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FCC RF Exposure Report

Off the ear sound processor
Model: CP950
Performed
for
Cochlear Limited

Report Number
M150933-3

Issue Date: 11 November 2015

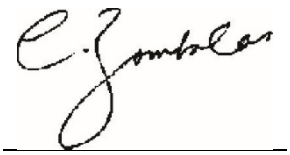
Table of Contents

FCC RF Exposure Report , Model: CP950

Report Number: M150933-3

Test Sample:	Off the ear sound processor
Model Number:	CP950
Manufacturer:	Cochlear Limited
Tested for:	Cochlear Limited
Address:	1 University Avenue , Macquarie University , NSW, Australia 2109
Phone:	+61 (0)2 9428 6555
Contact:	Sanjay Boppini
Email	sboppini@cochlear.com
Standard:	**FCC KDB 447498 D01 General RF Exposure Guidance v06** Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies. **FCC Title 47, Part 2.1093** Radiofrequency radiation exposure evaluation: portable devices.
Result:	The CP950 complied with the exposure limits without SAR measurement based on the procedure in KDB 447498 D01 Clauses 4.3.1 and 4.3.2.
Test Date:	12th October 2015

Test Officer:
Mahan Ghassempouri
EMC/EMR/SAR/Wireless Engineer
M.Sc. in Telecommunication



Authorised Signature:
Chris Zombolas
Technical Director
EMC Technologies Pty Ltd

1 INTRODUCTION

This report shows off the ear sound processor CP950 complied with the exposure limits without SAR measurement based on the procedure in KDB 447498 D01 Clauses 4.3.1 and 4.3.2., Model CP950.

The test sample and data was provided by the Client. The conclusion herein is based on the information provided by the client.

2 EXPOSURE EVALUATION FOR PORTABLE DEVICE

Human exposure to RF emissions from portable devices (47 CFR §2.1093), as defined by the FCC, must be evaluated with respect to the FCC-adopted limits for SAR.

3 GENERAL INFORMATION

(Information supplied by the Client)

The Equipment Under Test (EUT) was identified as follows:

Test sample:	Off the ear sound processor
Model number:	CP950
Radio module:	Nordic nRF24L01+
Radio module FCC ID:	WTO-CP950
Maximum conducted power:	-1 dBm (0.8 mW)
Operating frequency	2400– 2483.5 MHz

4 SAR TEST EXCLUSION THRESHOLD FOR 100MHz to 6GHz and ≤50mm

Frequency (MHz)	5	10	15	20	25	mm
150	39	77	116	155	194	SAR Test Exclusion Threshold (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
435	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$\frac{\text{max. power of channel, including tune} - \text{up tolerance (mW)}}{\text{min. test separation distance (mm)}} * \sqrt{f(GHz)} \leq 3.0$$

Where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance were rounded to the nearest mW and mm before calculation
- The result was rounded to one decimal place for comparison
- The test exclusions were applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz.
- When the minimum test separation distance was < 5 mm, a distance of 5 mm (according to 5) in section 4.1 is applied to determine SAR test

5 EVALUATION RESULT

The standalone transmitter was exempt from SAR if the below condition satisfied in conjunction the with threshold power condition.

$$\frac{\text{max. power of channel, including tune} - \text{up tolerance (mW)}}{\text{min. test separation distance (mm)}} * \sqrt{f(GHz)} \leq 3.0$$

Where

Minimum test separation distance (mm):
The minimum test separation distance is determined by the smallest distance from the antenna and radiating structures to the outer surface of the device

Maximum power of channel (mW):
Time-averaged maximum conducted output power

Frequency (MHz)	Maximum Conducted power (mW)	Minimum test separation distance (mm)
2483.5	0.8	5

$$\frac{\text{max. power of channel, including tune} - \text{up tolerance (mW)}}{\text{min. test separation distance (mm)}} * \sqrt{f(GHz)} = 0.25 \leq 3.0$$

6 CONCLUSION

The CP950 complied with the exposure limits without SAR measurement based on the procedure in KDB 447498 D01 Clauses 4.3.1 and 4.3.2.