



4.8	RF Exposure Evaluation	
Reference Standard(s):	☒ KDB 447498 RF Exposure Guidance v06 ☐ KDB 447498 Interim RF Exposure Guidance v01 ☒ RSS 102, Issue 6	☐ MPE ☐ SAR Evaluation ☒ SAR Test Exclusion
Frequency Range(s):	☒ 2402-2480.0MHz (DTS) ☒ 6489.6 MHz (UWB)	
Antenna Separation Distance:	>40mm	
RF Exposure Conditions:	Portable (Body-worn)	
BFE and IPT Antennas Gain:	4.0dBi	
PASS Alarm BLE output power:	117.5mW(20.7dBm)* 0.094 (worst case duty cycle)= 11mW(10.4dBm)	
PASS Alarm BLE EIRP/ERP output power:	EIRP=10.4dBm + 4dBi=14.4dBm, ERP=14.4dBm - 2.15dB=12.25dBm(16.8mW)	
AoA Beacon BLE the source-based conducted output power:	123mW(20.9dBm)*0.1(worst case duty cycle) =12.3mW(10.9dBm)	
AoA Beacon BLE EIRP/ERP output power:	EIRP=10.9dBm + 4.0dBi=14.9dBm, ERP=14.9dBm - 2.15dB= 12.75dBm(18.8mW)	
NDT BLE the source-based conducted output power:	6.1mW(7.84dBm)*0.8(worst case duty cycle) =4.88mW(6.88dBm)	
NDT BLE EIRP/ERP output power:	EIRP=6.88dBm + 4.0dBi=8.88dBm, ERP=8.88dBm - 2.15dB=6.73dBm(4.7mW)	
Body-Are-Network BLE the source-based conducted output power:	1.17mW(0.68dBm)*0.8(worst case duty cycle) =0.9mW(-0.46dBm)	
Body-Are-Network BLE EIRP/ERP output power:	EIRP=-0.46dBm + 4.0dBi=3.54dBm, ERP=3.45dBm - 2.15dB= 1.4dBm(1.38mW)	
UWB EIPR power:	50dBuV(-47.4 dBm/MHz) = 0.00002(mW/MHz). 99% OBW = 560MHz 0.00002(mW/MHz) x 560MHz = 0.01mW <1mW (meets 1mW test exemption)	
The SAR Exclusion Threshold Level		
FCC Part 2.1093	143mW<40mm @2.45GHz	
FCC Part 1.1307	UWB Exempt from RF exposure SAR evaluation as its output power meets the 1mW test exemption threshold stated in Section 1.1307(b)(3)(i)(A).	
RSS 102, Issue 6	170mW<40mm @2.45GHz	
RSS 102, Issue 6	UWB Exempt from RF exposure SAR evaluation according to Section 6.5 if power is less than or equal to 1mW from 6GHz to 30GHz.	
Note:	Each transmitter is connected to exactly one antenna at any given time. Transmitters cannot be connected to the same antenna at the same time.	