

FCC Test Report

Report No.: 2505P37465EI

Applicant: Huizhou speed wireless technology co.,ltd

Address: No.138 Huize Road, Hi-Tech Industrial Park of East River, Zhongkai
Hi-tech District, Huizhou City, Guangdong Province, China

Product Name: WiFi+BT Module

Product Model: WL00033

Multiple Models: N/A

Trade Mark: N/A

FCC ID: 2BBLK-WL6376B

Standards: FCC CFR Title 47 Part 15E (§15.407)

Test Date: 2025-02-07 to 2025-03-04

Test Result: Complied

Issue Date: 2025-03-05

Reviewed by:

Abel chen

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Revision History

Version No.	Issued Date	Description
00	2025-03-05	Original

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1 General Information

1.1 Client Information

Applicant:	Huizhou speed wireless technology co.,ltd
Address:	No.138 Huize Road, Hi-Tech Industrial Park of East River, Zhongkai Hi-tech District, Huizhou City, Guangdong Province, China
Manufacturer:	Huizhou speed wireless technology co.,ltd
Address:	No.138 Huize Road, Hi-Tech Industrial Park of East River, Zhongkai Hi-tech District, Huizhou City, Guangdong Province, China

1.2 Product Description of EUT

The EUT is WiFi+BT Module that contains BT, BLE, 2.4G and 5G WLAN radios, this report covers the full testing of the 5G WLAN radio.

Sample Serial number	2XWU-1 for CE test, 2XWU-2 for RE test, 2XWU-3 for RF test(assigned by WATC)
Sample Received Date	2025-01-22
Sample Status	Good Condition
Frequency Range	5150 - 5250MHz (a/n20/n40/ac20/ac40/ac80) 5250 - 5350MHz(a/n20/n40/ac20/ac40/ac80) 5470 - 5725MHz (a/n20/n40/ac20/ac40/ac80) 5725 - 5850MHz(a/n20/n40/ac20/ac40/ac80)
Maximum Conducted Output Power	5150 - 5250MHz: 13.40dBm 5250 - 5350MHz: 13.72dBm 5470 - 5725MHz: 14.39dBm 5725 - 5850MHz: 19.00dBm
Modulation Technology	OFDM
Spatial Streams	MIMO (2TX, 2RX)
Antenna Gain [#]	ANT1: 3.57dBi ANT2: 4.74dBi
Power Supply	DC 3.3V
Adapter Information	N/A
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 Wi-Fi antenna is an integral antenna which cannot replace by end-user. Please see the product external photos for details.

1.4 Related Submittal(s)/Grant(s)

FCC Part 15, Subpart C, Equipment Class: DSS, FCC ID: 2BBLK-WL6376B

FCC Part 15, Subpart C, Equipment Class: DTS, FCC ID: 2BBLK-WL6376B

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: ga@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 789033 D02 General UNII Test Procedures New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2013

Unless otherwise stated there are no any additions to, deviations, or exclusions from the method

2 Description of Measurement

2.1 Test Configuration

Operating channels: (5150-5250MHz)					
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
36	5180	42	5210	48	5240
38	5190	44	5220	/	/
40	5200	46	5230	/	/
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:					
802.11a, 802.11n-HT20, 802.11ac-VHT20					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
36	5180	40	5200	48	5240
802.11n-HT40, 802.11ac-VHT40					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
38	5190	/	/	46	5230
802.11ac-VHT80					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
/	/	42	5210	/	/

Operating channels: (5250-5350MHz)					
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
52	5260	58	5290	64	5320
54	5270	60	5300	/	/
56	5280	62	5310	/	/

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:

802.11a, 802.11n-HT20, 802.11ac-VHT20					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
52	5260	56	5280	64	5320
802.11n-HT40, 802.11ac-VHT40					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
54	5270	/	/	62	5310
802.11ac-VHT80					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
/	/	58	5290	/	/

Operating channels: (5470-5725MHz)					
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
100	5500	116	5580	132	5660
102	5510	118	5590	134	5670
104	5520	120	5600	136	5680
106	5530	122	5610	138	5690
108	5540	124	5620	140	5700
110	5550	126	5630	142	5710
112	5560	128	5640	144	5720
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:					
802.11a, 802.11n-HT20, 802.11ac-VHT20					
Lowest channel		Middle channel		Highest channel	
Straddle Channel					

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
100	5500	116	5580	140	5700	144	5720
802.11n-HT40, 802.11ac-VHT40							
Lowest channel		Middle channel		Highest channel		Straddle Channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
102	5510	110	5550	134	5670	142	5710
802.11ac-VHT80							
Lowest channel		Middle channel		Highest channel		Straddle Channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
106	5530	/	/	122	5610	138	5690

Operating channels: (5725-5850MHz)					
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
149	5745	155	5775	161	5805
151	5755	157	5785	165	5825
153	5765	159	5795	/	/
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:					
802.11a, 802.11n-HT20, 802.11ac-VHT20					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
149	5745	157	5785	165	5825
802.11n-HT40, 802.11ac-VHT40					
Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
151	5755	/	/	159	5795
802.11ac-VHT80					

Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
/	/	155	5775	/	/

Test Mode:					
Transmitting mode:	Keep the EUT in continuous transmitting with modulation				
Exercise software [#] :	QATool_Dbg				
5150-5250MHz					
Mode	Data rate	Power Level Setting [#]			
		Low Channel	Middle Channel	High Channel	
802.11a	6Mbps	0x05	0x05	0x05	
802.11n-HT20	MCS0	0x05	0x05	0x05	
802.11n-HT40	MCS0	0x0C	/	0x0C	
802.11ac-VHT80	MCS0	/	0x15	/	
5250-5350MHz					
Mode	Data rate	Power Level Setting [#]			
		Low Channel	Middle Channel	High Channel	
802.11a	6Mbps	0x11	0x11	0x11	
802.11n-HT20	MCS0	0x11	0x11	0x11	
802.11n-HT40	MCS0	0x18	/	0x18	
802.11ac-VHT80	MCS0	/	1E	/	
5470-5725MHz					
Mode	Data rate	Power Level Setting [#]			
		Low Channel	Middle Channel	High Channel	Straddle Channel
802.11a	6Mbps	0x14	0x14	0x14	0x14
802.11n-HT20	MCS0	0x14	0x14	0x14	0x14
802.11n-HT40	MCS0	0x14	0x14	0x14	0x14
802.11ac-VHT80	MCS0	0x14	/	0x14	0x14
5725-5850MHz					
Mode	Data rate	Power Level Setting [#]			High Channel
		Low Channel	Middle Channel	High Channel	

802.11a	6Mbps	0x1F	0x1F	0x1F
802.11n-HT20	MCS0	0x1F	0x1F	0x1F
802.11n-HT40	MCS0	0x1F	/	0x1F
802.11ac-VHT80	MCS0	/	0x1F	/
The exercise software and the maximum power setting that provided by manufacturer.				

Worst-Case Configuration:

For radiated emissions, EUT was investigated in three orthogonal orientation, the worst-case orientation was recorded in report

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.

According to manufacturer, the device support MIMO mode, all modes share the same power level setting under the same modulation. So the worst mode MIMO was selected to test

The ac vht20/ac vht40 were reduced test since the identical parameters with n-ht20/n-ht40.

The device have three Bluetooth antenna path designs, all the path signals is from same input, each path can be selected to activate/deactivate by connect/disconnect a 0Ω resistance, detail please refer the EUT photo, only one path will be selected to use at a time. It's not affect Wi-Fi, so only one(sample with BT path 1) of them was selected to test Wi-Fi.

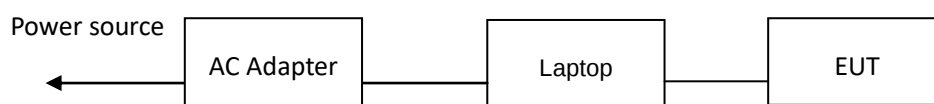
2.2 Test Auxiliary Equipment

Manufacturer	Description	Model	Serial Number
Dell	Laptop	unknown	unknown
Dell	AC Adapter	unknown	unknown

2.3 Interconnecting Cables

Manufacturer	Description	Length(m)	From	To
unknown	USB extension cable	1.0	Laptop	EUT
Dell	AC Power Cable	1.5	Power source	AC Adapter
Dell	DC Power Cable	1.5	AC Adapter	Laptop

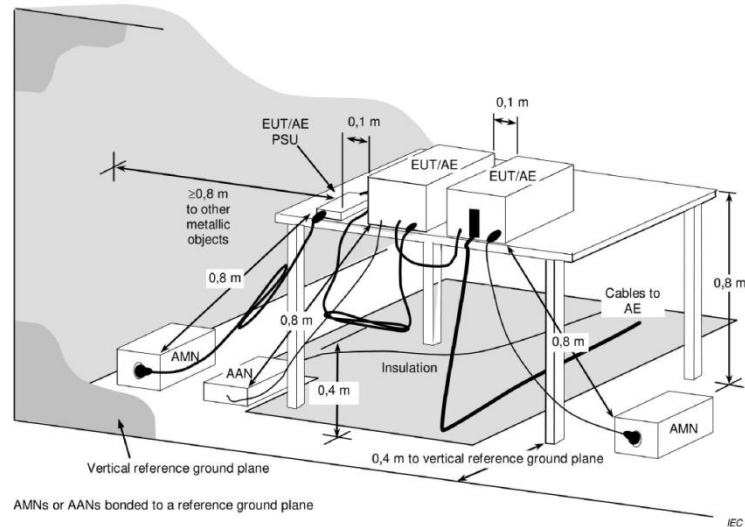
2.4 Block Diagram of Connection between EUT and AE



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

2.5 Test Setup

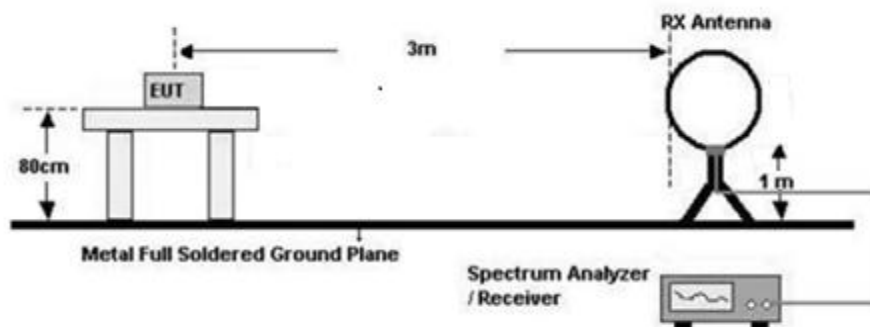
1) Conducted emission measurement:



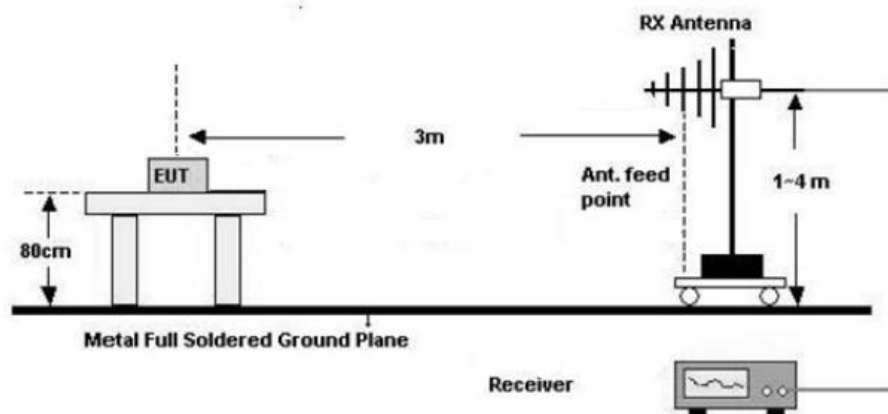
Note: The 0.8 m distance specified between EUT/AE/PSU and AMN/AAN, is applicable only to the EUT being measured. If the device is AE then it shall be >0.8 m.

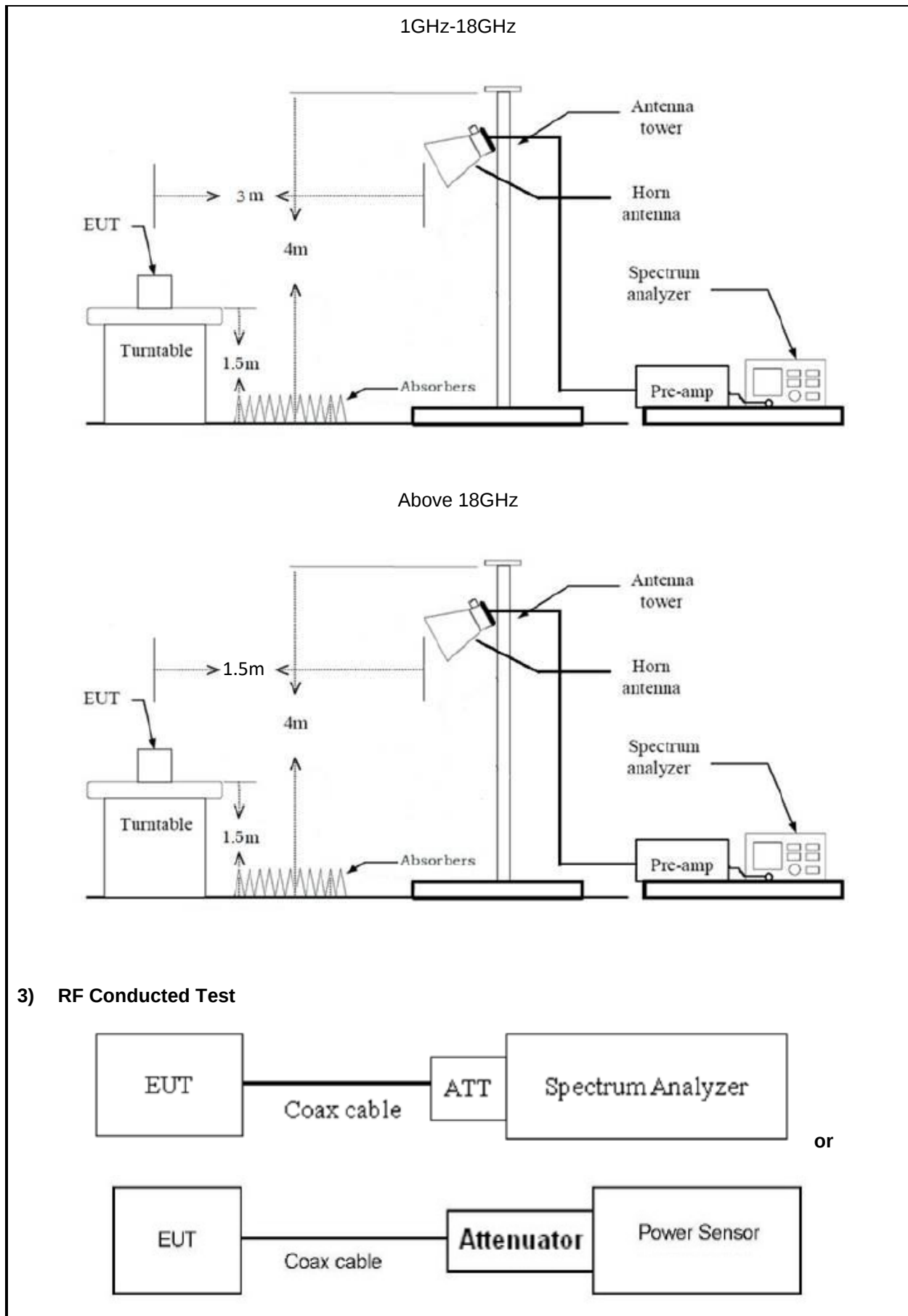
2) Radiated emission measurement:

Below 30MHz (3m SAC)



0MHz-1GHz (3m SAC)





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)
3. The RBW/VBW of receiver is set to 200Hz/1kHz for 9kHz to 150kHz range, to 9kHz/30kHz for 150kHz to 30MHz range for scan Peak emission, 200Hz/9kHz IF BW was used for final measurement in the Quasi-peak or average detection mode for frequency range 9~150kHz/150kHz~30MHz respectively.
4. If the Peak emission complies with the QP limit, then perform final measurement is optional.

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.
3. The RBW/VBW of receiver is set to 100kHz/300kHz for scan Peak emission, 120kHz IF BW was used for final measurement in the Quasi-peak detection mode.
4. If the Peak emission complies with the QP limit, then perform final measurement is optional.

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. The RBW/VBW of spectrum analyzer is set to 1MHz/3MHz for scan Peak emission, for measured average emission, reduce the VBW to 10Hz(for duty cycle $\geq$ 98%), or $\geq 1/T$ (for duty cycle $<$ 98%). T is minimum transmission duration. (Note: a high VBW (for example 1kHz, not less than $1/T$) may used to scan average emissions to avoid long sweep time.)
4. If the Peak emission complies with the Average limit, then perform average measurement is optional.
5. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data.
6. 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 7.0dB (including 6.0 dB Attenuator and 1.0 dB 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 1.0dB 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	KDB 789033 D02 v02r01 section E.3. b)
Power Spectral Density	KDB 789033 D02 v02r01 section F
26 dB Emission Bandwidth	KDB 789033 D02 v02r01 section C.1
6 dB Emission Bandwidth	KDB 789033 D02 v02r01 section C.2
99% Occupied Bandwidth	KDB 789033 D02 v02r01 section D.
Unwanted Emissions	KDB 789033 D02 v02r01 section G.
Duty Cycle	KDB 789033 D02 v02r01 section B.

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	2024/6/4	2025/6/3
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
Ducommun technologies	Horn Antenna	ARH-2823-02	1007726-03	2023/7/10	2026/7/9
Oulitong	Band Reject Filter	OBSF-5150-585 0-S	OE02104371	2024/6/4	2025/6/3
Unknown	6.7G High Pass Filter	Unknown	6.7G	2024/6/4	2025/6/3
Unknown	10dB attenuator	10dB	10-1	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
narda	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) §15.407 (b)(9)	AC Line Conducted Emissions	Compliance
§15.407 (a)	Conducted Output Power Power Spectral Density	Compliance
/	99% Occupied Bandwidth	Compliance
§15.407 (a)	26 dB Emission Bandwidth	Compliance
§15.407 (e)	6 dB Emission Bandwidth	Compliance
§15.205, §15.209, §15.407 (b)	Unwanted Emissions	Compliance
/	Duty Cycle	Report only

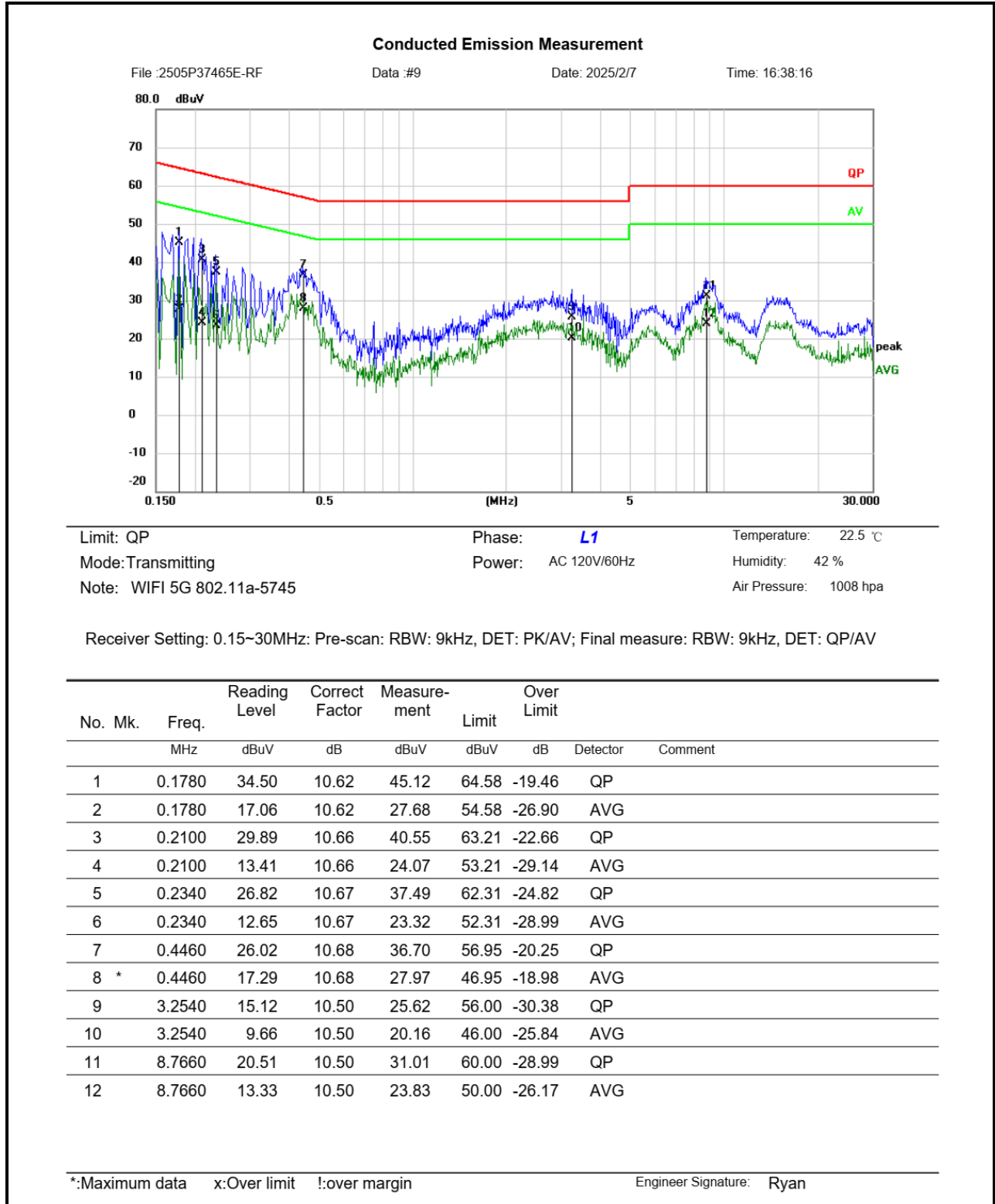
3.2 Limit

Test items	Limit
AC Power Line Conducted Emission	See details §15.207 (a)
Conducted Output Power Power Spectral Density	For the band 5.15-5.25 GHz: For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the band 5.25-5.35 GHz and band 5.47-5.725 GHz: For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the band 5.725-5.850 GHz: For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, Fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
26dB Emission Bandwidth 99% Occupied Bandwidth	N/A
6dB Emission Bandwidth	Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Unwanted Emissions	For transmitters operating in the 5.15–5.25 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz. For transmitters operating in the 5.25–5.35 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz. For transmitters operating in the 5.47–5.725 GHz band: All emissions outside of the 5.47–5.725 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz. For transmitters operating solely in the 5.725–5.850 GHz band: All emissions shall be limited to a level of –27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. The provisions of § 15.205 apply to intentional radiators operating under this section.
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3.3 AC Line Conducted Emissions Test Data

Test Date:	2025-02-07	Test By:	Ryan Zhang
Environment condition:	Temperature: 22.5°C; Relative Humidity:42%; ATM Pressure: 100.8kPa		



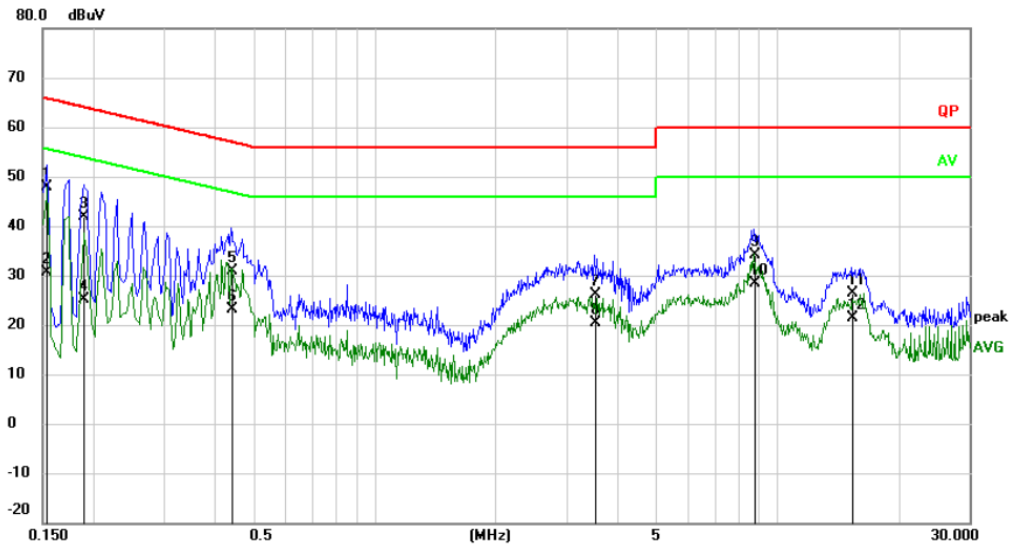
Conducted Emission Measurement

File :2505P37465E-RF

Data :#10

Date: 2025/2/7

Time: 16:40:08



Limit: QP

Phase: **N**

Temperature: 22.5 °C

Mode: Transmitting

Power: AC 120V/60Hz

Humidity: 42 %

Note: WIFI 5G 802.11a-5745

Air Pressure: 1008 hpa

Receiver Setting: 0.15~30MHz: Pre-scan: RBW: 9kHz, DET: PK/AV; Final measure: RBW: 9kHz, DET: QP/AV

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over Limit dB	Detector	Comment
1	*	0.1539	37.35	10.45	47.80	65.79	-17.99	QP	
2		0.1539	20.21	10.45	30.66	55.79	-25.13	AVG	
3		0.1900	31.38	10.46	41.84	64.04	-22.20	QP	
4		0.1900	14.63	10.46	25.09	54.04	-28.95	AVG	
5		0.4420	20.11	10.72	30.83	57.02	-26.19	QP	
6		0.4420	12.29	10.72	23.01	47.02	-24.01	AVG	
7		3.5260	15.79	10.46	26.25	56.00	-29.75	QP	
8		3.5260	9.84	10.46	20.30	46.00	-25.70	AVG	
9		8.7540	23.59	10.51	34.10	60.00	-25.90	QP	
10		8.7540	17.94	10.51	28.45	50.00	-21.55	AVG	
11		15.3540	15.72	10.54	26.26	60.00	-33.74	QP	
12		15.3540	10.75	10.54	21.29	50.00	-28.71	AVG	

*:Maximum data x:Over limit !:over margin

Engineer Signature: Ryan

Remark:

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

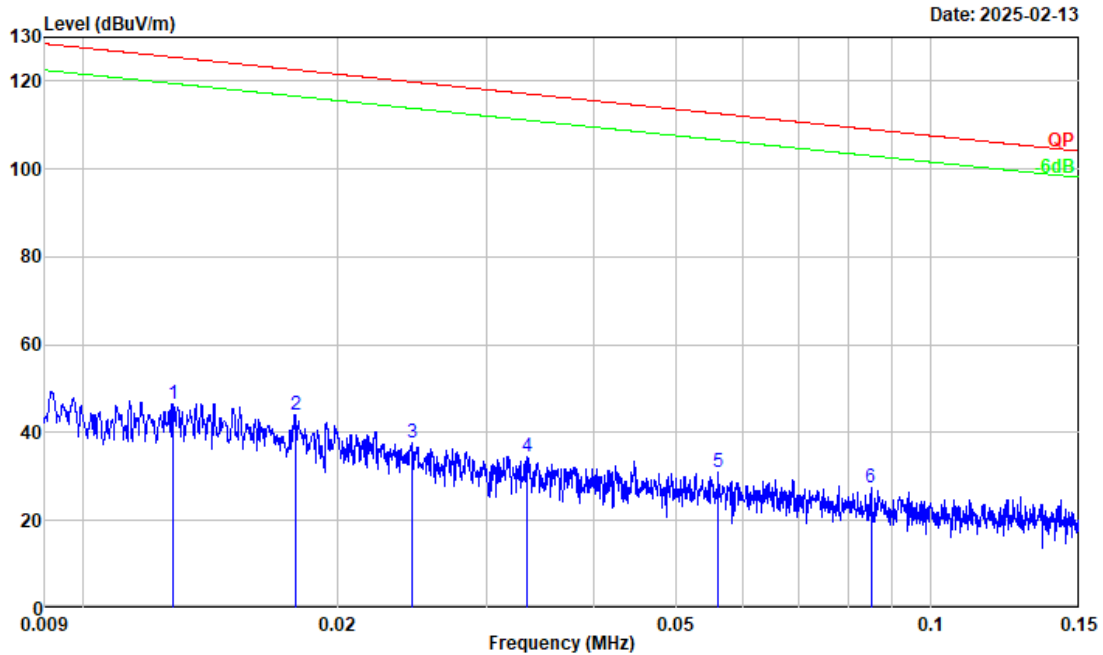
Correct Factor(dB)= LISN Voltage Division Factor (dB)+ Cable loss(dB)

Over Limit = Measurement – Limit

3.4 Radiated emission Test Data

9 kHz-30MHz:

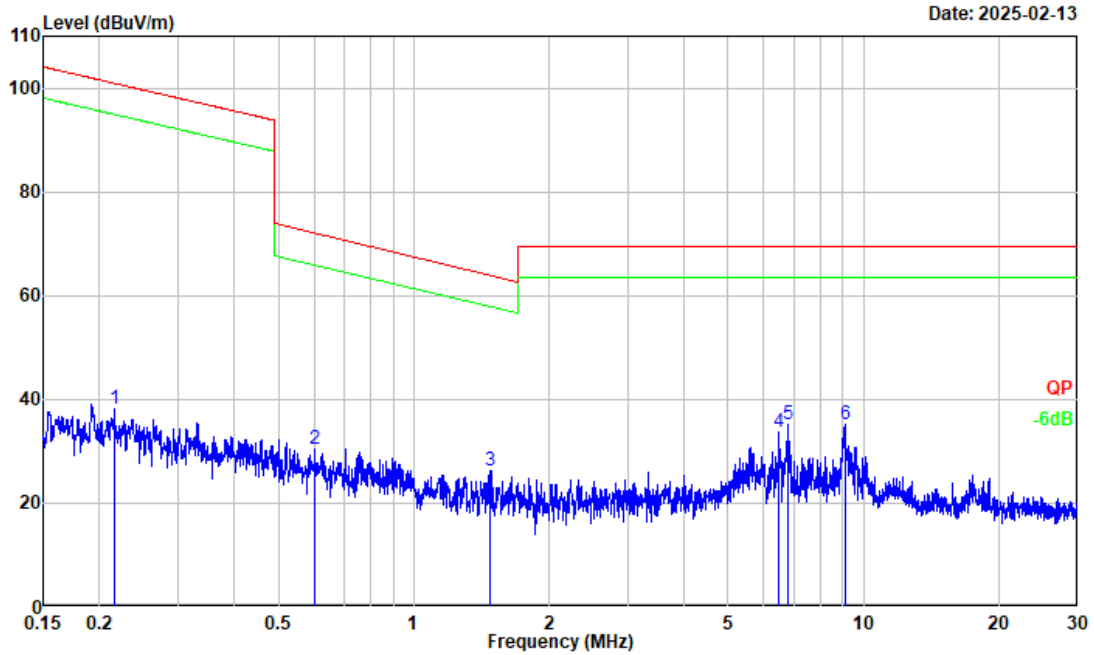
Test Date:	2025-02-13	Test By:	Bard Huang
Environment condition:	Temperature: 21.4°C; Relative Humidity:45%; ATM Pressure: 101.2kPa		



Project No. : 2505P37465E
 Test Mode : Transmitting
 Test Voltage : AC 120V/60Hz
 Environment : 21.4°C/45%R.H./101.2kPa
 Tested by : Bard Huang
 Polarization : PARALLEL
 Remark : 5G 802.11a 5745

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	0.013	11.11	35.47	46.58	125.49	-78.91	Peak
2	0.018	11.93	32.26	44.19	122.59	-78.40	Peak
3	0.024	9.71	28.05	37.76	119.84	-82.08	Peak
4	0.033	10.71	23.83	34.54	117.14	-82.60	Peak
5	0.056	11.34	19.56	30.90	112.60	-81.70	Peak
6	0.085	11.63	15.94	27.57	109.01	-81.44	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
 Result = Reading + Factor
 Over Limit = Result - Limit
 SA setting: RBW/VBW: 200Hz/1kHz, DET: PK



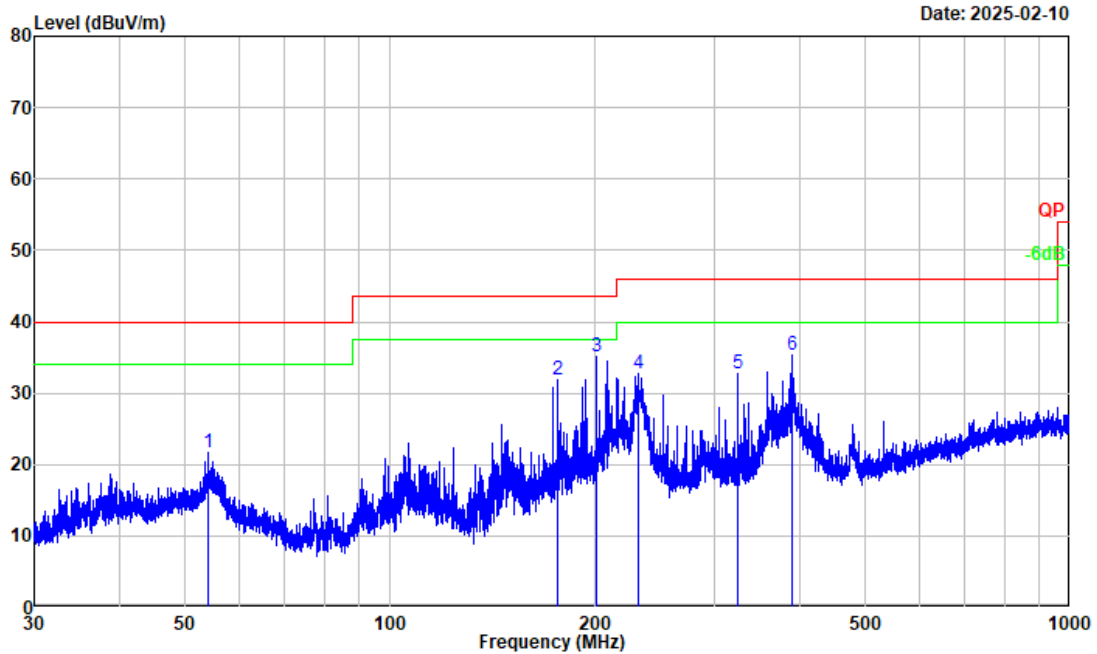
Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 21.4°C/45%R.H./101.2kPa
Tested by : Bard Huang
Polarization : PARALLEL
Remark : 5G 802.11a 5745

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	0.216	26.50	11.71	38.21	100.91	-62.70	Peak
2	0.605	26.02	4.47	30.49	71.94	-41.45	Peak
3	1.483	27.24	-1.00	26.24	63.98	-37.74	Peak
4	6.496	37.75	-4.04	33.71	69.54	-35.83	Peak
5	6.778	39.07	-4.01	35.06	69.54	-34.48	Peak
6	9.120	38.79	-3.65	35.14	69.54	-34.40	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: RBW/VBW: 9kHz/30kHz, DET: PK

30MHz-1GHz:

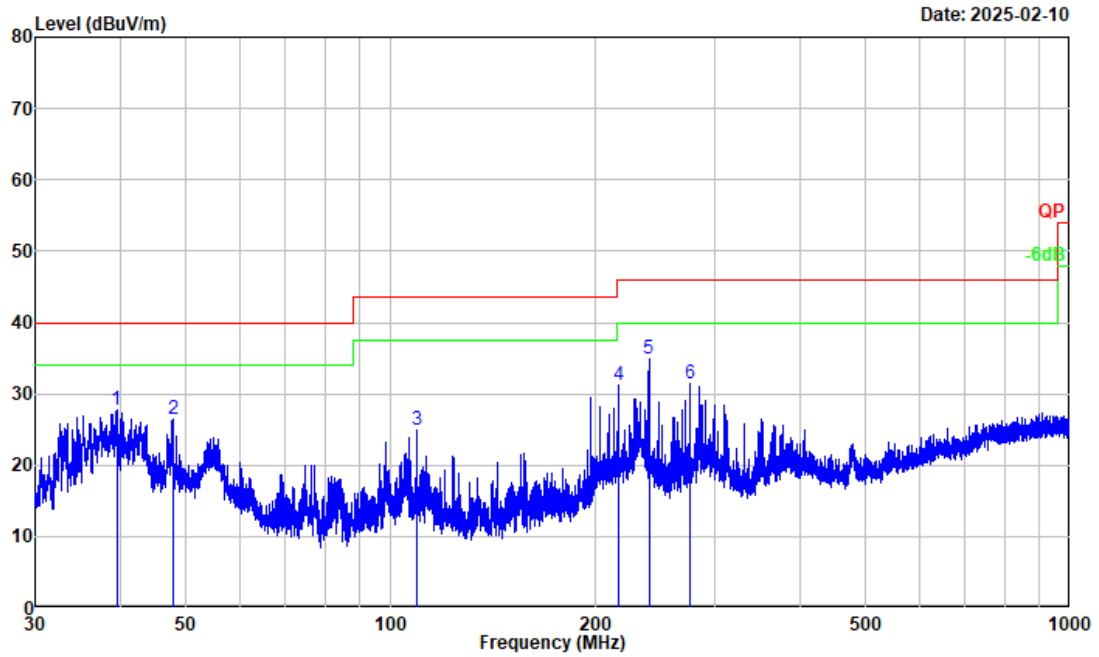
Test Date:	2025-02-10	Test By:	Luke Li
Environment condition:	Temperature: 20.4°C; Relative Humidity:36%; ATM Pressure: 101.6kPa		



Project No. : 2505P37465E
 Test Mode : Transmitting
 Test Voltage : AC 120V/60Hz
 Environment : 20.4°C/36%R.H./101.6kPa
 Tested by : Luke Li
 Polarization : horizontal
 Remark : 5G-WiFi 802.11a 5745

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	54.000	34.04	-12.41	21.63	40.00	-18.37	Peak
2	176.114	47.79	-15.91	31.88	43.50	-11.62	Peak
3	201.305	48.84	-13.73	35.11	43.50	-8.39	Peak
4	232.023	45.55	-12.86	32.69	46.00	-13.31	Peak
5	325.168	43.38	-10.59	32.79	46.00	-13.21	Peak
6	390.723	44.13	-8.88	35.25	46.00	-10.75	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
 Result = Reading + Factor
 Over Limit = Result - Limit
 SA setting: Pre-scan: RBW/VBW: 100kHz/300kHz, DET: PK
 Final measure: RBW: 120kHz, DET: QP



Project No. : 2505P37465E
 Test Mode : Transmitting
 Test Voltage : AC 120V/60Hz
 Environment : 20.4°C/36%R.H./101.6kPa
 Tested by : Luke Li
 Polarization : vertical
 Remark : 5G-WiFi 802.11a 5745

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	39.541	40.81	-13.15	27.66	40.00	-12.34	Peak
2	47.784	38.61	-12.08	26.53	40.00	-13.47	Peak
3	109.460	38.90	-14.05	24.85	43.50	-18.65	Peak
4	216.214	44.99	-13.67	31.32	46.00	-14.68	Peak
5	239.987	47.46	-12.65	34.81	46.00	-11.19	Peak
6	276.003	43.32	-11.81	31.51	46.00	-14.49	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
 Result = Reading + Factor
 Over Limit = Result - Limit
 SA setting: Pre-scan: RBW/VBW: 100kHz/300kHz, DET: PK
 Final measure: RBW: 120kHz, DET: QP

Above 1GHz:

Test Date:	2025-02-20~2025-03-04	Test By:	Bard Huang
Environment condition:	Temperature:21.4~22.6°C; Relative Humidity: 45~58%; ATM Pressure: 101.2~101.3kPa		

Frequency (MHz)	Reading level (dBμV)	Polar (H/V)	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
5150-5250MHz							
802.11a							
Low Channel							
10360.000	59.48	horizontal	2.65	62.13	68.20	-6.07	Peak
10360.000	60.34	vertical	2.65	62.99	68.20	-5.21	Peak
15540.000	38.23	horizontal	6.14	44.37	54.00	-9.63	Average
15540.000	50.77	horizontal	6.14	56.91	74.00	-17.09	Peak
15540.000	38.93	vertical	6.14	45.07	54.00	-8.93	Average
15540.000	50.49	vertical	6.14	56.63	74.00	-17.37	Peak
Middle Channel							
10400.000	57.81	horizontal	2.82	60.63	68.20	-7.57	Peak
10400.000	52.75	vertical	2.82	55.57	68.20	-12.63	Peak
15600.000	38.85	horizontal	6.05	44.90	54.00	-9.10	Average
15600.000	50.30	horizontal	6.05	56.35	74.00	-17.65	Peak
15600.000	38.18	vertical	6.05	44.23	54.00	-9.77	Average
15600.000	49.59	vertical	6.05	55.64	74.00	-18.36	Peak
High Channel							
10480.000	57.36	horizontal	3.10	60.46	68.20	-7.74	Peak
10480.000	56.55	vertical	3.10	59.65	68.20	-8.55	Peak
15720.000	47.67	horizontal	5.44	53.11	74.00	-20.89	Peak
15720.000	47.32	vertical	5.44	52.76	74.00	-21.24	Peak
802.11n20							
Low Channel							
10360.000	56.03	horizontal	2.65	58.68	68.20	-9.52	Peak
10360.000	53.84	vertical	2.65	56.49	68.20	-11.71	Peak

15540.000	39.05	horizontal	6.14	45.19	54.00	-8.81	Average
15540.000	49.85	horizontal	6.14	55.99	74.00	-18.01	Peak
15540.000	38.69	vertical	6.14	44.83	54.00	-9.17	Average
15540.000	50.24	vertical	6.14	56.38	74.00	-17.62	Peak
Middle Channel							
10400.000	55.84	horizontal	2.82	58.66	68.20	-9.54	Peak
10400.000	54.39	vertical	2.82	57.21	68.20	-10.99	Peak
15600.000	38.85	horizontal	6.05	44.90	54.00	-9.10	Average
15600.000	50.26	horizontal	6.05	56.31	74.00	-17.69	Peak
15600.000	38.77	vertical	6.05	44.82	54.00	-9.18	Average
15600.000	48.79	vertical	6.05	54.84	74.00	-19.16	Peak
High Channel							
10480.000	55.86	horizontal	3.10	60.96	68.20	-9.24	Peak
10480.000	54.42	vertical	3.10	57.52	68.20	-10.68	Peak
15720.000	47.98	horizontal	5.44	53.42	74.00	-20.58	Peak
15720.000	37.45	vertical	5.44	42.89	54.00	-11.11	Average
15720.000	49.35	vertical	5.44	54.79	74.00	-19.21	Peak
802.11n40							
Low Channel							
10380.000	53.12	horizontal	2.73	55.85	68.20	-12.35	Peak
10380.000	52.83	vertical	2.73	55.56	68.20	-12.64	Peak
15570.000	38.91	horizontal	6.10	45.01	54.00	-8.99	Average
15570.000	49.36	horizontal	6.10	55.46	74.00	-18.54	Peak
15570.000	38.98	vertical	6.10	45.08	54.00	-8.92	Average
15570.000	49.73	vertical	6.10	55.83	74.00	-18.17	Peak
High Channel							
10460.000	54.60	horizontal	3.04	57.64	68.20	-10.56	Peak
10460.000	52.13	vertical	3.04	55.17	68.20	-13.03	Peak
15690.000	37.33	horizontal	5.47	42.80	54.00	-11.20	Average
15690.000	48.59	horizontal	5.47	54.06	74.00	-19.94	Peak
15690.000	48.51	vertical	5.47	53.98	74.00	-20.02	Peak
802.11ac80							

15630.000	38.10	horizontal	5.85	43.95	54.00	-10.05	Average
15630.000	49.47	horizontal	5.85	55.32	74.00	-18.68	Peak
15630.000	38.03	vertical	5.85	43.88	54.00	-10.12	Average
15630.000	49.37	vertical	5.85	55.22	74.00	-18.78	Peak
5250-5350MHz							
802.11a							
Low Channel							
10520.000	56.18	horizontal	3.42	59.60	68.20	-8.60	Peak
10520.000	53.99	vertical	3.42	57.41	68.20	-10.79	Peak
15780.000	39.23	horizontal	5.51	44.74	54.00	-9.26	Average
15780.000	49.02	horizontal	5.51	54.53	74.00	-19.47	Peak
15780.000	47.93	vertical	5.51	53.44	74.00	-20.56	Peak
Middle Channel							
10560.000	59.34	horizontal	3.89	63.23	68.20	-4.97	Peak
10560.000	55.75	vertical	3.89	59.64	68.20	-8.56	Peak
15840.000	38.78	horizontal	5.67	44.45	54.00	-9.55	Average
15840.000	48.35	horizontal	5.67	54.02	74.00	-19.98	Peak
15840.000	48.19	vertical	5.67	53.86	74.00	-20.14	Peak
High Channel							
15960.000	37.86	horizontal	6.22	44.08	54.00	-9.92	Average
15960.000	48.70	horizontal	6.22	54.92	74.00	-19.08	Peak
15960.000	38.04	vertical	6.22	44.26	54.00	-9.74	Average
15960.000	48.13	vertical	6.22	54.35	74.00	-19.65	Peak
802.11n20							
Low Channel							
10520.000	57.47	horizontal	3.42	60.89	68.20	-7.31	Peak
10520.000	54.36	vertical	3.42	57.78	68.20	-10.42	Peak
15780.000	47.63	horizontal	5.51	53.14	74.00	-20.86	Peak
15780.000	48.36	vertical	5.51	53.87	74.00	-20.13	Peak
Middle Channel							
10560.000	59.04	horizontal	3.89	62.93	68.20	-5.27	Peak
10560.000	55.85	vertical	3.89	59.74	68.20	-8.46	Peak

15840.000	38.89	horizontal	5.67	44.56	54.00	-9.44	Average
15840.000	48.48	horizontal	5.67	54.15	74.00	-19.85	Peak
15840.000	48.11	vertical	5.67	53.78	74.00	-20.22	Peak
High Channel							
15960.000	47.67	horizontal	6.22	53.89	74.00	-20.11	Peak
15960.000	38.13	vertical	6.22	44.35	54.00	-9.65	Average
15960.000	47.86	vertical	6.22	54.08	74.00	-19.92	Peak
802.11n40							
Low Channel							
10540.000	57.42	horizontal	3.65	61.07	68.20	-7.13	Peak
10540.000	54.60	vertical	3.65	58.25	68.20	-9.95	Peak
15810.000	38.84	horizontal	5.58	44.42	54.00	-9.58	Average
15810.000	48.53	horizontal	5.58	54.11	74.00	-19.89	Peak
15810.000	48.38	vertical	5.58	53.96	74.00	-20.04	Peak
High Channel							
15930.000	38.29	horizontal	6.05	44.34	54.00	-9.66	Average
15930.000	50.55	horizontal	6.05	56.60	74.00	-17.40	Peak
15930.000	38.13	vertical	6.05	44.18	54.00	-9.82	Average
15930.000	48.29	vertical	6.05	54.34	74.00	-19.66	Peak
802.11ac80							
10580.000	56.67	horizontal	4.12	60.79	68.20	-7.41	Peak
10580.000	52.97	vertical	4.12	57.09	68.20	-11.11	Peak
15870.000	38.08	horizontal	5.78	43.86	54.00	-10.14	Average
15870.000	48.37	horizontal	5.78	54.15	74.00	-19.85	Peak
15870.000	38.11	vertical	5.78	43.89	54.00	-10.11	Average
15870.000	48.85	vertical	5.78	54.63	74.00	-19.37	Peak
5470-5725MHz							
802.11a							
Low Channel							
11000.000	45.93	horizontal	3.46	49.39	54.00	-4.61	Average
11000.000	54.76	horizontal	3.46	58.22	74.00	-15.78	Peak
11000.000	46.17	vertical	3.46	49.63	54.00	-4.37	Average

11000.000	54.51	vertical	3.46	57.97	74.00	-16.03	Peak
Middle Channel							
11160.000	42.31	horizontal	4.75	47.06	54.00	-6.94	Average
11160.000	52.14	horizontal	4.75	56.89	74.00	-17.11	Peak
11160.000	43.89	vertical	4.75	48.64	54.00	-5.36	Average
11160.000	52.92	vertical	4.75	57.67	74.00	-16.33	Peak
High Channel							
11400.000	42.88	vertical	5.21	48.09	54.00	-5.91	Average
11400.000	51.38	vertical	5.21	56.59	74.00	-17.41	Peak
11400.000	42.88	vertical	5.21	48.09	54.00	-5.91	Average
11400.000	51.38	vertical	5.21	56.59	74.00	-17.41	Peak
802.11n20							
Low Channel							
11000.000	43.63	horizontal	3.46	47.09	54.00	-6.91	Average
11000.000	53.16	horizontal	3.46	56.62	74.00	-17.38	Peak
11000.000	44.27	vertical	3.46	47.73	54.00	-6.27	Average
11000.000	52.83	vertical	3.46	56.29	74.00	-17.71	Peak
Middle Channel							
11160.000	40.08	horizontal	4.75	44.83	54.00	-9.17	Average
11160.000	50.90	horizontal	4.75	55.65	74.00	-18.35	Peak
11160.000	41.95	vertical	4.75	46.70	54.00	-7.30	Average
11160.000	50.86	vertical	4.75	55.61	74.00	-18.39	Peak
High Channel							
11400.000	39.36	horizontal	5.21	44.57	54.00	-9.43	Average
11400.000	51.78	horizontal	5.21	56.99	74.00	-17.01	Peak
11400.000	39.44	vertical	5.21	44.65	54.00	-9.35	Average
11400.000	50.32	vertical	5.21	55.53	74.00	-18.47	Peak
802.11n40							
Low Channel							
11020.000	40.62	horizontal	3.53	44.15	54.00	-9.85	Average
11020.000	52.72	horizontal	3.53	56.25	74.00	-17.75	Peak
11020.000	40.16	vertical	3.53	43.69	54.00	-10.31	Average

11020.000	51.68	vertical	3.53	55.21	74.00	-18.79	Peak
Middle Channel							
11100.000	38.03	horizontal	3.80	41.83	54.00	-12.17	Average
11100.000	51.26	horizontal	3.80	55.06	74.00	-18.94	Peak
11100.000	49.00	vertical	3.80	52.80	74.00	-21.20	Peak
High Channel							
11340.000	38.66	horizontal	5.65	44.31	54.00	-9.69	Average
11340.000	48.92	horizontal	5.65	54.57	74.00	-19.43	Peak
11340.000	38.06	vertical	5.65	43.71	54.00	-10.29	Average
11340.000	50.19	vertical	5.65	55.84	74.00	-18.16	Peak
802.11ac80							
Low Channel							
11060.000	49.03	horizontal	3.66	52.69	74.00	-21.31	Peak
11060.000	49.04	vertical	3.66	52.70	74.00	-21.30	Peak
High Channel							
11220.000	47.16	horizontal	5.49	52.65	74.00	-21.35	Peak
11220.000	47.11	vertical	5.49	52.60	74.00	-21.40	Peak
5725-5850MHz							
802.11a							
Low Channel							
11490.000	48.20	horizontal	5.35	53.55	74.00	-20.45	Peak
11490.000	46.79	vertical	5.35	52.14	74.00	-21.86	Peak
Middle Channel							
11570.000	38.93	horizontal	4.79	43.72	54.00	-10.28	Average
11570.000	49.73	horizontal	4.79	54.52	74.00	-19.48	Peak
11570.000	48.45	vertical	4.79	53.24	74.00	-20.76	Peak
High Channel							
11650.000	49.40	horizontal	4.47	53.87	74.00	-20.13	Peak
11650.000	48.37	vertical	4.47	52.84	74.00	-21.16	Peak
802.11n20							
Low Channel							
11490.000	46.37	horizontal	5.35	51.72	74.00	-22.28	Peak

11490.000	46.51	vertical	5.35	51.86	74.00	-22.14	Peak
Middle Channel							
11570.000	38.96	horizontal	4.79	43.75	54.00	-10.25	Average
11570.000	49.52	horizontal	4.79	54.31	74.00	-19.69	Peak
11570.000	48.18	vertical	4.79	52.97	74.00	-21.03	Peak
High Channel							
11650.000	49.21	horizontal	4.47	53.68	74.00	-20.32	Peak
11650.000	49.16	vertical	4.47	53.63	74.00	-20.37	Peak
802.11n40							
Low Channel							
11510.000	39.22	horizontal	5.29	44.51	54.00	-9.49	Average
11510.000	49.02	horizontal	5.29	54.31	74.00	-19.69	Peak
11510.000	38.87	vertical	5.29	44.16	54.00	-9.84	Average
11510.000	49.94	vertical	5.29	55.23	74.00	-18.77	Peak
High Channel							
11590.000	48.27	horizontal	4.62	52.89	74.00	-21.11	Peak
11590.000	48.85	vertical	4.62	53.47	74.00	-20.53	Peak
802.11ac80							
11550.000	48.29	horizontal	4.95	53.24	74.00	-20.76	Peak
11550.000	47.78	vertical	4.95	52.73	74.00	-21.27	Peak

Remark:

Corrected Amplitude= Reading level + corrected Factor

Corrected Factor = Antenna factor + Cable loss – Amplifier gain

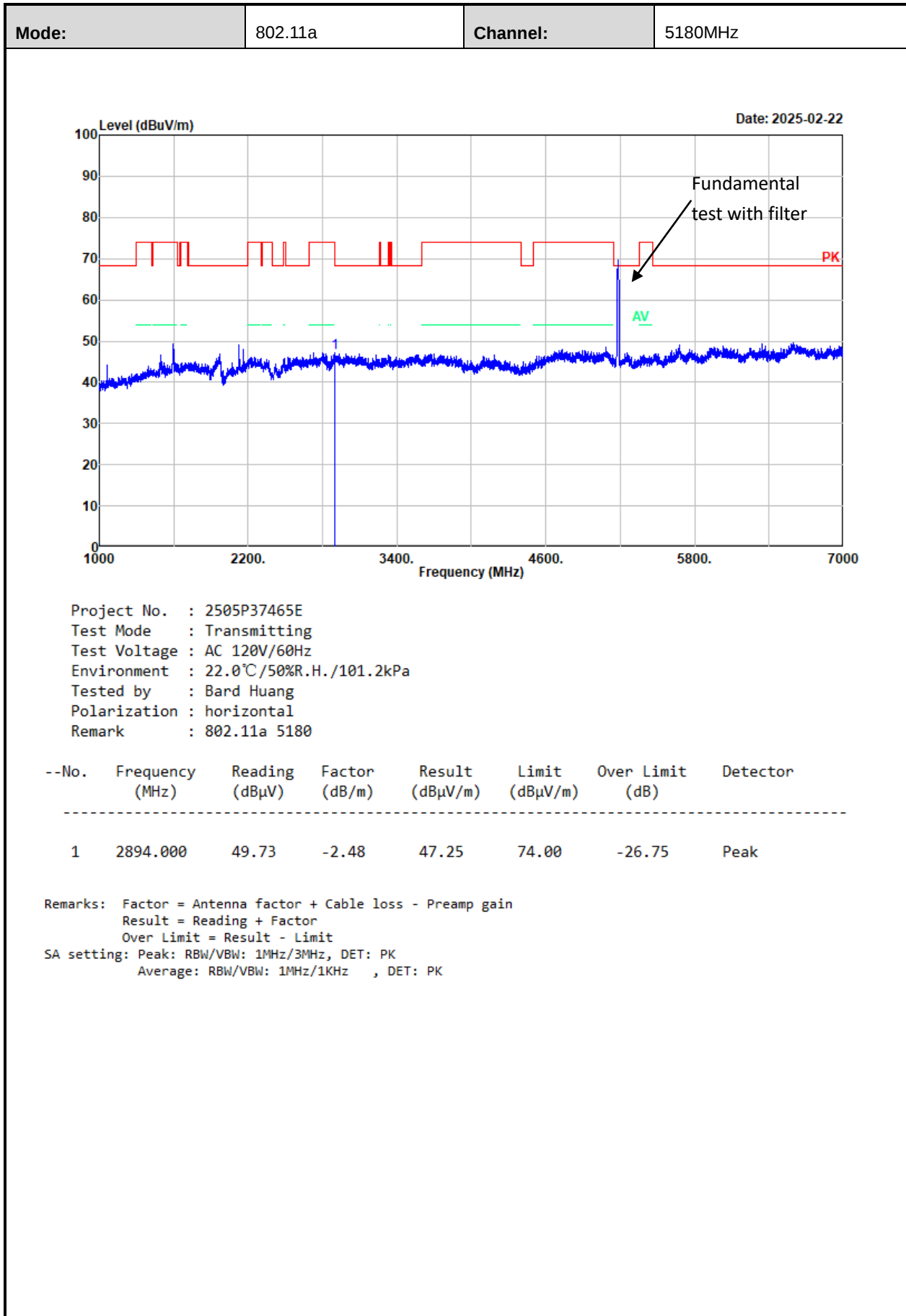
Margin = Corrected Amplitude – Limit

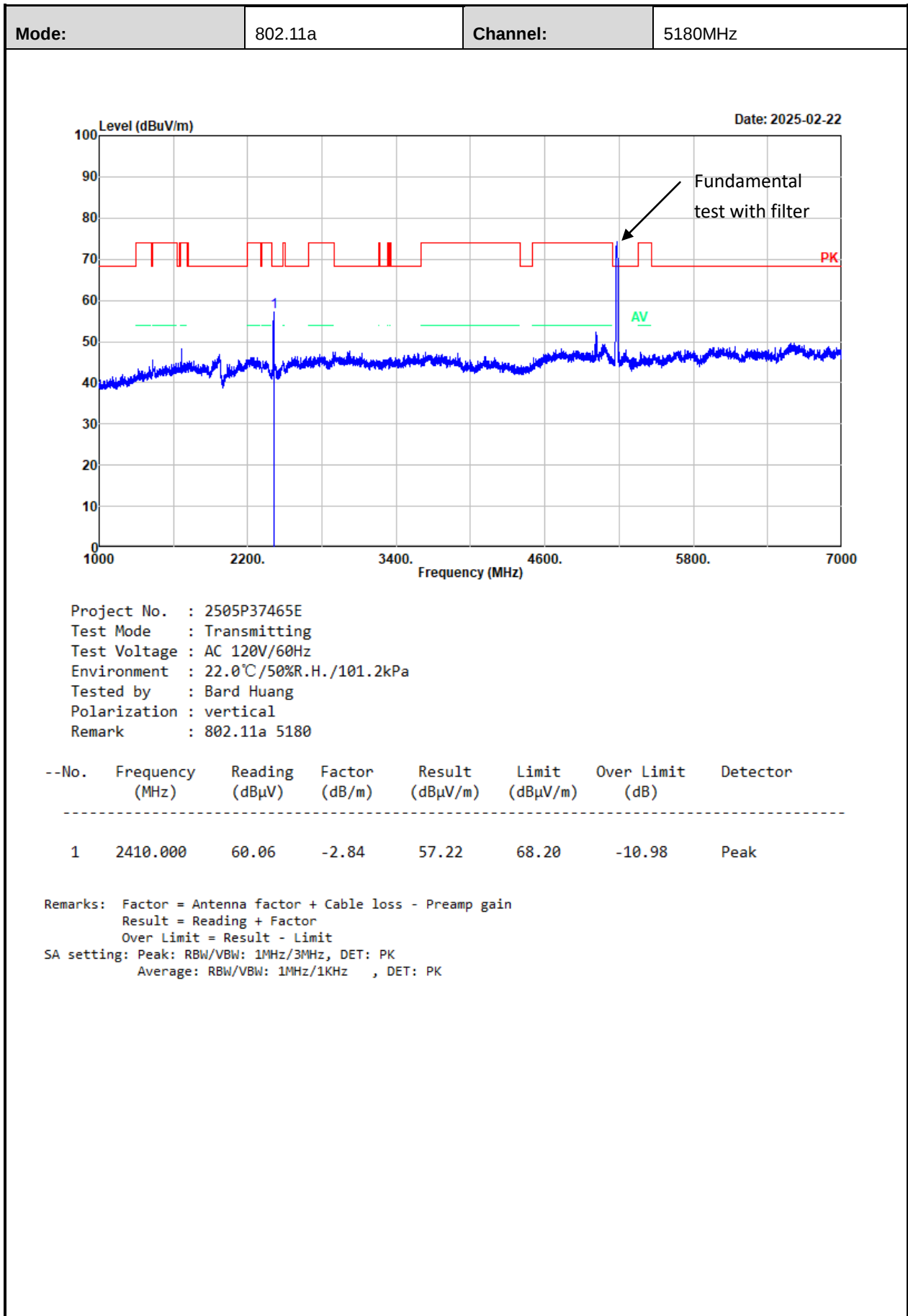
For the test result of Peak below the Peak limit more than 20dB, which can compliance with the average limit, just the Peak level was recorded.

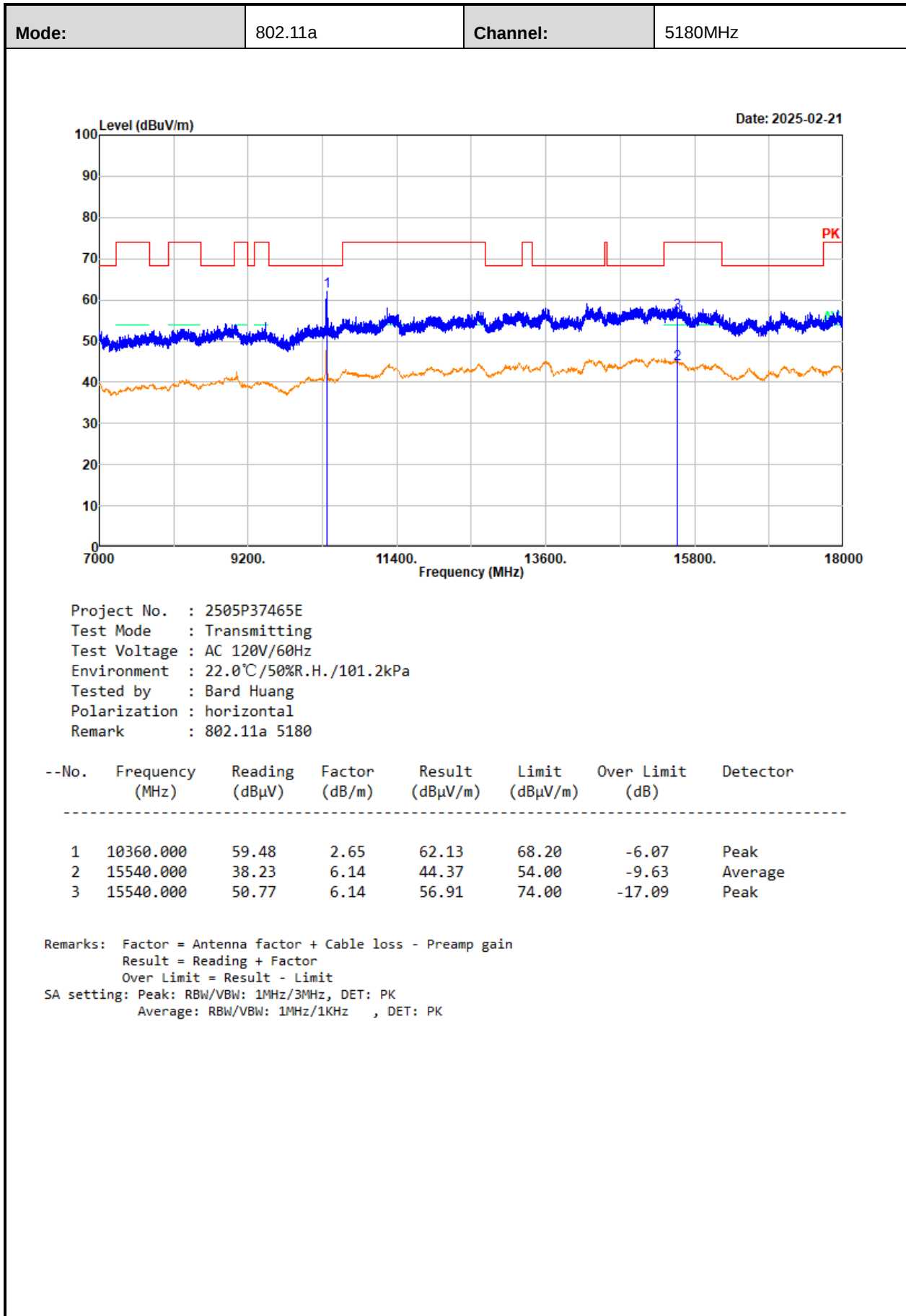
The emission levels of other frequencies that were lower than the limit 20dB not show in test report.

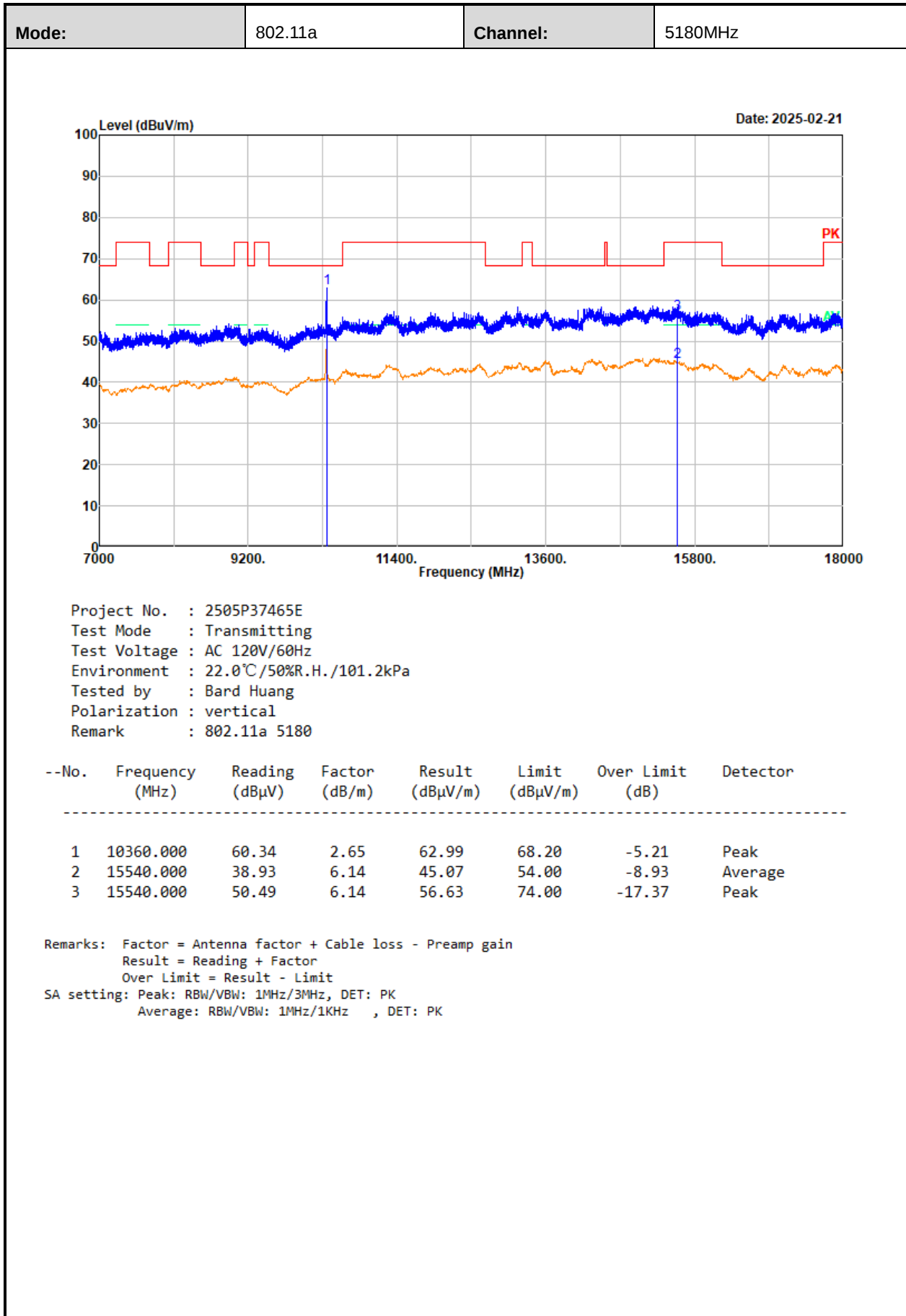
For emissions in 18GHz-40GHz range, all emissions were investigated and in the noise floor level.

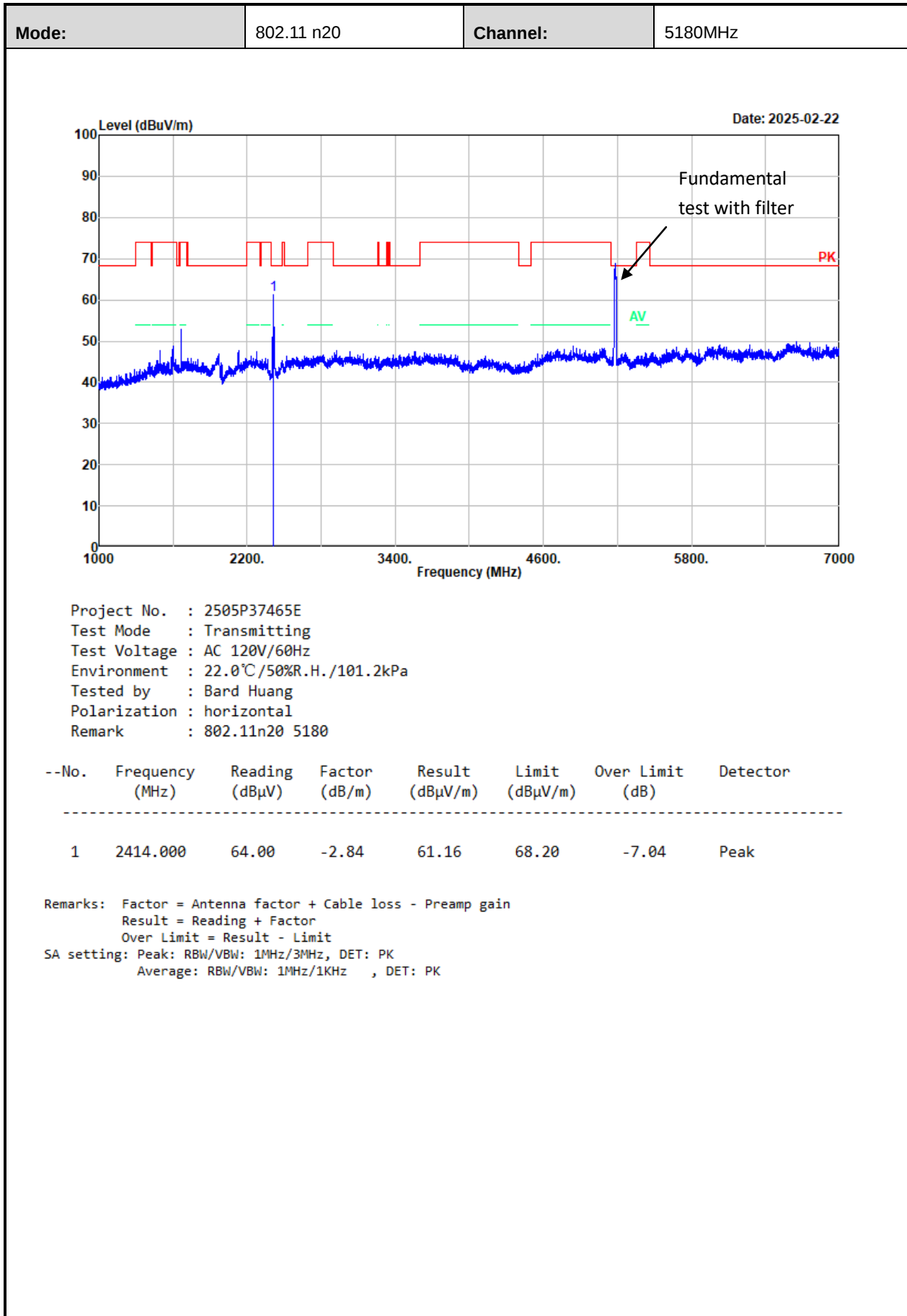
Test plot for worst case as below:

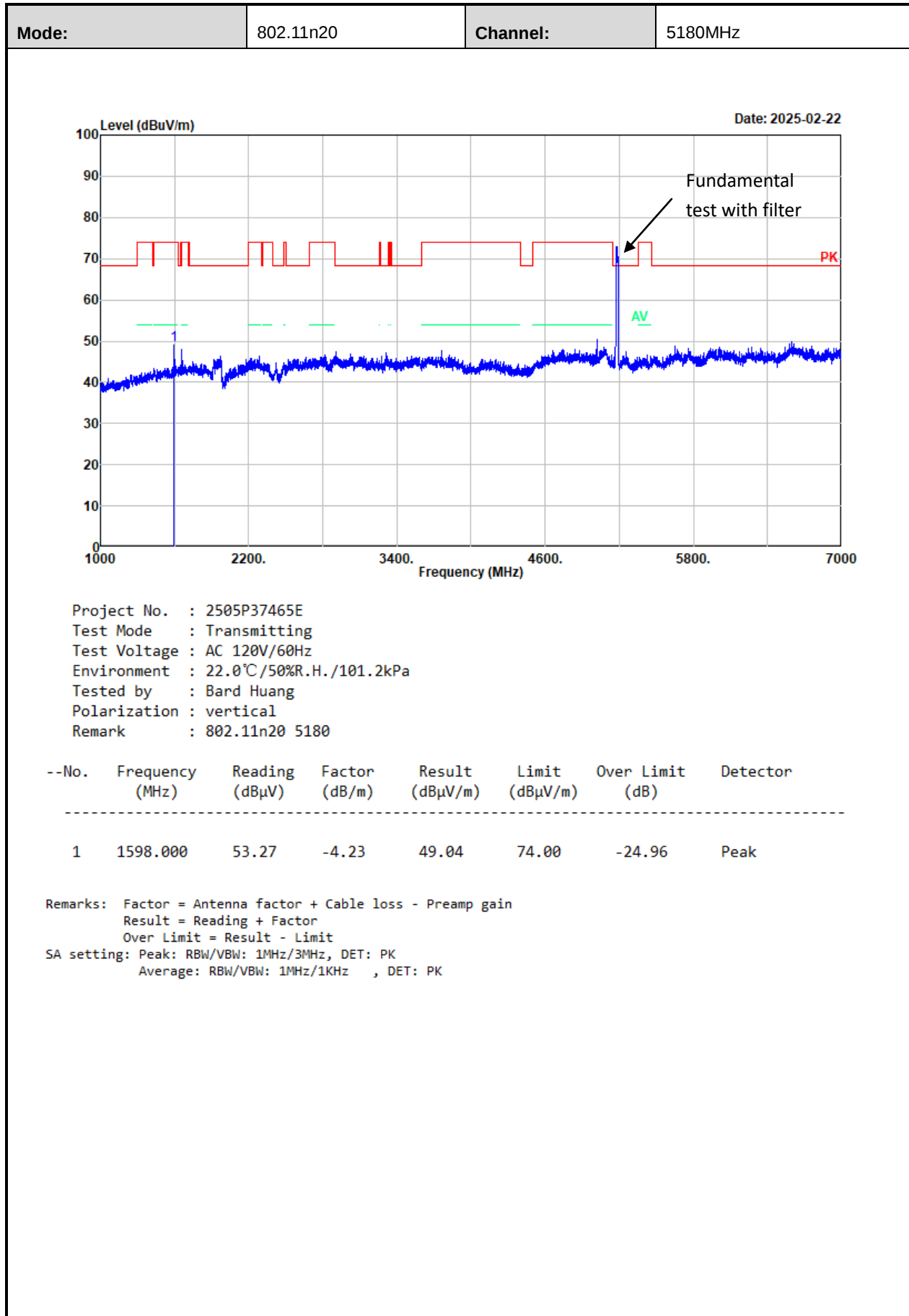


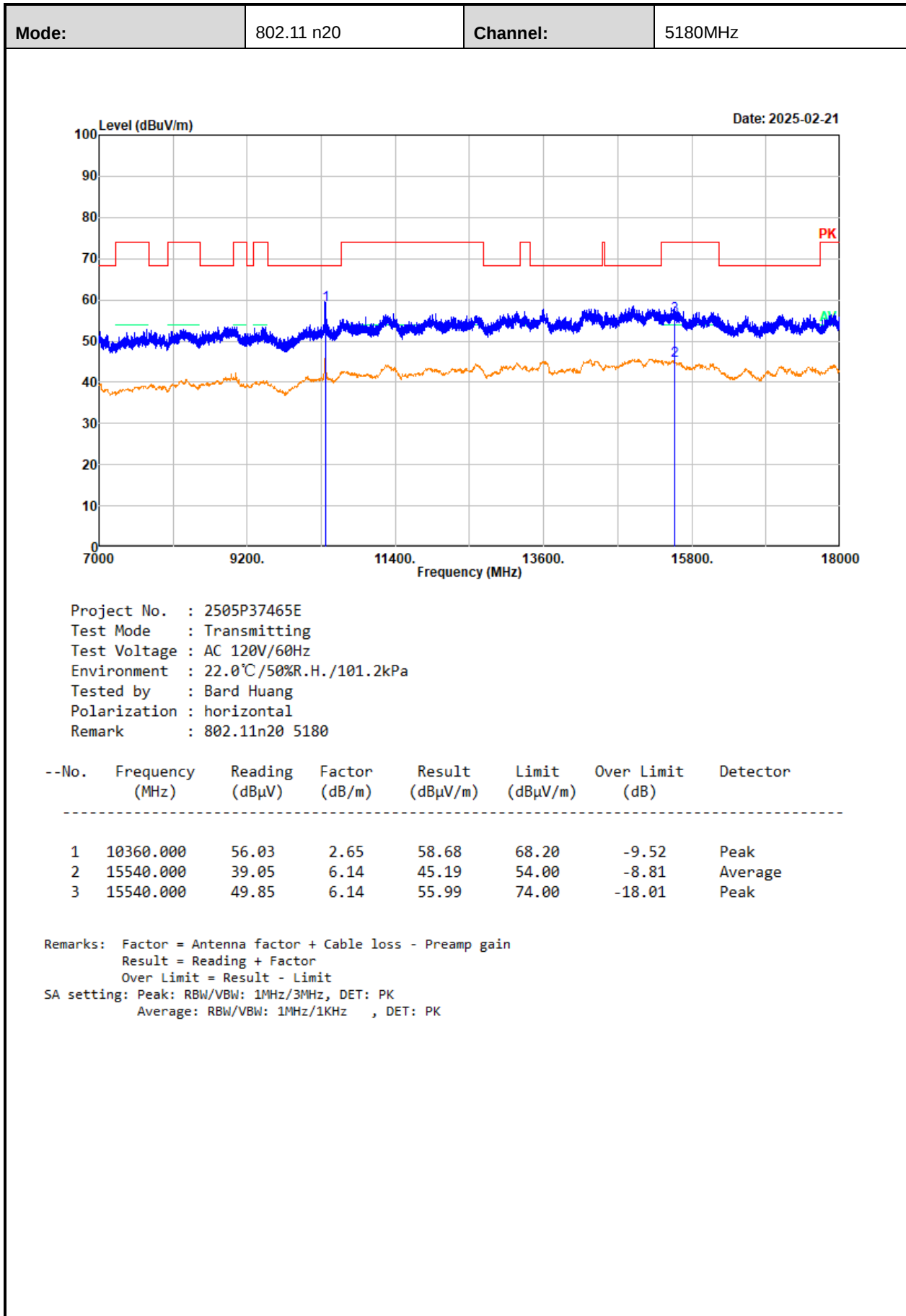


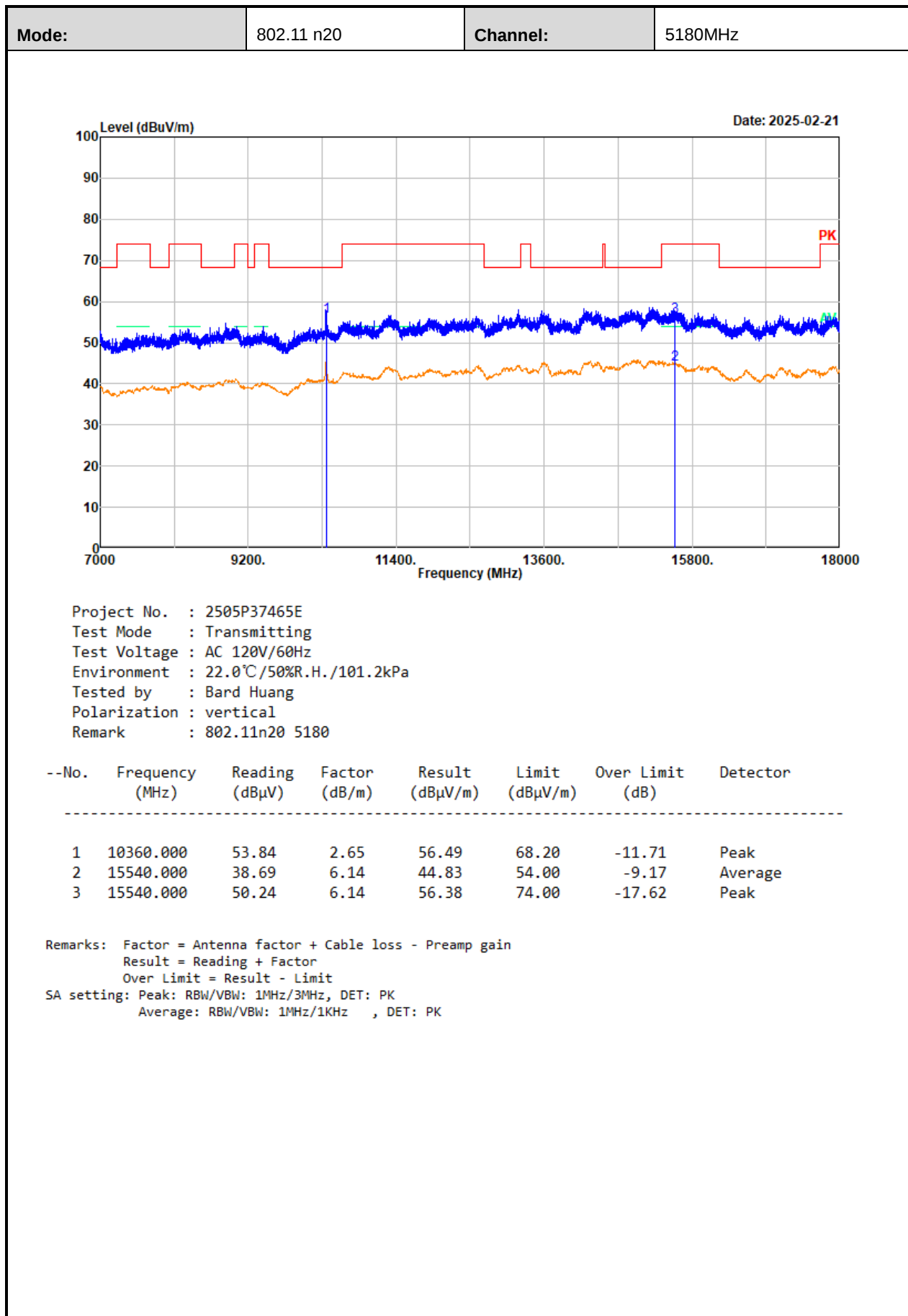


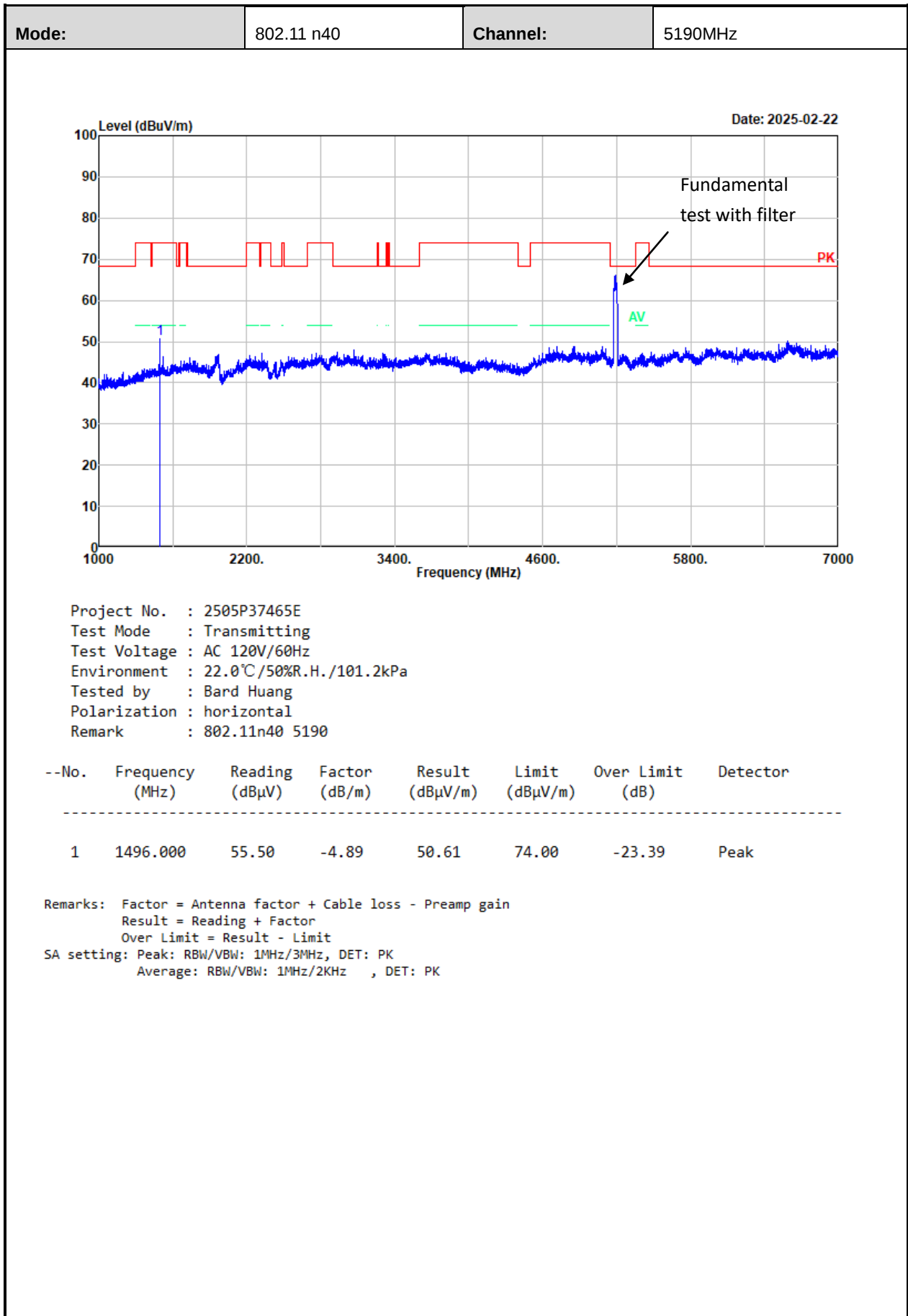


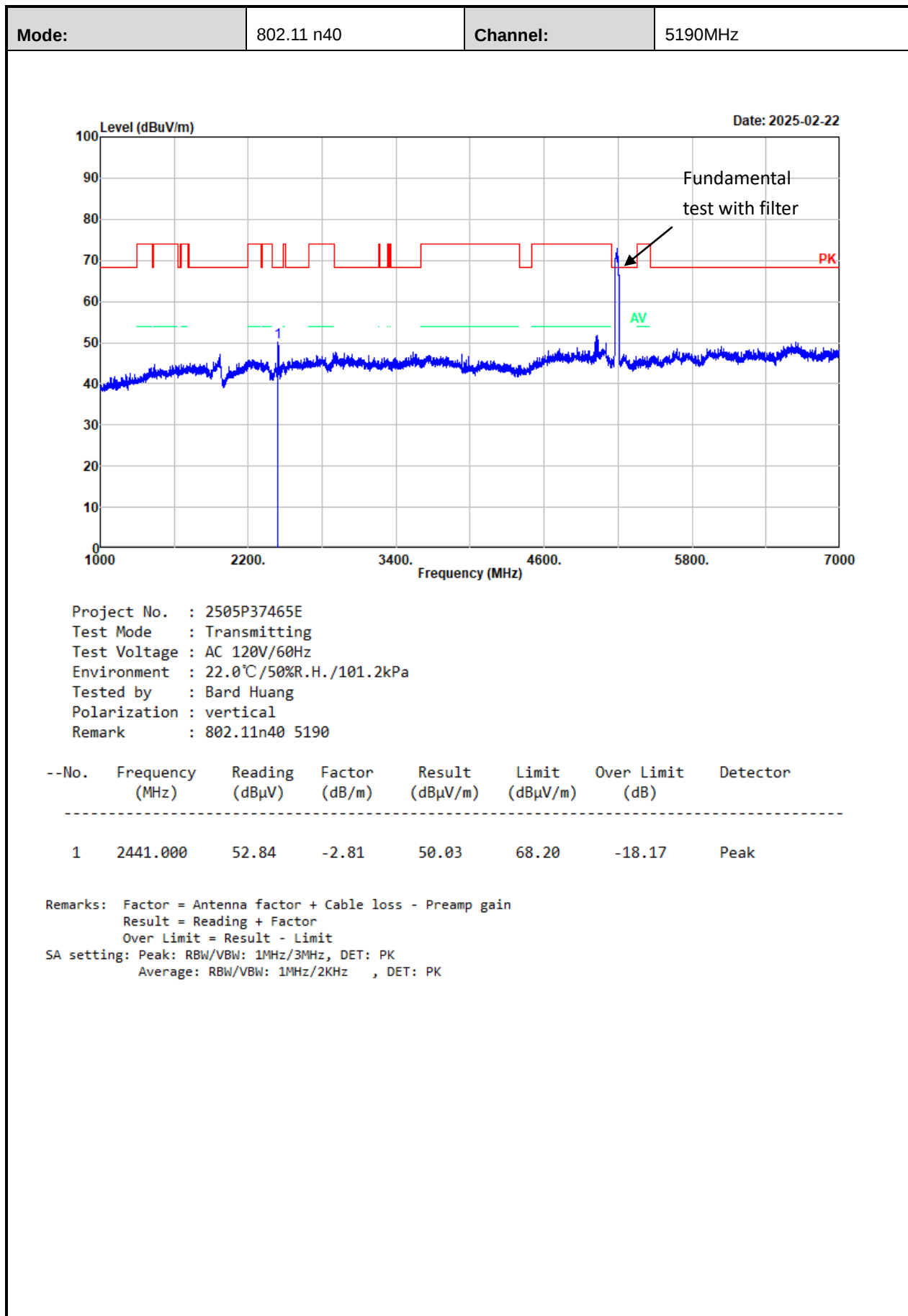


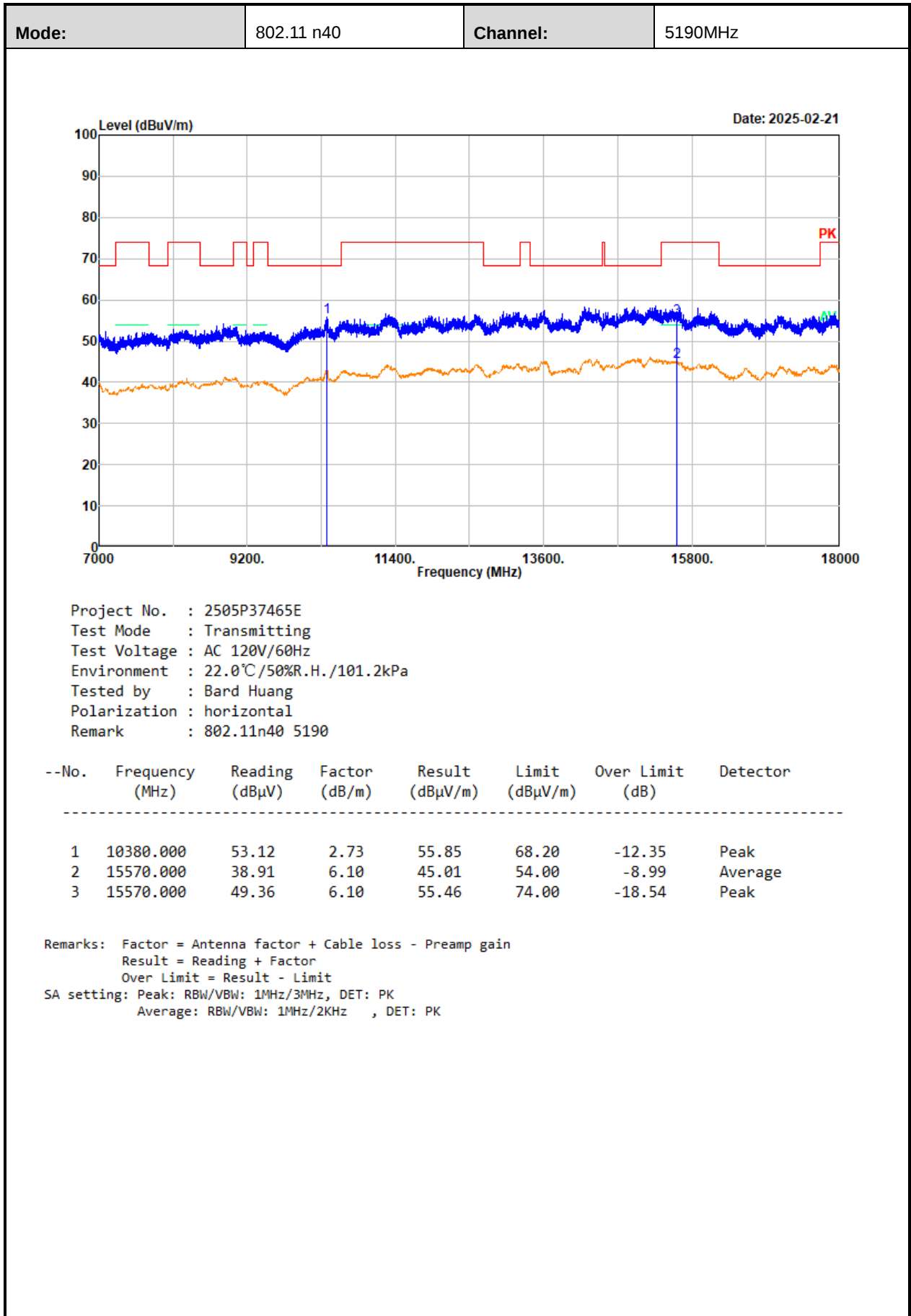


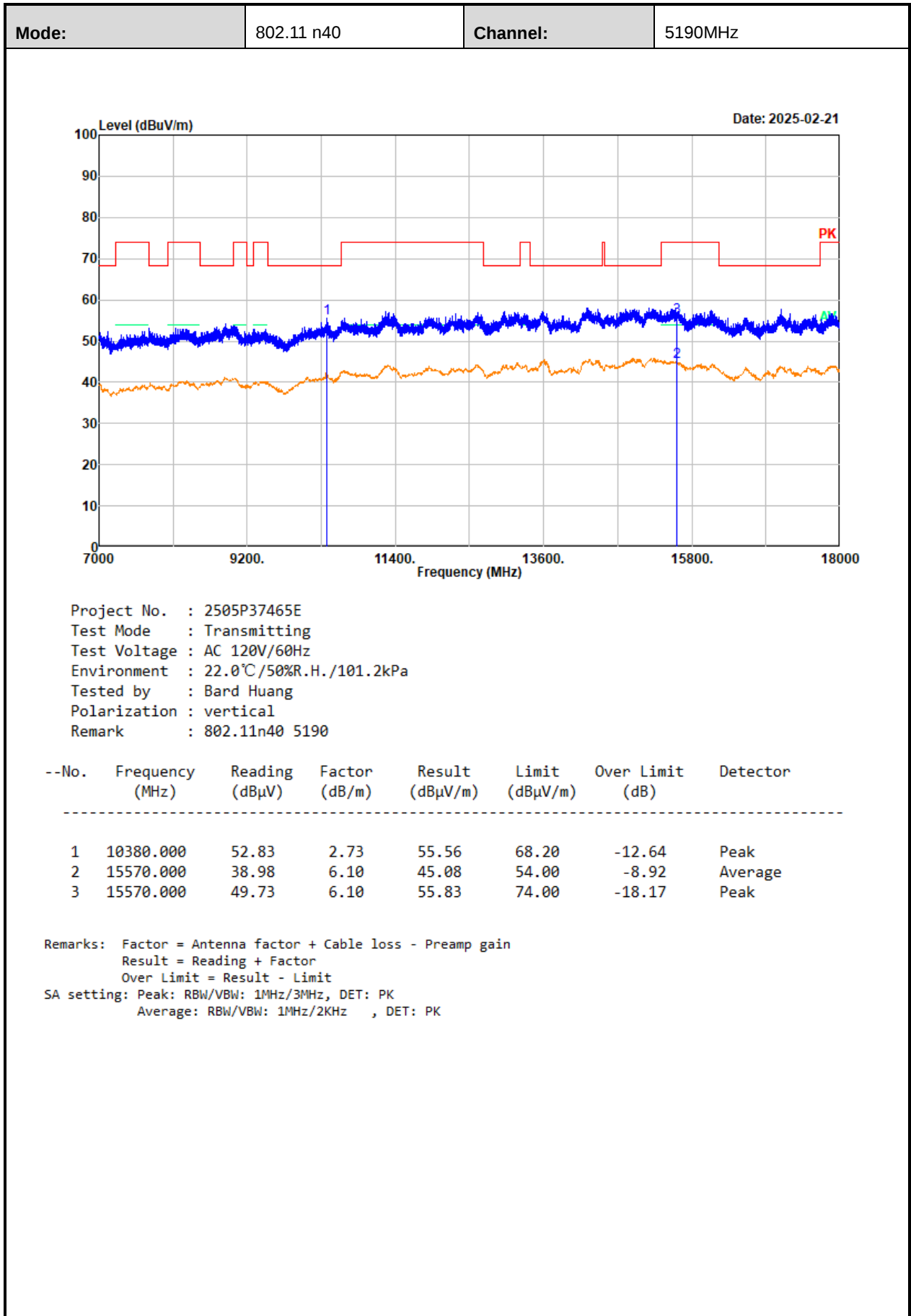


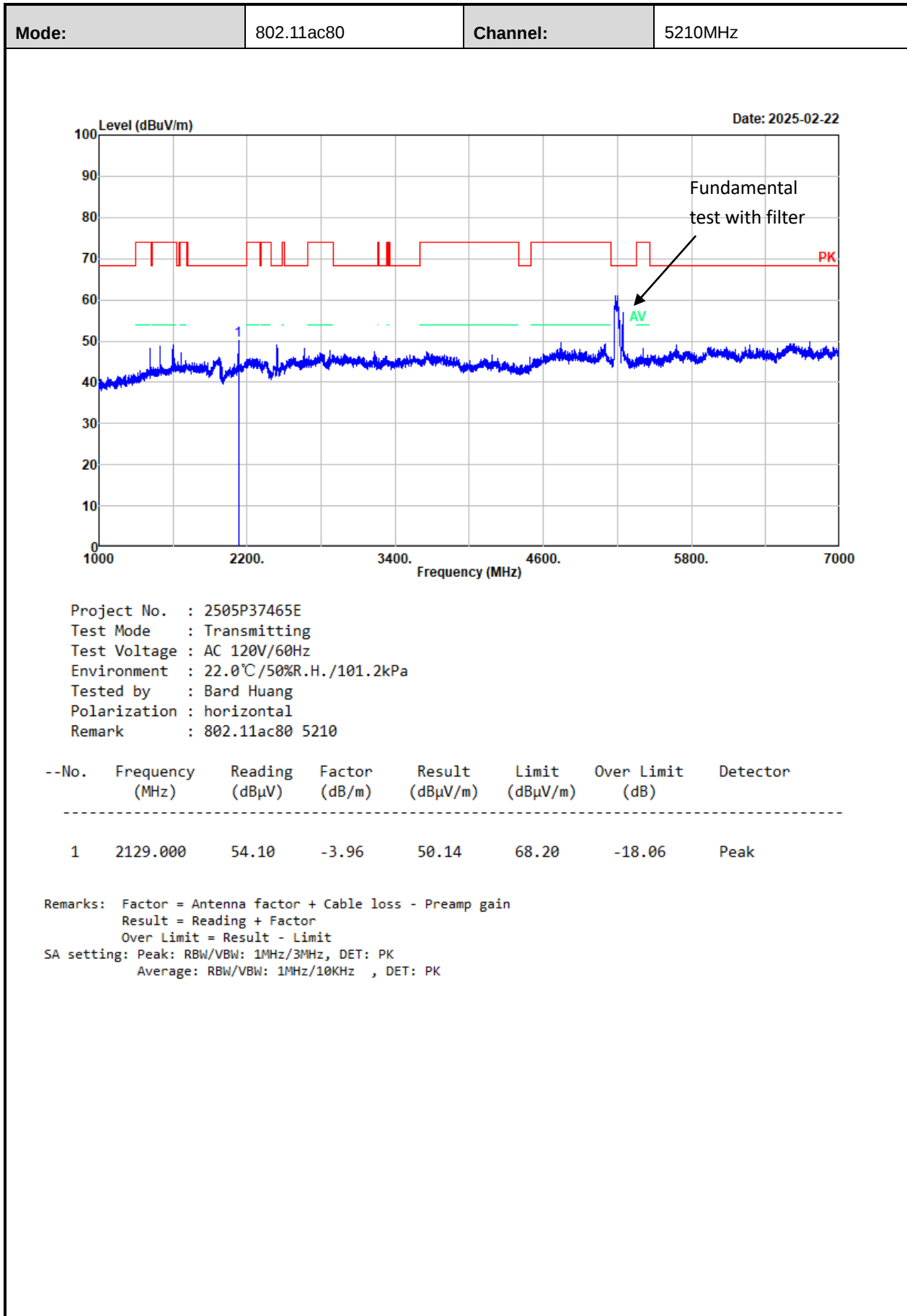


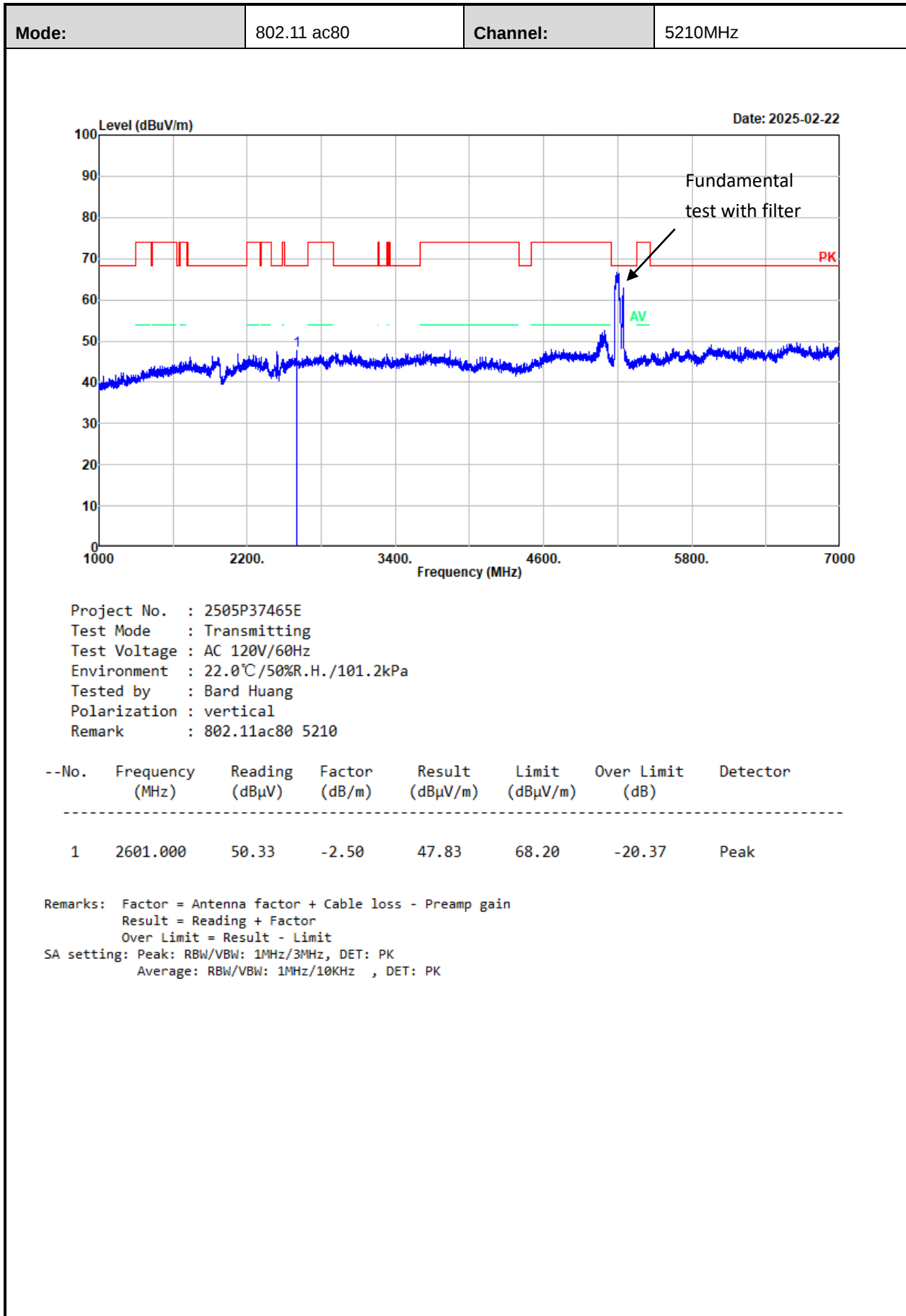


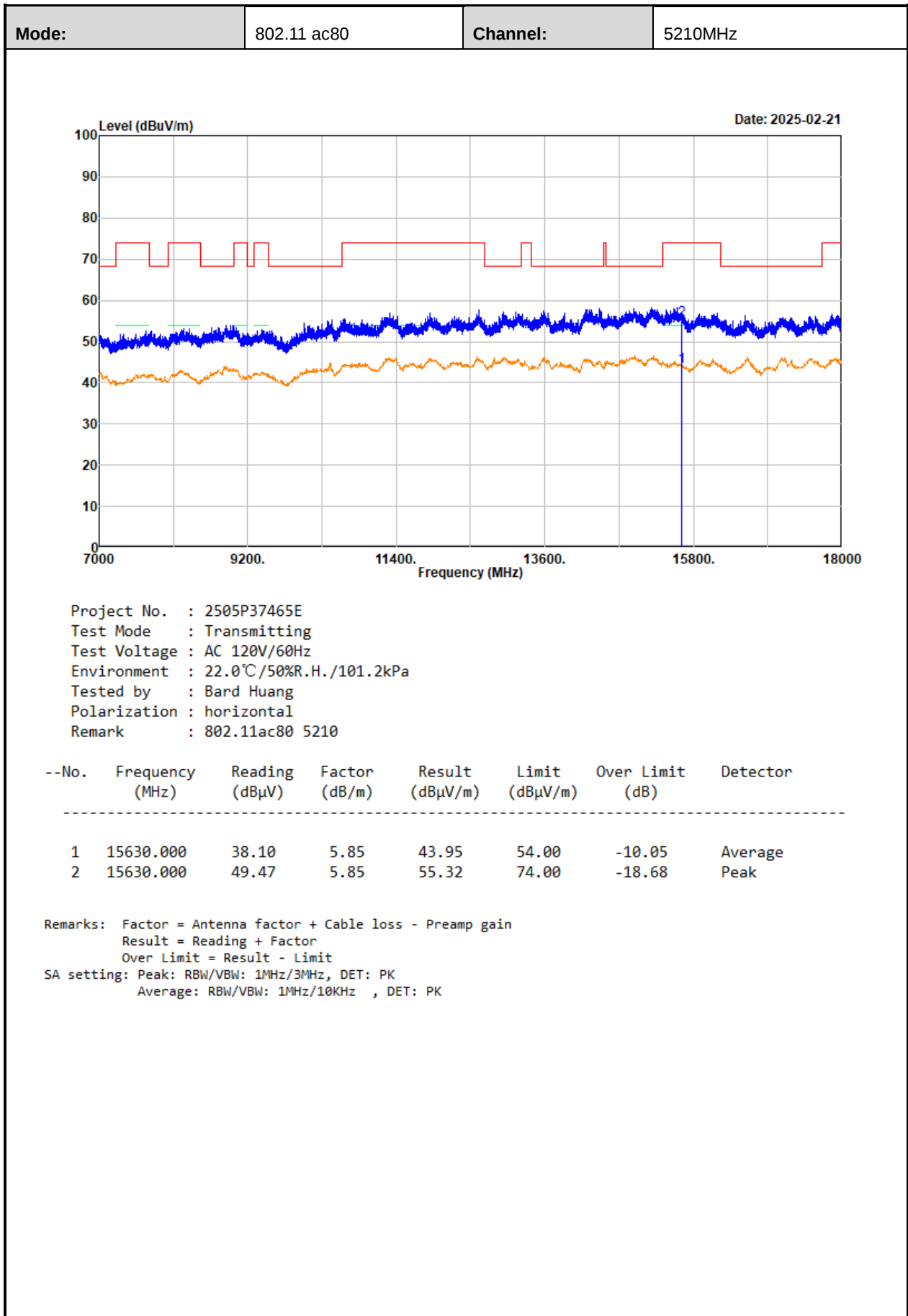


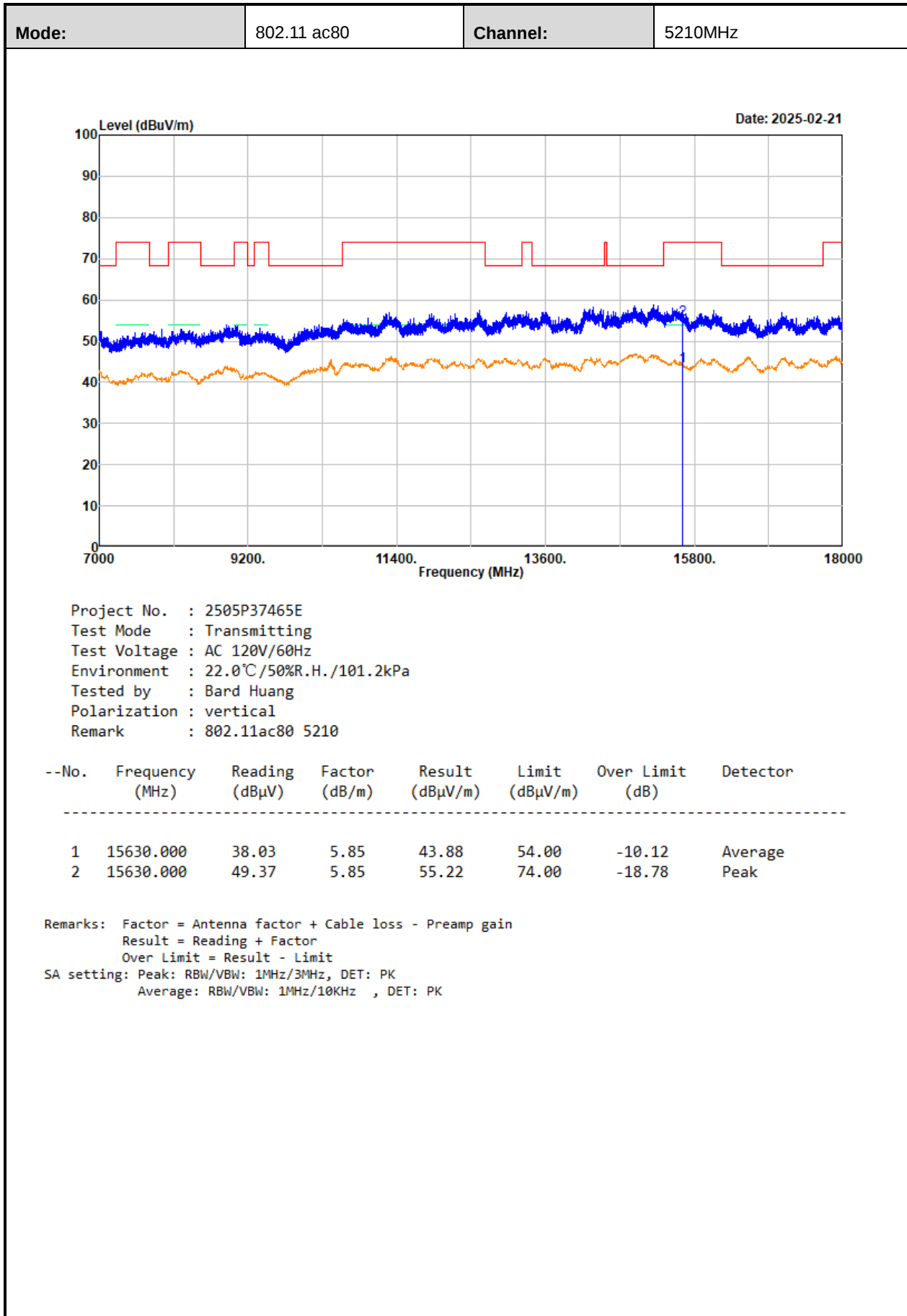


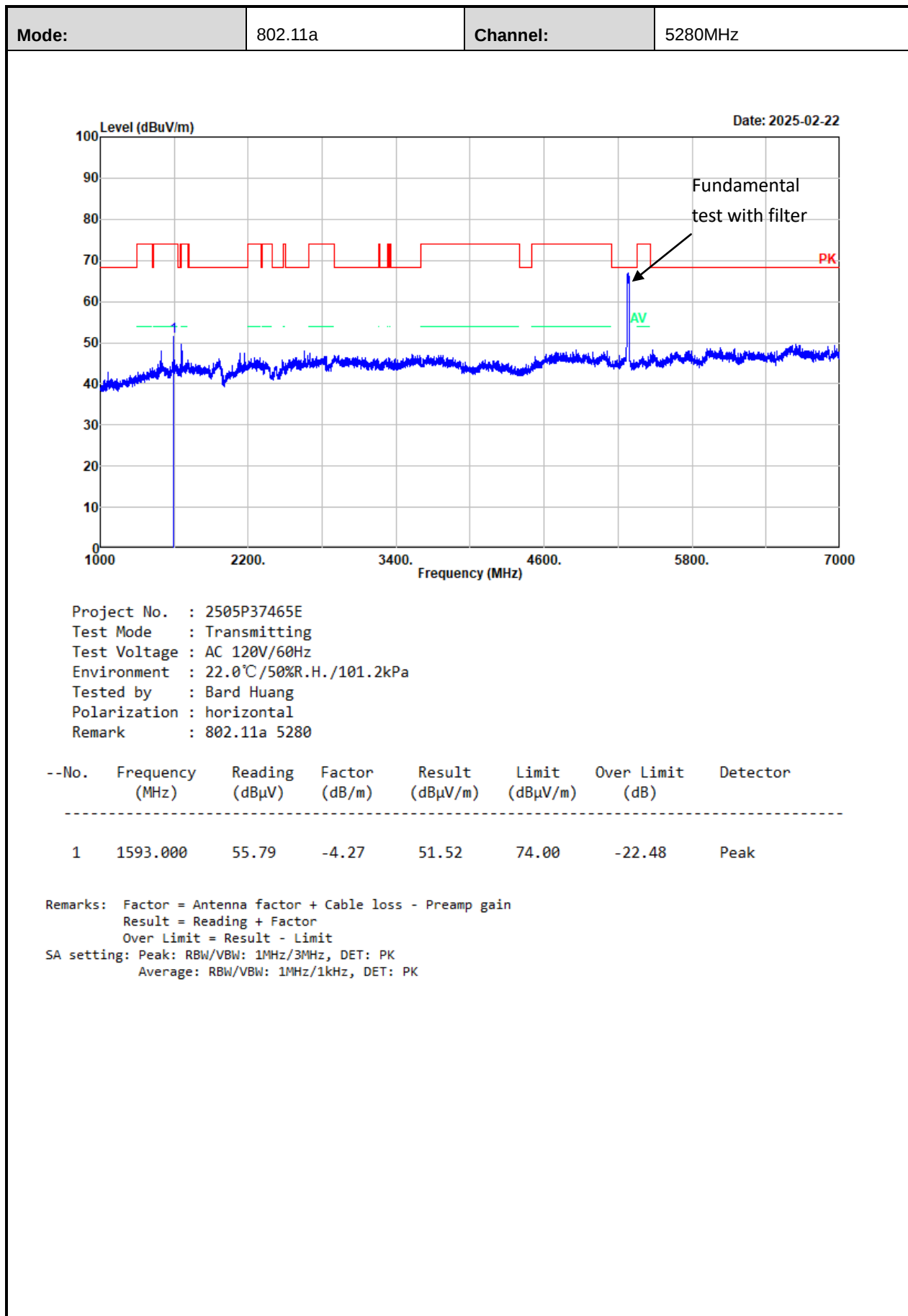


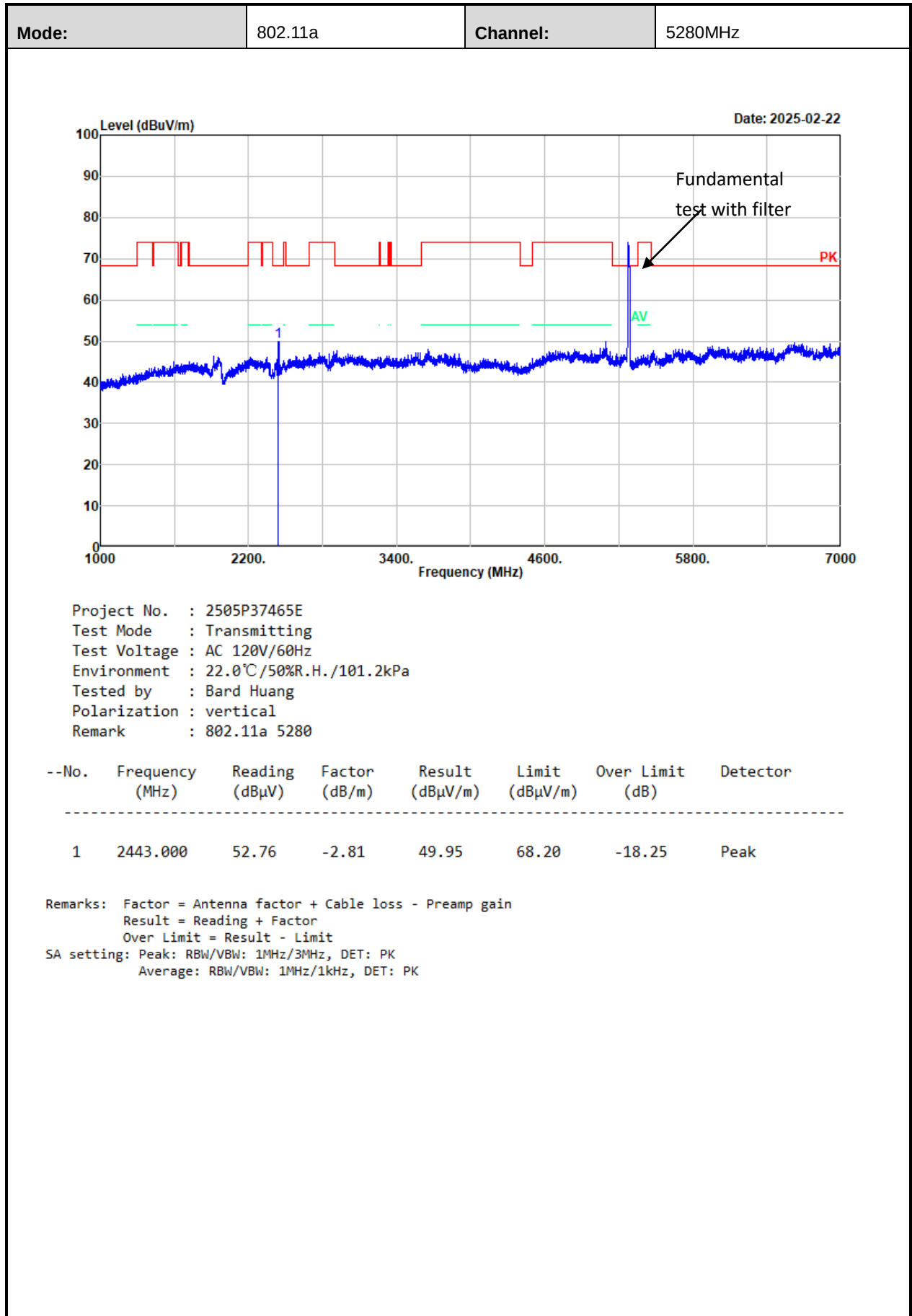


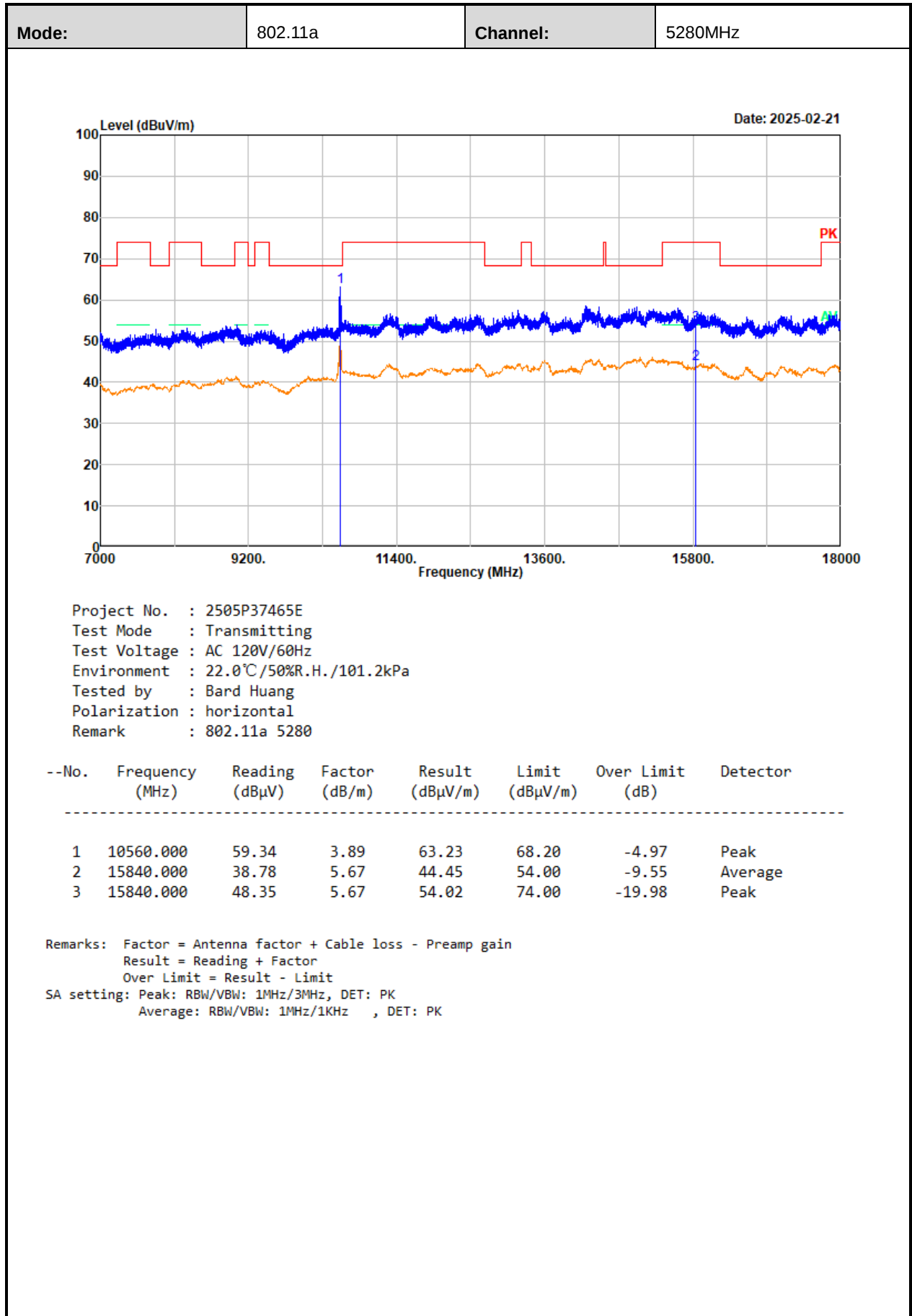


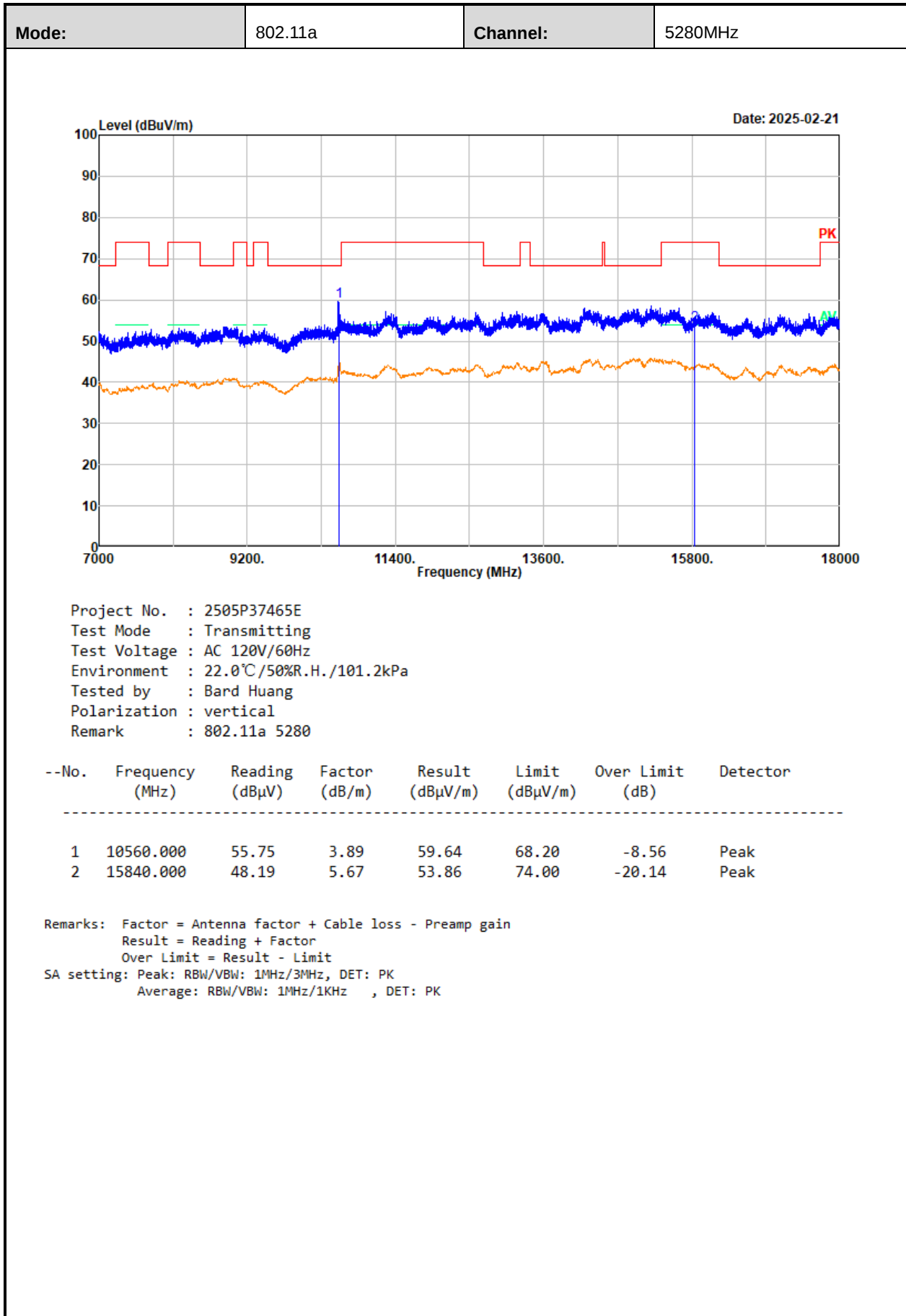


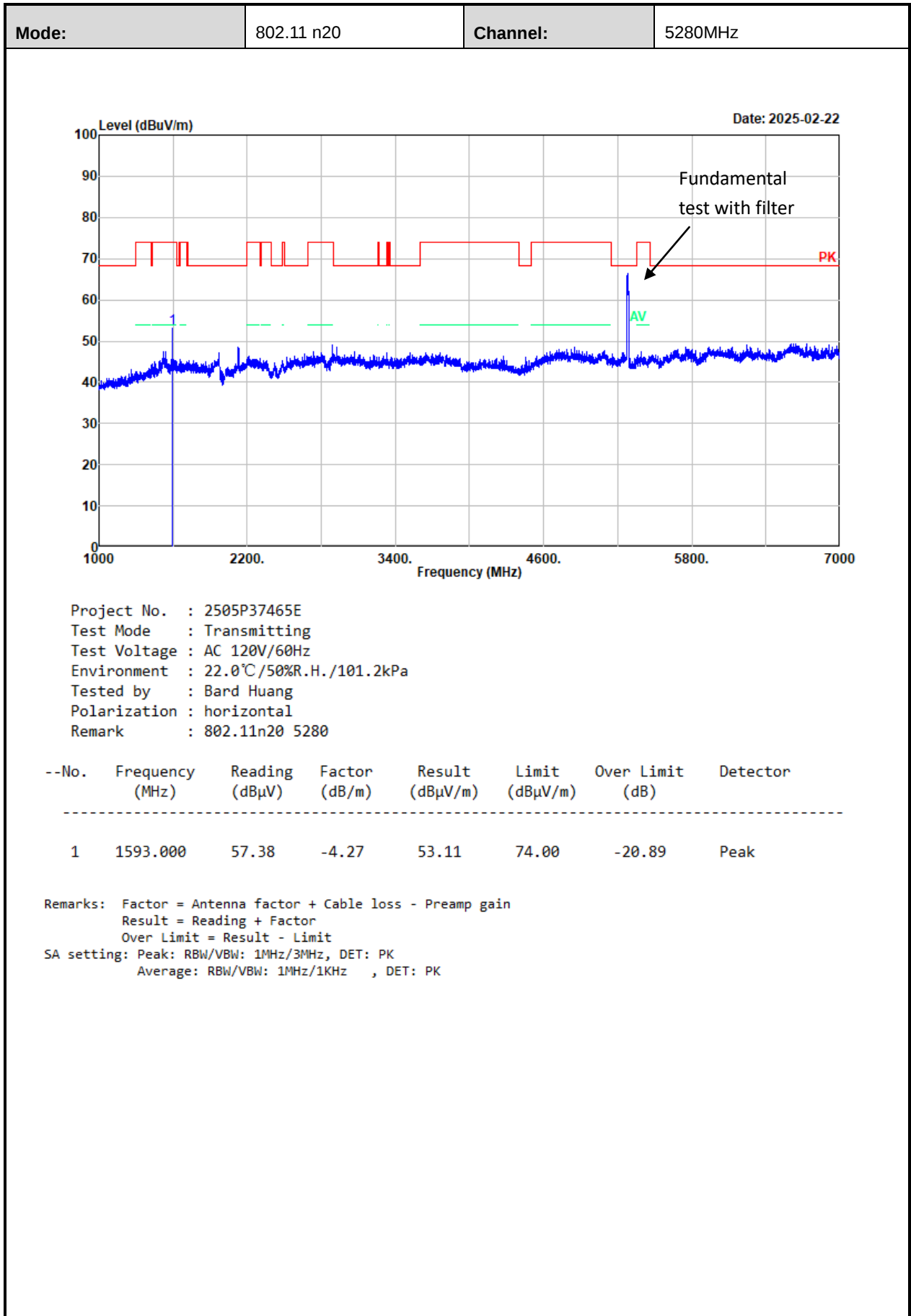


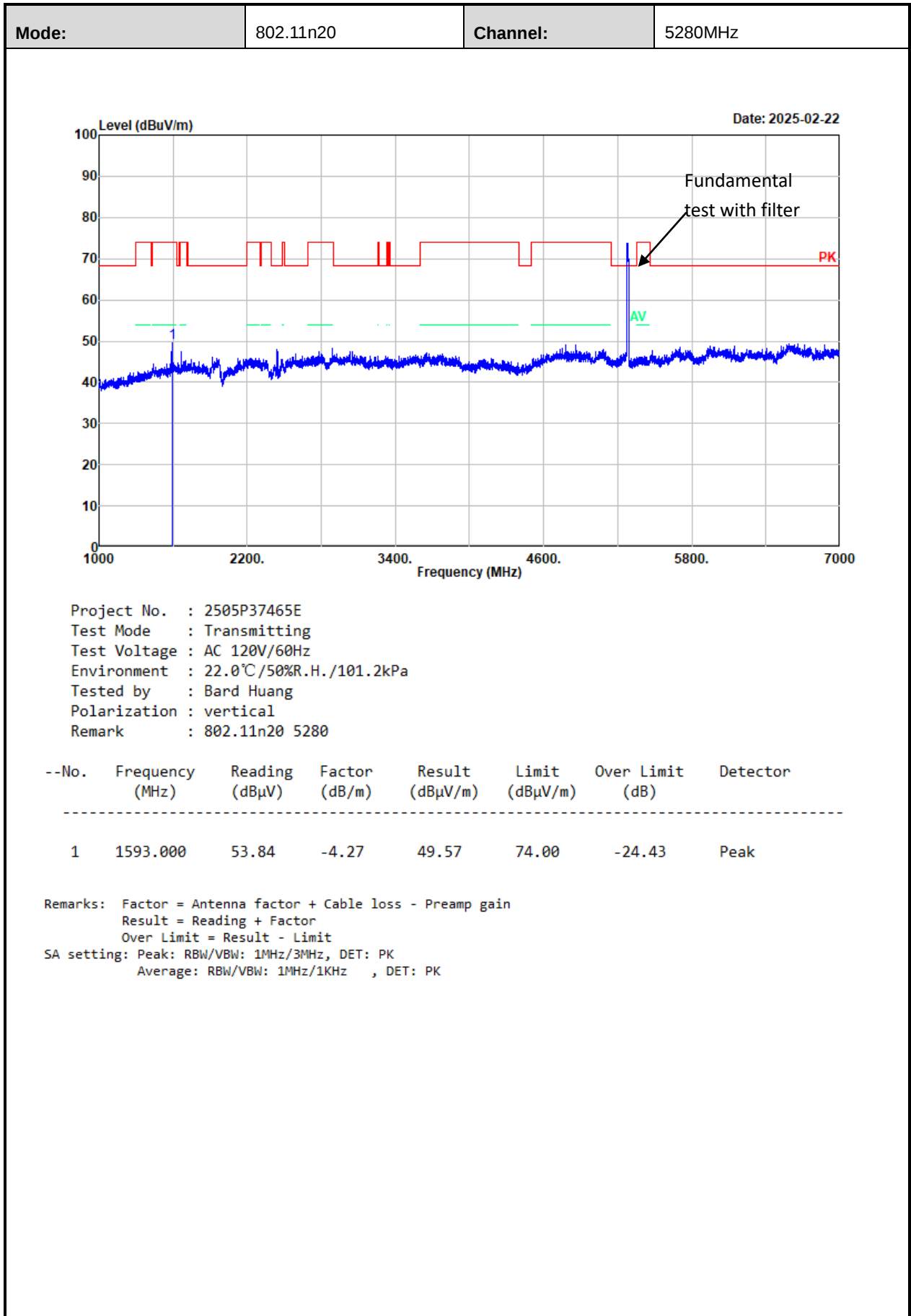


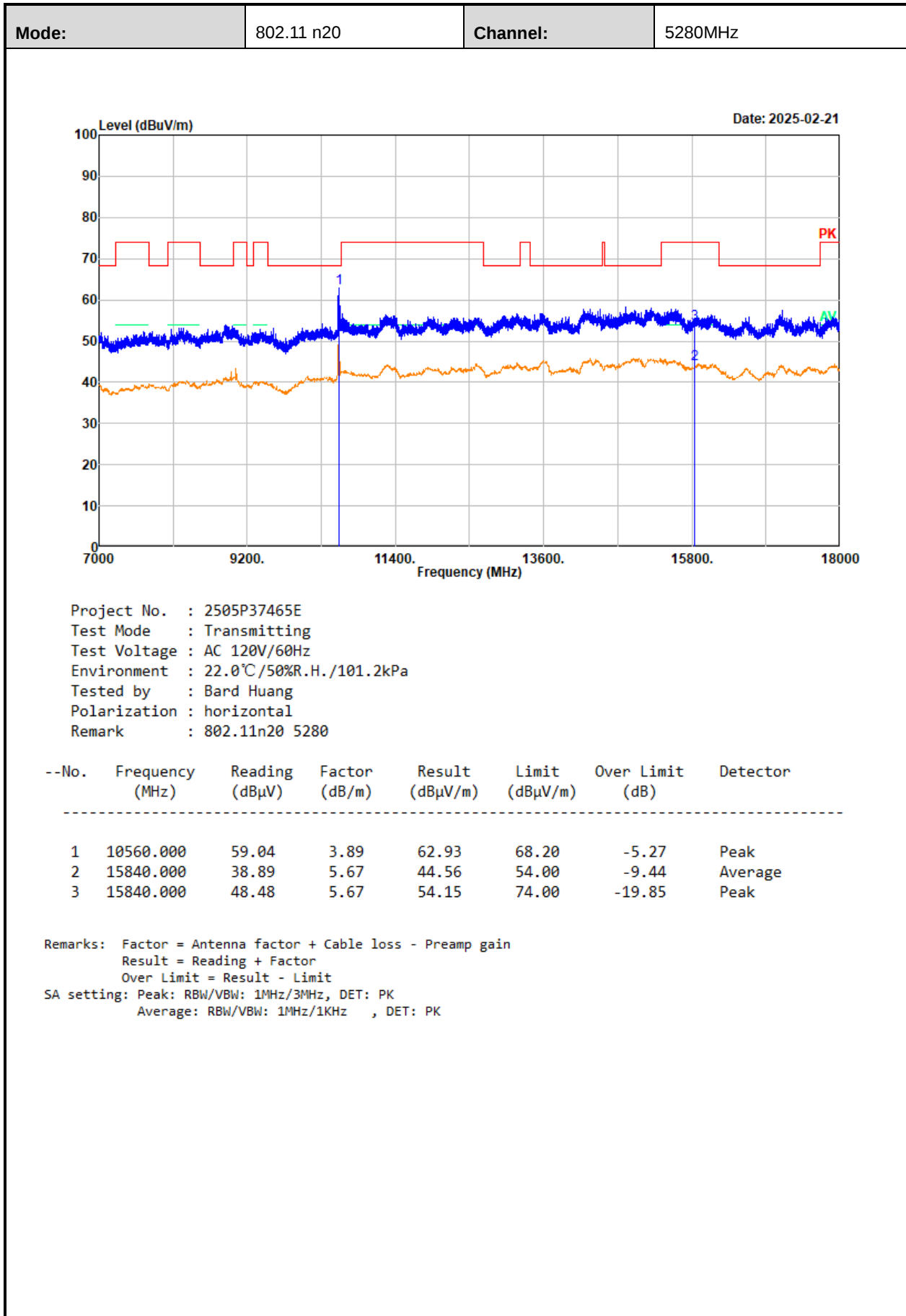


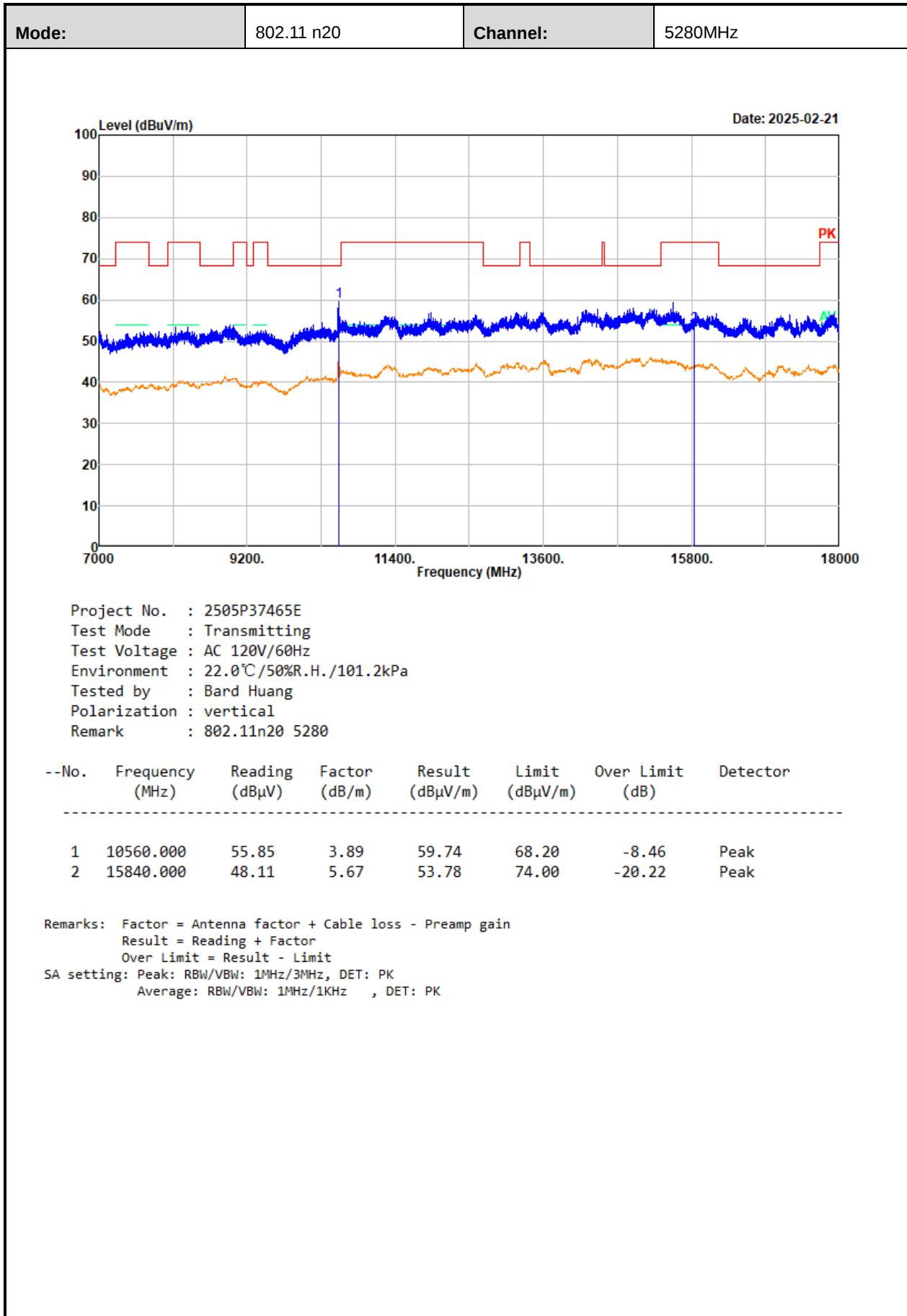


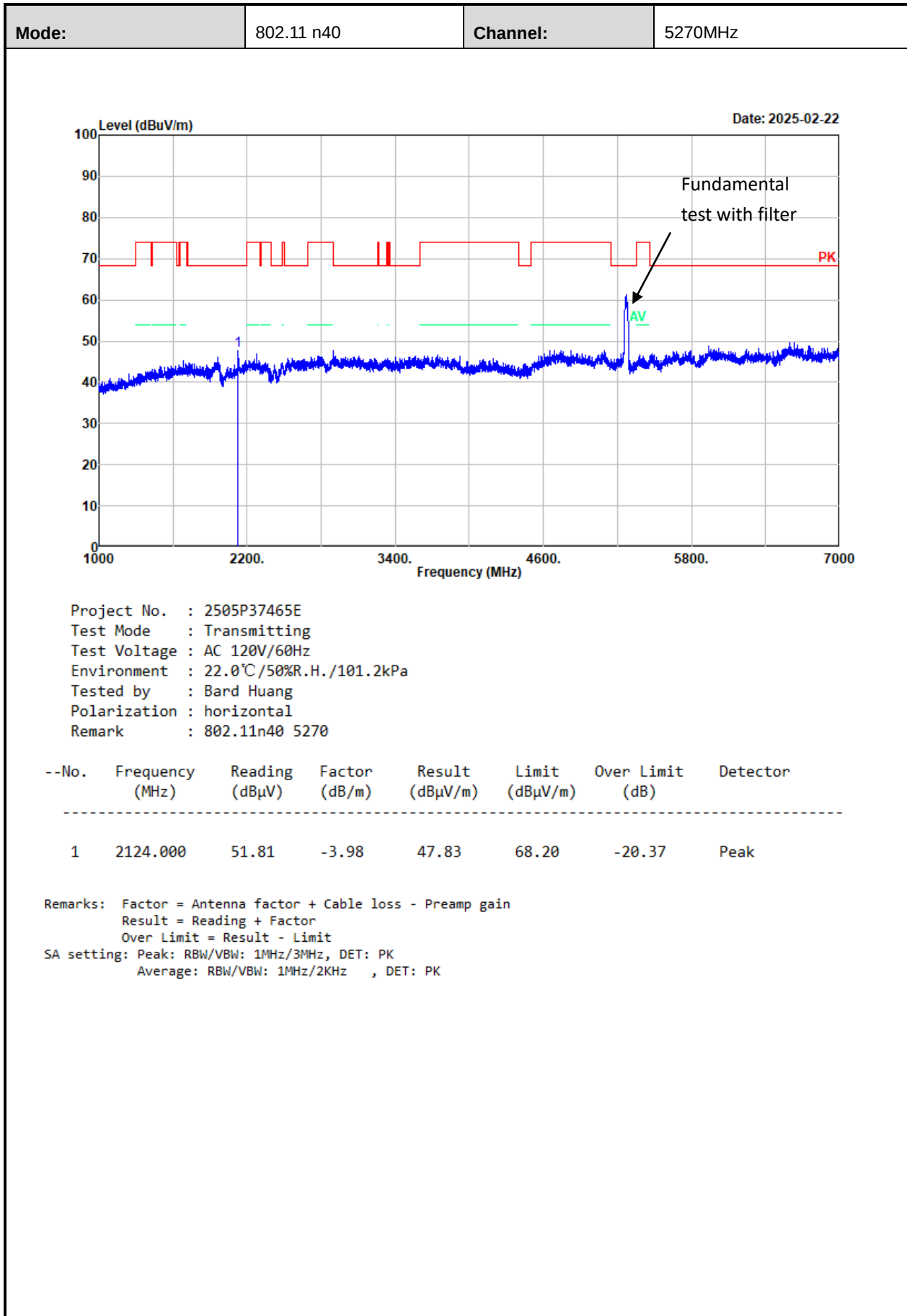


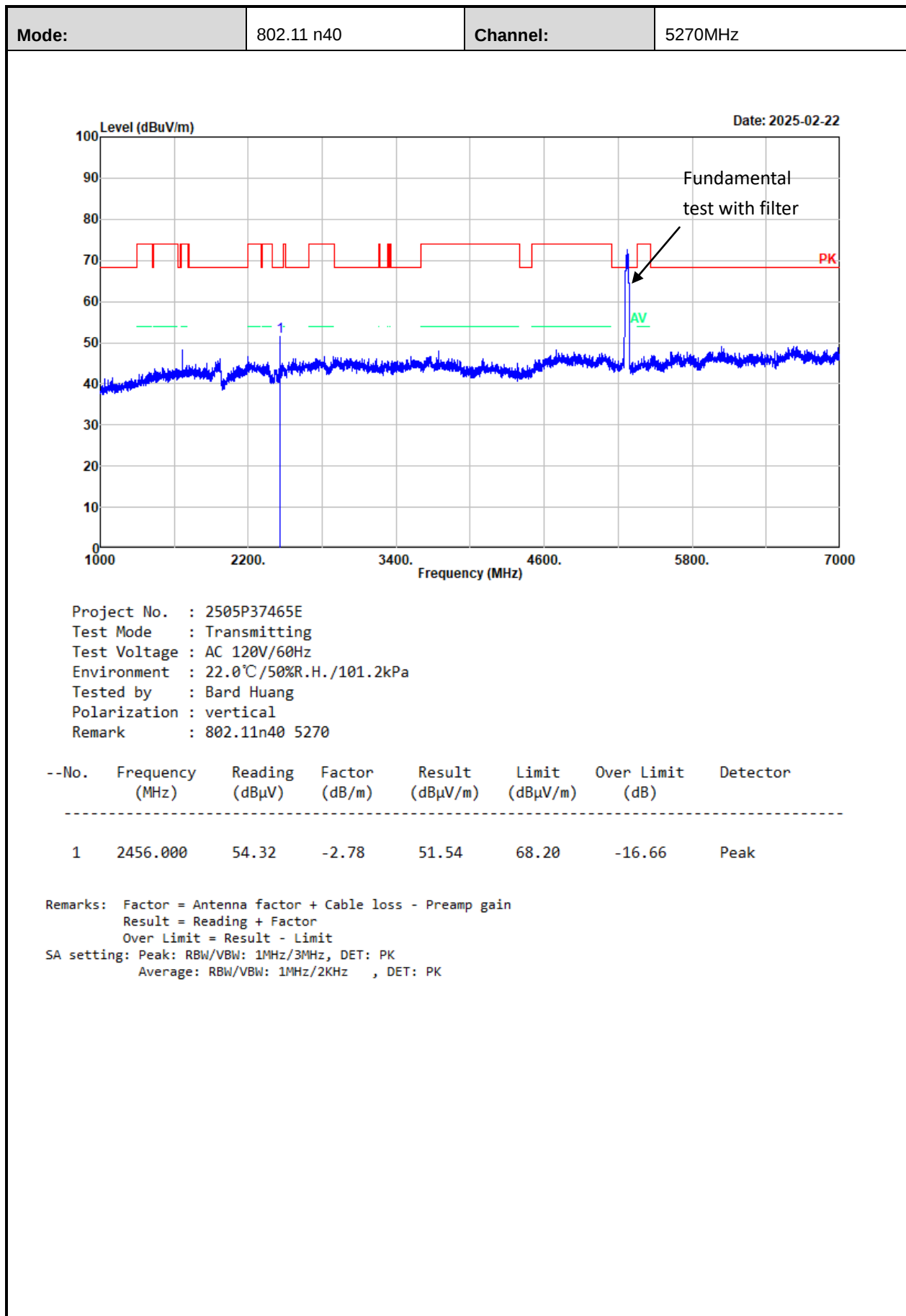


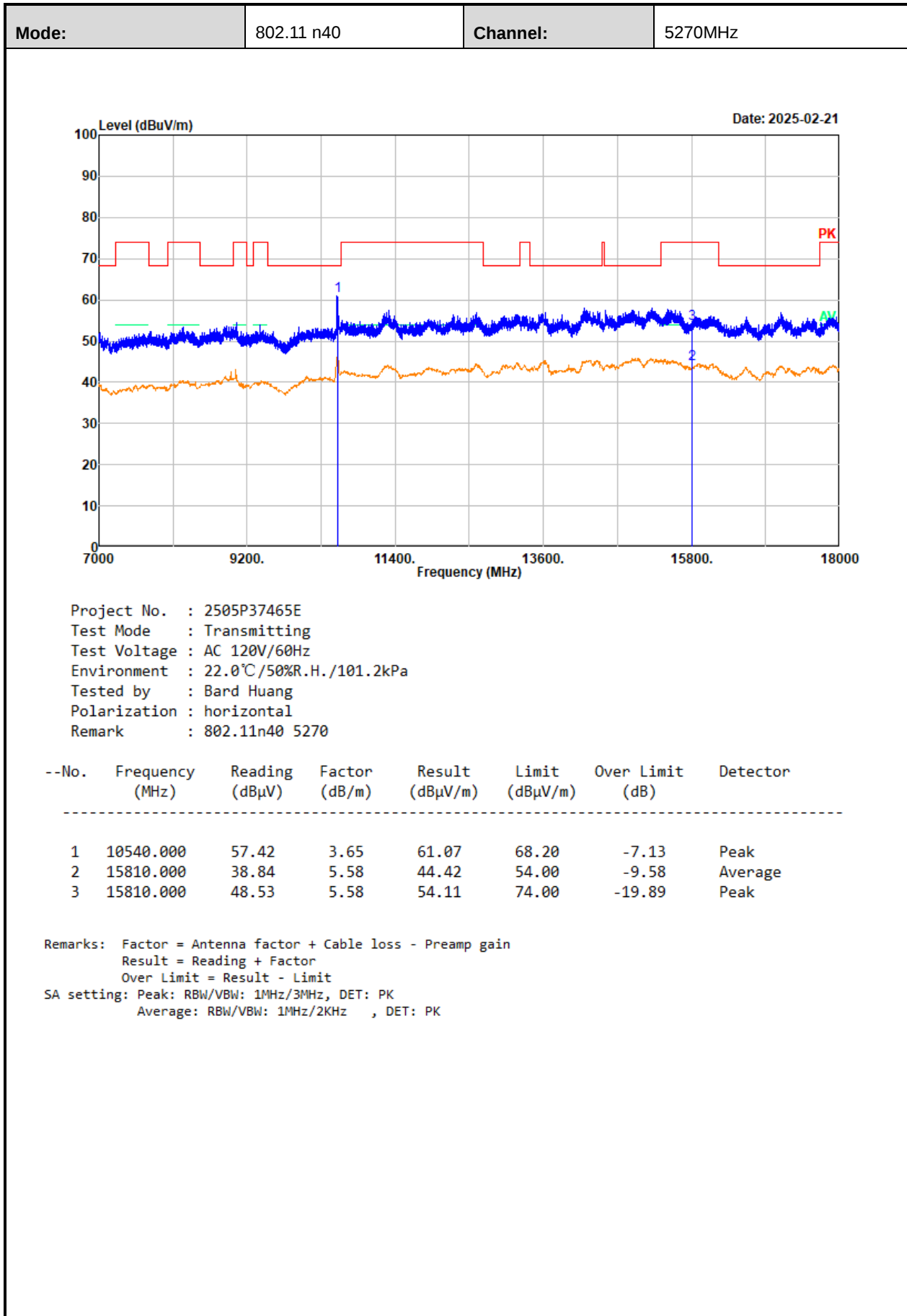


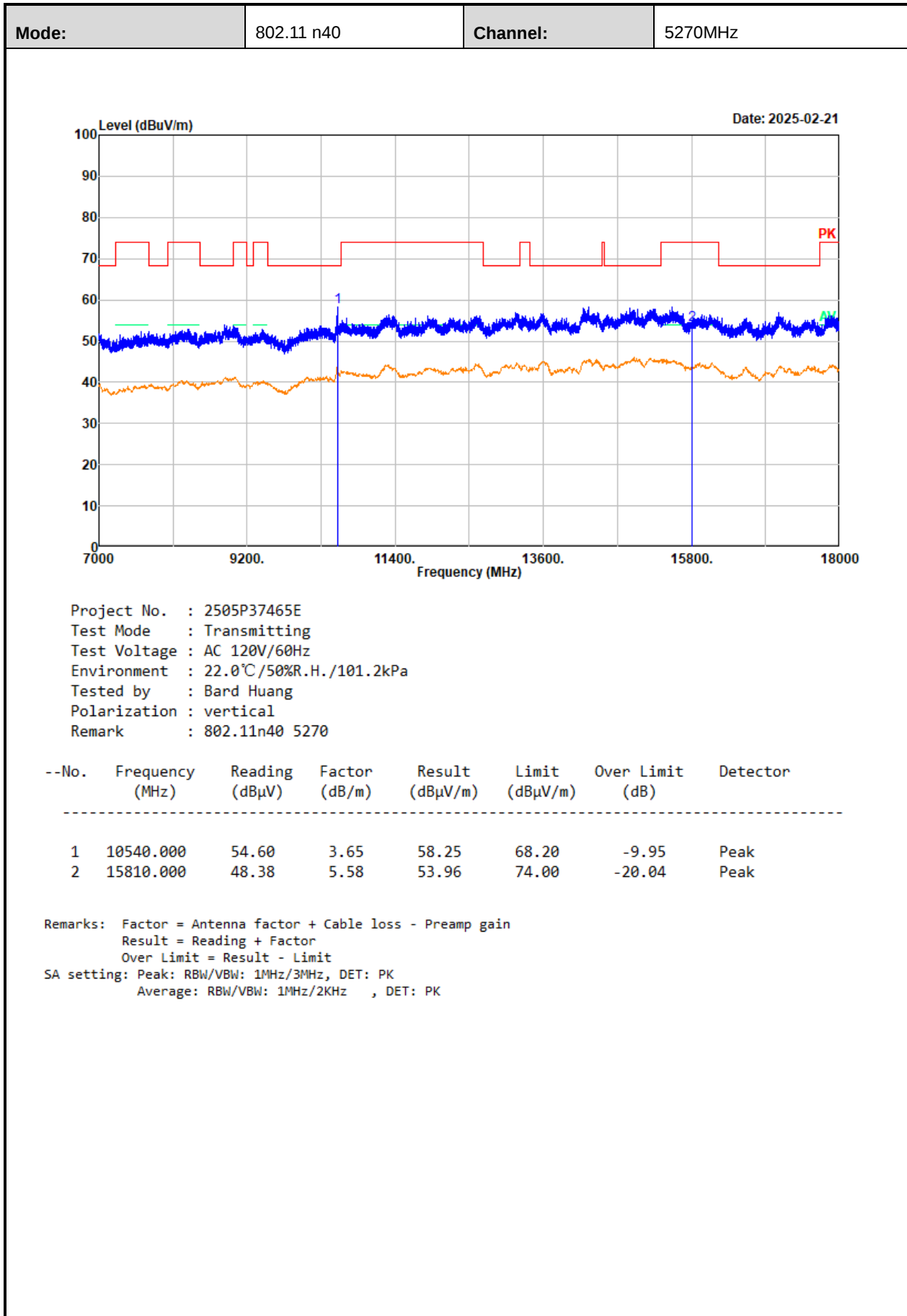


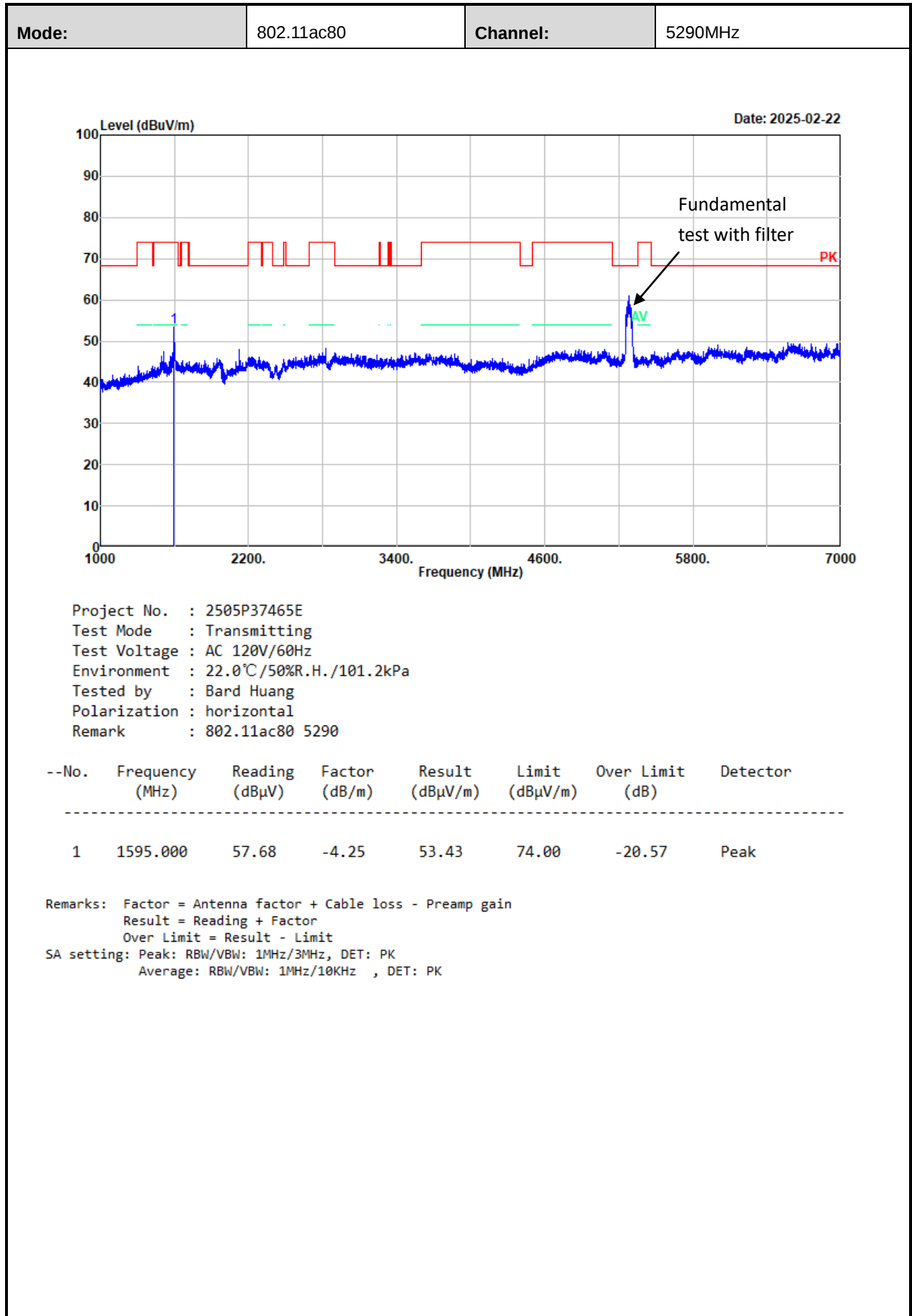


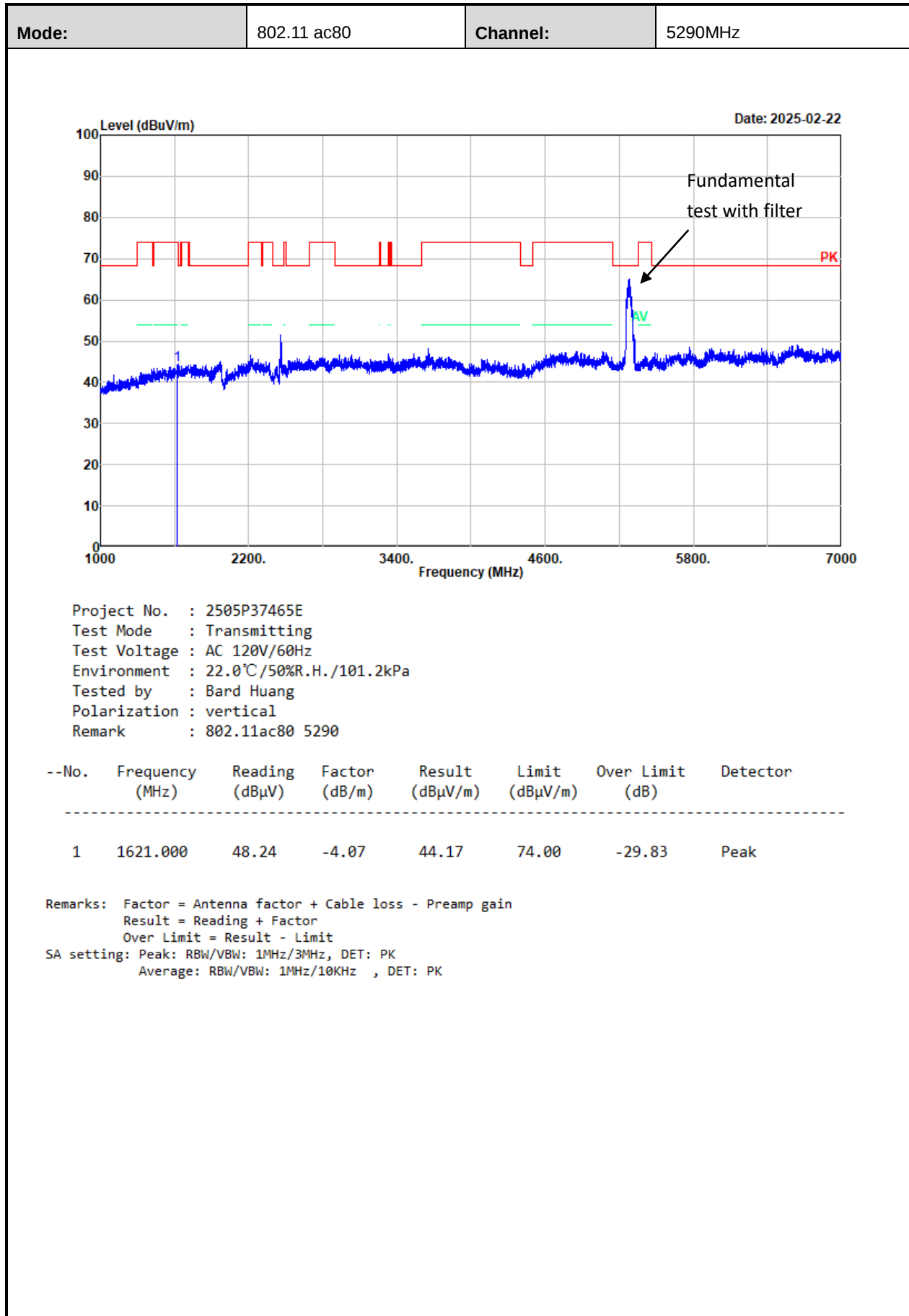


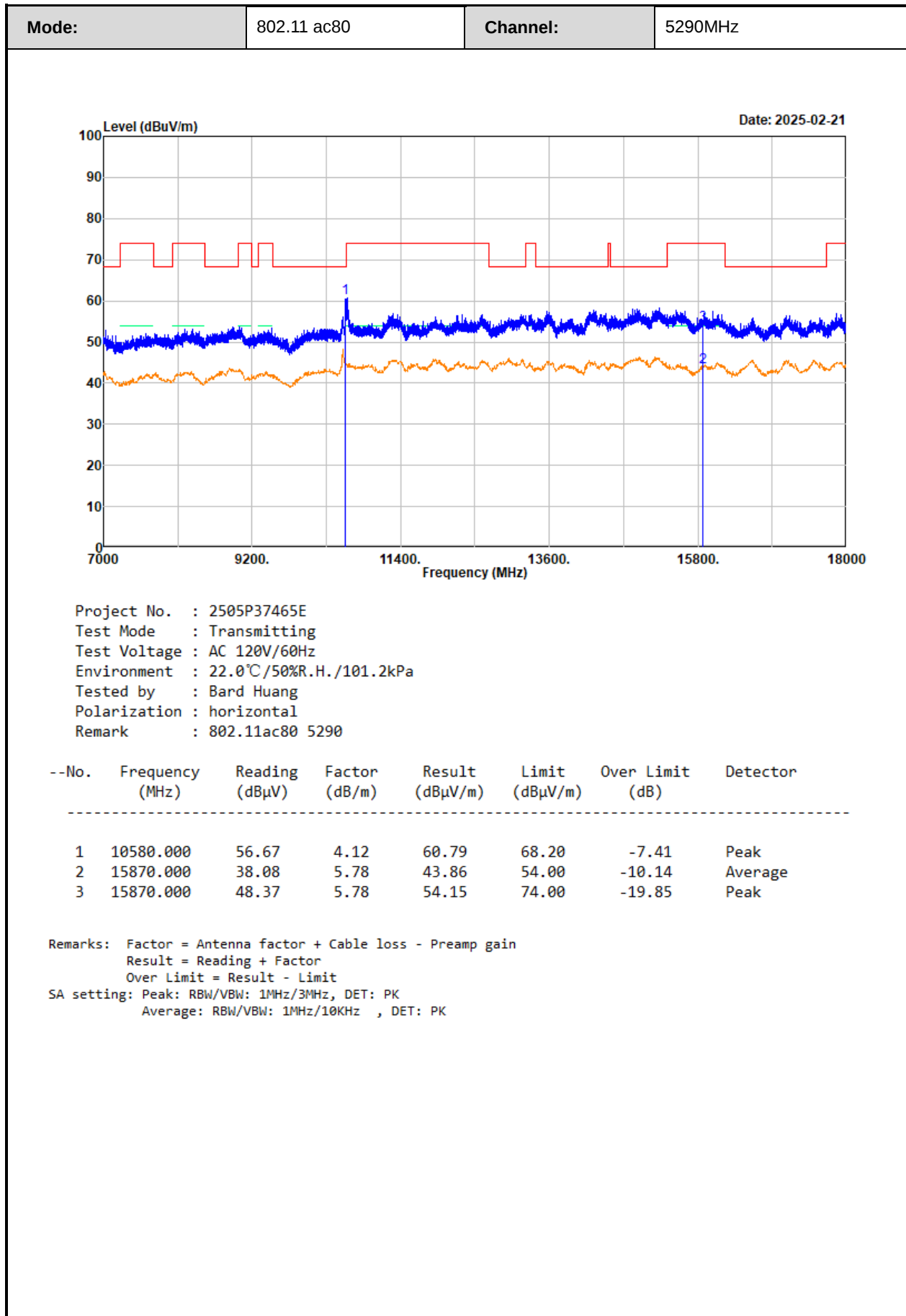


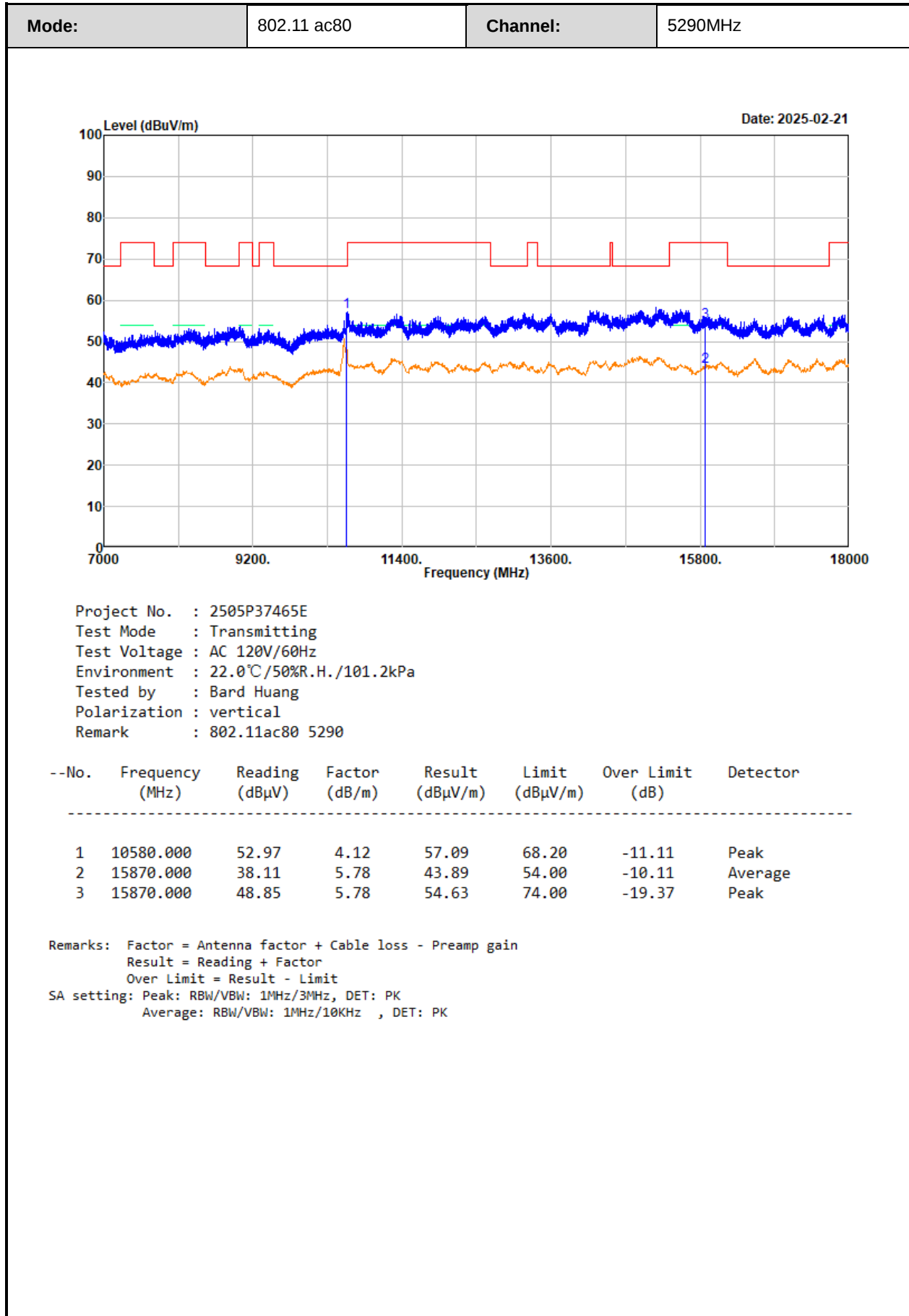


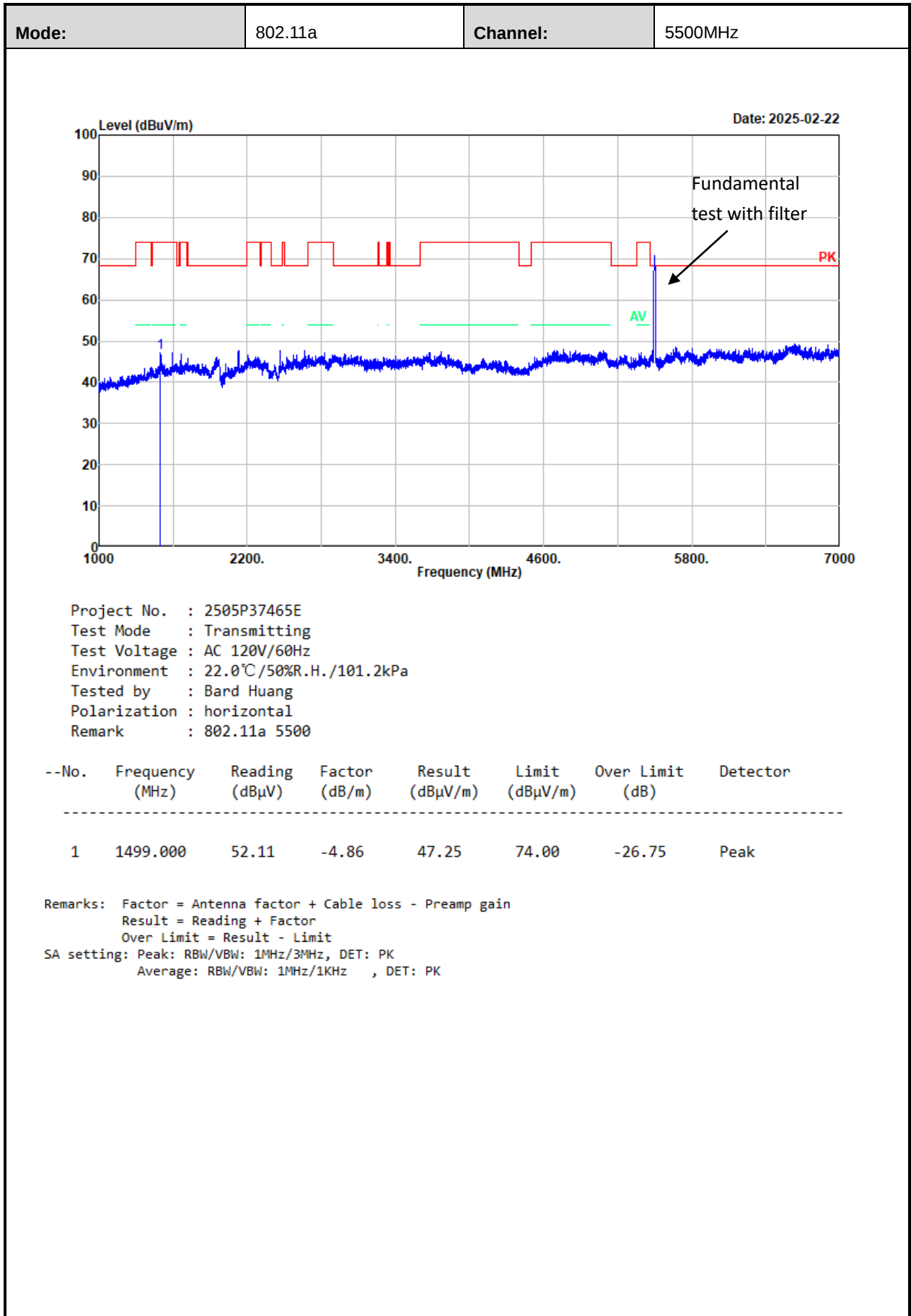


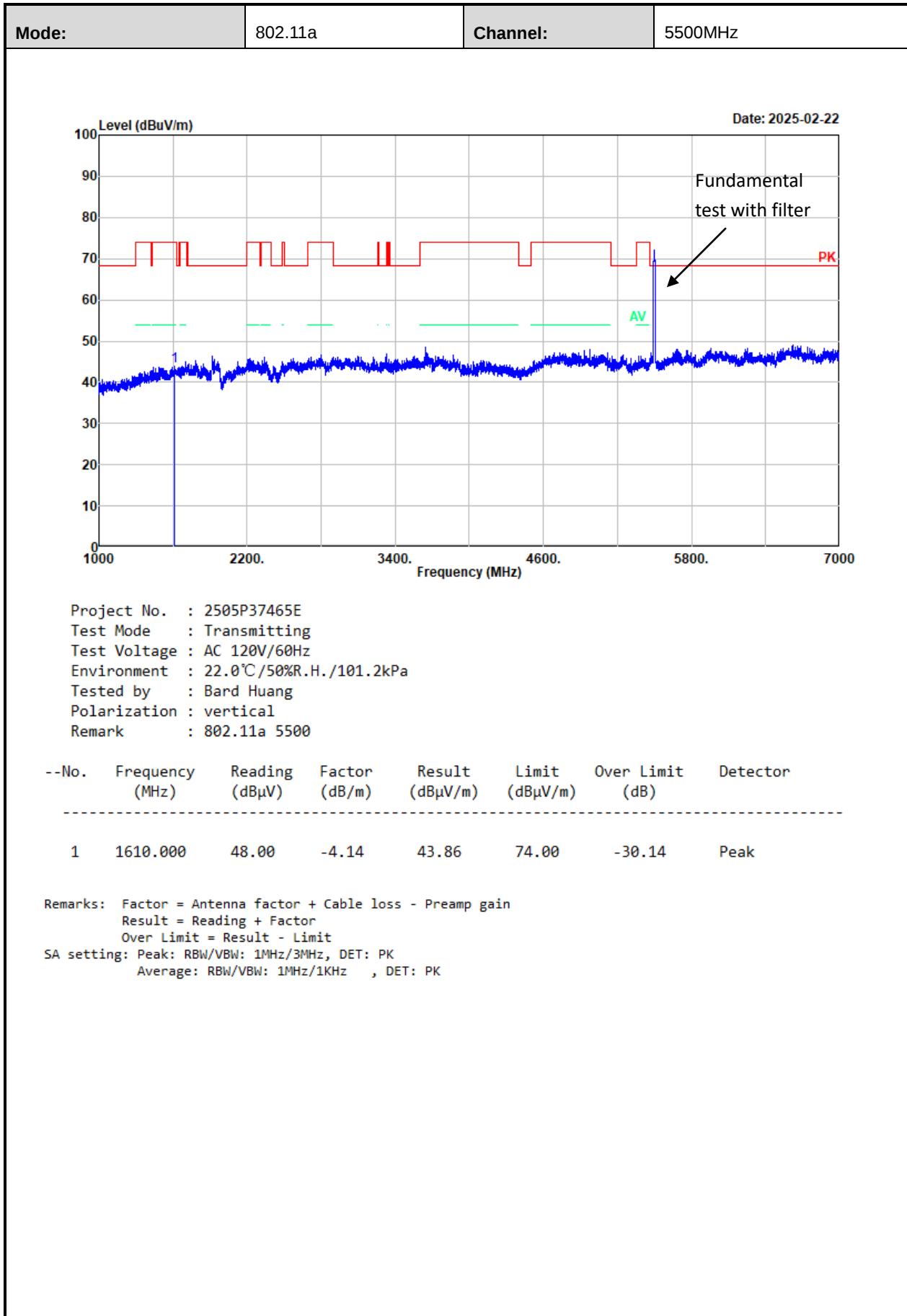


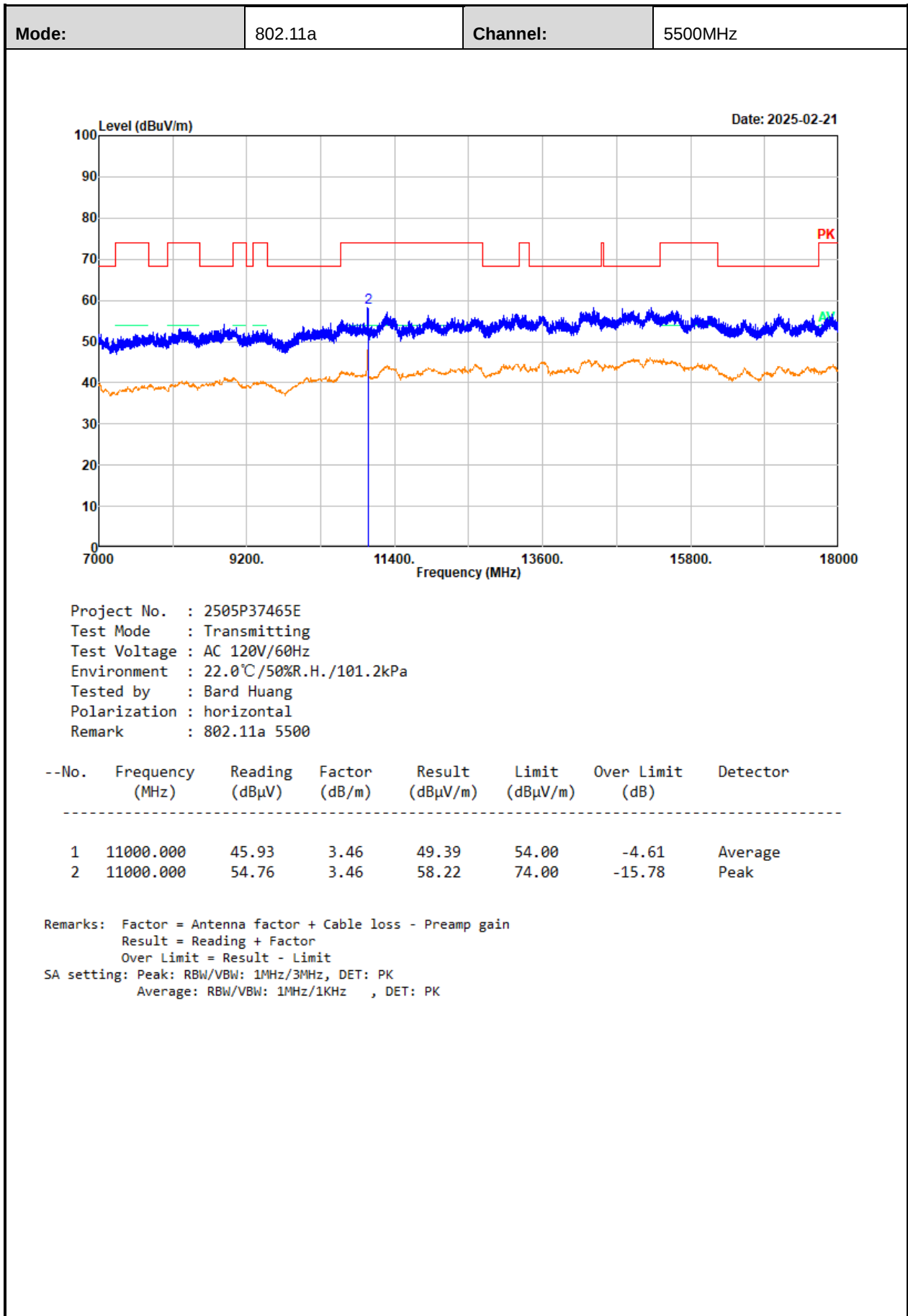


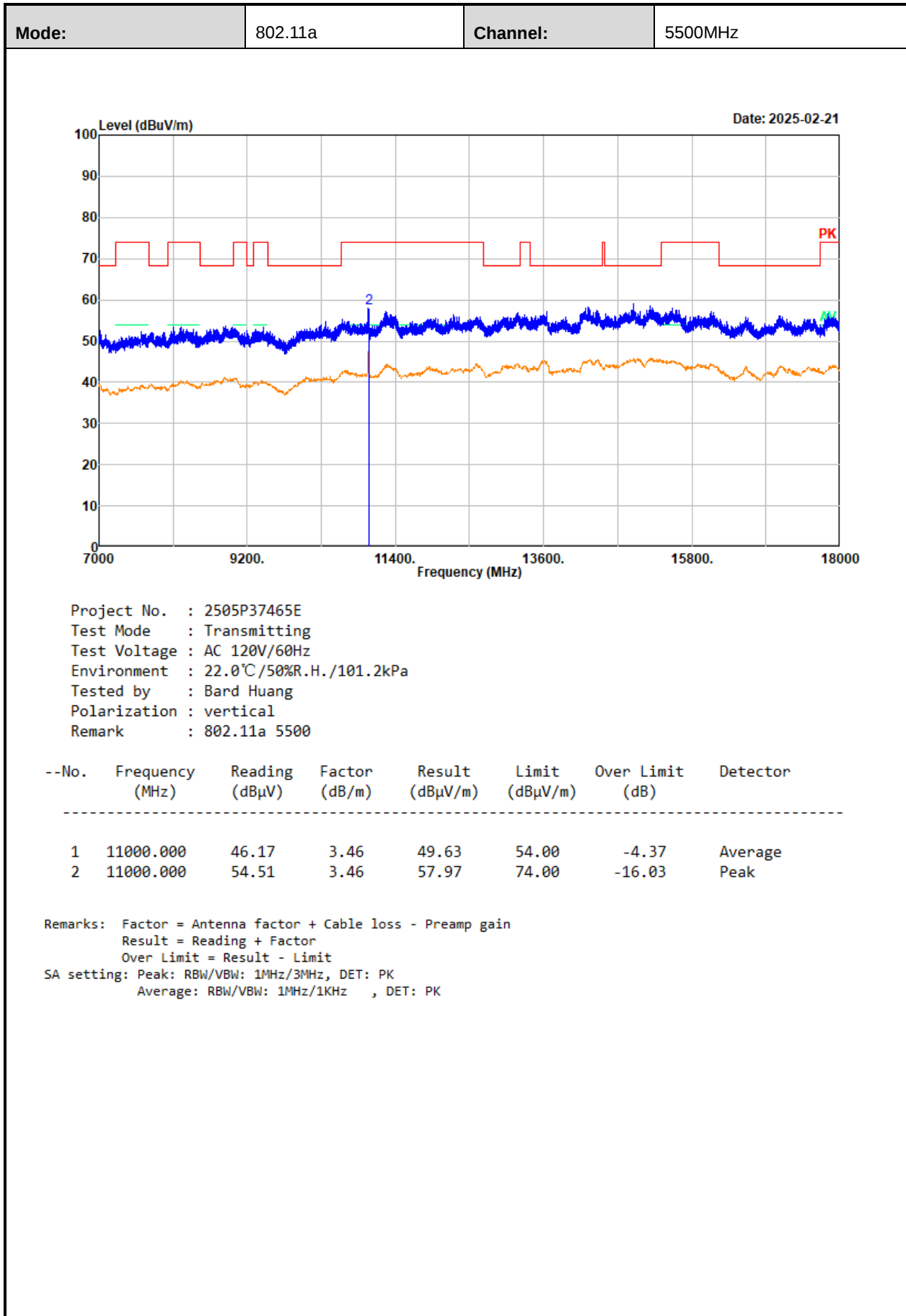


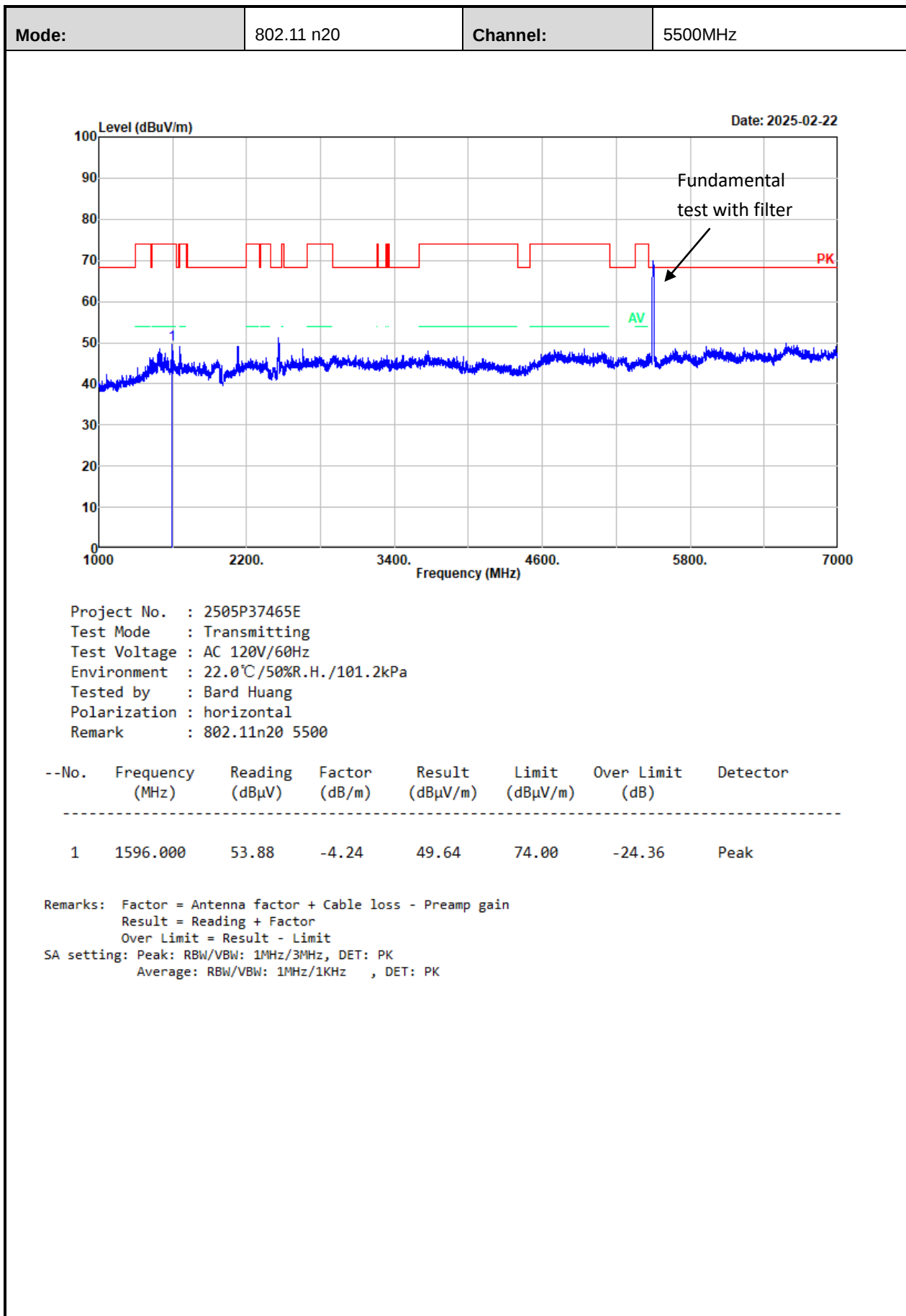


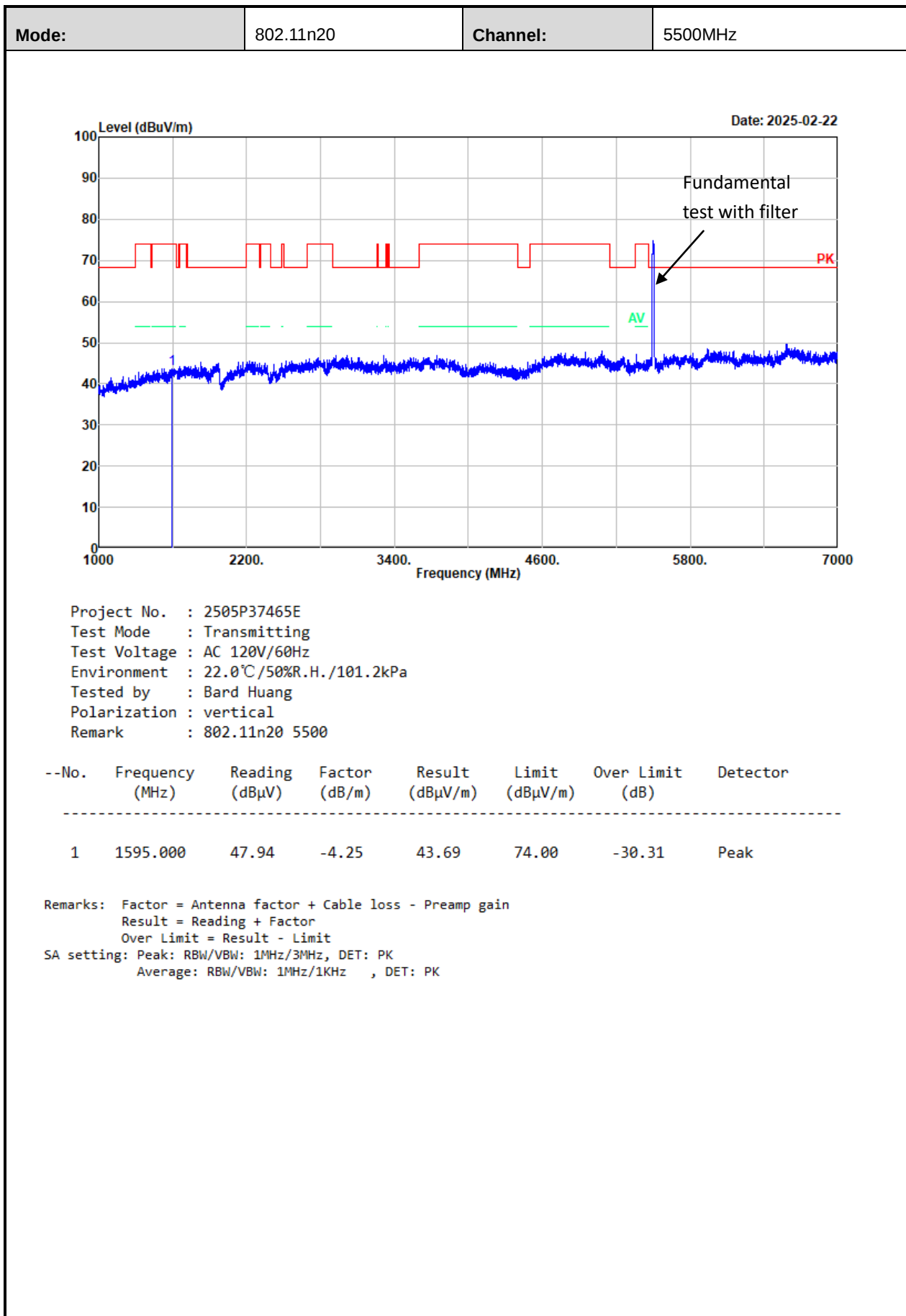


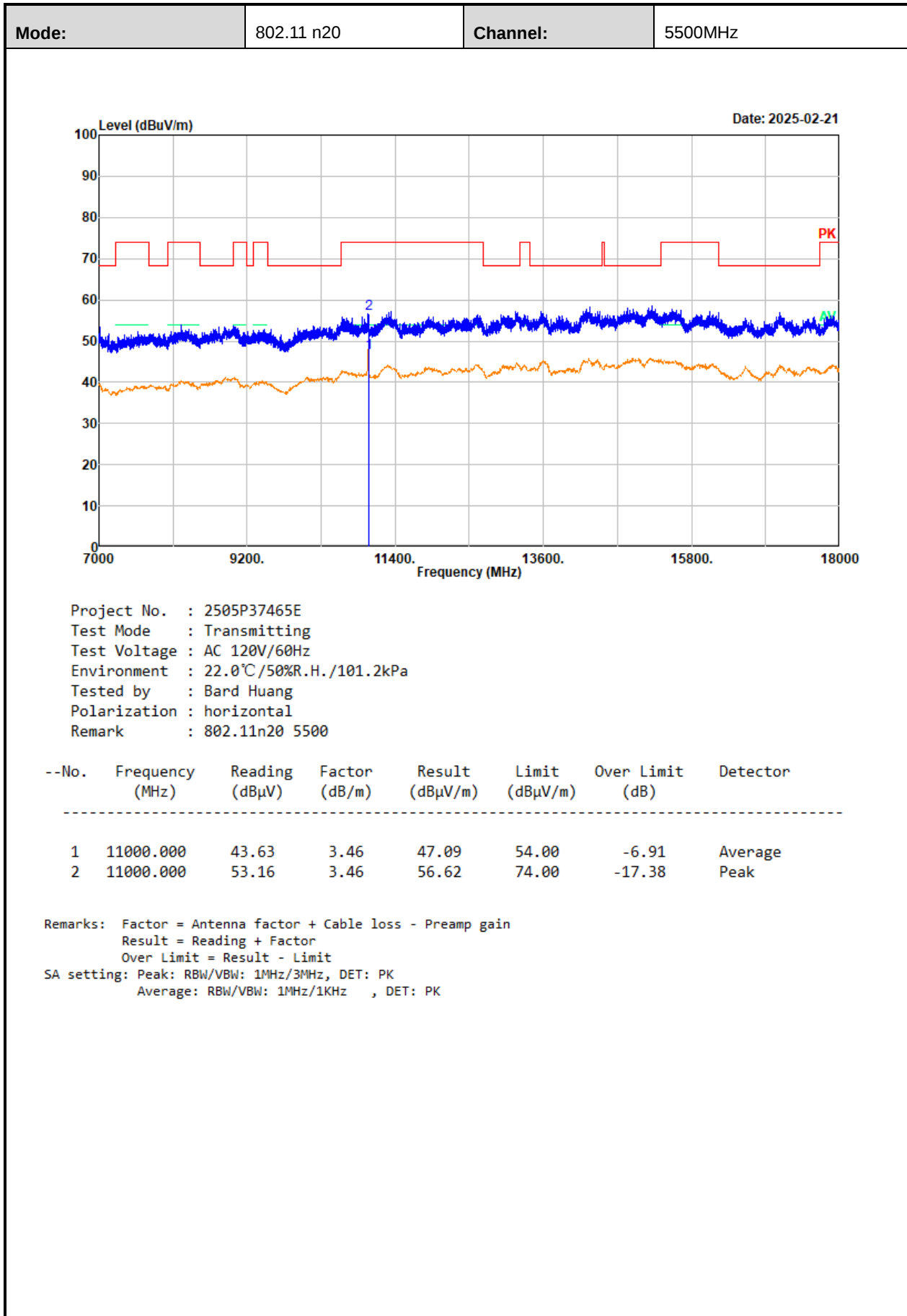


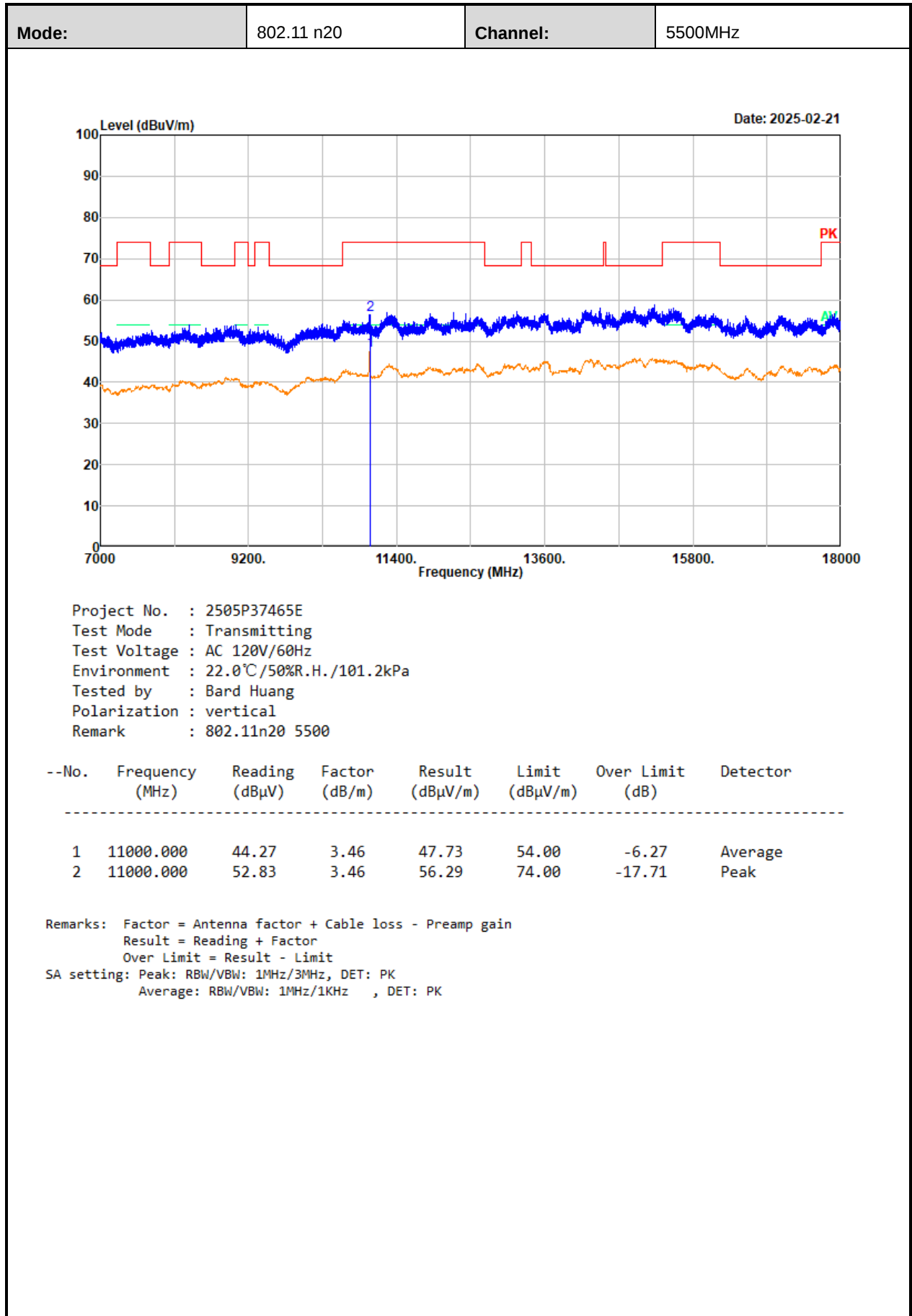


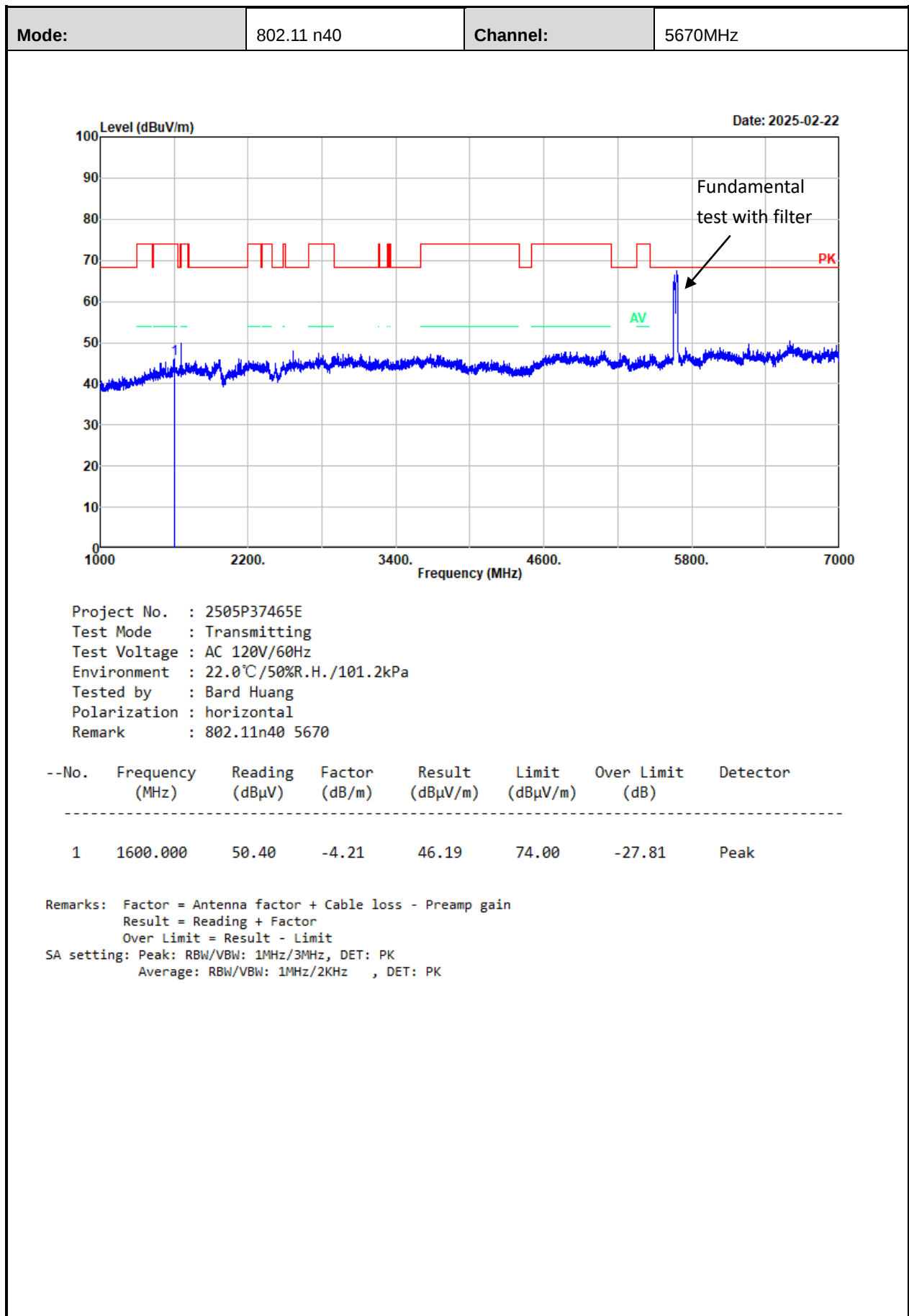


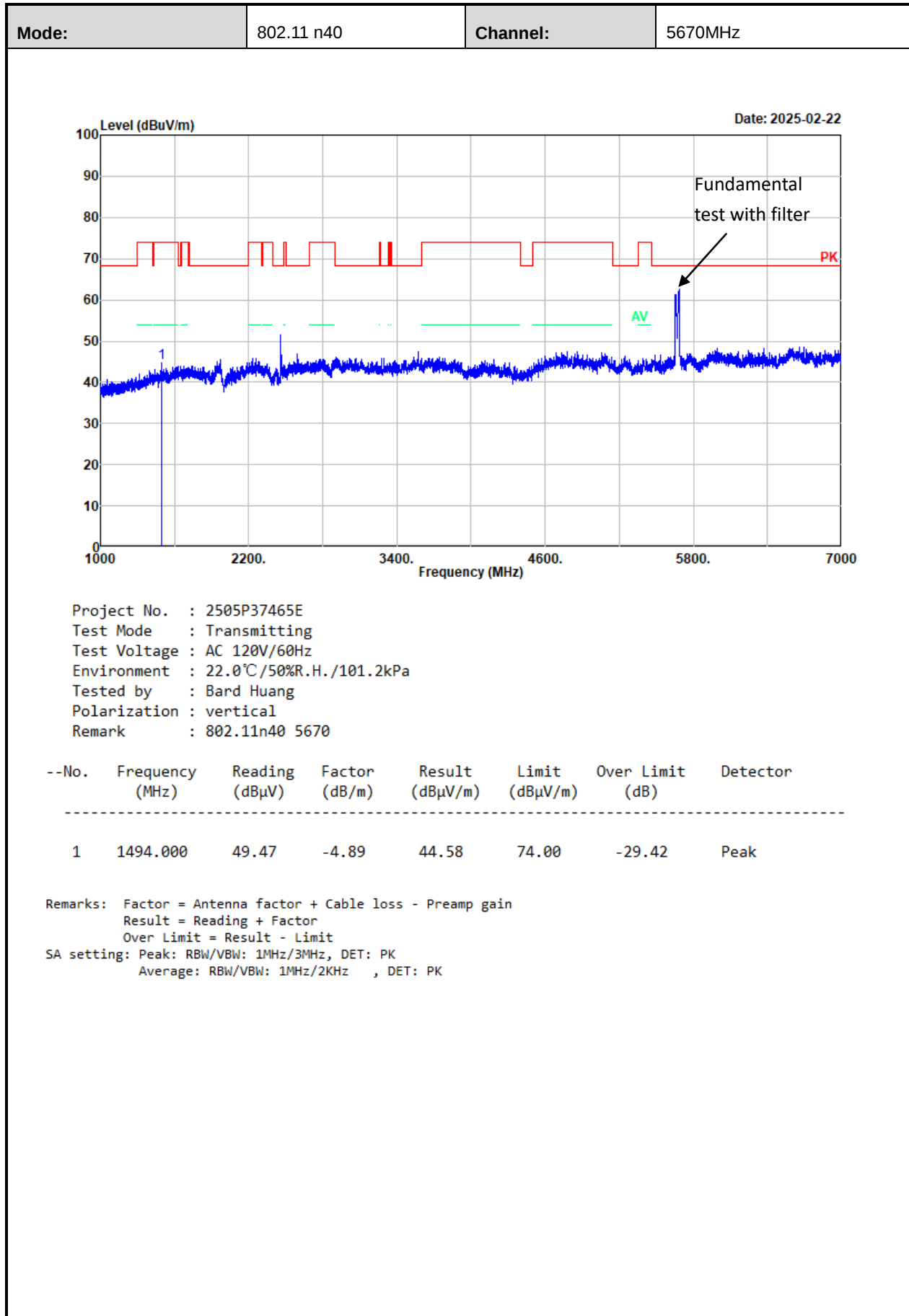


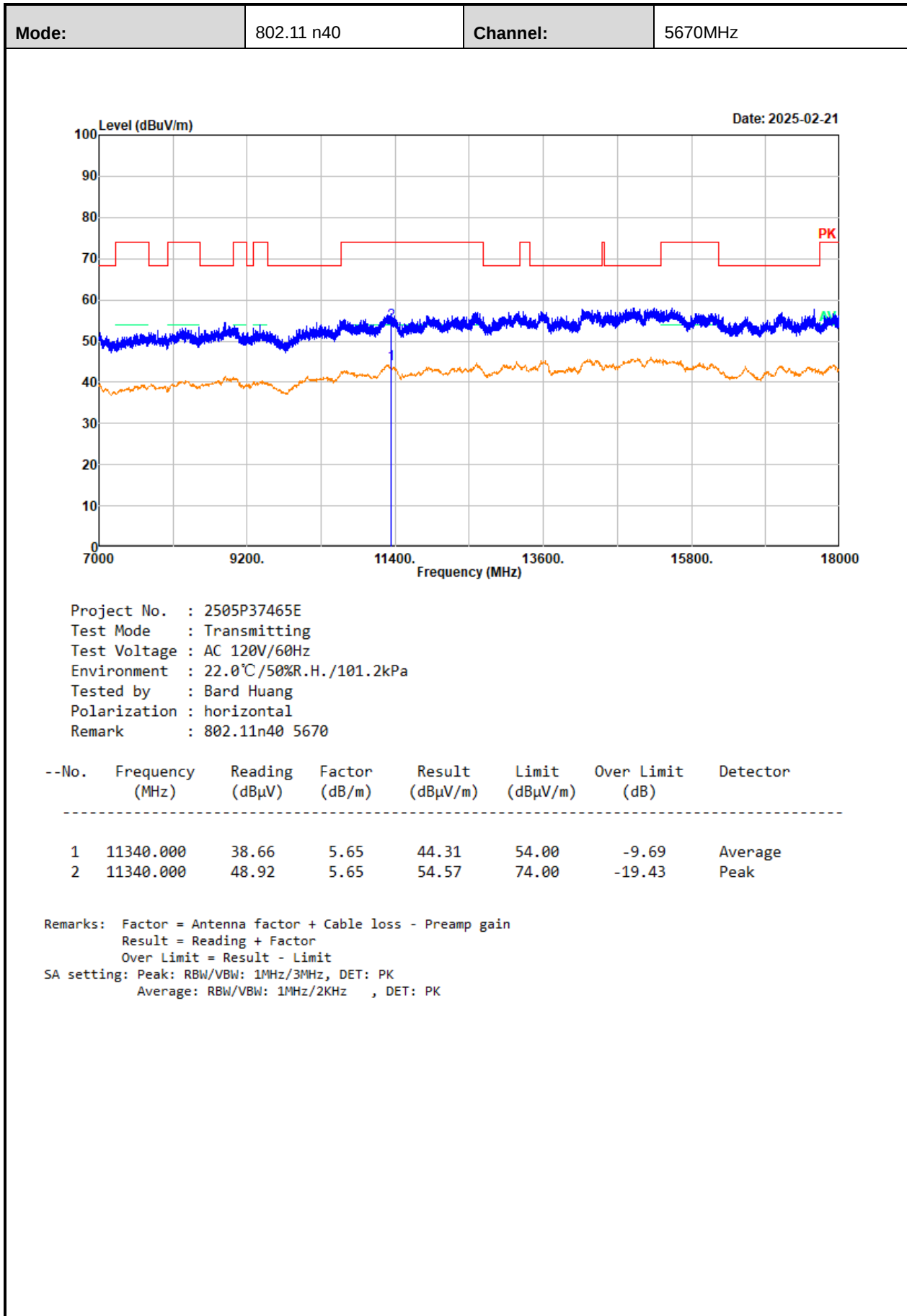


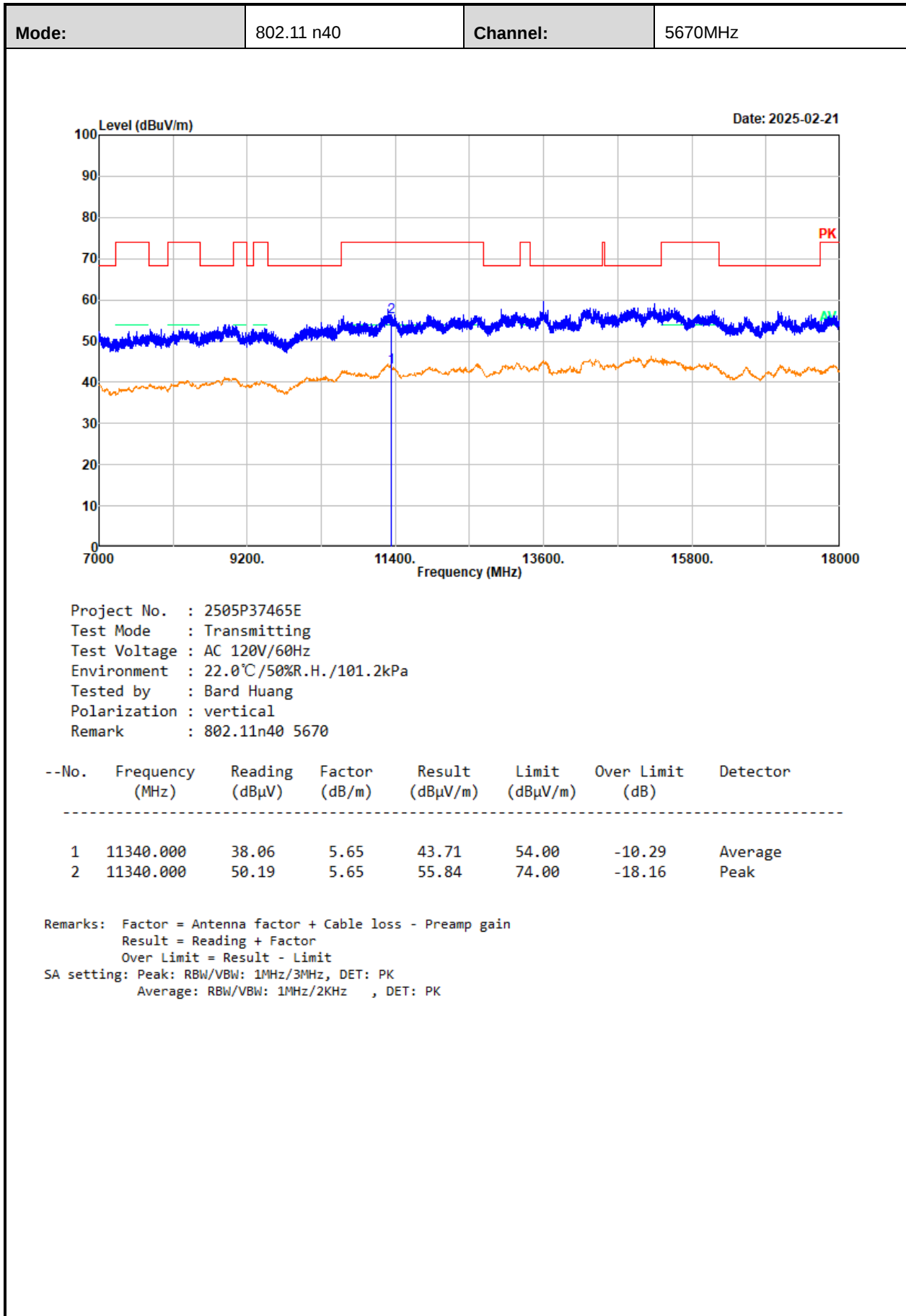


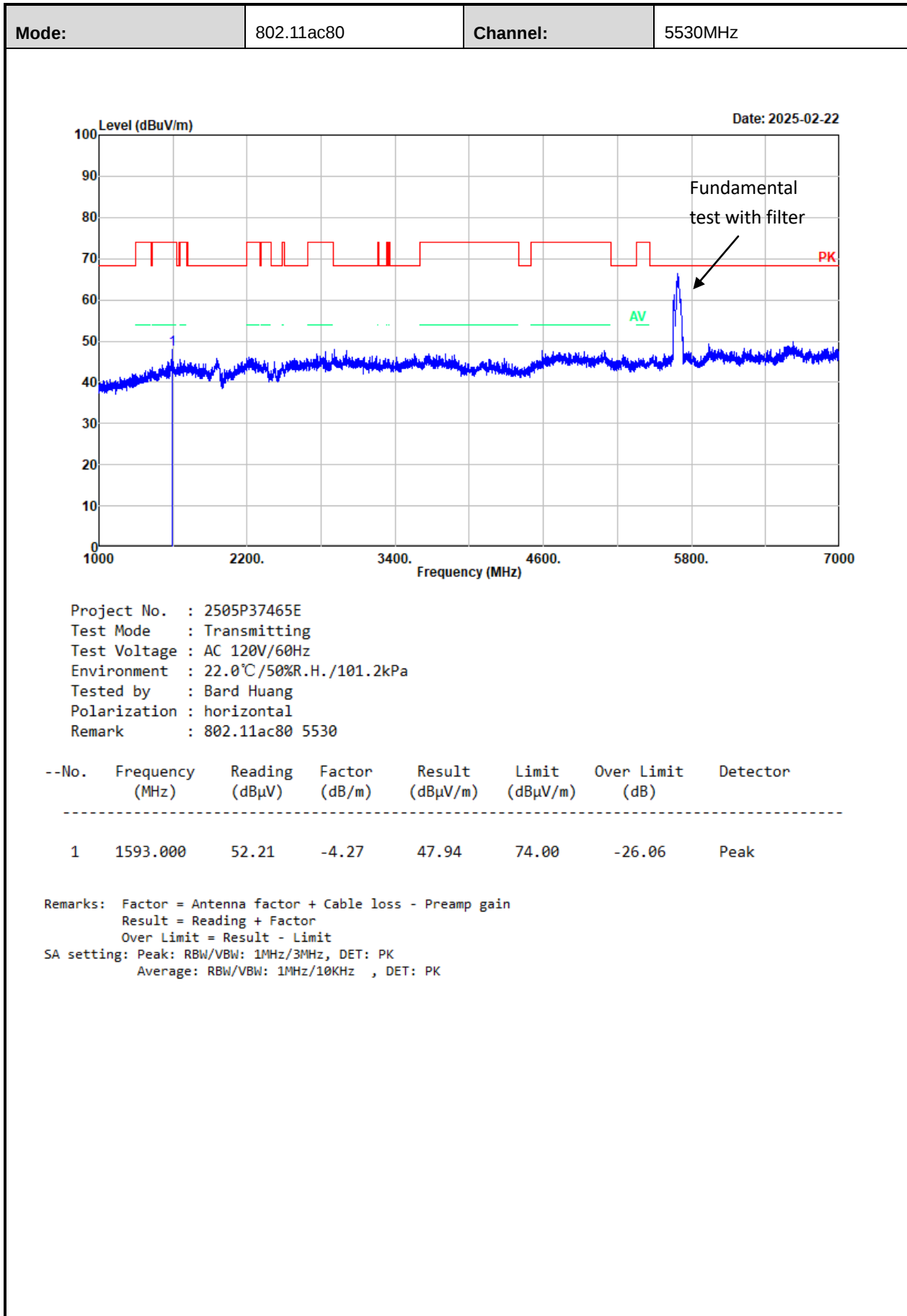


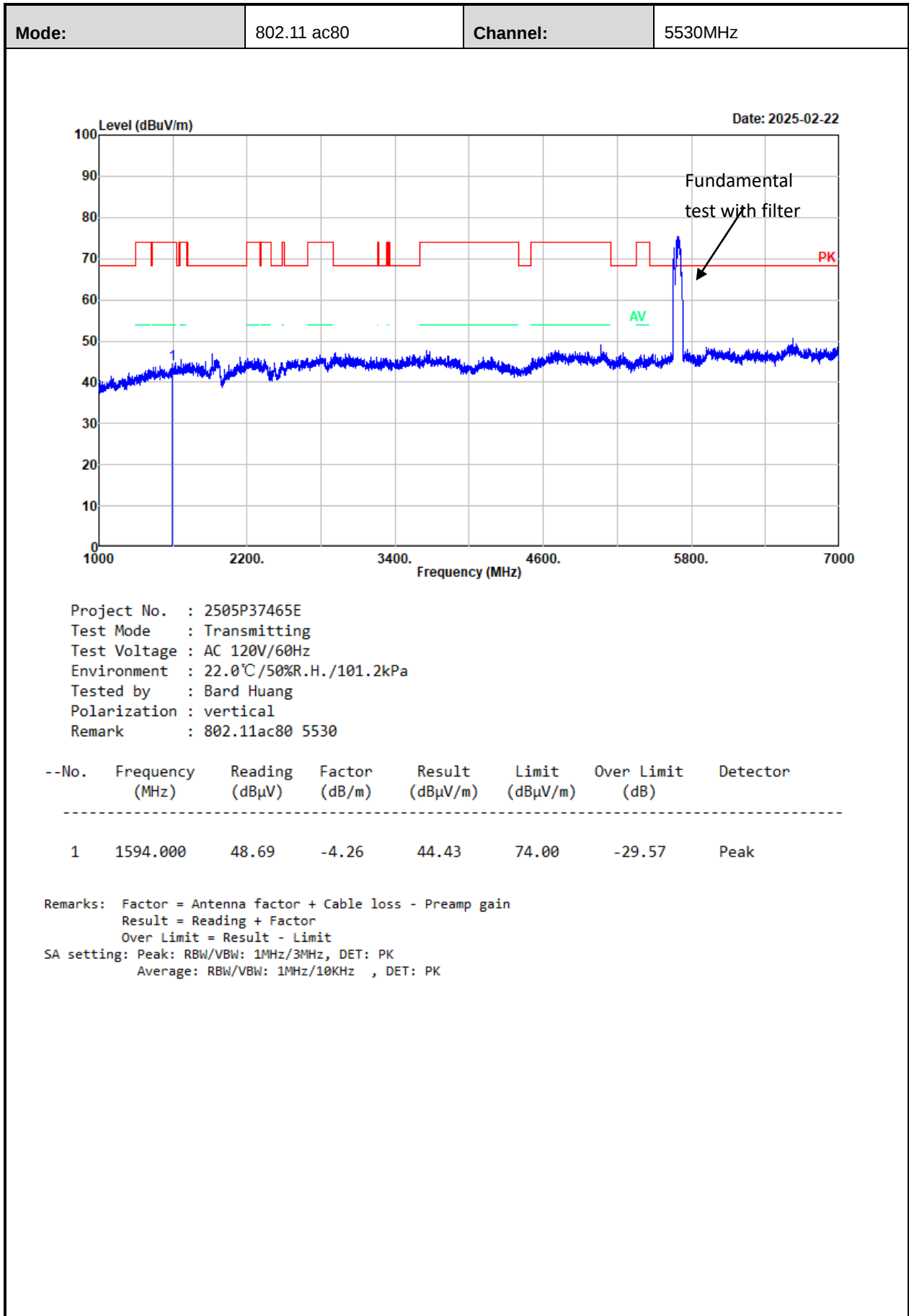


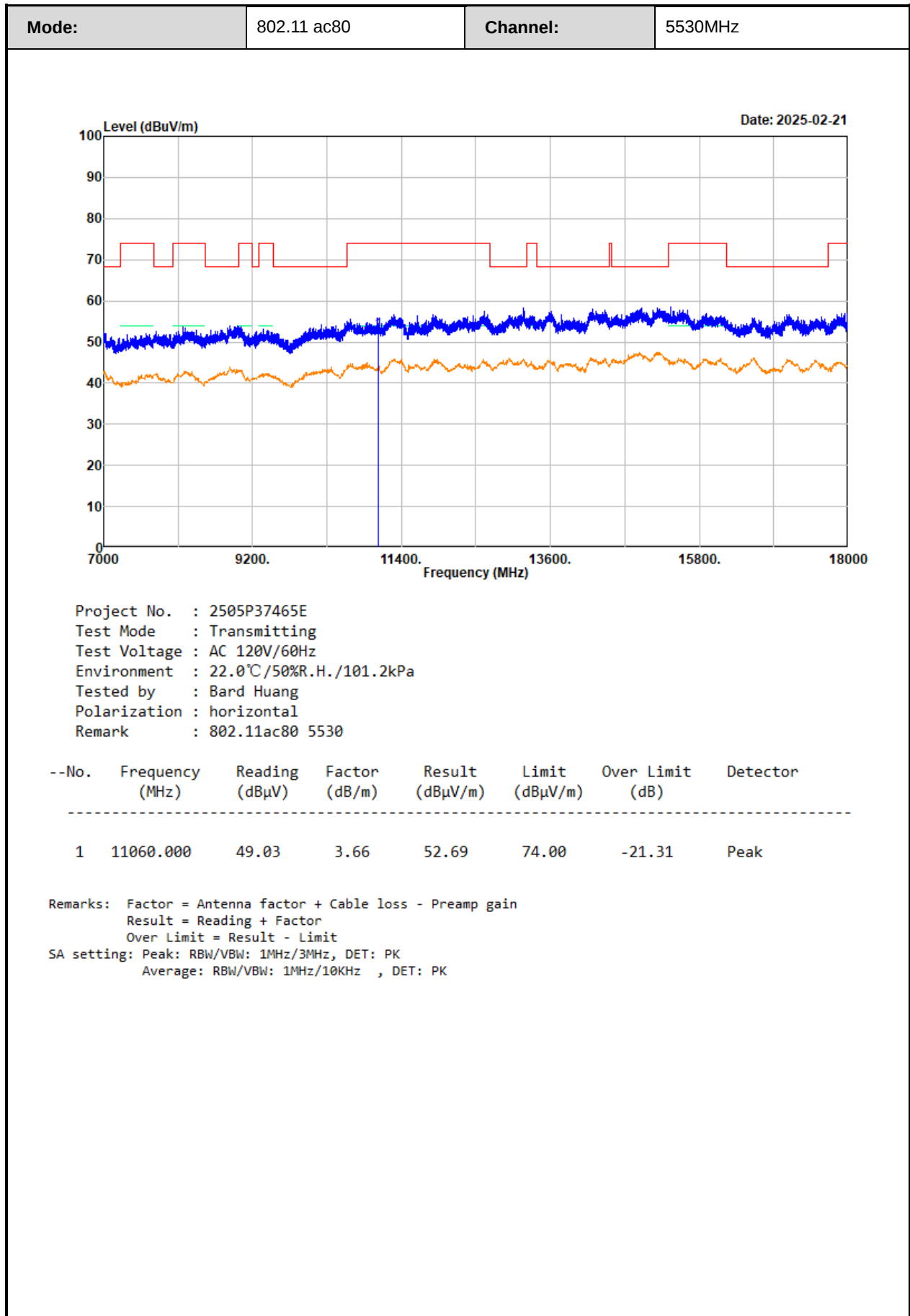


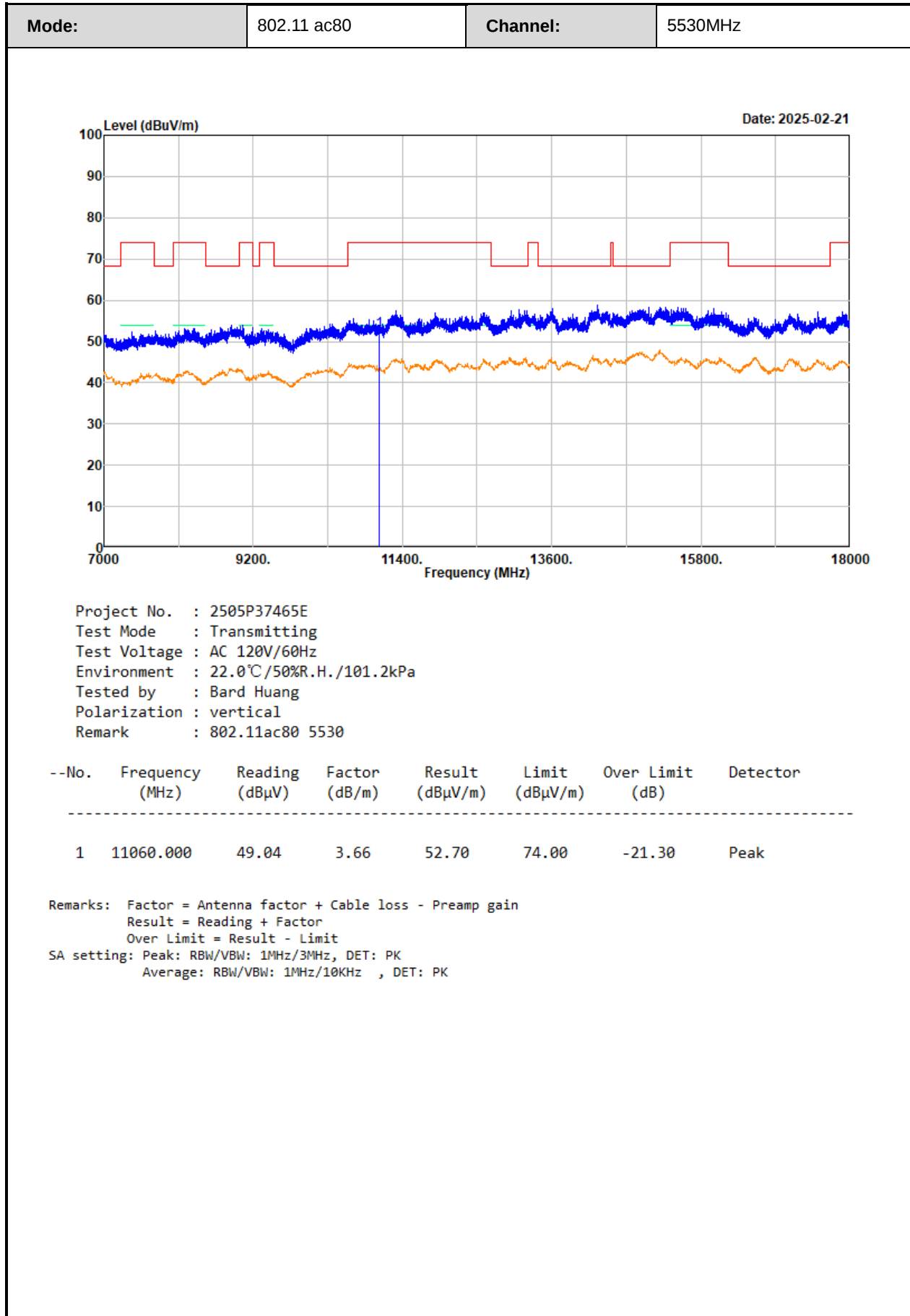


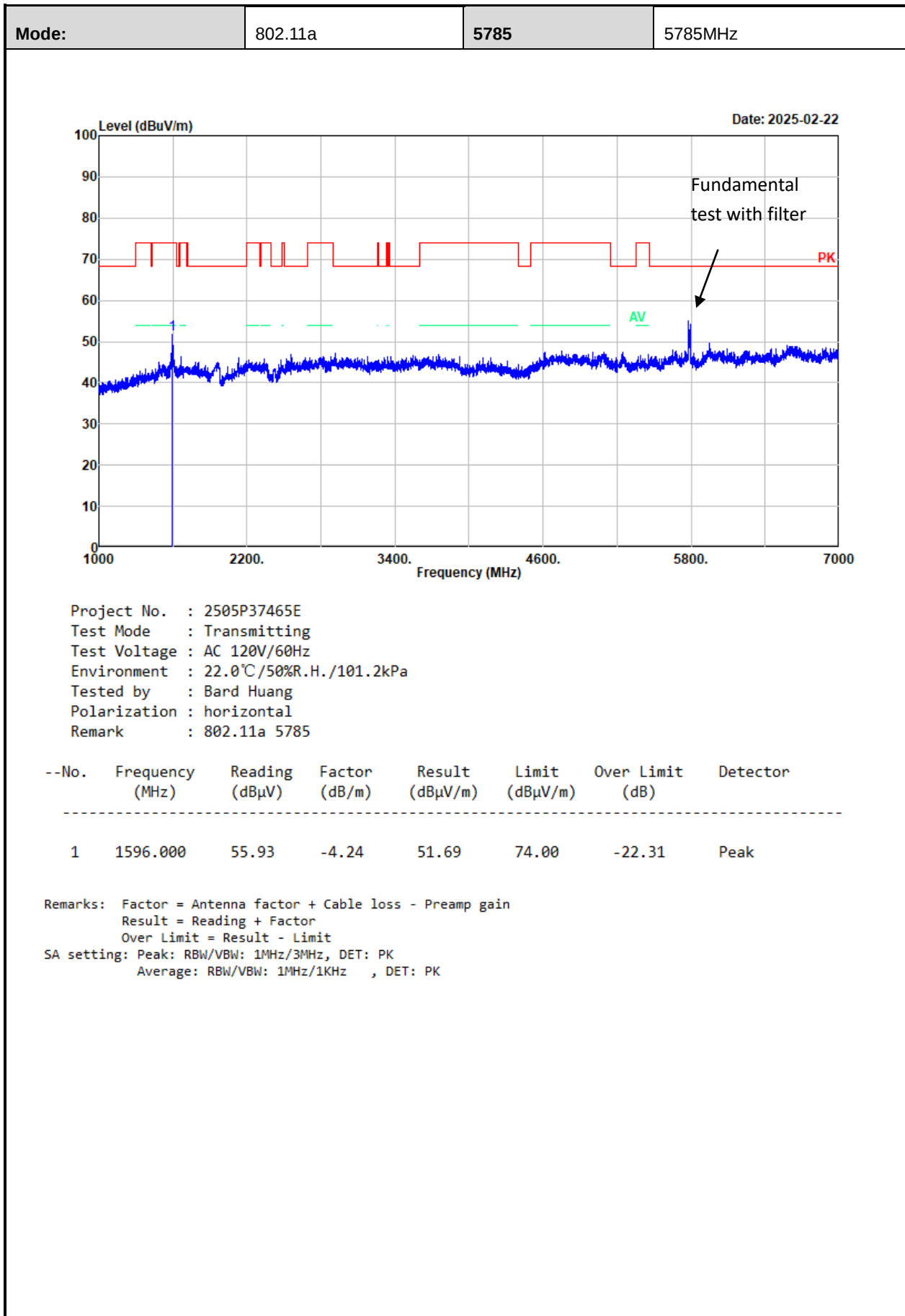


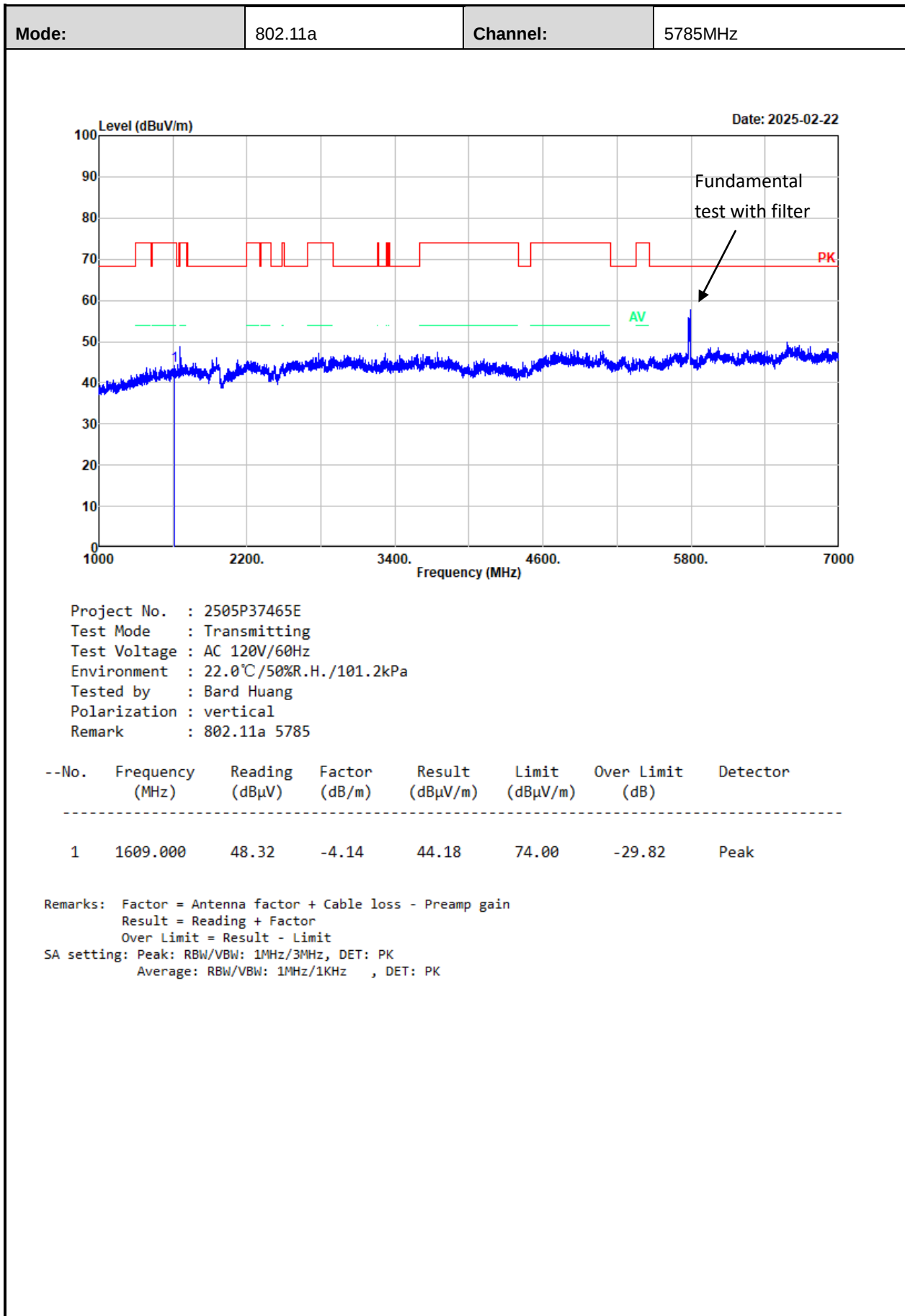


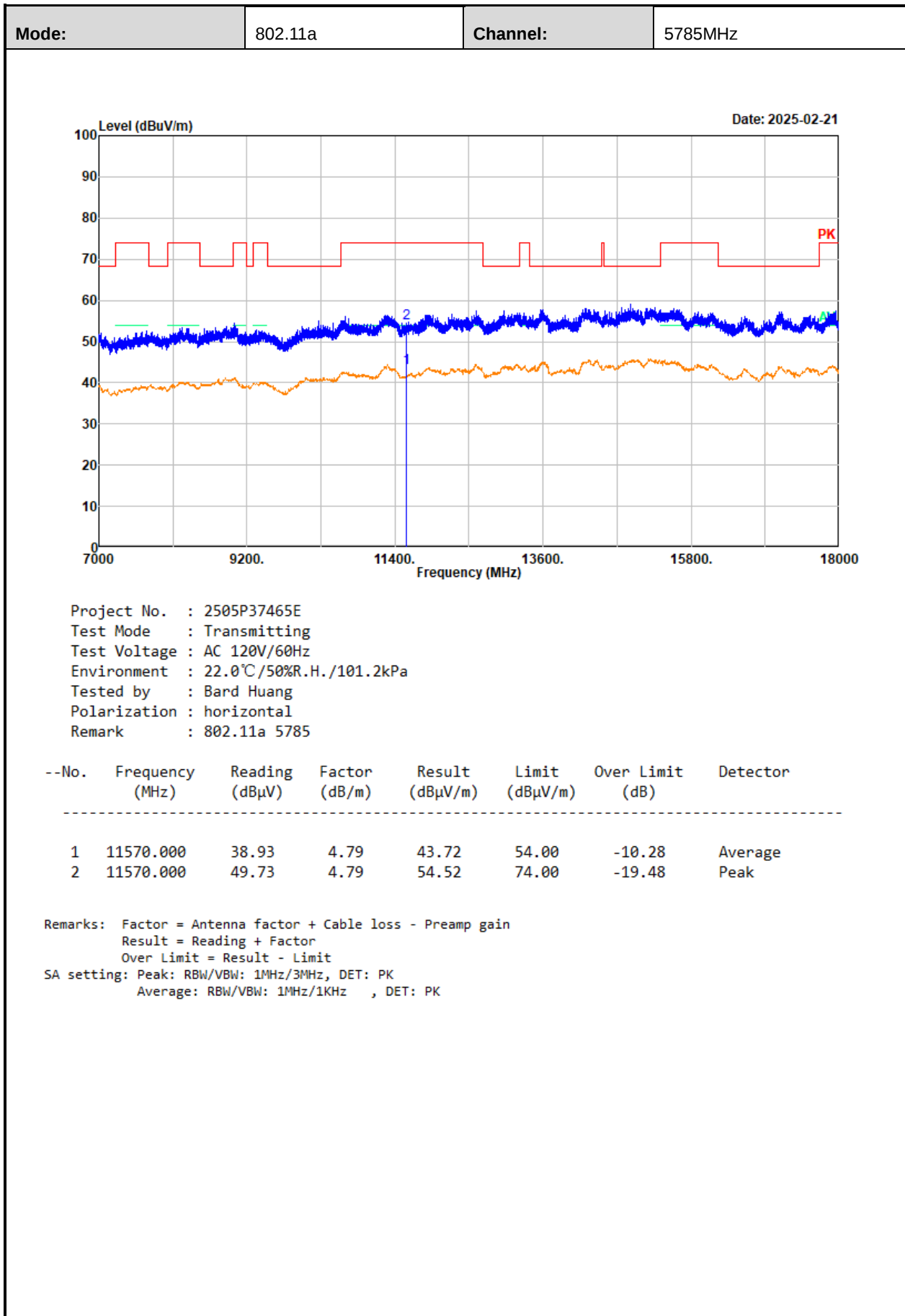


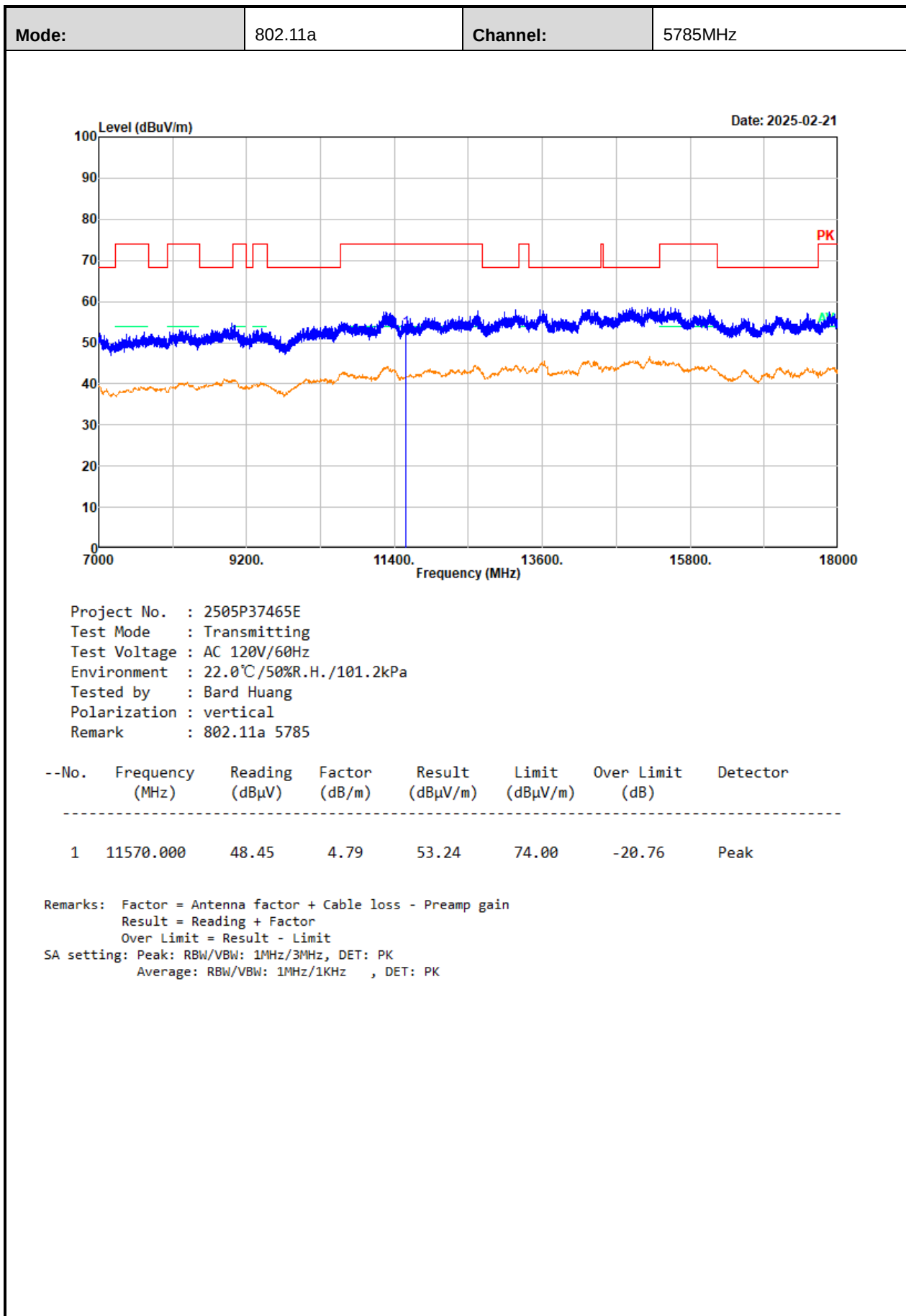


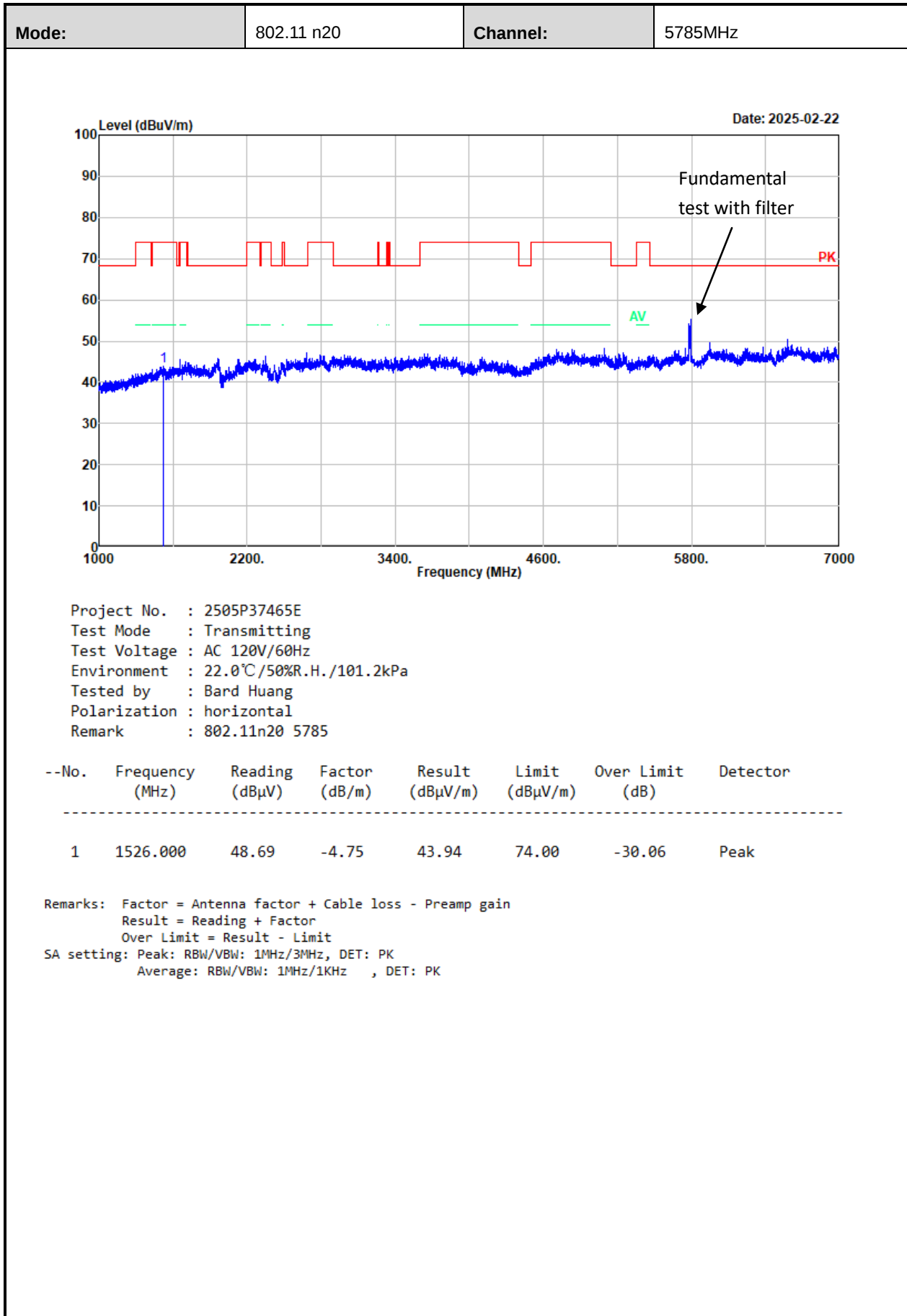


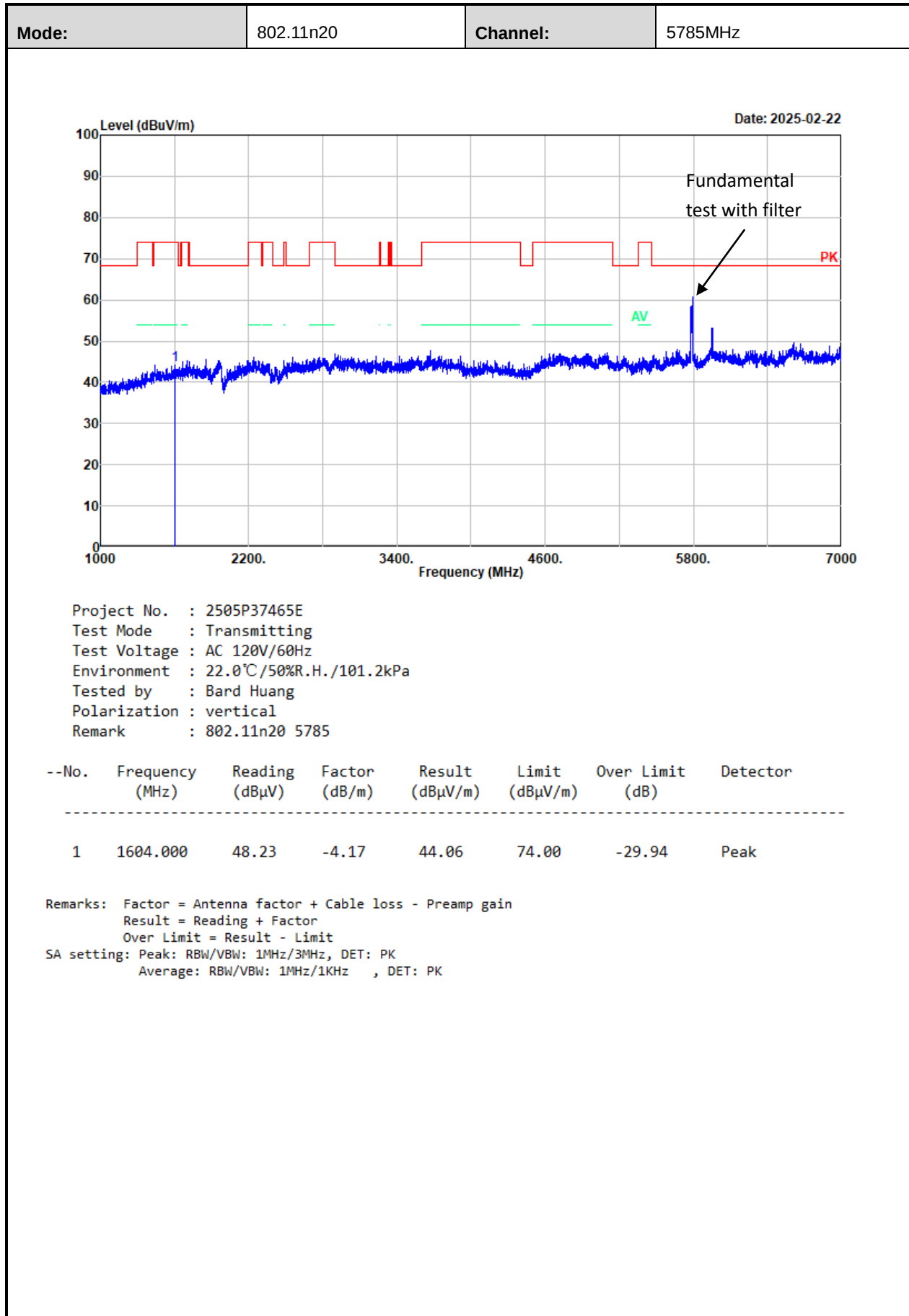


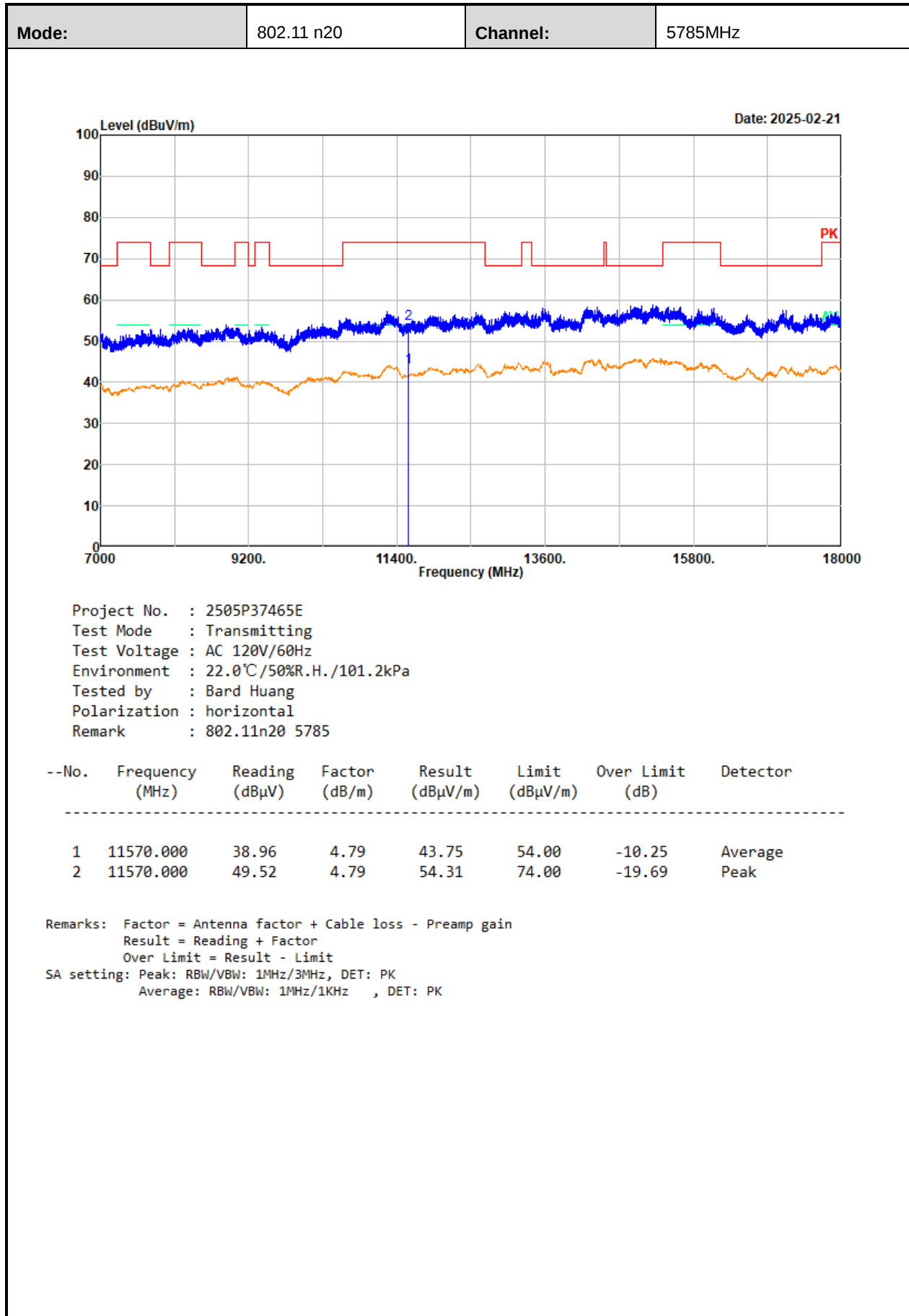


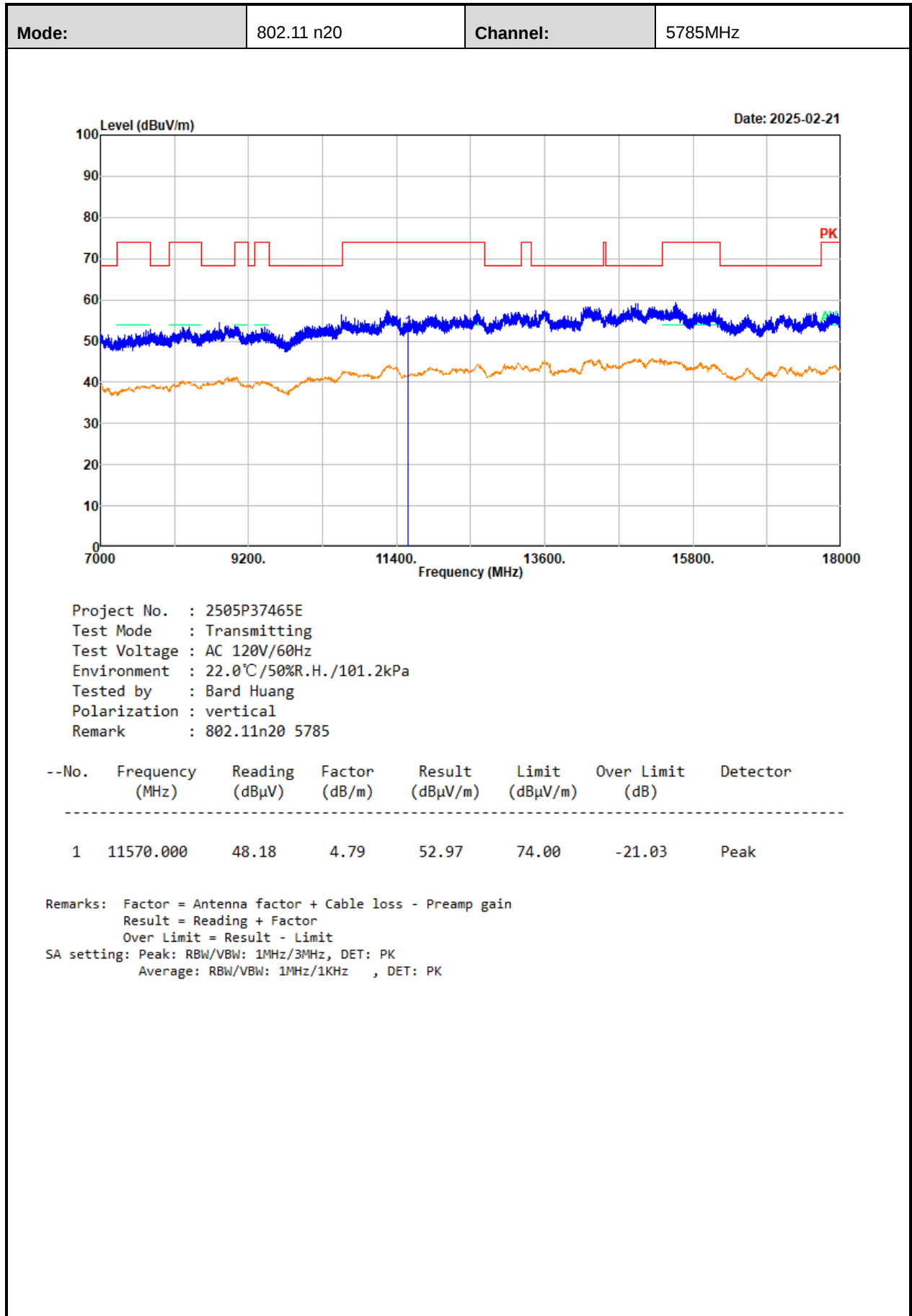


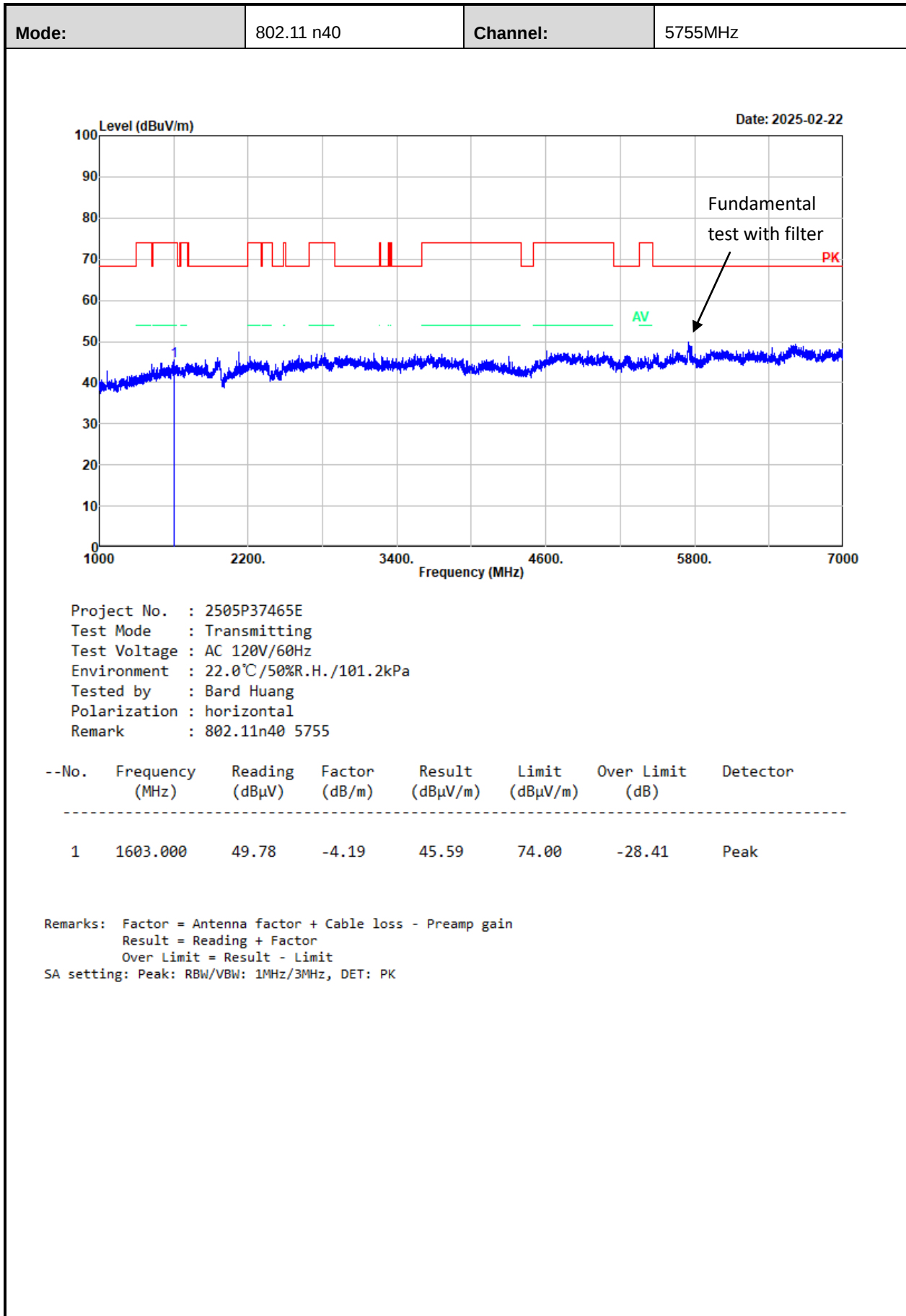


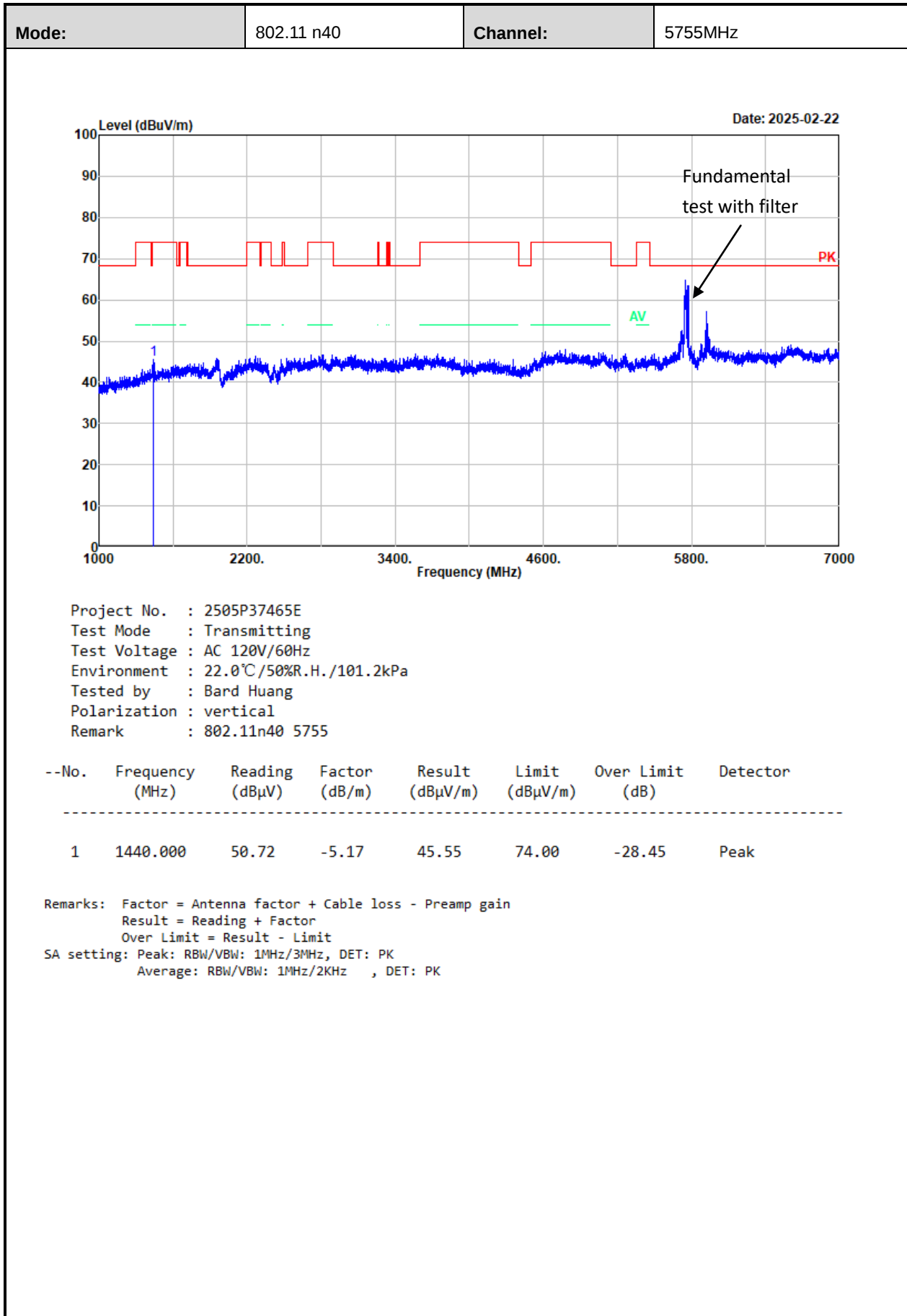


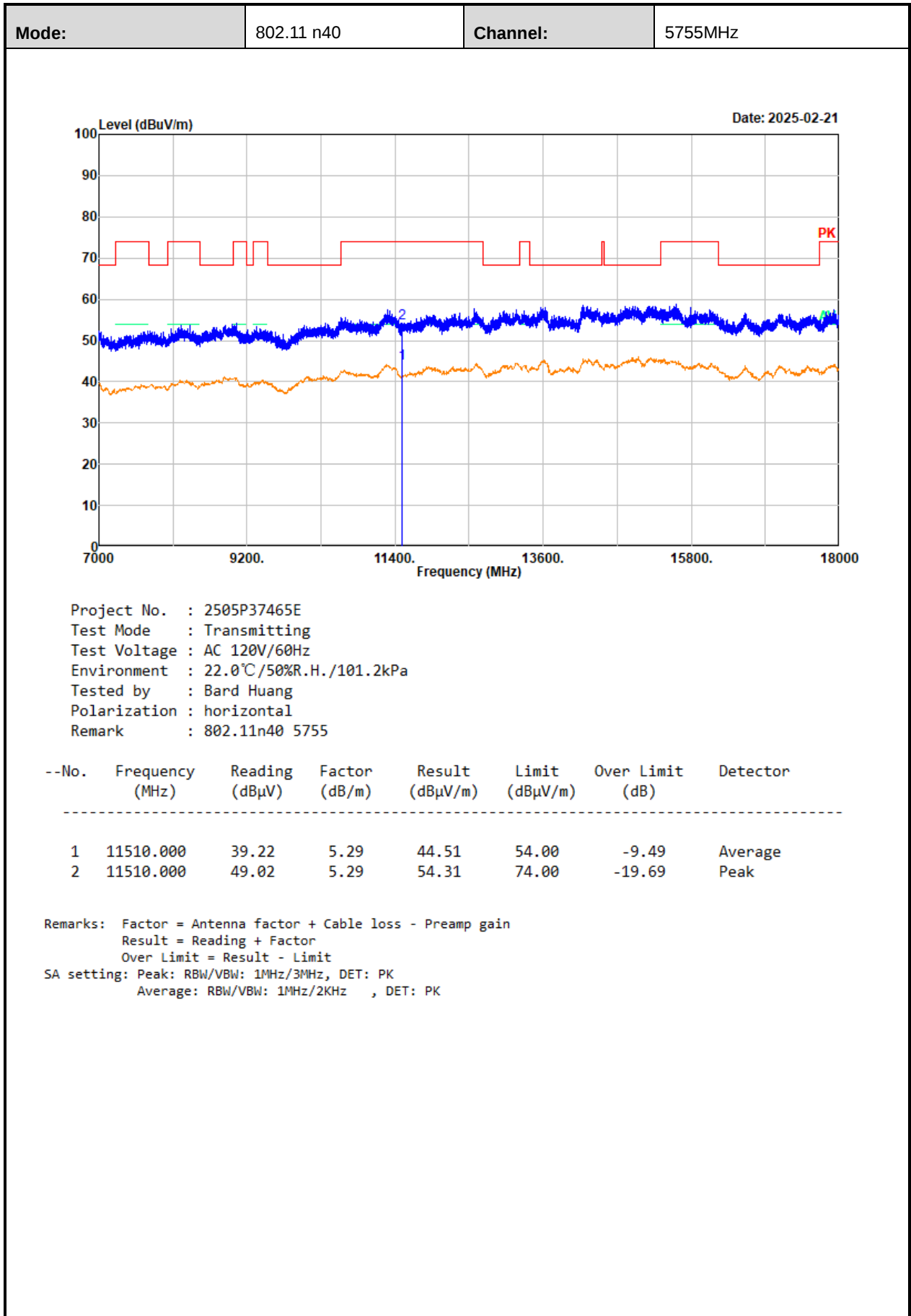


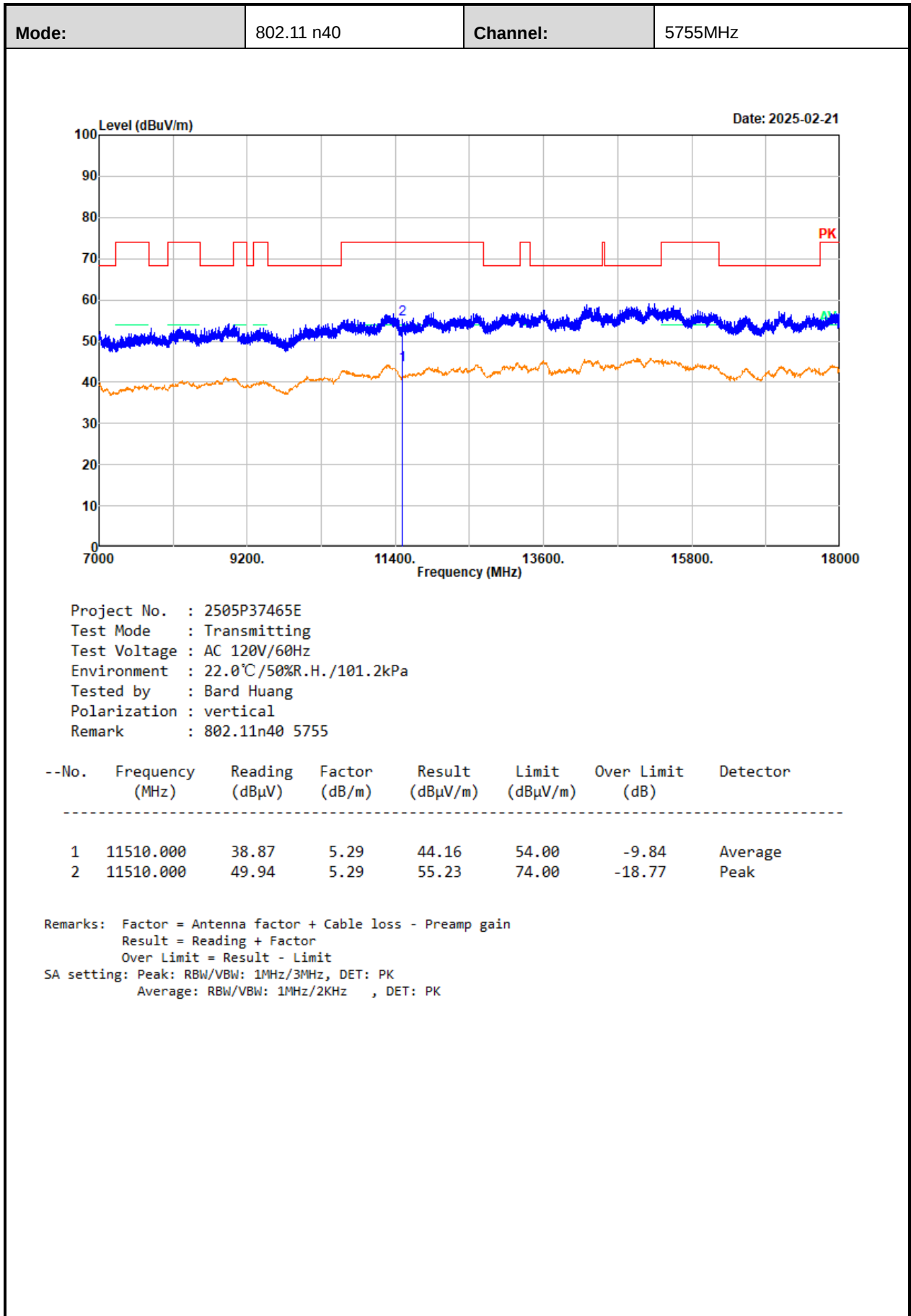


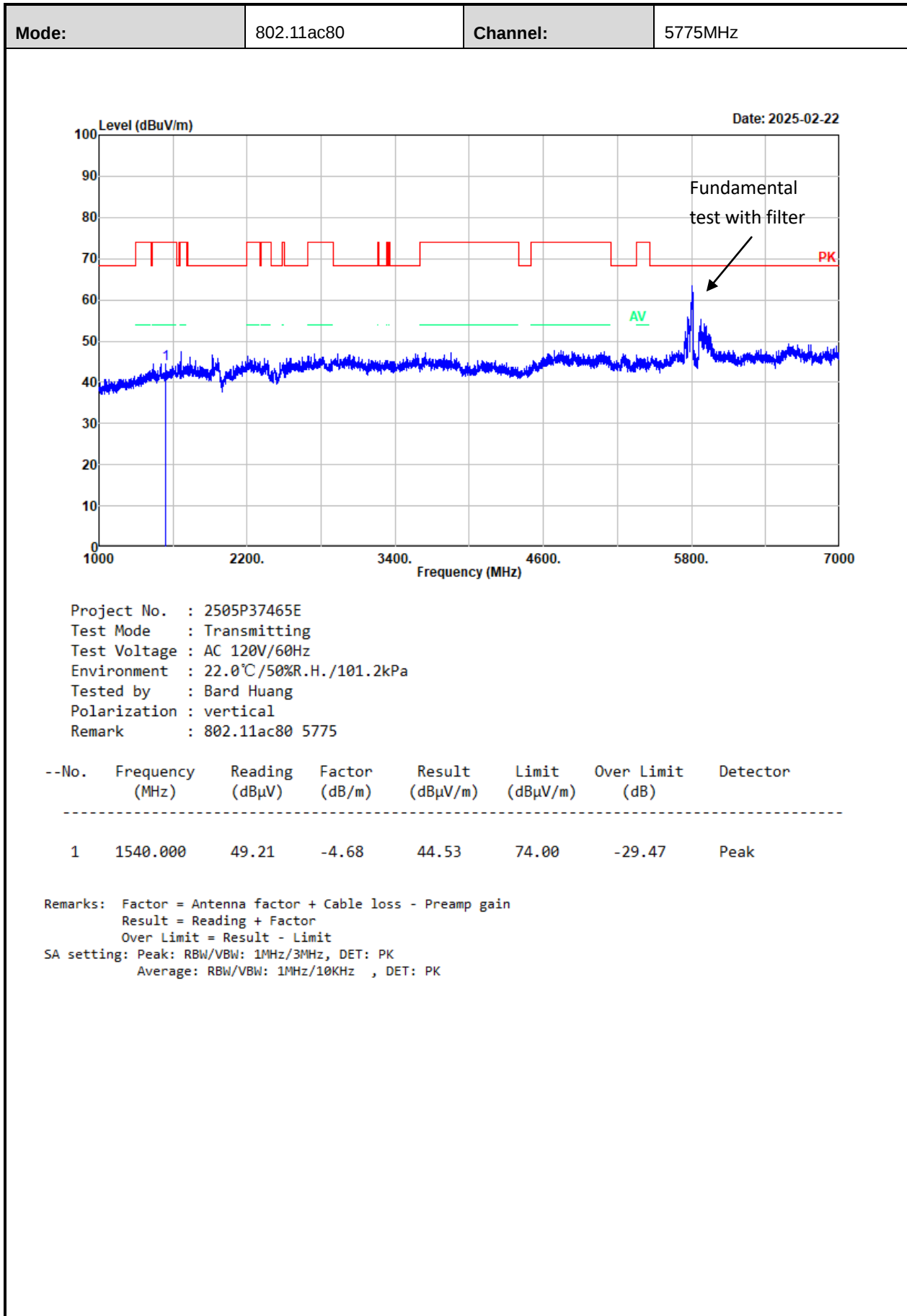


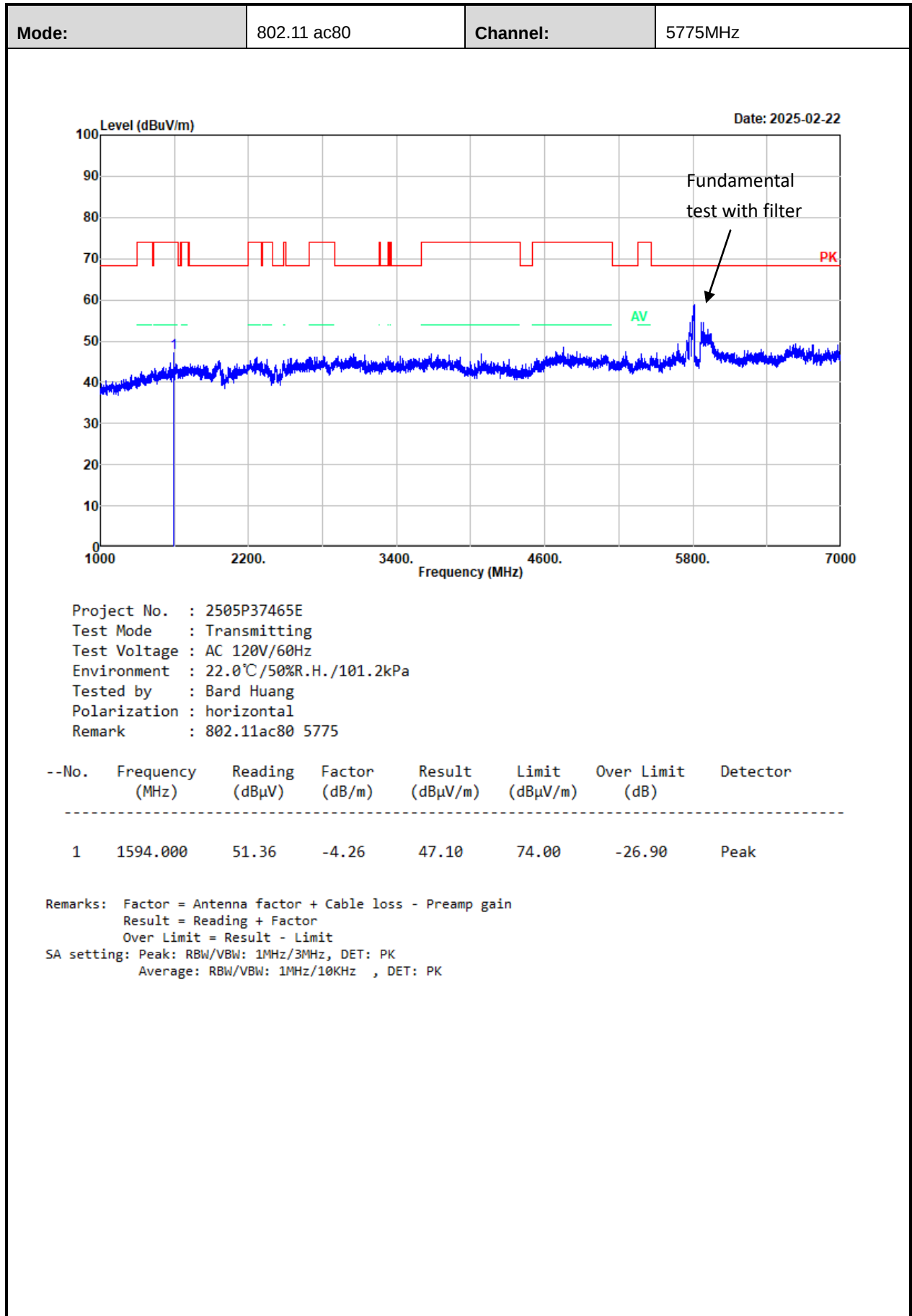


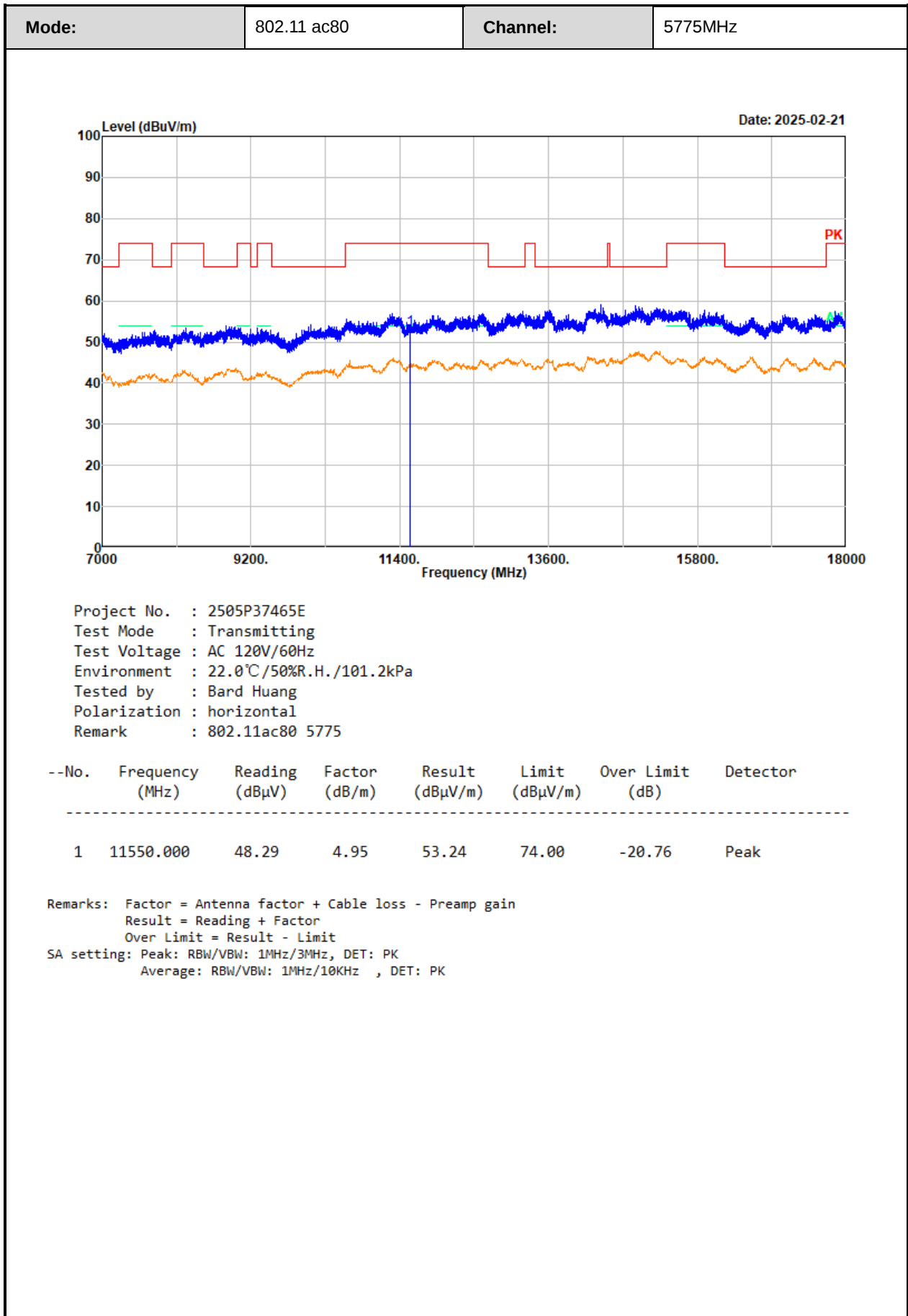


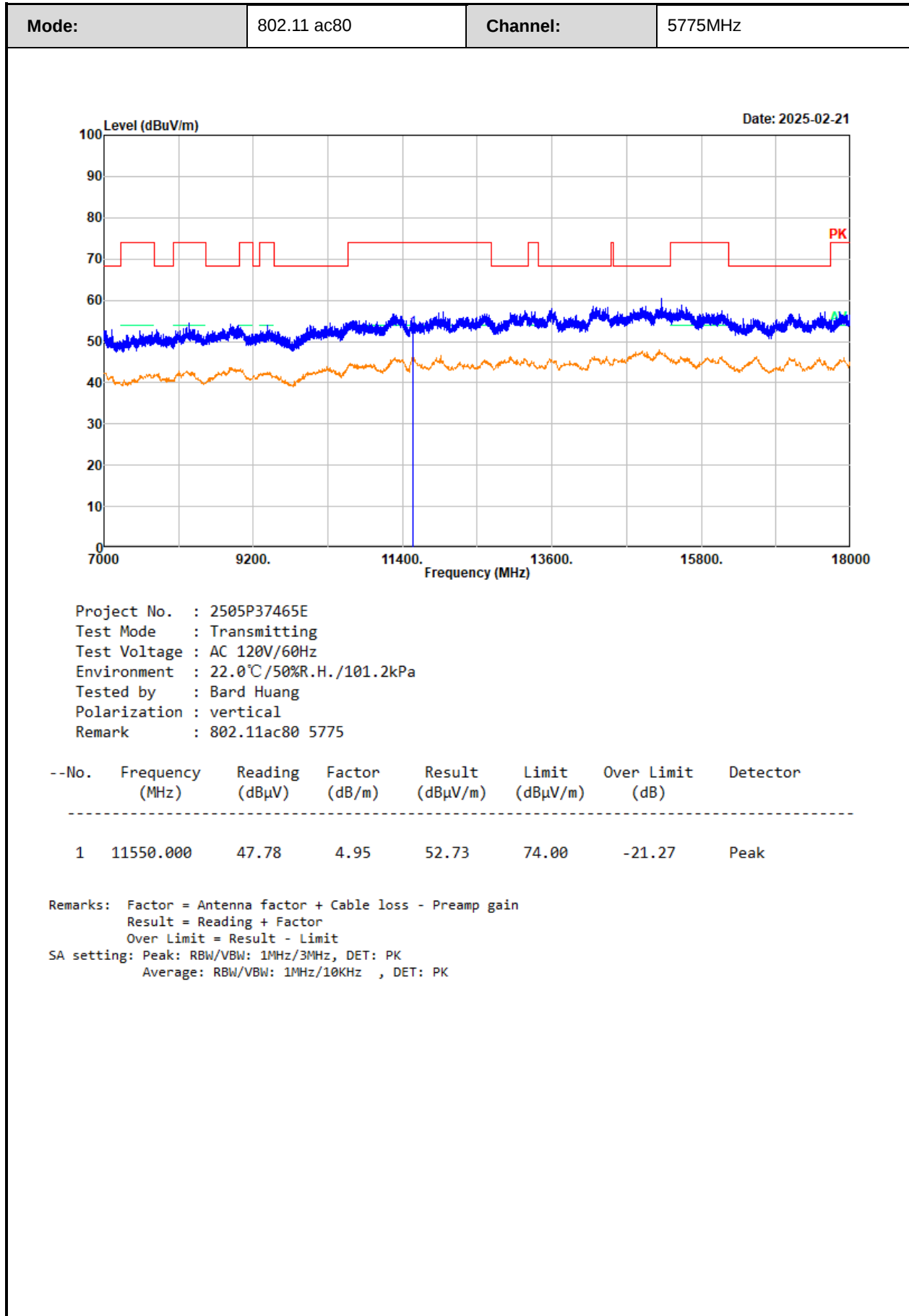


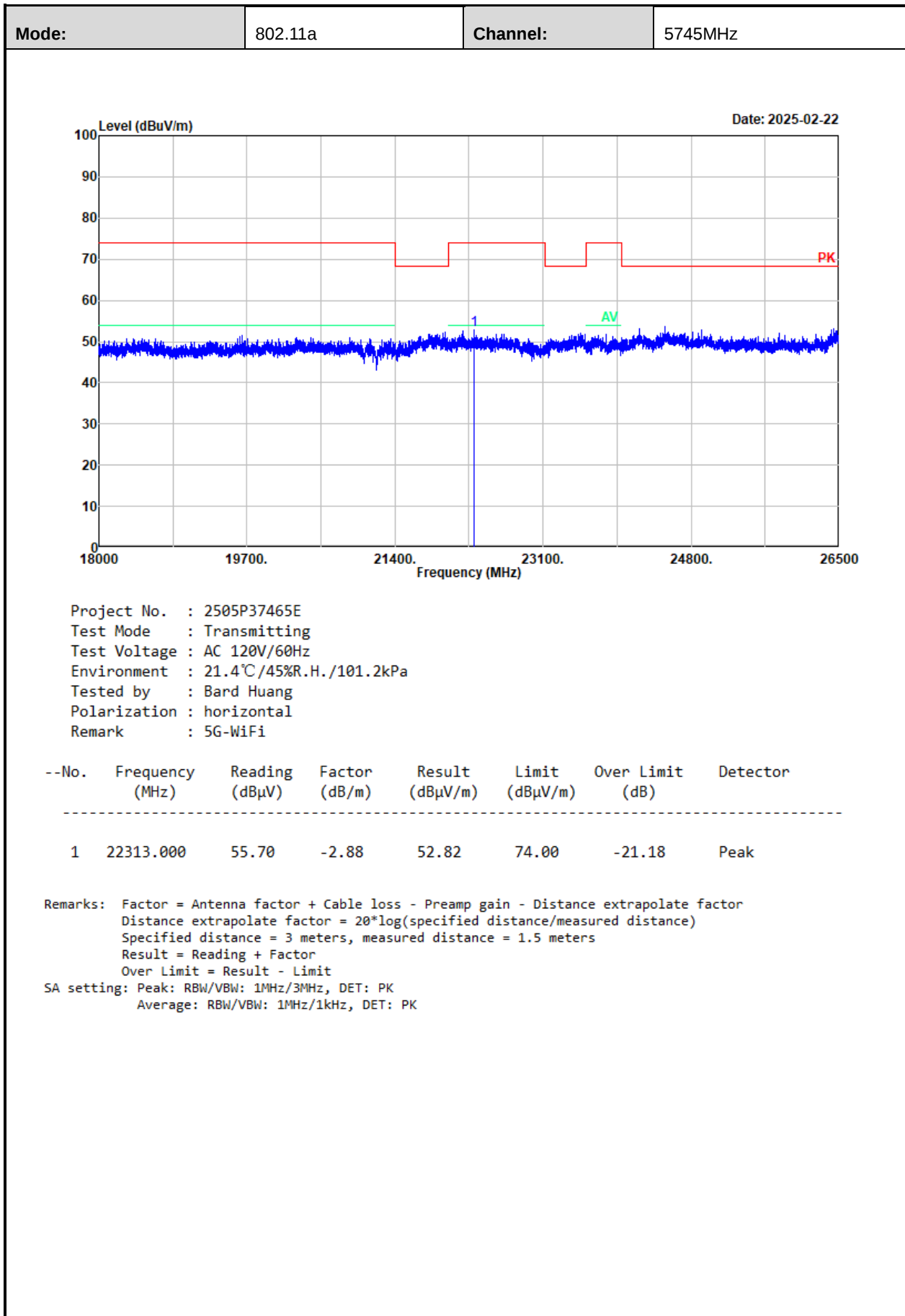


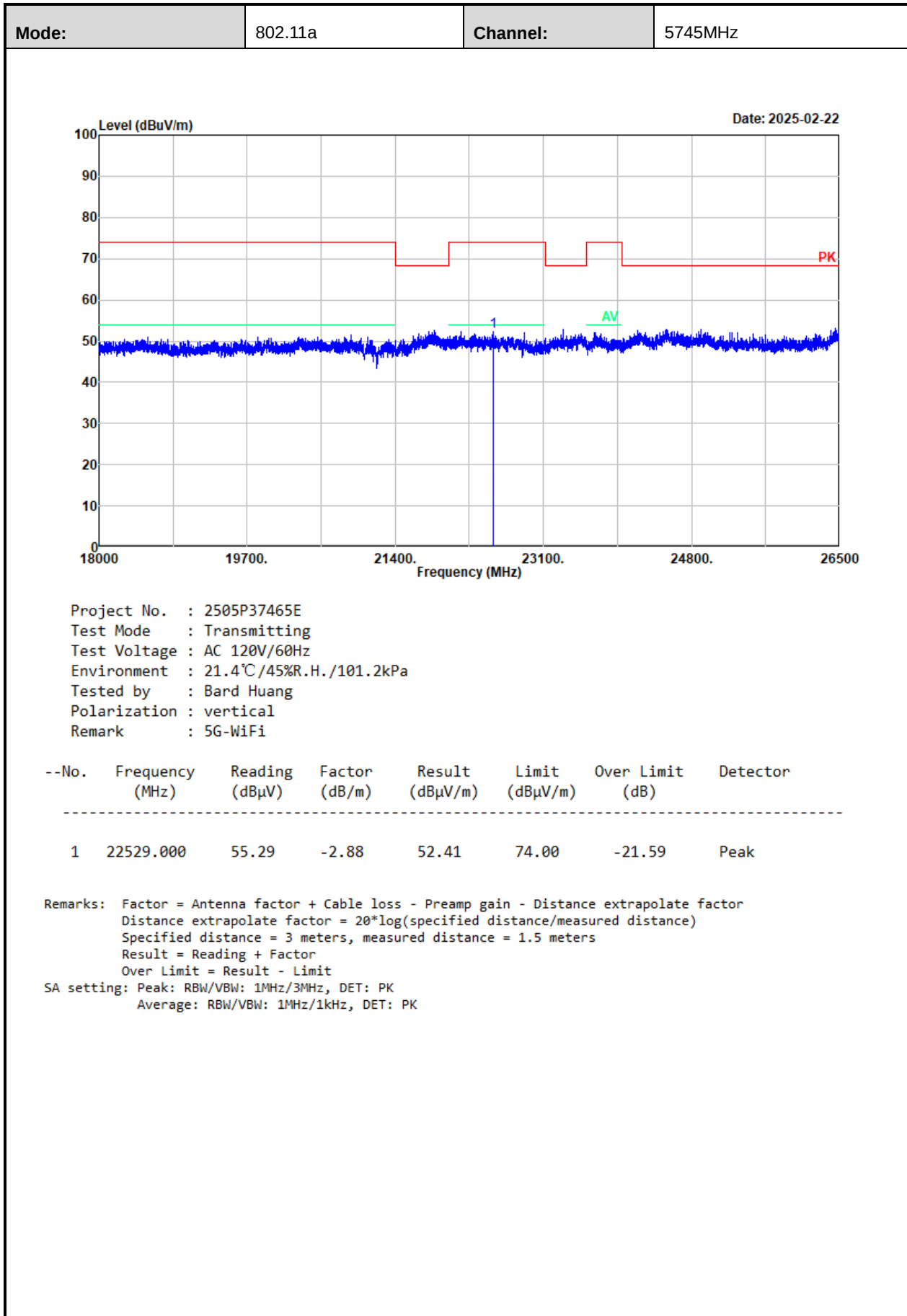


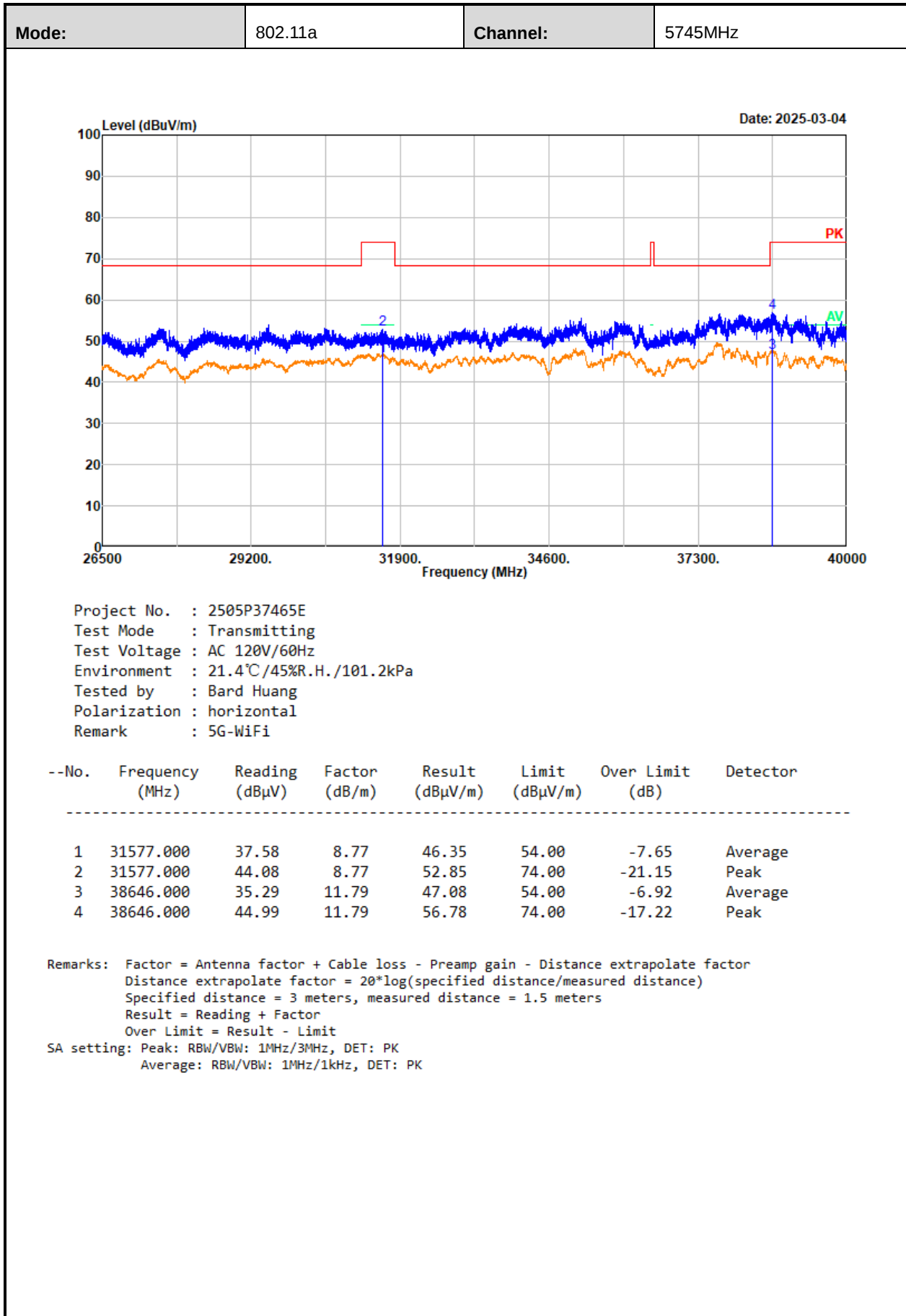


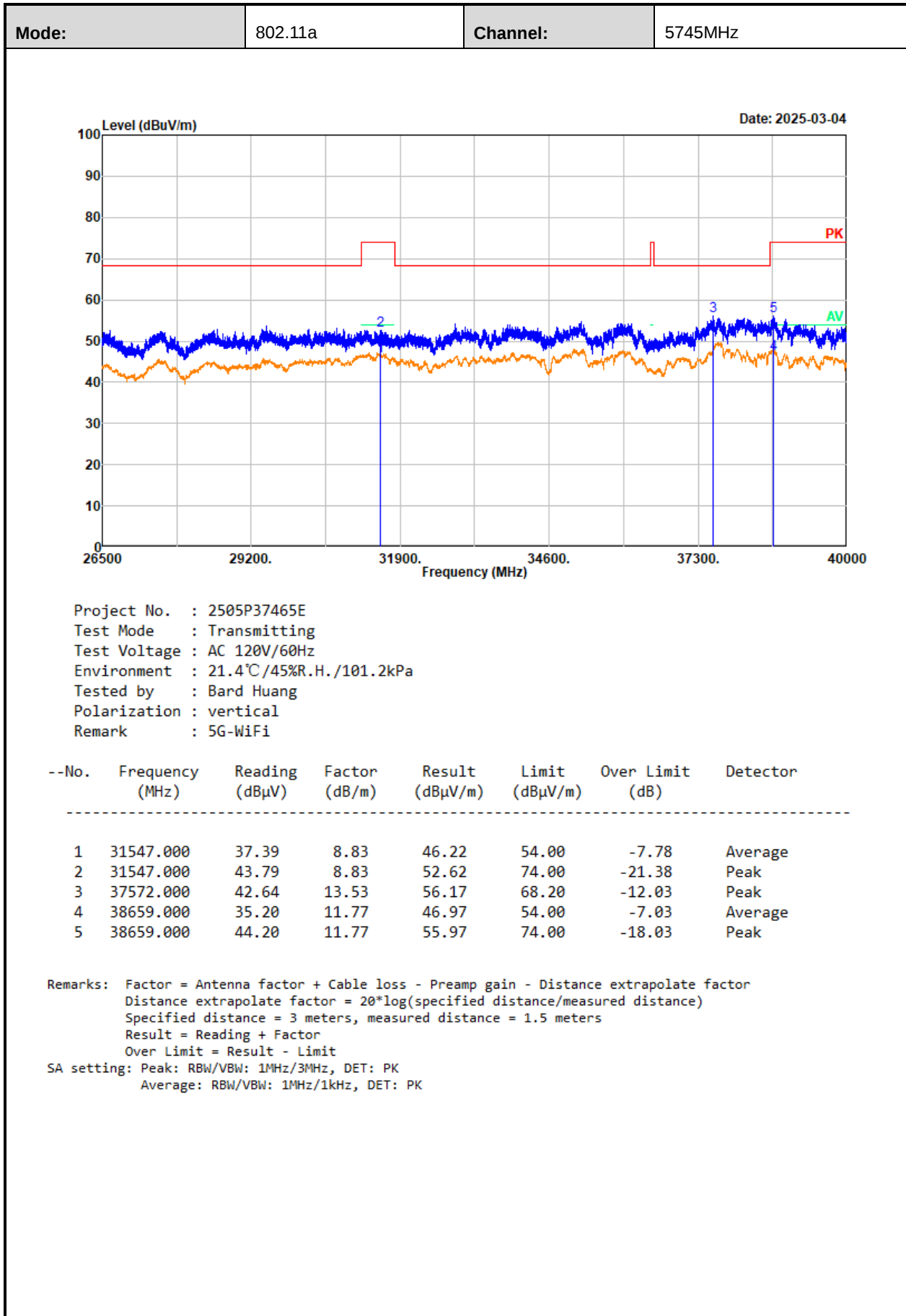




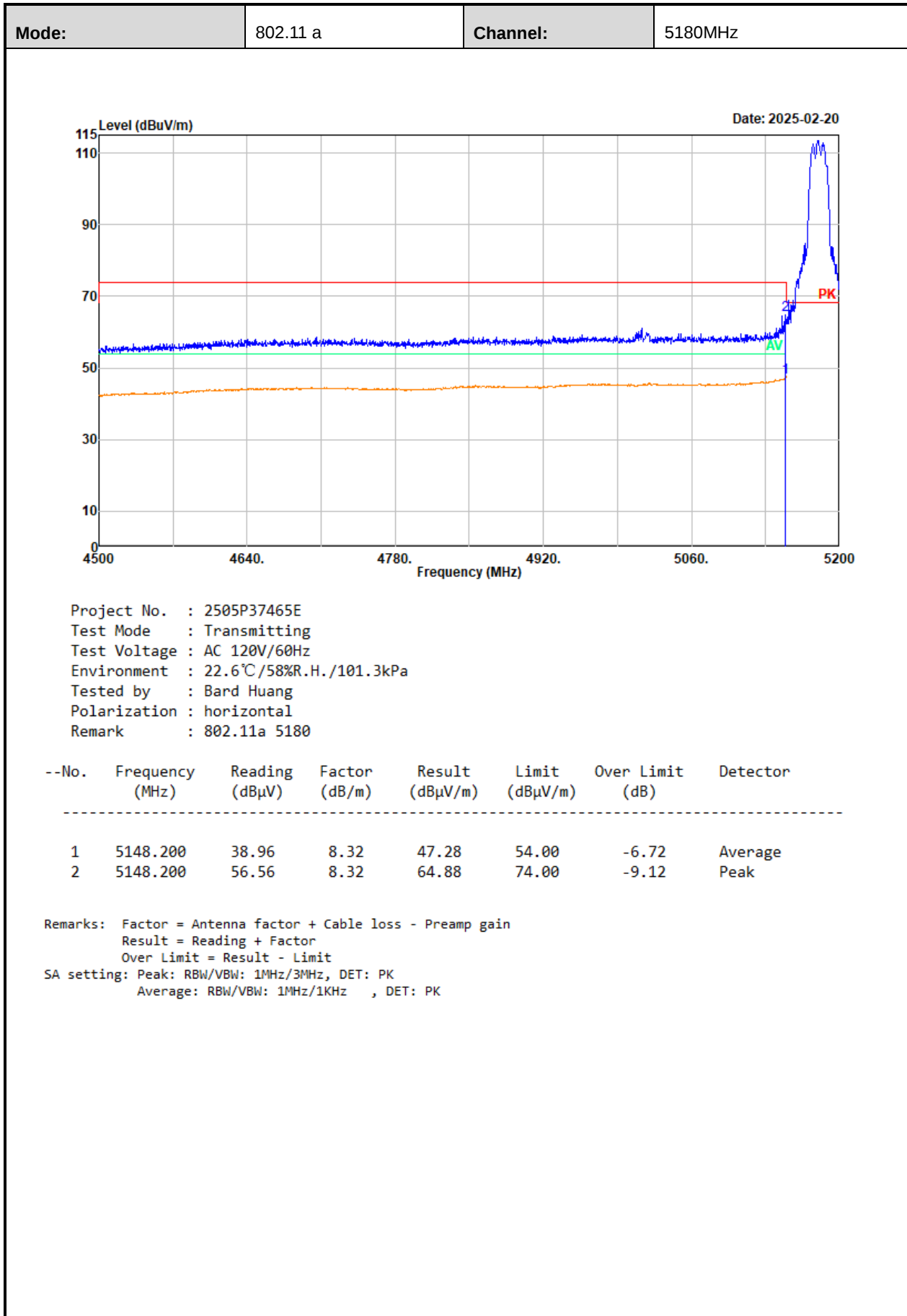


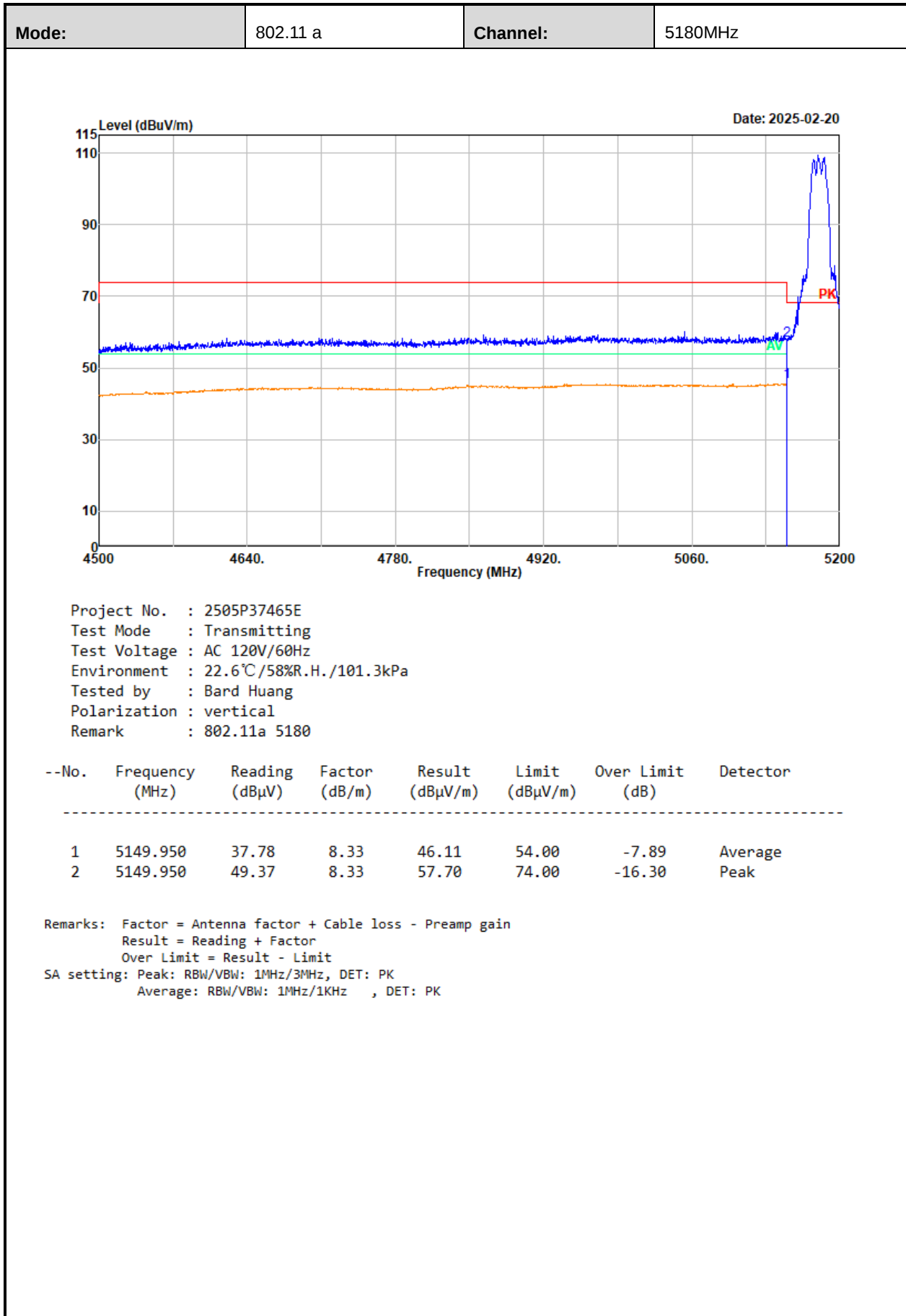


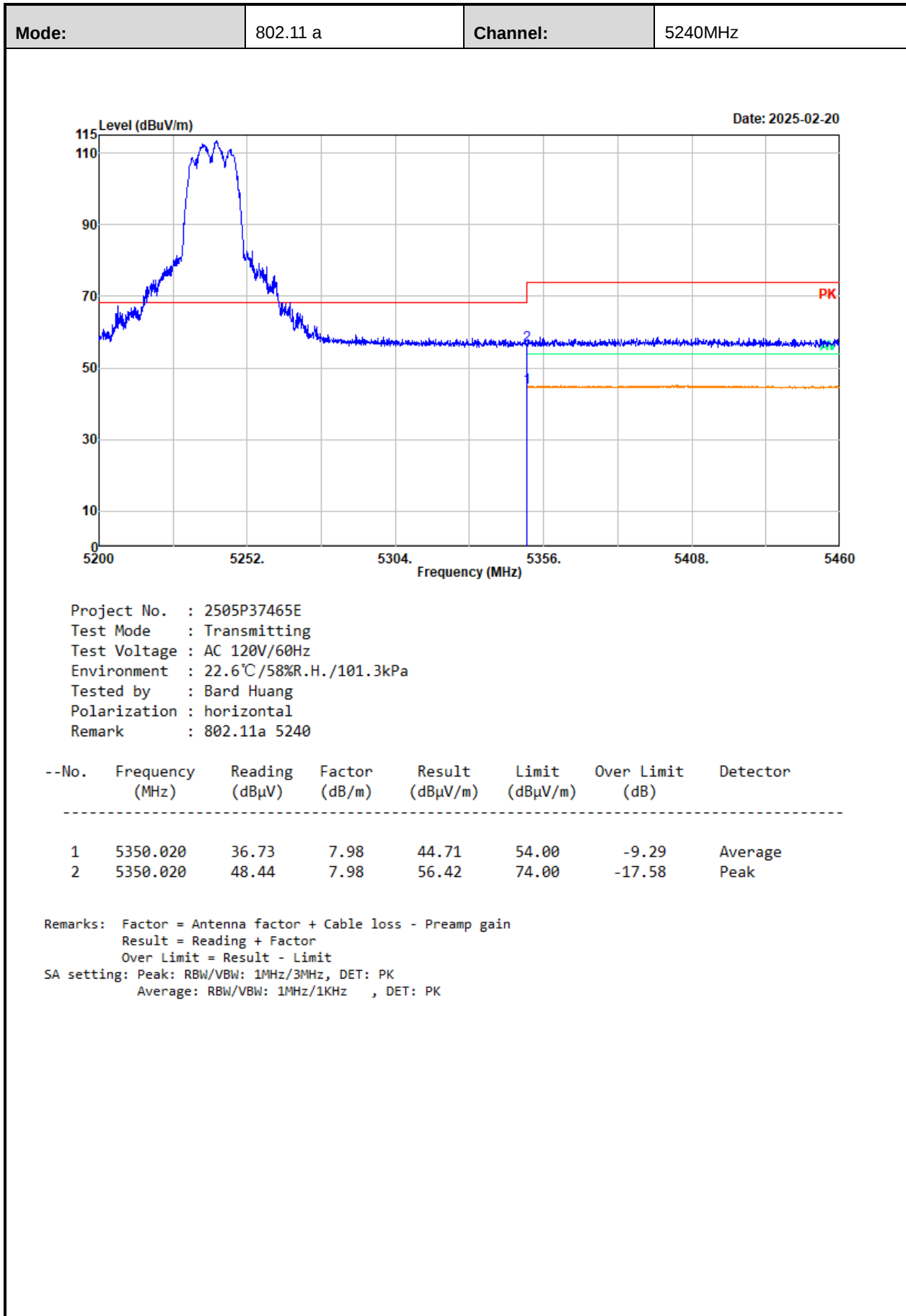


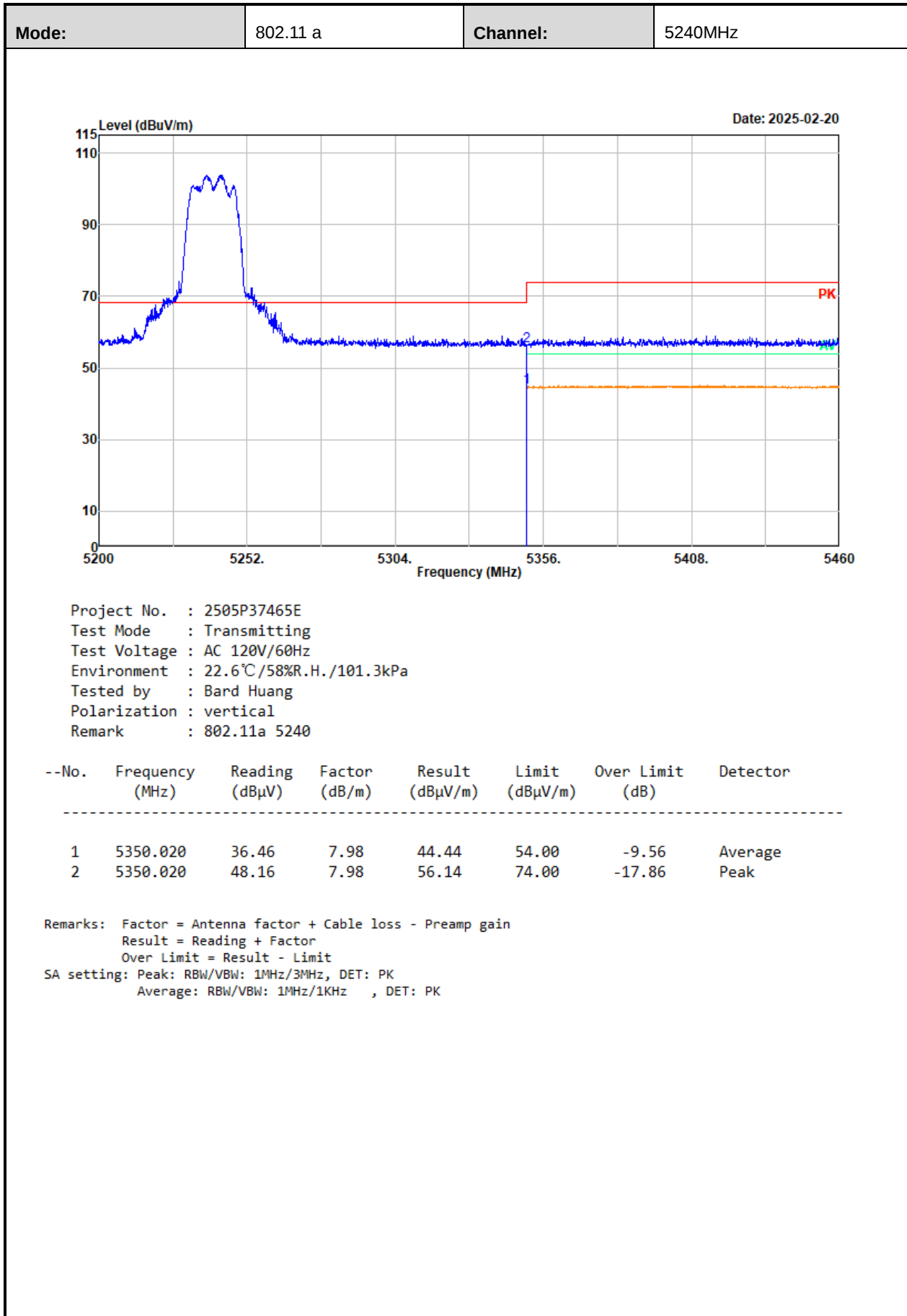


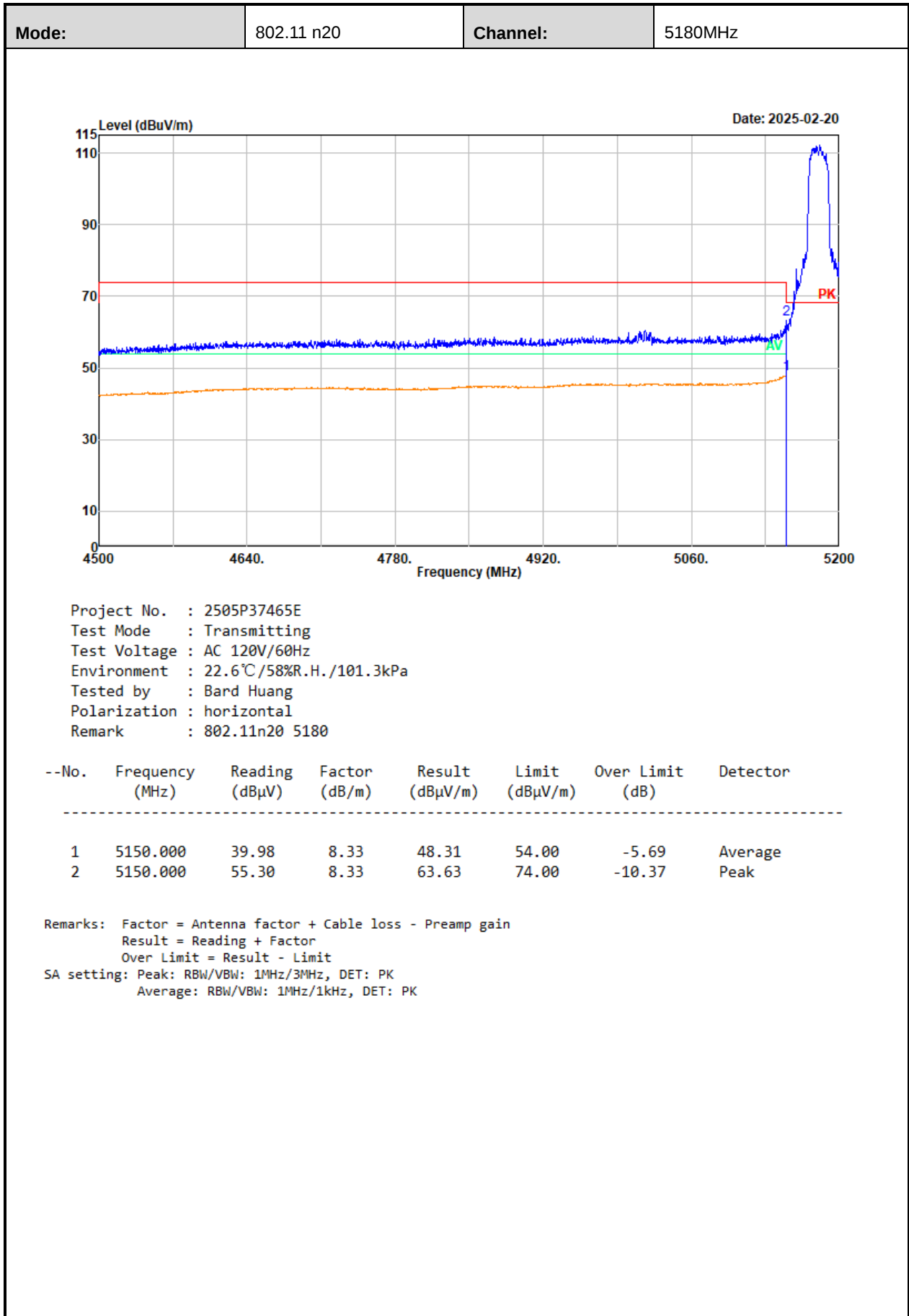
Radiated Band edge:

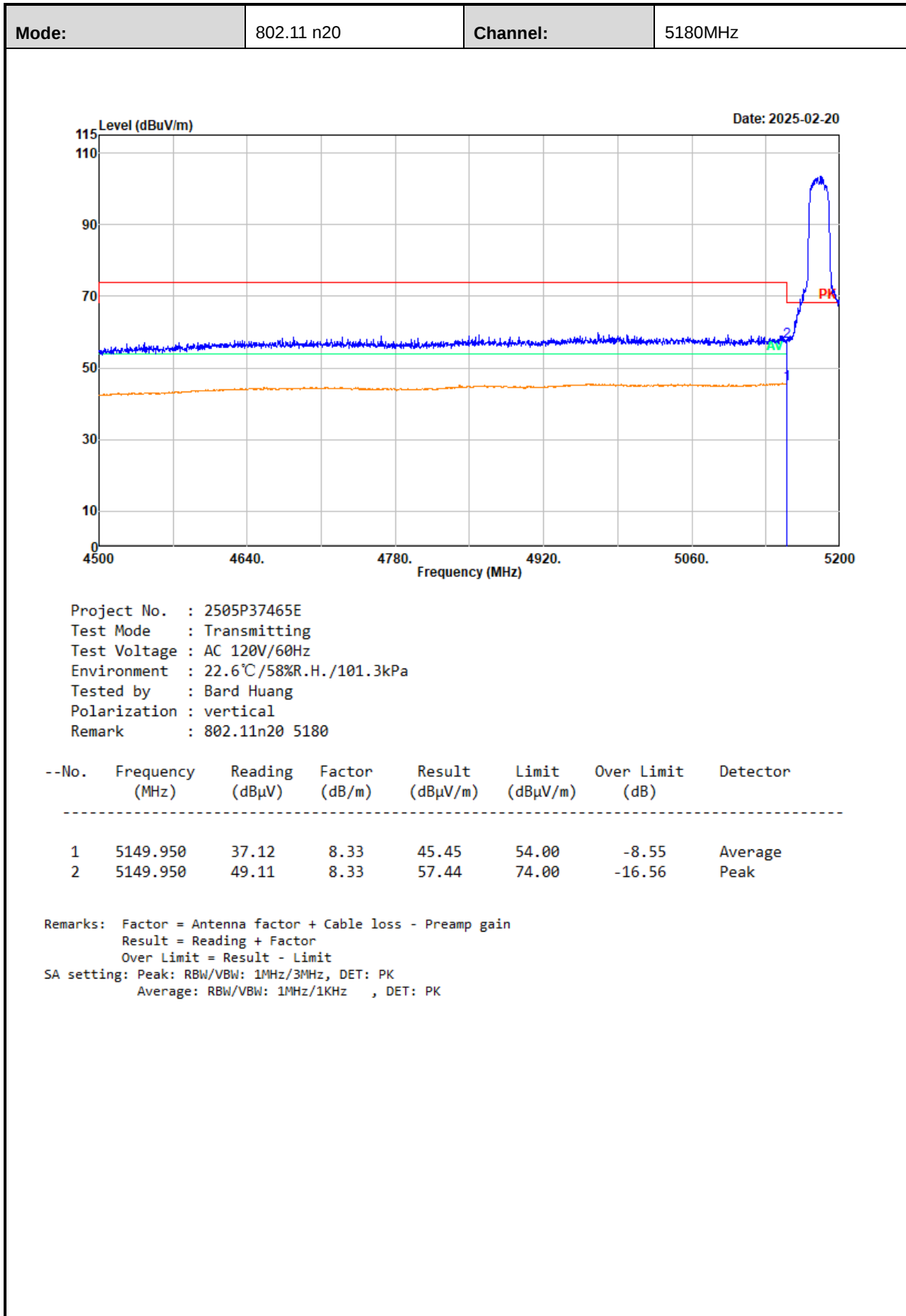


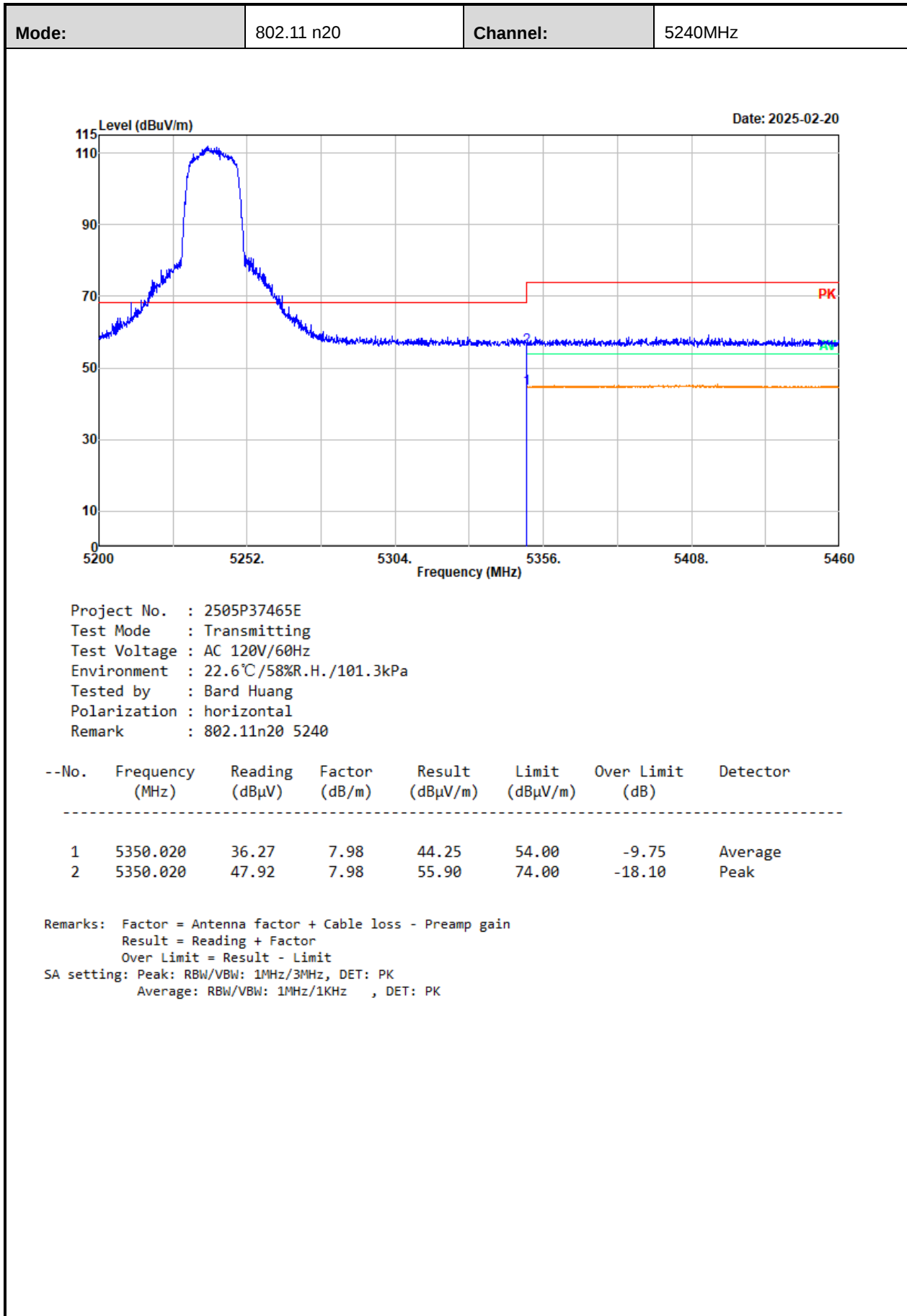


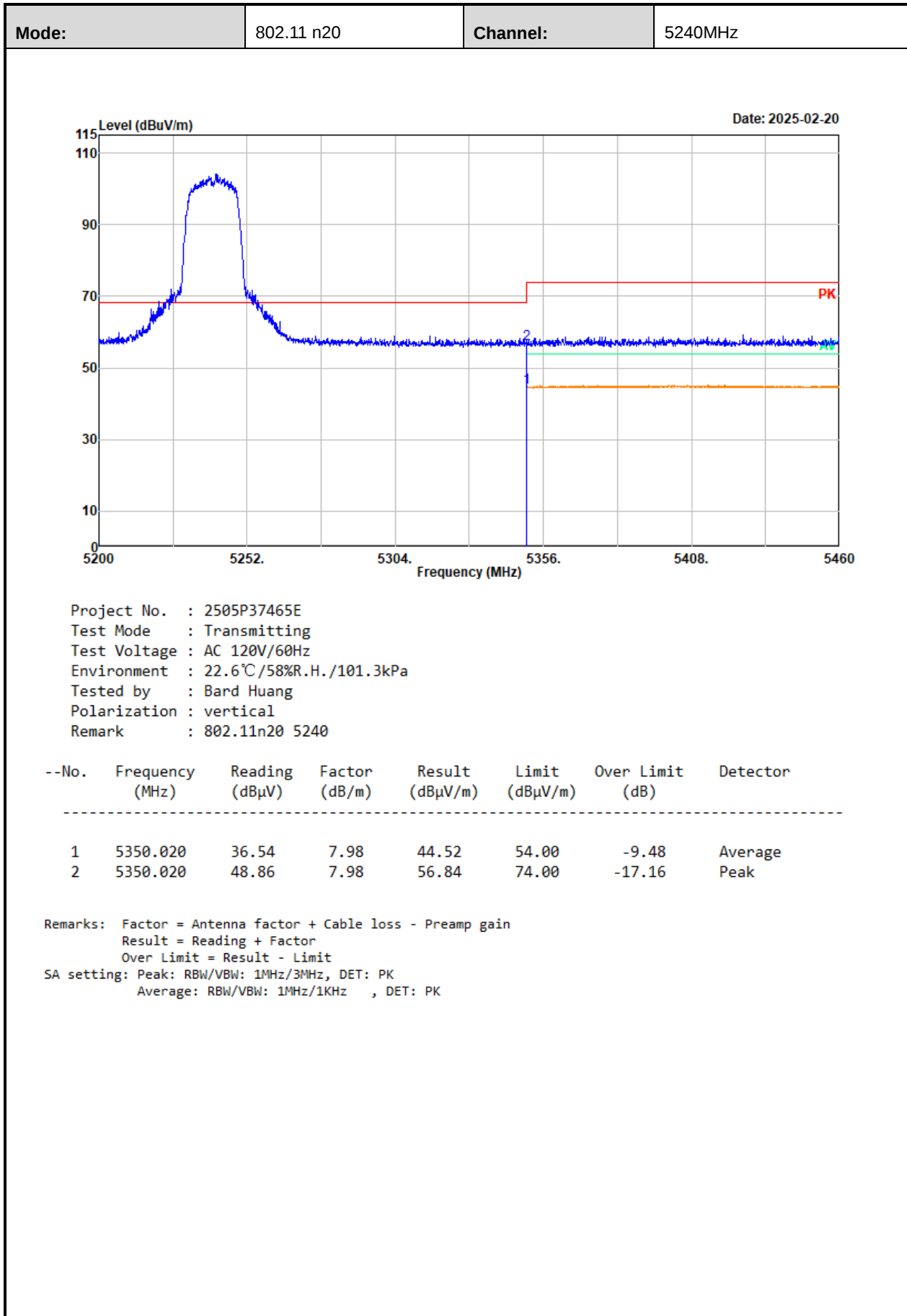


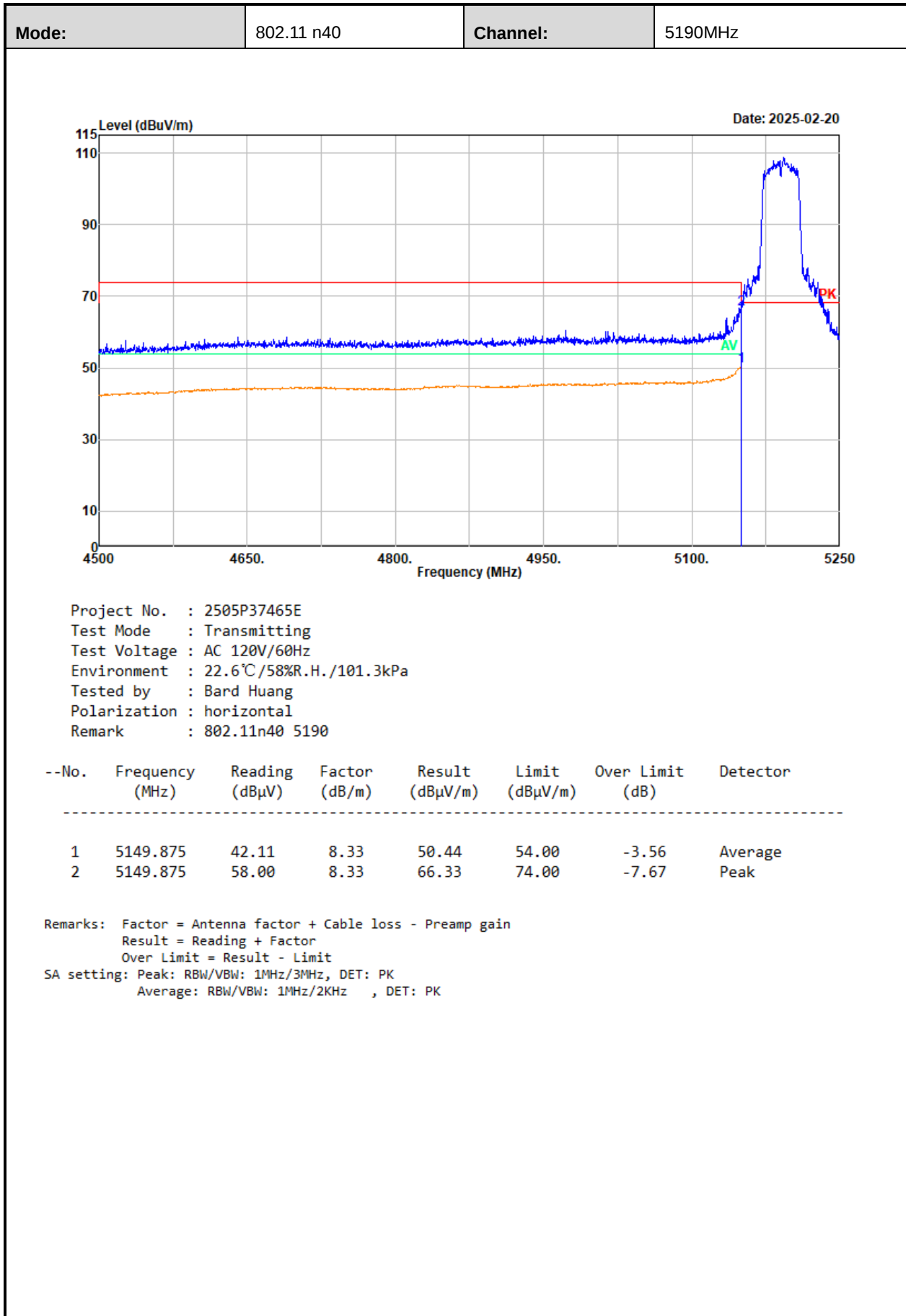


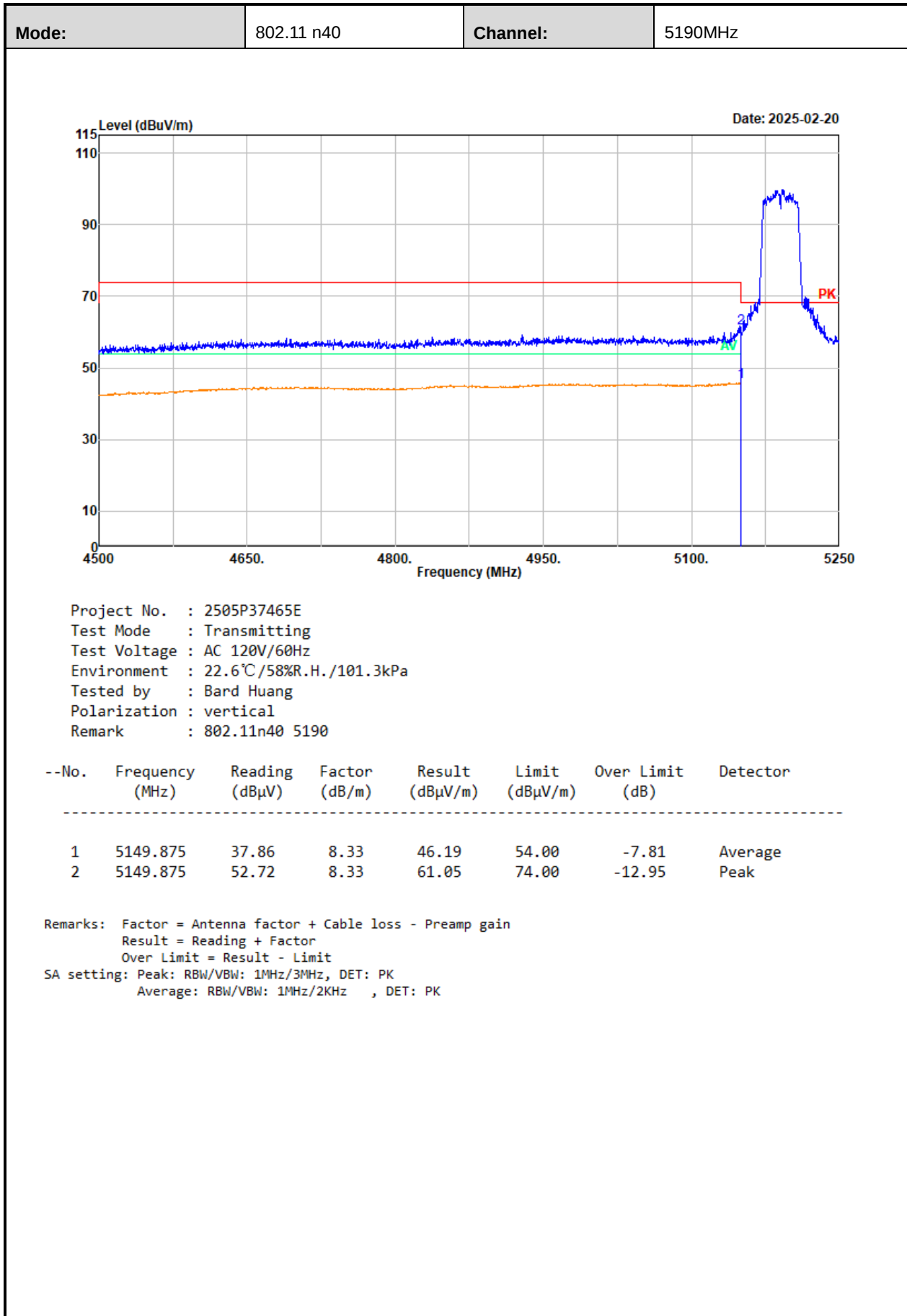


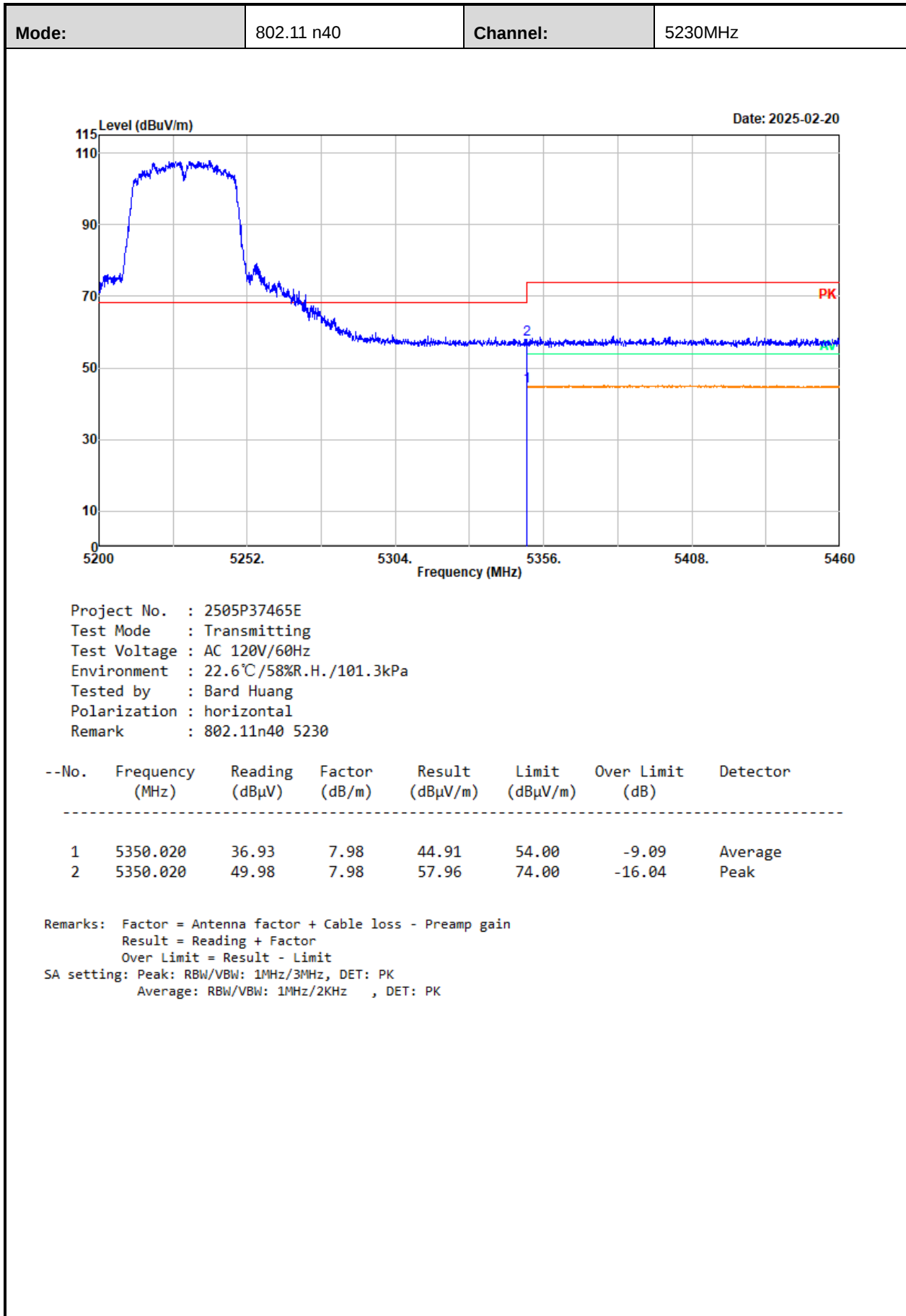


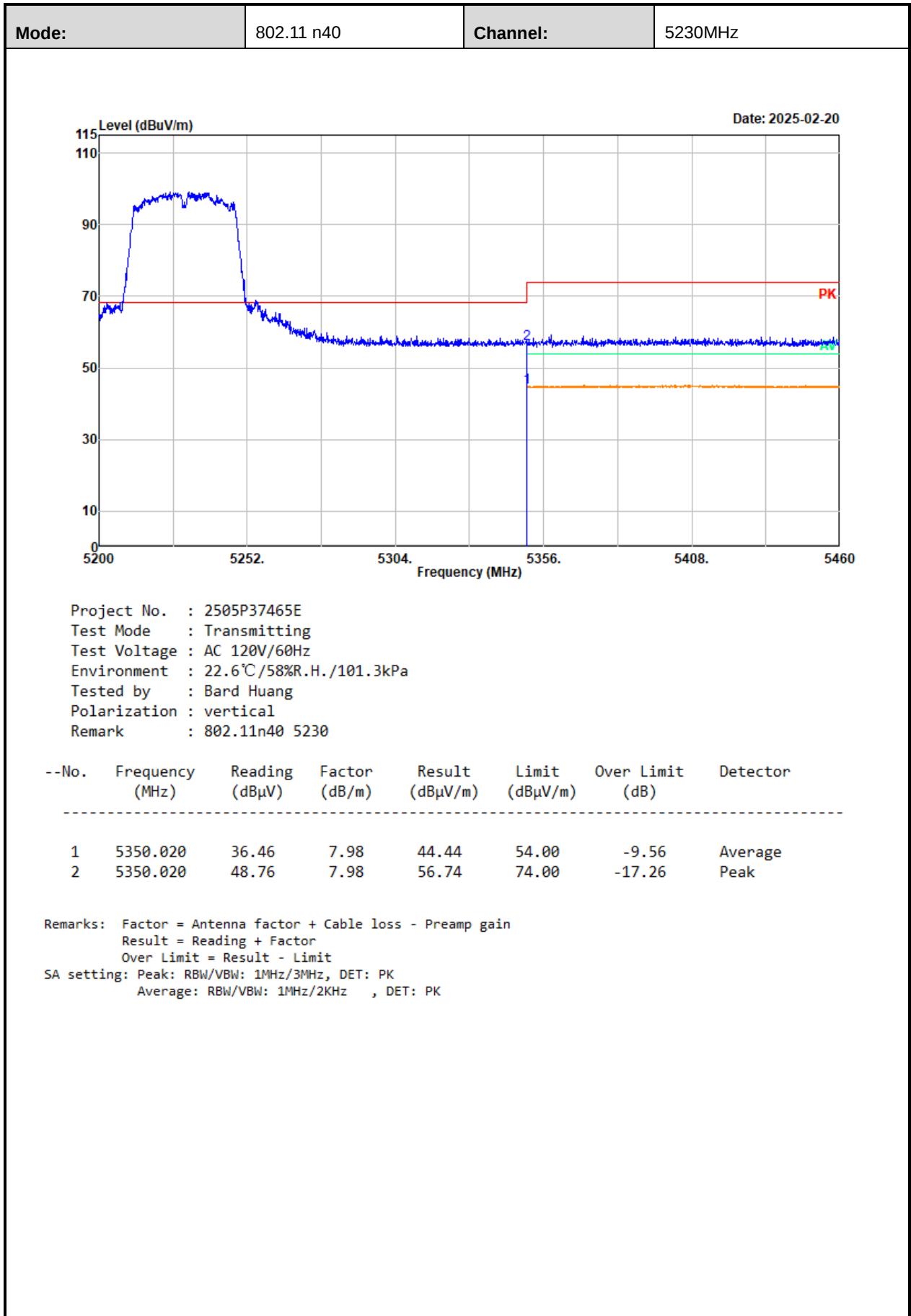


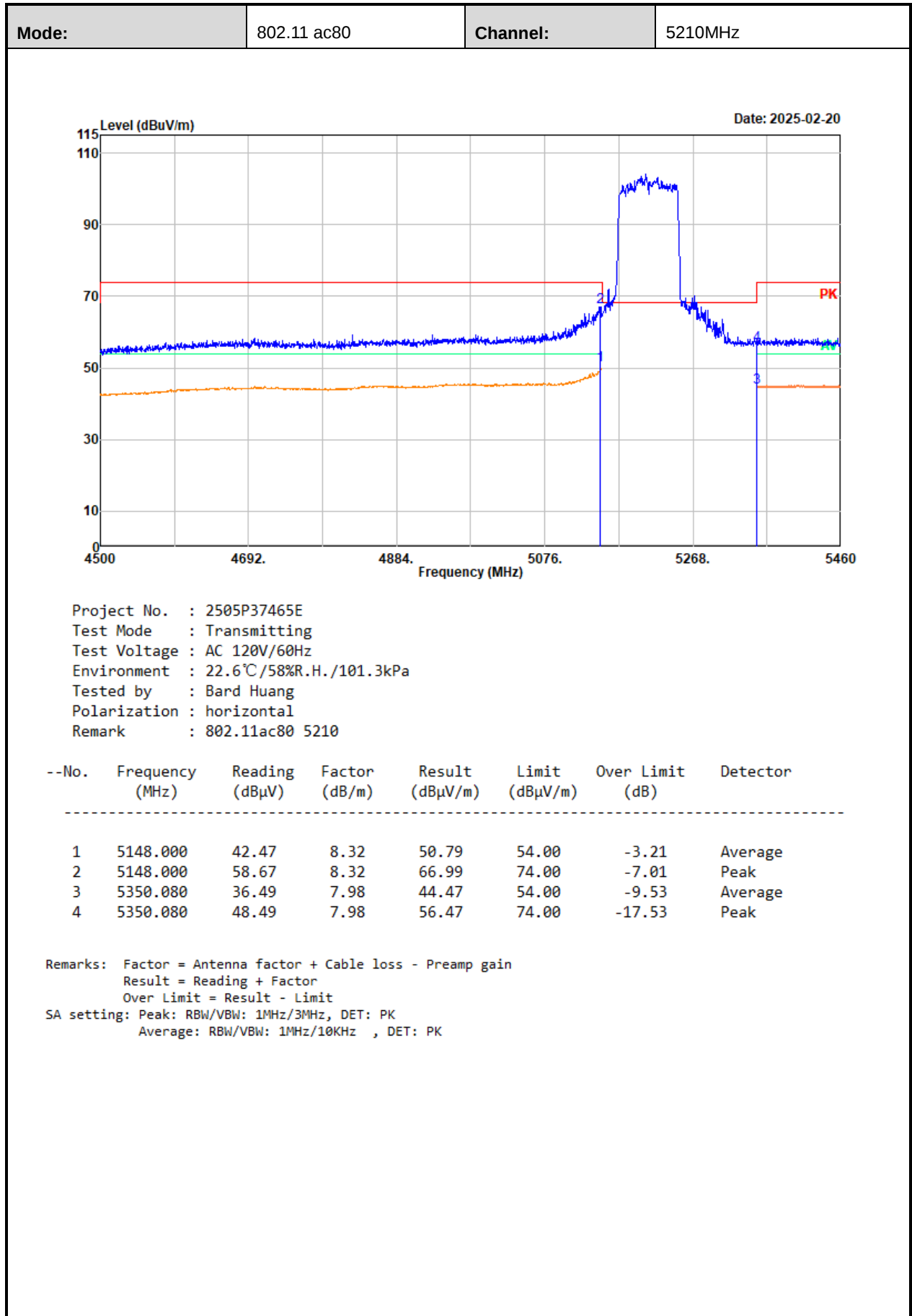


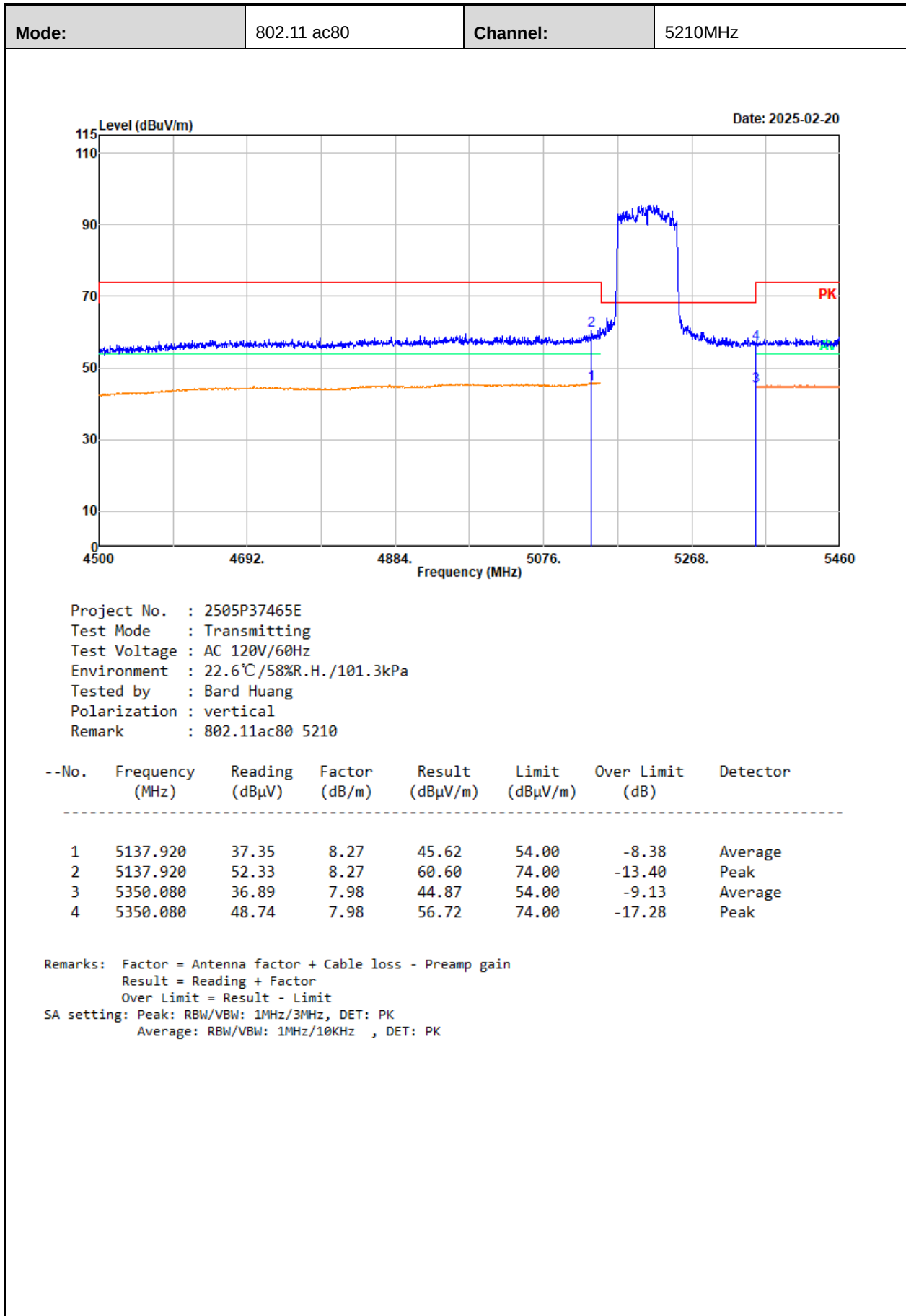


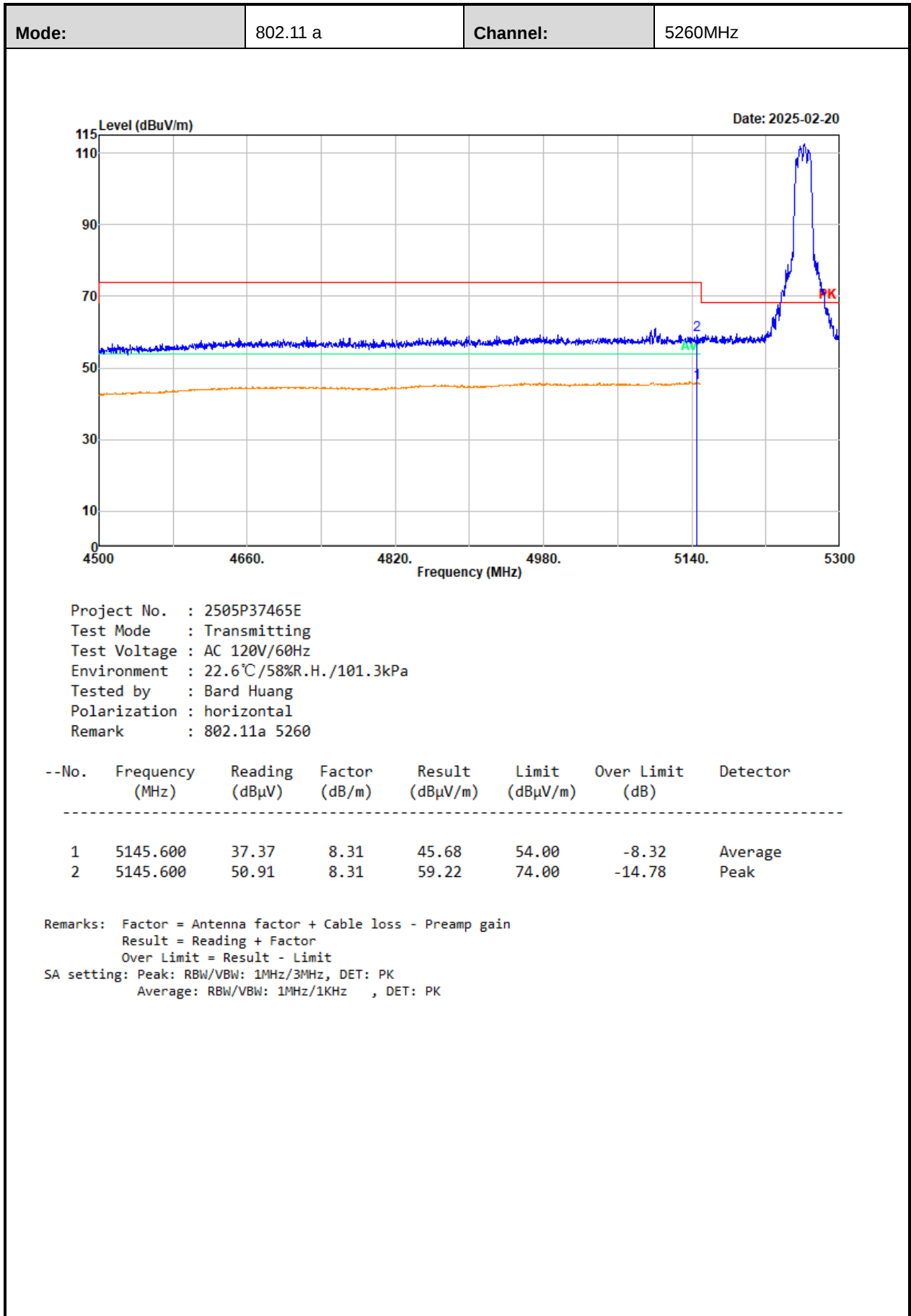


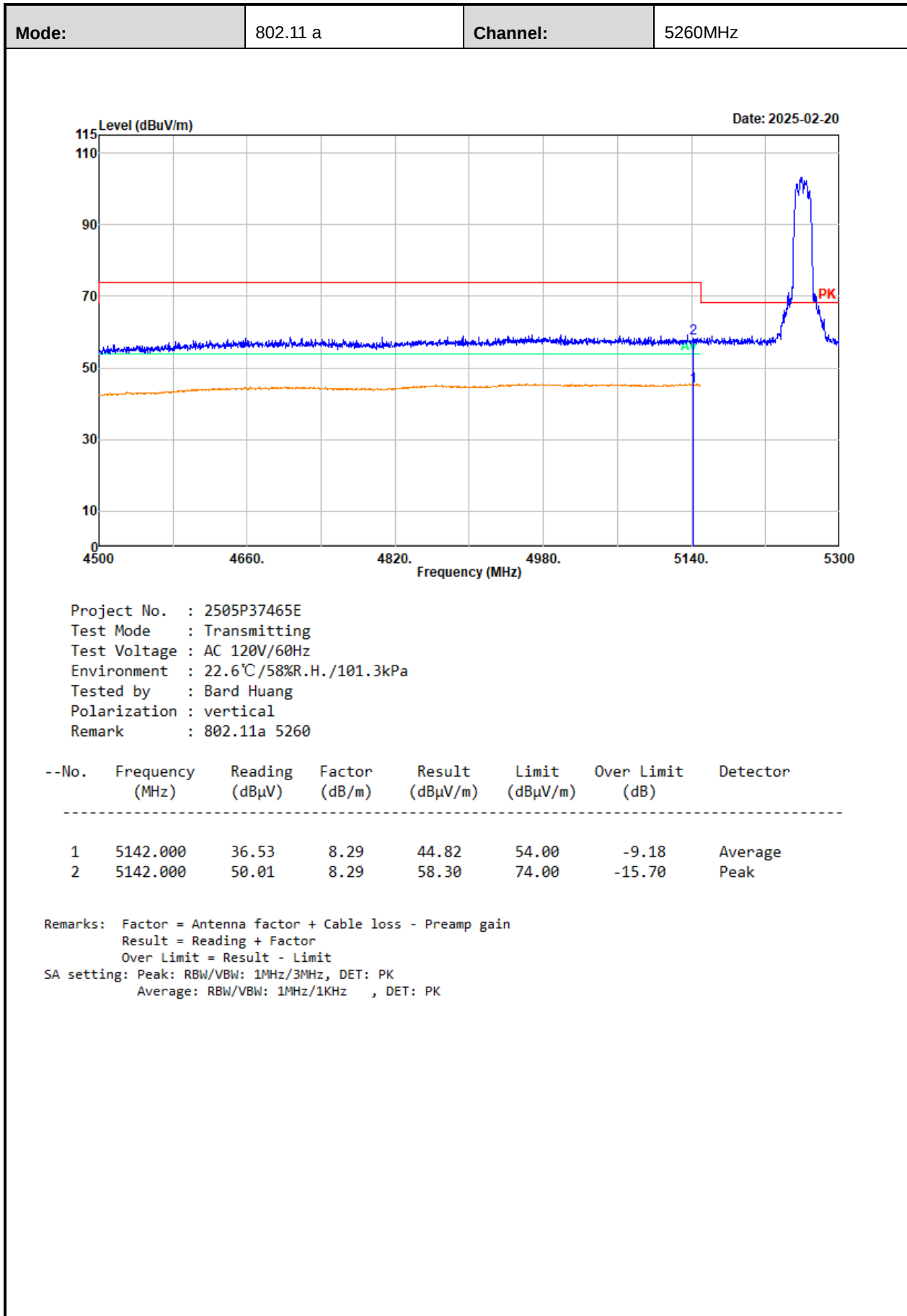


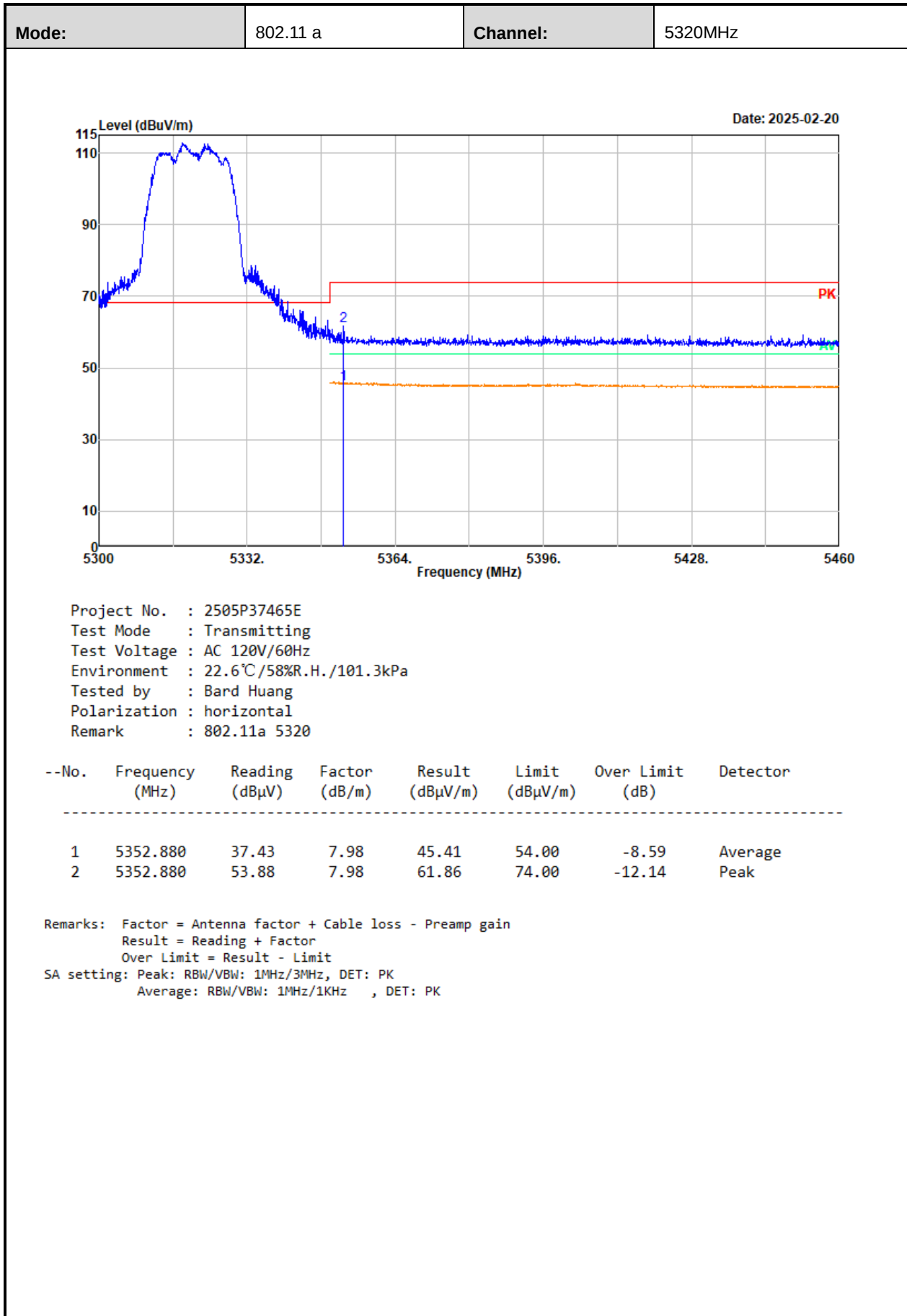


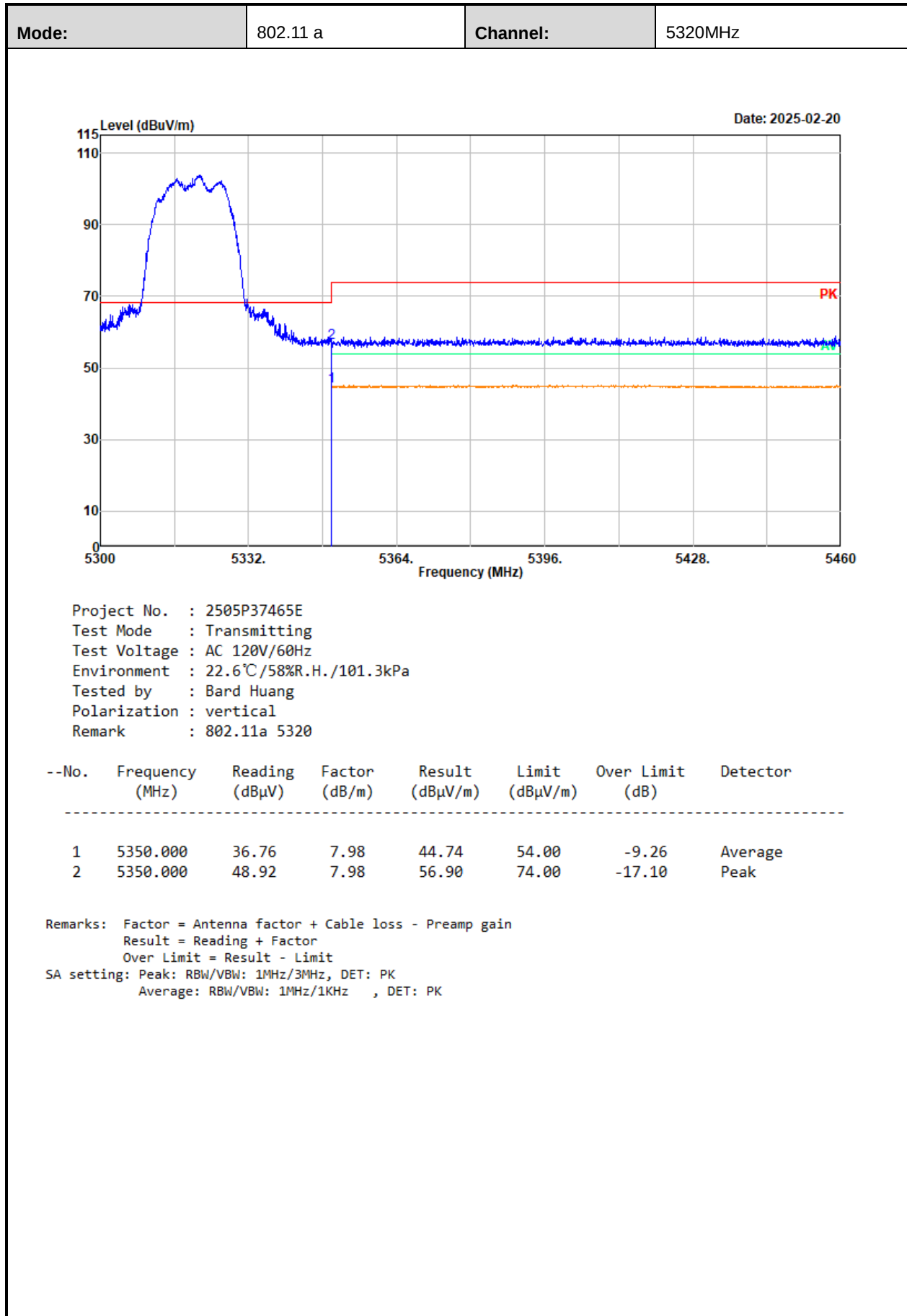


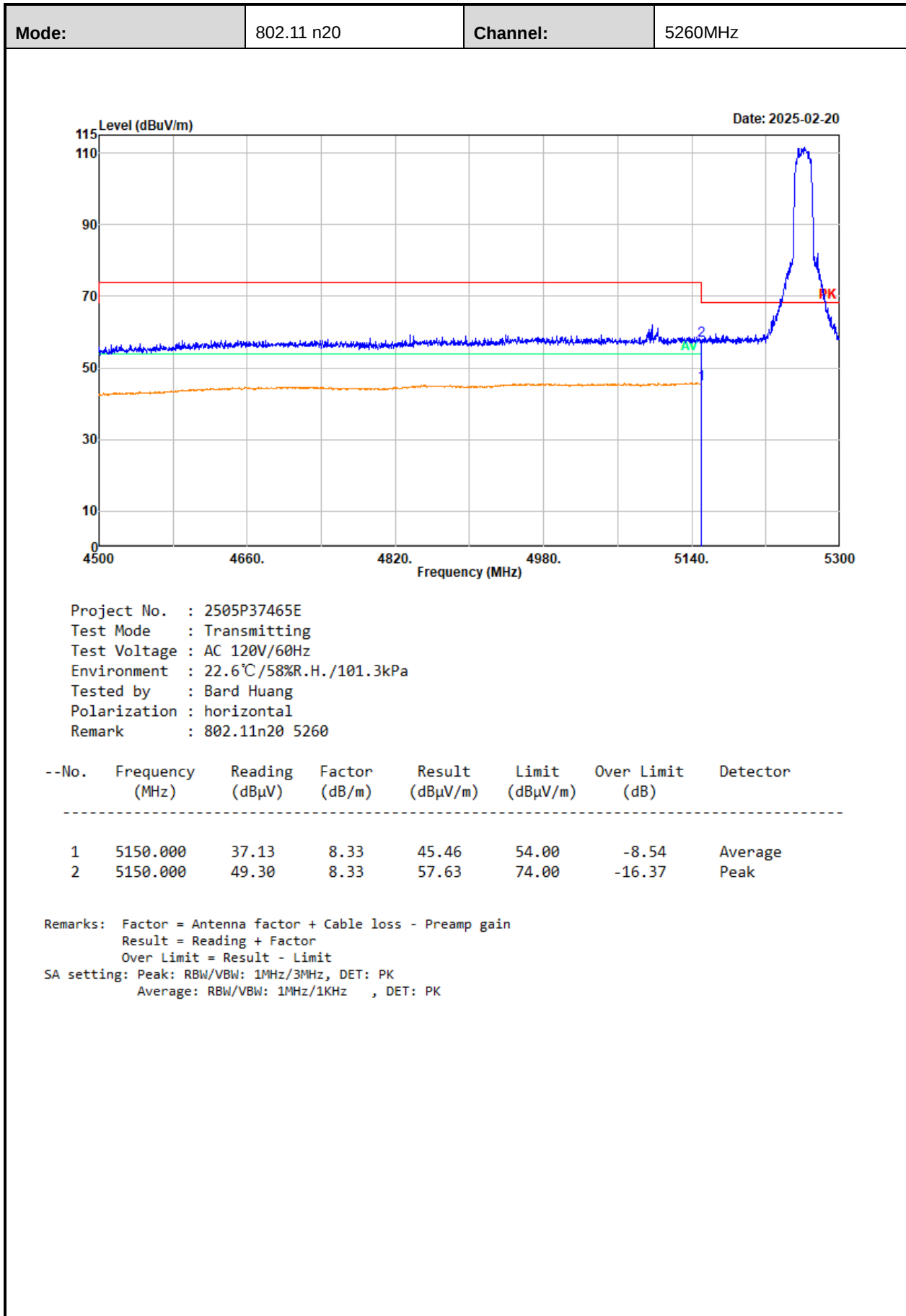


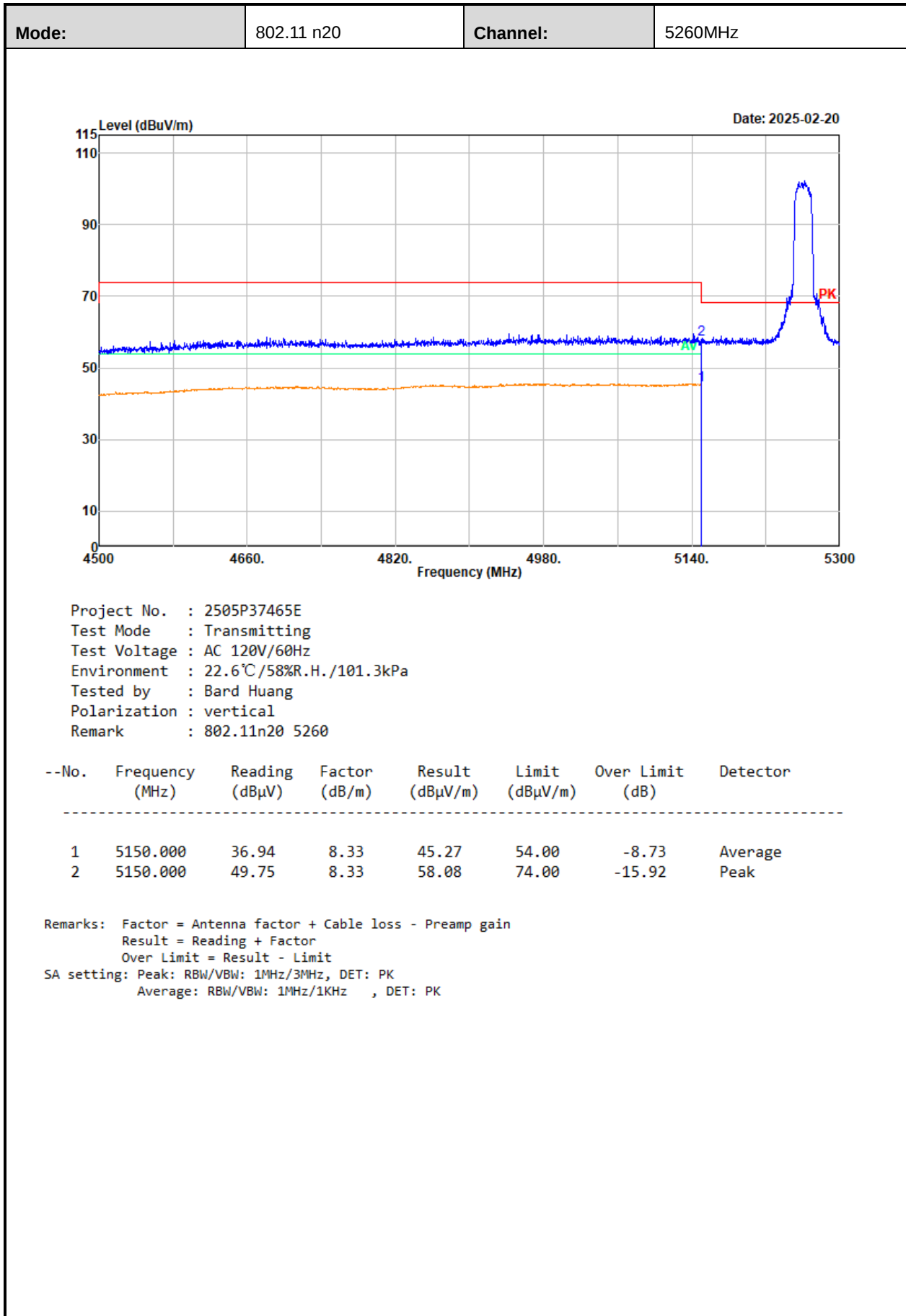


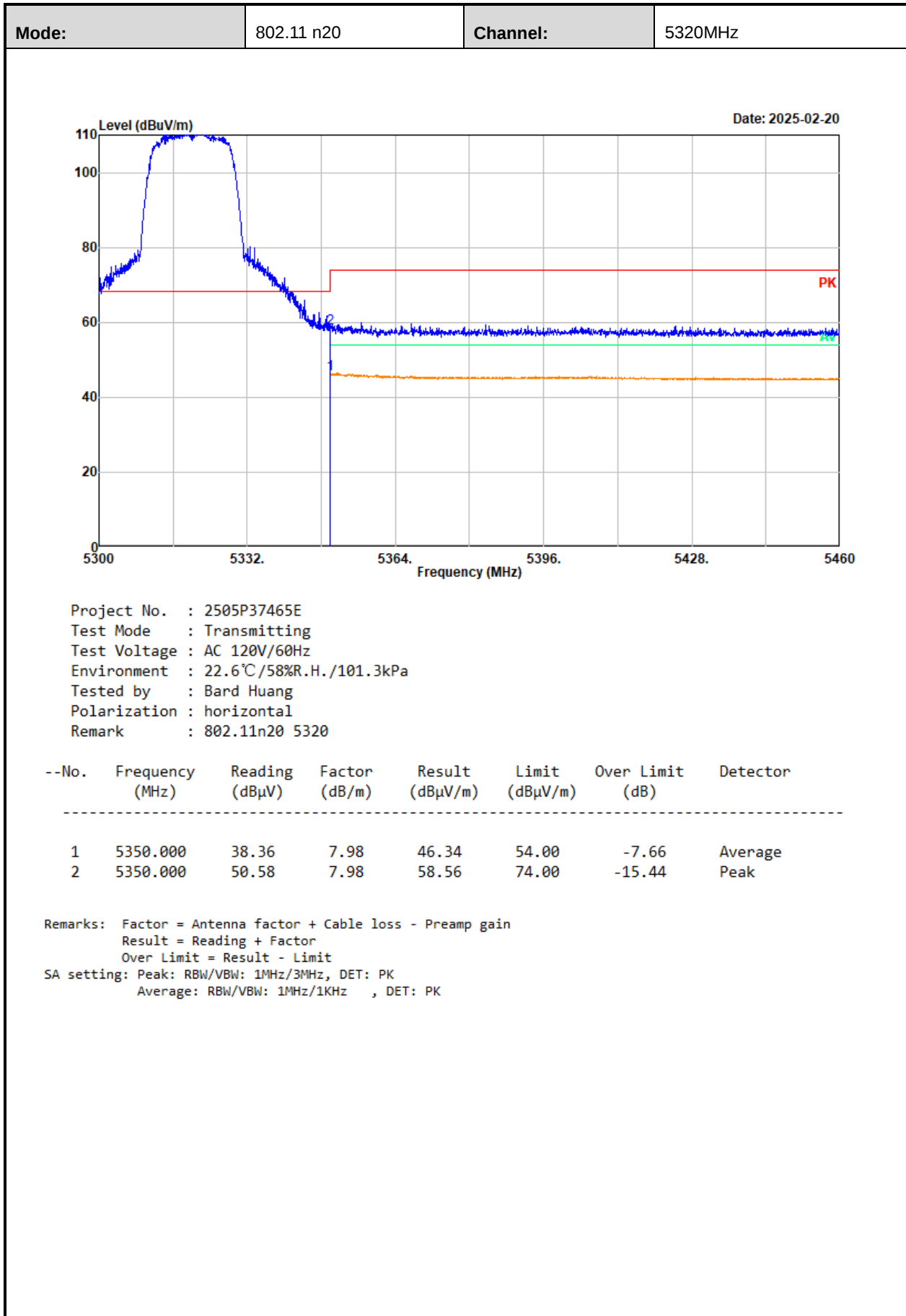


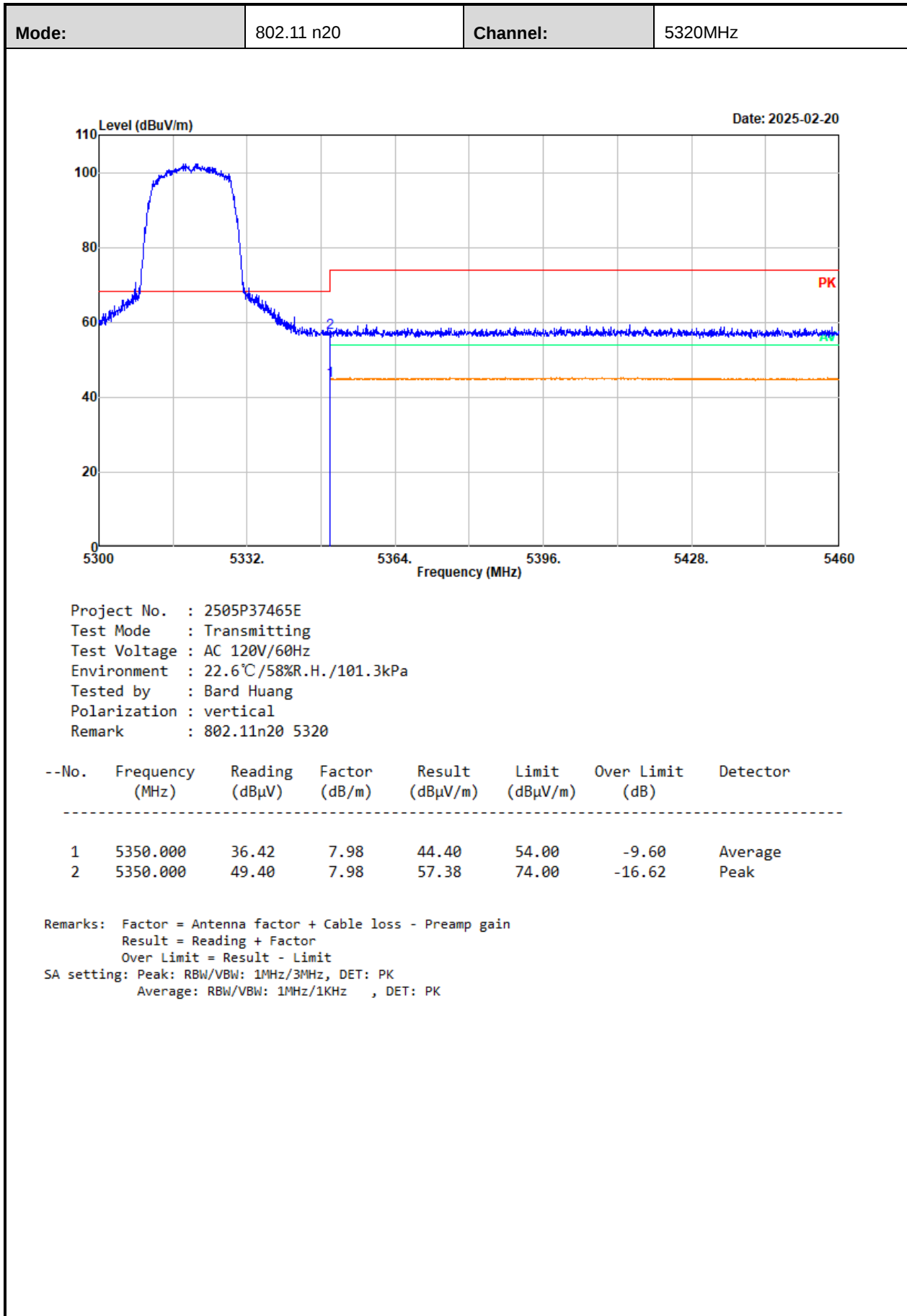


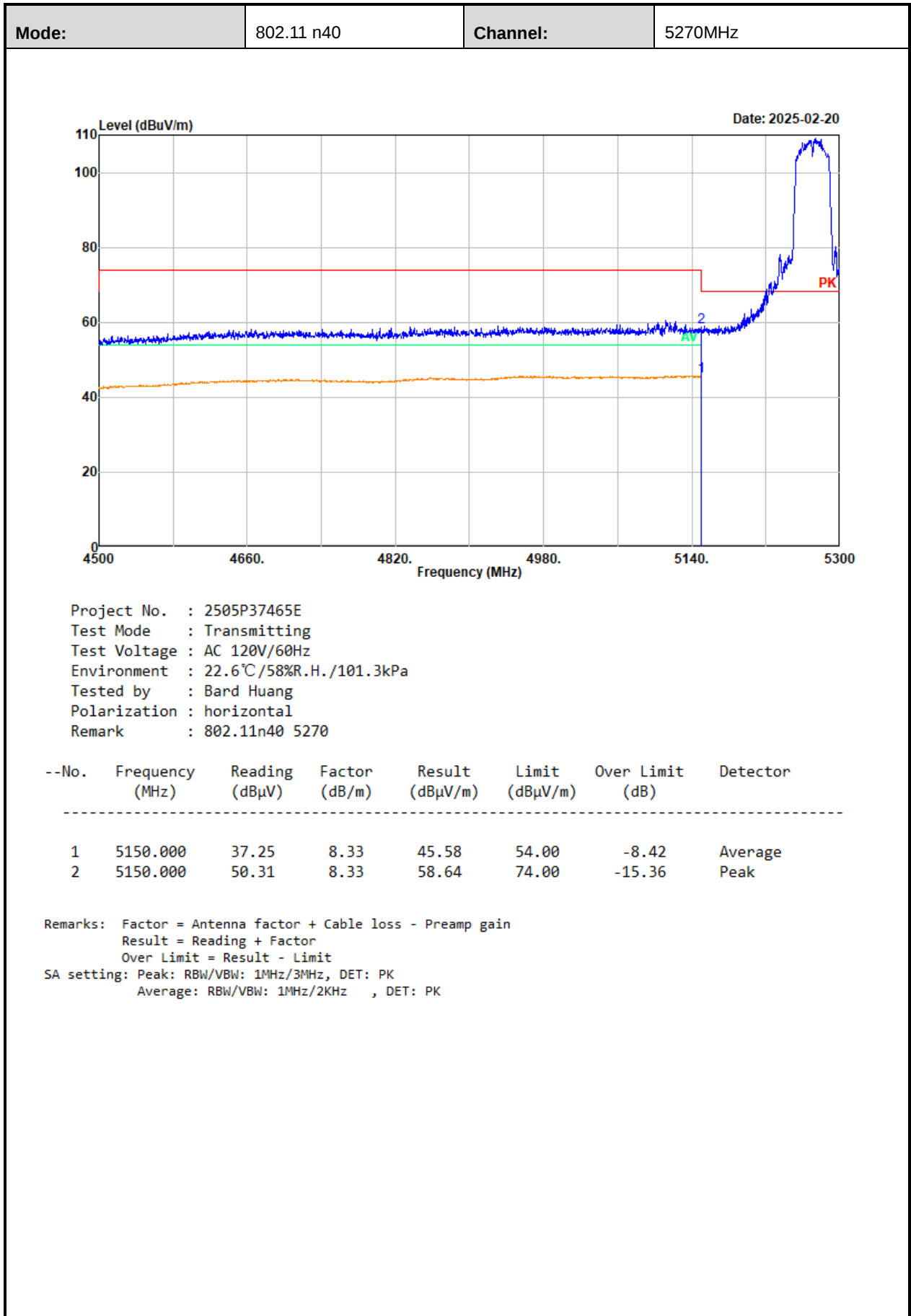


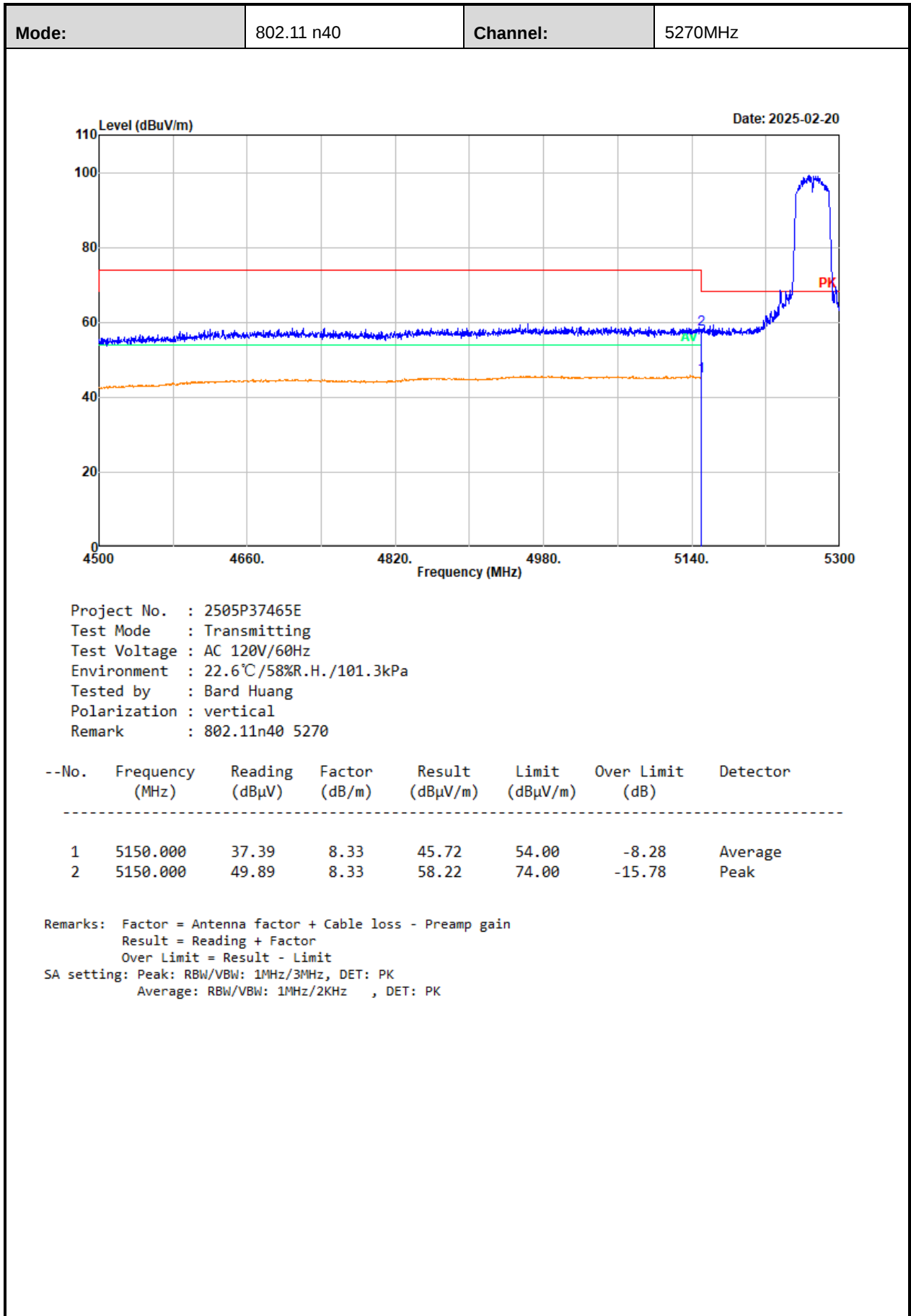


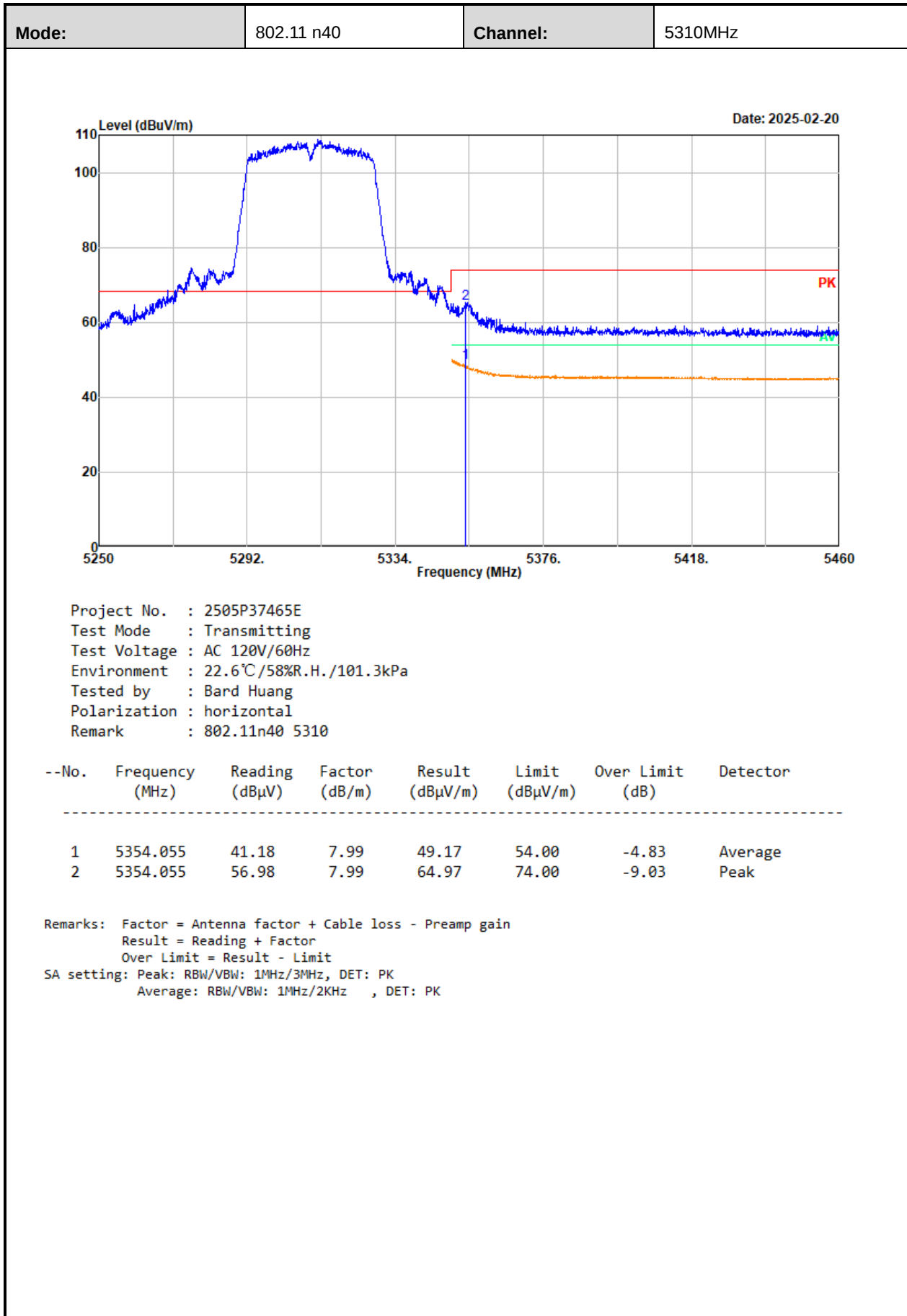


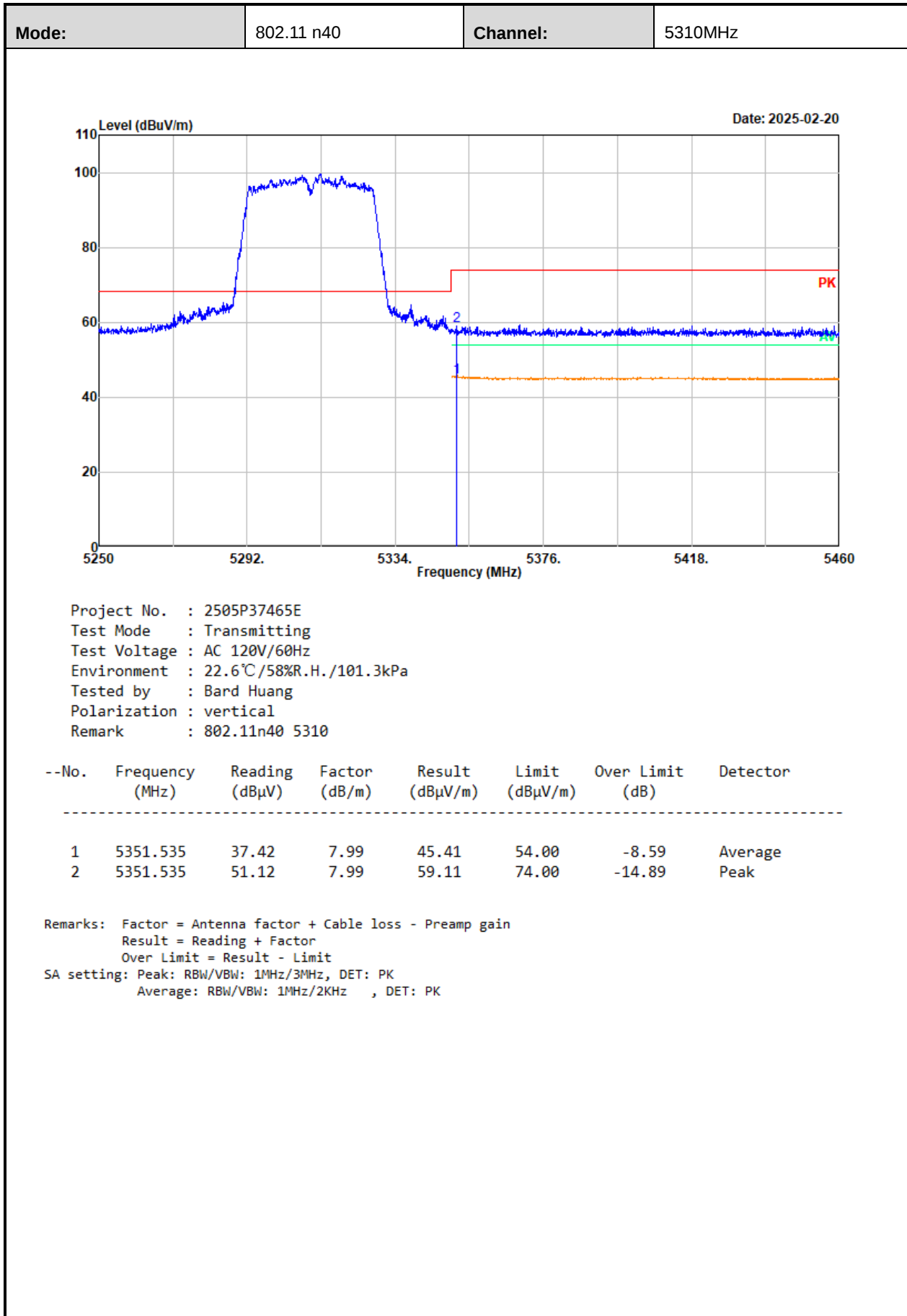


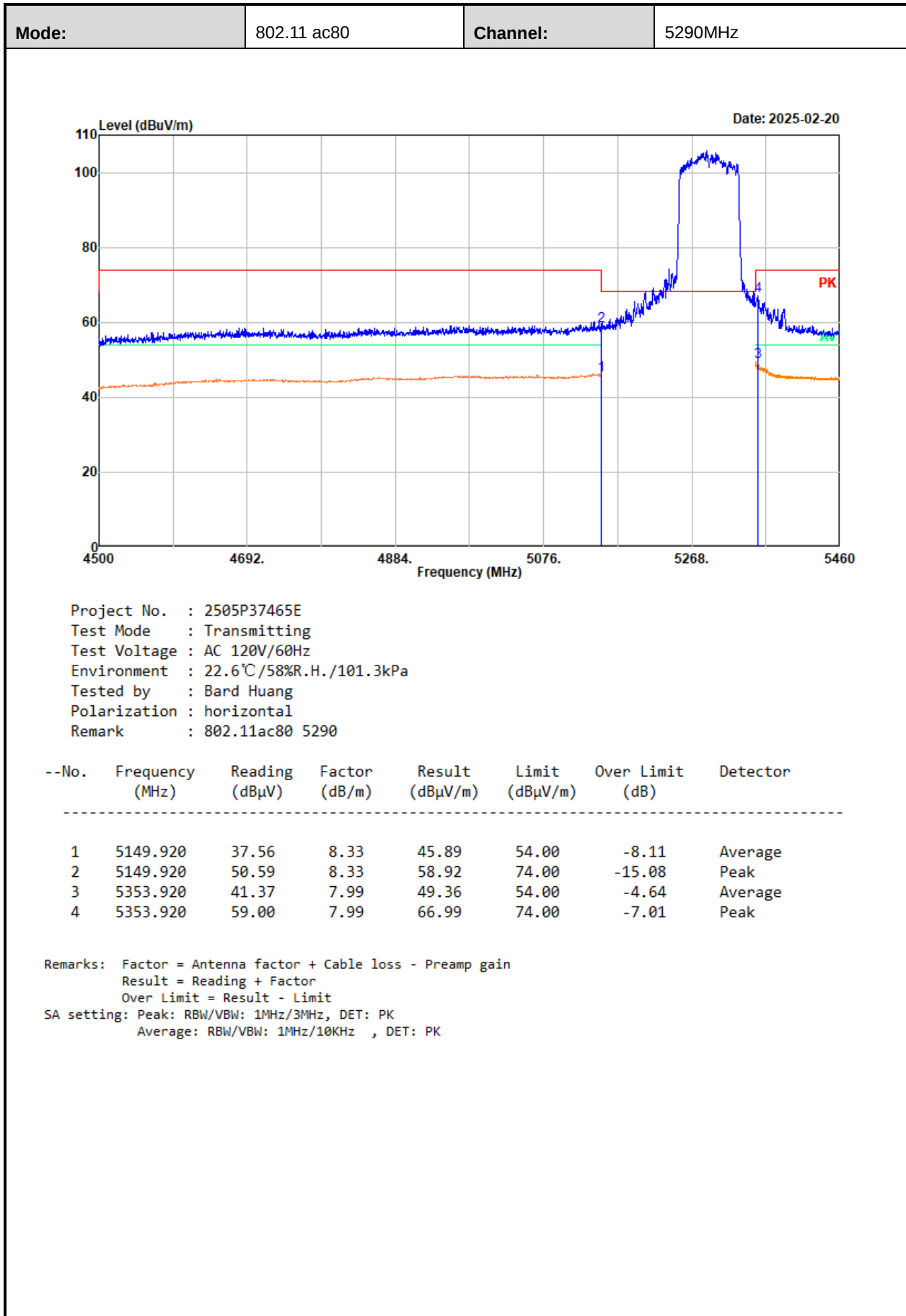


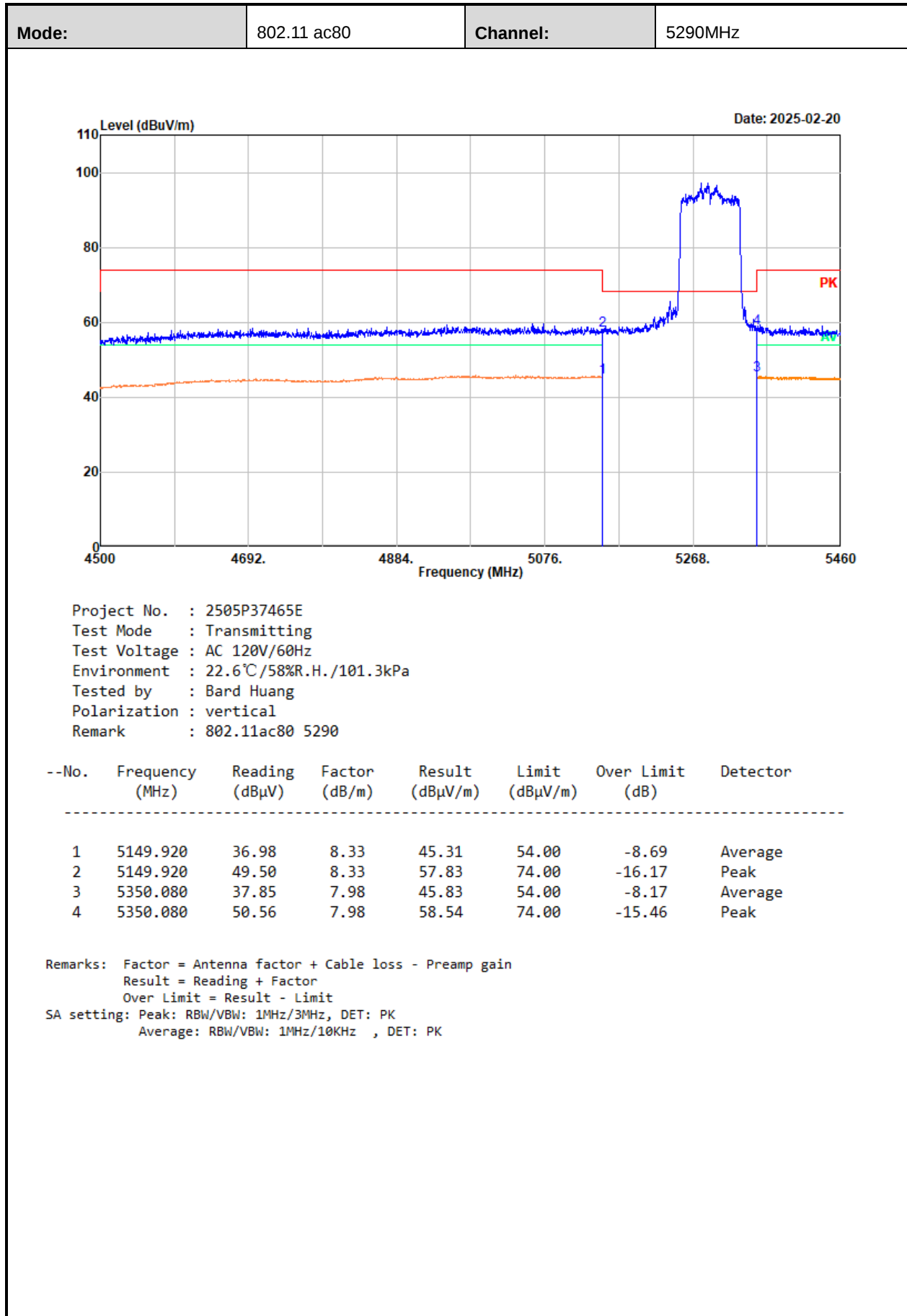


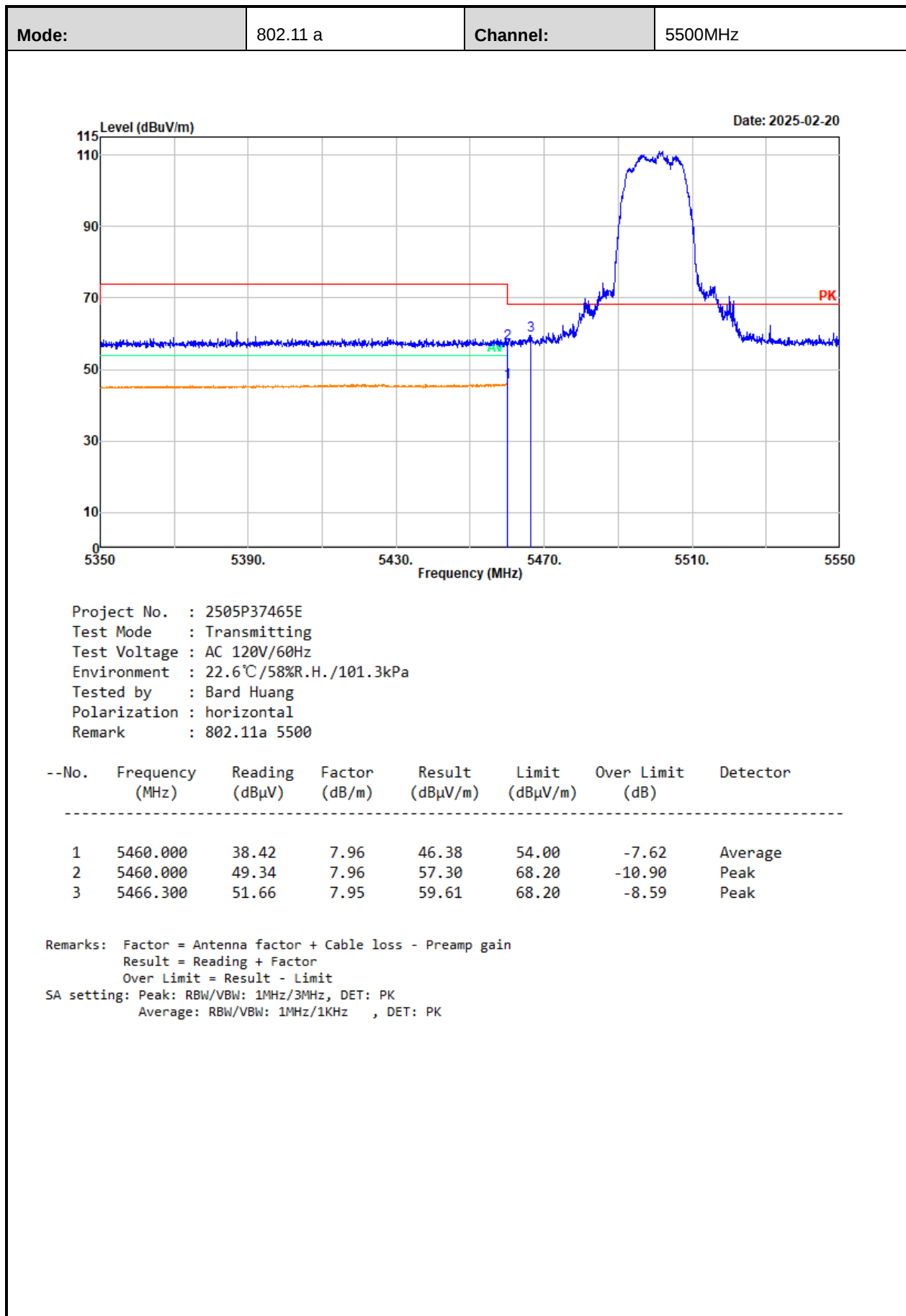


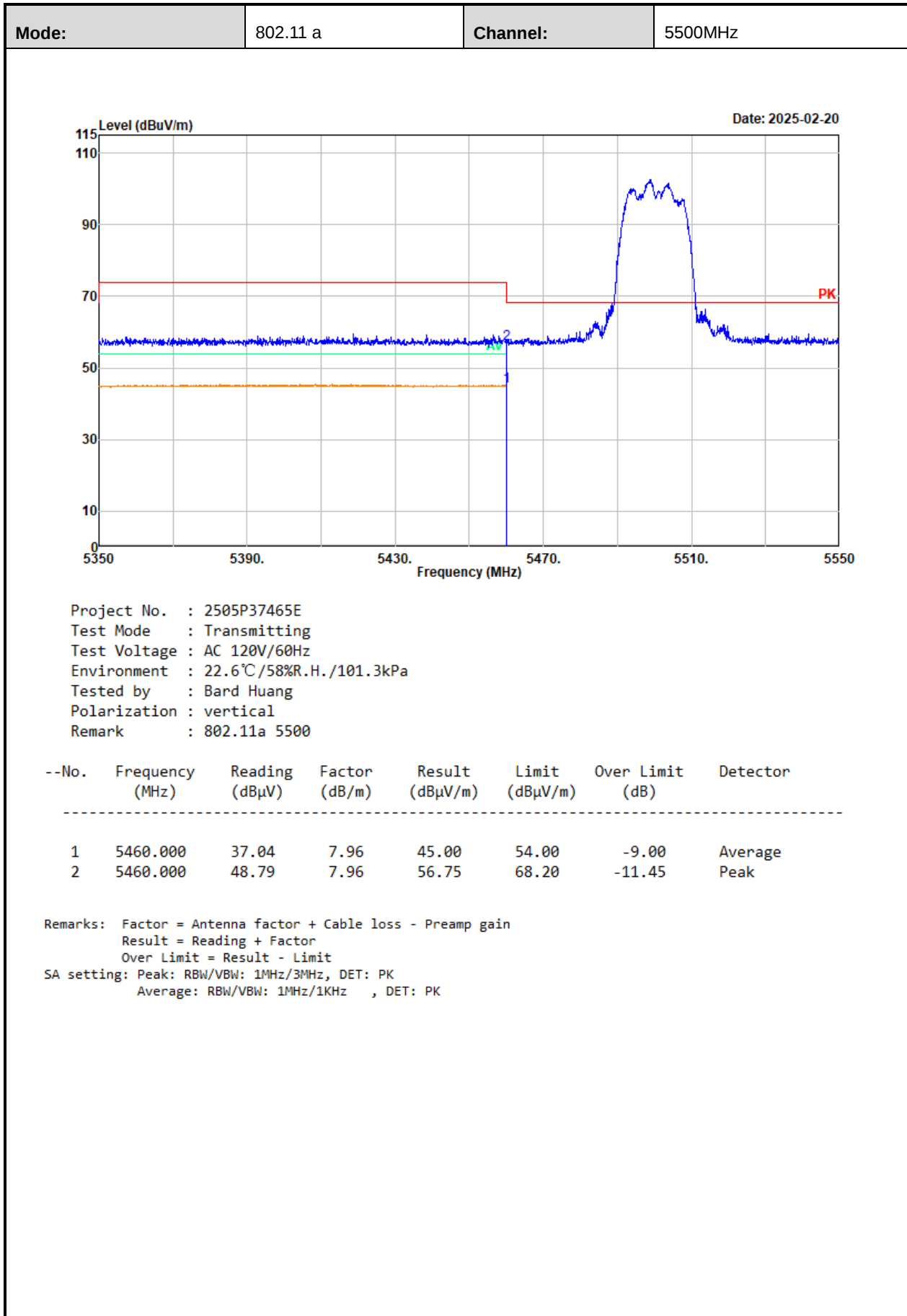


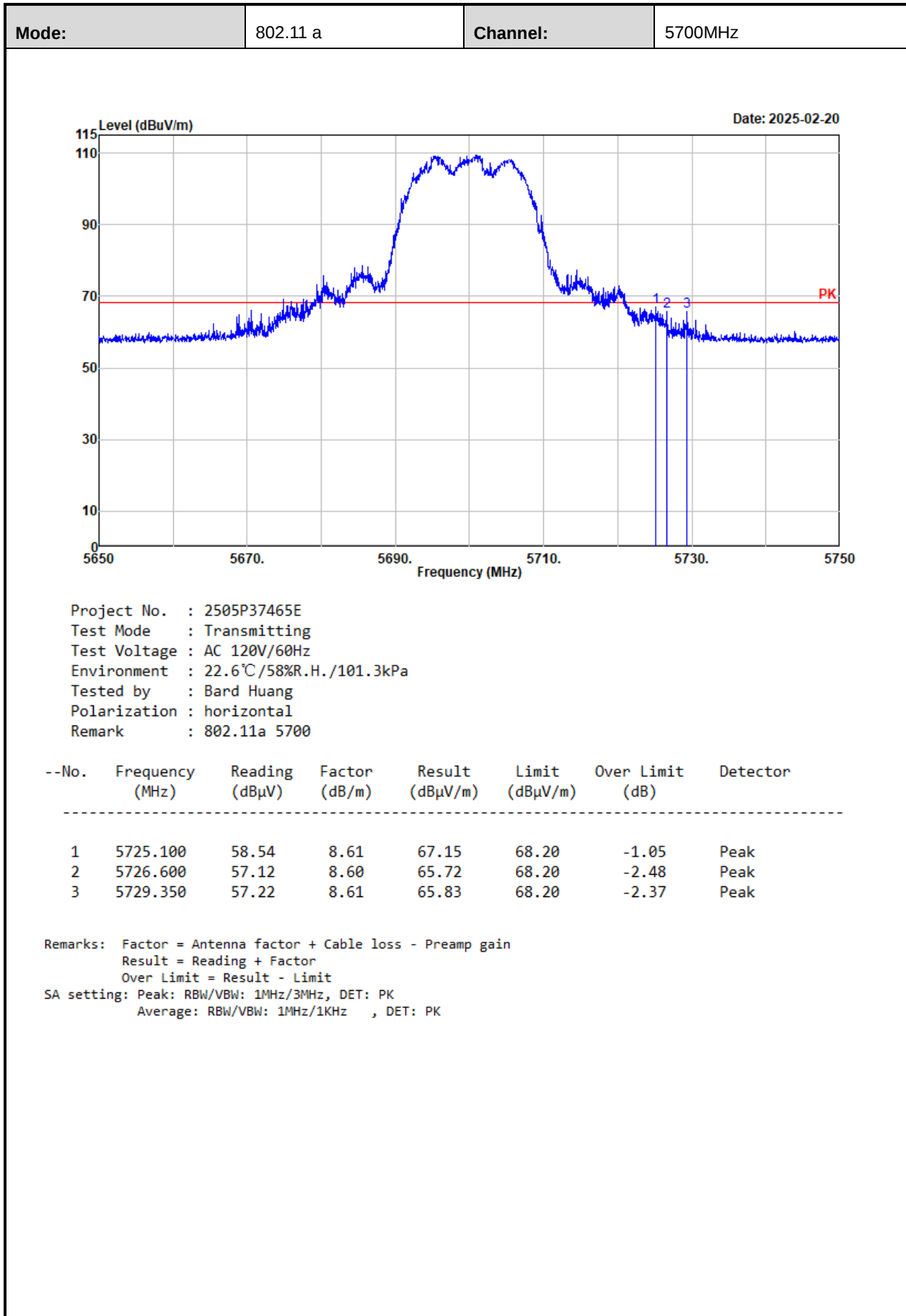


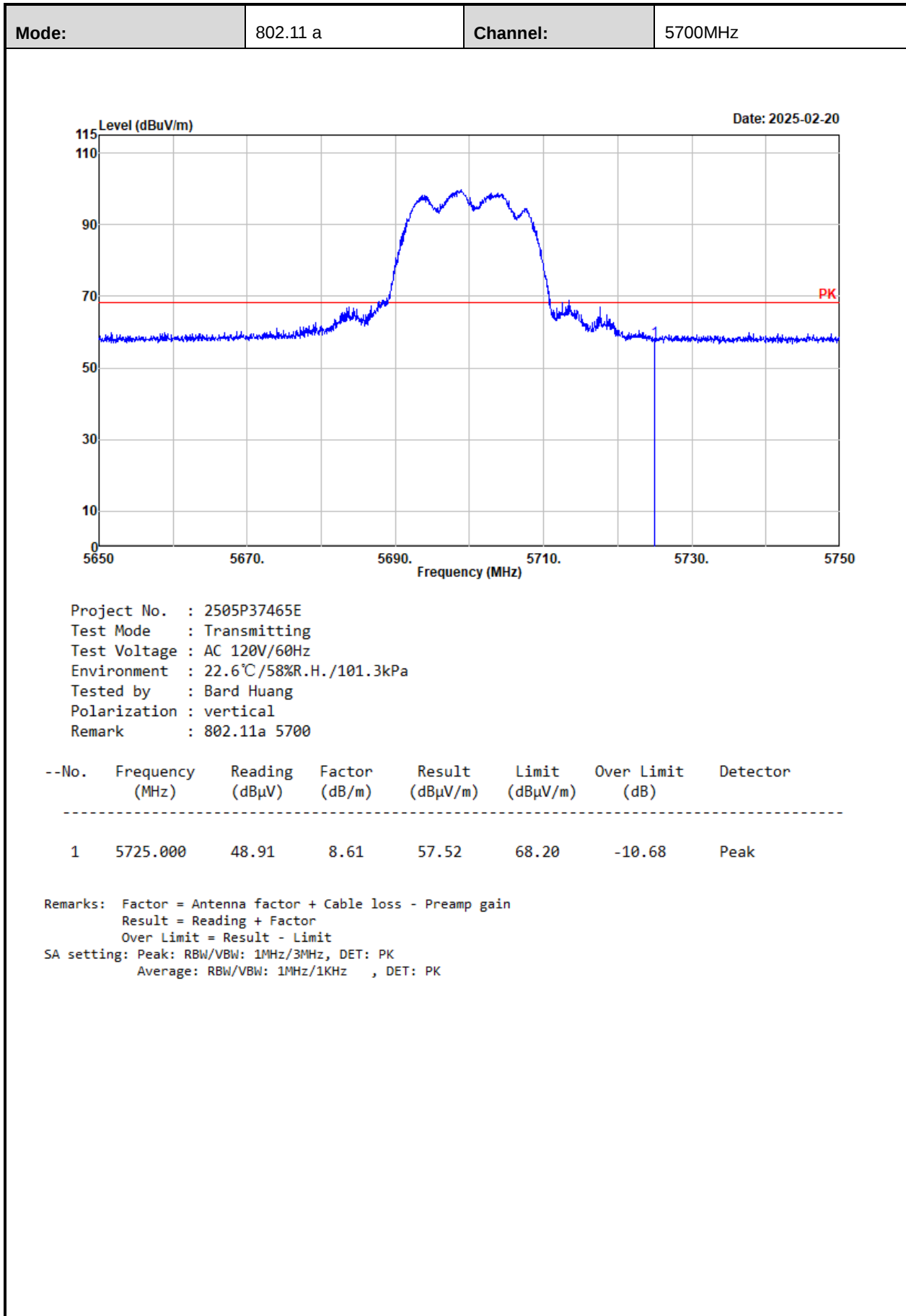


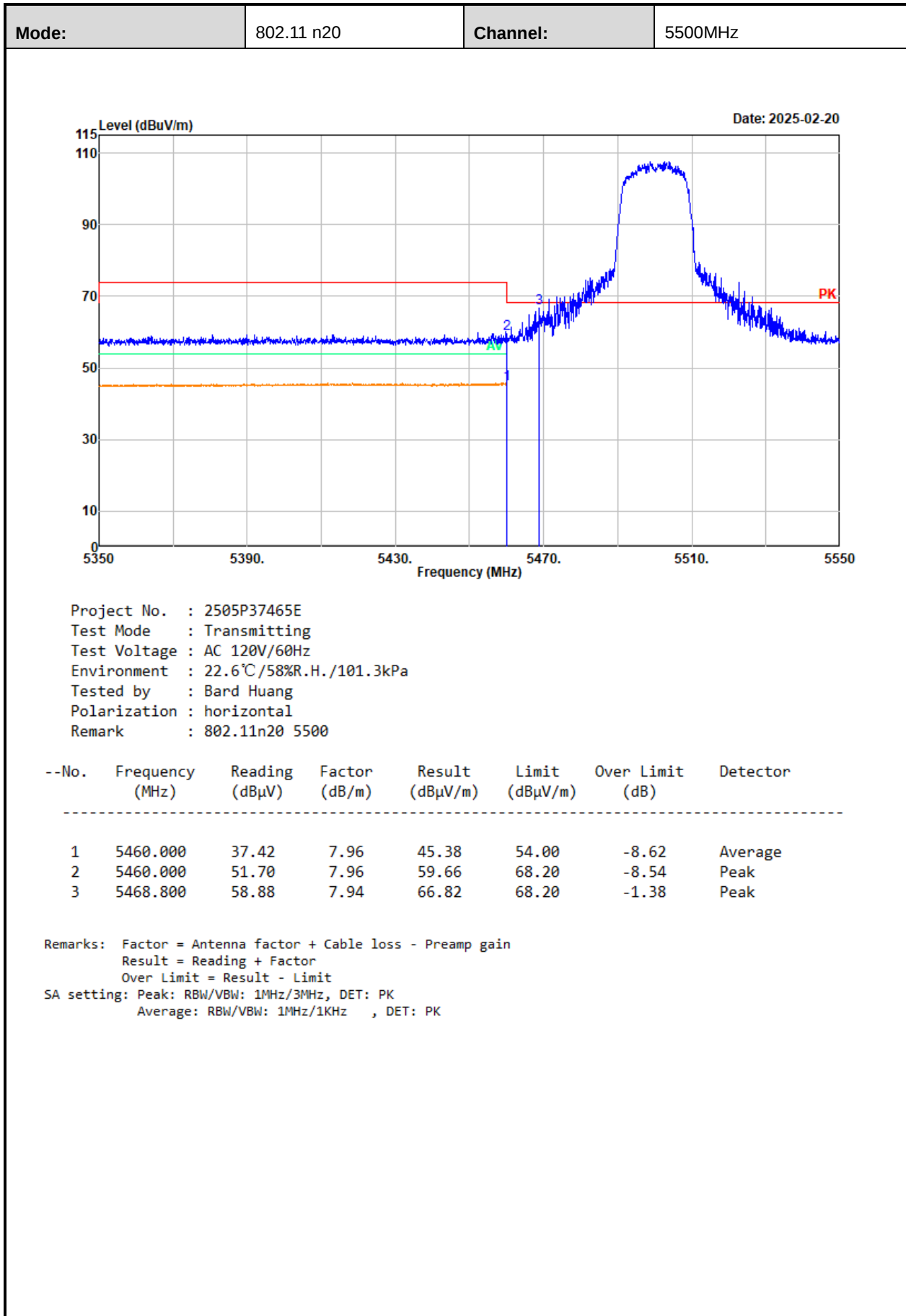


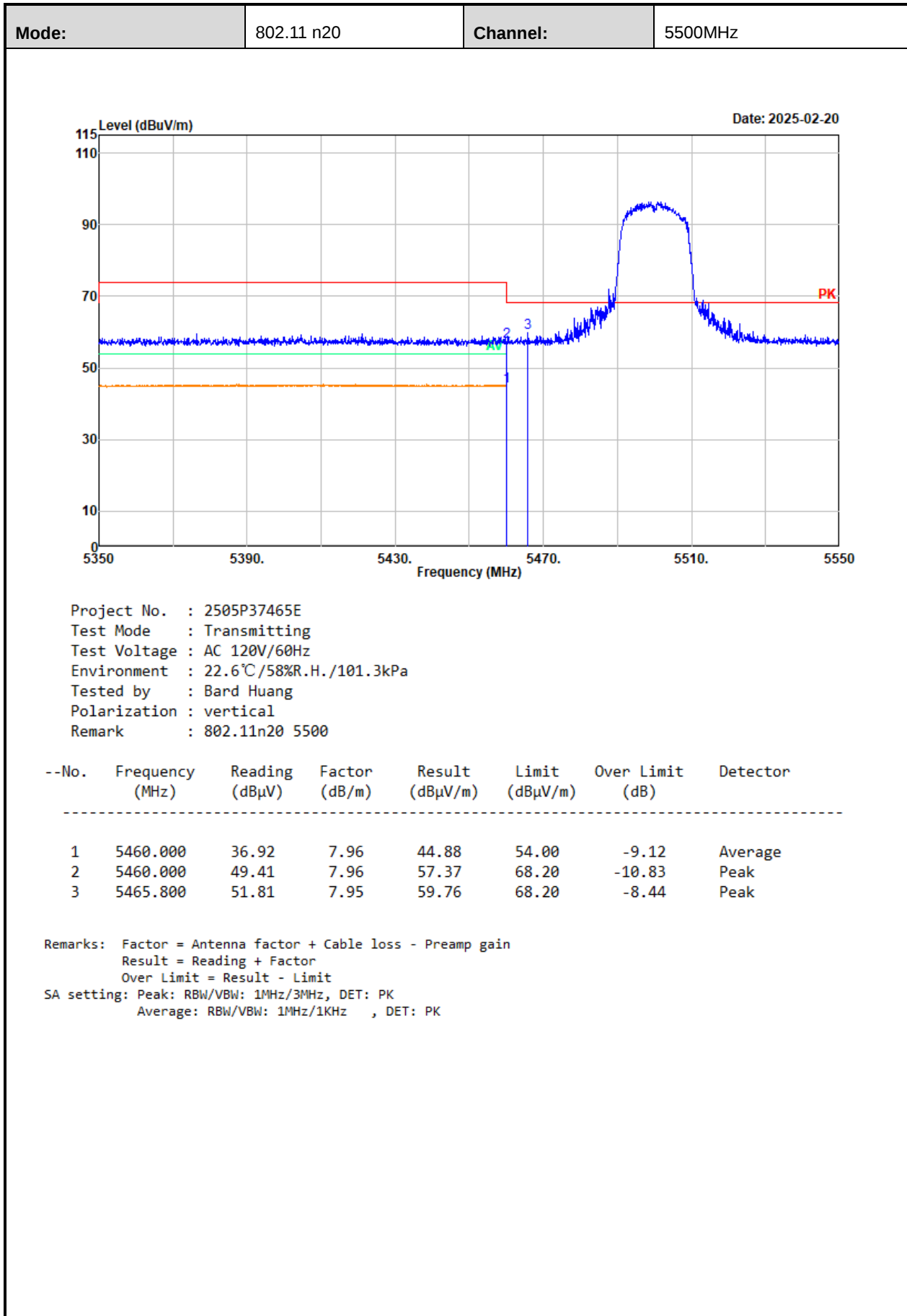


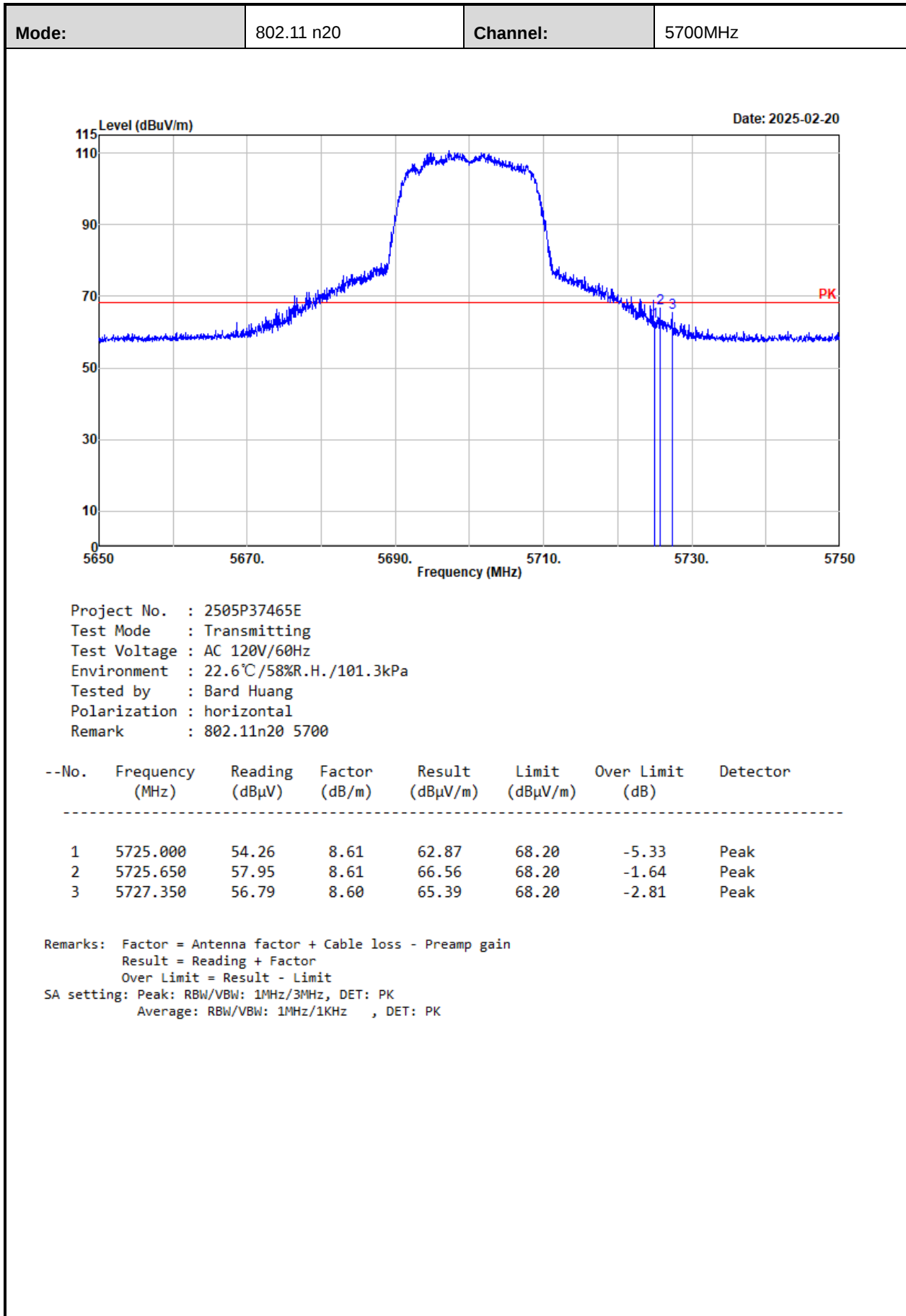


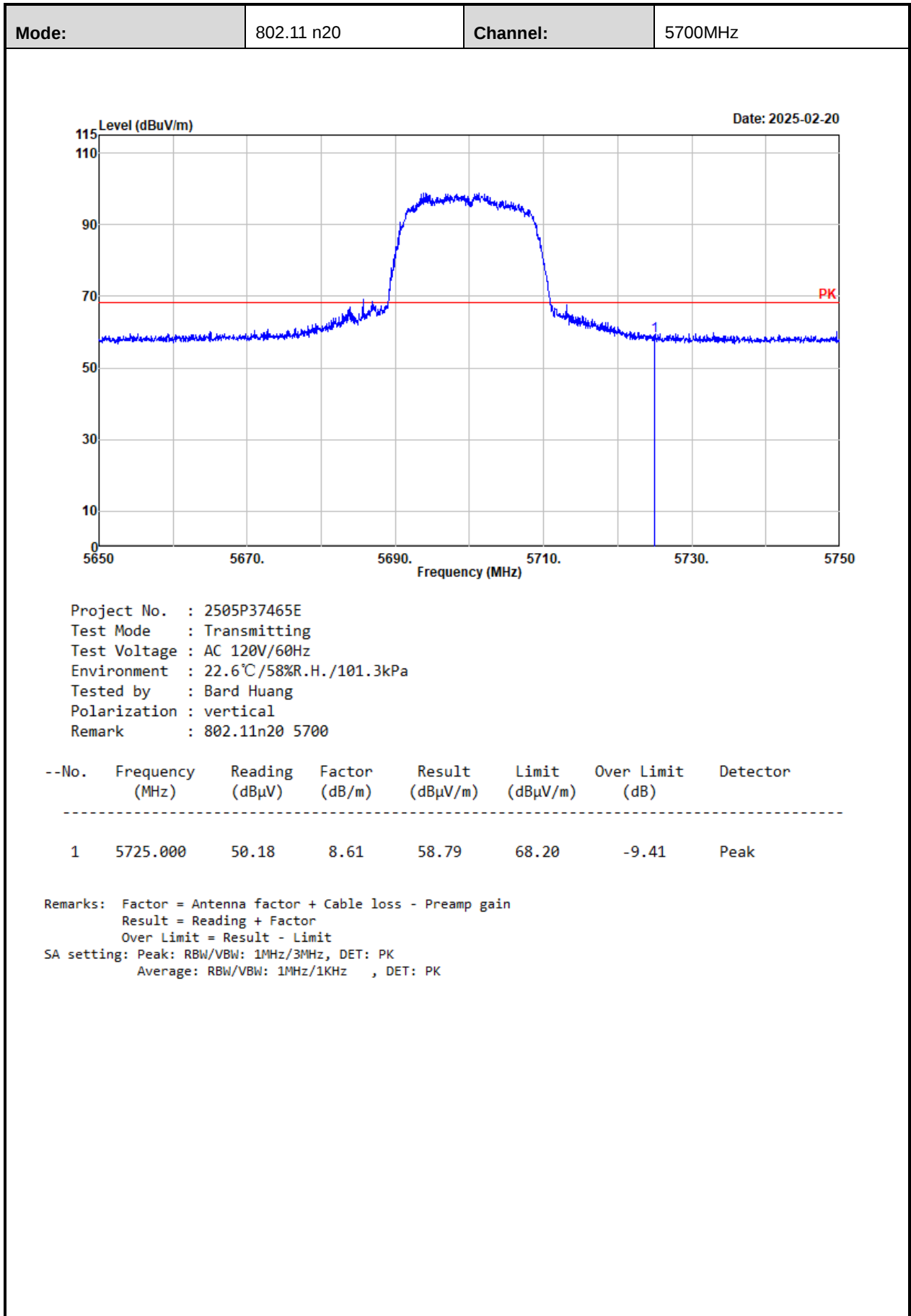


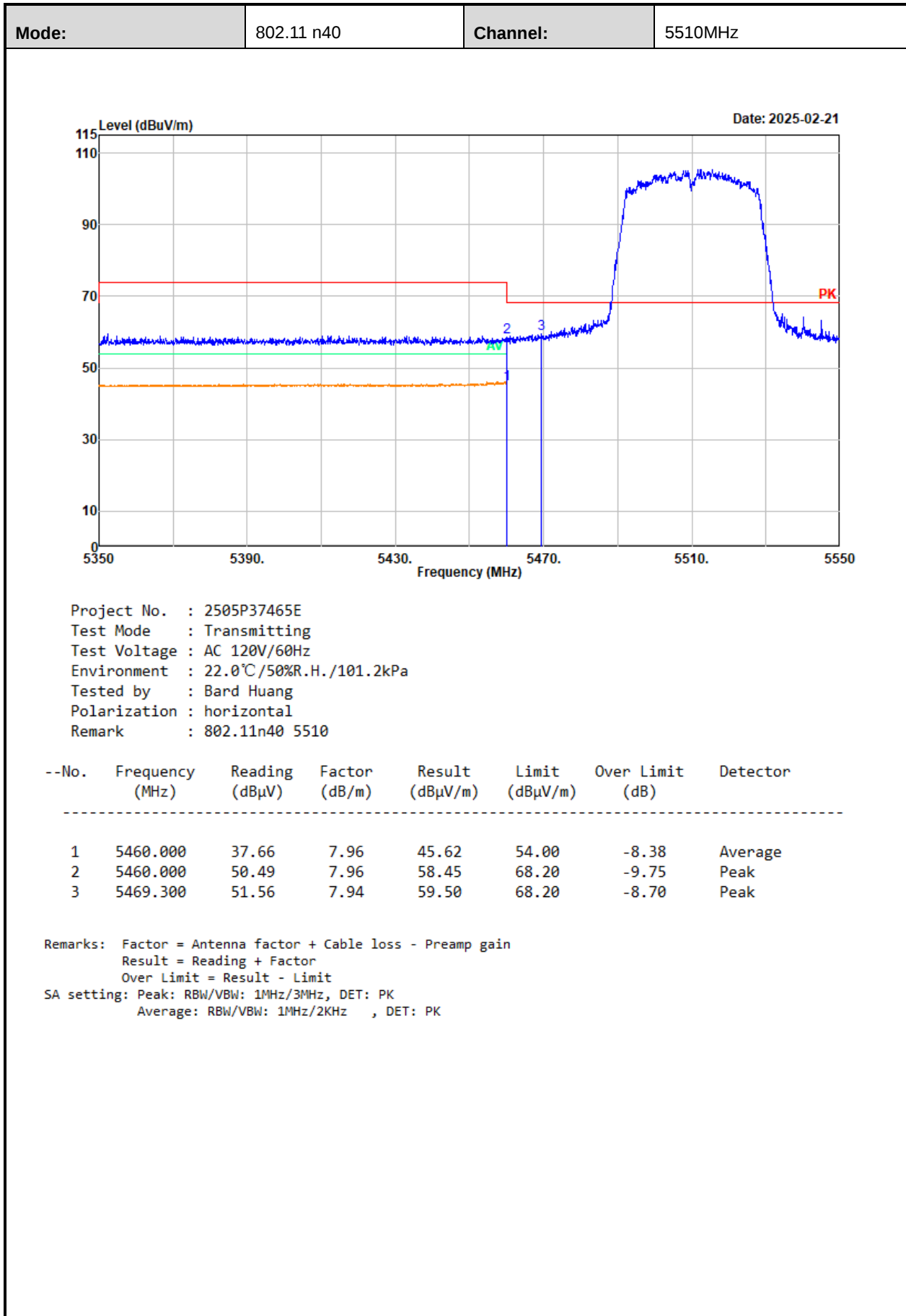


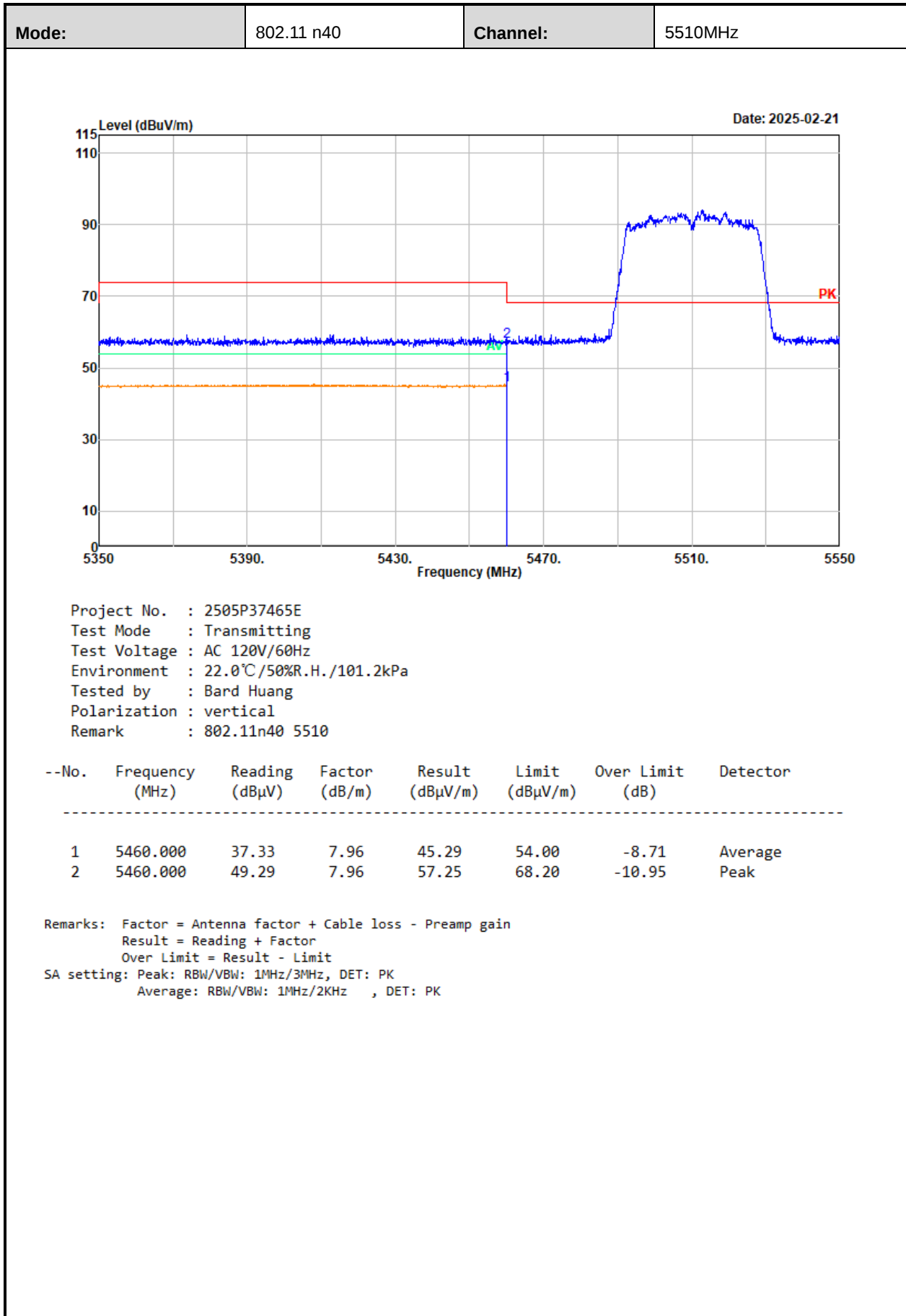


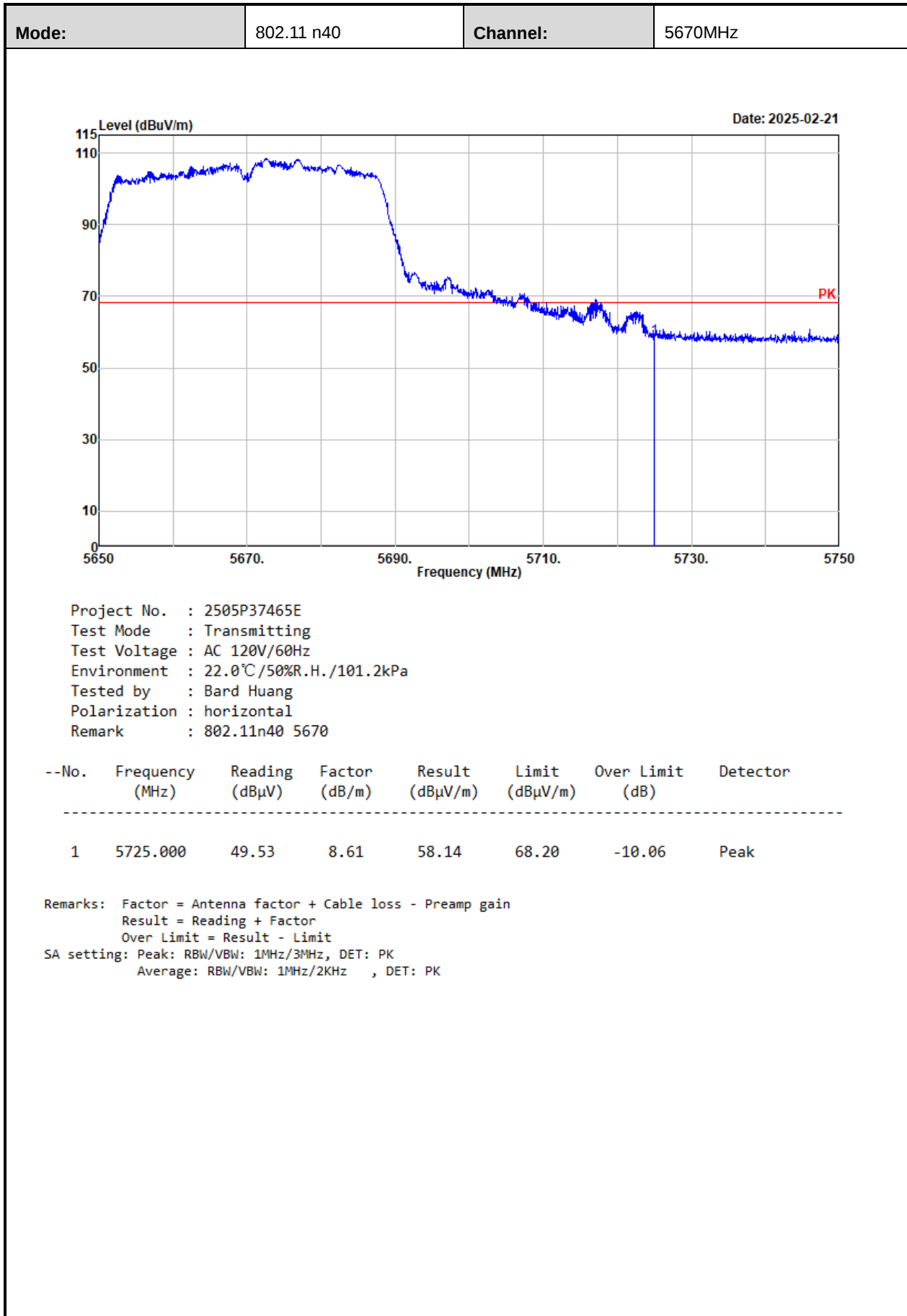


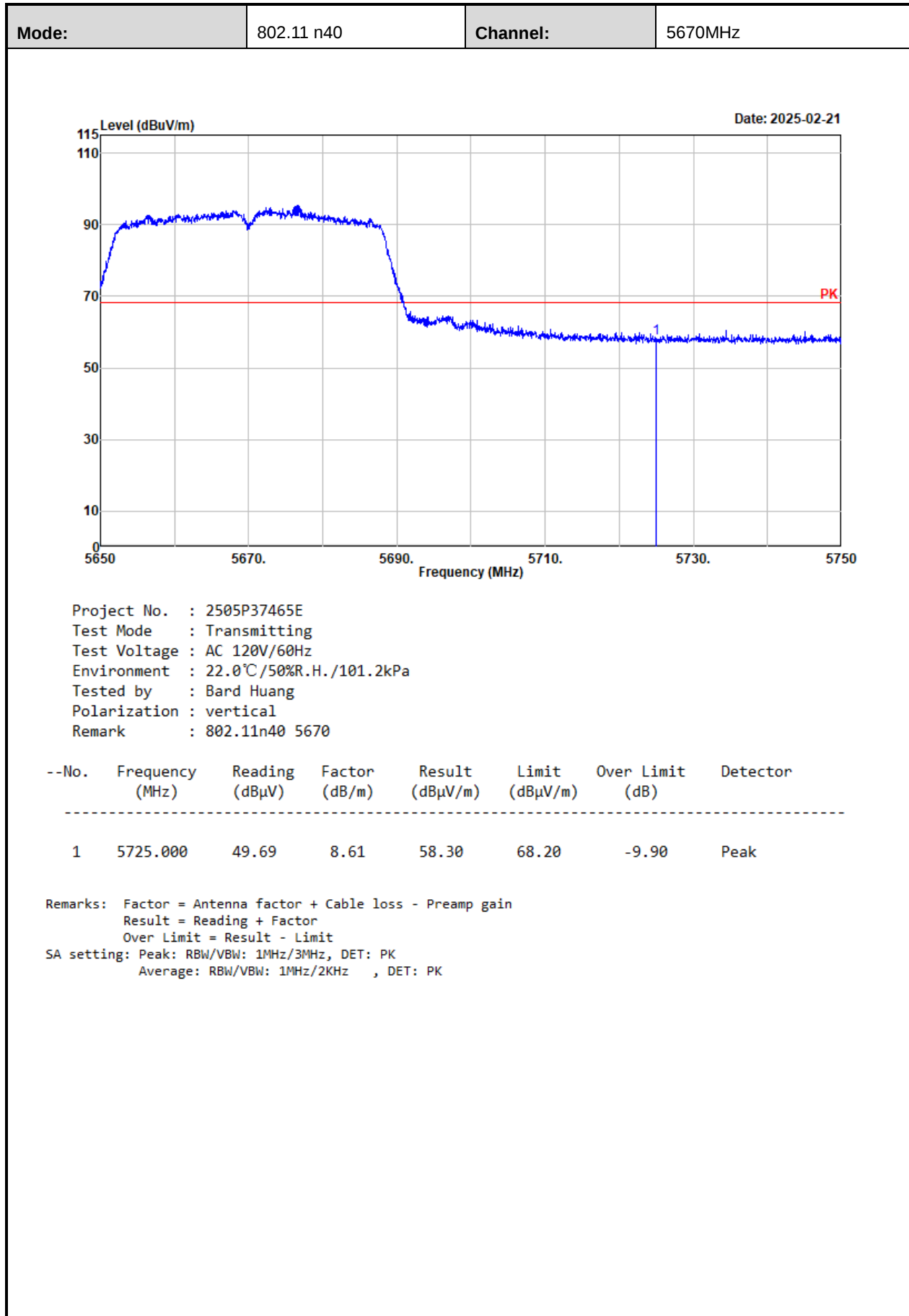


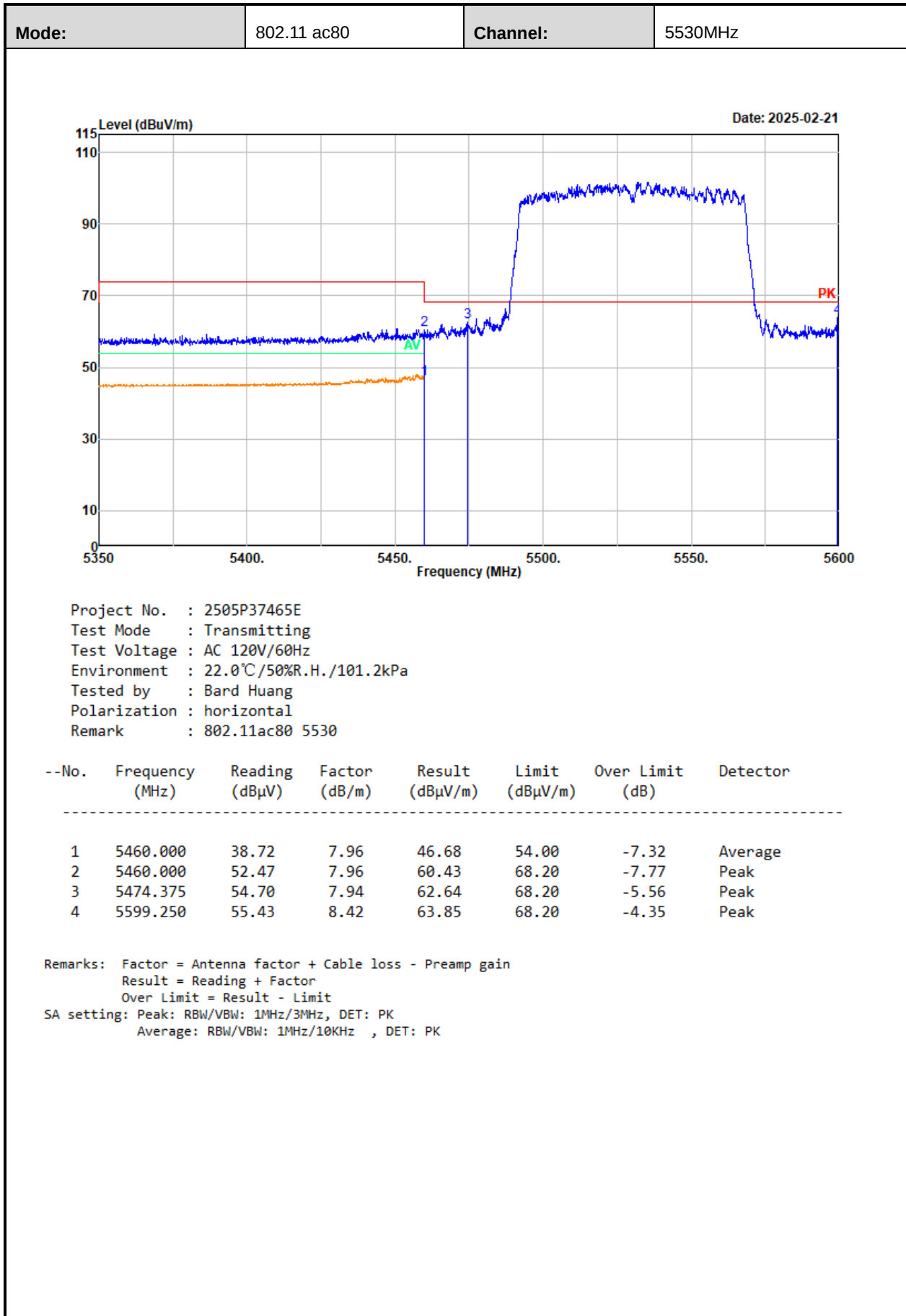


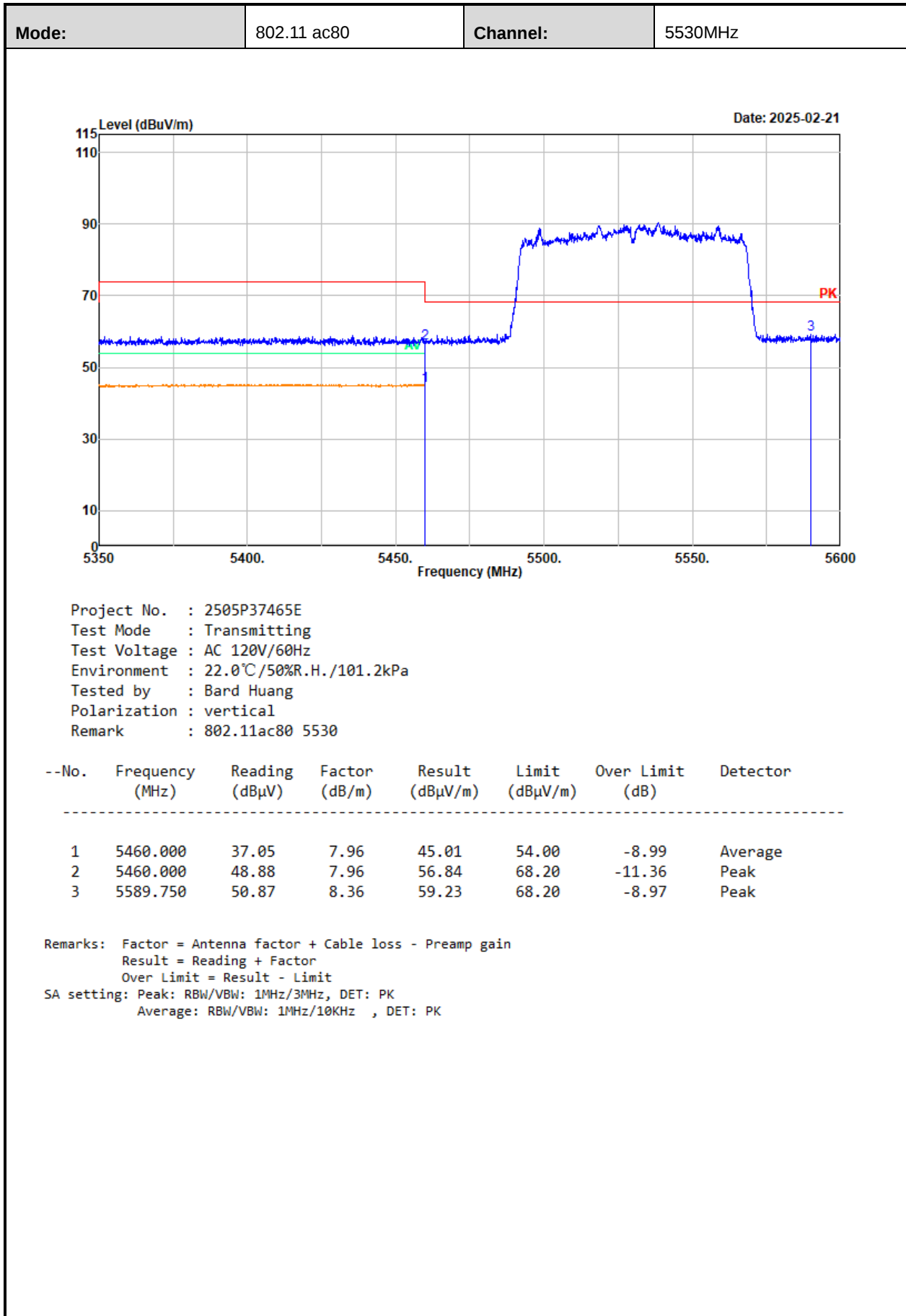


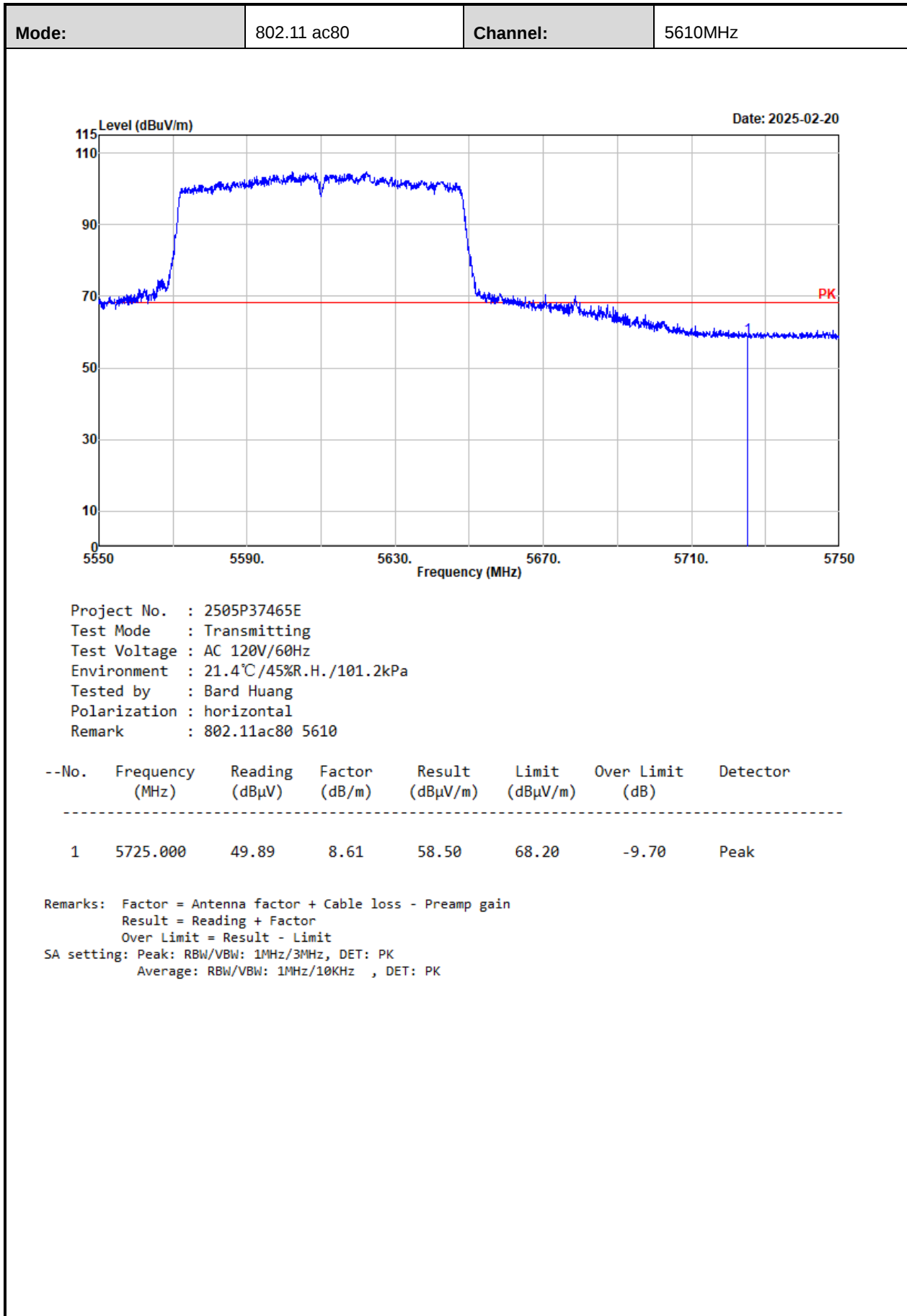


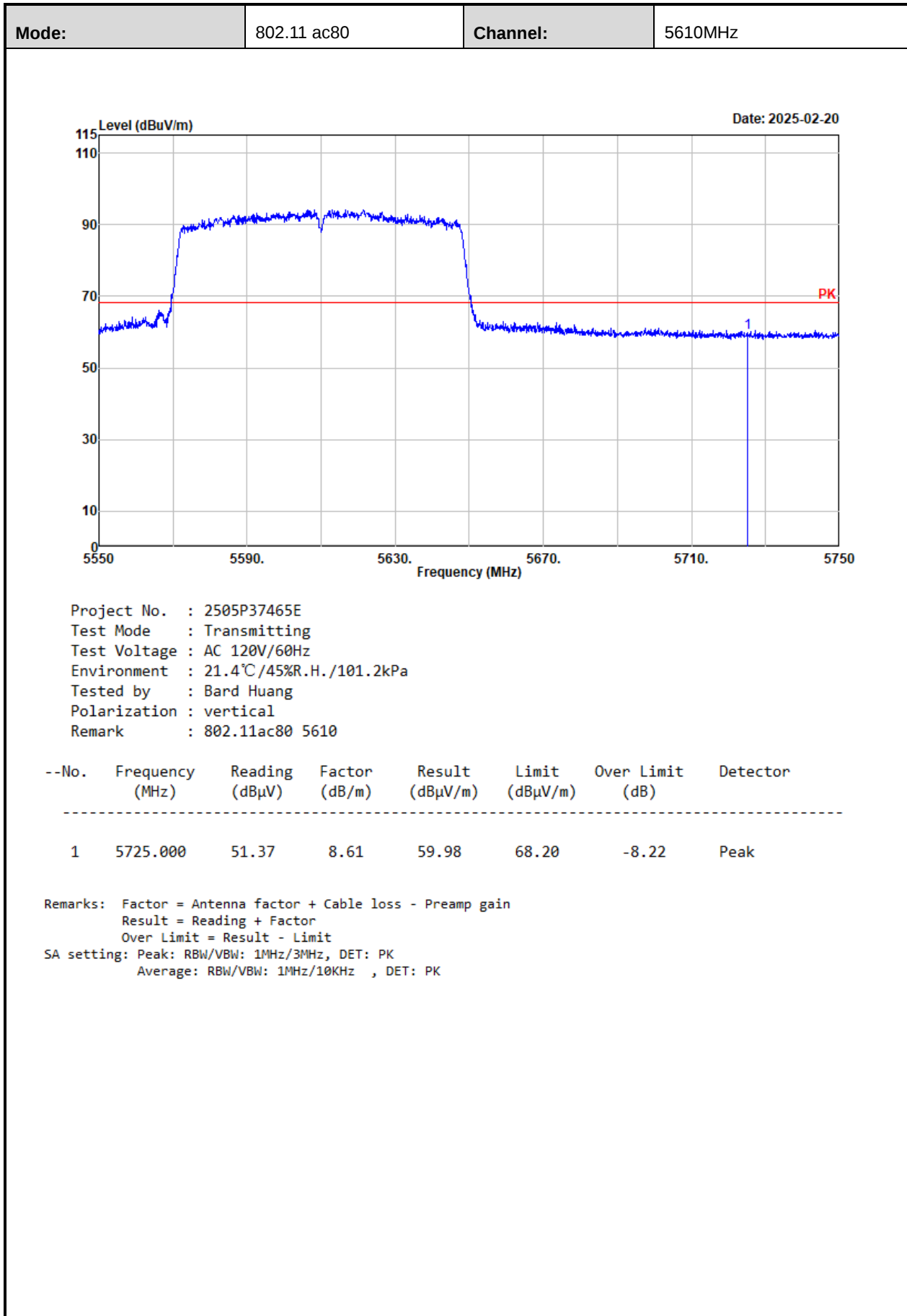


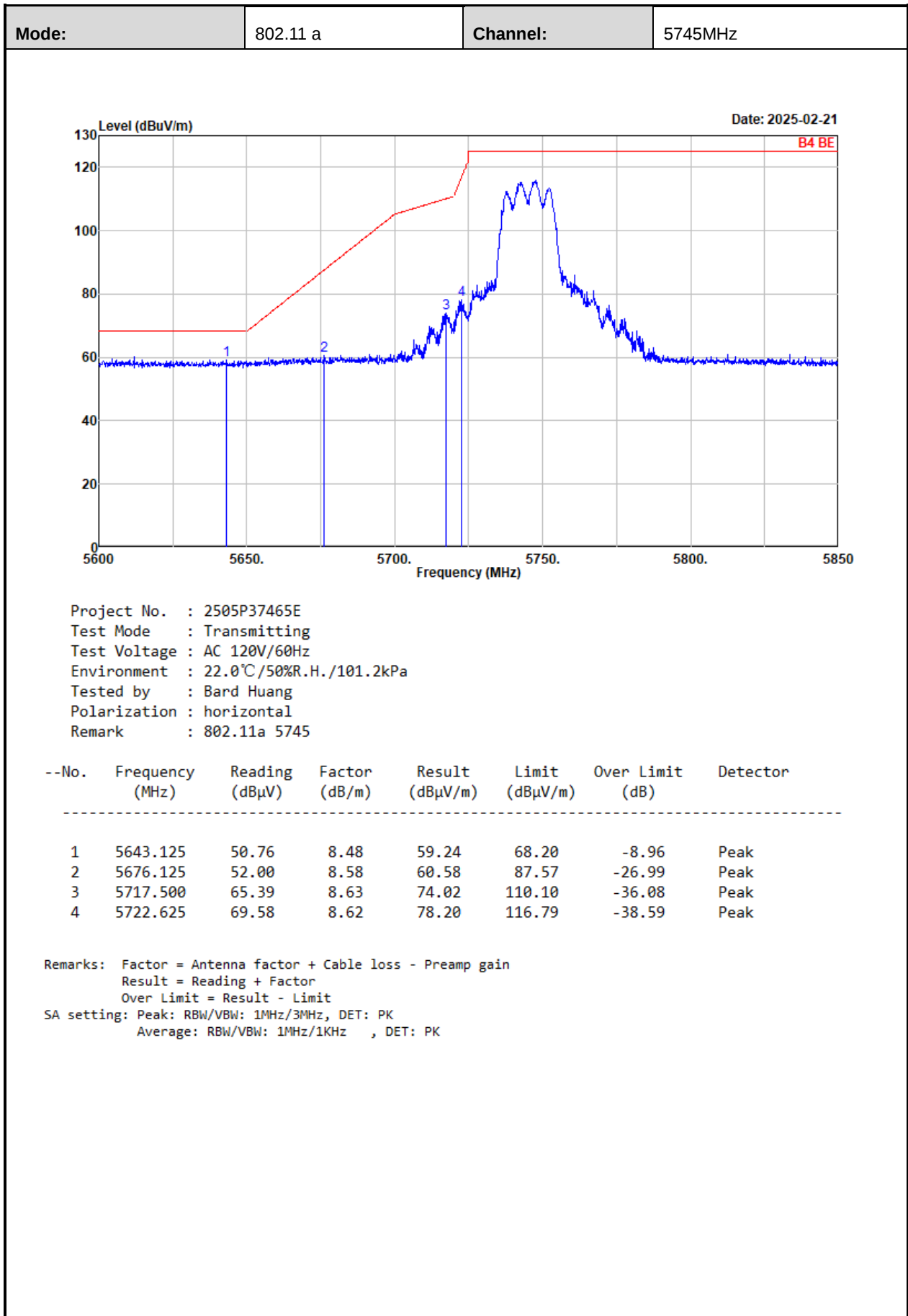


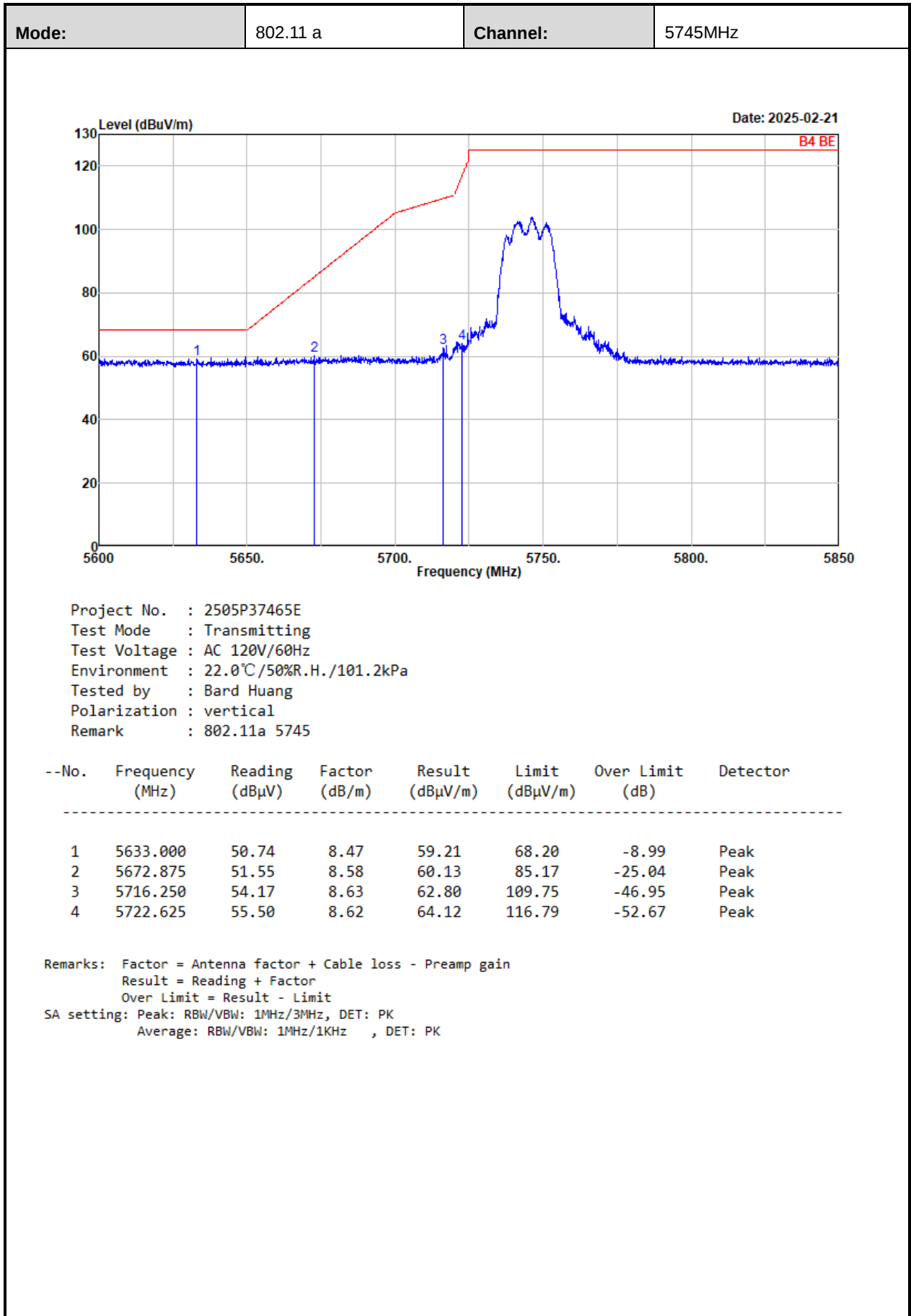


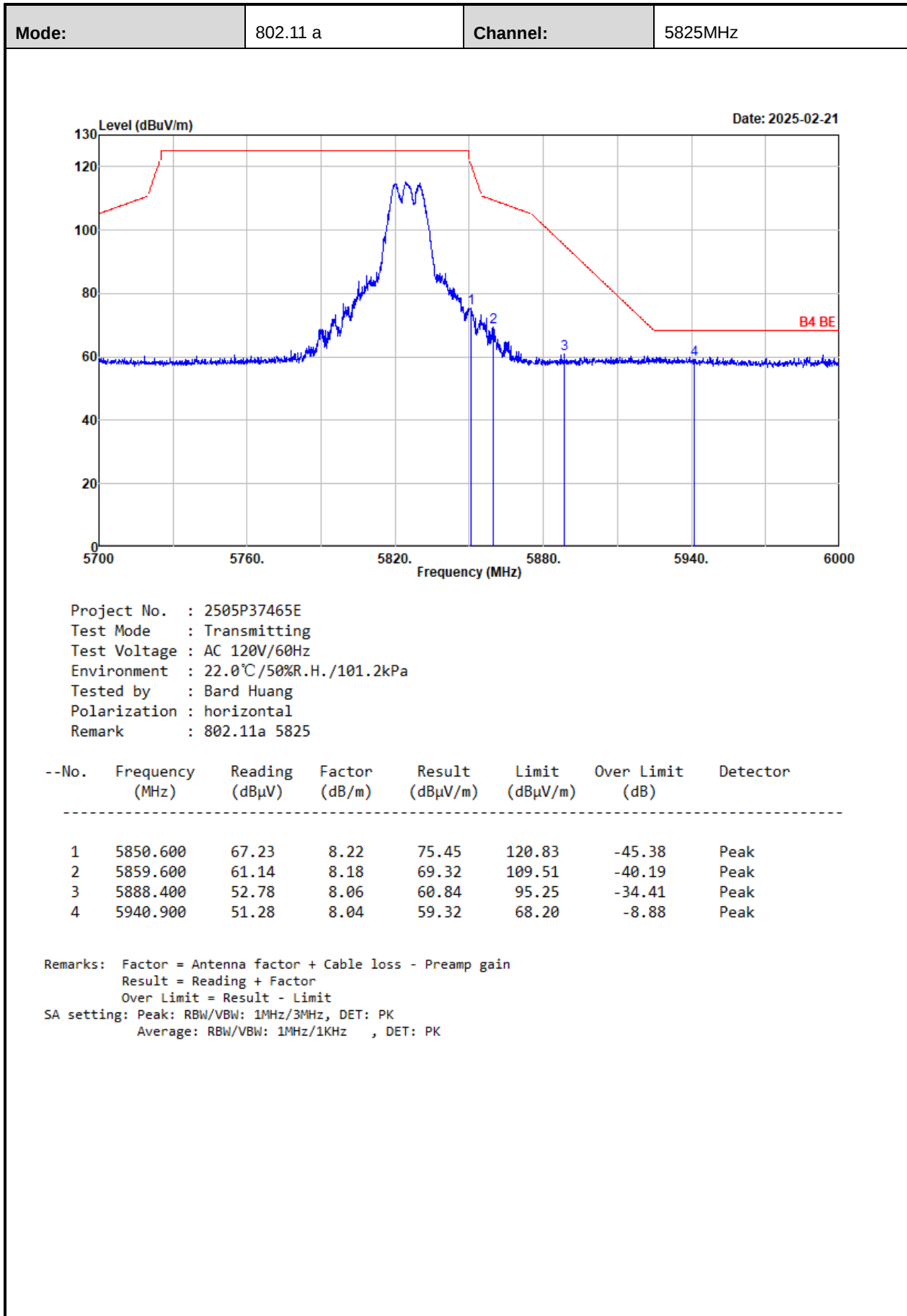


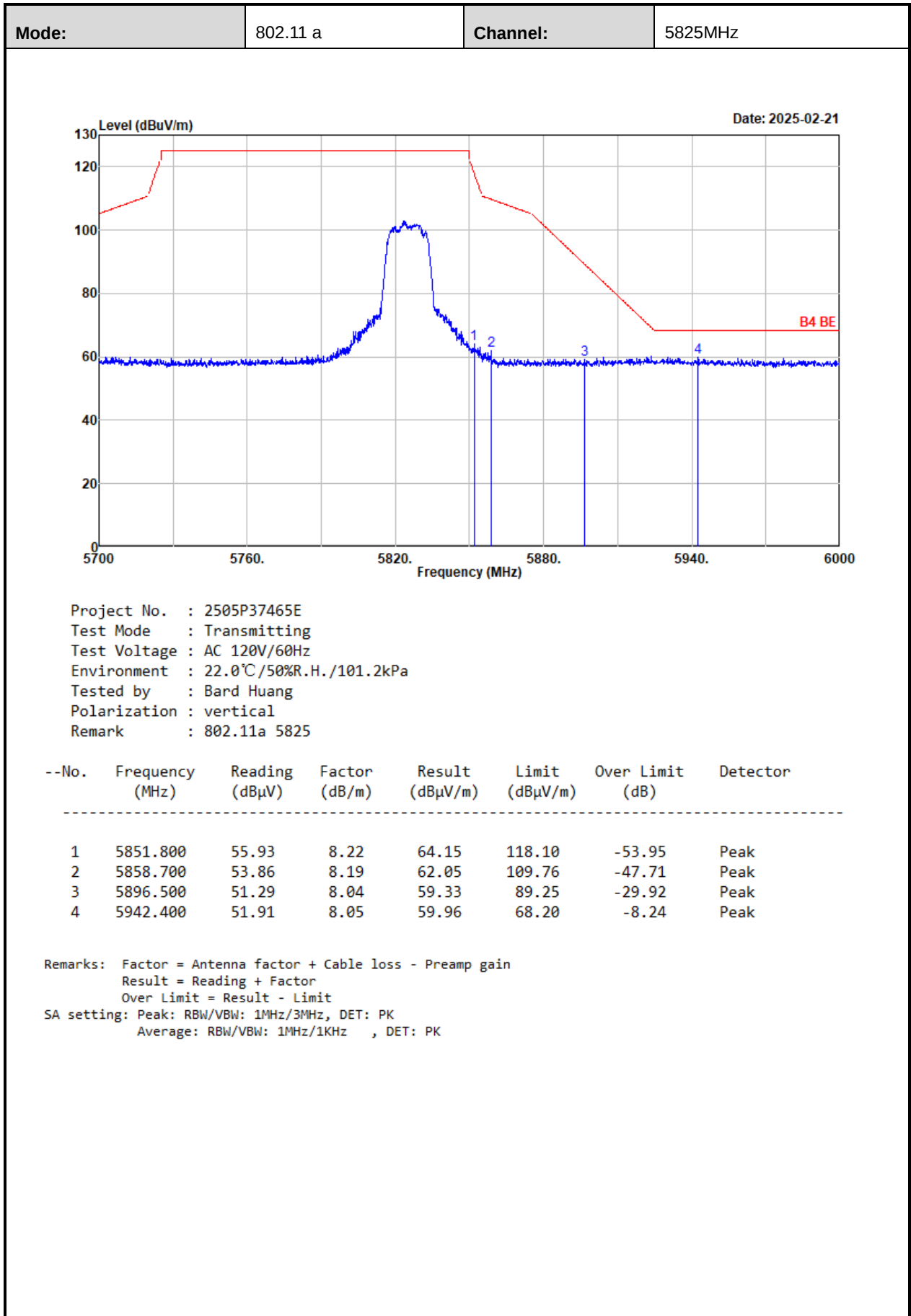


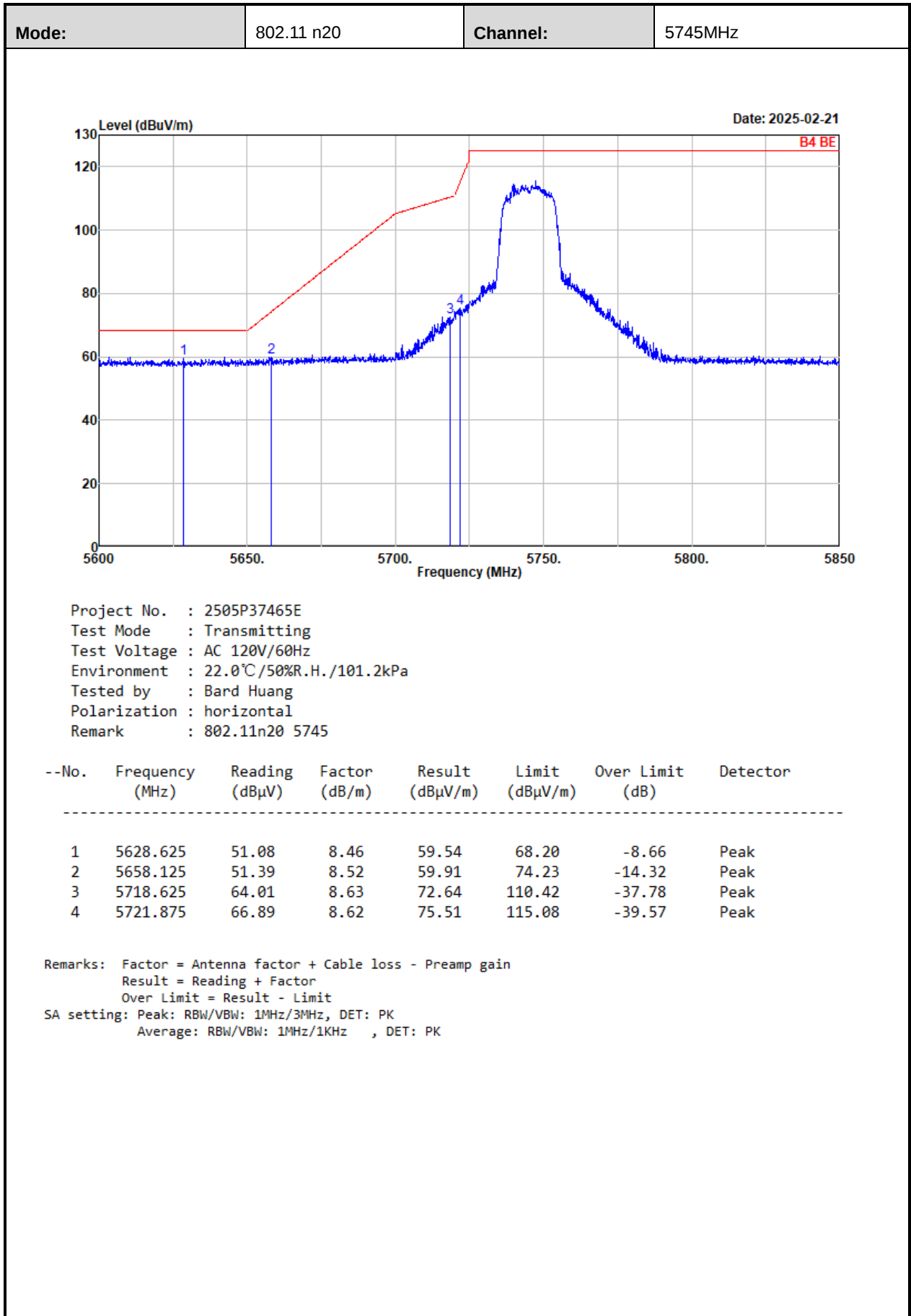


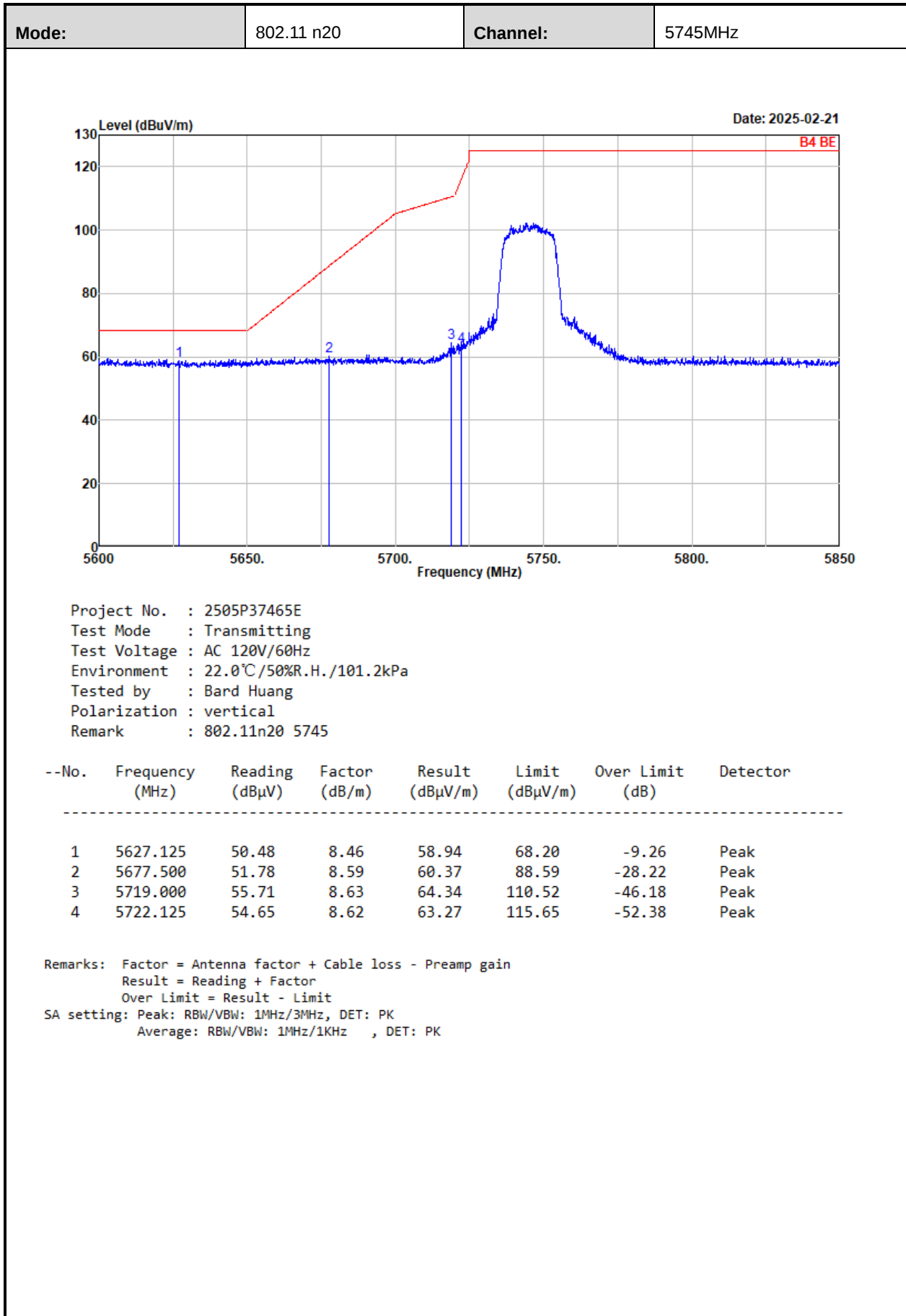


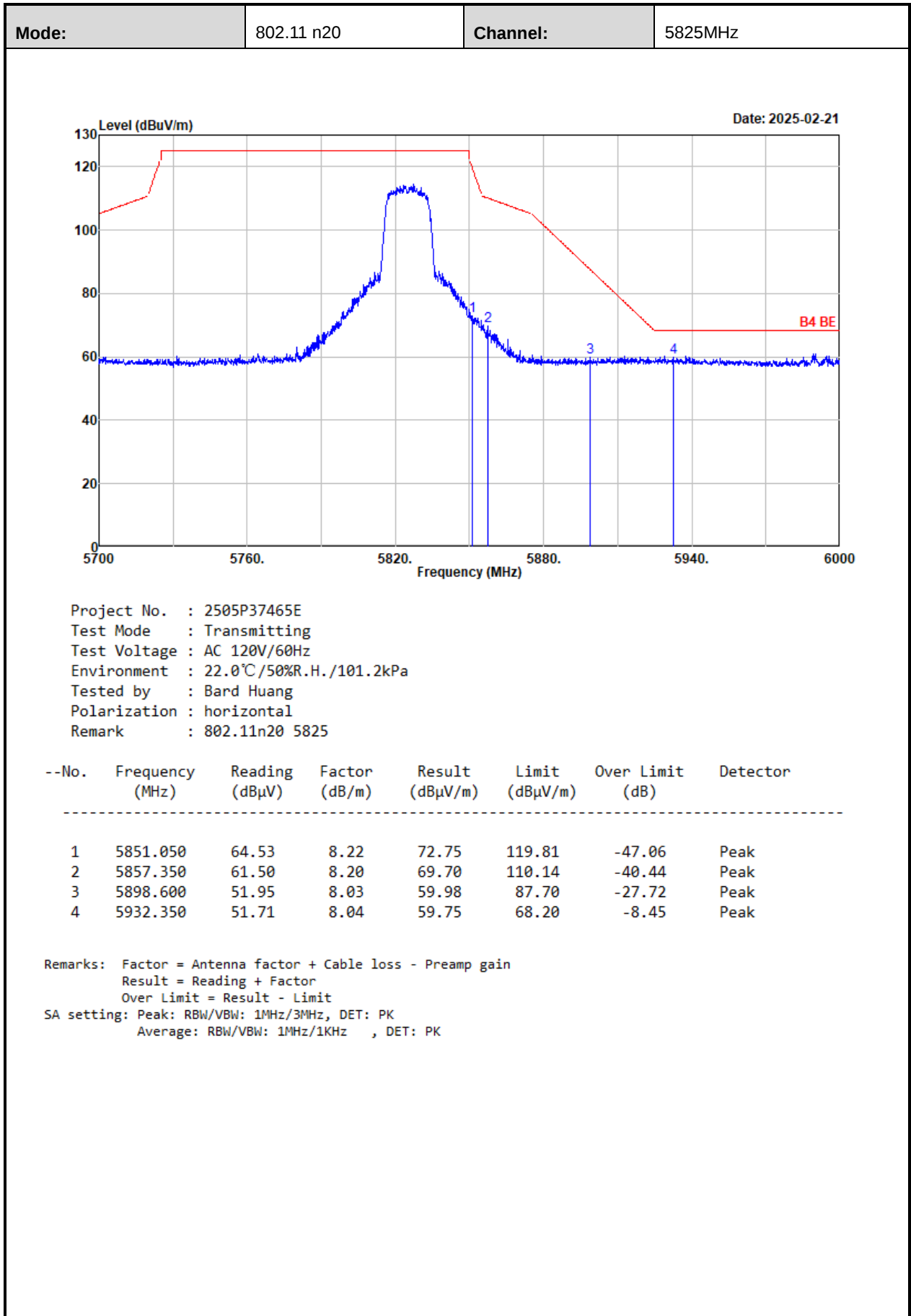


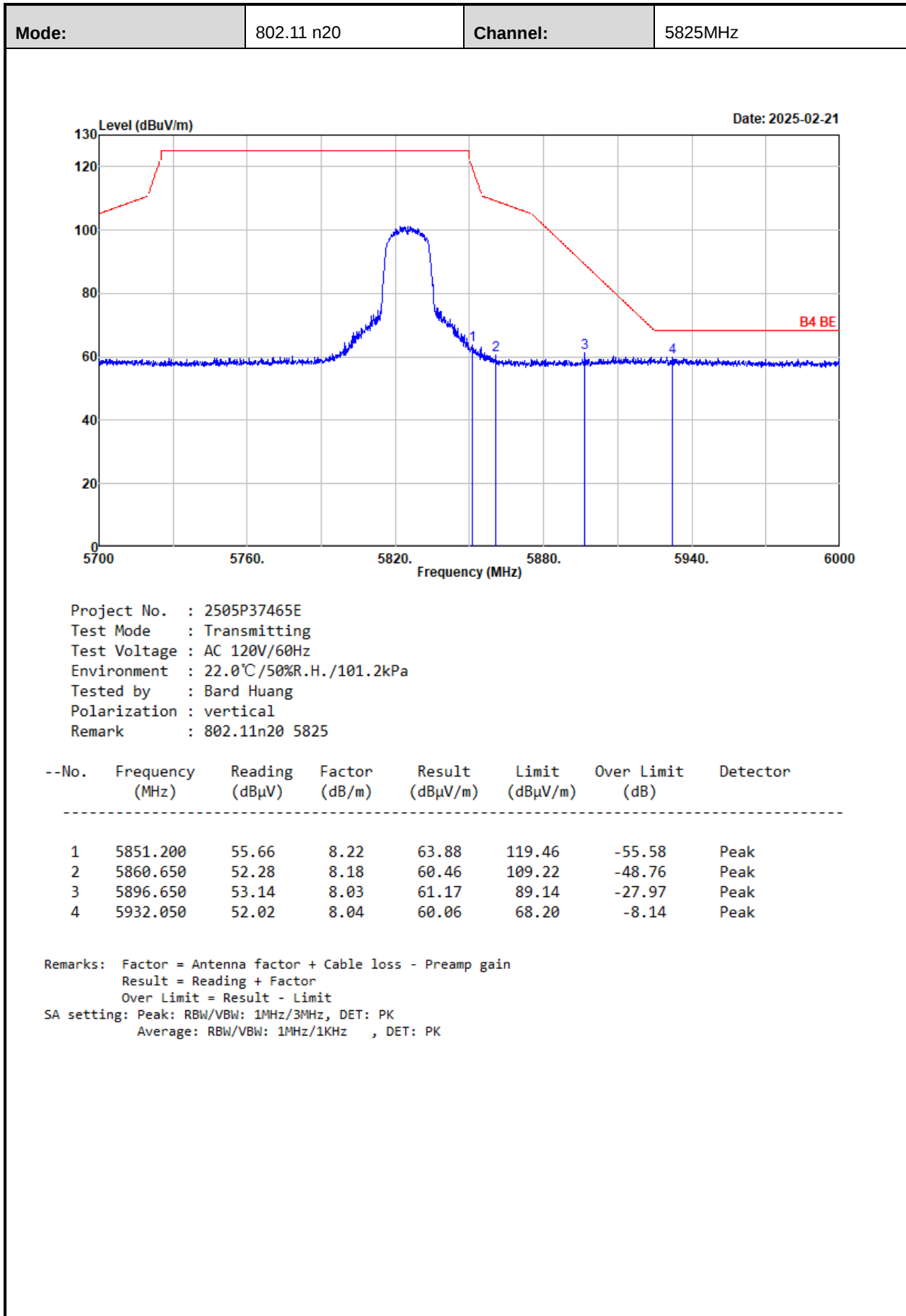


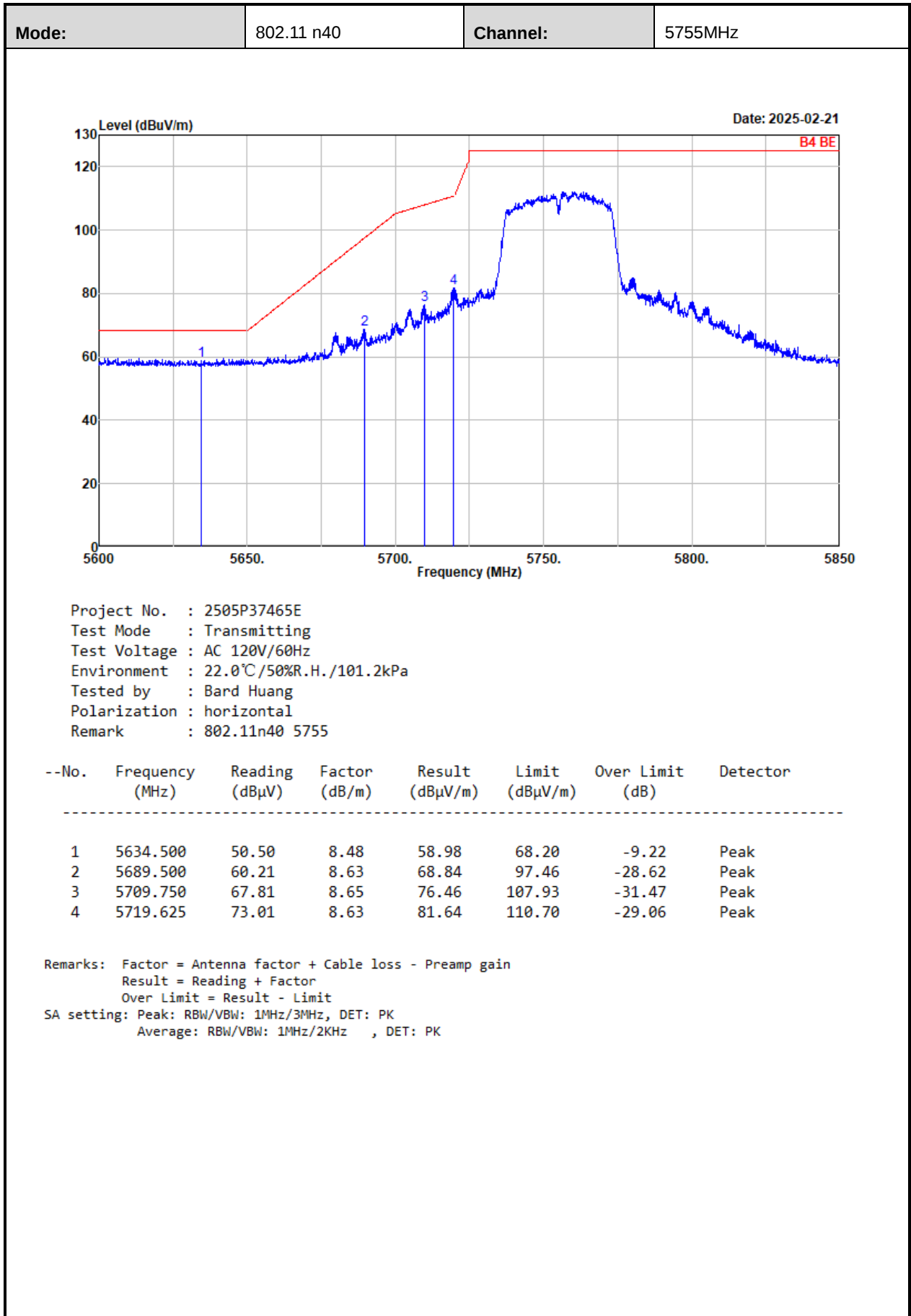


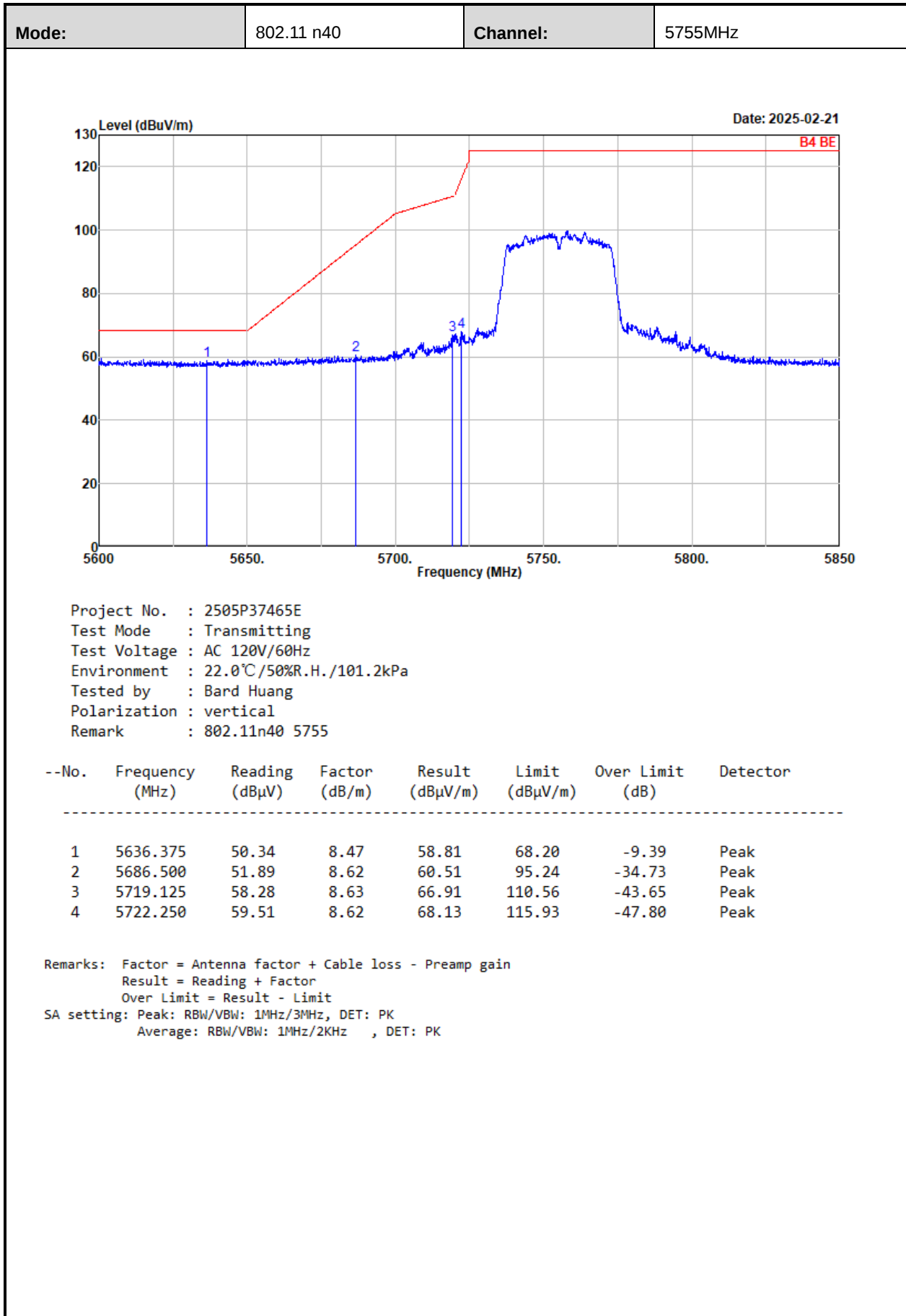


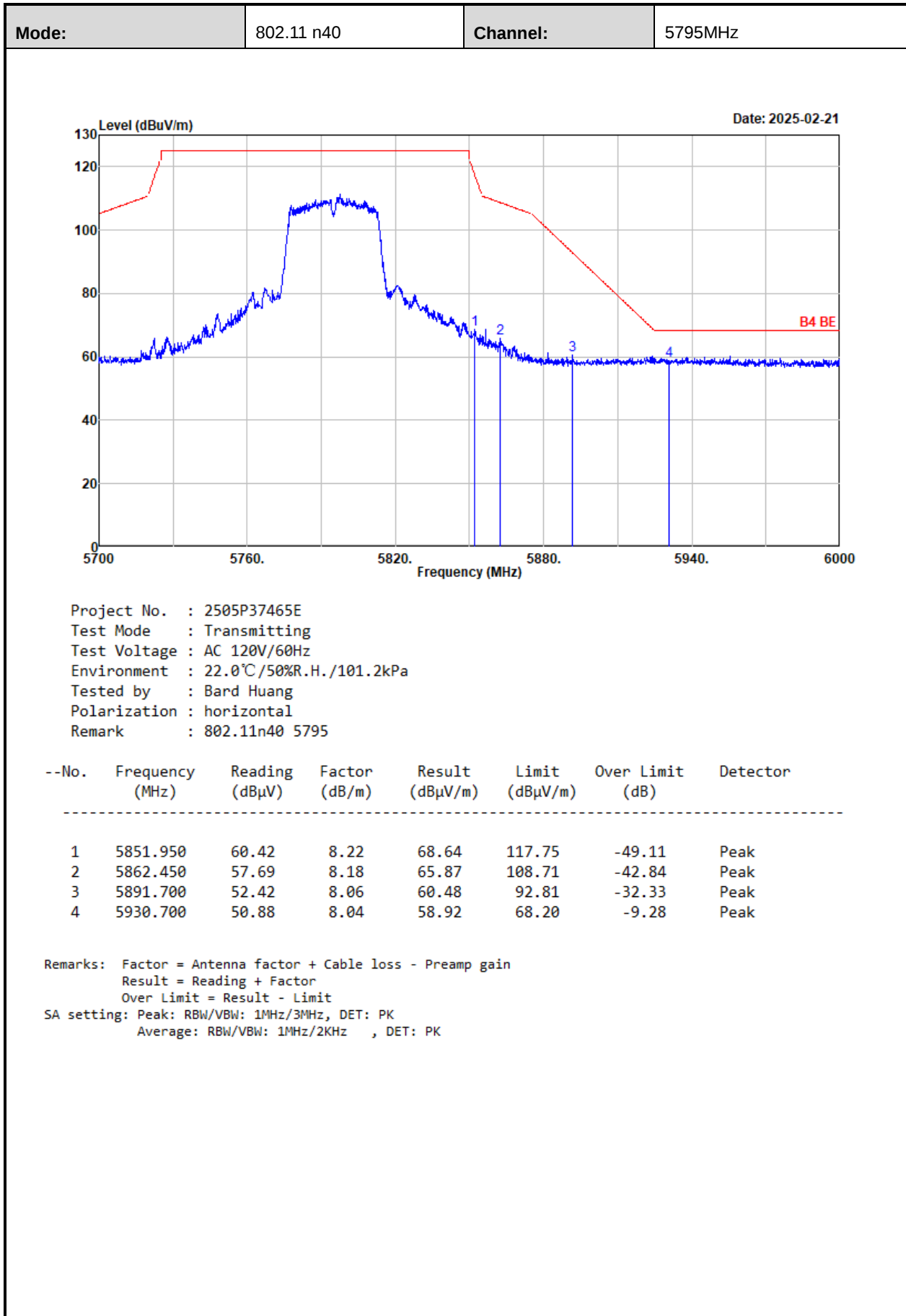


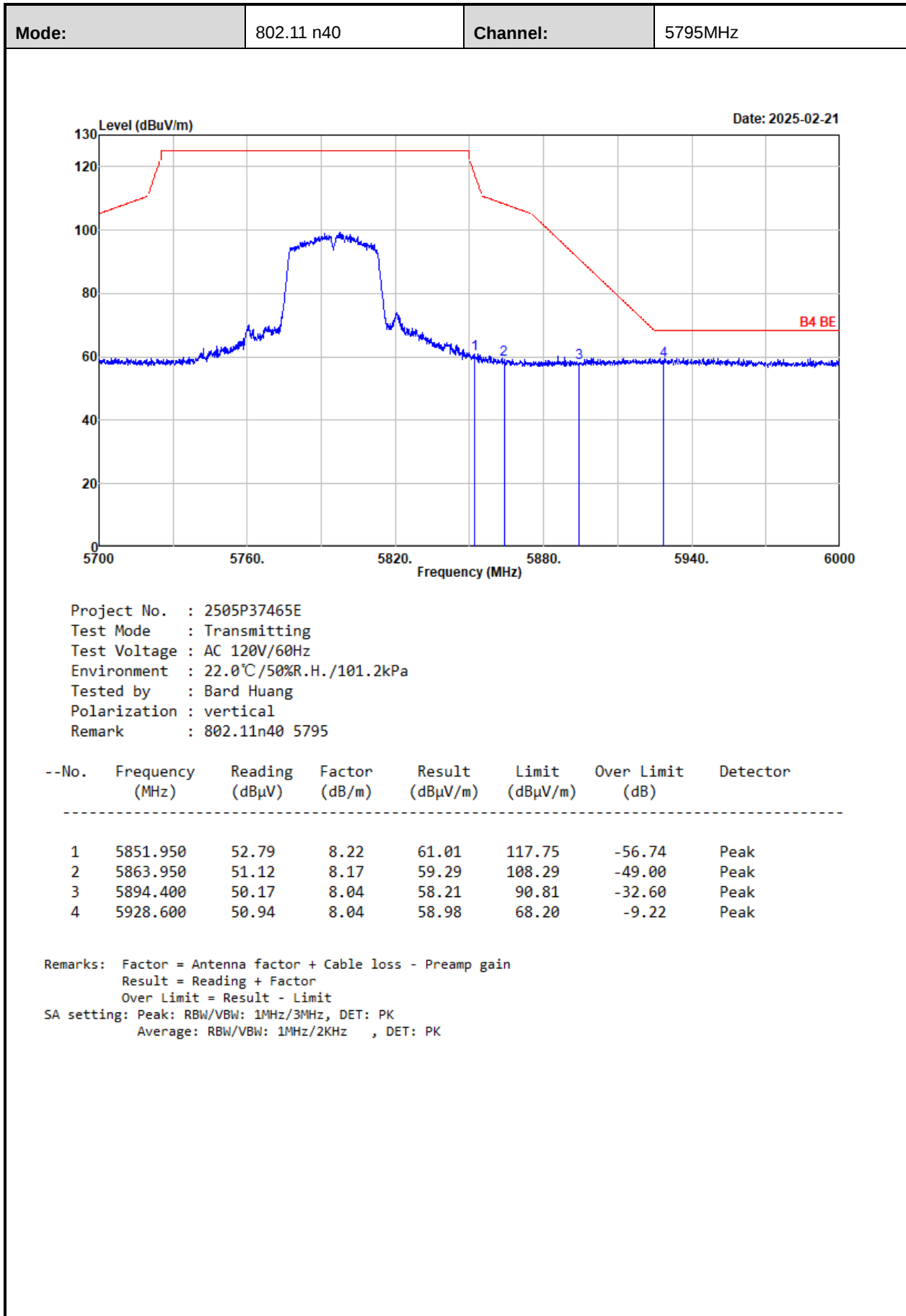


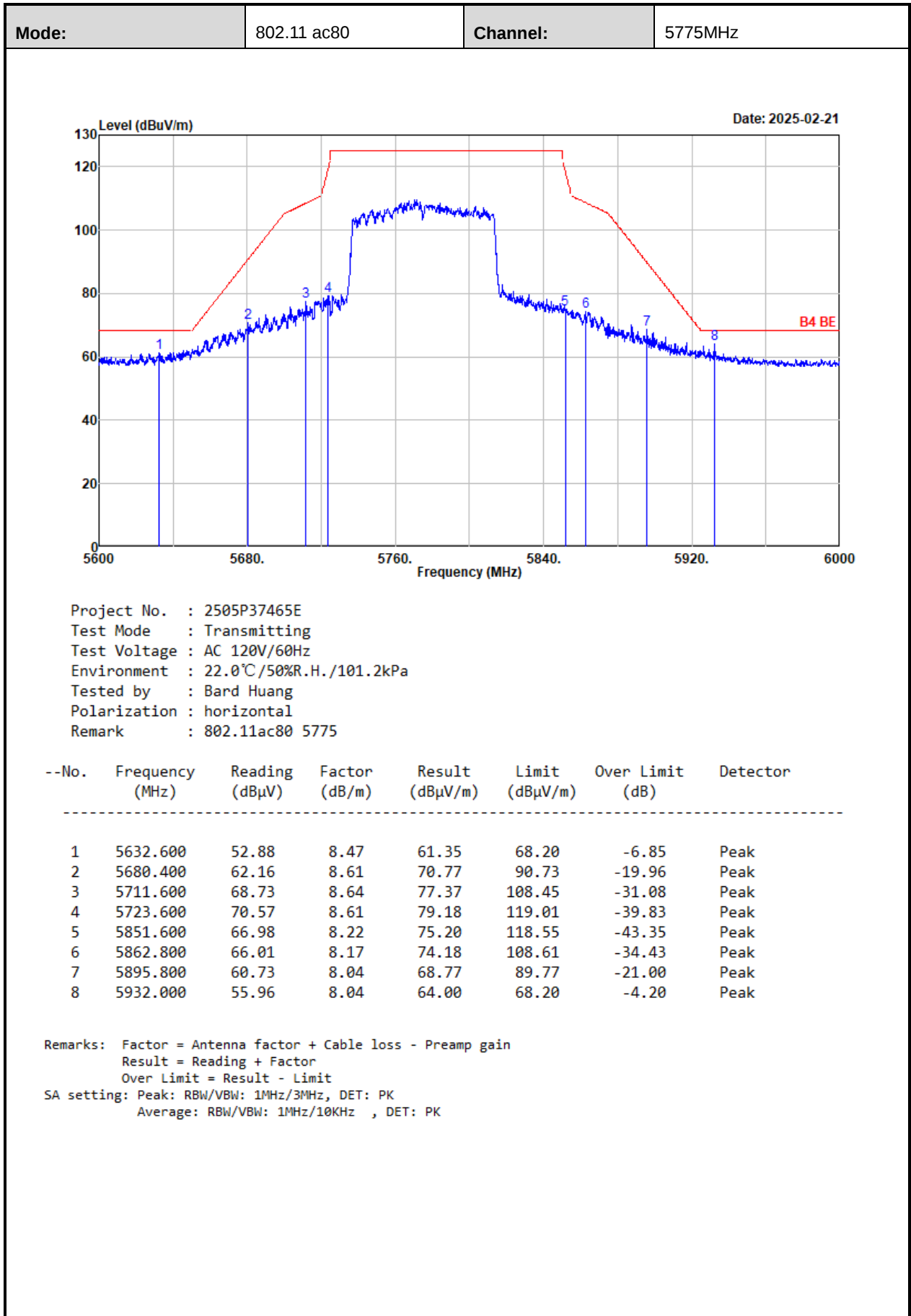


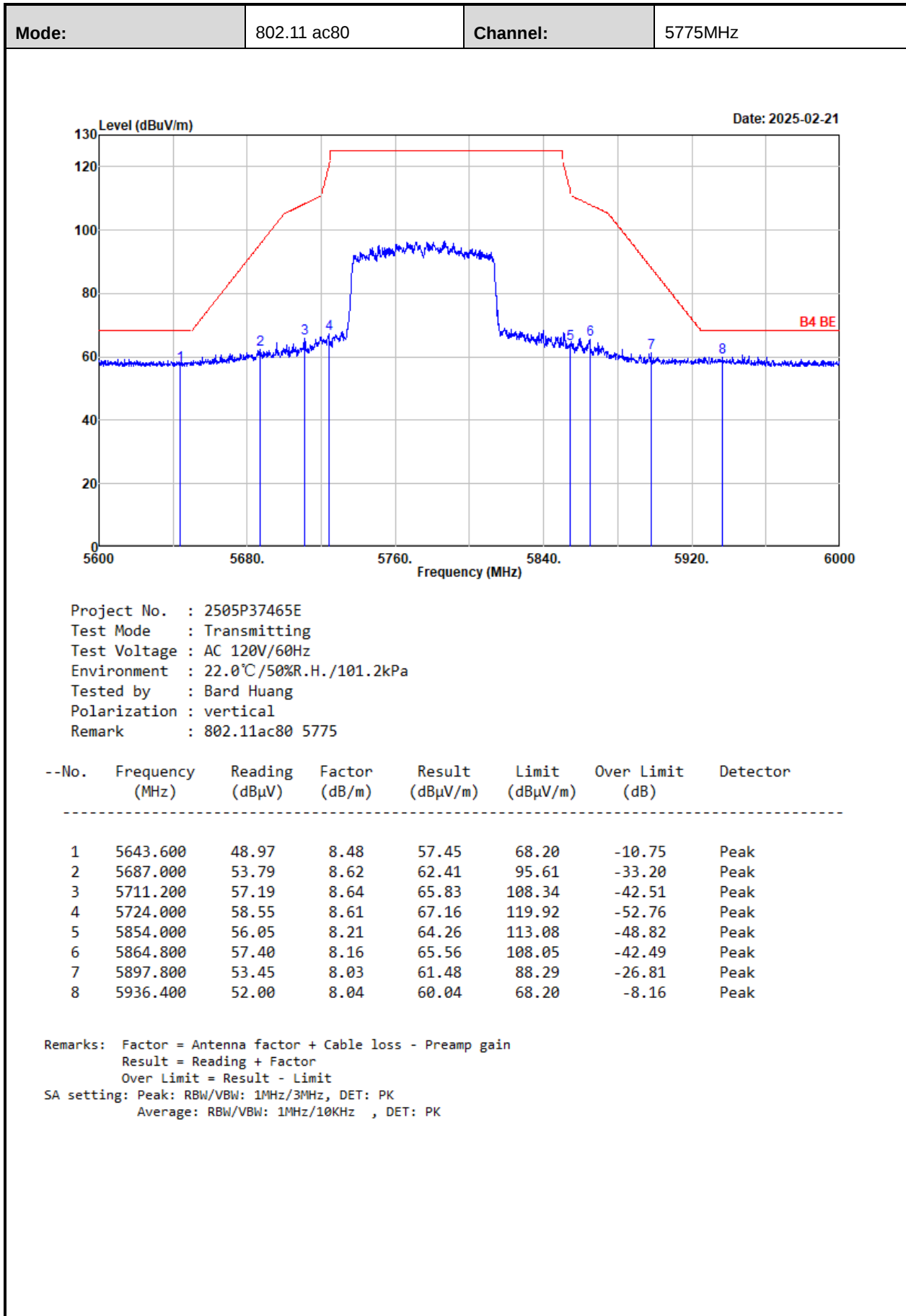












3.5 RF Conducted Test Data

Test Date:	2025-02-26~2025-02-28	Test By:	Ryan Zhang
Environment condition:	Temperature: 23.7~24.1°C;RelativeHumidity:50~57%; ATM Pressure: 100.8~101.3kPa		

3.5.1 Emission Bandwidth

26dB Emission Bandwidth

5150-5250MHz

Mode	Antenna	Test Frequency (MHz)	Result (MHz)
802.11a	Chain 0	5180	20.291
		5200	20.241
		5240	19.970
	Chain 1	5180	19.920
		5200	19.970
		5240	20.291
802.11n20	Chain 0	5180	20.544
		5200	20.442
		5240	20.440
	Chain 1	5180	20.493
		5200	20.542
		5240	20.595
802.11n40	Chain 0	5190	40.841
		5230	40.941
	Chain 1	5190	41.041
		5230	41.041
802.11ac80	Chain 0	5210	81.682
	Chain 1	5210	81.281

5250-5350MHz

Mode	Antenna	Test Frequency (MHz)	Result (MHz)
802.11a	Chain 0	5260	20.341
		5280	19.920
		5320	20.241
	Chain 1	5260	20.190
		5280	20.493
		5320	20.140
802.11n20	Chain 0	5260	20.544

Mode	Antenna	Test Frequency (MHz)	Result (MHz)
		5280	20.798
		5320	20.493
	Chain 1	5260	20.696
		5280	20.543
		5320	20.645
802.11n40	Chain 0	5270	41.041
		5310	41.041
	Chain 1	5270	41.441
		5310	41.241
802.11ac80	Chain 0	5290	81.682
	Chain 1	5290	81.682

5470-5725MHz

Mode	Antenna	Test Frequency (MHz)	Result (MHz)
802.11a	Chain 0	5500	19.970
		5580	20.442
		5700	20.241
		5720	20.442
	Chain 1	5500	20.240
		5580	20.645
		5700	20.543
		5720	20.443
802.11n20	Chain 0	5500	20.594
		5580	20.638
		5700	20.798
		5720	20.798
	Chain 1	5500	20.696
		5580	20.795
		5700	20.696
		5720	20.740
802.11n40	Chain 0	5510	40.641
		5550	41.041
		5670	41.341
		5710	41.241
	Chain 1	5510	40.741
		5550	41.441
		5670	41.441
		5710	41.942

Mode	Antenna	Test Frequency (MHz)	Result (MHz)
802.11ac80	Chain 0	5530	81.481
		5610	81.882
		5690	82.082
	Chain 1	5530	81.682
		5610	81.682
		5690	81.281

6dB Emission Bandwidth

5725-5850MHz

Mode	Antenna	Test Frequency (MHz)	Result (MHz)	Limit (MHz)	Verdict
802.11a	Chain 0	5745	15.265	0.5	Pass
		5785	15.165	0.5	Pass
		5825	15.165	0.5	Pass
	Chain 1	5745	15.265	0.5	Pass
		5785	15.165	0.5	Pass
		5825	15.265	0.5	Pass
802.11n20	Chain 0	5745	15.265	0.5	Pass
		5785	15.215	0.5	Pass
		5825	15.265	0.5	Pass
	Chain 1	5745	15.215	0.5	Pass
		5785	15.165	0.5	Pass
		5825	15.265	0.5	Pass
802.11n40	Chain 0	5755	35.235	0.5	Pass
		5795	35.335	0.5	Pass
	Chain 1	5755	35.235	0.5	Pass
		5795	35.335	0.5	Pass
802.11ac80	Chain 0	5775	75.475	0.5	Pass
	Chain 1	5775	75.475	0.5	Pass

3.5.2 99% Occupied Bandwidth

5150-5250MHz

Mode	Antenna	Test Frequency (MHz)	99% OBW (MHz)
802.11a	Chain 0	5180	16.600
		5200	16.450
		5240	16.450
	Chain 1	5180	16.500
		5200	16.450
		5240	16.500
802.11n20	Chain 0	5180	17.600
		5200	17.550
		5240	17.600
	Chain 1	5180	17.600
		5200	17.600
		5240	17.600
802.11n40	Chain 0	5190	36.200
		5230	36.200
	Chain 1	5190	36.300
		5230	36.200
802.11ac80	Chain 0	5210	75.400
	Chain 1	5210	75.200

Note:

The 99% Occupied Bandwidth have not fall into the band 5250-5350MHz, please refer to the test plots of 99% Occupied Bandwidth.

5250-5350MHz

Mode	Antenna	Test Frequency (MHz)	99% OBW (MHz)
802.11a	Chain 0	5260	16.500
		5280	16.550
		5320	16.500
	Chain 1	5260	16.500
		5280	16.500
		5320	16.450
802.11n20	Chain 0	5260	17.600
		5280	17.550
		5320	17.600

Mode	Antenna	Test Frequency (MHz)	99% OBW (MHz)
802.11n20	Chain 1	5260	17.600
		5280	17.600
		5320	17.550
802.11n40	Chain 0	5270	36.200
		5310	36.200
	Chain 1	5270	36.200
		5310	36.200
802.11ac80	Chain 0	5290	75.600
	Chain 1	5290	75.600

5470-5725MHz

Mode	Antenna	Test Frequency (MHz)	99% OBW (MHz)
802.11a	Chain 0	5500	16.400
		5580	16.500
		5700	16.600
		5720	16.500
	Chain 1	5500	16.450
		5580	16.550
		5700	16.600
		5720	16.550
802.11n20	Chain 0	5500	17.550
		5580	17.600
		5700	17.650
		5720	17.650
	Chain 1	5500	17.600
		5580	17.650
		5700	17.600
		5720	17.650
802.11n40	Chain 0	5510	36.200
		5550	36.300
		5670	36.200
		5710	36.200
	Chain 1	5510	36.200
		5550	36.200
		5670	36.300

Mode	Antenna	Test Frequency (MHz)	99% OBW (MHz)
		5710	36.200
802.11ac80	Chain 0	5530	75.400
		5610	75.600
		5690	75.400
	Chain 1	5530	75.600
		5610	75.600
		5690	75.400

5725-5850MHz

Mode	Antenna	Test Frequency (MHz)	99% OBW (MHz)
802.11a	Chain 0	5745	16.550
		5785	16.550
		5825	16.600
	Chain 1	5745	16.550
		5785	16.600
		5825	16.650
802.11n20	Chain 0	5745	17.650
		5785	17.650
		5825	17.650
	Chain 1	5745	17.650
		5785	17.650
		5825	17.650
802.11n40	Chain 0	5755	36.300
		5795	36.300
	Chain 1	5755	36.300
		5795	36.300
802.11ac80	Chain 0	5775	75.600
	Chain 1	5775	75.600

Note:

The 99% Occupied Bandwidth have not fall into the band 5470-5725MHz, please refer to the test plots of 99% Occupied Bandwidth.

3.5.3 Maximum conducted output power

5150-5250MHz

Mode	Antenna	Test Frequency (MHz)	Average Output Power(dBm)	Limit (dBm)	Verdict
802.11a	Chain 0	5180	3.75	22.26	Pass
		5200	3.65	22.26	Pass
		5240	3.65	22.26	Pass
	Chain 1	5180	3.92	22.26	Pass
		5200	3.91	22.26	Pass
		5240	4.01	22.26	Pass
	Chain 0+Chain 1	5180	6.85	22.26	Pass
		5200	6.79	22.26	Pass
		5240	6.84	22.26	Pass
802.11n20	Chain 0	5180	3.54	22.26	Pass
		5200	3.49	22.26	Pass
		5240	3.46	22.26	Pass
	Chain 1	5180	3.79	22.26	Pass
		5200	3.75	22.26	Pass
		5240	3.84	22.26	Pass
	Chain 0+Chain 1	5180	6.67	22.26	Pass
		5200	6.63	22.26	Pass
		5240	6.66	22.26	Pass
802.11n40	Chain 0	5190	7.06	22.26	Pass
		5230	7.03	22.26	Pass
	Chain 1	5190	7.3	22.26	Pass
		5230	7.35	22.26	Pass
	Chain 0+Chain 1	5190	10.19	22.26	Pass
		5230	10.20	22.26	Pass
802.11ac80	Chain 0	5210	10.23	22.26	Pass
	Chain 1	5210	10.56	22.26	Pass
	Chain 0+Chain 1	5210	13.40	22.26	Pass

Note: the EUT is client device.

5250-5350MHz

Mode	Antenna	Test Frequency (MHz)	Average Output Power(dBm)	Limit (dBm)	Verdict
802.11a	Chain 0	5260	9.47	22.26	Pass
		5280	9.51	22.26	Pass
		5320	9.47	22.26	Pass
	Chain 1	5260	10.03	22.26	Pass
		5280	10.01	22.26	Pass
		5320	9.97	22.26	Pass
	Chain 0+Chain 1	5260	12.77	22.26	Pass
		5280	12.78	22.26	Pass
		5320	12.74	22.26	Pass
802.11n20	Chain 0	5260	9.39	22.26	Pass
		5280	9.41	22.26	Pass
		5320	9.38	22.26	Pass
	Chain 1	5260	9.89	22.26	Pass
		5280	9.86	22.26	Pass
		5320	9.81	22.26	Pass
	Chain 0+Chain 1	5260	12.66	22.26	Pass
		5280	12.65	22.26	Pass
		5320	12.61	22.26	Pass
802.11n40	Chain 0	5270	10.46	22.26	Pass
		5310	10.4	22.26	Pass
	Chain 1	5270	10.61	22.26	Pass
		5310	11.0	22.26	Pass
	Chain 0+Chain 1	5270	13.54	22.26	Pass
		5310	13.72	22.26	Pass
802.11ac80	Chain 0	5290	10.0	22.26	Pass
	Chain 1	5290	10.71	22.26	Pass
	Chain 0+Chain 1	5290	13.38	22.26	Pass

5470-5725MHz

Mode	Antenna	Test Frequency (MHz)	Average Output Power(dBm)	Limit (dBm)	Verdict
802.11a	Chain 0	5500	10.76	22.26	Pass
		5580	11.30	22.26	Pass
		5700	10.99	22.26	Pass
		5720	10.96	22.26	Pass
	Chain 1	5500	10.95	22.26	Pass
		5580	11.46	22.26	Pass
		5700	11.65	22.26	Pass

Mode	Antenna	Test Frequency (MHz)	Average Output Power(dBm)	Limit (dBm)	Verdict
	Chain 0+Chain 1	5720	11.57	22.26	Pass
		5500	13.87	22.26	Pass
		5580	14.39	22.26	Pass
		5700	14.34	22.26	Pass
		5720	14.29	22.26	Pass
802.11n20	Chain 0	5500	10.61	22.26	Pass
		5580	11.13	22.26	Pass
		5700	10.92	22.26	Pass
		5720	10.78	22.26	Pass
	Chain 1	5500	10.86	22.26	Pass
		5580	11.21	22.26	Pass
		5700	11.43	22.26	Pass
		5720	11.43	22.26	Pass
	Chain 0+Chain 1	5500	13.75	22.26	Pass
		5580	14.18	22.26	Pass
		5700	14.19	22.26	Pass
		5720	14.13	22.26	Pass
802.11n40	Chain 0	5510	10.85	22.26	Pass
		5550	11.03	22.26	Pass
		5670	11.01	22.26	Pass
		5710	10.88	22.26	Pass
	Chain 1	5510	10.89	22.26	Pass
		5550	11.03	22.26	Pass
		5670	11.44	22.26	Pass
		5710	11.34	22.26	Pass
	Chain 0+Chain 1	5510	13.88	22.26	Pass
		5550	14.04	22.26	Pass
		5670	14.24	22.26	Pass
		5710	14.13	22.26	Pass
802.11ac80	Chain 0	5530	9.5	22.26	Pass
		5610	9.65	22.26	Pass
		5690	9.48	22.26	Pass
	Chain 1	5530	9.93	22.26	Pass
		5610	10.3	22.26	Pass
		5690	10.36	22.26	Pass
	Chain 0+Chain 1	5530	12.73	22.26	Pass
		5610	13.00	22.26	Pass
		5690	12.95	22.26	Pass

5725-5850MHz

Mode	Antenna	Test Frequency (MHz)	Average Output Power(dBm)	Limit (dBm)	Verdict
802.11a	Chain 0	5745	15.66	28.26	Pass
		5785	15.29	28.26	Pass
		5825	14.95	28.26	Pass
	Chain 1	5745	16.30	28.26	Pass
		5785	16.05	28.26	Pass
		5825	15.85	28.26	Pass
	Chain 0+Chain 1	5745	19.00	28.26	Pass
		5785	18.70	28.26	Pass
		5825	18.43	28.26	Pass
802.11n20	Chain 0	5745	15.53	28.26	Pass
		5785	15.13	28.26	Pass
		5825	14.77	28.26	Pass
	Chain 1	5745	16.19	28.26	Pass
		5785	15.88	28.26	Pass
		5825	15.63	28.26	Pass
	Chain 0+Chain 1	5745	18.88	28.26	Pass
		5785	18.53	28.26	Pass
		5825	18.23	28.26	Pass
802.11n40	Chain 0	5755	15.39	28.26	Pass
		5795	15.01	28.26	Pass
	Chain 1	5755	16.07	28.26	Pass
		5795	15.86	28.26	Pass
	Chain 0+Chain 1	5755	18.76	28.26	Pass
		5795	18.47	28.26	Pass
802.11ac80	Chain 0	5775	13.82	28.26	Pass
	Chain 1	5775	14.87	28.26	Pass
	Chain 0+Chain 1	5775	17.39	28.26	Pass

Note:

The device employ Beamforming for MIMO mode, according to KDB 662911 D01 Multiple Transmitter Output v02r01, Directional gain = $G_{ANT} + 10 \log(N_{ANT}/N_{SS})$

$G_{ANT1}=3.57\text{dBi}$, $G_{ANT2}=4.74\text{dBi}$, use the higher antenna gain for calculate

Directional gain= $4.74+3=7.74\text{dBi}>6\text{dBi}$

So the limit need reduced 1.74dB.

3.5.4 Power Spectral Density

5150-5250MHz

Mode	Antenna	Test Frequency (MHz)	Reading (dBm/MHz)	Duty Cycle Factor(dB)	Result (dBm/MHz)	Limit (dBm/MHz)	Verdict
802.11a	Chain 0	5180	-6.89	0.14	-6.75	9.26	Pass
		5200	-6.91	0.14	-6.77	9.26	Pass
		5240	-6.94	0.14	-6.80	9.26	Pass
	Chain 1	5180	-5.99	0.14	-5.85	9.26	Pass
		5200	-6.64	0.14	-6.50	9.26	Pass
		5240	-6.46	0.14	-6.32	9.26	Pass
	Chain 0+Chain 1	5180	-3.41	0.14	-3.27	9.26	Pass
		5200	-3.76	0.14	-3.62	9.26	Pass
		5240	-3.68	0.14	-3.54	9.26	Pass
802.11n20	Chain 0	5180	-7.08	0.16	-6.92	9.26	Pass
		5200	-7.06	0.15	-6.91	9.26	Pass
		5240	-7.34	0.15	-7.19	9.26	Pass
	Chain 1	5180	-6.97	0.16	-6.81	9.26	Pass
		5200	-6.81	0.15	-6.66	9.26	Pass
		5240	-6.75	0.16	-6.59	9.26	Pass
	Chain 0+Chain 1	5180	-4.01	0.16	-3.85	9.26	Pass
		5200	-3.92	0.15	-3.77	9.26	Pass
		5240	-4.02	0.16	-3.86	9.26	Pass
802.11n40	Chain 0	5190	-6.40	0.30	-6.10	9.26	Pass
		5230	-6.67	0.30	-6.37	9.26	Pass
	Chain 1	5190	-6.63	0.30	-6.33	9.26	Pass
		5230	-6.45	0.30	-6.15	9.26	Pass
	Chain 0+Chain 1	5190	-3.50	0.30	-3.20	9.26	Pass
		5230	-3.55	0.30	-3.25	9.26	Pass
802.11ac80	Chain 0	5210	-6.66	0.91	-5.75	9.26	Pass
	Chain 1	5210	-6.23	0.94	-5.29	9.26	Pass
	Chain 0+Chain 1	5210	-3.43	0.94	-2.49	9.26	Pass

5250-5350MHz

Mode	Antenna	Test Frequency (MHz)	Reading (dBm/MHz)	Duty Cycle Factor(dB)	Result (dBm/MHz)	Limit (dBm/MHz)	Verdict
802.11a	Chain 0	5260	-1.22	0.14	-1.08	9.26	Pass
		5280	-1.09	0.14	-0.95	9.26	Pass

Mode	Antenna	Test Frequency (MHz)	Reading (dBm/MHz)	Duty Cycle Factor(dB)	Result (dBm/MHz)	Limit (dBm/MHz)	Verdict
	Chain 1	5320	-1.28	0.14	-1.14	9.26	Pass
		5260	-0.60	0.14	-0.46	9.26	Pass
		5280	-0.51	0.14	-0.37	9.26	Pass
		5320	-0.80	0.14	-0.66	9.26	Pass
	Chain 0+Chain 1	5260	2.11	0.14	2.25	9.26	Pass
		5280	2.22	0.14	2.36	9.26	Pass
		5320	1.98	0.14	2.12	9.26	Pass
802.11n20	Chain 0	5260	-1.16	0.15	-1.01	9.26	Pass
		5280	-1.45	0.15	-1.30	9.26	Pass
		5320	-1.60	0.16	-1.44	9.26	Pass
	Chain 1	5260	-0.89	0.15	-0.74	9.26	Pass
		5280	-0.68	0.16	-0.52	9.26	Pass
		5320	-1.14	0.16	-0.98	9.26	Pass
	Chain 0+Chain 1	5260	1.99	0.15	2.14	9.26	Pass
		5280	1.96	0.16	2.12	9.26	Pass
		5320	1.65	0.16	1.81	9.26	Pass
802.11n40	Chain 0	5270	-3.53	0.30	-3.23	9.26	Pass
		5310	-3.47	0.29	-3.18	9.26	Pass
	Chain 1	5270	-2.47	0.29	-2.18	9.26	Pass
		5310	-1.76	0.29	-1.47	9.26	Pass
	Chain 0+Chain 1	5270	0.04	0.30	0.34	9.26	Pass
		5310	0.48	0.29	0.77	9.26	Pass
802.11ac80	Chain 0	5290	-7.15	0.91	-6.24	9.26	Pass
	Chain 1	5290	-6.21	0.94	-5.27	9.26	Pass
	Chain 0+Chain 1	5290	-3.64	0.94	-2.70	9.26	Pass

5470-5725MHz

Mode	Antenna	Test Frequency (MHz)	Reading (dBm/MHz)	Duty Cycle Factor(dB)	Result (dBm/MHz)	Limit (dBm/MHz)	Verdict
802.11a	Chain 0	5500	0.56	0.14	0.7	9.26	Pass
		5580	0.96	0.14	1.1	9.26	Pass
		5700	0.36	0.14	0.5	9.26	Pass
		5720	0.27	0.14	0.41	9.26	Pass
	Chain 1	5500	0.93	0.14	1.07	9.26	Pass
		5580	1.18	0.14	1.32	9.26	Pass
		5700	0.91	0.14	1.05	9.26	Pass

Mode	Antenna	Test Frequency (MHz)	Reading (dBm/MHz)	Duty Cycle Factor(dB)	Result (dBm/MHz)	Limit (dBm/MHz)	Verdict
	Chain 0+Chain 1	5720	1.08	0.14	1.22	9.26	Pass
		5500	3.76	0.14	3.9	9.26	Pass
		5580	4.08	0.14	4.22	9.26	Pass
		5700	3.65	0.14	3.79	9.26	Pass
		5720	3.70	0.14	3.84	9.26	Pass
802.11n20	Chain 0	5500	0.34	0.15	0.49	9.26	Pass
		5580	0.50	0.16	0.66	9.26	Pass
		5700	0.25	0.16	0.41	9.26	Pass
		5720	-0.02	0.15	0.13	9.26	Pass
	Chain 1	5500	0.45	0.15	0.6	9.26	Pass
		5580	0.69	0.15	0.84	9.26	Pass
		5700	0.68	0.16	0.84	9.26	Pass
		5720	0.48	0.15	0.63	9.26	Pass
	Chain 0+Chain 1	5500	3.41	0.15	3.56	9.26	Pass
		5580	3.61	0.16	3.77	9.26	Pass
		5700	3.48	0.16	3.64	9.26	Pass
		5720	3.25	0.15	3.40	9.26	Pass
802.11n40	Chain 0	5510	-2.69	0.30	-2.39	9.26	Pass
		5550	-2.46	0.30	-2.16	9.26	Pass
		5670	-2.94	0.30	-2.64	9.26	Pass
		5710	-3.09	0.30	-2.79	9.26	Pass
	Chain 1	5510	-2.62	0.29	-2.33	9.26	Pass
		5550	-2.69	0.29	-2.40	9.26	Pass
		5670	-2.81	0.30	-2.51	9.26	Pass
		5710	-2.91	0.29	-2.62	9.26	Pass
	Chain 0+Chain 1	5510	0.36	0.30	0.66	9.26	Pass
		5550	0.44	0.30	0.74	9.26	Pass
		5670	0.14	0.30	0.44	9.26	Pass
		5710	0.01	0.30	0.31	9.26	Pass
802.11ac80	Chain 0	5530	-6.97	0.91	-6.06	9.26	Pass
		5610	-7.07	0.91	-6.16	9.26	Pass
		5690	-7.43	0.89	-6.54	9.26	Pass
	Chain 1	5530	-7.29	0.91	-6.38	9.26	Pass
		5610	-6.66	0.91	-5.75	9.26	Pass
		5690	-7.20	0.91	-6.29	9.26	Pass
	Chain 0+Chain 1	5530	-4.12	0.91	-3.21	9.26	Pass
		5610	-3.85	0.91	-2.94	9.26	Pass
		5690	-4.30	0.91	-3.39	9.26	Pass

5725-5850MHz

Mode	Antenna	Test Frequency (MHz)	Reading (dBm/500kHz)	Duty Cycle Factor(dB)	Result (dBm/500kHz)	Limit (dBm/500kHz)	Verdict
802.11a	Chain 0	5745	2.29	0.14	2.43	28.26	Pass
		5785	2.17	0.14	2.31	28.26	Pass
		5825	1.93	0.14	2.07	28.26	Pass
	Chain 1	5745	2.77	0.14	2.91	28.26	Pass
		5785	2.28	0.14	2.42	28.26	Pass
		5825	2.15	0.14	2.29	28.26	Pass
	Chain 0+Chain 1	5745	5.55	0.14	5.69	28.26	Pass
		5785	5.24	0.14	5.38	28.26	Pass
		5825	5.05	0.14	5.19	28.26	Pass
802.11n20	Chain 0	5745	2.19	0.16	2.35	28.26	Pass
		5785	1.59	0.16	1.75	28.26	Pass
		5825	1.41	0.15	1.56	28.26	Pass
	Chain 1	5745	2.43	0.16	2.59	28.26	Pass
		5785	2.33	0.15	2.48	28.26	Pass
		5825	1.89	0.15	2.04	28.26	Pass
	Chain 0+Chain 1	5745	5.32	0.16	5.48	28.26	Pass
		5785	4.99	0.16	5.15	28.26	Pass
		5825	4.67	0.15	4.82	28.26	Pass
802.11n40	Chain 0	5755	-1.35	0.30	-1.05	28.26	Pass
		5795	-1.76	0.30	-1.46	28.26	Pass
	Chain 1	5755	-0.72	0.30	-0.42	28.26	Pass
		5795	-1.32	0.30	-1.02	28.26	Pass
	Chain 0+Chain 1	5755	1.99	0.30	2.29	28.26	Pass
		5795	1.48	0.30	1.78	28.26	Pass
802.11ac80	Chain 0	5775	-5.68	0.91	-4.77	28.26	Pass
	Chain 1	5775	-5.31	0.91	-4.4	28.26	Pass
	Chain 0+Chain 1	5775	-2.48	0.91	-1.57	28.26	Pass

Note:

The device employ Beamforming for MIMO mode, according to KDB 662911 D01 Multiple Transmitter Output v02r01, Directional gain = $G_{ANT} + 10 \log(N_{ANT}/N_{SS})$

$G_{ANT1}=3.57\text{dBi}$, $G_{ANT2}=4.74\text{dBi}$, use the higher antenna gain for calculate

Directional gain= $4.74+10*\log(2)=7.74\text{dBi}>6\text{dBi}$, So the limit need reduce 1.74dB

3.5.5 Duty Cycle

5150-5250MHz

Mode	Antenna	Test Frequency (MHz)	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor(dB)	1/Ton (Hz)	VBW Setting (kHz)
802.11a	Chain 0	5180	1.390	1.437	96.73	0.14	719	1
		5200	1.391	1.437	96.80	0.14	719	1
		5240	1.390	1.437	96.73	0.14	719	1
	Chain 1	5180	1.391	1.437	96.80	0.14	719	1
		5200	1.391	1.437	96.80	0.14	719	1
		5240	1.391	1.437	96.80	0.14	719	1
802.11n20	Chain 0	5180	1.286	1.333	96.47	0.16	778	1
		5200	1.287	1.333	96.55	0.15	777	1
		5240	1.287	1.333	96.55	0.15	777	1
	Chain 1	5180	1.286	1.333	96.47	0.16	778	1
		5200	1.287	1.333	96.55	0.15	777	1
		5240	1.287	1.334	96.48	0.16	777	1
802.11n40	Chain 0	5190	0.636	0.681	93.39	0.30	1572	2
		5230	0.635	0.680	93.38	0.30	1575	2
	Chain 1	5190	0.635	0.680	93.38	0.30	1575	2
		5230	0.635	0.680	93.38	0.30	1575	2
802.11ac80	Chain 0	5210	0.188	0.232	81.03	0.91	5319	10
	Chain 1	5210	0.187	0.232	80.60	0.94	5348	10

5250-5350MHz

Mode	Antenna	Test Frequency (MHz)	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor(dB)	1/Ton (Hz)	VBW Setting (kHz)
802.11a	Chain 0	5260	1.391	1.437	96.80	0.14	719	1
		5280	1.391	1.437	96.80	0.14	719	1
		5320	1.391	1.437	96.80	0.14	719	1
	Chain 1	5260	1.391	1.437	96.80	0.14	719	1
		5280	1.391	1.437	96.80	0.14	719	1
		5320	1.391	1.437	96.80	0.14	719	1
802.11n20	Chain 0	5260	1.287	1.333	96.55	0.15	777	1
		5280	1.287	1.333	96.55	0.15	777	1
		5320	1.286	1.333	96.47	0.16	778	1
	Chain 1	5260	1.287	1.333	96.55	0.15	777	1
		5280	1.286	1.333	96.47	0.16	778	1
		5320	1.286	1.333	96.47	0.16	778	1

Mode	Antenna	Test Frequency (MHz)	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor(dB)	1/Ton (Hz)	VBW Setting (kHz)
802.11n40	Chain 0	5270	0.635	0.680	93.38	0.30	1575	2
		5310	0.636	0.680	93.53	0.29	1572	2
	Chain 1	5270	0.636	0.680	93.53	0.29	1572	2
		5310	0.636	0.680	93.53	0.29	1572	2
802.11ac80	Chain 0	5290	0.188	0.232	81.03	0.91	5319	10
	Chain 1	5290	0.187	0.232	80.60	0.94	5348	10

5470-5725MHz

Mode	Antenna	Test Frequency (MHz)	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor(dB)	1/Ton (Hz)	VBW Setting (kHz)
802.11a	Chain 0	5500	1.391	1.437	96.80	0.14	719	1
		5580	1.392	1.437	96.87	0.14	718	1
		5700	1.391	1.437	96.80	0.14	719	1
		5720	1.391	1.437	96.80	0.14	719	1
	Chain 1	5500	1.391	1.437	96.80	0.14	719	1
		5580	1.391	1.437	96.80	0.14	719	1
		5700	1.392	1.439	96.73	0.14	718	1
		5720	1.391	1.437	96.80	0.14	719	1
802.11n20	Chain 0	5500	1.287	1.333	96.55	0.15	777	1
		5580	1.286	1.333	96.47	0.16	778	1
		5700	1.286	1.333	96.47	0.16	778	1
		5720	1.287	1.333	96.55	0.15	777	1
	Chain 1	5500	1.288	1.334	96.55	0.15	776	1
		5580	1.287	1.333	96.55	0.15	777	1
		5700	1.286	1.333	96.47	0.16	778	1
		5720	1.287	1.333	96.55	0.15	777	1
802.11n40	Chain 0	5510	0.635	0.680	93.38	0.30	1575	2
		5550	0.635	0.680	93.38	0.30	1575	2
		5670	0.635	0.680	93.38	0.30	1575	2
		5710	0.635	0.680	93.38	0.30	1575	2
	Chain 1	5510	0.636	0.680	93.53	0.29	1572	2
		5550	0.636	0.680	93.53	0.29	1572	2
		5670	0.635	0.680	93.38	0.30	1575	2
		5710	0.636	0.680	93.53	0.29	1572	2
802.11ac80	Chain 0	5530	0.188	0.232	81.03	0.91	5319	10
		5610	0.188	0.232	81.03	0.91	5319	10
		5690	0.188	0.231	81.39	0.89	5319	10

Mode	Antenna	Test Frequency (MHz)	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor(dB)	1/Ton (Hz)	VBW Setting (kHz)
	Chain 1	5530	0.188	0.232	81.03	0.91	5319	10
		5610	0.188	0.232	81.03	0.91	5319	10
		5690	0.188	0.232	81.03	0.91	5319	10

5725-5850MHz

Mode	Antenna	Test Frequency (MHz)	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor(dB)	1/Ton (Hz)	VBW Setting (kHz)
802.11a	Chain 0	5745	1.392	1.437	96.87	0.14	718	1
		5785	1.391	1.437	96.80	0.14	719	1
		5825	1.391	1.437	96.80	0.14	719	1
	Chain 1	5745	1.391	1.437	96.80	0.14	719	1
		5785	1.391	1.437	96.80	0.14	719	1
		5825	1.391	1.437	96.80	0.14	719	1
802.11n20	Chain 0	5745	1.286	1.333	96.47	0.16	778	1
		5785	1.287	1.334	96.48	0.16	777	1
		5825	1.287	1.333	96.55	0.15	777	1
	Chain 1	5745	1.286	1.333	96.47	0.16	778	1
		5785	1.287	1.333	96.55	0.15	777	1
		5825	1.287	1.333	96.55	0.15	777	1
802.11n40	Chain 0	5755	0.635	0.680	93.38	0.30	1575	2
		5795	0.635	0.680	93.38	0.30	1575	2
	Chain 1	5755	0.635	0.680	93.38	0.30	1575	2
		5795	0.635	0.680	93.38	0.30	1575	2
802.11ac80	Chain 0	5775	0.188	0.232	81.03	0.91	5319	10
	Chain 1	5775	0.188	0.232	81.03	0.91	5319	10

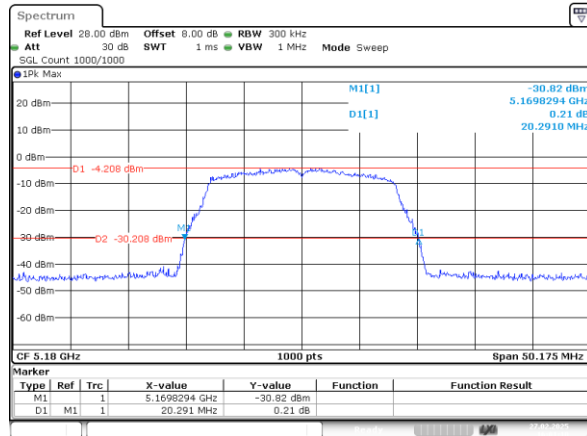
Duty Cycle = Ton/(Ton+Toff)*100%

Test Plots:

26dB Emission Bandwidth:

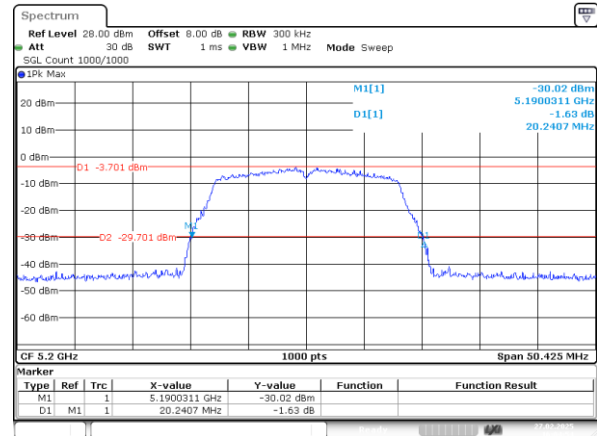
5150-5250MHz

802.11a_5180MHz_Chain 0



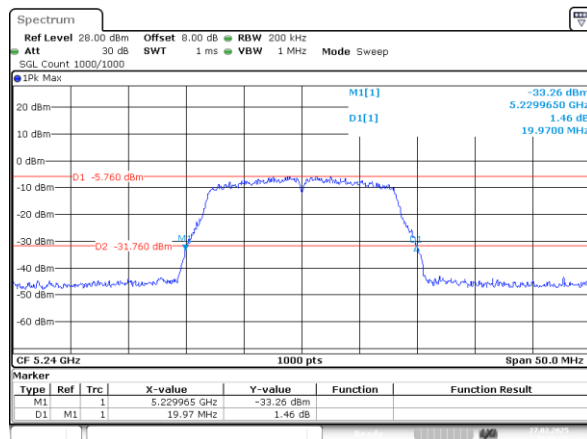
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802.11a_5200MHz_Chain 0



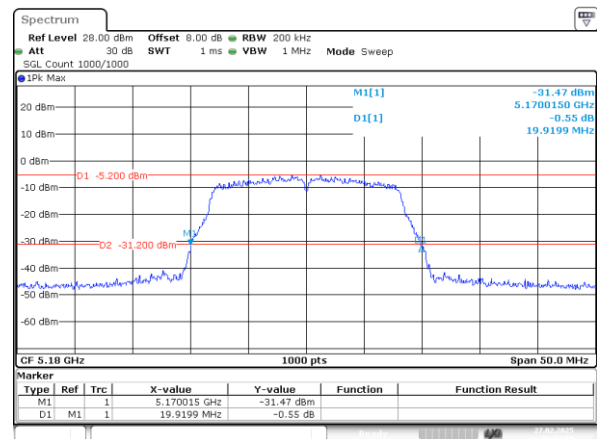
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802.11a_5240MHz_Chain 0



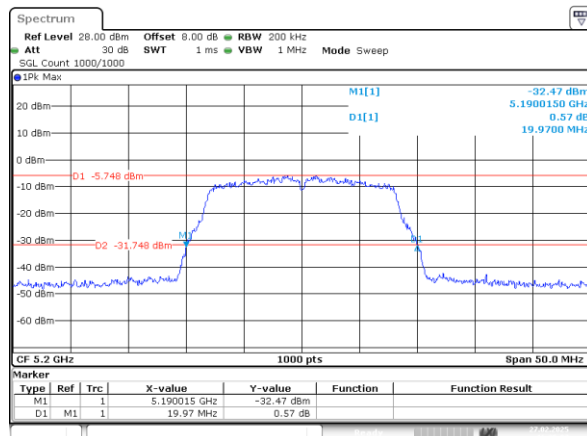
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802.11a_5180MHz_Chain 1



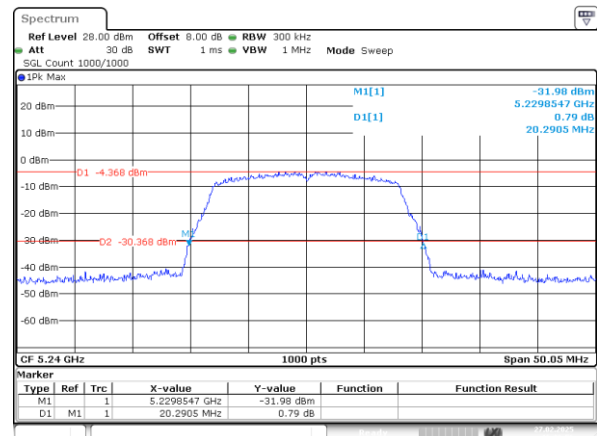
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802.11a_5200MHz_Chain 1



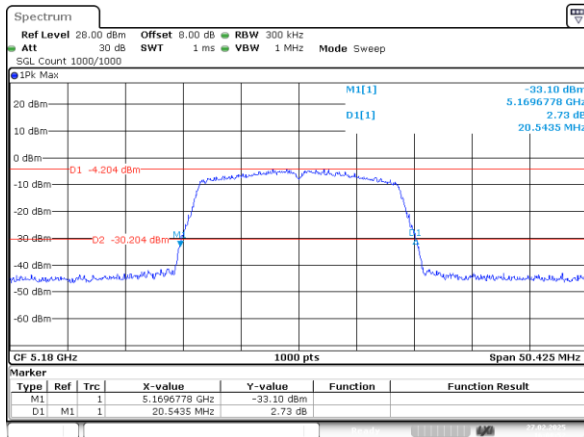
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 16:35:07

802.11a_5240MHz_Chain 1



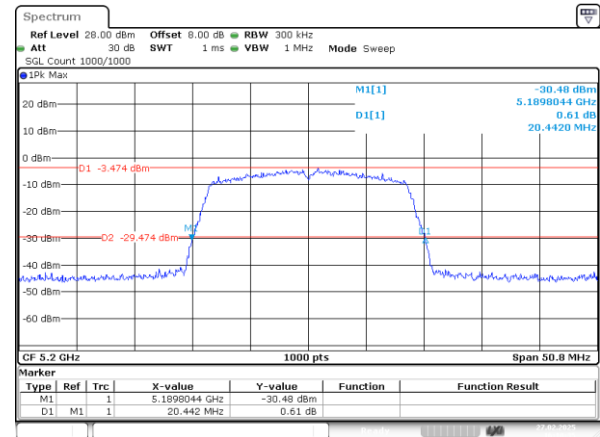
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 16:36:56

802.11n20_5180MHz_Chain 0



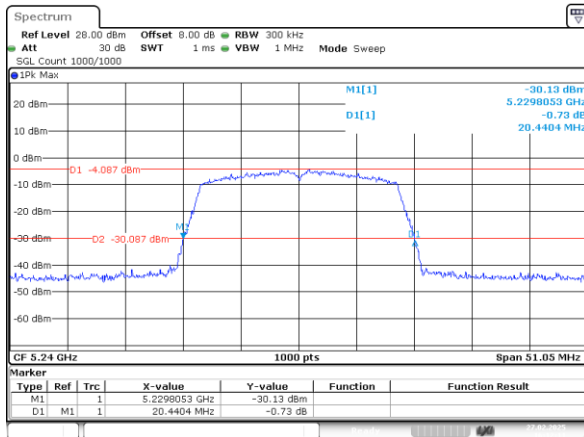
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 16:08:52

802.11n20_5200MHz_Chain 0



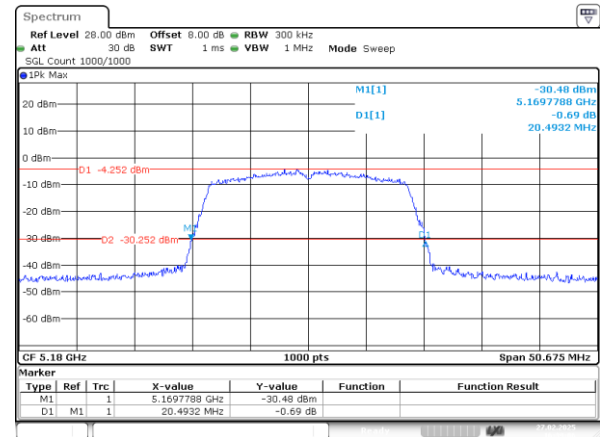
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 16:10:35

802.11n20_5240MHz_Chain 0



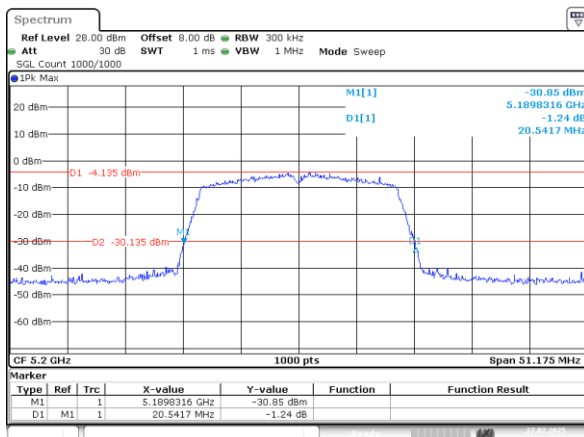
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 16:12:11

802.11n20_5180MHz_Chain 1



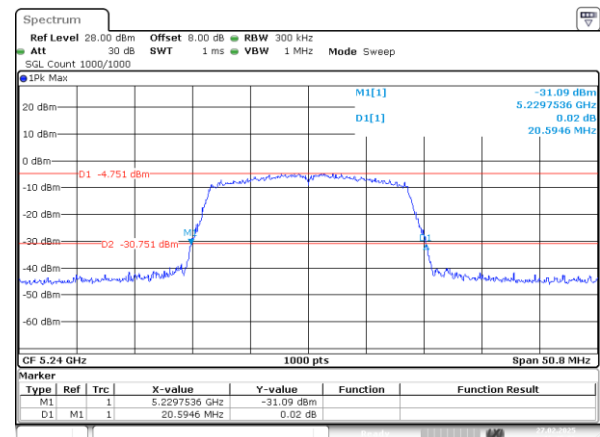
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 16:13:06

802.11n20_5200MHz_Chain 1



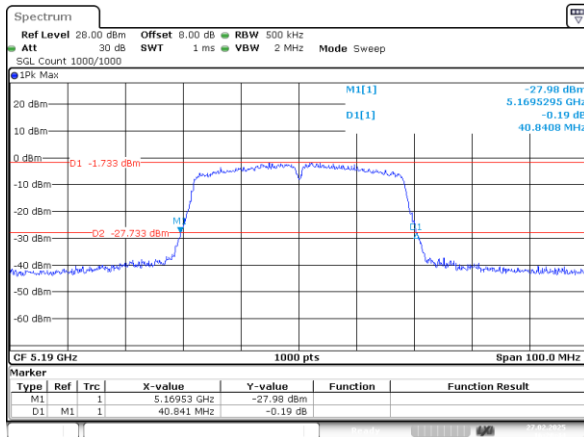
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 16:41:10

802.11n20_5240MHz_Chain 1



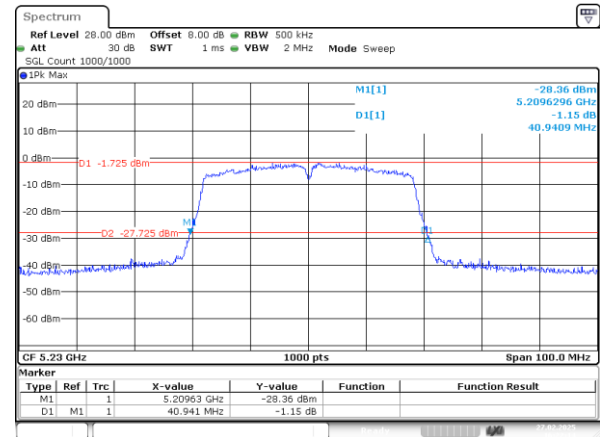
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 16:45:06

802.11n40_5190MHz_Chain 0



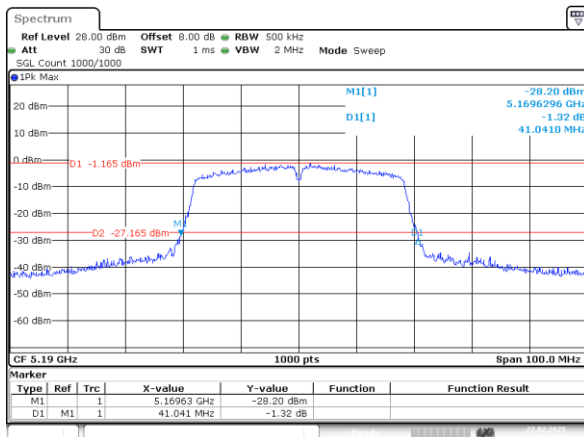
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 16:20:44

802.11n40_5230MHz_Chain 0



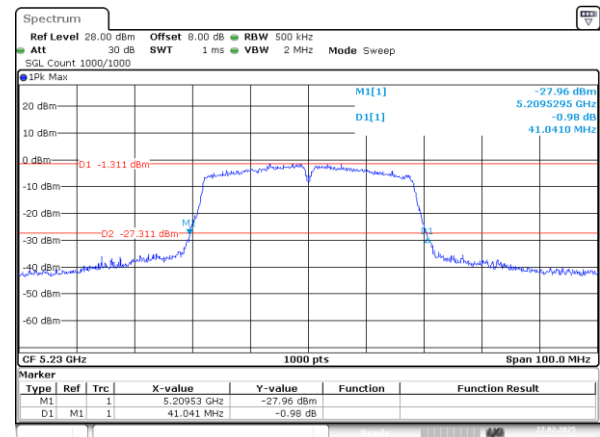
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 16:22:13

802.11n40_5190MHz_Chain 1



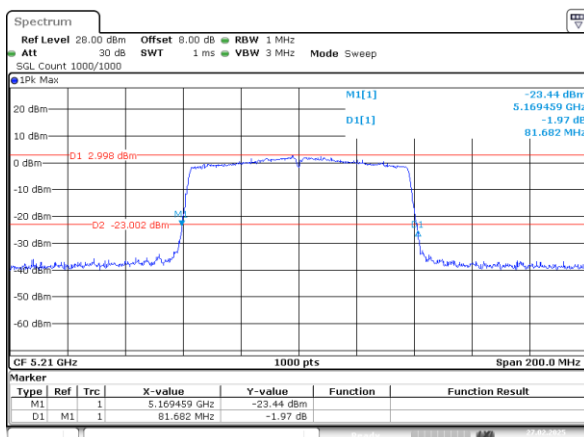
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 16:24:25

802.11n40_5230MHz_Chain 1



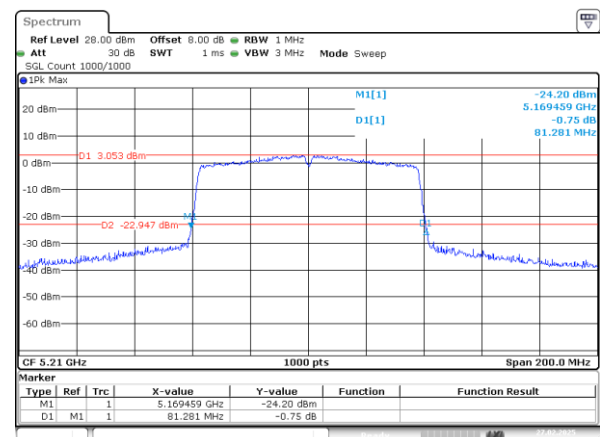
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 16:25:17

802.11ac80_5210MHz_Chain 0



ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 16:18:48

802.11ac80_5210MHz_Chain 1



ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 16:30:46