Appendix G: General SAR test reduction and exclusion guidance

KDB 447498

Section 4.3 General SAR test reduction and exclusion guidance

For Standalone SAR exclusion consideration, when SAR exclusion Threshold requirement in KDB 447498 is satisfied, standalone SAR evaluation for general population exposure conditions by measurement or numerical simulation is not required.

In the frequency range below 100 MHz to 6 GHz and test separation distance of 50mm, the SAR Test Exclusion Threshold for operation at 909.2 MHz will be determined as follows

SAR Exclusion Threshold (SARET)

SAR Exclusion Threshold = Step 1 + Step 2

Step 1

$$NT = [(MP/TSD^{A}) * \sqrt{f_{GHz}}]$$

NT	=	Numeric Threshold (3.0 for 1-g SAR and 7.5 for 10-g SAR)
MP	=	Max Power of channel (mW) (inc tune up)
TSD^{A}	=	Min Test separation Distance or 5mm (whichever is lower) = 5

We can transpose this formula to allow us to find the maximum power of a channel allowed and compare this to the measured maximum power.

$$= [(NT \times TSD^{A}) / \sqrt{f_{GHz}}]$$

Operating Frequency 909.2 MHz

$$= [(3 \times 5) / \sqrt{0.9092}]$$
$$= 15 / 0.9535$$
$$= 15.73 \text{ mW}$$

The calculated output power 0.039mW (Peak) is less than the SAR Exclusion Threshold of 15.73mW.

Therefore standalone SAR evaluation for general population exposure conditions by measurement or numerical simulation is not required. Section 4.3 General SAR test reduction and exclusion guidance