6.8   RF Exposure Compliance Requirement

6.8.1   Standard requirement

15.247(b)(4) requirement:

(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section. if transmitting antennas of directional gain greater than 6 dBi are used. the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1). (b)(2). and (b)(3) of this section. as appropriate. by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TCB Exclusion List (7 July 2002)

Exposure category	low threshold	high threshold
General population	(60/fGHz) mW. $d < 2.5$ cm (120/fGHz) mW. $d \geq 2.5$ cm	(900/fGHz) mW. $d < 20$ cm
Occupational	(375/fGHz) mW. $d < 2.5$ cm (900/fGHz) mW. $d \geq 2.5$ cm	(2250/fGHz) mW. $d < 20$ cm

6.8.2   Output power Results:

Test Channel	Modulation	Fundamental Frequency (MHz)	Reading Power (dBm)	Cable Loss (dB)	Output Power	
					(dBm)	(mW)
Lowest	GFSK	2402	0.06	0.6	0.66	1.164
Middle	GFSK	2441	-0.24	0.6	0.36	1.086
Highest	GFSK	2480	-0.02	0.6	0.58	1.143
Lowest	π/4DQPSK	2402	-0.03	0.6	0.57	1.140
Middle	π/4DQPSK	2441	-0.26	0.6	0.34	1.081
Highest	π/4DQPSK	2480	-0.01	0.6	0.59	1.146
Lowest	8DPSK	2402	0.35	0.6	0.95	1.245
Middle	8DPSK	2441	0.04	0.6	0.64	1.159
Highest	8DPSK	2480	0.27	0.6	0.87	1.222

Mark: the RF output power is from report SHEM120500062301. The test method please reference the report SHEM120500062301 section 6.7.

6.8.3   EUT RF Exposure

The Max Conducted Peak Output Power is 0.95dBm(1.245mW) at 2402MHz.
And the antenna gain at 2402MHz is 2.45dBi PCB integrated in the actual use logarithmic terms convert to numeric result is nearly 1.758;

According to the formula. calculate the EIRP test result:
EIRP= P x G = 1.245 mW x 1.758 = 2.189 mW ①
SAR requirement:
S= 60 / f(GHz) = 60/2.402 = 24.979 mW ② ;
① < ②.
So the SAR test for Bluetooth is not required.