

RF Exposure Evaluation

FCC ID: 2ARZ3-BT-X22

1. Client Information

Applicant	:	Technaxx Deutschland GmbH & Co.,KG
Address	:	KruppstraBe 105 60388 Frankfurt am Main Germany
Manufacturer	:	Technaxx Deutschland GmbH & Co.,KG
Address	:	KruppstraBe 105 60388 Frankfurt am Main Germany

2. General Description of EUT

EUT Name	:	Bluetooth Car kit
Models No.	:	BT-X22
Model Difference	:	N/A
Product Description	:	Operation Frequency: Bluetooth: 2402~2480 MHz
	:	Number of Channel: Bluetooth: 79 Channels See Note 2
	:	RF Output Power: Bluetooth: 6.710 dBm(GFSK)
	:	Antenna Gain: 0dBi PIFA Antenna
	:	Modulation Type: GFSK (1 Mbps) Pi/4-DQPSK (2 Mbps) 8-DPSK (3 Mbps)
Power Supply	:	DC Voltage supplied by USB Cable DC Voltage supplied by Li-ion batter
Power Rating	:	DC 5V by USB Cable DC 3.7V by 600mAh 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	Thres hold Value
2.402	6.710	6±1	7	5.012	1.554	3.0
2.441	6.327	6±1	7	5.012	1.566	3.0
2.480	5.875	6±1	7	5.012	1.579	3.0
Bluetooth Mode (Pi/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	Thres hold Value
2.402	5.799	6±1	7	5.012	1.554	3.0
2.441	5.512	6±1	7	5.012	1.566	3.0
2.480	5.026	6±1	7	5.012	1.579	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	Thres hold Value
2.402	6.130	6±1	7	5.012	1.554	3.0
2.442	5.809	6±1	7	5.012	1.566	3.0
2.480	5.318	6±1	7	5.012	1.579	3.0

Test separation: 5mm	
The worst RF Exposure Evaluation	
Worst Calculation Value	Threshold Value
1.579	3.0

The worst RF Exposure Evaluation is **1.579 / cm2 < limit 3.0**, So standalone SAR measurements are not required.

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