MPE CALCULATION

For Zebra Technologies

RF Exposure Requirements:	47 CFR §1.1307(b)
RF Radiation Exposure Limits:	47 CFR §1.1310
RF Radiation Exposure Guidelines:	FCC OST/OET Bulletin Number 65
EUT Frequency Band:	2412 – 2462 MHz(WLAN), 902-928MHz (RFID)
Limits for General Population/Uncontrolled Exposure in the band of:	1500MHz – 100000MHz ; 902.750 – 927.250 MHz
Power Density Limit:	1 mW/ cm²; 0.610 mW/ cm²;

Equation: $S = PG / 4\pi R^2$ or $R = \sqrt{PG / 4\pi S}$

Where,   S = Power Density

P = Power Input to Antenna

G = Antenna Gain

R = distance to the center of radiated antenna

RFID Stand alone MPE result

Low Channel (927.250 MHz): Power = 29.67dBm, Antenna Gain = -20dBi, Prediction distance 20cm

$S = 0.00184$ mW/cm²

WLAN Stand alone MPE result

Low Channel (2437): Power = 14.9dBm, Antenna Gain = -9.49dBi, Prediction distance 20cm

$S = 0.01138$ mW/cm2

Co-location Calculation

RFID MPE Fraction = 0.00184/0.61

= 0.003016

WLAN MPE Fraction = 0.01138/1

= 0.01138

0.01138+0.003016=0.014396

0.014396<1

Result Pass

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