

■**Report No.:** DDT-R17Q0628-12E1

■**Issued Date:** Aug. 14, 2016

RF EXPOSURE REPORT

FOR

Applicant	:	Continental Automotive GmbH			
Address	:	Philipsstrasse 1, 35576 Wetzlar, Germany			
Equipment	•	Car Radio			
Model No ONG).	TRD7412UBA-OR/CAT			
Trade Mark	:	CAT			
FCC ID	:	Y7O-TRD7412UBA			
Manufacturer	:	Huizhou Foryou General Electronics Co., Ltd.			
Address	:	North Shangxia Road, Dongjiang Hi-tech Industry Park, Huizhou, Guangdong Province, 516005,P R China			

Issued By: Dongguan Dongdian Testing Service Co., Ltd.

Add: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808

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TEST REPORT DECLARE

Applicant	:	Continental Automotive GmbH		
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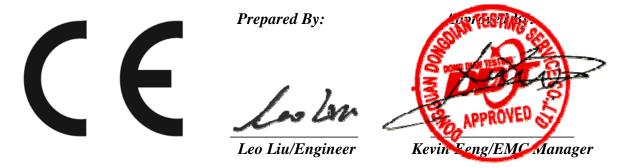
Standard Used: KDB447498 D01 General RF Exposure Guidance v06, RSS-102 Issue 5, March 2015

We Declare:

The equipment described above is assessed by Dongguan Dongdian Testing Service Co., Ltd and in the configuration assessed the equipment complied with the standards specified above. The assessed results are contained in this report and Dongguan Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these assess.

After evaluation, our opinion is that the equipment In Accordance with above standard.

Report No:	DDT-R17Q0628-12E6						
Date of Receipt:	Jun. 28, 2017	Date of Test:	Jun. 28, 2017 ~ Aug. 5, 2017				



Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan Dongdian Testing Service Co., Ltd.

1. General information

1.1. Description of Equipment

EUT* Name	:	Car Radio	
Model Number	:	TRD7412UBA-OR/CAT	
EUT function description	:	Please reference user manual of this device	
Power supply	:	DC 12V	
Radio Specification	:	Bluetooth V2.1	
Operation frequency	:	2402MHz -2480MHz	
Modulation	:	GFSK, π/4 QPSK, 8-DPSK	
Modulation Types	:	Frequency Hopping Spread Spectrum (FHSS) modulation.	
Equipment type	:	Adaptive frequency hopping equipment.	
Data rate	:	1Mbps, 2Mbps, 3Mbps	
Antenna Type	:	Integrated antenna, maximum PK gain: 0 dBi	
Sample Type	:	: Series production	

Report No.: DDT-R17Q0628-12E6

1.2. Assess laboratory

Dongguan Dongdian Testing Service Co., Ltd

Add: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808 Tel: +86-0769-22891499 http://www.dgddt.com

2. RF Exposure evaluation

2.1. Requirement

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

Limits for General Population/Uncontrolled Exposure

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz; *Plane-wave equivalent power density

2.2. 2. Calculation Method

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d}$$
 Power Density: $S(mW/cm^2) = \frac{E^2}{377}$

E = Electric field (V/m)

P = Peak RF output power (mW)

G = EUT Antenna numeric gain (numeric)=

d = Separation distance between radiator and human body (m)

The formula can be changed to

We can change the formula to:

$$S = \frac{30 \times P \times G}{377 \times d^2} \text{ or, } d = \sqrt{\frac{30 \times P \times G}{377 \times S}}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained.

2.3. 3. Estimation Result

Mode	Frequency	PK Output	Output	Antenna	Antenna	MPE	MPE
	(MHz)	power	power	Gain	Gain	Values	Limit
		(dBm)	(mW)	(dBi)	(linear)	(mW/cm^2)	(mW/cm^2)
GFSK	2402	4.050	/	0	1	/	1
	2441	4.390	/	0	1	/	1
	2480	4.260	/	0	1	/	1
8-DPSK	2402	2.990	/	0	1	/	1
	2441	3.370	/	0	1	/	1
	2480	3.240	/	0	1	/	1
Max power	2441	5.390	3.46	0	1	0.0006	1
Note: The PK Output power including tune-up tolerance							

Note: The estimation distance is 20cm

Manufacturing tolerance is $\pm 1 dB$

Conclusion: No SAR evaluation required since transmitter power is below FCC threshold

END OF REPORT