

# RF Exposure Evaluation

## FCC ID: 2AYOQ-BTR2D

### 1. Client Information

<b>Applicant</b>	:	SPIRIT LLC
<b>Address</b>	:	1400 NW 159th ST (BAY 101) Miami Gardens, FL 33169
<b>Manufacturer</b>	:	SPIRIT LLC
<b>Address</b>	:	1400 NW 159th ST (BAY 101) Miami Gardens, FL 33169

### 2. General Description of EUT

<b>EUT Name</b>	:	Wireless Transceiver
<b>Model(s) No.</b>	:	BTR2D
<b>Model Difference</b>	:	----
<b>Product Description</b>	:	Operation Frequency: Bluetooth V5.0: 2402MHz~2480MHz
	:	RF Output Power: BT: 1.959dBm (Max)
	:	Antenna Gain: -0.68dBi PCB Antenna
<b>Power Supply</b>	:	Input: DC 5V, 500mA DC 3.7V by 250mAh Rechargeable Li-ion battery
<b>Software Version</b>	:	CGBT2397_2831(BT30)_B13_V1.6.p5.09_[BT30]_ATT[7-22]_cap 160_hold bat_220721_att
<b>Hardware Version</b>	:	BT30_2831_V1.1

**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  $\leq 5$  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	Frequency (MHz)	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
GFSK	2402	1.872	2±1	3	1.995	0.620	3.0
	2441	1.251	1±1	2	1.585	0.495	3.0
	2480	0.721	1±1	2	1.585	0.497	3.0
π/4-DQPSK	2402	1.889	2±1	3	1.995	0.62	3.0
	2441	1.245	1±1	2	1.585	0.50	3.0
	2480	0.703	1±1	2	1.585	0.50	3.0
8-DPSK	2402	1.959	2±1	3	1.995	0.62	3.0
	2441	1.328	1±1	2	1.585	0.50	3.0
	2480	0.773	1±1	2	1.585	0.50	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.

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