

TEST REPORT

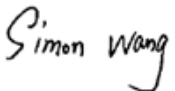
Applicant:	HMD Global Oy
Address:	Bertel Jungin aukio 9,02600 Espoo, Finland

Manufacturer or Supplier:	HMD Global Oy
Address:	Bertel Jungin aukio 9,02600 Espoo, Finland
Product:	Smart phone
Brand Name:	HMD
Model Name:	TA-1600/TA-1688
FCC ID:	2AJOTTA-1600
Date of tests:	Apr. 08, 2024 ~ May. 31, 2024

The submitted sample of the above equipment has been tested for according to the requirements of the following standards:

- ☒ FCC Part 15, Subpart C, Section 15.247 ☒ ANSI C63.10-2020
☒ FCC Part 15, Subpart E, Section 15.407
☒ FCC Part 27 ☒ FCC Part 90 ☒ FCC Part 96 ☒ ANSI/TIA/EIA-603-D
☒ FCC Part 2 ☒ ANSI/TIA/EIA-603-E ☒ ANSI C63.26-2015

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

Prepared by Simon Wang Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
	
Date: May. 31, 2024	Date: May. 31, 2024

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-NQN2403180115RF14	Original release	May. 31, 2024

1 GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Smart phone	
BRAND NAME	HMD	
MODEL NAME	TA-1600/TA-1688	
NOMINAL VOLTAGE	5.0Vdc/9.0Vdc /12.0Vdc(adapter) 3.89Vdc (battery)	
MODULATION TYPE	BT_LE	GFSK
	Bluetooth	GFSK, $\pi/4$ -DQPSK, 8DPSK
	NFC	ASK
	WPT	ASK
	WLAN	DSSS, OFDM, OFDMA
	GPS/GALILEO/GLO NASS/BDS	BPSK
	LTE	QPSK/16QAM/64QAM
	5G NR	DFT-s-OFDM($\pi/2$ BPSK,QPSK,16QAM,64QAM,256QAM); CP-OFDM(QPSK,16QAM,64QAM,256QAM);
OPERATING FREQUENCY	Bluetooth/BT_LE	2402MHz ~ 2480MHz
	NFC	13.56 MHz
	WPT	110 kHz ~ 147 kHz
	WLAN	2412 ~ 2462MHz for 11b/g/n(HT20/40)/ ax(HE20/40)/ax(20M RU26/52/106/242)/(40M RU26/52/106/242/484) 5180 ~ 5240MHz, 5260 ~ 5320 MHz, 5500 ~ 5700MHz, 5745 ~ 5825 MHz for 802.11a/n/ac/ax (20MHz), 802.11ax20 (RU 26/52/106/242);802.11 n/ac/ax (40MHz), 802.11ax40 (RU 484);802.11ac/ax(80MHz), 802.11ax80 (RU 996);802.11ac/ax (160MHz), 802.11ax160 (RU full) 5955 ~ 6415MHz/6435 ~ 6525MHz/6525 ~ 6875MHz/6875 ~ 7115MHz for 802.11ax (HE20/40/80/160), RU26/52/106/242/484/996/996*2

	GPS/GALILEO/GLO NASS/BDS	1559MHz ~ 1610MHz
	GSM	824.2MHz ~ 848.8MHz (FOR GSM 850) 1850.2MHz ~ 1909.8MHz (FOR GSM 1900)
	WCDMA	1852.4MHz ~ 1907.6MHz(FOR WCDMA Band 2) 1712.4MHz ~ 1752.6MHz(FOR WCDMA Band 4) 826.4MHz ~ 846.6MHz (FOR WCDMA Band 5)
	LTE	1850.7MHz ~ 1909.3MHz (FOR LTE Band2) 1710.7MHz ~ 1754.3MHz (FOR LTE Band4) 824.7MHz ~ 848.3MHz (FOR LTE Band5) 2502.5MHz ~ 2567.5MHz (FOR LTE Band7) 699.7MHz ~ 715.3MHz (FOR LTE Band12) 779.5MHz ~ 784.5MHz (FOR LTE Band13) 706.5MHz ~ 713.5MHz (FOR LTE Band17) 1850.7MHz ~ 1914.3MHz (FOR LTE Band25) 814.7MHz ~ 848.3MHz (FOR LTE Band26) 2572.5MHz ~ 2617.5MHz (FOR LTE Band38) 2498.5MHz ~2687.5MHz (FOR LTE Band41) 1710.7MHz ~ 1779.3MHz (FOR LTE Band66) 665.5MHz ~ 695.5MHz (FOR LTE Band71) 2505.5MHz ~ 2564.7MHz (FOR LTE Band7C) 2499.3MHz ~2686.7MHz (FOR LTE Band41C) 1712.5MHz ~1782.3MHz (FOR LTE Band66B) 1713.3MHz ~1776.7MHz (FOR LTE Band66C) LTE UL CA CA_7C CA_38C CA_41C CA_66B CA_66C CA_2A-4A CA_2A-5A CA_2A-12A CA_2A-13A CA_2A-66A CA_4A-12A CA_4A-13A CA_4A-5A CA_4A-7A CA_5A-7A CA_5A-66A CA_12A-66A CA_13A-66A

		LTE DL CA: CA_7A-7A CA_41A-41A CA_2A-2A CA_4A-4A CA_7A-66A CA_66A-66A CA_2C
	5G NR	SA: n2 (1852.5MHz ~ 1907.5MHz) n5(826.5MHz ~ 846.5MHz) n7(2502.5MHz ~ 2567.5MHz) n25(1852.5MHz ~ 1912.5MHz) n38(2582.52MHz ~ 2607.48MHz) n41(2506.02 MHz ~ 2679.99MHz) n48(3555 MHz ~ 3694.98MHz) n66(1712.5 MHz ~ 1777.5MHz) n71(665.5 MHz ~ 695.5MHz) n77(Part27Q)(3460.02 ~ 3540MHz) n77(Part27O)(3710.01 ~ 3969.99MHz) n78(Part27Q)(3460.02 ~ 3540MHz) NR UL-CA: DC_5A_n2A DC_12A_n2A DC_13A_n2A DC_66A_n2A DC_2A_n5A DC_7A_n5A DC_66A_n5A DC_5A_n7A DC_12A_n7A DC_66A_n7A DC_5A_n38A DC_12A_n38A DC_2A_n41A DC_4A_n41A DC_12A_n41A DC_66A_n41A DC_2A_n66A DC_5A_n66A DC_7A_n66A DC_12A_n66A DC_13A_n66A DC_2A_n71A

		DC_66A_n71A DC_2A_n77A DC_5A_n77A DC_12An77A DC_13A_n77A DC_66A_n77A DC_2A_n78A DC_4A_n78A DC_5A_n78A DC_7A_n78A DC_12A_n78A DC_13A_n78A DC_38A_n78A DC_41A_n78A DC_66A_n78A NR DL CA/ENDC: DC_66A-66A_n2A DC_2A-2A_n66A CA_n78C
HW VERSION	V2	
SW VERSION	00WW_0_340	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	N/A	
ACCESSORY DEVICES	Refer to note as below	

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
3. Antenna gain and EUT conducted cable loss are provided by the customer, and the laboratory will record the results based on these items that involve these two parameters.

4. List of Accessory:

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
LCD Panel	BOE	BOE	BF066XMM-TL4-F900	6.55inch, AMOLED;
Back cover	BIEL	BIEL	Panda-X	158 mm*73 mm*0.6 mm
Bezel	BIEL	BIEL	6103HG02-T6	160 mm_76 mm_8.5 mm
Photo Camera 1	AAC	AAC	P50AD01	50MP,AF
Photo Camera 2	AAC	AAC	W13FD02	13MP Ultra Wide, FF
Video Camera 1	AAC	AAC	T50AD01	50MP Tele, AF
Video Camera 2	AAC	AAC	MA8SD01	108MP+OIS, AF
CPU	Qualcomm	Qualcomm	SM-7435-1-PSP1026-TR-00-0-AB	Platform Baseband Chip_PSP_mmW_8 core_SMT
eMMC1 (=ROM1)	Samsung	Samsung	KM8L9001JM-B624T07	uMCP_254-ball FBGA_128GB_LPDD R4X_64Gb_SMT
eMMC2 (=ROM2)	Samsung	Samsung	KM8F9001JM-B813T07	uMCP_254-ball FBGA_256GB_LPDD R4X_64Gb_SMT
eMMC3 (=ROM3)	Samsung	Samsung	KM8F9001MM-B830T07	uMCP_254-ball FBGA_256GB_LPDD R4X_96Gb_SMT
Battery	HMD	Gaoyuan	HBA4633AA	RatedCapacity:4500mAh/17.51Wh

5. The differences between the first and second supply as follows and the specifications and RF parameters are the same.

Key Component list						
No.	Component	Description	First supply		Second supply	
			Supplier	Spec	Supplier	Spec
1	USB/ Analog audio headsets	Analog Audio Switch	Dioo	DIO4480WL25 Analog switch & MUX_WLCSP25_2.7- 5.5V_3-Channel_1000MHz _SMT	Will	WAS4780C-25/TR Analog switch & MUX_CSP- 25L_2.7-5.5V_2- Channel_950MHz_ SMT
2	Wireless charge	Load Switch	SGM	SGM2575ADYG/TR Load Switch_34 mΩ_11 W_WLCSP_SGM2575ADY G/TR_SGM	Dioo	DIO7290WL4 Load Switch_85 mΩ_11 W_WLCSP-4
3	Sensor	Barometer	Bosch	BMP580 Baroceptor_LGA-10_±0.05 hPa_48 bit_SMT	Go er mic ro	SPL07-003 Baroceptor_10pin LGA_0.5Pa/°C_24 bit_SMT
4	Sensor	eCOMPASS	VTC	AF6837 Magnetic field sensor_WLCSP_10 LSB/μT_16 bit_I2C_SMT	Memsic	MMC5603NJL Ecompass_MMC56 03NJL_M EMSIC_MCOs
5	RF IC	LNA	Will	WS7916DF-6/TR RF_LNA_6-pin DFN_1150 MHz to 1615_SMT	Awinic	AW5005EDNR RF_LNA_AW5005 EDNR_Awi nic
6	Receiver	SP2T	Will	WS78022D-6/TR DFN-6_0.1GHz - 3.8GHz_SPDT_GPIO_SMT	Champ hill	QX8612GD 0.7 to 2.7GHz_SPDT_2 W_GPIO
7	USB connector	USB type-C connector	LETCON	15-16815-105-M1 USB TYPE C Connector_0.9 mm_16 pin_Female Head (elastic end)_Horizontal_None- waterproof_4.27 mm_Gold_SMT_480M	HRD	UC141-0B100DR0 USB TYPE C Connector_0.9 mm_16 pin_Female Head (elastic end)_Horizontal_No ne- waterproof_4.3 mm_Gold_SMT_48 0M

2 SUMMARY OF TEST RESULTS

2.1 TEST RESULTS

TEST TYPE	Result
Radiated Emissions	Pass

2.2 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
Radiated emissions & Radiated Power (30MHz~1GHz)	±4.98dB
Radiated emissions & Radiated Power (1GHz ~6GHz)	±4.70dB
Radiated emissions (6GHz ~18GHz)	±4.60dB
Radiated emissions (18GHz ~40GHz)	±4.12dB

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

2.3 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.15,24	Feb.14,26
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-01Chamber	Nov.25,22	Nov.24,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-02Chamber	Nov.25,22	Nov.24,25
6DB attenuator	Tonscend Technology Co., Ltd	N/A	23062787	N/A	N/A
EMI TEST Receiver	R&S	ESW44	101973	Feb.24,24	Feb.23,26
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Feb.27,24	Feb.26,26
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.22,22	Aug.21,24
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Feb.22,24	Feb.21,26
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.22,22	Aug.21,24
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.22,24	Feb.21,26
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	Apr.27,24
CABLE	R&S	W13.02	N/A	Apr.27,24	Apr.26,25
CABLE	R&S	W12.14	N/A	Apr.28,23	Apr.27,24
CABLE	R&S	W12.14	N/A	Apr.27,24	Apr.26,25

- NOTE:**
1. The calibration interval of the above test instruments is 12 /24/ 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
 2. The test was performed in 3m Chamber.
 3. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
 4. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
 5. The FCC Site Registration No. is 434559; The Designation No. is CN1325.

2.4 REFERENCED STANDARDS

The following referenced standards are necessary for the report. For undated references in this report, the cited version applies.

No.	Identify	Note
1	FCC Part 15, Subpart C, Section 15.247	For BT
2	FCC PART 22, Subpart H	For WWAN
3	FCC PART 24, Subpart E	For WWAN
4	FCC Part 27	For WWAN
5	FCC Part 90	For WWAN
6	FCC Part 96	For WWAN

Note: More informations and test procedures pls refer to 15.247/Part22/Part24/ Part27/ Part90/ Part96 reports.

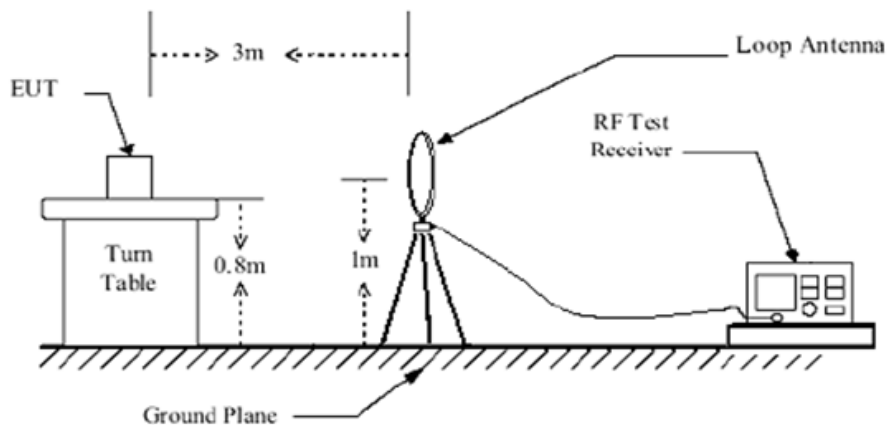
2.5 TEST CONFIGURATIONS

Test Configurations	Description
Worst case test Mode	
1	WLAN-2.4G-11N20-CH11+LTE-B13-HIGH-5M
2	WLAN-2.4G-11N20-CH11+NR-N48-MID-20M
3	WLAN-5G-11A-CH157+EDGE850(ANT3)
4	WLAN-5G-11A-CH157+LTE-B26-MID-10M
5	BT2.0-CHAIN0-1DH5_CH78+EDGE1900(ANT3)-MID

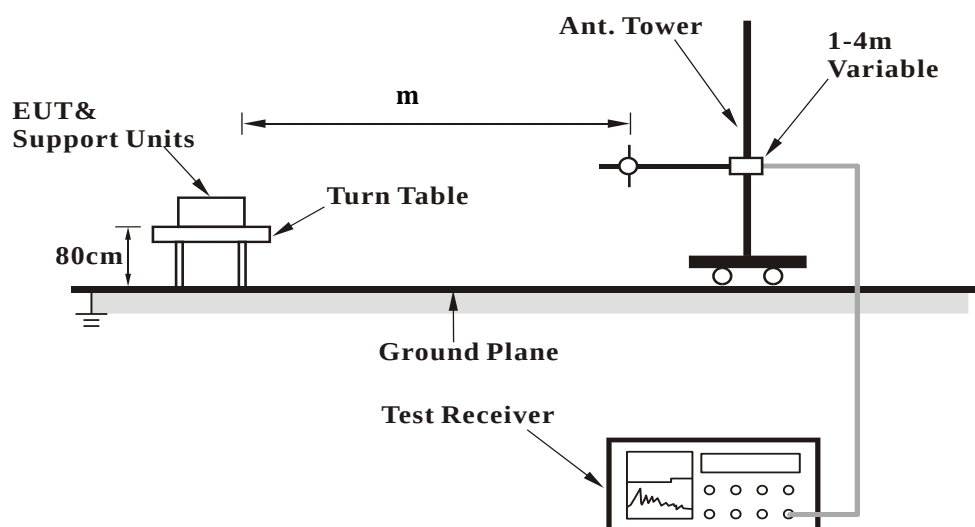
- Note:**
1. Test equipment and site refer to Referenced Standards report
 2. For higher frequency, the emission is 20dB below the limit was not record

2.6 TEST DATA

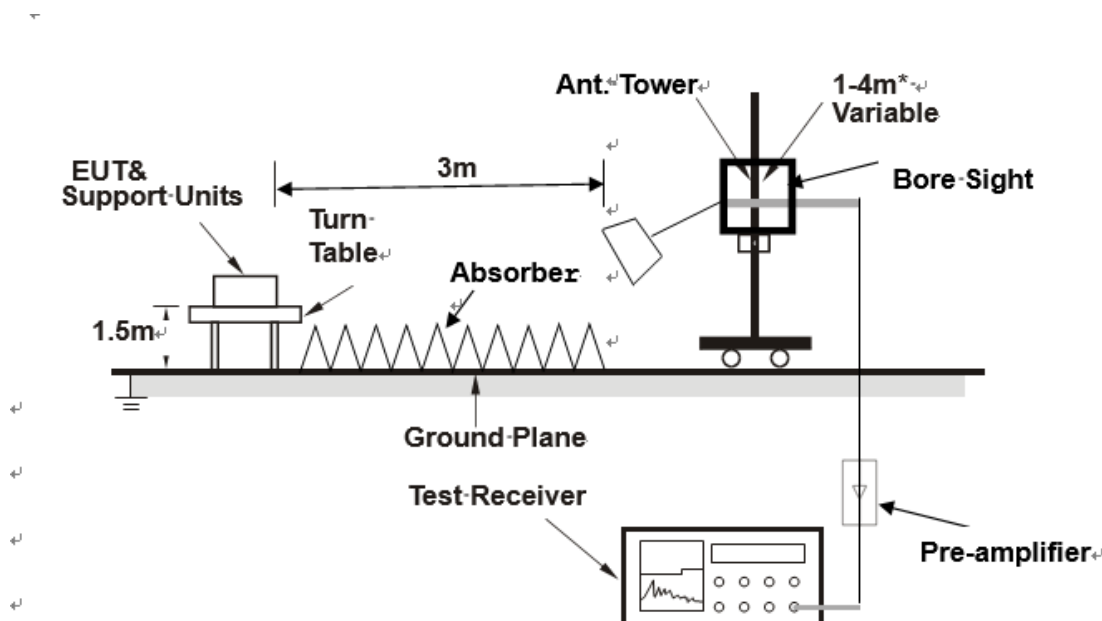
<Frequency Range 9KHz~30MHz >



< 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).

2.6.1 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.

2.6.2 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.

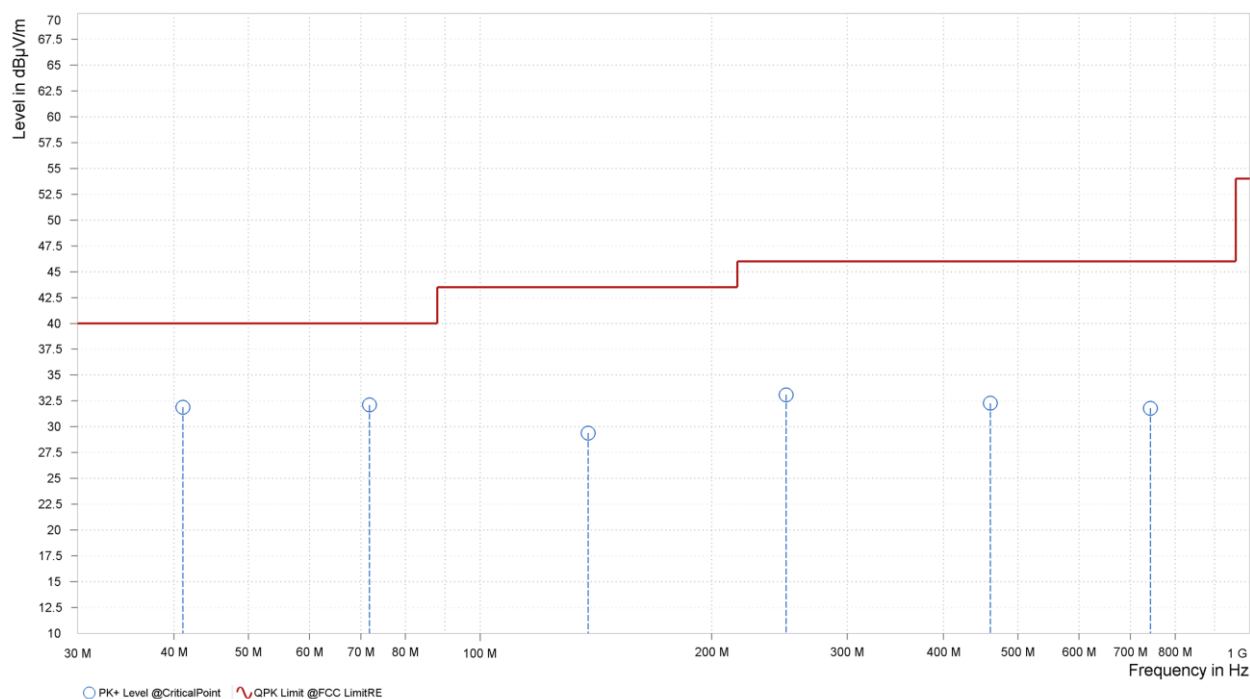
WLAN-2.4G-11N20-CH11+LTE-B13-HIGH-5M:

BELOW 1GHz WORST-CASE DATA:

30 MHz – 1GHz data:

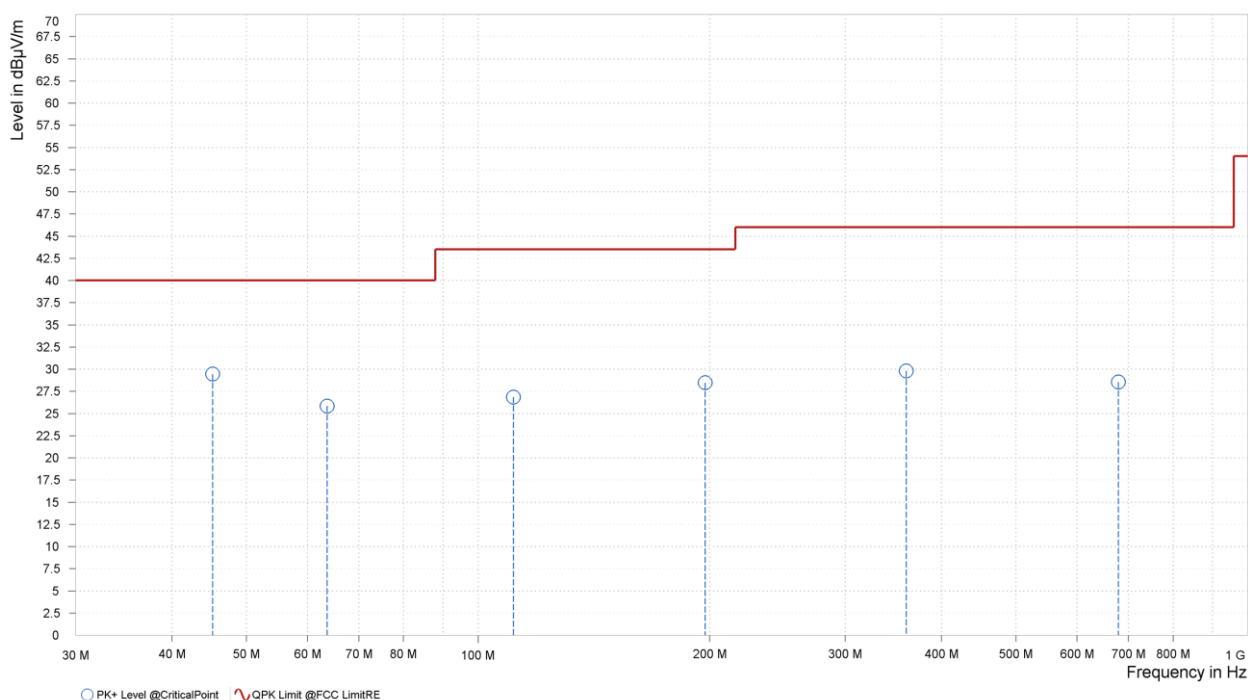
CHANNEL	WLAN-2.4G-11N20-CH11+ LTE-B13-HIGH-5M	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	41.107	31.88	40.00	8.12	-8.03	H	229.1	2.00
1	71.856	32.10	40.00	7.90	-12.54	H	359	2.00
1	138.204	29.38	43.50	14.12	-12.44	H	355	2.00
1	249.802	33.09	46.00	12.91	-7.03	H	134.6	1.00
1	460.050	32.27	46.00	13.73	-3.86	H	355	2.00
1	742.514	31.79	46.00	14.21	0.51	H	267.2	1.00



CHANNEL	WLAN-2.4G-11N20-CH11+ LTE-B13-HIGH-5M	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	45.181	29.44	40.00	10.56	-7.47	V	263.7	1.00
1	63.659	25.85	40.00	14.15	-9.50	V	359	1.00
1	111.189	26.86	43.50	16.64	-9.47	V	231.4	2.00
1	197.228	28.48	43.50	15.02	-8.66	V	231.4	2.00
1	359.994	29.82	46.00	16.18	-3.74	V	231.4	2.00
1	678.930	28.55	46.00	17.45	-0.80	V	4.5	1.00



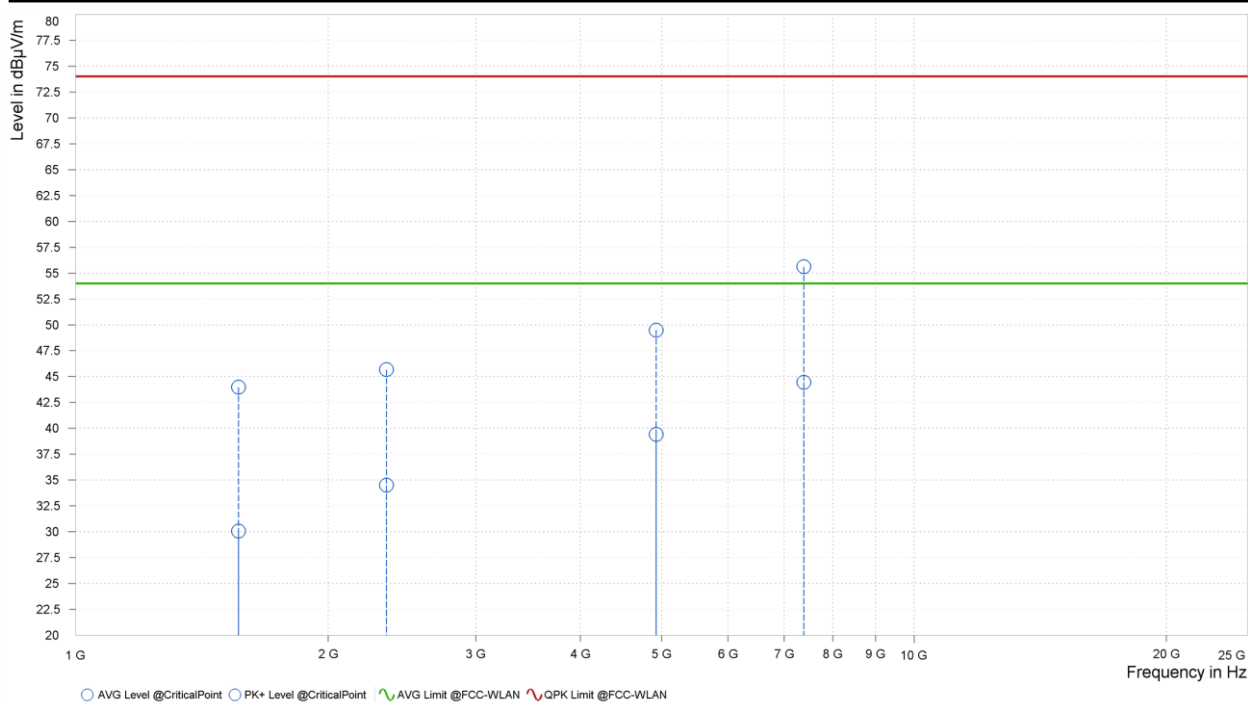
ABOVE 1GHz WORST-CASE DATA:

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 that more than 20dB below the limit were not recorded

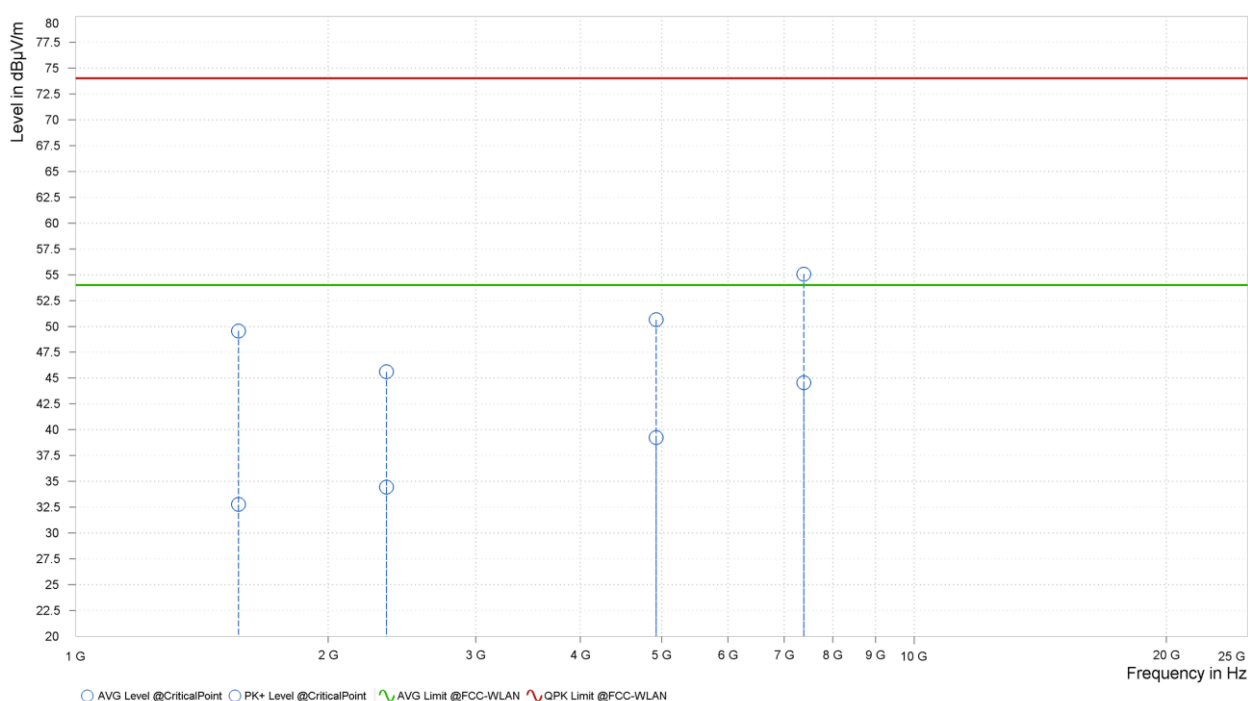
CHANNEL	WLAN-2.4G-11N20-CH11+ LTE-B13-HIGH-5M	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK 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	1,564.500	43.96	74.00	30.04	30.06	54.00	23.94	-6.70	H	1	2.00
1	2,346.750	45.67	74.00	28.33	34.51	54.00	19.49	0.87	H	359	2.00
3	4,924.000	49.50	74.00	24.50	39.40	54.00	14.60	5.02	H	1	2.00
3	7,386.000	55.61	74.00	18.39	44.43	54.00	9.57	11.05	H	359	2.00



CHANNEL	WLAN-2.4G-11N20-CH11+ LTE-B13-HIGH-5M	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK 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	1,564.500	49.56	74.00	24.44	32.76	54.00	21.24	-6.70	V	5.1	1.00
1	2,346.750	45.61	74.00	28.39	34.44	54.00	19.56	0.87	V	1	1.00
3	4,924.000	50.65	74.00	23.35	39.26	54.00	14.74	5.02	V	359	2.00
3	7,386.000	55.06	74.00	18.94	44.53	54.00	9.47	11.05	V	0.9	2.00



Note: For frequency above 18GHz, the emission was tested 20db below the limit so the data not recorded in the sheet.

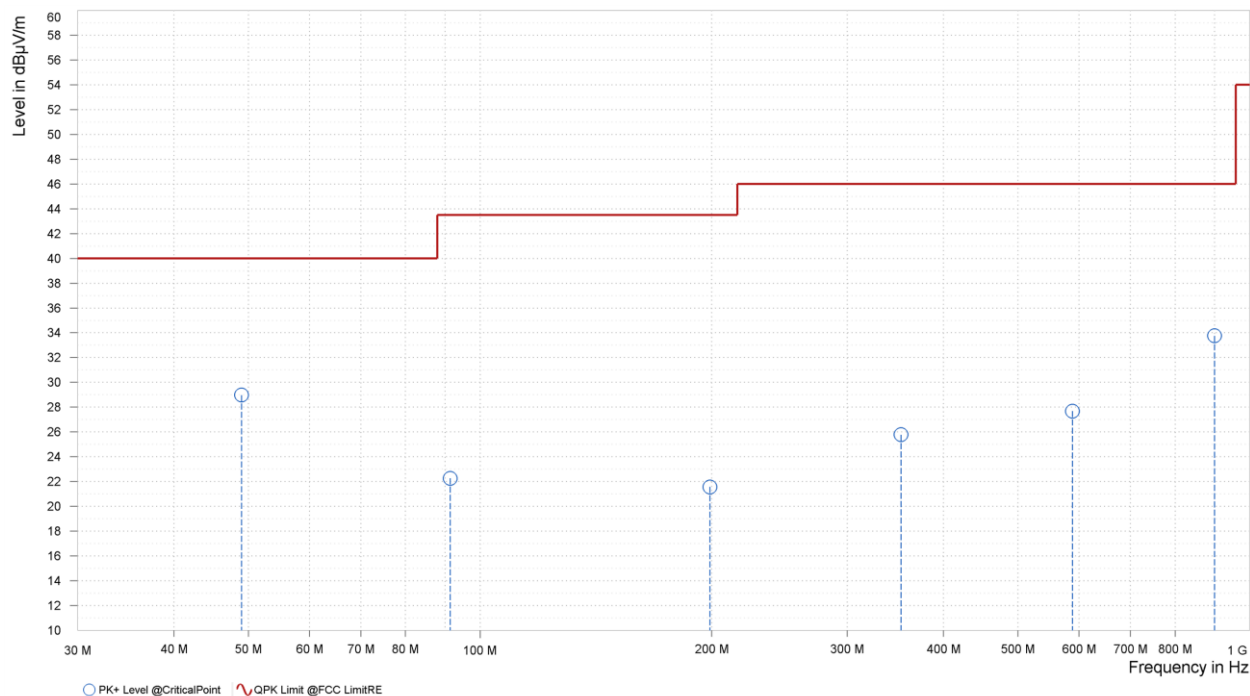
WLAN-2.4G-11N20-CH11+NR-N48-MID-20M:

BELOW 1GHz WORST-CASE DATA:

30 MHz – 1GHz data:

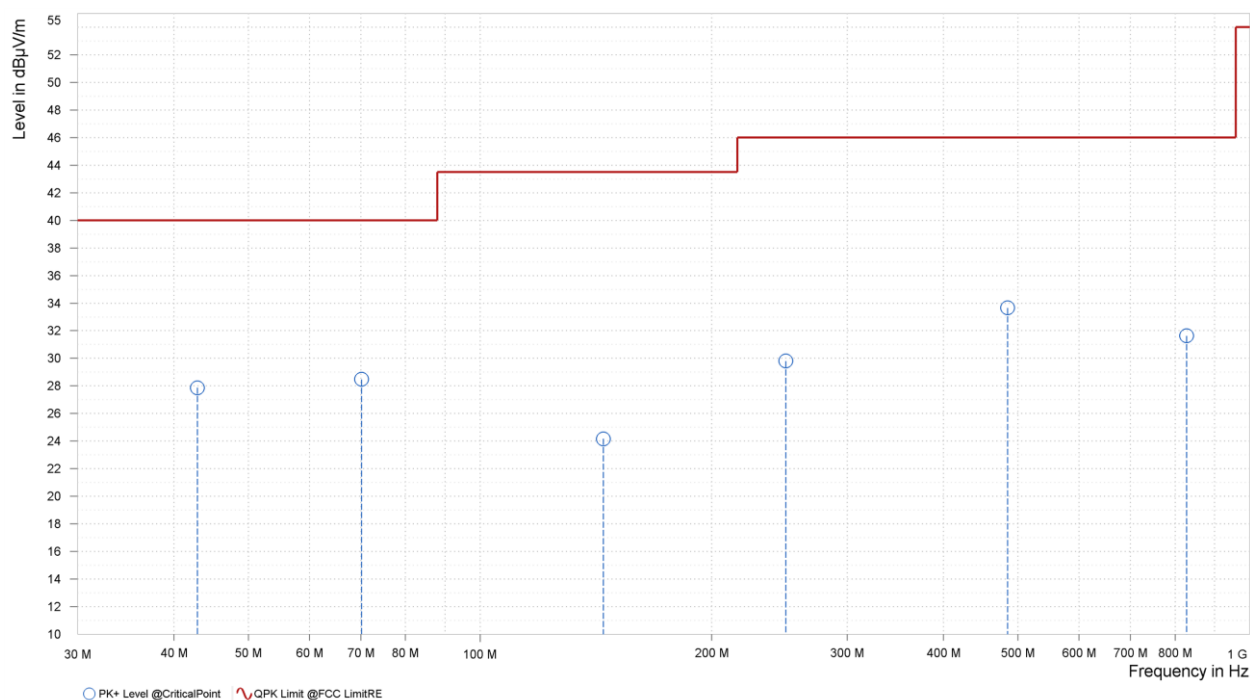
CHANNEL	WLAN-2.4G-11N20-CH11+NR-N48-MID-20M	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	48.964	28.98	40.00	11.02	-7.40	H	1	1.00
1	91.401	22.26	43.50	21.24	-10.77	H	97.7	2.00
1	198.829	21.56	43.50	21.94	-8.53	H	359.1	1.00
1	352.234	25.78	46.00	20.22	-3.64	H	355.6	2.00
1	588.284	27.68	46.00	18.32	-2.13	H	131	1.00
1	900.236	33.75	46.00	12.25	2.91	H	1	2.00



CHANNEL	WLAN-2.4G-11N20-CH11+ NR-N48-MID-20M	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	42.901	27.87	40.00	12.13	-7.60	V	354.2	2.00
1	70.110	28.48	40.00	11.52	-11.83	V	264.9	1.00
1	144.606	24.17	43.50	19.33	-12.42	V	131	1.00
1	249.657	29.80	46.00	16.20	-7.04	V	227.9	2.00
1	484.736	33.65	46.00	12.35	-3.68	V	131	1.00
1	828.262	31.64	46.00	14.36	1.51	V	354.2	2.00



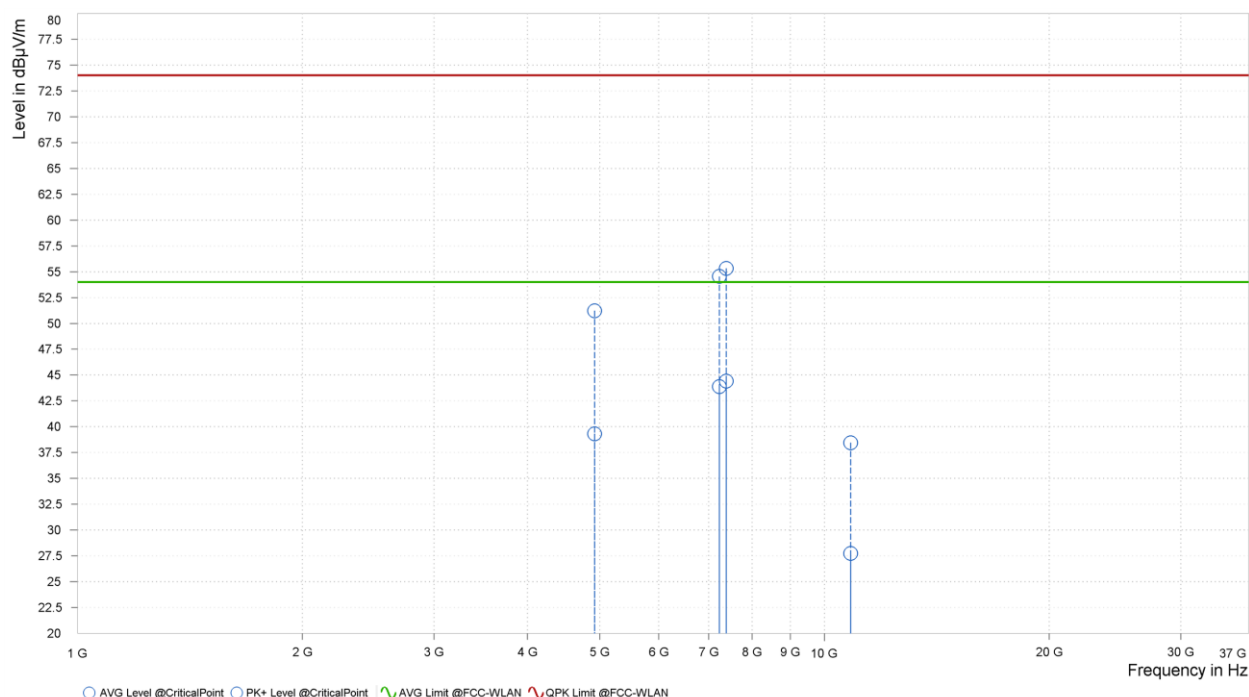
ABOVE 1GHz WORST-CASE DATA:

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 that more than 20dB below the limit were not recorded

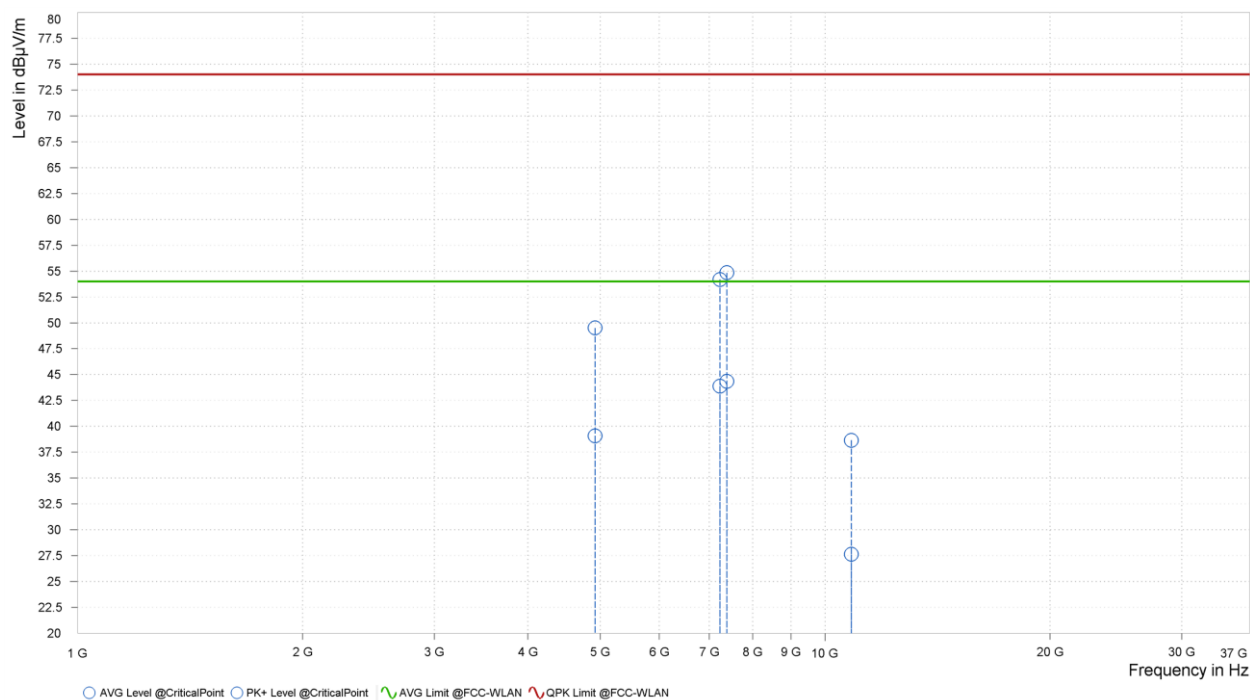
CHANNEL	WLAN-2.4G-11N20-CH11+ NR-N48-MID-20M	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK 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]
3	4,924.000	51.23	74.00	22.77	39.32	54.00	14.68	5.02	H	129.8	2.00
3	7,231.980	54.54	74.00	19.46	43.86	54.00	10.14	11.17	H	359	1.00
3	7,386.000	55.34	74.00	18.66	44.42	54.00	9.58	11.05	H	231.4	1.00
5	10,847.970	38.46	74.00	35.54	27.72	54.00	26.28	11.88	H	343.7	1.00



CHANNEL	WLAN-2.4G-11N20-CH11+ NR-N48-MID-20M	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK 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]
3	4,924.000	49.52	74.00	24.48	39.07	54.00	14.93	5.02	V	230.2	1.00
3	7,231.980	54.19	74.00	19.81	43.88	54.00	10.12	11.17	V	48.6	2.00
3	7,386.000	54.84	74.00	19.16	44.35	54.00	9.65	11.05	V	0.9	2.00
5	10,847.970	38.66	74.00	35.34	27.63	54.00	26.37	11.88	V	1.7	2.00



Note: For frequency above 18GHz, the emission was tested 20db below the limit so the data not recorded in the sheet.

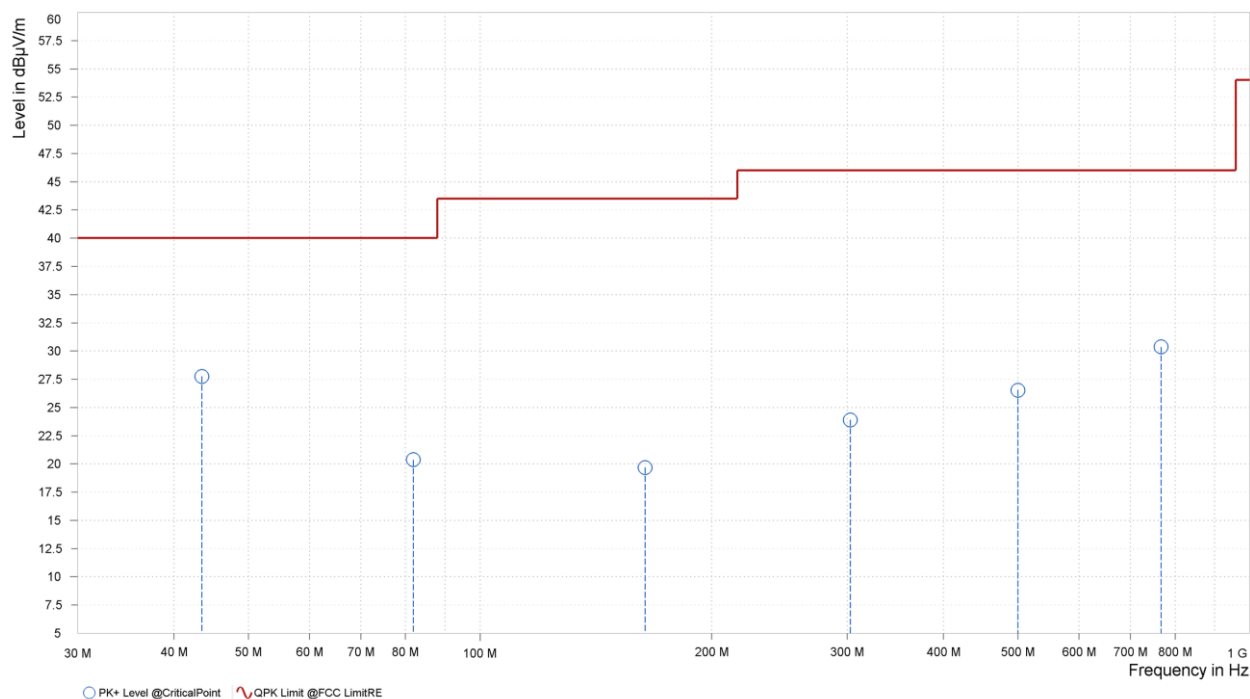
WLAN-5G-11A-CH157+EDGE850(ANT3):

BELOW 1GHz WORST-CASE DATA:

30 MHz – 1GHz data:

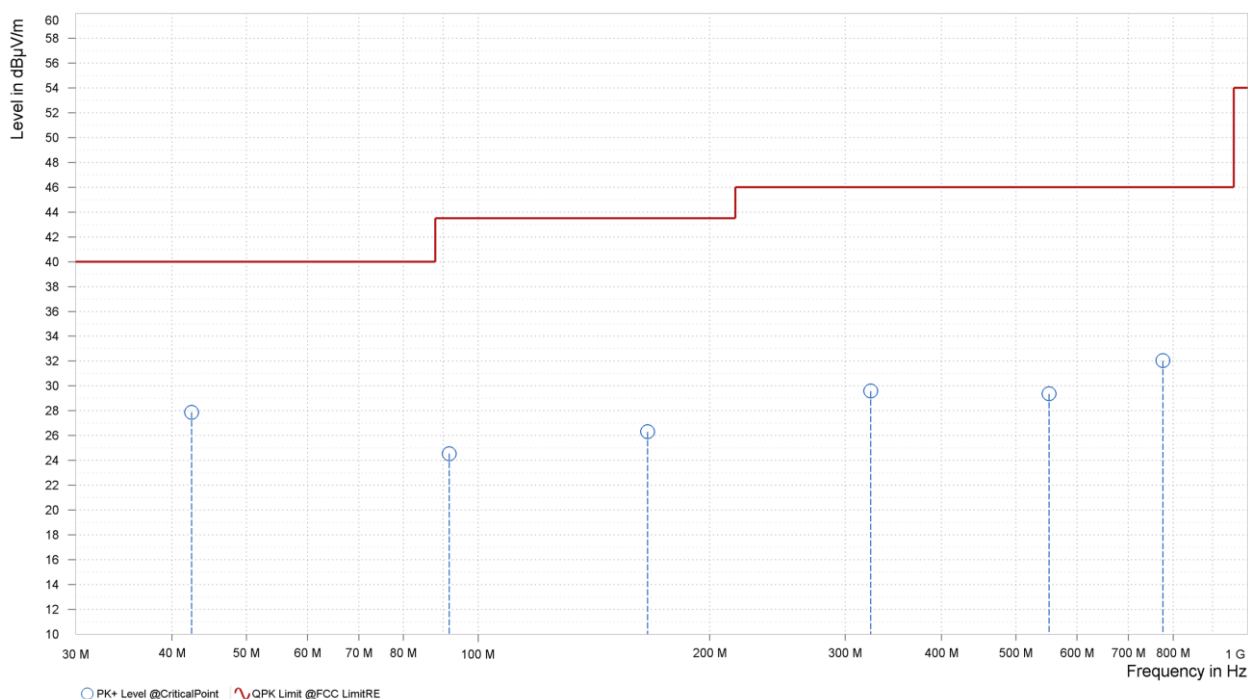
CHANNEL	WLAN-5G-11A-CH157+EDGE850(ANT3)	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	43.483	27.76	40.00	12.24	-7.57	H	359.1	1.00
1	81.847	20.37	40.00	19.63	-13.26	H	359	2.00
1	163.860	19.69	43.50	23.81	-11.42	H	258.9	1.00
1	302.716	23.90	46.00	22.10	-5.58	H	359.1	1.00
1	500.062	26.52	46.00	19.48	-3.53	H	127.4	1.00
1	767.055	30.37	46.00	15.63	0.78	H	4.5	1.00



CHANNEL	WLAN-5G-11A-CH157+ED GE850(ANT3)	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	27.88	40.00	12.12	-7.66	V	0.9	2.00
1	91.741	24.54	43.50	18.96	-10.68	V	230.3	2.00
1	166.043	26.30	43.50	17.20	-11.30	V	359.1	1.00
1	323.765	29.59	46.00	16.41	-4.79	V	230.3	2.00
1	552.006	29.37	46.00	16.63	-3.02	V	86.9	2.00
1	775.979	32.03	46.00	13.97	0.88	V	355.6	2.00



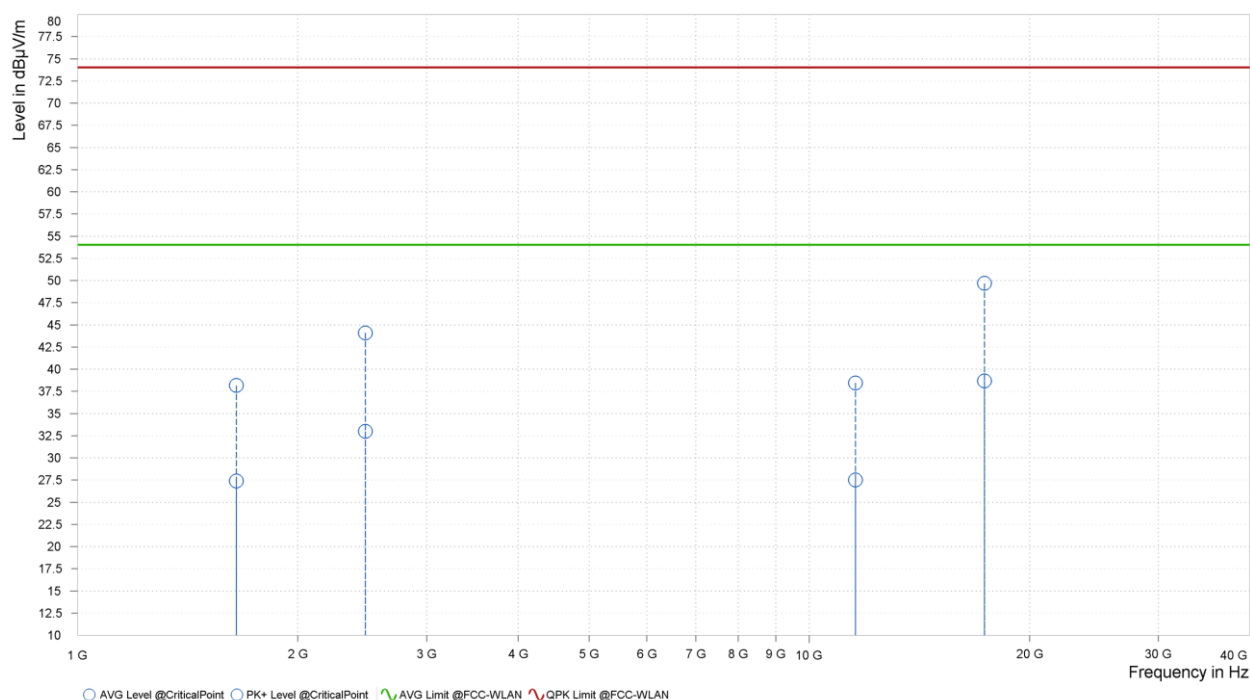
ABOVE 1GHz WORST-CASE DATA:

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 that more than 20dB below the limit were not recorded

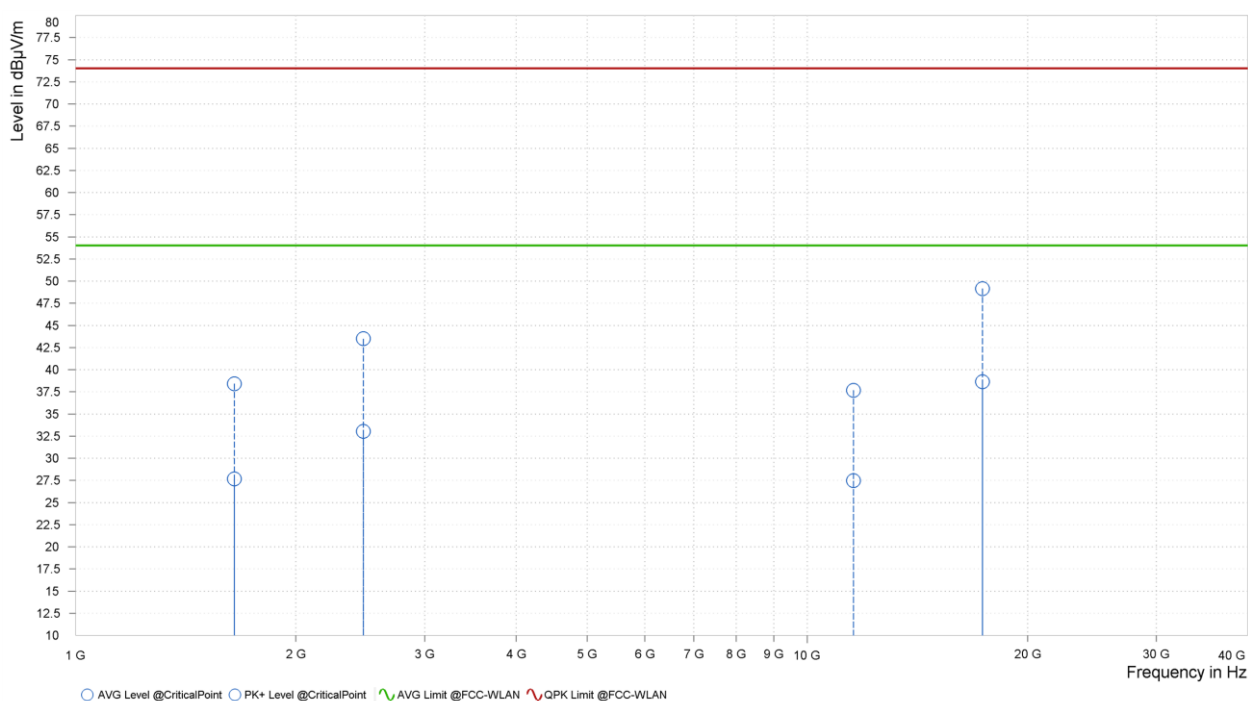
CHANNEL	WLAN-5G-11A-CH157+ED GE850(ANT3)	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK 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	1,648.400	38.16	74.00	35.84	27.40	54.00	26.60	-5.99	H	4.5	1.50
1	2,472.600	44.10	74.00	29.90	32.99	54.00	21.01	1.19	H	359.1	1.50
4	11,570.000	38.45	74.00	35.55	27.52	54.00	26.48	12.70	H	1	1.50
4	17,355.000	49.69	74.00	24.31	38.67	54.00	15.33	23.46	H	359.1	1.50



CHANNEL	WLAN-5G-11A-CH157+ED GE850(ANT3)	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK 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	1,648.400	38.42	74.00	35.58	27.68	54.00	26.32	-5.99	V	1	1.50
1	2,472.600	43.48	74.00	30.52	33.02	54.00	20.98	1.19	V	359.1	1.50
4	11,570.000	37.68	74.00	36.32	27.47	54.00	26.53	12.70	V	359.1	1.50
4	17,355.000	49.15	74.00	24.85	38.66	54.00	15.34	23.46	V	359.1	1.50



Note: For frequency above 18GHz, the emission was tested 20db below the limit so the data not recorded in the sheet.

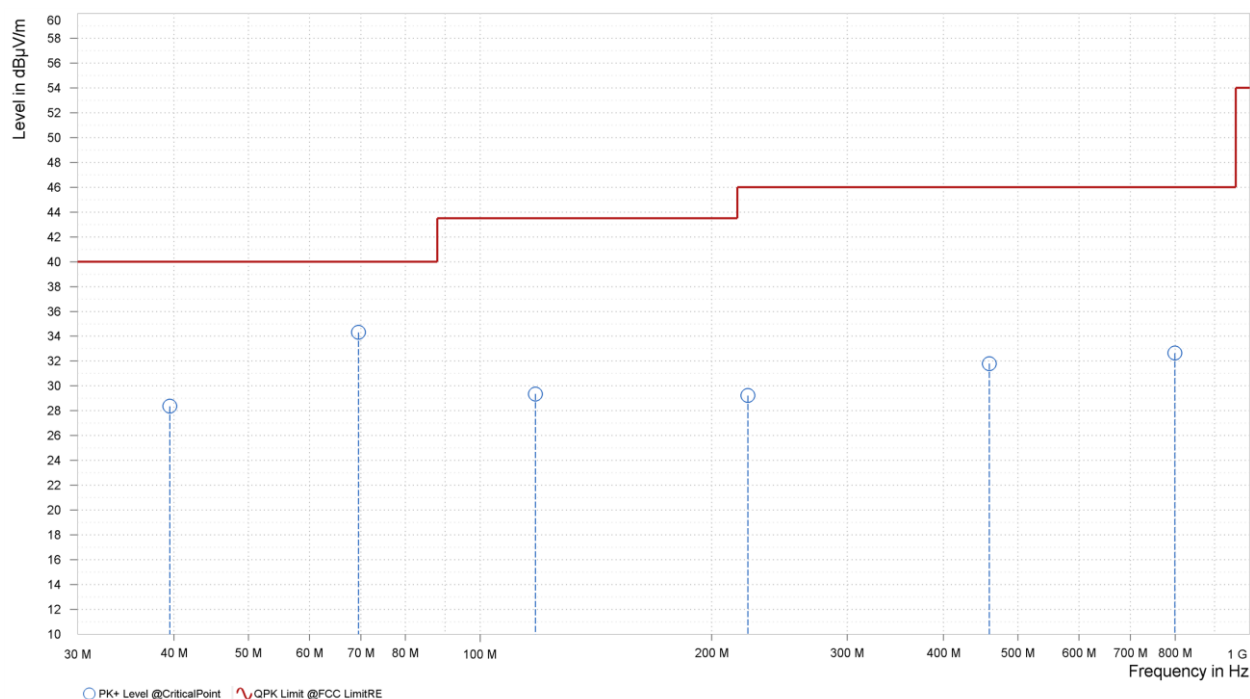
WLAN-5G-11A-CH157+LTE-B26-MID-10M:

BELOW 1GHz WORST-CASE DATA:

30 MHz – 1GHz data:

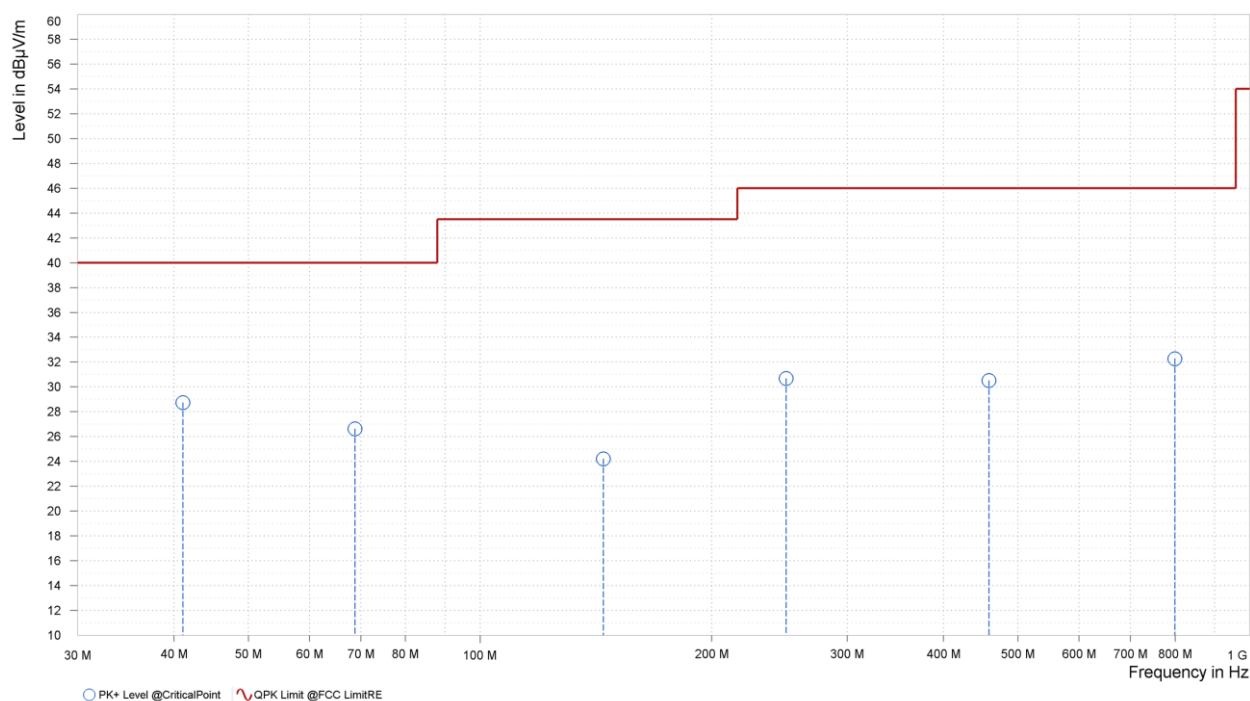
CHANNEL	WLAN-5G-11A-CH157+LT E-B26-MID-10M	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	39.506	28.37	40.00	11.63	-8.52	H	214.7	1.00
1	69.479	34.31	40.00	5.69	-11.55	H	354.9	2.00
1	117.931	29.34	43.50	14.16	-10.47	H	214.7	1.00
1	222.788	29.23	46.00	16.77	-8.15	H	214.7	1.00
1	458.595	31.80	46.00	14.20	-3.86	H	354.9	2.00
1	799.259	32.65	46.00	13.35	0.99	H	85.7	1.00



CHANNEL	WLAN-5G-11A-CH157+LT E-B26-MID-10M	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	41.107	28.74	40.00	11.26	-8.03	V	143	1.00
1	68.800	26.63	40.00	13.37	-11.24	V	356.1	1.00
1	144.606	24.21	43.50	19.29	-12.42	V	143	1.00
1	249.851	30.69	46.00	15.31	-7.03	V	14	1.00
1	458.546	30.52	46.00	15.48	-3.86	V	230.3	2.00
1	799.453	32.28	46.00	13.72	0.99	V	355	2.00



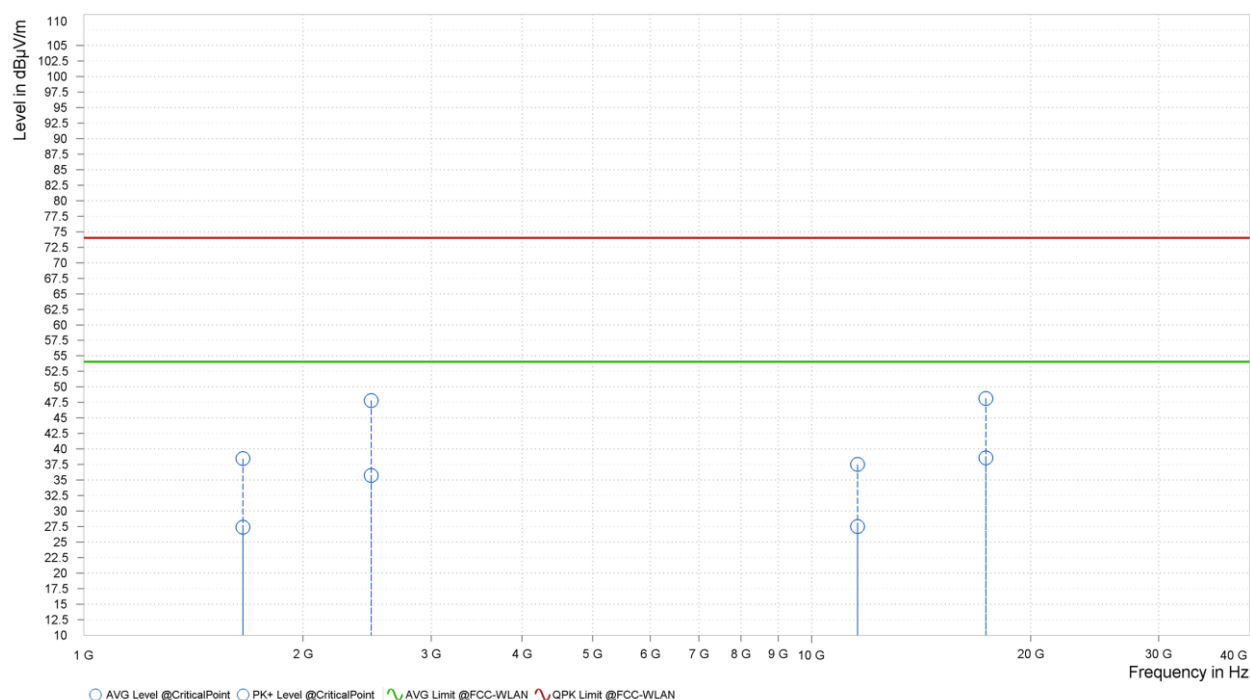
ABOVE 1GHz WORST-CASE DATA:

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 that more than 20dB below the limit were not recorded

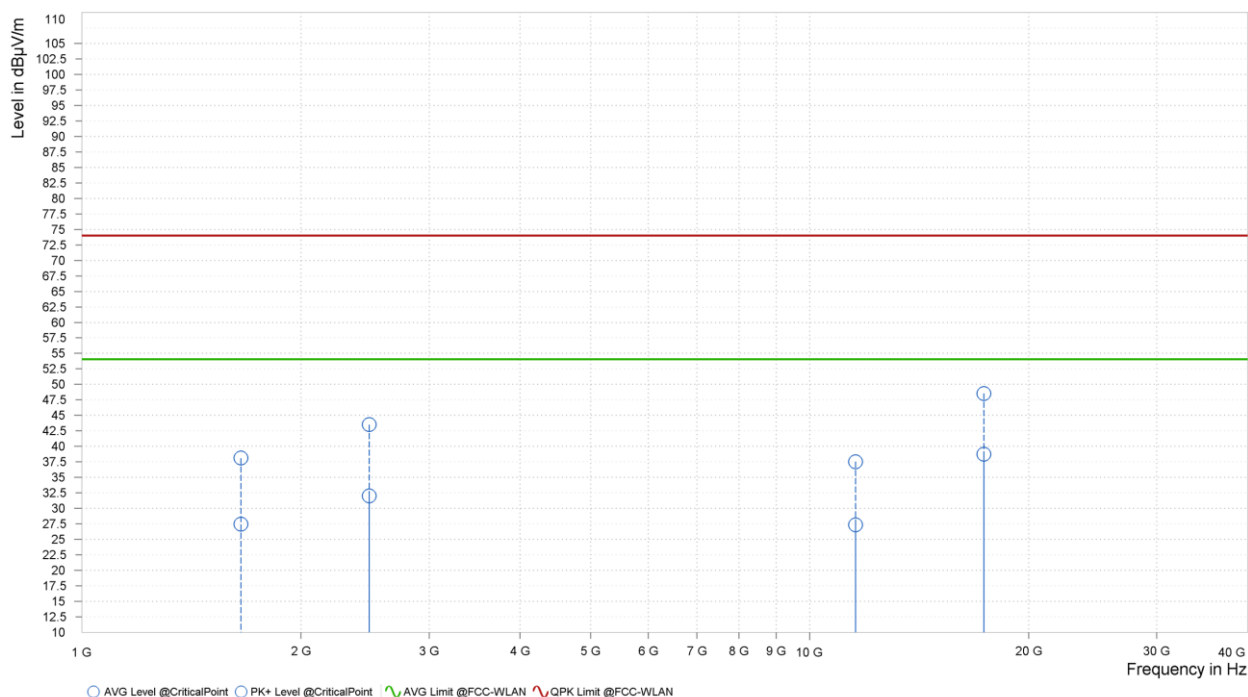
CHANNEL	WLAN-5G-11A-CH157+LT E-B26-MID-10M	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK 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	1,654.000	38.44	74.00	35.56	27.42	54.00	26.58	-5.90	H	5	1.98
1	2,481.000	47.80	74.00	26.20	35.73	54.00	18.27	1.25	H	5	1.98
4	11,570.000	37.51	74.00	36.49	27.53	54.00	26.47	12.70	H	359	1.98
4	17,355.000	48.14	74.00	25.86	38.58	54.00	15.42	23.46	H	359	1.98



CHANNEL	WLAN-5G-11A-CH157+LT E-B26-MID-10M	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK 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	1,654.000	38.10	74.00	35.90	27.44	54.00	26.56	-5.90	V	5.1	1.98
1	2,481.000	43.50	74.00	30.50	32.04	54.00	21.96	1.25	V	5.1	1.98
4	11,570.000	37.54	74.00	36.46	27.34	54.00	26.66	12.70	V	359.1	1.98
4	17,355.000	48.55	74.00	25.45	38.72	54.00	15.28	23.46	V	357.9	1.98



Note: For frequency above 18GHz, the emission was tested 20db below the limit so the data not recorded in the sheet.

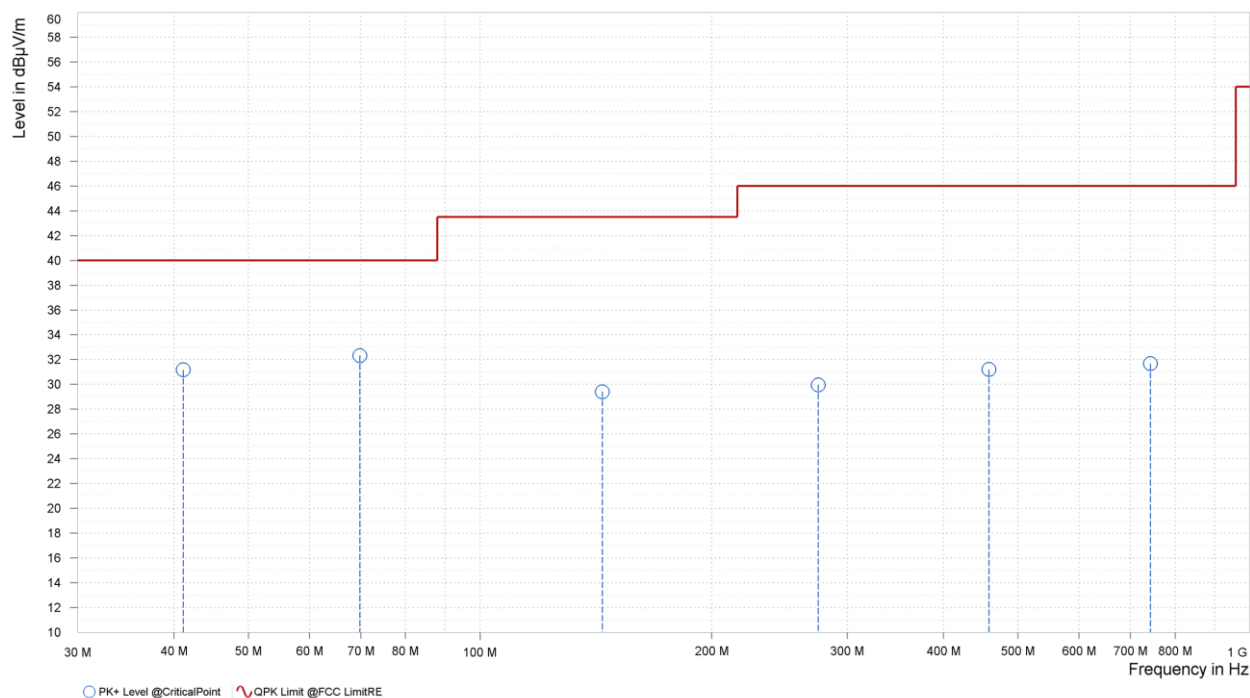
BT2.0-CHAIN0-1DH5_CH78+EDGE1900(ANT3)-MID:

BELOW 1GHz WORST-CASE DATA:

30 MHz – 1GHz data:

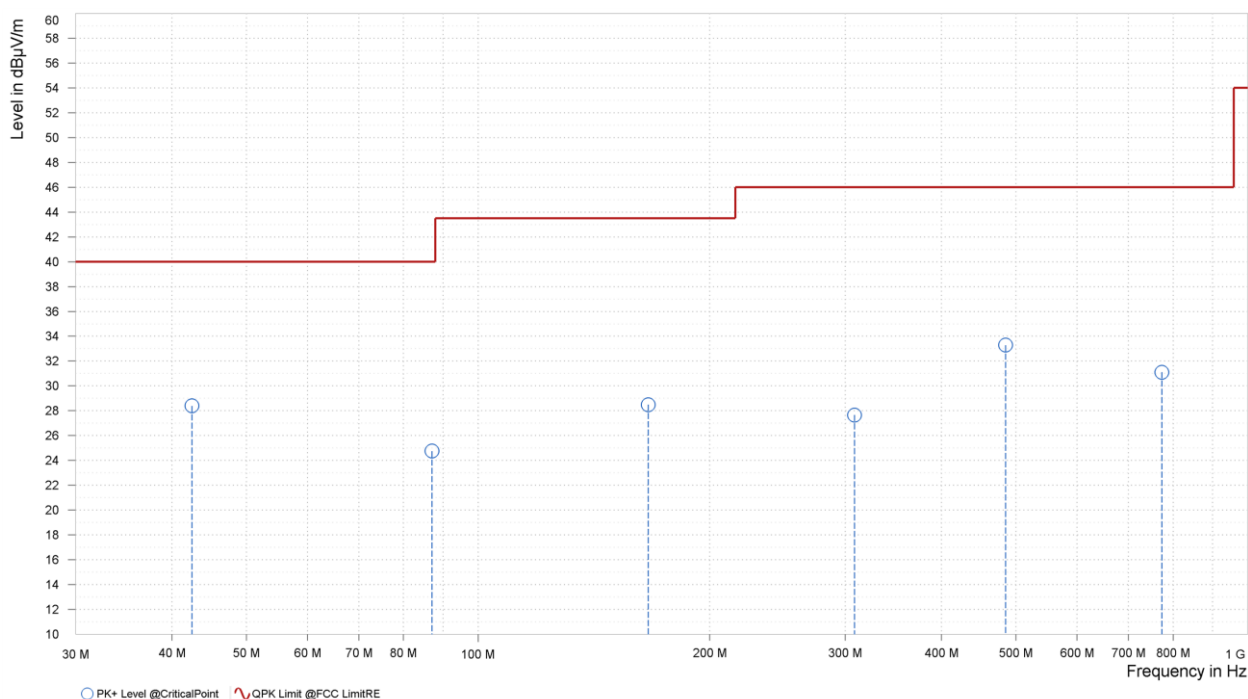
CHANNEL	BT2.0-CHAIN0-1DH5_CH78+EDGE1900(ANT3)-MID	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	41.155	31.18	40.00	8.82	-8.01	H	230.2	2.00
1	69.770	32.32	40.00	7.68	-11.68	H	359	2.00
1	144.121	29.41	43.50	14.09	-12.42	H	356.1	2.00
1	275.119	29.97	46.00	16.03	-6.43	H	359	1.00
1	458.546	31.20	46.00	14.80	-3.86	H	356.1	2.00
1	742.514	31.67	46.00	14.33	0.51	H	358.4	1.00



CHANNEL	BT2.0-CHAIN0-1DH5_CH7 8+EDGE1900(ANT3)-MID	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK Limit [dBμV/m]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	42.465	28.39	40.00	11.61	-7.66	V	268.4	1.00
1	87.133	24.75	40.00	15.25	-11.93	V	355.5	2.00
1	166.431	28.48	43.50	15.02	-11.28	V	359	1.00
1	308.487	27.66	46.00	18.34	-5.39	V	359	2.00
1	484.833	33.28	46.00	12.72	-3.68	V	131	1.00
1	773.796	31.10	46.00	14.90	0.87	V	56.8	2.00



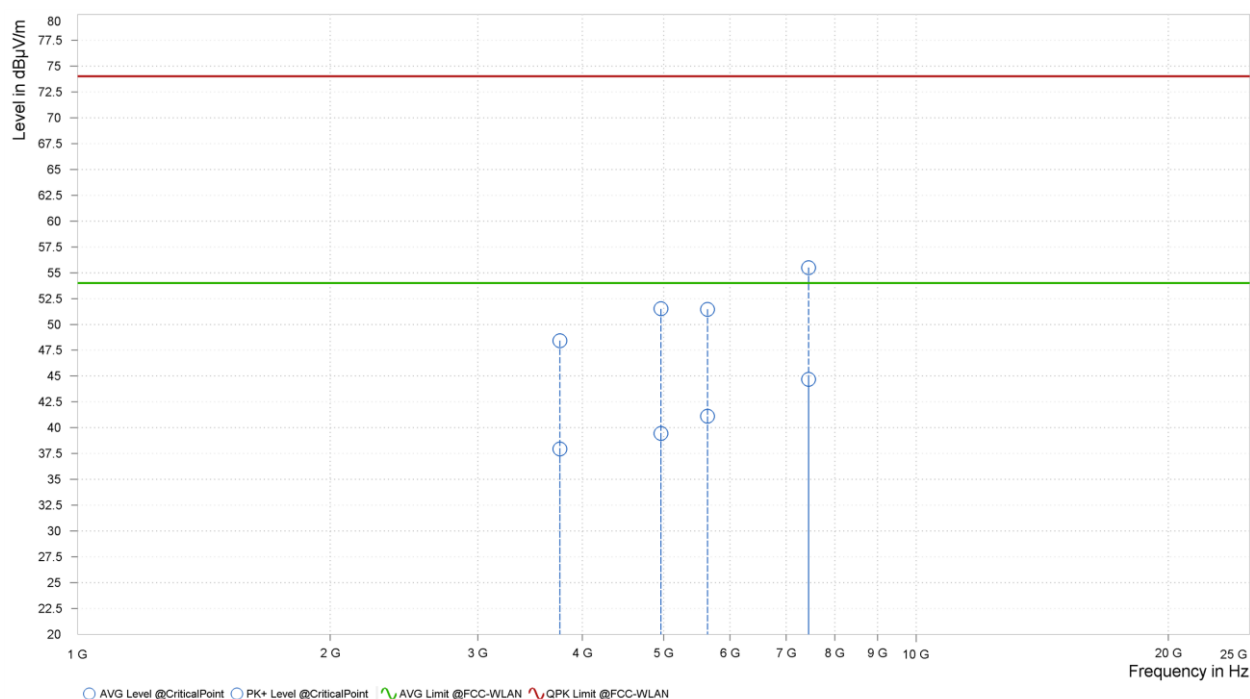
ABOVE 1GHz WORST-CASE DATA:

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 that more than 20dB below the limit were not recorded

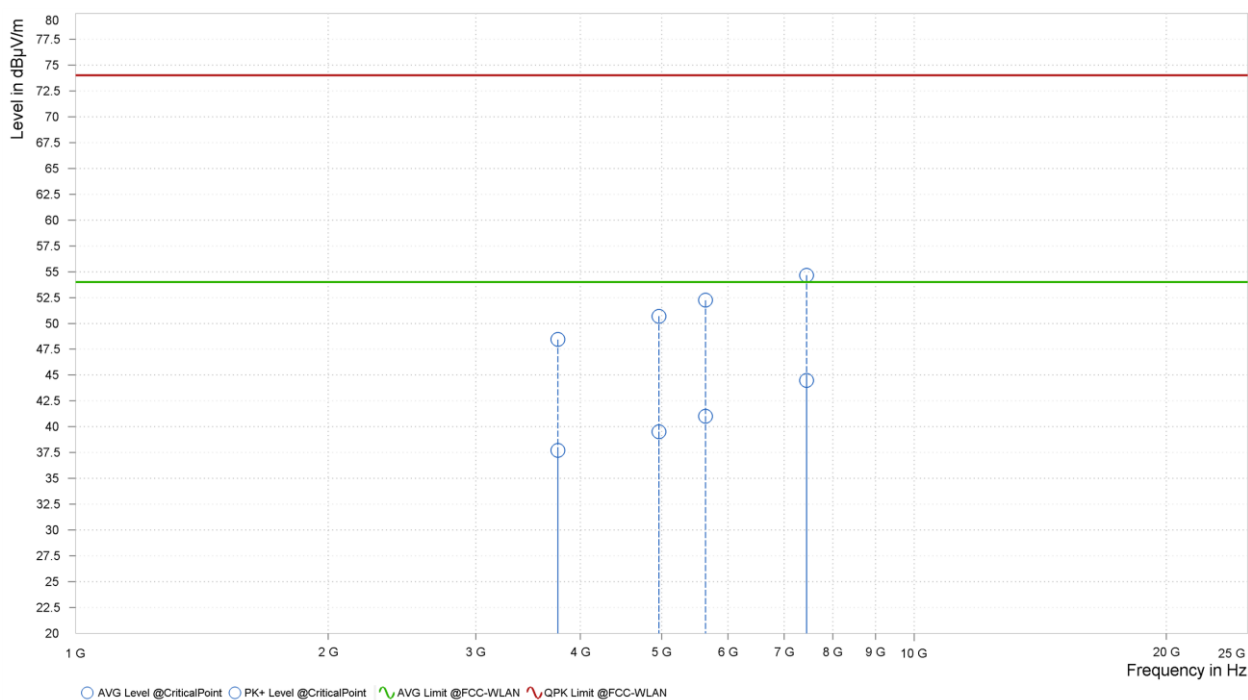
CHANNEL	BT2.0-CHAIN0-1DH5_CH7 8+EDGE1900(ANT3)-MID	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK 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]
3	3,760.000	48.42	74.00	25.58	37.94	54.00	16.06	3.46	H	0.9	2.00
3	4,960.000	51.51	74.00	22.49	39.43	54.00	14.57	4.83	H	359	2.00
3	5,640.000	51.46	74.00	22.54	41.11	54.00	12.89	6.25	H	127.4	2.00
3	7,440.000	55.49	74.00	18.51	44.67	54.00	9.33	10.81	H	1	1.00



CHANNEL	BT2.0-CHAIN0-1DH5_CH7 8+EDGE1900(ANT3)-MID	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

Rg	Frequency [MHz]	PK+ Level [dBμV/m]	PK+: QPK 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]
3	3,760.000	48.44	74.00	25.56	37.70	54.00	16.30	3.46	V	1	2.00
3	4,960.000	50.70	74.00	23.30	39.52	54.00	14.48	4.83	V	127.4	2.00
3	5,640.000	52.24	74.00	21.76	41.02	54.00	12.98	6.25	V	359.1	1.00
3	7,440.000	54.66	74.00	19.34	44.48	54.00	9.52	10.81	V	127.4	2.00



Note: For frequency above 18GHz, the emission was tested 20db below the limit so the data not recorded in the sheet.

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