



SAR Exemption Evaluation Report

Product Name : Charge and Communication Base

Model No. : CCB00-010BT

FCC ID : HD5-CCB00A

Applicant : HONEYWELL INTERNATIONAL INC

Honeywell Safety and Productivity Solutions

Address : 9680 OLD BAILES RD FORT MILL SC

29707-7539,USA

Date of Receipt : Apr. 08, 2020

Issued Date : May. 13, 2020

Report No. : 2040167R-RF-US-P20V02

Report Version : V1.0

The test results presented in this report relate only to the object tested.

The measurement result is considered in conformance with the requirement if it is within the prescribed limit,

It is not necessary to account the uncertainty associated with the measurement result, unless the specification, standard or customer have special requirements

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Test Report Certification

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Product Name : Charge and Communication Base

Applicant : HONEYWELL INTERNATIONAL INC
Honeywell Safety and Productivity Solutions

Address : 9680 OLD BAILES RD FORT MILL SC 29707-7539,USA

Manufacturer : 1. HONEYWELL INTERNATIONAL INC
Honeywell Safety and Productivity Solutions
2. Metro(Suzhou)Technologies Co.,Ltd

Address : 1. 9680 OLD BAILES RD FORT MILL SC 29707-7539,USA
2. No.221 Xinghai street China-Singapore Suzhou Industrial Park

Model No. : CCB00-010BT

FCC ID : HD5-CCB00A

EUT Voltage : 4.75~5.25 Vdc

Applicable Standard : KDB 447498 D01v06

Test Result : Complied

Performed Location : DEKRA Testing & Certification (Suzhou) Co., Ltd.
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006,
Jiangsu, China
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FCC Designation Number: CN1199

Documented By :



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Reviewed By :



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Approved By :



(Supervisor: Jack Zhang)

1. RF Exposure Evaluation

1.1.Limits

According to **KDB 447498 D01 General RF Exposure Guidance v06**

4.3.1 Standalone SAR test exclusion considerations

1) 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:

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

- $f(\text{GHz})$ 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 ≤ 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.

2) At 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following, and as illustrated in Appendix B:

- a) $[\text{Power allowed at numeric threshold for 50 mm in step 1}) + (\text{test separation distance} - 50 \text{ mm}) \cdot (f(\text{MHz})/150)] \text{ mW, at 100 MHz to 1500 MHz}$
- b) $[\text{Power allowed at numeric threshold for 50 mm in step 1}) + (\text{test separation distance} - 50 \text{ mm}) \cdot 10] \text{ mW at } > 1500 \text{ MHz and } \leq 6 \text{ GHz}$

3) The 1-g and 10-g SAR test exclusion thresholds for below 100 MHz at test separation distances ≤ 50 mm are determined by:

- a) The power threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by $[1 + \log(100/f(\text{MHz}))]$ for test separation distances > 50 mm and < 200 mm
- b) The power threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$ for test separation distances ≤ 50 mm
- c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable. Note: when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

1.3. Test Result of RF Exposure Evaluation

Product	:	Charge and Communication Base
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-6

● Antenna Information

Antenna model	N/A								
Antenna Delivery	<input checked="" type="checkbox"/>	1*TX+1*RX		<input type="checkbox"/>	2*TX+2*RX		<input type="checkbox"/>	3*TX+3*RX	
Antenna technology	<input checked="" type="checkbox"/>	SISO							
	<input type="checkbox"/>	MIMO	<input type="checkbox"/>	Basic					
			<input type="checkbox"/>	CDD					
			<input type="checkbox"/>	Beam-forming					
Antenna Type	<input type="checkbox"/>	External	<input type="checkbox"/>	Dipole					
	<input checked="" type="checkbox"/>	Internal	<input type="checkbox"/>	PIFA					
			<input checked="" type="checkbox"/>	PCB					
			<input type="checkbox"/>	Ceramic Chip Antenna					
			<input type="checkbox"/>	Stamping Antenna					
			<input type="checkbox"/>	Metal plate type F antenna					
	<input type="checkbox"/>	Monopole antenna							
Antenna Gain	-0.5 dBi								

Based on The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm and the formula below:

$$\text{SAR test exclusion thresholds} = \sqrt{f(\text{GHz})} * \frac{(\text{Max Power of channel, mW})}{\text{Min. Separation Distance, mm}}$$

The Maximum tune-up power is 0.5dB higher than Maximum Measurement power, so the maximum conducted power we used to calculate RF exposure is 5.41dBm.

Band	Exposure Condition	Pmax	Pmax	Distance	f(GHz)	calculation result	Stand-alone Test exclusion threshold	SAR Test
		(dBm)	(mw)	(mm)				
BT	Body	5.41	3.48	5	2.48	1.10	3.00	No

Conclusion: 2.4GHz SAR was not required.

_____ The End _____