

# Maximum Permissible Exposure Evaluation

## FCC ID: 2AJ5B-BT93

### 1. Client Information

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

### 2. General Description of EUT

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

**Note:** More test information about the EUT please refer 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  $\leq 5$  mm are determined by:

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

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 7.5.0$  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  $0.499 / cm^2 < limit 3.0$ , So standalone SAR measurements are not required.

-----END OF REPORT-----