RF Exposure Report

Report No.:	SA171130C26
FCC ID:	HD5-660W
Test Model:	SOM660W
Received Date:	Nov. 30, 2017
Date of Evaluation:	Jan. 29, 2018
Issued Date:	Jan. 31, 2018
Applicant:	Honeywell International Inc.
Address:	9680 Old Bailes Road, Fort Mill, SC 29707 USA
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.
Test Location:	No. 19, Hwa Ya 2nd Rd, Wen Hwa Vil, Kwei Shan Dist., Taoyuan City 33383, Taiwan (R.O.C)
FCC Registration / Designation Number:	788550 / TW0003

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
SA171130C26	Original Release	Jan. 31, 2018

1 Certificate of Conformity

Product:	HSOM660
Brand:	Honeywell
Test Model:	SOM660W
Sample Status:	Engineering Sample
Applicant:	Honeywell International Inc.
Date of Evaluation:	Jan. 29, 2018
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 General RF Exposure Guidance v06 IEEE C95.1-1992

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : Vera Huang , **Date:** Jan. 31, 2018

Vera Huang / Specialist

Approved by : , **Date:** Jan. 31, 2018

Dylan Chiou / Project Engineer

2 RF Exposure

2.1 Limits For Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	…	…	f/1500	30
1500-100,000	…	…	1.0	30

f = Frequency in MHz ; *Plane-wave equivalent power density

2.2 MPE Calculation Formula

$Pd = (Pout*G) / (4*pi*r^2)$

where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as Mobile Device.

2.4 Calculation Result Of Maximum Conducted Power

Band	Max Burst-Averaged Power (dBm)	Max. Time-averaged Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
GSM850	34.4	25.4	2.15	20	0.113	0.55
GSM1900	31.1	22.1	3.13	20	0.066	1.00

Band	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WCDMA II	25.1	3.13	20	0.132	1.00
WCDMA IV	25.1	3.13	20	0.132	1.00
WCDMA V	24.9	2.15	20	0.101	0.55
CDMA BC0	25.4	2.15	20	0.113	0.55
CDMA BC1	25.6	3.13	20	0.149	1.00
CDMA BC10	25.4	2.15	20	0.113	0.54
LTE 2	25.1	3.13	20	0.132	1.00
LTE 4	25.1	3.13	20	0.132	1.00
LTE 5	24.7	2.15	20	0.096	0.55
LTE 7	24.4	3.01	20	0.110	1.00
LTE 12	24.9	2.15	20	0.101	0.47
LTE 13	24.9	2.15	20	0.101	0.52
LTE 17	24.9	2.15	20	0.101	0.47
LTE 25	24.0	3.13	20	0.103	1.00
LTE 26	24.6	2.15	20	0.094	0.54
LTE 38	24.5	3.01	20	0.112	1.00
LTE 41	24.4	3.01	20	0.110	1.00
WLAN 2.4G	23.5	3.2	20	0.093	1.00
WLAN 5.2G	19.5	3.8	20	0.043	1.00
WLAN 5.3G	19.5	3.8	20	0.043	1.00
WLAN 5.6G	20.5	3.8	20	0.054	1.00
WLAN 5.8G	20.5	3.8	20	0.054	1.00
Bluetooth	10.5	3.2	20	0.005	1.00

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

WWAN + WLAN 2.4GHz = 0.149/1 + 0.093/1 = 0.242

WWAN + WLAN 5GHz = 0.149/1 + 0.054/1 = 0.203

WWAN + BT = 0.149/1 + 0.005/1 = 0.154

Therefore the maximum calculations of above situations are less than the "1" limit.

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