

RF EXPOSURE EVALUATION REPORT

Application No.: GZCR2604000824AT

Applicant: Comba Telecom Network Systems Limited

Address of Applicant: Flat/Rm 10, 3/F, Bio-Informatics Ctr, 2 Science Park West Avenue, HK Science Park, Pak Shek Kok, N.T. Hong Kong

Manufacturer: Comba Telecom Technology (Guangzhou) Ltd.

Address of Manufacturer: No. 6 Jinbi Road, Economics and Technology Development District, Guangzhou, Guangdong, China

Factory: Comba Telecom Technology (Guangzhou) Ltd.

Address of Factory: No. 6 Jinbi Road, Economics and Technology Development District, Guangzhou, Guangdong, China

Product Name: Beam Donor Antenna - 1900/2100
Beam Active Remote Unit - 1900/2100

Model No.: Beam-Donor, Beam-ARU

FCC ID: PX8BEAM-DONOR for Beam-Donor
PX8BEAM-ARU for Beam-ARU

Trade Mark: Comba

Standard(s) : 47 CFR Part 2.1091
47 CFR Part 1.1310, Part 1.1307

Date of Receipt: 2026-04-29

Date of Evaluation: 2026-06-18

Date of Issue: 2026-07-07

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.



Revision Record			
Version	Report No.	Date	Remark
01	GZCR260400082403	2026-07-07	Original

Authorized for issue by:			
		Kevin Zhang	
		Ricky Liu/Project Engineer	
Approved By		Vico Cui	
		Vico Cui/Reviewer	



2 Evaluation Summary

Item	Standard	Requirement	Method	Result
RF Exposure	47 CFR Part 2.1091 47 CFR Part 1.1310 47 CFR Part 1.1307	47 CFR Part 1.1310	47 CFR Part 1.1310	PASS

Note:

E.U.T./ EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.



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4 General Information

4.1 Details of E.U.T.

Power Supply:	Beam-MU: AC 100-240V, 50/60Hz Beam-Donor: DC 48V @ PoE from Beam-MU Beam-ARU: DC 48V @ PoE from Beam-MU	
Cable:	AC mains (4m, unshielded) for Beam-Donor	
Operating Temperature:	-40 to +55 °C	
Operating Humidity:	≤85%	
Frequency Range:	AWS-1:	Uplink: 1710-1755MHz Downlink: 2110-2155MHz
	Broadband PCS:	Uplink: 1850-1915MHz Downlink: 1930-1995MHz
Interface:	Antenna Port:	1 (N-F)
	Debug Port	1 (RJ45)
Minimum Bandwidth:	5MHz	
Normal Output Power:	Uplink	17dBm
	Downlink	10dBm per channel
Normal System Gain:	Uplink	80dB
	Downlink	80dB
Radio System Type:	LTE	
Antenna Type:	Server antenna	External dedicated antenna
	Donor antenna	Integrated antenna
Antenna Gain with cable loss :	Server antenna	0dBi declared by the manufacturer
	Donor antenna	7dBi declared by the manufacturer
Software Version:	Beam-Donor: DASMU00.02.05 Beam-ARU:DASARU00.01.01 Beam-MU: DASHUB00.01.03	
Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.		



4.2 Evaluated Location

All evaluation were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,
No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou,
Guangdong, China 510663
Tel: +86 20 82155555

4.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

● ACMA

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian/New Zealand Regulatory Compliance Mark (RCM).

● SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

● FCC Recognized Accredited Test Firm(Registration No.: 486818)

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818.

● ISED (Registration No.: 4620B, CAB identifier: CN0052)

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

● VCCI (Registration No.: R-12460, C-12584, G-20107 and T-11179)

The 10m Semi-anechoic chamber, 966 Anechoic Chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-20107 and T-11179 respectively.

● CBTL (Lab Code: TL129)

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2017, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.

4.4 Deviation from Standards

None

4.5 Abnormalities from Standard Conditions

None



5 Radio Spectrum Technical Requirement

5.1 RF Exposure

5.1.1 Requirement

In accordance with 47 CFR FCC Part 2.1091, this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

According to 47 CFR FCC Part 1310, the criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in Part1.1307(b).

TABLE 1 TO §1.1310(E)(1)—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f ²)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f ²)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density

5.1.2 Method

According to IEEE C95.3:2002 section 5.5.1.1, the power density S at a point on the axis at a distance d from a transmitting antenna is given by the Friis free-space transmission formula:

$$S = \frac{PG}{4\pi d^2}$$

S = power density (mW/cm²)
P = the net power delivered to the antenna (mW)
G = gain of the antenna in linear scale
d = distance between observation point and center of the radiator (cm)

From the maximum EUT RF output power, as well as the gain of the used antenna, according to the RF power density limit stated in above table, the minimum distance between the antenna and human body will be calculated.



5.1.3 Conclusion

For DL

1. According to the test report GZCR260400082403, the max tune up conducted power 10dBm (10mW) as worst case used for exposure evaluation.
2. According to the declaration from the applicant, the server antenna gain with cable loss is 0dBi.
3. According to the declaration from the applicant, the distance between server antenna and body for normal use is ≥ 20 cm. The worst-case 20cm was used for exposure calculation in this report.

Frequency Band	Antenna Gain (Numeric)	Max. total tune-up tolerance power (mW)	Limit of Power Density (mW/cm ²)	Power Density (mW/cm ²)
AWS-1	1	10	$S_{limit1}=1$	$S_1=0.002$
Broadband PCS	1	10	$S_{limit2}=1$	$S_2=0.002$

For UL

1. According to the test report GZCR260400082403, the max tune up conducted power 20dBm (100mW) as worst case used for exposure evaluation.
2. According to the declaration from the applicant, the donor antenna gain with cable loss is 7dBi.
3. According to the declaration from the applicant, the distance between donor antenna and body for normal use is ≥ 20 cm. The worst-case 20cm was used for exposure calculation in this report.

Frequency Band	Antenna Gain (Numeric)	Max. total tune-up tolerance power (mW)	Limit of Power Density (mW/cm ²)	Power Density (mW/cm ²)
AWS-1	5.012	100	$S_{limit3}=1$	$S_3=0.10$
Broadband PCS	5.012	100	$S_{limit4}=1$	$S_4=0.10$

For multiple simultaneous transmission sources, the calculated Power Density should comply with:

$$(S_1/S_{limit1}) + (S_2/S_{limit2}) \leq 1 \text{ (for DL)}$$

$$(S_3/S_{limit3}) + (S_4/S_{limit4}) \leq 1 \text{ (for UL)}$$

$$(0.002/1) + (0.002/1) = 0.004 \leq 1 \text{ (for DL)}$$

$$(0.10/1) + (0.10/1) = 0.20 \leq 1 \text{ (for UL)}$$

So the EUT met the RF exposure requirement without further test.

Note:

The donor antenna and server antenna must maintain sufficient distance to ensure isolation, otherwise the EUT will be shut down due to oscillation. So the exposure evaluation only concerned the Uplink and Downlink single transmission in this report even if the product Uplink and Downlink simultaneous emission during operation.

Any installation, adjustment, maintenance and repair of the equipment must only be carried out by trained and authorized personnel, who also must pay attention to radiation effect to human being through this permitted use distance.



5.2 EUT Constructional Details (EUT Photos)

Refer to Appendix - External and Internal Photos for GZCR2604000824AT.

- End of the Report -

