

Radio Frequency Exposure Information

For Vtech 2651 & 2656
2.4GHz Cordless Telephones

Handset :

Readings from test report :

- (1) Max. Output Power – 86.5mW
- (2) Duty cycle – $833\mu\text{s} \times 10 / 100\text{ms} = 8.33\%$ (measured in single slot transmission)

Under the worst environment with interference, dual slot diversity (ie. enhance mode) gives the max. duty cycle on the handset Tx (ie. $8.33\% \times 2$ or 16.66%)

Hence, taking the max. power output & max. duty cycle, the average effective output power is :
 $86.5\text{mW} \times 16.66\% = 14.4\text{mW}$

Conclusion : The average effective output power is much lower than 25mW (60/f GHz) – the low threshold for general population of the exposure category. Hence, SAR evaluation on the handset is not required.

Base :

Readings from test report :

- (1) Max. Output Power – 57mW
- (2) Duty Cycle – $833\mu\text{s} \times 10 / 100\text{ms} = 8.33\%$ (with single handset, single slot transmission)

The phone is a TDD, FHSS. So, the worst case is actually operating with 4 transmission slots with either 4 handsets or 2 handsets under enhance mode (i.e. $8.33\% \times 4$ or 33.32%).

Hence, taking the worst case, the average effective output power is :
 $57\text{mW} \times 33.32\% = 19.0\text{mW}$

Conclusion : The base of a cordless phone system is not normally operated close to the users as that of the handset (distance $>2.5\text{cm}$). Together with the low average effective output power (much lower than 50mW -- the low threshold for general population exposure category), SAR evaluation is also not required for the base.

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