## RF EXPOSURE EVALUATION REPORT

FCC ID : LHJ-BL28NARD2

Equipment : BL28NA-RD2
Brand Name : Continental
Model Name : BL28NA-RD2

Applicant : Continental Automotive Systems, Inc.

21440 W Lake Cook Rd., Deer Park, IL 60010, USA

Manufacturer : Continental Automotive Systems, Inc.

21440 W Lake Cook Rd., Deer Park, IL 60010, USA

Standard: 47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part2.1091 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

The results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full

Approved by: Cona Huang / Deputy Manager

Care Guang





Report No.: FA313125-01

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TEL: 886-3-327-3456 Page: 1 of 7
FAX: 886-3-328-4978 Issued Date: Dec. 19, 2023

# **Table of Contents**

Report No. : FA313125-01

1.	DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)	4
	MAXIMUM RF AVERAGE OUTPUT POWER AMONG PRODUCTION UNITS	
3.	DETERMINATION OF EXEMPTION	6
4.	RE EXPOSURE EVALUATION	7

TEL: 886-3-327-3456 Page: 2 of 7
FAX: 886-3-328-4978 Issued Date: Dec. 19, 2023

# History of this test report

Report No. : FA313125-01

Report No.	Version	Description	Issued Date
FA313125-01	Rev. 01	Initial issue of report	Dec. 19, 2023

TEL: 886-3-327-3456 Page: 3 of 7
FAX: 886-3-328-4978 Issued Date: Dec. 19, 2023

## 1. Description of Equipment Under Test (EUT)

	Product Feature & Specification
EUT Type	BL28NA-RD2
Brand Name	Continental
Model Name	BL28NA-RD2
FCC ID	LHJ-BL28NARD2
	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz
Mode	GPRS/EGPRS RMC 12.2Kbps HSDPA HSUPA DC-HSDPA LTE: QPSK, 16QAM
HW Version	P4.0
SW Version	MODEM9x28_49.02.04
Remark: 1. Variant report to cha	ange Host information that does not affect RF characteristics all the test case which can be referred

Report No. : FA313125-01

 Variant report to change Host information that does not affect RF characteristics all the test case which can be referred to original report, Report No: FA313125

Host Information					
Equipment Name	StrLnk3P				
Brand Name	Continental				
Model Name	StrLnk3P				
HW Version	T23 D2				
SW Version	SBR_T23_ DCM_40.10.31				
EUT Stage	Identical Prototype				

Reviewed by: <u>Jason Wang</u> Report Producer: <u>Daisy Peng</u>

TEL: 886-3-327-3456 Page: 4 of 7
FAX: 886-3-328-4978 Issued Date: Dec. 19, 2023

# 2. Maximum RF average output power among production units

Report No. : FA313125-01

Mode	Burst average power(dBm)			
Mode	GSM 850	GSM 1900		
GPRS (GMSK, 1 Tx slot)	33.5	30.5		
GPRS (GMSK, 2 Tx slots)	32.5	29.5		
GPRS (GMSK, 3 Tx slots)	31.5	28.5		
GPRS (GMSK, 4 Tx slots)	30.5	26.5		
EDGE (8PSK, 1 Tx slot)	27.5	26.5		
EDGE (8PSK, 2 Tx slots)	27.0	26.5		
EDGE (8PSK, 3 Tx slots)	25.5	24.5		
EDGE (8PSK, 4 Tx slots)	24.5	23.5		

Mc	ode	Maximum Average power(dBm)				
	Band II	24.5				
WCDMA	Band IV	24.5				
	Band V	24.5				
	Band 2	24.0				
	Band 4	24.0				
LTE	Band 5	24.0				
	Band 7	24.0				
	Band 12	24.0				

TEL: 886-3-327-3456 Page: 5 of 7
FAX: 886-3-328-4978 Issued Date: Dec. 19, 2023

#### RF EXPOSURE EVALUATION REPORT

### 3. Determination of exemption

Per 1.1307(b)(3), (i) For single RF sources (i.e., any single fixed RF source, mobile device, or portable device, as defined in paragraph (b)(2) of this section): A single RF source is exempt if:

(A) The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(ii)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(ii)(A);

Report No.: FA313125-01

(B) Or the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold Pth (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). Pth is given by:

Pth (mW) = 
$$\text{ERP}_{20\text{cm}}$$
 (d / 20)\* for distance d \leq 20cm

Pth (mW) =  $\text{ERP}_{20\text{cm}}$  for distance 20cm < d \leq 40cm

 $x = -log10 \left( \frac{60}{ERP_{20\text{cm}}\sqrt{f}} \right)$ 

ERP<sub>20cm</sub> (mW) 0.3 GHz \leq f < 1.5 GHz: 2040 f 1.5 GHz \leq f \leq 6 GHz: 3060

(C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least λ/2π, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of λ/4 or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

Table 1 to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source frequency (MHz)	Threshold ERP (watts)				
0.3-1.34	1,920 R <sup>2</sup> .				
1.34-30	3,450 R <sup>2</sup> /f <sup>2</sup> .				
30-300	3.83 R <sup>2</sup> .				
300-1,500	0.0128 R <sup>2</sup> f.				
1,500-100,000	19.2R <sup>2</sup> .				

TEL: 886-3-327-3456 Page: 6 of 7
FAX: 886-3-328-4978 Issued Date: Dec. 19, 2023

#### SPORTON LAB. RF EXPOSURE EVALUATION REPORT

### 4. RF Exposure Evaluation

#### **General Note:**

1. Pi is mean the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source i at a distance between 0.5 cm and 40 cm

Report No.: FA313125-01

- 2. Pth is mean the exemption threshold power (Pth) according to the § 1.1307(b)(3)(i)(B) formula for fixed, mobile, or portable RF source i.
- 3. In this report was used Part1.1307(b)(3)(i)(B) perfrom RF Exposure evaluation
- 4. The distance of 20cm is for this device

Band	Antenna Gain (dBi)	Maximum Conducted Power (dBm)	Maximum EIRP (dBm)	Maximum ERP (dBm)	Maximum EIRP (mW)	Maximum ERP (mW)	Pi (dBm)	Pi (mW)	Part1.1307 option(b) Threshold (mW)
GSM/GPRS 850 (1 Tx slot)	2.00	33.50	26.5	24.35	446.68	272.27	24.50	281.84	1681.368
GPRS 850 (2 Tx slots)	2.00	32.50	28.5	26.35	707.95	431.52	26.50	446.68	1680.960
GPRS 850 (3 Tx slots)	2.00	31.50	29.2	27.09	839.46	511.68	27.24	529.66	1681.368
GPRS 850 (4 Tx slots)	2.00	30.50	29.5	27.35	891.25	543.25	27.50	562.34	1681.368
EGPRS 850 (1 Tx slot)	2.00	27.50	20.5	18.35	112.20	68.39	18.50	70.79	1681.368
EGPRS 850 (2 Tx slots)	2.00	27.00	23.0	20.85	199.53	121.62	21.00	125.89	1680.960
EGPRS 850 (3 Tx slots)	2.00	25.50	23.2	21.09	210.86	128.53	21.24	133.05	1680.960
EGPRS 850 (4 Tx slots)	2.00	24.50	23.5	21.35	223.87	136.46	21.50	141.25	1680.960
GSM/GPRS 1900 (1 Tx slot)	2.00	30.50	23.5	21.35	223.87	136.46	21.50	141.25	3060.000
GPRS 1900 (2 Tx slots)	2.00	29.50	25.5	23.35	354.81	216.27	23.50	223.87	3060.000
GPRS 1900 (3 Tx slots)	2.00	28.50	26.2	24.09	420.73	256.45	24.24	265.46	3060.000
GPRS 1900 (4 Tx slots)	2.00	26.50	25.5	23.35	354.81	216.27	23.50	223.87	3060.000
EGPRS 1900 (1 Tx slot)	2.00	26.50	19.5	17.35	89.13	54.33	17.50	56.23	3060.000
EGPRS 1900 (2 Tx slots)	2.00	26.50	22.5	20.35	177.83	108.39	20.50	112.20	3060.000
EGPRS 1900 (3 Tx slots)	2.00	24.50	22.2	20.09	167.49	102.09	20.24	105.68	3060.000
EGPRS 1900 (4 Tx slots)	2.00	23.50	22.5	20.35	177.83	108.39	20.50	112.20	3060.000
WCDMA Band 2	2.00	24.50	26.5	24.35	446.68	272.27	24.50	281.84	3060.000
WCDMA Band 4	2.00	24.50	26.5	24.35	446.68	272.27	24.50	281.84	3060.000
WCDMA Band 5	2.00	24.50	26.5	24.35	446.68	272.27	24.50	281.84	1680.960
LTE Band 2	2.00	24.00	26.0	23.85	398.11	242.66	24.00	251.19	3060.000
LTE Band 4	2.00	24.00	26.0	23.85	398.11	242.66	24.00	251.19	3060.000
LTE Band 5	2.00	24.00	26.0	23.85	398.11	242.66	24.00	251.19	1680.960
LTE Band 7	2.00	24.00	26.0	23.85	398.11	242.66	24.00	251.19	3060.000
LTE Band 12	2.00	24.00	26.0	23.85	398.11	242.66	24.00	251.19	1425.960

#### **Conclusion:**

According to 47 CFR §1.1307, the RF exposure analysis concludes that the RF Exposure is FCC compliant.

TEL: 886-3-327-3456 Page: 7 of 7
FAX: 886-3-328-4978 Issued Date: Dec. 19, 2023