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Report Version: V02
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RF Exposure Evaluation Declaration

FCC ID: 2AB4LCPK2201

APPLICANT: Cane Wireless Inc.

Application Type: Certification

Product: 3DS CHAT-PAK

Model No.: CPK2201

Test Date: March 16 ~ 28, 2014

Reviewed By : Robin Wu

(Robin Wu)

Approved By : Marlin Chen

(Marlin Chen)

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

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Revision History

Report No.	Version	Description	Issue Date
1403RSU02202	Rev. 01	Initial report	03-28-2014
1403RSU02202	Rev. 02	Modify the MPE calculation	04-10-2014

1. RF Exposure Evaluation

1.1. Limits

SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 50 mm

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table. The equation and threshold in Note 1 must be applied to determine SAR test exclusion.

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	
835	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	
MHz	30	35	40	45	50	mm
150	232	271	310	349	387	SAR Test Exclusion Threshold (mW)
300	164	192	219	246	274	
450	134	157	179	201	224	
835	98	115	131	148	164	
900	95	111	126	142	158	
1500	73	86	98	110	122	
1900	65	76	87	98	109	
2450	57	67	77	86	96	
3600	47	55	63	71	79	
5200	39	46	53	59	66	
5400	39	45	52	58	65	
5800	37	44	50	56	62	

Note 1:

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation

distances \leq 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is \leq 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is $<$ 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

1.2. Test Procedure

The operating configurations of handheld PTT two-way radios generally require SAR testing for in-front-of the face and body-worn accessory exposure conditions. A duty factor of 50% should be applied to determine compliance for radios with maximum operating duty factors \leq 50 %.

For PTT radios operating in the 100 MHz to 1 GHz range, according to general population exposure requirements, SAR test exclusion may be applied for in-front-of the face and body-worn accessory exposure conditions according to the SAR Test Exclusion Threshold conditions and duty factor compensated maximum conducted output power.

When a body-worn accessory is not supplied with the PTT radio, a test separation distance \leq 10 mm must be applied to determine body-worn accessory SAR test exclusion. A test separation distance of 25 mm must be applied for in-front-of the face SAR test exclusion and SAR measurements.

1.3. Test Result of RF Exposure Evaluation

The two-way radio device is intended for use in the Held to face exposure condition and the general population RF exposure environment, and always keep the antenna at least 2.5 cm (1 inch) away from the body

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Per FCC KDB 447498 D01v05r02, the SAR exclusion threshold for distances <50mm is defined by the following equation:

$$\frac{\text{Max Power of Channel (mW)}}{\text{Test Separation Dist (mm)}} * \sqrt{\text{Frequency(GHz)}} \leq 3.0$$

The measured maximum effective radiated power was 91.6(mW). From these data, the radiated power with 50 % duty cycle is:

The radiated power = $91.6(\text{mW}) * 50\% = 45.8(\text{mW})$

$$[(45.8\text{mW}/25) * \sqrt{0.4675625}] = 1.253 < 3.0.$$

From the above calculation, it is concluded that the device can be exempt from SAR test.

The End
