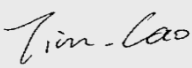
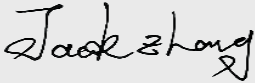




Test report No:
24B0779R-RF-US-P07V01

FCC TEST REPORT

Product Name	Cat4 indoor CPE
Trademark	Smawave
Model and /or type reference	SRD221-b
FCC ID	2AU8HSRD221-B
Applicant's name / address	Shanghai Smawave Technology Co. ,Ltd 2/F, Building 8, 1001 North Qinzhou Road, Xuhui District, Shanghai, China
Test method requested, standard	47 CFR FCC Part 2, Part 25 ANSI C63.26: 2015 ANSI/TIA-603-E: 2016
Verdict Summary	IN COMPLIANCE
Documented by (name / position & signature)	Tim Cao / Project Manager 
Approved by (name / position & signature)	Jack Zhang / Manager 
Date of issue	2024-12-25
Report Version	V1.0
Report template No	Template_Part 25-RF-V1.0

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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

GENERAL CONDITIONS

Test Location	No. 99, Hongye Road, Suzhou Industrial Park Suzhou, 215006, P.R. China
Date(receive sample)	Nov. 25, 2024
Date (start test)	Nov. 30, 2024
Date (finish test)	Dec. 25, 2024

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	: Equipment Under Test
QP	: Quasi-Peak
CAV	: CISPR Average
AV	: Average
CDN	: Coupling Decoupling Network
SAC	: Semi-Anechoic Chamber
OATS	: Open Area Test Site
BW	: Bandwidth
AM	: Amplitude Modulation
PM	: Pulse Modulation
HCP	: Horizontal Coupling Plane
VCP	: Vertical Coupling Plane
U_N	: Nominal voltage
T_x	: Transmitter
R_x	: Receiver
N/A	: Not Applicable
N/M	: Not Measured

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
24B0779R-RF-US-P07V01	V1.0	Initial issue of report.	2024-12-25

REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. This report is a limited report on the installation of a test module in a Cat4 indoor CPE, and the customer declares that the RF parameters of the module installed in the host computer are exactly the same as those of the certified module. We verified the RF output power and radiated emissions of the equipment. For other test data, please refer to FCC ID: 2ALIY-GCM6201NA. These test results on a sample of the device are for the purpose of demonstrating Compliance with 47 CFR FCC Part 2 & 25.
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result.
4. The test results relate only to the samples tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:
 - Chapter 1.1 General Description of the Item(s);
 - Chapter 1.2 Antenna Information;
 - Chapter 1.3 Channel List.

USED EQUIPMENT

RF Output Power / TR7

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date	Firmware Version	Software Version
Wideband Radio Communication Tester	R&S	CMW 500	158243	2024.05.15	2025.05.14	X 4.0.62.11	N/A
Signal analyzer	R&S	FSV30	104212	2024.07.06	2025.07.05	3.40	N/A
ESG Vector Signal Generator	Agilent	E4438C	MY49070163	2024.10.19	2025.10.18	C.05.85	N/A
RF Control Unit	Tonscend	JS0806-1	168060022	2024.06.11	2025.06.10	N/A	N/A
PSG Analog Signal Generator	Keysight	E8257D	MY60020890	2024.03.09	2025.03.08	C.06.27	N/A
High and low temperature and fast temperature change test box	ASTUOD	ASTD-FBT-225K	N/A	2024.04.21	2025.04.20	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-1909	THM-036	2024.05.17	2025.05.16	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-1909	THM-037	2024.05.17	2025.05.16	N/A	N/A
Test Software	Tonscend	JS1120	JS1120-8	N/A	N/A	N/A	V3.1.46

Radiated Emission(9KHz-1GHz) / AC2

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date	Firmware Version	Software version
Wideband Radio Communication Tester	R&S	CMW 500	158243	2024.05.15	2025.05.14	X 4.0.62.11	N/A
EMI Test Receiver	R&S	ESCI	100176	2024.05.12	2025.05.11	4.42 SP3	N/A
Loop Antenna	R&S	HFH2-Z2E	101149	2024.03.27	2025.03.26	N/A	N/A
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2024.03.20	2025.03.19	N/A	N/A
Antenna Pedestal	MF	MFT-515DBSN	1308282	N/A	N/A	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-1909	THM-021	2024.05.17	2025.05.16	N/A	N/A
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2024.04.27	2025.04.26	N/A	N/A
Dekra test software	Dekra	N/A	N/A	N/A	N/A	N/A	3

Radiated Emission (1GHz-40GHz) / AC5

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date	Firmware Version	Software version
Wideband Radio Communication Tester	R&S	CMW 500	158243	2024.05.15	2025.05.14	X 4.0.62.11	N/A
EXA Spectrum Analyzer	Keysight	N9020B	MY60112218	2024.11.02	2025.11.01	A.31.05	N/A
Pre-Amplifier	SKET	LNPA_0118G-45	SK2021090101	2024.04.27	2025.04.26	N/A	N/A
Preamplifier	CHENGYI	EMC184045SE	980263	2024.07.06	2025.07.05	N/A	N/A
DRG Horn	ETS-Lindgren	3117	00123988	2024.09.16	2025.09.15	N/A	N/A
Antenna Pedestal	MF	MFT-515DBSN	1308702	N/A	N/A	N/A	N/A
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2024.05.30	2025.05.29	N/A	N/A
Filter Switch Box	MVE	MSW-F196	C070001S	2024.04.20	2025.04.19	N/A	N/A
Coaxial Cable	ROSENBERGER	LA1-C011-2000/3000	AC5-40G	2024.01.25	2025.01.24	N/A	N/A
Coaxial Cable	ROSENBERGER	LA1-C011-2000/3000	AC5-40G-2	2024.05.26	2025.05.25	N/A	N/A
Cable	Rosenberger	LA1-C011-1000	0523	2024.05.26	2025.05.25	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-1909	THM-001	2024.07.11	2025.07.10	N/A	N/A
Temperature/Humidity Meter	RTS	RTS-1909	THM-024	2024.05.17	2025.05.16	N/A	N/A
Dekra test software	Dekra	N/A	N/A	N/A	N/A	N/A	3

UNCERTAINTY

Uncertainties have been calculated according to the DEKRA internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.The Uncertainties is complice with standard required as below.

Test item	Uncertainty
RF Output Power	±1.2 dB
Radiated Emissions	±3.2 dB

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Product Name	Cat4 indoor CPE
Model No.	SRD221-b
Trademark.....	Smawave
FCC ID.....	2AU8HSRD221-B
Hardware Version.....	V1.0
Software Version.....	STX1160_V1.0.1
Manufacturer	Shanghai Smawave Technology Co. ,Ltd
Manufacturer Address	2/F, Building 8, 1001 North Qinzhou Road , Xuhui District, Shanghai, China
Factory.....	Shanghai Smawave Technology Co. ,Ltd
Factory address	2/F, Building 8, 1001 North Qinzhou Road , Xuhui District, Shanghai, China
Operating temperature	-10℃~45℃

Wireless specification.....	LTE
Module	GCM6201NA
Support Band(s)	FDD LTE Band 24
Frequency Range.....	1627.5-1637.5 MHz, 1646.5-1656.5 MHz
Channel Bandwidth(MHz)	5 MHz / 10 MHz
Type of Modulation.....	QPSK, 16QAM

Rated power supply..... :	Voltage and Frequency	
	☐	AC: 220 - 240 V, 50/60 Hz
	☐	AC: 100 - 240 V, 50/60 Hz
	☒	Adapter:
Adapter Model..... :	TPA259-18120-US	
	Input: 100-240V ~ 50/60Hz,0.6A Output: 12.0V / 1.5 A	
UPS Model..... :	KFL-U02-5000	
	Input: 12.0V / 1.5 A Output: 12.0V / 1.5 A (Max)	
Mounting position	☐	Tabletop equipment
	☒	Wall/Ceiling mounted equipment
	☐	Floor standing equipment
	☐	Hand-held/Portable equipment
	☐	Other:

1.2 Antenna Information

Antenna Delivery	☒	1TX + 1RX		
	☐	2TX + 2RX		
Antenna technology	☒	SISO		
	☐	MIMO		
Antenna Type	☒	External	☒	Dipole
			☐	Fixed
	☐	Internal	☐	PCB
			☐	Others.....
Antenna Gain.....		LTE Band 24: 3.24 dBi		

Note: The General Description of the Item , antenna information, Channel List for the EUT in clause 1 are provided and confirmed by the client.

2 DESCRIPTION OF TEST SETUP

2.1 Operating mode(s) used for tests

During the tests the following operating mode(s) has(have) been used.

Test Mode	Mode 1: Transmit by LTE Band 24
-----------	---------------------------------

Notes :

- For portable device, radiated tests was verified over X, Y, Z axis, and shown the worst case on this report.

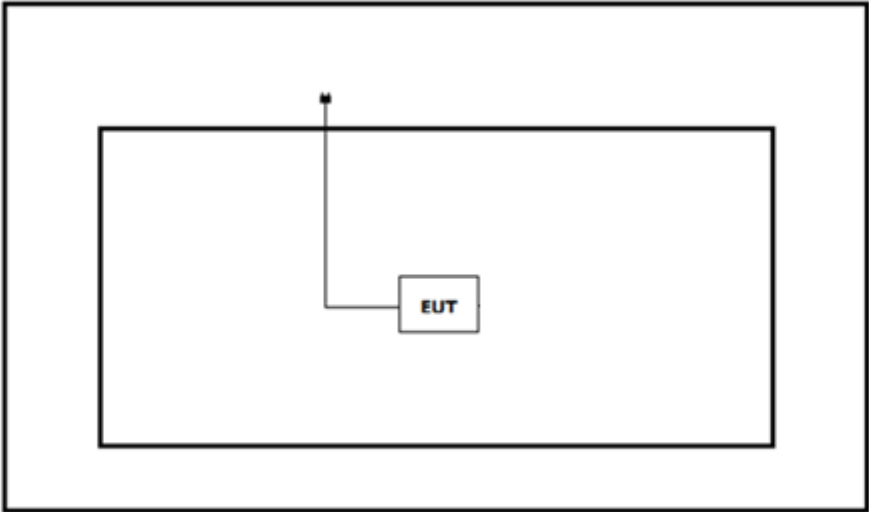
2.2 Auxiliary equipment / Test software for the EUT

Auxiliary equipment	Type / Version	Manufacturer	Supplied by
CMW 500	X 4.0.62.11	R&S	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
software	Type / Version	Manufacturer	Supplied by
N/A	N/A	N/A	N/A

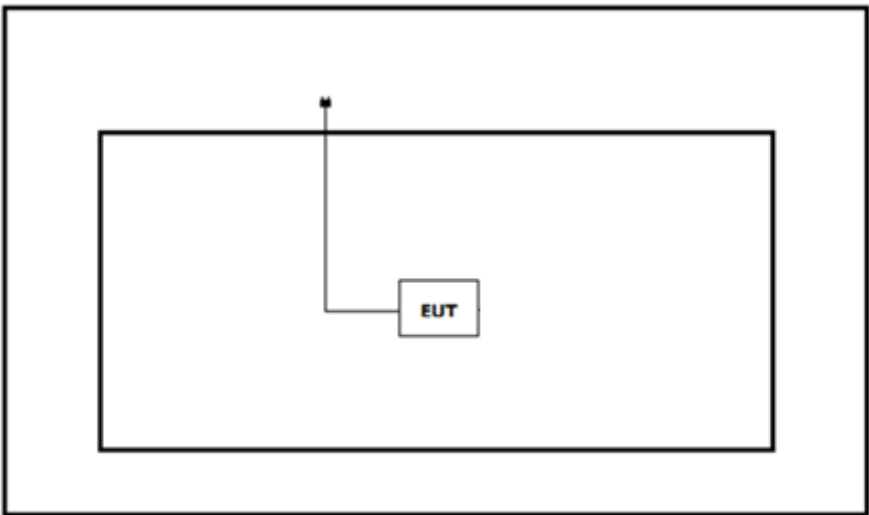
Accessories Information	Cable		
	Length used during test [m]	Attached during test	Shielded
(2)USB Control Cable	1	☒	☒
(3)USB Control Cable	8	☒	☒

2.3 Test Configuration / Block diagram used for tests

Test setup Diagram- Conducted test



Test setup Diagram- Radiated Emission



2.4 Testing process

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of all equipment.
3	EUT Communicate with CMW 500, then select channel to test.

3 VERDICT SUMMARY SECTION

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

3.1 Standards

Standard	Year	Description
FCC CFR Title 47 Part 2	2024	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
FCC CFR Title 47 Part 25	2024	Satellite communications
ANSI C63.26	2015	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services
ANSI TIA-603-E	2016	Land Mobile FM or PM Communications Equipment Measurement and performance Standards
KDB971168 D01 v03r01	2018	Measurement Guidance for Certification of Licensed Digital Transmitters
KDB971168 D02 v02r01	2023	Miscellaneous and Basic Review and Approval Items for Transmitting Equipment Used in Licensed Radio Services
KDB412172 D01 v01r01	2015	Many FCC rule parts specify power and/or emission limits in terms of the transmitter system (transmitter, radiating antenna, and cable connector) effective radiated power (ERP) or equivalent (or effective) isotropically radiated power (EIRP).

3.2 Deviation(s) from the Standard(s) / Test Specification(s)

The following deviation(s) was / were made from the published requirements of the listed standards: N/A.

(Please define the deviations from the standard(s) if applicable)

3.3 Overview of results

LTE Band 24

Test Item	FCC Rule No.	Requirements	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §25.204(a)	Note 1	PASS
Emissions Mask	§25.202(f)	Note 2	See Remark
Additional Unwanted Emission	§25.216(c) (e) (h)	Note 3, 4	See Remark*
Carrier-Off State Emissions	§25.216(i)	e.i.r.p. density <-80 dBW/MHz(=-50 dBm)	See Remark*
Occupied Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	See Remark
Conducted Spurious Emissions	§25.202(f)(3)	<43+ 10 log (P) dB (=-13dBm)	See Remark
Radiated Spurious and Harmonic Emissions	§25.202(f)(3)	<43+ 10 log (P) dB (=-13dBm)	PASS
Frequency stability/ variation of ambient temperature	§25.202(d)	0.001 % or 10 ppm	See Remark

Remark:

Only the Effective (Isotropic) Radiated Power Output Data and Radiated Spurious Emission were fully tested.

These items please refer to the LTE Module report HCT-RF-2409-FC014-R1.

The FCC ID is 2ALIY-GCM6201NA has been certified, and the test report issued by HCT Co., Ltd. on 18/12/2024.

* Because the gain of the module is higher than that of the Host, the result of the module can replace that of the Host.

Notes:

1. + 40 dBW in any 4 kHz band for $0 \leq 0^\circ$, + 40 + 30 dBW in any 4 kHz band for $0^\circ < 0 \leq 5^\circ$
2. (1) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: 25 dB;
(2) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: 35 dB;
(3) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: An amount equal to 43 dB plus 10 times the logarithm (to the base 10) of the transmitter power in watts;
3. Wide Band(e.i.r.p. density): Linear interpolation from -70 dBW/MHz(= -40dBm/MHz) at 1605 MHz to -46dBW/MHz(=-16 dBm/MHz) at 1610 MHz.
4. NarrowBand(e.i.r.p.): Linear interpolation from -80 dBW(= -50dBm) at 1605 MHz to -56 dBW(=-26 dBm) at 1610 MHz.

Requirement – Test case	Basic standard(s)	Verdict	Remark
Effective (Isotropic) Radiated Power Output Data	FCC Part 25	PASS	Test data please refer to Appendix A
Radiated Spurious and Harmonic Emissions	FCC Part 25	PASS	Test data please refer to Appendix B

3.4 Test Matrix

Test item	Model : Cat4 indoor CPE	
	SN: NI1Hv8Dn9Vw6	SN: Ka1Mn0Xf6Lx2
Effective (Isotropic) Radiated Power Output Data	☒	☐
Radiated Spurious and Harmonic Emissions	☐	☒
Note1: The only difference between sample #1 and sample #2 is whether to keep the original antenna, sample #1 is a conduction test product that removes the original antenna and is equipped with SMA wires, and sample #2 is a complete product that retains the original antenna.		

3.5 Test Facility

USA : FCC Designation Number: CN1199

4 TEST RESULTS

4.1 Effective (Isotropic) Radiated Power Output

VERDICT: PASS

4.1.1 Limit

Standard Part NO.

47 CFR FCC Part 2 (Section 2.1046)

47 CFR FCC Part 25 (Section 25.204)

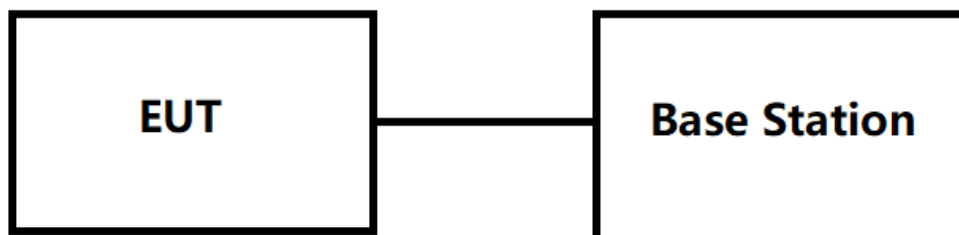
UE Power Class:3 (23 +/-2dBm).The allowed aximum Power Reduction (MPR) for the maximum output poweldue to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-of the 3GPP TS36.101.

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3

Modulation	Channel bandwidth / Transmission bandwidth (RB)						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GP TS36.101 are in addition to the allowedMPR reauirements, All the measurements below were performed with A-MPR disabled, by using NetworkSignaling Value of“NS 01”.3

4.1.2 Test Setup



4.1.3 Test Procedure

	References Rule	Chapter	Item
☒	ANSI C63.26-2015	5.2	RF output power measurement procedures
The conducted RF Output Power measurements were made at the RF output terminals of the EUT using the power meter of the Universal Radio Communication tester R&S CMW500, selecting maximum transmission power of the EUT and different modes of modulation. Peak to average ratio(PAPR) is used equation $PAPR(dB) = PPK(dBm) - PAVG(dBm)$, where PPK is measured peak power, and PAVG is measured average power. The maximum equivalent isotropically radiated power(e.i.r.p.) is calculated by adding the declared maximum antenna gain(dBi). The maximum effective radiated power e.r.p. is calculated form the maximum equivalent isotropically radiated power(e.i.r.p.) by subtracting 2.15 dB: $E.R.P = E.I.R.P. - 2.15\text{ dB}$			

4.2 Radiated Spurious and Harmonic Emissions

VERDICT: PASS

4.2.1 Limit

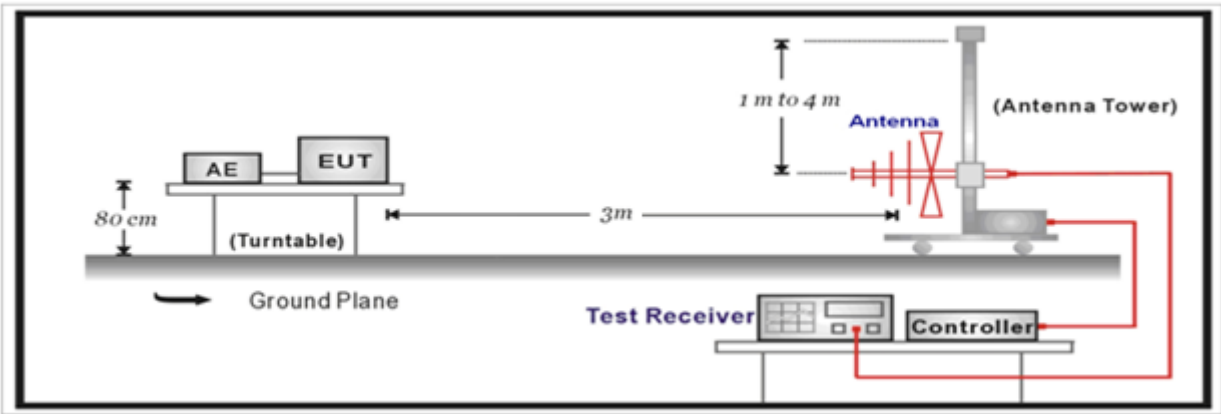
Standard Part NO.

47 CFR FCC Part 2 (Section 2.1053)
47 CFR FCC Part 25 (Section 25.202)

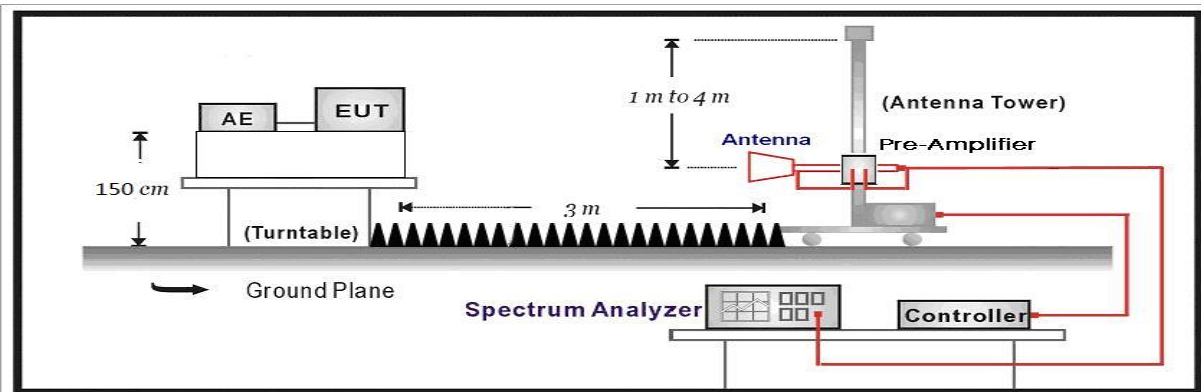
§25.202 (f)(3) <43+ 10 log (P) dB (= -13dBm)

4.2.2 Test Setup

30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.2.3 Test Procedure

	Reference Rule	Chapter	Description
☒	ANSI C63.26	5.5	Radiated emissions testing

The spectrum was scanned from 9 kHz to the 10th harmonic of the highest frequency generated within the equipment.

Emissions below 18 GHz were measured at a 3 meter test distance.

The EUT was tested in three orthogonal axes and in all possible test configurations and poisoning when measurement antenna is oriented in both horizontal and vertical polarization, the worst case emissions were shown in the report.

Radiated emissions were used the substitution method described in ANSI/TIA-603-E-2016.

Radiated emissions were measured with 100kHz RBW below 1GHz and 1MHz RBW above 1GHz.

According to specification, the power of emissions shall be attenuated below the transmitter power (P) by a factor of at least $X + 10 \log (P)$ dB. P in watts. The specification can be interpreted as an absolute limit when the specified attenuation is actually subtracted from the maximum permissible transmitter power [i.e., $10 \log P - \{X + 10 \log P\}$], resulting in an absolute level of -X dBW [or $(-X + 30)$ dBm].

5 TEST SETUP PHOTO AND EUT PHOTO

Remark: The test setup photo and EUT Photo please see appendix.

6 TEST RESULT

Appendix A: Effective (Isotropic) Radiated Power Output Data

Band 24 (Part 25_Lower)											
BW [MHz]	Modulation	RB Size	RB Offset	Conducted output power			EIRP			Limit (dBm/4kHz)	Verdict
Channel				25760			25760				
Frequency (MHz)				1632.5			1632.5				
10	QPSK	1	0		16.57			19.81		70	PASS
10	QPSK	1	25		16.73			19.97			
10	QPSK	1	49		16.53			19.77			
10	QPSK	25	0		16.63			19.87		70	PASS
10	QPSK	25	12		16.65			19.89			
10	QPSK	25	25		16.69			19.93			
10	QPSK	50	0		16.66			19.9		70	PASS
10	16QAM	1	0		16.64			19.88			
10	16QAM	1	25		16.54			19.78			
10	16QAM	1	49		16.72			19.96		70	PASS
10	16QAM	25	0		16.65			19.89			
10	16QAM	25	12		16.69			19.93			
10	16QAM	25	25		16.55			19.79		70	PASS
10	16QAM	50	0		16.74			19.98			
Channel				25735	25760	25785	25735	25760	25785	Limit (dBm/4kHz)	Verdict
Frequency (MHz)				1630	1632.5	1635	1630	1632.5	1635		
5	QPSK	1	0	4.19	16.22	16.25	7.43	19.46	19.49	70	PASS
5	QPSK	1	12	4.04	16.38	16.37	7.28	19.62	19.61		
5	QPSK	1	24	4.17	16.35	16.35	7.41	19.59	19.59		
5	QPSK	12	0	4.16	16.47	16.37	7.40	19.71	19.61	70	PASS
5	QPSK	12	7	4.12	16.31	16.29	7.36	19.55	19.53		
5	QPSK	12	13	4.11	16.35	16.47	7.35	19.59	19.71		
5	QPSK	25	0	4.16	16.25	16.37	7.40	19.49	19.61	70	PASS
5	16QAM	1	0	4.06	16.40	16.32	7.30	19.64	19.56		
5	16QAM	1	12	4.13	16.30	16.24	7.37	19.54	19.48		
5	16QAM	1	24	4.14	16.41	16.41	7.38	19.65	19.65	70	PASS
5	16QAM	12	0	4.25	16.35	16.23	7.49	19.59	19.47		
5	16QAM	12	7	4.08	16.44	16.34	7.32	19.68	19.58		
5	16QAM	12	13	4.19	16.25	16.32	7.43	19.49	19.56	70	PASS
5	16QAM	25	0	4.19	16.39	16.45	7.43	19.63	19.69		

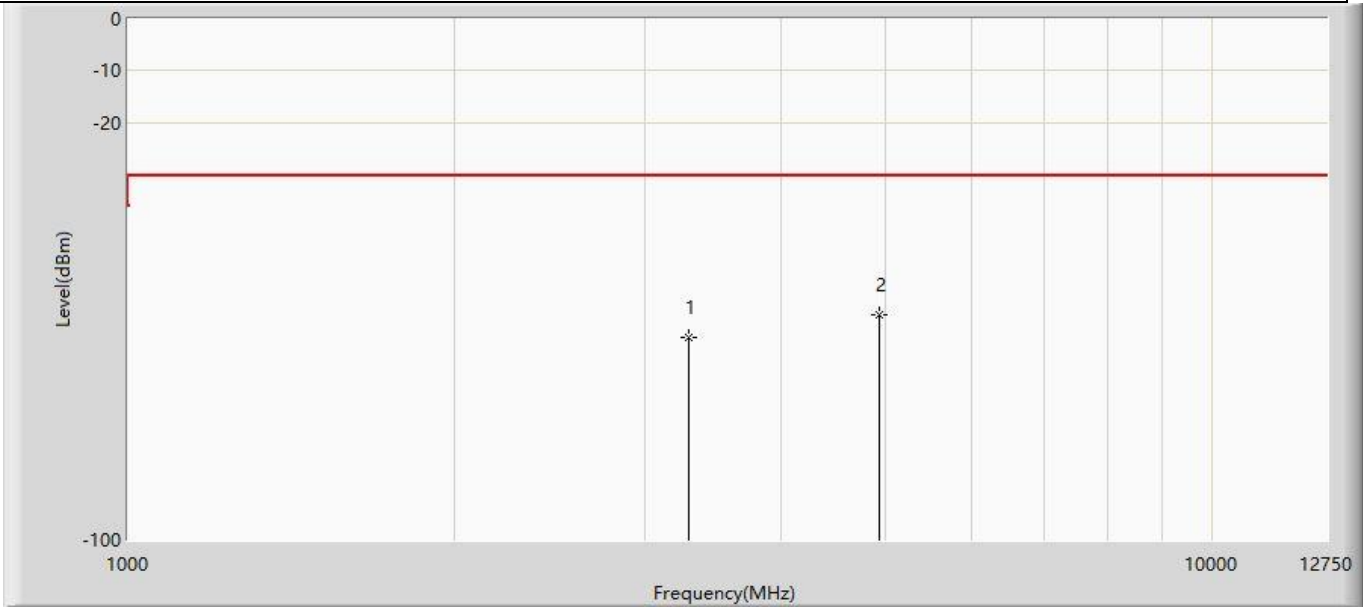
Band 24 (Part 25)_Upper

BW [MHz]	Modulation	RB Size	RB Offset	Conducted output power			EIRP			Limit (dBm/4kHz)	Verdict
Channel				25950			25950				
Frequency (MHz)				1651.5			1651.5				
10	QPSK	1	0		16.84			20.08		70	PASS
10	QPSK	1	25		17.02			20.26			
10	QPSK	1	49		16.77			20.01			
10	QPSK	25	0		16.92			20.16		70	PASS
10	QPSK	25	12		16.82			20.06			
10	QPSK	25	25		17.04			20.28			
10	QPSK	50	0		16.71			19.95		70	PASS
10	16QAM	1	0		17.02			20.26			
10	16QAM	1	25		16.97			20.21			
10	16QAM	1	49		16.94			20.18		70	PASS
10	16QAM	25	0		16.93			20.17			
10	16QAM	25	12		16.84			20.08			
10	16QAM	25	25		16.75			19.99		70	PASS
10	16QAM	50	0		17.16			20.40			
Channel				25925	25950	25975	25925	25950	25975	Limit (dBm/4kHz)	Verdict
Frequency (MHz)				1649	1651.5	1654	1649	1651.5	1654		
5	QPSK	1	0	17.19	16.92	17.30	20.43	20.16	20.54	70	PASS
5	QPSK	1	12	17.28	17.38	17.27	20.52	20.62	20.51		
5	QPSK	1	24	17.30	17.26	17.10	20.54	20.50	20.34		
5	QPSK	12	0	17.35	17.33	17.07	20.59	20.57	20.31	70	PASS
5	QPSK	12	7	17.02	17.25	17.17	20.26	20.49	20.41		
5	QPSK	12	13	17.00	17.26	17.07	20.24	20.50	20.31		
5	QPSK	25	0	17.08	17.15	16.93	20.32	20.39	20.17	70	PASS
5	16QAM	1	0	17.28	17.20	17.03	20.52	20.44	20.27		
5	16QAM	1	12	17.17	16.92	17.11	20.41	20.16	20.35		
5	16QAM	1	24	17.32	17.17	17.23	20.56	20.41	20.47	70	PASS
5	16QAM	12	0	16.91	17.25	17.18	20.15	20.49	20.42		
5	16QAM	12	7	17.27	17.37	17.35	20.51	20.61	20.59		
5	16QAM	12	13	17.04	17.20	17.06	20.28	20.44	20.30	70	PASS
5	16QAM	25	0	17.21	17.14	17.06	20.45	20.38	20.30		



Appendix B: Radiated Spurious and Harmonic Emissions

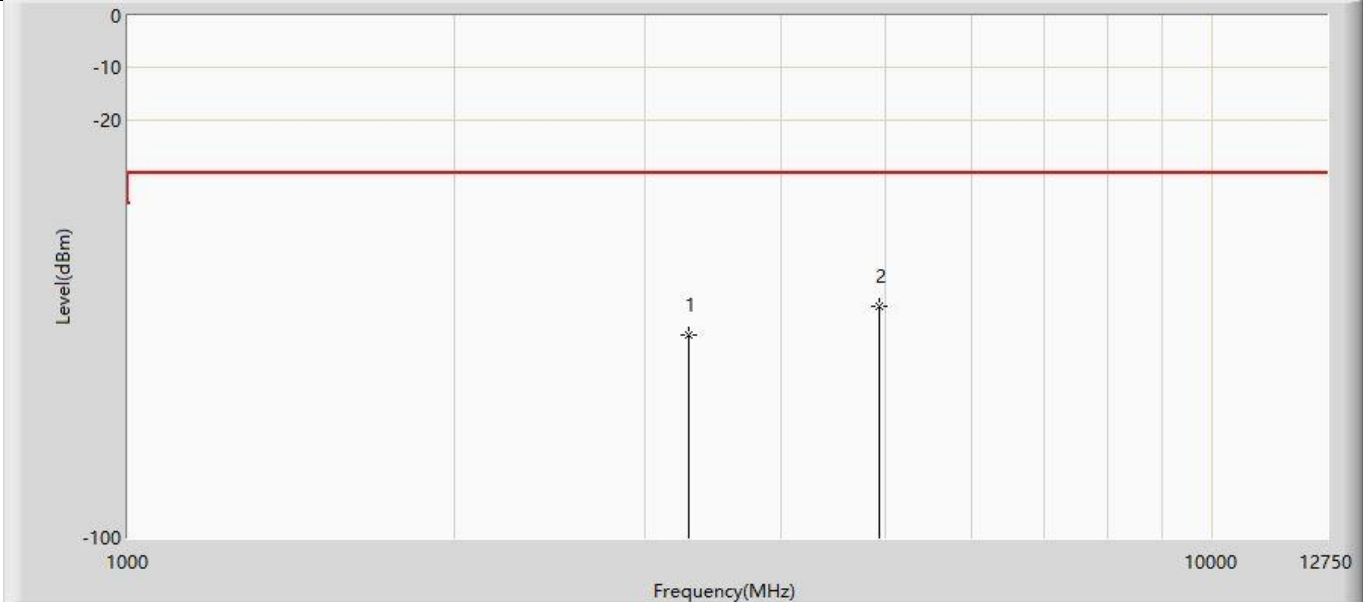
Profile: 24B0779R	Page No.: 17
Engineer: Yuliu	
Site: AC6	Time: 2024/12/09 - 13:44
Limit: ETSI_EN301908-1_RSE(3m)_UE(Traffic)	Margin: 0
Probe: CE_1-18G_AMP	Polarity: Horizontal
EUT: Cat4 indoor CPE	Power: 230 Vac / 50 Hz
Note: Mode 1:LTE band24 Traffic 1643.5MHz	



No	Mark	Frequency (MHz)	Measure Level (dBm)	Reading Level (dBm)	Over Limit (dB)	Limit (dBm)	Factor (dB)	Type
1		3287.000	-61.196	-52.631	-31.196	-30.000	-8.565	PK
2	*	4930.500	-56.737	-54.300	-26.737	-30.000	-2.437	PK



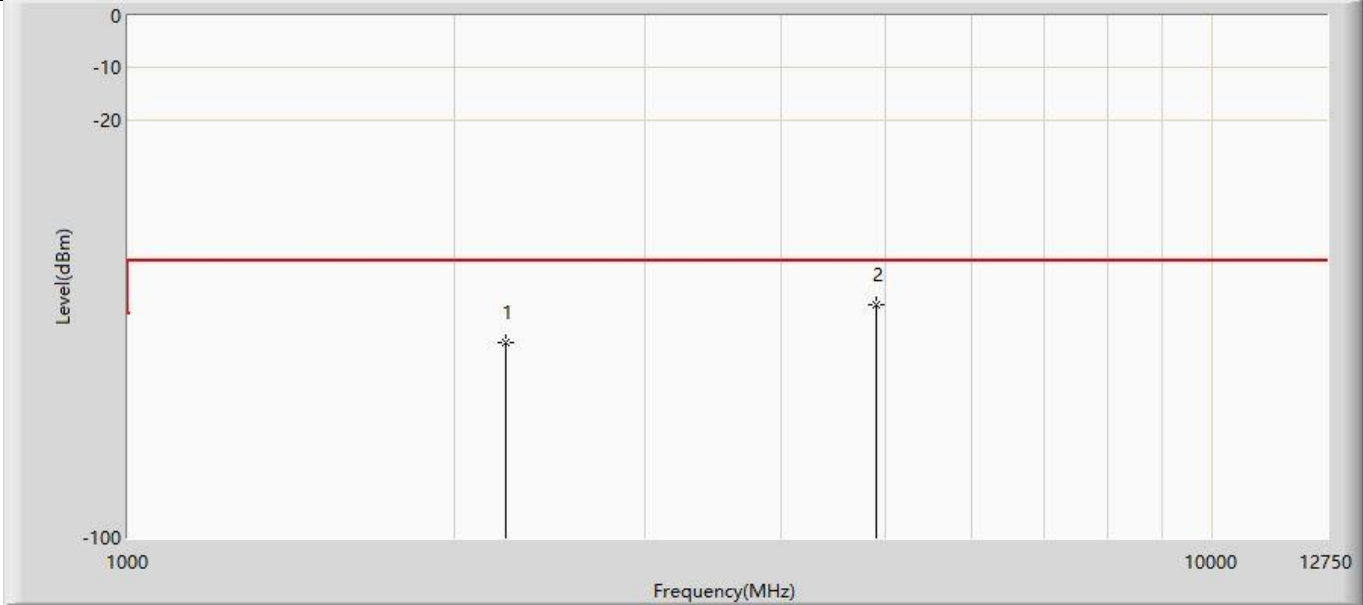
Profile: 24B0779R	Page No.: 18
Engineer: Yuliu	
Site: AC6	Time: 2024/12/09 - 13:44
Limit: ETSI_EN301908-1_RSE(3m)_UE(Traffic)	Margin: 0
Probe: CE_1-18G_AMP	Polarity: Vertical
EUT: Cat4 indoor CPE	Power: 230 Vac / 50 Hz
Note: Mode 1:LTE band24 Traffic 1643.5MHz	



No	Mark	Frequency (MHz)	Measure Level (dBm)	Reading Level (dBm)	Over Limit (dB)	Limit (dBm)	Factor (dB)	Type
1		3287.000	-61.239	-53.017	-31.239	-30.000	-8.222	PK
2	*	4930.500	-55.747	-53.384	-25.747	-30.000	-2.363	PK



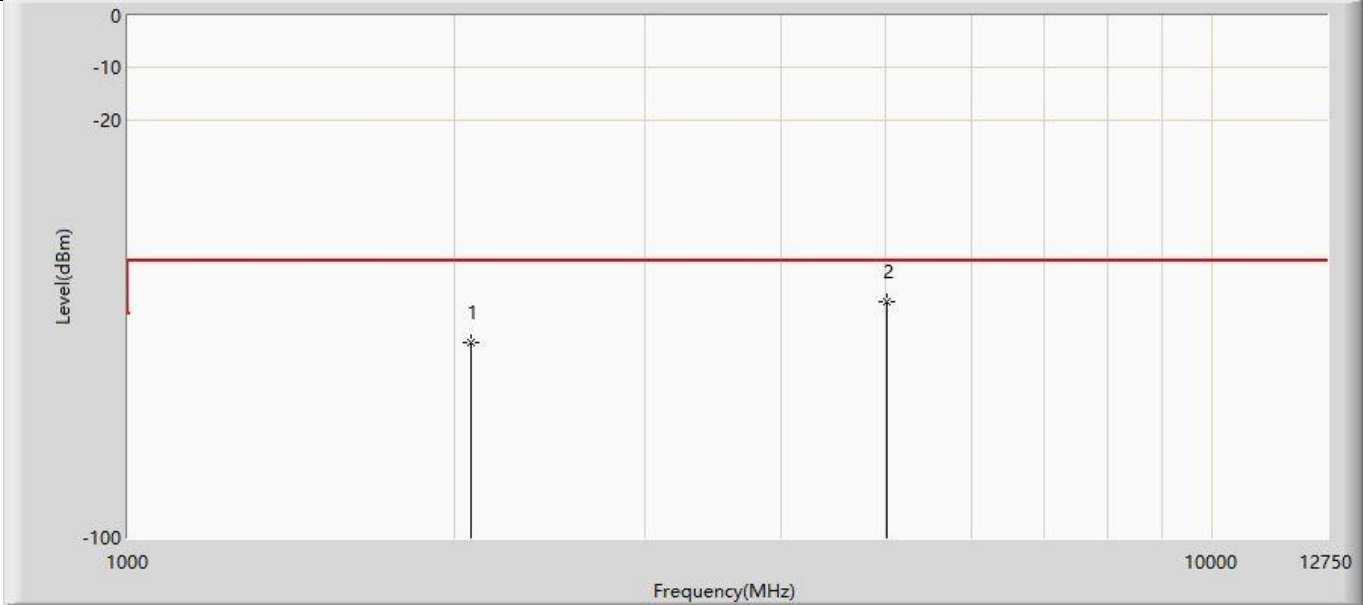
Profile: 24B0779R	Page No.: 21
Engineer: Yuliu	
Site: AC6	Time: 2024/12/09 - 13:44
Limit: ETSI_EN301908-1_RSE(3m)_UE(Idle)	Margin: 0
Probe: CE_1-18G_AMP	Polarity: Horizontal
EUT: Cat4 indoor CPE	Power: 230 Vac / 50 Hz
Note: Mode 1:LTE band24 Idle 1643.5MHz	



No	Mark	Frequency (MHz)	Measure Level (dBm)	Reading Level (dBm)	Over Limit (dB)	Limit (dBm)	Factor (dB)	Type
1		2233.750	-62.557	-53.526	-15.557	-47.000	-9.031	PK
2	*	4901.000	-55.400	-53.126	-8.400	-47.000	-2.274	PK



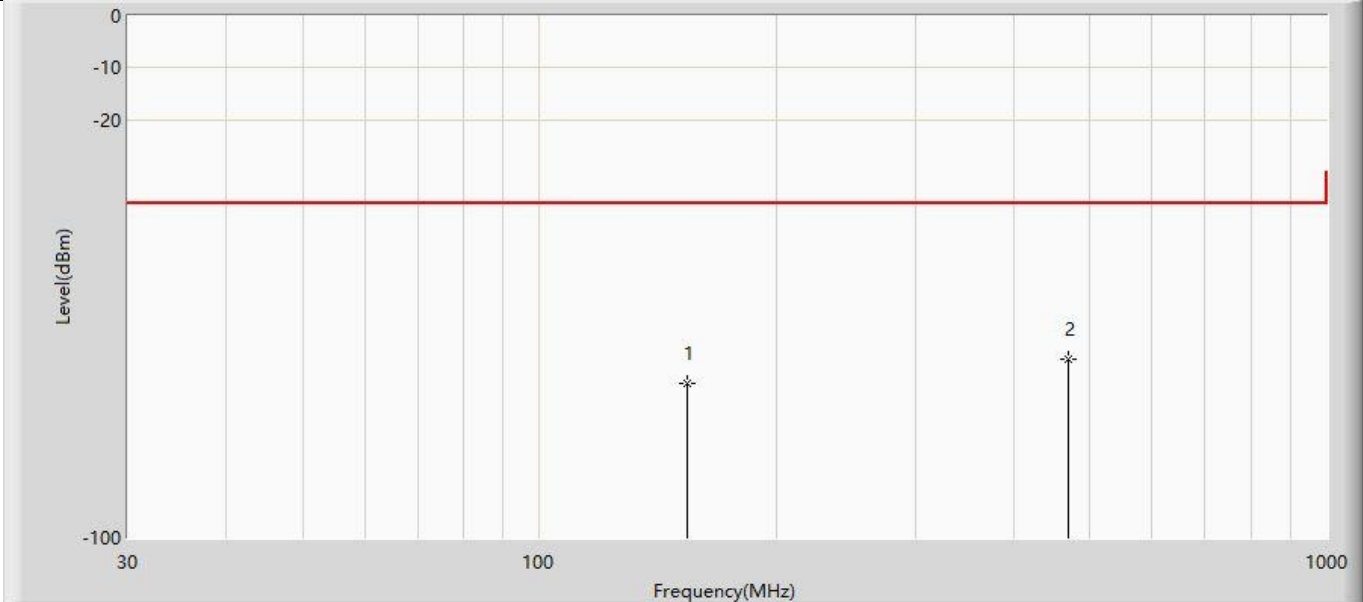
Profile: 24B0779R	Page No.: 22
Engineer: Yuliu	
Site: AC6	Time: 2024/12/09 - 13:44
Limit: ETSI_EN301908-1_RSE(3m)_UE(Idle)	Margin: 0
Probe: CE_1-18G_AMP	Polarity: Vertical
EUT: Cat4 indoor CPE	Power: 230 Vac / 50 Hz
Note: Mode 1:LTE band24 Idle 1643.5MHz	



No	Mark	Frequency (MHz)	Measure Level (dBm)	Reading Level (dBm)	Over Limit (dB)	Limit (dBm)	Factor (dB)	Type
1		2069.250	-62.738	-52.841	-15.738	-47.000	-9.897	PK
2	*	5006.750	-54.813	-53.290	-7.813	-47.000	-1.523	PK



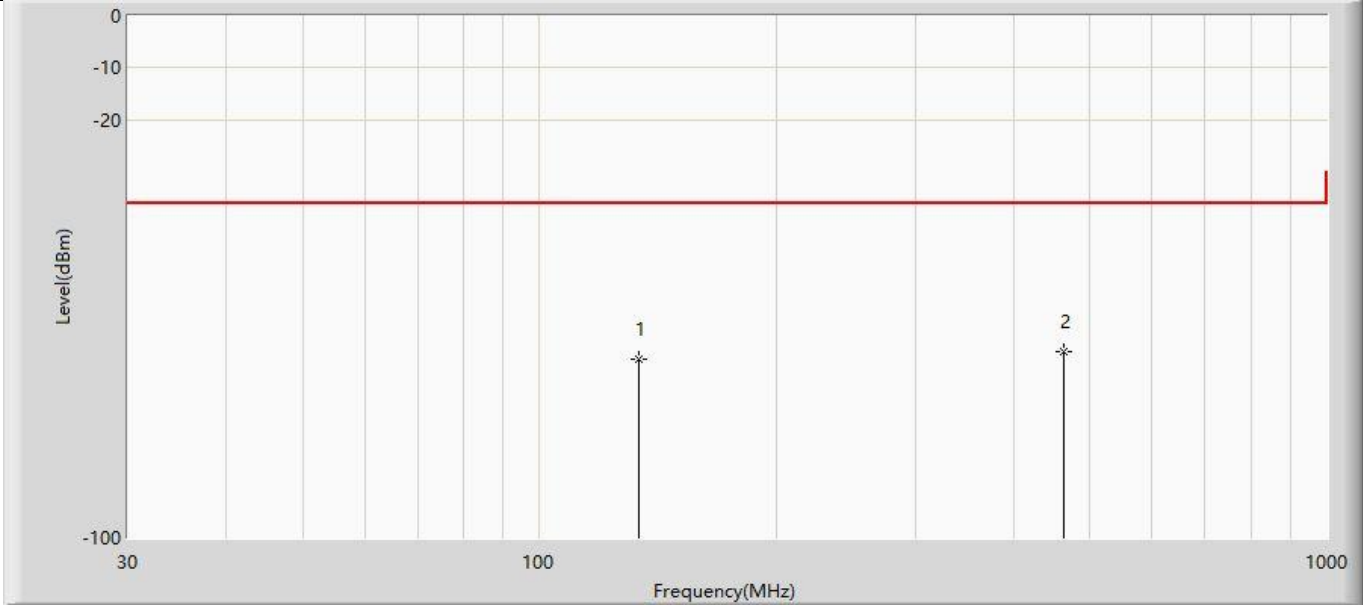
Profile: 24B0779R	Page No.: 25
Engineer: Yuliu	
Site: AC6	Time: 2024/12/09 - 13:45
Limit: ETSI_EN301908-1_RSE(3m)_UE(Traffic)	Margin: 0
Probe: CE_30-1G	Polarity: Horizontal
EUT: Cat4 indoor CPE	Power: 230 Vac / 50 Hz
Note: Mode 1:LTE band24 Traffic 1643.5MHz	



No	Mark	Frequency (MHz)	Measure Level (dBm)	Reading Level (dBm)	Over Limit (dB)	Limit (dBm)	Factor (dB)	Type
1		154.160	-70.455	-94.315	-34.455	-36.000	23.860	PK
2	*	468.440	-65.870	-94.420	-29.870	-36.000	28.550	PK



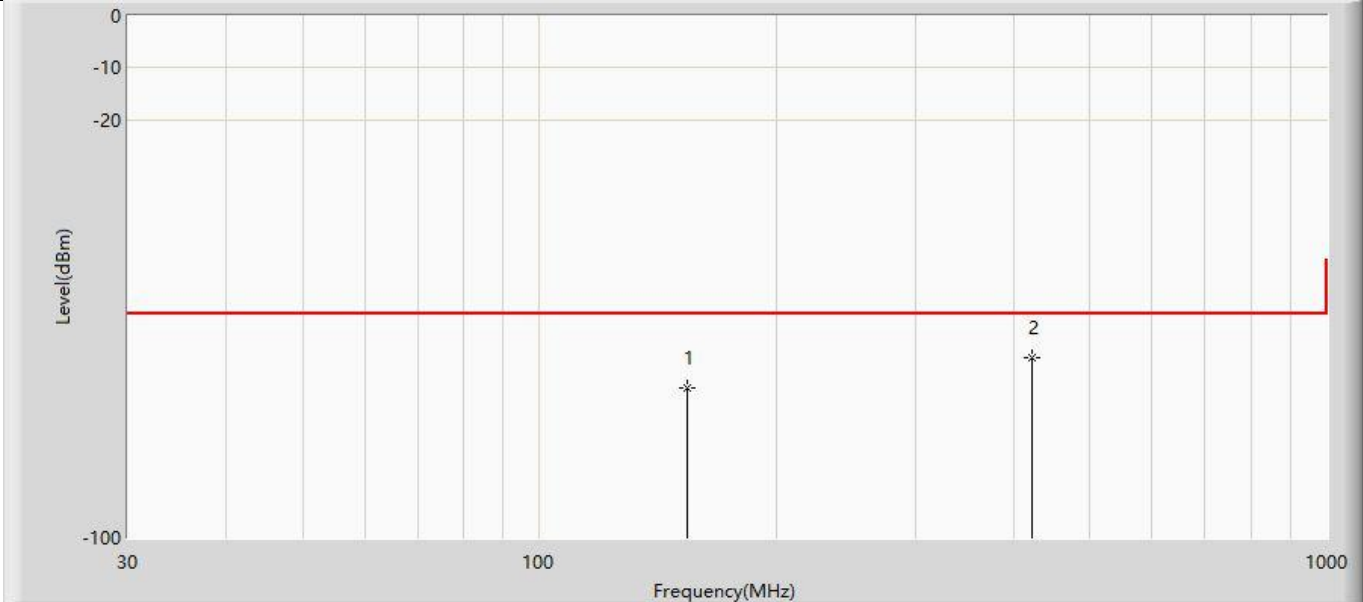
Profile: 24B0779R	Page No.: 26
Engineer: Yuliu	
Site: AC6	Time: 2024/12/09 - 13:45
Limit: ETSI_EN301908-1_RSE(3m)_UE(Traffic)	Margin: 0
Probe: CE_30-1G	Polarity: Vertical
EUT: Cat4 indoor CPE	Power: 230 Vac / 50 Hz
Note: Mode 1:LTE band24 Traffic 1643.5MHz	



No	Mark	Frequency (MHz)	Measure Level (dBm)	Reading Level (dBm)	Over Limit (dB)	Limit (dBm)	Factor (dB)	Type
1		133.790	-65.809	-95.399	-29.809	-36.000	29.590	PK
2	*	462.620	-64.437	-93.297	-28.437	-36.000	28.860	PK



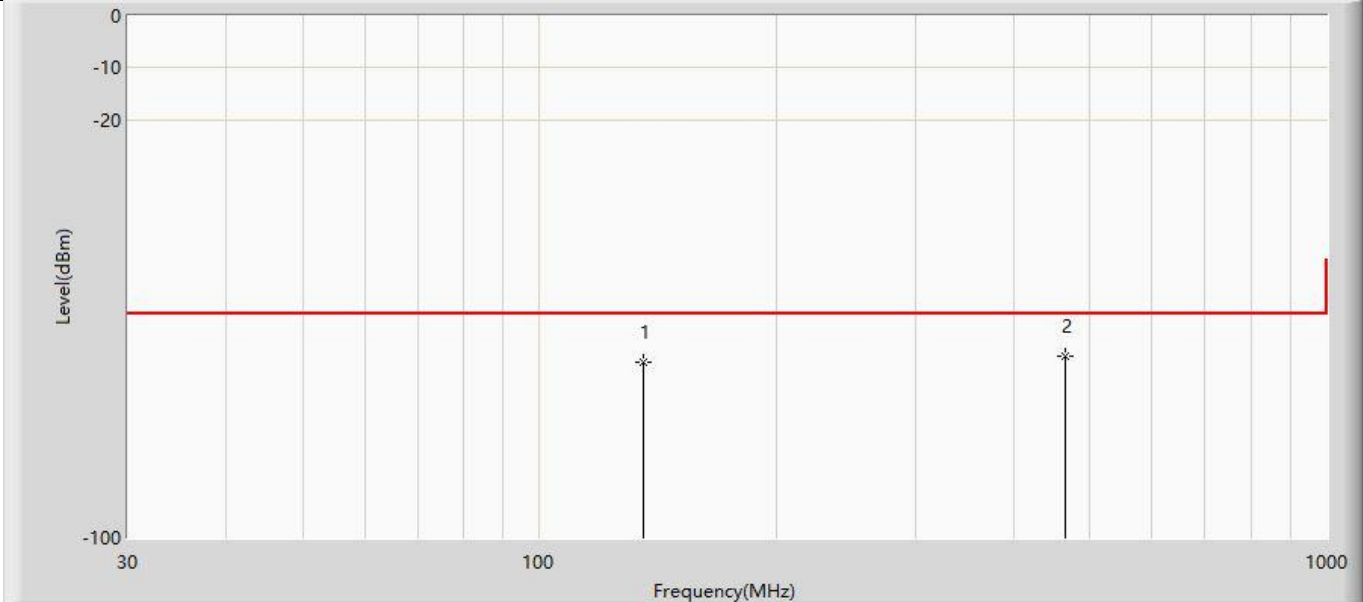
Profile: 24B0779R	Page No.: 29
Engineer: Yuliu	
Site: AC6	Time: 2024/12/09 - 13:45
Limit: ETSI_EN301908-1_RSE(3m)_UE(Idle)	Margin: 0
Probe: CE_30-1G	Polarity: Horizontal
EUT: Cat4 indoor CPE	Power: 230 Vac / 50 Hz
Note: Mode 1:LTE band24 Idle 1643.5MHz	



No	Mark	Frequency (MHz)	Measure Level (dBm)	Reading Level (dBm)	Over Limit (dB)	Limit (dBm)	Factor (dB)	Type
1		154.160	-71.280	-95.140	-14.280	-57.000	23.860	PK
2	*	422.850	-65.372	-94.082	-8.372	-57.000	28.710	PK



Profile: 24B0779R	Page No.: 30
Engineer: Yuliu	
Site: AC6	Time: 2024/12/09 - 13:45
Limit: ETSI_EN301908-1_RSE(3m)_UE(Idle)	Margin: 0
Probe: CE_30-1G	Polarity: Vertical
EUT: Cat4 indoor CPE	Power: 230 Vac / 50 Hz
Note: Mode 1:LTE band24 Idle 1643.5MHz	



No	Mark	Frequency (MHz)	Measure Level (dBm)	Reading Level (dBm)	Over Limit (dB)	Limit (dBm)	Factor (dB)	Type
1		135.730	-66.245	-95.665	-9.245	-57.000	29.420	PK
2	*	465.530	-65.234	-94.024	-8.234	-57.000	28.790	PK

- Notes:
1. " * ", means this data is the worst emission level.
 2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp)
 3. The test frequency range, 9kHz~30MHz, worst case are at least 20dB below the limits, therefore no data appear in the report.
 4. The test frequency range, 12.75GHz~40GHz test result on peak is lower than average limit, all is the noise base, therefore no data appear in the report.
 5. If the test result on peak is lower than average limit, then average measurement needn't be performed.

The End