

**RF EXPOSURE EXHIBIT PER FCC KDB INQUIRY TRACKING NUMBER 820664**

**Plantronics Model: WH3XX DECT UPCS Wireless Headset FCC ID: AL8-WH3XX**

**FCC Response to KDB Inquiry Tracking Number 820664**

According to 2.1093, SAR evaluation is required for UPCS devices. Since appropriate phantoms are unavailable for testing this type of wireless headsets and the source-based time-averaged output power for these headsets are substantially low, it would not be necessary to perform SAR measurement to show compliance. For purpose of meeting routine SAR evaluation requirements, an analysis of the transmission modes, operating configurations and exposure conditions, including antenna-to-tissue separation distances, source-based time-averaged duty factor and output power, and similar justifications included in this KDB response should be included in a report for submission to the RF exposure exhibit to demonstrate SAR compliance without the SAR measurement, identifying that there is prior FCC consultation.

**Device Mode of Operation**

The system (base and headset together) can be unlinked, linked but with no voice path open (idle locked state) or linked with voice paths open. Unlinked is when the ends of the system are out of range. Linked but no voice path open is when the system is ready for use but no voice path is active (idle locked), and linked with voice paths open is when the system is in use for voice communication. Audio can be provided from the telephone and/or the USB interface.

**Transmission Mode**

The headset unit is mated with the base unit (subscribed to each other) under normal operation. The communications link is custom (double-slot) TDMA per the UPCS standard, and is symmetrical; both ends of the link transmit using the same protocol.

**Maximum Duty Cycle**

Maximum Duty Cycle occurs when the headset and base are in a wideband audio link. Maximum duty cycle (wideband audio mode) is approximately 8.3%. For each end of the active link in wideband audio mode, a unit transmits for 2 out of 24 timeslots → 2:24 duty cycle. The DECT frame rate is 10ms, so each end of the link transmits for approximately 800 uS every 10ms when the system is linked and active. In narrowband audio mode, the duty cycle is exactly half that in wideband audio mode, so approximately 4.1%. When the system is linked but voice paths are not open (headset is "idle-locked" to the base) the base transmits with a 1.3% duty cycle (130uS every 10mS). In this mode the headset will transmit link maintenance information every thirty seconds. When unlinked and out of range (the headset cannot hear the base), the headset does not transmit, and the base transmits at a 1.3% duty cycle (130uS every 10mS). Two time slots are used for wideband audio, effectively doubling the duty cycle, minus idle time.

**Maximum RF Output Power**

Manufacturer's Rated Maximum Peak Conducted Power = 19.0 dBm (79.4 mW)  
 Manufacturer's Specified Source-Based Time-Averaged Duty Cycle = 8.3%  
 Actual Source-Based Time-Averaged Output Power = 8.2 dBm (6.6 mW)

**Device Operating Configuration(s) and Exposure Conditions**


The Plantronics WH3XX Headset can be worn on either the left or right ear and is worn over-the-ear. The Plantronics WH3XX Headset is intended for use within the General Population / Uncontrolled RF exposure environment. See photographs (next page) of device and antenna placement.

**Antenna-to-Ear Separation Distance**

15 mm (manufacturer specification)

**Justification Summary**

Based on the transmission modes, operating configurations and source-based time-averaged output power and duty cycle analysis described in this document, SAR compliance is demonstrated for the Plantronics WH3XX DECT UPCS Headset without routine SAR measurements in accordance with FCC KDB Inquiry Tracking Number 820664.

<b>Applicant:</b>	Plantronics Inc.	<b>Model:</b>	WH3XX	<b>FCC ID:</b>	AL8-WH3XX	<b>IC:</b>	457A-WH3XX	
<b>DUT Type:</b>	Portable UPCS/LE-PCS DECT Wireless Headset			<b>Freq. Range:</b>	1921.536 - 1928.448 MHz			
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**From:** oetech  
**Sent:** Wednesday, August 19, 2009 11:03 AM  
**Subject:** Response to Inquiry to FCC (Tracking Number 820664)



## Office of Engineering and Technology

### Inquiry:

---Reply from Customer on 08/17/2009---

Past tense reference in previous response is referring to client's test sample pre-ship test mode setup checking performed by the manufacturer prior to shipping the test samples to us to ensure that the units are functioning as required for the FCC SAR evaluations. No SAR evaluations have been performed as yet. The testing is scheduled for Wednesday August 19. Please either provide test setup guidance prior to this date or we propose performing the SAR evaluations using the left and right head sections of the SAM phantom and submit the results to the FCC within this KDB for pre-filing authorization to the TCB without TCB PBA req.

### Response:

The information provided identifies these four DECT UPCS wireless headset models will have three different FCC IDs. The model numbers are WH110, WH210 and WH300/350 and the corresponding antenna to ear distances are 20, 10 and 15 mm. It is assumed that the same identical transmitter will be incorporated into these 4 models with different antenna configurations (as appeared on the photos in this KDB). The maximum peak conducted output power is 79 mW. In DECT mode, the headsets operate with a maximum of 2 TDMA slots out of the 24 total slots, which results in a duty factor of 8.3% and the maximum source-based time-average output power is 6.6 mW.

According to 2.1093, SAR evaluation is required for UPCS devices. Since appropriate phantoms are unavailable for testing this type of wireless headsets and the source-based time-averaged output power for these headsets are substantially low, it would not be necessary to perform SAR measurement to show compliance. For purpose of meeting routine SAR evaluation requirements, an analysis of the transmission modes, operating configurations and exposure conditions, including antenna-to-tissue separation distances, source-based time-averaged duty factor and output power, and similar justifications included in this KDB response should be included in a report for submission to the RF exposure exhibit to demonstrate SAR compliance without the SAR measurement, identifying that there is prior FCC consultation.

It is assumed that these FCC IDs do not include the base mentioned in this KDB, which are to be addressed and certified separately.

Please inform the grantee of the SAR compliance evaluation (analysis) requirements identified above and include this KDB tracking number on the 731 form. For future KDB inquiries, please include the applicable FCC ID numbers.

Note: These are case-by-case considerations for the specific devices in this KDB only and should not be generalized as generic procedures.