

FCC TEST REPORT

FCC ID:2AR2S-DLM5401

Applicant Name..... : MMD Hong Kong Holding Limited

Address..... : Units 1208-11, 12th Floor, C-Bons International Center, 108 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong

Manufacturer Name..... : KEYSTAR ELECTRONIC TECHNOLOGY CO.,LTD

Address..... : EM MACAU, AVENIDA DE VENCESLAU DE MORAIS N S205-207 INDUSTRIAL, CHUN FOC 4. ANDAR

Product..... : UHF Wireless Microphone

Model(s)..... : DLM5401

Additional Model(s)..... : DLM5401SP/00, DLM5401TP/00, DLM5401SP/61, DLM5401TP/61, DLM5401xx/yy(x=A-Z for different package, y=0-9 for sales region)

Trademark..... : PHILIPS

Model Difference..... : DLM5401 is the test model, while other models are derivative models. These models are the same on the circuit, with only different model names. Therefore, the test data of DLM5401 can represent the remaining models.

Prepared by..... : Guangdong Zhonghan Testing Technology Co., Ltd.

Address..... : Room 104/201, Building 1, Yibaolai Industrial Park, Qiaotou, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

Date of Receipt..... : May 18, 2026

Date of Test(s)..... : May 18, 2026 to Sep. 7, 2026

Date of Issue..... : Sep. 7, 2026

Test Requested..... : Select test(s) as requested by the client.

Test Standard(s)..... : FCC CFR47 Part 15 Section 15.236

Test procedure..... : ANSI C63.10-2020+Cor.1-2023+C63.10a-2024+ Errata to C63.10a-2024

In the configuration tested, the EUT complied with the standards specified above.

Prepared by

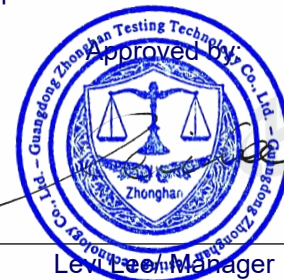
Leon Li

Leon Li/ Engineer

Reviewed by:

Baret Wu

Baret Wu/ Director



Levi Li/ Manager

Note: This device described above has been tested by ZHT, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report. This report shall not be reproduced except in full, without the written approval of ZHT, this document may be altered or revised by ZHT, personal only, and shall be noted in the revision of the document.

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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.236) , Subpart C			
Standard Section	Test Item	Judgment	Remark
FCC Part 15.203	Antenna Requirement	PASS	
FCC Part 15.207	Conducted Emission	N/A	
FCC Part 15.236(d)(1)(i)	RF Output Power	PASS	
FCC Part 15.236(g)	Radiated Spurious Emissions	PASS	
FCC Part 15.236(f)(1)(ii)	Occupied Bandwidth	PASS	
FCC Part 15.236(g)	Necessary Bandwidth	PASS	
15.236(f)(1)(iii)	Frequency Tolerance	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product Name:	UHF Wireless Microphone
Test Model No.:	DLM5401
Hardware Version:	V1.0
Software Version:	V1.0
Sample(s) Status:	Engineer sample
Operation Frequency:	552.5-566.5MHz, 572.5-586.5MHz
Channel Numbers:	Channel A:15 Channel B:15
Channel Separation:	1MHz
Modulation Type:	FM
Antenna Type:	Spring antenna
Antenna gain:	-2.2dBi for 552.5-566.5MHz -2.1dBi for 572.5-586.5MHz
Power supply:	Input: DC 3 V (DC 1.5 V AA Battery * 2)
Sample Number:	260518116YP001
Remark:The antenna gain is provided by the customer, if the data provided by the customer is not accurate, Guangdong Zhonghan Testing Technology Co., Ltd. does not assume any responsibility.	

Operation Frequency each of channel		
Channel	Channel A	Channel B
	Frequency	Frequency
0	552.5	572.5
1	553.5	573.5
2	554.5	574.5
3	555.5	575.5
4	556.5	576.5
5	557.5	577.5
6	558.5	578.5
7	559.5	579.5
8	560.5	580.5
9	561.5	581.5
10	562.5	582.5
11	563.5	583.5
12	564.5	584.5
13	565.5	585.5
14	566.5	586.5

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Test channel	Channel A	Channel B
	Frequency	Frequency
The lowest channel	552.5MHz	572.5MHz
The middle channel	559.5MHz	579.5MHz
The Highest channel	566.5MHz	586.5MHz

2.2 DESCRIPTION OF TEST MODES

Transmitting mode	Keep the EUT in continuously transmitting mode
Remark: The EUT has been tested under its typical operating condition. Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting. Only the worst case data were reported. The EUT has been associated with peripherals pursuant to ANSI C63.10-2020+Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiation (9 KHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). The details of test channels and bandwidth were for RF conductive measurement.	

2.3 TEST SETUP CONFIGURATION

Radiated Emission



EUT

RF Conducted Emission



EUT → Spectrum Analyzer

2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note

Item	Shielded Type	Ferrite Core	Length	Note

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

3. TEST FACILITY AND TEST INSTRUMENT USED

3.1 TEST FACILITY

Guangdong Zhonghan Testing Technology Co., Ltd.
Add.: Room 104/201, Building 1, Yibaolai Industrial Park, Qiaotou, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

FCC Registration Number:255941
Designation Number: CN0325
IC Registered No.: 29832
CAB identifier: CN0143

3.2 INSTRUMENT LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Equipment	Manufacturer	Model	Serial No.	Equipment No.	Last Cal.	Next Cal.
1	Receiver	R&S	ESCI	100874	ZH-E005	Apr. 24, 2026	Apr. 23, 2027
2	Loop Antenna	TESEQ	HLA6121	58357	ZH-E036	Sept. 8, 2025	Sept. 7, 2026
3	Amplifier	Schwarzbeck	BBV 9743 B	00378	ZH-E019	Apr. 24, 2026	Apr. 23, 2027
4	Amplifier	Schwarzbeck	BBV 9718 B	00040	ZH-E021	May 8, 2026	May 7, 2027
5	Bilog Antenna	Schwarzbeck	VULB9162	00498	ZH-E017	Apr. 25, 2026	Apr. 24, 2027
6	Horn Antenna	Schwarzbeck	BBHA9120D	02623	ZH-E020	Apr. 25, 2026	Apr. 24, 2027
7	Horn Antenna	A.H.SYSTEMS	SAS574	588	ZH-E062	Oct. 20, 2025	Oct. 19, 2026
8	Amplifier	AEROFLEX	100KHz-40GHz	097	ZH-E063	Oct. 20, 2025	Oct. 19, 2026
9	Spectrum Analyzer	R&S	FSV40	101413	ZH-E064	Apr. 24, 2026	Apr. 23, 2027
10	Spectrum Analyzer	KEYSIGHT	N9020A	MY53420208	ZH-E032	Apr. 24, 2026	Apr. 23, 2027
11	WIDBAND RADIO COMMUNICATION TESTER	R&S	CMW500	109863	ZH-E033	Apr. 24, 2026	Apr. 23, 2027
12	Single Generator	Agilent	N5182A	MY48180575	ZH-E034	Apr. 24, 2026	Apr. 23, 2027
13	Power Sensor	MWRFTest	MW100-RFCB	/	ZH-E066	Apr. 24, 2026	Apr. 23, 2027
14	CABLE	EMToni	DA800-NM-NM-11000MM	/	ZH-E018	Apr. 24, 2026	Apr. 23, 2027

Conduction Test equipment

Item	Equipment	Manufacturer	Model	Serial No.	Equipment No.	Last Cal.	Next Cal.
1	Receiver	R&S	ESCI	100874	ZH-E005	Apr. 24, 2026	Apr. 23, 2027
2	LISN	R&S	ENV216	102794	ZH-E006	Aug. 22, 2025 Jul. 8, 2026	Aug. 23, 2026 Jul. 7, 2027
3	ISN CAT 6	Schwarzbeck	NTFM 8158	00318	ZH-E012	Apr. 24, 2026	Apr. 23, 2027
4	ISN CAT 5	Schwarzbeck	CAT5 8158	00343	ZH-E013	Apr. 24, 2026	Apr. 23, 2027
5	Capacitive Voltage Probe	Schwarzbeck	CVP 9222C	00101	ZH-E014	May 8, 2026	May 7, 2027
6	Current Transformer Clamp	Schwarzbeck	SW 9605	SW9605 #209	ZH-E015	May 8, 2026	May 7, 2027
7	CABLE	EMToni	RG223-NM-BNCM-2000MM	/	ZH-E007	Apr. 24, 2026	Apr. 23, 2027

Conducted Test Instrument

Item	Equipment	Manufacturer	Model	Serial No.	Equipment No.	Last Cal.	Next Cal.
1	Spectrum Analyzer	R&S	FSV40	101413	ZH-E064	Apr. 24, 2026	Apr. 23, 2027
2	Spectrum Analyzer	KEYSIGHT	N9020A	MY5342020 8	ZH-E032	Apr. 24, 2026	Apr. 23, 2027
3	Power Sensor	MWRFTest	MW100-RFCB	/	ZH-E066	Apr. 24, 2026	Apr. 23, 2027

3.3 TESTING SOFTWARE

Project	Software name	Edition
RF Conducted	MTS 8310	2.0.0.0
Conducted Emission	EZ-EMC	EMC-CON 3A1.1+
Radiated Emission	EZ-EMC	FA-03A2 RE+

3.4 MEASUREMENT UNCERTAINTY

The reported 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 Test	0.92dB
2	RF conducted power	0.16dB
3	Conducted spurious emissions	0.21dB
4	All radiated emissions (9k-30MHz)	1.68dB
5	All radiated emissions (30-1GHz)	5.1dB
6	All radiated emissions (1-6GHz)	3.9dB
7	All radiated emissions (6GHz-18GHz)	4.3dB
8	All radiated emissions (18-40GHz)	4.65dB
9	Temperature	0.5°C
10	Humidity	2%
11	Occupied Bandwidth	4.96%
12	Power Spectral Density	0.71dB

Decision Rule

☒ Uncertainty is not included☐ Uncertainty is included

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10-2020+Cor.1-2023+C63.10a-2024+ Errata to C63.10a-2024
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto

4.1.1 POWER LINE CONDUCTED EMISSION LIMITS

FREQUENCY (MHz)	Limit (dBuV)		Standard
	QP	AVG	
0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

(1) *Decreases with the logarithm of the frequency.

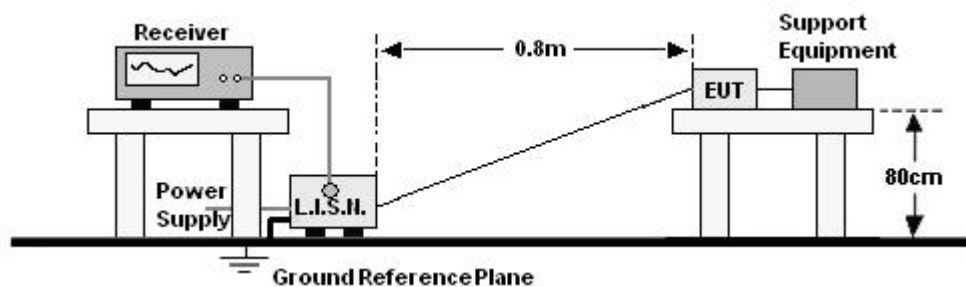
4.1.2 TEST PROCEDURE

- The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 TEST SETUP



4.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

4.1.6 TEST RESULTS

N/A

The Product is powered by the DC battery, the test item is not applicable.

4.2 RADIATED EMISSION MEASUREMENT

Test Requirement:	FCC Part 15.236(g)
Test Method:	ETSI EN 300 422-1 V2.2.1 (2021-11)
Test Frequency Range:	9kHz to 3GHz
Test site:	Measurement Distance: 3m

4.2.1 RADIATED EMISSION LIMITS

According to 15.236(g)

Spurious emissions are emissions outside the frequency range(s) of the equipment. The power of the spurious emissions shall not exceed the limits of table as below:

Frequency range	Maximum power	RBW
9 kHz - 150 kHz	-36 dBm	1 kHz
150 kHz - 30 MHz	-36 dBm	10 kHz
30 MHz - 1 GHz	-36 dBm	$F_c + 2,5 B \leq f \leq f_c + 4 B$: 1 kHz $F_c + 4 B < f \leq f_c + 10 B$: 10 kHz $f > f_c + 10 B$: 100 kHz $f < f_c - 10 B$: 100 kHz $f_c - 10 B \leq f < f_c - 4 B$: 10 kHz $f_c - 4 B \leq f \leq f_c - 2,5 B$: 1 kHz
except:		
47 MHz - 74 MHz 87,5 MHz - 118 MHz	-54 dBm	100 kHz
174 MHz - 230 MHz 470 MHz - 862 MHz	-54 dBm	$F_c + 2,5 B \leq f \leq f_c + 4 B$: 1 kHz $F_c + 4 B < f \leq f_c + 10 B$: 10 kHz $f > f_c + 10 B$: 100 kHz $f < f_c - 10 B$: 100 kHz $f_c - 10 B \leq f < f_c - 4 B$: 10 kHz $f_c - 4 B \leq f \leq f_c - 2,5 B$: 1 kHz
1 GHz < $f \leq F_{upper}$	-30 dBm	$F_c + 2,5 B \leq f \leq f_c + 10 B$: 30 kHz $F_c + 10 B < f \leq f_c + 12 B$: 300 kHz $f > f_c + 12 B$: 1 MHz $f < f_c - 12 B$: 1 MHz $f_c - 12 B \leq f < f_c - 10 B$: 300 kHz $f_c - 10 B \leq f \leq f_c - 2,5 B$: 30 kHz

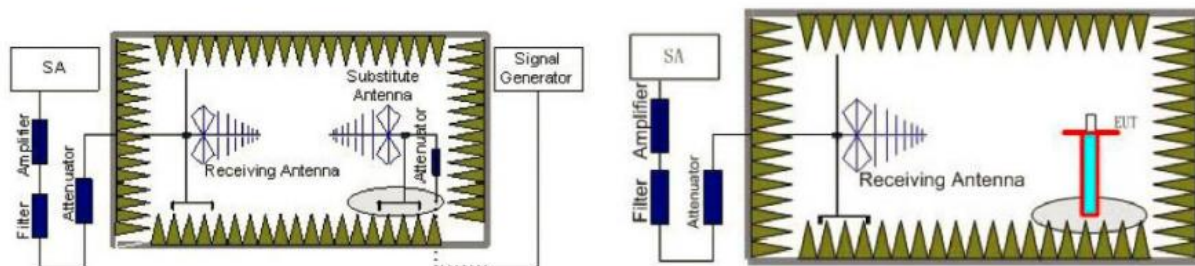
with B being the Declared Channel Bandwidth.ETSI EN 300 422-1 V2.2.1 (2021-11) Fupper is defined in table.

Applicable fundamental frequency range	Frequency range for measurements	
	Lower frequency	Upper frequency
9 kHz - 100 MHz	9 kHz	1 GHz
100 MHz - 300 MHz	9 kHz	10 th harmonic of the operating frequency
300 MHz - 600 MHz	30 MHz	3 GHz
600 MHz - 3 GHz	30 MHz	5 th harmonic of the operating frequency

4.2.2 DEVIATION FROM TEST STANDARD

No deviation

4.2.3 TEST SETUP



4.2.4 TEST PROCEDURE

1. The EUT was placed on a turntable with 1.5m height
2. The test distance between the receiving antenna and the EUT is 3 meter, while the receiving (test) antenna is kept at 1.5 meter height.
3. Set EUT in continuous transmitting with maximum output power at test frequency.
4. The table was rotated from 0 to 360 degree to search the highest radiated emission.
5. Repeat step 3 to 4 for each polarization and test channel to find the worst emission level

The obtained results will be compared with the standard limits to verify whether they meet the relevant requirements.

4.2.5 TEST RESULTS

Radiated Spurious Emission (9KHz-30MHz)

Freq. (MHz)	Ant.Pol. H/V	Emission Level (dBuV/m)	Limit 3m (dBuV/m)	Over (dB)
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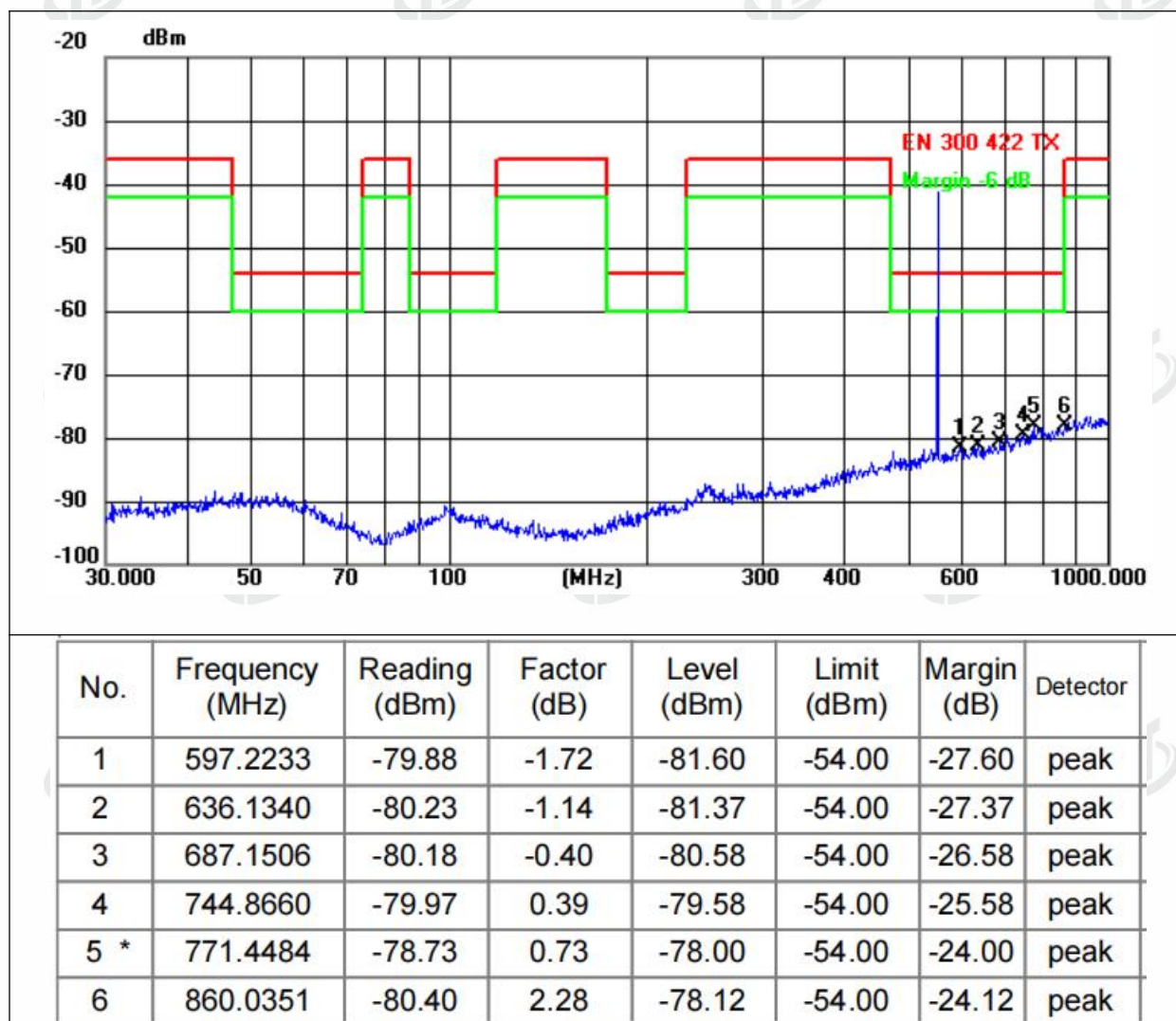
Note:

1. The amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.
2. Distance extrapolation factor = $40 \log(\text{Specific distance} / \text{test distance})$ (dB);
3. Limit line = Specific limits (dBuV) + distance extrapolation factor.



Radiated Spurious Emission (Between 30MHz – 1GHz)

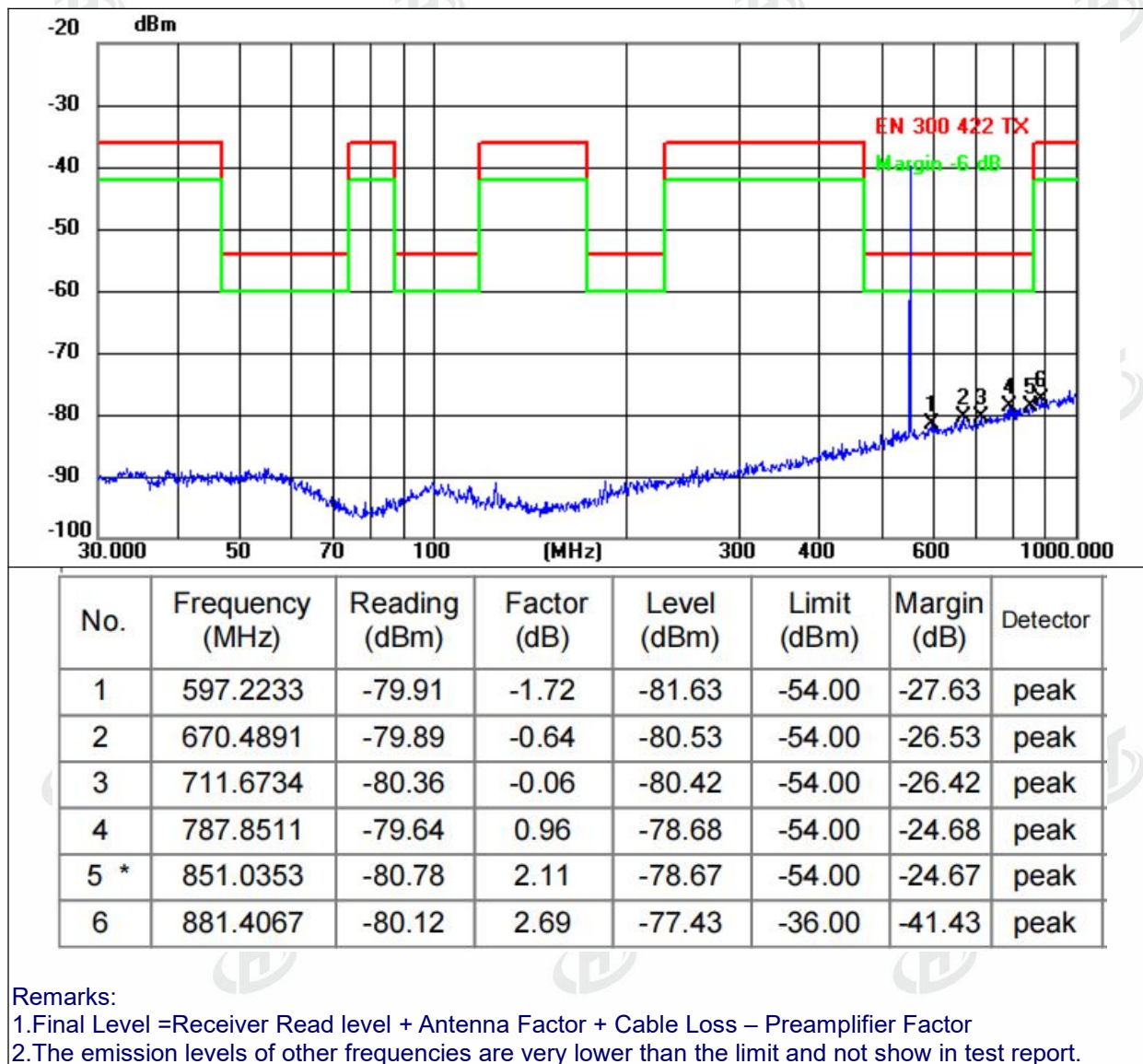
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101 kPa	Polarization :	Horizontal
Test Voltage :	DC 3V		
Test Mode :	TX Mode (Channel A-Low Channel)		



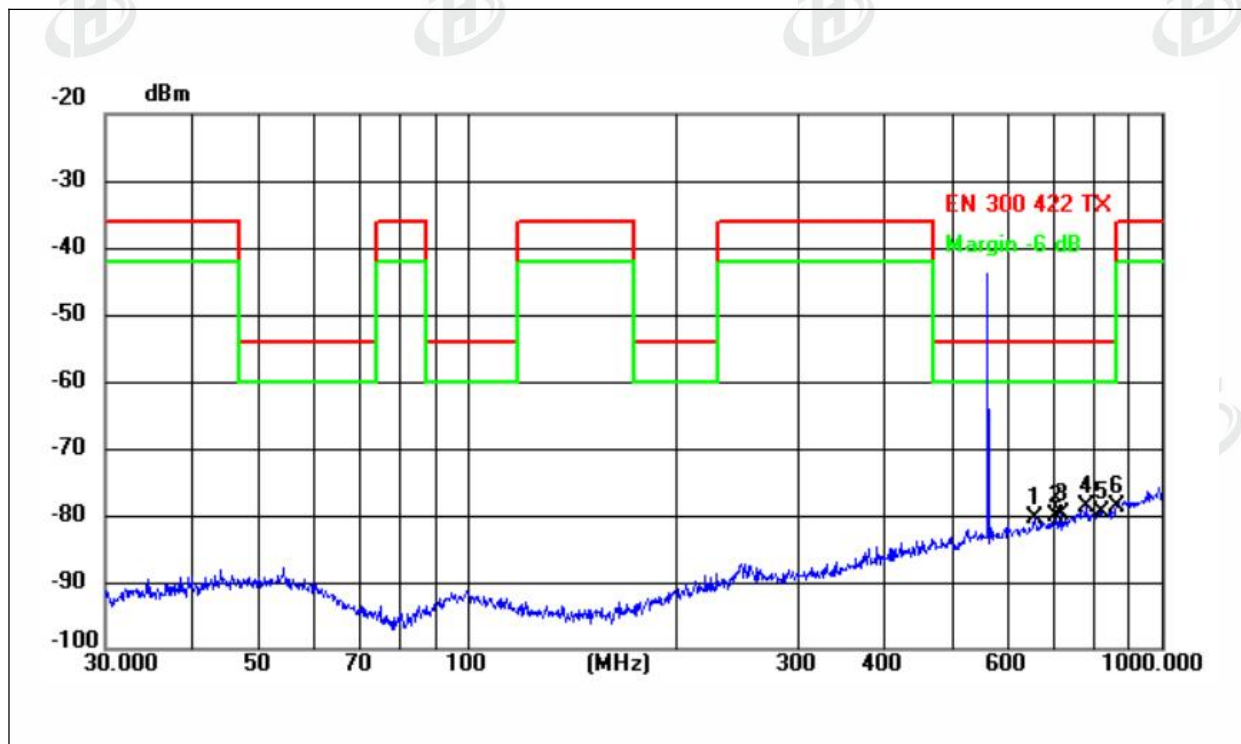
Remarks:

- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101 kPa	Polarization :	Vertical
Test Voltage :	DC 3V		
Test Mode :	TX Mode (Channel A-Low Channel)		



Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101 kPa	Polarization :	Horizontal
Test Voltage :	DC 3V		
Test Mode :	TX Mode (Channel A-middle Channel)		

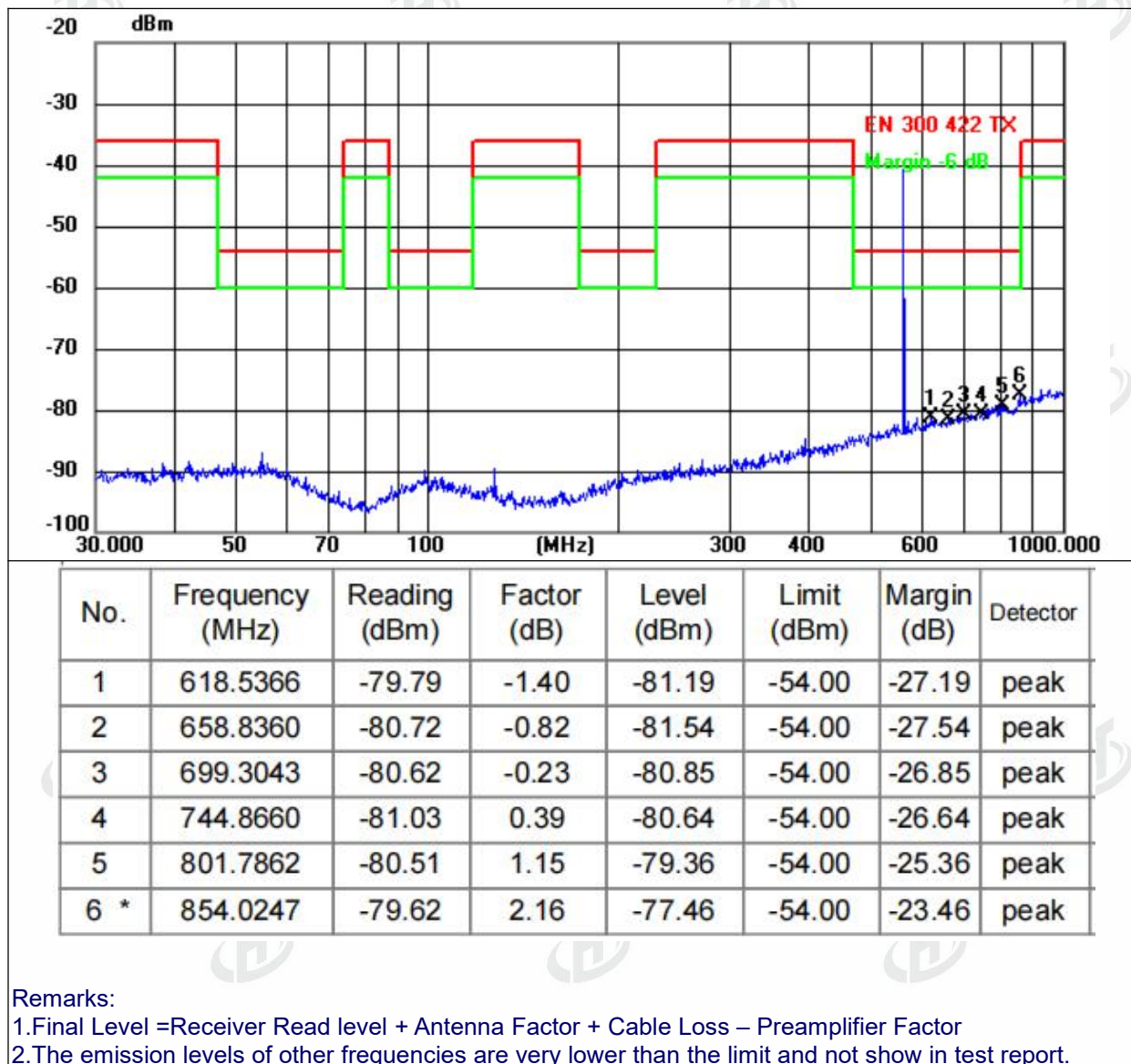


No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1	656.5300	-79.47	-0.85	-80.32	-54.00	-26.32	peak
2	704.2260	-79.99	-0.16	-80.15	-54.00	-26.15	peak
3	719.1994	-79.80	0.03	-79.77	-54.00	-25.77	peak
4 *	776.8777	-79.42	0.81	-78.61	-54.00	-24.61	peak
5	818.8340	-80.91	1.48	-79.43	-54.00	-25.43	peak
6	860.0351	-81.12	2.28	-78.84	-54.00	-24.84	peak

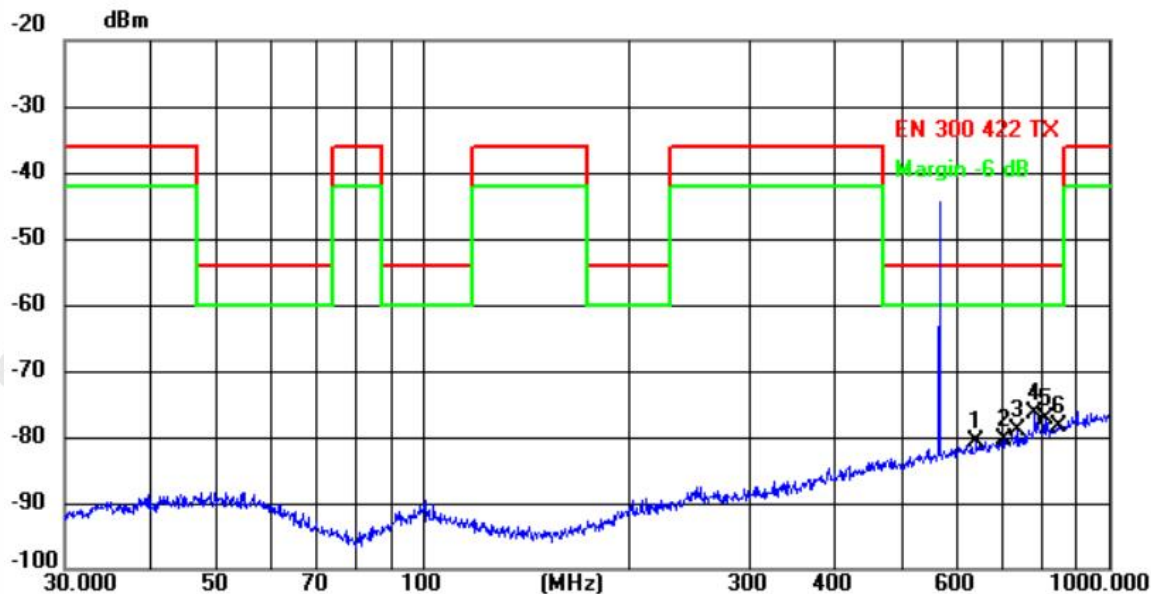
Remarks:

- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101 kPa	Polarization :	Vertical
Test Voltage :	DC 3V		
Test Mode :	TX Mode (Channel A-middle Channel)		



Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101 kPa	Polarization :	Horizontal
Test Voltage :	DC 3V		
Test Mode :	TX Mode (Channel A-Highest Channel)		

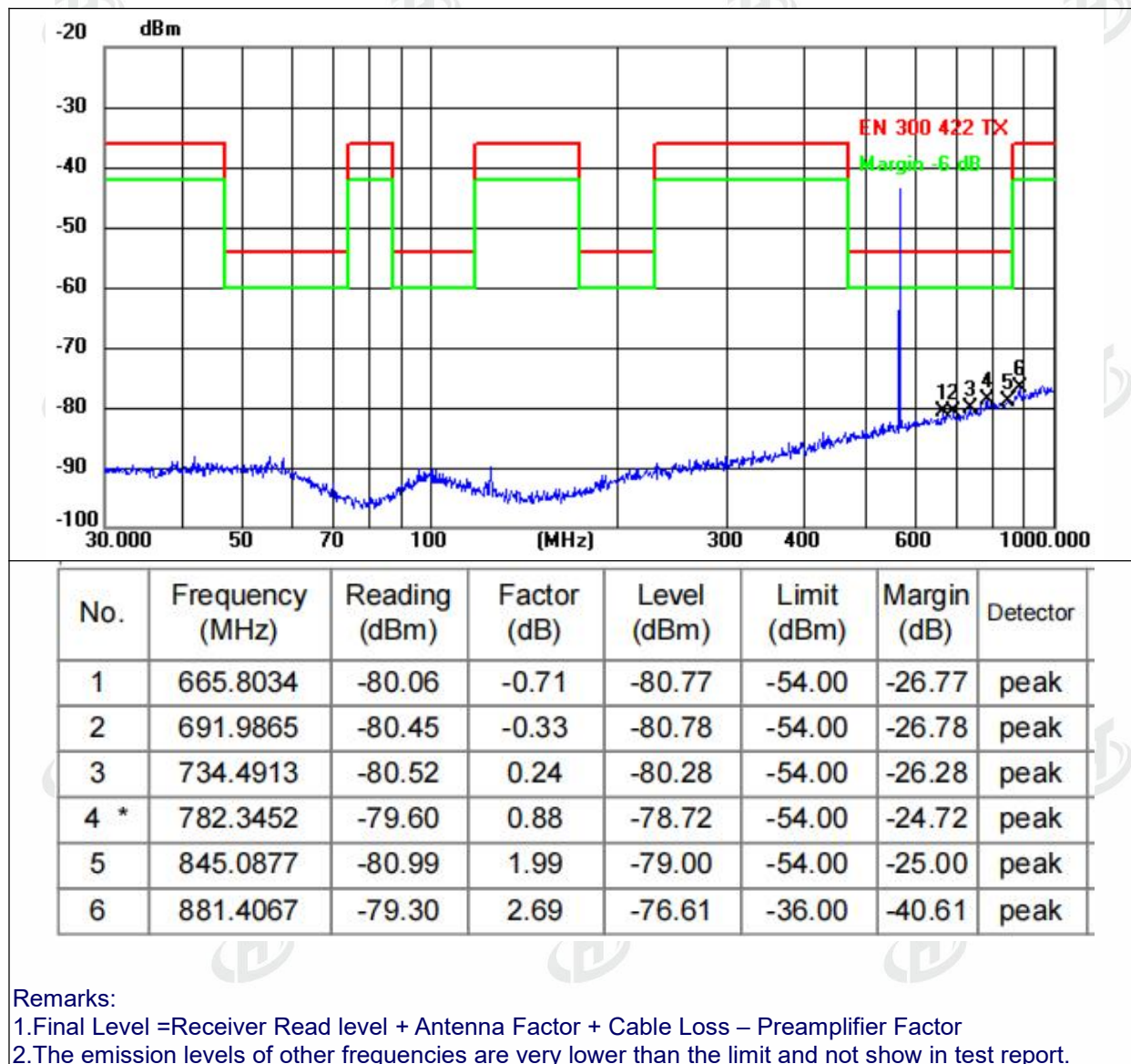


No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1	640.6110	-79.55	-1.08	-80.63	-54.00	-26.63	peak
2	704.2260	-80.20	-0.16	-80.36	-54.00	-26.36	peak
3	734.4913	-79.24	0.24	-79.00	-54.00	-25.00	peak
4 *	779.6067	-77.24	0.85	-76.39	-54.00	-22.39	peak
5	807.4290	-78.66	1.26	-77.40	-54.00	-23.40	peak
6	845.0877	-80.28	1.99	-78.29	-54.00	-24.29	peak

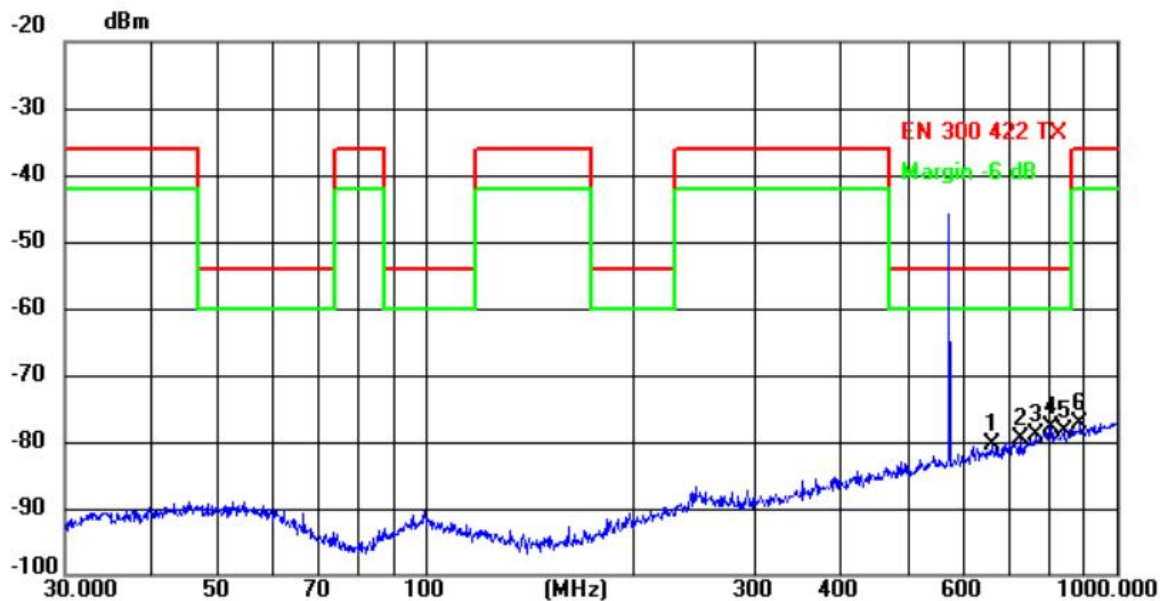
Remarks:

- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101 kPa	Polarization :	Vertical
Test Voltage :	DC 3V		
Test Mode :	TX Mode (Channel A-Highest Channel)		



Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101 kPa	Polarization :	Horizontal
Test Voltage :	DC 3V		
Test Mode :	TX Mode (Channel B-Low Channel)		



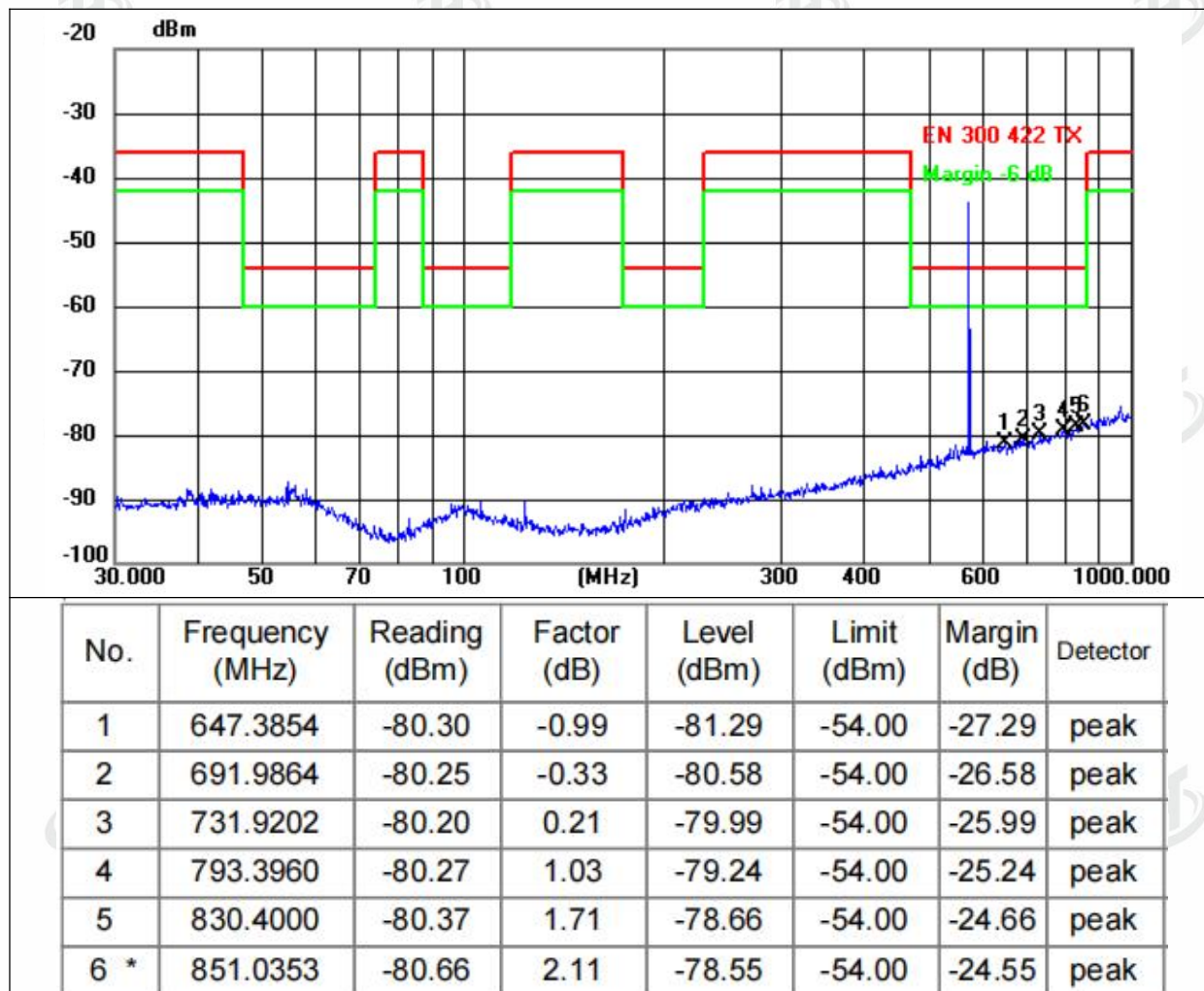
No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1	658.8360	-79.67	-0.82	-80.49	-54.00	-26.49	peak
2	724.2610	-79.74	0.10	-79.64	-54.00	-25.64	peak
3	763.3757	-79.68	0.63	-79.05	-54.00	-25.05	peak
4 *	804.6027	-79.08	1.21	-77.87	-54.00	-23.87	peak
5	839.1816	-80.24	1.88	-78.36	-54.00	-24.36	peak
6	884.5027	-80.11	2.75	-77.36	-36.00	-41.36	peak

Remarks:

- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.



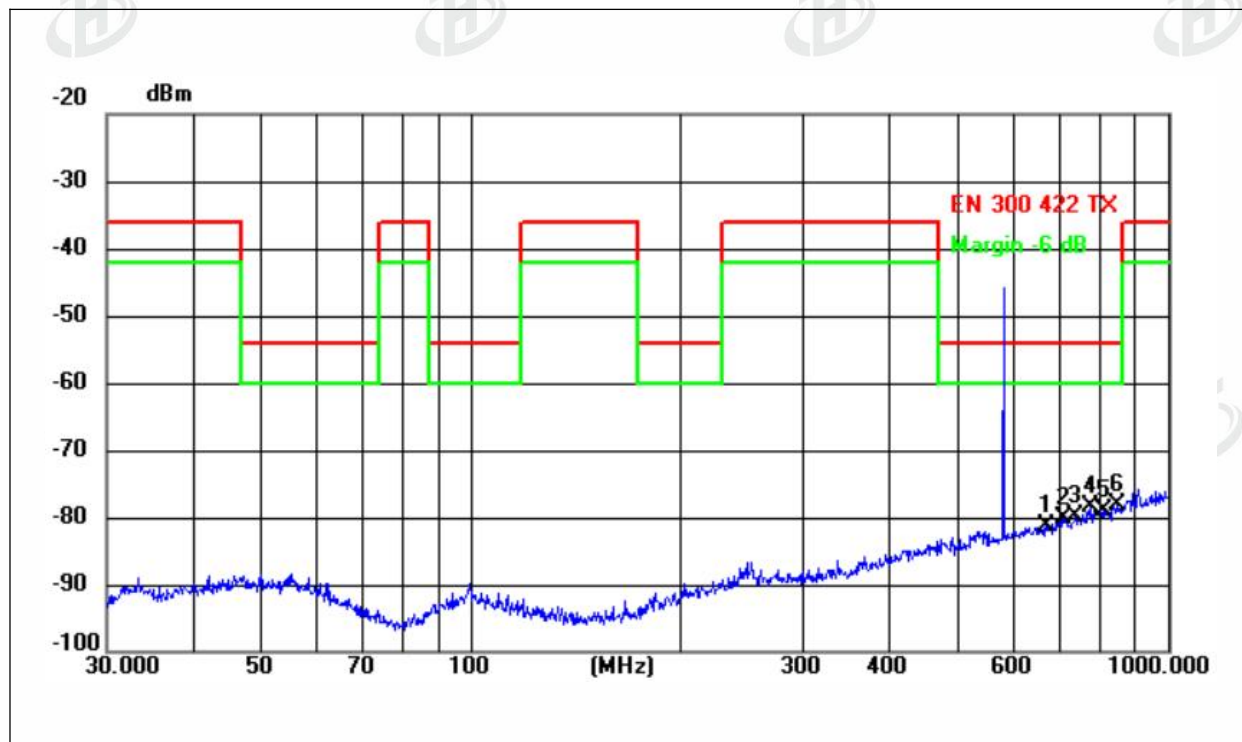
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101 kPa	Polarization :	Vertical
Test Voltage :	DC 3V		
Test Mode :	TX Mode (Channel B-Low Channel)		



Remarks:

- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101 kPa	Polarization :	Horizontal
Test Voltage :	DC 3V		
Test Mode :	TX Mode (Channel B-middle Channel)		



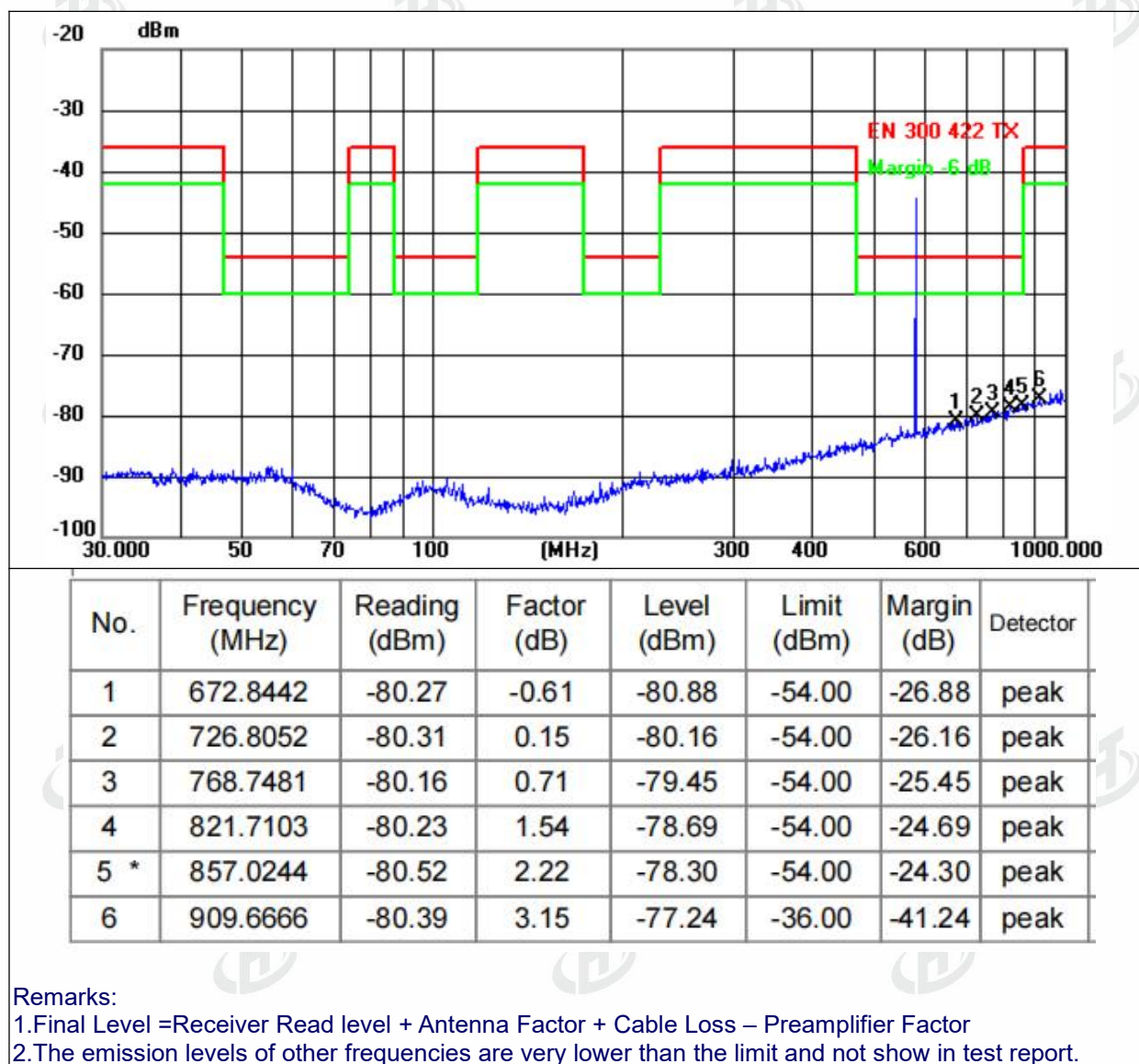
No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1	670.4891	-80.51	-0.64	-81.15	-54.00	-27.15	peak
2	709.1821	-80.13	-0.09	-80.22	-54.00	-26.22	peak
3	737.0712	-80.10	0.27	-79.83	-54.00	-25.83	peak
4	771.4484	-79.14	0.73	-78.41	-54.00	-24.41	peak
5	807.4290	-80.26	1.26	-79.00	-54.00	-25.00	peak
6 *	848.0562	-80.11	2.05	-78.06	-54.00	-24.06	peak

Remarks:

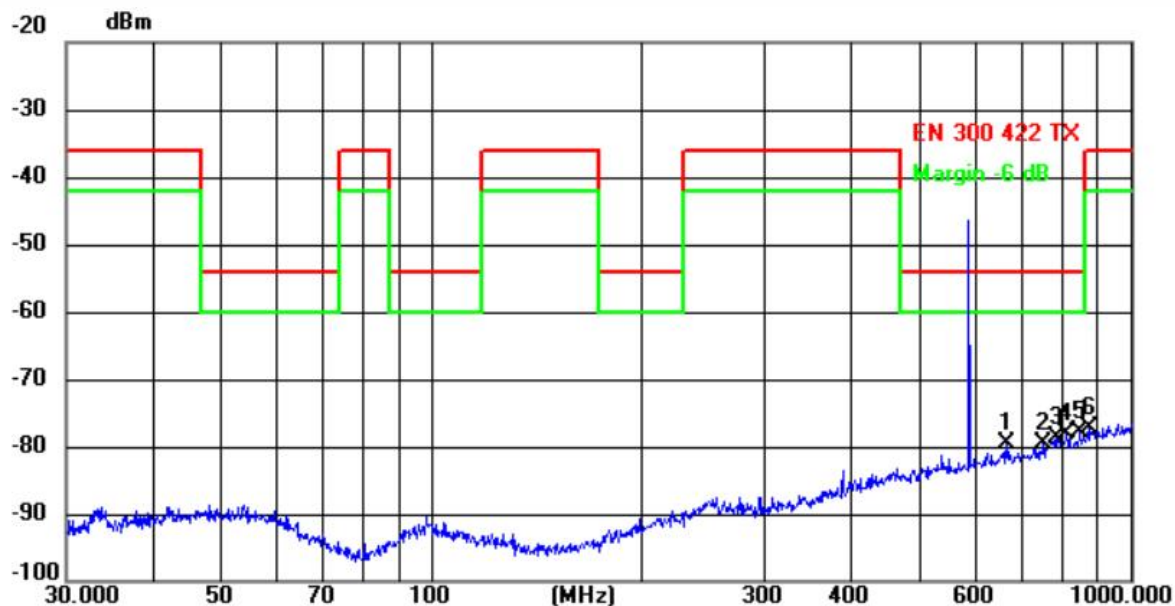
- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.



Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101 kPa	Polarization :	Vertical
Test Voltage :	DC 3V		
Test Mode :	TX Mode (Channel B-middle Channel)		



Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101 kPa	Polarization :	Horizontal
Test Voltage :	DC 3V		
Test Mode :	TX Mode (Channel B-Highest Channel)		

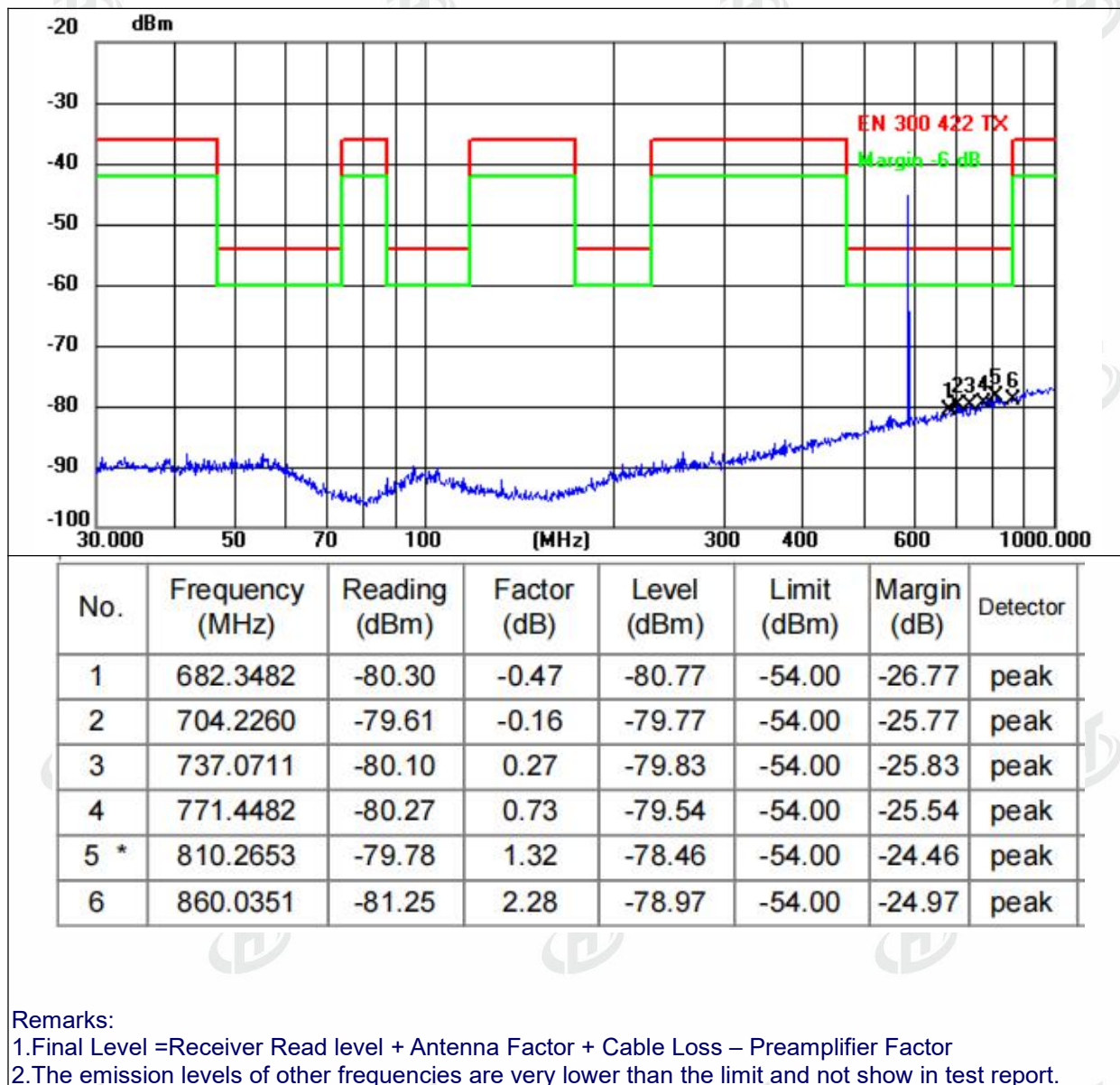


No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1	663.4728	-78.95	-0.75	-79.70	-54.00	-25.70	peak
2	750.1082	-80.03	0.46	-79.57	-54.00	-25.57	peak
3	785.0933	-79.52	0.91	-78.61	-54.00	-24.61	peak
4	810.2653	-79.32	1.32	-78.00	-54.00	-24.00	peak
5 *	848.0562	-80.02	2.05	-77.97	-54.00	-23.97	peak
6	872.1832	-79.90	2.51	-77.39	-36.00	-41.39	peak

Remarks:

- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101 kPa	Polarization :	Vertical
Test Voltage :	DC 3V		
Test Mode :	TX Mode (Channel B-Highest Channel)		



Radiated Spurious Emission (Above 1GHz)

Frequency (MHz)	Reading (dBm)	Correct (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Polar H/V
Low Channel-552.5MHz						
1105.0	-67.64	25.7	-41.94	-30	-11.94	H
1657.5	-62.17	25.2	-36.97	-30	-6.97	H
2210.0	-64.18	25.7	-38.48	-30	-8.48	V
2762.5	-60.44	25.2	-35.24	-30	-5.24	V
Middle Channel-559.5MHz						
1119.0	-68.82	25.7	-43.12	-30	-13.12	H
1678.5	-63.82	25.2	-38.62	-30	-8.62	H
2238.0	-63.24	25.7	-37.54	-30	-7.54	V
2797.5	-60.37	25.2	-35.17	-30	-5.17	V
High Channel-566.5MHz						
1133.0	-66.54	25.7	-40.84	-30	-10.84	H
1699.5	-63.83	25.2	-38.63	-30	-8.63	H
2266.0	-61.49	25.7	-35.79	-30	-5.79	V
2832.5	-61.22	25.2	-36.02	-30	-6.02	V
Low Channel-572.5MHz						
1145.0	-67.63	25.7	-41.93	-30	-11.93	H
1717.5	-62.21	25.2	-37.01	-30	-7.01	H
2290.0	-64.16	25.7	-38.46	-30	-8.46	V
2862.5	-60.36	25.2	-35.16	-30	-5.16	V
Middle Channel-579.5MHz						
1159.0	-68.77	25.7	-43.07	-30	-13.07	H
1738.5	-63.83	25.2	-38.63	-30	-8.63	H
2318.0	-63.25	25.7	-37.55	-30	-7.55	V
2897.5	-60.40	25.2	-35.2	-30	-5.20	V
High Channel-586.5MHz						
1173.0	-66.57	25.7	-40.87	-30	-10.87	H
1759.5	-63.82	25.2	-38.62	-30	-8.62	H
2346.0	-61.45	25.7	-35.75	-30	-5.75	V
2932.5	-61.22	25.2	-36.02	-30	-6.02	V

Note :

1. Result = Reading + Corrected Factor
2. The fundamental wave filtered out during the test.

5. RF OUTPUT POWER

5.1 APPLIED PROCEDURES / LIMIT

ACCORDING TO FCC 15.236(d)(1)(i): Wireless microphones: 50 mW EIRP

5.2 TEST PROCEDURE

1. The output of the EUT was connected to an RF average power meter through fixed attenuation.
2. The EUT was set to transmit on the frequencies in max power level. Measure the average power of the transmitter. This EUT's duty cycle is 100%

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.6 TEST RESULTS

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3V

Frequency (MHz)	CONDUCTED OUTPUT POWER (dBm)	ANT GAIN (dBi)	EIRP (dBm)	EIRP (mW)	Limit (mW)	Result
552.5	-12.28	-2.2	-14.48	0.04	50	PASS
559.5	-12.20	-2.2	-14.40	0.04	50	PASS
566.5	-12.67	-2.2	-14.87	0.03	50	PASS
572.5	-12.25	-2.1	-14.35	0.04	50	PASS
579.5	-12.30	-2.1	-14.40	0.04	50	PASS
586.5	-12.23	-2.1	-14.33	0.04	50	PASS

6. OCCUPIED BANDWIDTH

6.1 APPLIED PROCEDURES / LIMIT

(1) According to FCC 15.236(f)(1)(ii), One or more adjacent 25 kHz segments within the assignable frequencies may be combined to form a channel whose maximum bandwidth shall not exceed 200 kHz. The operating bandwidth shall not exceed 200 kHz.

6.2 TEST PROCEDURE

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: RBW = 1kHz, VBW = 3kHz
3. Mark the 99% BANDWIDTH

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

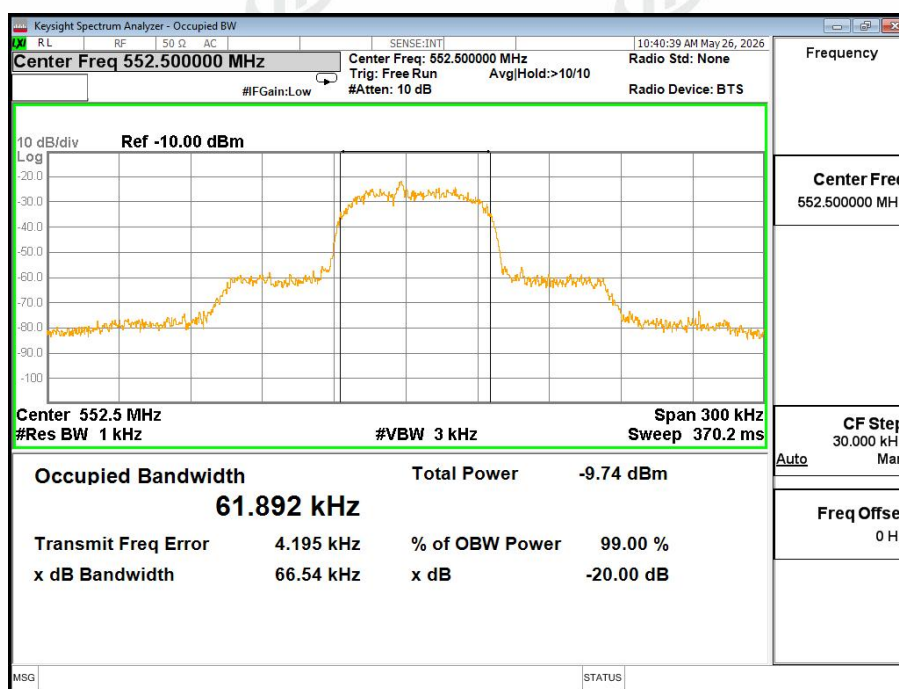
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

6.6 TEST RESULTS

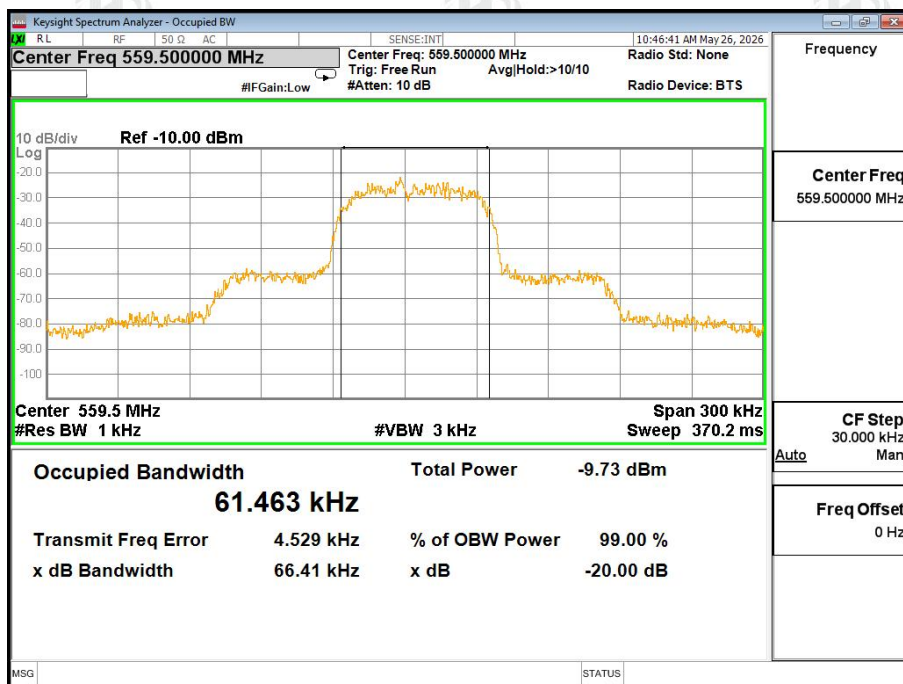
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3V

Frequency(MHz)	99% Bandwidth(KHz)	Limit(KHz)	Result
552.5	61.892	200	Pass
559.5	61.643	200	Pass
566.5	61.588	200	Pass
572.5	61.528	200	Pass
579.5	61.422	200	Pass
586.5	61.268	200	Pass

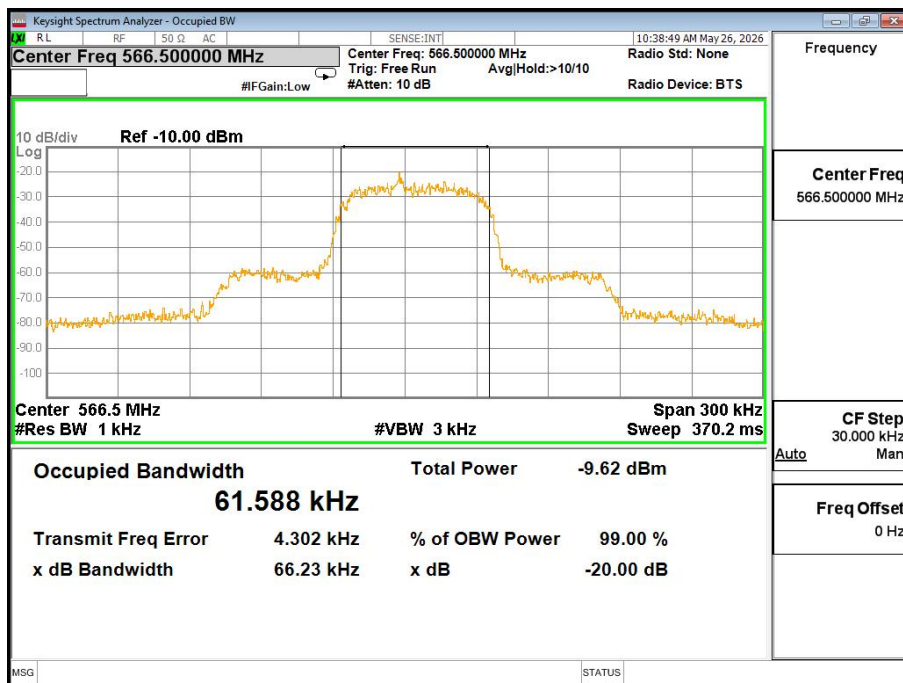
Test Channel:552.5MHz



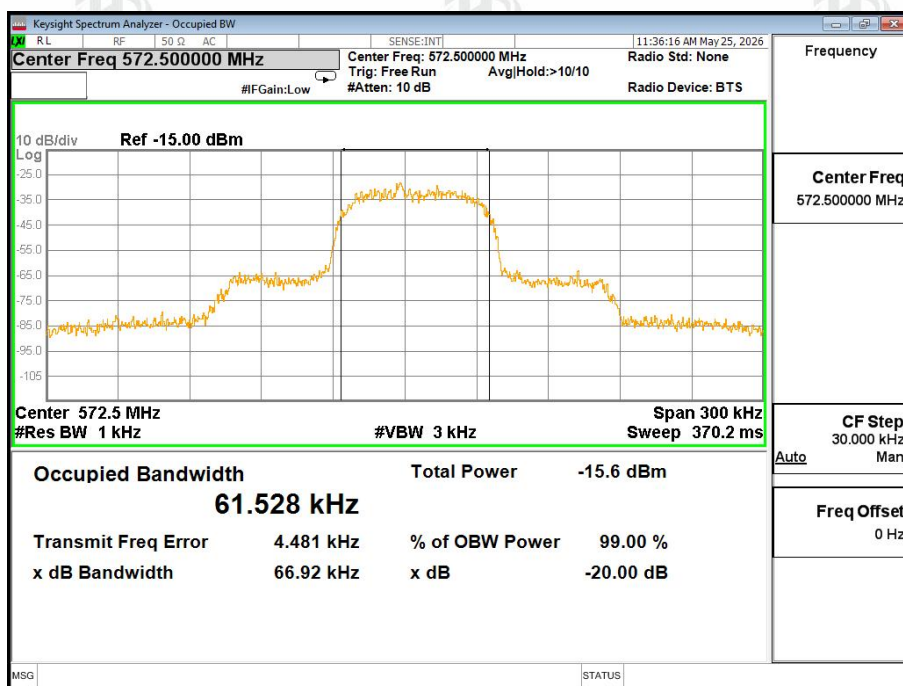
Test Channel:559.5MHz



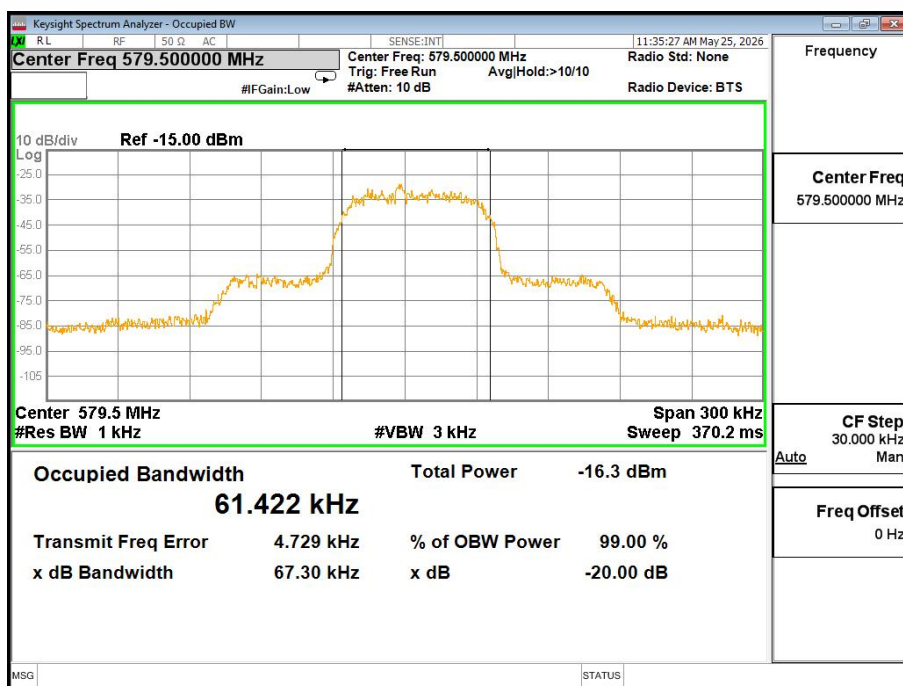
Test Channel:566.5MHz



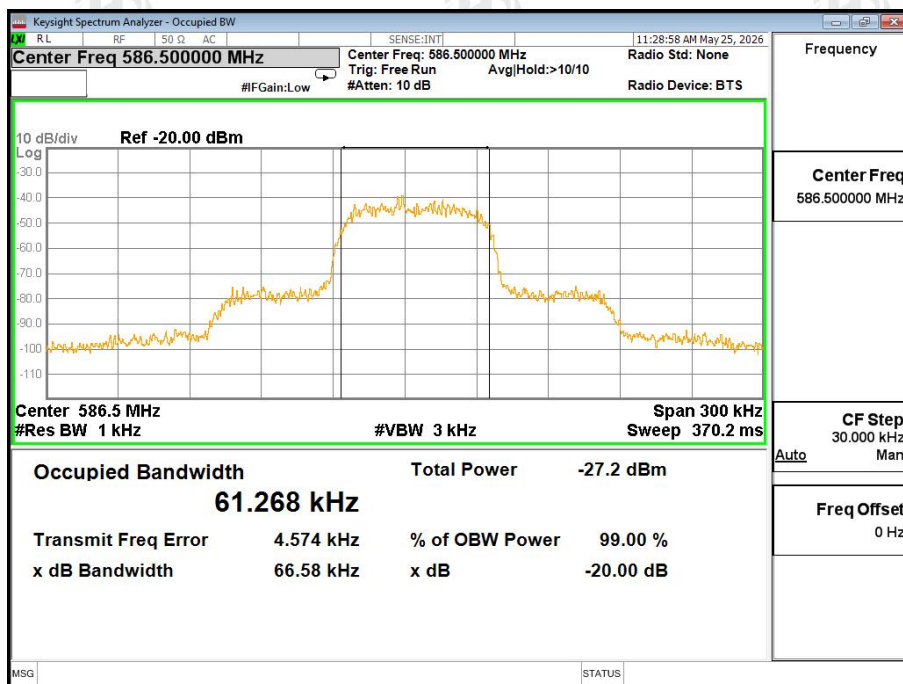
Test Channel:572.5MHz



Test Channel:579.5MHz



Test Channel:586.5MHz



7. NECESSARY BANDWIDTH

7.1 LIMIT

Emissions within the band from one megahertz below to one megahertz above the carrier frequency shall comply with the emission mask in §4.2.4.2.2 of ETSI EN 300 422-1 V2.2.1 as below:

The transmitter output spectrum shall be within the mask defined in figure below where B is the declared channel bandwidth

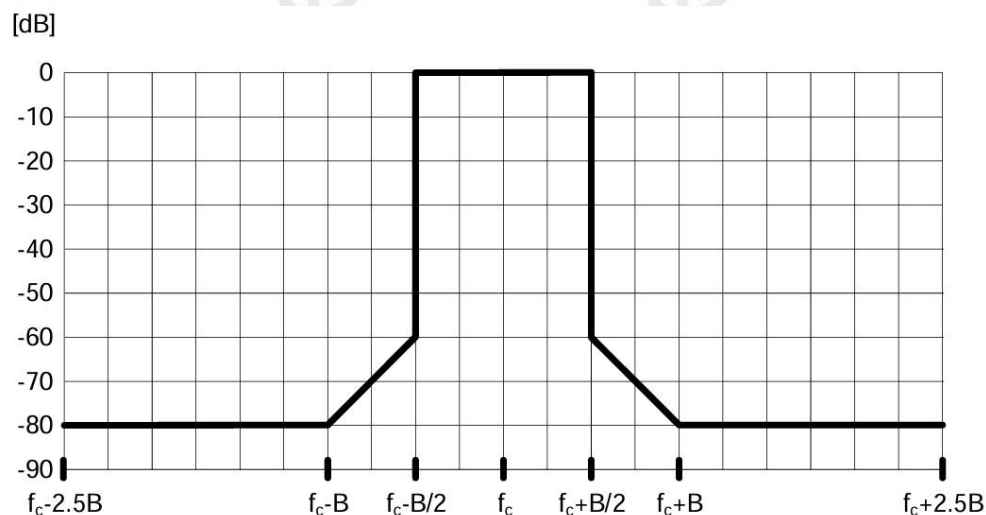


Figure 1: Transmit spectral power mask for equipment employing analogue modulation, RBW = 1 kHz

7.2 TEST SETUP



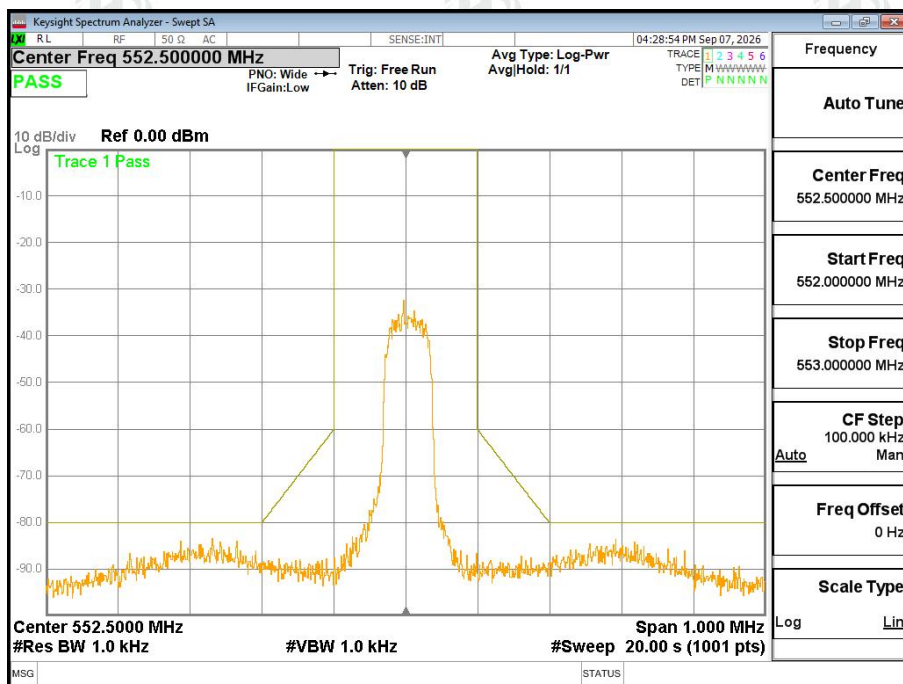
7.3 TEST PROCEDURE

ETSI EN 300 422-1 V2.2.1 (2021-11) 5.4.3.2

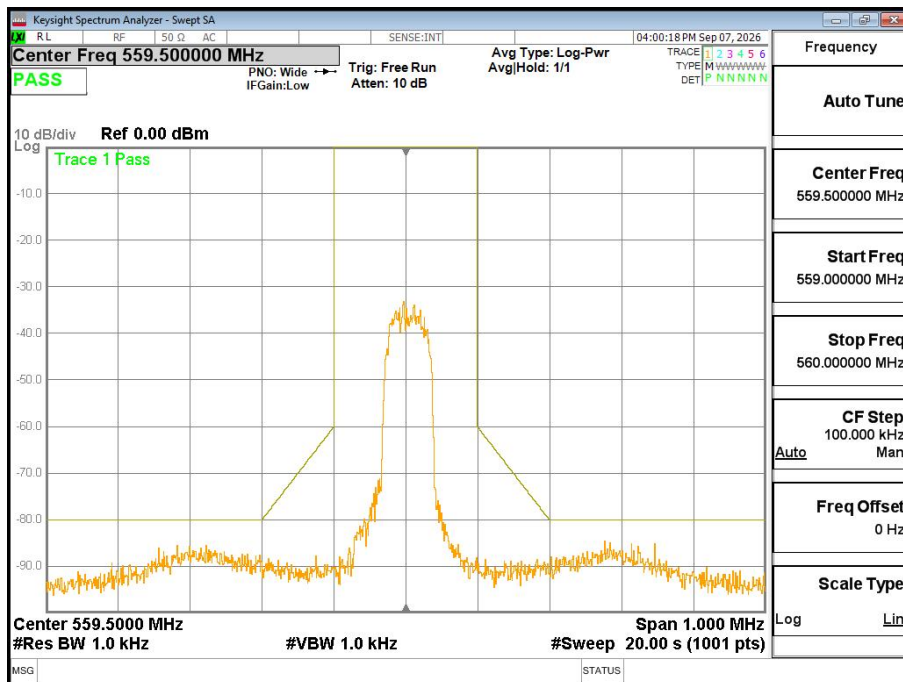
7.4 TEST RESULTS

	Bandwidth(B)	B/2	2.5*B
Manufacturer declare	200 KHz	100 KHz	500 KHz

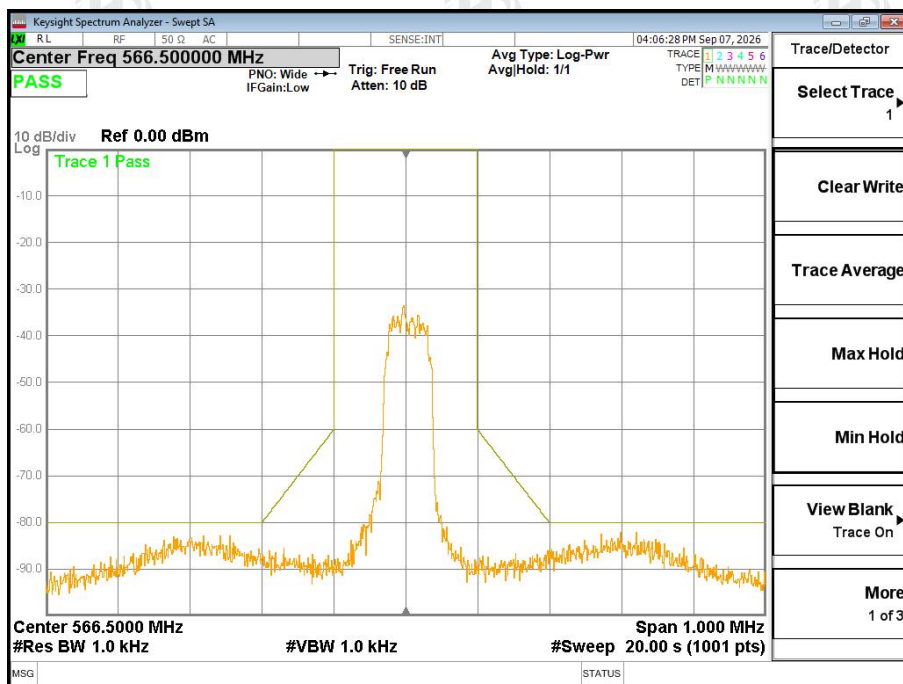
Test Channel:552.5MHz



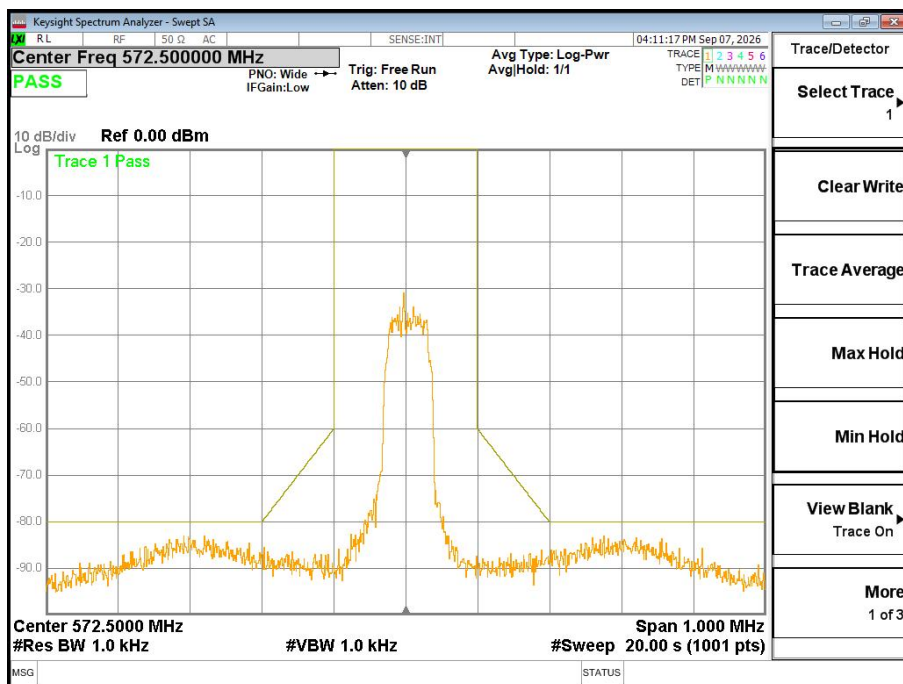
Test Channel:559.5MHz



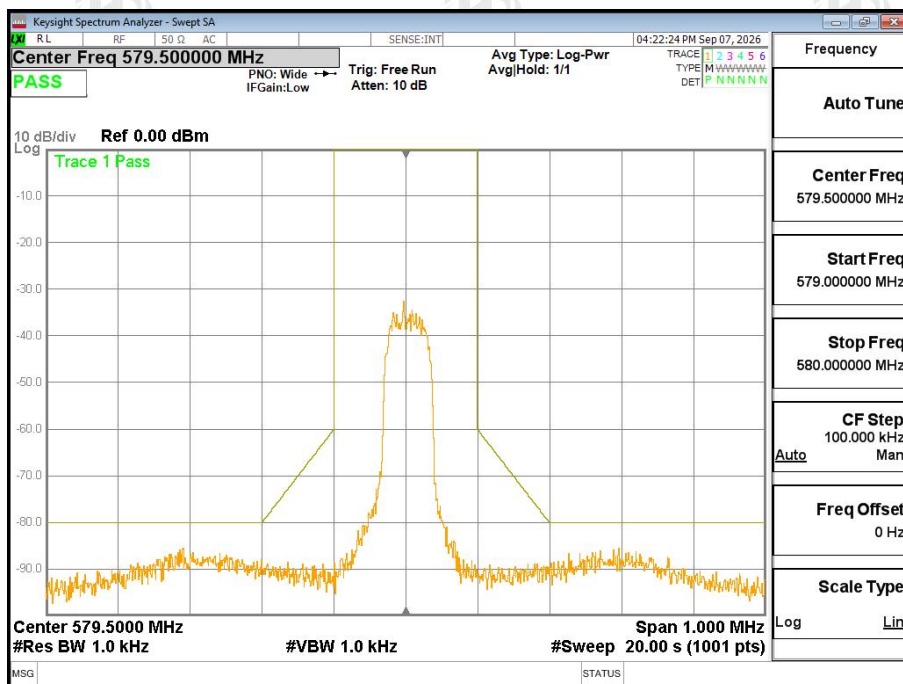
Test Channel:566.5MHz



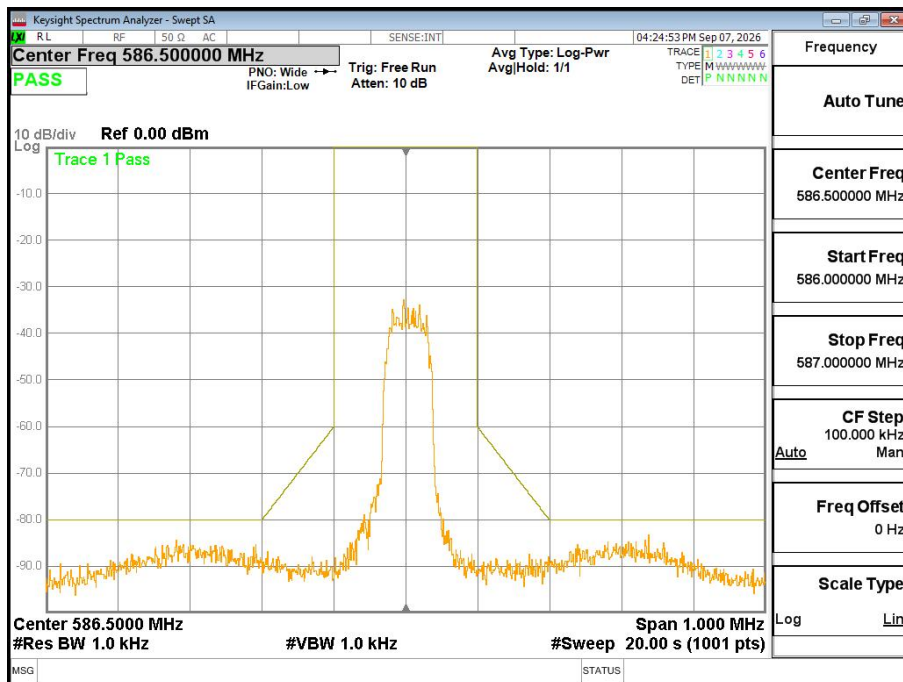
Test Channel:572.5MHz



Test Channel:579.5MHz



Test Channel:586.5MHz



8. FREQUENCY TOLERANCE

8.1 LIMIT

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.005\%$ of the operating frequency over a temperature variation of -20 degrees to $+50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. Battery operated equipment shall be tested using a new battery.

8.2 TEST SETUP



8.3 TEST PROCEDURE

1. Setup the configuration of the ambient temperature from -20°C to 50°C with sufficient time. And measure the different power of the EUT with an artificial power from highest to end point voltage.
2. Set frequency counter center frequency to the right frequency needs to be measured band.

8.4 TEST RESULT

Test frequency	Test Conditions		Nominal Frequency	Measured Frequency	Deviation	Limit	Result
(MHz)	Voltage (V)	Temperature(°C)	(MHz)	(MHz)	(ppm)	(ppm)	
552.5	N	N	552.5	552.504	7.24	±50	Pass
		L	552.5	552.498	-3.62		Pass
		H	552.5	552.503	5.43		Pass
	L	N	552.5	552.501	1.81		Pass
		L	552.5	552.498	-3.62		Pass
		H	552.5	552.504	7.24		Pass
	H	N	552.5	552.503	5.43		Pass
		L	552.5	552.502	3.62		Pass
		H	552.5	552.501	1.81		Pass

Test frequency	Test Conditions		Nominal Frequency	Measured Frequency	Deviation	Limit	Result
(MHz)	Voltage (V)	Temperature(°C)	(MHz)	(MHz)	(ppm)	(ppm)	
559.5	N	N	559.5	559.502	3.57	±50	Pass
		L	559.5	559.503	5.36		Pass
		H	559.5	559.502	3.57		Pass
	L	N	559.5	559.499	-1.79		Pass
		L	559.5	559.505	8.94		Pass
		H	559.5	559.504	7.15		Pass
	H	N	559.5	559.502	3.57		Pass
		L	559.5	559.497	-5.36		Pass
		H	559.5	559.501	1.79		Pass

Test frequency	Test Conditions		Nominal Frequency	Measured Frequency	Deviation	Limit	Result
(MHz)	Voltage (V)	Temperature(°C)	(MHz)	(MHz)	(ppm)	(ppm)	
566.5	N	N	566.5	566.503	5.30	±50	Pass
		L	566.5	566.502	3.53	±50	Pass
		H	566.5	566.497	-5.30	±50	Pass
	L	N	566.5	566.504	7.06	±50	Pass
		L	566.5	566.501	1.77	±50	Pass
		H	566.5	566.497	-5.30	±50	Pass
	H	N	566.5	566.502	3.53	±50	Pass
		L	566.5	566.504	7.06	±50	Pass
		H	566.5	566.502	3.53	±50	Pass

Test frequency	Test Conditions		Nominal Frequency	Measured Frequency	Deviation	Limit	Result
(MHz)	Voltage (V)	Temperature(°C)	(MHz)	(MHz)	(ppm)	(ppm)	
572.5	N	N	572.5	572.503	5.24	±50	Pass
		L	572.5	572.505	8.73	±50	Pass
		H	572.5	572.496	-6.99	±50	Pass
	L	N	572.5	572.505	8.73	±50	Pass
		L	572.5	572.503	5.24	±50	Pass
		H	572.5	572.501	1.75	±50	Pass
	H	N	572.5	572.501	1.75	±50	Pass
		L	572.5	572.498	-3.49	±50	Pass
		H	572.5	572.503	5.24	±50	Pass

Test frequency	Test Conditions		Nominal Frequency	Measured Frequency	Deviation	Limit	Result
(MHz)	Voltage (V)	Temperature(°C)	(MHz)	(MHz)	(ppm)	(ppm)	
579.5	N	N	579.5	579.504	6.90	±50	Pass
		L	579.5	579.496	-6.90	±50	Pass
		H	579.5	579.503	5.18	±50	Pass
	L	N	579.5	579.504	6.90	±50	Pass
		L	579.5	579.497	-5.18	±50	Pass
		H	579.5	579.501	1.73	±50	Pass
	H	N	579.5	579.504	6.90	±50	Pass
		L	579.5	579.496	-6.90	±50	Pass
		H	579.5	579.502	3.45	±50	Pass

Test frequency	Test Conditions		Nominal Frequency	Measured Frequency	Deviation	Limit	Result
(MHz)	Voltage (V)	Temperature(°C)	(MHz)	(MHz)	(ppm)	(ppm)	
586.5	N	N	586.5	586.504	6.82	±50	Pass
		L	586.5	586.503	5.12	±50	Pass
		H	586.5	586.501	1.71	±50	Pass
	L	N	586.5	586.496	-6.82	±50	Pass
		L	586.5	586.502	3.41	±50	Pass
		H	586.5	586.497	-5.12	±50	Pass
	H	N	586.5	586.505	8.53	±50	Pass
		L	586.5	586.497	-5.12	±50	Pass
		H	586.5	586.498	-3.41	±50	Pass

Note 1: LV=Low voltage=2.55V, NV=nominal voltage=3V, HV= High voltage=3.45V;

Note 2: Frequency Tolerance(ppm)=[(Measured Frequency (MHz) - Nominal Frequency (MHz))/Nominal Frequency (MHz)]*10⁶.

9. TEST SETUP PHOTO

Reference to the appendix I for details.

10. EUT CONSTRUCTIONAL DETAILS

Reference to the appendix II for details.

***** END OF REPORT *****