

FCC Exclusion Report

Report No.: SA200616C25

FCC ID: TYM-K155V3

Contains module FCC ID: 2AC23-WCT0Y

Test Model: K155

Received Date: Jun. 23, 2020

Test Date: Jul. 13 ~ Jul. 15, 2020

Issued Date: Jul. 22, 2020

Applicant: AVAYA

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / 788550 / TW0003
Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
SA200616C25	Original release	Jul. 22, 2020

1 Certificate of Conformity

Product: IP Phone

Brand: Avaya

Test Model: K155

Sample Status: Engineering sample

Applicant: AVAYA

Test Date: Jul. 13 ~ Jul. 15, 2020

Standards: FCC Part 2 (Section 2.1091)

References Test KDB 447498 D01 General RF Exposure Guidance v06

Guidance: IEEE C95.3 -2002

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 RF characteristics under the conditions specified in this report.

Prepared by :


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Date:

Jul. 22, 2020

Approved by :



Bruce Chen / Senior Project Engineer

Date:

Jul. 22, 2020

2 Evaluation Result

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

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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.

3 Calculation Result of Maximum Conducted Power

Maximum measured transmitter power:

For module (Model: WCT0YR2201, FCC ID: 2AC23-WCT0Y)

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
WLAN 2412~2462	23.76	-1.13	20	0.036	1
WLAN 5180~5240	16.44	1.60	20	0.013	1
WLAN 5260~5320	16.14	1.60	20	0.012	1
WLAN 5500~5720	16.09	1.60	20	0.012	1
WLAN 5745~5825	16.38	1.60	20	0.012	1
BT EDR 2402~2480	7.216	-1.13	20	0.001	1
BT LE 2402~2480	6.269	-1.13	20	0.001	1

Note:

1. The antennas information are listed as below.

Antenna	Ant. Type	Frequency Range (GHz)	Gain (dBi)
Vantsge 3_Entry (K155) Main antenna	PIFA	2.40-2.50GHz	-1.32
		5.15-5.85GHz	1.60
Vantsge 3_Entry (K155+K175) AUX antenna	PIFA	2.40-2.50GHz	-1.13
		5.15-5.85GHz	-1.95

*The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

Mode	Field Strength (dBuV/m) @30m	Field Strength (dBuV/m) @3m	Max. Power EIRP (dBm)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
NFC	21.5	61.5	-33.73	20	0.00000008	0.978

Note:

- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
- Max Power (dBm) = Field Strength of Fundamental (dBuV/m@3m) – 95.23,
Max Power (mW) = $10^{(\text{Max power (dBm)}/10)}$
- The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)

Conclusion:

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

*The BT could not transmit with WLAN at the same time.

1. $NFC + 2.4GHz = 0.00000008/0.978 + 0.036/1 = 0.036$
2. $NFC + 5GHz = 0.00000008/0.978 + 0.013/1 = 0.013$
3. $NFC + BT = 0.00000008/0.978 + 0.001/1 = 0.001$
4. $NFC + BT LE = 0.00000008/0.978 + 0.001/1 = 0.001$

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

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