

RF Exposure Evaluation Report

Product : Car Radio
Trade mark : ORTEK
Model/Type reference : TD-650
Serial Number : N/A
Report Number : EED32K00114302
FCC ID : 2AP4FTD-650
Date of Issue : Jun. 05, 2018
47 CFR Part 1.1307
Test Standards : 47 CFR Part 1.1310
KDB447498D01v06
Test result : PASS

Prepared for:

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Bridge 16 southern,Cao'an Road,jiading District,
Shanghai, China

Prepared by:

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2 Version

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4 General Information

4.1 Client Information

Applicant:	Shanghai Ortek Electronics Co.,LTD
Address of Applicant:	Bridge 16 southern,Cao'an Road,jiading District, Shanghai, China
Manufacturer:	Shanghai Ortek Electronics Co.,LTD
Address of Manufacturer:	Bridge 16 southern,Cao'an Road,jiading District, Shanghai, China
Factory:	Shanghai Ortek Electronics Co.,LTD
Address of Factory:	Bridge 16 southern,Cao'an Road,jiading District, Shanghai, China

4.2 General Description of EUT

Product Name:	Car Radio
Model No.(EUT):	TD-650
Trade Mark:	ORTEK
EUT Supports Radios application	2.1+EDR, 2402MHz to 2480MHz

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz~2480MHz
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Sample Type:	fixed production
Test Power Grade:	N/A(manufacturer declare)
Test Software of EUT:	MTK662X..exe(manufacturer declare)
Hardware Version:	V3.0(manufacturer declare)
Firmware Version:	2.1(manufacturer declare)
Antenna Type:	PCB antenna
Antenna Gain:	5dBi
Power Supply:	DC 12V
Max Conducted Peak Output Power:	4.893dBm The Max Conducted Peak Output Power data refer to the report EED32K00114301
Sample Received Date:	May 11, 2018
Sample tested Date:	May 11, 2018 to Jun. 05, 2018
The tested sample(s) and the sample information are provided by the client.	

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd.

Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China 518101

Telephone: +86 (0) 755 3368 3668 Fax:+86 (0) 755 3368 3385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

According to FCC Part1.1310: 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—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)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	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
300–1500			f/300	6
1500–100,000			5	6
(B) 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
300–1500			f/1500	30
1500–100,000			1.0	30

A rough estimation of the expected exposure in power flux density on a given point can be made with the following equation:

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R= distance to the centre of radiation of the antenna

EIRP = P*G

The antenna of the product, under normal use condition is at least 20 cm away from the body of the user.

Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the user's manual. Therefore, the S of the device is calculated with R=20cm, and if it is below the limit S, then we can conclude the device complies with the rules.

5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit data at lowest, middle and highest channel individually.

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5.1.3 EUT RF Exposure Evaluation

Antenna Gain: 5dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency (MHz)	Max Conducted Peak Output Power(dBm)	Gain (dBi)	EIRP* (dBm)	EIRP (mW)	R (cm)	S (mW/cm ²)	Limit (mW/cm ²)	Result
Highest	2480	4.893	5	9.893	9.76	20	0.002	1.0	Pass

Note: Refer to report No. EED32K00114301 for EUT test Max Conducted Peak Output Power value.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32K00114301 for EUT external and internal photos.

*** End of Report ***

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