

RF Exposure Evaluation

FCC ID: 2ACAEMAPANEARBUDS

1. Client Information

Applicant	:	MAIXIN GROUP (CHINA) CO., LIMITED
Address	:	Room 1223, NanGuangJieJia Building, Shennan Middle Road, Futian District, Shenzhen, China.
Manufacturer	:	MAIXIN GROUP (CHINA) CO., LIMITED
Address	:	2 / F, building C, Jianjin Industrial Park, Donghuan 2nd Road, Longhua District, Shenzhen City, China.

2. General Description of EUT

EUT Name	:	Wireless Earbuds
Model(s) No.	:	MH01, MH02, MH03, MH04, MH05, MH06, MH07, MH08, MH09, MH10, MH11, MH12, MH13, MH14, MH15, MH16, MH17, MH18, MH19, MH20, MH21, MH22, MH23, MH24, MH25, MH26, MH27, MH28, MH29, MH30
Model Different	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is the model name.
Product Description	Operation Frequency:	Bluetooth V5.1(BT): 2402~2480 MHz
	Number of Channel:	Bluetooth 5.1(BT): 79 channels
	RF Output Power:	6.14dBm (Max)
	Antenna Gain:	1.72 dBi Ceramic Antenna
	Modulation Type:	GFSK, π /4-DQPSK
	Bit Rate of Transmitter:	1/2Mbps
Power Supply (Earphone)	:	USB Input: 5V DC 3.7V by 30mAh Li-ion battery
Power Supply (Charger Box)	:	USB Input: 5V DC 3.7V by 250mAh Li-ion battery
Software Version	:	5.1
Hardware Version	:	6976D4
Remark: The antenna gain provided by the applicant, the adapter and verified for the RF conduction test and adapter provided by TOBY test lab.		

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	4.593	4±1	5.0	3.162	0.980	3.0
2.441	5.356	5±1	6.0	3.981	1.244	3.0
2.480	5.273	5±1	6.0	3.981	1.254	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	5.306	5±1	6.0	3.981	1.234	3.0
2.441	6.140	6±1	7.0	5.012	1.566	3.0
2.480	6.000	6±1	7.0	5.012	1.579	3.0

Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06.

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