RF Exposure Evaluation Report

Product	:	Car FM Transmitter
Trade mark	:	N/A
Model/Type reference	:	Refer to Section 4.2
Serial Number	:	N/A
Report Number	:	EED32L00115902
FCC ID	:	2ATZS-BC42
Date of Issue	:	Jul. 01, 2019
Test Standards	:	47 CFR Part 1.1307 47 CFR Part 2.1093 KDB 447498 D01v06
Test result	:	PASS

Prepared for:

SHEN ZHEN LEADINWAY TECHNOLOGY CO., LTD
Room 201,Building A, No.1, Qingwan Road 1, Qianhai Shenzhen and Hongkong Cooperation Zone, Shenzhen China.

Prepared by:

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Date:	Jul. 01, 2019		

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2 Version

Version No.	Date	Description
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4 General Information

4.1 Client Information

Applicant:	SHEN ZHEN LEADINWAY TECHNOLOGY CO., LTD
Address of Applicant:	Room 201,Building A, No.1, Qingwan Road 1, Qianhai Shenzhen and Hongkong Cooperation Zone, Shenzhen China.
Manufacturer:	SHEN ZHEN LEADINWAY TECHNOLOGY CO., LTD
Address of Manufacturer:	Room 201,Building A, No.1, Qingwan Road 1, Qianhai Shenzhen and Hongkong Cooperation Zone, Shenzhen China.
Factory:	SHEN ZHEN SAILING ELECTRONIC CO., LTD
Address of Factory:	Block 29, Baotian Industrial Zone, Chentian, Xixiang Town, Bao'an District, Shenzhen China.

4.2 General Description of EUT

Product Name:	Car FM Transmitter
Mode No.:	BC06B,BC06S,BC07,BC09,BC09B,BC11,BC11B,BC11N,BC12,BC13, BC14,BC15,BC16,BC17,BC18,BC19,BC20,BC21,BC22,BC23,BC24, BC25,BC26B,BC26BQ,BC27,BC28,BC29,BC29B,BC30B,BC30BQ, BC31,BC31Q,BC32,BC33,BC34,BC35B,BC36,BC36Q,BC37,BC37Q, BC38,BC39,BC40,BC41,BC41T,BC42T,BC43,BC44,BC45,BC46,BC47, BC48,BC49AQ,BC49BQ,BC50,BC51,BC52,BC53,BC54,BC55,BC56, BC57,BC58,BC59,BC60,BC61,BC62,BC63,BC64,BC65,BC66,BC67, BC68,BC69,BC70,BC71,BC72,BC73,BC74,BC75,BC76,BC77,BC78, BC79,BC80,BC81,BC82,BC83,BC84,BC85,BC86,BC87,BC88,BC89, BC90,BC91,BC92,BC93,BC94,BC95,BC96,BC97,BC98,BC99,BC100, FM12,FM12B,FM15,FM18,FM19,FM21,FM23,FM24,FM26,FM30, FM8112B,FM8116B,BA05,BA06A,BA06B,BA07,BA08,BA09,BA10,BT15 ,BT8117S,BT8112A,BT8115A,BT8121A,BT8128A,BT8118,DAB001, DAB002,DAB003,DAB004,DAB005,DAB006,DAB007,DAB008,DAB009, DAB010,HUD001,HUD002,HUD003,HUD004,HUD005,CH001,CH002,C H003,CH004,CH005
Test Mode No.:	BC42
Trade mark:	N/A
EUT Supports Radios application:	BT4.2 Single mode: 2402MHz to 2480MHz
Power Supply:	DC 12V, DC 24V

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz to 2480MHz
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Number of Channel:	79
Test Power Grade:	3(manufacturer declare)
Test Software of EUT:	ACTIONS BT FCC Tool V2.00(manufacturer declare)
Antenna Type:	PCB antenna
Antenna Gain:	0dBi
Max Conducted Peak Output Power:	2.795dBm
	The Max Conducted Peak Output Power data refer to the report EED32L00115901
Sample Received Date:	May 23, 2019
Sample tested Date:	May 29, 2019 to Jun. 20, 2019

The tested sample(s) and the sample information are provided by the client.
Model No.:BC06B,BC06S,BC07,BC09,BC09B,BC11,BC11B,BC11N,BC12,BC13,BC14, BC15, BC16,BC17,BC18,BC19,BC20,BC21,BC22,BC23,BC24,BC25,BC26B,BC26BQ,BC27,BC28, BC29,BC29B,BC30B,BC30BQ,BC31,BC31Q,BC32,BC33,BC34,BC35B,BC36,BC36Q,BC37, BC37Q,BC38,BC39,BC40,BC41,BC41T,BC42T,BC43,BC44,BC45,BC46,BC47,BC48,BC49AQ, BC49BQ,BC50,BC51,BC52,BC53,BC54,BC55,BC56,BC57,BC58,BC59,BC60,BC61,BC62, BC63,BC64,BC65,BC66,BC67,BC68,BC69,BC70,BC71,BC72,BC73,BC74,BC75,BC76, BC77,BC78,BC79,BC80,BC81,BC82,BC83,BC84,BC85,BC86,BC87,BC88,BC89,BC90, BC91,BC92,BC93,BC94,BC95,BC96,BC97,BC98,BC99,BC100,FM12,FM12B,FM15,FM18, FM19,FM21,FM23,FM24,FM26,FM30,FM8112B,FM8116B,BA05,BA06A,BA06B,BA07,BA08, BA09,BA10,BT15,BT8117S,BT8112A,BT8115A,BT8121A,BT8128A,BT8118,DAB001, DAB002,DAB003,DAB004,DAB005,DAB006,DAB007,DAB008,DAB009,DAB010,HUD001, HUD002,HUD003,HUD004,HUD005,CH001,CH002,CH003,CH004,CH005
Only the model BC42 was tested, since the internal structure is identical, only the sales areas and model name are different.

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385

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 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

5.1.2 Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation[17]

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

5.1.3 EUT RF Exposure

The Max Conducted Peak Output Power is 2.795dBm in highest channel(2.480GHz);

The best case gain of the antenna is 0dBi.

EIRP= 2.795dBm + 0dBi = 2.795dBm

2.795dBm logarithmic terms convert to numeric result is nearly 1.90mW

According to the formula. calculate the EIRP test result:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)]

General RF Exposure = (1.90mW / 5 mm) x √2.480GHz = 0.12 ①

SAR requirement:

S= 3.0 ② ;

① < ②.

So the SAR report is not required.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32L00115901 for EUT external and internal photos.

*** End of Report ***