

Maximum Permissible Exposure Evaluation

FCC ID: 2AJ5B-C73

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.	:	C73	
Model Different	:	N/A	
Product Description	:	Operation Frequency:	Bluetooth 5.0: 2402~2480 MHz FM: 88.1-107.9 MHz
		E.I.R.P:	Bluetooth: 0.149dBm(GFSK)
		Antenna Gain:	-0.68dBi PCB Antenna
Power Rating	:	Input: DC 12-24V Output: QC3.0:DC 5V 3A, 9V2A, 12V1.5A PD: DC 5V 3A, 9V2A, 12V1.5A	
Software Version	:	CGBT1843_2819(C73)_[C73]_[87.5(87.5-108.0)]_(CarKit)_SDK230_2020_0811_v1.0.0	
Hardware Version	:	JMS_C73_Main(2819)-V1.0 // JMS_C73_SW3517_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.

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:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 3.0$ 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	0.149	0±1	1	1.259	0.390	3.0
2.441	0.138	0±1	1	1.259	0.393	3.0
2.480	-0.521	0±1	1	1.259	0.397	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	-0.623	0±1	1	1.2589	0.390	3.0
2.441	-0.641	0±1	1	1.2589	0.393	3.0
2.480	-1.340	-1±1	0	1.0000	0.315	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	-0.909	0±1	1	1.259	0.390	3.0
2.441	-0.815	0±1	1	1.259	0.393	3.0
2.480	-1.787	-1±1	0	1.000	0.315	3.0

The worst RF Exposure Evaluation is calculated as $0.397 / \text{cm}^2 < \text{limit } 3.0$, So standalone SAR measurements are not required.

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