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RF Exposure Evaluation Report

Report No.:	CQASZ20250300543E-03
Applicant:	Changsha Angsi E-commerce Co., Ltd.
Address of Applicant:	Room 139, Bldg A1, No. 1839 Fenglin 3rd Rd, Leifeng St, Xiangjiang New Dist, Changsha, Hunan 410200 China

Equipment Under Test (EUT):

EUT Name:	Diagnostic Tools
Model No.:	DeepScan, DeepScan Lite, DeepScan Pro, DeepScan Master, DeepScan Max
Test Model No.:	DeepScan
Brand Name:	N/A
FCC ID:	2BNZ7-DSCAN
Standards:	47 CFR Part 1.1307 47 CFR Part 1.1310 447498 D04 Interim General RF Exposure Guidance v01
Date of Receipt:	2025-03-14
Date of Test:	2025-03-14 to 2025-03-26
Date of Issue:	2025-4-15
Test Result:	**PASS***

*In the configuration tested, the EUT complied with the standards specified above

Tested By: *lewis zhou*
(Lewis Zhou)

Reviewed By: *Timo Lei*
(Timo Lei)

Approved By: *Jack Ai*
(Jack Ai)

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20250300543E-03	Rev.01	Initial report	2025-4-15

2 Contents

3 General Information

3.1 Client Information

Applicant:	Changsha Angsi E-commerce Co., Ltd.
Address of Applicant:	Room 139, Bldg A1, No. 1839 Fenglin 3rd Rd, Leifeng St, Xiangjiang New Dist, Changsha, Hunan 410200 China
Manufacturer:	Changsha Angsi E-commerce Co., Ltd.
Address of Manufacturer:	Room 139, Bldg A1, No. 1839 Fenglin 3rd Rd, Leifeng St, Xiangjiang New Dist, Changsha, Hunan 410200 China
Factory:	Changsha Angsi E-commerce Co., Ltd.
Address of Factory:	Room 139, Bldg A1, No. 1839 Fenglin 3rd Rd, Leifeng St, Xiangjiang New Dist, Changsha, Hunan 410200 China

3.2 General Description of EUT

Product Name:	Diagnostic Tools
Model No.:	DeepScan, DeepScan Lite, DeepScan Pro, DeepScan Master, DeepScan Max
Test Model No.:	DeepScan
Trade Mark:	N/A
Software Version:	DeepScan 1.0
Hardware Version:	TP015_BT_V0_2
EUT Power Supply:	Power supply DC12V

3.3 General Description of BT Classic

Operation Frequency	2402MHz~2480MHz
Bluetooth Version:	Bluetooth Spec 5.0
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK
Number of Channel:	79
Transfer Rate:	1Mbps/2Mbps
Hopping Channel Type:	Adaptive Frequency Hopping systems
Sample Type:	☒ Mobile ☐ Portable
Antenna Type:	PCB antenna
Antenna Gain:	0.06dBi
Cable loss:	1.0 dB

3.4 General Description of BLE

Operation Frequency	2402MHz~2480MHz
Bluetooth Version:	Bluetooth Spec 5.0

Modulation Type:	GFSK
Number of Channel:	40
Transfer Rate:	1Mbps/2Mbps
Sample Type:	☒ Mobile ☐ Portable
Antenna Type:	PCB antenna
Antenna Gain:	0.06dBi
Cable loss:	1.0 dB

Note：

ModelNo.:DeepScan, DeepScan Lite, DeepScan Pro, DeepScan Master, DeepScan Max

Their electrical circuit design, layout, components used and internal wiring are identical,

Different models position different car models for vehicle fault diagnosis, and their respective APP software is different.Our five products—DeepScan, DeepScan Lite, DeepScan Pro, DeepScan Master, and DeepScan Max—utilize the same application for vehicle fault diagnostics. The primary differences among them involve optimizations tailored to various vehicle types to meet diverse user needs. Specifically, DeepScan Lite is designed for entry-level models, DeepScan Pro is optimized for high-end vehicles, while DeepScan Master and DeepScan Max are customized for specific brands and advanced functionalities. Hardware configurations and feature sets remain consistent across all models. These distinctions do not affect the overall consistency and compatibility of the products.

4　MPE Evaluation

4.1　RF Exposure Compliance Requirement

4.1.1 Limits

The table applies to any RF source (i.e., single fixed, mobile, and portable transmitters) and specifies power and distance criteria for each of the five frequency ranges used for the MPE limits. These criteria apply at separation distances from any part of the radiating structure of at least $\lambda/2\pi$. The thresholds are based on the general population MPE limits with a single perfect reflection, outside of the reactive near-field, and in the main beam of the radiator.For mobile devices that are not exempt per Table B.1 [Table 1 of § 1.1307(b)(1)(i)(C)] at distances from 20 cm to 40 cm and in 0.3 GHz to 6 GHz, evaluation of compliance with the exposure limits in § 1.1310 is necessary if the ERP of the device is greater than ERP20cm inFormula (B.1) [repeated from § 2.1091(c)(1) and § 1.1307(b)(1)(i)(B)].

$$P_{th}\,(\text{mW}) = ERP_{20\,cm}\,(\text{mW}) = \begin{cases} 2040f & 0.3\,\text{GHz} \le f < 1.5\,\text{GHz} \\ 3060 & 1.5\,\text{GHz} \le f \le 6\,\text{GHz} \end{cases}$$

If the ERP is not easily obtained, then the available maximum time-averaged power may be used (i.e., without consideration of ERP only if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave Dipole.

SAR-based exemptions are constant at separation distances between 20 cm and 40 cm to avoid discontinuities in the threshold when transitioning between SAR-based and MPE-based exemption criteria at 40 cm, considering the importance of reflections.

4.1.2 Test Procedure

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

4.1.3 EUT RF Exposure

1) For BT Classic

Output Power Into Antenna & RF Exposure Evaluation Distance:

Measurement Data

GFSK mode					
Test channel	EIRP (dBm)	ERP (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
				(dBm)	(mW)
Lowest(2402MHz)	-0.91	-3.06	-3±1	-2	0.63
Middle(2441MHz)	0.20	-1.95	-2.0±1	-1	0.79
Highest(2480MHz)	0.60	-1.55	-1.5±1	-0.5	0.89
π/4DQPSK mode					
Test channel	EIRP (dBm)	ERP (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
				(dBm)	(mW)
Lowest(2402MHz)	-0.89	-3.04	-3±1	-2	0.63
Middle(2441MHz)	0.24	-1.91	-2.0±1	-1	0.79
Highest(2480MHz)	1.03	-1.12	-1.0±1	0	1.00

The ERP of this product is less than 3060mW

Note: 1) Refer to report No. CQASZ20250300543E-01 for EUT test Max Conducted Peak Output Power value.

2) EUT's module is more than 20cm away from the human body.

2) For BLE

Output Power Into Antenna & RF Exposure Evaluation Distance:

Measurement Data

GFSK mode(1Mbps)					
Test channel	EIRP	ERP	Tune up tolerance	Maximum tune-up Power	
	(dBm)	(dBm)	(dBm)	(dBm)	(mW)
Lowest(2402MHz)	-0.89	-3.04	-3±1	-2	0.63
Middle(2440MHz)	0.37	-1.78	-1.5±1	-0.5	0.89
Highest(2480MHz)	0.61	-1.54	-1.5±1	-0.5	0.89
GFSK mode(2Mbps)					
Test channel	EIRP	ERP	Tune up tolerance	Maximum tune-up Power	
	(dBm)	(dBm)	(dBm)	(dBm)	(mW)
Lowest(2402MHz)	-0.73	-2.88	-3±1	-2	0.63
Middle(2440MHz)	0.49	-1.66	-1.5±1	-0.5	0.89
Highest(2480MHz)	0.76	-1.39	-1.5±1	-0.5	0.89

The ERP of this product is less than 3060mW

Note: 1) Refer to report No. CQASZ20250300543E-01 for EUT test Max Conducted Peak Output Power value.

2) EUT's module is more than 20cm away from the human body.

*** END OF REPORT ***