FCC TEST REPORT

(Part 15, Subpart C)

Applicant:	Xiaomi Communications Co.,Ltd.
Address:	#019, 9th Floor, Building 6, 33Xi'erqi Middle Road, Haidian District

Manufacturer or Supplier:	Xiaomi Communications Co.,Ltd.
Address:	#019, 9th Floor, Building 6, 33Xi'erqi Middle Road, Haidian District
Product:	2.4GHz WIFI+Bluetooth dual-mode module
Brand Name:	MI
Model Name:	MHCWB9B-IB
FCC ID:	2AFZZ-MHCWB9B-IB
Date of tests:	Dec.16, 2024 ~ Dec. 30, 2024

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

☒ **FCC Part 15, Subpart C, Section 15.247**

☒ **ANSI C63.10-2020**

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
Simon Wang Date: Dec. 30, 2024	Luke Lu Date: Dec. 30, 2024

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-NQN2412260210RF01	Original release	Dec. 30, 2024

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**
15.207	AC Power Conducted Emission	Compliance
15.205 15.209	Radiated Emissions	Compliance
15.247(d)	Out of band Emission Measurement	Compliance
15.247(a)(2)	6dB bandwidth	Compliance
15.247(b)	Conducted Output power	Compliance
15.247(e)	Power Spectral Density	Compliance
15.203	Antenna Requirement	Compliance

Note：1.Except RSE, other data please refer to Appendix 1 (for WIFI-2.4G) and Appendix 2 (for BLE).

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	2.4GHz WIFI+Bluetooth dual-mode module
BRAND NAME	MI
MODEL NAME	MHCWB9B-IB
NOMINAL VOLTAGE	3.3Vdc (DC supply)
MODULATION	DSSS, OFDM, GFSK, OFDMA
TRANSMISSION RATE	802.11b: 11/ 5.5/ 2.0 / 1.0 Mbps 802.11g: 54/ 48/ 36 / 24 / 18 / 9/ 6 Mbps 802.11n(HT20)/ax(HE20): up to 144.4 Mbps 802.11n(HT40)/ax(HE40): up to 300 Mbps BT_LE: 0.125 Mbps /0.5 Mbps /1 Mbps/2 Mbps 802.11ax 20 (RU26/52/106/242): up to 286.8Mbps 802.11ax 40 (RU484): up to 573.5Mbps
OPERATING FREQUENCY	2412-2462MHz for 11b/g/n(HT20/40)/ax(HE20/40) 2402-2480MHz for BT-LE(GFSK) 2412-2462MHz for ax(20M RU26/52/106/242)/ax (40M RU484)
MAX. OUTPUT POWER	WLAN: 145.54mW (Maximum) BT-LE: 4.86mW (Maximum)
ANTENNA TYPE	External antenna with 0.4dBi gain for WIFI and BLE
HW VERSION	V1.0
SW VERSION	V1.0.0
I/O PORTS	Refer to user's manual

NOTE:

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

2. 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(HT20)/ax(HE20)	1TX /1RX
802.11n(HT40)/ax(HE40)	1TX /1RX
802.11ax (20MHz RU 26/52/106/242)	1TX /1RX
802.11ax (40MHz RU 26/52/106/242/484)	1TX /1RX
BT_LE(1MHz)	1TX /1RX

3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
4. 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.

2.2 DESCRIPTION OF TEST MODES

11 channels are provided for 802.11b, 802.11g and 802.11n (HT20), 802.11ax20 (HE20); 802.11ax20 (RU 26/52/106/242):

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), 802.11ax40 (HE40); 802.11ax40 (RU 26/52/106/242/484):

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 4 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).

☒ The 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
BT-LE	0 to 39	39	GFSK	1.0

RADIATED EMISSION TEST (ABOVE 1GHz):

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

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

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
802.11ax HE20	1 to 11	1, 6, 11	OFDM	MCS0
802.11n HT40	3 to 9	3,6,9	OFDM	MCS0
802.11ax HE40	3 to 9	3,6,9	OFDM	MCS0
802.11ax 20 (RU 26/52/106/242)	1 to 11	1, 11	OFDMA	MCS0
802.11ax 40 (RU 26/52/106/242/484)	3 to 9	3, 9	OFDMA	MCS0
BT-LE	0 to 39	0,19, 39	GFSK	1.0

POWER LINE CONDUCTED EMISSION TEST

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)
802.11ax 20	1 to 11	1, 11	OFDMA	MCS0

BANDEDGE MEASUREMENT:

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

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

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
802.11ax HE20	1 to 11	1, 6, 11	OFDM	MCS0
802.11n HT40	3 to 9	3,6,9	OFDM	MCS0
802.11n HT40	3 to 9	3,6,9	OFDM	MCS0
BT-LE	0 to 39	0,19, 39	GFSK	1.0
802.11ax 20 (RU 26/52/106/242)	1 to 11	1,11	OFDMA	MCS0
802.11ax 40 (RU 26/52/106/242/484)	3 to 9	3 ,9	OFDMA	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).
☒ The 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
802.11ax HE20	1 to 11	1, 6, 11	OFDM	MCS0
802.11n HT40	3 to 9	3,6,9	OFDM	MCS0
802.11ax HE40	3 to 9	3,6,9	OFDM	MCS0
BT-LE	0 to 39	0,19, 39	GFSK	1.0
802.11ax 20 (RU 26/52/106/242)	1 to 11	1,11	OFDMA	MCS0
802.11ax 40 (RU26/52/106/242/ 484)	3 to 9	3 ,9	OFDMA	MCS0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE	TESTED BY
RE<1G	23deg. C, 70%RH	DC 3.3V DC Supply	Jace Hu
RE≥1G	23deg. C, 70%RH	DC 3.3V DC Supply	Jace Hu
PLC	25deg. C, 52%RH	DC 3.3V DC Supply	Carl Xie
APCM	25deg. C, 60%RH	DC 3.6V By DC Supply	James Fu

2.3 DUTY CYCLE OF TEST SIGNAL

Please Refer to Appendix1/2 Of this test report.

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 C63.10-2020

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	Thinkpad 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	101900	Feb. 13,24	Feb. 12,25
EMC32 test software	Rohde&Schwarz	EMC32	NA	NA	NA
LISN network	Rohde&Schwarz	ENV216	101922	Mar. 09,24	Mar. 08,25

NOTE:

1. The test was performed in CE shielded room.
2. The calibration interval of the above test instruments is 12 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.

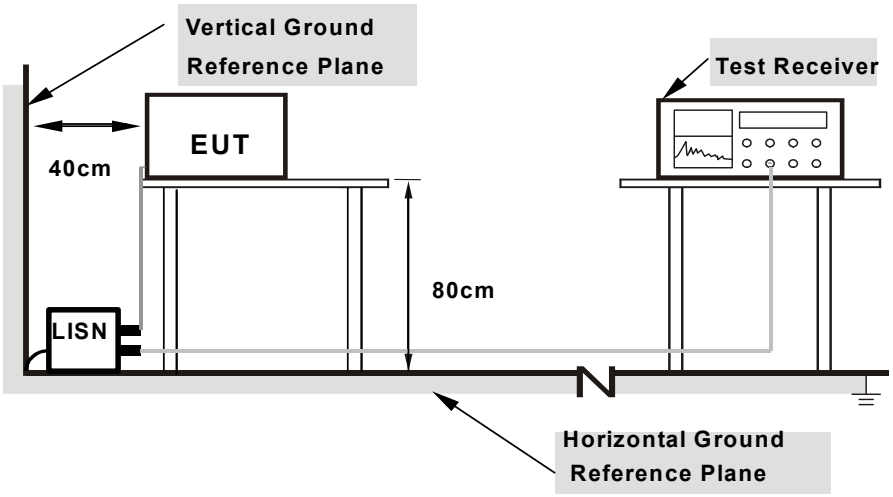
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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 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

NA

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.
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	Nov. 14,23	Nov. 13,26
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Feb. 17,24	Feb. 16,25
Horn Antenna	ETS-LINDGREN	3117	00168692	Feb. 17,24	Feb. 16,25
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Sep.02, 24	Sep.01, 25
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	JS1120-3	3.2.06	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	N/A	May. 05,24	May. 04,25
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Mar. 27,24	Mar. 26,25
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May. 05,24	May. 04,25
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.09,24	May.08,25
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 16,24	Feb. 15,25
DC Source	Kikusui/JP	PMX18-5A	0000001	Aug. 10,24	Aug. 09,25
Power Meter	Anritsu	ML2495A	1506002	Feb. 13,24	Feb. 12,25
Power Sensor	Anritsu	MA2411B	1339352	Feb. 13,24	Feb. 12,25
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.01,24	Aug.31,25

NOTE: 1. The calibration interval of the above test instruments is 12 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:

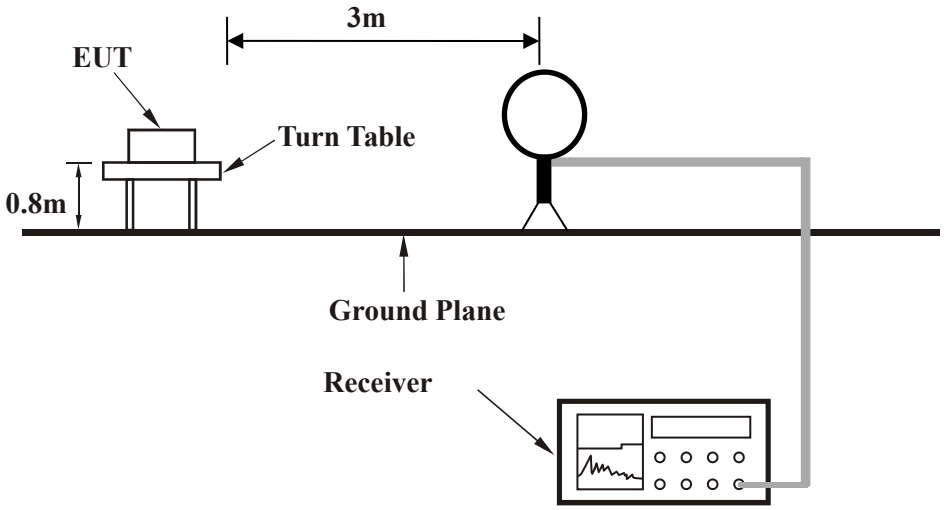
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

3.2.4 DEVIATION FROM TEST STANDARD

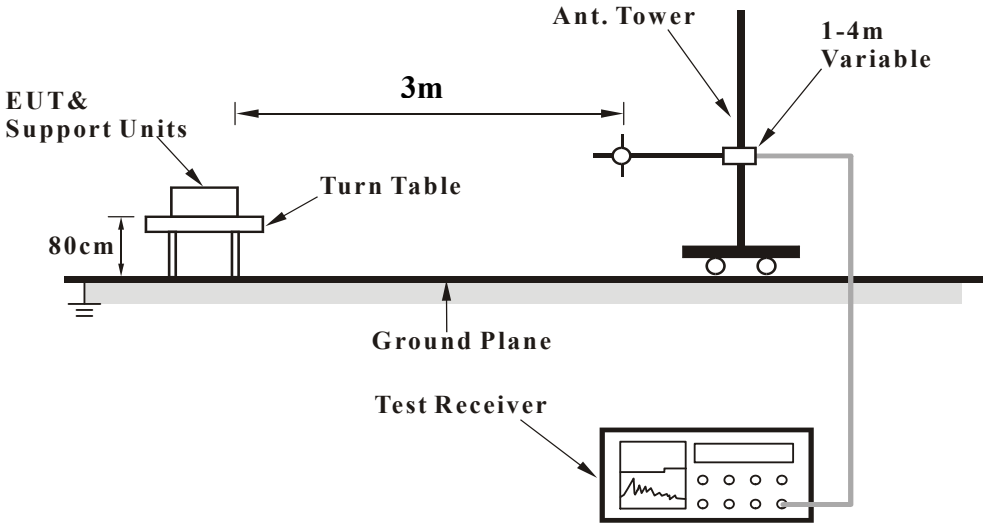
No deviation

3.2.5 TEST SETUP

<Frequency Range 9KHz~30MHz >



< Frequency Range 30MHz~1GHz >



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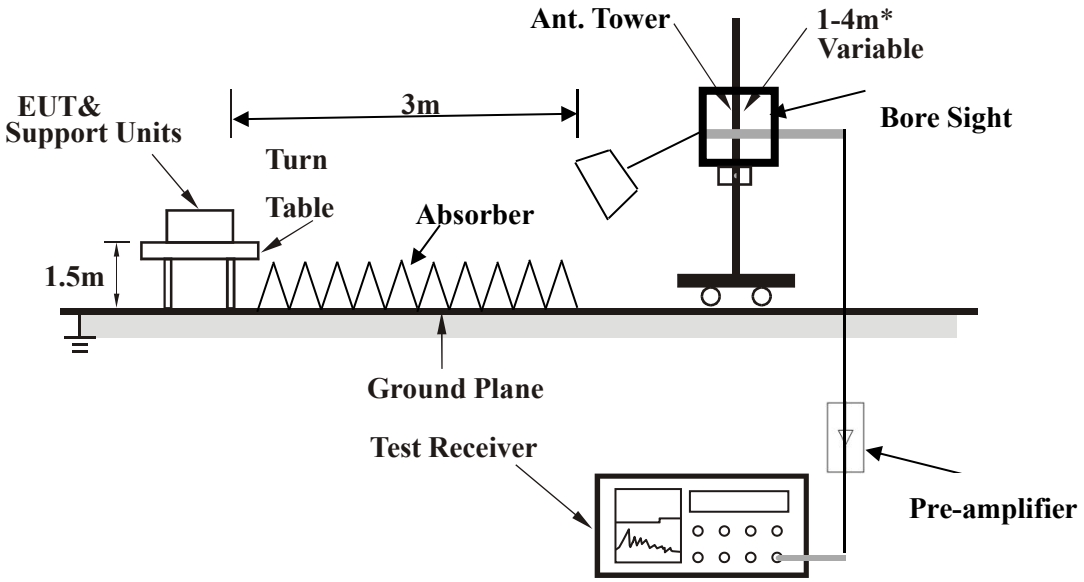


Note: Above 1G is a directional antenna

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

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

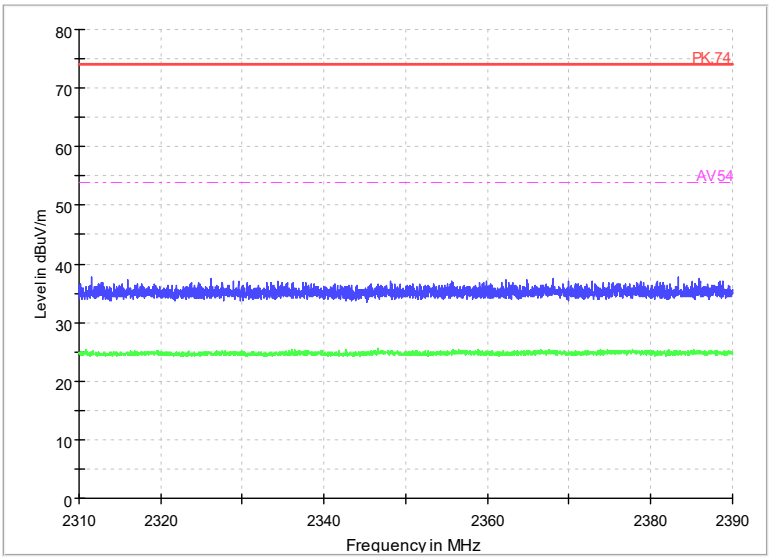
b. Set the transmitter part of EUT under transmission condition continuously at specific channel frequency.

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

3.2.7 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.

Radiated Emission Band Edge for BLE

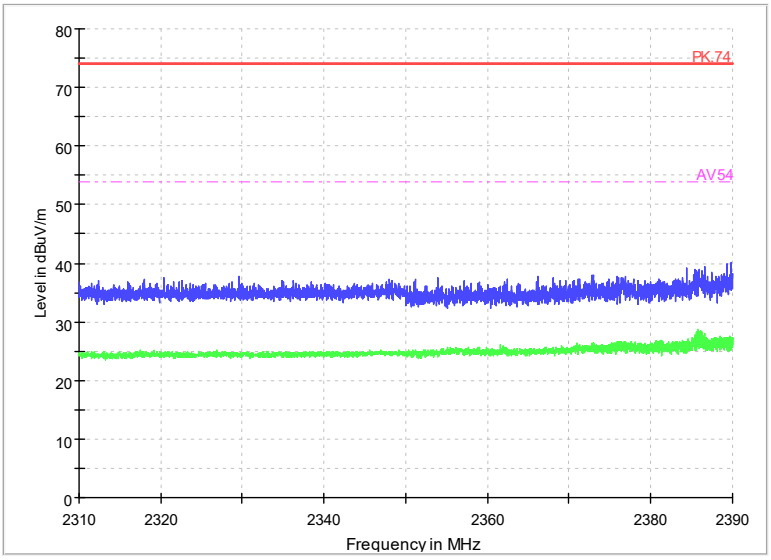


Carrier frequency (MHz): 2402

Channel No.:0

Test Mode: GFSK (LE 1Mbps)

Polarity: Vertical

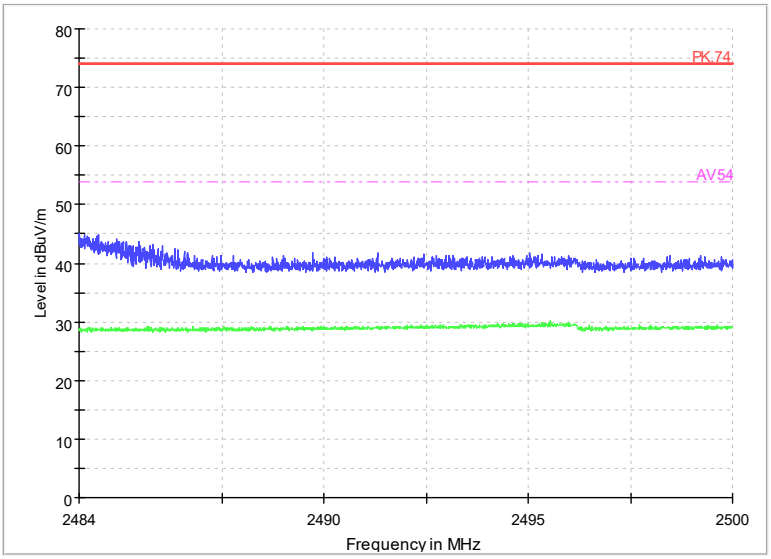


Carrier frequency (MHz): 2402

Channel No.:0

Test Mode: GFSK (LE 1Mbps)

Polarity: Horizontal

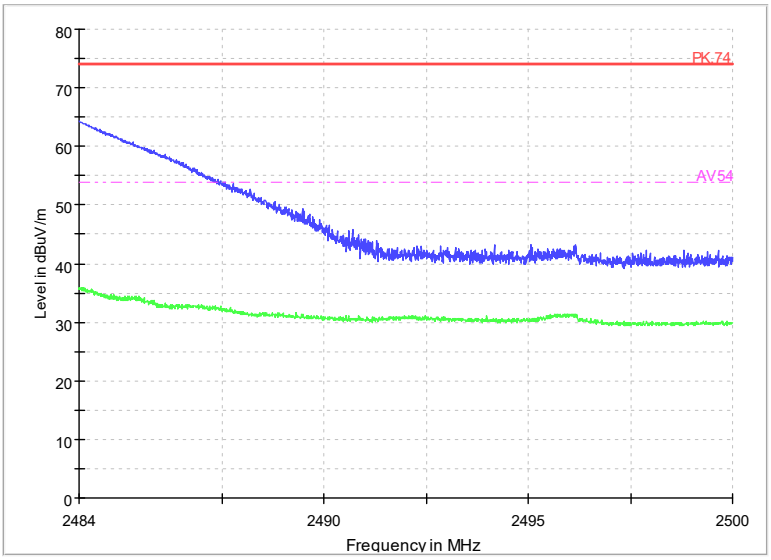


Carrier frequency (MHz): 2480

Channel No.:39

Test Mode: GFSK (LE 1Mbps)

Polarity: Vertical

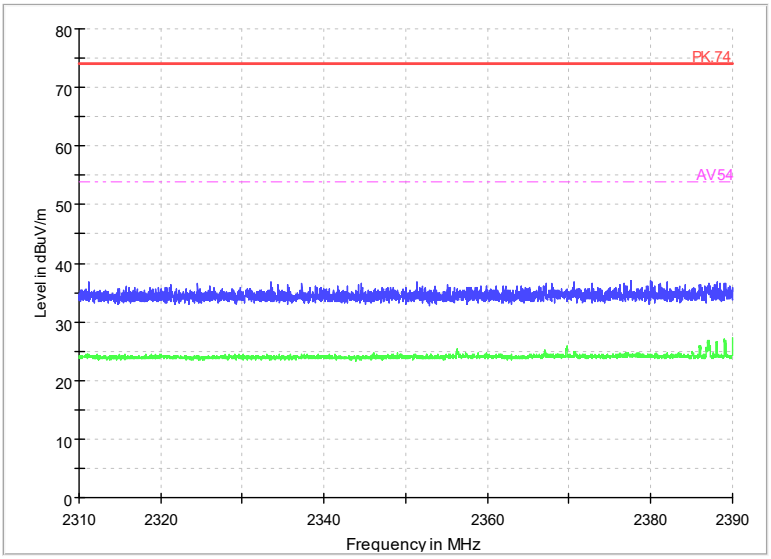


Carrier frequency (MHz): 2480

Channel No.:39

Test Mode: GFSK (LE 1Mbps)

Polarity: Horizontal

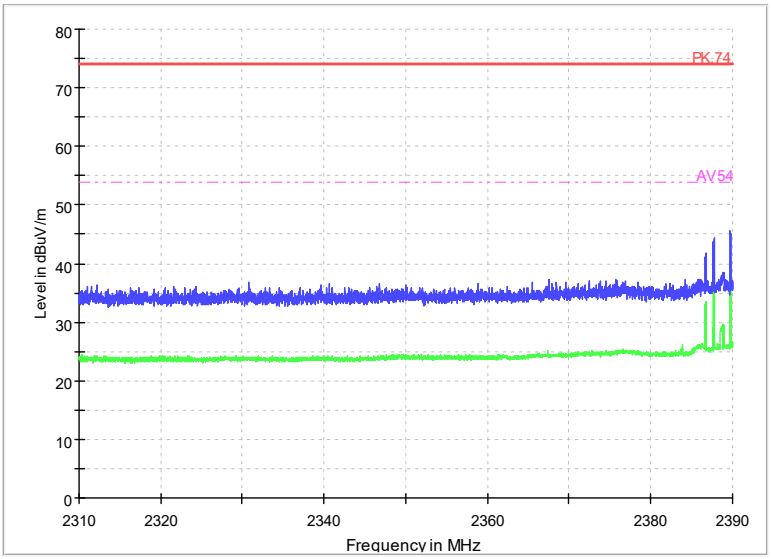


Carrier frequency (MHz): 2402

Channel No.:0

Test Mode: GFSK (LE 2Mbps)

Polarity: Vertical

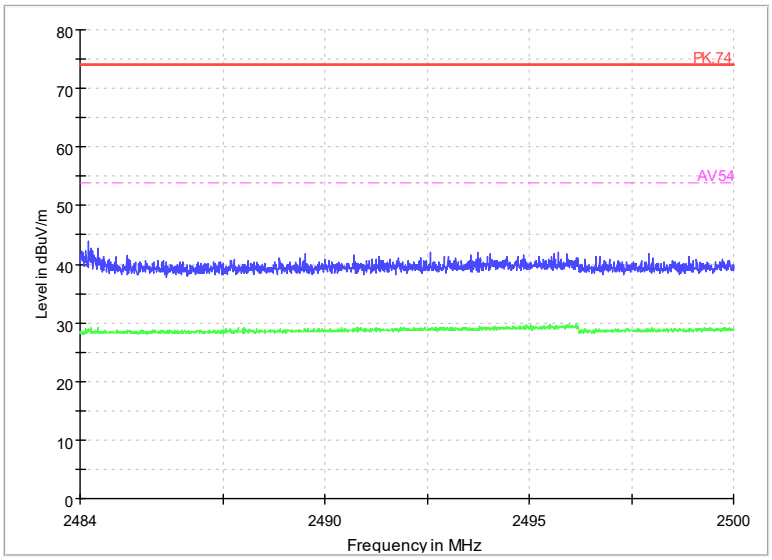


Carrier frequency (MHz): 2402

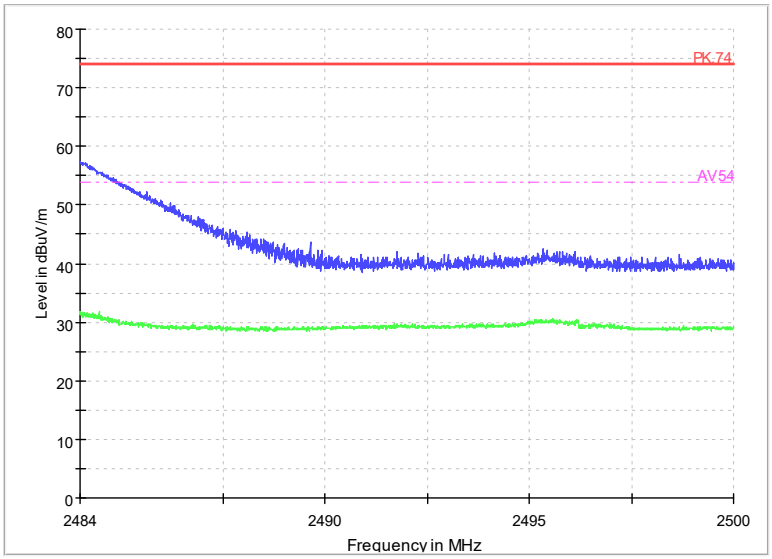
Channel No.:0

Test Mode: GFSK (LE 2Mbps)

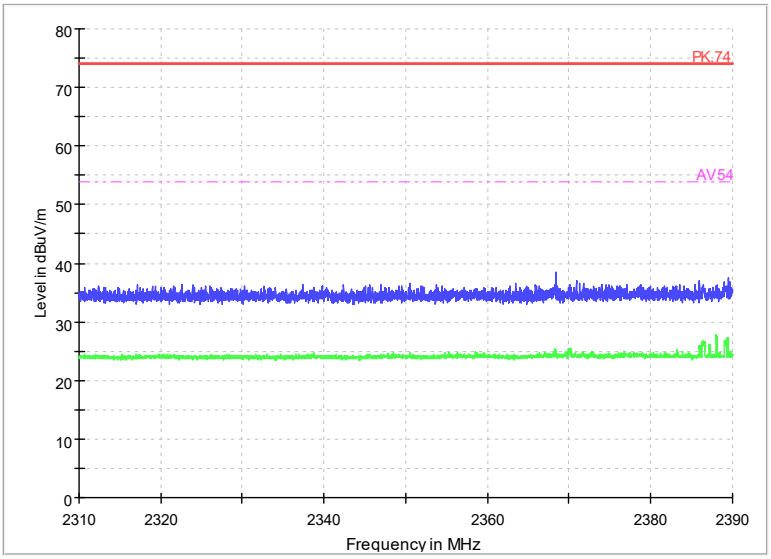
Polarity: Horizontal



Carrier frequency (MHz): 2480
Channel No.:39
Test Mode: GFSK (LE 2Mbps)
Polarity: Vertical



Carrier frequency (MHz): 2480
Channel No.:39
Test Mode: GFSK (LE 2Mbps)
Polarity: Horizontal

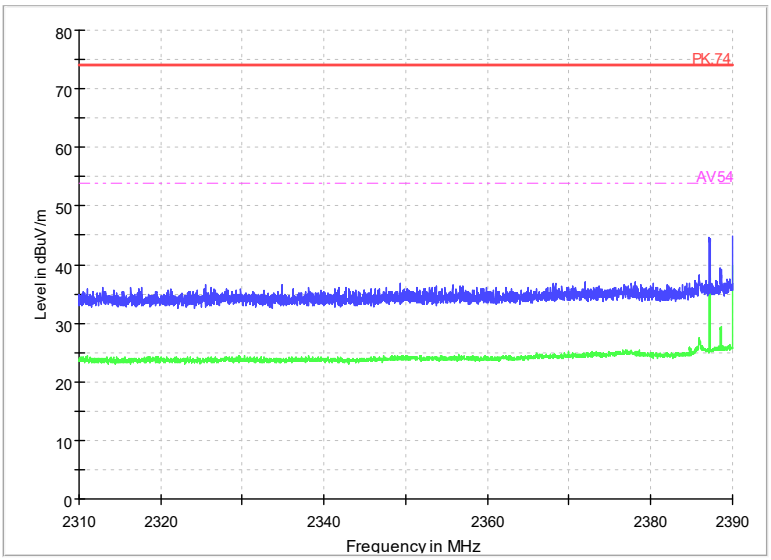


Carrier frequency (MHz): 2402

Channel No.:0

Test Mode: GFSK (LE 125Khz S=8)

Polarity: Vertical

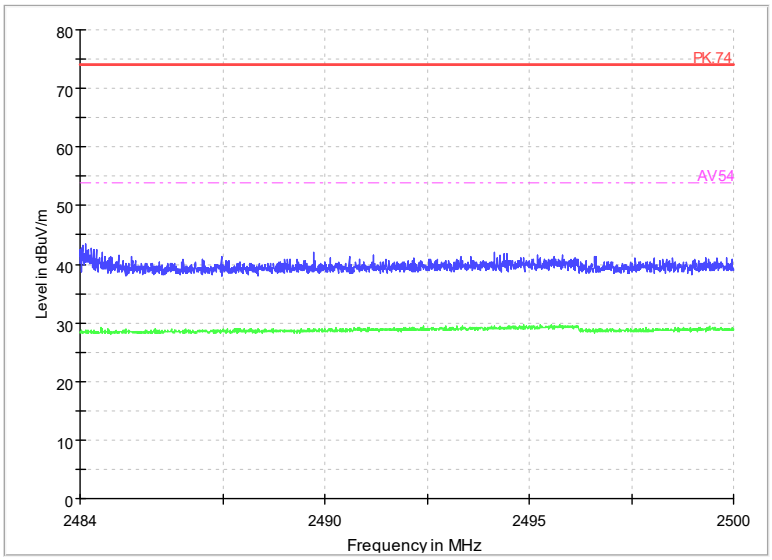


Carrier frequency (MHz): 2402

Channel No.:0

Test Mode: GFSK (LE 125Khz S=8)

Polarity: Horizontal

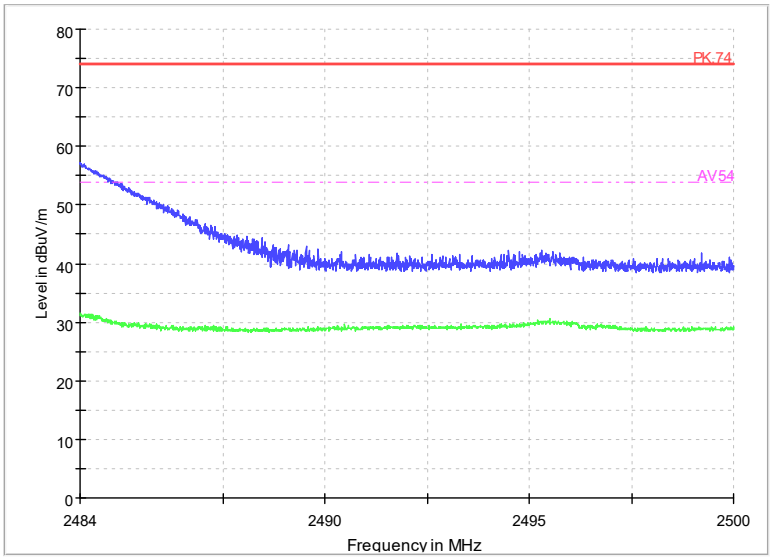


Carrier frequency (MHz): 2480

Channel No.:39

Test Mode: GFSK (LE 125Khz S=8)

Polarity: Vertical

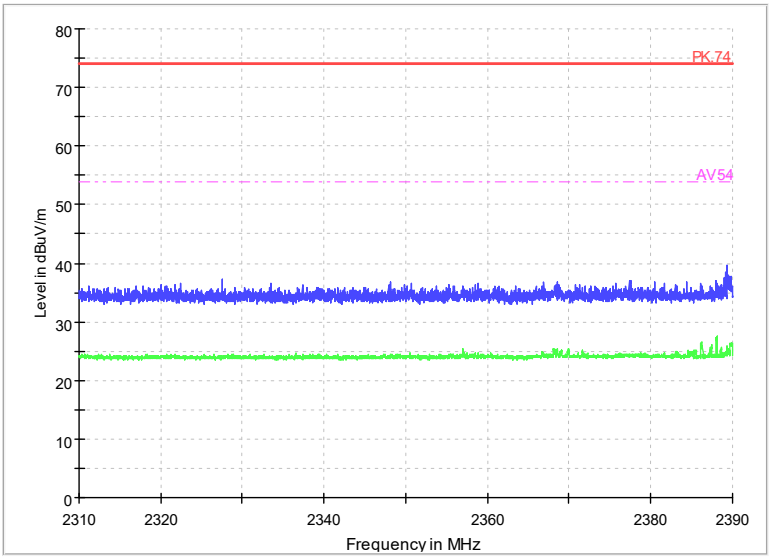


Carrier frequency (MHz): 2480

Channel No.:39

Test Mode: GFSK (LE 125Khz S=8)

Polarity: Horizontal

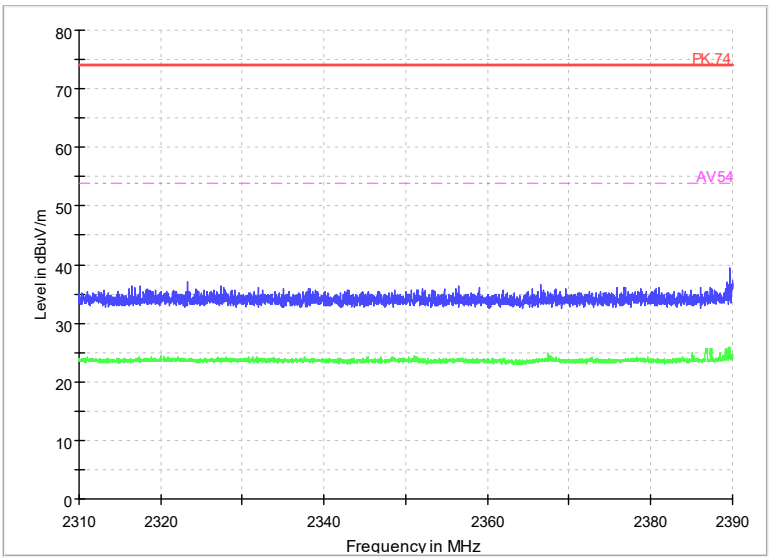


Carrier frequency (MHz): 2402

Channel No.:0

Test Mode: GFSK (LE 500Khz S=2)

Polarity: Vertical

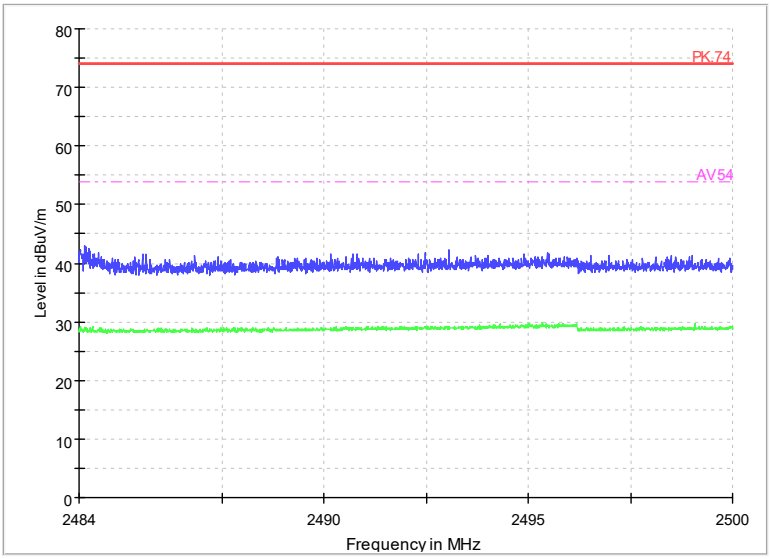


Carrier frequency (MHz): 2402

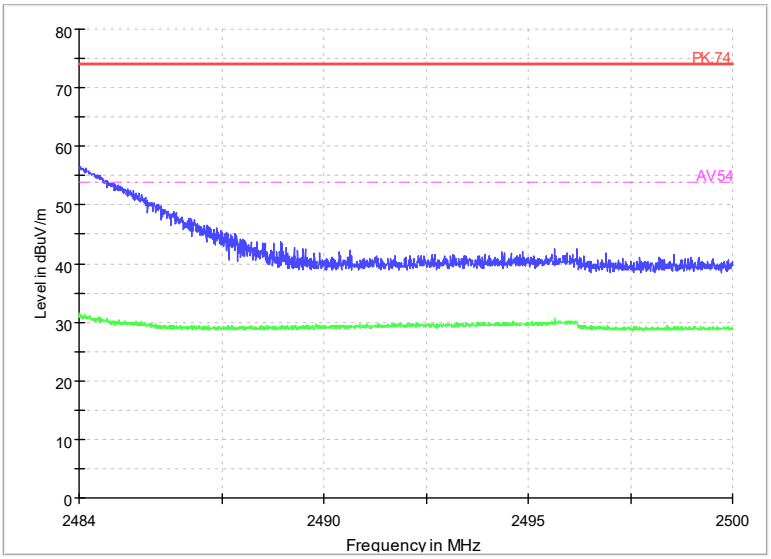
Channel No.:0

Test Mode: GFSK (LE 500Khz S=2)

Polarity: Horizontal



Carrier frequency (MHz): 2480
Channel No.:39
Test Mode: GFSK (LE 500Khz S=2)
Polarity: Vertical



Carrier frequency (MHz): 2480
Channel No.:39
Test Mode: GFSK (LE 500Khz S=2)
Polarity: Horizontal

Radiated Emission for BLE

After comparison,the worst case attitude is EUT lay down.

Determining Spurious Emissions Levels

A “reference path loss” is established and the A_{Rpl} is the attenuation of “reference path loss”, and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

The measurement results are obtained as described below:

Result= P_{mea} + A_{Rpl}

Sample calculation: (11.13dBμV/m) = (26.83BuV) + (-15.7dB/m), the corresponding frequency is 46.878MHz.

Sample calculation: (11.13dBμV/m) = (26.83BuV) + (-15.7dB/m), the corresponding frequency is 46.878MHz.

For GFSK (LE 1Mbps)

Channel No.:0

Frequency (MHz)	Result (dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
46.878	11.13	-15.7	26.83	Vertical	40	28.87
63.8045	12.19	-17.3	29.49	Vertical	40	27.81
102.75	7.67	-17	24.67	Vertical	43.5	35.83
263.964	19.53	-15.1	34.63	Vertical	46	26.47
446.421	11.52	-10.3	21.82	Vertical	46	34.48
919.393	19.2	-1.8	21	Vertical	46	26.8

Channel No.:19

Frequency (MHz)	Result (dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
39.4575	12.37	-17.1	29.47	Vertical	40	27.63
63.5135	13.27	-17.2	30.47	Vertical	40	26.73
170.5045	6.07	-19.5	25.57	Vertical	43.5	37.43
263.964	19.3	-15.1	34.4	Vertical	46	26.7
332.252	23.18	-13	36.18	Vertical	46	22.82
932.1	19.32	-1.7	21.02	Vertical	46	26.68

Channel No.:39

Frequency (MHz)	Result (dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
40.282	12.16	-16.8	28.96	Vertical	40	27.84
63.853	14.99	-17.3	32.29	Vertical	40	25.01
160.0285	8.41	-20.1	28.51	Vertical	43.5	35.09
263.964	19.6	-15.1	34.7	Vertical	46	26.4
331.8155	22.23	-13.1	35.33	Vertical	46	23.77
952.082	18.68	-2.1	20.78	Vertical	46	27.32

For GFSK (LE 2Mbps)

Channel No.:0

Frequency (MHz)	Result (dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
48.0905	21.47	-15.5	36.97	Vertical	40	18.53
59.585	24.48	-16.3	40.78	Vertical	40	15.52
170.6985	18.77	-19.5	38.27	Vertical	43.5	24.73
174.5785	19.85	-19.4	39.25	Vertical	43.5	23.65
436.333	18.82	-10.4	29.22	Vertical	46	27.18
954.313	18.13	-2.2	20.33	Vertical	46	27.87

Channel No.:19

Frequency (MHz)	Result (dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
30.4365	18.54	-18.9	37.44	Vertical	40	21.46
58.0815	20.27	-16	36.27	Vertical	40	19.73
170.6015	18.77	-19.5	38.27	Vertical	43.5	24.73
177.44	18.8	-19.2	38	Vertical	43.5	24.7
436.3815	19.6	-10.4	30	Vertical	46	26.4
791.9835	20.63	-3.8	24.43	Vertical	46	25.37

Channel No.:39

Frequency (MHz)	Result (dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
48.1875	21.39	-15.4	36.79	Vertical	40	18.61

60.07	23.45	-16.3	39.75	Vertical	40	16.55
171.0865	18.78	-19.5	38.28	Vertical	43.5	24.72
178.119	19.52	-19.1	38.62	Vertical	43.5	23.98
455.9755	16.13	-10.4	26.53	Vertical	46	29.87
831.22	19.21	-3.3	22.51	Vertical	46	26.79

For GFSK (LE 125Khz S=8)

Channel No.:0

Frequency (MHz)	Result (dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
48.1875	21.52	-15.4	36.92	Vertical	40	18.48
59.973	23.24	-16.3	39.54	Vertical	40	16.76
171.814	18.87	-19.5	38.37	Vertical	43.5	24.63
199.9925	21.65	-16.6	38.25	Vertical	43.5	21.85
436.3815	19.55	-10.4	29.95	Vertical	46	26.45
831.7535	21.18	-3.3	24.48	Vertical	46	24.82

Channel No.:19

Frequency (MHz)	Result (dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
48.0905	21.28	-15.5	36.78	Vertical	40	18.72
58.809	25.05	-16.2	41.25	Vertical	40	14.95
170.5045	18.79	-19.5	38.29	Vertical	43.5	24.71
176.082	20.69	-19.3	39.99	Vertical	43.5	22.81
436.3815	19.52	-10.4	29.92	Vertical	46	26.48
937.92	18.83	-1.8	20.63	Vertical	46	27.17

Channel No.:39

Frequency (MHz)	Result (dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
47.8965	19.78	-15.5	35.28	Vertical	40	20.22
59.585	24.49	-16.3	40.79	Vertical	40	15.51
172.8325	18.9	-19.4	38.3	Vertical	43.5	24.6
199.9925	21.71	-16.6	38.31	Vertical	43.5	21.79
436.333	18.77	-10.4	29.17	Vertical	46	27.23

830.2985	19.06	-3.3	22.36	Vertical	46	26.94

For GFSK (LE 500Khz S=2)

Channel No.:0

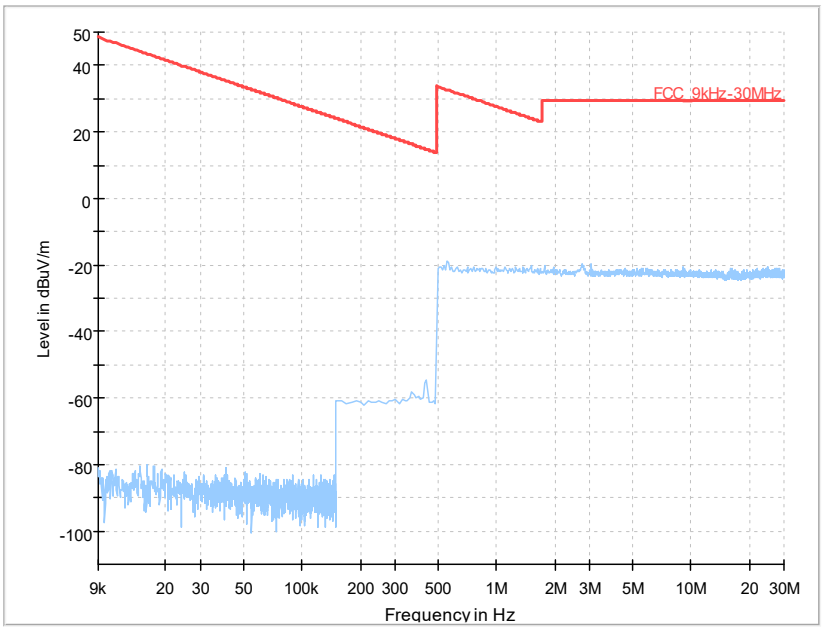
Frequency (MHz)	Result (dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
48.333	20.49	-15.4	35.89	Vertical	40	19.51
58.7605	22.46	-16.2	38.66	Vertical	40	17.54
172.299	18.9	-19.5	38.4	Vertical	43.5	24.6
173.463	18.9	-19.4	38.3	Vertical	43.5	24.6
436.333	18.77	-10.4	29.17	Vertical	46	27.23
831.899	21.76	-3.3	25.06	Vertical	46	24.24

Channel No.:19

Frequency (MHz)	Result (dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
47.8965	19.97	-15.5	35.47	Vertical	40	20.03
58.906	23.95	-16.2	40.15	Vertical	40	16.05
171.135	18.94	-19.5	38.44	Vertical	43.5	24.56
174.8695	19.7	-19.3	39	Vertical	43.5	23.8
436.333	18.75	-10.4	29.15	Vertical	46	27.25
832.2385	18.96	-3.3	22.26	Vertical	46	27.04

Channel No.:39

Frequency (MHz)	Result (dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
47.9935	20.66	-15.5	36.16	Vertical	40	19.34
59.7305	23.09	-16.3	39.39	Vertical	40	16.91
172.2505	18.76	-19.5	38.26	Vertical	43.5	24.74
199.9925	21.69	-16.6	38.29	Vertical	43.5	21.81
436.333	18.76	-10.4	29.16	Vertical	46	27.24
744.017	20.96	-4.2	25.16	Vertical	46	25.04



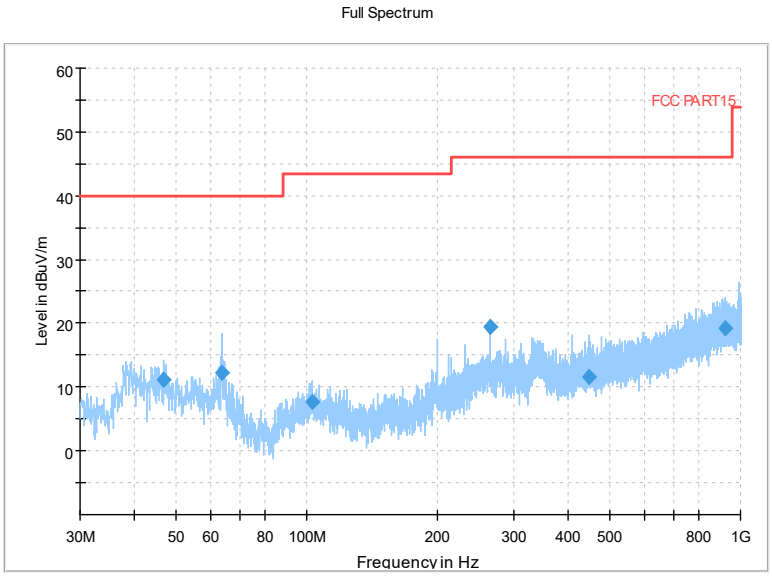
Frequency Range: 9kHz -30MHz

Detector: QP mode

Note：The relevant tests have been performed in order to verify in which mode would have the worst features, the result show above is the worst case.

LE 1Mbps

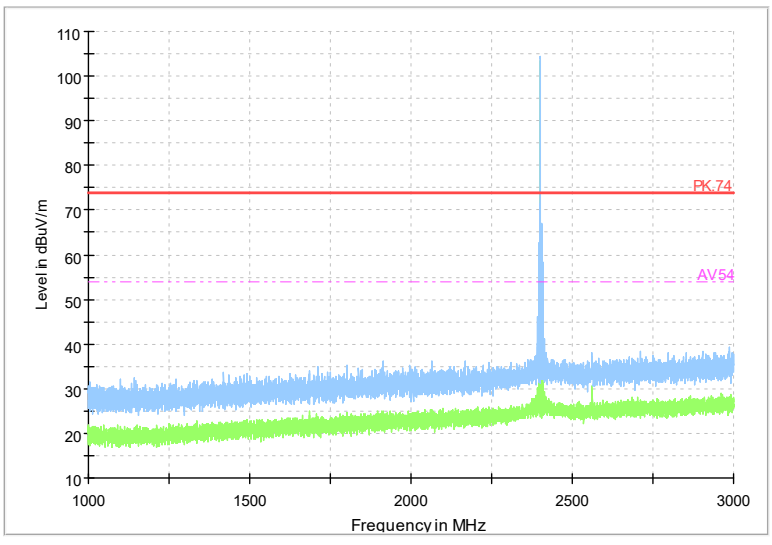
Channel No.:0



Frequency Range: 30MHz-1GHz

Detector: QP mode

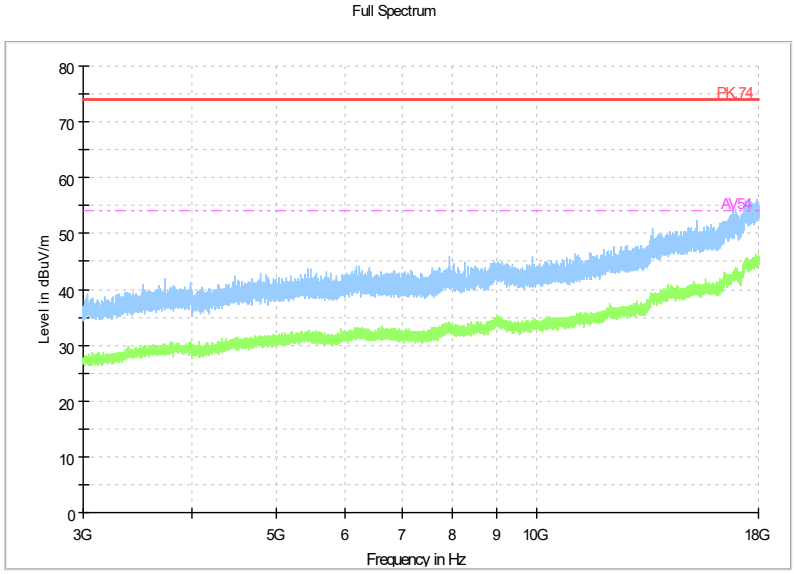
Modulation type: GFSK (LE 1Mbps)



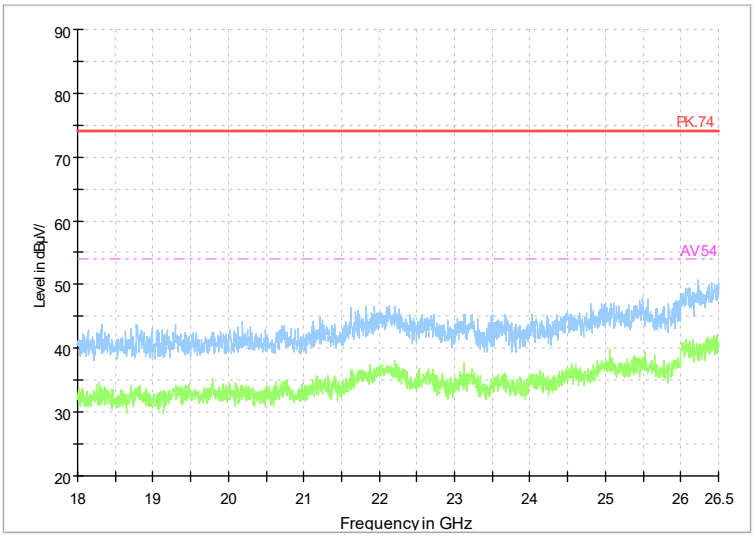
Frequency Range: 1GHz-3GHz

Detector: Av mode and PK mode

Modulation type: GFSK (LE 1Mbps)

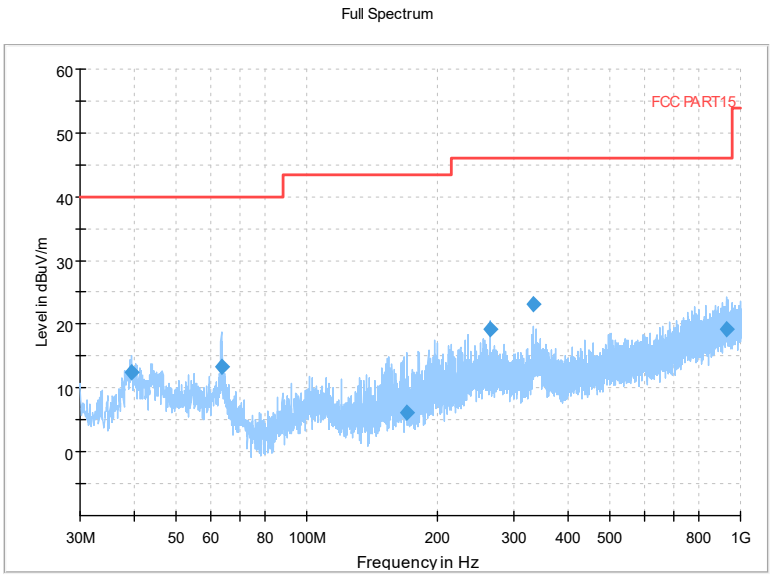


Frequency Range: 3GHz-18GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 1Mbps)



Frequency Range: 18GHz-26GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 1Mbps)

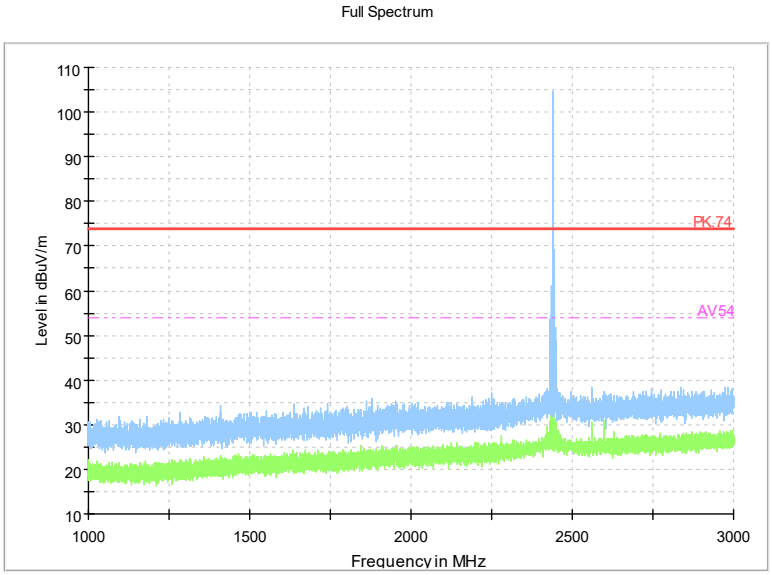
Channel No.:19



Frequency Range: 30MHz-1GHz

Detector: QP mode

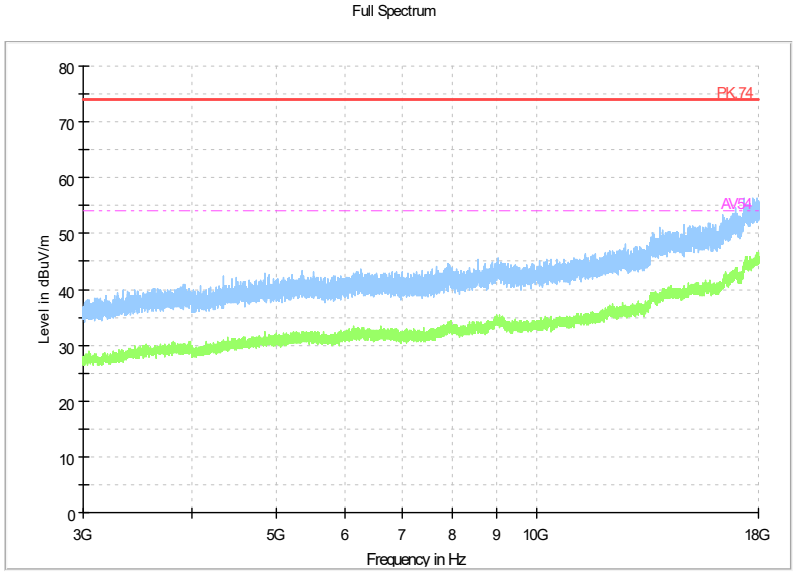
Modulation type: GFSK (LE 1Mbps)



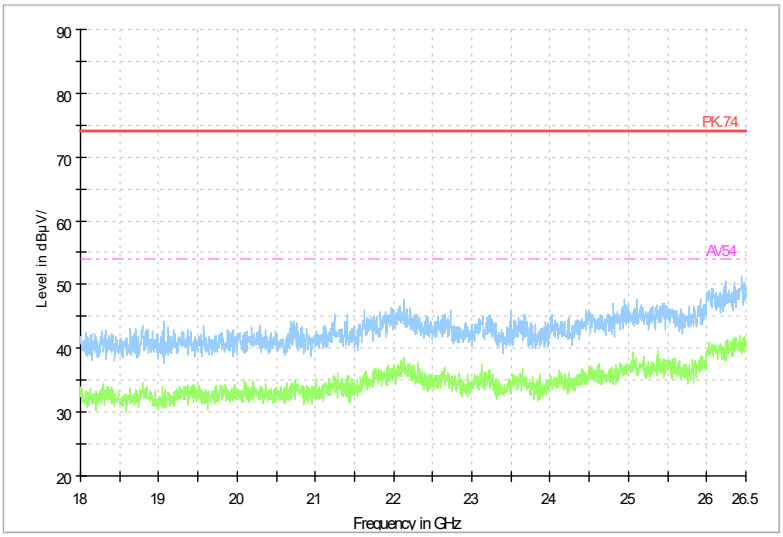
Frequency Range: 1GHz-3GHz

Detector: Av mode and PK mode

Modulation type: GFSK (LE 1Mbps)

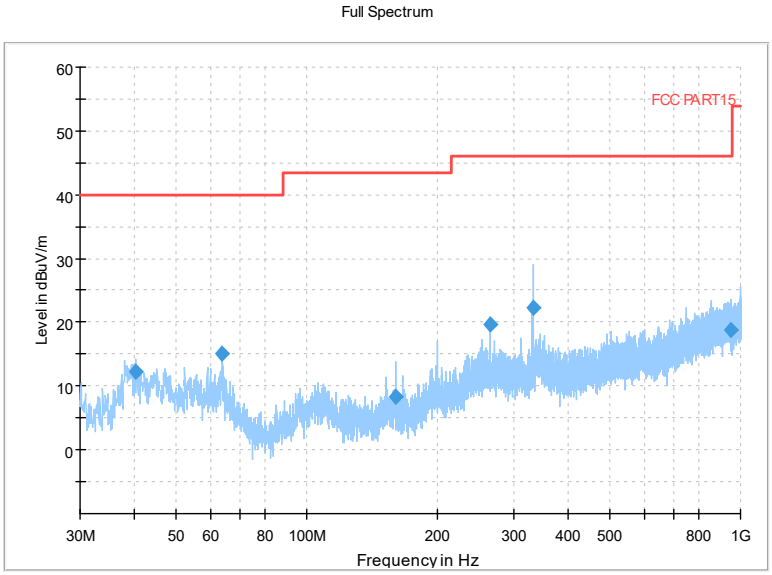


Frequency Range: 3GHz-18GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 1Mbps)



Frequency Range: 18GHz-26GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 1Mbps)

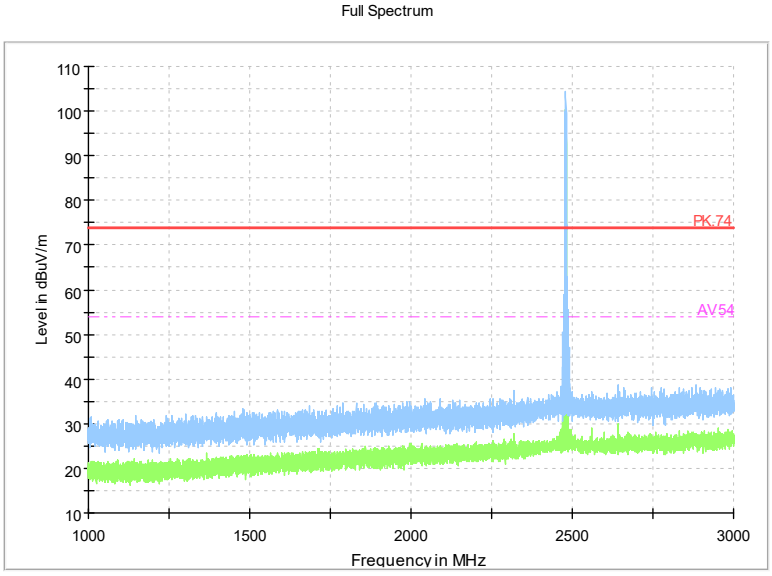
Channel No.:39



Frequency Range: 30MHz-1GHz

Detector: QP mode

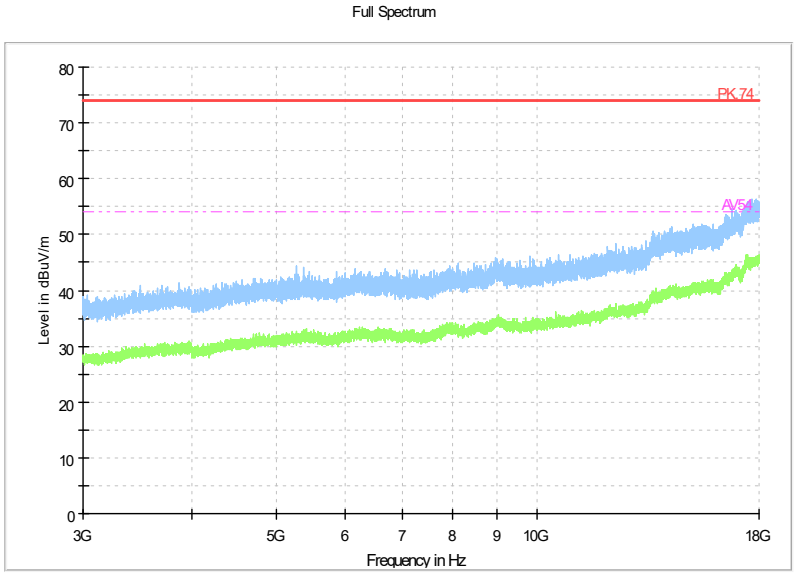
Modulation type: GFSK (LE 1Mbps)



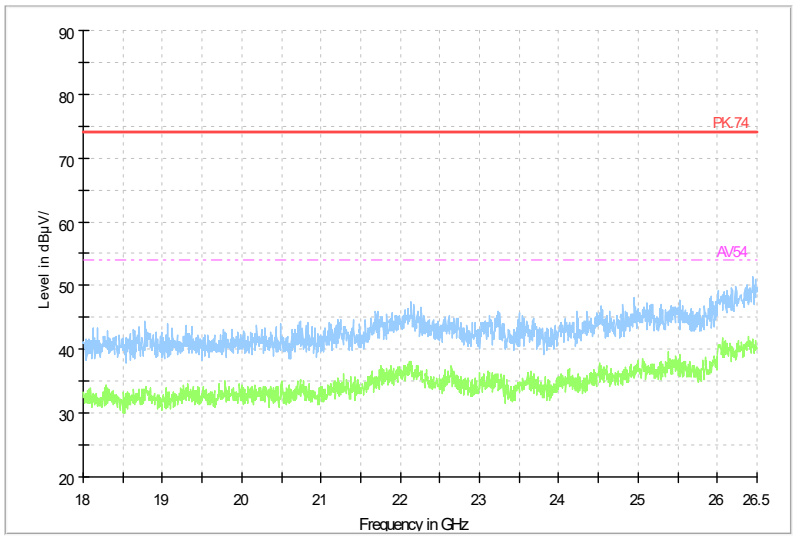
Frequency Range: 1GHz-3GHz

Detector: Av mode and PK mode

Modulation type: GFSK (LE 1Mbps)



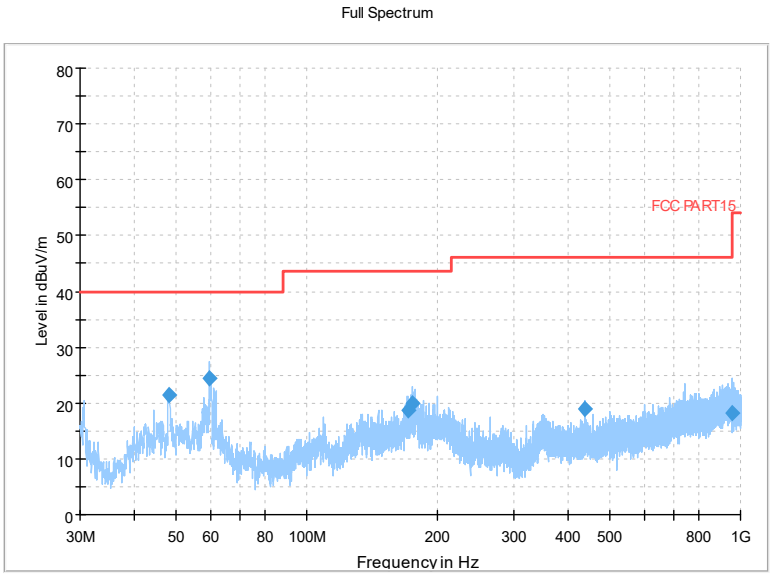
Frequency Range: 3GHz-18GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 1Mbps)



Frequency Range: 18GHz-26GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 1Mbps)

LE 2Mbps

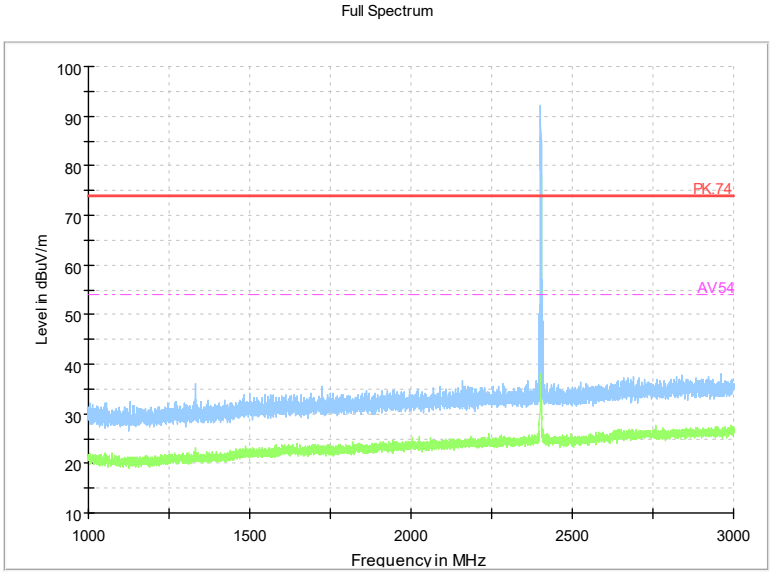
Channel No.:0



Frequency Range: 30MHz-1GHz

Detector:QP mode

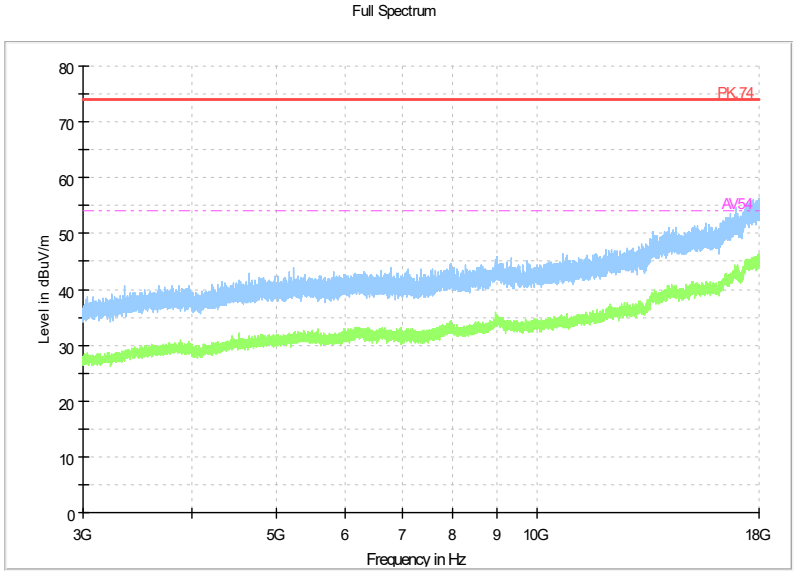
Modulation type: GFSK (LE 2Mbps)



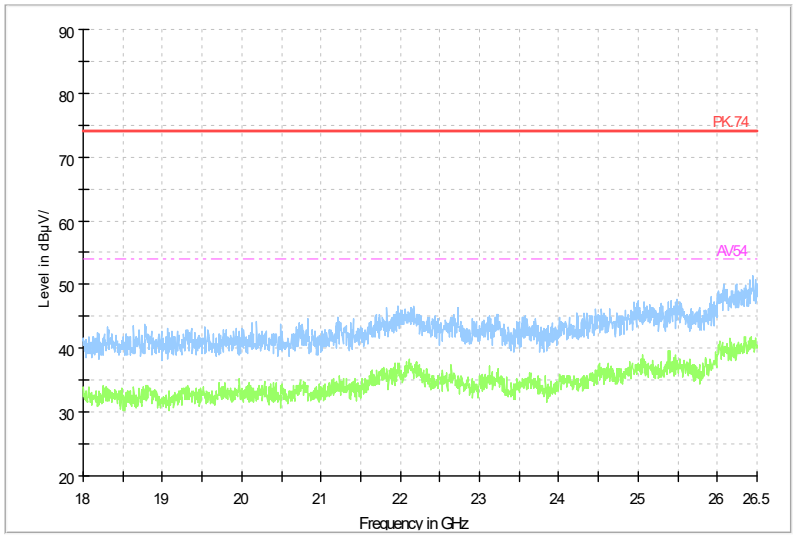
Frequency Range: 1GHz-3GHz

Detector: Av mode and PK mode

Modulation type: GFSK (LE 2Mbps)

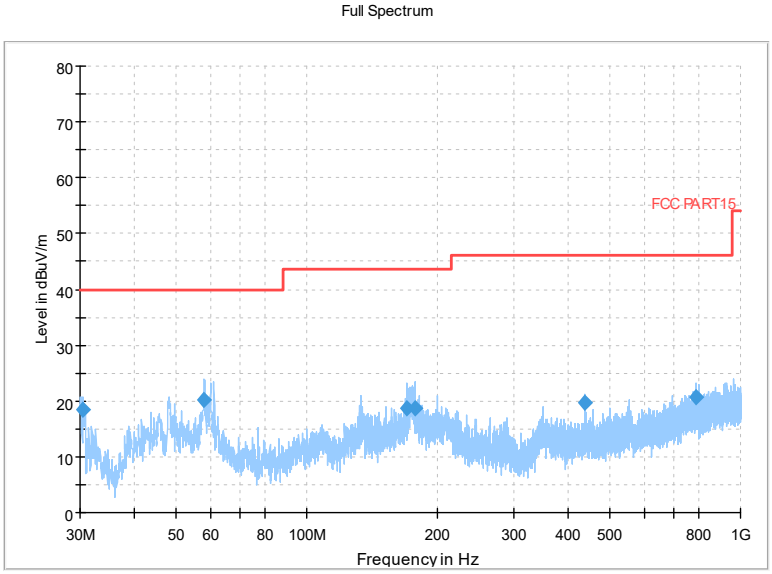


Frequency Range: 3GHz-18GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 2Mbps)



Frequency Range: 18GHz-26GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 2Mbps)

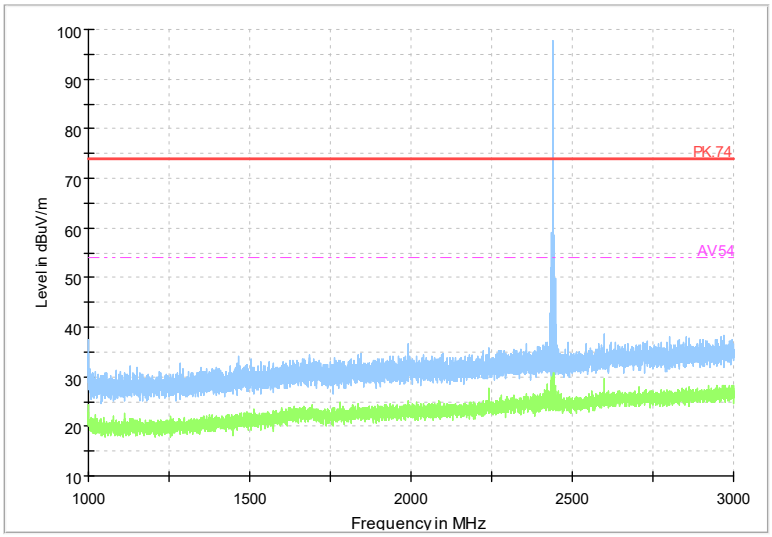
Channel No.:19



Frequency Range: 30MHz-1GHz

Detector: QP mode

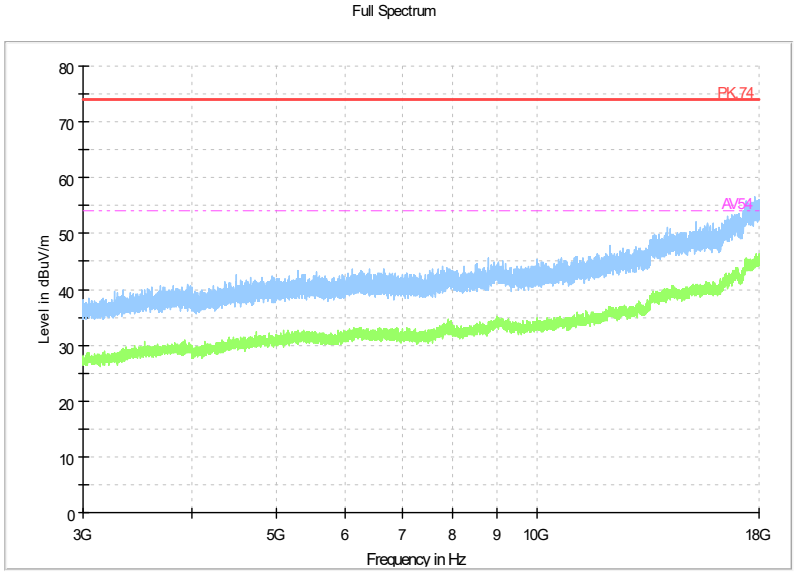
Modulation type: GFSK (LE 2Mbps)



Frequency Range: 1GHz-3GHz

Detector: Av mode and PK mode

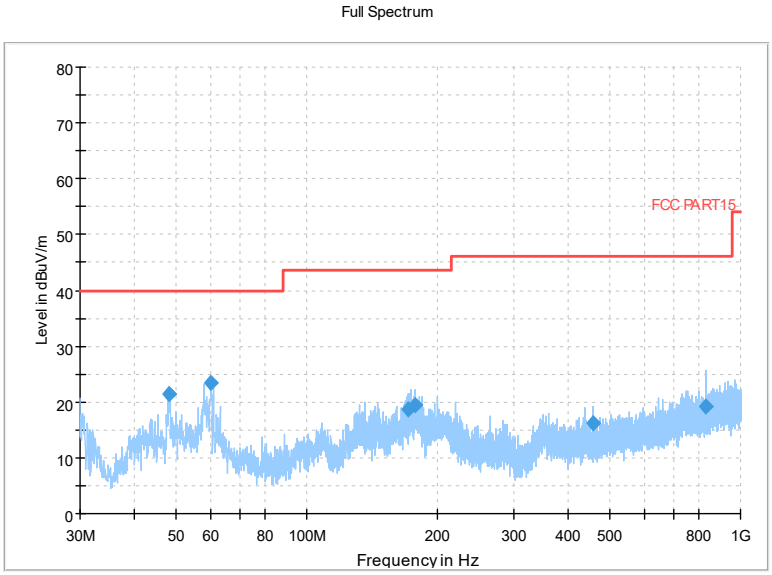
Modulation type: GFSK (LE 2Mbps)



Frequency Range: 3GHz-18GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 2Mbps)

Frequency Range: 18GHz-26GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 2Mbps)

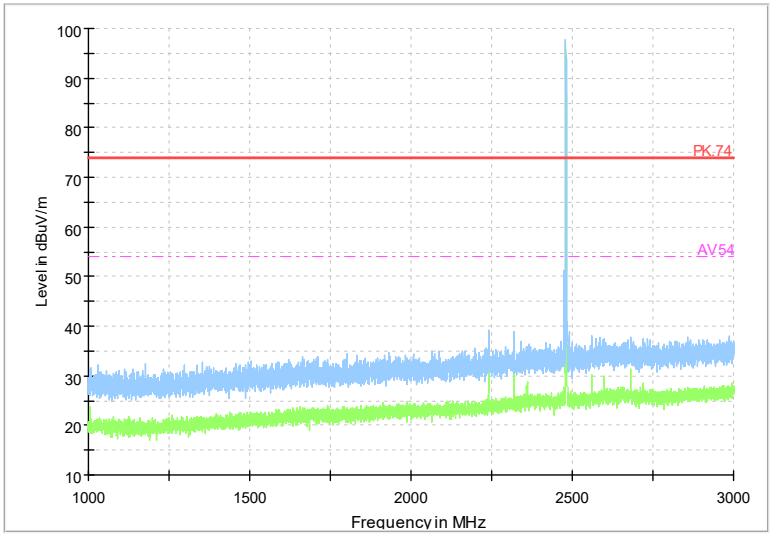
Channel No.:39



Frequency Range: 30MHz-1GHz

Detector: QP mode

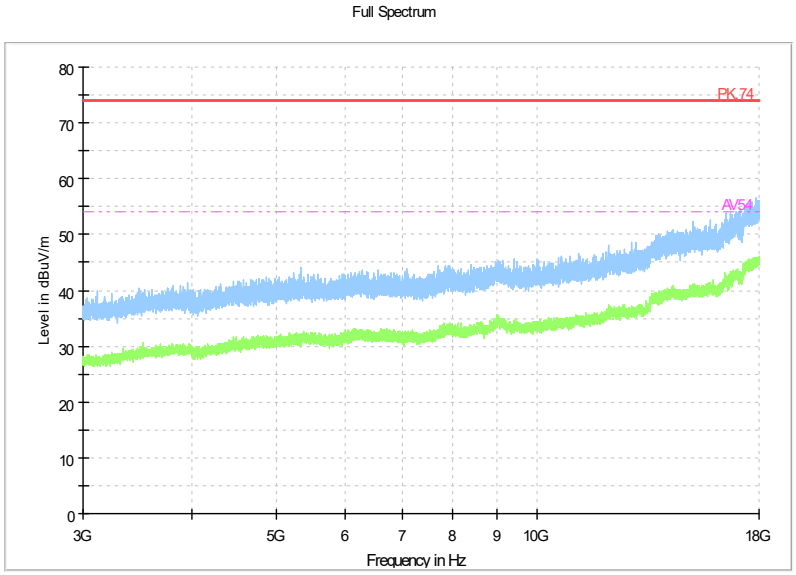
Modulation type: GFSK (LE 2Mbps)



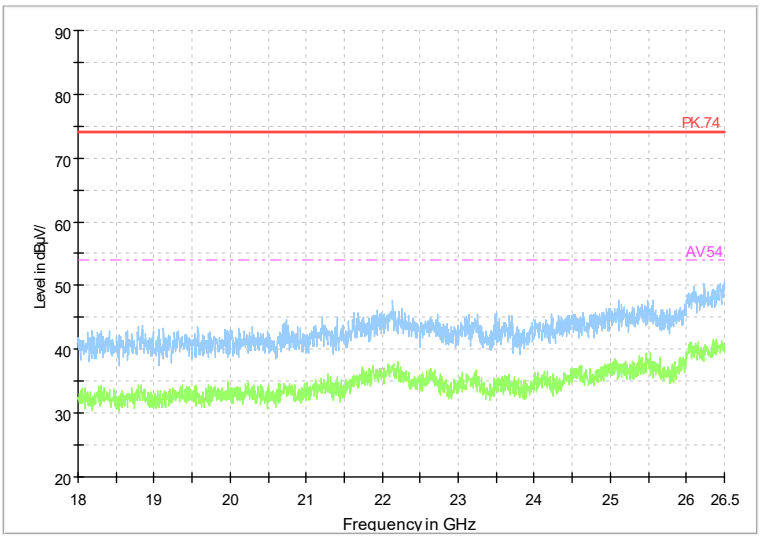
Frequency Range: 1GHz-3GHz

Detector: Av mode and PK mode

Modulation type: GFSK (LE 2Mbps)



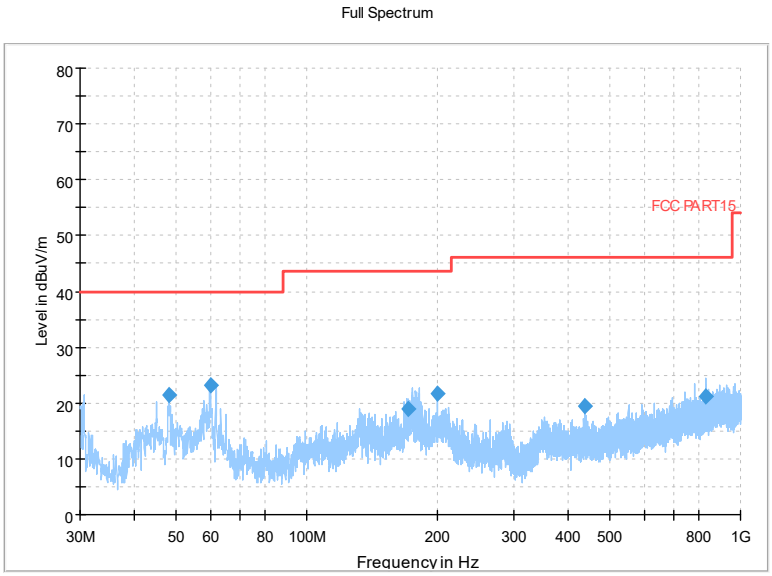
Frequency Range: 3GHz-18GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 2Mbps)



Frequency Range: 18GHz-26GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 2Mbps)

LE 125Khz S=8

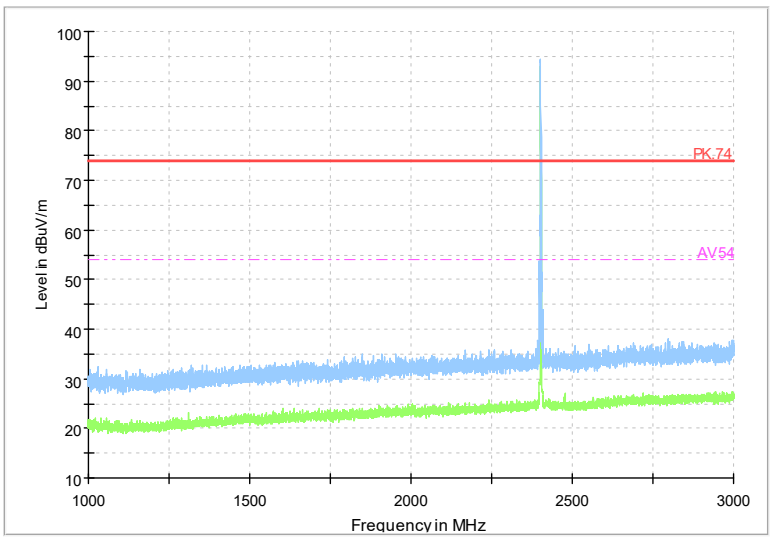
Channel No.:0



Frequency Range: 30MHz-1GHz

Detector:QP mode

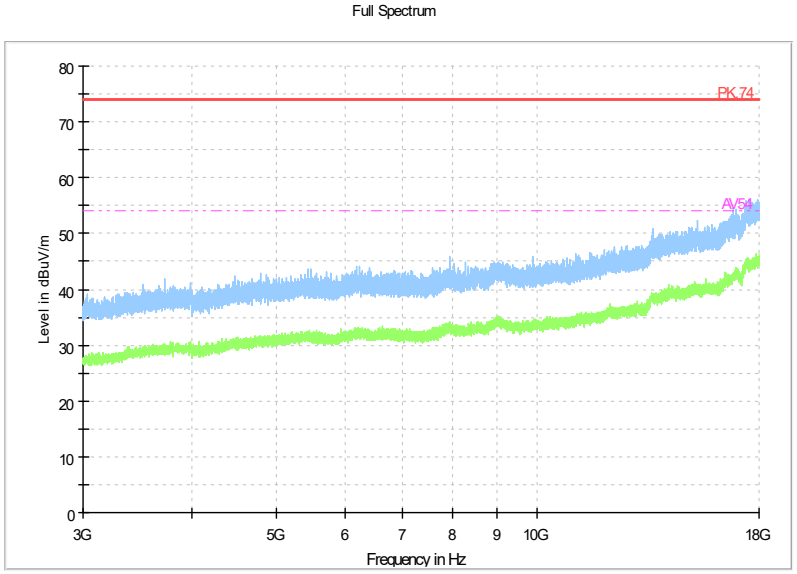
Modulation type: GFSK (LE 125Khz S=8)



Frequency Range: 1GHz-3GHz

Detector: Av mode and PK mode

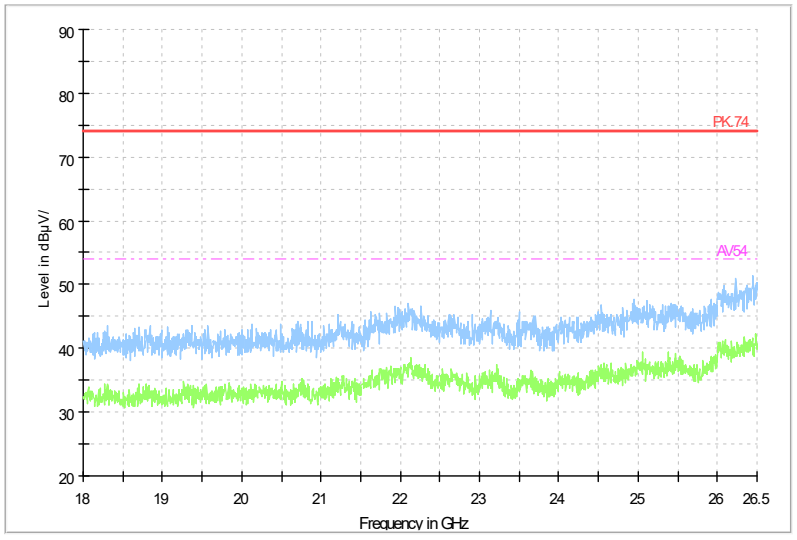
Modulation type: GFSK (LE 125Khz S=8)



Frequency Range: 3GHz-18GHz

Detector: Av mode and PK mode

Modulation type: GFSK (LE 125Khz S=8)

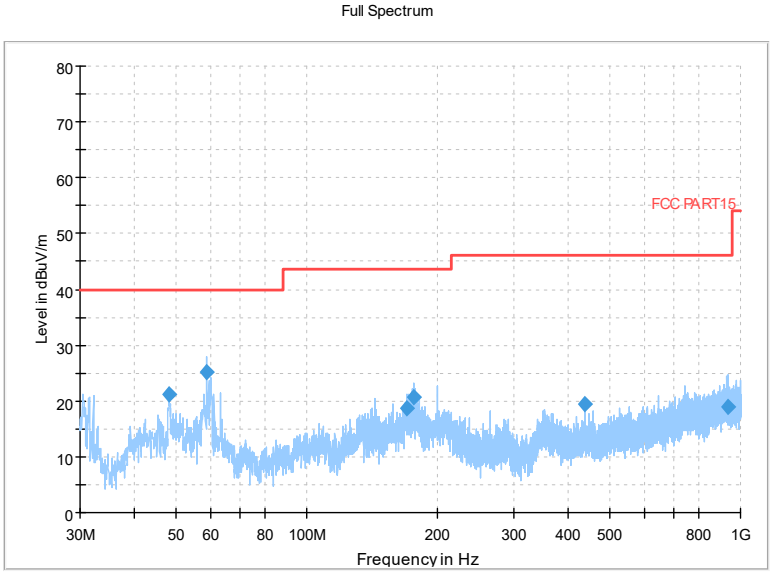


Frequency Range: 18GHz-26GHz

Detector: Av mode and PK mode

Modulation type: (LE 125Khz S=8)

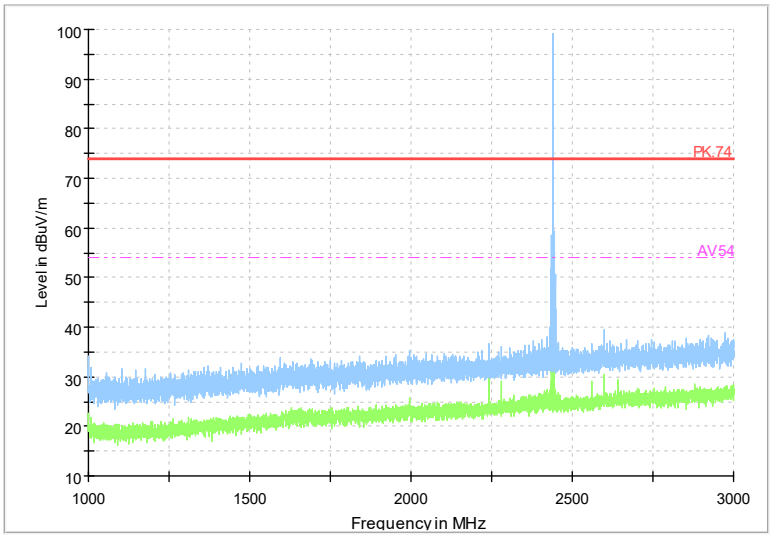
Channel No.:19



Frequency Range: 30MHz-1GHz

Detector: QP mode

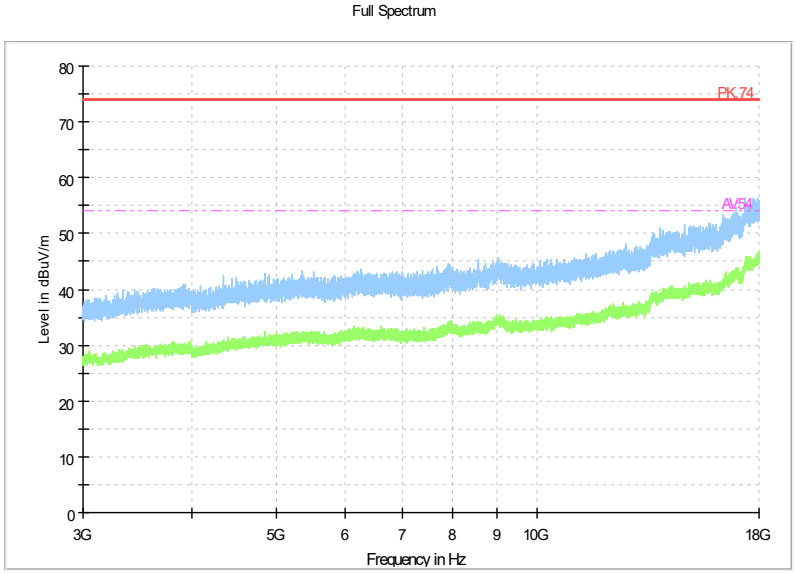
Modulation type: GFSK (LE 125Khz S=8)



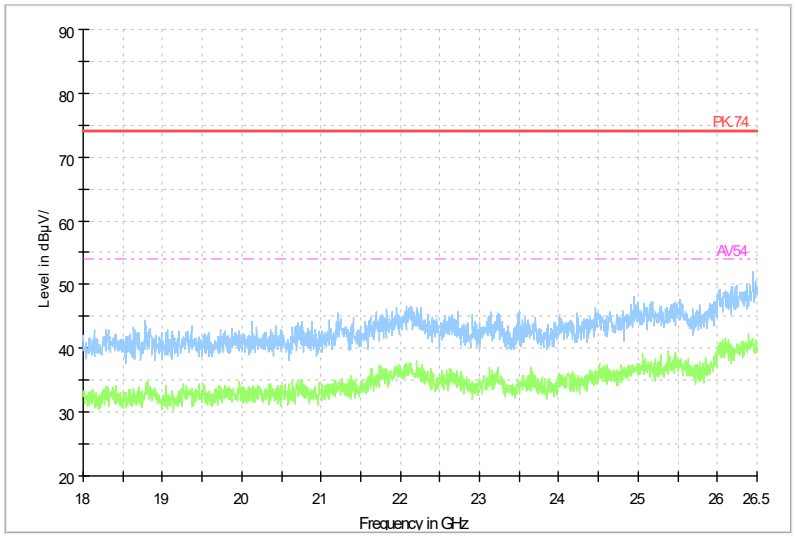
Frequency Range: 1GHz-3GHz

Detector: Av mode and PK mode

Modulation type: GFSK (LE 125Khz S=8)

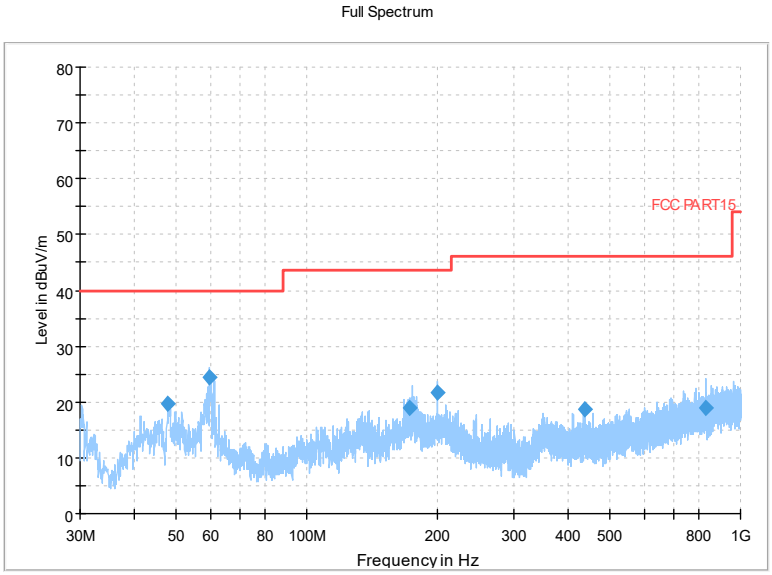


Frequency Range: 3GHz-18GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 125Khz S=8)



Frequency Range: 18GHz-26GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 125Khz S=8)

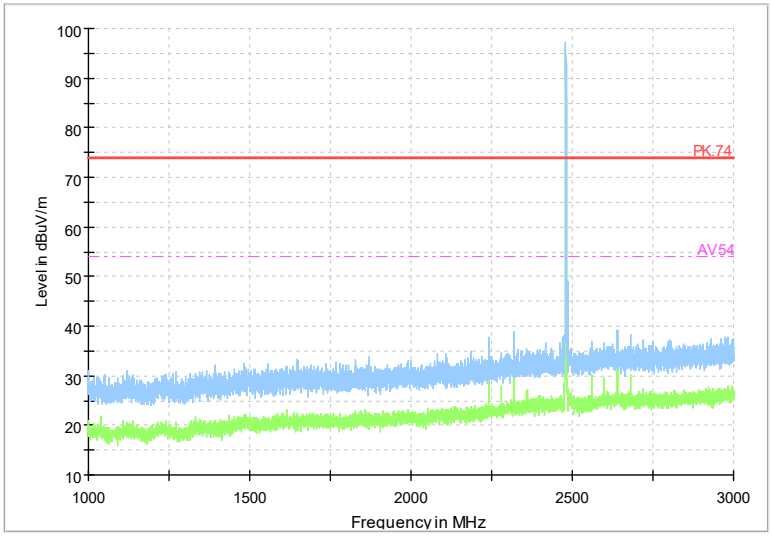
Channel No.:39



Frequency Range: 30MHz-1GHz

Detector: QP mode

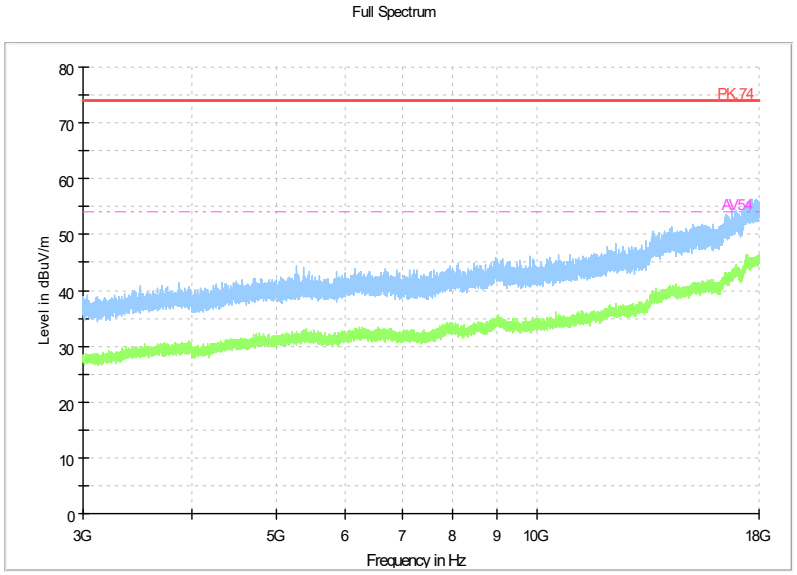
Modulation type: GFSK (LE 125Khz S=8)



Frequency Range: 1GHz-3GHz

Detector: Av mode and PK mode

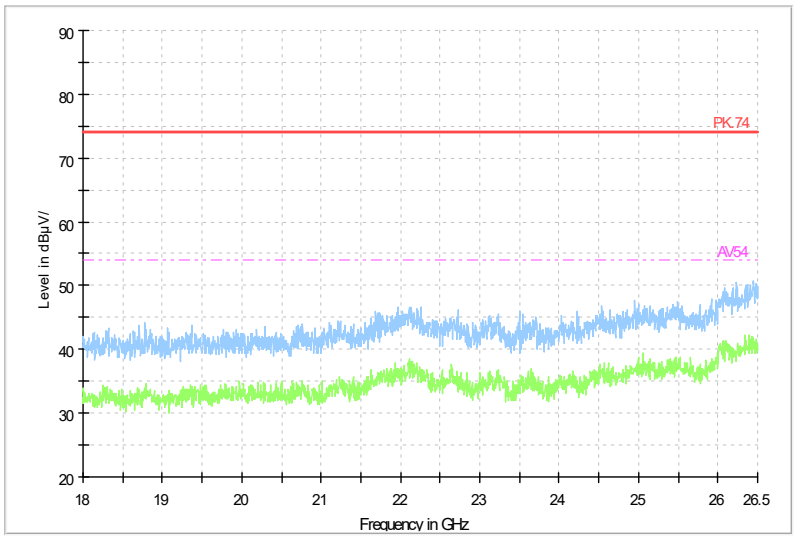
Modulation type: GFSK (LE 125Khz S=8)



Frequency Range: 3GHz-18GHz

Detector: Av mode and PK mode

Modulation type: GFSK (LE 125Khz S=8)



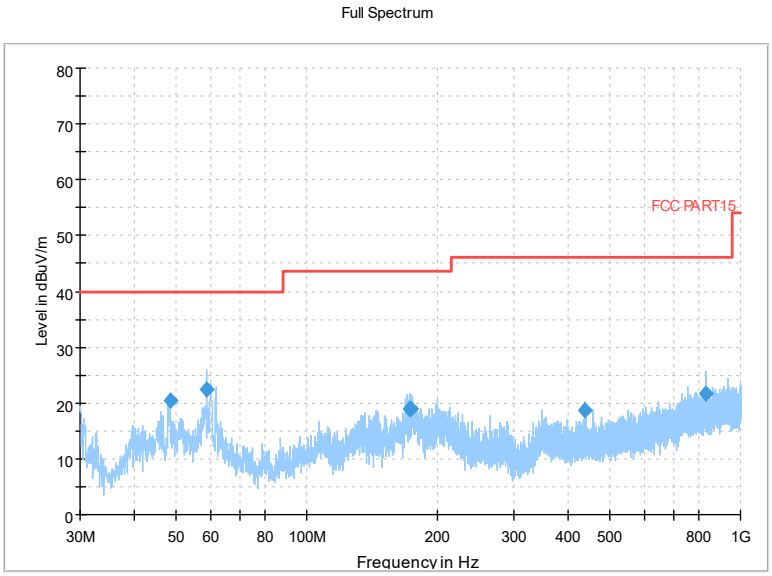
Frequency Range: 18GHz-26GHz

Detector: Av mode and PK mode

Modulation type: GFSK (LE 125Khz S=8)

LE 500Khz S=2

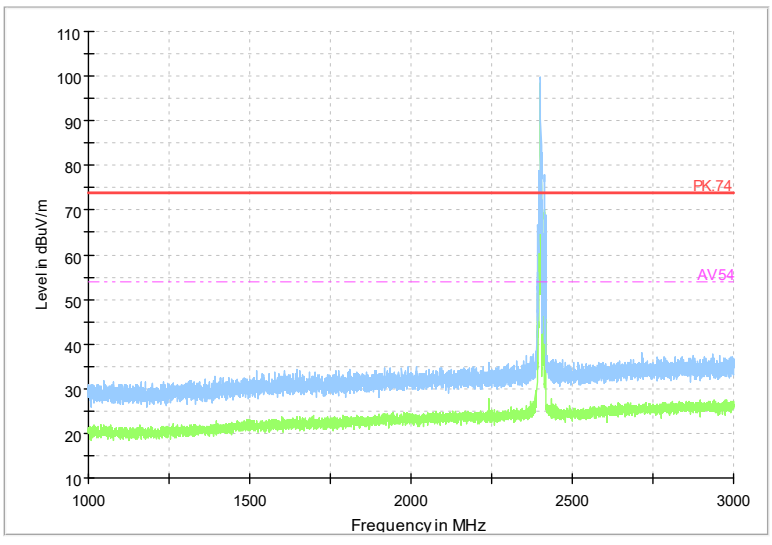
Channel No.:0



Frequency Range: 30MHz-1GHz

Detector:QP mode

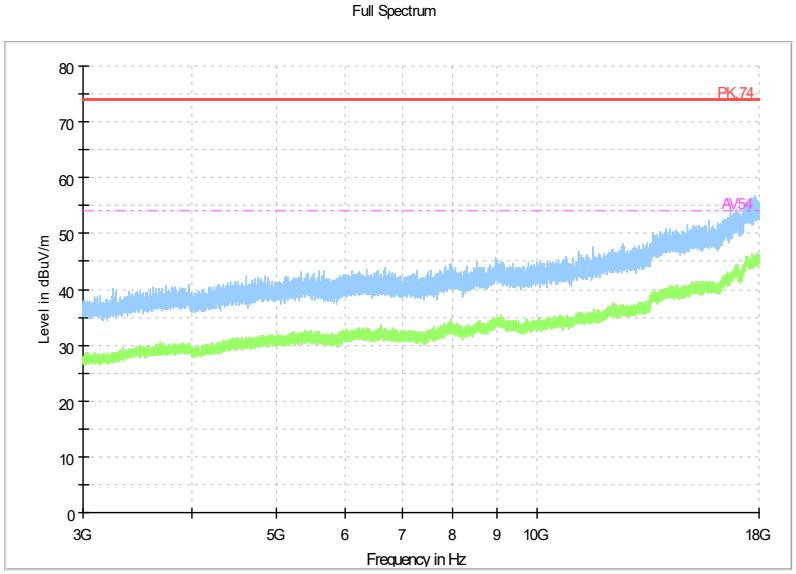
Modulation type: GFSK (LE 500Khz S=2)



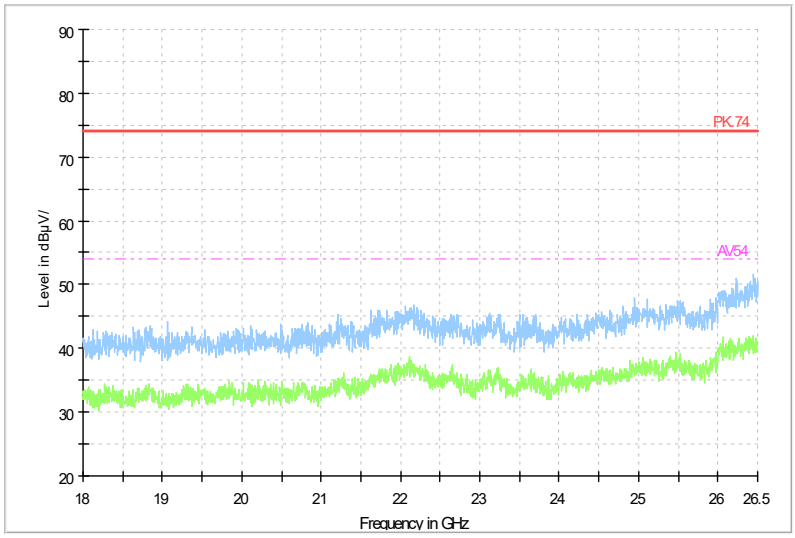
Frequency Range: 1GHz-3GHz

Detector: Av mode and PK mode

Modulation type: GFSK (LE 500Khz S=2)

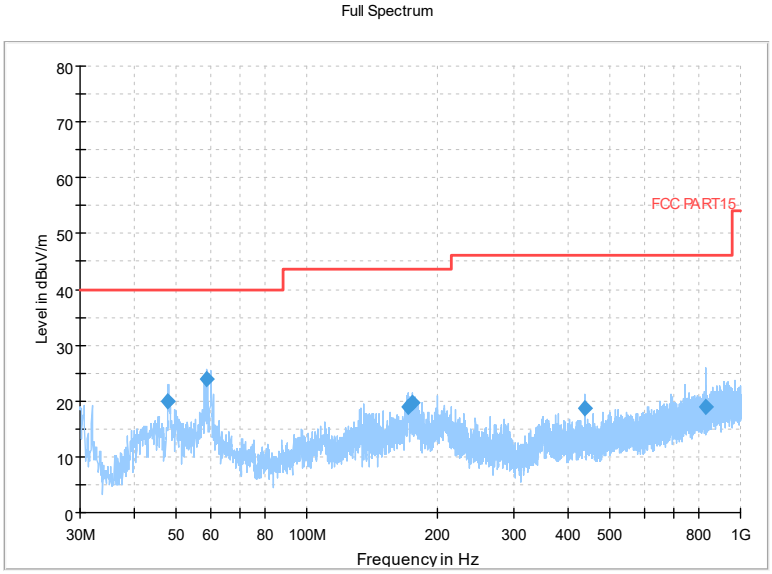


Frequency Range: 3GHz-18GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 500Khz S=2)



Frequency Range: 18GHz-26GHz
Detector: Av mode and PK mode
Modulation type: (LE 500Khz S=2)

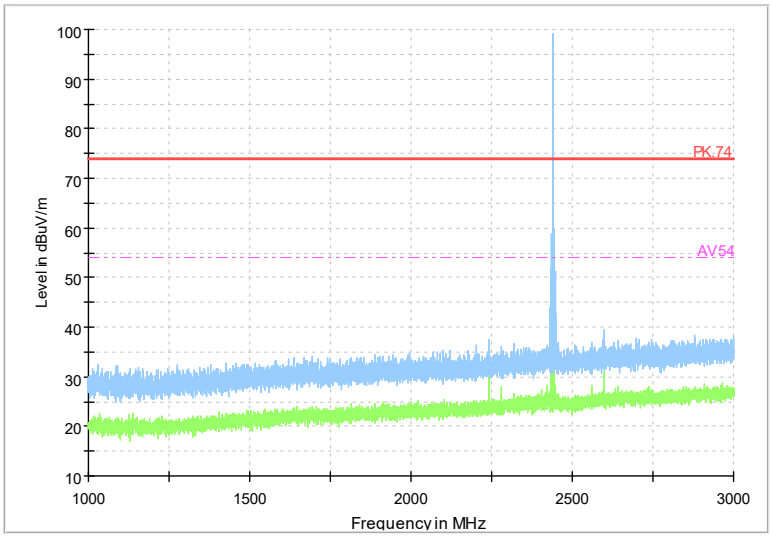
Channel No.:19



Frequency Range: 30MHz-1GHz

Detector: QP mode

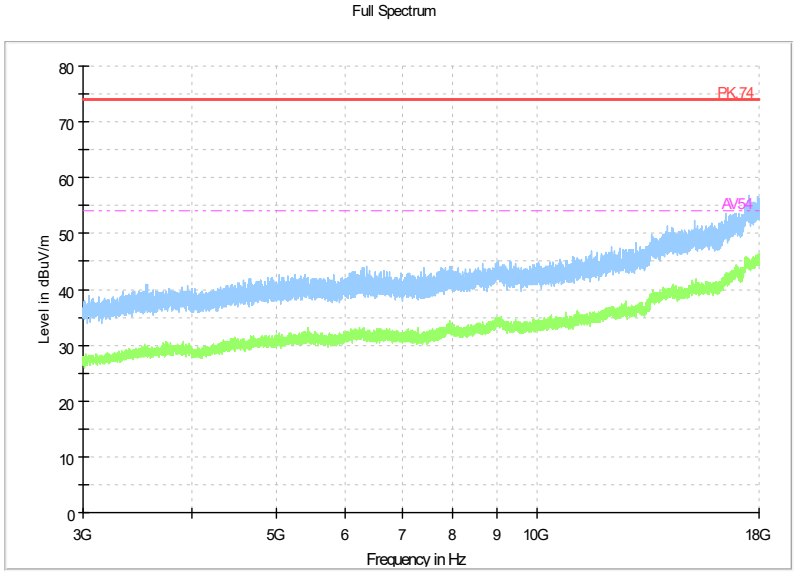
Modulation type: GFSK (LE 500Khz S=2)



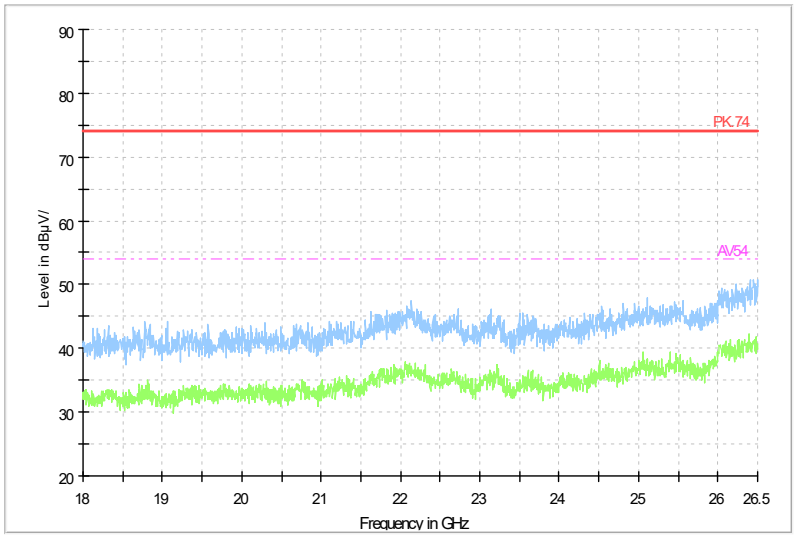
Frequency Range: 1GHz-3GHz

Detector: Av mode and PK mode

Modulation type: GFSK (LE 500Khz S=2)

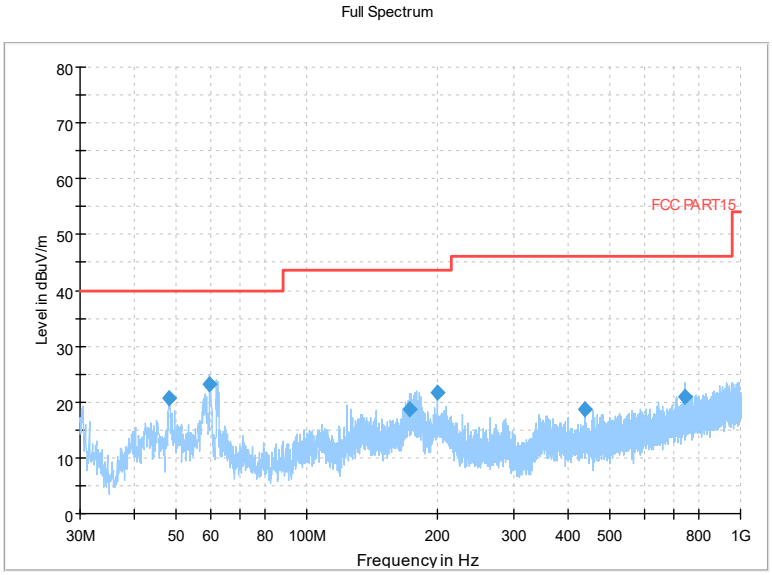


Frequency Range: 3GHz-18GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 500Khz S=2)



Frequency Range: 18GHz-26GHz
Detector: Av mode and PK mode
Modulation type: GFSK (LE 500Khz S=2)

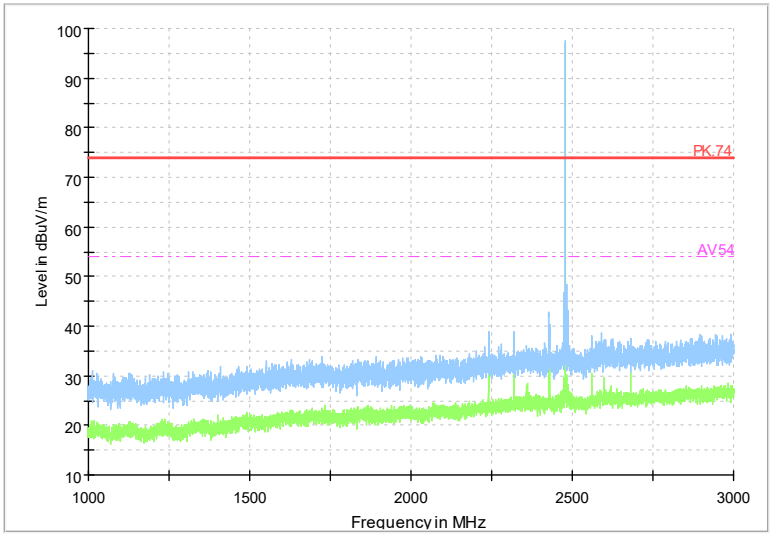
Channel No.:39



Frequency Range: 30MHz-1GHz

Detector: QP mode

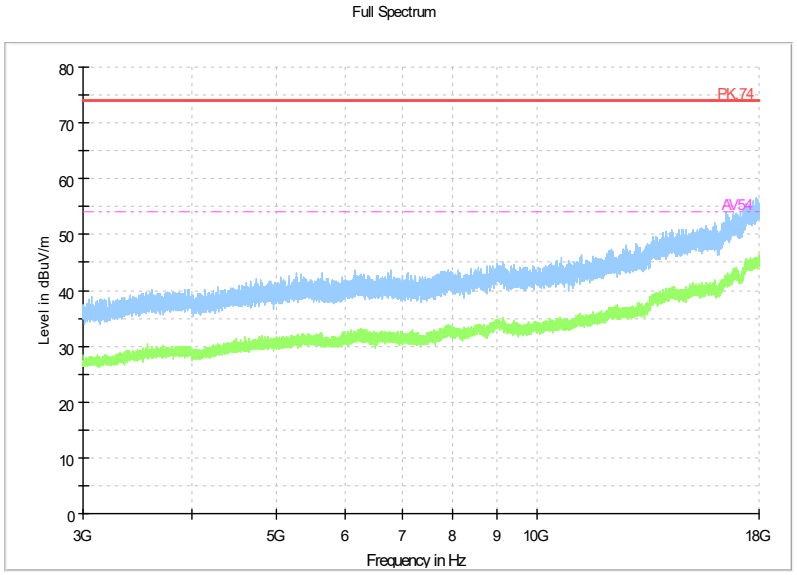
Modulation type: GFSK (LE 500Khz S=2)



Frequency Range: 1GHz-3GHz

Detector: Av mode and PK mode

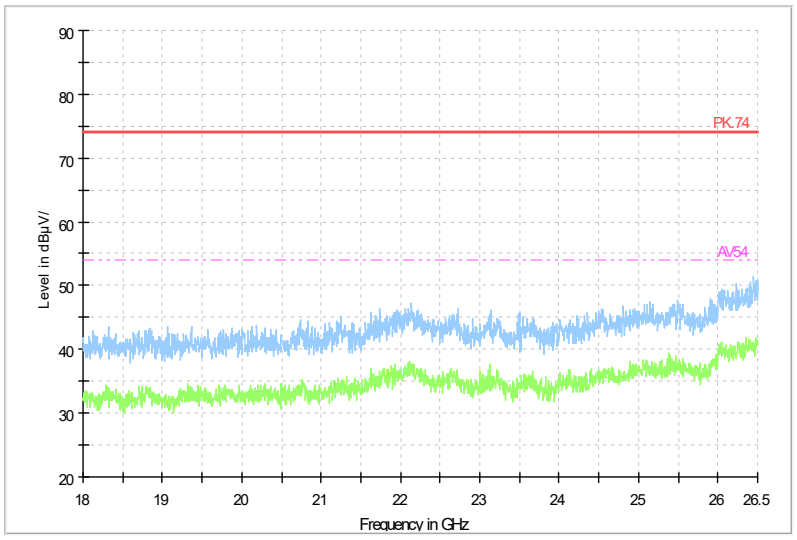
Modulation type: GFSK (LE 500Khz S=2)



Frequency Range: 3GHz-18GHz

Detector: Av mode and PK mode

Modulation type: GFSK (LE 500Khz S=2)

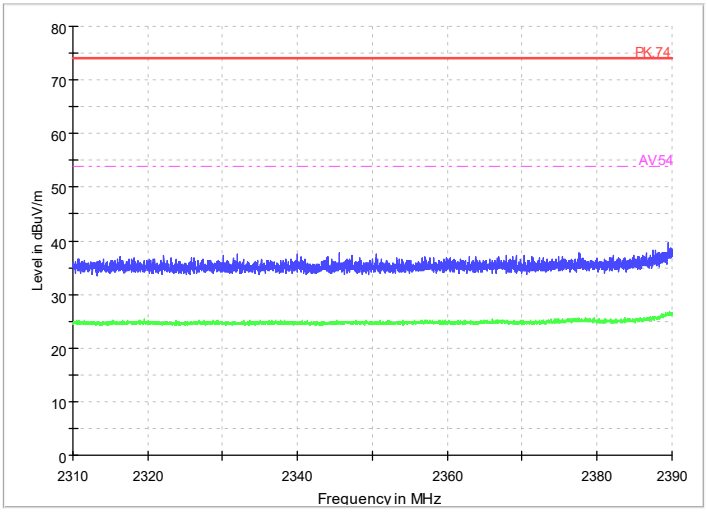


Frequency Range: 18GHz-26GHz

Detector: Av mode and PK mode

Modulation type: GFSK (LE 500Khz S=2)

Radiated Emission Band Edge for WIFI

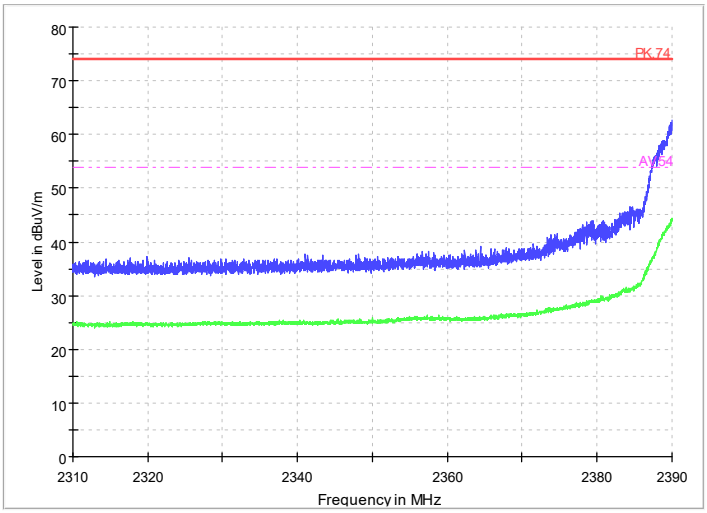


Radiated Emission Band Edge

Channel No.:1

Test Mode: 802.11b

Polarization：V

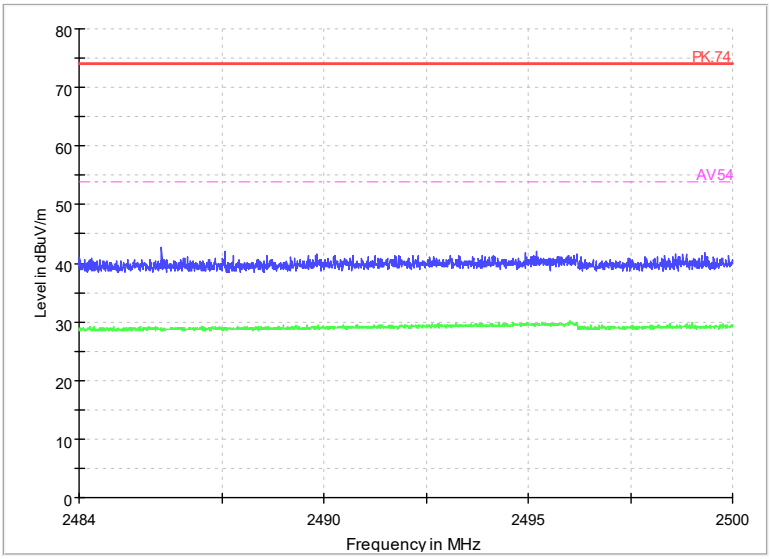


Radiated Emission Band Edge

Channel No.:1

Test Mode: 802.11b

Polarization：H

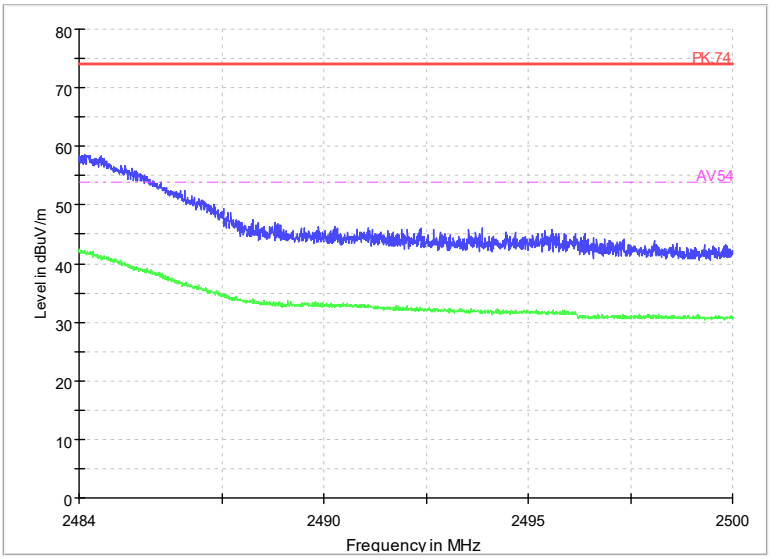


Radiated Emission Band Edge

Channel No.:11

Test Mode: 802.11b

Polarization：V

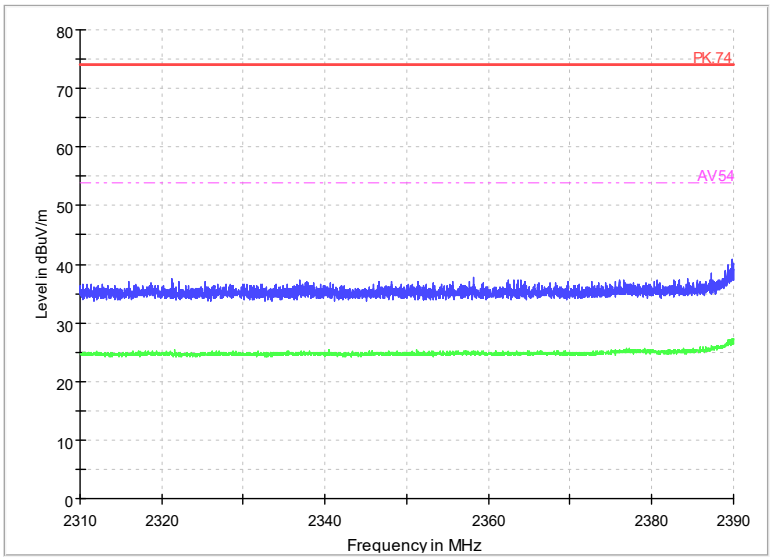


Radiated Emission Band Edge

Channel No.:11

Test Mode: 802.11b

Polarization：H

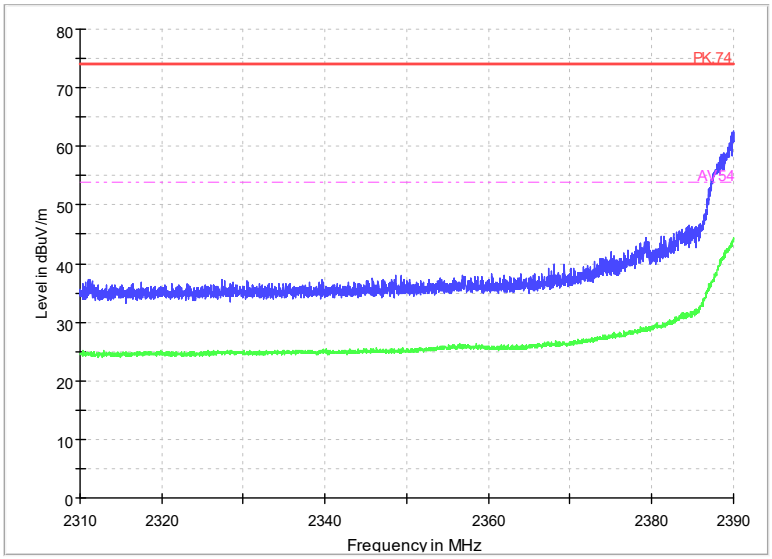


Radiated Emission Band Edge

Channel No.:1

Test Mode: 802.11g

Polarization：V

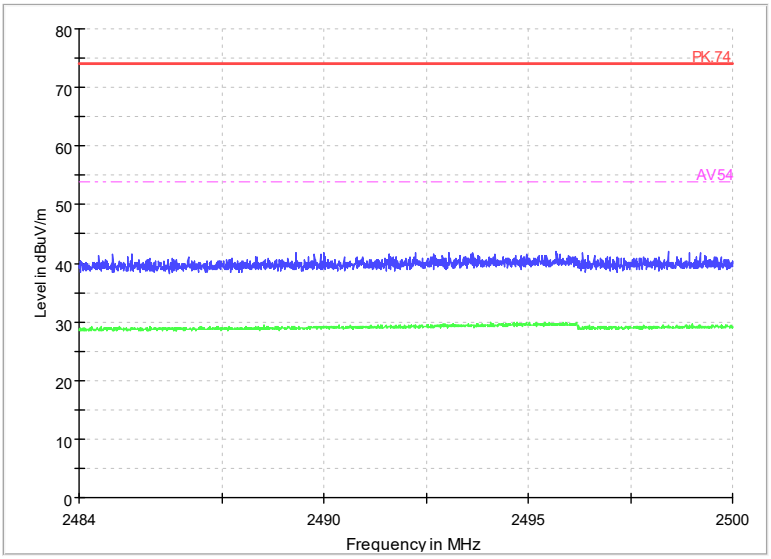


Radiated Emission Band Edge

Channel No.:1

Test Mode: 802.11g

Polarization：H

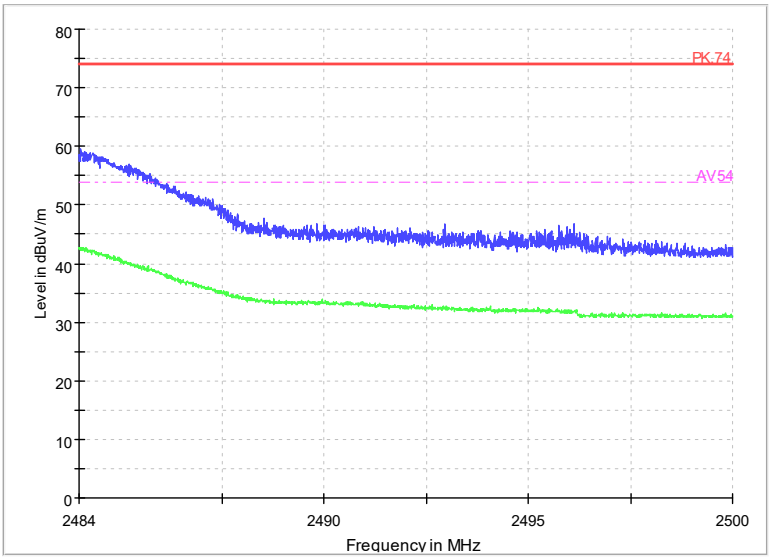


Radiated Emission Band Edge

Channel No.:11

Test Mode: 802.11g

Polarization：V

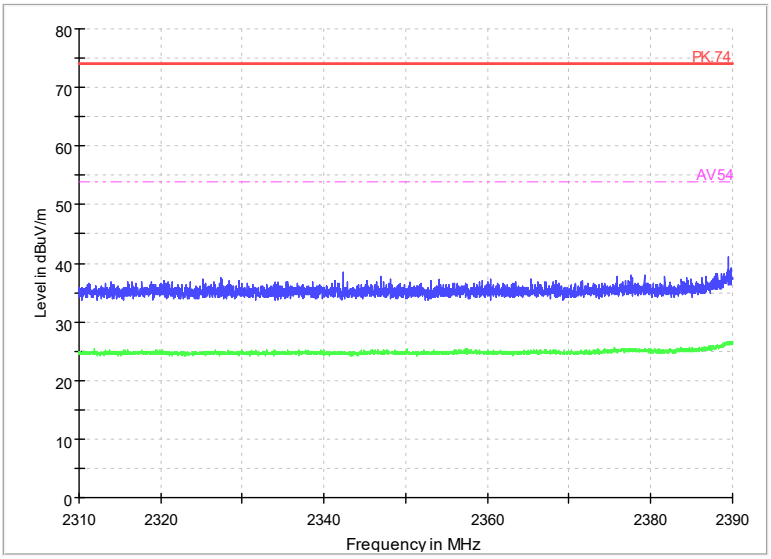


Radiated Emission Band Edge

Channel No.:11

Test Mode: 802.11g

Polarization：H

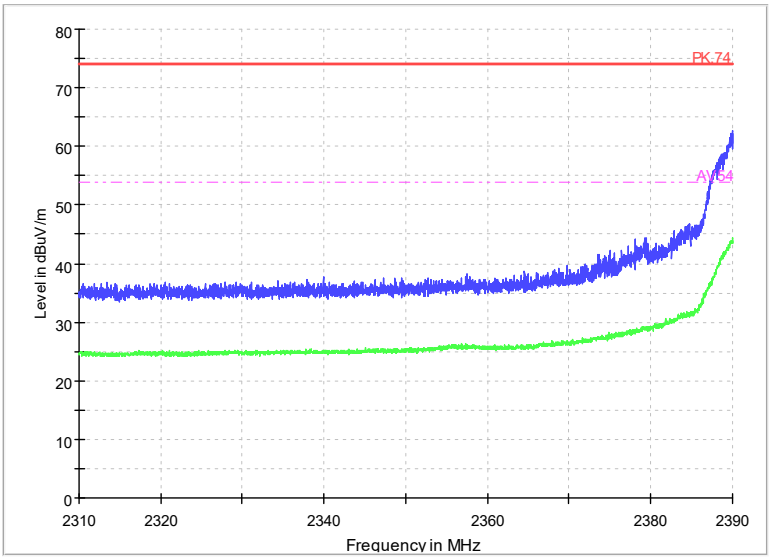


Radiated Emission Band Edge

Channel No.:1

Test Mode: 802.11n(HT20)

Polarization：V

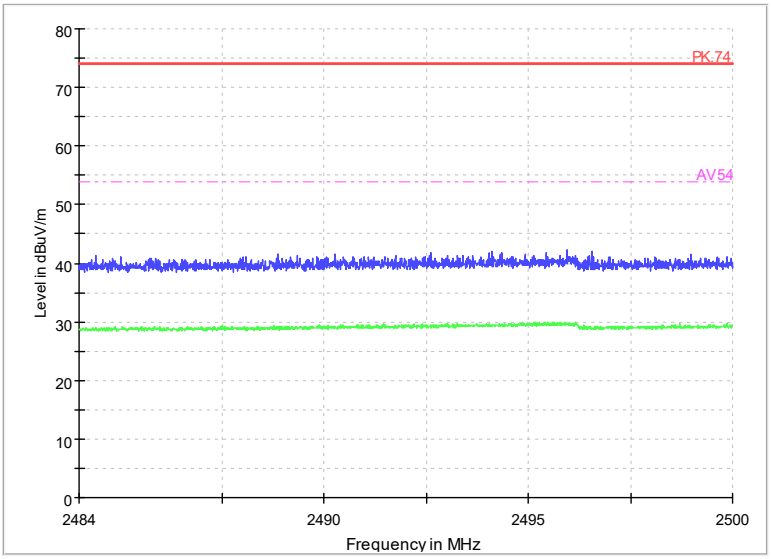


Radiated Emission Band Edge

Channel No.:1

Test Mode: 802.11n(HT20)

Polarization：H

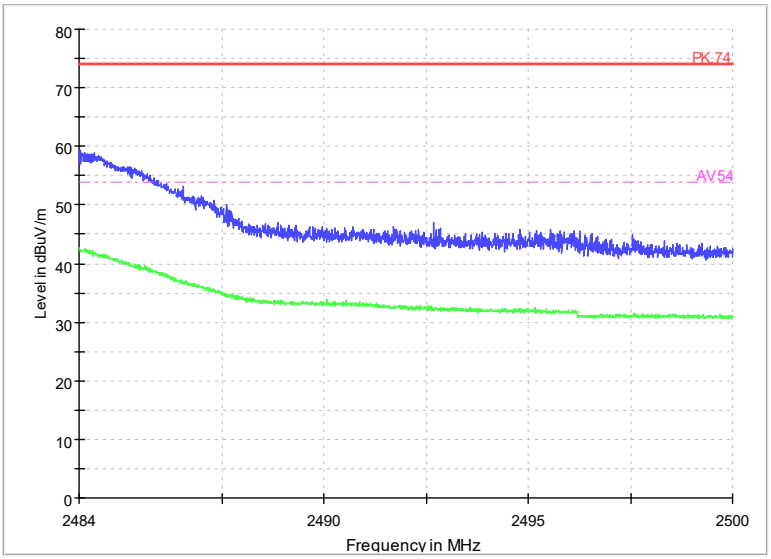


Radiated Emission Band Edge

Channel No.:11

Test Mode: 802.11n(HT20)

Polarization：V

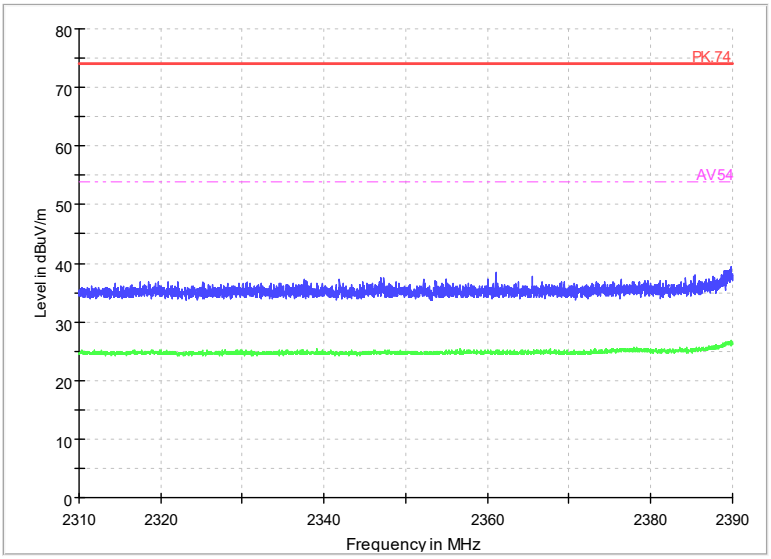


Radiated Emission Band Edge

Channel No.:11

Test Mode: 802.11n(HT20)

Polarization：H

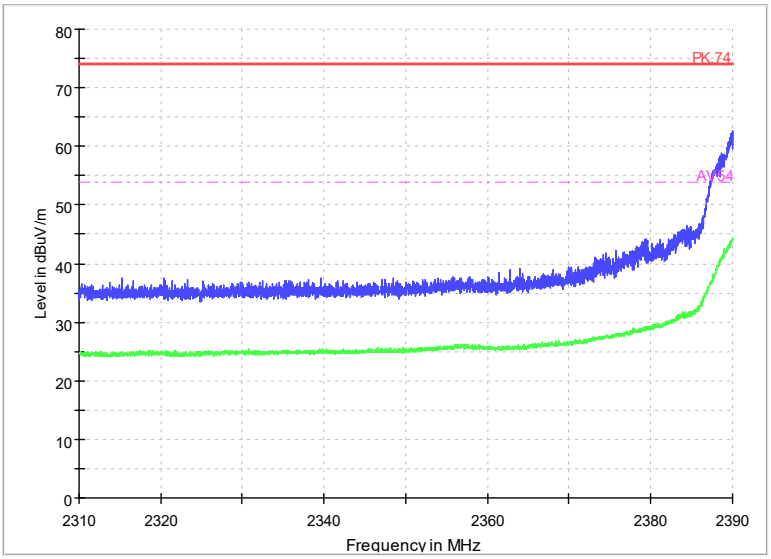


Radiated Emission Band Edge

Channel No.:1

Test Mode: 802.11ax(HE20)

Polarization：V

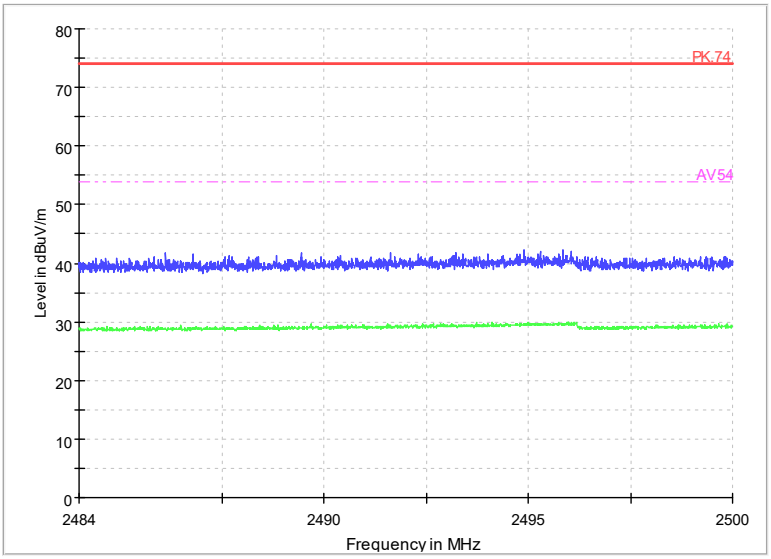


Radiated Emission Band Edge

Channel No.:1

Test Mode: 802.11ax(HE20)

Polarization：H

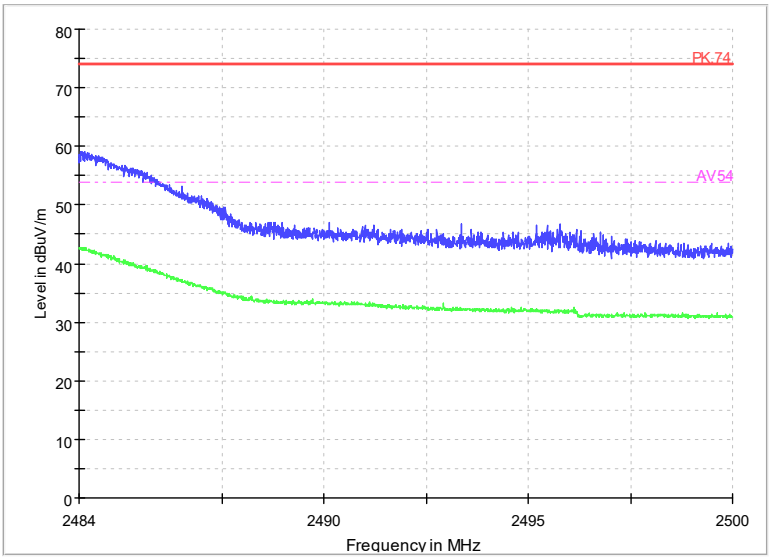


Radiated Emission Band Edge

Channel No.:11

Test Mode: 802.11ax(HE20)

Polarization：V

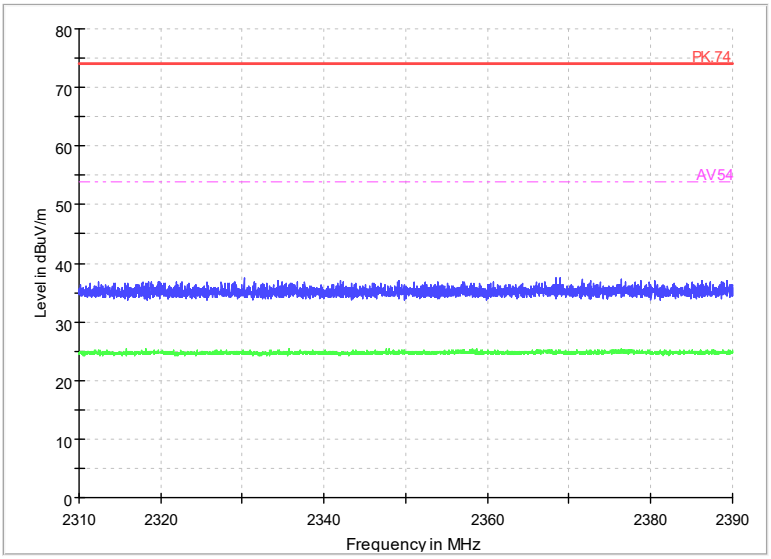


Radiated Emission Band Edge

Channel No.:11

Test Mode: 802.11ax(HE20)

Polarization：H

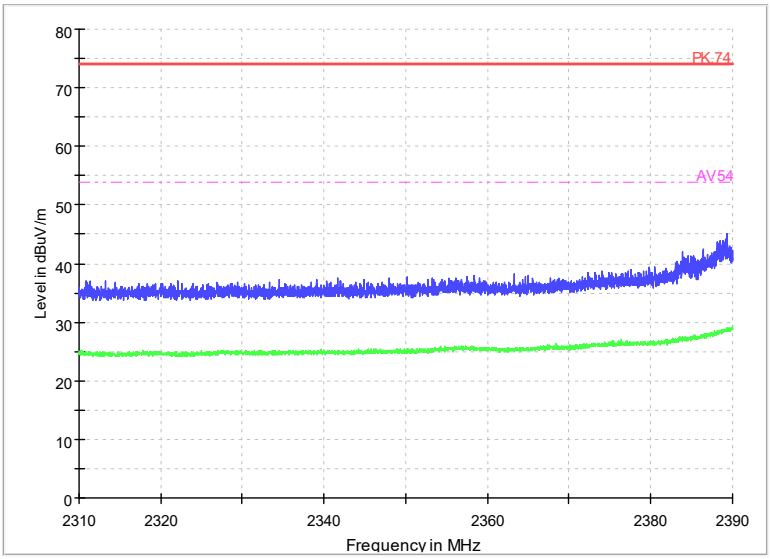


Radiated Emission Band Edge

Channel No.:3

Test Mode: 802.11n(HT40)

Polarization：V

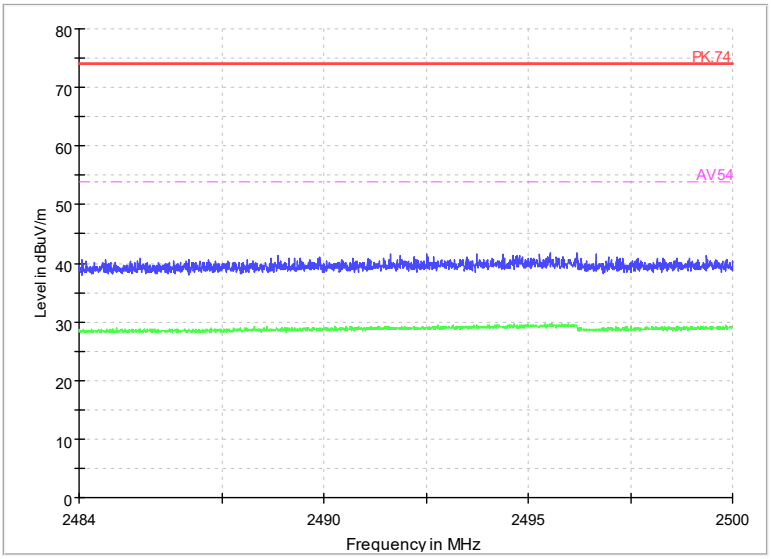


Radiated Emission Band Edge

Channel No.:3

Test Mode: 802.11n(HT40)

Polarization：H

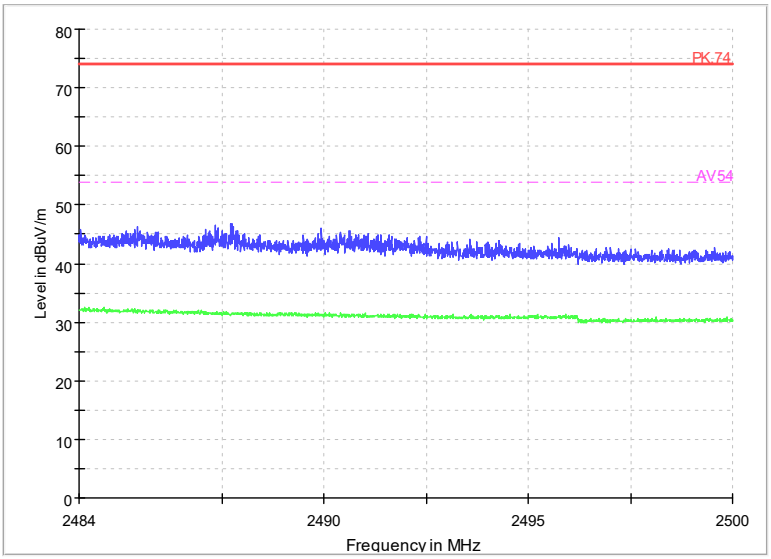


Radiated Emission Band Edge

Channel No.:9

Test Mode: 802.11n(HT40)

Polarization：V

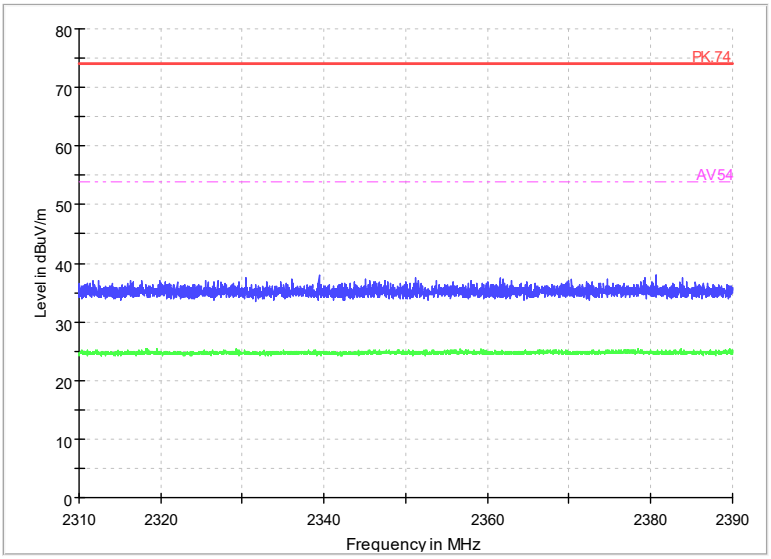


Radiated Emission Band Edge

Channel No.:9

Test Mode: 802.11n(HT40)

Polarization：H

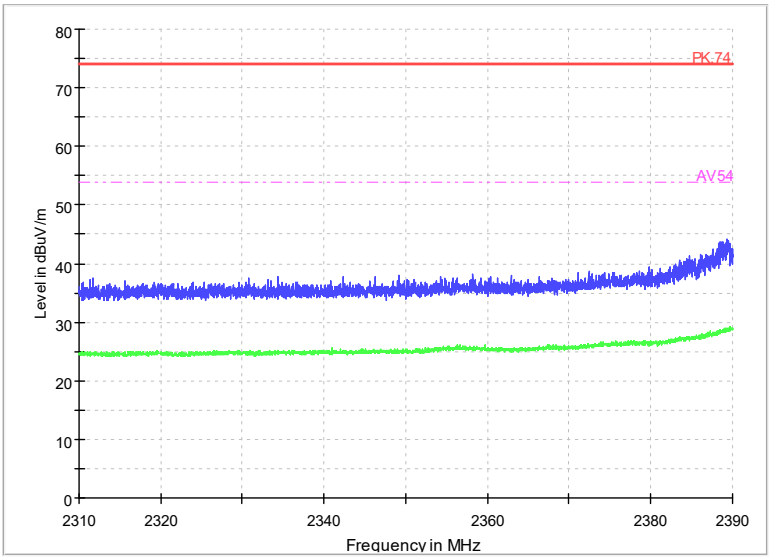


Radiated Emission Band Edge

Channel No.:3

Test Mode: 802.11ax(HE40)

Polarization：V

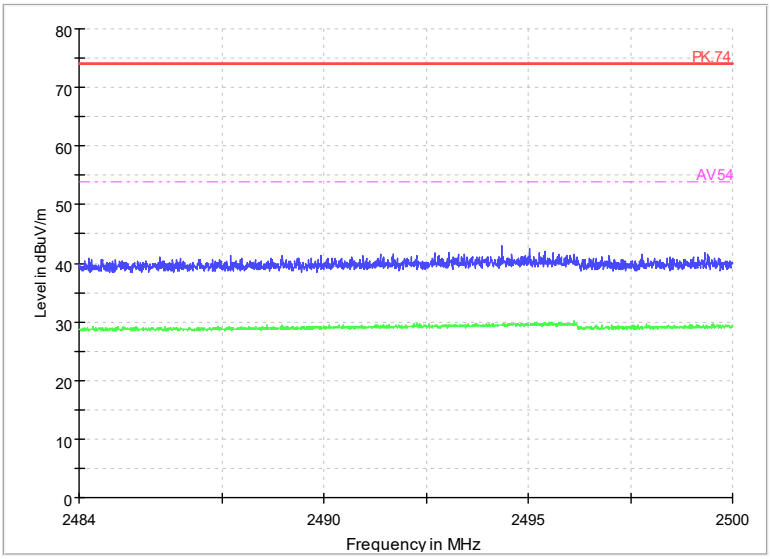


Radiated Emission Band Edge

Channel No.:3

Test Mode: 802.11ax(HE40)

Polarization：H

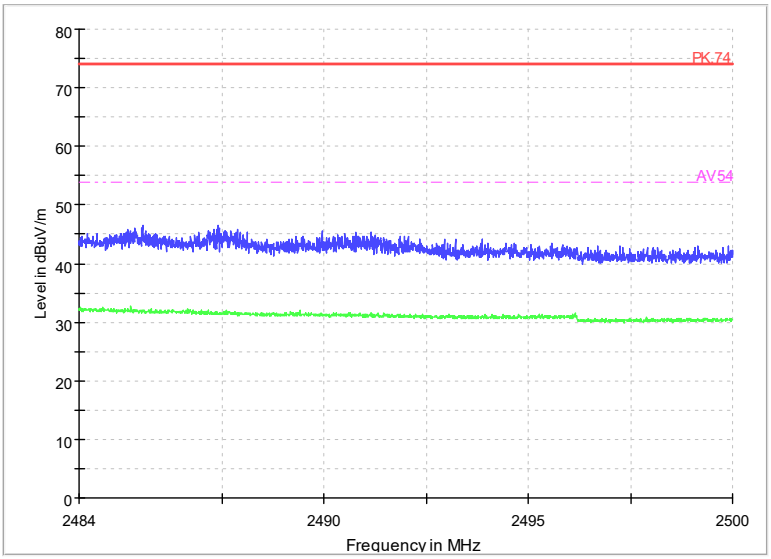


Radiated Emission Band Edge

Channel No.:9

Test Mode: 802.11ax(HE40)

Polarization：V



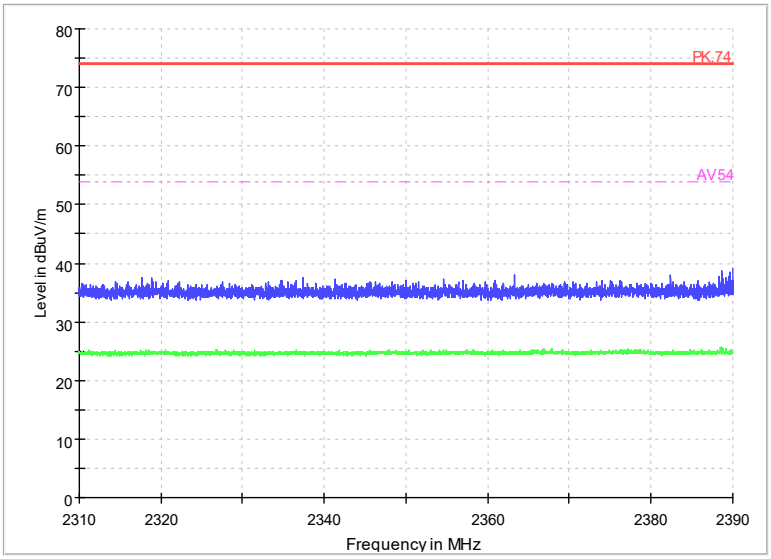
Radiated Emission Band Edge

Channel No.:9

Test Mode: 802.11ax(HE40)

Polarization：H

Partial RU (Tone26)

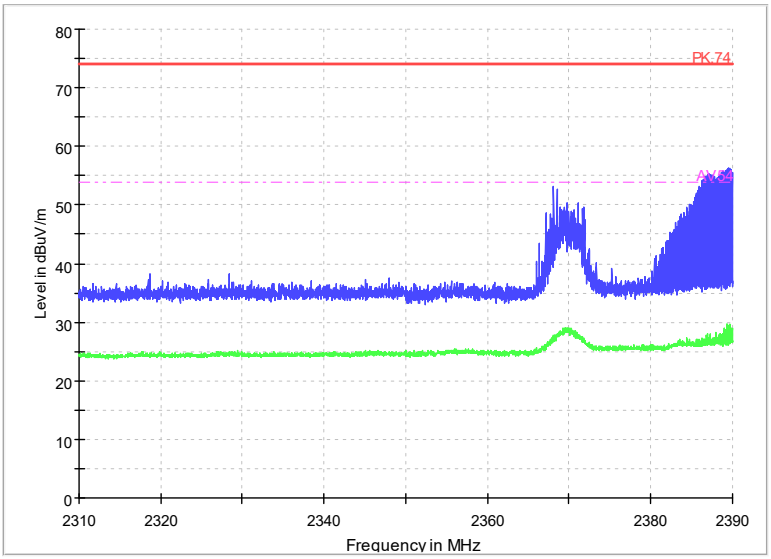


Radiated Emission Band Edge

Channel No.:1

Test Mode: 802.11ax(HE20)

Polarization：V

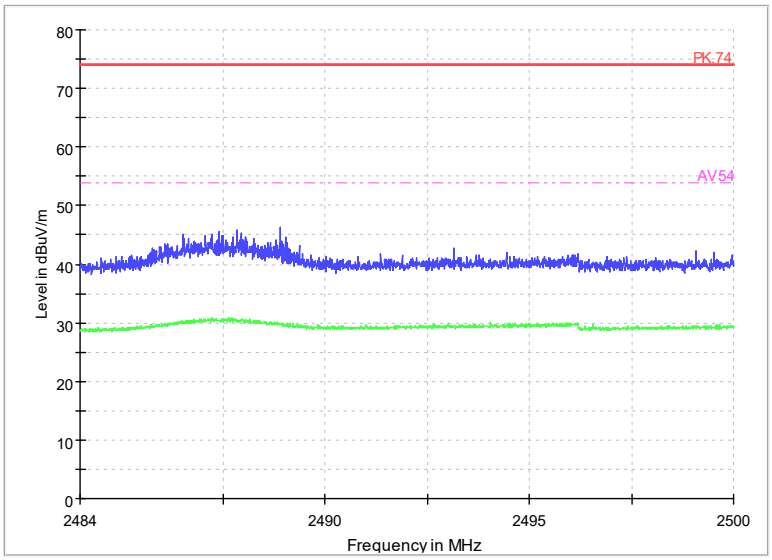


Radiated Emission Band Edge

Channel No.:1

Test Mode: 802.11ax(HE20)

Polarization：H

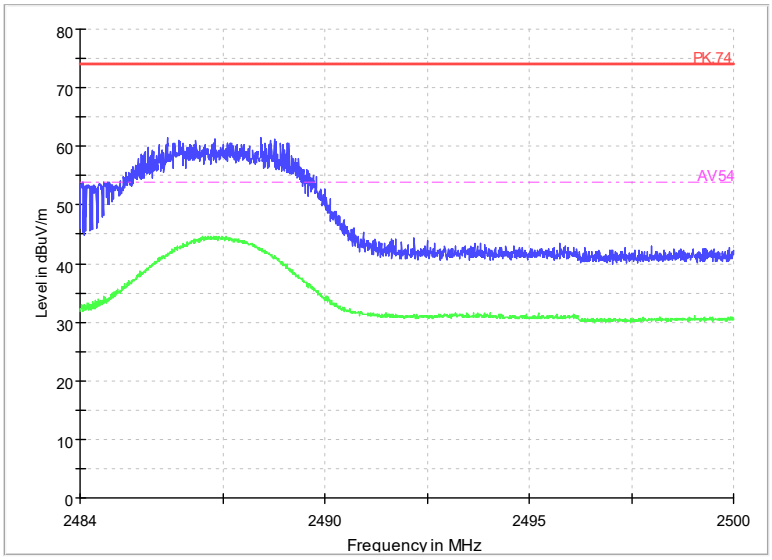


Radiated Emission Band Edge

Channel No.:11

Test Mode: 802.11ax(HE20)

Polarization：V

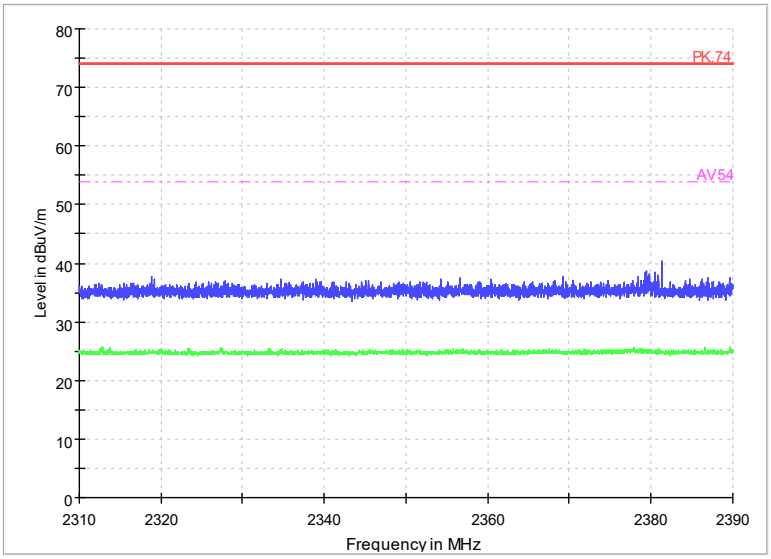


Radiated Emission Band Edge

Channel No.:11

Test Mode: 802.11ax(HE20)

Polarization：H

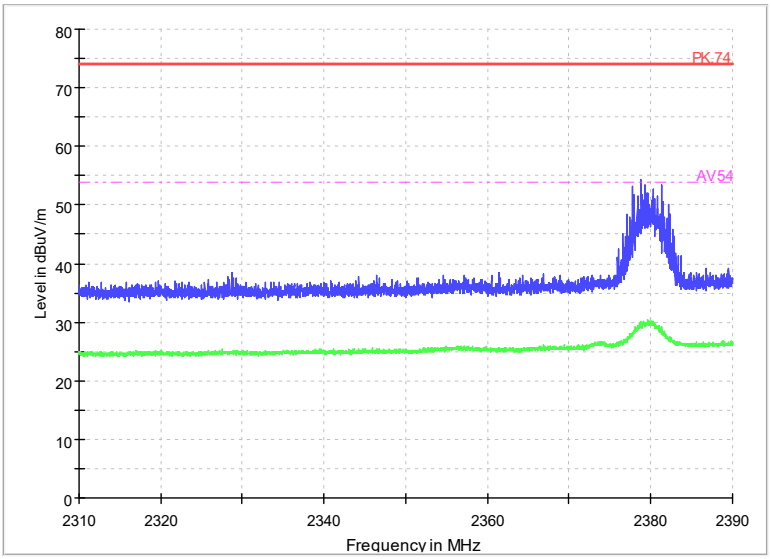


Radiated Emission Band Edge

Channel No.:3

Test Mode: 802.11ax(HE40)

Polarization：V

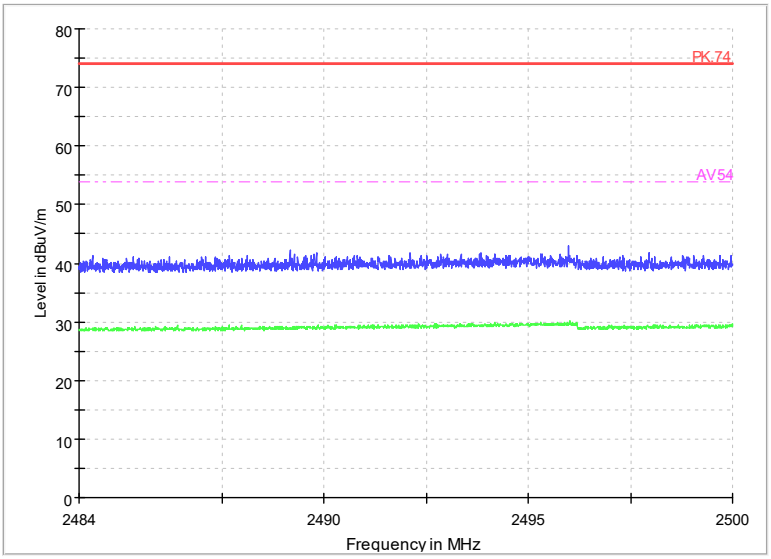


Radiated Emission Band Edge

Channel No.:3

Test Mode: 802.11ax(HE40)

Polarization：H

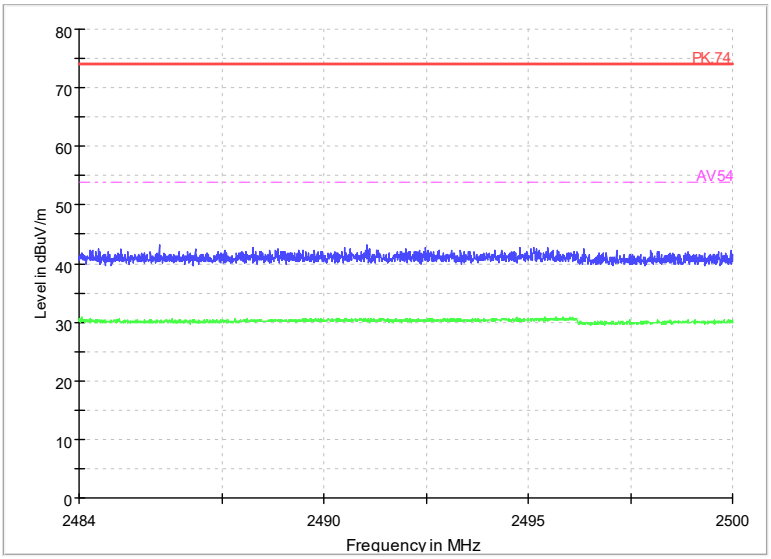


Radiated Emission Band Edge

Channel No.:9

Test Mode: 802.11ax(HE40)

Polarization：V



Radiated Emission Band Edge

Channel No.:9

Test Mode: 802.11ax(HE40)

Polarization：H

Radiated Emission for WIFI

After comparison,the worst case attitude is EUT lay down.

Determining Spurious Emissions Levels

A “reference path loss” is established and the $A_{Rpl}$is the attenuation of “reference path loss”, and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

The measurement results are obtained as described below:

Result= P_{mea}+ A_{Rpl}

Sample calculation: (12.13dBμV/m) = (29.23dBμV) + (-17.1dB/m), the corresponding frequency is 39.409MHz.

For 802.11b Channel No.:1

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
39.409	12.13	-17.1	29.23	Vertical	40	27.87
63.8045	12.71	-17.3	30.01	Vertical	40	27.29
151.929	5.96	-20.6	26.56	Vertical	43.5	37.54
263.964	18.54	-15.1	33.64	Vertical	46	27.46
333.3675	18.48	-13	31.48	Vertical	46	27.52
939.1325	19.24	-1.8	21.04	Vertical	46	26.76

For 802.11g Channel No.:1

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
38.536	12.43	-17.4	29.83	Vertical	40	27.57
63.853	14.21	-17.3	31.51	Vertical	40	25.79
166.576	9.58	-19.7	29.28	Vertical	43.5	33.92
263.964	18.6	-15.1	33.7	Vertical	46	27.4
332.931	22.23	-13	35.23	Vertical	46	23.77
916.871	19.23	-1.9	21.13	Vertical	46	26.77

For 802.11n(HT20) Channel No.:1

Frequency(MHz)	Result(dBuV/m)	ARpl	Pmea	Polarity	Limit	Margin

		(dB)	(dBuV/m)		(dBuV/m)	(dB)
40.67	11.95	-16.7	28.65	Vertical	40	28.05
63.853	14.61	-17.3	31.91	Vertical	40	25.39
165.897	7.45	-19.8	27.25	Vertical	43.5	36.05
199.9925	16.97	-16.6	33.57	Vertical	43.5	26.53
332.3975	22.19	-13	35.19	Vertical	46	23.81
927.5895	19.46	-1.7	21.16	Vertical	46	26.54

For 802.11ax(HE20) Channel No.:1

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
39.3605	12.25	-17.1	29.35	Vertical	40	27.75
63.853	14.62	-17.3	31.92	Vertical	40	25.38
123.7505	5.91	-19.6	25.51	Vertical	43.5	37.59
263.964	19.13	-15.1	34.23	Vertical	46	26.87
331.9125	24.44	-13.1	37.54	Vertical	46	21.56
936.368	19.25	-1.8	21.05	Vertical	46	26.75

For 802.11b Channel No.:6

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
39.215	12.24	-17.2	29.44	Vertical	40	27.76
63.9015	15.48	-17.3	32.78	Vertical	40	24.52
166.5275	8.16	-19.7	27.86	Vertical	43.5	35.34
263.964	18.88	-15.1	33.98	Vertical	46	27.12
333.125	23.02	-13	36.02	Vertical	46	22.98
944.71	18.95	-2.1	21.05	Vertical	46	27.05

For 802.11g Channel No.:6

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
40.67	11.78	-16.7	28.48	Vertical	40	28.22
63.9015	15.73	-17.3	33.03	Vertical	40	24.27
102.362	7.58	-17.1	24.68	Vertical	43.5	35.92

263.964	18.95	-15.1	34.05	Vertical	46	27.05
331.9125	24.4	-13.1	37.5	Vertical	46	21.6
948.3475	18.75	-2.1	20.85	Vertical	46	27.25

For 802.11n(HT20) Channel No.:6

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
40.864	11.82	-16.6	28.42	Vertical	40	28.18
63.853	15.2	-17.3	32.5	Vertical	40	24.8
108.473	7.23	-17.3	24.53	Vertical	43.5	36.27
199.9925	16.82	-16.6	33.42	Vertical	43.5	26.68
332.9795	25.7	-13	38.7	Vertical	46	20.3
956.253	18.68	-2.1	20.78	Vertical	46	27.32

For 802.11ax(HE20) Channel No.:6

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
46.5385	11.07	-15.7	26.77	Vertical	40	28.93
63.853	14.96	-17.3	32.26	Vertical	40	25.04
162.987	6.94	-19.9	26.84	Vertical	43.5	36.56
199.9925	16.84	-16.6	33.44	Vertical	43.5	26.66
331.864	23.52	-13.1	36.62	Vertical	46	22.48
938.2595	19.27	-1.8	21.07	Vertical	46	26.73

For 802.11b Channel No.:11

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
44.5985	12.45	-15.8	28.25	Vertical	40	27.55
63.8045	12.37	-17.3	29.67	Vertical	40	27.63
167.9825	10.06	-19.7	29.76	Vertical	43.5	33.44
299.0295	15.19	-14.1	29.29	Vertical	46	30.81
332.5915	22.9	-13	35.9	Vertical	46	23.1
919.393	19.31	-1.8	21.11	Vertical	46	26.69

For 802.11g Channel No.:11

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
43.968	12.21	-15.9	28.11	Vertical	40	27.79
63.9015	15.96	-17.3	33.26	Vertical	40	24.04
166.091	8.13	-19.8	27.93	Vertical	43.5	35.37
199.9925	17.08	-16.6	33.68	Vertical	43.5	26.42
519.5105	13.79	-8.8	22.59	Vertical	46	32.21
926.8135	19.35	-1.7	21.05	Vertical	46	26.65

For 802.11n(HT20) Channel No.:11

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
40.864	11.79	-16.6	28.39	Vertical	40	28.21
63.853	14.59	-17.3	31.89	Vertical	40	25.41
96.639	7.35	-17.8	25.15	Vertical	43.5	36.15
263.964	19.12	-15.1	34.22	Vertical	46	26.88
333.125	23.11	-13	36.11	Vertical	46	22.89
944.9525	18.9	-2.1	21	Vertical	46	27.1

For 802.11ax(HE20) Channel No.:11

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
38.7785	12.53	-17.4	29.93	Vertical	40	27.47
64.047	10.44	-17.3	27.74	Vertical	40	29.56
166.2365	8.06	-19.8	27.86	Vertical	43.5	35.44
263.964	19.41	-15.1	34.51	Vertical	46	26.59
346.7535	14.62	-12.1	26.72	Vertical	46	31.38
875.4035	18.56	-2.3	20.86	Vertical	46	27.44

For 802.11n(HT40) Channel No.:3

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
39.118	12.32	-17.2	29.52	Vertical	40	27.68
63.853	14.9	-17.3	32.2	Vertical	40	25.1
166.285	8.08	-19.8	27.88	Vertical	43.5	35.42

264.0125	20.34	-15.1	35.44	Vertical	46	25.66
331.9125	24.83	-13.1	37.93	Vertical	46	21.17
935.495	19.24	-1.8	21.04	Vertical	46	26.76

For 802.11ax(HE40) Channel No.:3

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
39.506	12.34	-17.1	29.44	Vertical	40	27.66
63.853	14.91	-17.3	32.21	Vertical	40	25.09
102.459	7.64	-17.1	24.74	Vertical	43.5	35.86
298.399	13.3	-14.1	27.4	Vertical	46	32.7
333.1735	24.71	-13	37.71	Vertical	46	21.29
880.6415	18.65	-2.3	20.95	Vertical	46	27.35

For 802.11n(HT40) Channel No.:6

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
38.4875	13.11	-17.5	30.61	Vertical	40	26.89
63.853	17.55	-17.3	34.85	Vertical	40	22.45
164.7815	9.45	-19.8	29.25	Vertical	43.5	34.05
212.457	11.11	-17.1	28.21	Vertical	43.5	32.39
519.753	13.83	-8.8	22.63	Vertical	46	32.17
878.6045	18.6	-2.3	20.9	Vertical	46	27.4

For 802.11ax(HE40) Channel No.:6

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
45.52	10.43	-15.7	26.13	Vertical	40	29.57
63.5135	13.93	-17.2	31.13	Vertical	40	26.07
151.25	6.41	-20.6	27.01	Vertical	43.5	37.09
263.964	19.3	-15.1	34.4	Vertical	46	26.7
332.349	22.85	-13	35.85	Vertical	46	23.15
929.4325	19.35	-1.6	20.95	Vertical	46	26.65

For 802.11n(HT40) Channel No.:9

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
46.9265	11.08	-15.7	26.78	Vertical	40	28.92
63.853	14.98	-17.3	32.28	Vertical	40	25.02
169.6315	6.53	-19.6	26.13	Vertical	43.5	36.98
263.964	19.17	-15.1	34.27	Vertical	46	26.83
332.5915	23.05	-13	36.05	Vertical	46	22.95
885.055	18.64	-2.3	20.94	Vertical	46	27.36

For 802.11ax(HE40) Channel No.:9

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
38.6815	12.79	-17.4	30.19	Vertical	40	27.21
63.9015	15.84	-17.3	33.14	Vertical	40	24.16
172.59	8.44	-19.5	27.94	Vertical	43.5	35.06
263.964	19.4	-15.1	34.5	Vertical	46	26.6
332.543	22.91	-13	35.91	Vertical	46	23.09
884.1335	18.52	-2.3	20.82	Vertical	46	27.48

Partial RU (Tone26)

For 802.11ax(HE20) Channel No.:1

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
38.2935	13.02	-17.5	30.52	Vertical	40	26.98
63.853	14.94	-17.3	32.24	Vertical	40	25.06
97.221	6.56	-17.7	24.26	Vertical	43.5	36.94
263.964	19.26	-15.1	34.36	Vertical	46	26.74
333.222	24.67	-13	37.67	Vertical	46	21.33
885.734	18.68	-2.4	21.08	Vertical	46	27.32

For 802.11ax(HE20) Channel No.:6

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
38.7785	12.54	-17.4	29.94	Vertical	40	27.46
63.853	14.77	-17.3	32.07	Vertical	40	25.23

172.0565	7.18	-19.5	26.68	Vertical	43.5	36.32
263.964	19.17	-15.1	34.27	Vertical	46	26.83
332.9795	24.35	-13	37.35	Vertical	46	21.65
916.1435	19.03	-1.9	20.93	Vertical	46	26.97

For 802.11ax(HE20) Channel No.:11

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
44.162	12.12	-15.9	28.02	Vertical	40	27.88
60.6035	9.01	-16.4	25.41	Vertical	40	30.99
158.4765	6.48	-20.2	26.68	Vertical	43.5	37.02
263.964	19.4	-15.1	34.5	Vertical	46	26.6
332.446	22.83	-13	35.83	Vertical	46	23.17
923.9035	19.14	-1.7	20.84	Vertical	46	26.86

For 802.11ax(HE40) Channel No.:3

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
38.439	13.11	-17.5	30.61	Vertical	40	26.89
63.853	14.97	-17.3	32.27	Vertical	40	25.03
166.77	7.25	-19.7	26.95	Vertical	43.5	36.25
199.9925	17.29	-16.6	33.89	Vertical	43.5	26.21
332.8825	23.31	-13	36.31	Vertical	46	22.69
915.1735	19.15	-2	21.15	Vertical	46	26.85

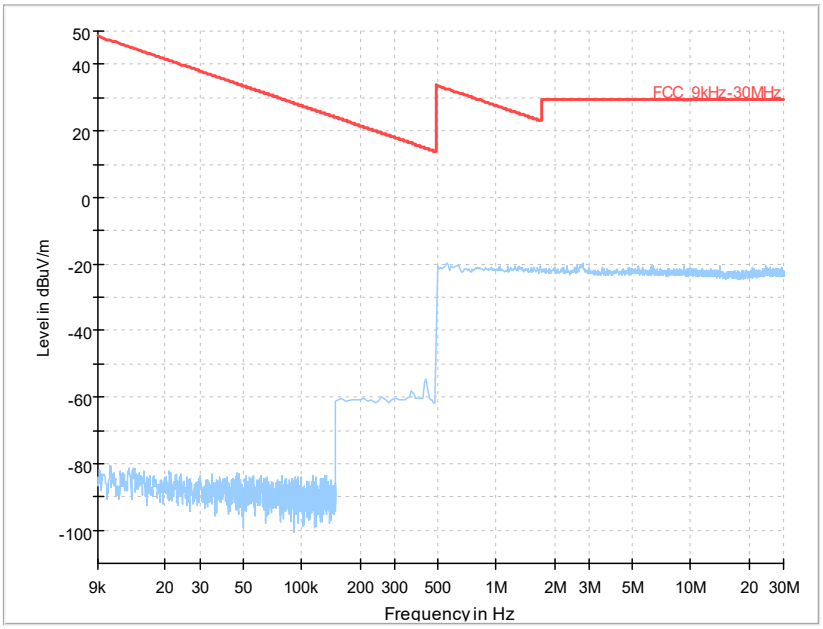
For 802.11ax(HE40) Channel No.:6

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
40.3305	12.27	-16.8	29.07	Vertical	40	27.73
63.853	14.92	-17.3	32.22	Vertical	40	25.08
169.001	8.58	-19.7	28.28	Vertical	43.5	34.92
199.9925	17.38	-16.6	33.98	Vertical	43.5	26.12

332.8825	23.29	-13	36.29	Vertical	46	22.71
885.7825	18.67	-2.4	21.07	Vertical	46	27.33

For 802.11ax(HE40) Channel No.:9

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity	Limit (dBuV/m)	Margin (dB)
39.4575	12.37	-17.1	29.47	Vertical	40	27.63
63.853	14.89	-17.3	32.19	Vertical	40	25.11
153.966	8.9	-20.5	29.4	Vertical	43.5	34.6
263.964	19.35	-15.1	34.45	Vertical	46	26.65
331.8155	22.1	-13.1	35.2	Vertical	46	23.9
931.421	19.36	-1.6	20.96	Vertical	46	26.64



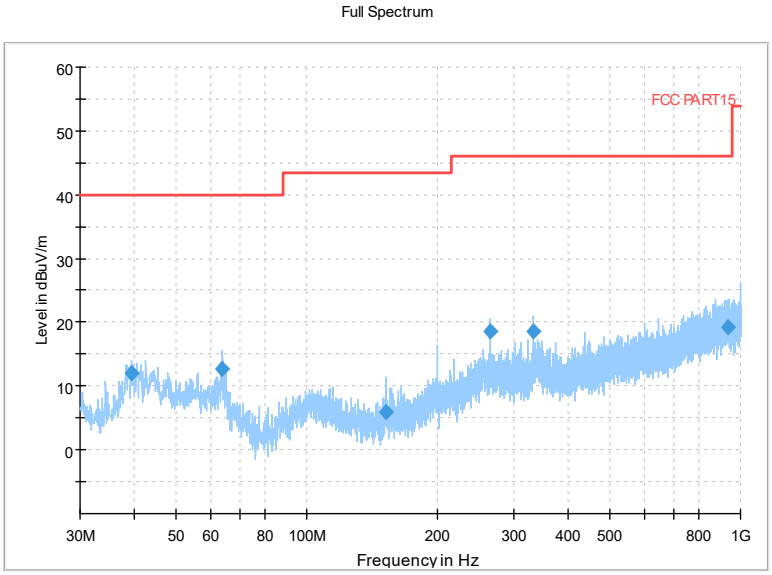
Frequency Range: 9kHz -30MHz

Detector: QP mode

Note：The relevant tests have been performed in order to verify in which mode would have the worstfeatures, the result show above is the worst case.

Carrier frequency (MHz): 2412

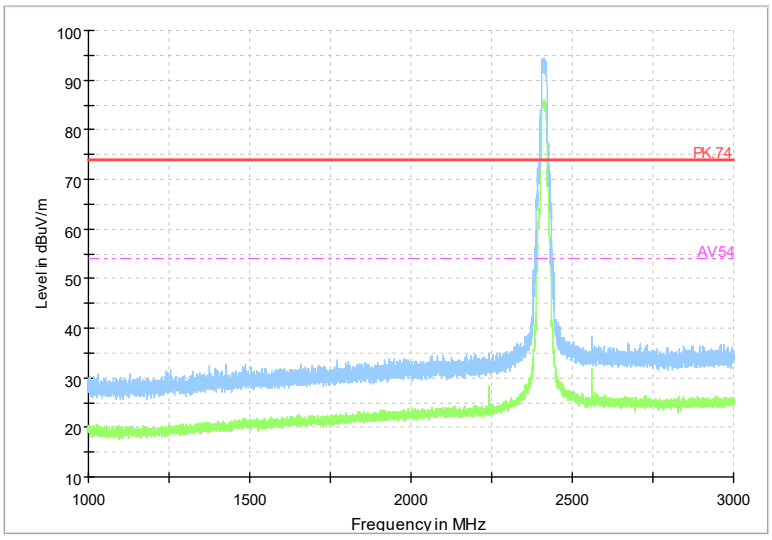
Channel No.:1



Frequency Range30MHz -1GHz

Detector: Av mode and PK mode

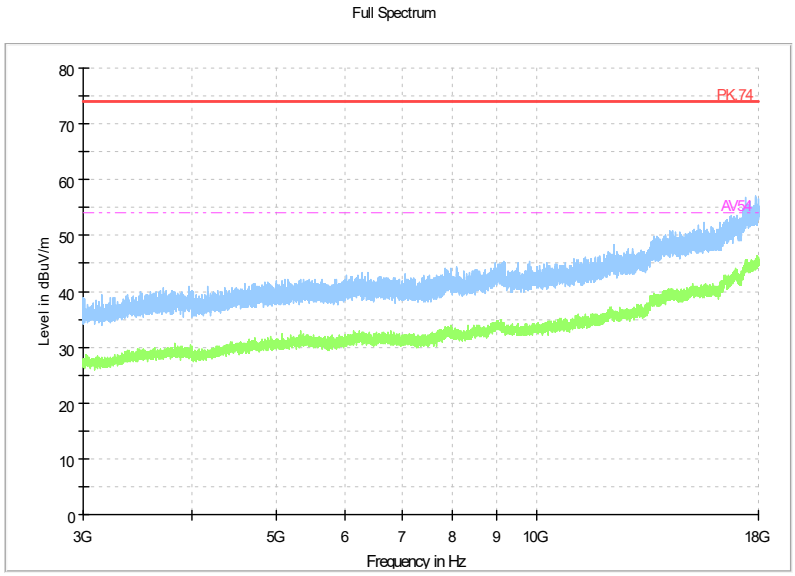
Modulation type: 802.11b



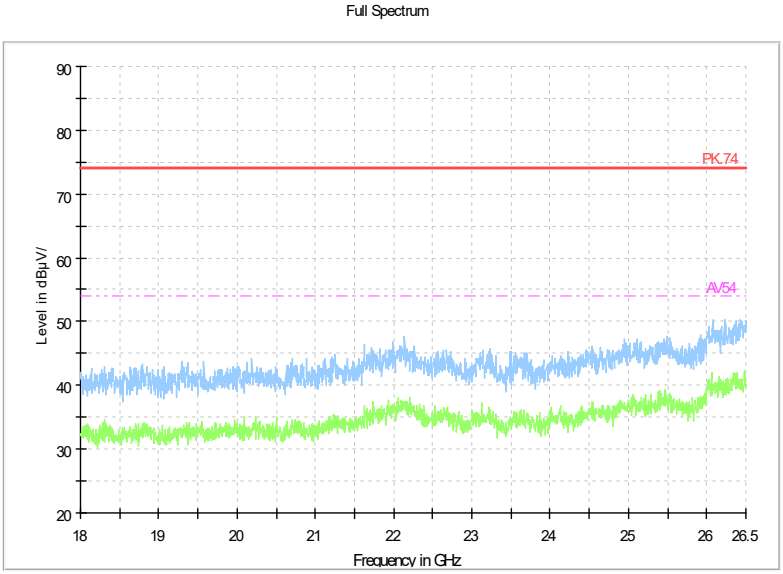
Frequency Range: 1GHz -3GHz

Detector: Av mode and PK mode

Modulation type: 802.11b

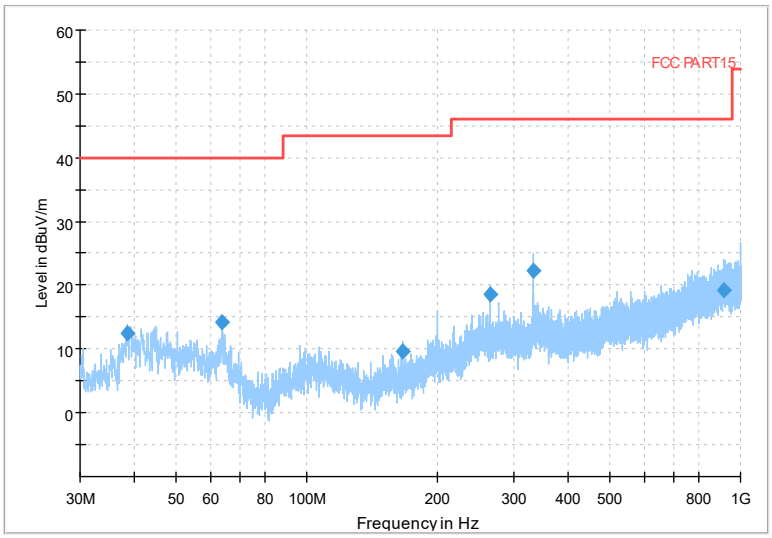


Frequency Range: 3GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11b



Frequency Range: 18GHz -26GHz
Detector: Av mode and PK mode
Modulation type: 802.11b

Full Spectrum

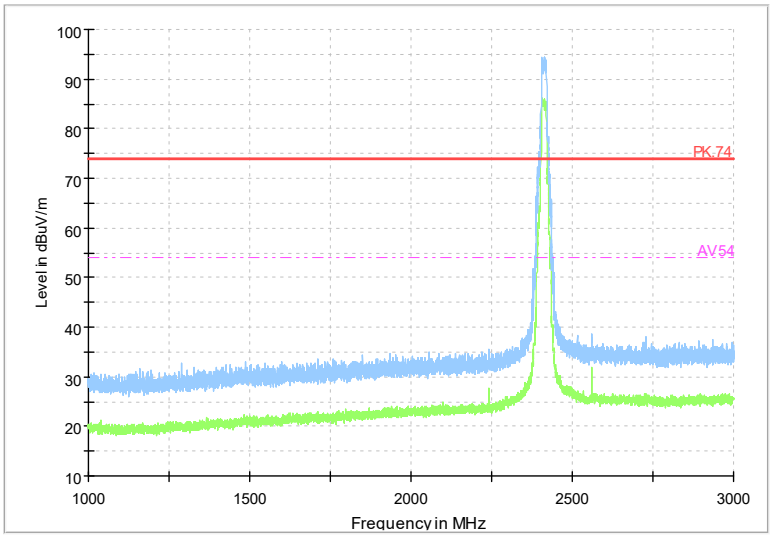


Frequency Range: 30MHz -1GHz

Detector: Av mode and PK mode

Modulation type: 802.11g

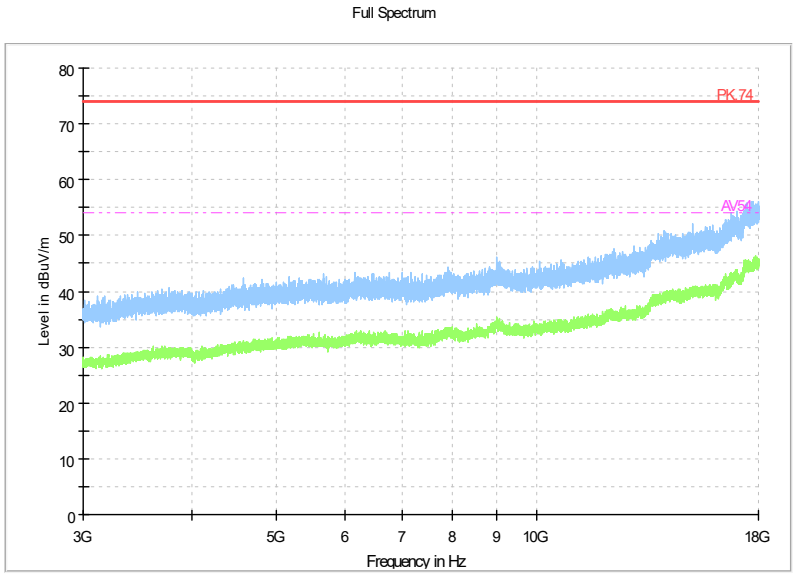
Full Spectrum



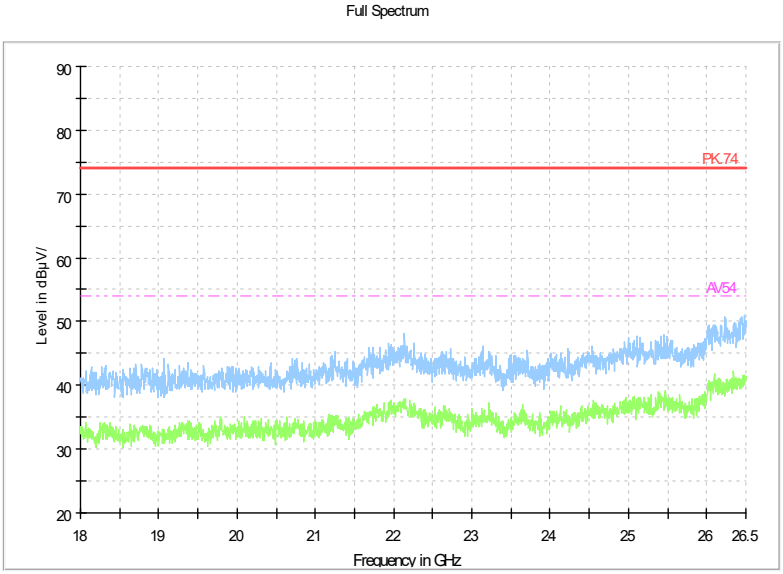
Frequency Range: 1GHz -3GHz

Detector: Av mode and PK mode

Modulation type: 802.11g

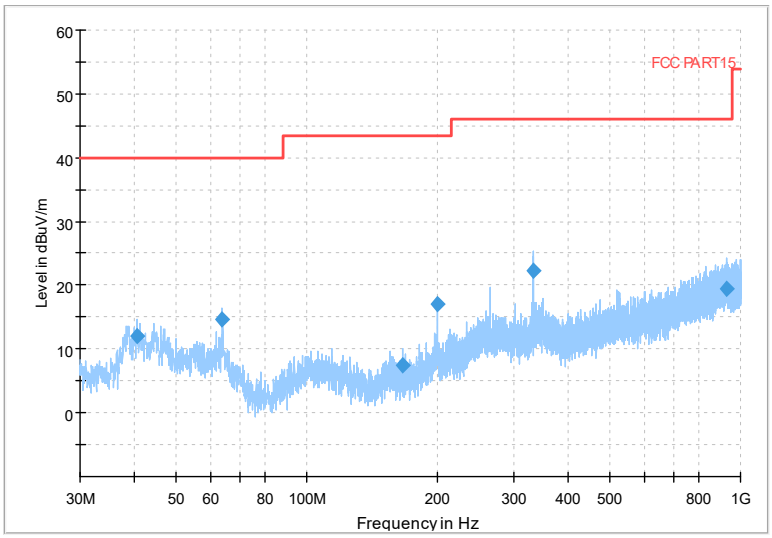


Frequency Range: 3GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11g



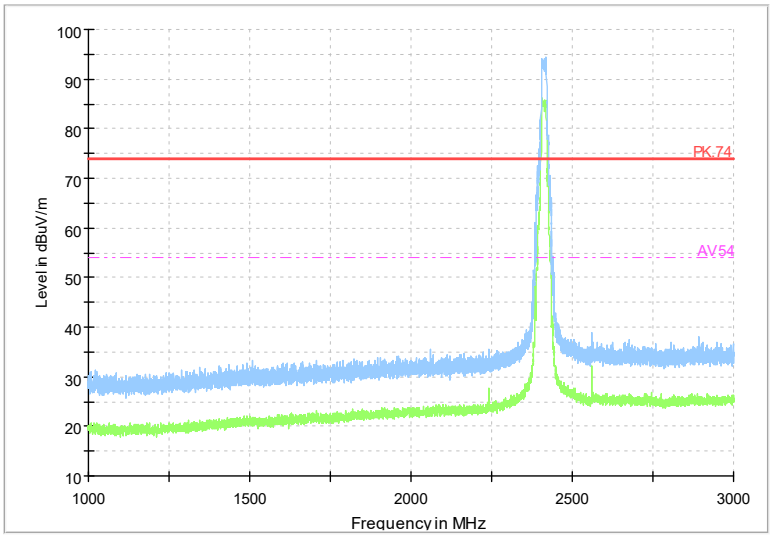
Frequency Range: 18GHz -26GHz
Detector: Av mode and PK mode
Modulation type: 802.11g

Full Spectrum

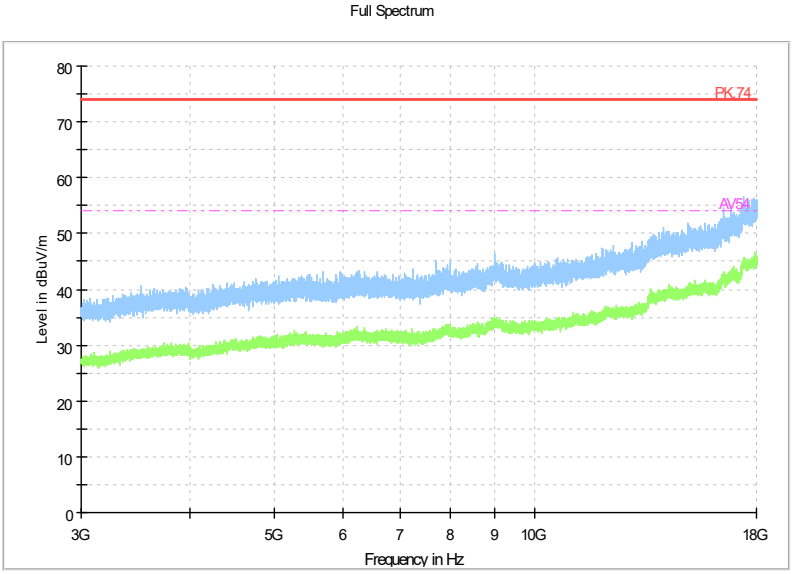


Frequency Range: 30MHz -1GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)

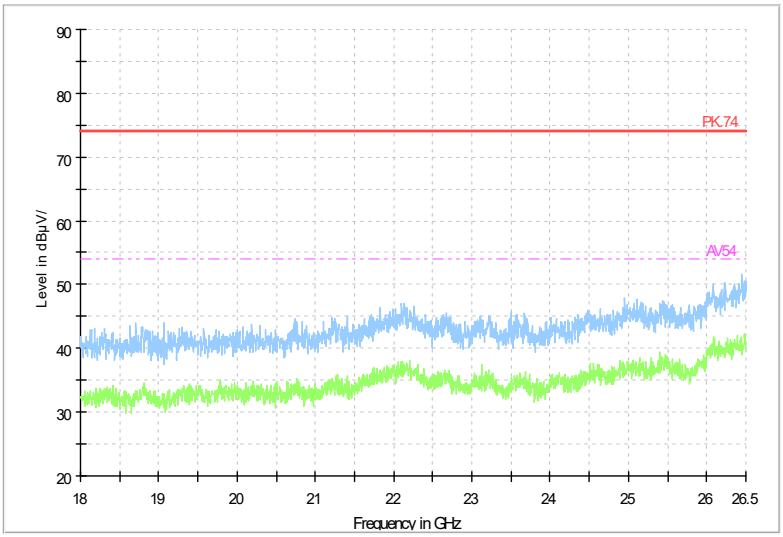
Full Spectrum



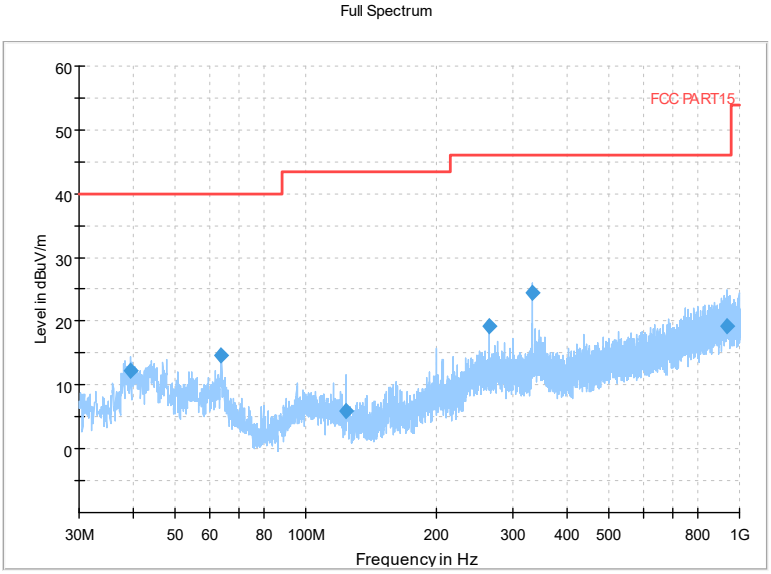
Frequency Range: 1GHz -3GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)



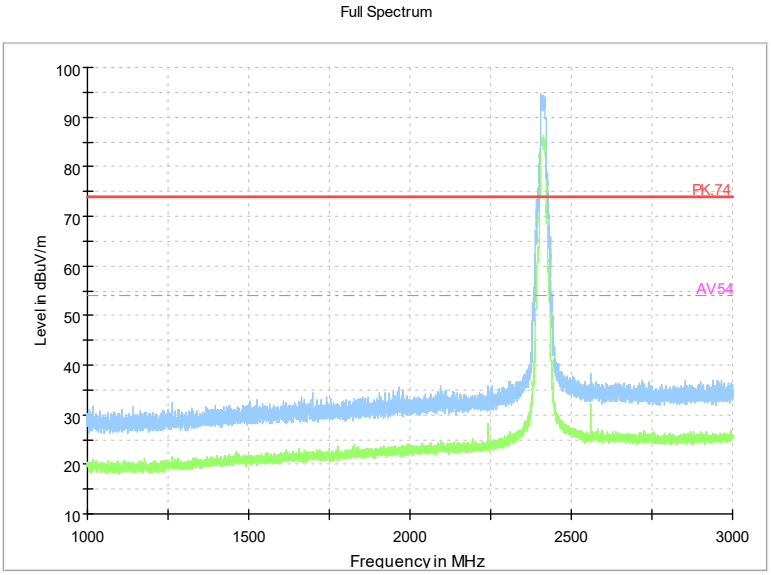
Frequency Range: 3GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)



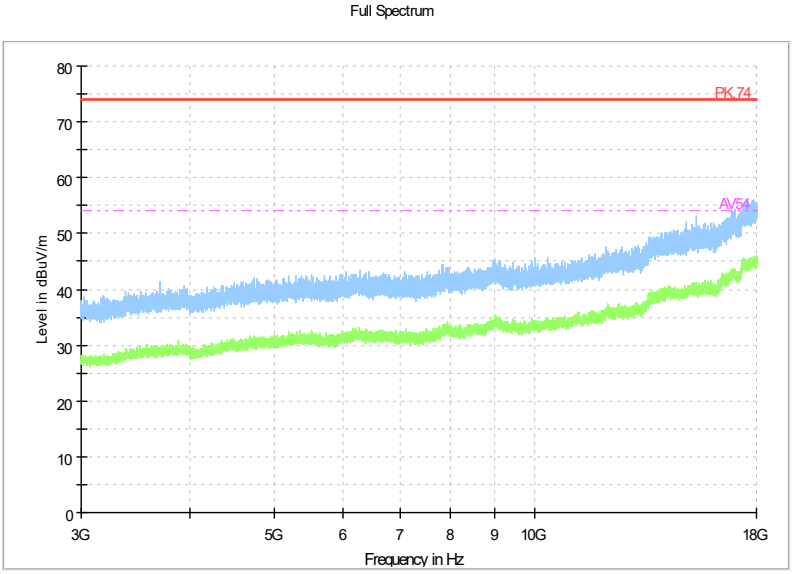
Frequency Range: 18GHz -26GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)



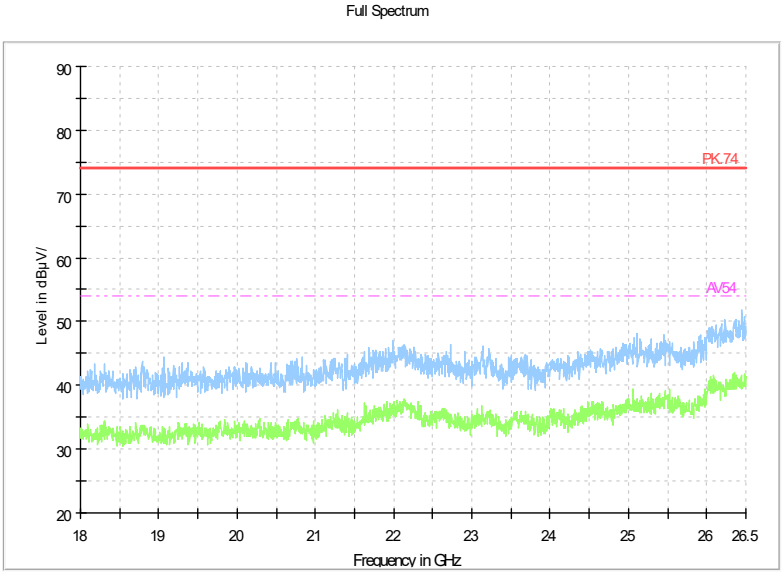
Frequency Range: 30MHz -1GHz
Detector: Av mode and PK mode
Modulation type: 802.11 ax(HE20)



Frequency Range: 1GHz -3GHz
Detector: Av mode and PK mode
Modulation type: 802.11 ax(HE20)



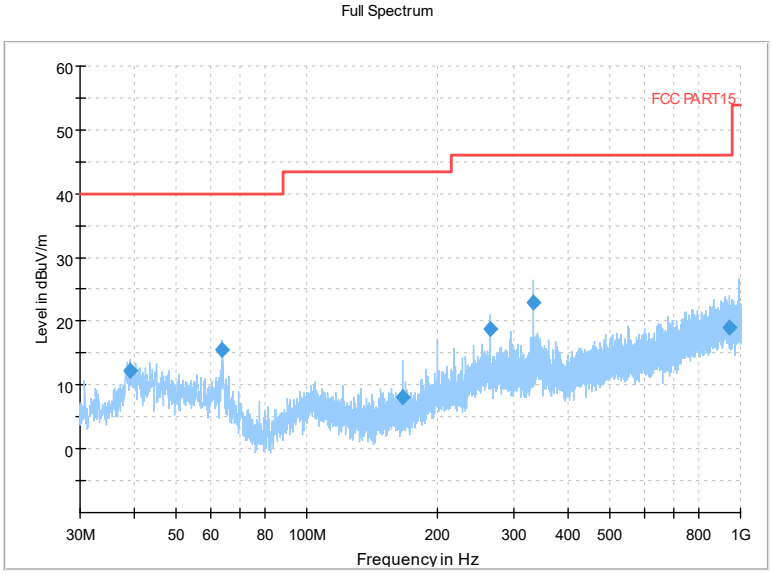
Frequency Range: 3GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11 ax(HE20)



Frequency Range: 18GHz -26GHz
Detector: Av mode and PK mode
Modulation type: 802.11 ax(HE20)

Carrier frequency (MHz): 2437

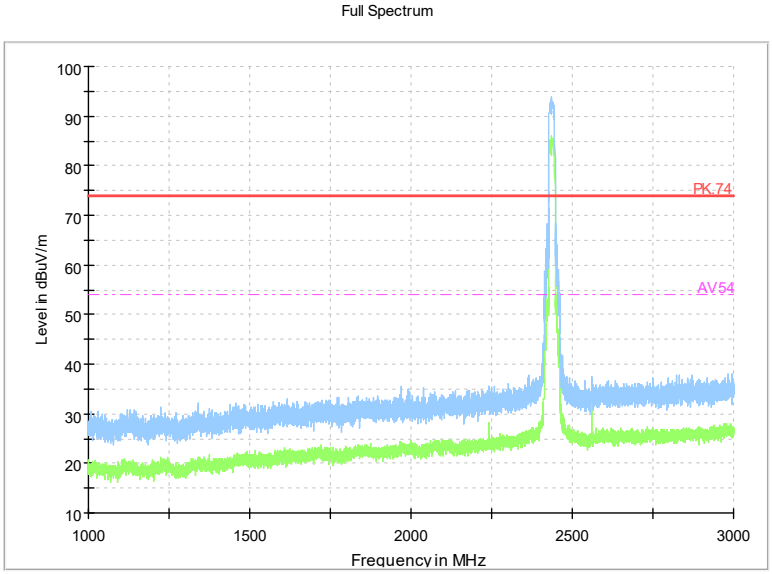
Channel No.:6



Frequency Range: 30MHz -1GHz

Detector: Av mode and PK mode

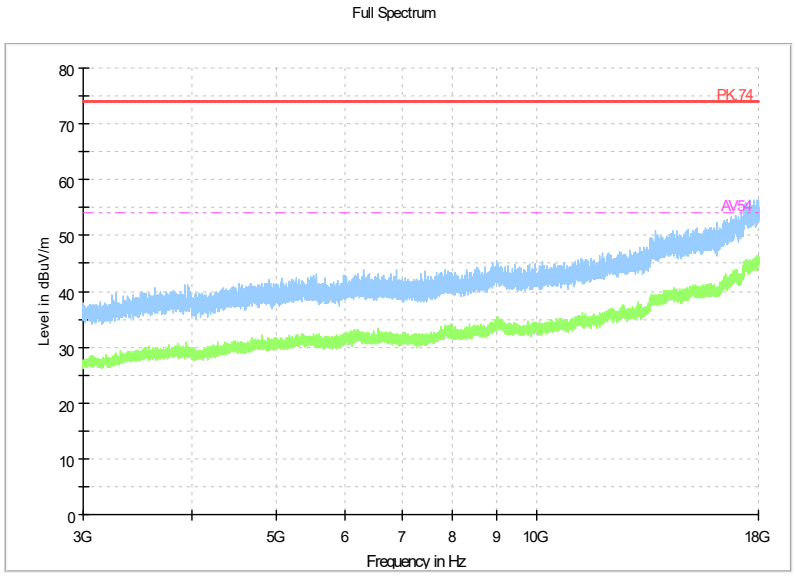
Modulation type: 802.11b



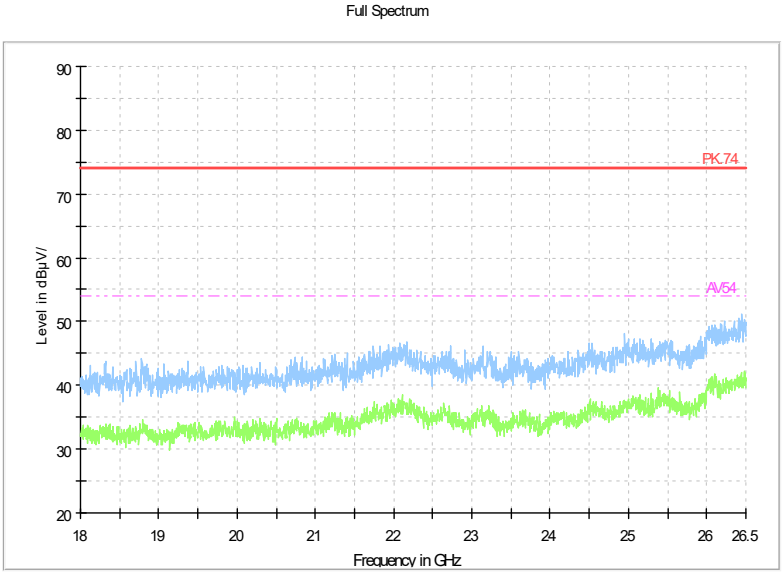
Frequency Range: 1GHz -3GHz

Detector: Av mode and PK mode

Modulation type: 802.11b

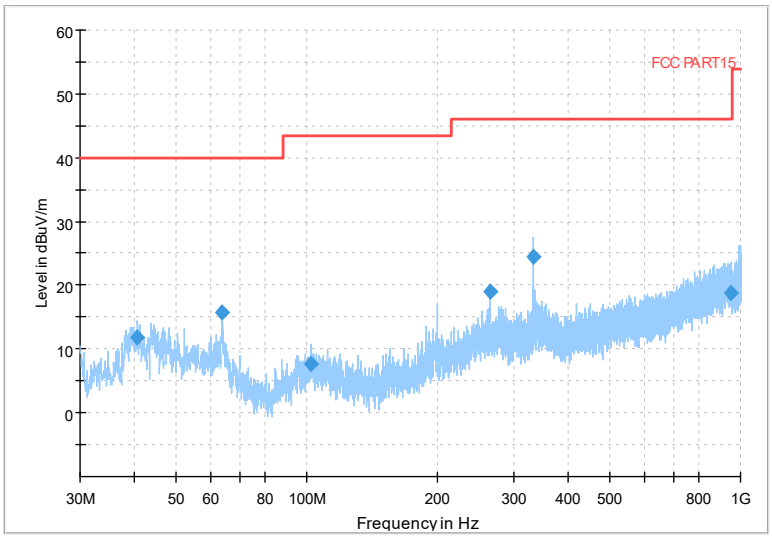


Frequency Range: 3GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11b



Frequency Range: 18GHz -26GHz
Detector: Av mode and PK mode
Modulation type: 802.11b

Full Spectrum

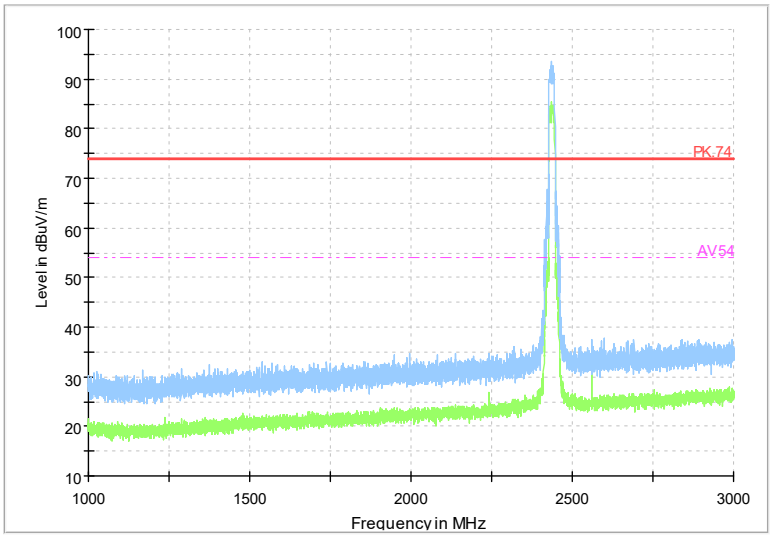


Frequency Range: 30MHz -1GHz

Detector: Av mode and PK mode

Modulation type: 802.11g

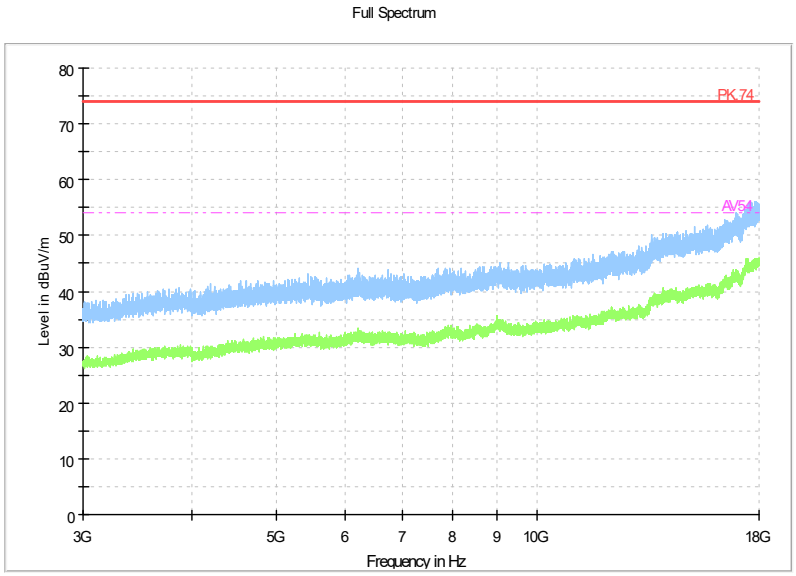
Full Spectrum



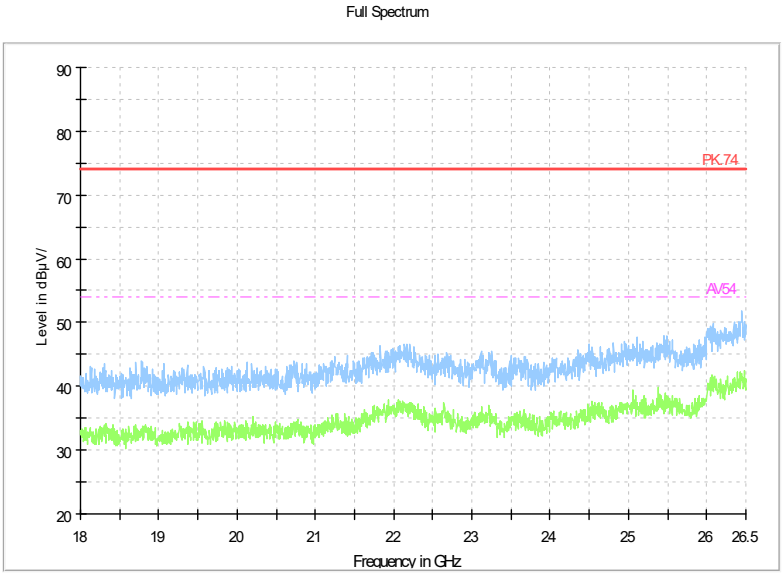
Frequency Range: 1GHz -3GHz

Detector: Av mode and PK mode

Modulation type: 802.11g

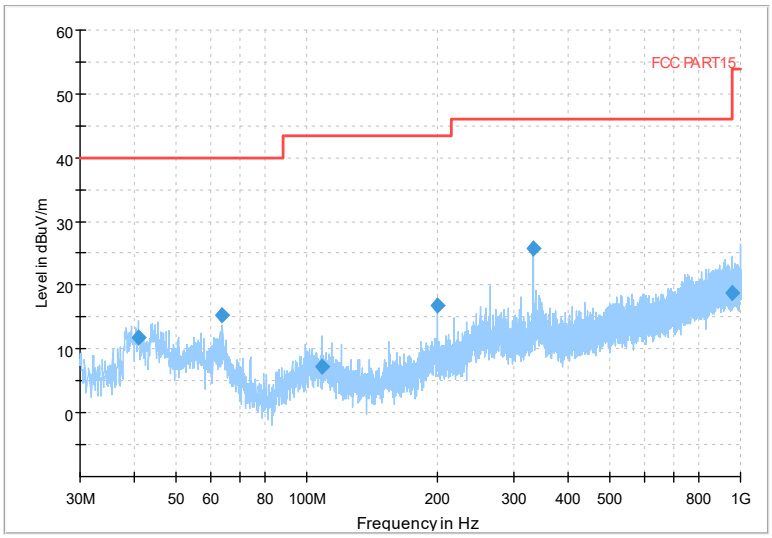


Frequency Range: 3GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11g



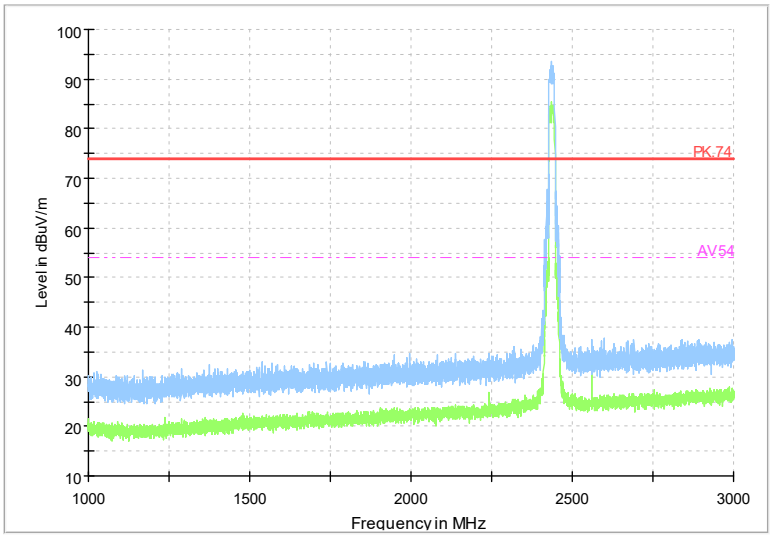
Frequency Range: 18GHz -26GHz
Detector: Av mode and PK mode
Modulation type: 802.11g

Full Spectrum

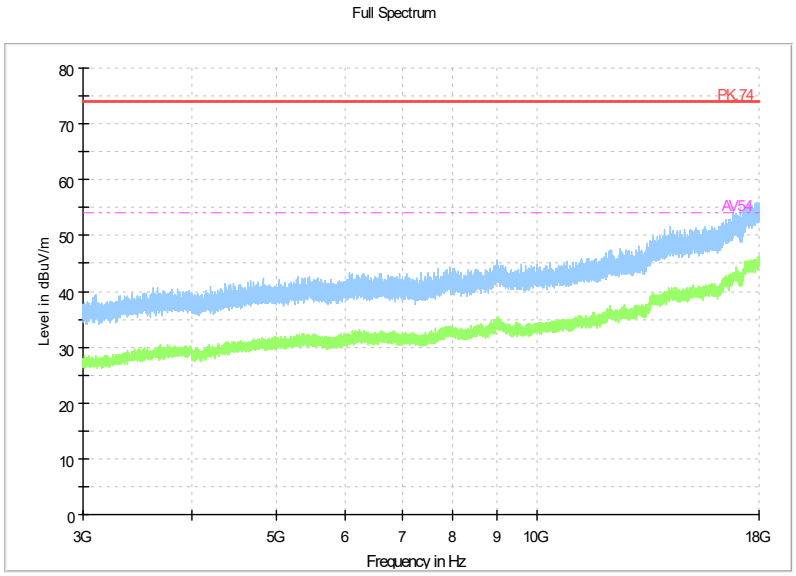


Frequency Range: 30MHz -1GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)

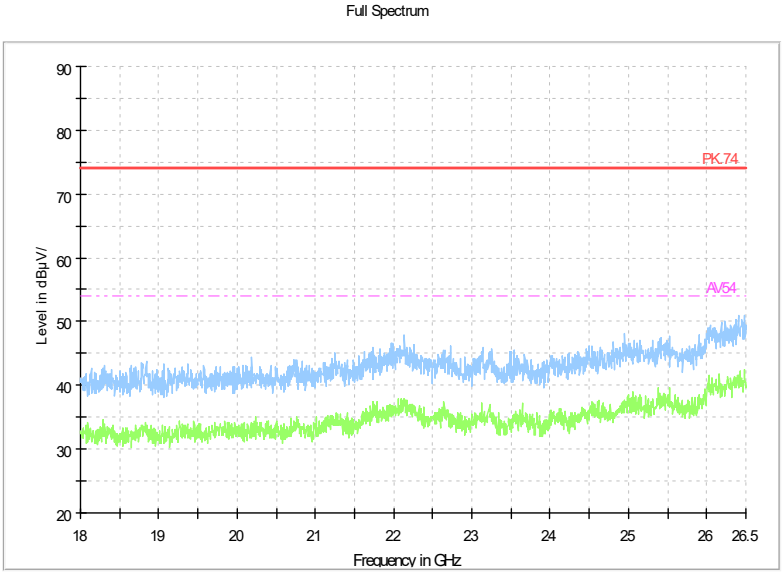
Full Spectrum



Frequency Range: 1GHz -3GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)

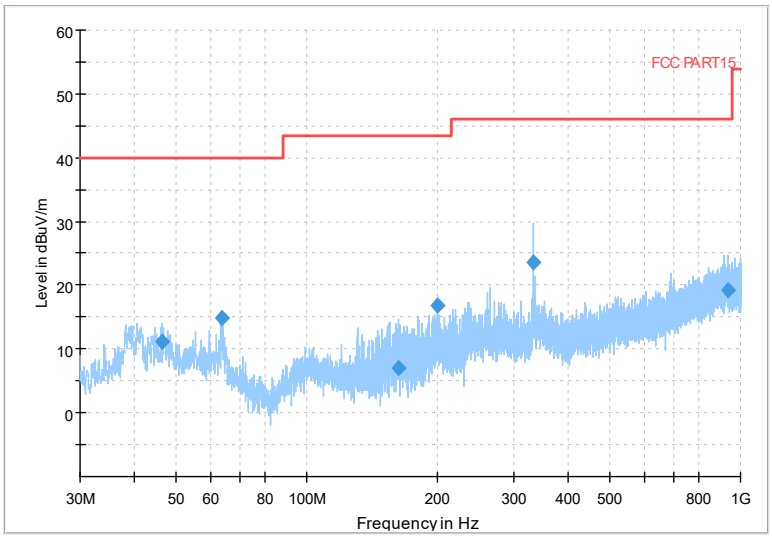


Frequency Range: 3GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)



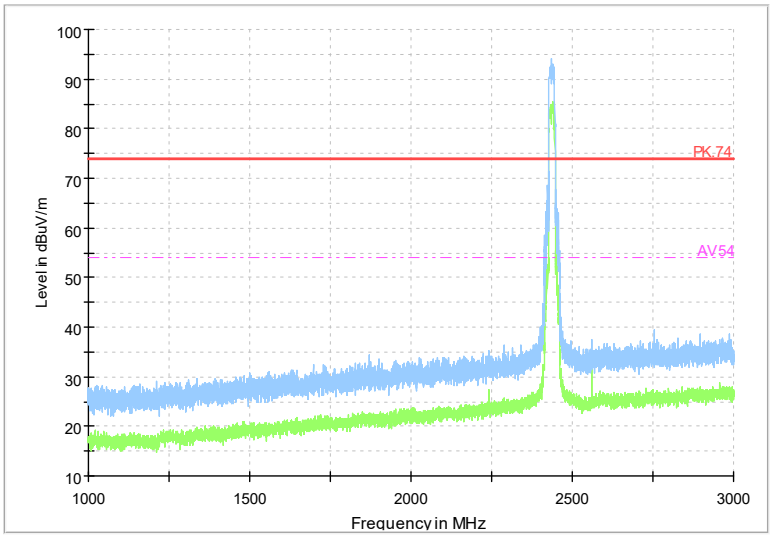
Frequency Range: 18GHz -26GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)

Full Spectrum

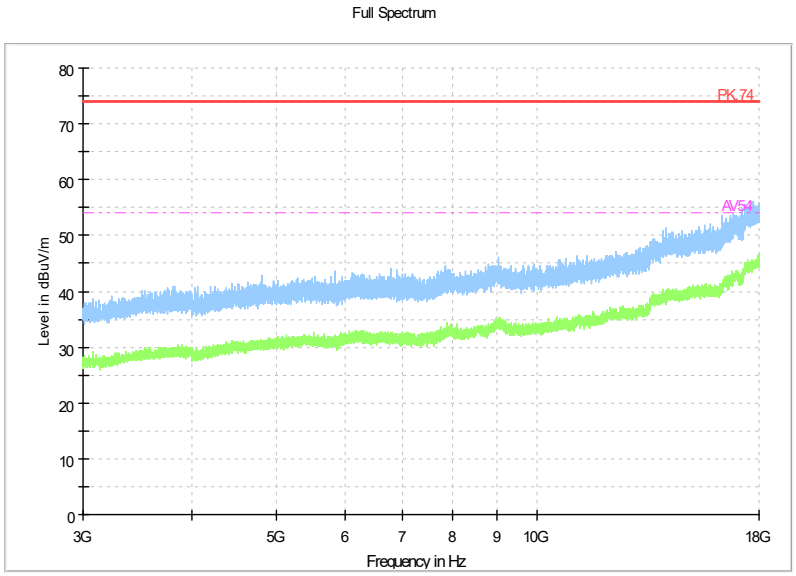


Frequency Range: 30MHz -1GHz
Detector: Av mode and PK mode
Modulation type: 802.11 ax(HE20)

Full Spectrum



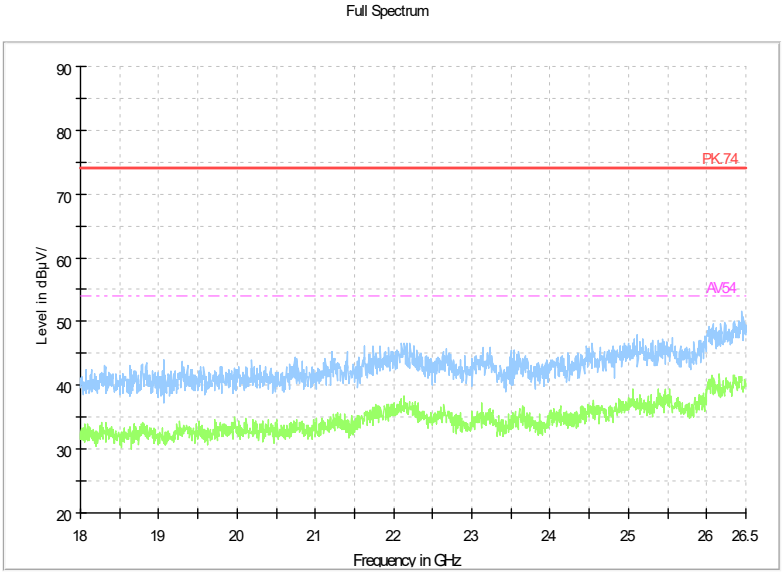
Frequency Range: 1GHz -3GHz
Detector: Av mode and PK mode
Modulation type: 802.11 ax(HE20)



Frequency Range: 3GHz -18GHz

Detector: Av mode and PK mode

Modulation type: 802.11 ax(HE20)



Frequency Range: 18GHz -26GHz

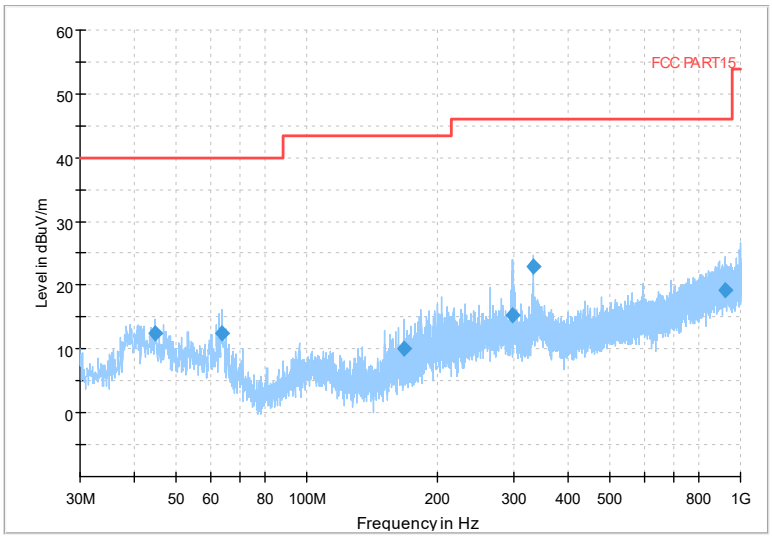
Detector: Av mode and PK mode

Modulation type: 802.11 ax(HE20)

Carrier frequency (MHz): 2462

Channel No.:11

Full Spectrum

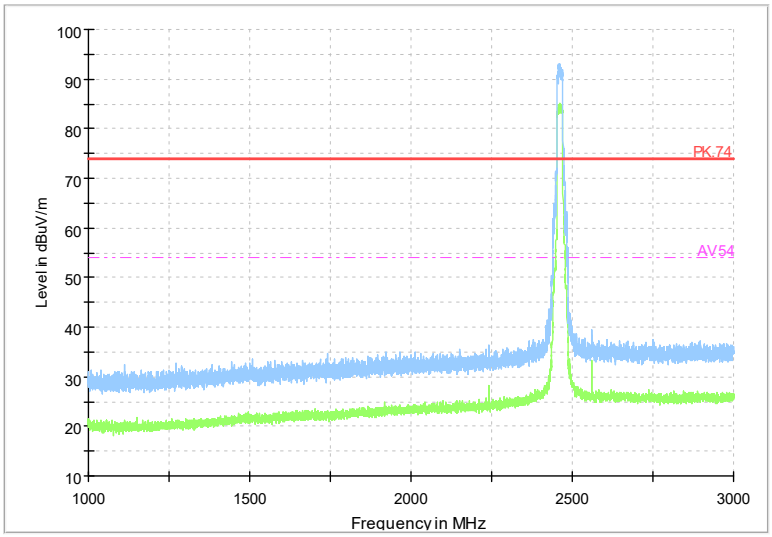


Frequency Range: 30MHz -1GHz

Detector: Av mode and PK mode

Modulation type: 802.11b

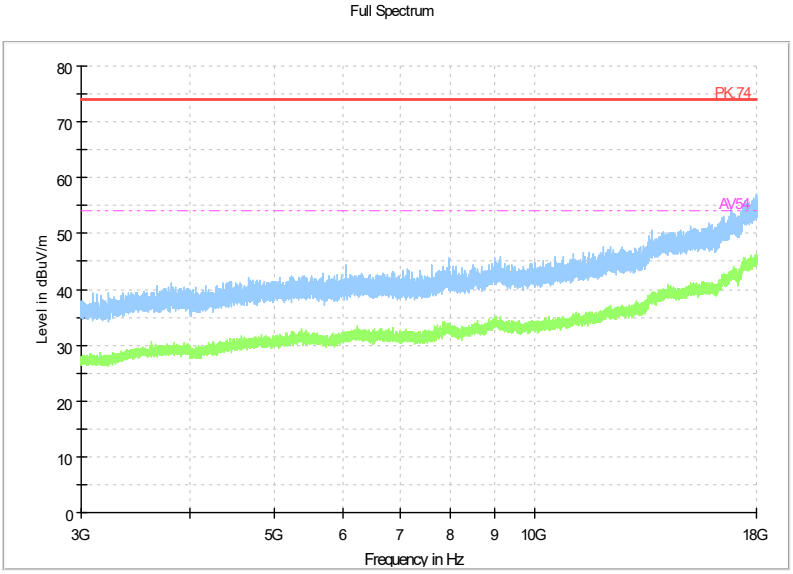
Full Spectrum



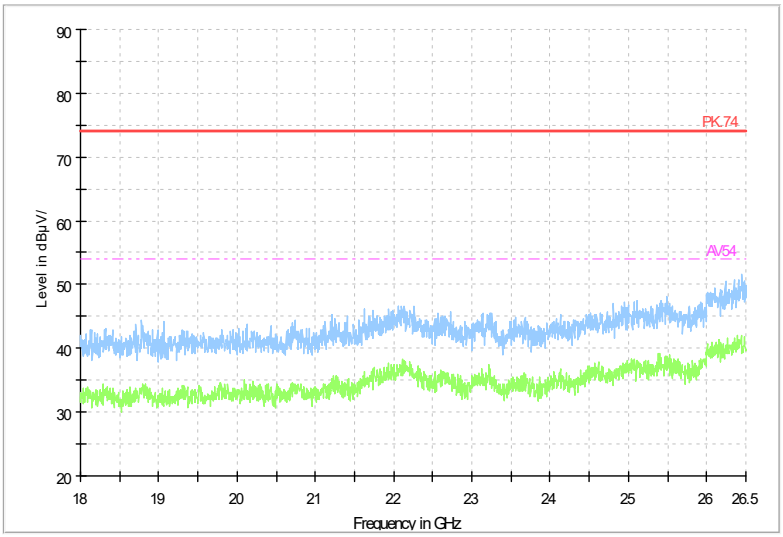
Frequency Range: 1GHz -3GHz

Detector: Av mode and PK mode

Modulation type: 802.11b

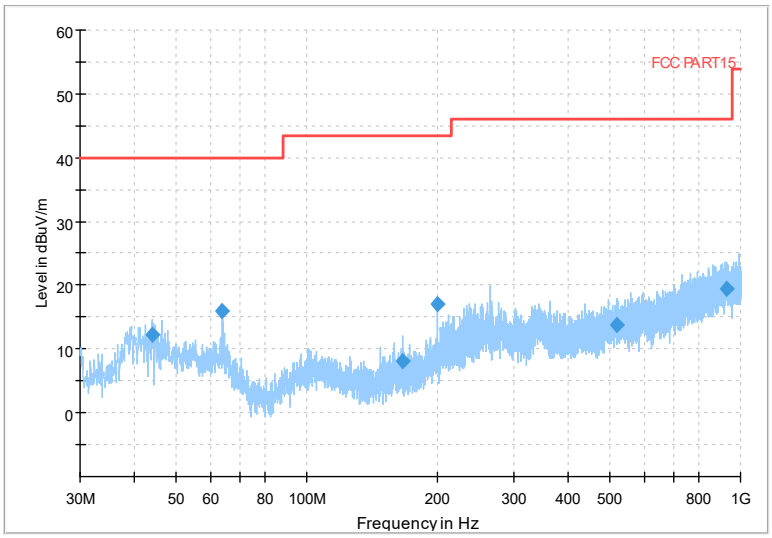


Frequency Range: 3GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11b



Frequency Range: 18GHz -26GHz
Detector: Av mode and PK mode
Modulation type: 802.11b

Full Spectrum

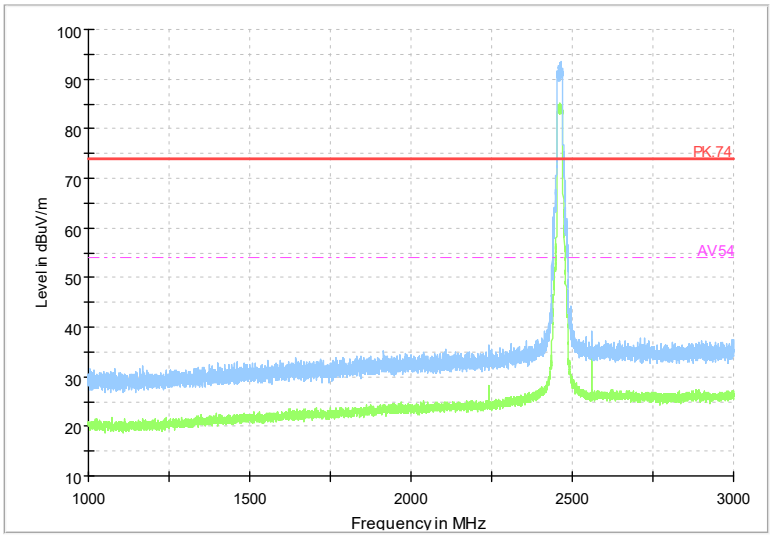


Frequency Range: 30MHz -1GHz

Detector: Av mode and PK mode

Modulation type: 802.11g

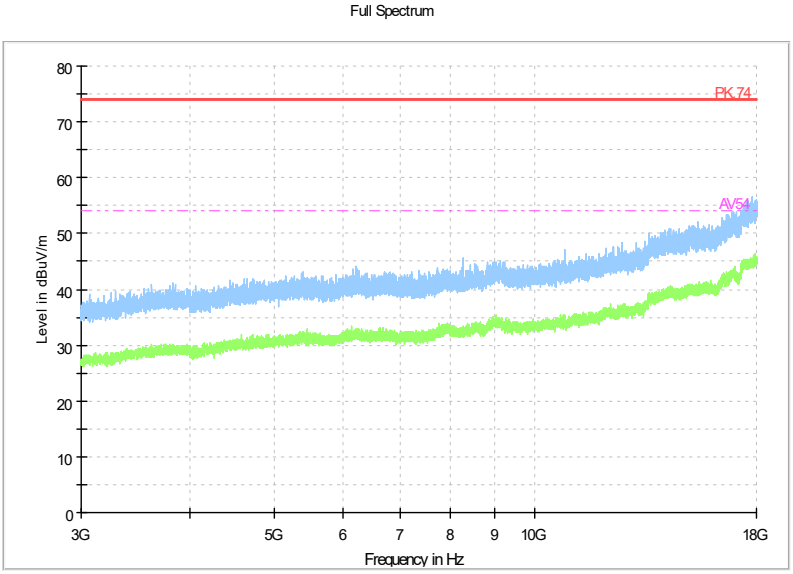
Full Spectrum



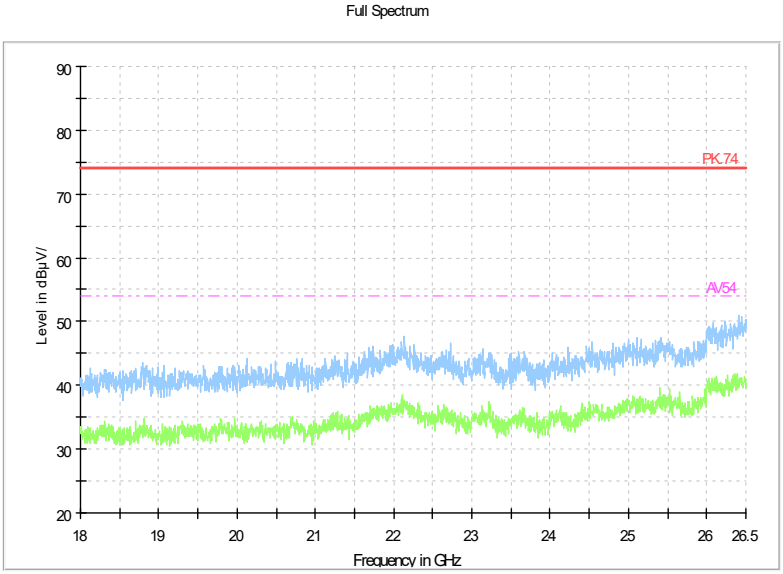
Frequency Range: 1GHz -3GHz

Detector: Av mode and PK mode

Modulation type: 802.11g

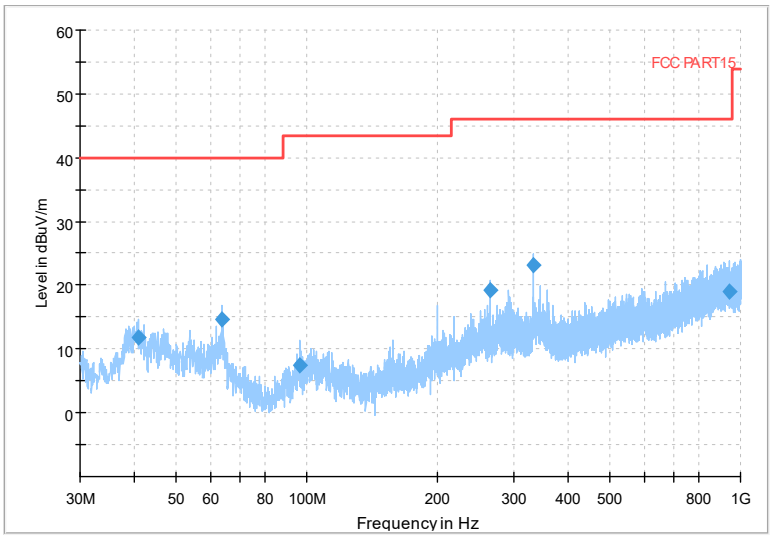


Frequency Range: 3GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11g



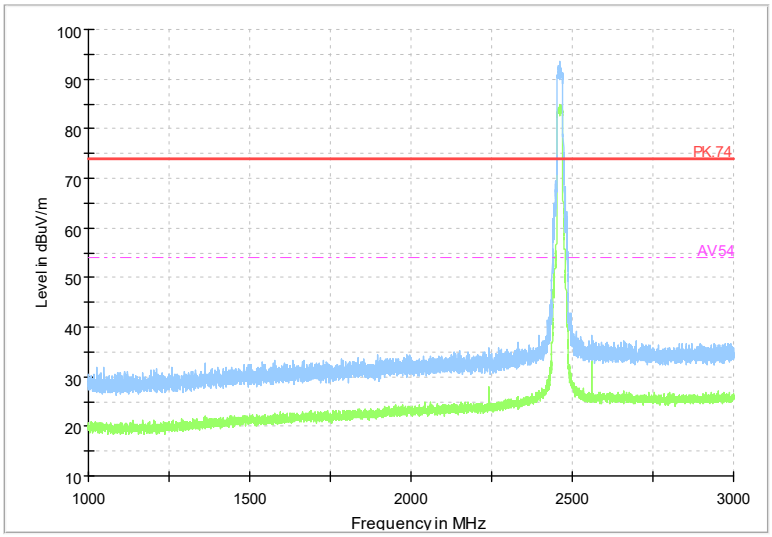
Frequency Range: 18GHz -26GHz
Detector: Av mode and PK mode
Modulation type: 802.11g

Full Spectrum

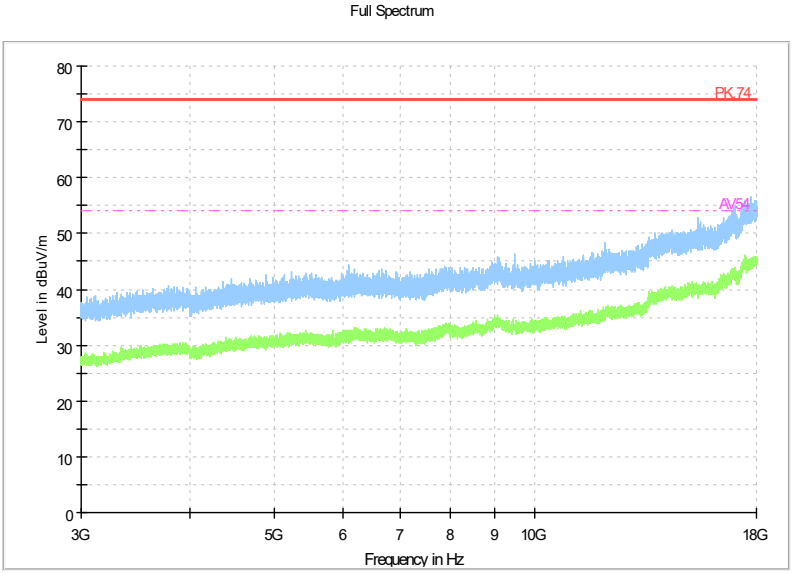


Frequency Range: 30MHz -1GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)

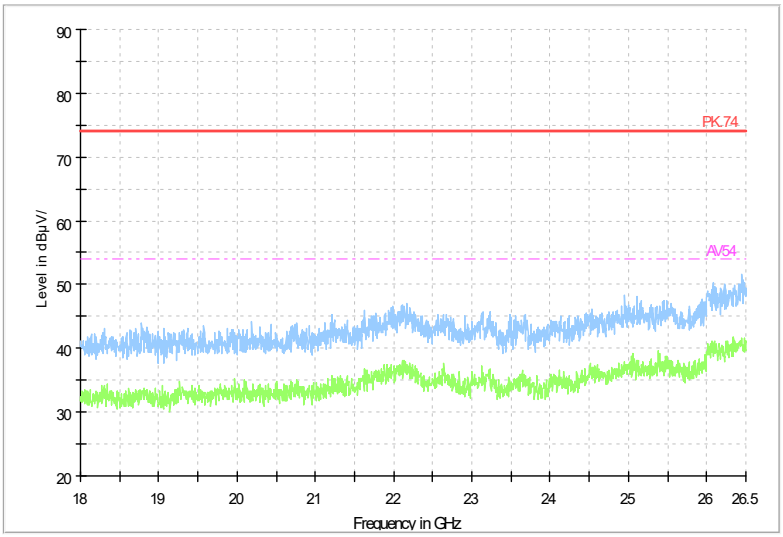
Full Spectrum



Frequency Range: 1GHz -3GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)

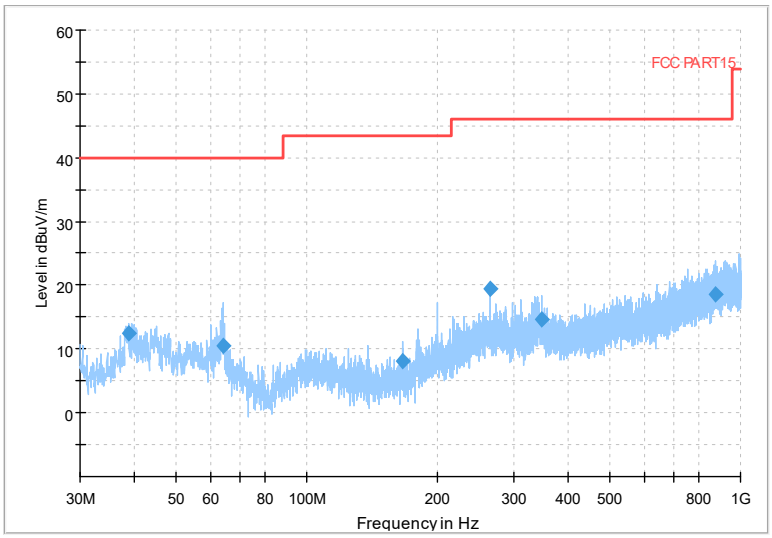


Frequency Range: 3GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)



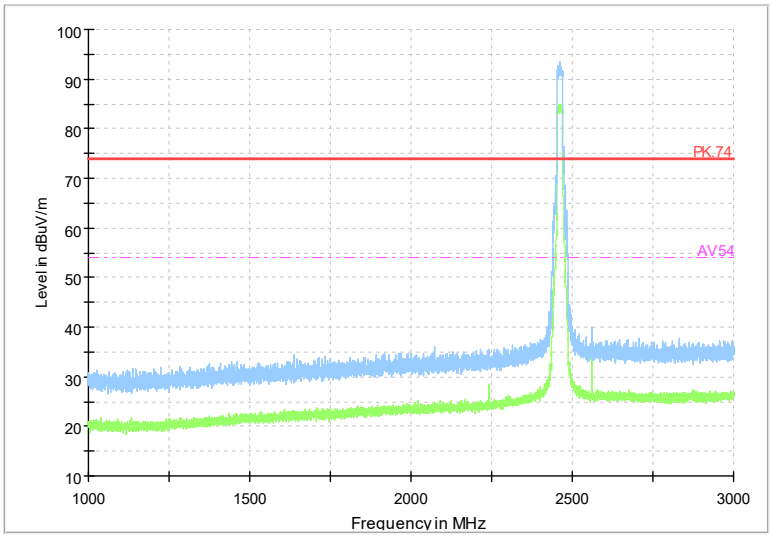
Frequency Range: 18GHz -26GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT20)

Full Spectrum

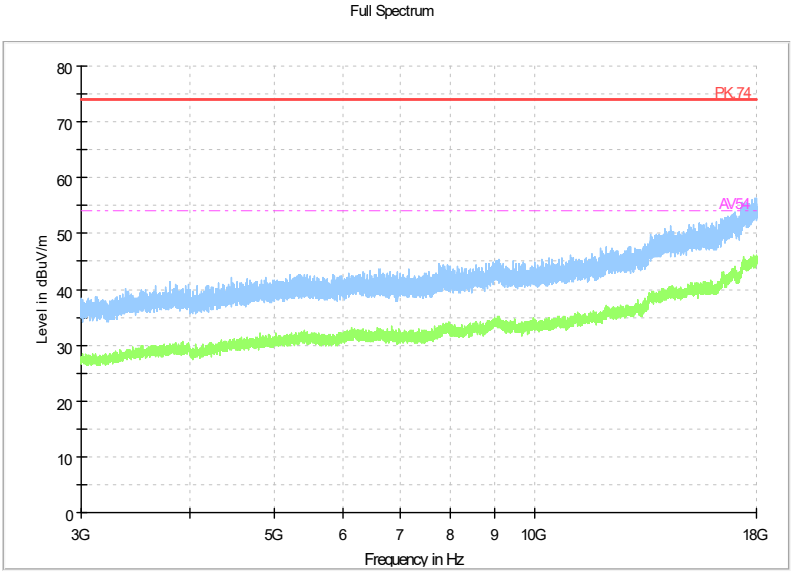


Frequency Range: 30MHz -1GHz
Detector: Av mode and PK mode
Modulation type: 802.11 ax(HE20)

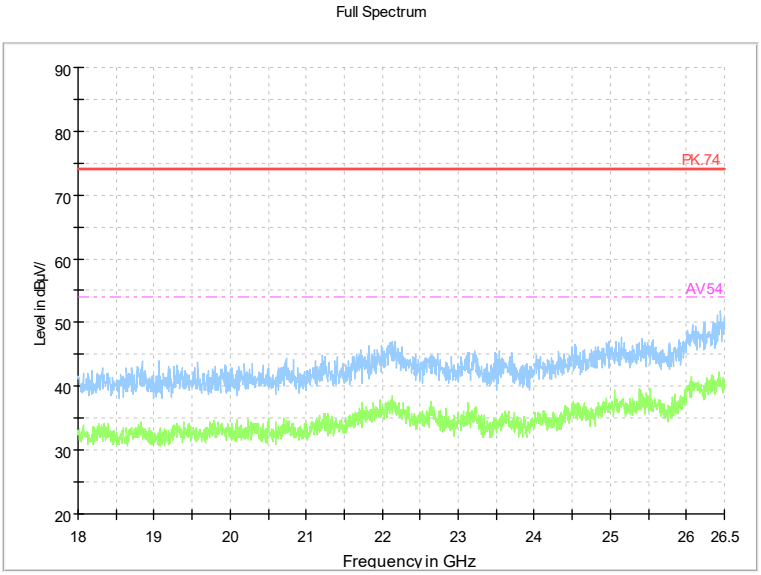
Full Spectrum



Frequency Range: 1GHz -3GHz
Detector: Av mode and PK mode
Modulation type: 802.11 ax(HE20)



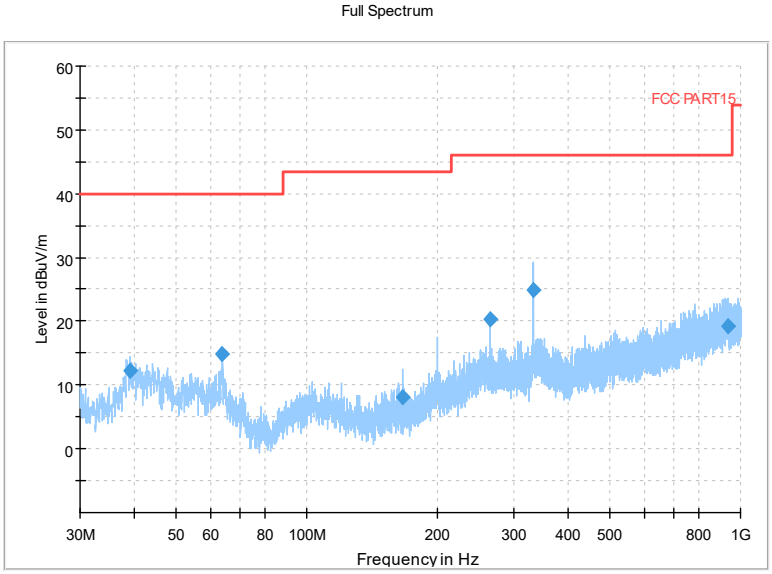
Frequency Range: 3GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11 ax(HE20)



Frequency Range: 18GHz -26GHz
Detector: Av mode and PK mode
Modulation type: 802.11 ax(HE20)

Carrier frequency (MHz): 2422

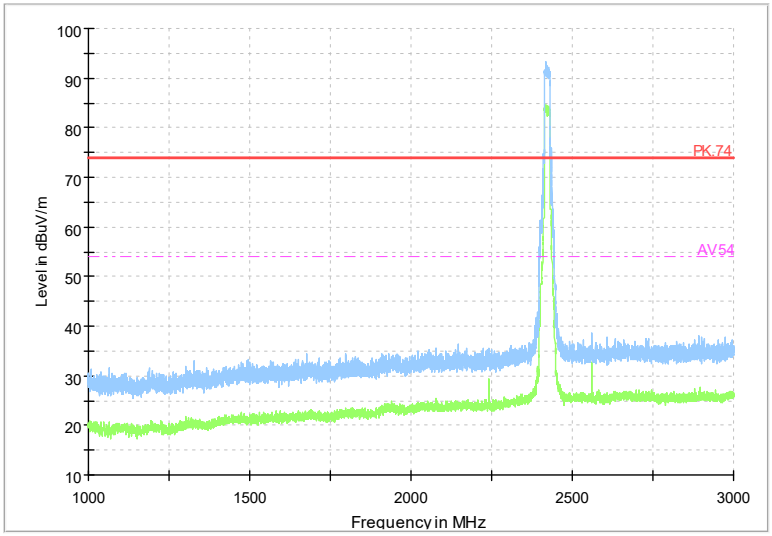
Channel No.:3



Frequency Range: 30MHz -1GHz

Detector: Av mode and PK mode

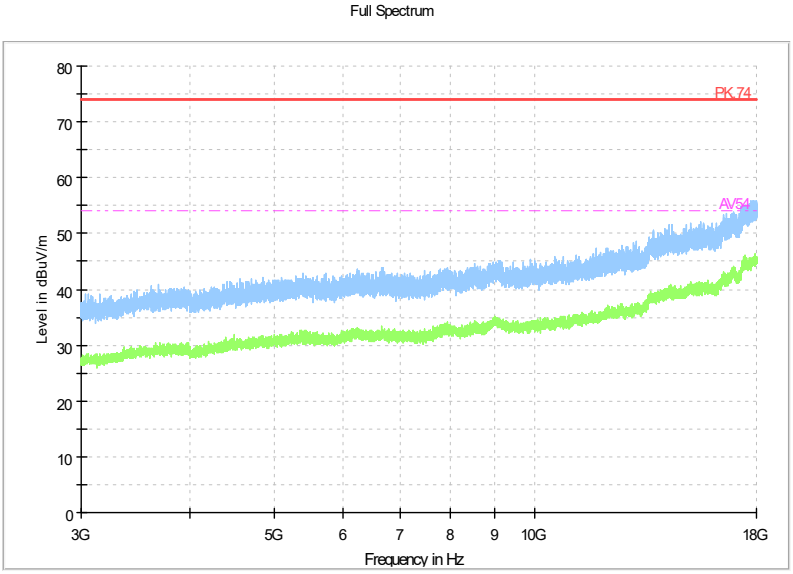
Modulation type: 802.11n(HT40)



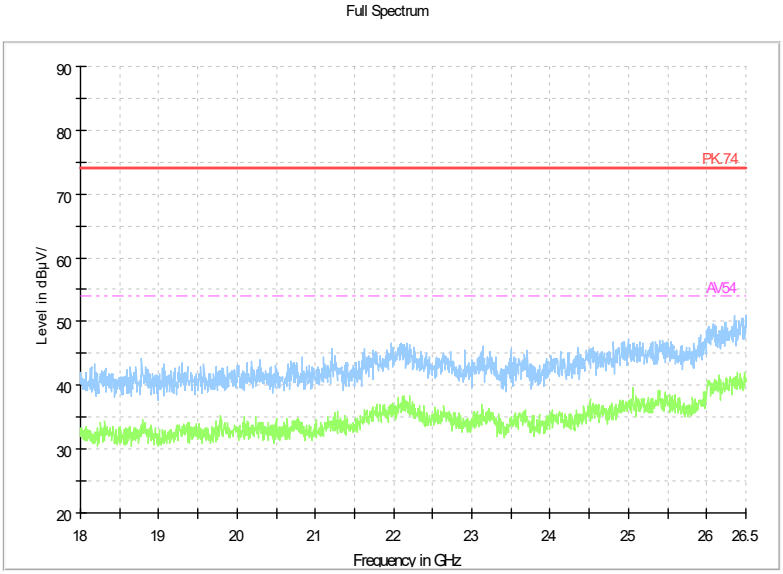
Frequency Range: 1GHz -3GHz

Detector: Av mode and PK mode

Modulation type: 802.11n(HT40)

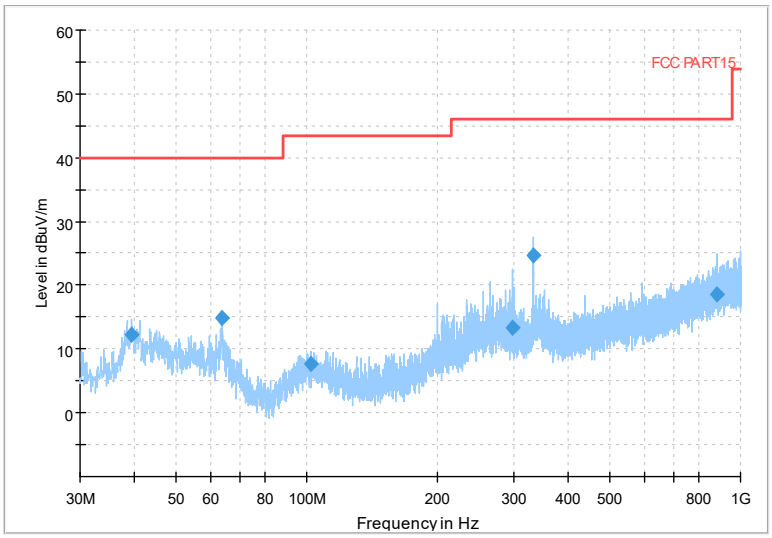


Frequency Range: 3GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT40)



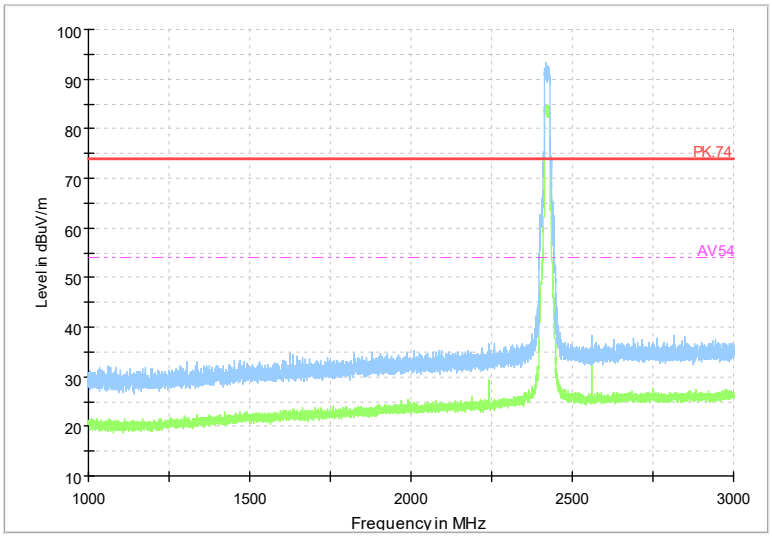
Frequency Range: 18GHz -26GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT40)

Full Spectrum

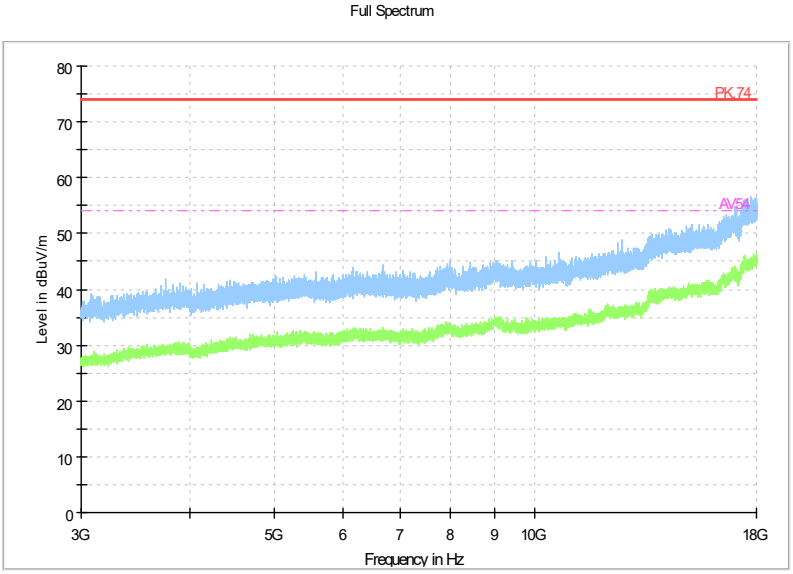


Frequency Range: 30MHz -1GHz
Detector: Av mode and PK mode
Modulation type: 802.11 ax(HE40)

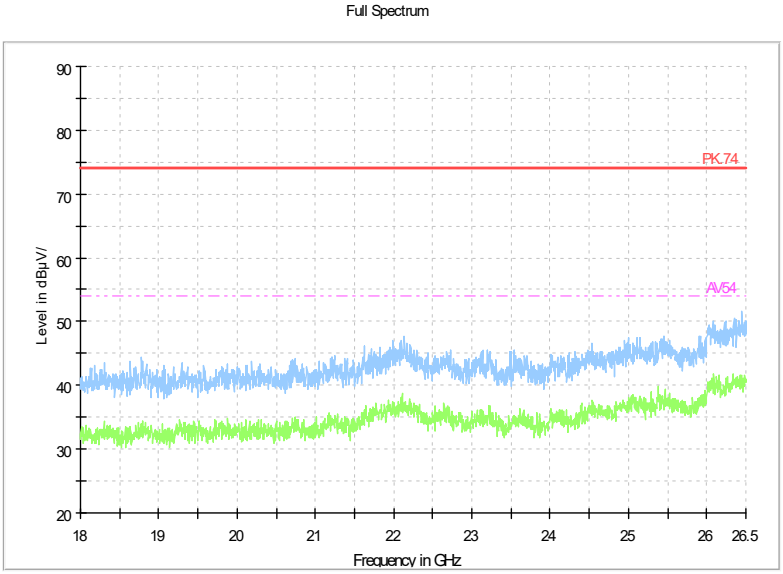
Full Spectrum



Frequency Range: 1GHz -3GHz
Detector: Av mode and PK mode
Modulation type: 802.11 ax(HE40)



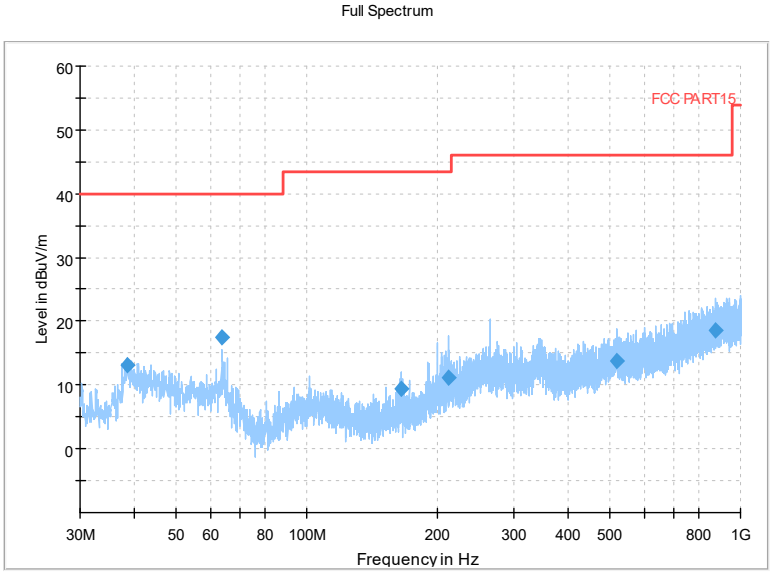
Frequency Range: 3GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11 ax(HE40)



Frequency Range: 18GHz -26GHz
Detector: Av mode and PK mode
Modulation type: 802.11 ax(HE40)

Carrier frequency (MHz): 2437

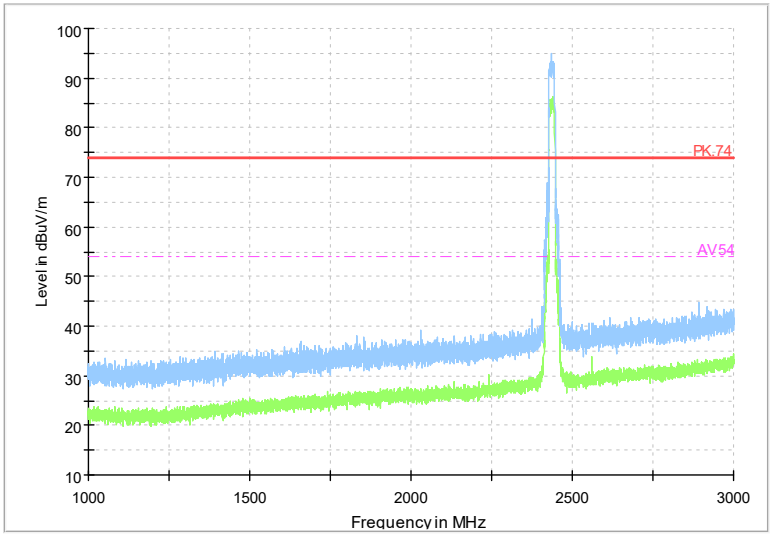
Channel No.:6



Frequency Range: 30MHz -1GHz

Detector: Av mode and PK mode

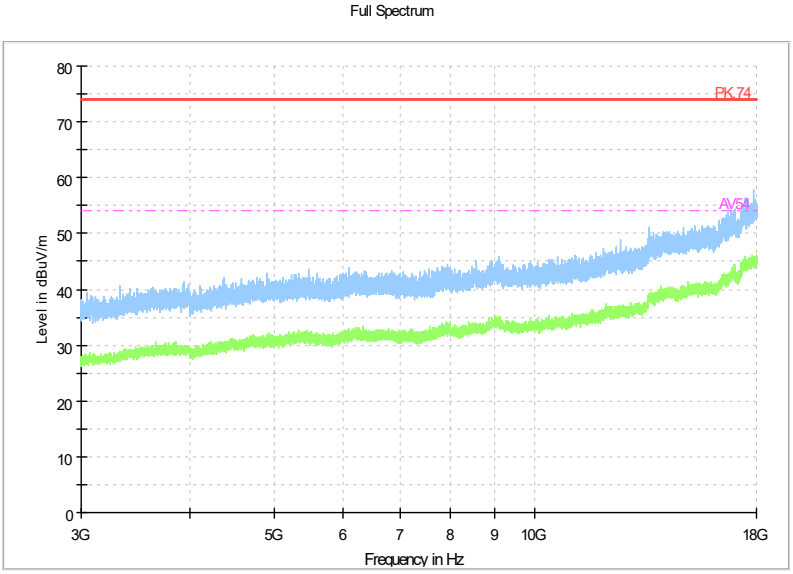
Modulation type: 802.11n(HT40)



Frequency Range: 1GHz -3GHz

Detector: Av mode and PK mode

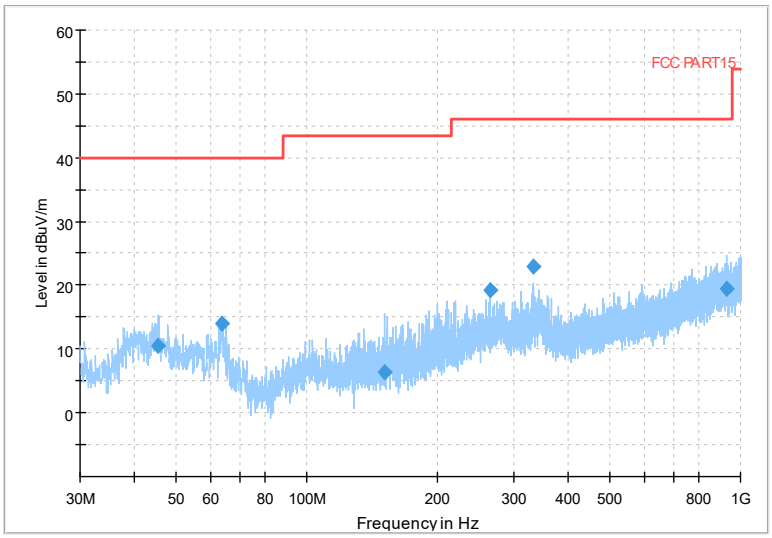
Modulation type: 802.11n(HT40)



Frequency Range: 3GHz -18GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT40)

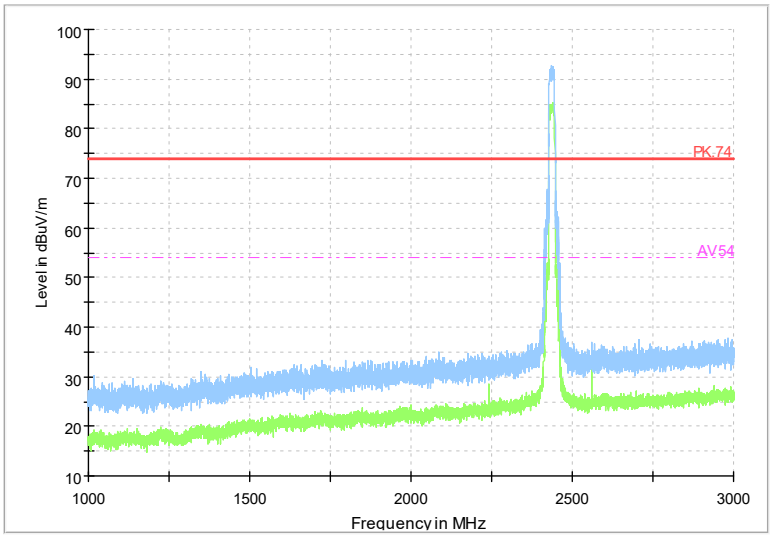
Frequency Range: 18GHz -26GHz
Detector: Av mode and PK mode
Modulation type: 802.11n(HT40)

Full Spectrum

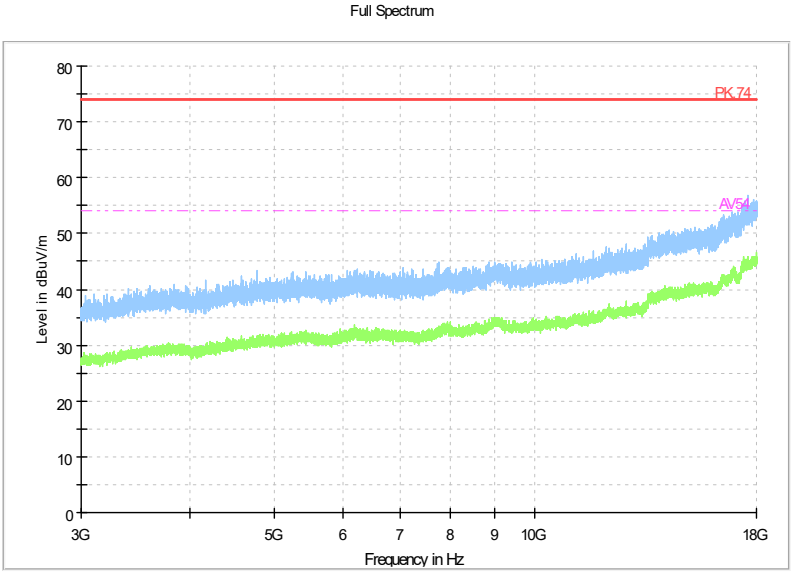


Frequency Range: 30MHz -1GHz
Detector: Av mode and PK mode
Modulation type: 802.11 ax(HE40)

Full Spectrum



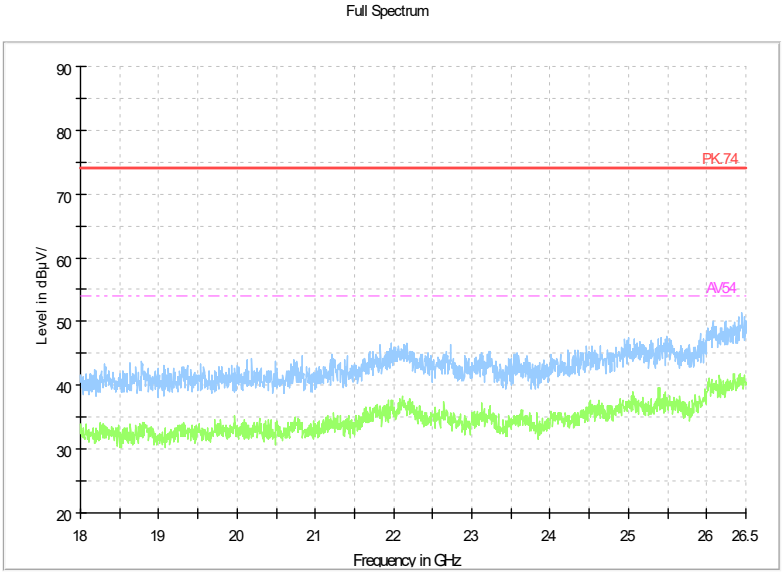
Frequency Range: 1GHz -3GHz
Detector: Av mode and PK mode
Modulation type: 802.11 ax(HE40)



Frequency Range: 3GHz -18GHz

Detector: Av mode and PK mode

Modulation type: 802.11 ax(HE40)



Frequency Range: 18GHz -26GHz

Detector: Av mode and PK mode

Modulation type: 802.11 ax(HE40)

Carrier frequency (MHz): 2452