

MPE Calculation

Model Name : **SP142**
 FCC ID : **S7A-SP142**

Device Category : **Portable device**
 Separation distance : **40.5 mm**

KDB 447498 - 4.3.1 a)

For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:
 $[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR, where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

| Modulation | Frequency (MHz) | Min. Test separation distance | Measured Maximum Average power | Tune-up tolerance | Max. Power with tune-up tolerance | | Standalone SAR Test exclusion thresholds for 100MHz to 6GHz at test separation distance ≤ 50 mm | Limit | Result |
|---------------|-----------------|-------------------------------|--------------------------------|-------------------|-----------------------------------|-------|--|-------|--------|
| | | (mm) | (dBm) | (dB) | (dBm) | (mW) | | | |
| GFSK | 2402 | 40.50 | 3.46 | ± 0.50 | 3.96 | 2.49 | 0.0952 | 3.00 | PASS |
| | 2441 | | 3.63 | | 4.13 | 2.59 | 0.0998 | 3.00 | PASS |
| | 2480 | | 3.26 | | 3.76 | 2.38 | 0.0924 | 3.00 | PASS |
| $\pi/4$ DQPSK | 2402 | 40.50 | 0.57 | ± 0.50 | 1.07 | 1.28 | 0.0490 | 3.00 | PASS |
| | 2441 | | -0.66 | | -0.16 | 0.96 | 0.0372 | 3.00 | PASS |
| | 2480 | | -2.21 | | -1.71 | 0.67 | 0.0262 | 3.00 | PASS |
| 8DPSK | 2402 | 40.50 | 1.55 | ± 0.50 | 2.05 | 1.60 | 0.0614 | 3.00 | PASS |
| | 2441 | | -0.06 | | 0.44 | 1.11 | 0.0427 | 3.00 | PASS |
| | 2480 | | -1.78 | | -1.28 | 0.74 | 0.0290 | 3.00 | PASS |
| BT LE | 2402 | 40.50 | -2.30 | ± 0.50 | -1.80 | 0.66 | 0.0253 | 3.00 | PASS |
| | 2442 | | -1.83 | | -1.33 | 0.74 | 0.0284 | 3.00 | PASS |
| | 2480 | | -1.82 | | -1.32 | 0.74 | 0.0287 | 3.00 | PASS |
| MESH | 2410 | 40.50 | 14.66 | ± 0.50 | 15.16 | 32.81 | 1.2576 | 3.00 | PASS |
| | 2445 | | 13.82 | | 14.32 | 27.04 | 1.0440 | 3.00 | PASS |
| | 2475 | | 12.38 | | 12.88 | 19.41 | 0.7539 | 3.00 | PASS |