

Maximum Permissible Exposure Evaluation

FCC ID: 2AJ5B-BT93

1. Client Information

Applicant	:	SAGE HUMAN ELECTRONICS INTERNATIONAL CO.,LTD.
Address	:	4F.,A Building,Rongli Industrial Park,No.2 Guiyuan Rd.Guihua Community,Guanlan Town,Longhua New Dist. Shenzhen, China
Manufacturer	:	SAGE HUMAN ELECTRONICS INTERNATIONAL CO.,LTD.
Address	:	4F.,A Building,Rongli Industrial Park,No.2 Guiyuan Rd.Guihua Community,Guanlan Town,Longhua New Dist. Shenzhen, China

2. General Description of EUT

EUT Name	:	Bluetooth FM Transmitter for Car	
Models No.	:	BT93	
Model Different	:	N/A	
Product Description	:	Operation Frequency:	Bluetooth 5.0: 2402~2480 MHz
		RF Output Power:	Bluetooth: 1.853dBm(GFSK)
		Antenna Gain:	-0.68dBi PCB Antenna
Power Rating	:	Input: DC 12-24V Output: QC3..0:DC 5V 3A, 9V2A, 12V1.5A USB:5V 1A	
Software Version	:	CGBT1756_shijie(BT93)_[FM88.1-107.9]_SDK120-02B_CE_TES T_v5	
Hardware Version	:	BT93_2819P-V1.0	
Connecting Port(S)	I/O :	Please refer to the User's Manual	

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

TB-RF-075-1.0

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:

- [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)] * $\sqrt{f_{\text{GHz}}}$] ≤ 3.0 for 1-g SAR

- [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)] * $\sqrt{f_{\text{GHz}}}$] $\leq 7.5.0$ for 10-g SAR

2. Calculation:

Test separation: 5mm						
Bluetooth 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	-1.063	-1 ± 1	0	1.000	0.310	3.0
2.441	1.853	1 ± 1	2	1.585	0.495	3.0
2.480	1.324	1 ± 1	2	1.585	0.499	3.0
Bluetooth Mode (π /4-DQPSK)						
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	0.812	0 ± 1	1	1.259	0.390	3.0
2.441	1.072	1 ± 1	2	1.585	0.495	3.0
2.480	0.621	0 ± 1	1	1.259	0.397	3.0
Bluetooth Mode(8-DPSK)						
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	0.899	0 ± 1	1	1.259	0.390	3.0
2.441	1.149	1 ± 1	2	1.585	0.495	3.0
2.480	0.645	0 ± 1	1	1.259	0.397	3.0

The worst RF Exposure Evaluation is calculated as $0.499 / \text{cm}^2 < \text{limit } 3.0$, So standalone SAR measurements are not required.

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