

FCC Test Report

Report No.: 2405W66906EC

Applicant: Shenzhen Neutop Optoelectronics Co., Ltd

Address: 502, BLDG 4, Pingshan minQi Technology Park, No. 65 Lishan Road, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China

Product Name: Projector

Product Model: D002

Multiple Models: D001P, D001, D002P, D003, D004, D005

Trade Mark: N/A

FCC ID: 2BEGB-YX03

Standards: FCC CFR Title 47 Part 15C (§15.247)

Test Date: 2024-08-27 to 2024-12-20

Test Result: Complied

Report Date: 2024-12-20

Reviewed by:

Abel Chen

Abel Chen
Project Engineer

Approved by:

Jacob Kong

Jacob Kong
Manager

Prepared by:

World Alliance Testing & Certification (Shenzhen) Co., Ltd

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Revision History

Version No.	Issued Date	Description
00	2024-12-20	Original

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1 General Information

1.1 Client Information

Applicant:	Shenzhen Neutop Optoelectronics Co., Ltd
Address:	502, BLDG 4, Pingshan minQi Technology Park, No. 65 Lishan Road, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China
Manufacturer:	Shenzhen Neutop Optoelectronics Co., Ltd
Address:	502, BLDG 4, Pingshan minQi Technology Park, No. 65 Lishan Road, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China

1.2 Product Description of EUT

The EUT is Projector that contains Classic Bluetooth, BLE, 2.4G and 5G WLAN radios, this report covers the full testing of the BLE radio.

Sample Serial Number	2QJT-2 for CE test , 2QJT-1 RE test, 2QJT-6 for RF conducted test (assigned by WATC)
Sample Received Date	2024-08-23
Sample Status	Good Condition
Frequency Range	2402MHz - 2480MHz(BLE1M/2M)
Maximum Conducted Peak Output Power	3.97dBm
Modulation Technology	GFSK
Spatial Streams	SISO (1TX, 1RX)
Antenna Gain [#]	2.82dBi
Power Supply	DC 29V from adapter
Adapter Information	Model: SOY-2900380-410-B Input: AC100-240V, 50/60Hz, 2.5A Output: DC 29.0V/3.8A 110.2W
Modification	Sample No Modification by the test lab

1.3 Antenna information

15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
Device Antenna information:	
The BLE antenna is an internal antenna which cannot replace by end-user, please see product internal photos for details.	

1.4 Related Submittal(s)/Grant(s)

FCC Part 15, Subpart C, Equipment Class: DSS, FCC ID: 2BEGB-YX03
FCC Part 15, Subpart E, Equipment Class: NII, FCC ID: 2BEGB-YX03

1.5 Measurement Uncertainty

Parameter		Expanded Uncertainty (Confidence of 95%(U = 2Uc(y)))
AC Power Lines Conducted Emissions		±3.14dB
Emissions, Radiated	Below 30MHz	±2.78dB
	Below 1GHz	±4.84dB
	Above 1GHz	±5.44dB
Emissions, Conducted		1.75dB
Conducted Power		0.74dB
Frequency Error		150Hz
Bandwidth		0.34%
Power Spectral Density		0.74dB
Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.		

1.6 Laboratory Location

World Alliance Testing & Certification (Shenzhen) Co., Ltd

No. 1002, East Block, Laobing Building, Xingye Road 3012, Xixiang street, Bao'an District, Shenzhen, Guangdong, People's Republic of China

Tel: +86-755-29691511, Email: qa@watc.com.cn

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 463912, the FCC Designation No. : CN5040.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0160.

1.7 Test Methodology

FCC CFR 47 Part 2

FCC CFR 47 Part 15

KDB 558074 D01 15.247 Meas Guidance v05r02

ANSI C63.10-2013

2 Description of Measurement

2.1 Test Configuration

Operating channels:					
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
0	2402	19	2440	38	2478
1	2404	20	2442	39	2480
...	...	...	...	/	/
18	2438	...	...	/	/
According to ANSI C63.10-2013 chapter 5.6.1 Table 11 requirement, select lowest channel, middle channel, and highest channel in the frequency range in which device operates for testing. The detailed frequency points are as follows:					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
0	2402	19	2440	39	2480

Test Mode:				
Transmitting mode:		Keep the EUT in continuous transmitting with modulation		
Exercise software [#] :		SecureCRT		
Mode	Data rate	Power Level Setting [#]		
		Low Channel	Middle Channel	High Channel
BLE 1M	1Mbps	default	default	default
BLE 2M	2Mbps	default	default	default
The exercise software and the maximum power setting that provided by manufacturer.				

Worst-Case Configuration:
For AC power line conducted emission and radiated emission 9kHz-1GHz and above 18GHz were performed with the EUT transmits at the channel with highest output power as worst-case scenario.
For radiated emissions below 30MHz, three antenna orientations (parallel, perpendicular, ground-parallel) were tested, only record the worse case test data in report.

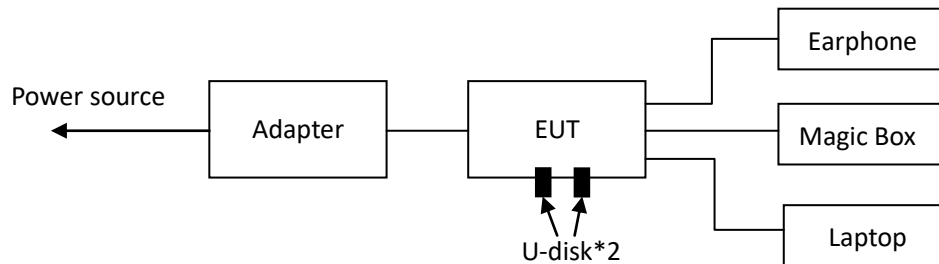
2.2 Test Auxiliary Equipment

Manufacturer	Description	Model	Serial Number
aigo	USB flash disk*2	unknown	unknown
Tmall	Magic Box	M20_C	20081648
unknown	Earphone	unknown	unknown
DELL	Laptop	E5570	52KW7

2.3 Interconnecting Cables

Manufacturer	Description	Length(m)	From	To
SOY	AC Power Cable	0.2	Power source	Adapter
SOY	DC Power Cable	1.5	Adapter	EUT
Unknown	HDMI Cable(Shielding)	1.5	Laptop	EUT
Unknown	AV Cable	1.5	EUT	Magic Box

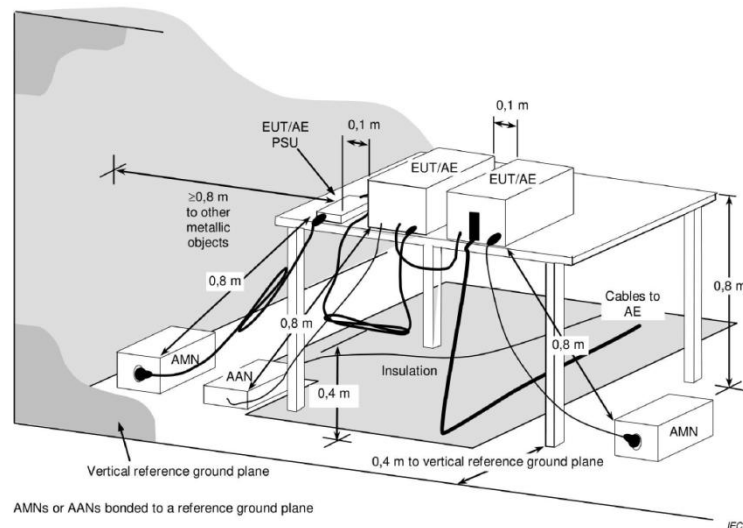
2.4 Block Diagram of Connection between EUT and AE



Note: for reference only, the actual connection setup used for testing please refer to the test photos.

2.5 Test Setup

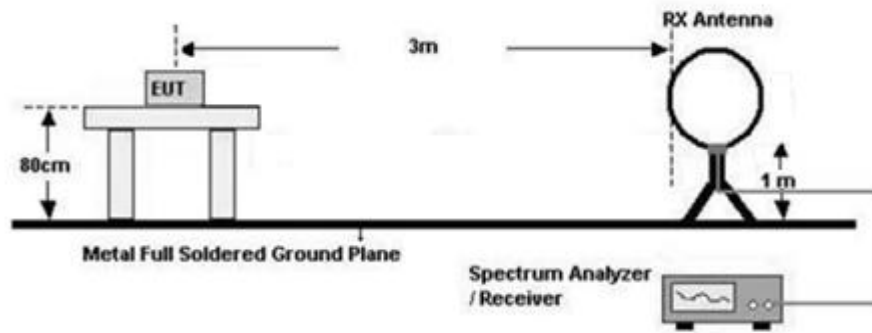
1) Conducted emission measurement:



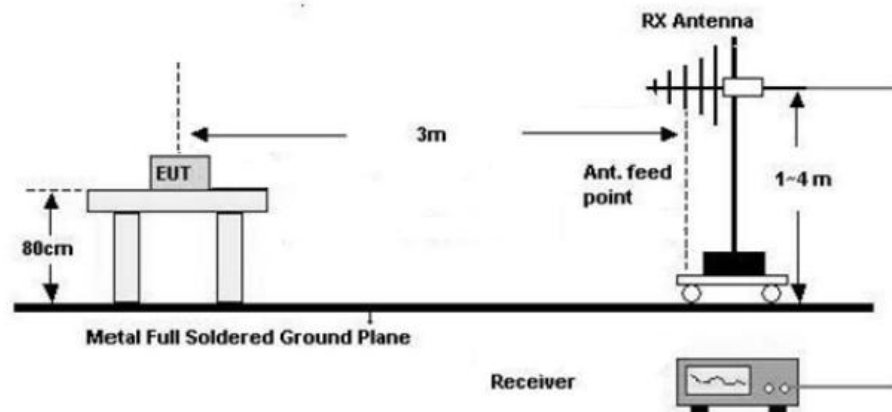
Note: The 0.8 m distance specified between EUT/AE/PSU and AMN/AAN, is applicable only to the EUT being measured. If the device is AE then it shall be >0.8 m.

2) Radiated emission measurement:

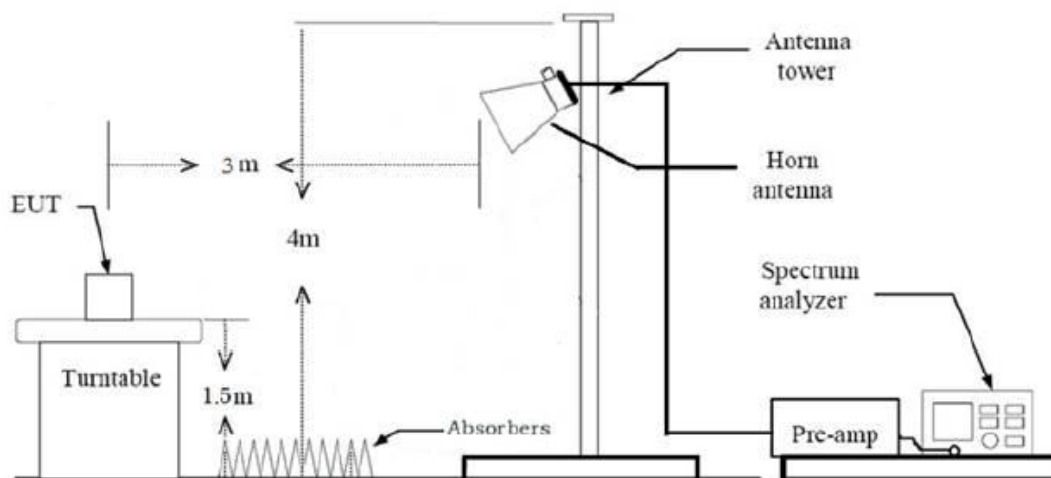
Below 30MHz (3m SAC)

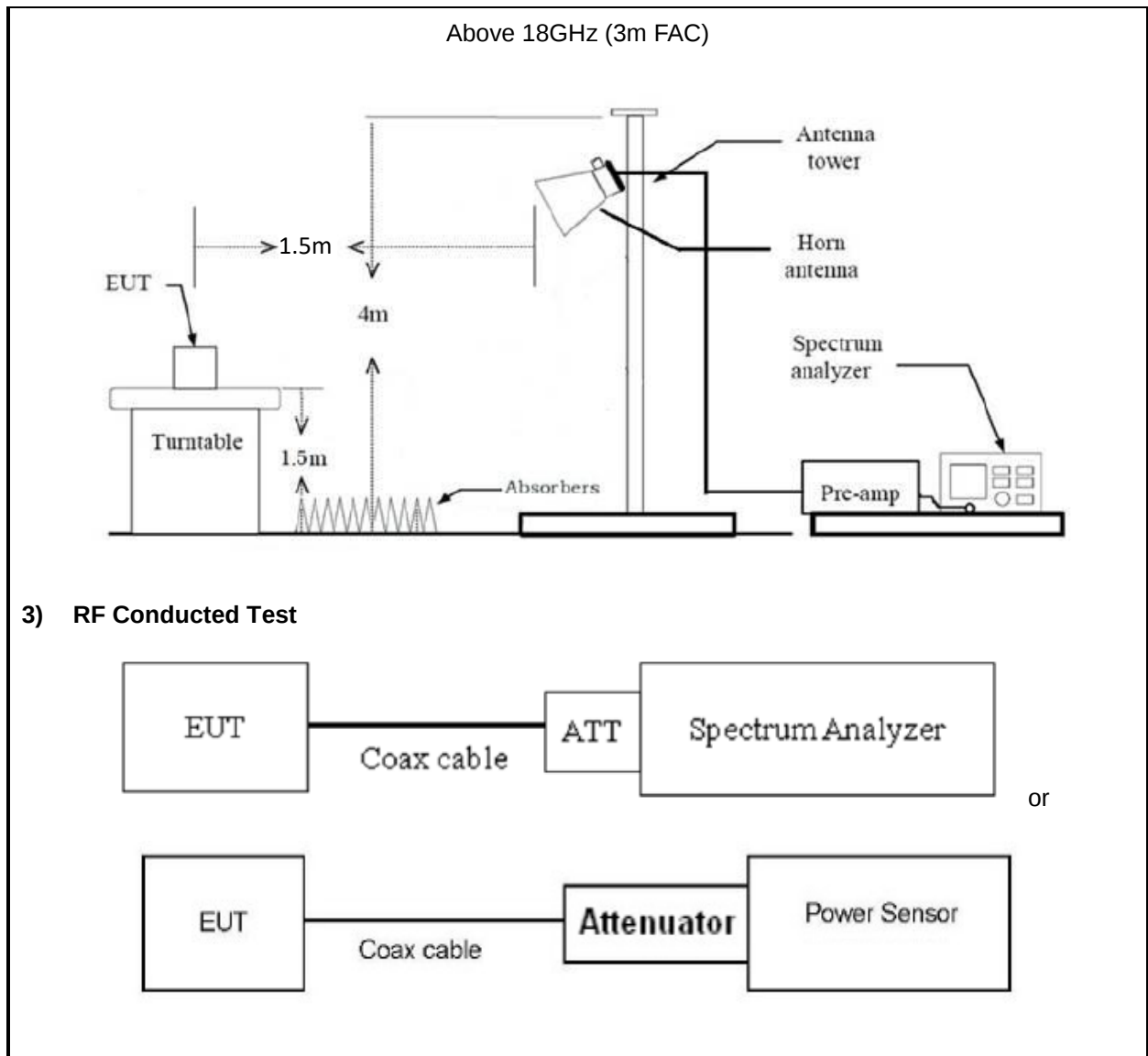


30MHz-1GHz (3m SAC)



1GHz-18GHz(3m FAC)





2.6 Test Procedure

Conducted emission:

1. The E.U.T is placed on a non-conducting table 40cm from the vertical ground plane and 80cm above the horizontal ground plane (Please refer to the block diagram of the test setup and photographs).
2. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.
3. Line conducted data is recorded for both Line and Neutral

Radiated Emission Procedure:

a) For below 30MHz

1. All measurements were made at a test distance of 3 m. The measured data was extrapolated from the test distance (3m) to the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz- 30 MHz) to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the

intentionally transmitted signal. The extrapolation factor for the limits were $40 \cdot \log(\text{test distance} / \text{specification distance})$.

2. Loop antenna use, investigation was done on the three antenna orientations (parallel, perpendicular, ground-parallel)

b) For 30MHz-1GHz:

1. The EUT was placed on the tabletop of a rotating table 0.8 m the ground at a 3 m semi anechoic chamber. The measurement distance from the EUT to the receiving antenna is 3 m.
2. EUT works in each mode of operation that needs to be tested. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations.

c) For above 1GHz:

1. The EUT was placed on the tabletop of a rotating table 1.5 m the ground at a 3 m fully anechoic room. The measurement distance from the EUT to the receiving antenna is 3 m (1-18GHz) and 1.5 m (above 18GHz).
2. EUT works in each mode of operation that needs to be tested, and having the EUT continuously working. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations.
3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data.
4. Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

RF Conducted Test:

1. The antenna port of EUT was connected to the RF port of the test equipment (Power Meter or Spectrum analyzer) through Attenuator and RF cable.
2. The cable assembly insertion loss of 6.5dB (including 6.0 dB Attenuator and 0.5dB cable) was entered as an offset in the power meter. Note: Actual cable loss was unavailable at the time of testing, therefore a loss of 0.5dB was assumed as worst case. This was later verified to be true by laboratory. (if the RF cable provided by client, the cable loss declared by client)
3. The EUT is keeping in continuous transmission mode and tested in all modulation modes.

2.7 Measurement Method

Description of Test	Measurement Method
AC Line Conducted Emissions	ANSI C63.10-2013 Section 6.2
Maximum Conducted Output Power	ANSI C63.10-2013 Section 11.9.1.1
Power Spectral Density	ANSI C63.10-2013 Section 11.10.2
6 dB Emission Bandwidth	ANSI C63.10-2013 Section 11.8.1
99% Occupied Bandwidth	ANSI C63.10-2013 Section 6.9.3
100kHz Bandwidth of Frequency Band Edge	ANSI C63.10-2013 Section 6.10
Conducted emission at Antenna Terminals	ANSI C63.10-2013 Section 11.11
Radiated emission	ANSI C63.10-2013 Section 11.11&11.12.1
Duty Cycle	ANSI C63.10-2013 Section 11.6

2.8 Measurement Equipment

Manufacturer	Description	Model	Management No.	Calibration Date	Calibration Due Date
AC Line Conducted Emission Test					
ROHDE& SCHWARZ	EMI TEST RECEIVER	ESR	101817	2024/6/4	2025/6/3
R&S	LISN	ENV216	101748	2024/6/4	2025/6/3
N/A	Coaxial Cable	NO.12	N/A	2024/6/6	2025/6/5
Farad	Test Software	EZ-EMC	Ver. EMEC-3A1	/	/
Radiated Emission Test					
R&S	EMI test receiver	ESR3	102758	2024/6/4	2025/6/3
ROHDE& SCHWARZ	SPECTRUM ANALYZER	FSV40-N	101608	2024/6/4	2025/6/3
SONOMA INSTRUMENT	Low frequency amplifier	310	186014	2024/6/4	2025/6/3
A.H. Systems	PREAMPLIFIER	PAM-0118P	531	2024/6/4	2025/6/3
COM-POWER	Amplifier	PAM-840A	461306	2024/8/7	2025/8/6
BACL	Loop Antenna	1313-1A	4010611	2024/2/7	2027/2/6
SCHWARZBECK	Log - periodic wideband antenna	VULB 9163	9163-872	2023/7/7	2026/7/6
Astro Antenna Ltd	Horn antenna	AHA-118S	3015	2023/7/6	2026/7/5

Ducommun technologies	Horn Antenna	ARH-4223-02	1007726-03	2023/7/10	2026/7/9
Oulitong	Band Reject Filter	OBSF-2400-248 3.5-50N	OE02103119	2024/6/4	2025/6/3
Unknown	6.7G High Pass Filter	Unknown	6.7G	2024/6/4	2025/6/3
N/A	Coaxial Cable	NO.9	N/A	2024/6/4	2025/6/3
N/A	Coaxial Cable	NO.13	N/A	2024/8/7	2025/8/6
N/A	Coaxial Cable	NO.15	N/A	2024/6/4	2025/6/3
N/A	Coaxial Cable	NO.16	N/A	2024/6/4	2025/6/3
N/A	Coaxial Cable	NO.17	N/A	2024/6/4	2025/6/3
Audix	Test Software	E3	191218 V9	/	/
RF Conducted Test					
ROHDE& SCHWARZ	SPECTRUM ANALYZER	FSU-26	200680/026	2024/6/4	2025/6/3
ANRITSU	USB Power Sensor	MA24418A	12620	2024/6/4	2025/6/3
MEEA	6dB attenuator	603-06-1	N/A	2024/6/4	2025/6/3

Note: All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or International standards.

3 Test Results

3.1 Test Summary

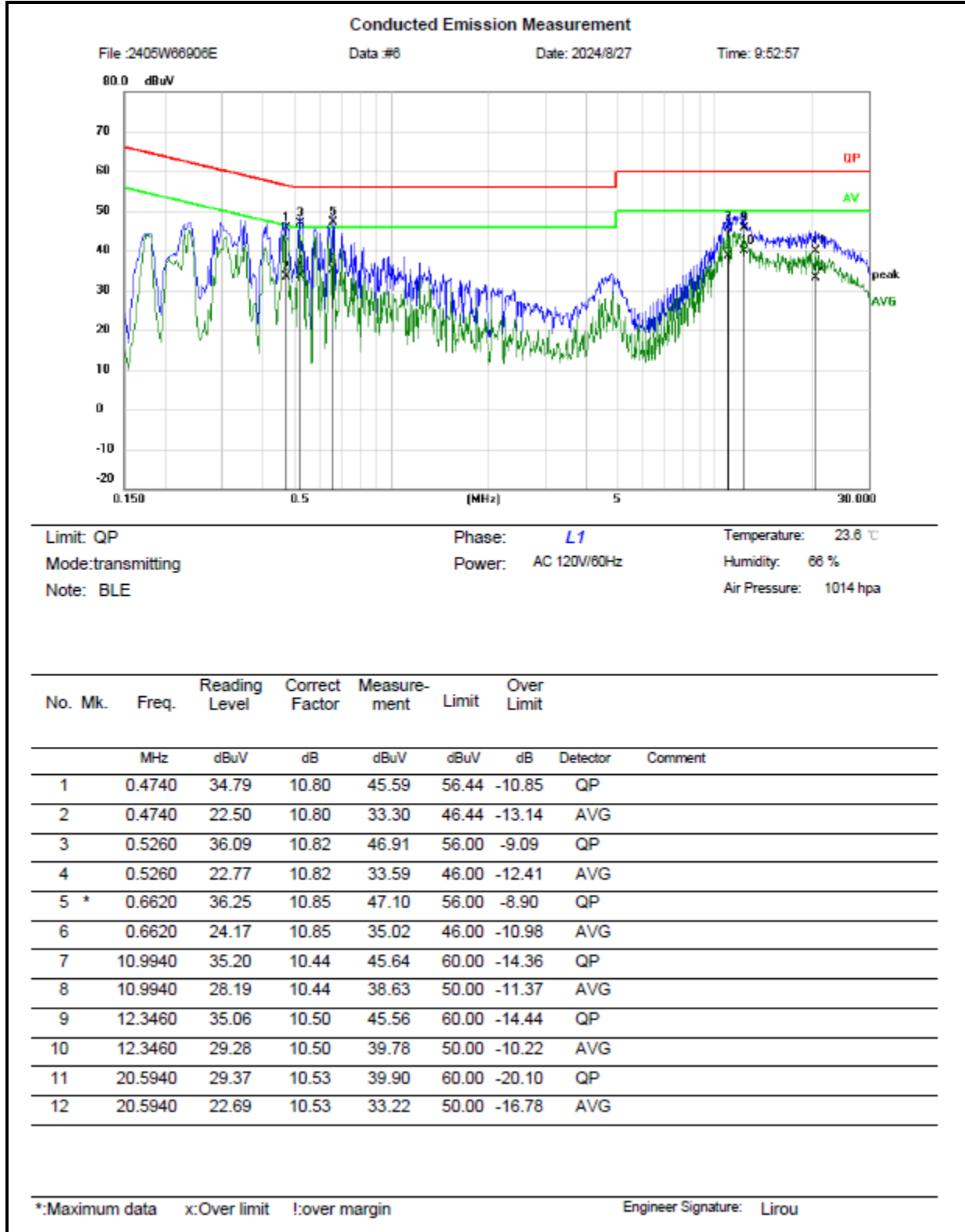
FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliance
§15.207 (a)	AC Line Conducted Emissions	Compliance
§15.247(b)(3)	Maximum Conducted Output Power	Compliance
§15.247(e)	Power Spectral Density	Compliance
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliance
-	99% Occupied Bandwidth	Report only
§15.247(d)	100kHz Bandwidth of Frequency Band Edge	Compliance
§15.247(d)	Conducted emission at Antenna Terminals	Compliance
§15.205, §15.209, §15.247(d)	Radiated emission	Compliance
-	Duty Cycle	Report only

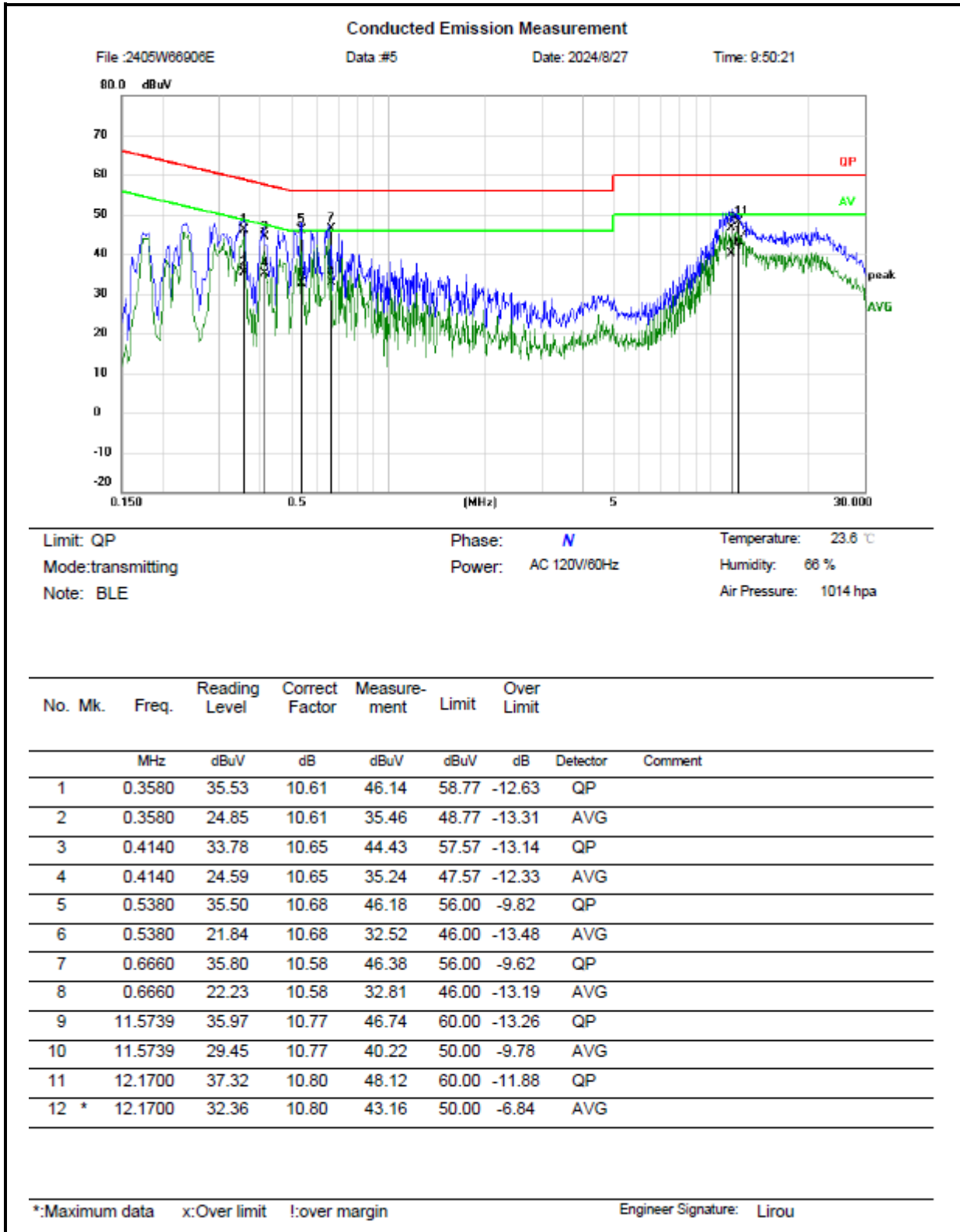
3.2 Limit

Test items	Limit
AC Line Conducted Emissions	See details §15.207 (a)
Conducted Output Power	For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt.
6dB Emission Bandwidth	The minimum 6 dB bandwidth shall be at least 500 kHz.
Power Spectral Density	For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.
Spurious Emissions, 100kHz Bandwidth of Frequency Band Edge	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

3.3 AC Line Conducted Emissions Test Data

Test Date:	2024-08-27	Test By:	Lirou Li
Environment condition:	Temperature: 23.6°C; Relative Humidity:66%; ATM Pressure: 101.4kPa		





Remark:

Measurement (dBuV)= Reading Level (dBuV) + Correct Factor(dB)

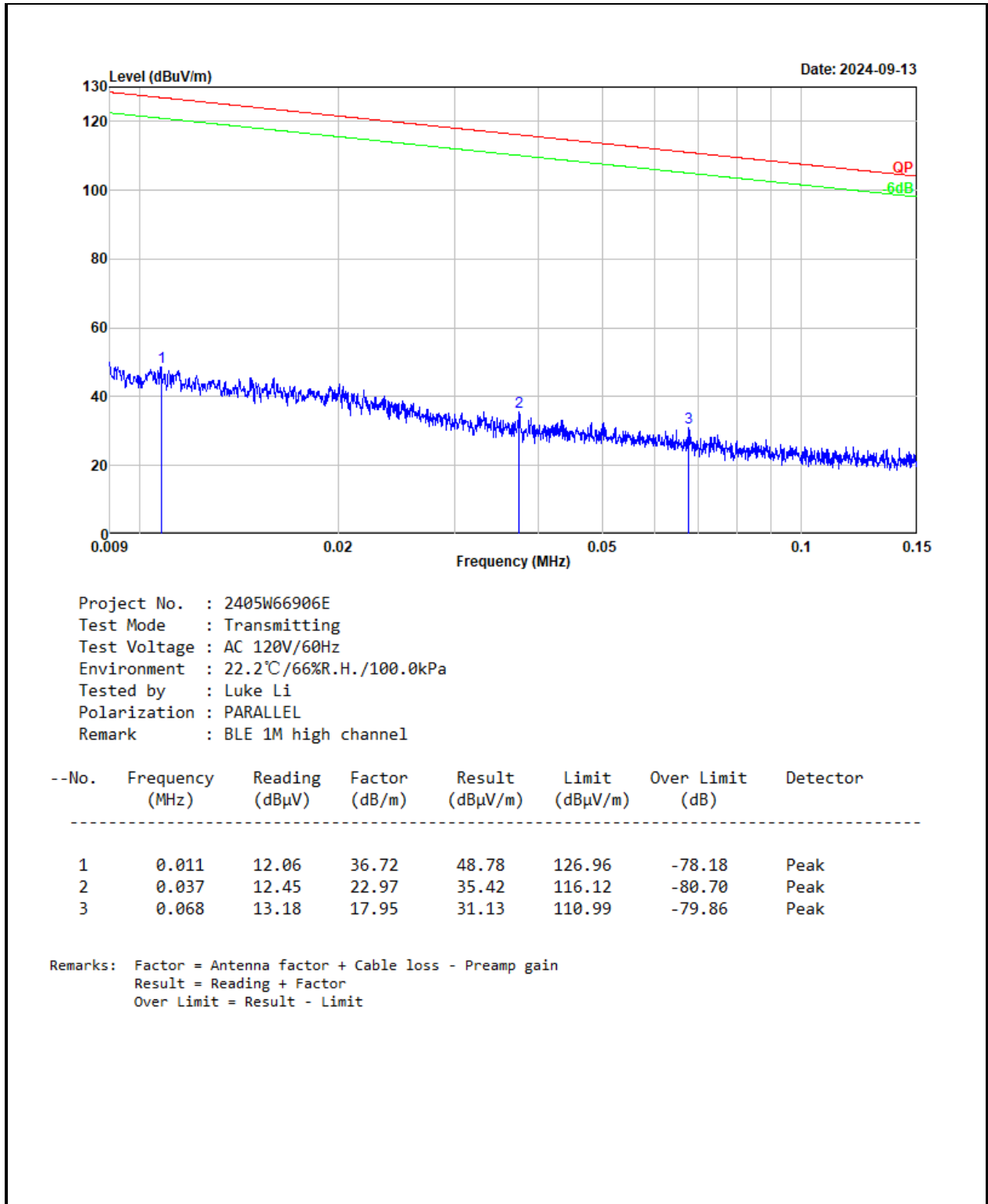
Correct Factor(dB)= LISN Voltage Division Factor (dB)+ Cable loss(dB)

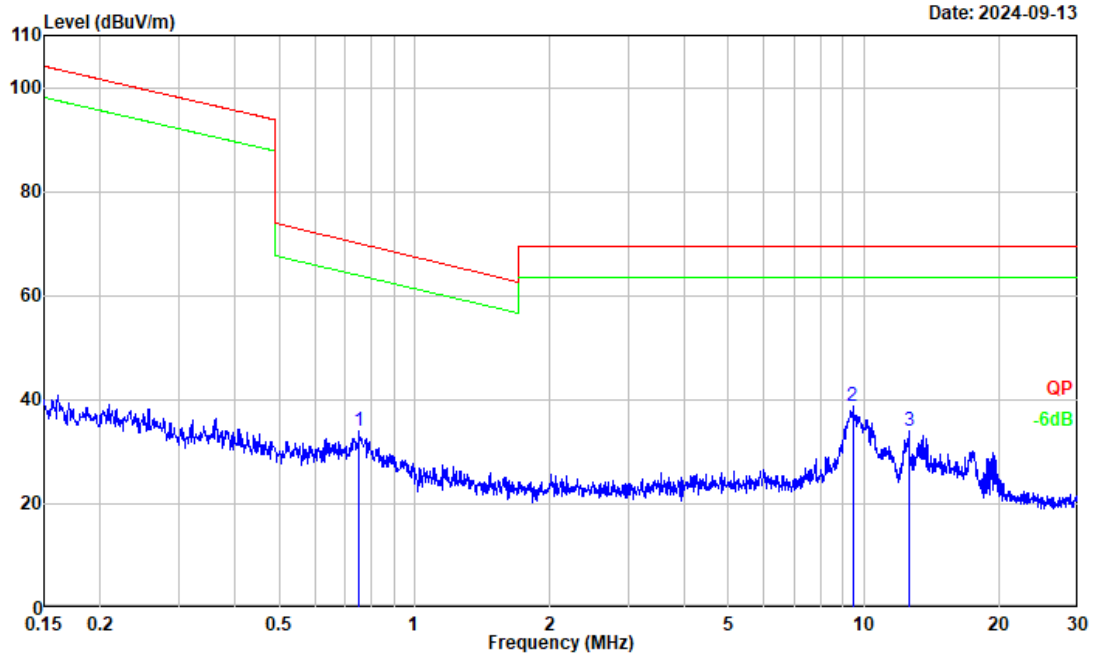
Over Limit = Measurement – Limit

3.4 Radiated emission Test Data

9 kHz-30MHz:

Test Date:	2024-09-13	Test By:	Luke Li
Environment condition:	Temperature: 22.2°C; Relative Humidity:66%; ATM Pressure: 100kPa		





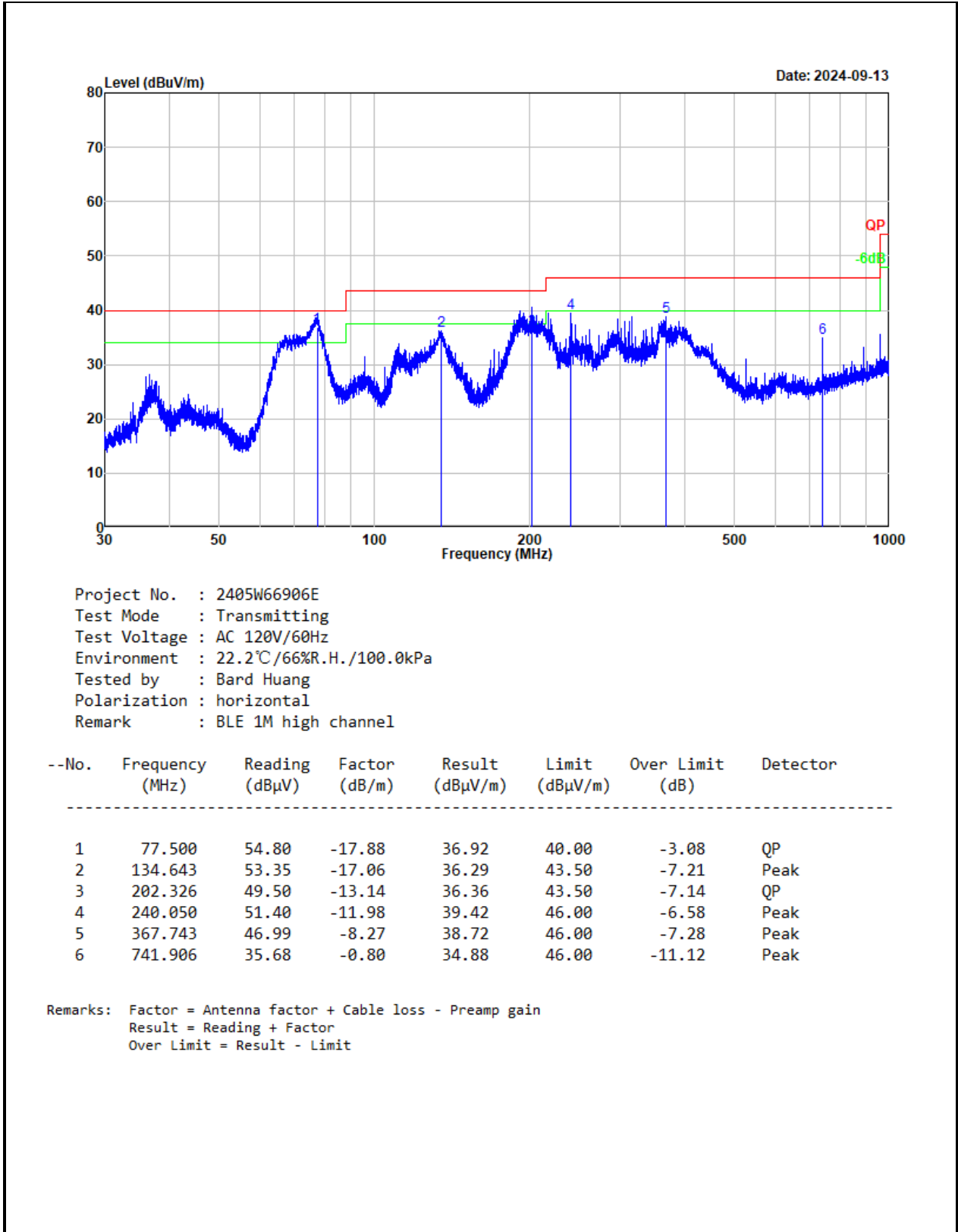
Project No. : 2405W66906E
 Test Mode : Transmitting
 Test Voltage : AC 120V/60Hz
 Environment : 22.2°C/66%R.H./100.0kPa
 Tested by : Luke Li
 Polarization : PARALLEL
 Remark : BLE 1M high channel

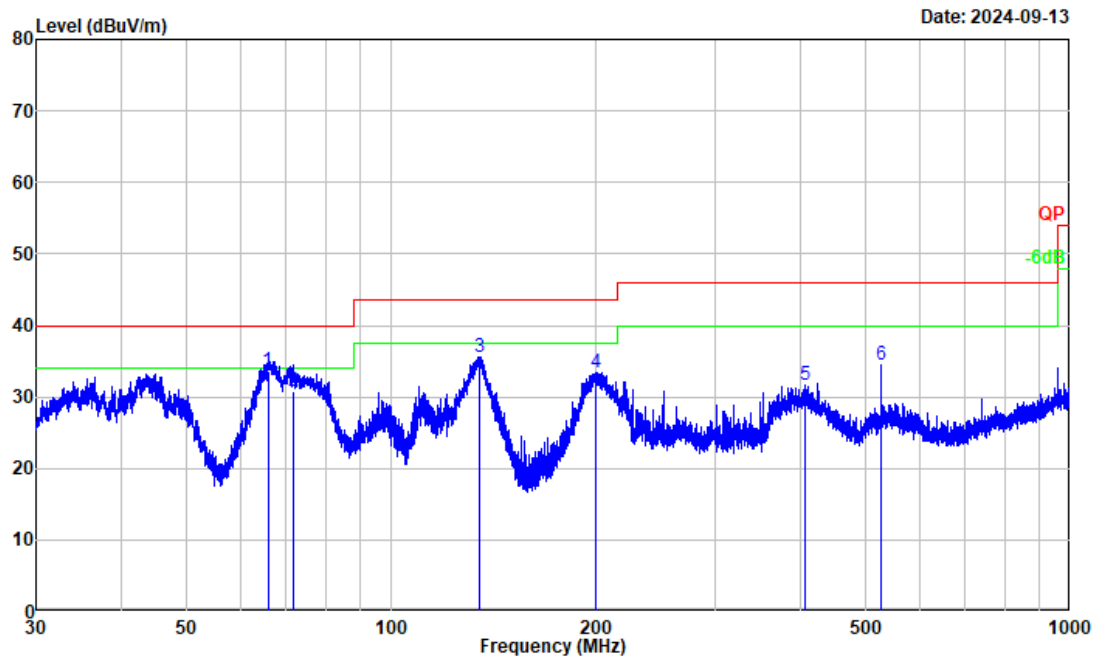
--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	0.752	31.13	2.88	34.01	70.01	-36.00	Peak
2	9.446	42.34	-3.64	38.70	69.54	-30.84	Peak
3	12.577	37.48	-3.46	34.02	69.54	-35.52	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
 Result = Reading + Factor
 Over Limit = Result - Limit

30MHz-1GHz:

Test Date:	2024-09-13	Test By:	Bard Huang
Environment condition:	Temperature: 22.2°C; Relative Humidity:66%; ATM Pressure: 100kPa		





Project No. : 2405W66906E
 Test Mode : Transmitting
 Test Voltage : AC 120V/60Hz
 Environment : 22.2°C/66%R.H./100.0kPa
 Tested by : Bard Huang
 Polarization : vertical
 Remark : BLE 1M high channel

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector

1	65.838	47.90	-14.35	33.55	40.00	-6.45	QP
2	71.651	47.30	-16.60	30.70	40.00	-9.30	QP
3	134.821	52.70	-17.06	35.64	43.50	-7.86	Peak
4	200.121	46.62	-13.16	33.46	43.50	-10.04	Peak
5	407.469	39.03	-7.27	31.76	46.00	-14.24	Peak
6	526.585	39.82	-5.28	34.54	46.00	-11.46	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
 Result = Reading + Factor
 Over Limit = Result - Limit

Above 1GHz:

Test Date:	2024-12-04	Test By:	Bard Huang
Environment condition:	Temperature: 24.1°C; Relative Humidity:36%; ATM Pressure: 101kPa		

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
BLE 1M							
Low Channel							
4804.000	48.52	horizontal	-2.87	45.65	74.00	-28.35	Peak
4804.000	47.69	vertical	-2.87	44.82	74.00	-29.18	Peak
1048.000	57.99	horizontal	-8.06	49.93	74.00	-24.07	Peak
1063.000	61.01	vertical	-8.01	53.00	74.00	-21.00	Peak
Middle Channel							
4880.000	47.62	horizontal	-2.34	45.28	74.00	-28.72	Peak
4880.000	47.69	vertical	-2.34	45.35	74.00	-28.65	Peak
1057.000	58.04	horizontal	-8.04	50.00	74.00	-24.00	Peak
1062.000	61.59	vertical	-8.02	53.57	74.00	-20.43	Peak
High Channel							
4960.000	47.89	horizontal	-2.18	45.71	74.00	-28.29	Peak
4960.000	47.31	vertical	-2.18	45.13	74.00	-28.87	Peak
1063.000	58.54	horizontal	-8.01	50.53	74.00	-23.47	Peak
1062.000	60.95	vertical	-8.02	52.93	74.00	-21.07	Peak
BLE 2M							
Low Channel							
4804.000	47.84	horizontal	-2.87	44.97	74.00	-29.03	Peak
4804.000	47.71	vertical	-2.87	44.84	74.00	-29.16	Peak
1057.000	58.98	horizontal	-8.04	50.94	74.00	-23.06	Peak
1061.000	61.30	vertical	-8.03	53.27	74.00	-20.73	Peak
Middle Channel							
4880.000	46.98	horizontal	-2.34	44.64	74.00	-29.36	Peak
4880.000	47.23	vertical	-2.34	44.89	74.00	-29.11	Peak
1061.000	58.56	horizontal	-8.03	50.53	74.00	-23.47	Peak
1058.000	61.48	vertical	-8.03	53.45	74.00	-20.55	Peak
High Channel							
4960.000	47.51	horizontal	-2.18	45.33	74.00	-28.67	Peak
4960.000	47.40	vertical	-2.18	45.22	74.00	-28.78	Peak

1064.000	59.74	horizontal	-8.01	51.73	74.00	-22.27	Peak
1060.000	42.91	vertical	-8.03	34.88	54.00	-19.12	Average
1060.000	62.71	vertical	-8.03	54.68	74.00	-19.32	Peak

Remark:

Corrected Amplitude= Reading level + corrected Factor

Corrected Factor = Antenna factor + Cable loss – Amplifier gain

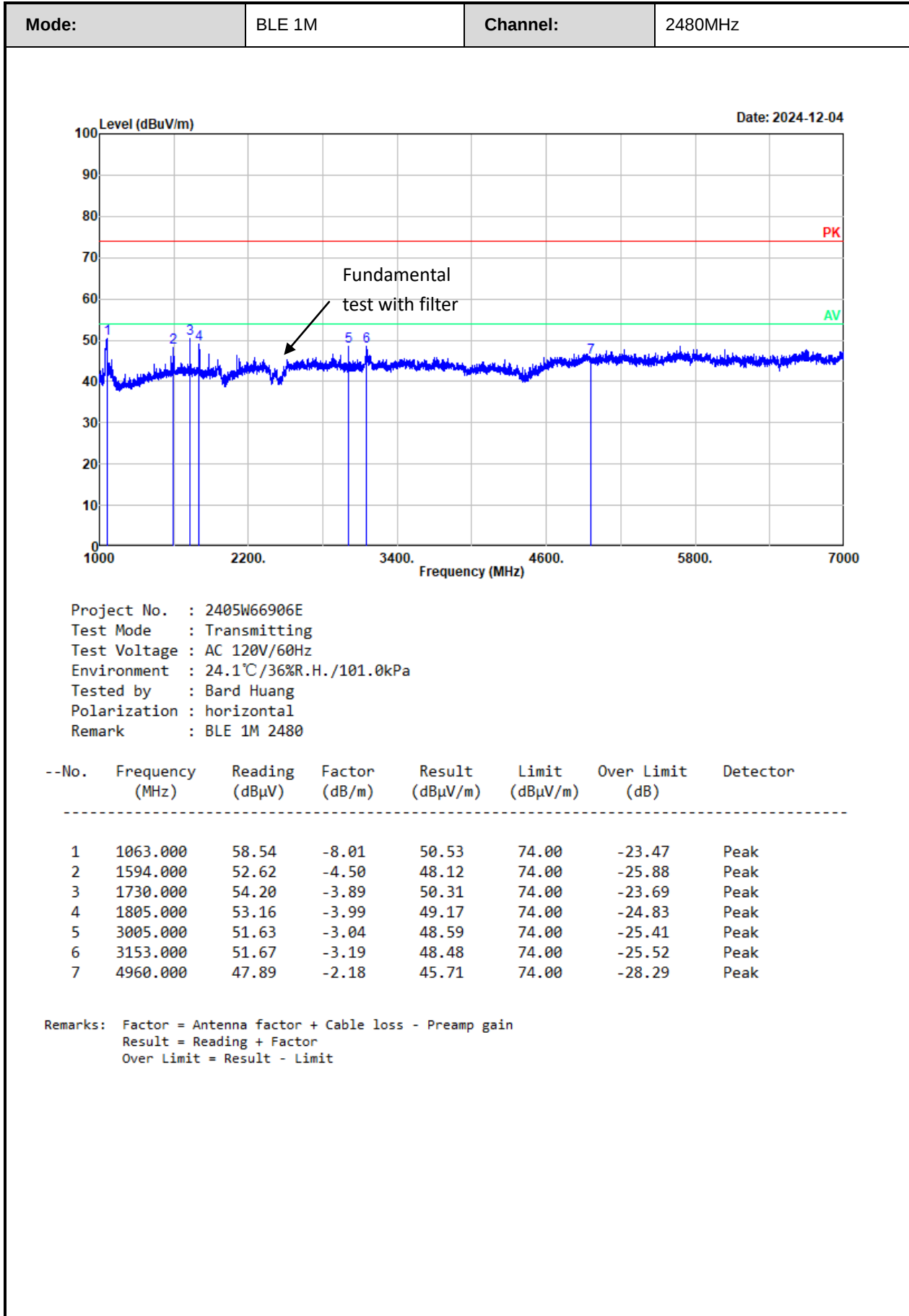
Margin = Corrected Amplitude – Limit

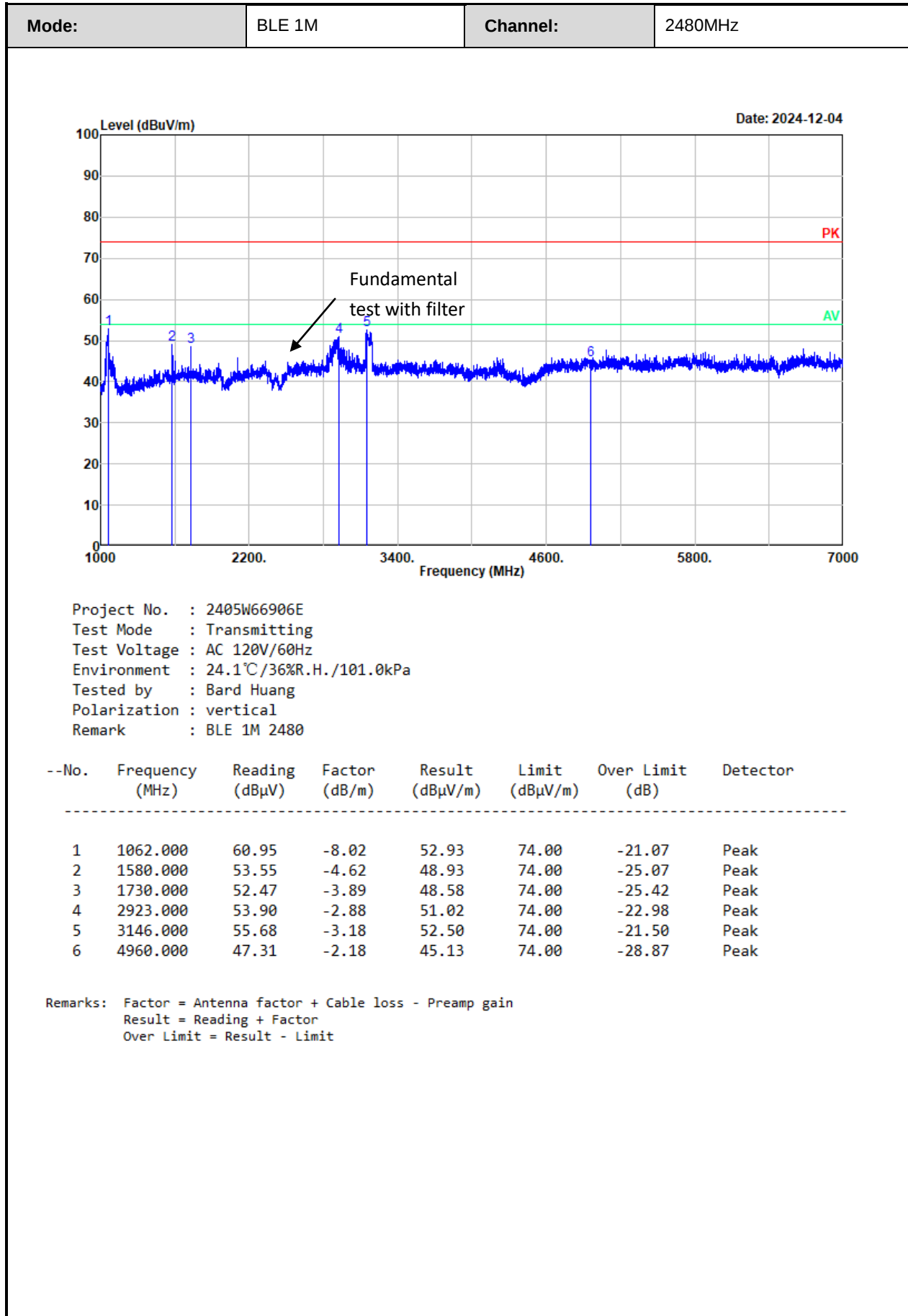
For the test result of Peak below the Peak limit more than 20dB, which can compliance with the average limit, just the Peak level was recorded.

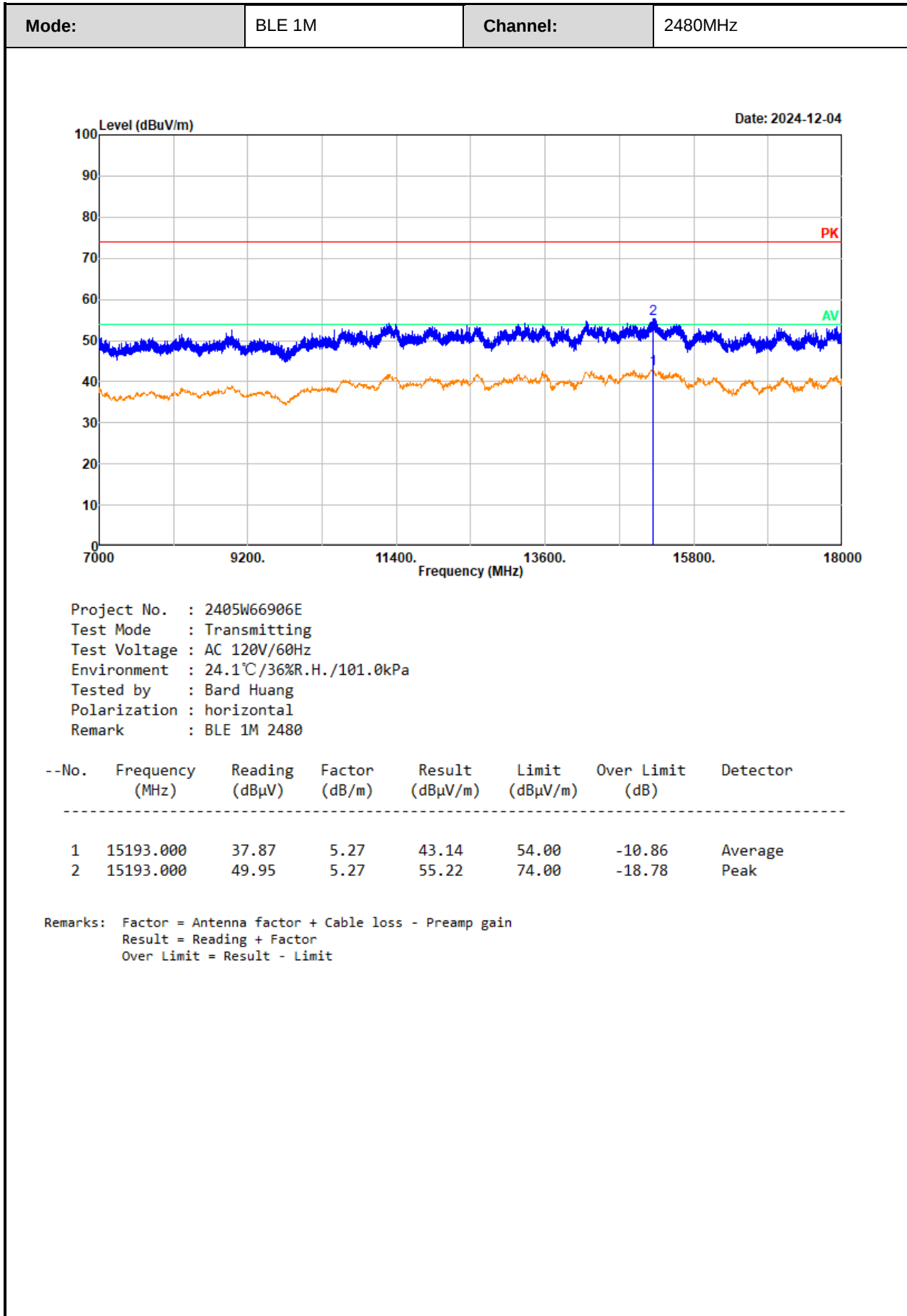
The emission levels of other frequencies that were lower than the limit 20dB, not show in test report.

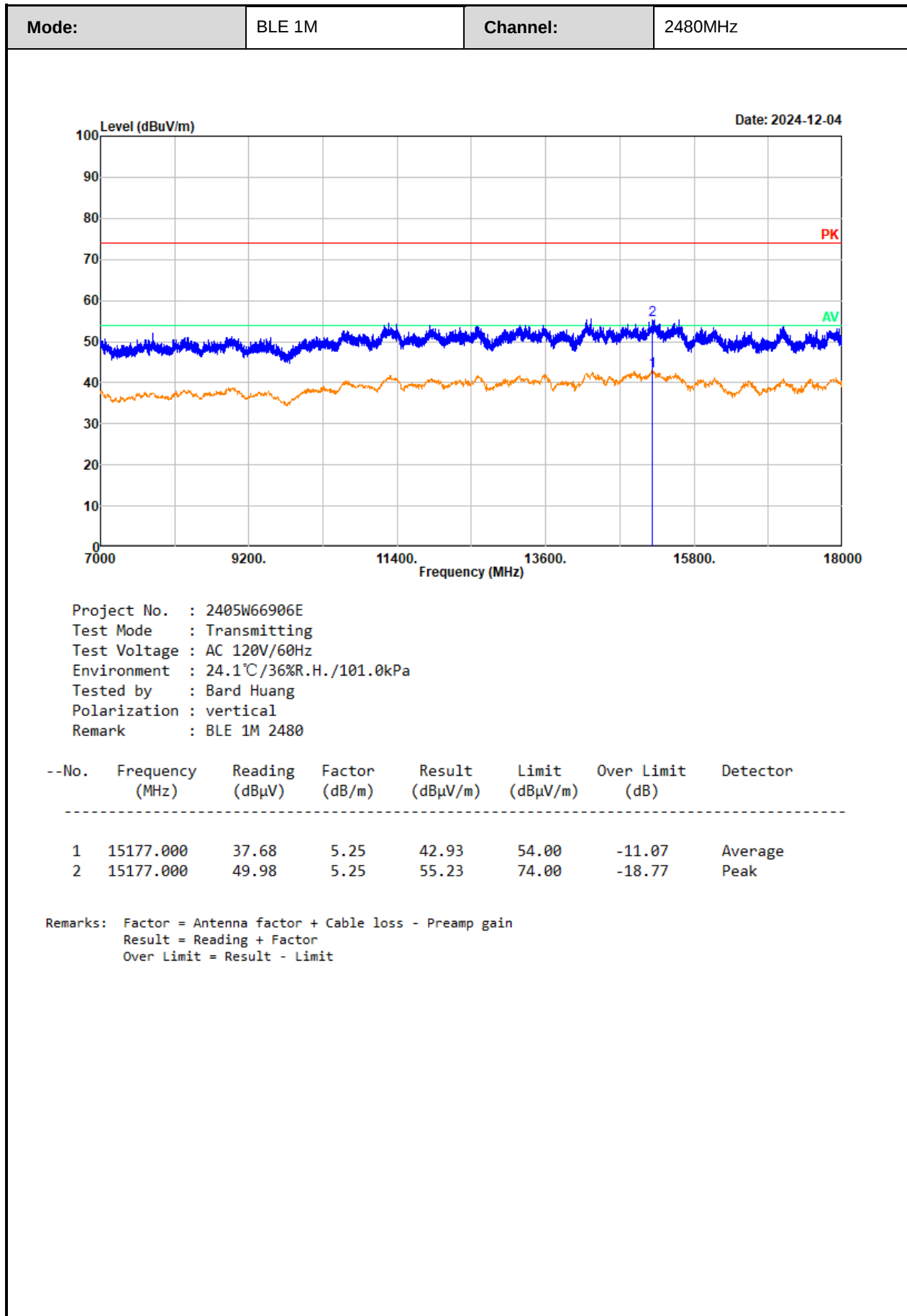
For emissions in 18GHz-25GHz range, all emissions were investigated and in the noise floor level.

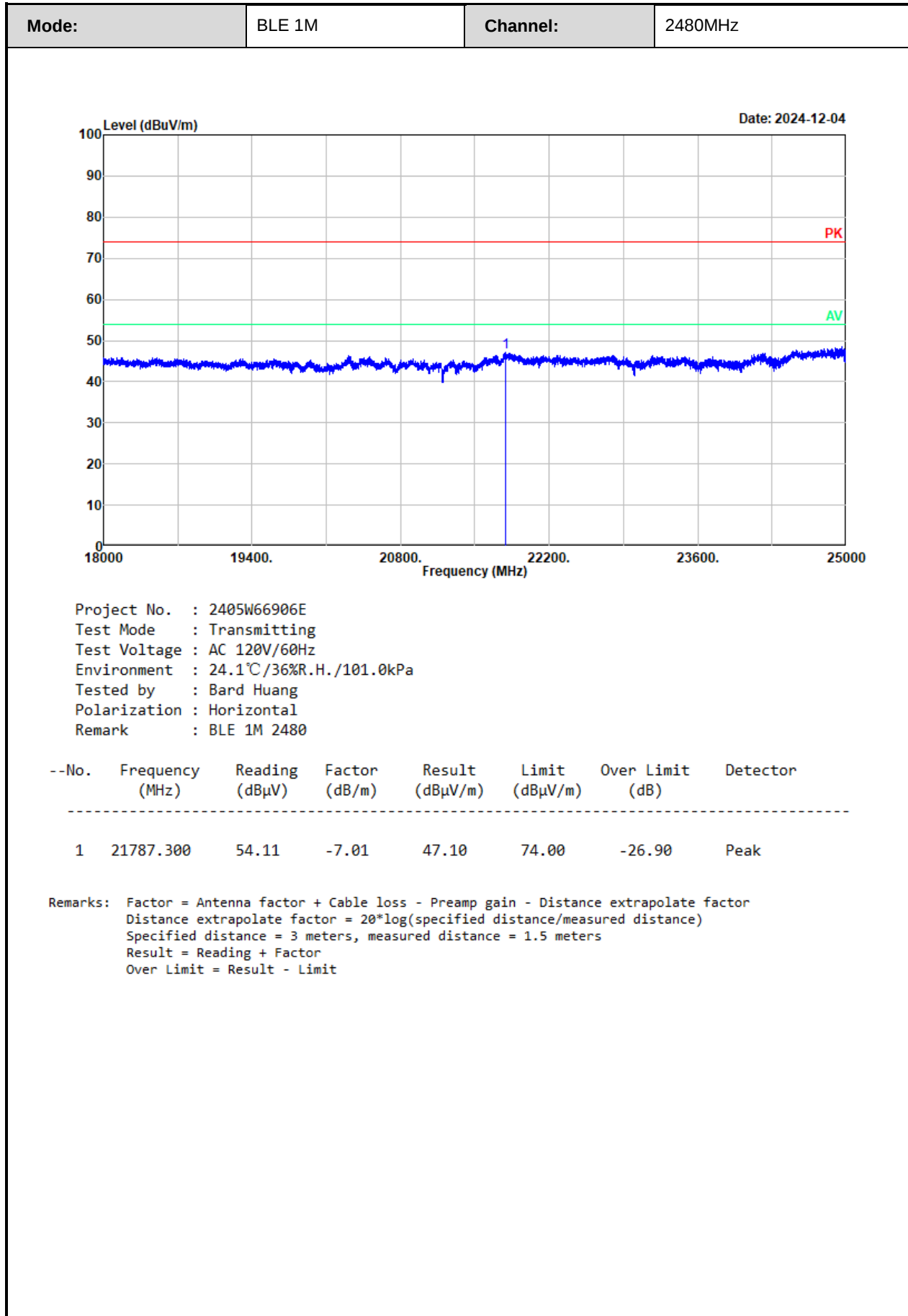
Test plot for example as below:

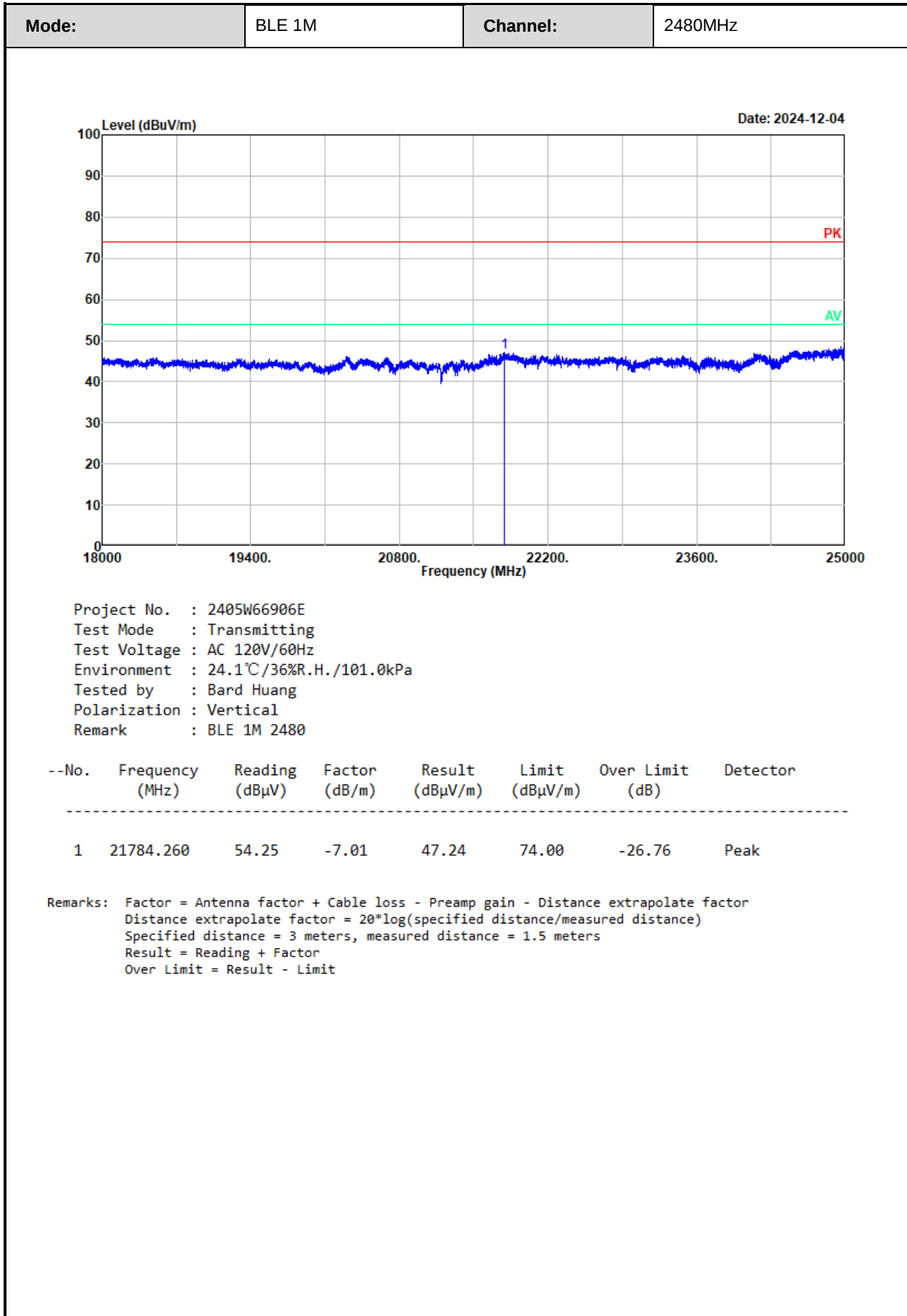


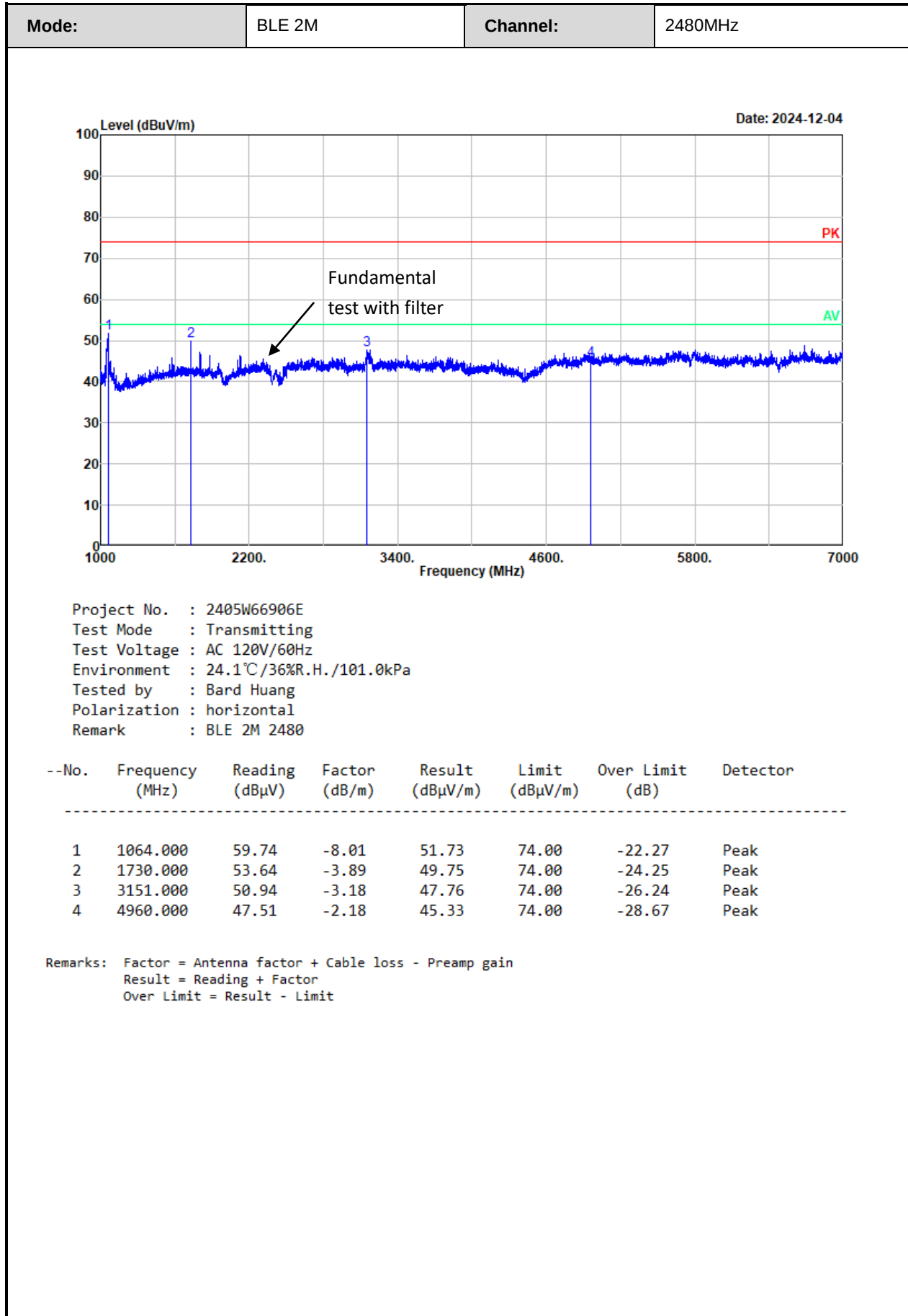


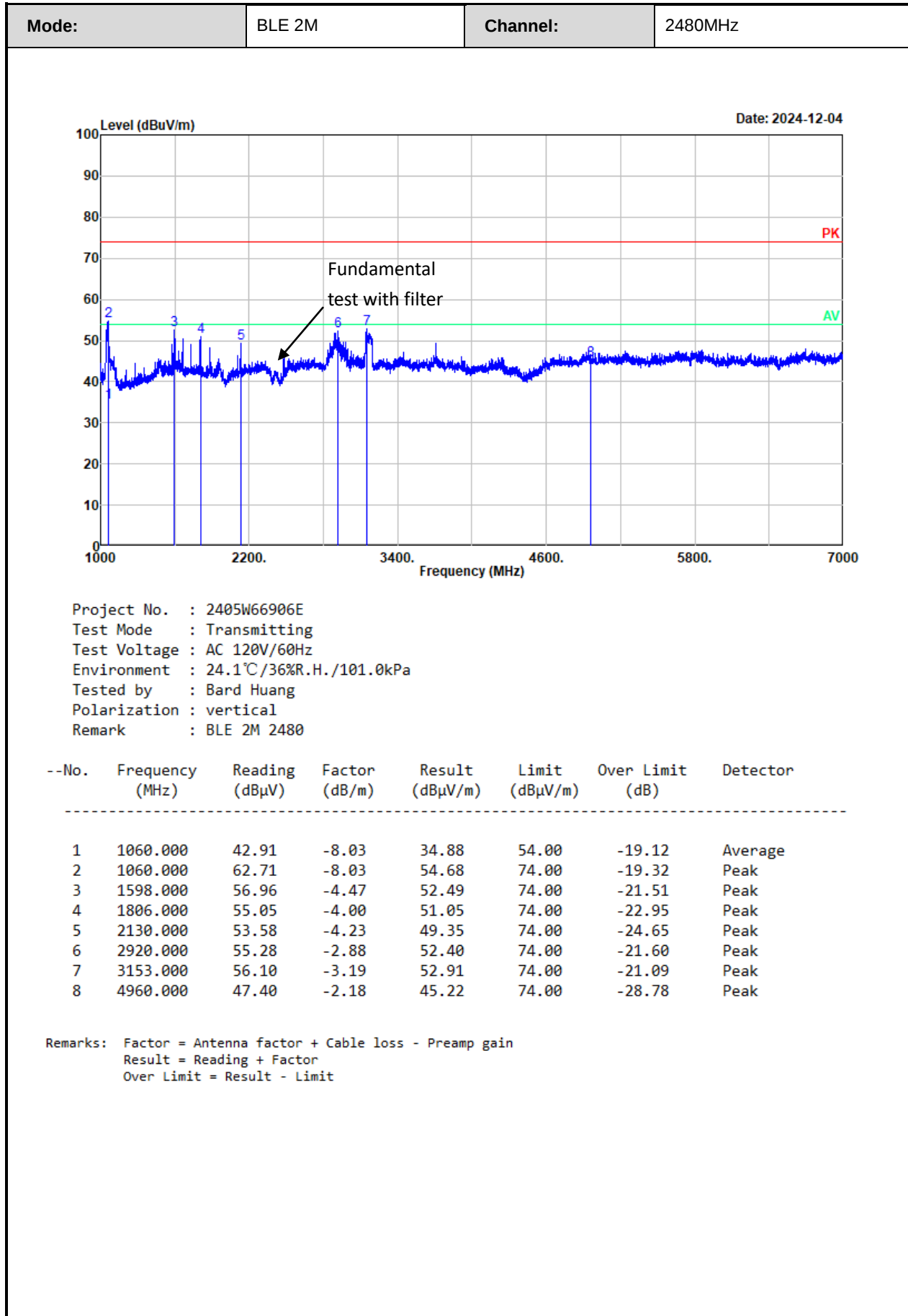


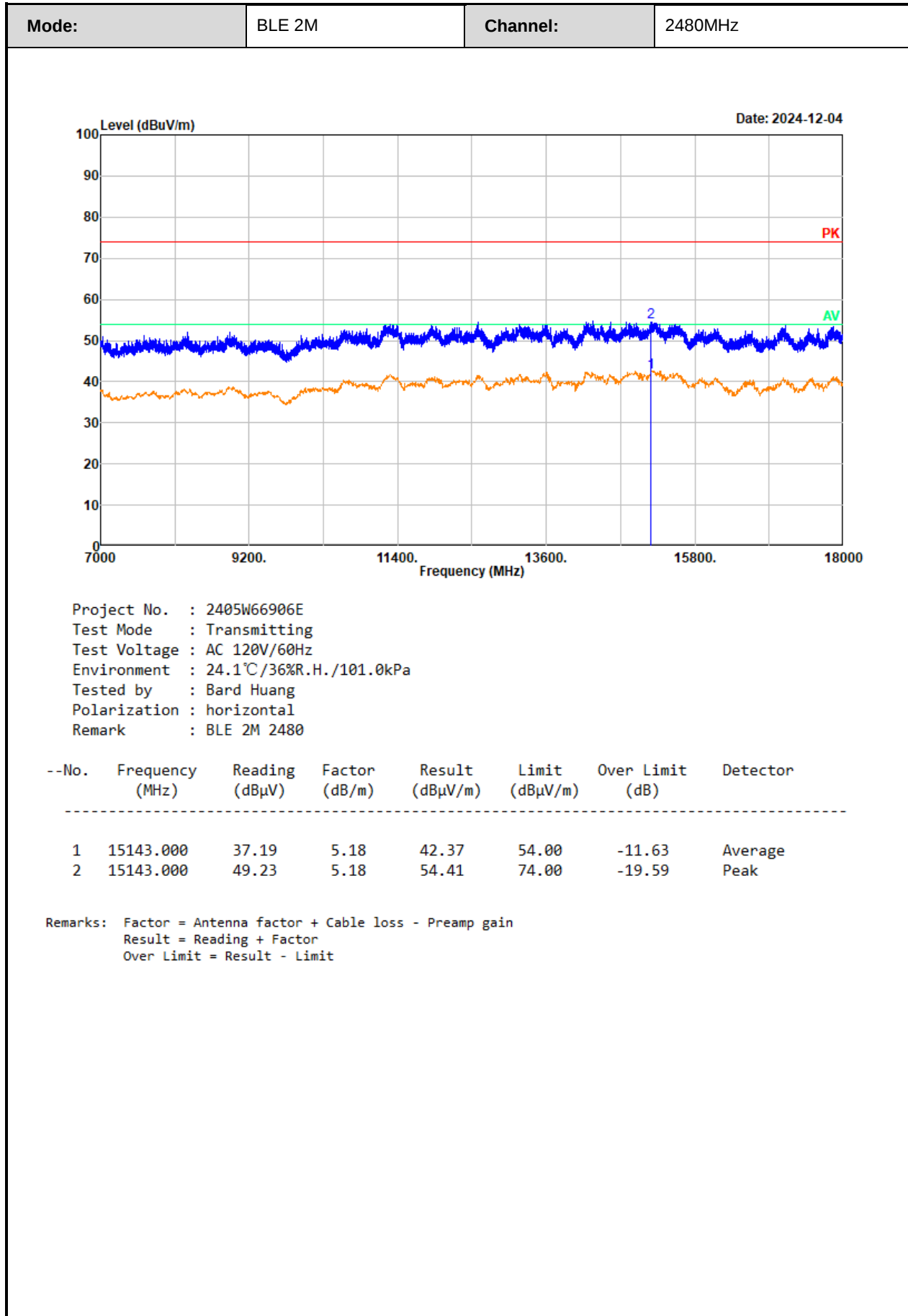


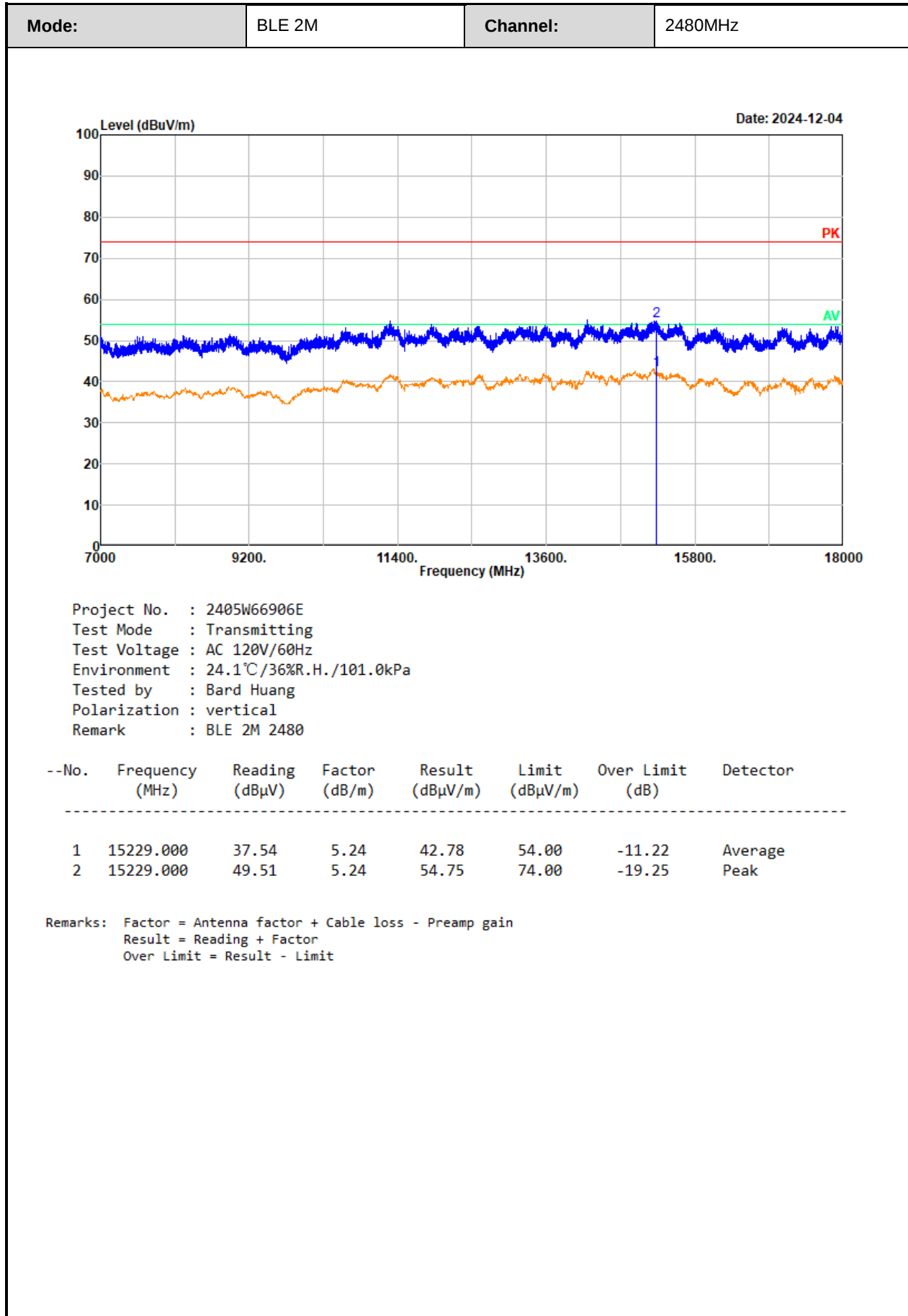




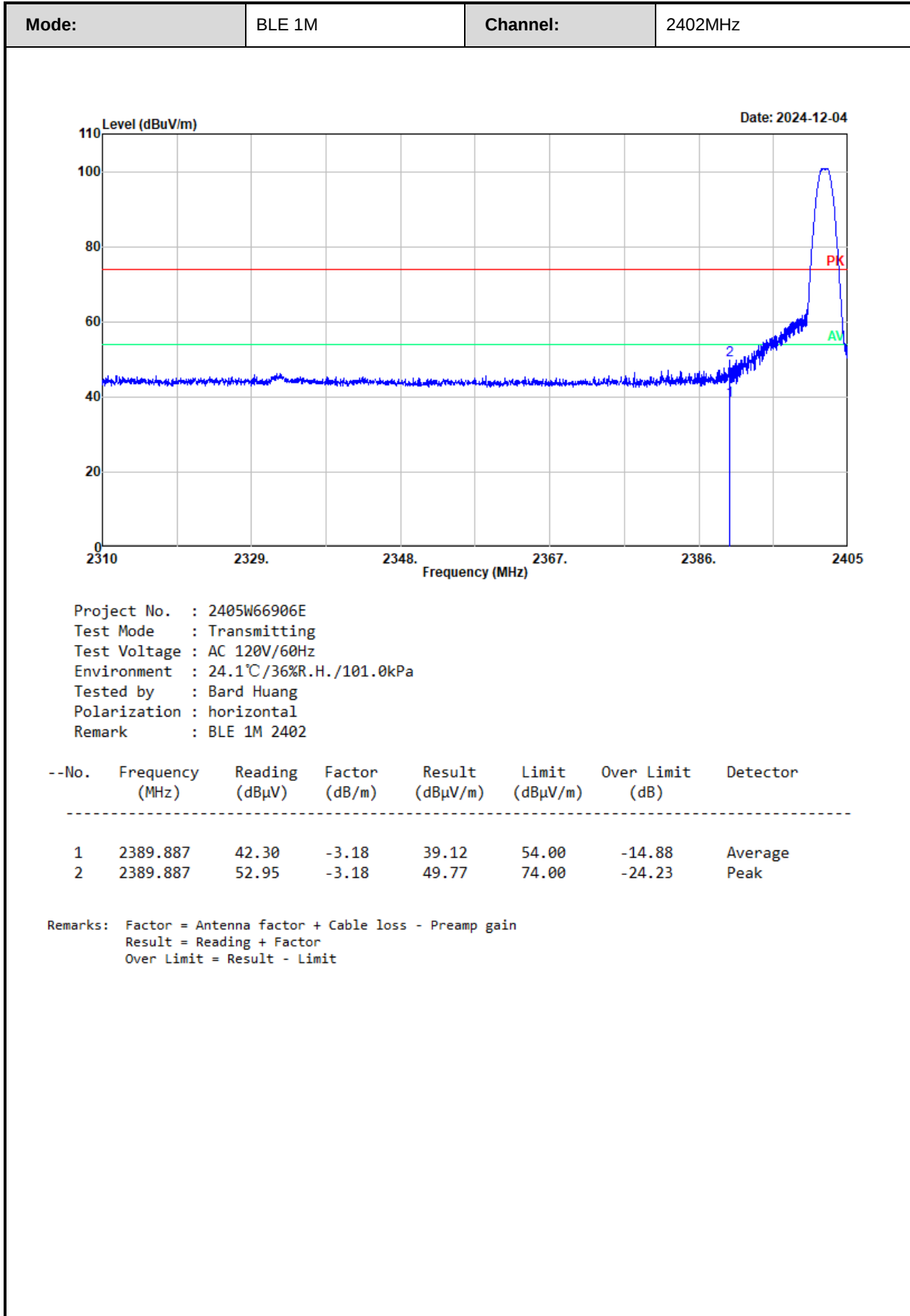


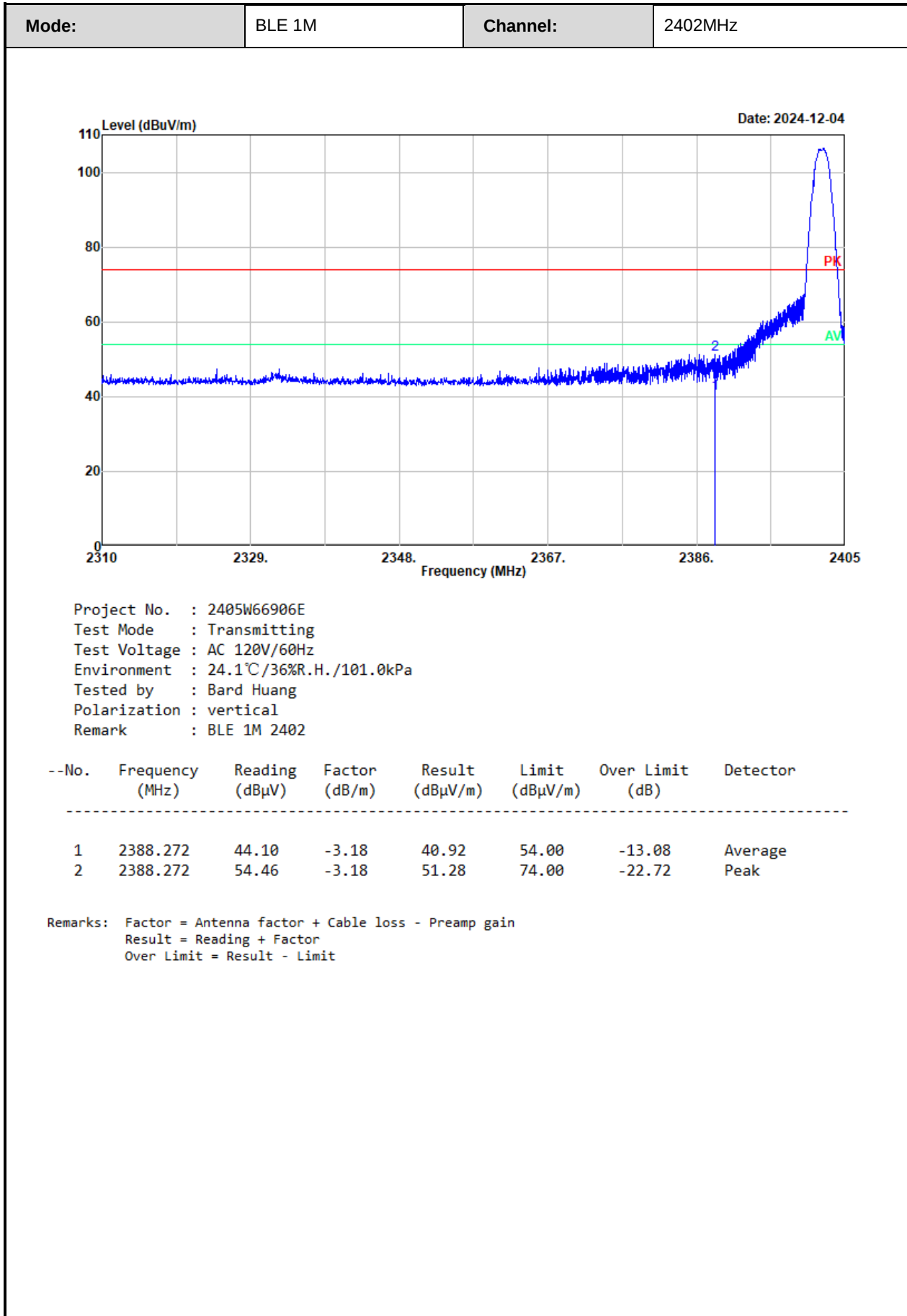


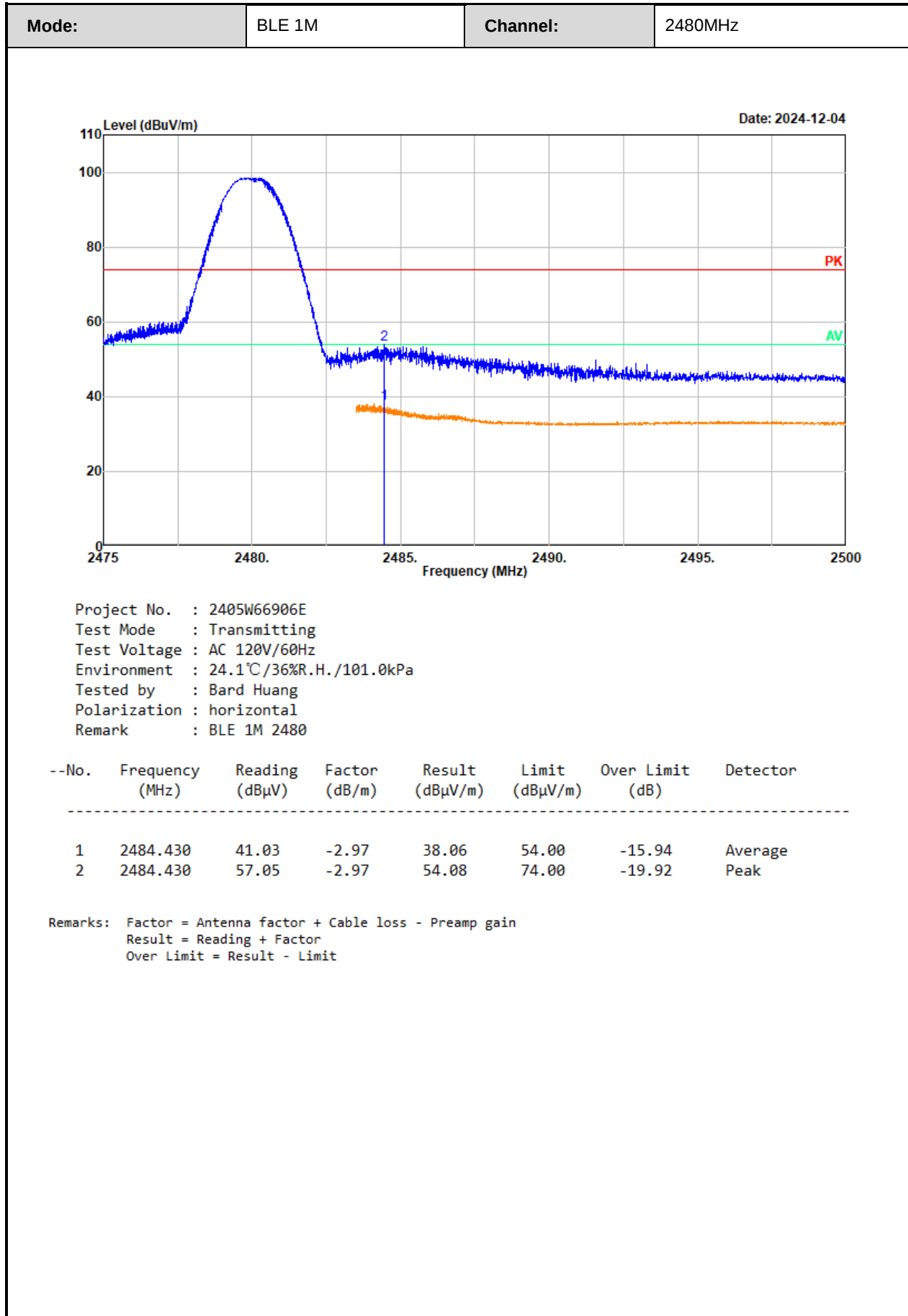


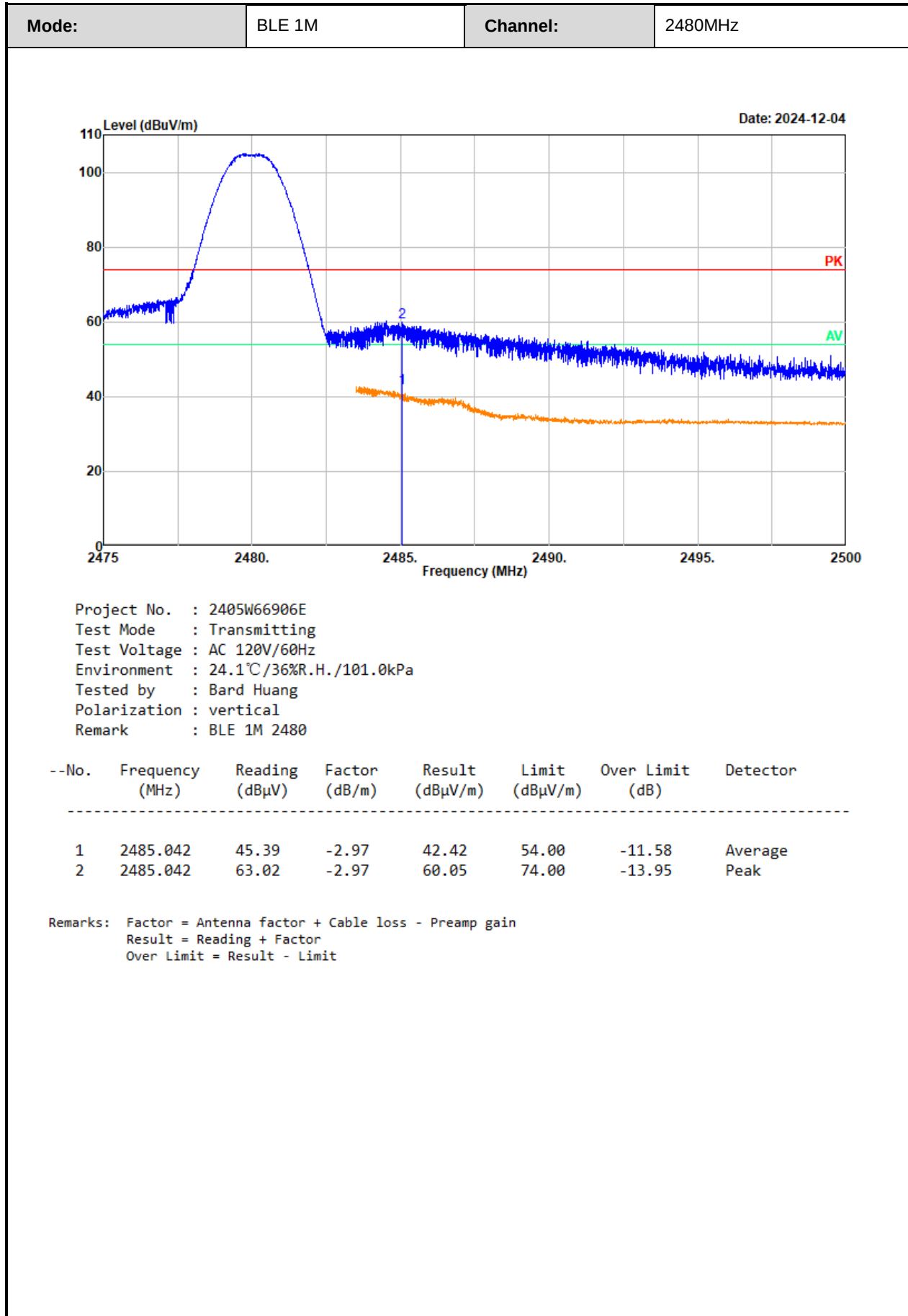


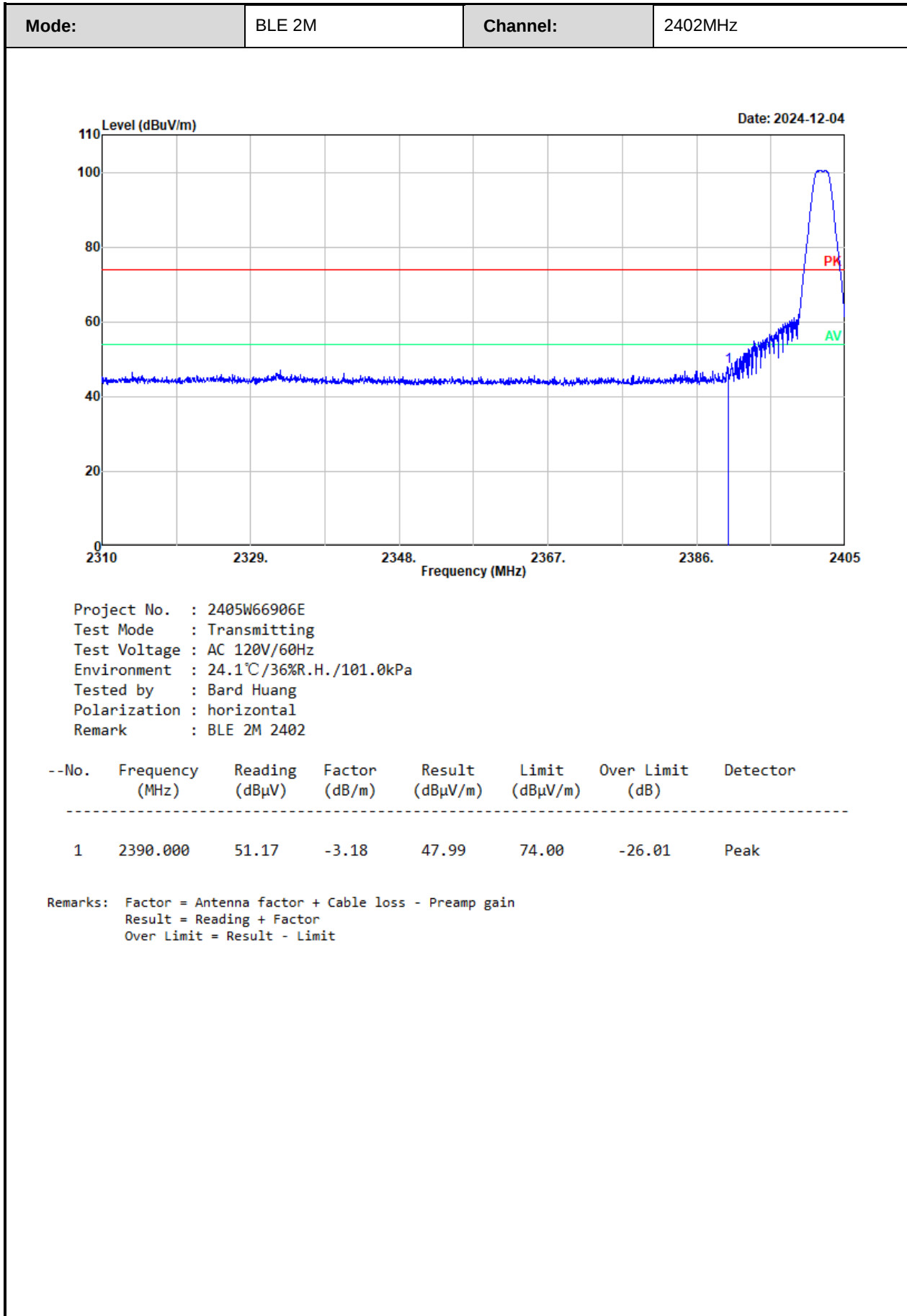
Radiated Band edge:

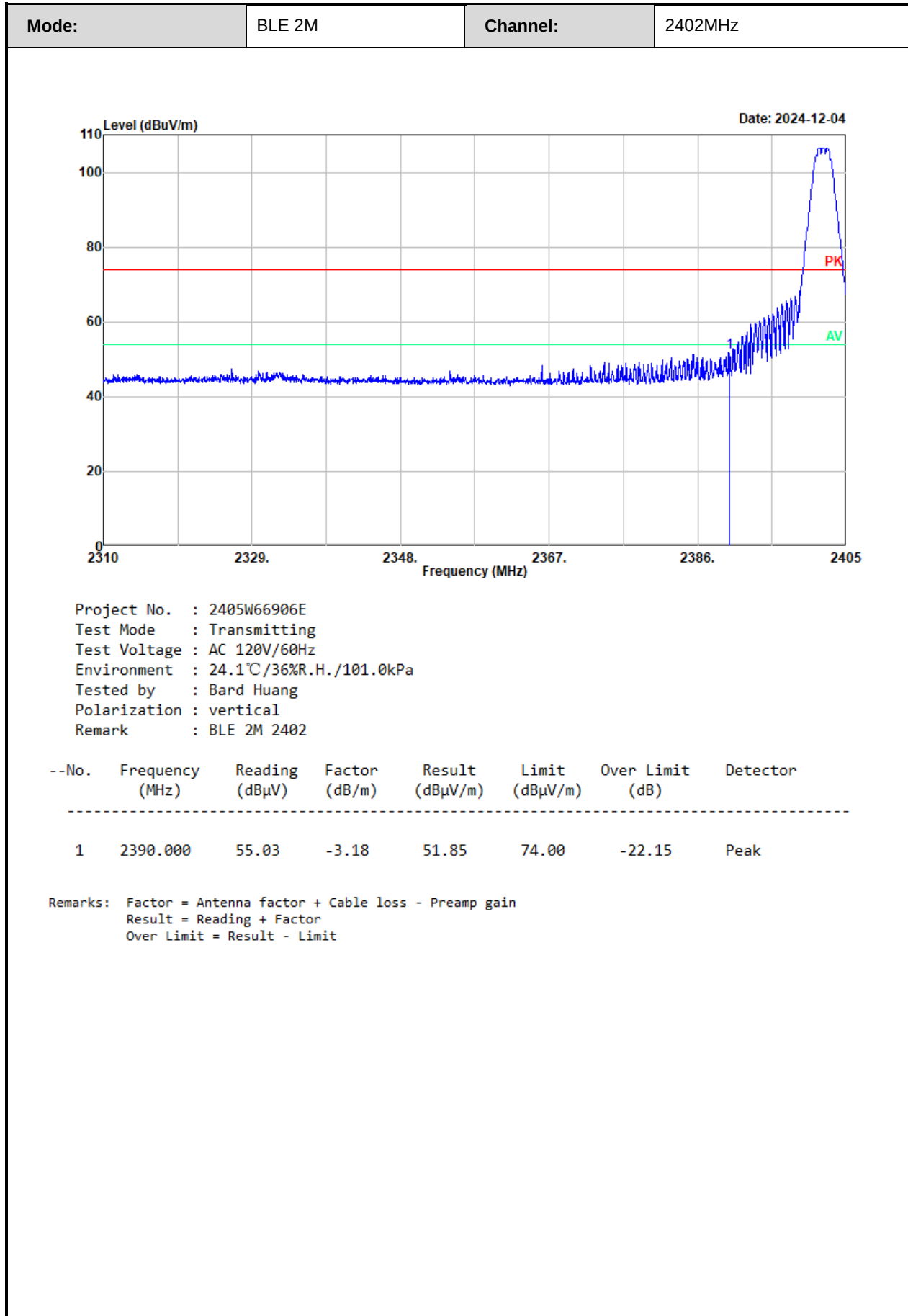


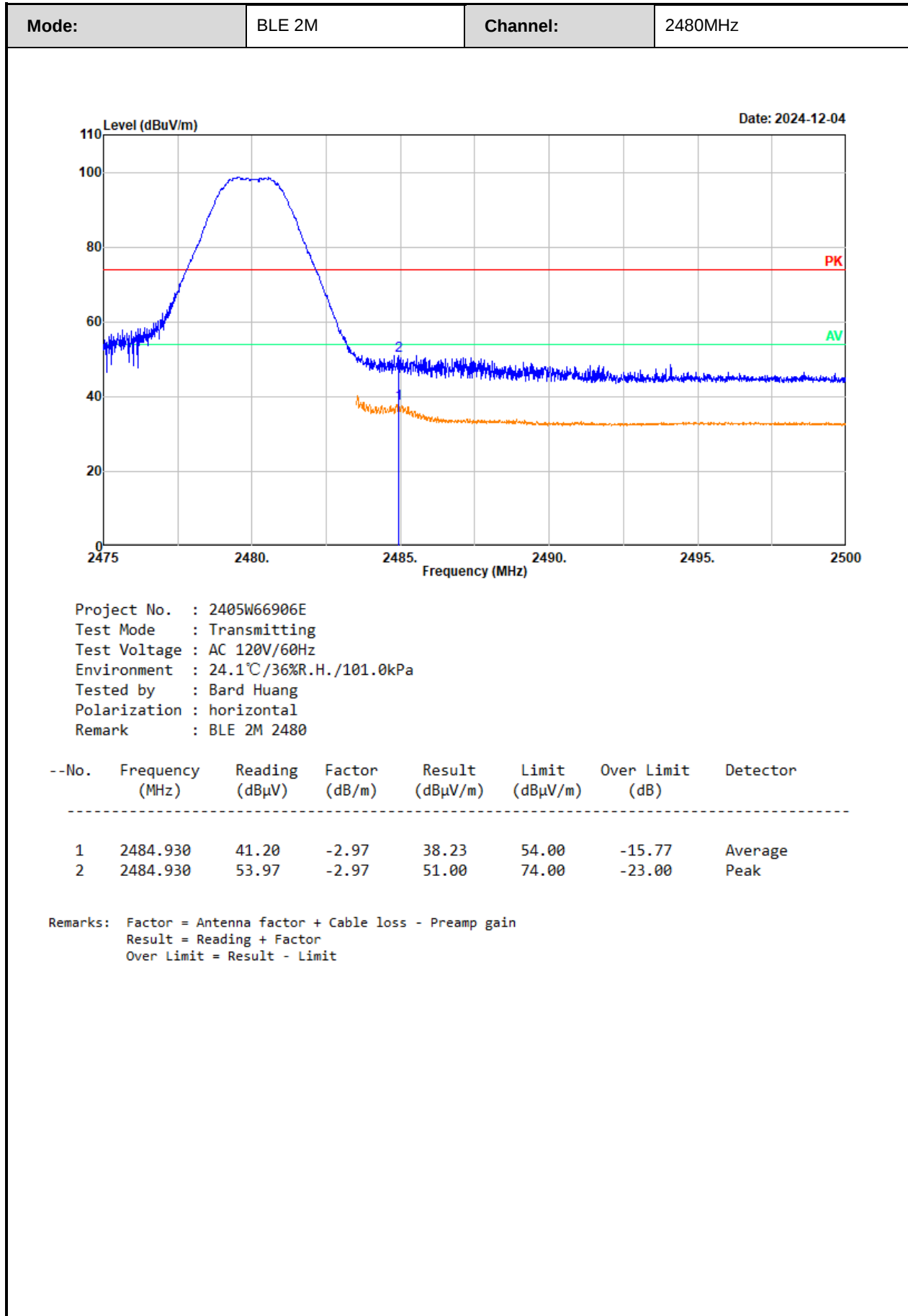


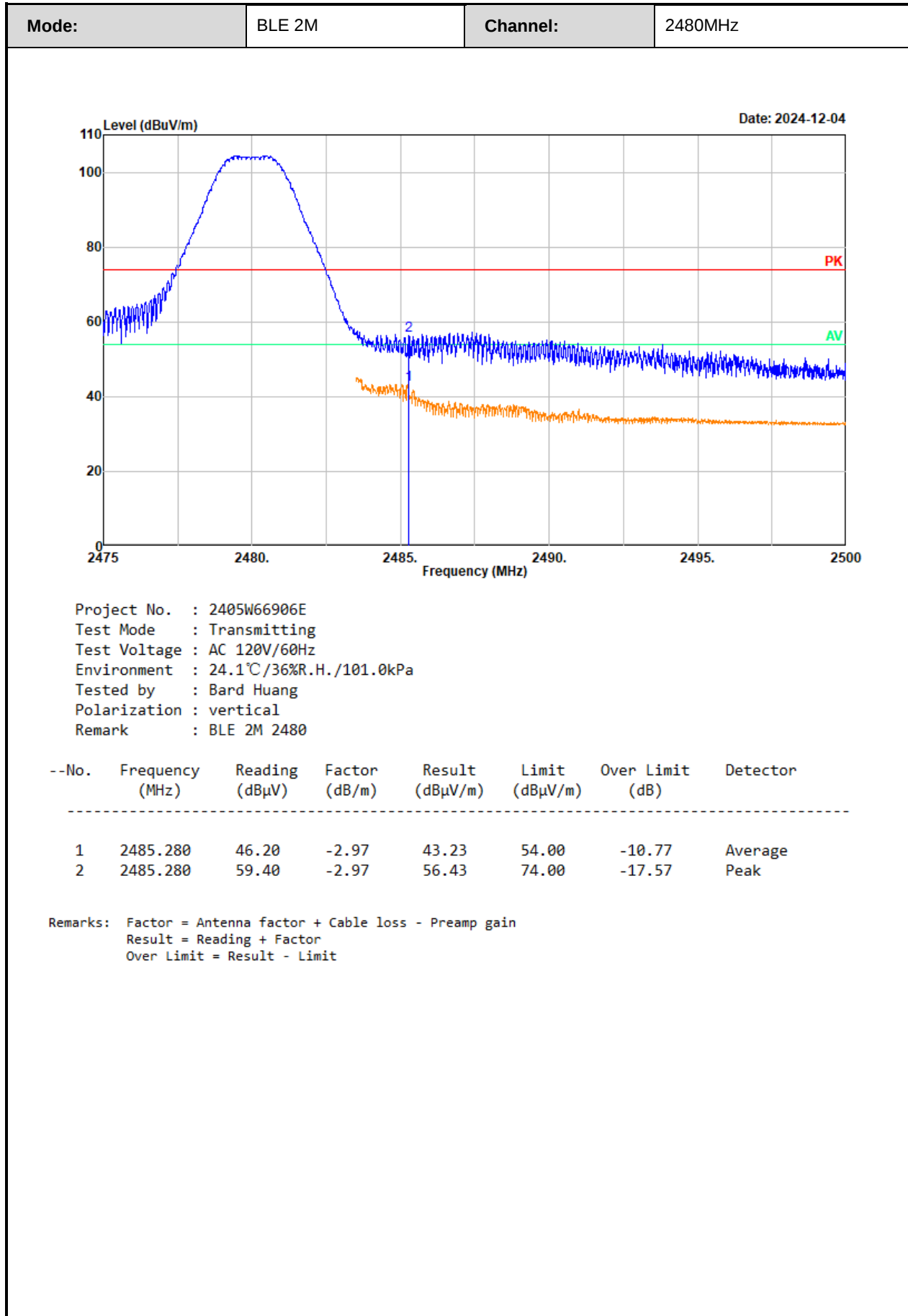












3.5 RF Conducted Test Data

Test Date:	2024-09-13~2024-12-20	Test By:	Ryan Zhang
Environment condition:	Temperature: 24.1~25.7°C; Relative Humidity:56~60%; ATM Pressure: 100.1~101.1kPa		

3.5.1 6 dB Emission Bandwidth

BLE 1M

Mode	Value (MHz)	Limit (MHz)	Result
Low	0.688	≥ 0.5	Pass
Middle	0.692	≥ 0.5	Pass
High	0.692	≥ 0.5	Pass

BLE 2M

Mode	Value (MHz)	Limit (MHz)	Result
Low	1.168	≥ 0.5	Pass
Middle	1.180	≥ 0.5	Pass
High	1.176	≥ 0.5	Pass

3.5.2 99% Occupied Bandwidth

BLE 1M

Mode	99% OBW (MHz)
Low	1.038
Middle	1.038
High	1.038

BLE 2M

Mode	99% OBW (MHz)
Low	2.070
Middle	2.070
High	2.070

3.5.3 Maximum Conducted Peak Output Power

BLE 1M

Mode	Value (dBm)	Limit (dBm)	Result
Low	3.70	30.00	Pass
Middle	3.95	30.00	Pass
High	3.52	30.00	Pass

BLE 2M

Mode	Value (dBm)	Limit (dBm)	Result
Low	3.78	30.00	Pass
Middle	3.97	30.00	Pass
High	3.65	30.00	Pass

3.5.4 Power Spectral Density

BLE 1M

Mode	Value (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low	-16.06	8	Pass
Middle	-16.24	8	Pass
High	-15.84	8	Pass

BLE 2M

Mode	Value (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low	-20.02	8	Pass
Middle	-20.18	8	Pass
High	-19.77	8	Pass

3.5.5 100 kHz Bandwidth of Frequency Band Edge

BLE 1M

Mode	Value (dB)	Limit (dB)	Result
Low	45.79	20	Pass
High	46.66	20	Pass

BLE 2M

Mode	Value (dB)	Limit (dB)	Result
Low	31.06	20	Pass
High	45.31	20	Pass

3.5.6 Duty Cycle

BLE 1M

Mode	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor(dB)	1/Ton (Hz)	VBW Setting (kHz)
Middle	0.375	0.625	60.00	2.22	2667	3

BLE 2M

Mode	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor(dB)	1/Ton (Hz)	VBW Setting (kHz)
Middle	1.072	1.880	57.02	2.44	933	1

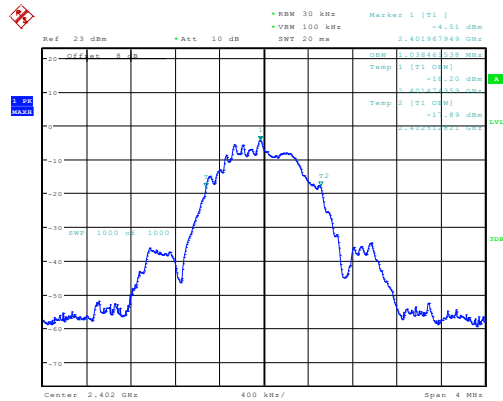
$$\text{Duty Cycle} = \text{Ton}/(\text{Ton}+\text{Toff})*100\%$$

ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 13.SEP.2024 17:04:02

99% Occupied Bandwidth

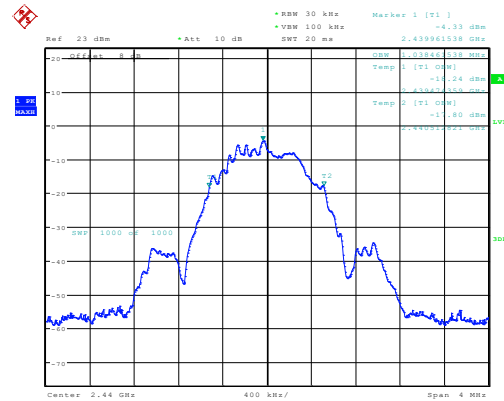
BLE 1M

Low 1.038MHz



ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 20.DEC.2024 13:57:07

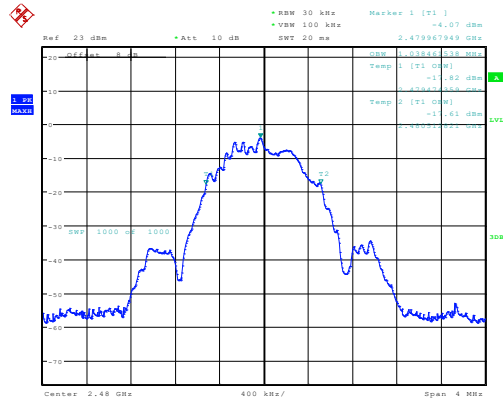
Middle 1.038MHz



ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 20.DEC.2024 13:57:49

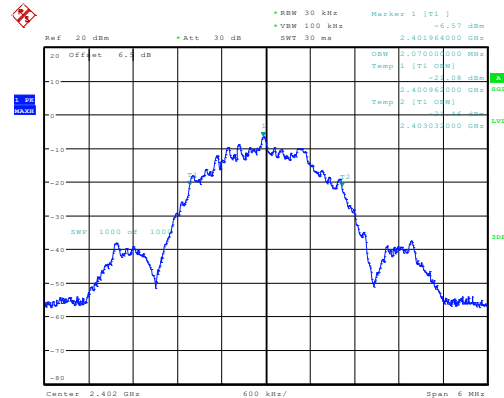
BLE 2M

High 1.038MHz



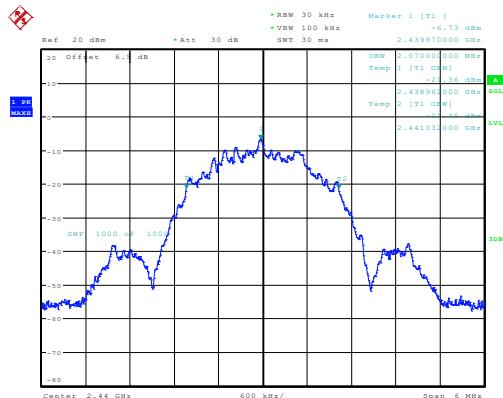
ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 20.DEC.2024 13:58:45

Low 2.070MHz



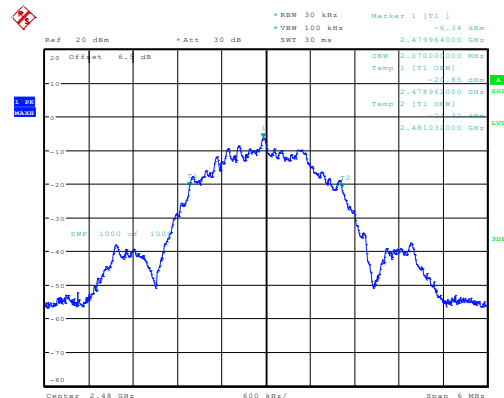
ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 13.SEP.2024 16:57:02

Middle 2.070MHz



ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 13.SEP.2024 17:00:15

High 2.070MHz

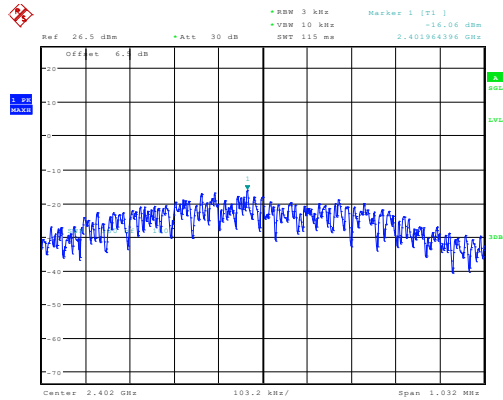


ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 13.SEP.2024 17:05:18

Power Spectral Density

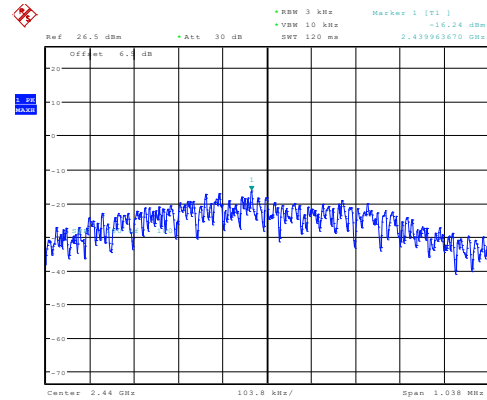
BLE 1M

Low -16.06dBm/3kHz



ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 13.SEP.2024 16:45:52

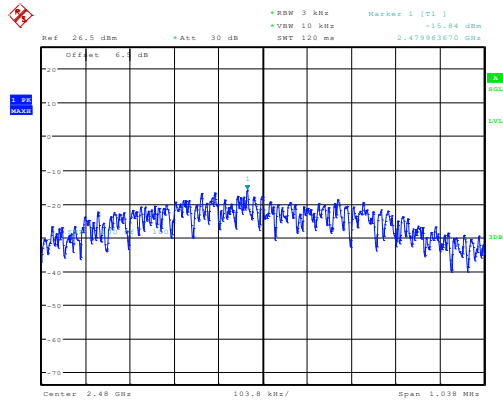
Middle -16.24dBm/3kHz



ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 13.SEP.2024 16:50:08

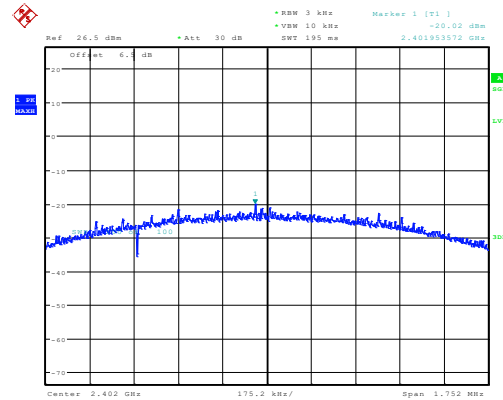
BLE 2M

High -15.84dBm/3kHz



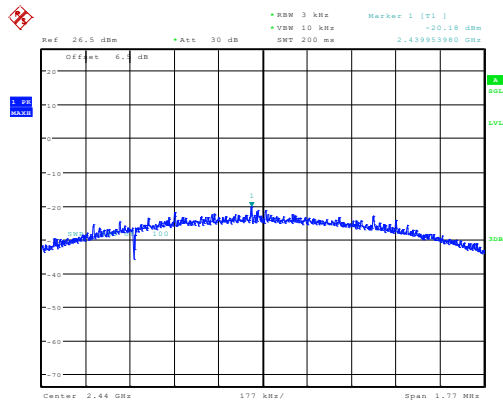
ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 13.SEP.2024 16:54:19

Low -20.02dBm/3kHz



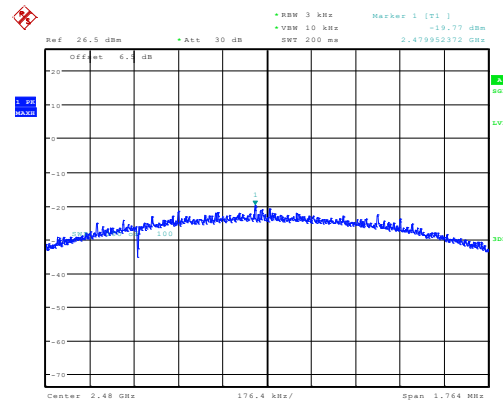
ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 13.SEP.2024 16:58:19

Middle -20.18dBm/3kHz



ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 13.SEP.2024 17:01:51

High -19.77dBm/3kHz

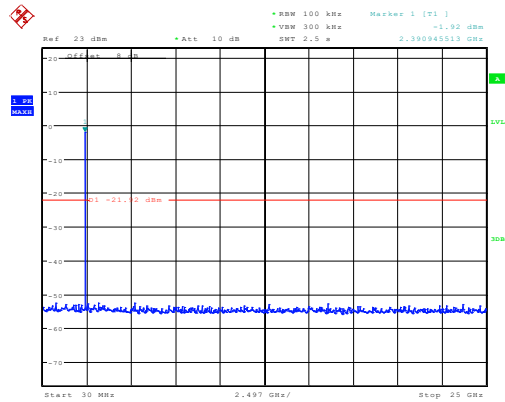


ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 13.SEP.2024 17:26:03

Conducted emission at Antenna Terminals

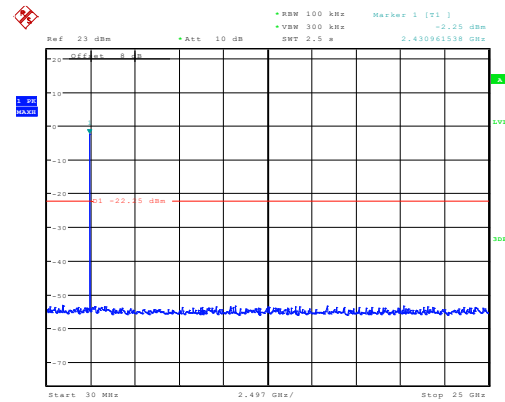
BLE 1M

Low



ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 20.DEC.2024 11:15:52

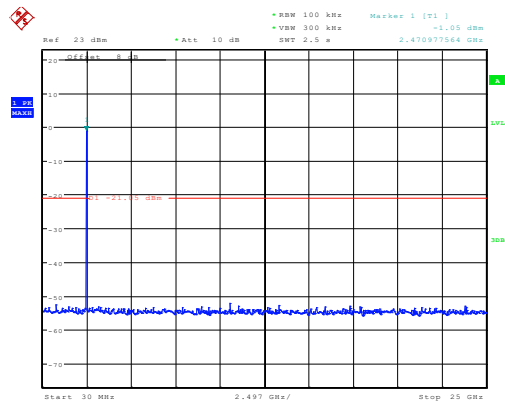
Middle



ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 20.DEC.2024 11:20:39

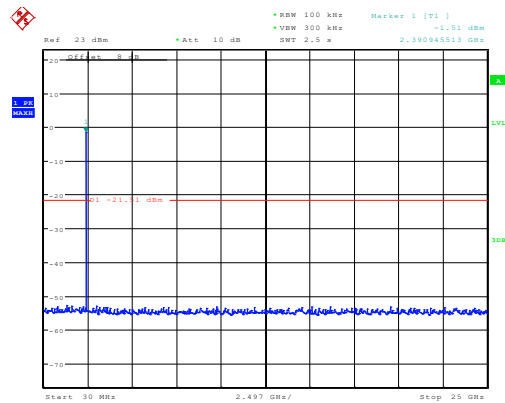
BLE 2M

High



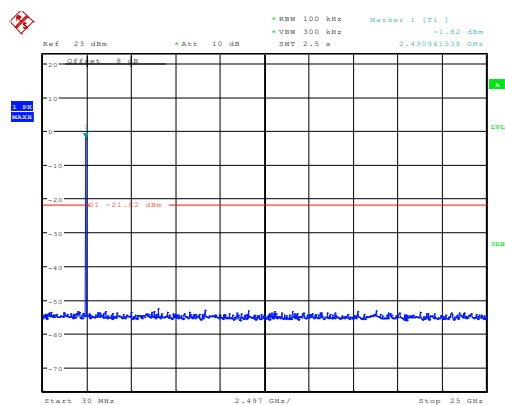
ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 20.DEC.2024 11:21:52

Low



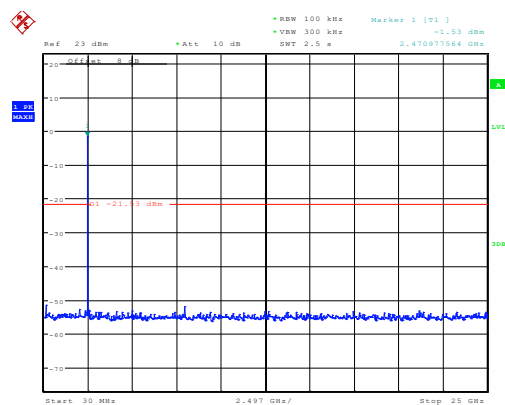
ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 20.DEC.2024 14:44:27

Middle



ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 20.DEC.2024 14:44:57

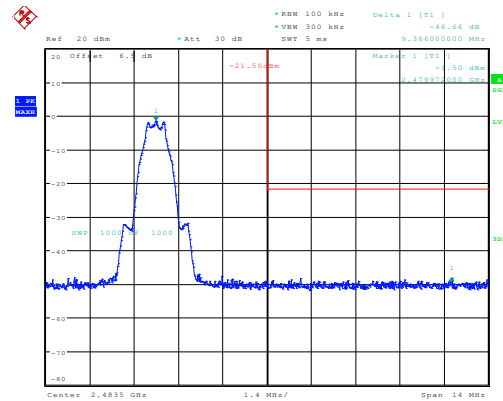
High



ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 20.DEC.2024 14:47:50

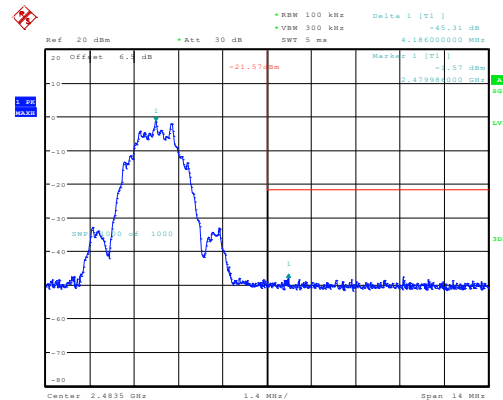
BLE 1M

High 46.66dB



ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 13.SEP.2024 16:51:23

High 45.31dB

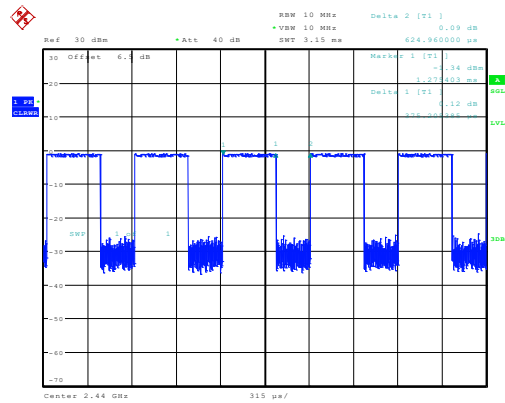


ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 13.SEP.2024 17:03:12

Duty Cycle

BLE 1M

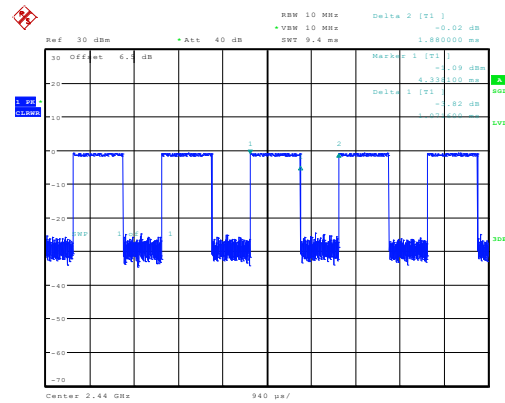
Middle



ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 13.SEP.2024 16:49:15

BLE 2M

Middle



ProjectNo.:2405W66906E-RF Tester:Ryan Zhang
Date: 13.SEP.2024 17:00:46

4 Test Setup Photo

Please refer to the attachment 2405W66906E Test Setup photo.

5 E.U.T Photo

Please refer to the attachment 2405W66906E External photo and 2405W66906E Internal photo.

---End of Report---