

RF Exposure Evaluation

FCC ID: 2AGGTA602BT4

1. Client Information

Applicant : Austin-Whitman Mfg. Group LLC
Address : 508 Performance Rd. Mooresville, NC 28115, United States
Manufacturer : Tongxiang Welldragon Co., Ltd.
Address : NO.9 East Park Road, Tudian, Tongxiang, Zhejiang, China P.C

2. General Description of EUT

EUT Name	:	Bluetooth Stereo Amplifier
Models No.	:	CS-A602BT, CS-A602BT-A, CS-A602BT-B, CS-A602BT-C
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name for commercial.
Product Description	Operation Frequency:	Bluetooth 4.0(BLE): 2402MHz~2480MHz
	Number of Channel:	Bluetooth 4.0(BLE): 40 channels see note(3)
	RF Output Power:	6.675 dBm Conducted Power
	Antenna Gain:	0 dBi PCB Antenna
	Modulation Type:	GFSK
	Bit Rate of Transmitter:	1Mbps(GFSK)
Power Supply	:	DC power by battery.
Power Rating	:	DC 12V battery.
Connecting I/O Port(S)	:	Please refer to the User's Manual

Note:

More test information about the EUT please refer to the RF Test Report.

SAR Test Exclusion Calculations

1. FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v06.
 - (1) Clause 4.3: General SAR test reduction and exclusion guidance
 - Sub clause 4.31: Standalone SAR test exclusion considerations
 - 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance ≤ 5 mm are determined by:
$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 3.0 \text{ for 1-g SAR}$$
$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 7.5.0 \text{ for 10-g SAR}$$

2. Calculation:

Test separation: 5mm						
BLE Mode (GFSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	4.445	5.500±1.5	7.000	5.012	1.554	3.0
2.442	6.154	5.500±1.5	7.000	5.012	1.566	3.0
2.480	6.675	5.500±1.5	7.000	5.012	1.579	3.0

So standalone SAR measurements are not required.

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