

RF Exposure Evaluation

FCC ID:2ABHA0016

1. Client Information

Applicant : NINGBO CSTAR IMP&EXP CO., LTD
Address : Floor 4, Building E, No. 655-90, Qiming Road, Yinzhou Investment & Innovation Center, Ningbo, China
Manufacturer : ShenZhen C-Star Electronic Tech. co., Ltd
Address : 2, 3/F, building B, No. 2 Bada Industrial Park, Yongfu Road, Heping Community, Fuyong Town, Baoan, District, Shenzhen, China

2. General Description of EUT

EUT Name	:	Bluetooth earbuds	
Models No.	:	2788	
Product Description	:	Operation Frequency:	Bluetooth V4.0: 2402~2480 MHz
	:	RF Output Power:	Bluetooth: 0.214 dBm(GFSK)
	:	Antenna Gain:	0dBi PCB Antenna
Power Supply	:	DC power by USB cable. DC power by Li-ion battery.	
Power Rating	:	DC 5V by Host System. DC 3.7V by 110mAh Li-ion Battery.	
Connecting I/O Port(S)	:	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:

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

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

2.Calculation:

Test separation: 5mm						
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	-0.701	0±1	1	1.259	0.390	3.0
2.441	0.214	0±1	1	1.259	0.393	3.0
2.480	-0.241	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	-1.463	-1.5±1	0.5	1.122	0.348	3.0
2.441	-1.702	-1.5±1	0.5	1.122	0.351	3.0
2.480	-2.361	-1.5±1	0.5	1.122	0.353	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	-1.103	-1±1	0	1.000	0.310	3.0
2.441	-1.350	-1±1	0	1.000	0.312	3.0
2.480	-1.896	-1±1	0	1.000	0.315	3.0

So standalone SAR measurements are not required.

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