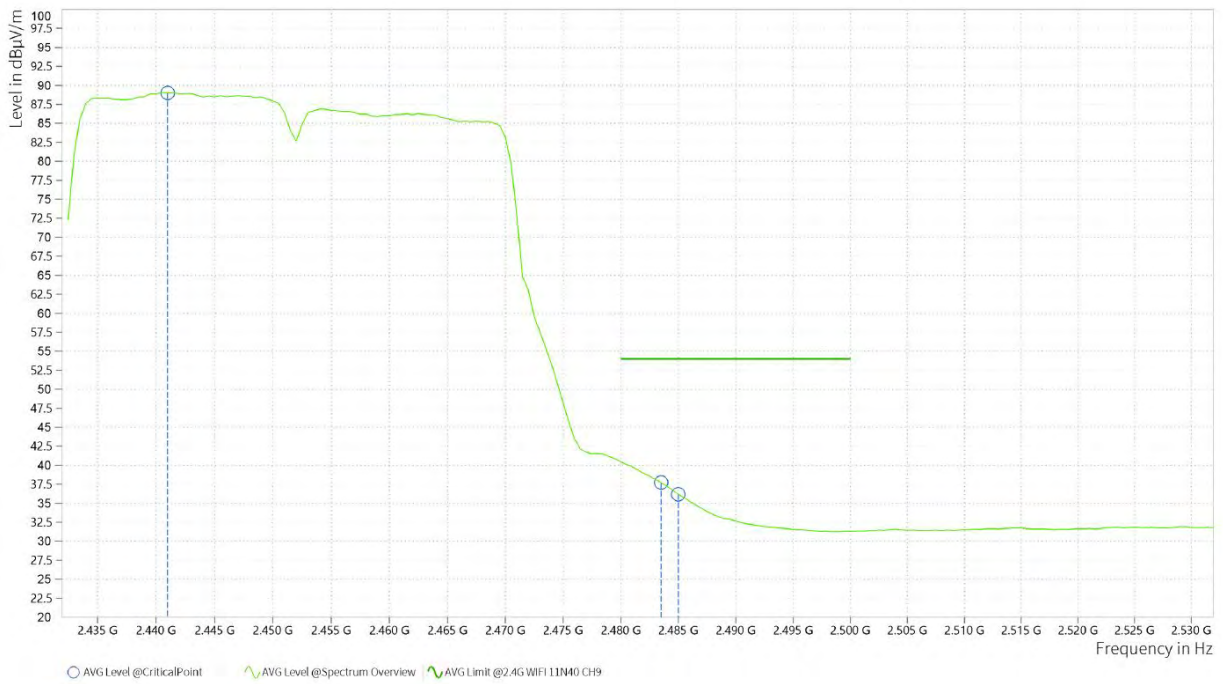




**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	2,441.000	89.02			5.98	H	256.1	2
4	2,483.500	37.72	54.00	16.28	5.80	H	256.1	2
4	2,485.000	36.18	54.00	17.82	5.80	H	256.1	2





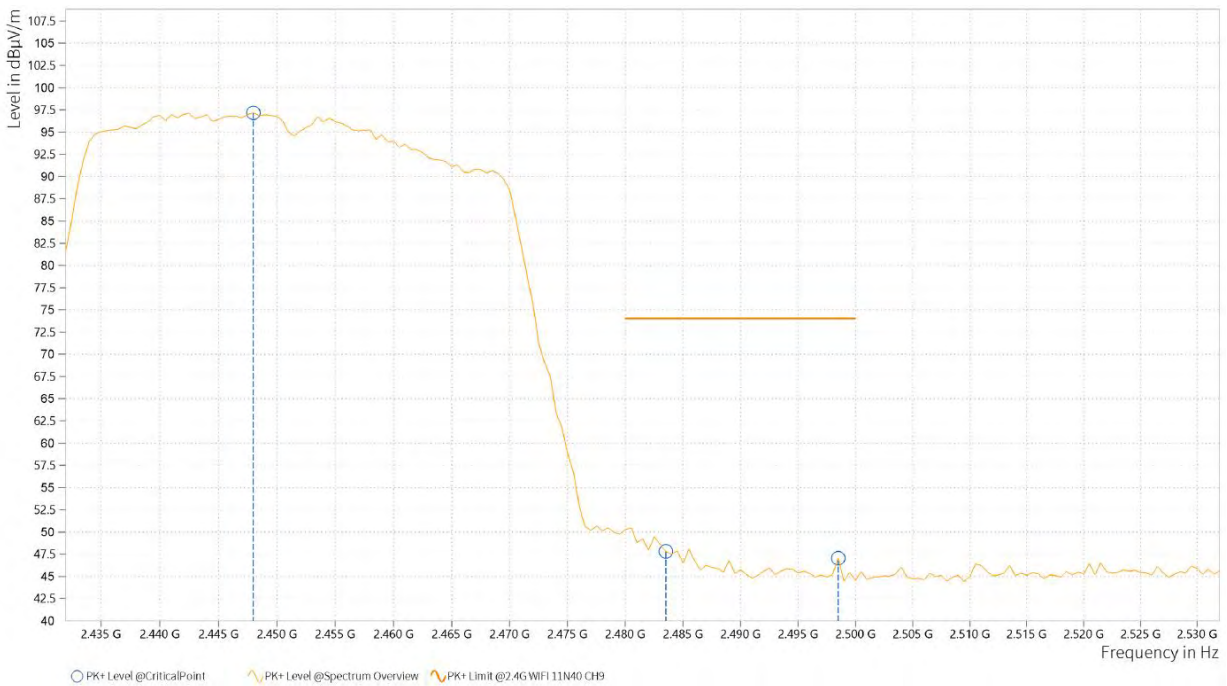
**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

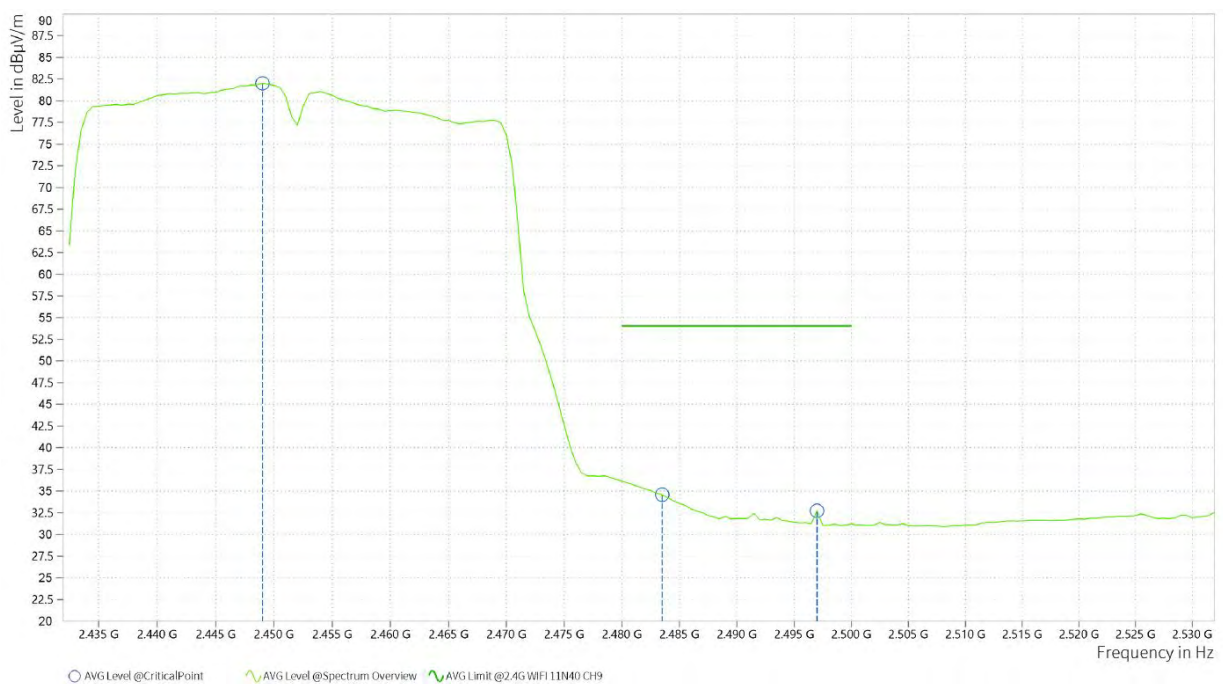
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	2,448.000	97.17			6.07	V	211.4	1
4	2,483.500	47.81	74.00	26.19	5.80	V	11.8	2
4	2,498.500	47.04	74.00	26.96	5.74	V	149.5	2





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	2,449.000	82.03			6.08	V	186.2	2
4	2,483.500	34.57	54.00	19.43	5.80	V	255.2	2
4	2,497.000	32.74	54.00	21.26	5.75	V	114.5	2



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value – Emission level..
2. 2412MHz: Fundamental frequency.



BELOW 1GHz WORST-CASE DATA:

30 MHz – 1GHz data:

BT-LE_1M

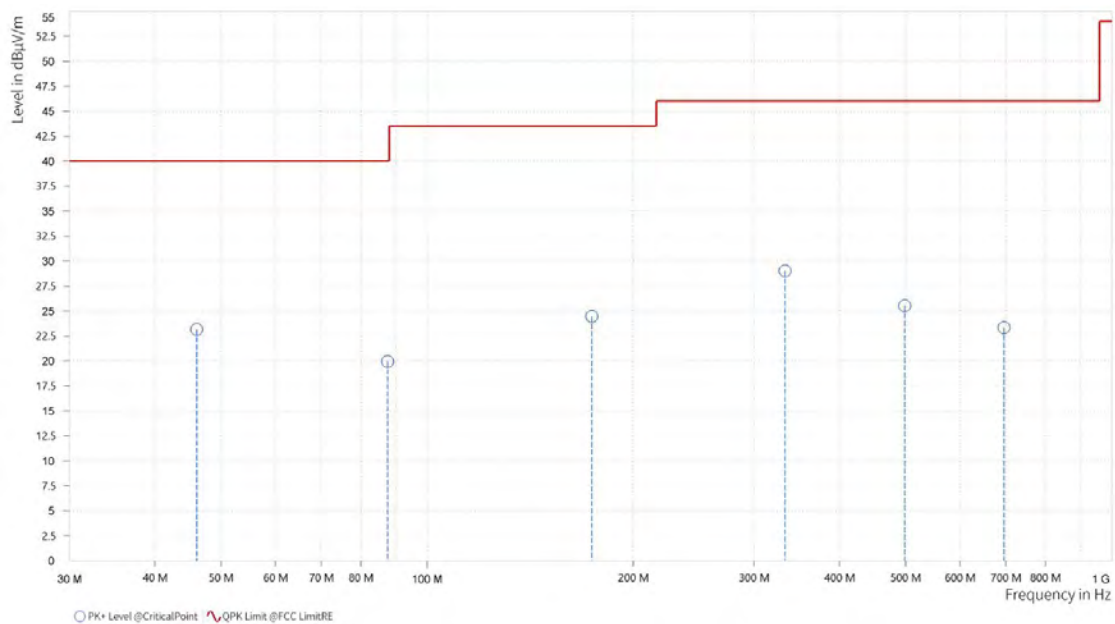
CHANNEL	TX Channel 39	ODETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	46.054	23.15	16.85	-15.86	H	5.1	1
1	87.473	19.94	20.06	-20.18	H	112	1
1	173.900	24.47	19.03	-19.28	H	112	2
1	333.174	29.01	16.99	-12.56	H	226.5	2
1	498.462	25.53	20.47	-11.81	H	226.5	1
1	696.002	23.33	22.68	-9.05	H	5.1	2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value





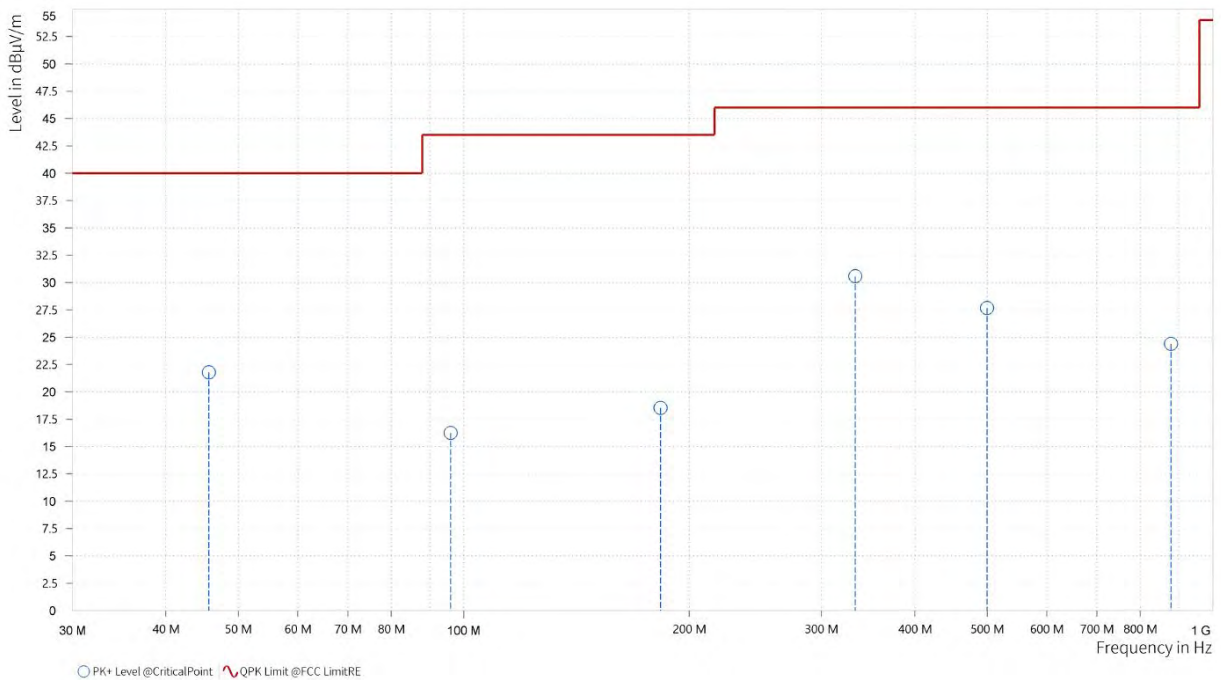
CHANNEL	TX Channel 39	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBµV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	45.666	21.79	18.21	-15.87	V	113	1
1	96.009	16.25	27.25	-18.28	V	113	1
1	183.115	18.54	24.96	-18.46	V	113	1
1	333.174	30.59	15.41	-12.56	V	5.1	2
1	499.432	27.66	18.34	-11.81	V	1	1
1	879.284	24.40	21.60	-5.96	V	1	2

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value





ABOVE 1GHz TEST DATA

Note: 1. For radiated emissions testing · the full testing range of different modes have been scanned · only the worst case harmonic data is reported in the sheet.

2. All other emissions were greater than 20dB below the limit was not recorded

BT-LE _1M

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		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]
5	2,387.000	46.75	74.00	27.25	5.50	H	0.9	2
5	2,390.000	46.67	74.00	27.33	5.48	H	178.6	1
5	2,402.500	100.64			5.47	H	273.4	2

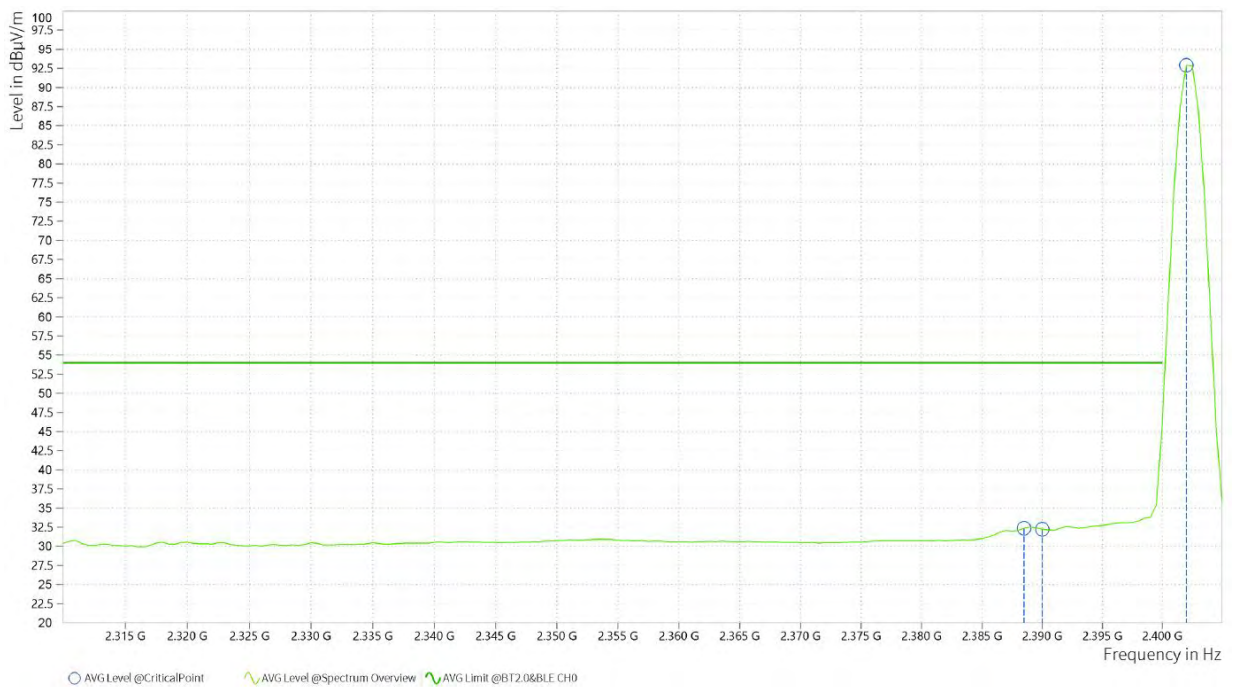




**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	2,388.500	32.38	54.00	21.62	5.49	H	355.7	2
5	2,390.000	32.23	54.00	21.77	5.48	H	189.4	1
5	2,402.000	92.91			5.46	H	189.4	1





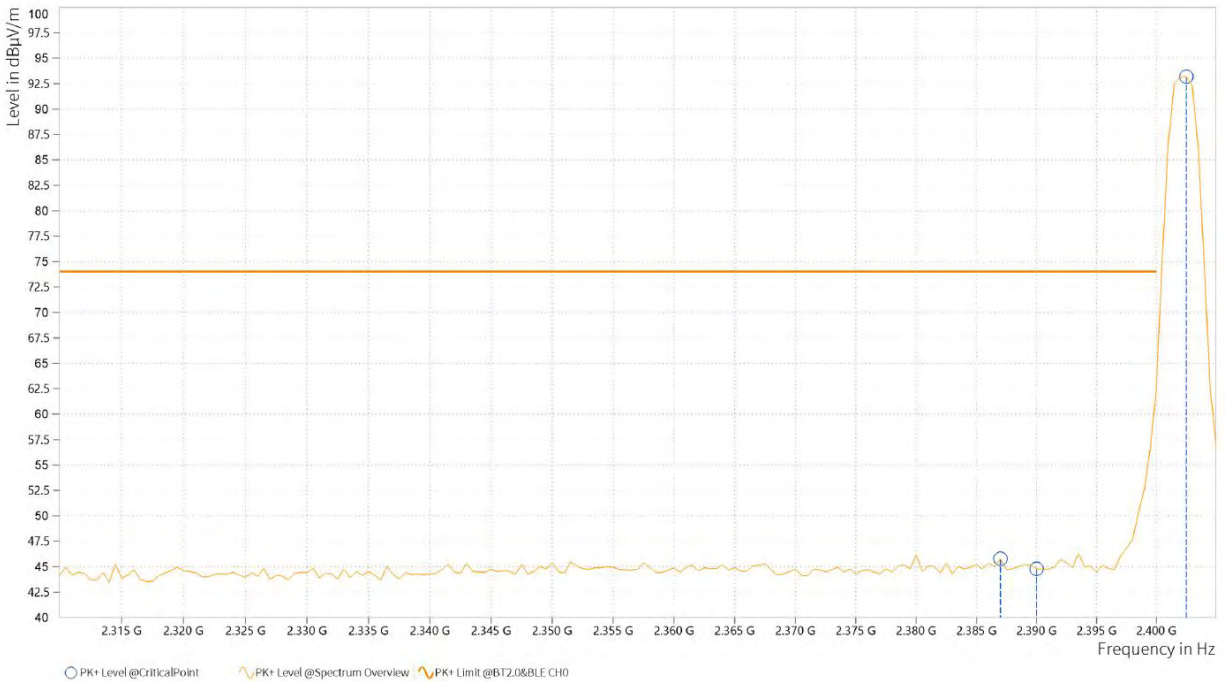
**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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]
5	2,387.000	45.79	74.00	28.21	5.50	V	359	2
5	2,390.000	44.78	74.00	29.22	5.48	V	89.4	2
5	2,402.500	93.19			5.47	V	355.7	2





Rg	Frequency [MHz]	AVG Level [dBμV/m]	AVG Limit [dBμV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	2,386.000	30.80	54.00	23.20	5.50	V	180.1	2
5	2,390.000	30.97	54.00	23.03	5.48	V	181	1
5	2,402.000	83.95			5.46	V	181	1



REMARKS:

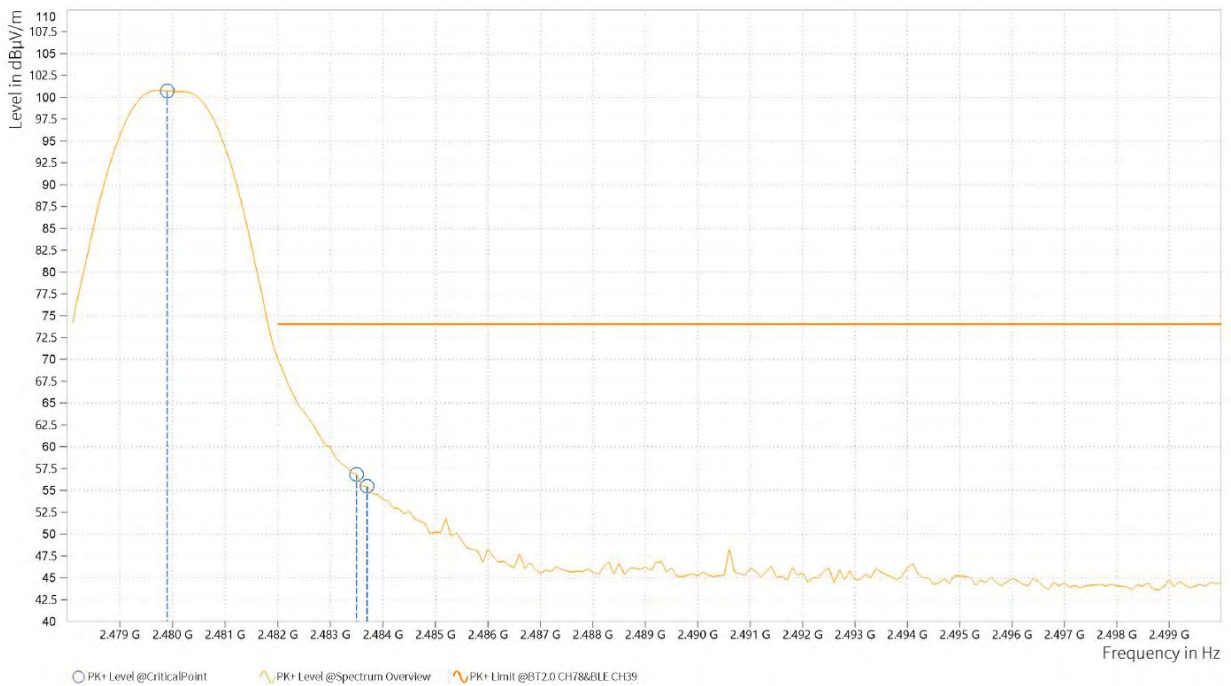
1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value – Emission level.
2. 2402MHz: Fundamental frequency.



CHANNEL	TX Channel 39	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

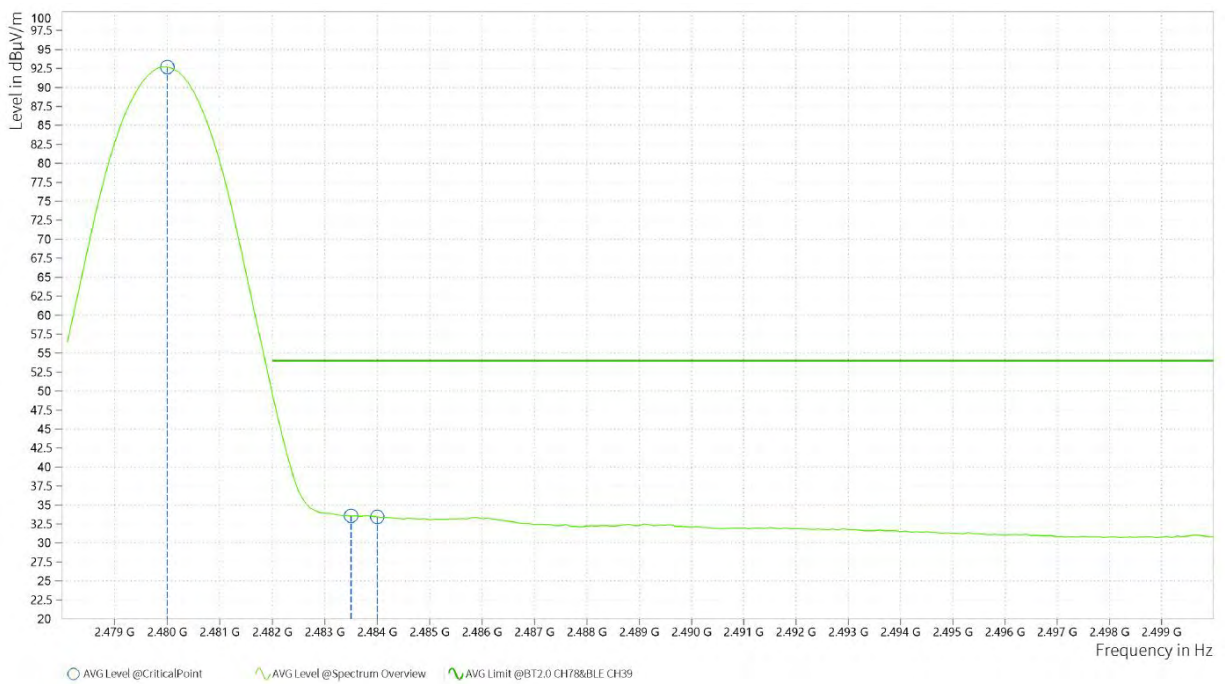
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	2,479.900	100.72			5.82	H	183.4	1
6	2,483.500	56.84	74.00	17.16	5.80	H	183.4	1
6	2,483.700	55.49	74.00	18.51	5.80	H	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]
6	2,480.000	92.70			5.82	H	182.2	1
6	2,483.500	33.57	54.00	20.43	5.80	H	182.2	1
6	2,484.000	33.43	54.00	20.57	5.80	H	182.2	1





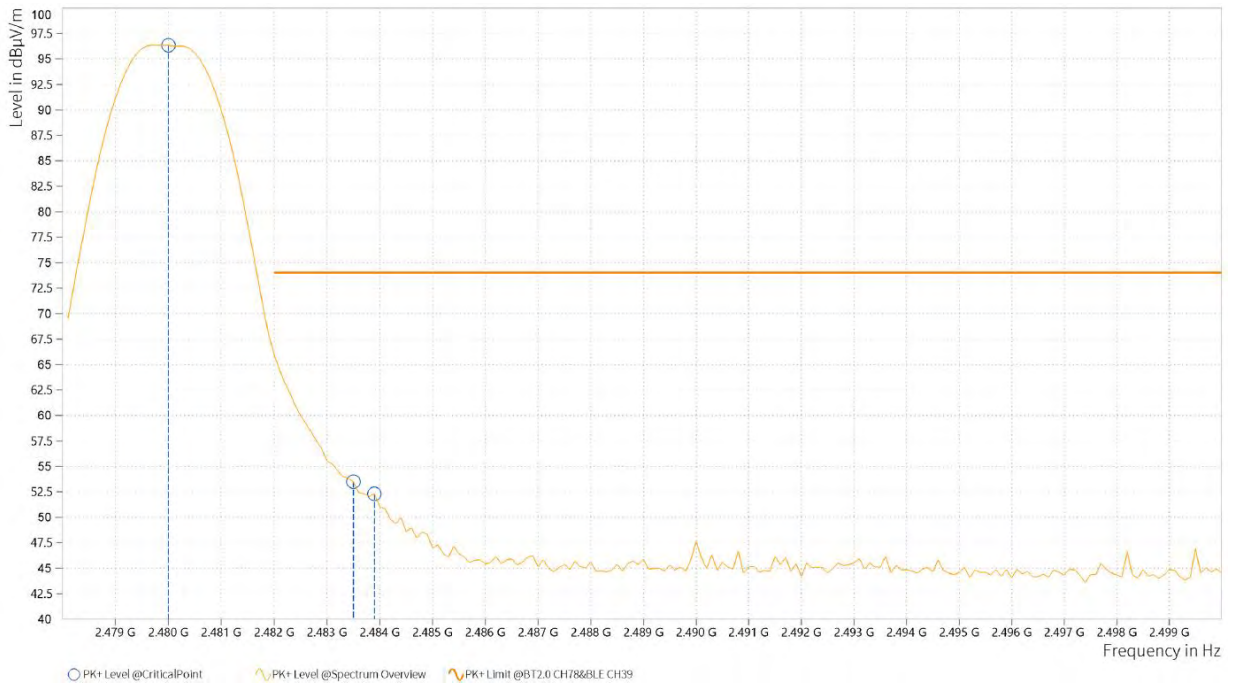
**BUREAU
VERITAS**

Test Report No.: PSZ-NQN2303280110RF04

CHANNEL	TX Channel 39	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

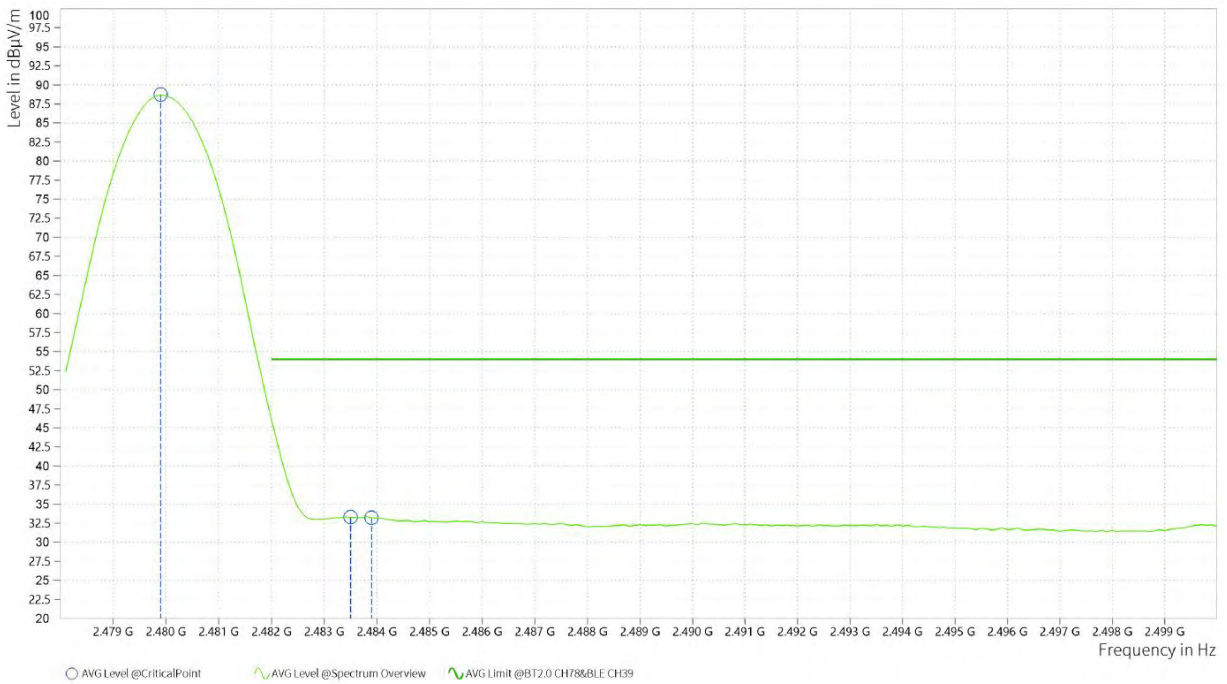
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+ Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	2,480.000	96.34			5.82	V	1.6	2
6	2,483.500	53.51	74.00	20.49	5.80	V	1	2
6	2,483.900	52.30	74.00	21.70	5.80	V	1	2





Rg	Frequency [MHz]	AVG Level [dBµV/m]	AVG Limit [dBµV/m]	AVG Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	2,479.900	88.73			5.82	V	5.8	2
6	2,483.500	33.28	54.00	20.72	5.80	V	225.5	2
6	2,483.900	33.22	54.00	20.78	5.80	V	225.5	2



REMARKS:

1. Emission Level = Read Level+ Antenna Factor + Cable Loss- Preamp Factor
Margin value = Limit value – Emission level.
2. 2402MHz: Fundamental frequency.