

No.:
REDSZ2025-0109-RF2

TEST REPORT

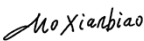
NAME OF SAMPLE : NeoEyes NE101 Sensing Camera

APPLICANT : Xiamen CamThink Technology Co., Ltd.

CLASSIFICATION OF TEST : N/A

CVC Testing Technology (Shenzhen) Co., Ltd.



Applicant		Name: Xiamen CamThink Technology Co., Ltd. Address: Building C09, Software Park Phase III, Xiamen 361024, Fujian, China	
Manufacturer		Name: Xiamen CamThink Technology Co., Ltd. Address: Building C09, Software Park Phase III, Xiamen 361024, Fujian, China	
Equipment Under Test		Product Name: NeoEyes NE101 Sensing Camera Model Name: NE101-HL00 Additional Model Name: NT101-HL00 Brand Name: CamThink Serial NO.: N/A Sample NO.: 202507115892-7	
Date of Receipt.	Jul. 14, 2025	Date of Testing	Jul. 14, 2025 ~ Aug. 06, 2025
Test Specification		Test Result	
EN 304 220-1 V1.2.1(2024-08) EN 304 220-2 V1.2.1(2024-08)		PASS	
Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied. Seal of CVC Issue Date: Aug.06,2025		
Compiled by:  Zhu Yulin Name Signature	Reviewed by:  Mo Xianbiao Name Signature	Approved by:  Dong Sanbi Name Signature	
Other Aspects: NONE.			
Abbreviations:OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested			

This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
REDSZ2025-0109-RF2	Original release	Aug. 06, 2025



1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

ETSI EN 304 220-1, ETSI EN 304 220-2			
CLAUSE	TEST PARAMETER	RESULT	REMARK
4.3.1	Frequency Error	PASS	Note 5
4.3.2	Effective Radiated Power	PASS	
4.3.3	Occupied Bandwidth	PASS	
4.3.4	Transmitter Spectrum Emission Mask	PASS	
4.3.5	Transmitter Unwanted Emissions in the Spurious Domain	PASS	
4.3.6	Duty Cycle	PASS	
4.3.7	Transient Power	PASS	
4.4.1	Receiver Sensitivity	PASS	
4.4.2	Adjacent Channel Sensitivity	PASS	
4.4.3	Receiver Spurious Response Rejection	PASS	
4.4.4	Blocking	PASS	
4.4.5	Receiver Spurious Emission	PASS	
4.4.6	Receiver Maximum Input Signal Level	PASS	
4.5.1	Clear Channel Assessment Threshold	PASS	
4.5.2	Listen before Talk	PASS	
4.6.1	Master Network Access Point	N/A	Note 2 & Note 3
4.6.2	Operation under Master Network Access Point (NAP) control	N/A	Note 1 & Note 2
4.6.3	Network Access Point (NAP)	N/A	Note 3
Note 1: This item is only applicable to terminal node. Note 2: "N/A" means not applicable, and the details refer to relevant sections. Note 3: This item is only applicable to network access point. Note 4: This device belongs to type 1 equipment. Note 5: The device is built with Wi-Fi HaLow Module (Model No.: FGH100M) and the module has been certified. Only radiated spurious emission measurement was test in the report, other test items and test data will refer to the module's report.(Report No.: 2306RSU004-E2)			



1.1 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial Number	Cal. interval	Cal. Due
Antenna Port Conducted Test (BT/WiFi)					
Spectrum Analyzer	R&S	FSV 30	CS030002	1 year	2026/04/22
Analog signal Generator	R&S	SMB 100A	CS0300015	1 year	2026/04/22
Vector signal Generator	R&S	SGT 100A	CS0300017	1 year	2026/04/22
RF control unit(BT/WIFI)	Tonscend	JS0806-2-8CH	CS0300023	1 year	2026/04/22
RF control unit(DTV)	Tonscend	JS0806-1	CS0300024	1 year	2026/04/22
DC power supply	R&S	HMC8041-G	CS0300026	1 year	2026/04/22
#3Shielding room	MORI	443	CS0300009	3 year	2026/05/16
Digital multimeter	FLUKE	18B+	CS0200056	1 year	2026/05/21
Attenuator	GWAVE	2.92-CA110-E	CS0300145	1 year	2026/06/05
Power Sensor	R&S	NRP18S-10	101843	1 year	2025/09/19
Power splitter	Anritsu	K240CPOWERDIVIDER	012334	1 year	2026/06/05
Temperature and humidity meter	UNI-T	A10T	C193561457	1 year	2026/04/28
RSE Test - 3M Chamber					
Spectrum Analyzer	R&S	FSV 40	CS0300001	1 year	2026/04/22
Spectrum Analyzer	R&S	FSVA 3044	CS0300004	1 year	2026/05/21
EMI Test Receiver	R&S	ESR3	CS0300005	1 year	2026/05/21
Horn antenna(1GHz-18GHz)	ETS-Lindgren	3117	CS0300007	1 year	2026/03/28
Horn antenna(18GHz-40GHz)	STEATITE	QMS-00880	CS0300008	1 year	2026/03/21
Automatic control unit(RSE)	R&S	OSP220	CS0300019	1 year	2025/07/02
Filter group(RSE-BT/WiFi)	R&S	WiFi/BT Variant 1	CS0300020	1 year	2026/04/22
Filter group(RSE-Cellular)	R&S	Cellular Variant 1	CS0300021	1 year	2026/04/22
Preamplifier(1GHz-18GHz)	R&S	SCU18F	CS0300031-1	1 year	2026/04/22
Preamplifier(1GHz-18GHz)	R&S	SCU-18F	CS0300031	1 year	2026/04/22
Comprehensive Test Instrument	R&S	CMW 500	CS0300033	1 year	2026/05/22
Antenna(30MHz~1001MHz)	SCHWARZBECK	VULB9168	CS0200006	1 year	2026/01/22
Preamplifier(1GHz-18GHz)	R&S	SCU-01F	CS0200042	1 year	2026/04/22
Preamplifier(18GHz-40GHz)	R&S	SCU40A	CS0200045	1 year	2026/04/22
Attenuator	boyang	BY--N-2W-5dB	/	1 year	2026/01/22
Temperature and humidity meter	yuhuaze	/	WK0001	1 year	2026/04/28
#2 control room	MORI	433	CS0300028	3 year	2026/05/16
3m anechoic chamber	MORI	966	CS0300011	3 year	2026/05/16

1.2 TEST LOCATION

The tests and measurements refer to this report were performed by EMC testing Lab of CVC Testing Technology (Shenzhen) Co., Ltd.

Address: No. 1301-14, Guanguang Road, Xinlan Community, Guanlan Subdistrict, Longhua District, Shenzhen, Guangdong, China

Post Code: 518110 Tel: 0755-23763060-8805

Fax: 0755-23763060 E-mail: sz-kf@cvc.org.cn

FCC(Test firm designation number: CN1363)

IC(Test firm CAB identifier number: CN0137)

CNAS(Test firm designation number: L16091)



1.3 MEASUREMENT UNCERTAINTY

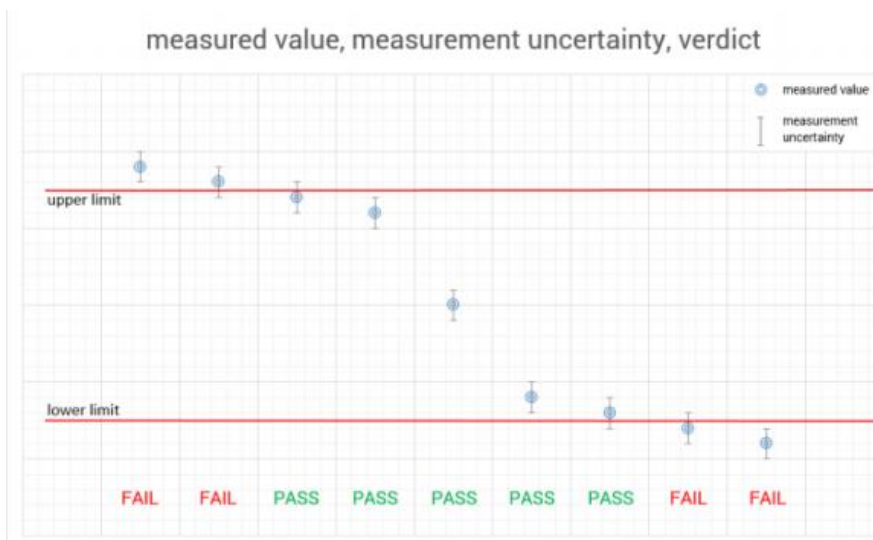
Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT:

No.	Item	Measurement Uncertainty
1	Occupied Channel Bandwidth	$\pm 1.86\%$
2	RF output power, conducted	$\pm 0.9\text{ dB}$
3	Power Spectral Density, conducted	$\pm 0.8\text{ dB}$
4	Unwanted Emissions, conducted	$\pm 2.7\text{ dB}$
5	Radiated emissions(25MHz-1GHz)	$\pm 5.0\text{ dB}$
	Radiated emissions(1GHz-18GHz)	$\pm 4.8\text{ dB}$
6	Temperature	$\pm 0.73\text{ }^{\circ}\text{C}$
7	Humidity	$\pm 3.90\%$
8	Supply voltages	$\pm 0.37\%$
9	Time	$\pm 0.27\%$

Remark: 95% Confidence Levels, k=2.

Only the measured values related to their corresponding limits will be used to decide whether the equipment under test meets the requirements of the test standards listed.

The measurement uncertainty is mentioned in this test report, but is not taken into account - neither to the limits nor to the measurement results. Measurement results with a smaller margin to the corresponding limits than the measurement uncertainty have a potential risk of more than 5% that the decision might be wrong.





2 GENERAL INFORMATION

2.1 GENERAL PRODUCT INFORMATION

PRODUCT NAME	NeoEyes NE101 Sensing Camera
BRAND NAME	CamThink
MODEL NAME	NE101-HL00
ADDITIONAL MODEL NAME (Remark 6)	NT101-HL00
POWER SUPPLY	DC 6V(4*1.5V AAA battery)
MODULATION TYPE	64QAM, 16QAM, QPSK, BPSK for OFDM
OPERATING FREQUENCY	863MHz ~ 868MHz
NUMBER OF CHANNEL	6
OPERATING TEMPERATURE RANGE	-25 ~ 50℃
ERP (Remark 5)	3.25 dBm (Max.)
ANTENNA TYPE (Remark 4)	PCB Antenna, -6.42dBi Gain
I/O PORTS	Refer to User's Manual
CABLE SUPPLIED	N/A
Remark: - For more detailed features description, please refer to the manufacturer's specifications or the User's Manual. - For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report. - EUT photo refer to the report (Report NO.: REDSZ2025-0109-EUT) - Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, CVC is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion. $ERP\ (dBm) = RF\ Output\ Power\ (dBm) + Antenna\ Gain\ (dBi) - 2.15$ (The maximum RF Output Power as reported by the module is 11.82dBm). - This sample only differs in model name.	

2.2 DESCRIPTION OF ACCESSORIES

N/A



2.3 CHANNEL FREQUENCY

Channel	Frequency (MHz)
1	863.5
3	864.5
5	865.5
7	866.5
9	867.5
11	868.5

2.4 TEST ENVIRONMENT

Test Setting Condition		
$V_{nom}(V)$	Normal Voltage	DC 6.0V
$V_{min}(V)$	Low Voltage	DC 5.4V
$V_{max}(V)$	High Voltage	DC 6.6V
$T_{nom}(^{\circ}C)$	Normal Temperature	25 $^{\circ}C$
$T_{min}(^{\circ}C)$	Low Temperature	-25 $^{\circ}C$
$T_{max}(^{\circ}C)$	High Temperature	+60 $^{\circ}C$



2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product, according to the specifications of the manufacturers. It must comply with the requirements of the following standards:

EN 304 220-1 V1.2.1(2024-08)

EN 304 220-2 V1.2.1(2024-08)

All test items have been performed and recorded as per the above standards

2.6 DESCRIPTION OF SUPPORT UNITS

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

Training and tests:

Support Equipment							
NO	Description	Brand	Model No.	Serial Number	Supplied by		
1	N/A	N/A	N/A	N/A	N/A		
Support Cable							
NO	Description	Quantity (Number)	Length (cm)	Detachable (Yes/ No)	Shielded (Yes/ No)	Cores (Number)	Supplied by
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A



3 TEST TYPES AND RESULTS

3.1 Frequency Error

3.1.1 Limit

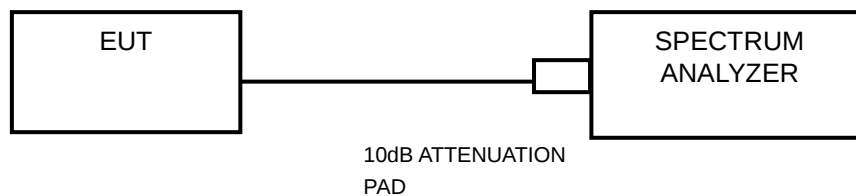
The centre frequency error shall not exceed the frequency tolerance given in Table

Network Access Point	
Equipment Types	Frequency Tolerance (ppm)
Type 1	± 20
Type 2	± 20
Type 3	± 20
Network Access Point	
Type 1	± 20
Type 2	± 20

3.1.2 Test Procedure

Refer to EN 304 220-1 & EN 304 220-2 V1.1.0 Clause 5.3.1.5.

3.1.3 Test setup





3.2 Effective Radiated Power

3.2.1 Limit

The effective radiated power shall not exceed the maximum radiated power limit of 25 mW.

3.2.2 Test procedure

Refer to EN 304 220-1 & EN 304 220-2 Clause 5.3.2.1.

3.2.3 Test setup





3.3 Occupied Bandwidth

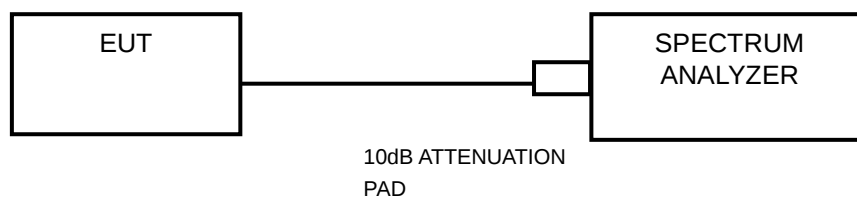
3.3.1 Limits

The occupied bandwidth shall be greater than or equal to 600 kHz and not exceed 1 MHz.
The lower and upper edges of the occupied bandwidth do not overlap with another channel.
The centre frequency shall be no closer than 500 kHz from the permitted frequency band edge.

3.3.2 Test procedure

Refer to EN 304 220-1 & EN 304 220-2 Clause 5.3.3.3

3.3.3 Test setup



3.4 Transmitter Spectrum Emission Mask

3.4.1 Limits

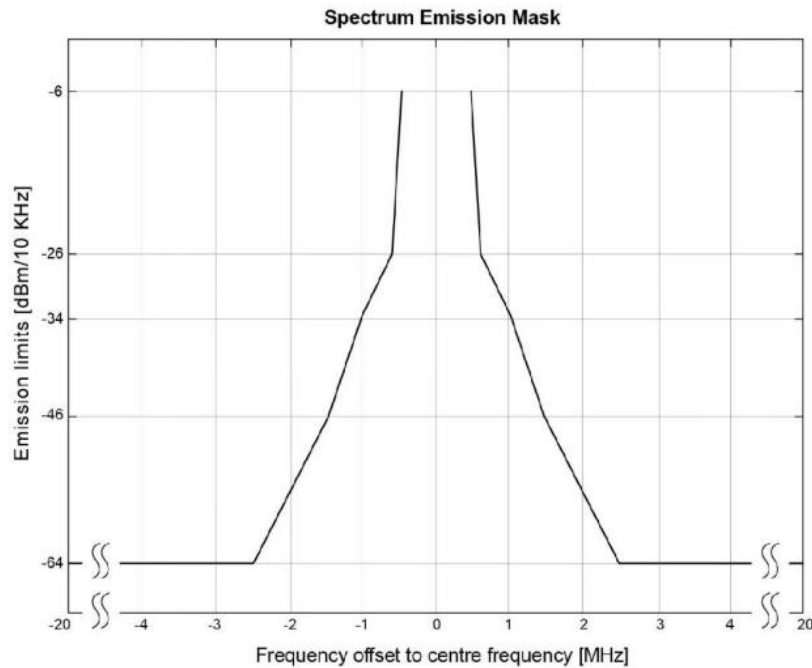


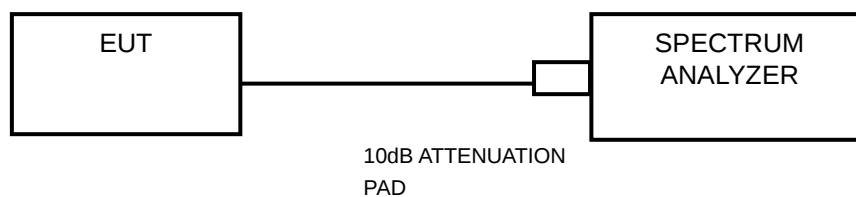
Figure 4.3.4.3-1: Transmitter spectrum emission mask

Frequency offset to centre frequency	± 0.45 MHz offset	± 0.6 MHz offset	± 1.0 MHz offset	± 1.5 MHz offset	± 2.5 to ± 20 MHz offset
Emission limit (dBm)	-6	-26	-34	-46	-64
Reference Bandwidth	10kHz	10kHz	10kHz	10kHz	10kHz

3.4.2 Test procedure

Refer to EN 304 220-1 & EN 304 220-2 Clause 5.3.4.3.

3.4.3 Test setup





3.5 Transmitter Unwanted Emissions in the Spurious Domain

3.5.1 Limits

Transmitter Unwanted Emission Limits in the Spurious Domain		
Frequency Range	Maximum power	Bandwidth
30 MHz to 87.5 MHz	-36dBm	100 kHz
87.5 MHz to 118 MHz	-54dBm	100 kHz
118 MHz to 174 MHz	-36dBm	100 kHz
174 MHz to 230 MHz	-54dBm	100 kHz
230 MHz to 470 MHz	-36dBm	100 kHz
470 MHz to 694 MHz	-54dBm	100 kHz
694 MHz to 1 GHz	-36dBm	100 kHz
1 GHz to 6 GHz	-30dBm	1 MHz

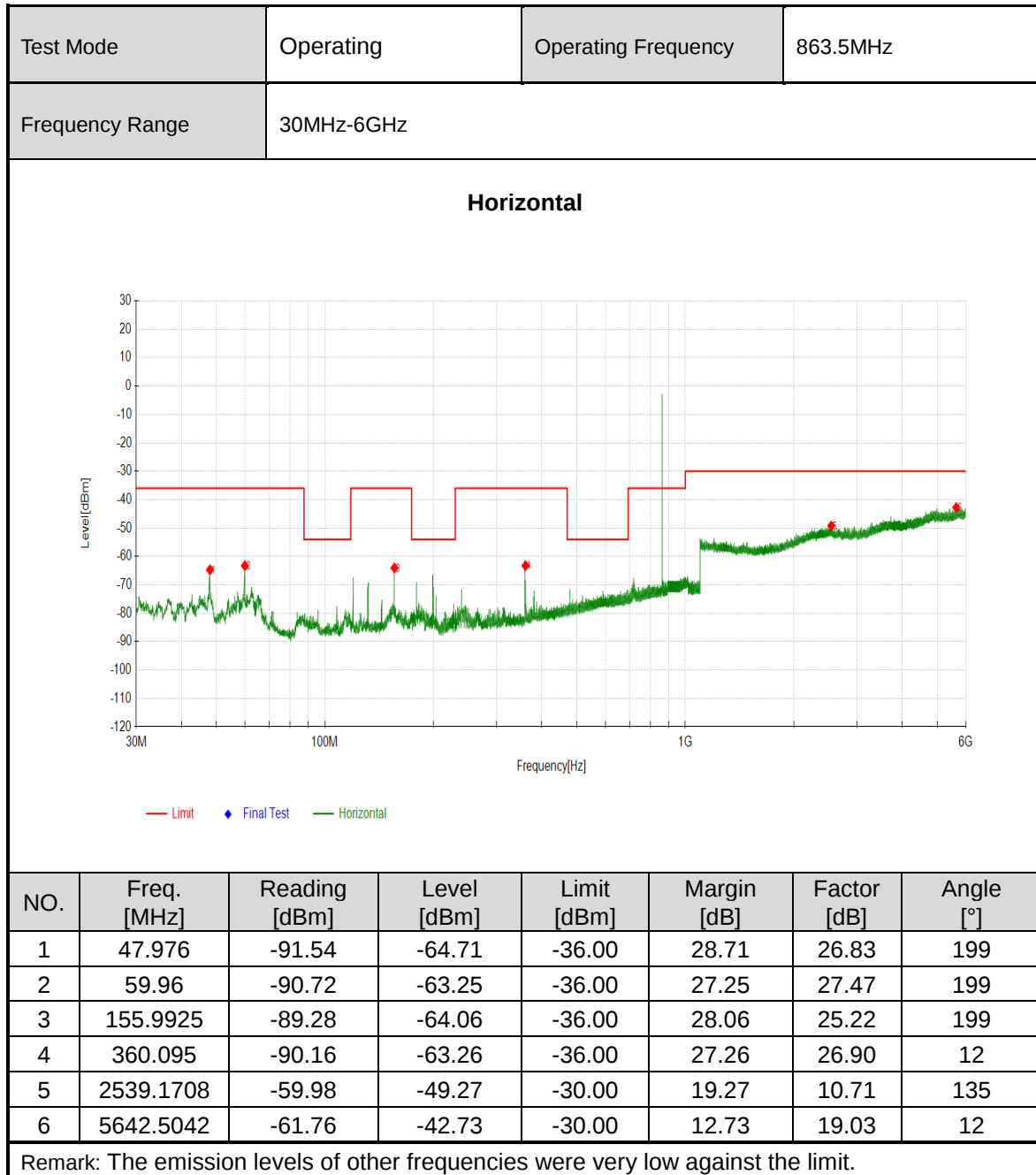
3.5.2 Test procedure

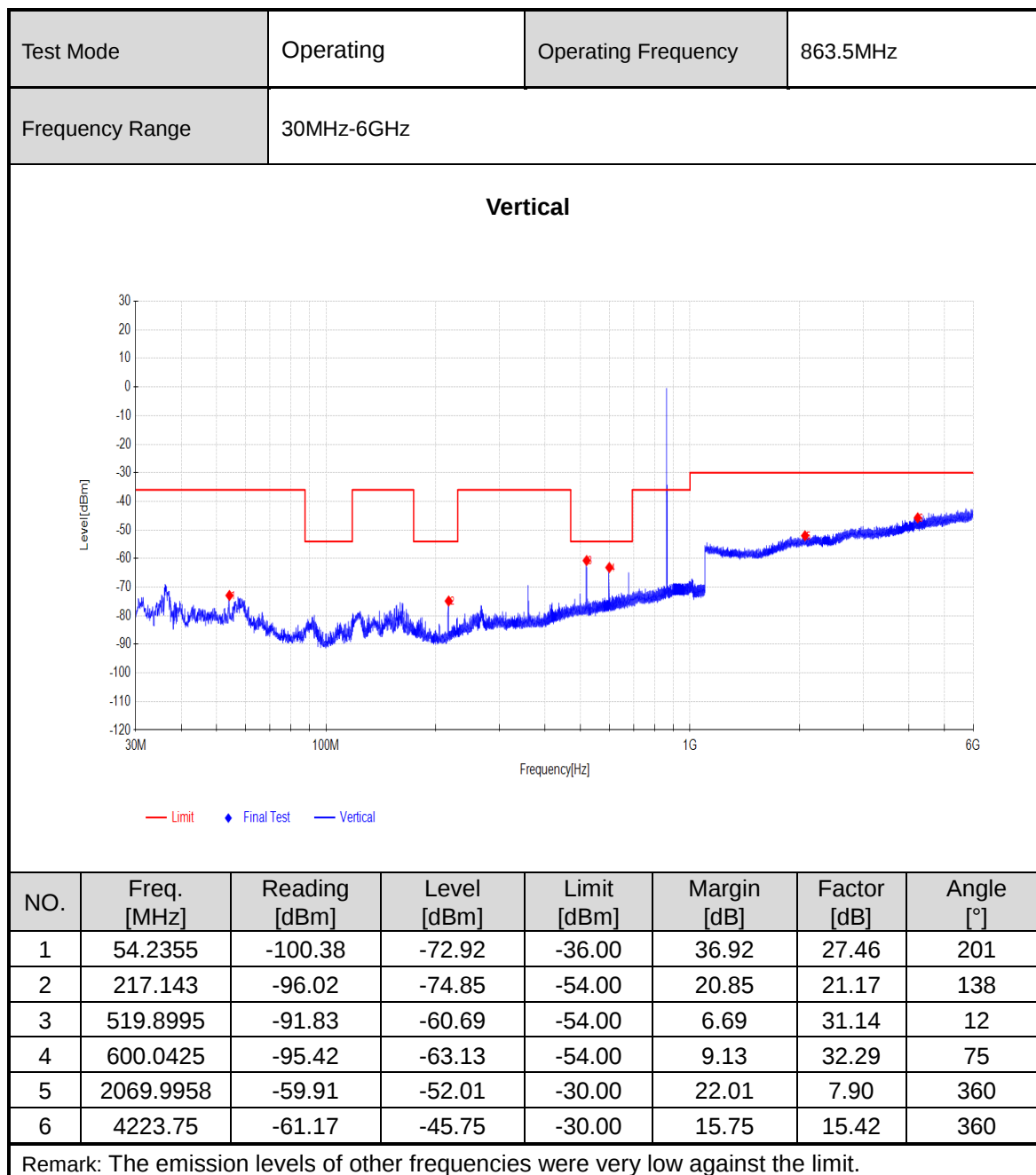
Refer to EN 304 220-1 & EN 304 220-2 Clause 5.3.5.3.

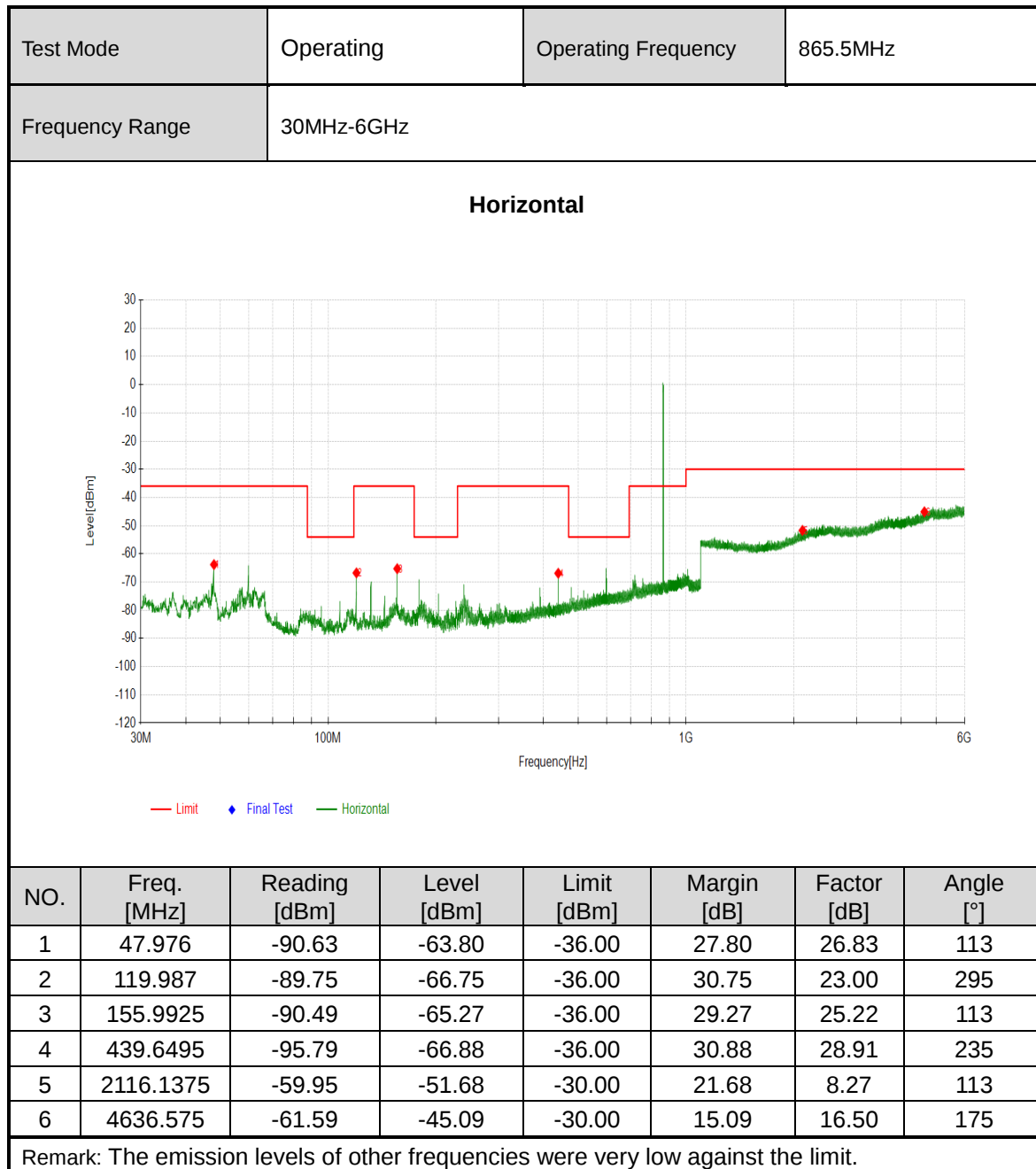
METHOD OF MEASUREMENT	
☐ Conducted measurements	☒ Radiated measurements

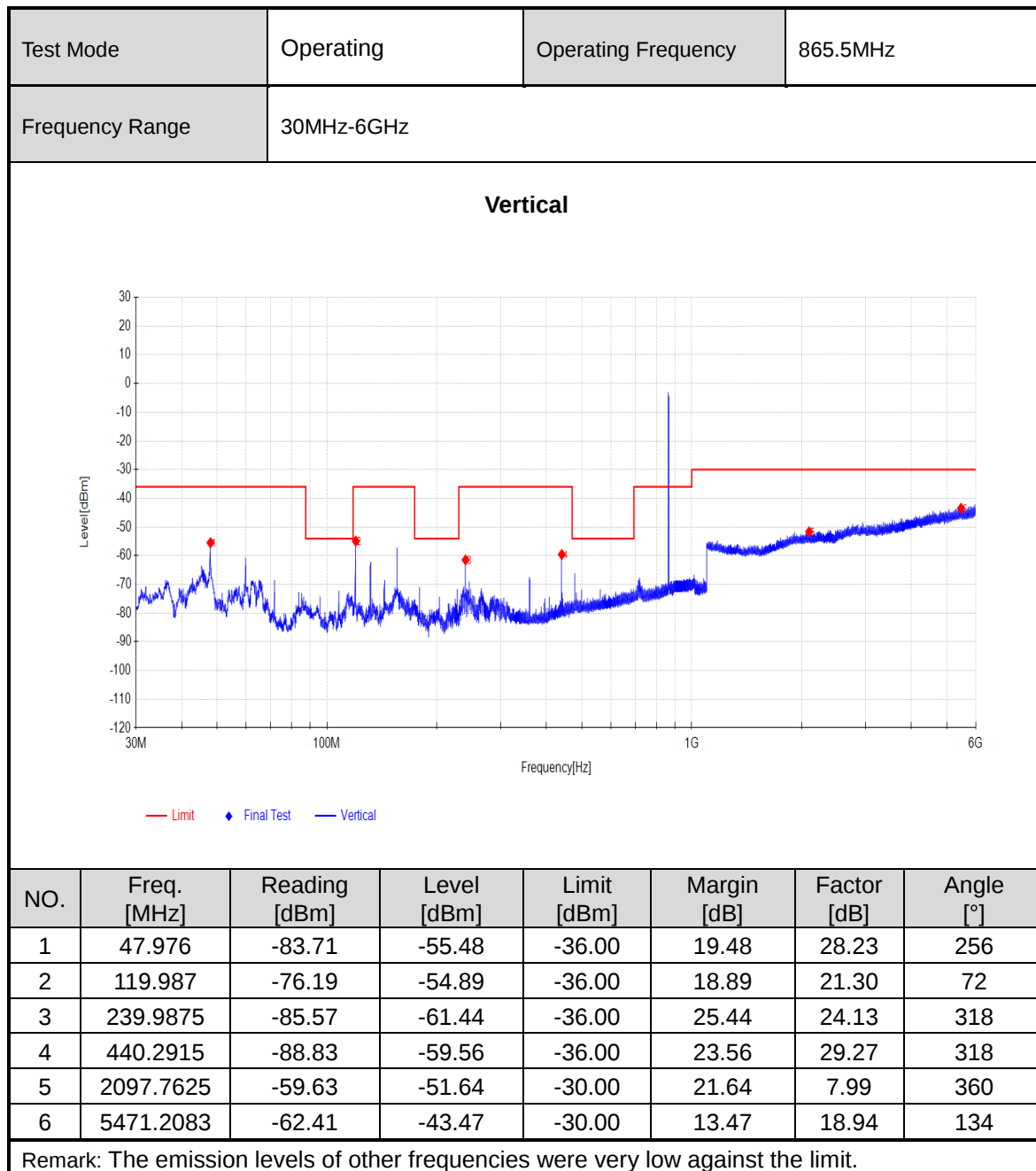


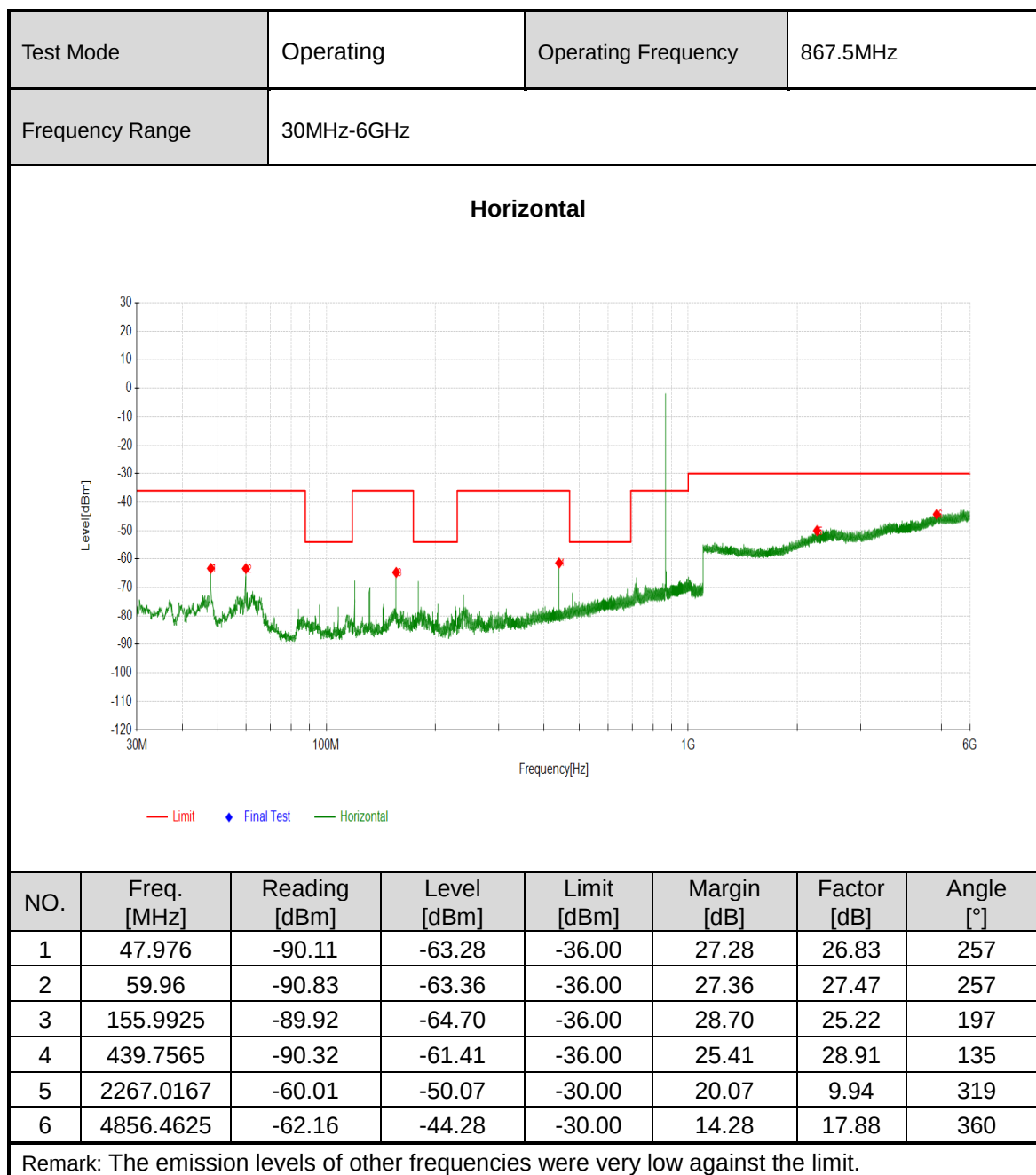
3.5.3 Test result

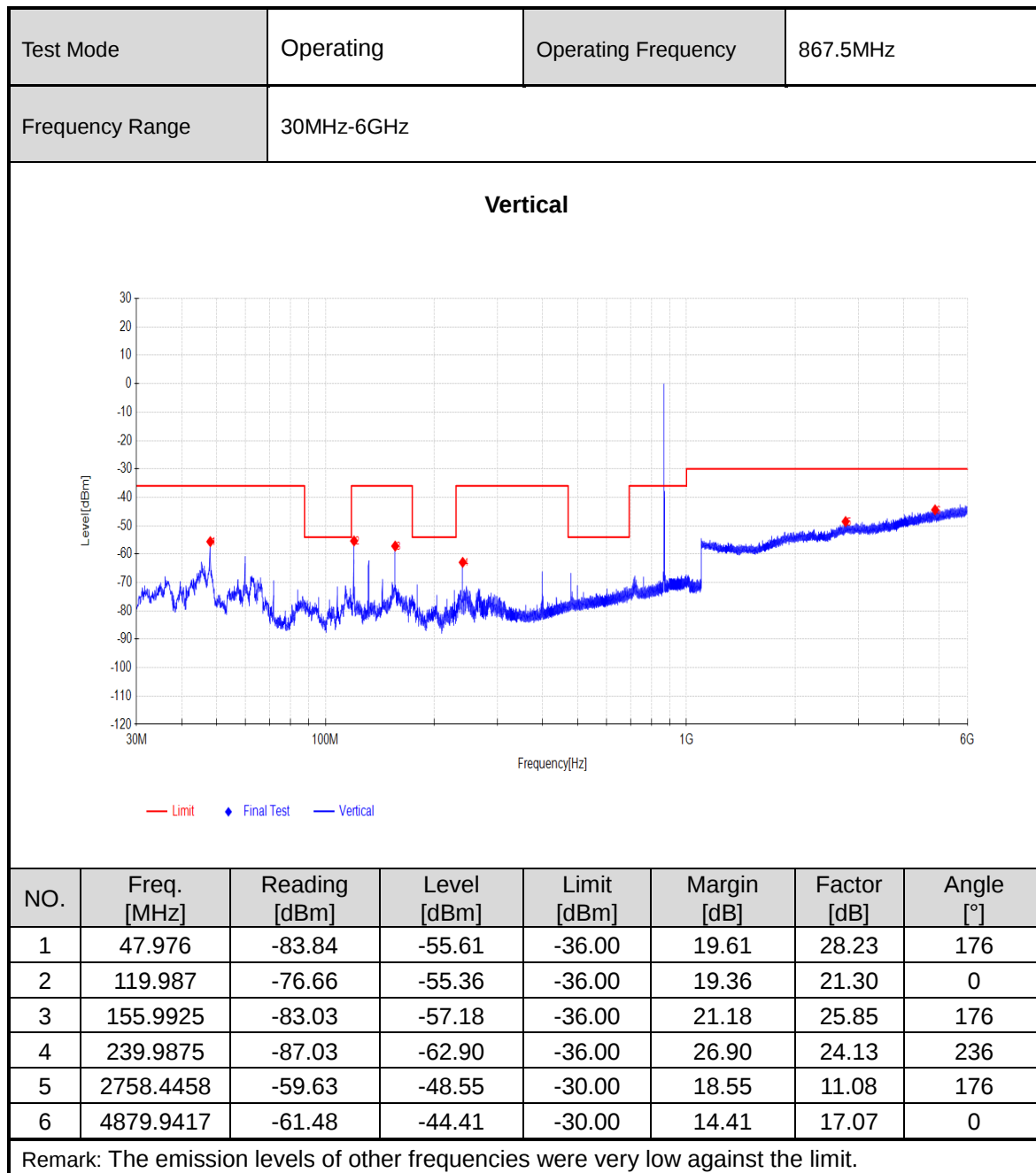














3.6 DUTY CYCLE

3.6.1 Limits

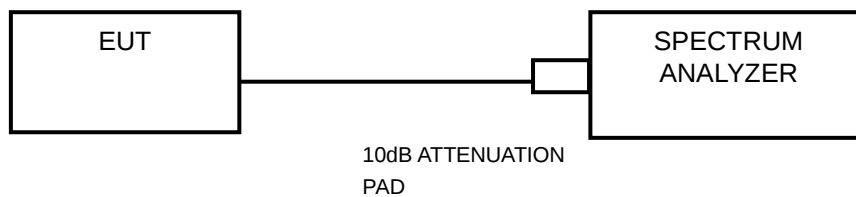
The Duty Cycle at the operating frequency shall not be greater than values in annex B or C for the chosen operational frequency band(s).

Transmitter Unwanted Emission Limits in the Spurious Domain		
Duty Cycle	Network Access Point	$\leq 10 \%$
	Terminal Node	$\leq 2.8 \%$

3.6.2 Test Procedure

Refer to EN 304 220-1 & EN 304 220-2 Clause 5.3.6.3.

3.6.3 Test setup





3.7 Transient Power

3.7.1 Limits

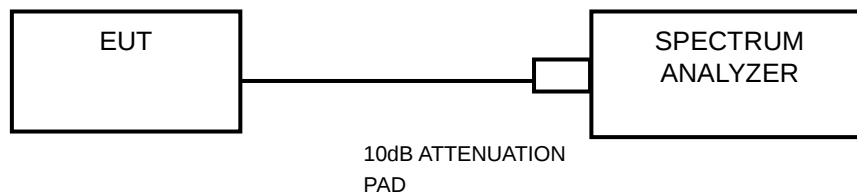
The transient power shall not exceed the values given in Table as below.

Absolute offset from nominal operating frequency	RBW _{REF}	Peak power limit applicable at measurement points
< 600 kHz	1 kHz	0 dBm
≥ 600 kHz	1 kHz	27 dBm

3.7.2 Test procedure

Refer to EN 304 220-1 & EN 304 220-2 Clause 5.3.7.3.

3.7.3 Test setup



3.8 Receiver Sensitivity

3.8.1 Limits

The sensitivity for receivers shall be below or equal to Table level

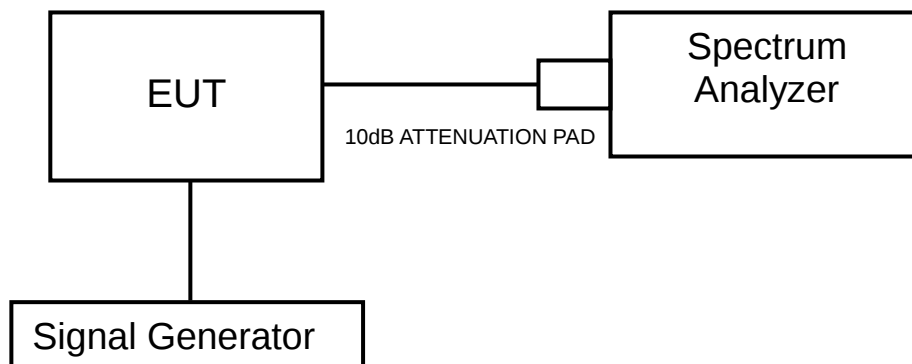
$S = 10 \cdot \log(R/R_0) - 87 \text{ dBm}$ when $R \leq 1 \text{ Mbps}$
$S = 20 \cdot \log(R/R_0) - 87 \text{ dBm}$ when $R > 1 \text{ Mbps}$
Where: · S is the sensitivity in dBm. · R is the EUT data rate in kbps. · R₀ is 150 kbps

Table: Limits for Receiver sensitivity

3.8.2 Test Procedures

Refer to EN 304 220-1 & EN 304 220-2 Clause 5.4.1.3.

3.8.3 Test Setup





3.9 Adjacent Channel Selectivity

3.9.1 Limits

The adjacent channel selectivity shall not be less than the value specified in Table.

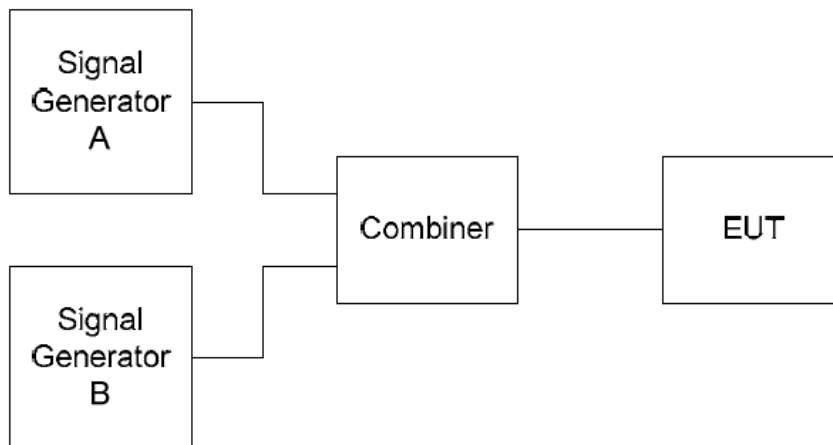
Parameter	Value
	Wanted signal = S+3 dB
Adjacent channel selectivity	-65 dBm

3.9.2 Test Procedures

Refer to EN 304 220-1 & EN 304 220-2 Clause 5.4.2.3.

3.9.3 Test Setup

Under normal use condition, two signal generators A and B shall be connected to the EUT via a combining network





3.10 Receiver Spurious Response Rejection

3.10.1 Limits

The spurious response rejection of the equipment shall be equal to or greater than the limit in Table

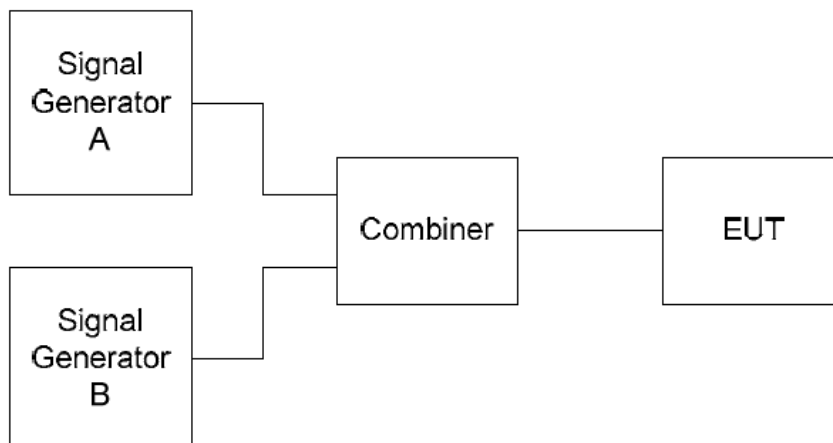
Spurious response frequency offset from nominal operating frequency	Limits
Larger than or equal to 2 MHz	-49 dBm

3.10.2 Test Procedures

Refer to EN 304 220-1 & EN 304 220-2 Clause 5.4.3.3.

3.10.3 Test Setup

Under normal use condition, two signal generators A and B shall be connected to the EUT via a combining network





3.11 Blocking

3.11.1 Limits

Blocking level parameters for wideband SRD

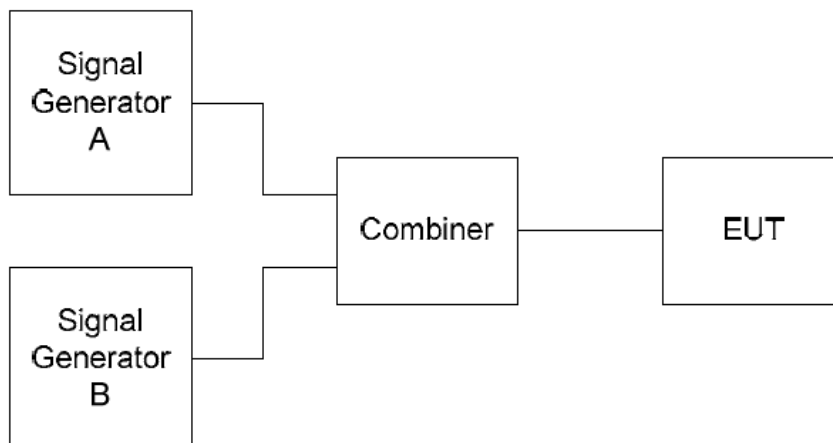
Frequency offset from nominal operating frequency	Limits Wanted signal = S+3 dB
±2 MHz	≥ -49 dBm
±10 MHz	≥ -30 dBm

3.11.2 Test Procedures

Refer to EN 304 220-1 & EN 304 220-2 Clause 5.4.4.3.

3.11.3 Test Setup

Under normal use condition, two signal generators A and B shall be connected to the EUT via a combining network





3.12 Receiver spurious emission

3.12.1 Limits

Blocking level parameters for wideband SRD

Transmitter Unwanted Emission Limits in the Spurious Domain		
Frequency Range	Maximum power	Bandwidth
30 MHz 1000 MHz	-36dBm	100 kHz
1 GHz to 6 GHz	-30dBm	1MHz

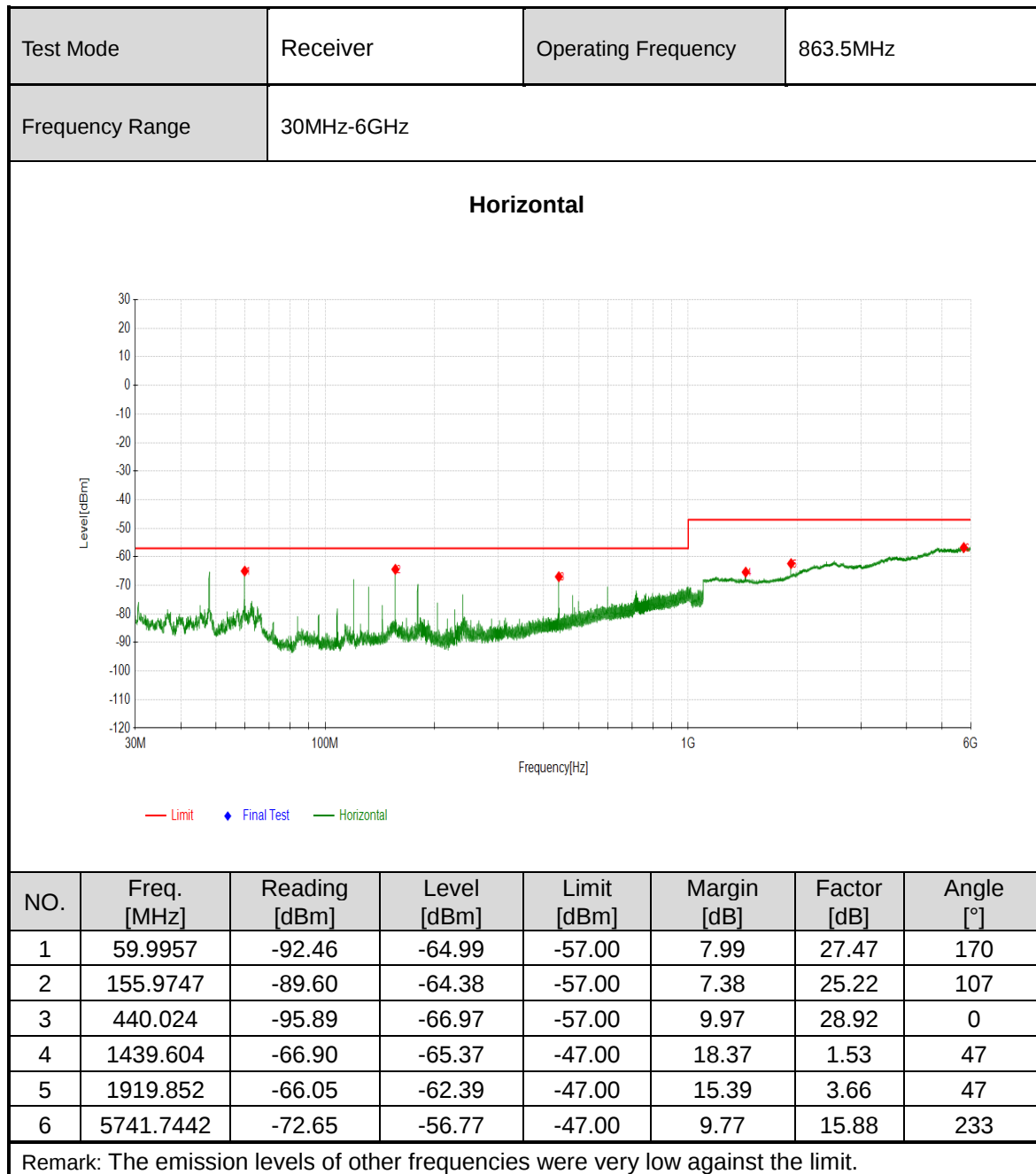
3.12.2 Test Procedures

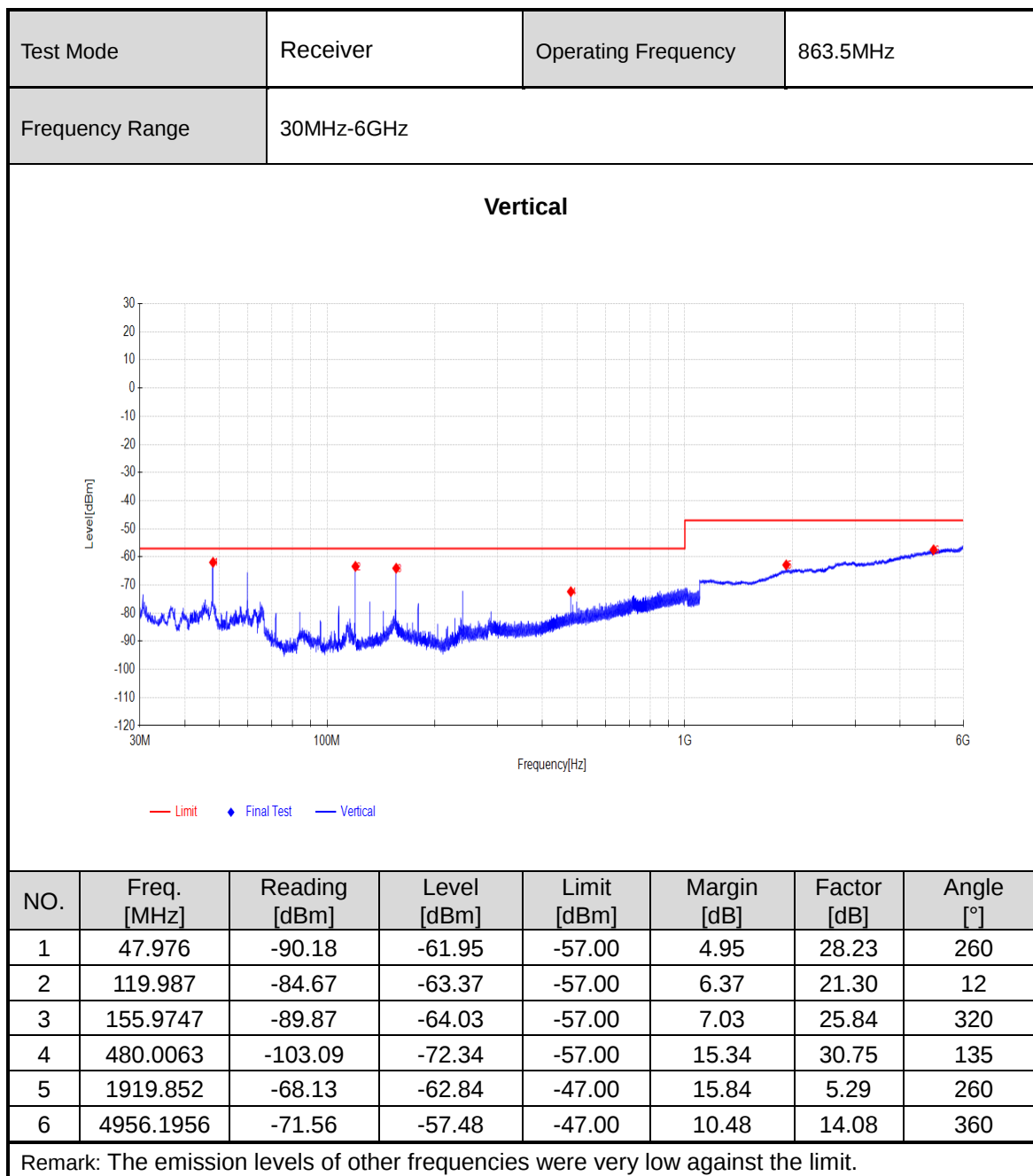
Refer to EN 304 220-1 & EN 304 220-2 Clause 5.4.5.3.

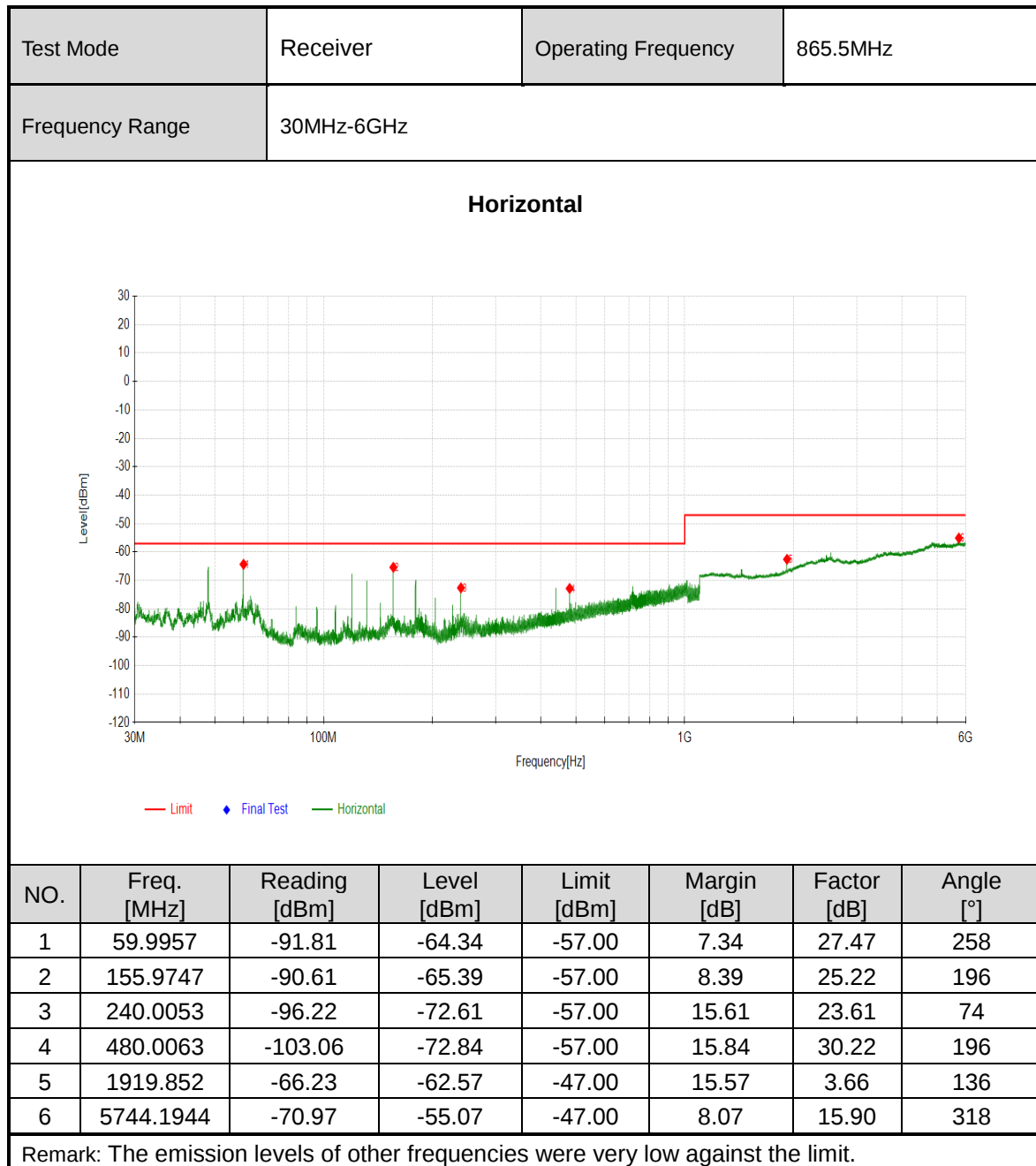
METHOD OF MEASUREMENT	
☐ Conducted measurements	☒ Radiated measurements

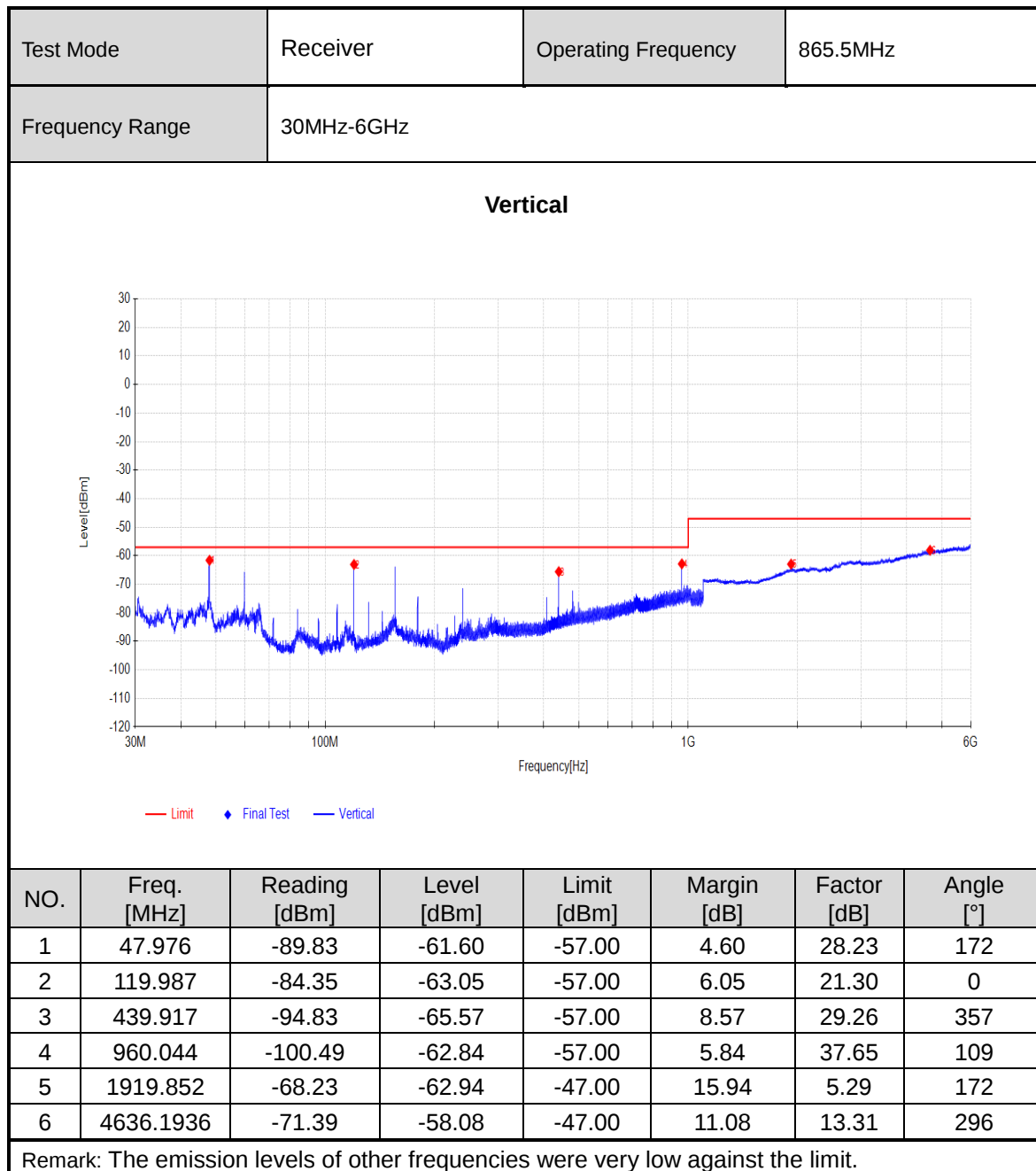


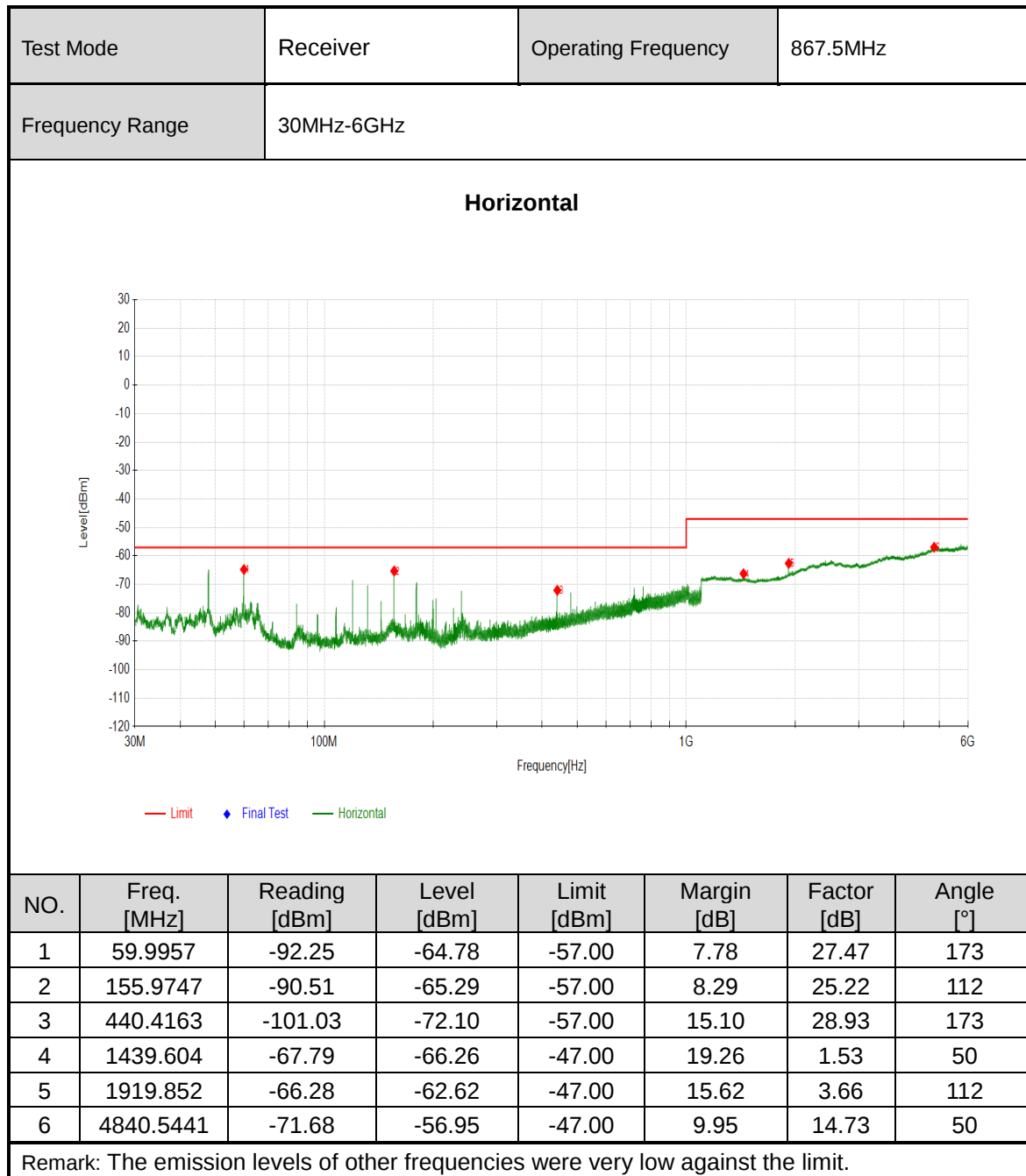
3.12.3 Test Result

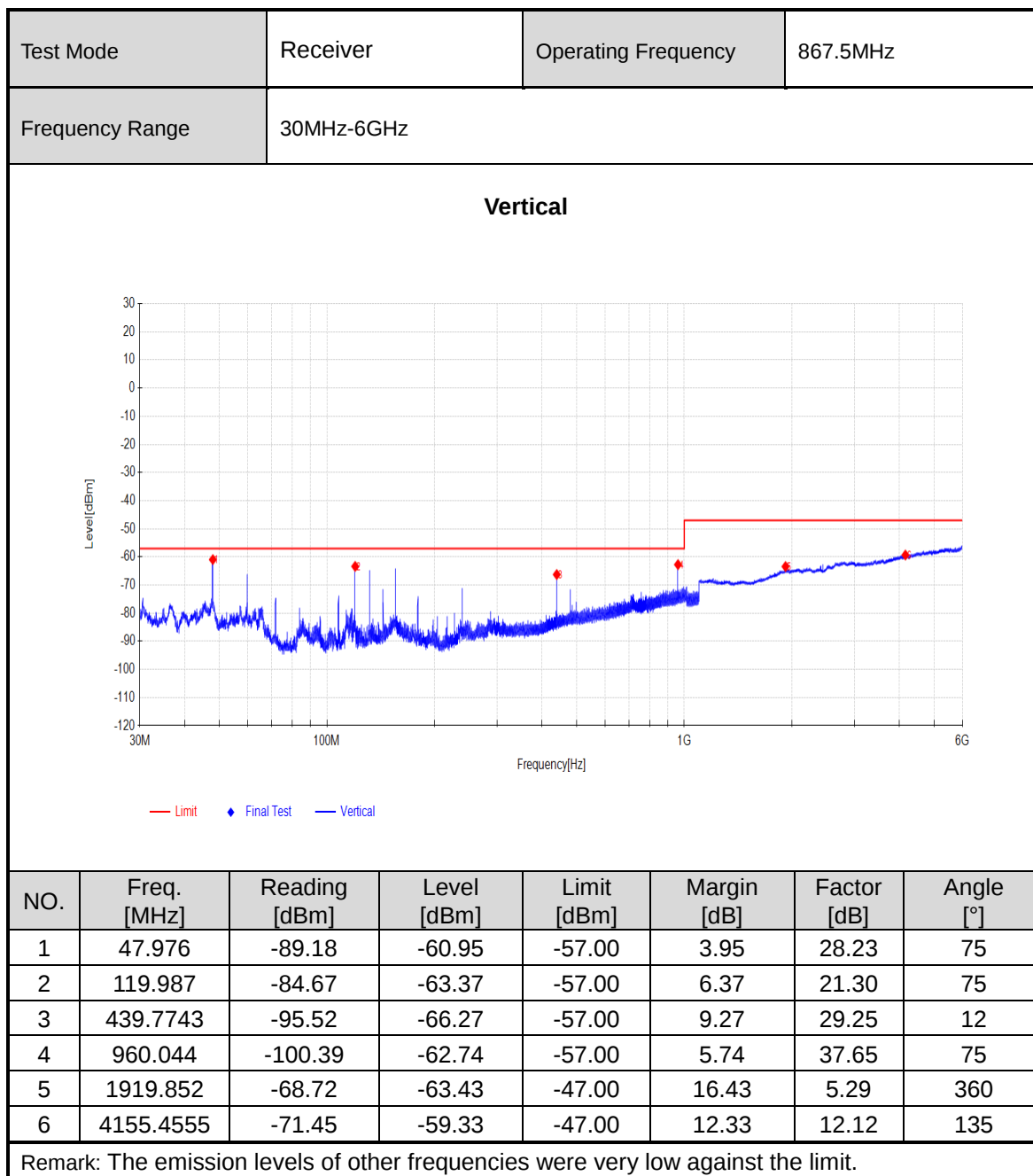














3.13 Receiver Maximum Input Signal Level

3.13.1 Limits

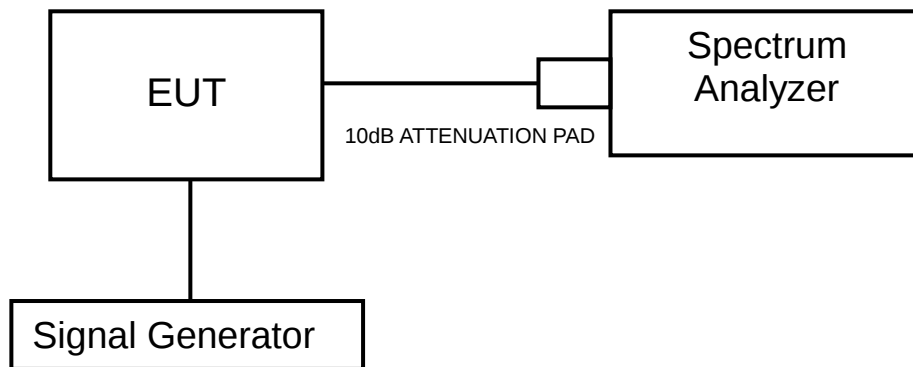
The measured maximum input signal level shall not be less than the limits given in Table

Parameter	Limits
Rx maximum input signal level	-30 dBm

3.13.2 Test Procedures

Refer to EN 304 220-1 & EN 304 220-2 Clause 5.4.6.3.

3.13.3 Test Setup





3.14 Clear Channel Assessment Threshold

3.14.1 Limits

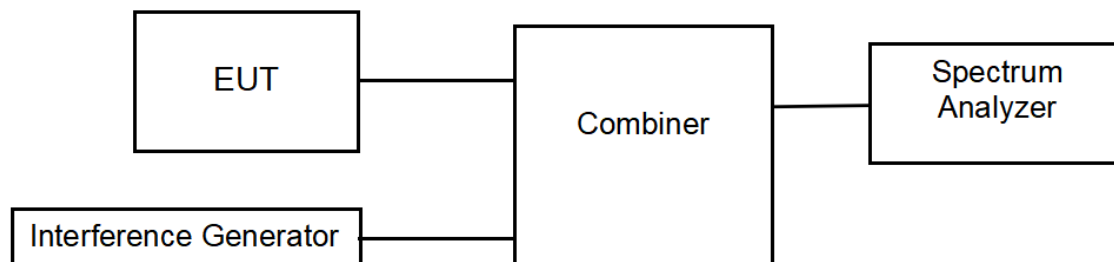
The CCA threshold shall not exceed the limits given in Table

Parameter	Value
CCA threshold	-75 dBm

3.14.2 Test Procedures

Refer to EN 304 220-1 & EN 304 220-2 Clause 5.5.1.3.

3.14.3 Test Setup





3.15 Listen Before Talk

3.15.1 Limits

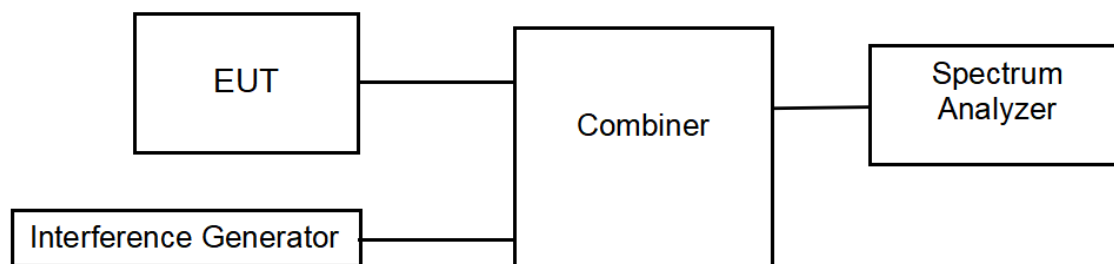
The CCA threshold shall not exceed the limits given in Table

Parameter	Limits
CCA threshold	160 μ s
Fixed listening time (TF)	$\geq$ CCA interval
Pseudo random listening time (TPS)	$0 \leq T_{PS} \leq T_{PS_MAX}$
Maximum pseudo random listening time (TPS_MAX)	> 0
Maximum response interval (TMRI)	$\leq$ CCA interval
Maximum response duration (TMRD)	≤ 28 ms

3.15.2 Test Procedures

Refer to EN 304 220-1 & EN 304 220-2 Clause 5.5.2.3.

3.15.3 Test Setup



3.16 Master Network Access Point

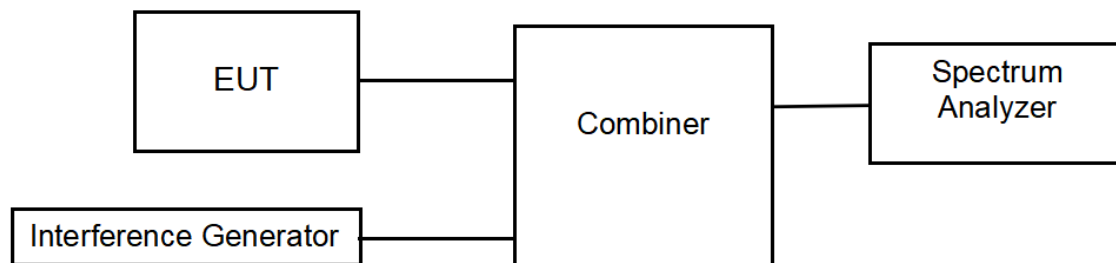
3.16.1 Limits

The periodicity of transmitting signals shall not exceed 900 seconds.

3.16.2 Test Procedures

Refer to EN 304 220-1 & EN 304 220-2 Clause 5.6.1.3.

3.16.3 Test Setup



3.16.4 Test Result

The master network access point requirement shall only apply to Type 2 equipment, so this test item is not applicable.



3.17 Operation under Master Network Access Point (NAP) control

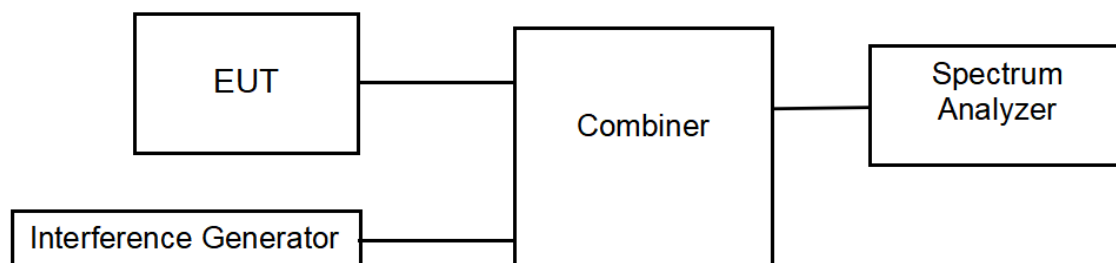
3.17.1 Limits

The periodicity of transmitting signals shall not exceed 900 seconds.

3.17.2 Test Procedures

Refer to EN 304 220-1 & EN 304 220-2 Clause 5.6.3.

3.17.3 Test Setup



3.17.4 Test Result

The operation under master Network Access Point (NAP) control requirement shall apply to Type 2a equipment, so this test item is not applicable.

3.18 Network Access Point

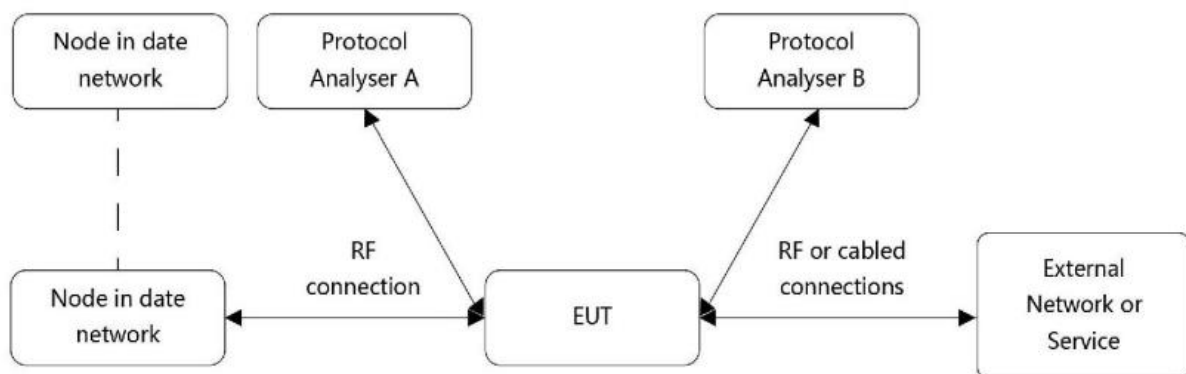
3.18.1 Limits

The NAP message transit delay shall not exceed the value of 60 minutes

3.18.2 Test Procedures

Refer to EN 304 220-1 & EN 304 220-2 Clause 5.6.2.2

3.18.3 Test Setup



3.18.4 Test Result

This item is depended on the device usage environment, the EUT is a module device and the usage environment is determined by the final device. The manufacturer declare that it will use software to meet this requirement.



4 PHOTOGRAPHS OF TEST SETUP



RADIATED SPURIOUS EMISSION TEST -1



SPURIOUS EMISSION TEST-2

----- End of the Report -----



Important

- (1) The test report is invalid without the official stamp of CVC;
- (2) Any part photocopies of the test report are forbidden without the written permission from CVC;
- (3) The test report is invalid without the signatures of tester, reviewer and approver;
- (4) The test report is invalid if altered;
- (5) Objections to the test report must be submitted to CVC within 15 days;
- (6) Generally, commission test results apply to the samples as received. The sample information is provided by the customer and laboratory is not responsible for its authenticity;
- (7) As for the test result “-” or “N” means “not applicable”, “/” means “not test”, “P” means “pass” and “F” means “fail”

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