

# ETSI EN 301 908-1 & ETSI EN 301 908-13

## Radio Test Report

**Project No.** : 2207C142  
**Equipment** : AX1800 Wi-Fi 6 5G NR Router  
**Brand Name** : Tenda  
**Test Model** : 5G03  
**Series Model** : N/A  
**Applicant** : SHENZHEN TENDA TECHNOLOGY CO.,LTD.  
**Address** : 6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052  
**Manufacturer** : SHENZHEN TENDA TECHNOLOGY CO.,LTD.  
**Address** : 6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052  
**Date of Receipt** : Jul. 29, 2022  
**Date of Test** : Aug. 02, 2022 ~ Aug. 31, 2022  
**Issued Date** : Sep. 14, 2022  
**Report Version** : R01  
**Test Sample** : Engineering Sample No.: DG2022072964  
**Standard(s)** : ETSI EN 301 908-1 V15.1.1 (2021-09)  
ETSI EN 301 908-13 V13.1.1 (2019-11)  
ETSI TS 136 521-1 V15.2.0 (2018-10)

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

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TESTING CERT #5123.02

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**Declaration**

**BTL** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

**BTL's** reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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**BTL** is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

**Limitation**

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement Uncertainty are provided for informational purpose only and are not use in determining the Pass/Fail results.

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**REPORT ISSUED HISTORY**

Report No.	Version	Description	Issued Date	Note
BTL-ETSP-8-2207C142	R00	Original Report.	Sep. 09, 2022	Invalid
BTL-ETSP-8-2207C142	R01	Updated the antenna gain.	Sep. 14, 2022	Valid

## 1. TEST SUMMARY

ETSI EN 301 908-1 V15.1.1 (2021-09) and EN 301 908-13 V13.1.1 (2019-11)					
Ref Std.: ETSI TS 136 521-1 V15.2.0 (2018-10) (See Note 3)					
Sub clause	Description of Test			Verdict	Note
4.2.2	Radiated Emissions (UE)			Pass	-
6.2.2	Transmitter Maximum Output Power			Pass	(1)
6.6.2.1	Transmitter Spectrum Emission Mask	General Spectrum Emission Mask		Pass	(1)
6.6.2.2		Additional Spectrum Emission Mask		Pass	(1)
6.6.3.1	Transmitter Spurious Emissions	General Spurious Emissions		Pass	(1)
6.6.3.2		Spurious emission band UE co-existence			(1)
6.6.3.3		Additional spurious emissions		N/A	-
6.3.2	Transmitter Minimum Output Power			Pass	(1)
7.5	Receiver Adjacent Channel Selectivity (ACS)			Pass	(1)
7.6.1	Receiver Blocking Characteristics		In Band	Pass	(1)
7.6.2			Out Band	Pass	(1)
7.6.3			Narrow Band	Pass	(1)
7.7	Receiver Spurious Response			Pass	(1)
7.8.1	Receiver Intermodulation Characteristics			Pass	(1)
7.9	Receiver Spurious Emissions			Pass	(1)
6.6.2.3	Transmitter Adjacent Channel Leakage Power Ratio			Pass	(1)
7.3	Receiver Reference Sensitivity Level			Pass	(1)
4.2.4	Control and monitoring functions (UE)			Pass	(1)
6.6.2.3A	Receiver Total Radiated Sensitivity (TRS)			N/A	4
6.6.2.3A	Total Radiated Power (TRP)			N/A	4

### Note:

- For the verdict, the "N/A" denotes "not applicable", the "N/T" denotes "not tested".
- EUT Orthogonal Axis:  
"X" - denotes Laid on Table; "Y" - denotes Vertical Stand; "Z" - denotes Side Stand.
- Normative References:  
ETSI TS 136 508 V14.5.0 (2018-04)  
ETSI TS 136 101 V13.11.0 (2018-04)  
Note: The standards in note 3 are the reference standards for the standards shown on page 1, and all of them are not listed in the A2LA scope.
- The present requirement applies to handheld phones/DUTs that are wider than or equal to 56 mm and narrower than or equal to 72 mm.

5. The RF module of this 5G03 has been tested and certified. Please refer to the module report as listed in the below table for the test results of the RF module.

RF Module Model	Module Function	Report Number	Standard
RG500L-EU	WCDMA	SHR/2021/A001106	ETSI EN 301 908-1 V13.1.1 ETSI EN 301 908-2 V13.1.1 ETSI TS 134 121-1 V12.1.0
	LTE	SHR/2021/A001107	ETSI EN 301 908-1 V13.1.1 ETSI EN 301 908-13 V13.1.1 ETSI TS 136 521-1 V15.2.0
	5G NR	SHR/2021/A001108	{Draft}ETSI EN 301 908-25 V15.1.1 _15.0.3 (2020-10) ETSI TS 138 521-1 V16.6.0 (2020-12) ETSI TS 138 521-3 V16.6.0 (2020-12)

Based on the RF module the antennas for this 5G03 were updated as below table:

Ant. Model Name	Type	Antenna Brand	Antenna Gain(dBi)	Note
N/A	PCB	N/A	1.50	Band 5
			5.45	Band 41

- (1) Thus, only the radiated spurious emissions was evaluated and recorded in this report. For the test results of all other test items please refer to above module test report.
- (2) The antenna gain is provided by the manufacturer.

## 2. TEST ENVIRONMENT AND DESCRIPTION

### 2.1 TEST FACILITY

The test facilities used to collect the test data of radiated in this report is **DG-CB12** at the location of No. 3 Jinshagang 1st Rd. Shixia, Dalang Town Dongguan City, Guangdong 523792 People's Republic of China.


### 2.2 MEASUREMENT UNCERTAINTY

Measurement Uncertainty for a Level of Confidence of 95 %,  $U=2 \times U_c(y)$

Parameter	Uncertainty
Spurious Emissions, Radiated $30 \text{ MHz} \leq f \leq 1000 \text{ MHz}$	$\pm 3.58 \text{ dB}$
Spurious Emissions, Radiated $1 \text{ GHz} < f \leq 18 \text{ GHz}$	$\pm 3.78 \text{ dB}$

### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

Equipment	AX1800 Wi-Fi 6 5G NR Router	
Brand Name	Tenda	
Test Model	5G03	
Series Model	N/A	
Model Difference(s)	N/A	
RF Module Model	RG500L-EU	
Power Source	DC Voltage supplied from AC adapter. 1# Model: BN026-A24012E (EU) 2# Model: BN026-A24012B (UK) Only differ in plug.	
Power Rating	I/P: 100-240V~ 50/60Hz 0.7A    O/P: 12.0V  2.0A 24W	
Operation frequency Bands	LTE Band 5: Uplink: 824-849 MHz, Downlink : 869-894 MHz LTE Band 41: Uplink: 2496-2690 MHz, Downlink: 2496-2690 MHz	
Operation Bands	LTE Band 5 / LTE Band 41	
Modulation Type	UL: QPSK; 16QAM; 64QAM; 256QAM DL: QPSK; 16QAM; 64QAM; 256QAM	
Power Class	3	
IMEI NO.	Radiated	869263050070535

Note:

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

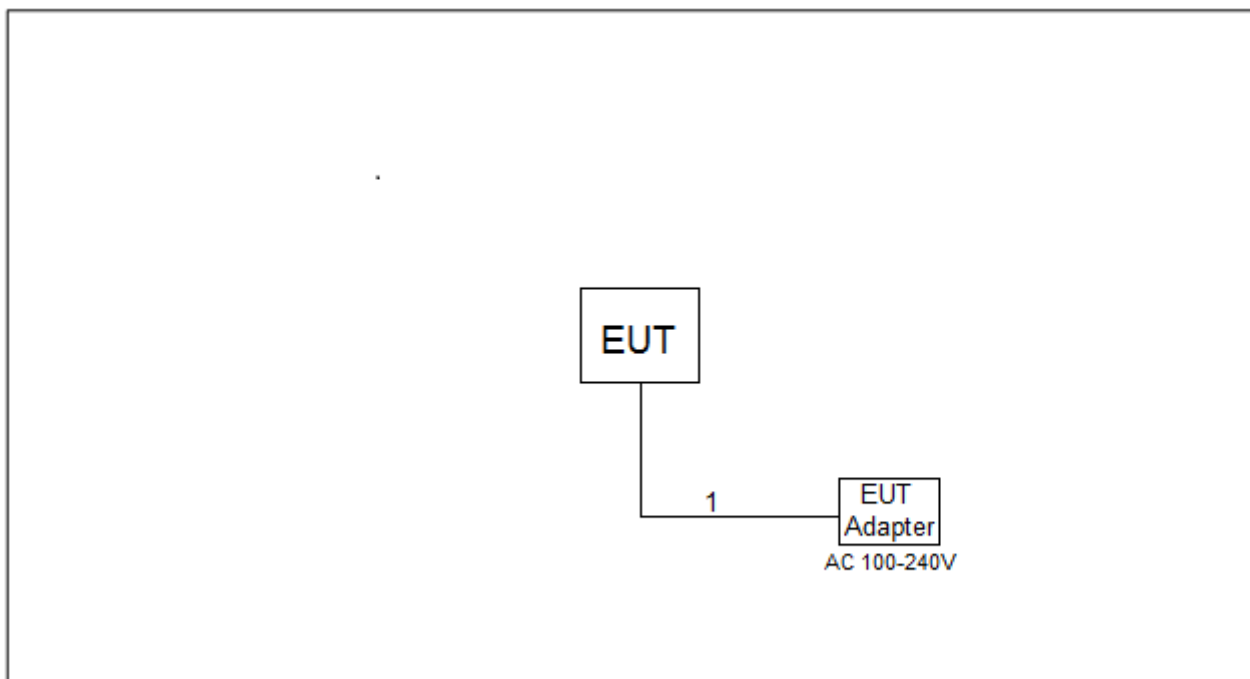
#### 2. Channel List:

Band	Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
5	1.4	20407	20525	20643	824.7	836.5	848.3
5	3	20415	20525	20635	825.5	836.5	847.5
5	5	20425	20525	20625	826.5	836.5	846.5
5	10	20450	20525	20600	829.0	836.5	844.0

Band	Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
41	5	39675	40620	41565	2498.5	2593.0	2687.5
41	10	39700	40620	41540	2501.0	2593.0	2685.0
41	15	39725	40620	41515	2503.5	2593.0	2682.5
41	20	39750	40620	41490	2506.0	2593.0	2680.0



### 3.2 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



### 3.3 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.

Item	Equipment	Brand	Model No.	Series No.
-	-	-	-	-

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	NO	NO	1.5m

### 3.4 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical function (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. RADIATED EMISSIONS (UE)

### 4.1 LIMITS

The frequency boundary and reference bandwidths for the detailed transitions of the limits between the requirements for out-of-band emissions and spurious emissions are based on Recommendations ITU-R SM.329-12 [1] and SM.1539-1 [i.6].

The requirements shown in table 4.2.2.2-1 are only applicable for frequencies in the spurious domain.

**Table 4.2.2.2-1: Radiated spurious emissions requirements (UE)**

Frequency	Minimum requirement (e.r.p.)/ reference bandwidth idle mode	Minimum requirement (e.r.p.)/ reference bandwidth traffic mode	Applicability
$30 \text{ MHz} \leq f < 1\,000 \text{ MHz}$	-57 dBm/100 kHz	-36 dBm/100 kHz	All
$1 \text{ GHz} \leq f < 12,75 \text{ GHz}$	-47 dBm/1 MHz	-30 dBm/1 MHz	All
$12,75 \text{ GHz} \leq f < 5^{\text{th}}$ harmonic of the upper frequency edge of the Uplink operating band in GHz	-47 dBm/1 MHz	-30 dBm/1 MHz	All (note 3)
$12,75 \text{ GHz} < f < 26 \text{ GHz}$	-47 dBm/1 MHz	-30 dBm/1 MHz	All (note 4)
$f_c - 2,5 \times 5 \text{ MHz} < f < f_c + 2,5 \times 5 \text{ MHz}$ (note 1 and note 2)	Not defined	Not defined	UTRA FDD, UTRA TDD, 3,84 Mcps option, cdma2000, spreading rate 3
$f_c - 2,5 \times \text{BW}_{\text{Channel}} \text{ MHz} < f < f_c + 2,5 \times \text{BW}_{\text{Channel}} \text{ MHz}$ (note 1 and note 2)	Not defined	Not defined	E-UTRA FDD, E-UTRA TDD, Mobile WiMAX™
$f_c - (1,5 \times \text{BW}_{\text{Channel}} + 5) \text{ MHz} < f < f_c + (1,5 \times \text{BW}_{\text{Channel}} + 5) \text{ MHz}$ (note 1)	Not defined	Not defined	NR operating in FR1
$f_c - 2,5 \times 10 \text{ MHz} < f < f_c + 2,5 \times 10 \text{ MHz}$ (note 1 and note 2)	Not defined	Not defined	UTRA TDD, 7,68 Mcps option
$f_c - 4 \text{ MHz} < f < f_c + 4 \text{ MHz}$ (note 1 and note 2)	Not defined	Not defined	UTRA TDD, 1,28 Mcps option cdma2000, spreading rate 1

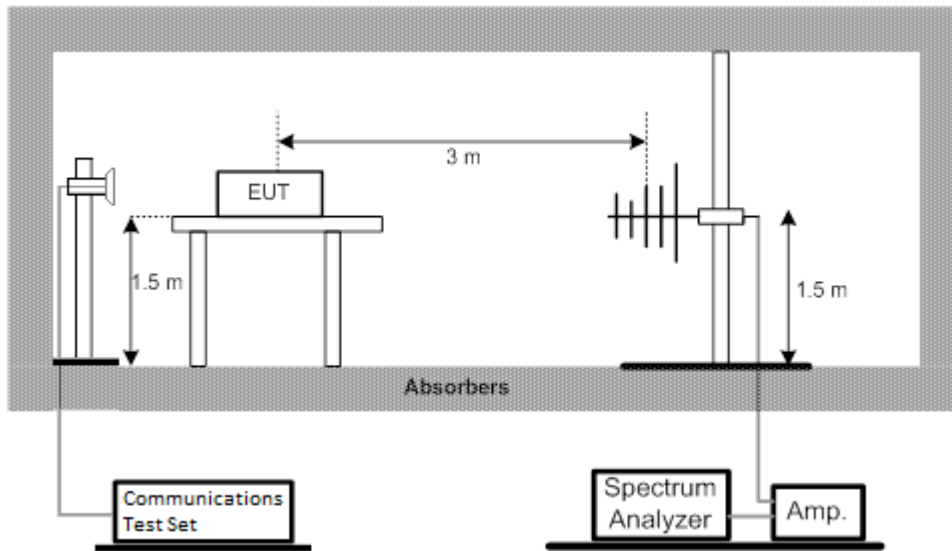
NOTE 1:  $f_c$  is the UE transmit centre frequency.  
NOTE 2: This frequency range is not in the spurious domain, no requirement is then defined for this frequency range.  
NOTE 3: Applies for Band that the upper frequency edge of the Uplink Band more than 2,69 GHz.  
NOTE 4: Applies for Band that the upper frequency edge of the Uplink Band more than 5,2 GHz.

### 4.2 CONFORMANCE

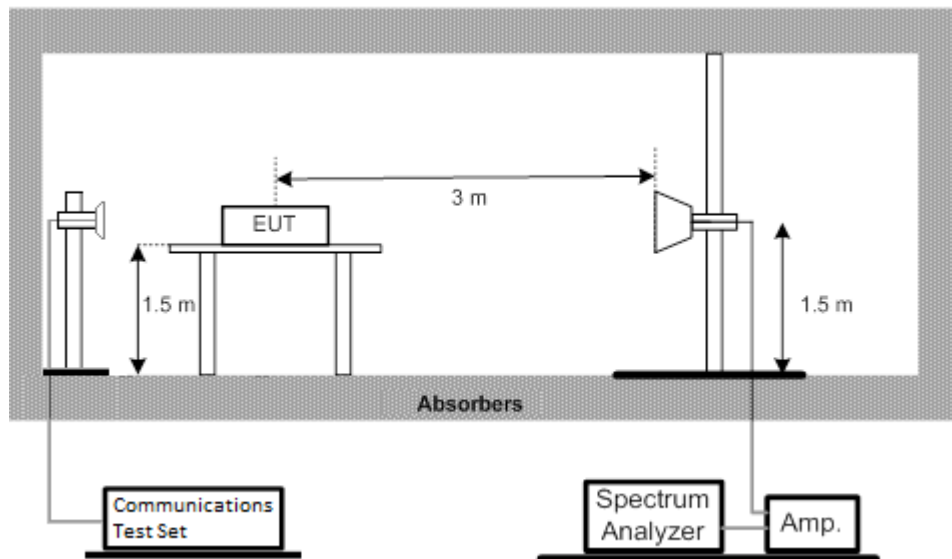
Conformance tests described in EN 301 908-1 clause 5.3.1 shall be carried out.

### 4.3 TEST SETUP

Radiated Emission Test Set-Up Frequency 30 MHz ~ 1 GHz



Radiated Emission Test Set-Up Frequency Above 1 GHz



#### 4.4 TEST PROCEDURE

##### Step 1:

The measurement is carried out in the fully anechoic chamber. EUT was placed on a 1.50 meter high nonconductive table at a 3 meter test distance from the test receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT. The height of receiving antenna is 1.50 m and varies in certain range to find the maximum power value. Connect the EUT to the BTS simulator via the air interface. The measurement is carried out using a spectrum analyzer or receiver. Then the antenna height and turn table rotation is adjusted till the maximum power value is founded on spectrum analyzer or receiver. A filter is necessary in the band near to the carrier frequency. A filter is needed to avoid the distortion of the testing equipment in the band above the carrier frequency.

##### Step 2:

A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT.

The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.

Calculation procedure:

The data of cable loss, antenna gain and air loss has been calibrated in full testing frequency range before the testing.

The power of the Radiated Spurious Emissions is calculated by adding the cable loss, antenna gain and air loss. The basic equation with a sample calculation is as followed:

$$P=PR+LC+LA-G$$

Where

P: Power of the Radiated Spurious Emissions (dBm)

PR: reading of the receiver (dBm)

LC: Cable Lose and power amilifer gain and filter cable loss (dB)

LA: Air loss (dB)

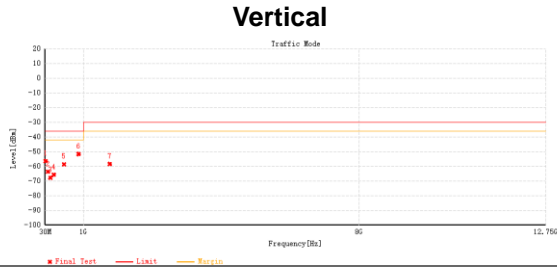
G: Antenna Gain (dBi)

#### 4.5 TEST MODES

Band	Test Conditions	Bandwidth (MHz)	RB	Test Mode	Test Channel	Result
LTE Band 5	NTC	1.4	1	Traffic/Idle	Mid-Channel	Pass
		5	1	Traffic/Idle	Mid-Channel	Pass
		10	1	Traffic/Idle	Mid-Channel	Pass
LTE Band 41	NTC	5	1	Traffic/Idle	Mid-Channel	Pass
		20	1	Traffic/Idle	Mid-Channel	Pass

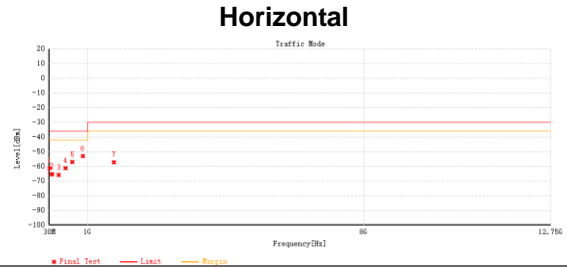
#### 4.6 RADIATED EMISSIONS TRAFFIC MODE MEASUREMENT (UE) RESULTS

Test Mode : LTE\_1.4M 1RB\_Traffic Mode\_  
Mid-Channel\_Band 5



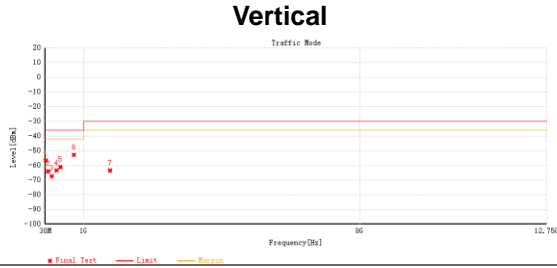
NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	43.095	-67.2	10.84	-56.36	-36	20.36	RMS	Vertical
2	96.385	-71.81	8.29	-63.52	-36	27.52	RMS	Vertical
3	162.793	-71.31	3.61	-67.7	-36	31.7	RMS	Vertical
4	248.735	-71.54	5.79	-65.75	-36	29.75	RMS	Vertical
5	503.263	-71.01	12.42	-58.59	-36	22.59	RMS	Vertical
6	881.951	-70.85	19.26	-51.59	-36	15.59	RMS	Vertical
7	1672.688	-54.45	-3.87	-58.32	-30	28.32	RMS	Vertical

Test Mode : LTE\_1.4M 1RB\_Traffic Mode\_  
Mid-Channel\_Band 5



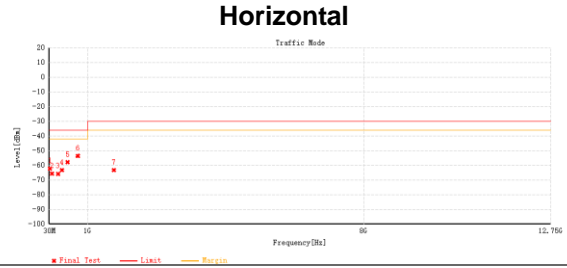
NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	46.67	-71.27	9.97	-61.3	-36	25.3	RMS	Horizontal
2	97.706	-72.04	6.07	-65.97	-36	29.97	RMS	Horizontal
3	270.851	-71.95	6.07	-65.88	-36	29.88	RMS	Horizontal
4	442.347	-71.37	10.11	-61.26	-36	25.26	RMS	Horizontal
5	615.104	-71.64	14.6	-57.04	-36	21.04	RMS	Horizontal
6	882.048	-72.24	19.23	-53.01	-36	17.01	RMS	Horizontal
7	1672.688	-53.08	-4.12	-57.2	-30	27.2	RMS	Horizontal

Test Mode : LTE\_5M 1RB\_Traffic Mode\_  
Mid-Channel\_Band 5



NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	43.483	-67.62	10.88	-56.74	-36	20.74	RMS	Vertical
2	96.87	-72.49	8.37	-64.12	-36	28.12	RMS	Vertical
3	191.602	-71.79	4.4	-67.39	-36	31.39	RMS	Vertical
4	310.621	-70.3	6.86	-63.44	-36	27.44	RMS	Vertical
5	413.247	-70.64	9.57	-61.07	-36	25.07	RMS	Vertical
6	753.135	-70.85	18.13	-52.72	-36	16.72	RMS	Vertical
7	1672.688	-59.6	-3.87	-63.47	-30	33.47	RMS	Vertical

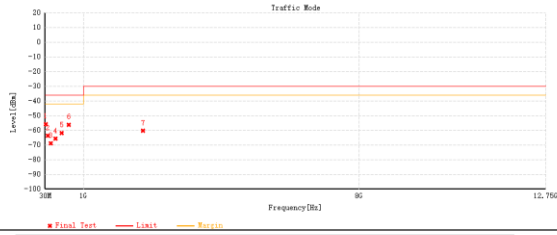
Test Mode : LTE\_5M 1RB\_Traffic Mode\_  
Mid-Channel\_Band 5



NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	48.624	-72.03	9.87	-62.16	-36	26.16	RMS	Horizontal
2	100.228	-72.78	7.24	-65.54	-36	29.54	RMS	Horizontal
3	249.511	-71.56	5.78	-65.78	-36	29.78	RMS	Horizontal
4	348.451	-71.74	8.57	-63.17	-36	27.17	RMS	Horizontal
5	497.54	-70.11	12.3	-57.81	-36	21.81	RMS	Horizontal
6	753.038	-71.42	17.92	-53.5	-36	17.5	RMS	Horizontal
7	1670.338	-58.97	-4.14	-63.11	-30	33.11	RMS	Horizontal

Test Mode : LTE\_10M 1RB\_Traffic Mode\_  
Mid-Channel\_Band 5

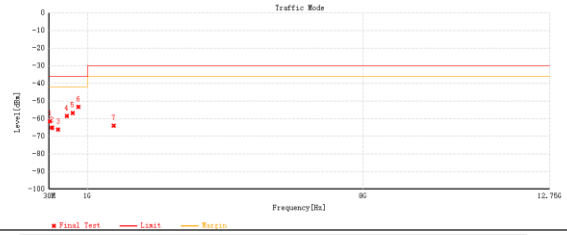
## Vertical



#	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	43.095	-66.63	10.84	-55.79	-36	19.79	RMS	Vertical
2	96.076	-71.91	8.34	-63.57	-36	27.57	RMS	Vertical
3	170.553	-72.45	3.68	-68.77	-36	32.77	RMS	Vertical
4	290.639	-71.98	6.41	-65.57	-36	29.57	RMS	Vertical
5	450.786	-71.65	9.87	-61.78	-36	25.78	RMS	Vertical
6	630.721	-71.31	15.18	-56.13	-36	20.13	RMS	Vertical
7	2017.512	-63.15	2.93	-60.22	-30	30.22	RMS	Vertical

Test Mode : LTE\_10M 1RB\_Traffic Mode\_  
Mid-Channel\_Band 5

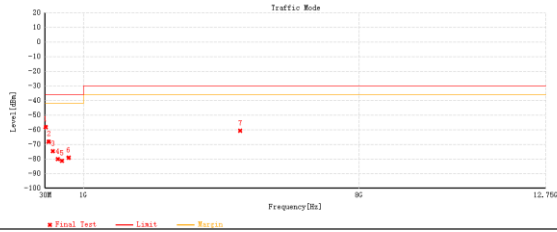
## Horizontal



#	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	45.132	-71.4	9.92	-61.48	-36	25.48	RMS	Horizontal
2	99.064	-72.19	7.03	-65.16	-36	29.16	RMS	Horizontal
3	258.241	-71.88	5.72	-66.16	-36	30.16	RMS	Horizontal
4	477.558	-70.22	11.77	-58.45	-36	22.45	RMS	Horizontal
5	627.229	-71.76	14.98	-56.78	-36	20.78	RMS	Horizontal
6	767.976	-71.43	18.12	-53.31	-36	17.31	RMS	Horizontal
7	1668.575	-58.89	-4.16	-64.05	-30	34.05	RMS	Horizontal

Test Mode : LTE\_5M 1RB\_Traffic Mode\_  
Mid-Channel\_Band 41

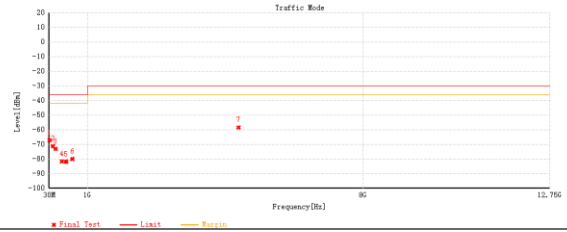
## Vertical



#	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	43.396	-59.15	1.08	-58.07	-36	22.07	RMS	Vertical
2	120.113	-62.46	-5.55	-68.01	-36	32.01	RMS	Vertical
3	224.097	-69.57	-5.05	-74.62	-36	38.62	RMS	Vertical
4	350.294	-78.81	-1.17	-79.98	-36	43.98	RMS	Vertical
5	458.255	-81.27	0.15	-81.12	-36	45.12	RMS	Vertical
6	625.095	-84.12	5.05	-79.07	-36	43.07	RMS	Vertical
7	4986.075	-65.96	5.25	-60.61	-30	30.61	RMS	Vertical

Test Mode : LTE\_5M 1RB\_Traffic Mode\_  
Mid-Channel\_Band 41

## Horizontal

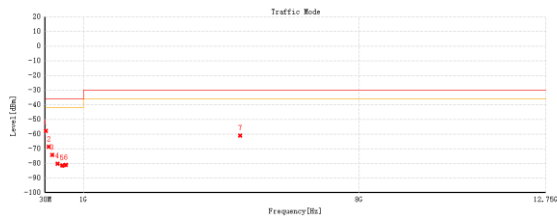


#	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	41.931	-67.36	0.17	-67.19	-36	31.19	RMS	Horizontal
2	123.799	-65.59	-5.67	-71.26	-36	35.26	RMS	Horizontal
3	192.96	-66.65	-6.44	-73.09	-36	37.09	RMS	Horizontal
4	352.331	-80.41	-1.31	-81.72	-36	45.72	RMS	Horizontal
5	456.606	-82.1	0.3	-81.8	-36	45.8	RMS	Horizontal
6	616.365	-84.57	4.61	-79.96	-36	43.96	RMS	Horizontal
7	4843.725	-63.19	4.82	-58.37	-30	28.37	RMS	Horizontal

Test Mode : LTE\_20M 1RB\_Traffic Mode\_  
Mid-Channel\_Band 41

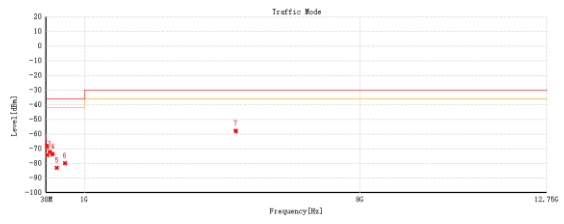
Test Mode : LTE\_20M 1RB\_Traffic Mode\_  
Mid-Channel\_Band 41

## Vertical



NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	42.901	-58.76	1.04	-57.72	-36	21.72	RMS	Vertical
2	121.859	-62.95	-5.65	-68.6	-36	32.6	RMS	Vertical
3	208.286	-66.35	-5.95	-74.3	-36	38.3	RMS	Vertical
4	343.019	-76.8	-1.29	-80.09	-36	44.09	RMS	Vertical
5	458.643	-81.6	0.17	-81.43	-36	45.43	RMS	Vertical
6	557.001	-83.75	2.68	-81.07	-36	45.07	RMS	Vertical
7	4983.15	-66.39	5.27	-61.12	-30	31.12	RMS	Vertical

## Horizontal



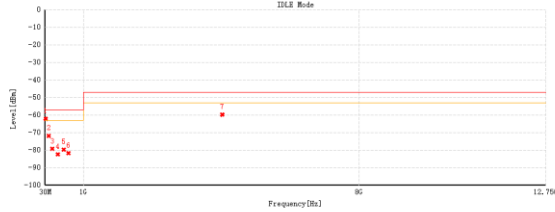
NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	42.028	-68.33	0.17	-68.16	-36	32.16	RMS	Horizontal
2	64.532	-68.5	-5.67	-74.17	-36	38.17	RMS	Horizontal
3	118.367	-66.98	-5.21	-72.19	-36	36.19	RMS	Horizontal
4	194.318	-67.07	-6.51	-73.58	-36	37.58	RMS	Horizontal
5	303.754	-80.08	-2.93	-83.01	-36	47.01	RMS	Horizontal
6	507.434	-82.28	2.41	-79.87	-36	43.87	RMS	Horizontal
7	4843.237	-62.63	4.82	-57.81	-30	27.81	RMS	Horizontal

#### 4.7 RADIATED EMISSIONS IDLE MODE MEASUREMENT (UE) RESULTS

Test Mode : LTE\_1.4M 1RB\_Idle\_Mid-Channel\_Band 5

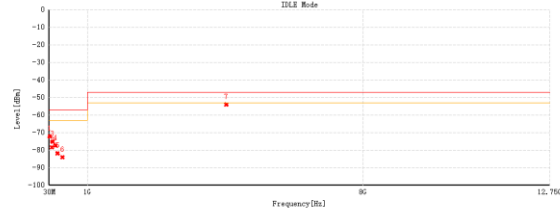
Test Mode : LTE\_1.4M 1RB\_Idle\_Mid-Channel\_Band 5

Vertical



NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	42.998	-63.09	1.04	-62.05	-57	5.05	RMS	Vertical
2	121.762	-66.14	-5.64	-71.78	-57	14.78	RMS	Vertical
3	214.009	-73.56	-5.61	-79.17	-57	22.17	RMS	Vertical
4	348.354	-81.16	-1.2	-82.36	-57	25.36	RMS	Vertical
5	500.062	-82.32	2.57	-79.75	-57	22.75	RMS	Vertical
6	618.79	-86.48	4.82	-81.66	-57	24.66	RMS	Vertical
7	4531.462	-57.79	-1.92	-59.71	-47	12.71	RMS	Vertical

Horizontal

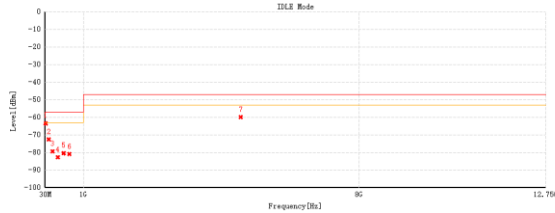


NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	43.677	-72.18	0.14	-72.04	-57	15.04	RMS	Horizontal
2	96.542	-74.88	-3.45	-78.33	-57	21.33	RMS	Horizontal
3	118.852	-69.77	-5.26	-75.03	-57	18.03	RMS	Horizontal
4	191.214	-70.92	-6.35	-77.27	-57	20.27	RMS	Horizontal
5	244.273	-77.56	-4.22	-81.78	-57	24.78	RMS	Horizontal
6	369.112	-82.88	-1.04	-83.92	-57	26.92	RMS	Horizontal
7	4530.875	-51.92	-2.01	-53.93	-47	6.93	RMS	Horizontal

Test Mode : LTE\_5M 1RB\_Idle\_Mid-Channel\_Band 5

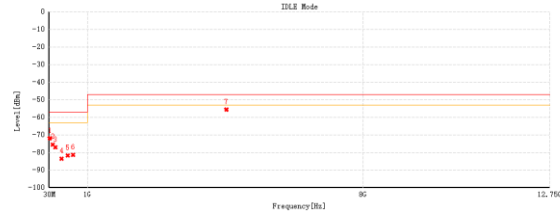
Test Mode : LTE\_5M 1RB\_Idle\_Mid-Channel\_Band 5

Vertical



NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	42.901	-64.44	1.04	-63.4	-57	6.4	RMS	Vertical
2	120.307	-66.94	-5.56	-72.5	-57	15.5	RMS	Vertical
3	212.554	-73.6	-5.7	-79.3	-57	22.3	RMS	Vertical
4	352.719	-81.37	-1.19	-82.56	-57	25.56	RMS	Vertical
5	499.965	-82.99	2.57	-80.42	-57	23.42	RMS	Vertical
6	642.749	-86.37	5.53	-80.84	-57	23.84	RMS	Vertical
7	4997.938	-59.29	-0.57	-59.86	-47	12.86	RMS	Vertical

Horizontal



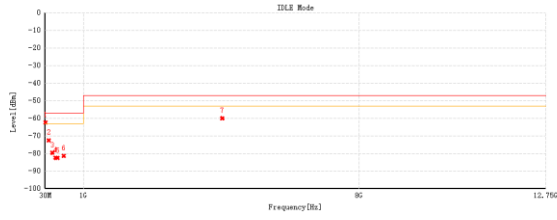
NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	44.453	-72.08	0.13	-71.95	-57	14.95	RMS	Horizontal
2	123.314	-69.81	-5.63	-75.44	-57	18.44	RMS	Horizontal
3	189.953	-70.7	-6.3	-77	-57	20	RMS	Horizontal
4	345.25	-82.12	-1.34	-83.46	-57	26.46	RMS	Horizontal
5	499.965	-84.09	2.48	-81.61	-57	24.61	RMS	Horizontal
6	637.608	-86.65	5.27	-81.38	-57	24.38	RMS	Horizontal
7	4531.462	-53.57	-2	-55.57	-47	8.57	RMS	Horizontal



Test Mode : LTE\_10M 1RB\_Idle\_Mid-Channel\_Band 5

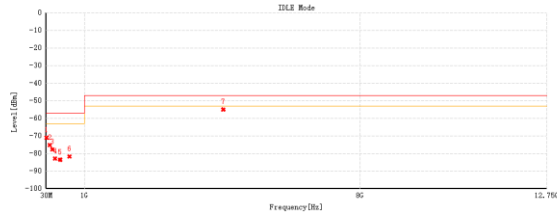
Test Mode : LTE\_10M 1RB\_Idle\_Mid-Channel\_Band 5

## Vertical



NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	39.409	-62.81	0.47	-62.34	-57	5.34	RMS	Vertical
2	119.531	-66.97	-5.44	-72.41	-57	15.41	RMS	Vertical
3	212.845	-73.89	-5.68	-79.57	-57	22.57	RMS	Vertical
4	297.332	-76.94	-3.4	-82.34	-57	25.34	RMS	Vertical
5	343.407	-81.23	-1.29	-82.52	-57	25.52	RMS	Vertical
6	500.062	-83.85	2.57	-81.28	-57	24.28	RMS	Vertical
7	4530.875	-58.02	-1.92	-59.94	-47	12.94	RMS	Vertical

## Horizontal

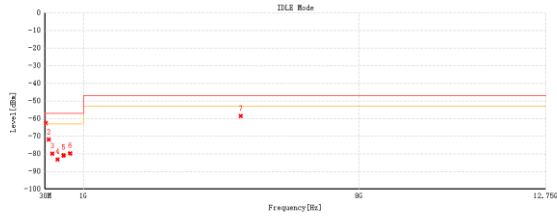


NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	43.095	-71.13	0.15	-70.98	-57	13.98	RMS	Horizontal
2	122.053	-69.63	-5.54	-75.17	-57	18.17	RMS	Horizontal
3	191.699	-71.24	-6.38	-77.62	-57	20.62	RMS	Horizontal
4	255.04	-78.75	-4.09	-82.84	-57	25.84	RMS	Horizontal
5	382.692	-82.85	-0.65	-83.5	-57	26.5	RMS	Horizontal
6	619.275	-86.49	4.76	-81.73	-57	24.73	RMS	Horizontal
7	4530.875	-52.92	-2.01	-54.93	-47	7.93	RMS	Horizontal

Test Mode : LTE\_5M 1RB\_Idle\_Mid-Channel\_Band 41

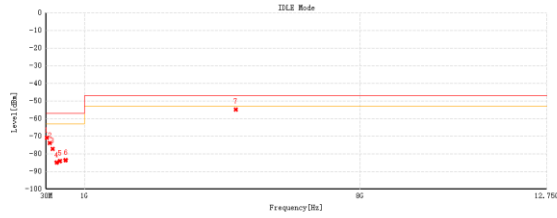
Test Mode : LTE\_5M 1RB\_Idle\_Mid-Channel\_Band 41

## Vertical



NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	42.61	-63.49	1.01	-62.48	-57	5.48	RMS	Vertical
2	120.591	-66.36	-5.57	-71.93	-57	14.93	RMS	Vertical
3	212.36	-74.16	-5.71	-79.87	-57	22.87	RMS	Vertical
4	348.451	-81.96	-1.2	-83.16	-57	26.16	RMS	Vertical
5	499.965	-83.4	2.87	-80.53	-57	23.53	RMS	Vertical
6	664.671	-85.08	5.31	-79.77	-57	22.77	RMS	Vertical
7	4997.35	-58.03	-0.57	-58.6	-47	11.6	RMS	Vertical

## Horizontal

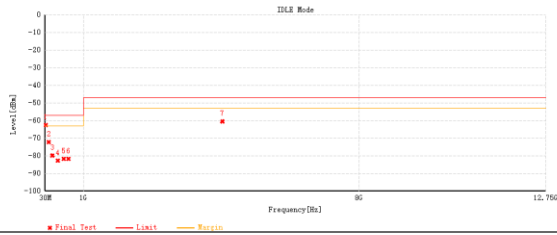


NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	42.319	-71.02	0.16	-70.86	-57	13.86	RMS	Horizontal
2	119.24	-68.6	-5.31	-73.91	-57	16.91	RMS	Horizontal
3	192.087	-70.72	-6.4	-77.12	-57	20.12	RMS	Horizontal
4	293.452	-81.67	-3.18	-84.85	-57	27.85	RMS	Horizontal
5	376.587	-83.22	-0.79	-84.01	-57	27.01	RMS	Horizontal
6	534.118	-85.96	2.32	-83.64	-57	26.64	RMS	Horizontal
7	4843.425	-53.89	-0.95	-54.83	-47	7.83	RMS	Horizontal

Test Mode : LTE\_20M 1RB\_Idle\_Mid-Channel\_  
Band 41

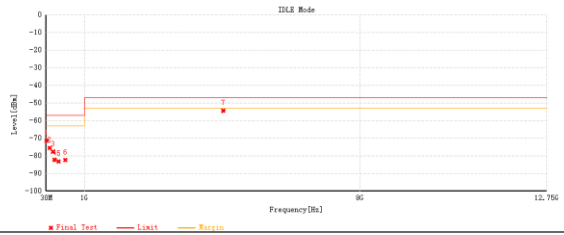
Test Mode : LTE\_20M 1RB\_Idle\_Mid-Channel\_  
Band 41

## Vertical



NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	42.707	-63.46	1.02	-62.44	-57	5.44	RMS	Vertical
2	121.471	-66.54	-5.62	-72.16	-57	15.16	RMS	Vertical
3	212.651	-74.06	-5.69	-79.75	-57	22.75	RMS	Vertical
4	350.1	-81.42	-1.17	-82.59	-57	25.59	RMS	Vertical
5	499.995	-84.23	2.57	-81.66	-57	24.66	RMS	Vertical
6	624.998	-86.72	5.04	-81.68	-57	24.68	RMS	Vertical
7	4031.462	-58.48	-1.92	-60.4	-47	13.4	RMS	Vertical

## Horizontal



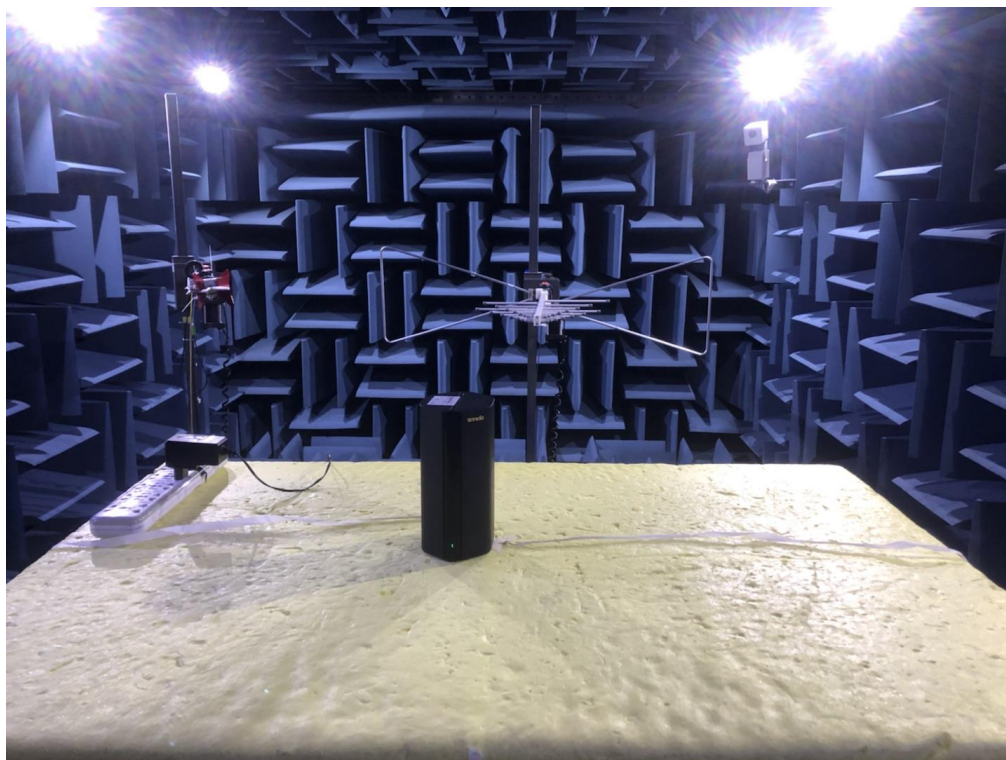
NO.	Freq. [MHz]	Reading [dBm]	Factor [dB]	Level [dBm]	Limit [dBm]	Margin [dB]	Detector	Polarity
1	42.095	-71.52	0.15	-71.37	-57	14.37	RMS	Horizontal
2	118.367	-70.28	-5.21	-75.49	-57	18.49	RMS	Horizontal
3	199.556	-70.9	-6.78	-77.68	-57	20.68	RMS	Horizontal
4	243.012	-77.99	-4.26	-82.25	-57	25.25	RMS	Horizontal
5	346.705	-81.83	-1.33	-83.16	-57	26.16	RMS	Horizontal
6	513.933	-84.73	2.35	-82.38	-57	25.38	RMS	Horizontal
7	4031.462	-52.37	-2	-54.37	-47	7.37	RMS	Horizontal

## 5. MEASUREMENT INSTRUMENTS LIST

DETAILS FOR RADIATED EMISSIONS					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarzbeck	VULB9160	9160-3231	Apr. 18, 2023
2	Amplifier	HP	8447D	2944A08908	Jan. 22, 2023
3	Controller	ETS-Lindgren	2090	N/A	N/A
4	Double-Ridged Waveguide Horn Antennas	ETS-LINDGREN	3117-PA	224172	Sep. 18, 2022
5	Preamplifier	ETS-LINDGREN	3117-PA	224172	Jul. 03, 2023
6	Automatic switching unit of high and low frequency line wave device	Tonscend	JS0806-F	20E8060252	N/A
7	FSV Signal Analyzer	R&S	FSV7	101908	Jan. 22, 2023
8	FSV Signal Analyzer	R&S	FSV40	101423	Jul. 03, 2023
9	Measurement Software	Tonscend	JS36-RSE 2.5.1.5	N/A	N/A
10	wideband radio communication tester	R&S	CMW500	152372	Mar. 13, 2023

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

**6. EUT TEST PHOTO****Radiated Emissions Test Photos****End of Test Report**