

Radio Test Report

Applicant's name : Shenzhen Qianrui Linghang Technology Co., Ltd.
Address : 418-1;room 418-1,Wisdom Vally Innoovation Park,1010 Bulong Road, Minzhi,Longhua,SZ
Manufacture's Name : Shenzhen Qianrui Linghang Technology Co., Ltd.
Address : 418-1;room 418-1,Wisdom Vally Innoovation Park,1010 Bulong Road, Minzhi,Longhua,SZ
Product description
Trader mark : N/A
Product Name: : Smart Glasses
Model and/or type reference : SK10
Serial Model : SK06,SK08,SK09,SK11,SK15,SK16,SK18,SK19,SK22,SK25,SK26,SK28, SK29,SK33,SK36,SK38,SK39,SK40,SK46,SK48,SK50,SK52,SK55,SK56, SK58,SK59,SK66,SK66pro,SK66MaX,SK10 Max,SK10pro
Rating(s) : DC 5V,0.5A or Battery :3.8Vdc,55mAh,0.209Wh
Standards : 47 CFR Part 15.247
FCC ID : 2BWB-18

The EUT described above has been tested by us with the listed standards and found in compliance with the FCC requirements. It is possible to use FCC marking to demonstrate the compliance with this FCC requirements.
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Date of Test

Date (s) of performance of tests : 2026-08-20 ~ 2026-09-02
Date of Issue : 2026-09-02
Test Result : **Pass**

Prepared by: 
Project Engineer
Reviewed by: 
Project Supervisor
Approved by: 
Technical Director



REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	2026-09-02	Valid	Initial Release



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1. TEST SUMMARY

No.	Test Item	Basic Standard	Requirement	Result
1	Antenna requirement	47 CFR Part 15.247	47 CFR 15.203	PASS
2	Conducted Emission at AC power line	47 CFR Part 15.247	47 CFR 15.207(a)	PASS
3	20dB Bandwidth	47 CFR Part 15.247	47 CFR 15.247(a)(1)	PASS
4	Maximum Conducted Output Power	47 CFR Part 15.247	47 CFR 15.247(b)(1)	PASS
5	Channel Separation	47 CFR Part 15.247	47 CFR 15.247(a)(1)	PASS
6	Number of Hopping Frequencies	47 CFR Part 15.247	47 CFR 15.247(a)(1)(iii)	PASS
7	Dwell Time	47 CFR Part 15.247	47 CFR 15.247(a)(1)(iii)	PASS
8	Emissions in non-restricted frequency bands	47 CFR Part 15.247	47 CFR 15.247(d)	PASS
9	Band edge emissions (Radiated)	47 CFR Part 15.247	47 CFR 15.247(d), 15.209, 15.205	PASS
10	Emissions in frequency bands (below 1GHz)	47 CFR Part 15.247	47 CFR 15.247(d), 15.209, 15.205	PASS
11	Emissions in frequency bands (above 1GHz)	47 CFR Part 15.247	47 CFR 15.247(d), 15.209, 15.205	PASS

2. MEASUREMENT UNCERTAINTY

The report uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty Multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

No.	Item	Uncertainty
1	Conducted Emission (150KHz - 30MHz)	$\pm 2.54\text{dB}$
2	Occupied Channel Bandwidth	$\pm 3.5\%$
3	RF output power, conducted	$\pm 1.19\text{dB}$
4	Unwanted Emissions, conducted	$\pm 2.988\text{dB}$
5	All emissions, radiated (1GHz - 18GHz)	$\pm 4.66\text{dB}$
6	All emissions, radiated (30MHz - 1GHz)	$\pm 3.94\text{dB}$
7	All emissions, radiated (18GHz - 40GHz)	$\pm 4.31\text{dB}$
8	All emissions, radiated below 1GHz	$\pm 2.54\text{dB}$

3. TEST FACILITY

Shenzhen VOP Testing Technology Co., Ltd.

Add:103, Building 5, Wanyan Industrial Park Qiaotou Community, Fuhai Street, Baoan District Shenzhen, Guangdong
People's Republic of China

FCC :Designation Number:CN1438

Certificate Number: 7579.01

3.1. Deviation from Standard

None

3.2. Abnormalities from Standard Conditions

None



4. GENERAL INFORMATION

4.1. General Description of EUT

Manufacturer:	Shenzhen Qianrui Linghang Technology Co., Ltd.
Manufacturer Address:	418-1;room 418-1,Wisdom Vally Innoovation Park,1010 Bulong Road ,Minzhi,Longhua,SZ
EUT Name:	Smart Glasses
Model No:	SK10
Serial Model:	SK06,SK08,SK09,SK11,SK15,SK16,SK18,SK19,SK22,SK25,SK26,SK28,SK29,SK33,SK36,SK38,SK39,SK40,SK46,SK48,SK50,SK52,SK55,SK56,SK58,SK59,SK66,SK66pro,SK66MaX,SK10 Max,SK10pro
Brand Name:	N/A
Difference Description:	Appearance difference, internal sharing
Operation Frequency:	2402MHz to 2480MHz
Number of channels:	79
Modulation Type:	GFSK, Pi/4DQPSK, 8DPSK
Antenna type:	Ceramic plate Antenna
Antenna Gain:	2.7dBi
Bluetooth Version:	N/A
Hardware Version:	N/A
Software Version:	N/A
Power Supply:	Input:120V~ 60Hz from adapter, Output: DC11V, 2.25A from adapter DC 5V,0.5A or Battery :3.8Vdc,55mAh,0.209Wh
Maximum Output Power:	-14.83dBm

Note:

- 1.For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- 2.The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report. Due to the incorrect antenna information, a series of problems such as the accuracy of the test results will be borne by the customer.

3.Channel List

Channel	Frequency(MHz)	Channel	Frequency(MHz)	Channel	Frequency(MHz)
0	2402	27	2429	54	2456
1	2403	28	2430	55	2457
2	2404	29	2431	56	2458
3	2405	30	2432	57	2459

4	2406	31	2433	58	2460
5	2407	32	2434	59	2461
6	2408	33	2435	60	2462
7	2409	34	2436	61	2463
8	2410	35	2437	62	2464
9	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		

4.2. EUT Test Mode

TM1	TX-GFSK (Non-Hopping)
TM2	TX-Pi/4DQPSK (Non-Hopping)
TM3	TX-8DPSK (Non-Hopping)
TM4	TX-GFSK (Hopping)
TM5	TX-Pi/4DQPSK (Hopping)
TM6	TX-8DPSK (Hopping)
Test software Version	Test program: bt tool v1.1.2
Frequency	2402MHz to 2480MHz
Power Setting of Software	0
Note: All above mode have been measurement, only worst data was reported.	

4.3. Auxiliary Equipment Used During Test

No.	Equipment	Manufacturer	Model No.	Serial No.	Remark
1	HP laptop	HP	DESKTOP-G3N DKR3	N/A	N/A
2	Huawei Super Fast Charger	Huawei	HW-100225C00	N/A	N/A

Note:

EUT power supply mode: Power adapter/linear power supply conforming to EUT rated parameters is provided by the laboratory as auxiliary power supply equipment. The prototype is not equipped with the original adapter, and only the power supply line is connected to the test power supply.

Role of external power supply: auxiliary power supply equipment, providing rated working power for EUT, belongs to the test auxiliary equipment, not a part of EUT.



5. EQUIPMENTS LIST FOR ALL TEST ITEMS

Conducted Emission at AC power line						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	EMI test receiver ESCI	R&S	ESCI-3	100503	2026-03-17	2028-03-16
2	LISN	R&S	ENV216	103017	2025-09-10	2026-09-09
3	10dB limiter	Schwarzbeck	VTSD 9561	102834	2026-06-25	2028-06-24

Maximum Conducted Output Power Channel Separation Number of Hopping Frequencies Dwell Time Emissions in non-restricted frequency bands 20dB Bandwidth						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	spectrum analyzer	Agilent	N9020A	MY51287427	2026-06-25	2028-06-24
2	RF automatic control unit	TST	CBOX-Full	2752539	2026-06-25	2028-06-24

Band edge emissions (Radiated) Emissions in frequency bands (above 1GHz)						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	preamplifier	QUANJUDA	LNA18	2503130032	2026-07-07	2027-07-06
2	High frequency antenna	Schwarzbeck	9120D-1141	03260	2025-10-19	2026-10-18
3	High-frequency horn antenna	Schwarzbeck	HA-018040L	25098408	2025-10-31	2026-10-30
4	preamplifier	HCT	HC180400-50 G25	25098401	2025-09-19	2026-09-18
5	spectrum analyzer	R&S	FSV40	101373	2025-12-24	2026-12-23

Emissions in frequency bands (below 1GHz)						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	EMI test receiver ESCI	R&S	ESPI-7	100754	2026-03-17	2028-03-16
2	Log periodic antenna	SCHWARZBECK	VULB9163	01790	2025-10-24	2026-10-23
3	preamplifier	SCHWARZBECK	8447D	2944A08081	2026-03-17	2028-03-16
4	Loop antenna	COM-POWER	FMZB 1519-60 C	00170	2026-03-17	2028-03-16

6. TEST RESULTS

6.1. Antenna requirement

Test Requirement:	Refer to 47 CFR Part 15.203, 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 shall be considered sufficient to comply with the provisions of this section.
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6.1.1. Conclusion:

The EUT antenna is Ceramic plate Antenna.It conforms to the standard requirements.



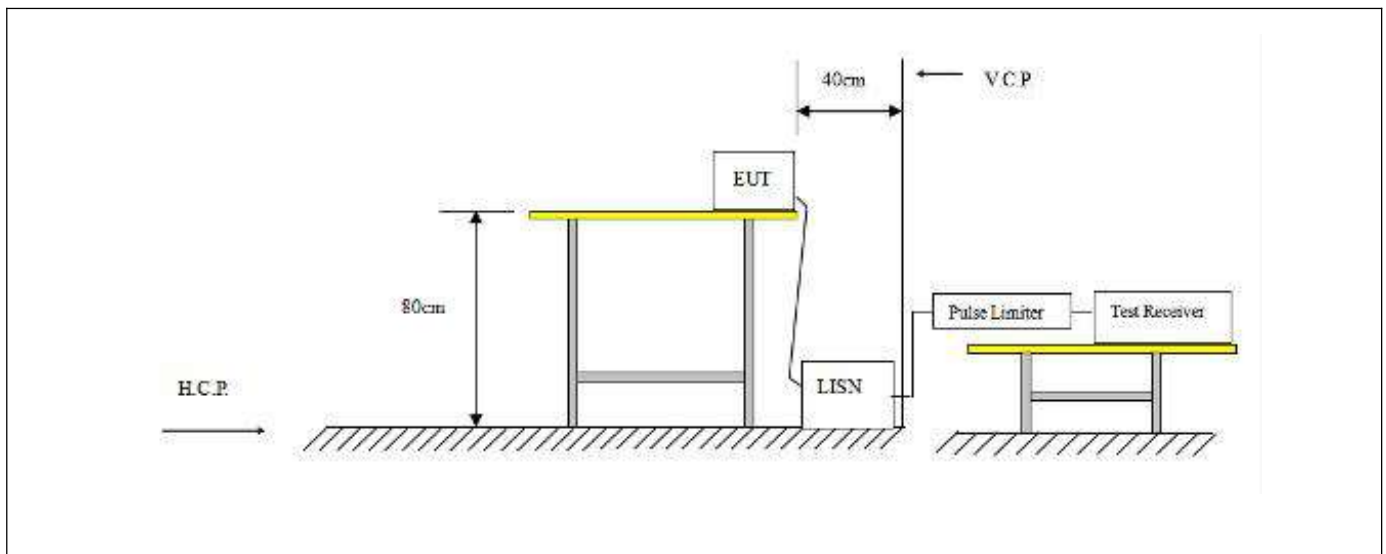
6.2. Conducted Emission at AC power line

Test Requirement:	Refer to 47 CFR 15.207(a), Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).		
Test Limit:	Frequency of emission (MHz)	Conducted limit (dB μ V)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
*Decreases with the logarithm of the frequency.			
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 6.2		
Procedure:	Refer to ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices		

6.2.1. EUT Operation

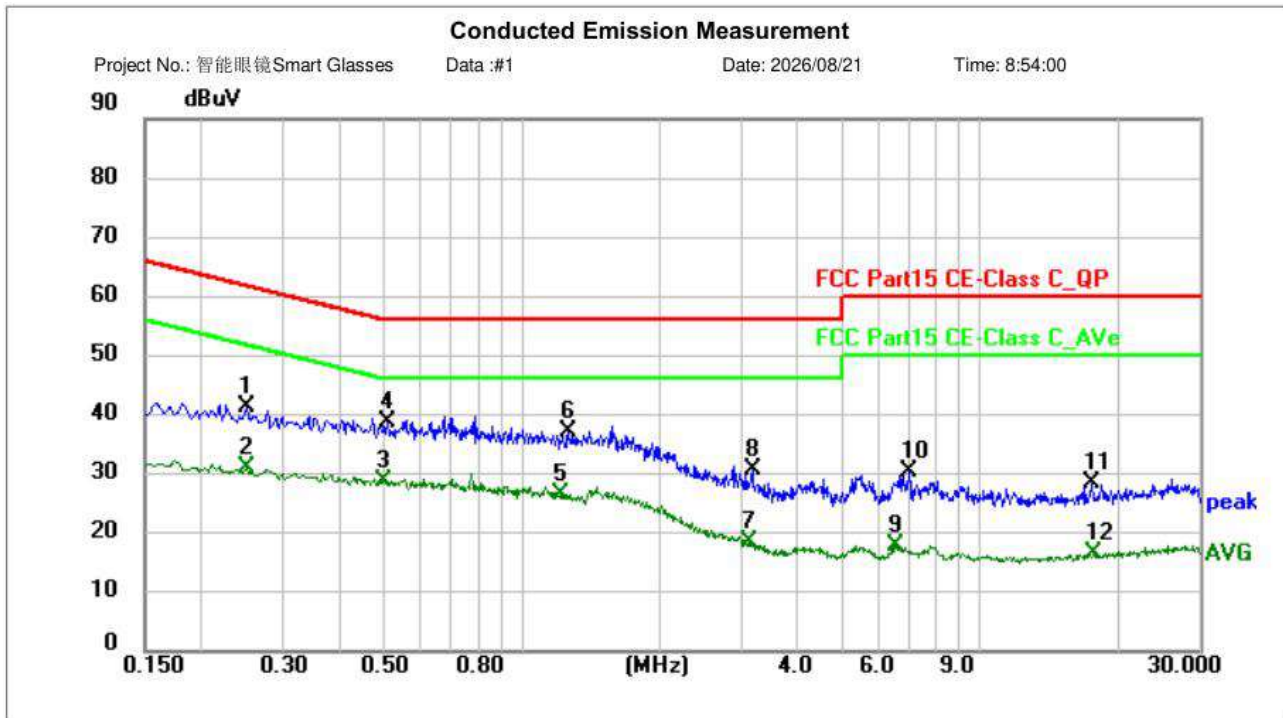
Operating Environment:					
Temperature:	26 °C	Humidity:	54 %	Atmospheric Pressure:	101.1 kPa
Pre test mode:	TM1,TM2,TM3				
Final test mode:	TM1,TM2,TM3				
Note: All operating modes have been pre-tested; only the worst-case mode test data are presented in this report.					

6.2.2. Test Setup Diagram:



6.2.3. Test Data

TM1 / Line: Line / Band: 2400-2483.5 MHz / BW: 1 / CH: L



Site LAB

Phase: L1

Temperature: 26 °C

Limit: FCC Part15 CE-Class C_QP

Power:

Humidity: 54 %RH

EUT:

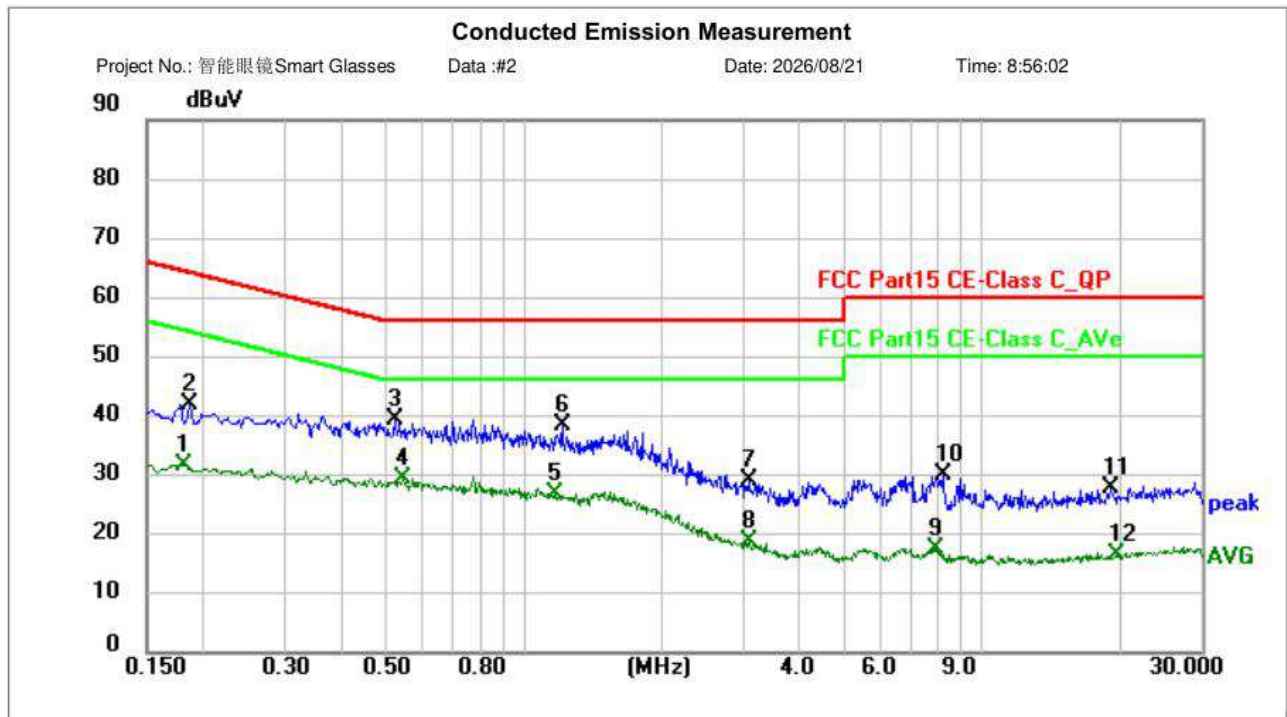
M/N: charging

Mode:

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2500	21.91	19.44	41.35	61.76	-20.41	peak	P	
2	0.2500	11.46	19.44	30.90	51.76	-20.86	AVG	P	
3 *	0.4980	9.35	19.47	28.82	46.03	-17.21	AVG	P	
4	0.5100	19.25	19.47	38.72	56.00	-17.28	peak	P	
5	1.2220	7.11	19.50	26.61	46.00	-19.39	AVG	P	
6	1.2660	17.46	19.51	36.97	56.00	-19.03	peak	P	
7	3.1340	-1.19	19.61	18.42	46.00	-27.58	AVG	P	
8	3.1820	11.01	19.61	30.62	56.00	-25.38	peak	P	
9	6.5500	-2.15	19.86	17.71	50.00	-32.29	AVG	P	
10	6.9620	10.54	19.90	30.44	60.00	-29.56	peak	P	
11	17.5580	7.49	20.88	28.37	60.00	-31.63	peak	P	
12	17.7260	-4.40	20.90	16.50	50.00	-33.50	AVG	P	

TM1 / Line: Neutral / Band: 2400-2483.5 MHz / BW: 1 / CH: L



Site LAB

Phase: N

Temperature: 26 °C

Limit: FCC Part15 CE-Class C_QP

Power:

Humidity: 54 %RH

EUT:

M/N: charging

Mode:

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1815	12.20	19.41	31.61	54.42	-22.81	AVG	P	
2	0.1860	22.54	19.41	41.95	64.21	-22.26	peak	P	
3	0.5220	19.94	19.46	39.40	56.00	-16.60	peak	P	
4 *	0.5420	10.09	19.46	29.55	46.00	-16.45	AVG	P	
5	1.1780	7.20	19.50	26.70	46.00	-19.30	AVG	P	
6	1.2100	19.02	19.50	38.52	56.00	-17.48	peak	P	
7	3.1060	9.52	19.61	29.13	56.00	-26.87	peak	P	
8	3.1060	-0.77	19.61	18.84	46.00	-27.16	AVG	P	
9	7.9580	-2.38	20.00	17.62	50.00	-32.38	AVG	P	
10	8.2060	10.16	20.03	30.19	60.00	-29.81	peak	P	
11	19.0459	6.77	21.05	27.82	60.00	-32.18	peak	P	
12	19.7180	-4.48	21.12	16.64	50.00	-33.36	AVG	P	

6.3. 20dB Bandwidth

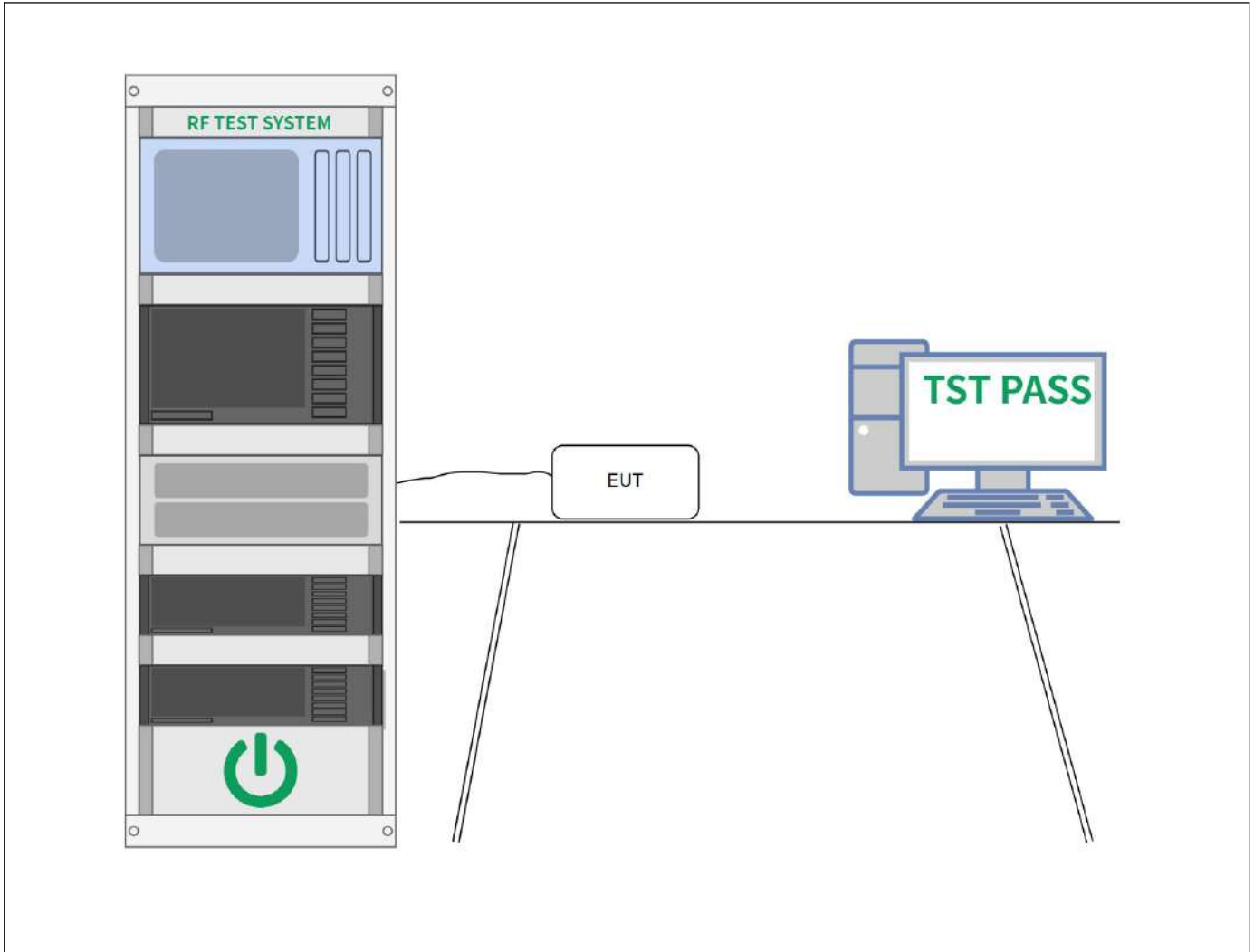
Test Requirement:	47 CFR 15.247(a)(1)
Test Limit:	Refer to 47 CFR 15.215(c), intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 7.8.6, For occupied bandwidth measurements, use the procedure in 6.9.2. Frequency hopping shall be disabled for this test.
Procedure:	A dBc bandwidth is measured as the width of the spectral envelope of the modulated signal, at an amplitude level reduced from a reference value by a specified ratio (or in decibels, a specified number of dB down from the reference value). Typical ratios, expressed in dB, are -6 dB, -20 dB, and -26 dB, corresponding to 6 dB BW, 20 dB BW, and 26 dB BW, respectively. In this subclause, the ratio is designated by “-xx dB.” The reference value is either the level of the unmodulated carrier or the highest level of the spectral envelope of the modulated signal, as stated by the applicable requirement. Some requirements might specify a specific maximum or minimum value for the “-xx dB” bandwidth; other requirements might specify that the “-xx dB” bandwidth be entirely contained within the authorized or designated frequency band.⁵¹ a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW. b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be at least three times RBW, unless otherwise specified by the applicable requirement. c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than $[10 \log (OBW/RBW)]$ below the reference level. Specific guidance is given in 4.1.6.2. d) Steps a) through c) might require iteration to adjust within the specified tolerances. e) The dynamic range of the instrument at the selected RBW shall be more than 10 dB below the target “-xx dB down” requirement; that is, if the requirement calls for measuring the -20 dB OBW, the instrument noise floor at the selected RBW shall be at least 30 dB below the reference value. f) Set detection mode to peak and trace mode to max-hold. g) Determine the reference value: Set the EUT to transmit an unmodulated carrier or modulated signal, as applicable. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value). h) Determine the “-xx dB down amplitude” using $[(\text{reference value}) - xx]$. Alternatively, this calculation may be made by using the marker-delta function of the instrument. i) If the reference value is determined by an unmodulated carrier, then turn the EUT

	modulation ON, and either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise, the trace from step g) shall be used for step j). j) Place two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “-xx dB down amplitude” determined in step h). If a marker is below this “-xx dB down amplitude” value, then it shall be as close as possible to this value. The dBc bandwidth is the frequency difference between the two markers. Alternatively, set a marker at the lowest frequency of the envelope of the spectral display, such that the marker is at or slightly below the “-xx dB down amplitude” determined in step h). Reset the marker-delta function and move the marker to the other side of the emission until the delta marker amplitude is at the same level as the reference marker amplitude. The marker-delta frequency reading at this point is the specified emission bandwidth. k) The dBc bandwidth shall be reported by providing spectral plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).
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6.3.1. EUT Operation

Operating Environment:					
Temperature:	26 °C	Humidity:	54 %	Atmospheric Pressure:	101.1 kPa
Pre test mode:	TM1, TM2, TM3				
Final test mode:	TM1, TM2, TM3				

6.3.2. Test Setup Diagram:



6.3.3. Test Data

Please Refer to Appendix for Details.

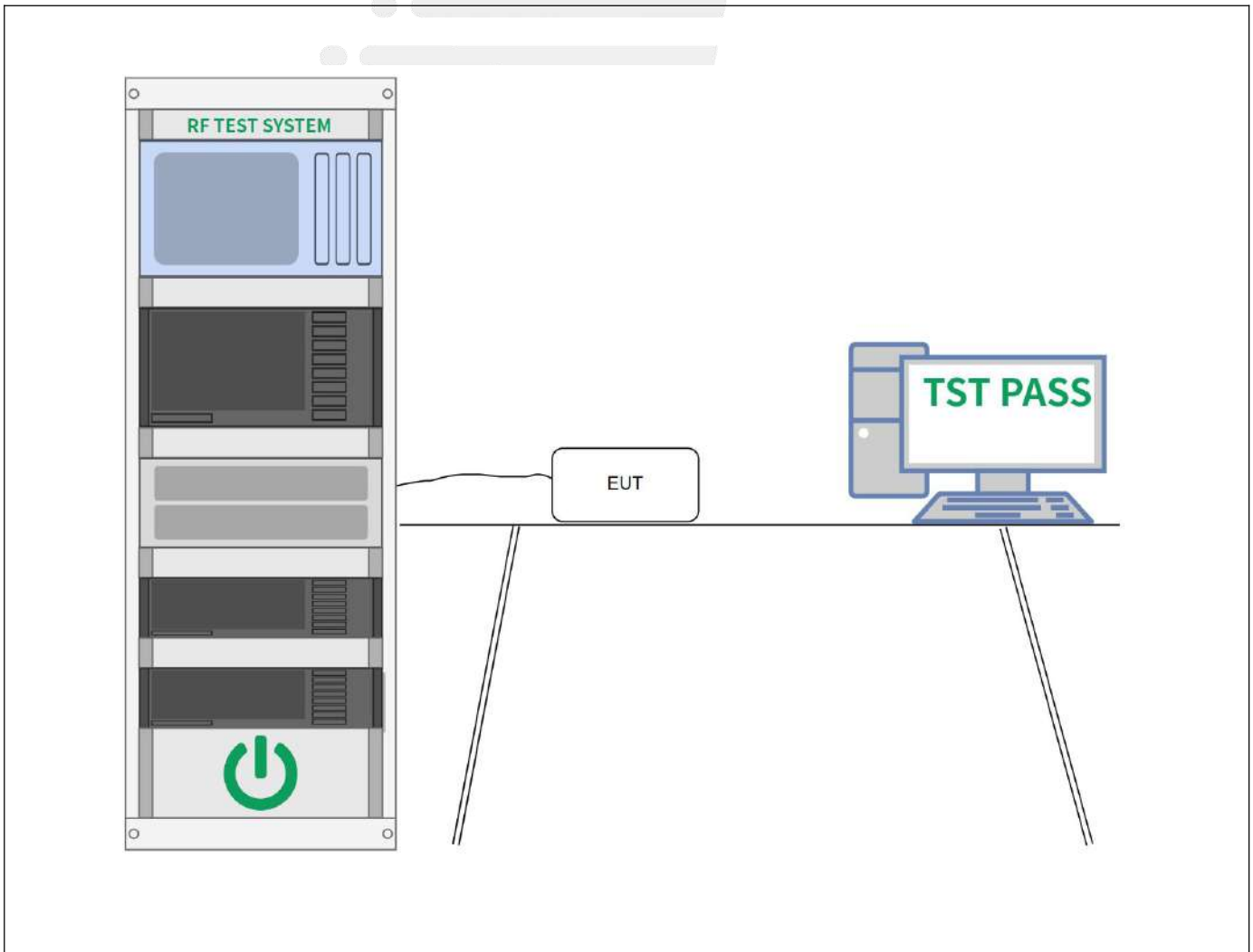
6.4. Maximum Conducted Output Power

Test Requirement:	47 CFR 15.247(b)(1)
Test Limit:	Refer to 47 CFR 15.247(b)(1), For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 7.8.5

6.4.1. EUT Operation

Operating Environment:					
Temperature:	26 °C	Humidity:	54 %	Atmospheric Pressure:	101.1 kPa
Pre test mode:	TM1, TM2, TM3				
Final test mode:	TM1, TM2, TM3				

6.4.2. Test Setup Diagram:



6.4.3. Test Data

Please Refer to Appendix for Details.

6.5. Channel Separation

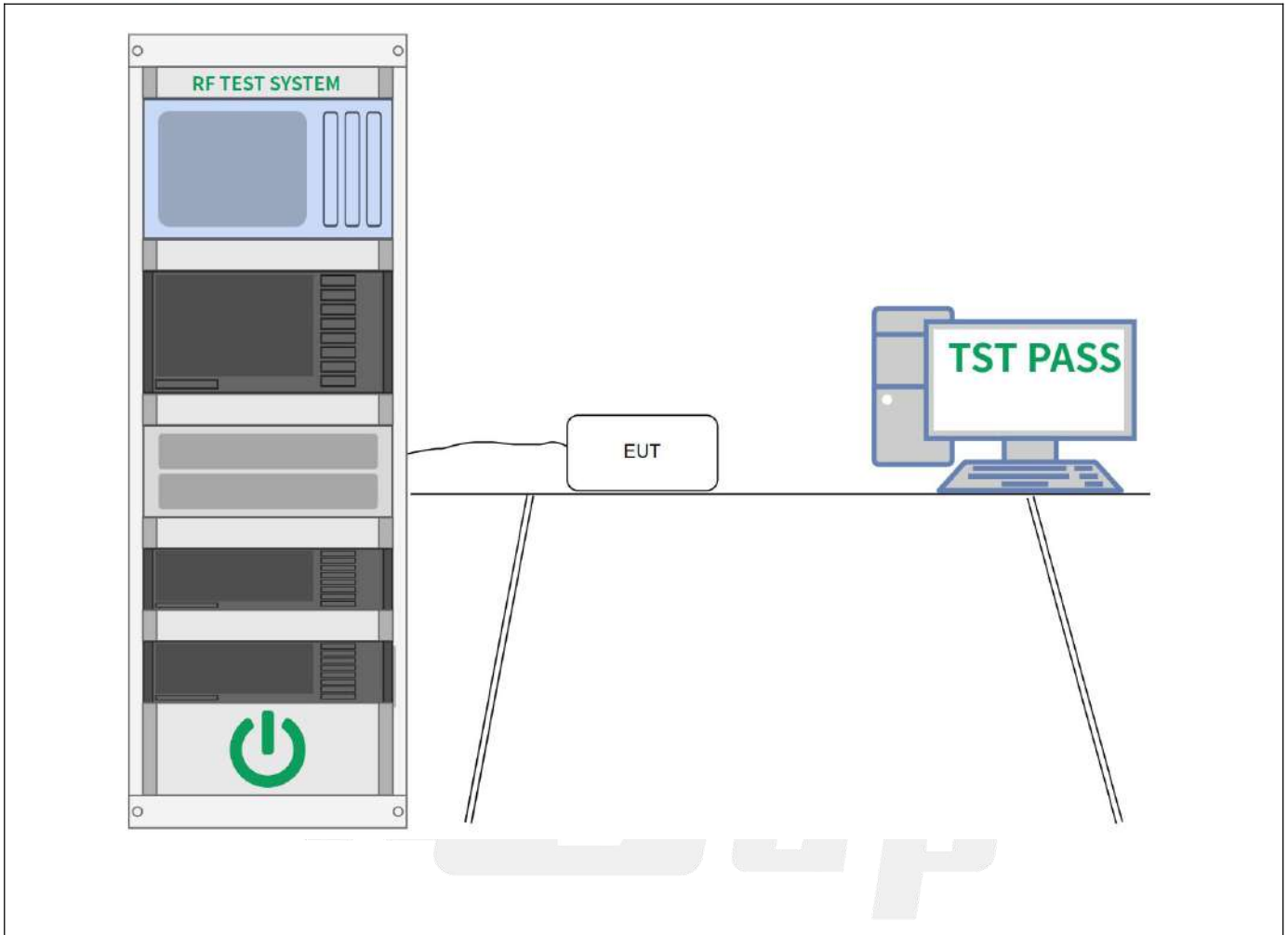
Test Requirement:	47 CFR 15.247(a)(1)
Test Limit:	Refer to 47 CFR 15.247(a)(1), Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 7.8.2
Procedure:	The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings: a) Span: Wide enough to capture the peaks of two adjacent channels. b) RBW: Start with the RBW set to approximately 30% of the channel spacing; adjust as necessary to best identify the center of each individual channel. c) Video (or average) bandwidth (VBW) $\geq$ RBW. d) Sweep: No faster than coupled (auto) time. e) Detector function: Peak. f) Trace: Max-hold. g) Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. Compliance of an EUT with the appropriate regulatory limit shall be determined. A spectral plot of the data shall be included in the test report.

6.5.1. EUT Operation

Operating Environment:					
Temperature:	26 °C	Humidity:	54 %	Atmospheric Pressure:	101.1 kPa
Pre test mode:	TM4, TM5, TM6				
Final test mode:	TM4, TM5, TM6				

6.5.2. Test Setup Diagram:

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6.5.3. Test Data

Please Refer to Appendix for Details.

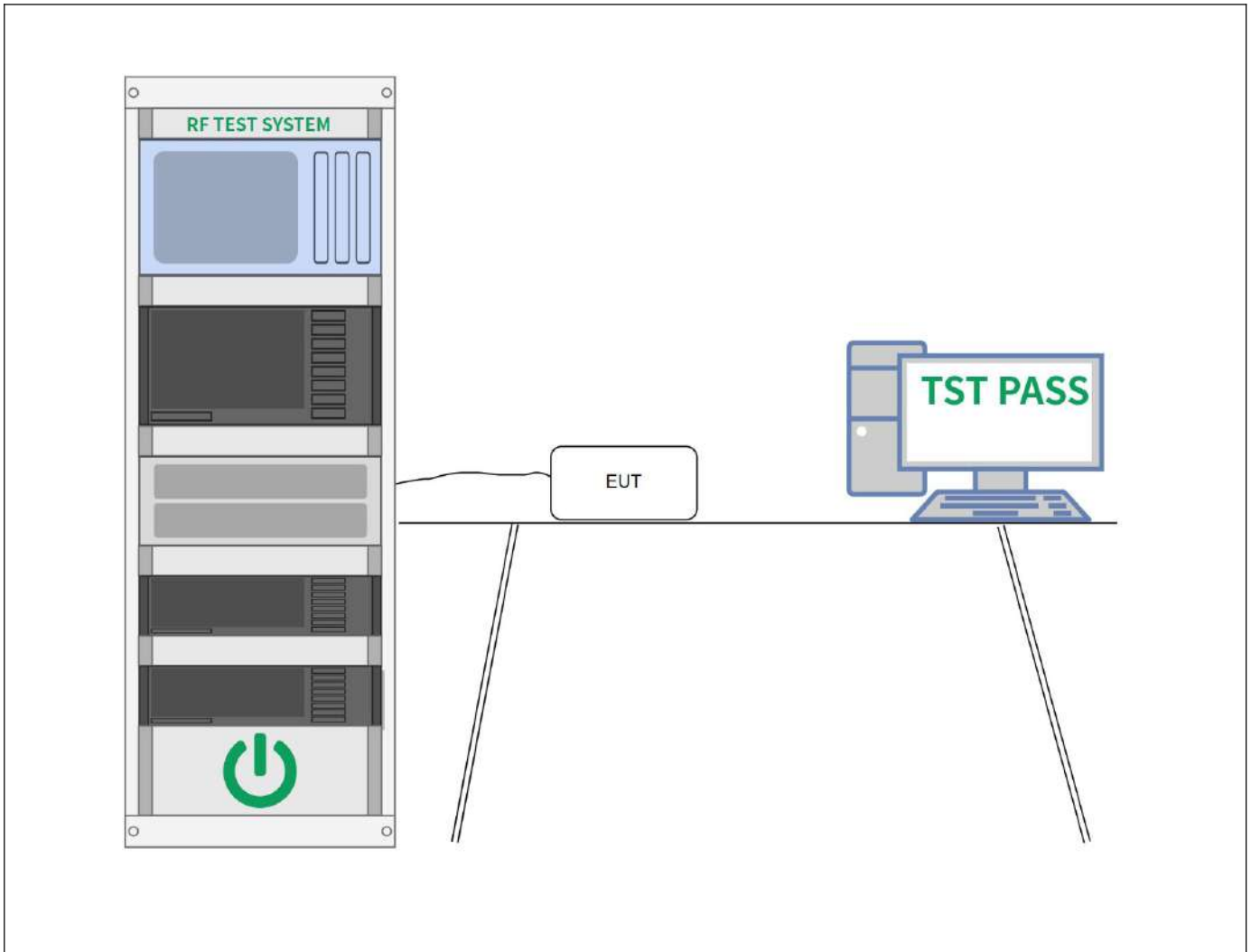
6.6. Number of Hopping Frequencies

Test Requirement:	47 CFR 15.247(a)(1)(iii)
Test Limit:	Refer to 47 CFR 15.247(a)(1)(iii), Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 7.8.3
Procedure:	The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings: a) Span: The frequency band of operation. Depending on the number of channels the device supports, it could be necessary to divide the frequency range of operation across multiple spans, to allow the individual channels to be clearly seen. b) RBW: To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller. c) VBW $\geq$ RBW. d) Sweep: No faster than coupled (auto) time. e) Detector function: Peak. f) Trace: Max-hold. g) Allow the trace to stabilize. It might prove necessary to break the span up into subranges to show clearly all of the hopping frequencies. Compliance of an EUT with the appropriate regulatory limit shall be determined for the number of hopping channels. A spectral plot of the data shall be included in the test report.

6.6.1. EUT Operation

Operating Environment:					
Temperature:	26 °C	Humidity:	54 %	Atmospheric Pressure:	101.1 kPa
Pre test mode:	TM4, TM5, TM6				
Final test mode:	TM4, TM5, TM6				

6.6.2. Test Setup Diagram:



6.6.3. Test Data

Please Refer to Appendix for Details.

6.7. Dwell Time

Test Requirement:	47 CFR 15.247(a)(1)(iii)
Test Limit:	Refer to 47 CFR 15.247(a)(1)(iii), Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, section 7.8.4
Procedure:	The dwell time per hop on a channel is the time from the start of the first transmission to the end of the last transmission for that hop. If the device has a single transmission per hop then the dwell time is the duration of that transmission. If the device has a multiple transmissions per hop then the dwell time is measured from the start of the first transmission to the end of the last transmission. The time of occupancy is the total time that the device dwells on a channel over an observation period specified in the regulatory requirement. To determine the time of occupancy the spectrum analyzer will be configured to measure both the dwell time per hop and the number of times the device transmits on a specific channel in a given period. The EUT shall have its hopping function enabled. Compliance with the requirements shall be made with the minimum and with the maximum number of channels enabled. If the dwell time per channel does not vary with the number of channels then compliance with the requirements may be based on the minimum number of channels. If the device supports different dwell times per channel (example Bluetooth devices can dwell on a channel for 1, 3 or 5 time slots) then measurements can be limited to the longest dwell time with the minimum number of channels. Use the following spectrum analyzer settings to determine the dwell time per hop: a) Span: Zero span, centered on a hopping channel. b) RBW shall be $\leq$ channel spacing and where possible RBW should be set $\gg 1/T$, where T is the expected transmission time per hop. c) Sweep time: Set so that the start of the first transmission and end of the last transmission for the hop are clearly captured. Setting the sweep time to be slightly longer than the hopping period per channel (hopping period = $1/\text{hopping rate}$) should achieve this. d) Use a video trigger, where possible with a trigger delay, so that the start of the transmission is clearly observed. The trigger level might need adjustment to reduce the chance of triggering when the system hops on an adjacent channel. e) Detector function: Peak. f) Trace: Clear-write, single sweep.

g) Place markers at the start of the first transmission on the channel and at the end of the last transmission. The dwell time per hop is the time between these two markers.

To determine the number of hops on a channel in the regulatory observation period repeat the measurement using a longer sweep time. When the device uses a single hopping sequence the period of measurement should be sufficient to capture at least 2 hops. When the device uses a dynamic hopping sequence, or the sequence varies, the period of measurement may need to capture multiple hops to better determine the average time of occupancy. Count the number of hops on the channel across the sweep time.

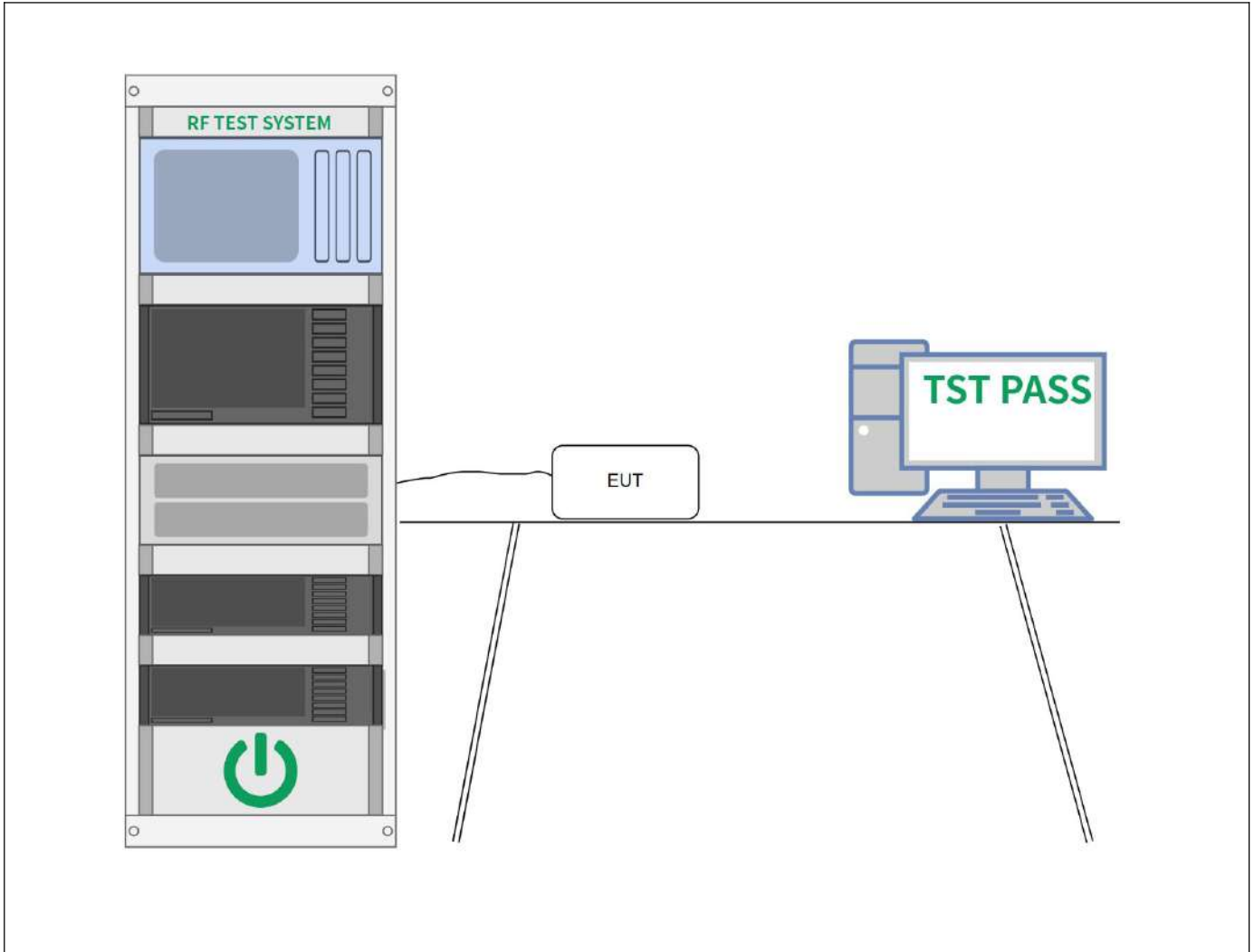
The average number of hops on the same channel within the regulatory observation period is calculated from the number of hops on the channel divided by the spectrum analyzer sweep time multiplied by the regulatory observation period. For example, if three hops are counted with an analyzer sweep time of 500 ms and the regulatory observation period is 10 s, then the number of hops in that ten seconds is $3 / 0.5 \times 10$, or 60 hops.

The average time of occupancy is calculated by multiplying the dwell time per hop by the number of hops in the observation period.

6.7.1. EUT Operation

Operating Environment:					
Temperature:	26 °C	Humidity:	54 %	Atmospheric Pressure:	101.1 kPa
Pre test mode:	TM4, TM5, TM6				
Final test mode:	TM4, TM5, TM6				

6.7.2. Test Setup Diagram:



6.7.3. Test Data

Please Refer to Appendix for Details.

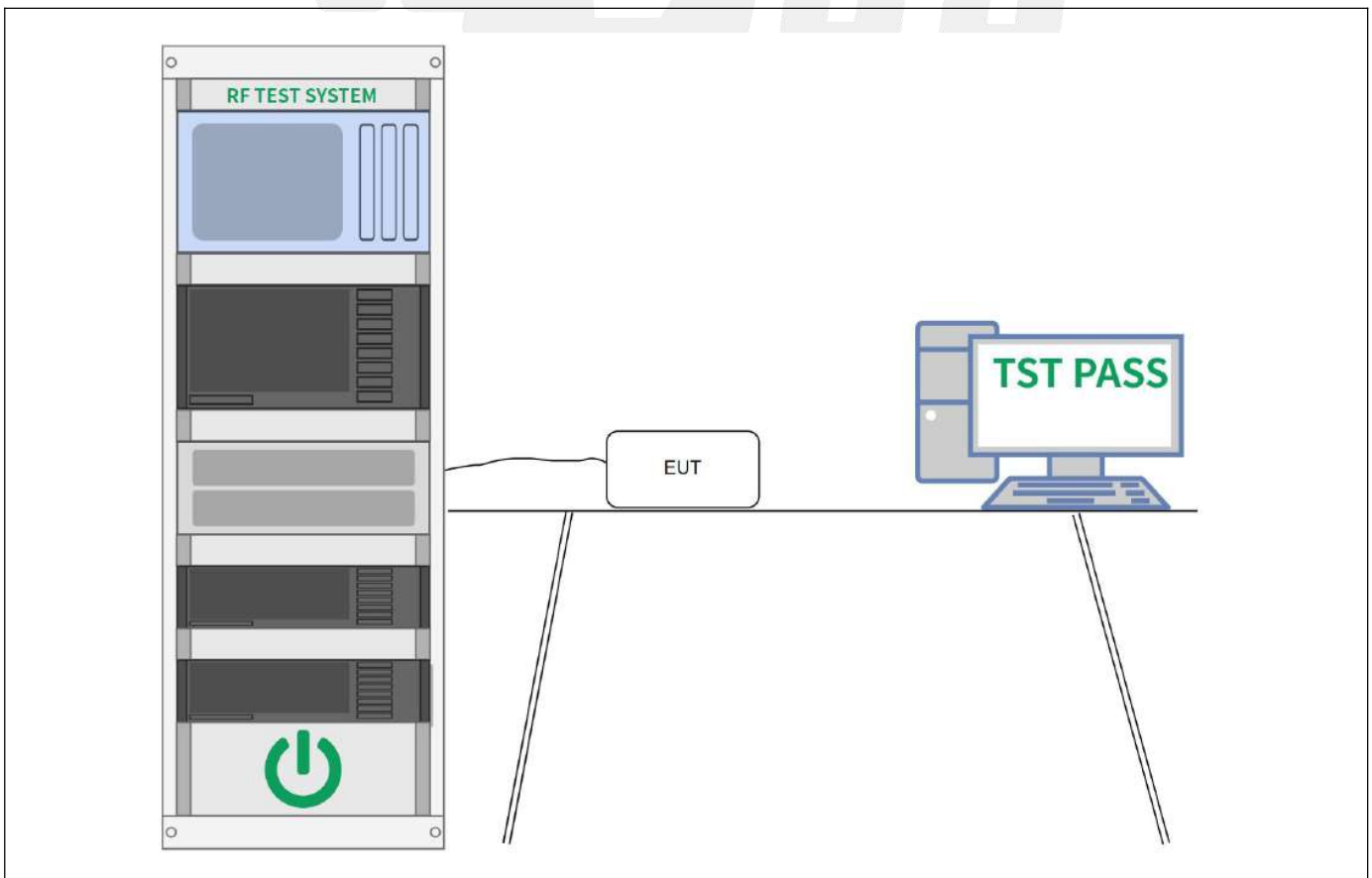
6.8. Emissions in non-restricted frequency bands

Test Requirement:	47 CFR 15.247(d)
Test Limit:	Refer to 47 CFR 15.247(d), 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.
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 7.8.7

6.8.1. EUT Operation

Operating Environment:					
Temperature:	26 °C	Humidity:	54 %	Atmospheric Pressure:	101.1 kPa
Pre test mode:	TM1, TM2, TM3, TM4, TM5, TM6				
Final test mode:	TM1, TM2, TM3, TM4, TM5, TM6				

6.8.2. Test Setup Diagram:



6.8.3. Test Data

Please Refer to Appendix for Details.

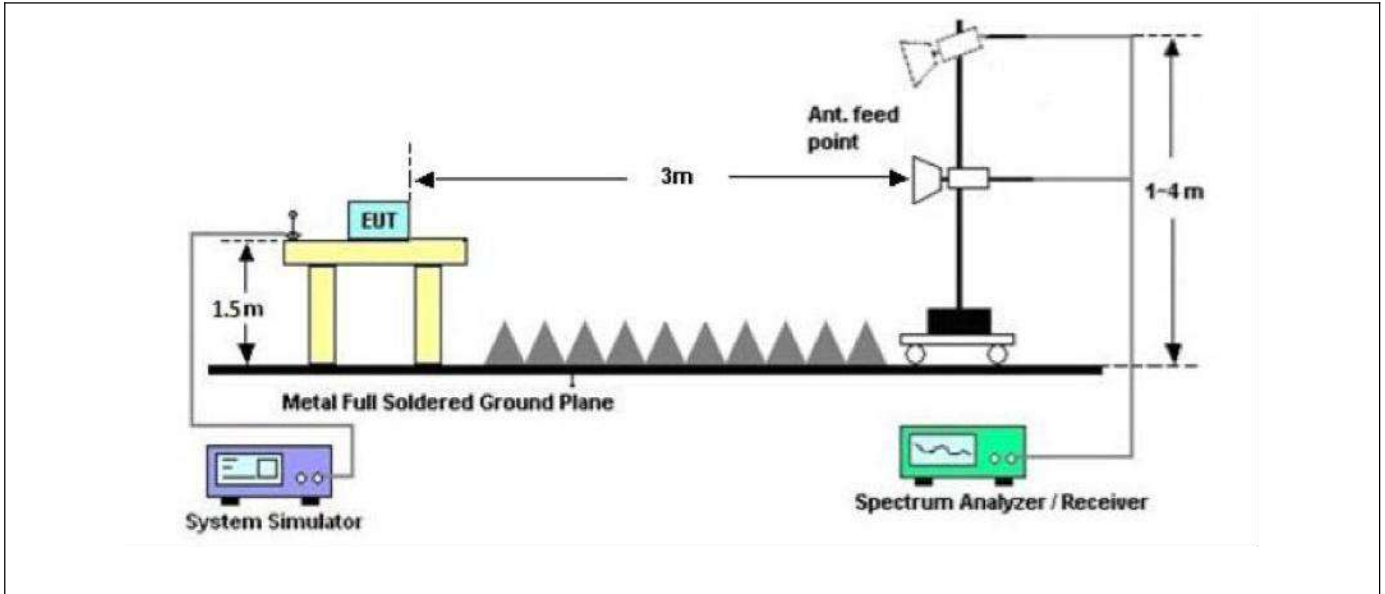
6.9. Band edge emissions (Radiated)

Test Requirement:	Refer to 47 CFR 15.247(d), 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)).		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.			
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 6.10		
Procedure:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 6.10.5.2		

6.9.1. EUT Operation

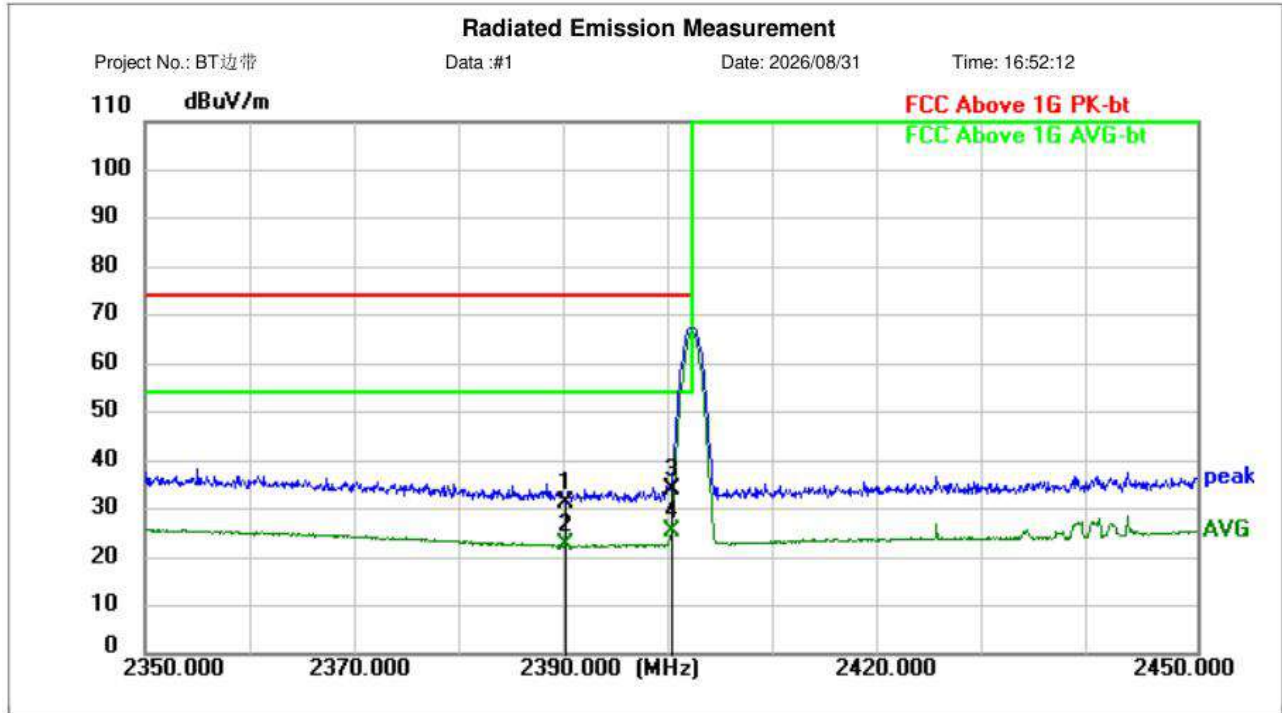
Operating Environment:					
Temperature:	26 °C	Humidity:	54 %	Atmospheric Pressure:	101.1 kPa
Pre test mode:	TM1, TM2, TM3				
Final test mode:	TM1, TM2, TM3				

6.9.2. Test Setup Diagram:



6.9.3. Test Data

TM1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: L



Site LAB

Limit: FCC Above 1G PK-bt

EUT:

M/N: 2402

Mode: GFSK

Note:

Polarization: Horizontal

Power:

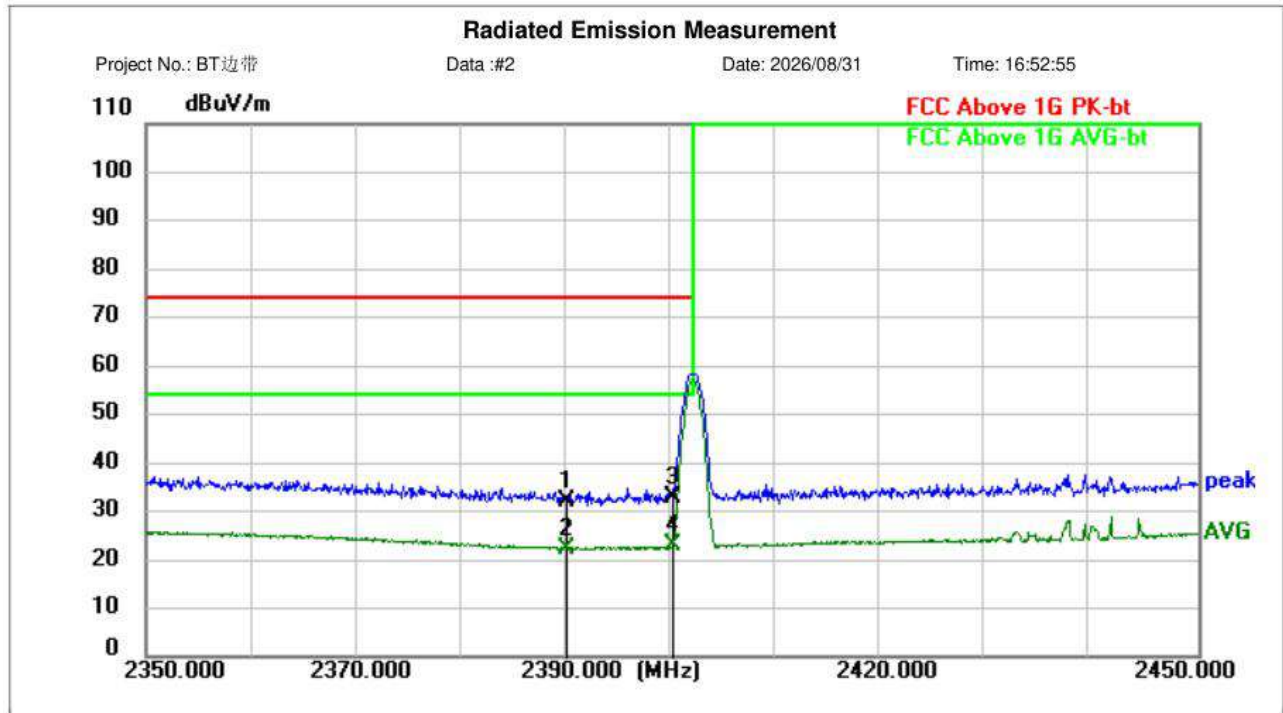
Distance: 3m

Temperature: 26 °C

Humidity: 54 %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	2390.0000	56.59	-25.27	31.32	74.00	-42.68	peak	100	0	P	
2	2390.0000	47.74	-25.27	22.47	54.00	-31.53	AVG	100	0	P	
3	2400.0000	59.99	-25.87	34.12	74.00	-39.88	peak	100	0	P	
4 *	2400.0000	51.38	-25.87	25.51	54.00	-28.49	AVG	100	0	P	

TM1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: L



Site LAB

Polarization: **Vertical**

Temperature: 26 °C

Limit: FCC Above 1G PK-bt

Power:

Humidity: 54 %RH

EUT:

Distance: 3m

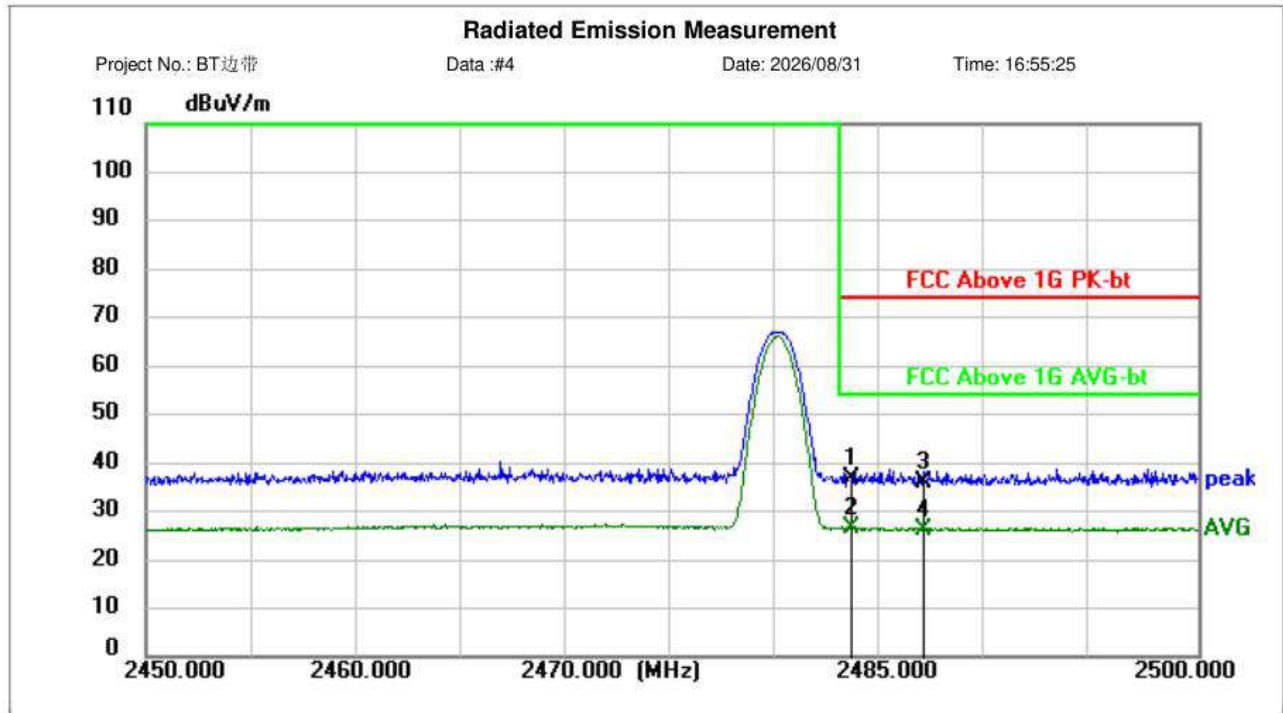
M/N: 2402

Mode: GFSK

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	2390.0000	54.57	-22.71	31.86	74.00	-42.14	peak	100	0	P	
2	2390.0000	45.10	-22.71	22.39	54.00	-31.61	AVG	100	0	P	
3	2400.0000	55.55	-22.67	32.88	74.00	-41.12	peak	100	0	P	
4 *	2400.0000	45.48	-22.67	22.81	54.00	-31.19	AVG	100	0	P	

TM1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: H



Site LAB

Limit: FCC Above 1G PK-bt

EUT:

M/N: 2480

Mode: GFSK

Note:

Polarization: **Horizontal**

Power:

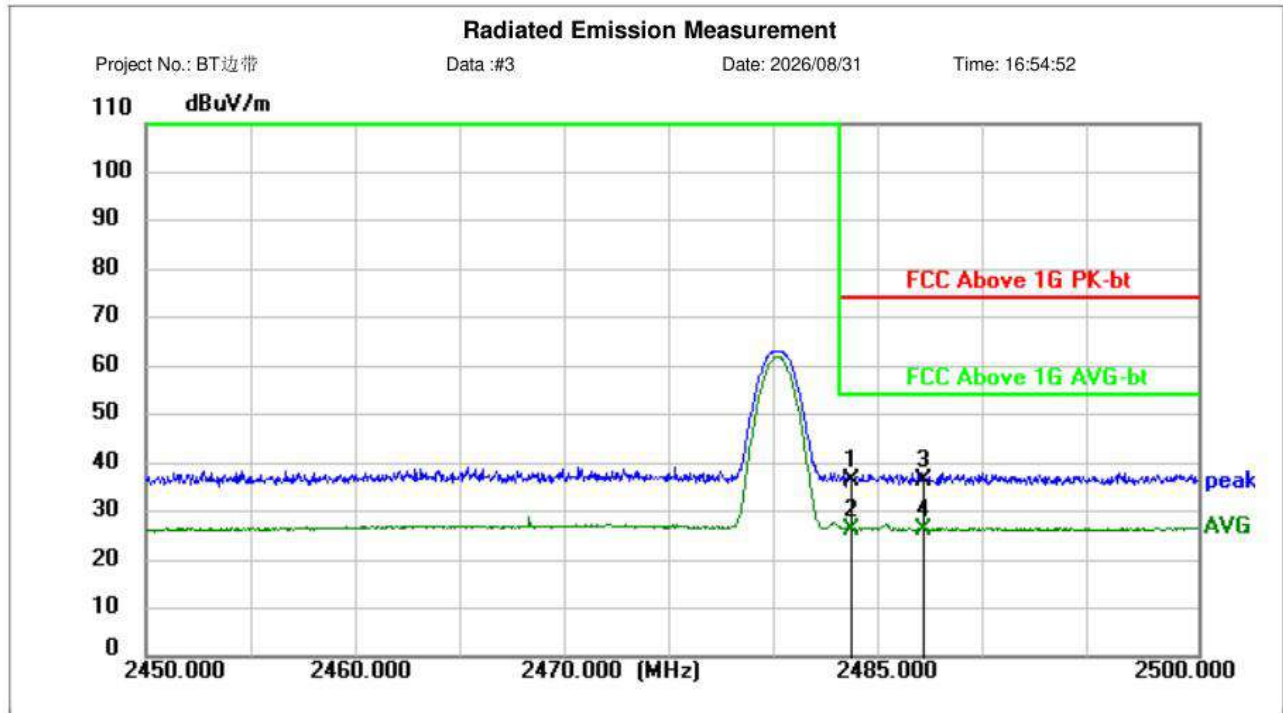
Distance: 3m

Temperature: 26 °C

Humidity: 54 %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	2483.5000	59.50	-22.81	36.69	74.00	-37.31	peak	100	0	P	
2 *	2483.5000	49.15	-22.81	26.34	54.00	-27.66	AVG	100	0	P	
3	2487.0000	58.90	-22.78	36.12	74.00	-37.88	peak	100	0	P	
4	2487.0000	48.92	-22.78	26.14	54.00	-27.86	AVG	100	0	P	

TM1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: H



Site LAB

Polarization: **Vertical**

Temperature: 26 °C

Limit: FCC Above 1G PK-bt

Power:

Humidity: 54 %RH

EUT:

Distance: 3m

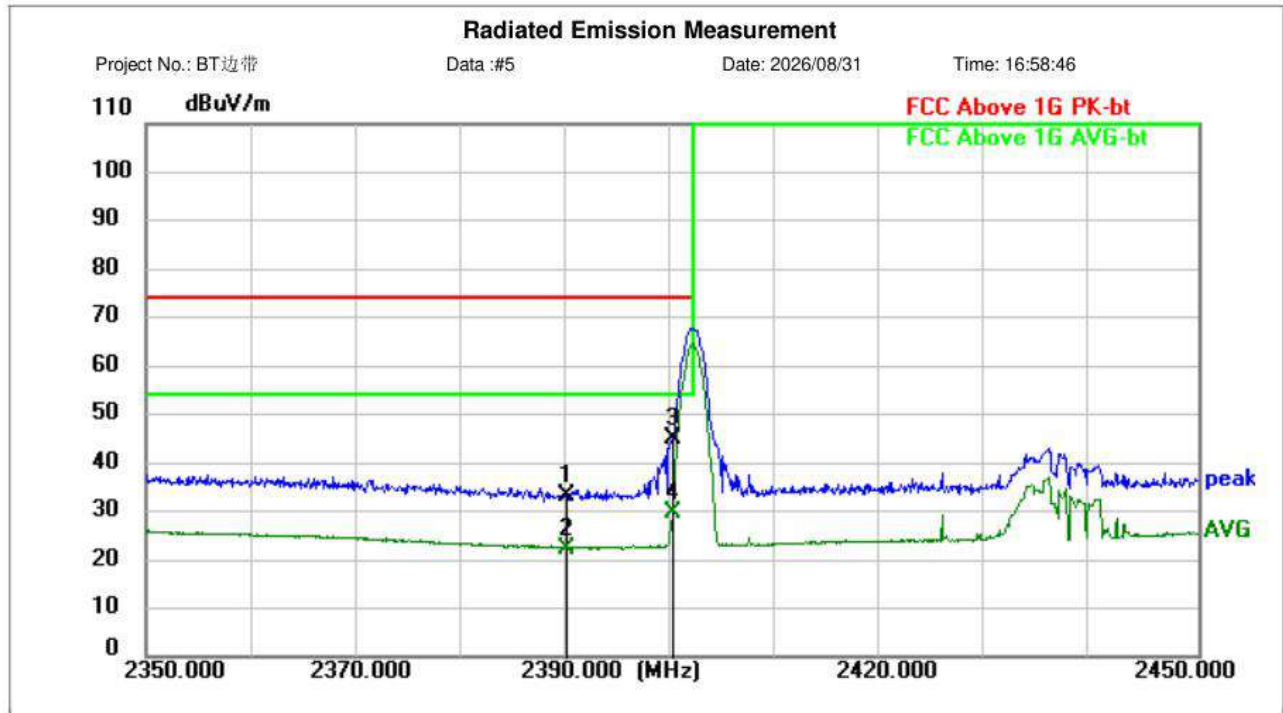
M/N: 2480

Mode: GFSK

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	2483.5000	58.44	-22.27	36.17	74.00	-37.83	peak	100	0	P	
2 *	2483.5000	48.57	-22.27	26.30	54.00	-27.70	AVG	100	0	P	
3	2487.0000	58.49	-22.26	36.23	74.00	-37.77	peak	100	0	P	
4	2487.0000	48.55	-22.26	26.29	54.00	-27.71	AVG	100	0	P	

TM2 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: L



Site LAB

Polarization: Horizontal

Temperature: 26 °C

Limit: FCC Above 1G PK-bt

Power:

Humidity: 54 %RH

EUT:

Distance: 3m

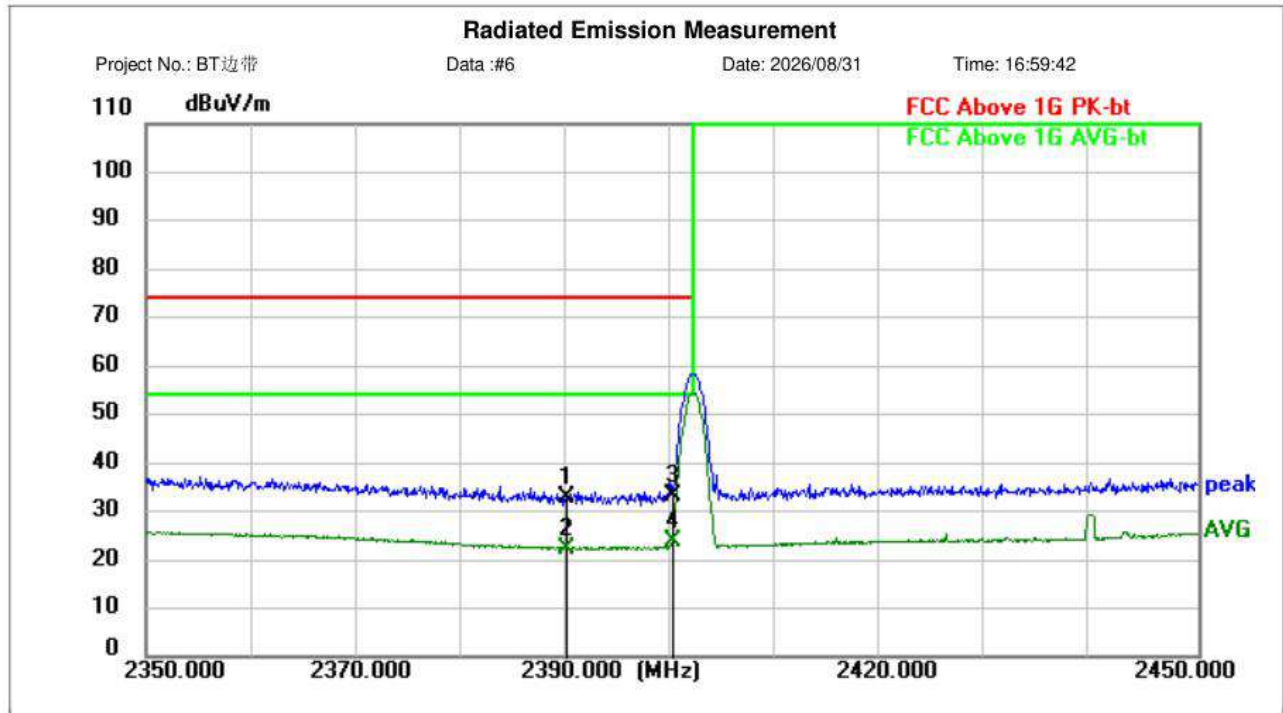
M/N: 2402

Mode: PI/4DQPSK

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	2390.0000	58.61	-25.27	33.34	74.00	-40.66	peak	100	0	P	
2	2390.0000	47.62	-25.27	22.35	54.00	-31.65	AVG	100	0	P	
3	2400.0000	71.02	-25.87	45.15	74.00	-28.85	peak	100	0	P	
4 *	2400.0000	55.71	-25.87	29.84	54.00	-24.16	AVG	100	0	P	

TM2 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: L



Site LAB

Polarization: **Vertical**

Temperature: 26 °C

Limit: FCC Above 1G PK-bt

Power:

Humidity: 54 %RH

EUT:

Distance: 3m

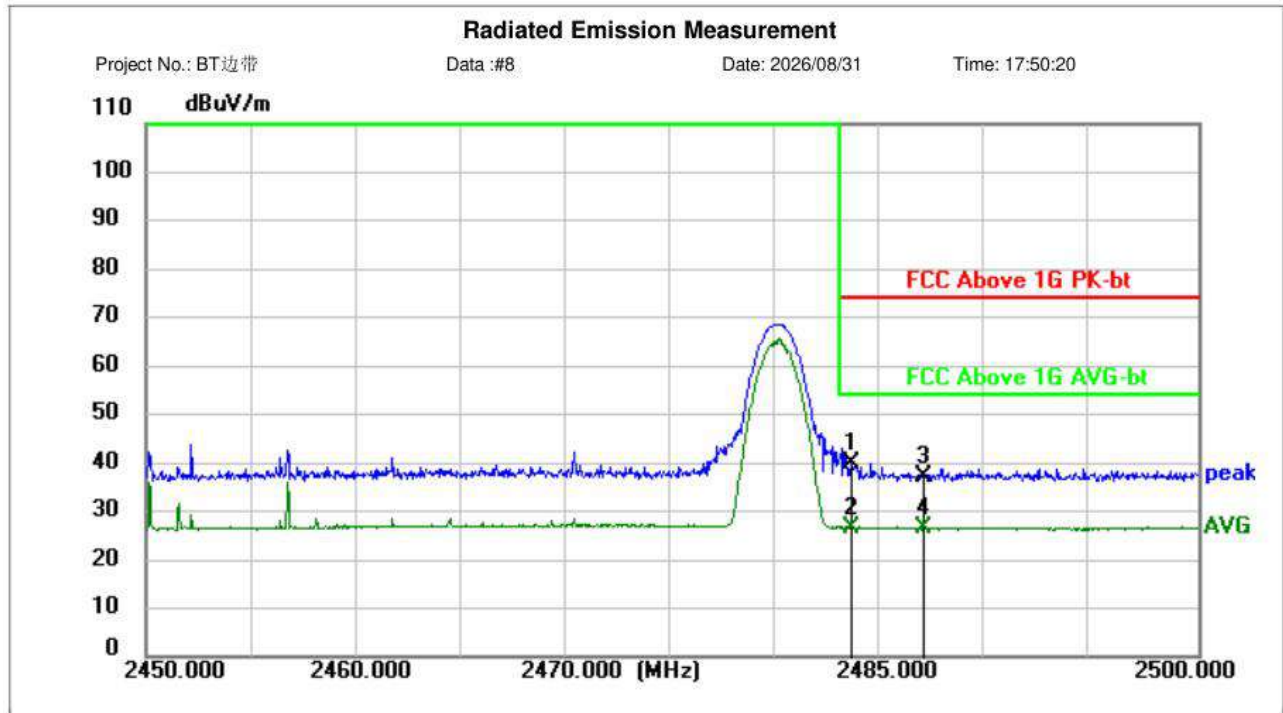
M/N: 2402

Mode: PI/4DQPSK

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	2390.0000	55.43	-22.71	32.72	74.00	-41.28	peak	100	0	P	
2	2390.0000	44.99	-22.71	22.28	54.00	-31.72	AVG	100	0	P	
3	2400.0000	56.01	-22.67	33.34	74.00	-40.66	peak	100	0	P	
4 *	2400.0000	46.36	-22.67	23.69	54.00	-30.31	AVG	100	0	P	

TM2 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: H



Site LAB

Polarization: **Horizontal**

Temperature: 26 °C

Limit: FCC Above 1G PK-bt

Power:

Humidity: 54 %RH

EUT:

Distance: 3m

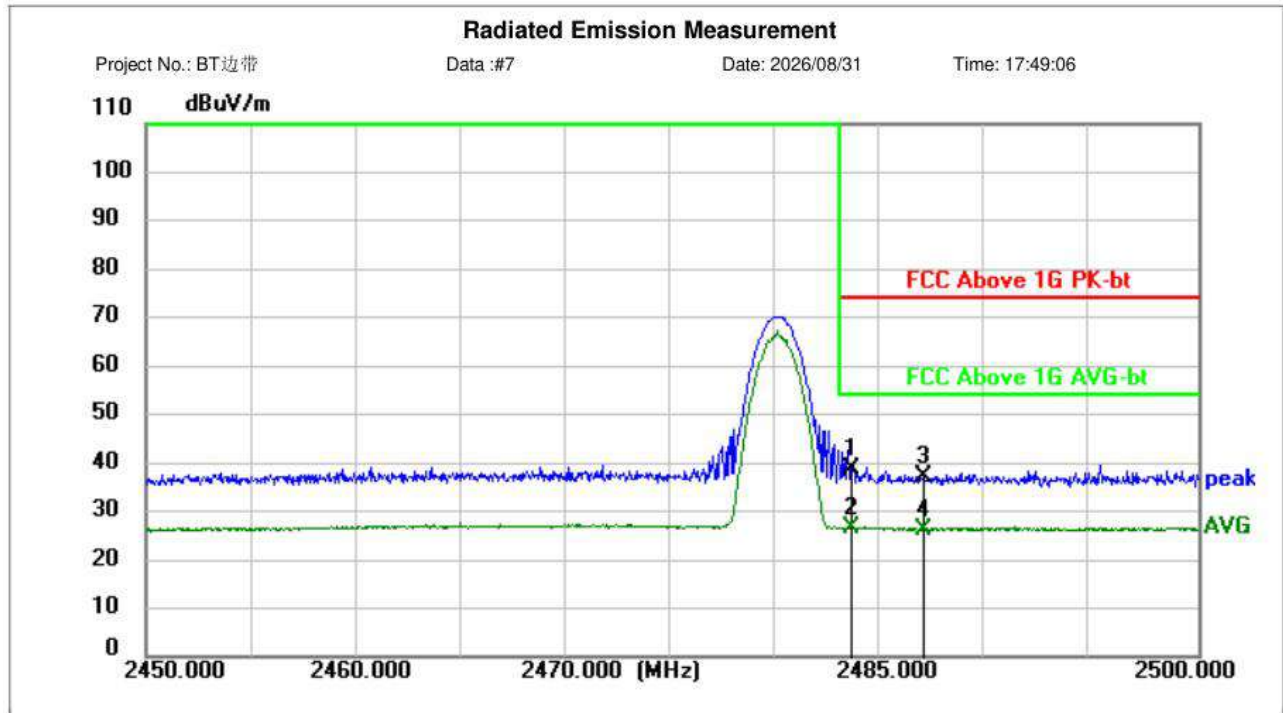
M/N: 2480

Mode: PI/4DQPSK

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	2483.5000	62.84	-22.81	40.03	74.00	-33.97	peak	100	360	P	
2 *	2483.5000	49.50	-22.81	26.69	54.00	-27.31	AVG	100	360	P	
3	2487.0000	60.05	-22.78	37.27	74.00	-36.73	peak	100	360	P	
4	2487.0000	49.18	-22.78	26.40	54.00	-27.60	AVG	100	360	P	

TM2 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: H



Site LAB

Polarization: **Vertical**

Temperature: 26 °C

Limit: FCC Above 1G PK-bt

Power:

Humidity: 54 %RH

EUT:

Distance: 3m

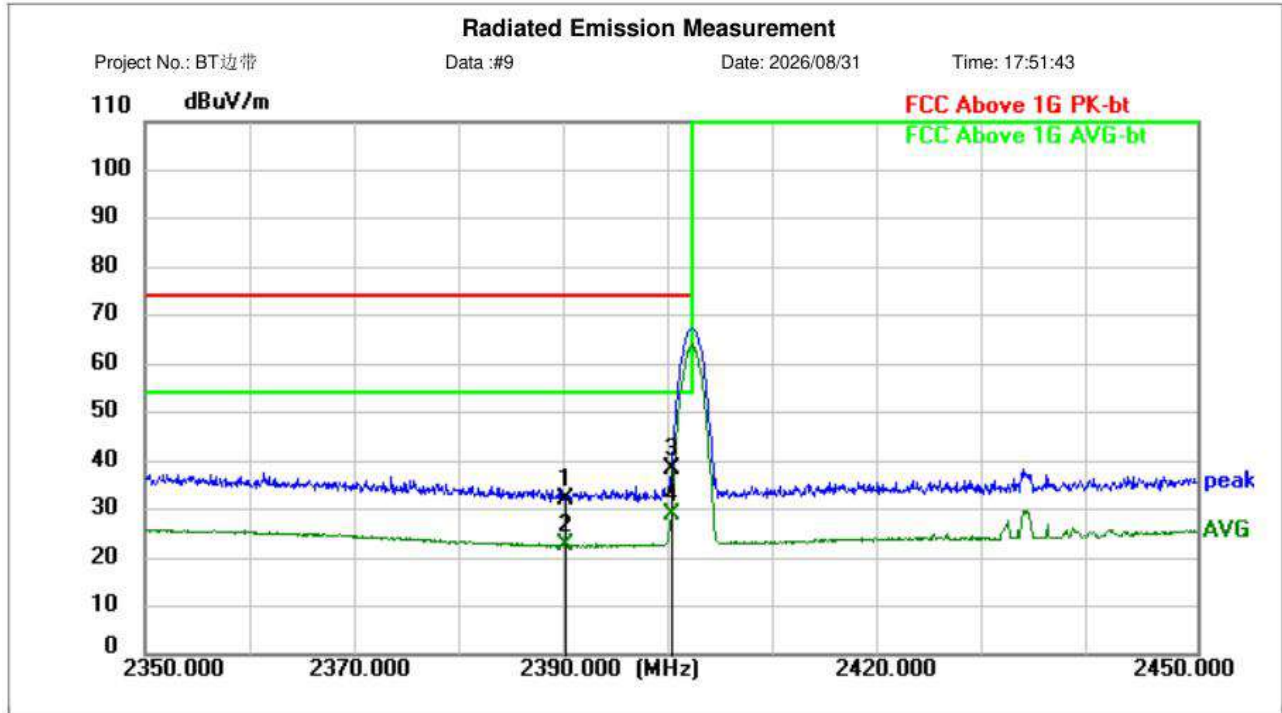
M/N: 2480

Mode: PI/4DQPSK

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	2483.5000	61.08	-22.27	38.81	74.00	-35.19	peak	100	360	P	
2 *	2483.5000	48.80	-22.27	26.53	54.00	-27.47	AVG	100	360	P	
3	2487.0000	59.35	-22.26	37.09	74.00	-36.91	peak	100	360	P	
4	2487.0000	48.58	-22.26	26.32	54.00	-27.68	AVG	100	360	P	

TM3 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: L



Site LAB

Polarization: Horizontal

Temperature: 26 °C

Limit: FCC Above 1G PK-bt

Power:

Humidity: 54 %RH

EUT:

Distance: 3m

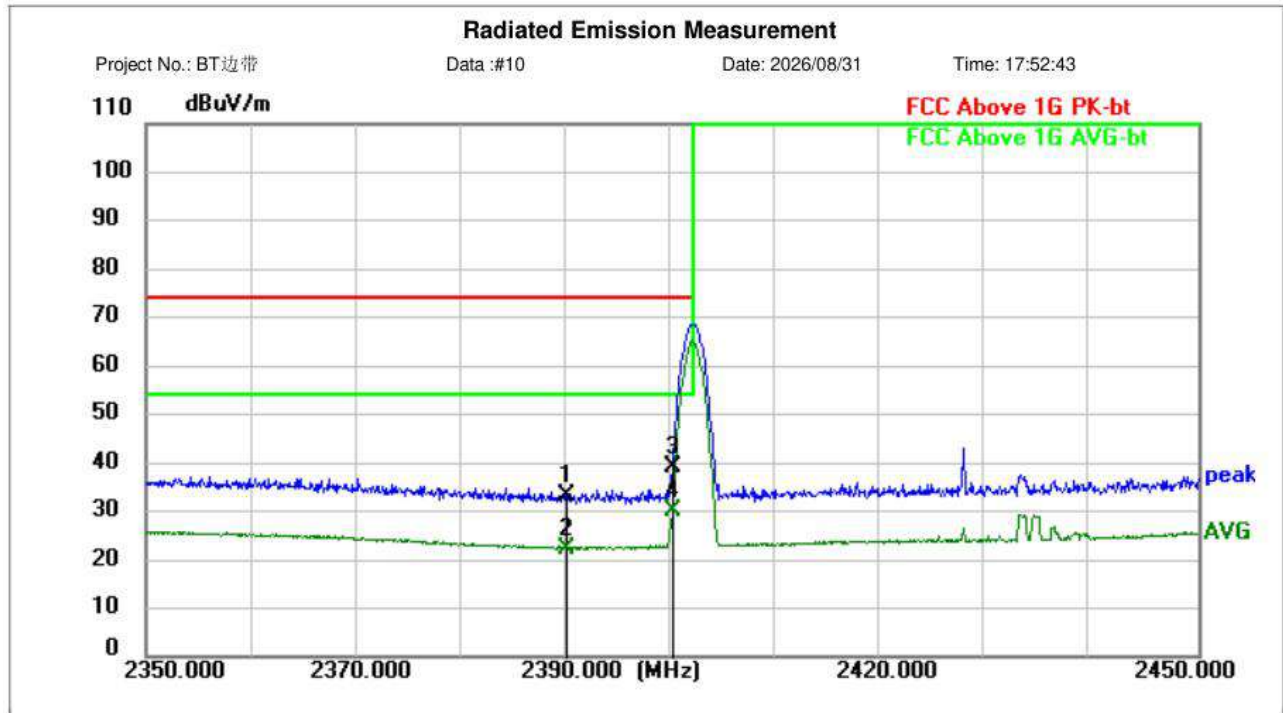
M/N: 2402

Mode: 8DPSK

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	2390.0000	57.14	-25.27	31.87	74.00	-42.13	peak	100	360	P	
2	2390.0000	47.78	-25.27	22.51	54.00	-31.49	AVG	100	360	P	
3	2400.0000	64.28	-25.87	38.41	74.00	-35.59	peak	100	360	P	
4 *	2400.0000	54.86	-25.87	28.99	54.00	-25.01	AVG	100	360	P	

TM3 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: L



Site LAB

Polarization: **Vertical**

Temperature: 26 °C

Limit: FCC Above 1G PK-bt

Power:

Humidity: 54 %RH

EUT:

Distance: 3m

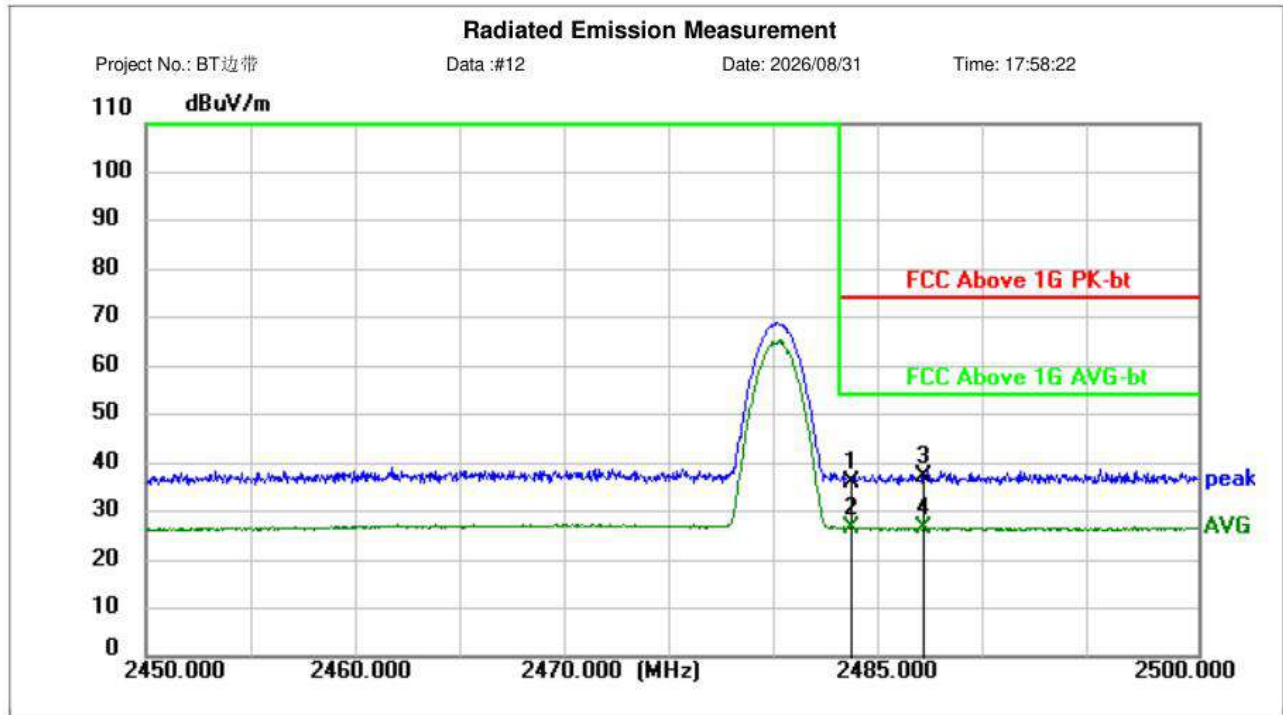
M/N: 2402

Mode: 8DPSK

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	2390.0000	55.75	-22.71	33.04	74.00	-40.96	peak	100	360	P	
2	2390.0000	45.09	-22.71	22.38	54.00	-31.62	AVG	100	360	P	
3	2400.0000	61.93	-22.67	39.26	74.00	-34.74	peak	100	360	P	
4 *	2400.0000	52.85	-22.67	30.18	54.00	-23.82	AVG	100	360	P	

TM3 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: H



Site LAB

Polarization: **Horizontal**

Temperature: 26 °C

Limit: FCC Above 1G PK-bt

Power:

Humidity: 54 %RH

EUT:

Distance: 3m

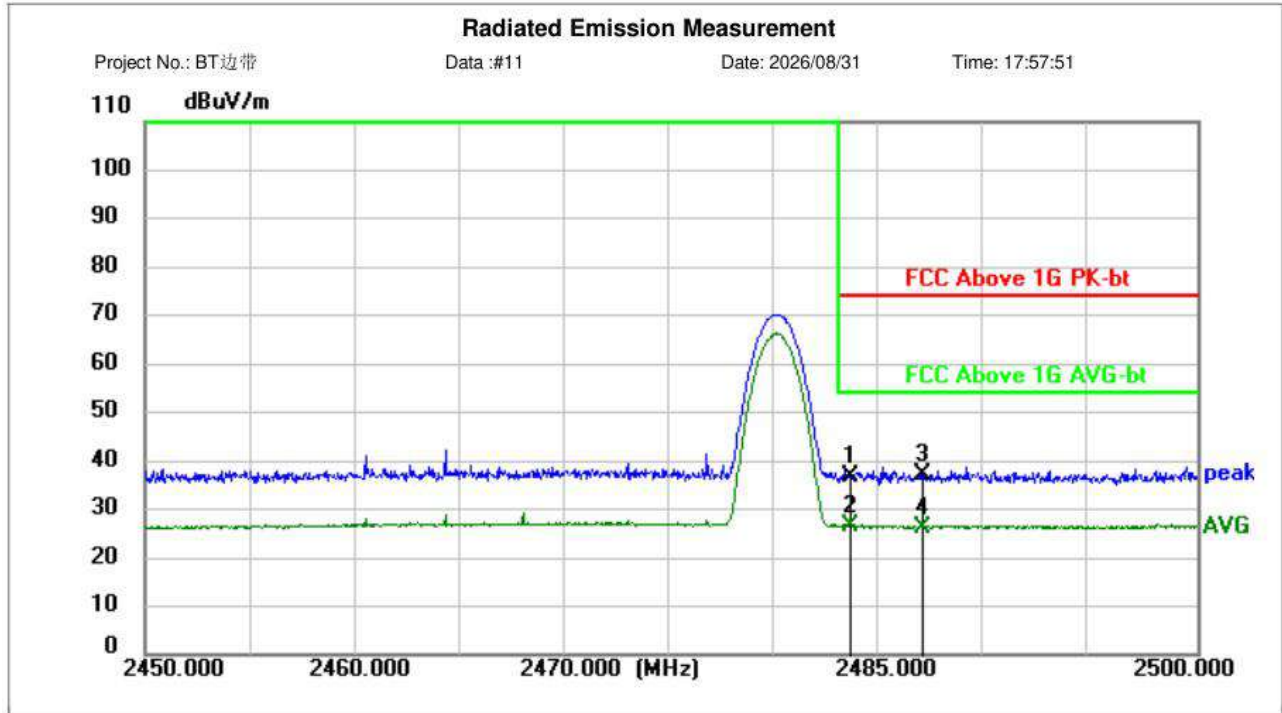
M/N: 2480

Mode: 8DPSK

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	2483.5000	58.81	-22.81	36.00	74.00	-38.00	peak	100	360	P	
2	2483.5000	49.25	-22.81	26.44	54.00	-27.56	AVG	100	360	P	
3	2487.0000	59.89	-22.78	37.11	74.00	-36.89	peak	100	360	P	
4 *	2487.0000	49.23	-22.78	26.45	54.00	-27.55	AVG	100	360	P	

TM3 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: H



Site LAB

Limit: FCC Above 1G PK-bt

EUT:

M/N: 2480

Mode: 8DPSK

Note:

Polarization: **Vertical**

Power:

Distance: 3m

Temperature: 26 °C

Humidity: 54 %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	2483.5000	58.95	-22.27	36.68	74.00	-37.32	peak	100	360	P	
2 *	2483.5000	48.84	-22.27	26.57	54.00	-27.43	AVG	100	360	P	
3	2487.0000	59.27	-22.26	37.01	74.00	-36.99	peak	100	360	P	
4	2487.0000	48.47	-22.26	26.21	54.00	-27.79	AVG	100	360	P	

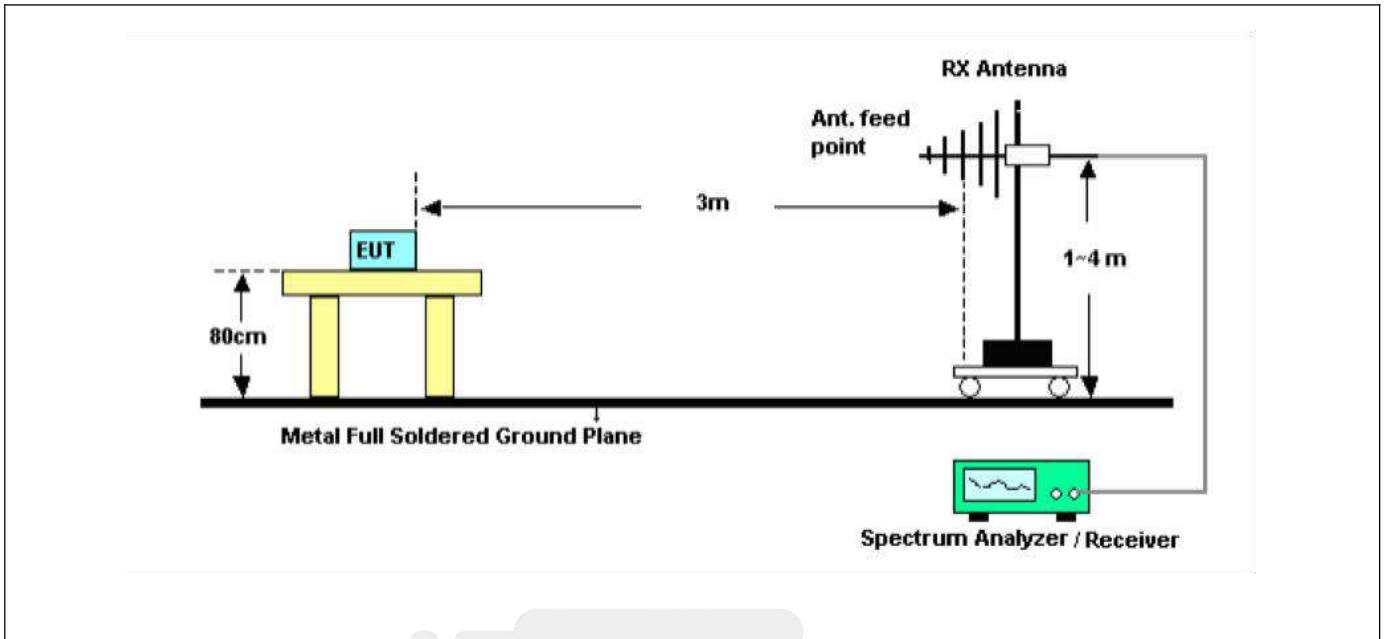
6.10. Emissions in frequency bands (below 1GHz)

Test Requirement:	Refer to 47 CFR 15.247(d), 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)).		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.			
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 6.5.4		
Procedure:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 6.5.4		

6.10.1. EUT Operation

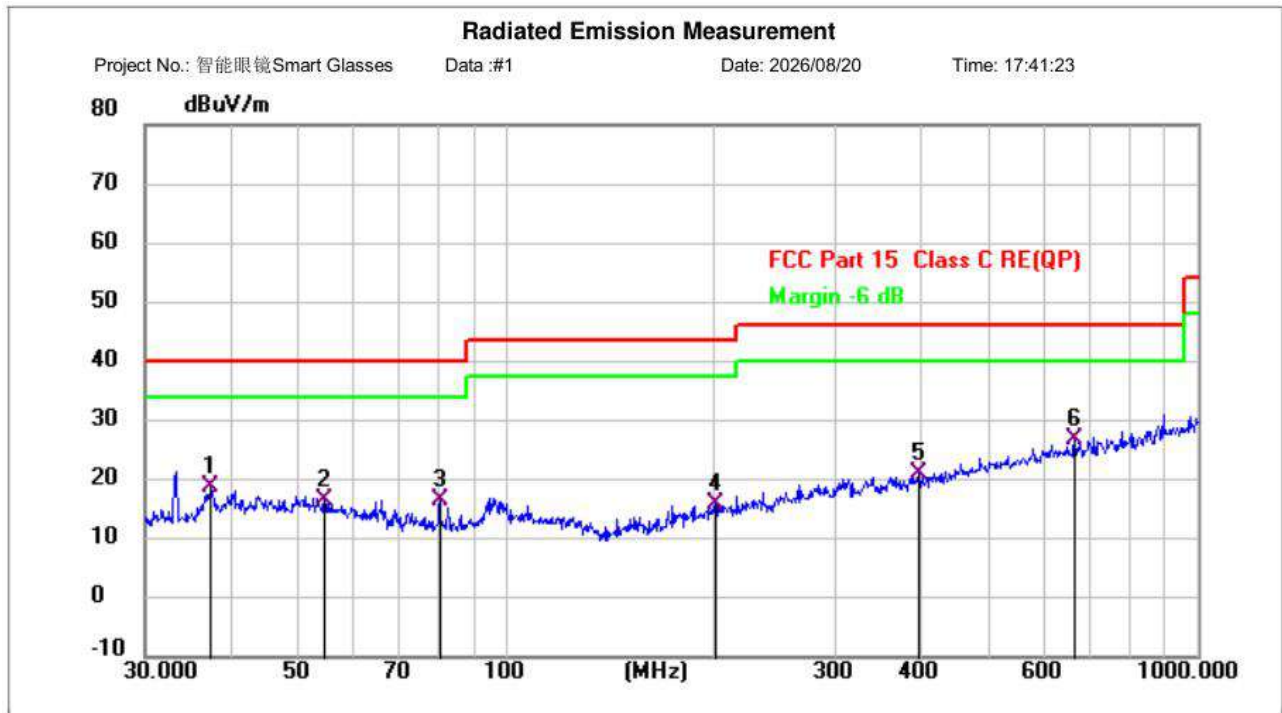
Operating Environment:					
Temperature:	26 °C	Humidity:	54 %	Atmospheric Pressure:	101.1 kPa
Pre test mode:		TM1,TM2,TM3			
Final test mode:		TM1,TM2,TM3			
Note: Pre-scan was performed for 9 kHz-30 MHz. The measured emissions are well below the required limits. Only test data from 30 MHz upwards are presented in this section. All operating modes have been pre- tested; only the worst-case mode test data are presented in this report.					

6.10.2. Test Setup Diagram:



6.10.3. Test Data

TM1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: L



Site LAB

Limit: FCC Part 15 Class C RE(QP)

EUT:

M/N: working

Mode:

Note:

Polarization: **Horizontal**

Power:

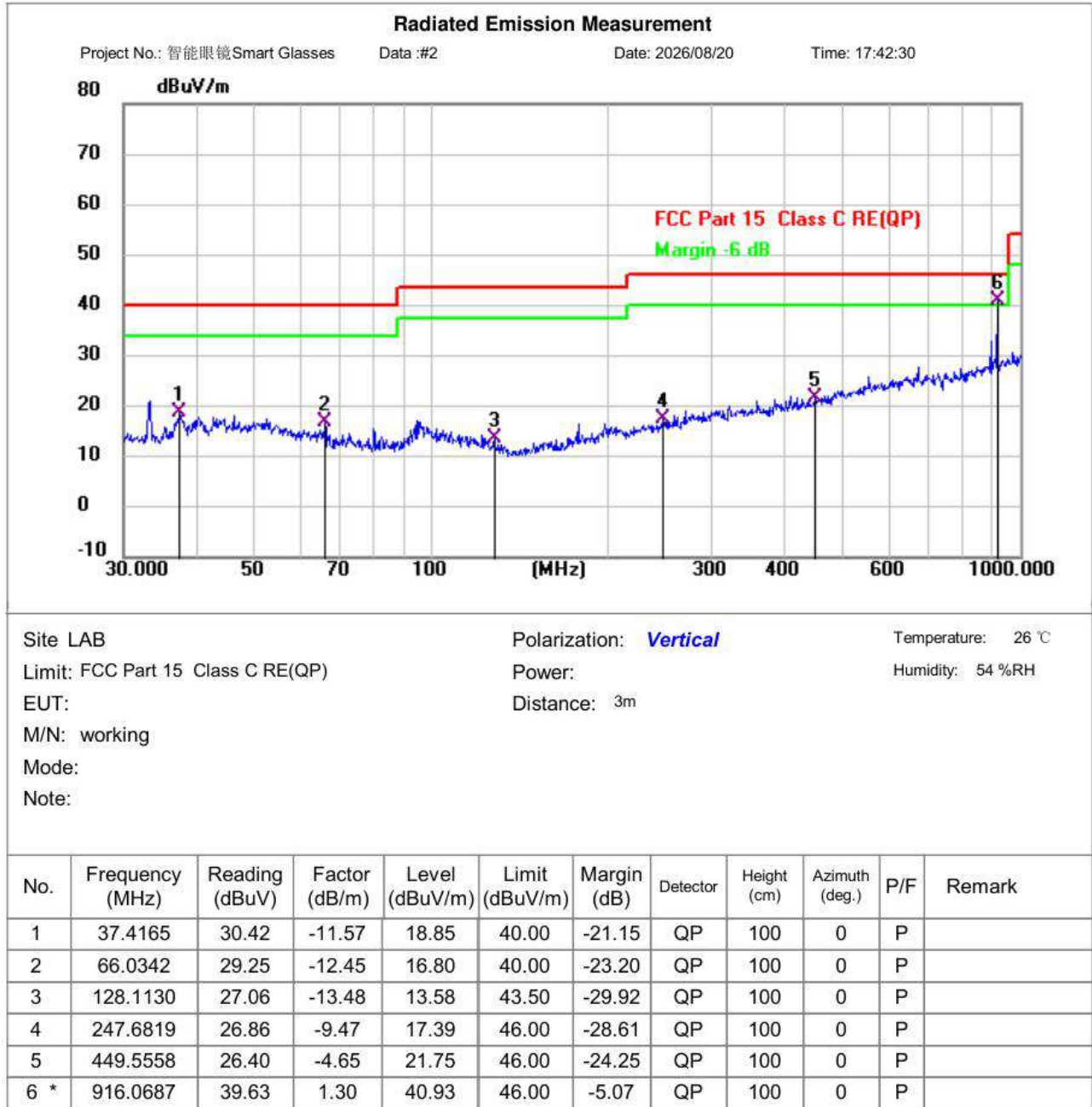
Distance: 3m

Temperature: 26 °C

Humidity: 54 %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	37.4165	30.21	-11.57	18.64	40.00	-21.36	QP	100	360	P	
2	54.6429	27.17	-10.66	16.51	40.00	-23.49	QP	100	360	P	
3	80.0806	30.36	-13.93	16.43	40.00	-23.57	QP	100	360	P	
4	200.6881	27.11	-11.11	16.00	43.50	-27.50	QP	100	360	P	
5	396.2415	26.93	-5.94	20.99	46.00	-25.01	QP	100	360	P	
6 *	663.4729	27.67	-0.97	26.70	46.00	-19.30	QP	100	360	P	

TM1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: L



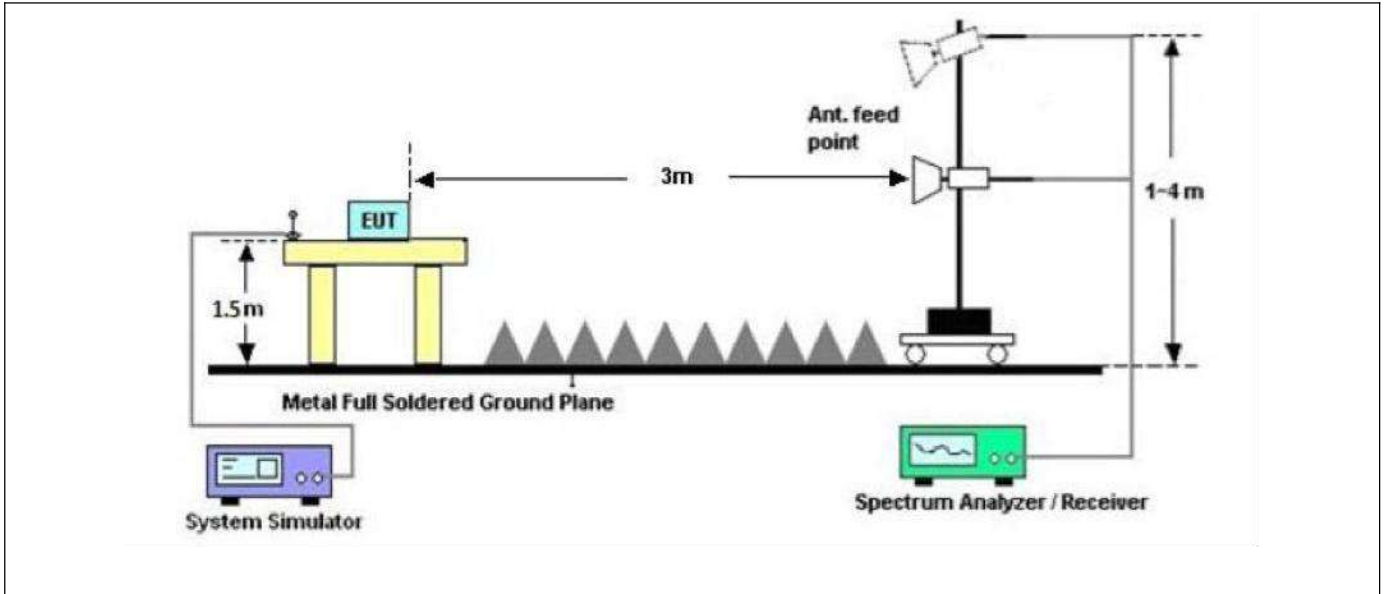
6.11. Emissions in frequency bands (above 1GHz)

Test Requirement:	Refer to 47 CFR 15.247(d), 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)).		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.			
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 6.5.4		
Procedure:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 section 6.5.4		

6.11.1. EUT Operation

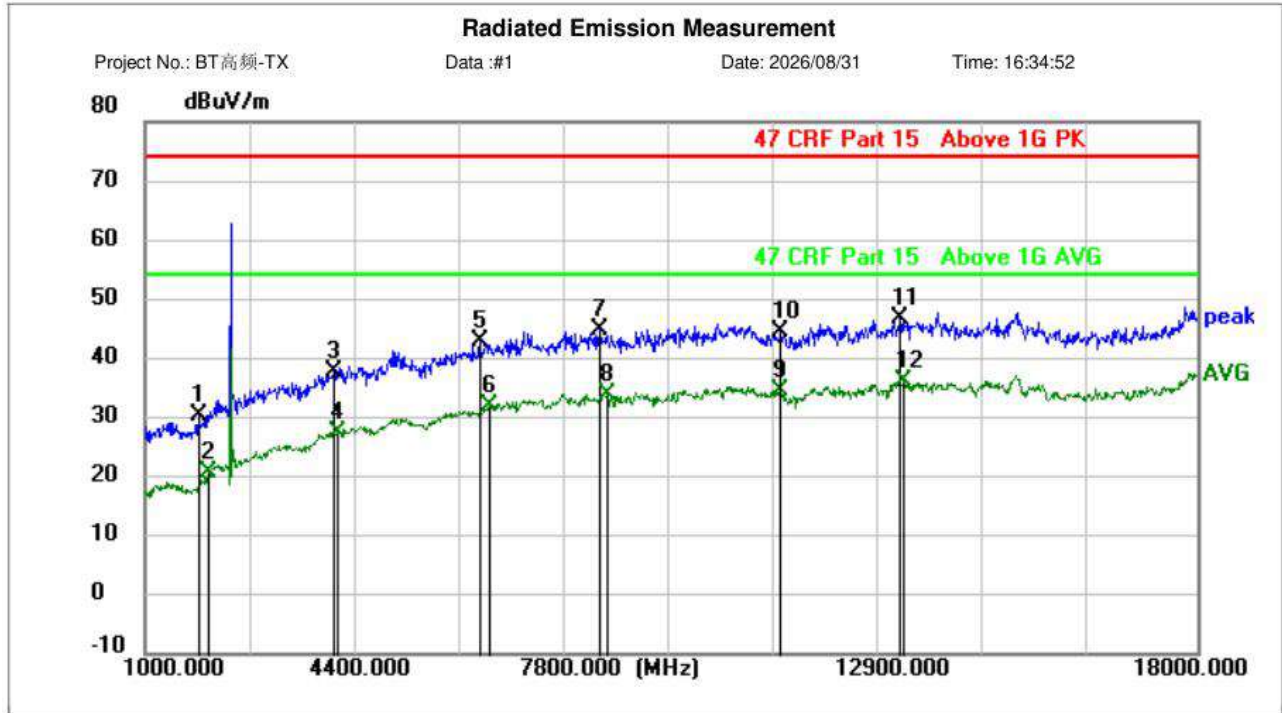
Operating Environment:					
Temperature:	26 °C	Humidity:	54 %	Atmospheric Pressure:	101.1 kPa
Pre test mode:	TM1, TM2, TM3				
Final test mode:	TM1, TM2, TM3				

6.11.2. Test Setup Diagram:



6.11.3. Test Data

TM1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: L



Site LAB

Limit: 47 CRF Part 15 Above 1G PK

EUT:

M/N: 2402

Mode: GFSK

Note:

Polarization: **Horizontal**

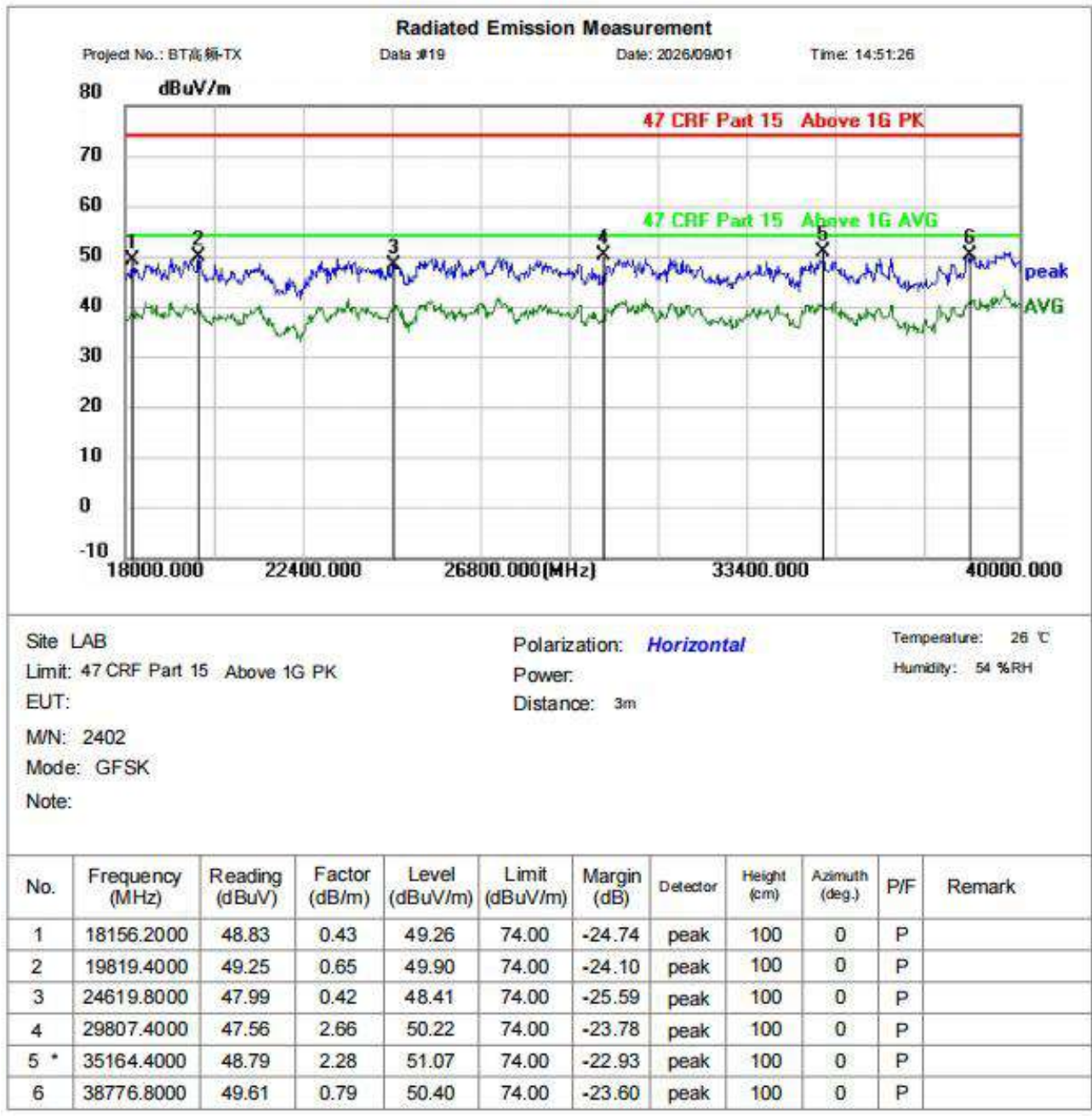
Power:

Distance: 3m

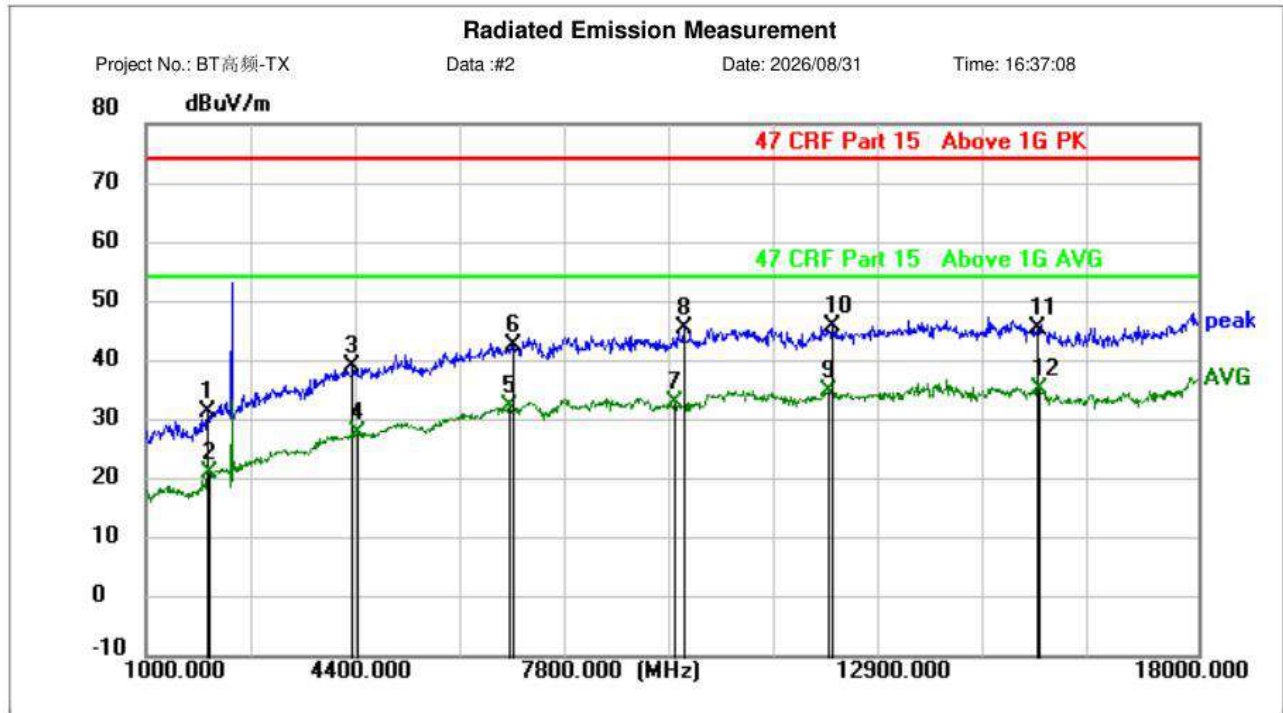
Temperature: 26 °C

Humidity: 54 %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1867.0000	55.63	-25.24	30.39	74.00	-43.61	peak	100	0	P	
2	2020.0000	44.80	-24.03	20.77	54.00	-33.23	AVG	100	0	P	
3	4043.0000	56.74	-18.92	37.82	74.00	-36.18	peak	100	0	P	
4	4128.0000	46.35	-18.87	27.48	54.00	-26.52	AVG	100	0	P	
5	6406.0000	58.33	-15.35	42.98	74.00	-31.02	peak	100	0	P	
6	6576.0000	46.11	-14.01	32.10	54.00	-21.90	AVG	100	0	P	



TM1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: L



Site LAB

Polarization: **Vertical**

Temperature: 26 °C

Limit: 47 CRF Part 15 Above 1G PK

Power:

Humidity: 54 %RH

EUT:

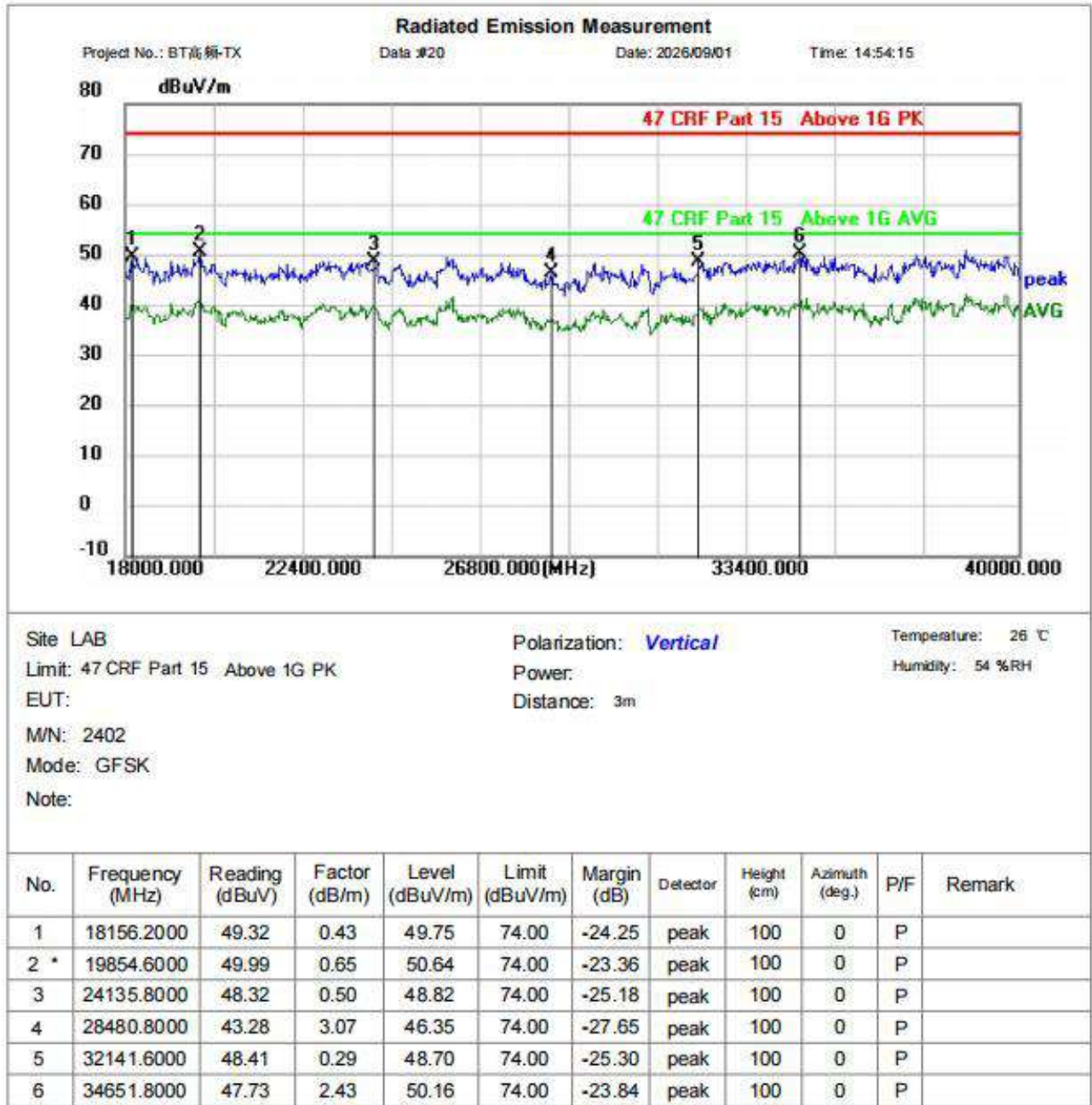
Distance: 3m

M/N: 2402

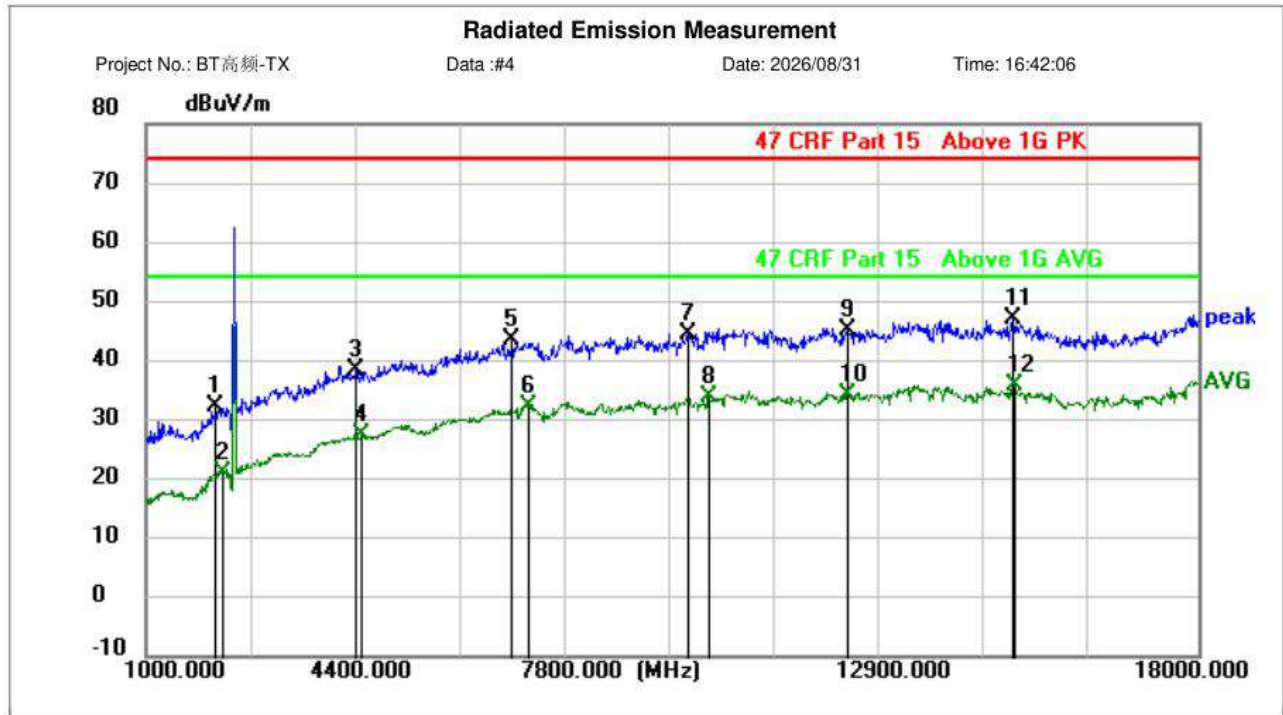
Mode: GFSK

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	2003.0000	55.41	-24.02	31.39	74.00	-42.61	peak	100	0	P	
2	2020.0000	44.93	-23.91	21.02	54.00	-32.98	AVG	100	0	P	
3	4332.0000	57.58	-18.53	39.05	74.00	-34.95	peak	100	0	P	
4	4417.0000	45.89	-18.24	27.65	54.00	-26.35	AVG	100	0	P	
5	6882.0000	45.90	-13.74	32.16	54.00	-21.84	AVG	100	0	P	
6	6933.0000	56.43	-13.81	42.62	74.00	-31.38	peak	100	0	P	



TM1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: M



Site LAB

Polarization: **Horizontal**

Temperature: 26 °C

Limit: 47 CRF Part 15 Above 1G PK

Power:

Humidity: 54 %RH

EUT:

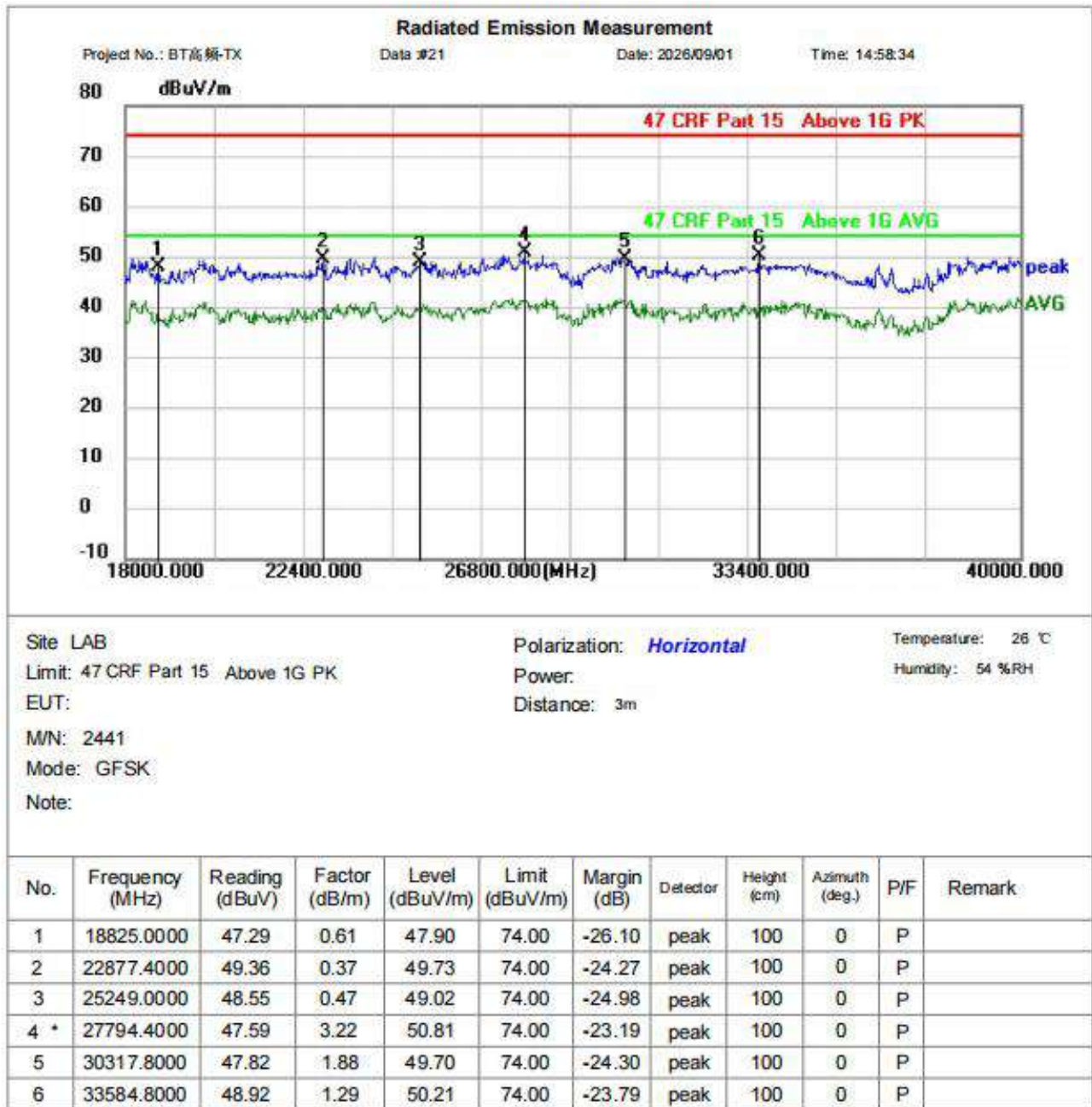
Distance: 3m

M/N: 2441

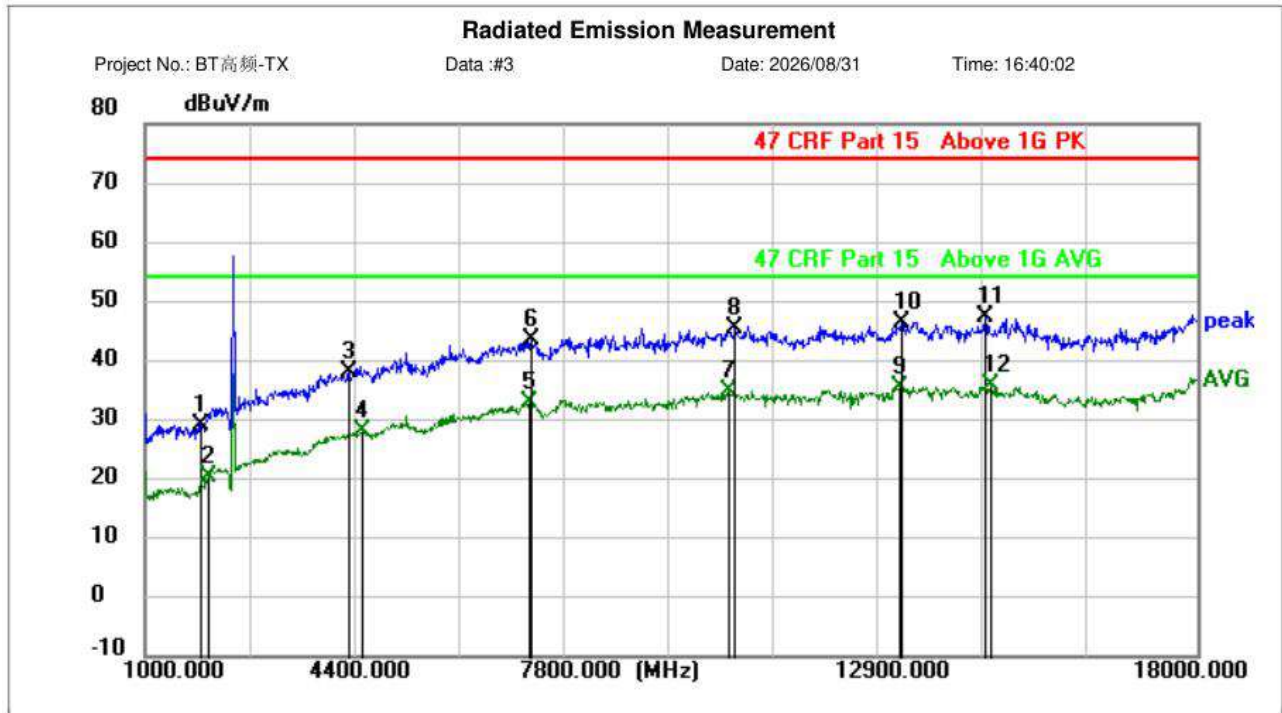
Mode: GFSK

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	2122.0000	55.37	-23.09	32.28	74.00	-41.72	peak	100	0	P	
2	2241.0000	44.38	-23.22	21.16	54.00	-32.84	AVG	100	0	P	
3	4400.0000	56.67	-18.27	38.40	74.00	-35.60	peak	100	0	P	
4	4485.0000	45.80	-18.22	27.58	54.00	-26.42	AVG	100	0	P	
5	6916.0000	57.50	-13.88	43.62	74.00	-30.38	peak	100	0	P	
6	7171.0000	44.99	-12.74	32.25	54.00	-21.75	AVG	100	0	P	



TM1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: M



Site LAB

Polarization: **Vertical**

Temperature: 26 °C

Limit: 47 CRF Part 15 Above 1G PK

Power:

Humidity: 54 %RH

EUT:

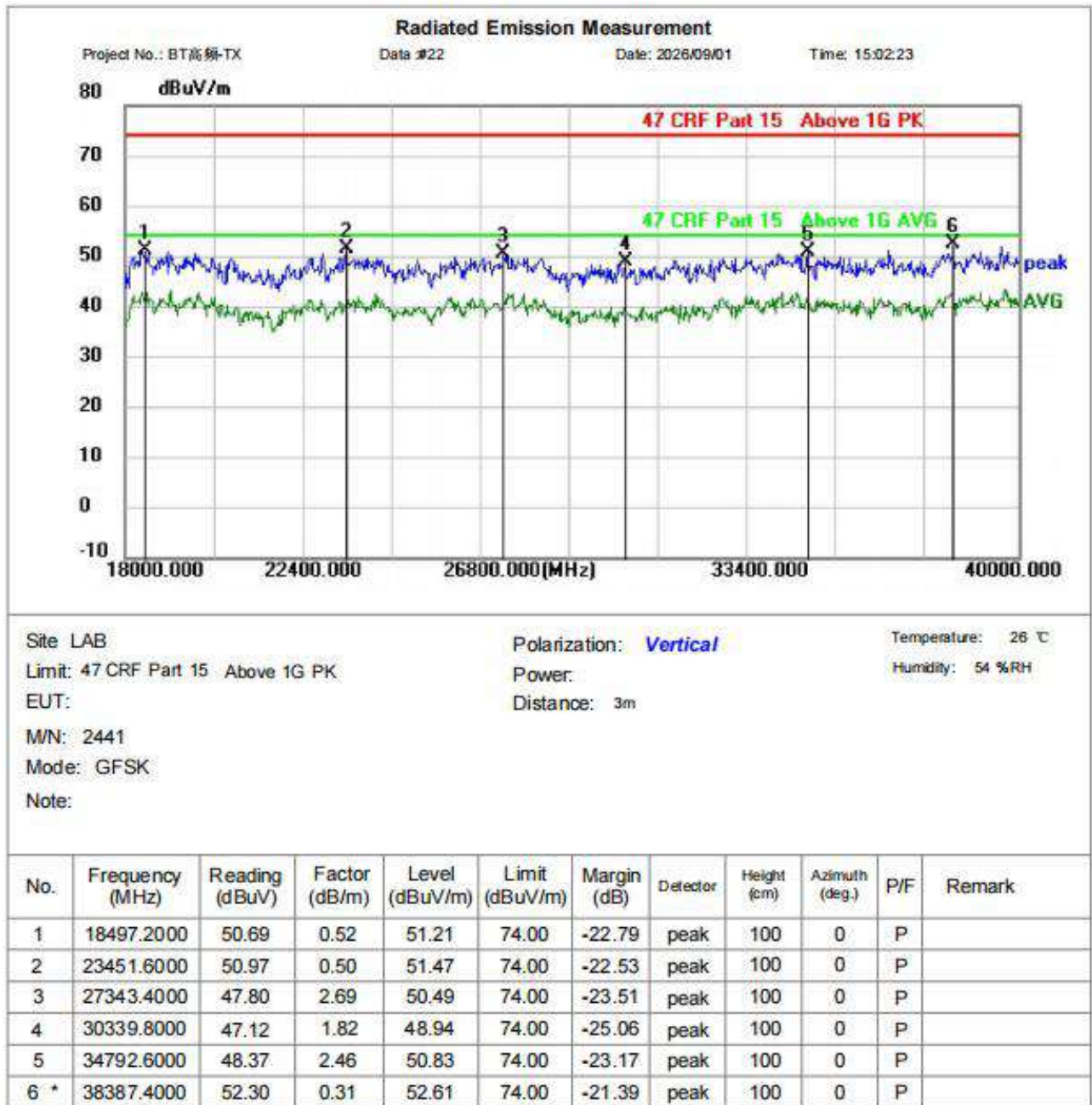
Distance: 3m

M/N: 2441

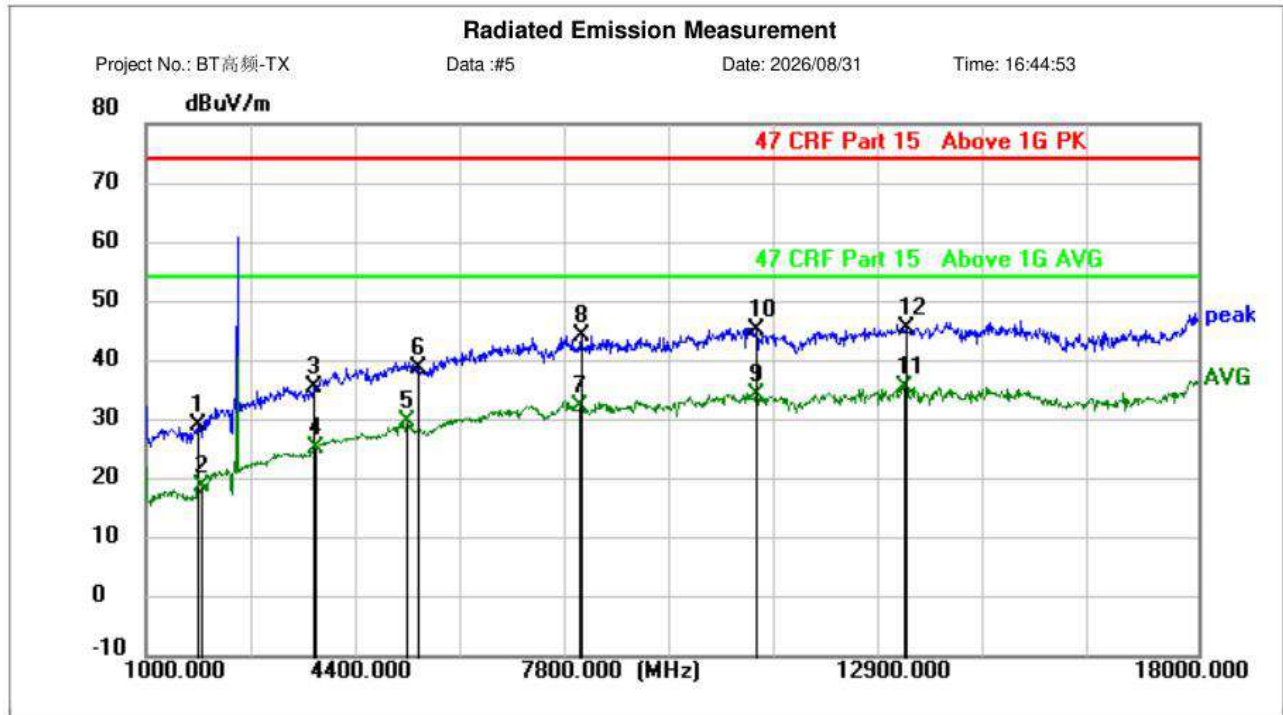
Mode: GFSK

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1918.0000	53.72	-24.66	29.06	74.00	-44.94	peak	100	0	P	
2	2020.0000	44.21	-23.91	20.30	54.00	-33.70	AVG	100	0	P	
3	4298.0000	56.57	-18.67	37.90	74.00	-36.10	peak	100	0	P	
4	4519.0000	46.34	-18.18	28.16	54.00	-25.84	AVG	100	0	P	
5	7205.0000	45.90	-12.87	33.03	54.00	-20.97	AVG	100	0	P	
6	7239.0000	56.32	-12.86	43.46	74.00	-30.54	peak	100	0	P	



TM1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: H



Site LAB

Polarization: **Horizontal**

Temperature: 26 °C

Limit: 47 CRF Part 15 Above 1G PK

Power:

Humidity: 54 %RH

EUT:

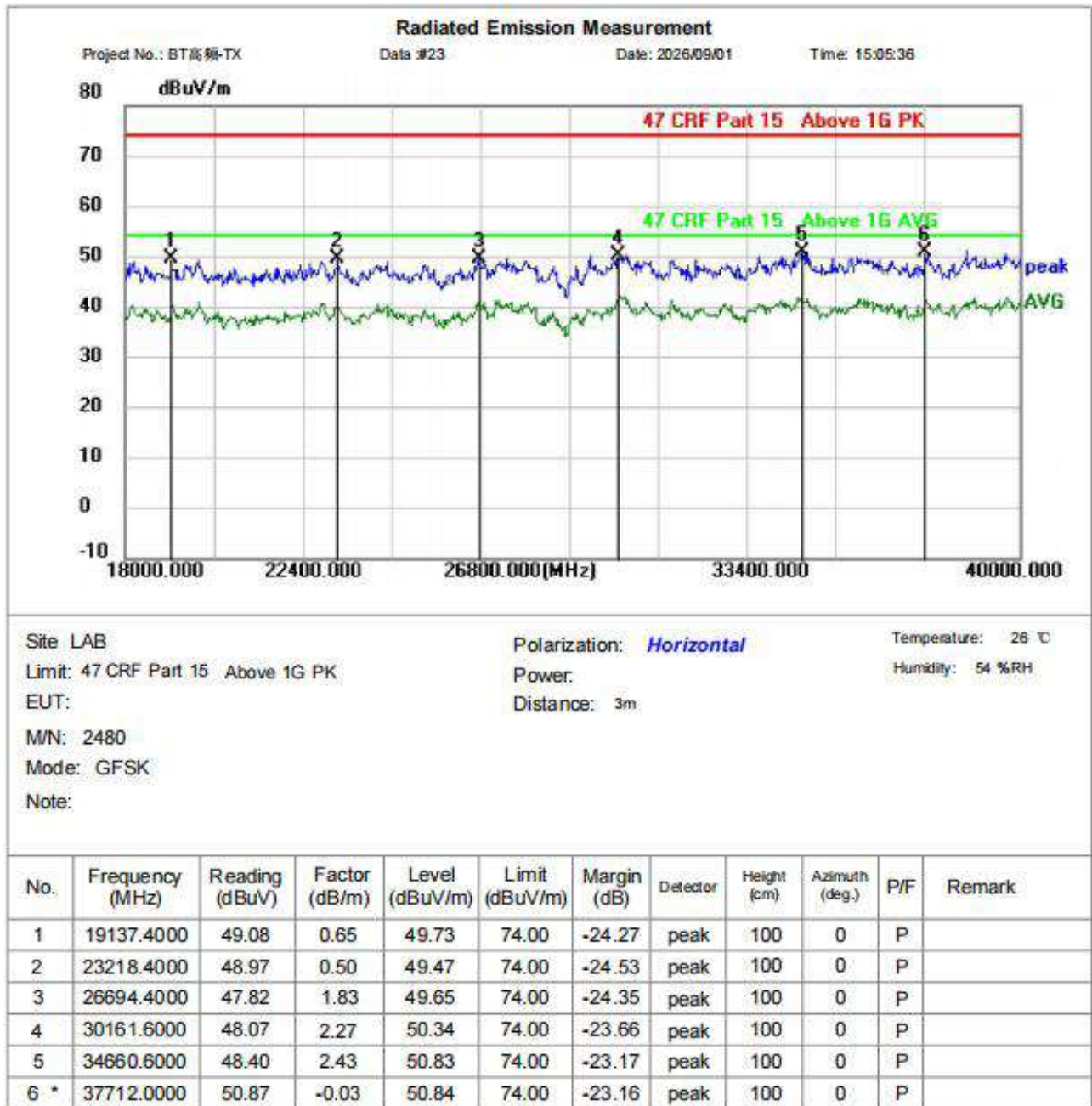
Distance: 3m

M/N: 2480

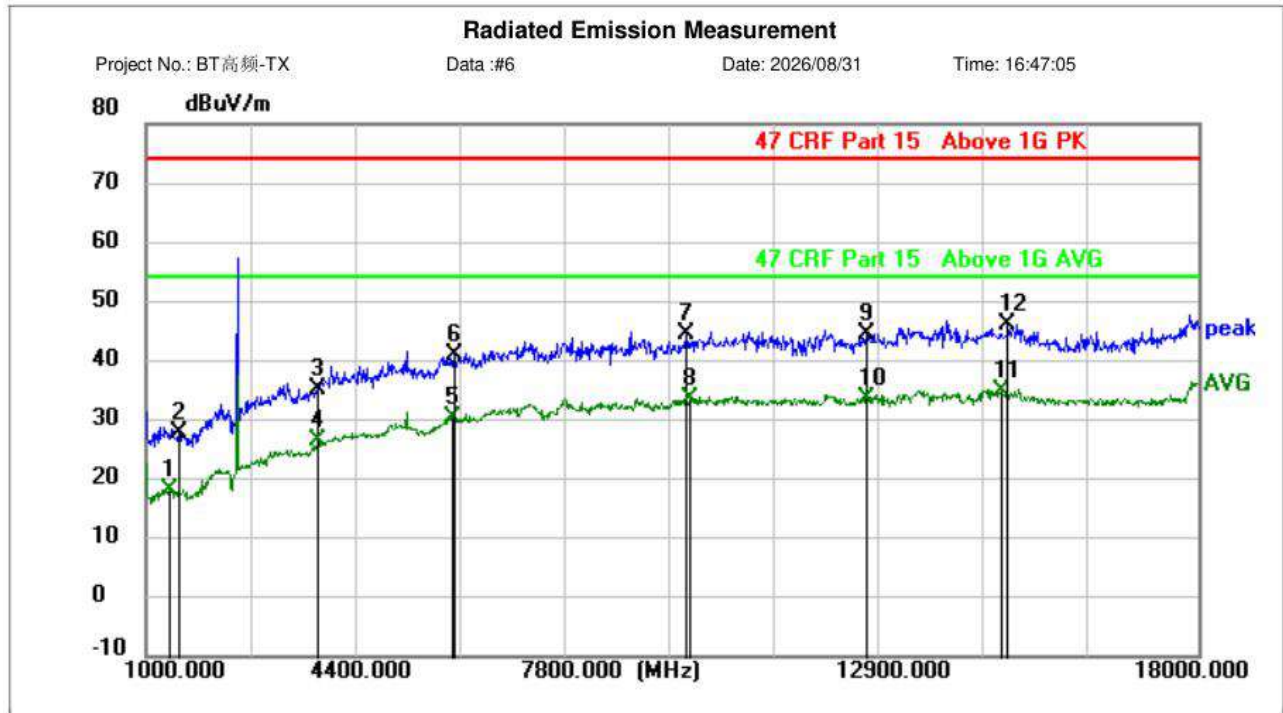
Mode: GFSK

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1833.0000	54.42	-25.46	28.96	74.00	-45.04	peak	100	0	P	
2	1918.0000	43.44	-24.83	18.61	54.00	-35.39	AVG	100	0	P	
3	3720.0000	55.21	-19.81	35.40	74.00	-38.60	peak	100	0	P	
4	3737.0000	44.85	-19.71	25.14	54.00	-28.86	AVG	100	0	P	
5	5233.0000	46.64	-17.05	29.59	54.00	-24.41	AVG	100	0	P	
6	5403.0000	56.00	-17.19	38.81	74.00	-35.19	peak	100	0	P	



TM1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: H



Site LAB

Polarization: **Vertical**

Temperature: 26 °C

Limit: 47 CRF Part 15 Above 1G PK

Power:

Humidity: 54 %RH

EUT:

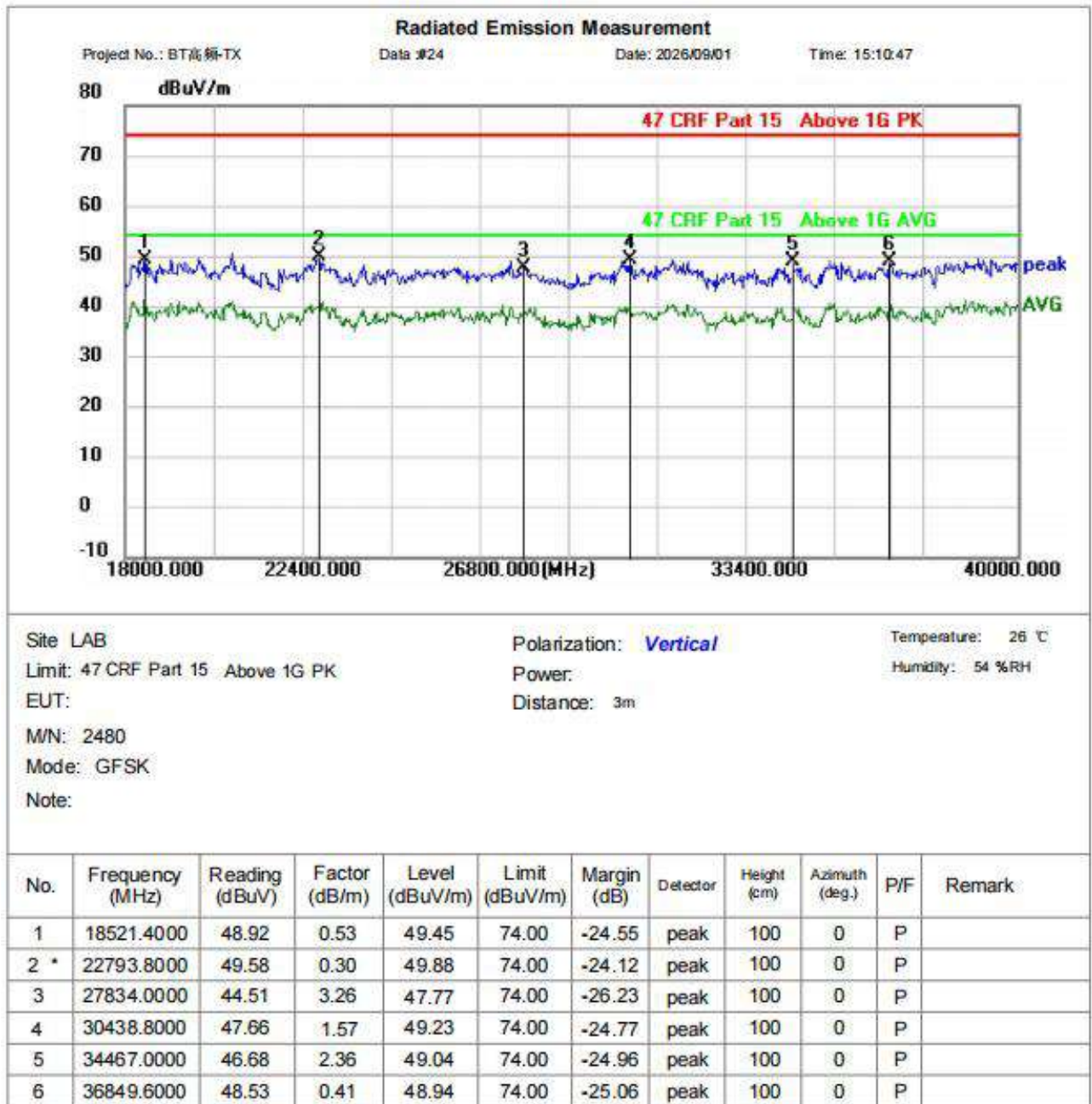
Distance: 3m

M/N: 2480

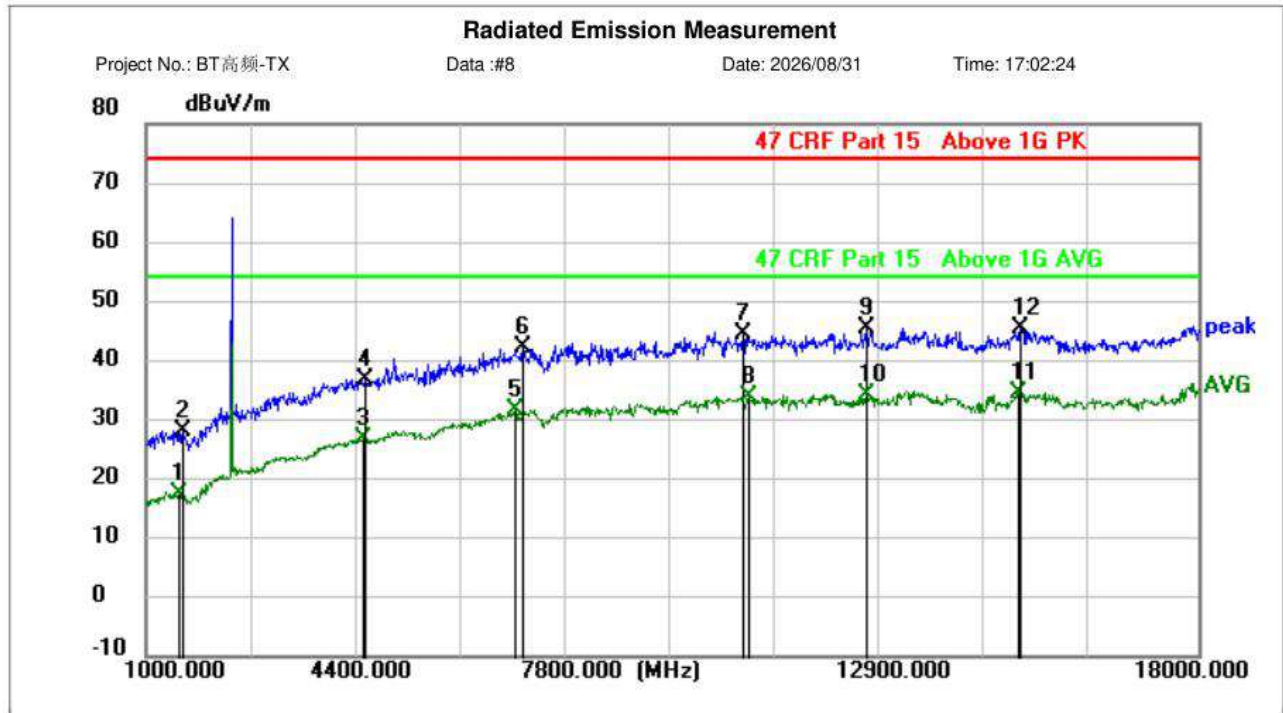
Mode: GFSK

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1391.0000	43.39	-25.33	18.06	54.00	-35.94	AVG	100	0	P	
2	1527.0000	53.06	-25.18	27.88	74.00	-46.12	peak	100	0	P	
3	3788.0000	54.61	-19.34	35.27	74.00	-38.73	peak	100	0	P	
4	3788.0000	45.88	-19.34	26.54	54.00	-27.46	AVG	100	0	P	
5	5964.0000	46.26	-15.94	30.32	54.00	-23.68	AVG	100	0	P	
6	5981.0000	56.77	-15.95	40.82	74.00	-33.18	peak	100	0	P	



TM2 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: L



Site LAB

Polarization: **Horizontal**

Temperature: 26 °C

Limit: 47 CRF Part 15 Above 1G PK

Power:

Humidity: 54 %RH

EUT:

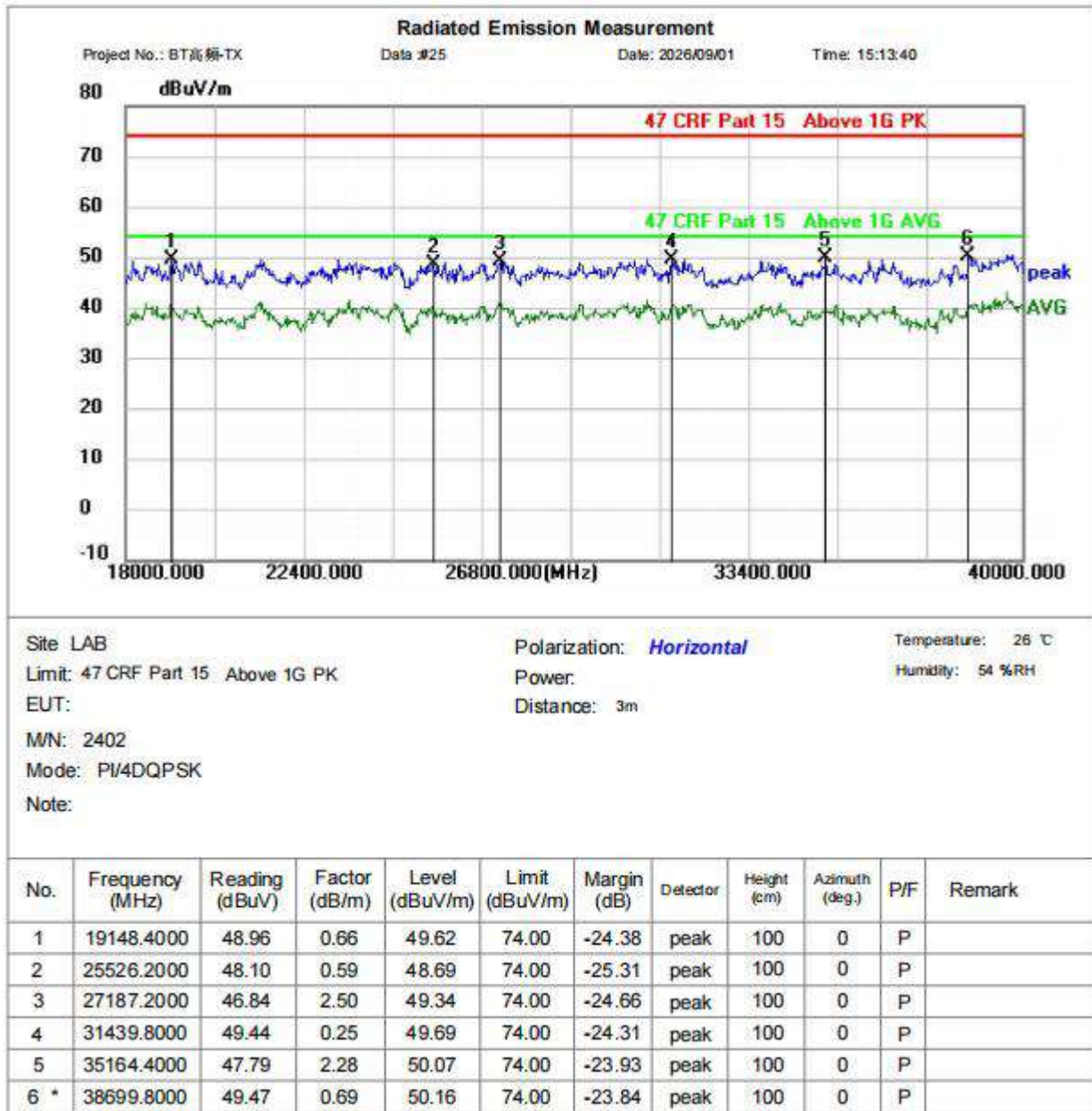
Distance: 3m

M/N: 2402

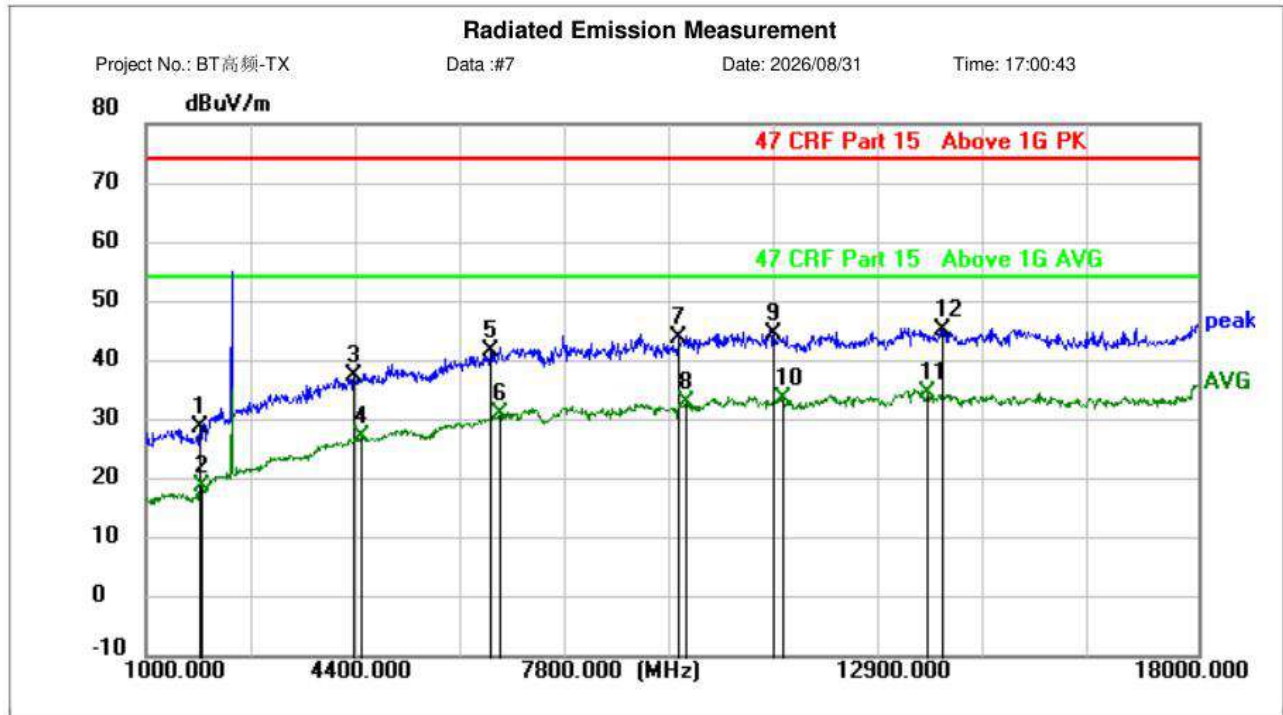
Mode: PI/4DQPSK

Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1544.0000	43.22	-25.68	17.54	54.00	-36.46	AVG	100	0	P	
2	1612.0000	53.74	-25.68	28.06	74.00	-45.94	peak	100	0	P	
3	4519.0000	45.11	-18.22	26.89	54.00	-27.11	AVG	100	0	P	
4	4553.0000	55.14	-18.28	36.86	74.00	-37.14	peak	100	0	P	
5	6967.0000	45.41	-13.85	31.56	54.00	-22.44	AVG	100	0	P	
6	7086.0000	55.49	-13.10	42.39	74.00	-31.61	peak	100	0	P	



TM2 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: L



Site LAB

Polarization: **Vertical**

Temperature: 26 °C

Limit: 47 CRF Part 15 Above 1G PK

Power:

Humidity: 54 %RH

EUT:

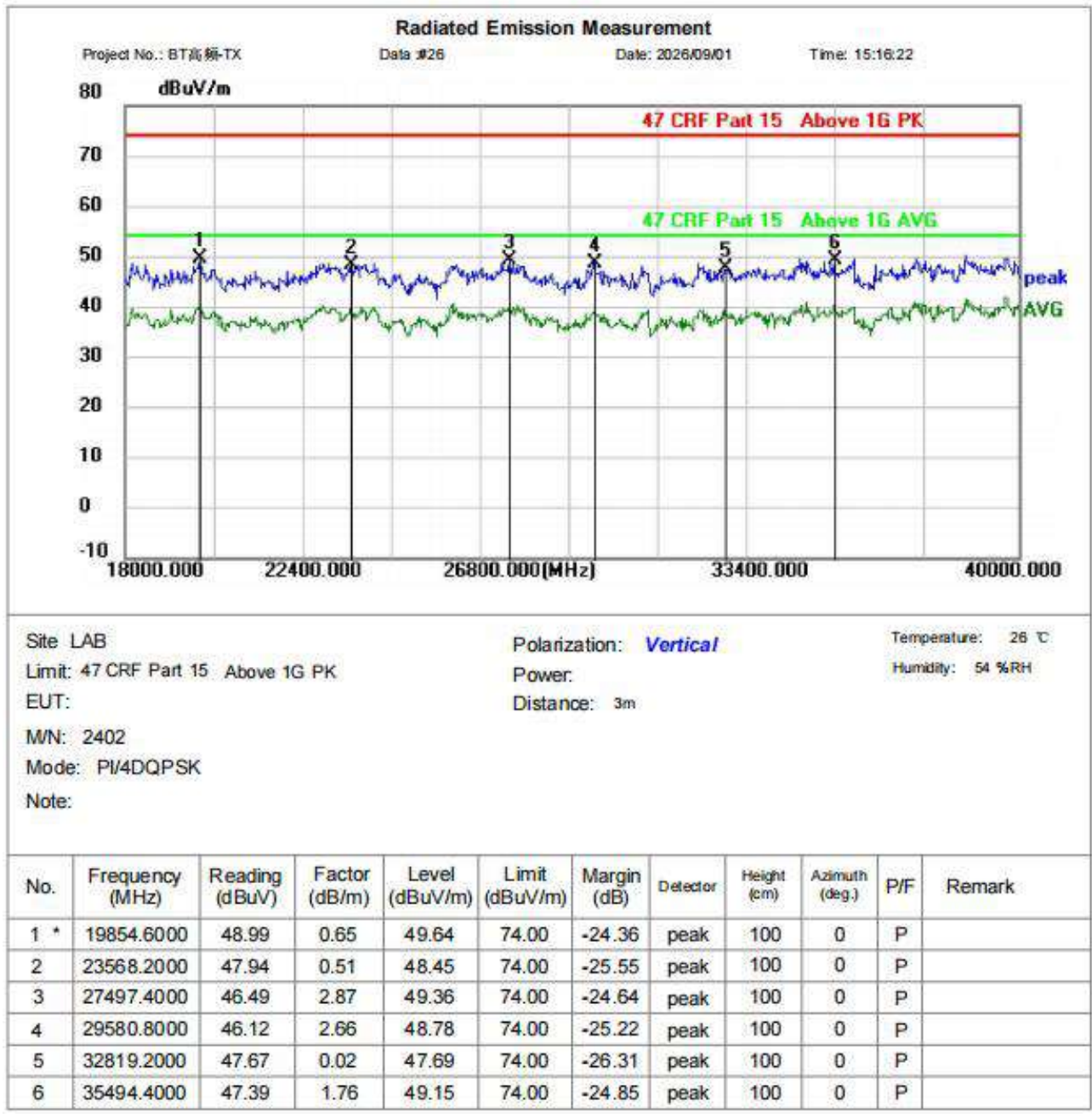
Distance: 3m

M/N: 2402

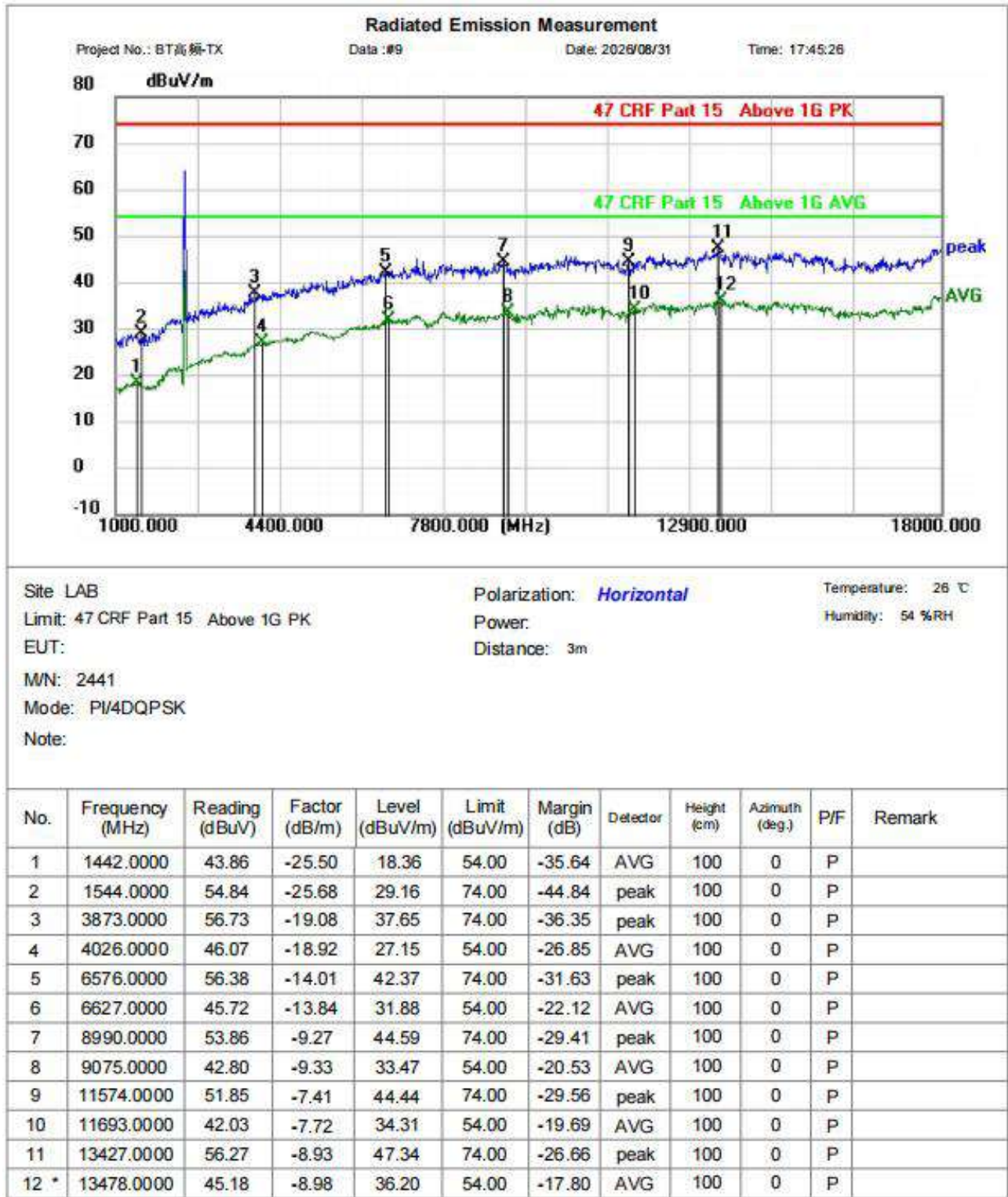
Mode: PI/4DQPSK

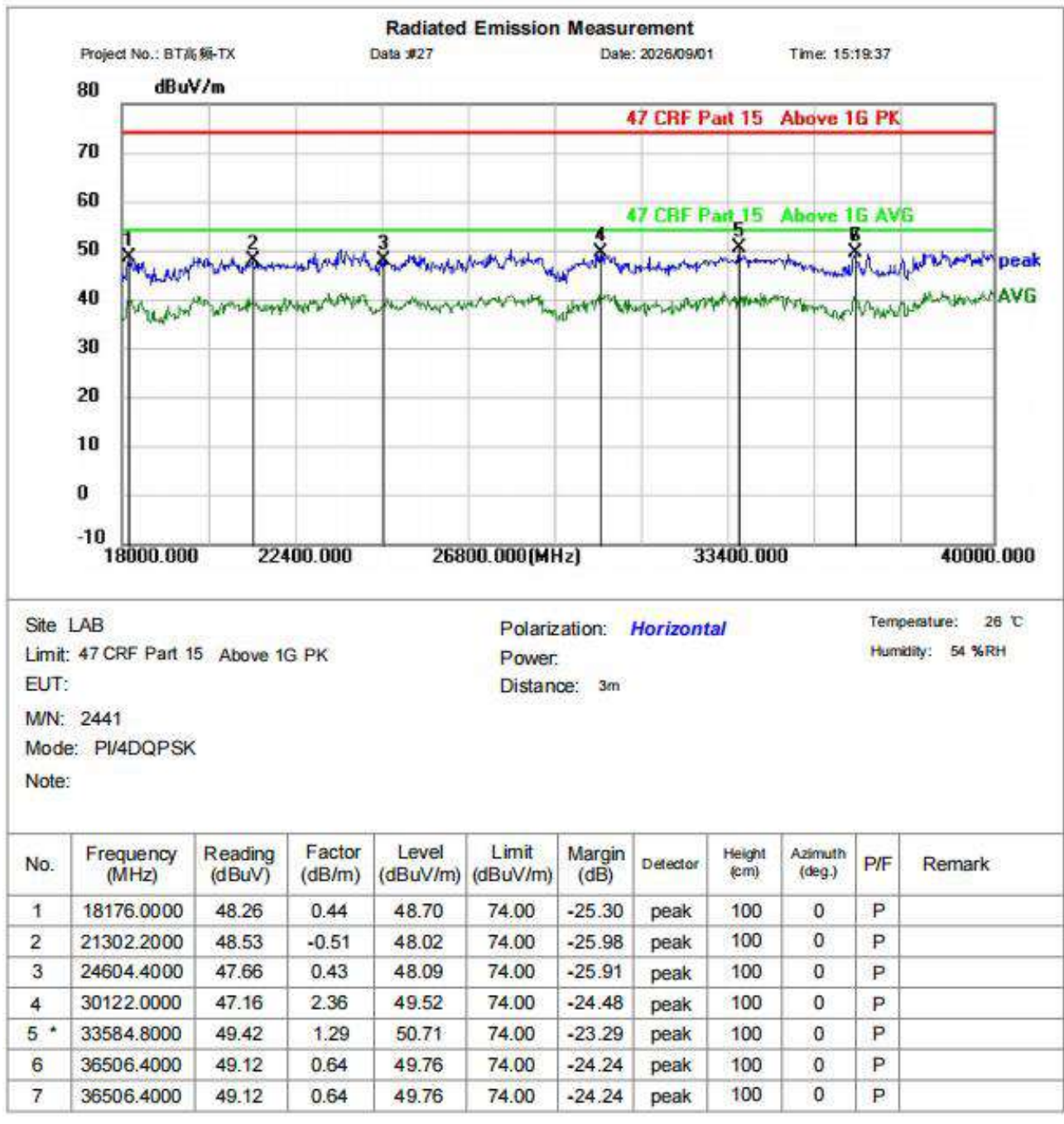
Note:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1867.0000	53.68	-25.04	28.64	74.00	-45.36	peak	100	0	P	
2	1918.0000	43.33	-24.66	18.67	54.00	-35.33	AVG	100	0	P	
3	4349.0000	55.93	-18.46	37.47	74.00	-36.53	peak	100	0	P	
4	4485.0000	45.31	-18.19	27.12	54.00	-26.88	AVG	100	0	P	
5	6576.0000	56.06	-14.31	41.75	74.00	-32.25	peak	100	0	P	
6	6712.0000	44.58	-13.68	30.90	54.00	-23.10	AVG	100	0	P	

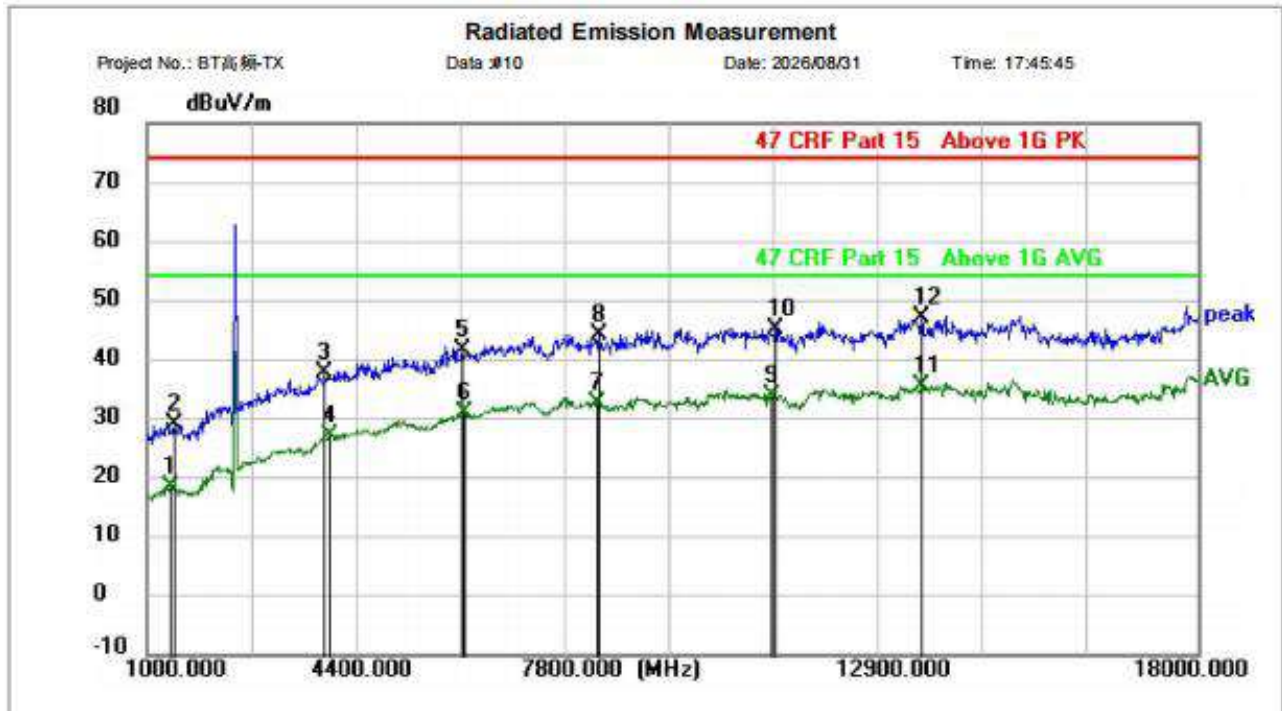


TM2 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: M





TM2 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: M



Site LAB

Limit: 47 CRF Part 15 Above 1G PK

EUT:

MN: 2441

Mode: PI/4DQPSK

Note:

Polarization: **Vertical**

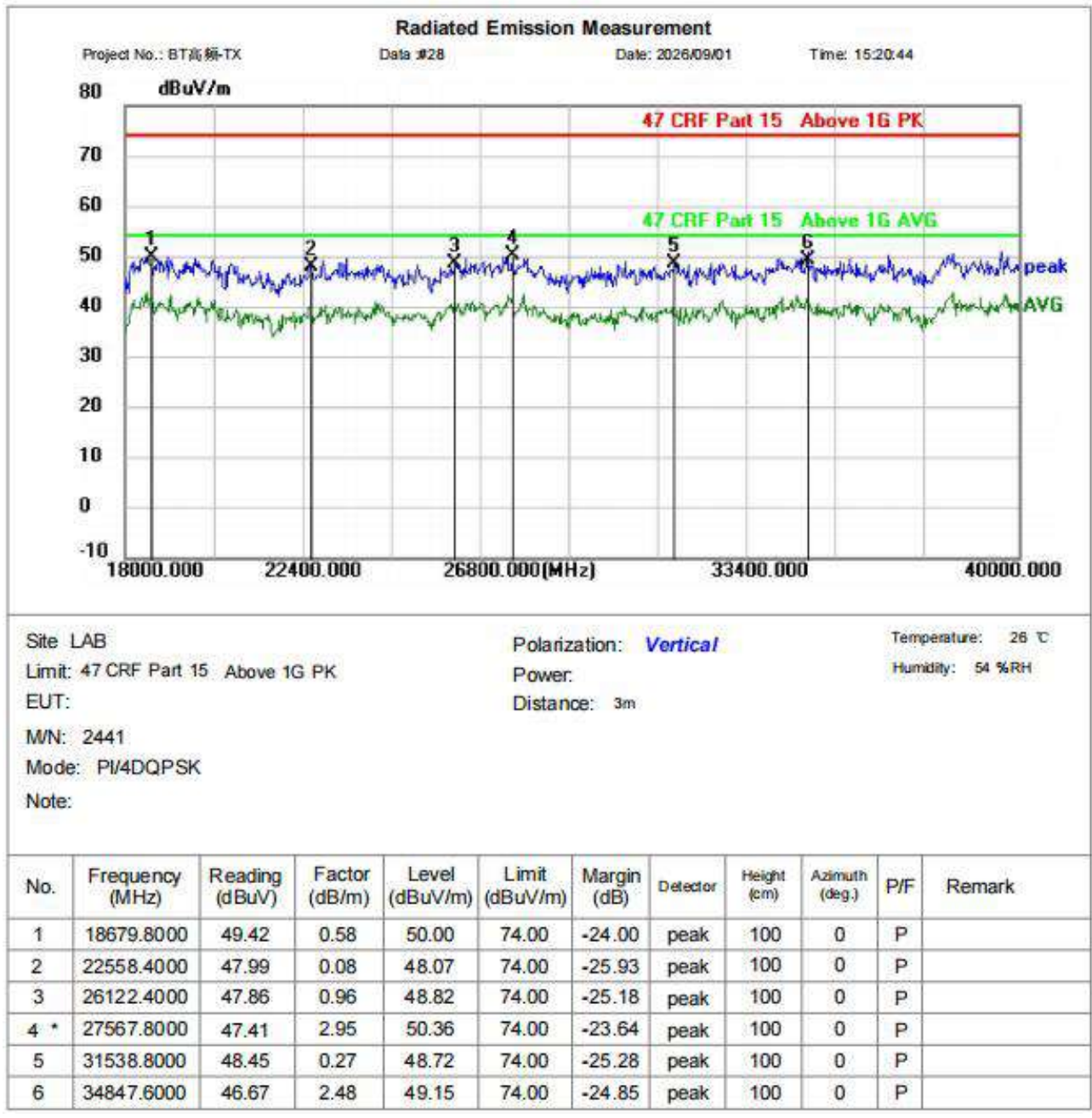
Power:

Distance: 3m

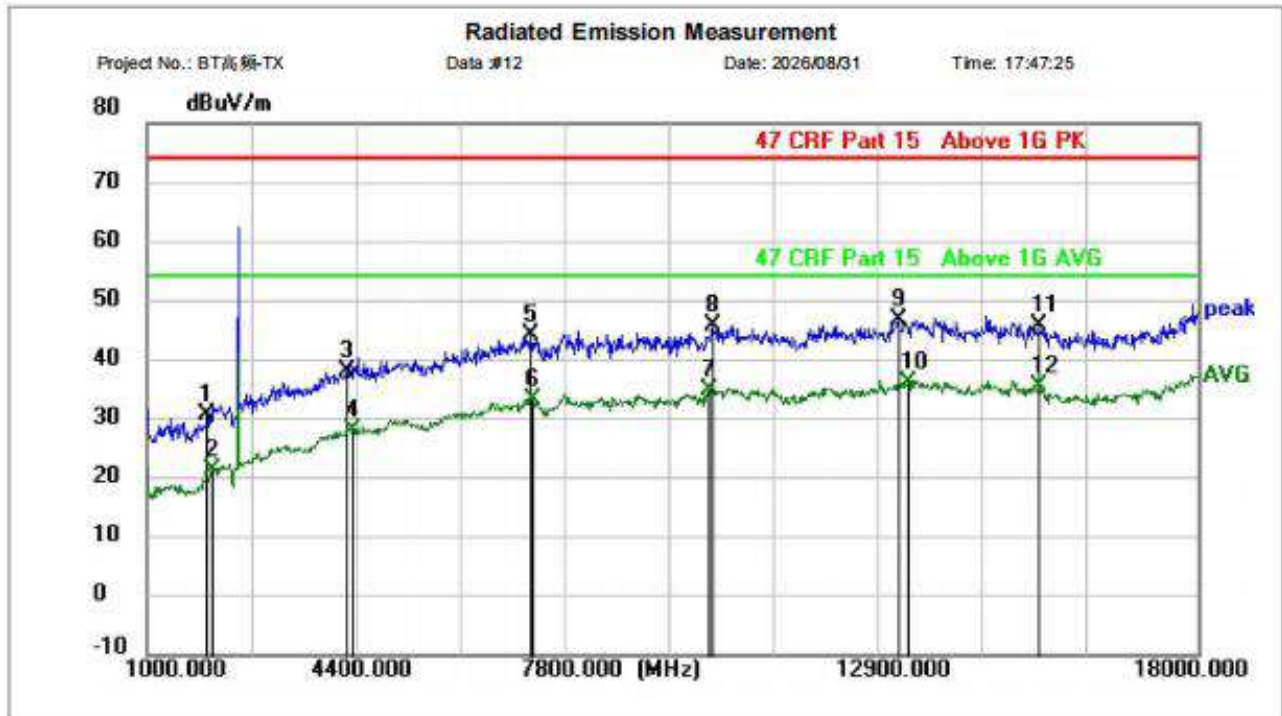
Temperature: 26 °C

Humidity: 54 %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1391.0000	43.74	-25.33	18.41	54.00	-35.59	AVG	100	0	P	
2	1459.0000	54.26	-25.28	28.98	74.00	-45.02	peak	100	0	P	
3	3873.0000	56.74	-18.98	37.76	74.00	-36.24	peak	100	0	P	
4	3975.0000	46.14	-19.01	27.13	54.00	-26.87	AVG	100	0	P	
5	6100.0000	57.59	-15.99	41.60	74.00	-32.40	peak	100	0	P	
6	6134.0000	46.83	-15.96	30.87	54.00	-23.13	AVG	100	0	P	
7	8276.0000	44.50	-11.76	32.74	54.00	-21.26	AVG	100	0	P	
8	8310.0000	55.95	-11.67	44.28	74.00	-29.72	peak	100	0	P	
9	11115.0000	40.40	-6.41	33.99	54.00	-20.01	AVG	100	0	P	
10	11183.0000	51.53	-6.35	45.18	74.00	-28.82	peak	100	0	P	
11 *	13529.0000	44.64	-9.16	35.48	54.00	-18.52	AVG	100	0	P	
12	13546.0000	56.27	-9.20	47.07	74.00	-26.93	peak	100	0	P	



TM2 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: H



Site LAB

Limit: 47 CRF Part 15 Above 1G PK

EUT:

M/N: 2480

Mode: PI/4DQPSK

Note:

Polarization: **Horizontal**

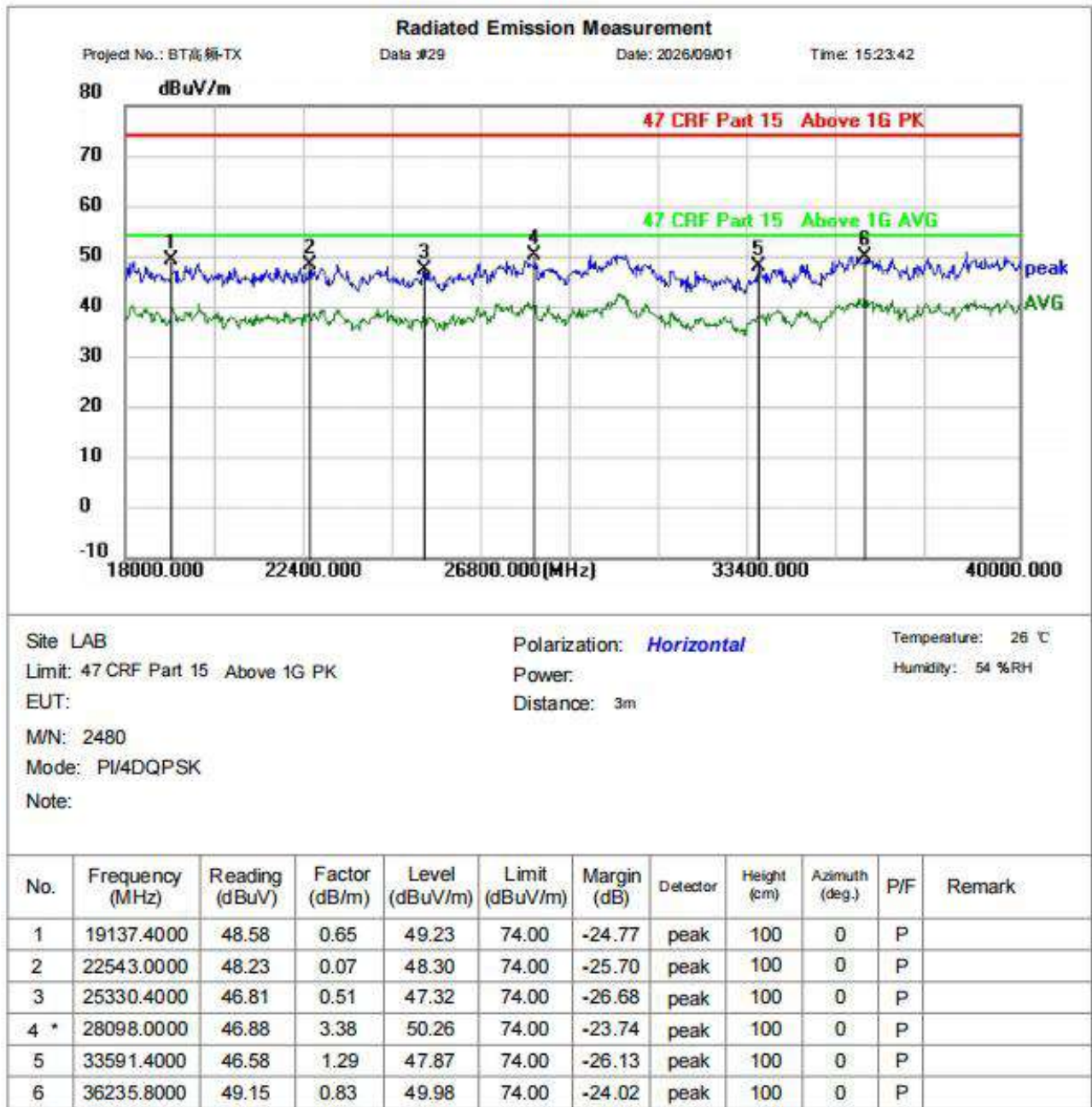
Power:

Distance: 3m

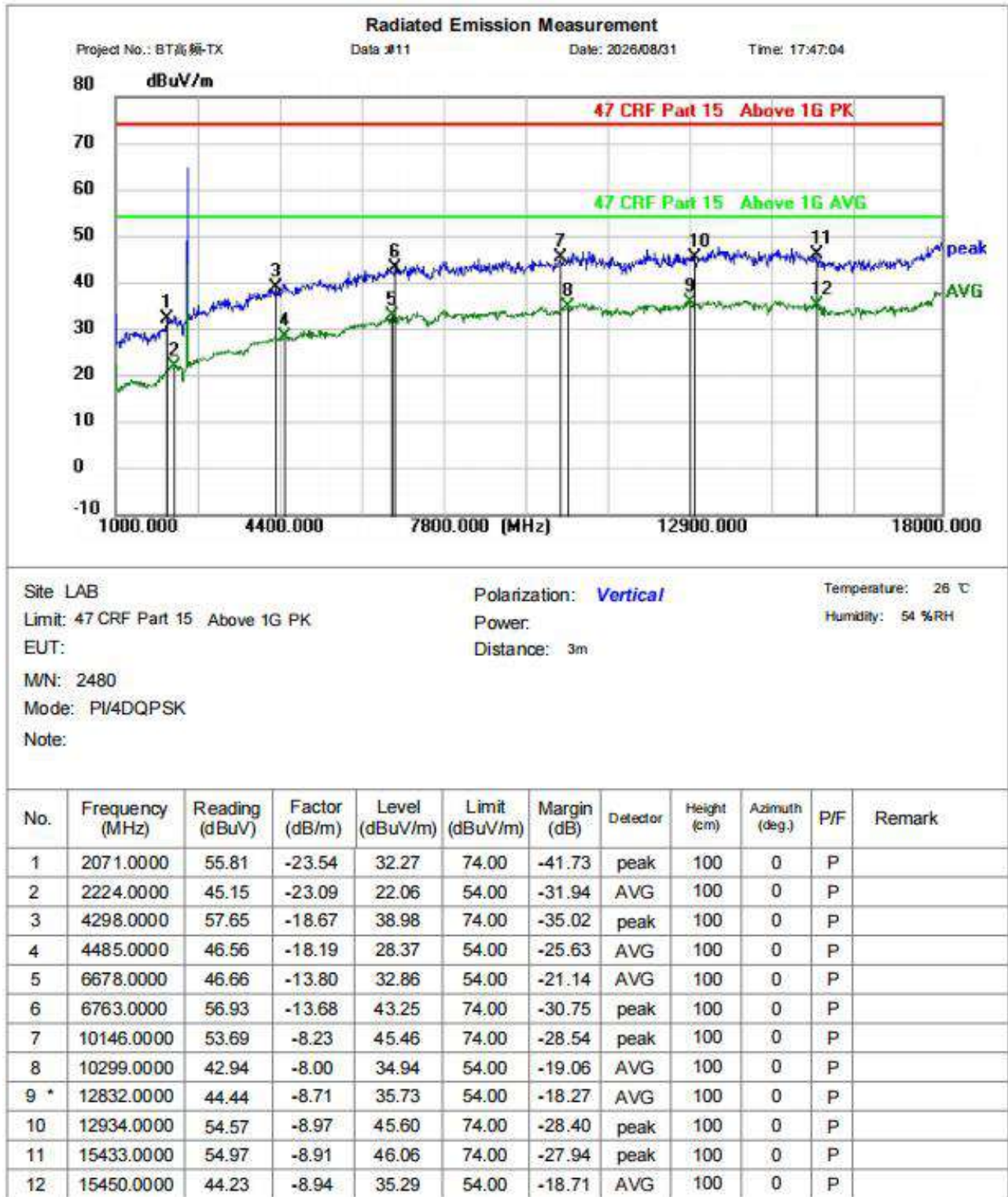
Temperature: 26 °C

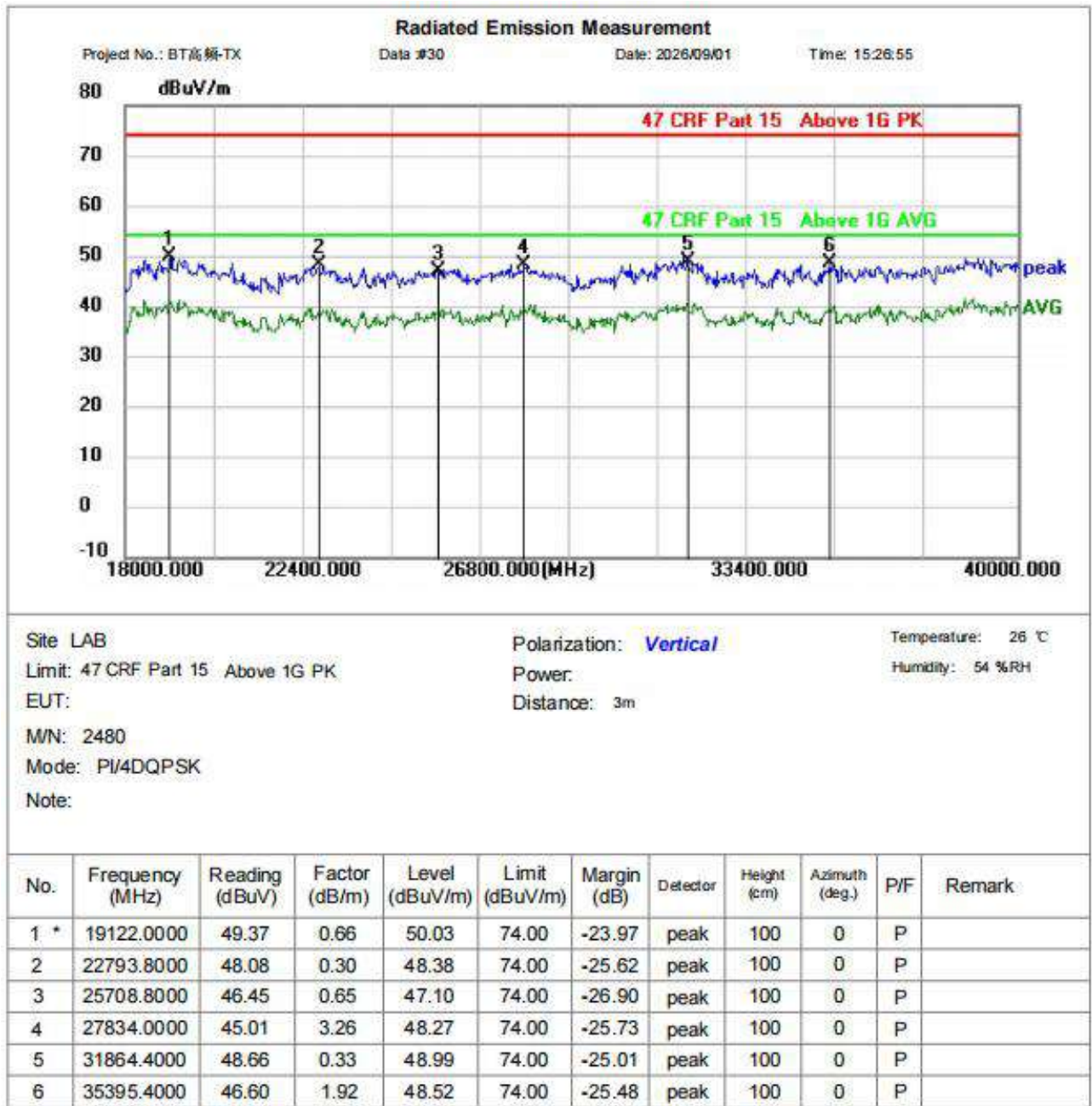
Humidity: 54 %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1969.0000	54.99	-24.44	30.55	74.00	-43.45	peak	100	0	P	
2	2071.0000	44.85	-23.46	21.39	54.00	-32.61	AVG	100	0	P	
3	4230.0000	56.83	-18.69	38.14	74.00	-35.86	peak	100	0	P	
4	4315.0000	46.61	-18.52	28.09	54.00	-25.91	AVG	100	0	P	
5	7205.0000	56.76	-12.69	44.07	74.00	-29.93	peak	100	0	P	
6	7256.0000	46.24	-12.87	33.37	54.00	-20.63	AVG	100	0	P	
7	10112.0000	43.32	-8.55	34.77	54.00	-19.23	AVG	100	0	P	
8	10146.0000	54.37	-8.53	45.84	74.00	-28.16	peak	100	0	P	
9	13155.0000	55.88	-9.10	46.78	74.00	-27.22	peak	100	0	P	
10 *	13308.0000	45.22	-9.09	36.13	54.00	-17.87	AVG	100	0	P	
11	15450.0000	55.51	-9.59	45.92	74.00	-28.08	peak	100	0	P	
12	15450.0000	44.98	-9.59	35.39	54.00	-18.61	AVG	100	0	P	

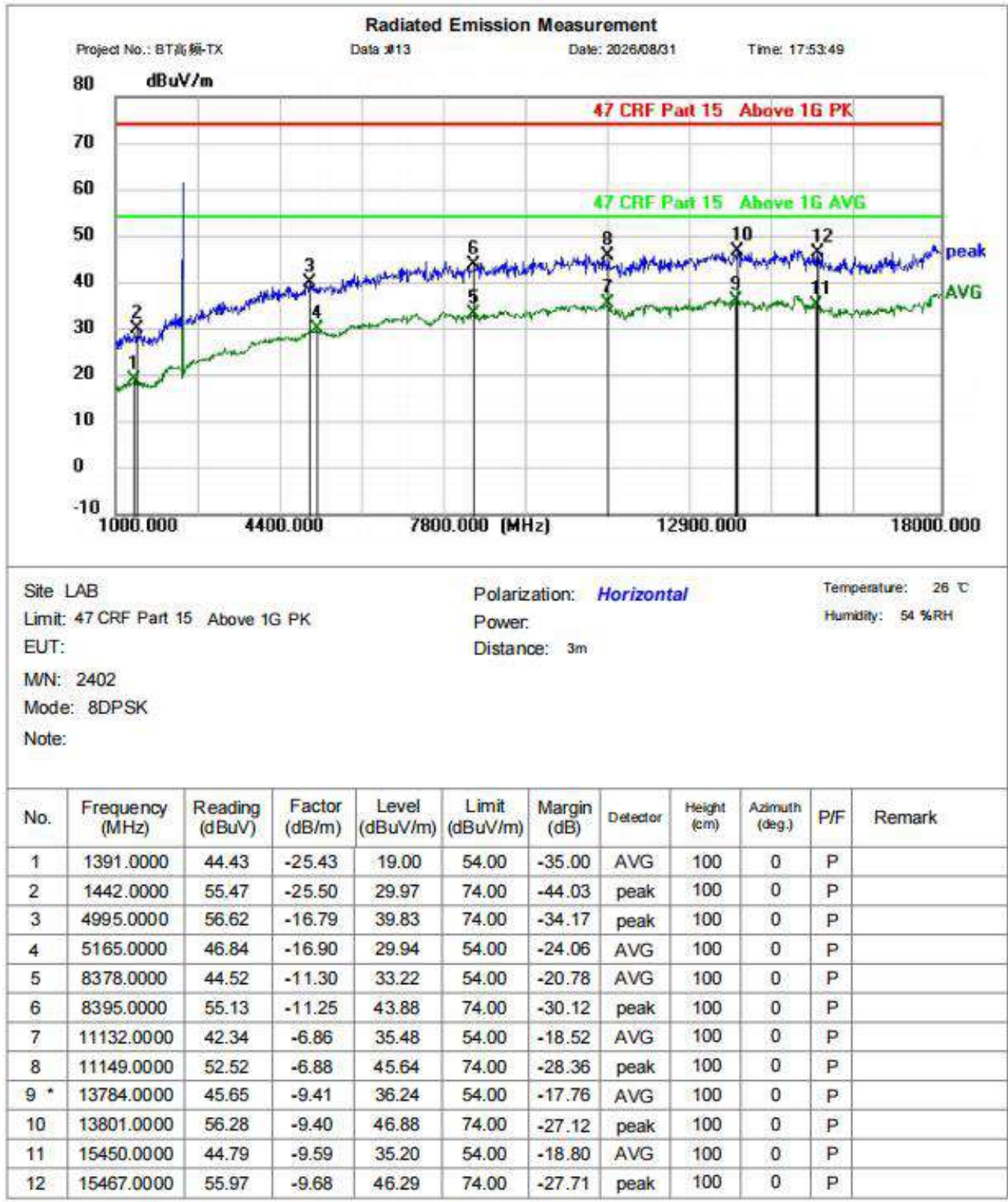


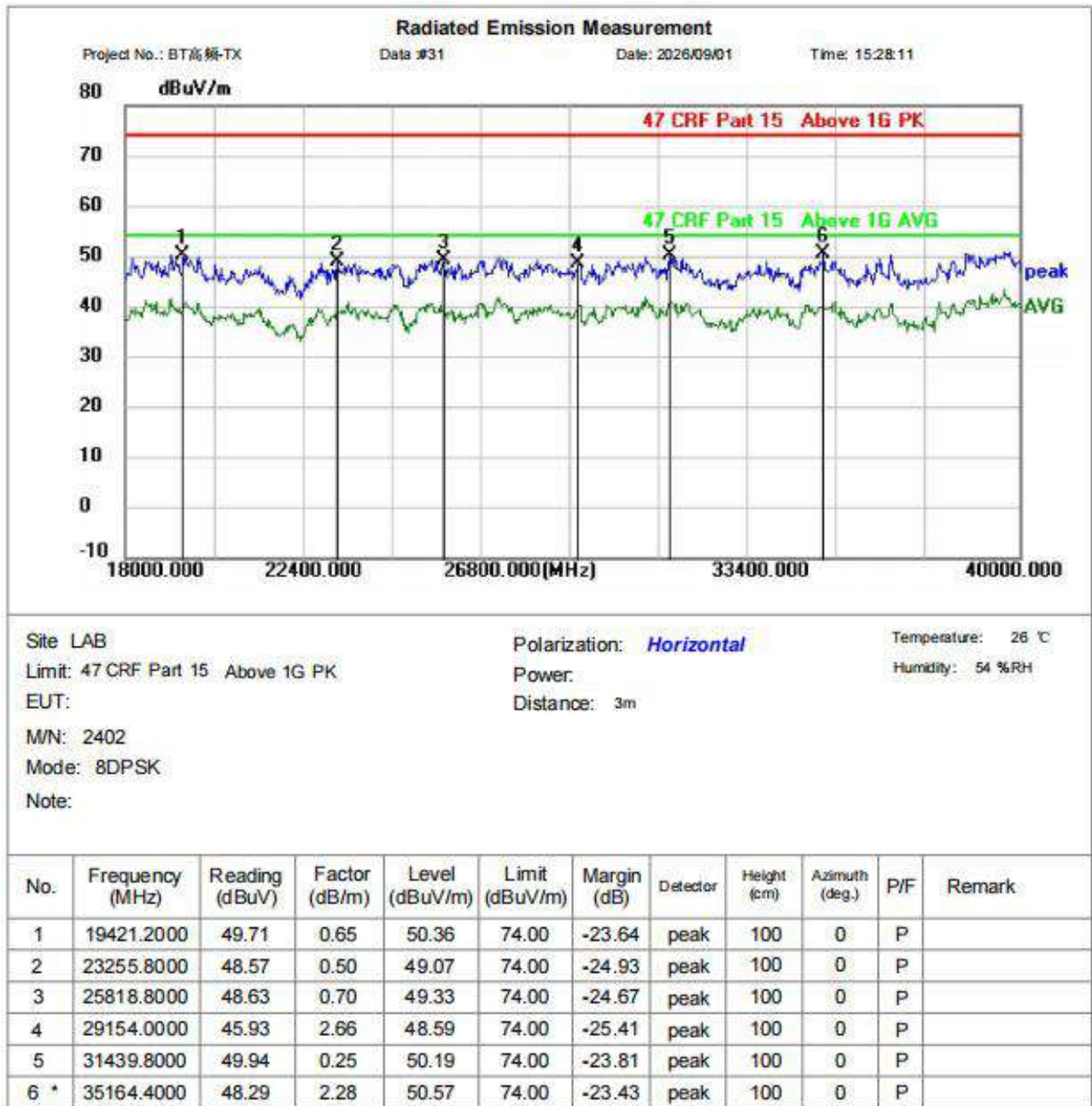
TM2 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: H



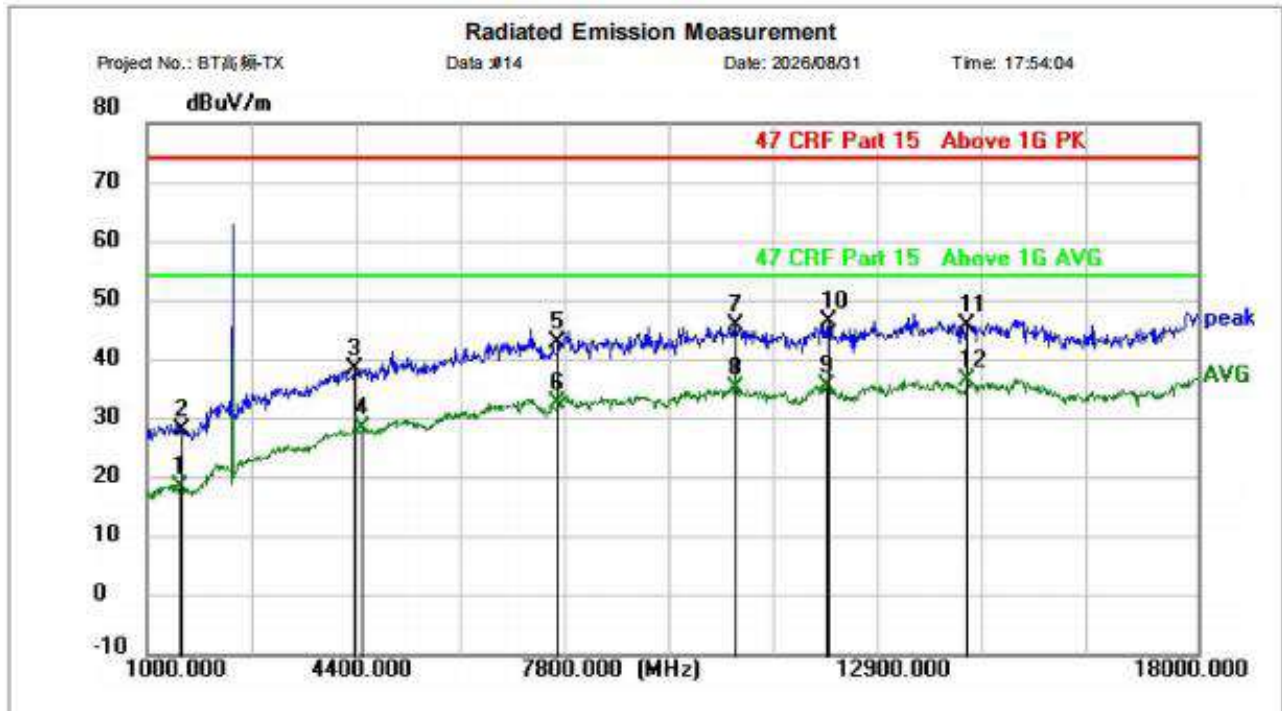


TM3 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: L





TM3 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: L



Site LAB

Limit: 47 CRF Part 15 Above 1G PK

EUT:

MN: 2402

Mode: 8DPSK

Note:

Polarization: **Vertical**

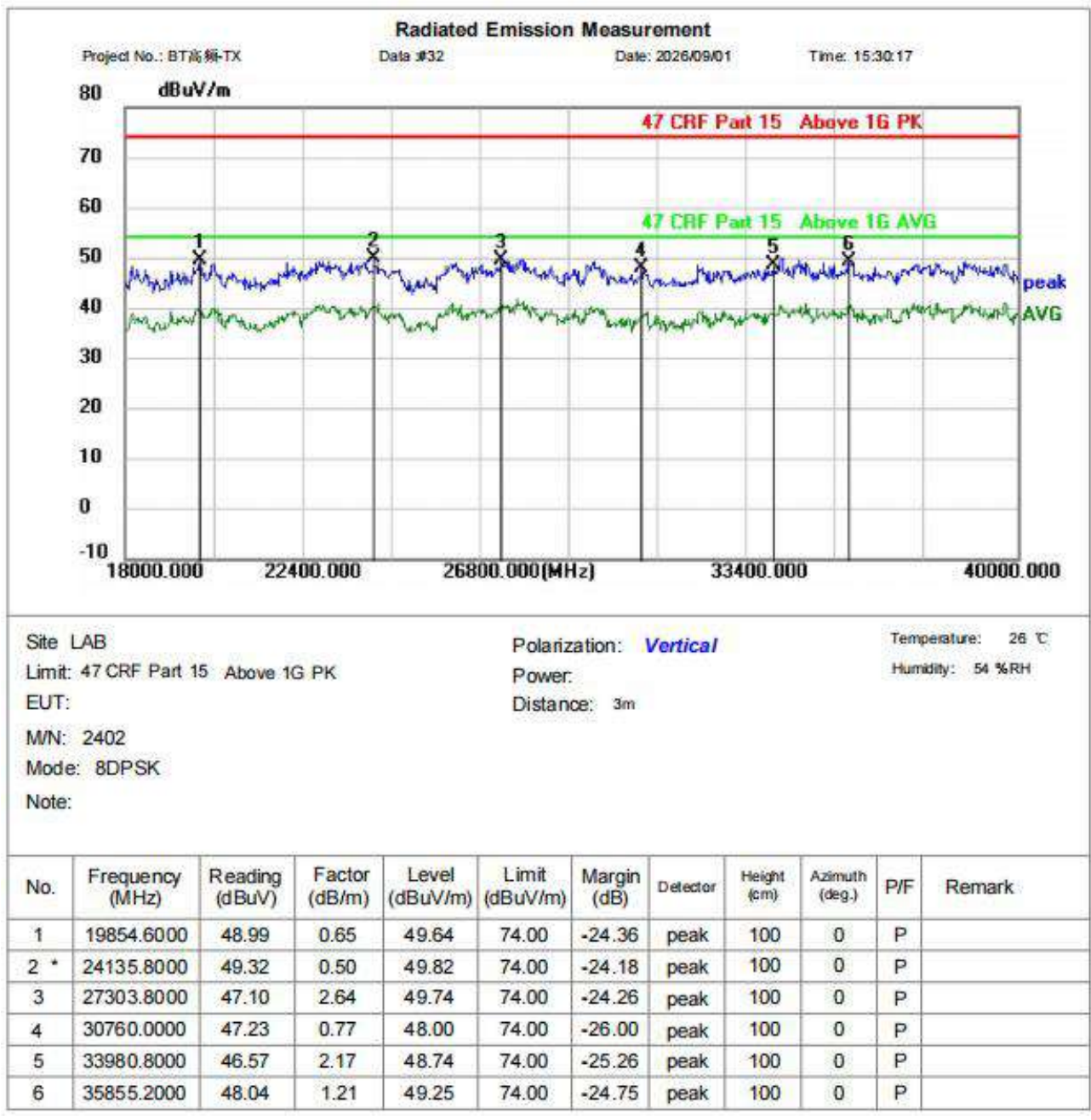
Power:

Distance: 3m

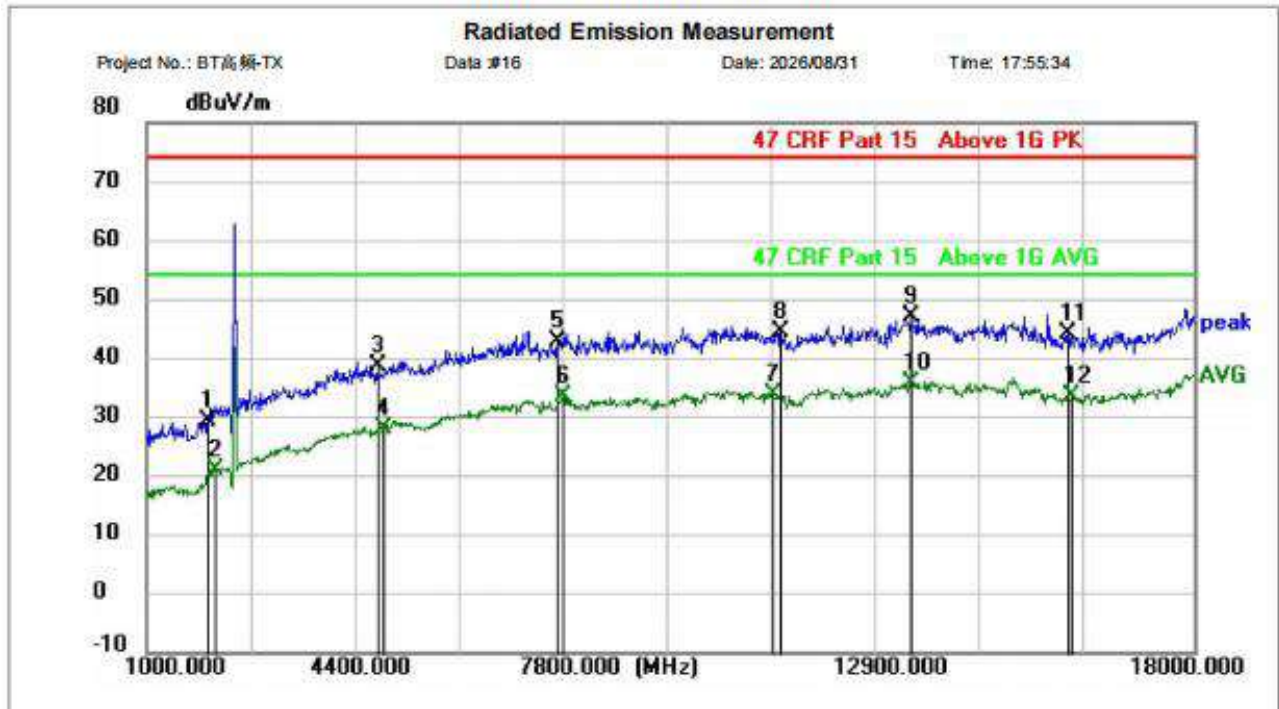
Temperature: 26 °C

Humidity: 54 %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1544.0000	43.67	-25.18	18.49	54.00	-35.51	AVG	100	0	P	
2	1578.0000	53.37	-25.23	28.14	74.00	-45.86	peak	100	0	P	
3	4366.0000	56.84	-18.40	38.44	74.00	-35.56	peak	100	0	P	
4	4485.0000	46.49	-18.19	28.30	54.00	-25.70	AVG	100	0	P	
5	7647.0000	56.12	-13.20	42.92	74.00	-31.08	peak	100	0	P	
6	7647.0000	45.63	-13.20	32.43	54.00	-21.57	AVG	100	0	P	
7	10520.0000	53.34	-7.56	45.78	74.00	-28.22	peak	100	0	P	
8	10537.0000	42.55	-7.51	35.04	54.00	-18.96	AVG	100	0	P	
9	12016.0000	42.99	-7.41	35.58	54.00	-18.42	AVG	100	0	P	
10	12033.0000	53.75	-7.43	46.32	74.00	-27.68	peak	100	0	P	
11	14277.0000	54.99	-9.38	45.61	74.00	-28.39	peak	100	0	P	
12 *	14277.0000	45.79	-9.38	36.41	54.00	-17.59	AVG	100	0	P	



TM3 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: M



Site LAB

Limit: 47 CRF Part 15 Above 1G PK

EUT:

M/N: 2441

Mode: 8DPSK

Note:

Polarization: **Horizontal**

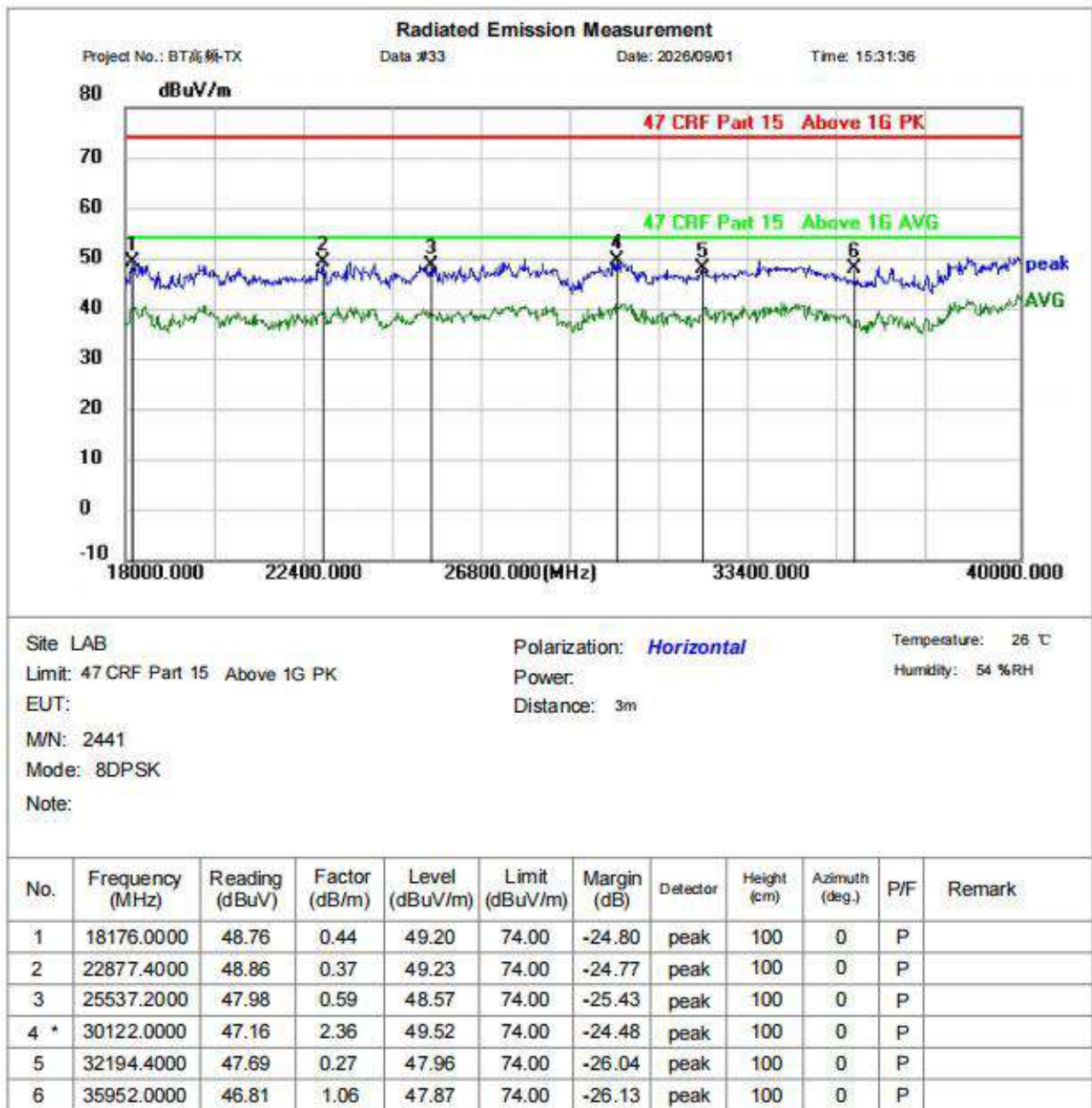
Power:

Distance: 3m

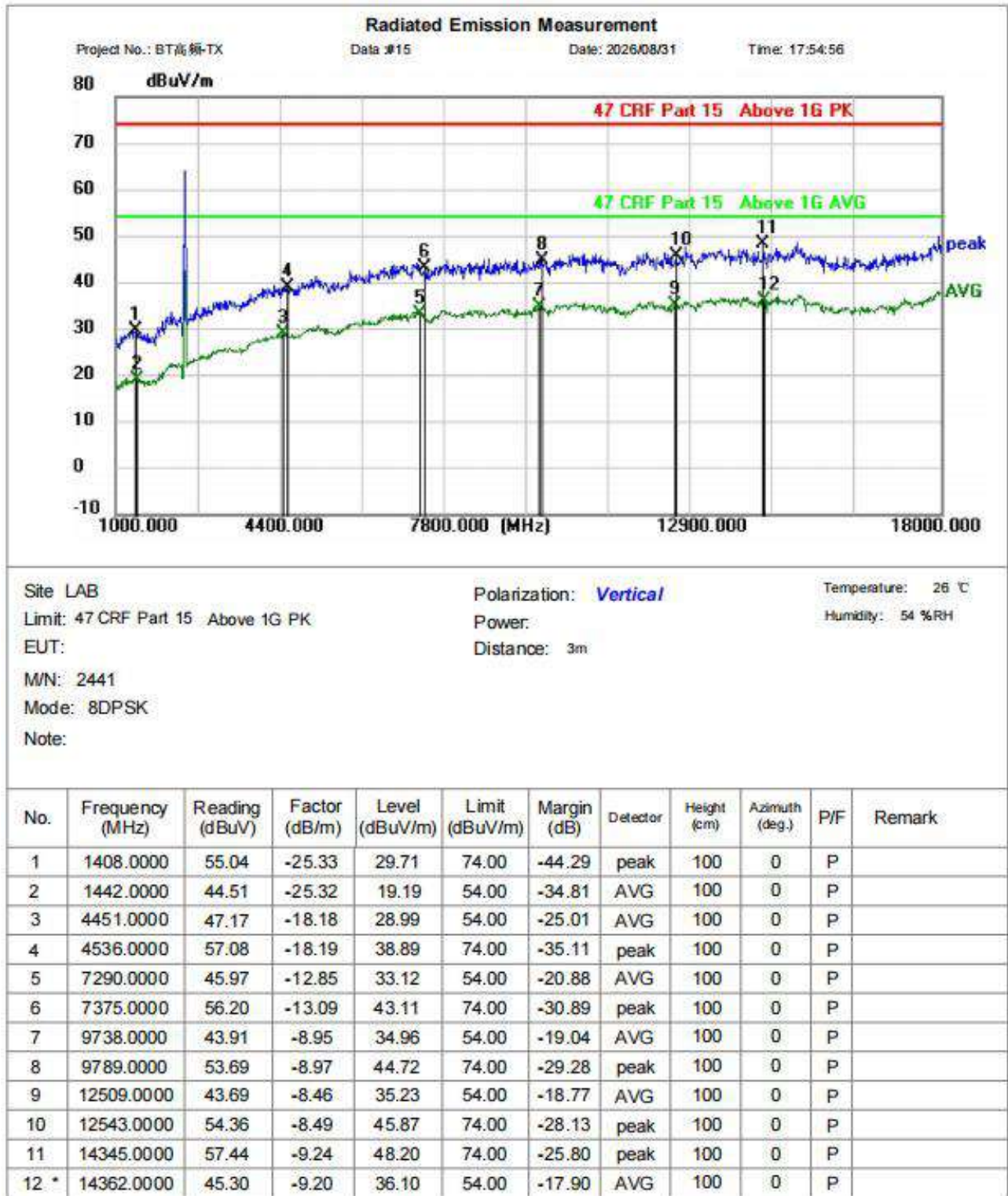
Temperature: 26 °C

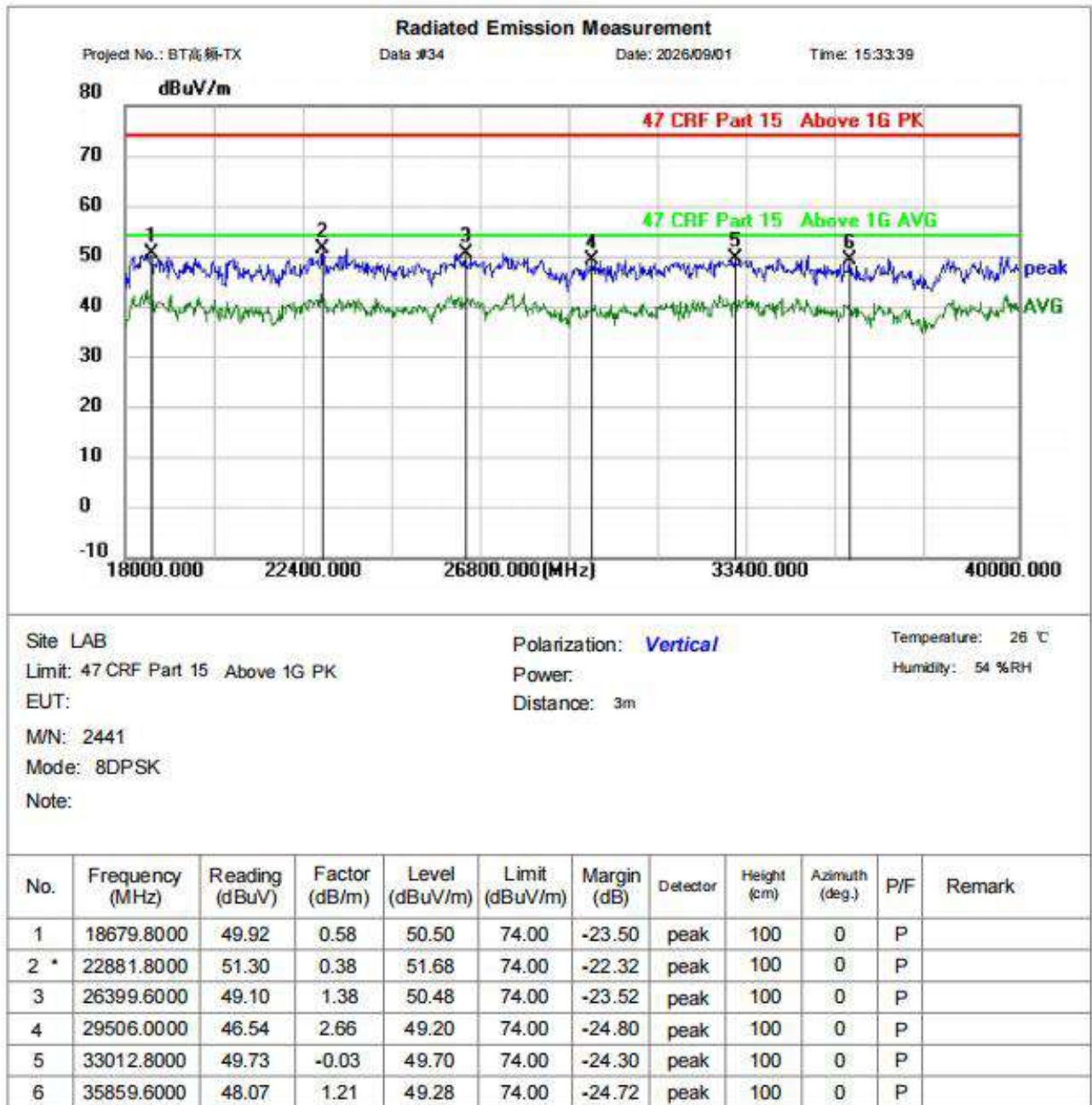
Humidity: 54 %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1986.0000	53.77	-24.33	29.44	74.00	-44.56	peak	100	0	P	
2	2105.0000	44.22	-23.09	21.13	54.00	-32.87	AVG	100	0	P	
3	4757.0000	56.69	-17.89	38.80	74.00	-35.20	peak	100	0	P	
4	4859.0000	45.50	-17.50	28.00	54.00	-26.00	AVG	100	0	P	
5	7664.0000	56.01	-13.09	42.92	74.00	-31.08	peak	100	0	P	
6	7766.0000	46.04	-12.52	33.52	54.00	-20.48	AVG	100	0	P	
7	11183.0000	40.66	-6.92	33.74	54.00	-20.26	AVG	100	0	P	
8	11285.0000	51.58	-6.96	44.62	74.00	-29.38	peak	100	0	P	
9	13410.0000	55.88	-8.91	46.97	74.00	-27.03	peak	100	0	P	
10 *	13410.0000	44.86	-8.91	35.95	54.00	-18.05	AVG	100	0	P	
11	15960.0000	54.51	-10.36	44.15	74.00	-29.85	peak	100	0	P	
12	16028.0000	44.06	-10.45	33.61	54.00	-20.39	AVG	100	0	P	

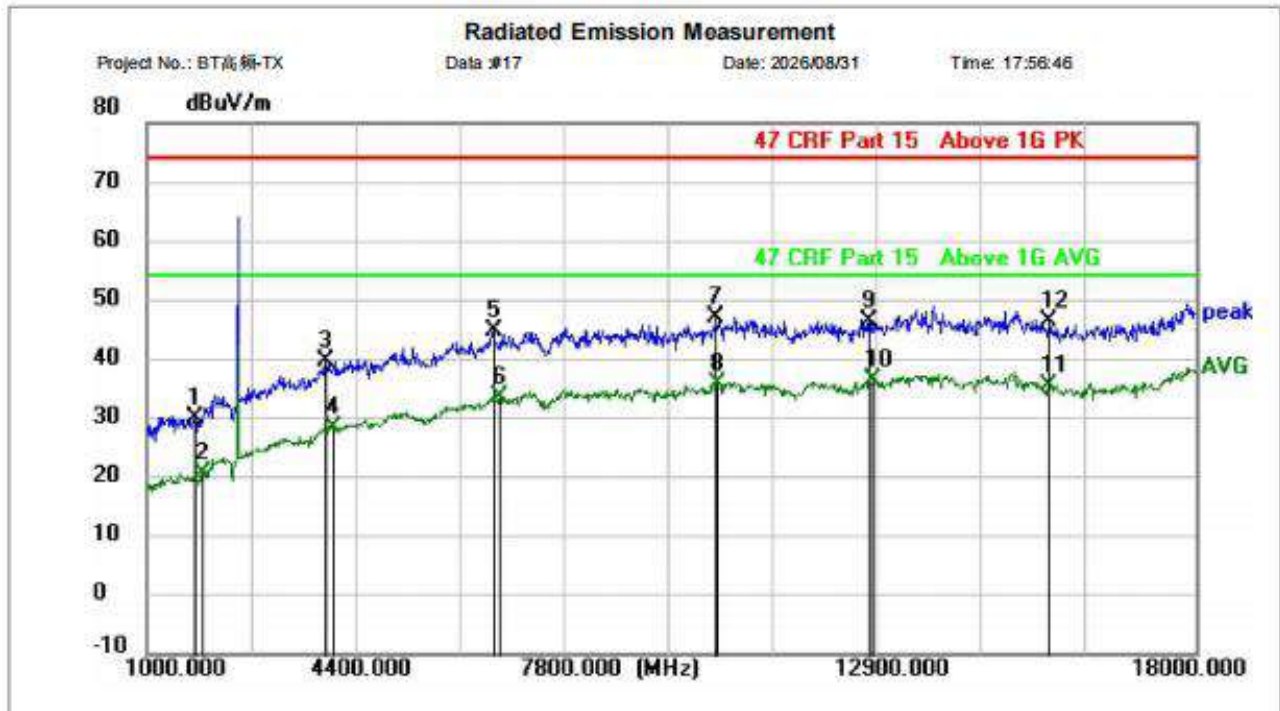


TM3 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: M





TM3 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: H



Site LAB

Limit: 47 CRF Part 15 Above 1G PK

EUT:

M/N: 2480

Mode: 8DPSK

Note:

Polarization: **Horizontal**

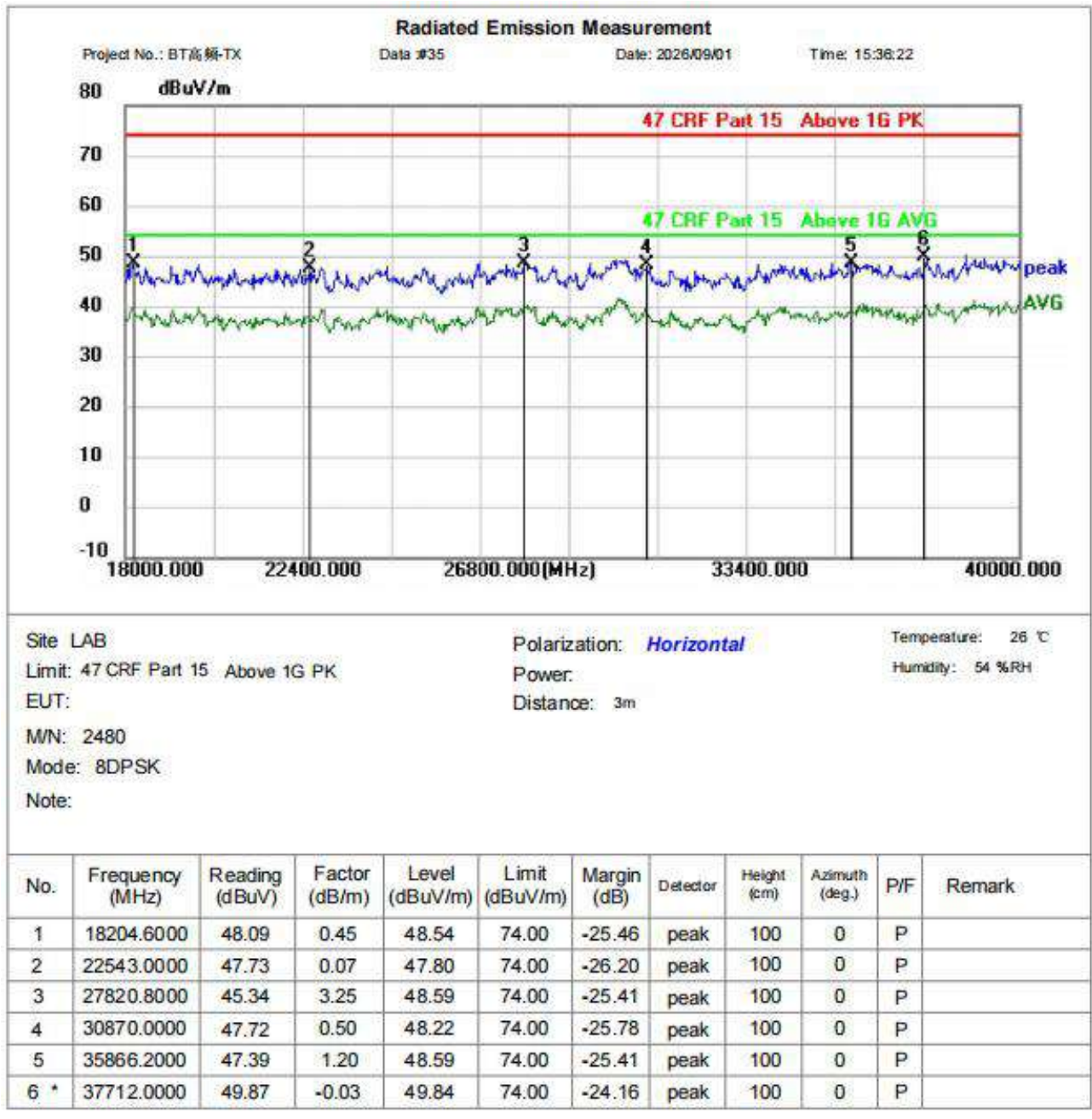
Power:

Distance: 3m

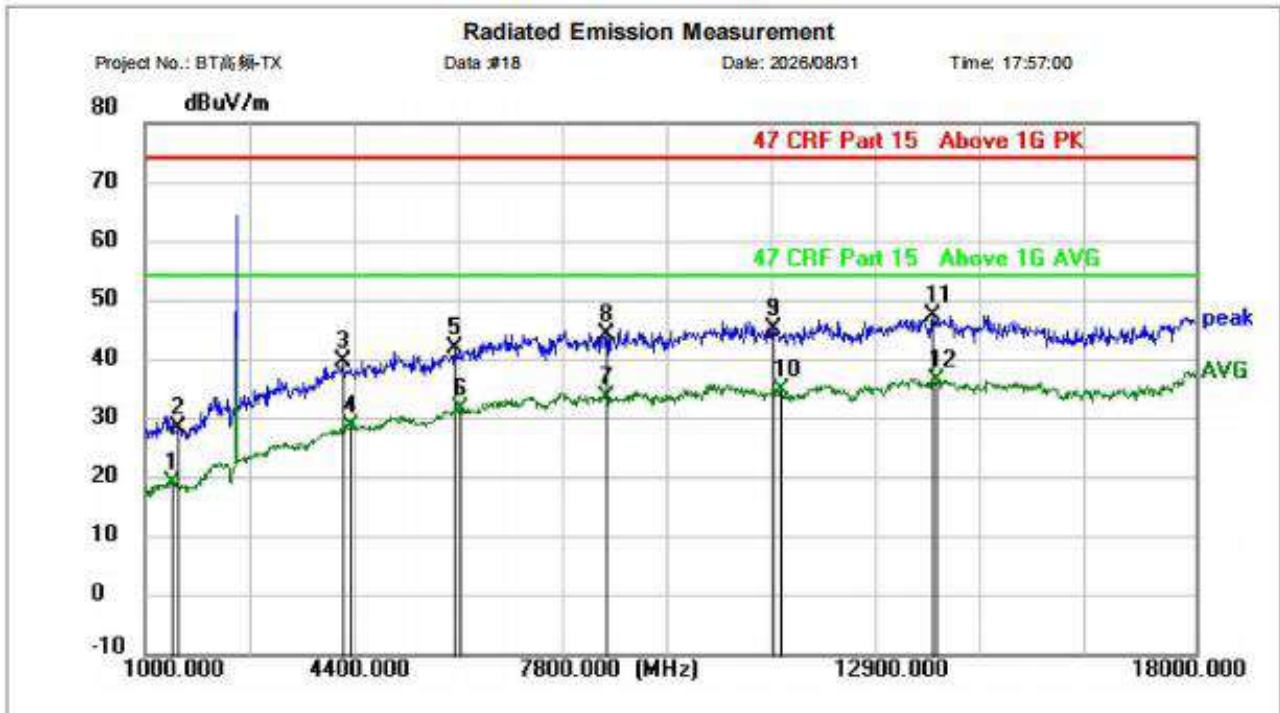
Temperature: 26 °C

Humidity: 54 %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1782.0000	55.63	-25.64	29.99	74.00	-44.01	peak	100	0	P	
2	1918.0000	45.63	-24.83	20.80	54.00	-33.20	AVG	100	0	P	
3	3907.0000	58.55	-19.01	39.54	74.00	-34.46	peak	100	0	P	
4	4026.0000	47.45	-18.92	28.53	54.00	-25.47	AVG	100	0	P	
5	6627.0000	58.64	-13.84	44.80	74.00	-29.20	peak	100	0	P	
6	6712.0000	47.48	-13.88	33.60	54.00	-20.40	AVG	100	0	P	
7	10231.0000	55.56	-8.39	47.17	74.00	-26.83	peak	100	0	P	
8	10265.0000	43.95	-8.30	35.65	54.00	-18.35	AVG	100	0	P	
9	12713.0000	55.13	-8.74	46.39	74.00	-27.61	peak	100	0	P	
10 *	12781.0000	45.22	-8.80	36.42	54.00	-17.58	AVG	100	0	P	
11	15620.0000	45.63	-10.18	35.45	54.00	-18.55	AVG	100	0	P	
12	15637.0000	56.63	-10.20	46.43	74.00	-27.57	peak	100	0	P	



TM3 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: H



Site LAB

Limit: 47 CRF Part 15 Above 1G PK

EUT:

M/N: 2480

Mode: 8DPSK

Note:

Polarization: **Vertical**

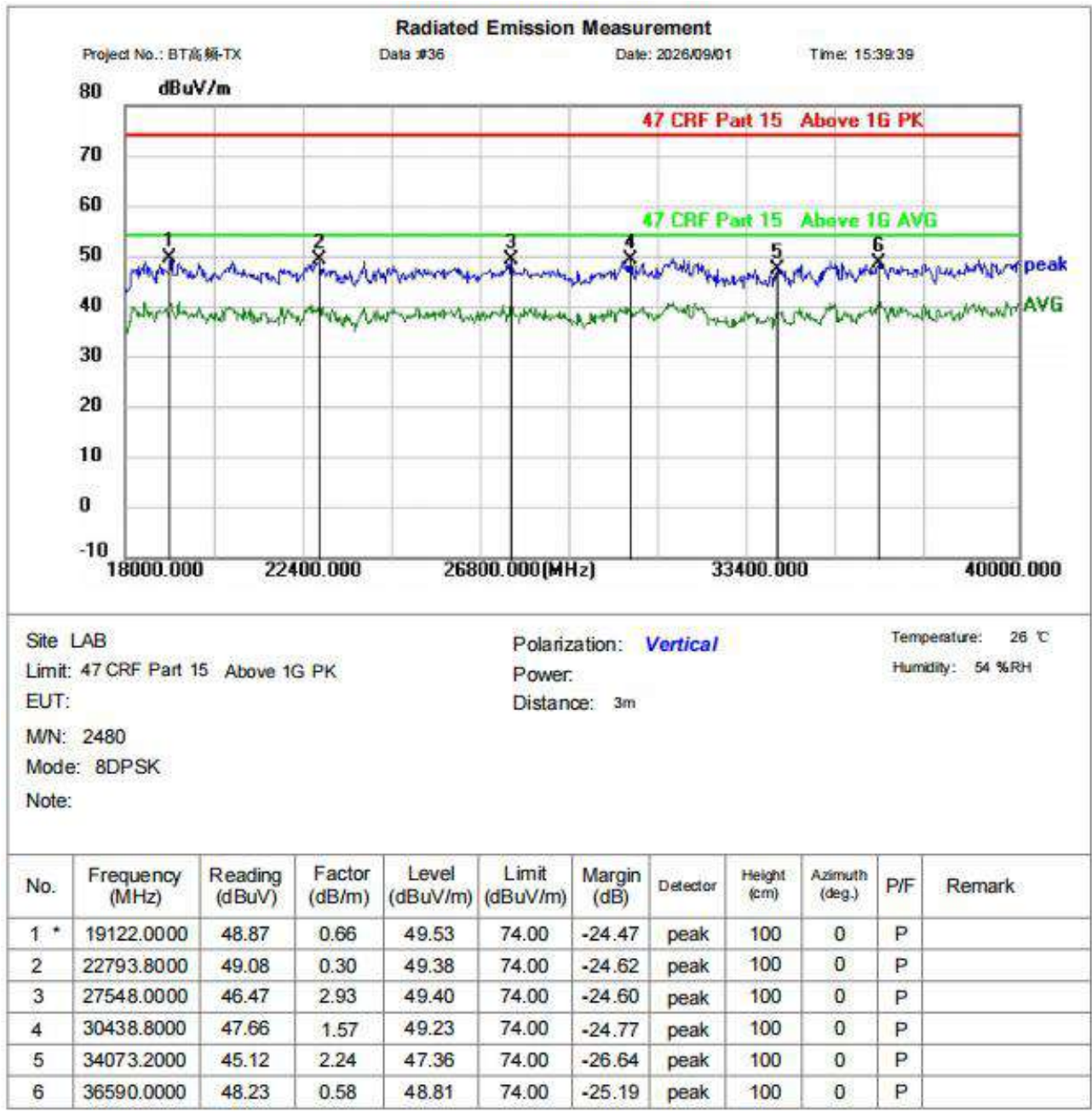
Power:

Distance: 3m

Temperature: 26 °C

Humidity: 54 %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1442.0000	44.56	-25.32	19.24	54.00	-34.76	AVG	100	0	P	
2	1544.0000	53.56	-25.18	28.38	74.00	-45.62	peak	100	0	P	
3	4196.0000	58.64	-18.94	39.70	74.00	-34.30	peak	100	0	P	
4	4332.0000	47.14	-18.53	28.61	54.00	-25.39	AVG	100	0	P	
5	6032.0000	57.70	-15.93	41.77	74.00	-32.23	peak	100	0	P	
6	6100.0000	47.46	-15.99	31.47	54.00	-22.53	AVG	100	0	P	
7	8463.0000	44.84	-11.14	33.70	54.00	-20.30	AVG	100	0	P	
8	8480.0000	55.18	-11.03	44.15	74.00	-29.85	peak	100	0	P	
9	11183.0000	51.58	-6.35	45.23	74.00	-28.77	peak	100	0	P	
10	11302.0000	41.26	-6.36	34.90	54.00	-19.10	AVG	100	0	P	
11	13750.0000	56.92	-9.50	47.42	74.00	-26.58	peak	100	0	P	
12 *	13801.0000	46.10	-9.50	36.60	54.00	-17.40	AVG	100	0	P	

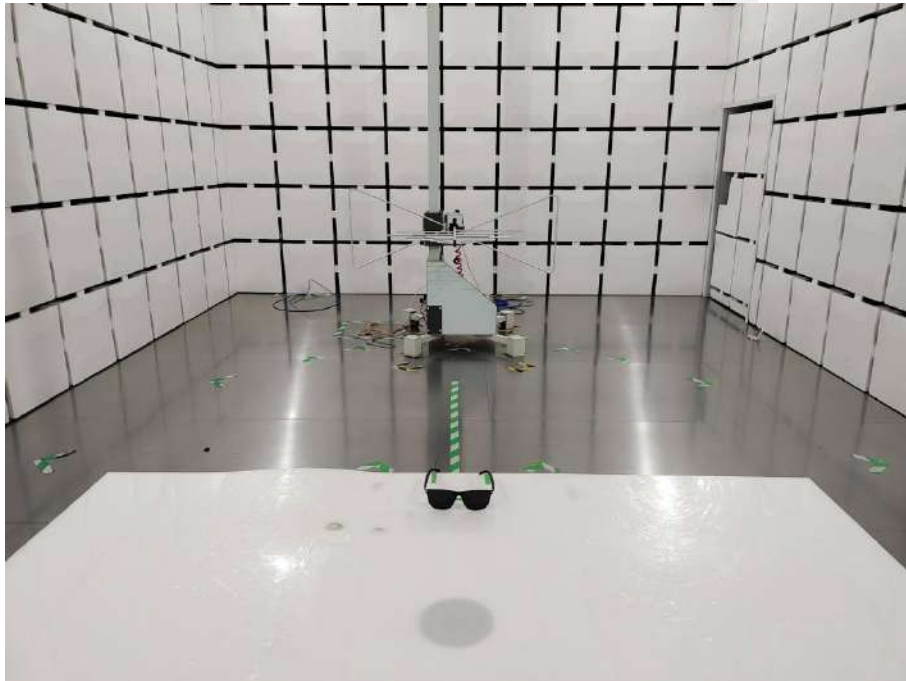


7. TEST SETUP PHOTOS

Conducted Emission at AC power line



Emissions in frequency bands (below 1GHz)



Emissions in frequency bands (above 1GHz)



Conducted RF test



****End of the report****