

TEST REPORT

Test Report No. :	CTL2405163031-WF02	Jul 08, 2024
		Date of issue

Equipment under Test : Portable RTK Receiver

Sample No : CTL230413101-S001

Model /Type : P8 Glabal

Listed Models : N/A

Applicant : **Guangzhou Toksurvey Information Technology Co., Ltd**

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Manufacturer : **Guangzhou Toksurvey Information Technology Co., Ltd**

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Test result	Pass *
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*In the configuration tested, the EUT complied with the standards specified page 5.

The test results presented in this report relate only to the object tested.

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1. SUMMARY

1.1. TEST STANDARDS

The tests were performed according to following standards:

[FCC Part 24](#): PUBLIC MOBILE SERVICES

[TIA/EIA 603 D June 2010](#): Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

[FCC Part 2](#): FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

[KDB971168 D01:v02r02](#) MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS

[ANSI C63.10-2013](#) Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

1.2. Test Description

Test Item	Section in CFR 47	Result
RF Output Power	Part 2.1046 Part 24.232 (c)	Pass
Peak-to-Average Ratio	Part 24.232 (d)	Pass
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 24.238	Pass
Spurious Emissions at Antenna Terminal	Part 2.1051 Part 24.238 (a)	Pass
Field Strength of Spurious Radiation	Part 2.1053 Part 24.238 (a)	Pass
Out of band emission, Band Edge	Part 22.917 (a) Part 24.238 (a)	Pass
Frequency stability	Part 2.1055 Part 24.235	Pass

Conducted Disturbance0.15~30MHz	$\pm 2.96\text{dB}$	(1)
20dB Emission Bandwidth	$\pm 1.9\%$	(1)
Carrier Frequency Separation	$\pm 1.9\%$	(1)
Maximum Power Spectral Density Level	$\pm 0.98\text{ dB}$	(1)
Number of Hopping Channel	$\pm 1.9\%$	(1)
Time of Occupancy	$\pm 0.11\%$	(1)
Max Peak Conducted Output Power	$\pm 0.98\text{ dB}$	(1)
Band-edge Spurious Emission	$\pm 1.21\text{dB}$	(1)
Conducted RF Spurious Emission	9kHz-7GHz: $\pm 1.09\text{dB}$ 7GHz-26.5GHz: $\pm 3.27\text{dB}$	(1)

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=1.96$.

2. GENERAL INFORMATION

2.1. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature:	25°C
Relative Humidity:	55 %
Air Pressure:	101 kPa

2.2. General Description of EUT

Product Name:	Portable RTK Receiver		
Model/Type reference:	P8 Glabal		
Power supply:	DC7.4V from battery & DC 5V from adapter		
Adapter infomation	Model : PS188120K1500UU InputL:100-240V~50/60Hz 0.5A Max Output:12V---1.5A,9V---2.0A, 5V---3A 18W Max		
Test Mode (s)			
Mode:	Band DCS1900,WCDMA Band II , LTE Band 2,LTE Band 5		
Modulation Type:	(WCDMA)QPSK; (LTE)QPSK 16QAM		
Operating Frequency Range(S)	Band	Tx(MHz)	Rx(MHz)
	WCDMA Band II	1850~1910	1930~1990
	LTE Band 2	1850~1910	1930~1990
	DCS1900	1850~1910	1930~1990
	LTE Band 25	1850~1915	1930~1995
Release Version:	Release 9		
Category:	Cat 4		
Antenna type:	FPC Antenna		

3. TEST CONDITIONS AND RESULTS

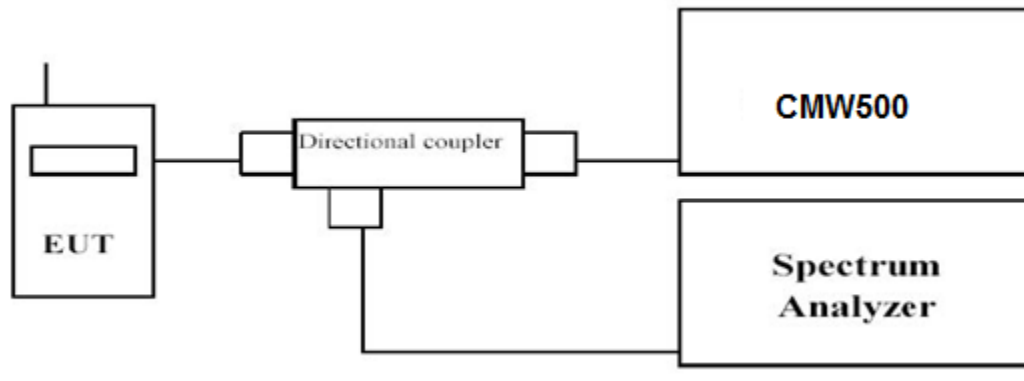
3.1. Output Power

LIMIT

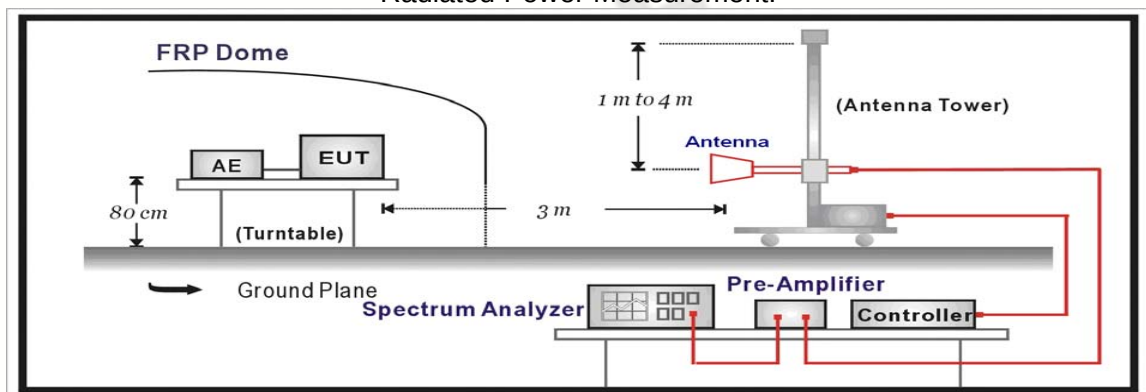
Rule Part 24.232(b) specifies, "Mobile/portable stations are limited to 2 watts e.i.r.p.

TEST CONFIGURATION

Conducted Power Measurement



Radiated Power Measurement:



TEST PROCEDURE

The EUT was setup according to EIA/TIA 603D

Conducted Power Measurement:

- Place the EUT on a bench and set it in transmitting mode.
- Connect a low loss RF cable from the antenna port to a spectrum analyzer and CMW500 by a Directional Couple.
- EUT Communicate with CMW500 then selects a channel for testing.
- Add a correction factor to the display of spectrum, and then test.

Radiated Power Measurement:

- d) The transmitter shall be switched on and the measuring receiver shall be tuned to the frequency of the transmitter under test.
- e) The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
- f) The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- g) The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
- h) The maximum signal level detected by the measuring receiver shall be noted.
- i) The transmitter shall be replaced by a substitution antenna.
- j) The substitution antenna shall be orientated for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
- k) The substitution antenna shall be connected to a calibrated signal generator.
- l) If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- m) The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
- n) The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
- o) The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.
- p) The measure of the effective radiated power is the larger of the two levels recorded at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.
- q) Test site anechoic chamber refer to ANSI C63.4.

TEST RESULTS

1. please refer to Appendix for 3G_WCDMA_band_2: Section 1
2. please refer to Appendix for 4G_LTE_band_2: Section 1
3. please refer to Appendix for 4G_LTE_band_25: Section 1
4. please refer to Appendix for 2G_PCS1900 Section 1

