
INTERTEK TESTING SERVICES

For Standalone SAR test exclusion consideration, when the corresponding 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.

Description the tested model: PHONE-DEX USC

EUT Description	:	1.9GHz DECT 6.0 Cordless Handset (Widex Portion)
Model	:	PHONE-DEX USC
Operating Configuration(s)	:	Next to ear
Operating mode (s)	:	Voice call
Device Category	:	Portable Device
Tx Frequency	:	10.6MHz
Production tolerance	:	-53.9 dBm (Minimum) to -47.9 dBm (Maximum)
Antenna gain	:	1.76 dBi = 1.50 (num gain)
Maximum source-based time-averaging duty factor	:	4.2% = (1/24 x100%)
Minimum separation distance	:	5 mm
Applicable FCC KDB	:	FCC KDB 447498 D01 FCC KDB 865664 D02

From above data, the source-based time-averaging output power is as follow:

$$\begin{aligned} \text{The Maximum Conducted Power} &= -47.9 \text{ dBm} \\ &= 0.00001622 \text{ mW} \end{aligned}$$

$$\begin{aligned} \text{The Maximum conducted Power source-based time-averaging output power} \\ &= (0.00001622 * 0.042) \text{ mW} \\ &= \mathbf{0.00000068} \text{ mW} \end{aligned}$$

In the frequency range below 100MHz and test separation distance $\leq 50\text{mm}$, the SAR Exclusion Threshold will be determined as follow,

$$\begin{aligned} \text{The SAR exclusion threshold} \\ &= \left\{ \left[\frac{3.0 \times 50}{\sqrt{0.1}} \right] + (50 - 50) * \left[\frac{100}{150} \right] \right\} * \left\{ 1 + \log \left[\frac{100}{F(\text{MHz})} \right] \right\} * \left\{ \frac{1}{2} \right\} \text{ mW} \\ &= 474.34 * \left\{ 1 + \log \left[\frac{100}{F(\text{MHz})} \right] \right\} * \left\{ \frac{1}{2} \right\} \text{ mW} \\ &= 468.3 \text{ mW} \end{aligned}$$

$$\text{where } TD = 5 \text{ mm and } F(\text{MHz}) = 10.6\text{MHz}$$

Conclusion

Since the calculated conducted source-based time-averaged output power is **0.00000068** mW, which is less than the SAR Exclusion Threshold at 5mm test separation distance 468.3 mW for general population and uncontrolled exposure, standalone SAR evaluation for general population exposure conditions, by measurement or numerical simulation is not required.



8.3.3 Standalone SAR test exclusion & Estimated SAR

According to KDB 447498 section 4.3.1 3) and 4.3.2 2) are applied

The condition of EUT of exclusion & Estimated as below:

1. Minimum test separation distance: 5mm
2. Maximum average power (include tune-up toerance): -61.76 dBm (6.67E-7 mW)
3. Separation between DECT and Widex antennas: 35mm
4. During SAR test that 10.6MHz transmitter is disabled.

Exclusion summary as below:

Band	Frequency (GHz)	Power (dBm)	distance (mm)	Power (mW)	Power thresholds SAR _{1g} (mW)	Exclusion considerations SAR _{1g}
Widex	0.0106	-61.76	5	6.67E-07	468	SAR is not required

Estimated SAR as below:

Band	Frequency (GHz)	Power (dBm)	distance (mm)	Power (mW)	Estimated SAR SAR _{1g} (mW/g)
Widex	0.0106	-61.76	5	6.67E-07	0.0

8.4 Simultaneous transmission evaluation

Since estimated SAR value is zero, therefore the sum of SAR 1-g is the same with original SAR value.

Original SAR 1g is 0.03 mW/g that the same with sum of SAR 1-g is <1.6mW/g, therefore SPLSR is not required.

Phantom Position	Spacing (mm)	Accessory	Simult Tx1		Simult Tx2		Σ SAR _{1g} (mW/g)	Event	
			Band	Max. SAR _{1g} (mW/g)	Band	Max. Reported SAR _{1g} (mW/g)			
Head	RC	0	N/A	DECT	0.03	Widex	0.0	0.03	<1.6
Head	RT	0	N/A	DECT	0.02	Widex	0.0	0.02	<1.6
Head	LC	0	N/A	DECT	0.03	Widex	0.0	0.03	<1.6
Head	LT	0	N/A	DECT	0.02	Widex	0.0	0.02	<1.6

Note: For Widex transmitter that stand-alone SAR is not required, therefore estimated SAR is required and the simultaneous results as above.