



Shenzhen Global Test Service Co.,Ltd.

No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong

RF Exposure evaluation

Report Reference No.....: GTS20221012010-1-21

FCC ID.: MSQHHM101A

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Date of issue: Feb.10, 2023

Representative Laboratory Name.: Shenzhen Global Test Service Co.,Ltd.

Address: No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong

Applicant's name.....: ASUSTek COMPUTER INC.

Address: 1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan

Test specification

Standard.....: **47CFR §1.1310 Basis and purpose**
47CFR §2.1091 Radiofrequency radiation exposure evaluation:
mobile devices

KDB447498 D01 General RF Exposure Guidance v06

TRF Originator.....: Shenzhen Global Test Service Co.,Ltd.

Master TRF: Dated 2014-12

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Test item description

Trade Mark: Asus

Manufacturer: ASUSTek COMPUTER INC.

Model/Type reference: HHM101A

Listed Models: N/A

Hardware Version: N/A

Software Version.....: N/A

Rating.....: DC 5.0V/2.0A by Adapter

Result: **PASS**

TEST REPORT

Test Report No. :	GTS20221012010-1-21	Feb.10, 2023
		Date of issue

Equipment under Test : Asus HealthHub Max

Model /Type : HHM101A

Listed model : N/A

Applicant : **ASUSTek COMPUTER INC.**

Address : 1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan

Manufacturer : **ASUSTek COMPUTER INC.**

Address : 1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan

Test Result:	PASS
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The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Contents

1. SUMMARY	4
1.1 EUT CONFIGURATION.....	4
1.2 PRODUCT DESCRIPTION	4
2. TEST ENVIRONMENT	6
2.1 ADDRESS OF THE TEST LABORATORY	6
2.2 TEST FACILITY	6
2.3 ENVIRONMENTAL CONDITIONS	6
2.4 STATEMENT OF THE MEASUREMENT UNCERTAINTY	6
3. METHOD OF MEASUREMENT	7
3.1 APPLICABLE STANDARD.....	7
3.2 REQUIREMENT	7
3.3 LIMIT	7
3.4 MPE CALCULATION METHOD.....	8
3.5 ANTENNA INFORMATION	8
4. CONDUCTED POWER RESULTS.....	9
5. MANUFACTURING TOLERANCE	11
6. MEASUREMENT RESULTS	14
6.1 STANDALONE MPE EVALUATION.....	14
6.2 SIMULTANEOUS TRANSMISSION MPE	15
7. CONCLUSION	16

1. SUMMARY

1.1 EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

● - supplied by the manufacturer

○ - supplied by the lab

● /	Length (m) :	/
	Shield :	/
	Detachable :	/

1.2 Product Description

Product Name	Asus HealthHub Max
Trade Mark	Asus
Model/Type reference	HHM101A
List Models	N/A
Model Declaration	N/A
Power supply:	DC 5.0V/2.0A by Adapter
Sample ID	GTS20221012010-1-S0001-1#& GTS20221012010-1-S0001-2#
Bluetooth	
Operation frequency	2402-2480MHz
Channel Number	79 channels for Bluetooth (DSS) 40 channels for Bluetooth (DTS)
Channel Spacing	1MHz for Bluetooth (DSS) 2MHz for Bluetooth (DTS)
Modulation Type	GFSK, $\pi/4$ -DQPSK, 8DPSK for Bluetooth (DSS) GFSK for Bluetooth (DTS)
WIFI(2.4G Band)	
Frequency Range	2412MHz ~ 2462MHz
Channel Spacing	5MHz
Channel Number	11 Channel for 20MHz bandwidth(2412~2462MHz) 7 Channel for 40MHz bandwidth(2422~2452MHz)
Modulation Type	802.11b: DSSS; 802.11g/n: OFDM
WIFI(5.2G Band)	
Frequency Range	5180MHz ~ 5240MHz
Channel Number	4 Channels for 20MHz bandwidth(5180-5240MHz) 2 channels for 40MHz bandwidth(5190~5230MHz) 1 channels for 80MHz bandwidth(5210MHz)
Modulation Type	802.11a/n/ac: OFDM
WIFI (5.8G Band)	
Frequency Range	5745MHz ~ 5825MHz
Channel Number	5 channels for 20MHz bandwidth(5745-5825MHz) 2 channels for 40MHz bandwidth(5755~5795MHz) 1 channels for 80MHz bandwidth(5775MHz)
Modulation Type	802.11a/n/ac: OFDM
Antenna Description	Internal antenna, 2.92dBi(Max.)for 2.4G Band and 4.84dBi(Max.) for 5G Band;
2G	
Support Band	GPRS850/GPRS1900/EDGE850/EDGE1900
Release Version	R99
GPRS Class	Class 12
EGPRS Class	Class 12
GPRS/EDGE Multislot Class	GPRS/EDGE: Multi-slot Class 12
Type Of Modulation	GMSK for GPRS; GMSK/8PSK for EGPRS

Antenna Description	Internal Antenna; 0.00dBi (max.) For GPRS850/EDGE850; 0.00dBi (max.) For GPRS1900/EDGE1900;
3G	
UMTS Operation Frequency Band	UMTS FDD Band 2(1850 MHz -1910MHz) UMTS FDD Band 5(824 MHz -849MHz)
WCDMA Release Version	R7
HSDPA Release Version	Release 5
HSUPA Release Version	Release 6
HSPA+ Release Version	Release 7
Modulation Type	QPSK for UMTS
Antenna Description	Internal Antenna; 0.00dBi (max.) For WCDMA Band 2; 0.00dBi (max.) For WCDMA Band 5;
LTE	
LTE Operation Frequency Band	E-UTRA Band 2(1850 MHz -1910MHz) E-UTRA Band 4(1710 MHz -1755MHz) E-UTRA Band 5(824 MHz -849MHz) E-UTRA Band 7(2500 MHz -2570MHz) E-UTRA Band 17(704 MHz -716MHz) E-UTRA Band 41(2496 MHz -2690MHz)
LTE Release Version	R9
Type Of Modulation	QPSK/16QAM
Antenna Description	Internal Antenna; 0.00dBi (max.) For LTE Band 2; 0.00dBi (max.) For LTE Band 4; 0.00dBi (max.) For LTE Band 5; 0.00dBi (max.) For LTE Band 7; 0.00dBi (max.) For LTE Band 17; 0.00dBi (max.) For LTE Band 41;

2. TEST ENVIRONMENT

2.1 Address of the test laboratory

Shenzhen Global Test Service Co.,Ltd.

No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong

2.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS (No. CNAS L8169)

Shenzhen Global Test Service Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2019 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA (Certificate No. 4758.01)

Shenzhen Global Test Service Co., Ltd. has been assessed by the American Association for Laboratory Accreditation (A2LA). Certificate No. 4758.01.

Industry Canada Registration Number. is 24189.

FCC Designation Number is CN1234.

FCC Registered Test Site Number is165725.

2.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

2.4 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen Global Test Service Co.,Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen GTS laboratory is reported:

Test Items	Measurement Uncertainty	Notes
Transmitter power conducted	0.57 dB	(1)

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3. METHOD OF MEASUREMENT

3.1 Applicable Standard

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission’s guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

KDB447498 D01 General RF Exposure Guidance v06: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies

3.2 Requirement

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

In accordance with KDB447498 D01 General RF Exposure Guidance v06 for Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modeled or measured field strengths or power density, is ≤ 1.0 . The MPE ratio of each antenna is determined at the minimum test separation distance required by the operating configurations and exposure conditions of the host device, according to the ratio of field strengths or power density to MPE limit, at the test frequency. Either the maximum peak or spatially averaged results from measurements or numerical simulations may be used to determine the MPE ratios. Spatial averaging does not apply when MPE is estimated using simple calculations based on far-field plane-wave equivalent conditions. The antenna installation and operating requirements for the host device must meet the minimum test separation distances required by all antennas, in both standalone and simultaneous transmission operations, to satisfy compliance.

3.3 Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	6
3.0 – 30	1842/f	4.89/f	(900/f ²)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	/	/	f/300	6
1500 – 100,000	/	/	5	6

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	30
3.0 – 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

3.4 MPE Calculation Method

Predication of MPE limit at a given distance
 Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{PG}{4\pi R^2}$$

Where: S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna

As declared by the Applicant, the EUT transmits with the maximum soure-baed Duty Cycle of 100%-see the User manual, and the EUT is a wireless device used in a mobile application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum mobile separation distance, r =20cm, as well as the gain of the used antenna is 2.92dBi 4.84dBi for BT&WLAN, and the power drift from Turn-up Procedure provide by manufacturer as following states, the RF power density can be obtained.

3.5 Antenna Information

HHM101A can only use antennas certificated as follows provided by manufacturer;

Internal Identification	Antenna Identification in Internal photos	Antenna type and antenna number	Operate frequency band	Maximum antenna gain
Antenna 0	BT&WLAN	Internal antenna	2.4 – 2.5 GHz 5.0 – 6.0 GHz	2.92dBi(Max.) for 2.4G band 4.84dBi(Max.) for 5G band
Antenna 1	GSM&WCDMA<E	Internal antenna	850 – 1000 MHz 1.0 – 3.0 GHz	0dBi (max.) For GPRS850/EDGE850; 0dBi (max.) For GPRS1900/EDGE190; 0dBi (max.) For LTE Band 2; 0dBi (max.) For LTE Band 4; 0dBi (max.) For LTE Band 5; 0dBi (max.) For LTE Band 7; 0dBi (max.) For LTE Band 17; 0dBi (max.) For LTE Band 41;

4. Conducted Power Results

Antenna 0:

Bluetooth

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
GFSK	0	2402	8.03
	39	2441	9.36
	78	2480	6.68
$\pi/4$ DQPSK	0	2402	7.66
	39	2441	9.11
	78	2480	6.32
8DPSK	0	2402	7.29
	39	2441	8.71
	78	2480	6.92
GFSK(BT LE)	0	2402	3.5
	19	2440	4.74
	39	2480	3.87

2.4GWLAN

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
802.11b	01	2412	18.77
	06	2437	18.74
	11	2462	18.67
802.11g	01	2412	20.45
	06	2437	17.01
	11	2462	16.79
802.11n(HT20)	01	2412	20.23
	06	2437	21.07
	11	2462	20.55
802.11n(HT40)	03	2422	20.74
	06	2437	21.52
	09	2452	23.12

5.2GWLAN

Mode	Channel	Frequency (MHz)	Average Conducted Output Power (dBm)
802.11a	36	5180	9.73
	40	5200	9.96
	48	5240	10.48
802.11n20	36	5180	9.53
	40	5200	9.25
	48	5240	10.02
802.11ac20	36	5180	12.08
	40	5200	12.73
	48	5240	10.25
802.11n40	38	5190	9.94
	46	5230	10.69
802.11ac40	38	5190	10.15
	46	5230	10.14
802.11ac80	42	5210	10.69

5.8G WLAN

Mode	Channel	Frequency (MHz)	Average Conducted Output Power (dBm)
802.11a	149	5745	10.19
	157	5785	11.55
	165	5825	8.52
802.11n20	149	5745	10.49
	157	5785	11.34
	165	5825	8.33
802.11ac20	149	5745	10.53
	157	5785	10.78
	165	5825	11.13
802.11n40	151	5755	11.90
	159	5795	12.03
802.11ac40	151	5755	11.58
	159	5795	12.54
802.11ac80	155	5775	11.65

Antenna 1:

<GSM Max Conducted Power>

Test Mode	Channel	Frequency (MHz)	Max Conducted Power (dBm)
GSM 900	LCH	824.2	32.42
	MCH	836.6	32.39
	HCH	848.8	32.41
GSM 1800	LCH	1850.2	30.40
	MCH	1880.0	30.39
	HCH	1909.8	30.41

<WCDMA Max Conducted Power>

Test Mode	Channel	Frequency (MHz)	Max Conducted Power (dBm)
WCDMA	Band 2	LCH	1852.4
		MCH	1880.0
		HCH	1907.6
WCDMA	Band 5	LCH	826.4
		MCH	836.6
		HCH	846.6

<LTE Max Conducted Power>

Test Mode	Channel	Frequency (MHz)	Max Conducted Power (dBm)
LTE	Band 2	LCH	1850.70
		MCH	1880.00
		HCH	1909.30
	Band 4	LCH	1710.70
		MCH	1732.50
		HCH	1754.30
	Band 5	LCH	824.7
		MCH	836.5
		HCH	848.3
	Band 7	LCH	2502.5
		MCH	2535.0
		HCH	2567.5
	Band 17	LCH	706.50
		MCH	710.00
		HCH	713.50
	Band 41	LCH	2498.5
		MCH	2593.0
		HCH	2687.5

5. Manufacturing Tolerance

Antenna 0:

Bluetooth

GFSK (Peak)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	8.0	9.0	6.0
Tolerance \pm (dB)	1.0	1.0	1.0
$\pi/4$ DQPSK (Peak)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	7.0	9.0	6.0
Tolerance \pm (dB)	1.0	1.0	1.0
8DPSK (Peak)			
Channel	Channel 0	Channel 39	Channel 78
Target (dBm)	7.0	8.0	6.0
Tolerance \pm (dB)	1.0	1.0	1.0
GFSK BT LE (Peak)			
Channel	Channel 0	Channel 19	Channel 39
Target (dBm)	3.0	4.0	3.0
Tolerance \pm (dB)	1.0	1.0	1.0

2.4GWLAN

IEEE 802.11b (Peak)			
Channel	Channel 01	Channel 06	Channel 11
Target (dBm)	18.0	18.0	18.0
Tolerance \pm (dB)	1.0	1.0	1.0
IEEE 802.11g (Peak)			
Channel	Channel 01	Channel 06	Channel 11
Target (dBm)	20.0	17.0	16.0
Tolerance \pm (dB)	1.0	1.0	1.0
IEEE 802.11n HT20 (Peak)			
Channel	Channel 01	Channel 06	Channel 11
Target (dBm)	20.0	21.0	20.0
Tolerance \pm (dB)	1.0	1.0	1.0
IEEE 802.11n HT40 (Peak)			
Channel	Channel 03	Channel 06	Channel 09
Target (dBm)	20.0	21.0	23.0
Tolerance \pm (dB)	1.0	1.0	1.0

5.2GWLAN

IEEE 802.11a (Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	9.0	9.0	10.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n HT20 (Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	9.0	9.0	10.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11ac VHT20 (Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	10.0	9.0	10.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n VHT40 (Average)			
Channel	Channel 38	Channel 46	/
Target (dBm)	12.0	12.0	/
Tolerance ±(dB)	1.0	1.0	/
IEEE 802.11ac VHT40 (Average)			
Channel	Channel 38	Channel 46	/
Target (dBm)	10.0	10.0	/
Tolerance ±(dB)	1.0	1.0	/
IEEE 802.11ac VHT80 (Average)			
Channel	Channel 42	/	/
Target (dBm)	10.0	/	/
Tolerance ±(dB)	1.0	/	/

5.8GWLAN

IEEE 802.11a (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	10.0	11.0	8.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n HT20 (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	10.0	11.0	8.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11ac VHT20 (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	11.0	11.0	12.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n VHT40 (Average)			
Channel	Channel 151	Channel 159	/
Target (dBm)	10.0	10.0	/
Tolerance ±(dB)	1.0	1.0	/
IEEE 802.11ac VHT40 (Average)			
Channel	Channel 151	Channel 159	/
Target (dBm)	11.0	12.0	/
Tolerance ±(dB)	1.0	1.0	/
IEEE 802.11ac VHT80 (Average)			
Channel	Channel 155	/	/
Target (dBm)	11.0	/	/
Tolerance ±(dB)	1.0	/	/

Antenna 1:**GSM**

Mode	Target Power
GSM 900	32 ± 1.0 dBm
GSM 1800	30 ± 1.0 dBm

WCDMA

Mode	WCDMA Band II	WCDMA Band V
RMC	23.0 ± 1 dBm	23.0 ± 1 dBm

LTE

Mode	Target Power
LTE BAND 2	22 ± 1.0 dBm
LTE BAND 4	22 ± 1.0 dBm
LTE BAND 5	22 ± 1.0 dBm
LTE BAND 7	20 ± 1.0 dBm
LTE BAND 17	22 ± 1.0 dBm
LTE BAND 41	22 ± 1.0 dBm

6. Measurement Results

6.1 Standalone MPE Evaluation

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, $r = 20\text{cm}$, as well as the gain of the used antenna refer to antenna information, the RF power density can be obtained.

BT

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm^2)	MPE Limits (mW/cm^2)
	dBm	mW				
GFSK	10.00	10.0000	2.92	1.9588	0.0039	1.0000
$\pi/4$ DQPSK	10.00	10.0000	2.92	1.9588	0.0039	1.0000
8DPSK	9.00	7.9433	2.92	1.9588	0.0031	1.0000
GFSK(BT LE)	5.00	3.1623	2.92	1.9588	0.0012	1.0000

2.4G WLAN

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm^2)	MPE Limits (mW/cm^2)
	dBm	mW				
802.11b	19.00	79.4328	2.92	1.9588	0.0310	1.0000
802.11g	21.00	125.8925	2.92	1.9588	0.0491	1.0000
802.11n(HT20)	22.00	158.4893	2.92	1.9588	0.0618	1.0000
802.11n(HT40)	24.00	251.1886	2.92	1.9588	0.0979	1.0000

5.2G WLAN

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm^2)	MPE Limits (mW/cm^2)
	dBm	mW				
802.11a	11.00	12.5893	4.84	3.0479	0.0076	1.0000
802.11n20	11.00	12.5893	4.84	3.0479	0.0076	1.0000
802.11ac20	11.00	12.5893	4.84	3.0479	0.0076	1.0000
802.11n40	13.00	19.9526	4.84	3.0479	0.0121	1.0000
802.11ac40	11.00	12.5893	4.84	3.0479	0.0076	1.0000
802.11ac80	11.00	12.5893	4.84	3.0479	0.0076	1.0000

5.8G WLAN

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm^2)	MPE Limits (mW/cm^2)
	dBm	mW				
802.11a	12.00	15.8489	4.84	3.0479	0.0096	1.0000
802.11n20	12.00	15.8489	4.84	3.0479	0.0096	1.0000
802.11ac20	13.00	19.9526	4.84	3.0479	0.0121	1.0000
802.11n40	11.00	12.5893	4.84	3.0479	0.0076	1.0000
802.11ac40	13.00	19.9526	4.84	3.0479	0.0121	1.0000
802.11ac80	12.00	15.8489	4.84	3.0479	0.0096	1.0000

GSM&WCDMA& LTE

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
GSM 900	33.00	1995.2623	0	1.0000	0.3969	0.5493
GSM 1800	31.00	1258.9254	0	1.0000	0.2505	1.0000
WCDMA Band II	24.00	251.1886	0	1.0000	0.0500	1.0000
WCDMA Band V	24.00	251.1886	0	1.0000	0.0500	0.5493
LTE Band 2	23.00	199.5262	0	1.0000	0.0397	1.0000
LTE Band 4	23.00	199.5262	0	1.0000	0.0397	1.0000
LTE Band 5	23.00	199.5262	0	1.0000	0.0397	0.5493
LTE Band 7	21.00	125.8925	0	1.0000	0.0250	1.0000
LTE Band 17	23.00	199.5262	0	1.0000	0.0397	0.4693
LTE Band 41	23.00	199.5262	0	1.0000	0.0397	1.0000

Remark:

1. Output power including tune-up tolerance;
2. MPE evaluate distance is 20cm from user manual provide by manufacturer;
3. MPE Limits($f=(300-1500\text{MHz}) = f/1500$; $f=$ frequency in MHz)

6.2 Simultaneous Transmission MPE

The sample support one Bluetooth & WLAN modular, one GSM<E modular, and one Bluetooth & WLAN antenna, and one GSM&WCDMA<E antenna, Need consider simultaneous transmission ;

According to KDB447498 D01 General RF Exposure Guidance v06 for Transmitters used in mobile exposure conditions for simultaneous transmission operations;

\sum of MPE ratios ≤ 1.0

6.2.1 Summary simultaneous transmission results

Maximum Simultaneous transmission MPE Ratios for **2.4GWLAN, GSM** .

Maximum MPE ratio 2.4GWLAN	Maximum MPE ratio GSM	\sum MPE ratios	Limit	Results
0.0979	0.3969	0.8205	1.0	PASS

7. Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB447498 D01 General RF Exposure Guidance v06, No SAR is required.

.....End of Report.....