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.....:	**GTS20191217003-1-4**
FCC ID. .....:	**W9V-DS735-GP**
Compiled by (position+printed name+signature) . :	File administrators Peter Xiao
Supervised by (position+printed name+signature) . :	Test Engineer Moon Tan
Approved by (position+printed name+signature) . :	Manager Simon Hu
Date of issue .....:	Mar.05, 2020
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.....:	**Green Packet Berhad, Taiwan**
Address .....:	2F, NO.23, LANE 583 RUEIGUANG RD, NEIHU DISTRICT, Taipei City,Taiwan
Test specification.....**:**	
Standard.....:	**47CFR §1.1310** **47CFR §2.1091** **KDB447498 v06**
TRF Originator.....:	Shenzhen Global Test Service Co.,Ltd.
Master TRF .....:	Dated 2014-12

Test item description .....:	**LTE CPE**
Trade Mark .....:	N/A
Manufacturer .....:	Green Packet Berhad, Taiwan
Model/Type reference .....:	DS-735
Listed Models .....:	N/A
Hardware Version .....:	N/A
Software Version .....:	N/A
Rating .....:	DC 12V/1.5A to Adapter
Result .....:	**PASS**

T E S T R E P O R T

Test Report No. :	**GTS20191217003-1-4**	Mar.05, 2020 Date of issue

Equipment under Test	:	LTE CPE
Model /Type	:	DS-735
Listed Models	:	N/A
Applicant	:	**Green Packet Berhad, Taiwan**
Address	:	2F, NO.23, LANE 583 RUEIGUANG RD, NEIHU DISTRICT, Taipei City,Taiwan
Manufacturer	:	**Green Packet Berhad, Taiwan**
Address	:	2F, NO.23, LANE 583 RUEIGUANG RD, NEIHU DISTRICT, Taipei City,Taiwan

Test Result:	**PASS**

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

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	LTE CPE
Trade Mark	N/A
Model/Type reference	DS-735
List Models	N/A
Model Declaration	N/A
Power supply:	DC 12V/1.5A to Adapter
WIFI(2.4G Band)	
Frequency Range	2412MHz ~ 2462MHz
Channel Spacing	5MHz
Channel Number	11 Channel for 20MHz bandwidth(2412~2462MHz) 7 channels for 40MHz bandwidth(2422~2452MHz)
Modulation Type	802.11b: DSSS; 802.11g/n: OFDM
Antenna Description	Two same PCB Antenna, WLAN support MIMO technology ANT0 used for WIFI TX/RX, 1.8dBi(Max.) for 2.4G Band ANT1 used for WIFI TX/RX, 1.8dBi(Max.) for 2.4G Band
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	Two same PCB Antenna, WLAN support MIMO technology ANT0 used for WIFI TX/RX, 2.5dBi(Max.) for 5G Band ANT1 used for WIFI TX/RX, 2.5dBi(Max.) for 5G Band
LTE	
LTE Operation Frequency Band	LTE Band 2, 4, 66
LTE Release Version	R9
Type Of Modulation	QPSK/16QAM
Antenna Description	PCB Antenna; 3.0dBi (max.) For Band 2;2.5dBi (max.) For Band 4; 2.5dBi (max.) For Band 66;

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: 2017 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.

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)

(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 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 KDB447498D01 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

$S=PG/4\pi R^2$
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 1.06dBi for 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

DS-735 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	2.4GWLAN ANT0	PCB Antenna	2.4 – 2.5 GHz	1.80dBi(Max.)
Antenna 1	2.4GWLAN ANT1	PCB Antenna	2.4 – 2.5 GHz	1.80dBi(Max.)
Antenna 2	5GWLAN ANT0	PCB Antenna	5.0 – 6.0 GHz	2.50dBi(Max.)
Antenna 3	5GWLAN ANT1	PCB Antenna	5.0 – 6.0 GHz	2.50dBi(Max.)
Antenna 4	LTE BAND 2	PCB Antenna	1.0 – 2.0 GHz	3.00dBi(Max.)
Antenna 5	LTE BAND 4/66	PCB Antenna	1.0 – 2.0 GHz	2.50dBi(Max.)

4. Conducted Power Results

Antenna 0:

2.4GWLAN

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
802.11b	01	2412	16.74
	06	2437	16.31
	11	2462	16.24
802.11g	01	2412	16.03
	06	2437	16.66
	11	2462	16.7
802.11n(HT20)	01	2412	16.67
	06	2437	16.25
	11	2462	16.57
802.11n(HT40)	03	2422	15.65
	06	2437	15.14
	09	2452	15.14

Antenna 2:

5.2GWLAN

Mode	Channel	Frequency (MHz)	Average Conducted Output Power (dBm)
802.11a	36	5180	11.75
	40	5200	11.86
	48	5240	11.11
802.11n20	36	5180	11.91
	40	5200	11.95
	48	5240	11.44
802.11ac20	36	5180	11.82
	40	5200	11.77
	48	5240	11.43
802.11n40	38	5190	11.14
	46	5230	11.10
802.11ac40	38	5190	11.73
	46	5230	11.96
802.11ac80	42	5210	11.23

5.8GWLAN

Mode	Channel	Frequency (MHz)	Average Conducted Output Power (dBm)
802.11a	149	5745	11.79
	157	5785	11.63
	165	5825	11.70
802.11n20	149	5745	11.03
	157	5785	11.06
	165	5825	11.52
802.11ac20	149	5745	11.17
	157	5785	11.94
	165	5825	11.63
802.11n40	151	5755	11.99
	159	5795	11.14
802.11ac40	151	5755	11.18
	159	5795	11.86
802.11ac80	155	5775	11.12

Antenna 1:

2.4GWLAN

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
802.11b	01	2412	16.77
	06	2437	16.06
	11	2462	16.21
802.11g	01	2412	16.52
	06	2437	16.94
	11	2462	16.57
802.11n(HT20)	01	2412	16.94
	06	2437	16.12
	11	2462	16.05
802.11n(HT40)	03	2422	15.17
	06	2437	15.45
	09	2452	15.2

Antenna 3:

5.2GWLAN

Mode	Channel	Frequency (MHz)	Average Conducted Output Power (dBm)
802.11a	36	5180	11.65
	40	5200	11.42
	48	5240	11.97
802.11n20	36	5180	11.23
	40	5200	11.57
	48	5240	11.28
802.11ac20	36	5180	11.01
	40	5200	11.38
	48	5240	11.93
802.11n40	38	5190	11.35
	46	5230	11.42
802.11ac40	38	5190	11.12
	46	5230	11.25
802.11ac80	42	5210	11.08

5.8GWLAN

Mode	Channel	Frequency (MHz)	Average Conducted Output Power (dBm)
802.11a	149	5745	11.26
	157	5785	11.88
	165	5825	11.96
802.11n20	149	5745	11.11
	157	5785	11.16
	165	5825	11.01
802.11ac20	149	5745	11.03
	157	5785	11.34
	165	5825	11.12
802.11n40	151	5755	11.86
	159	5795	11.91
802.11ac40	151	5755	11.21
	159	5795	11.74
802.11ac80	155	5775	11.10

Antenna 4&5:

<LTE Max Conducted Power>

Test Mode		**Channel**	**Frequency (MHz)**	**Max Conducted Power (dBm)**
LTE	Band 2	LCH	1850.7	22.43
		MCH	1880.0	22.96
		HCH	1909.3	22.92
	Band 4	LCH	1710.7	23.62
		MCH	1732.5	24.00
		HCH	1754.3	23.67
	Band 66	LCH	1710.7	23.75
		MCH	1745.0	24.00
		HCH	1779.3	23.65

5. Manufacturing Tolerance

Antenna 0:

2.4GWLAN

IEEE 802.11b (Peak)			
Channel	Channel 01	Channel 06	Channel 11
Target (dBm)	16.0	16.0	16.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11g (Peak)			
Channel	Channel 01	Channel 06	Channel 11
Target (dBm)	16.0	16.0	16.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n HT20 (Peak)			
Channel	Channel 01	Channel 06	Channel 11
Target (dBm)	16.0	16.0	16.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n HT40 (Peak)			
Channel	Channel 01	Channel 06	Channel 11
Target (dBm)	15.0	15.0	15.0
Tolerance ±(dB)	1.0	1.0	1.0

Antenna 2:

5.2GWLAN

IEEE 802.11a (Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	11.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n HT20 (Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	11.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11ac VHT20 (Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	11.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n VHT40 (Average)			
Channel	Channel 38	Channel 46	/
Target (dBm)	11.0	11.0	/
Tolerance ±(dB)	1.0	1.0	/
IEEE 802.11ac VHT40 (Average)			
Channel	Channel 38	Channel 46	/
Target (dBm)	11.0	11.0	/
Tolerance ±(dB)	1.0	1.0	/
IEEE 802.11ac VHT80 (Average)			
Channel	Channel 42	/	/
Target (dBm)	11.0	/	/
Tolerance ±(dB)	1.0	/	/

5.8GWLAN

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

Antenna 1:

2.4GWLAN

IEEE 802.11b (Peak)			
Channel	Channel 01	Channel 06	Channel 11
Target (dBm)	16.0	16.0	16.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11g (Peak)			
Channel	Channel 01	Channel 06	Channel 11
Target (dBm)	16.0	16.0	16.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n HT20 (Peak)			
Channel	Channel 01	Channel 06	Channel 11
Target (dBm)	16.0	16.0	16.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n HT40 (Peak)			
Channel	Channel 01	Channel 06	Channel 11
Target (dBm)	15.0	15.0	15.0
Tolerance ±(dB)	1.0	1.0	1.0

Antenna 3:

5.2GWLAN

IEEE 802.11a (Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	11.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n HT20 (Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	11.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11ac VHT20 (Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	11.0	11.0	11.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n VHT40 (Average)			
Channel	Channel 38	Channel 46	/
Target (dBm)	11.0	11.0	/
Tolerance ±(dB)	1.0	1.0	/
IEEE 802.11ac VHT40 (Average)			
Channel	Channel 38	Channel 46	/
Target (dBm)	11.0	11.0	/
Tolerance ±(dB)	1.0	1.0	/
IEEE 802.11ac VHT80 (Average)			
Channel	Channel 42	/	/
Target (dBm)	11.0	/	/
Tolerance ±(dB)	1.0	/	/

5.8GWLAN

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

Antenna 4&5:

<LTE Max Conducted Power>

Test Mode		Channel	Max Conducted Power (dBm)	ANT Max. Tune Up Power (dBm)
LTE	Band 2	LCH	22.43	22.0±1.0
		MCH	22.96	22.0±1.0
		HCH	22.92	22.0±1.0
	Band 4	LCH	23.62	23.0±1.0
		MCH	24.00	24.0±1.0
		HCH	23.67	23.0±1.0
	Band 66	LCH	23.75	23.0±1.0
		MCH	24.00	24.0±1.0
		HCH	23.65	23.0±1.0

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 =20cm, as well as the gain of the used antenna refer to antenna information, the RF power density can be obtained.

Antenna 0:

2.4GWLAN

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	Duty Cycle	MPE (mW/cm^2)	MPE Limits (mW/cm^2)
	dBm	mW					
802.11b	17.00	50.1187	1.80	1.5136	100%	0.0151	1.0000
802.11g	17.00	50.1187	1.80	1.5136	100%	0.0151	1.0000
802.11n(HT20)	17.00	50.1187	1.80	1.5136	100%	0.0151	1.0000
802.11n(HT40)	16.00	39.8107	1.80	1.5136	100%	0.0120	1.0000

Antenna 2:

5.2GWLAN

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	Duty Cycle	MPE (mW/cm^2)	MPE Limits (mW/cm^2)
	dBm	mW					
802.11a	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11n20	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11ac20	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11n40	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11ac40	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11ac80	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000

5.8GWLAN

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	Duty Cycle	MPE (mW/cm^2)	MPE Limits (mW/cm^2)
	dBm	mW					
802.11a	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11n20	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11ac20	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11n40	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11ac40	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11ac80	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000

Antenna 1:

2.4GWLAN

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	Duty Cycle	MPE (mW/cm^2)	MPE Limits (mW/cm^2)
	dBm	mW					
802.11b	17.00	50.1187	1.80	1.5136	100%	0.0151	1.0000
802.11g	17.00	50.1187	1.80	1.5136	100%	0.0151	1.0000
802.11n(HT20)	17.00	50.1187	1.80	1.5136	100%	0.0151	1.0000
802.11n(HT40)	16.00	39.8107	1.80	1.5136	100%	0.0120	1.0000

Antenna 3:

5.2GWLAN

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	Duty Cycle	MPE (mW/cm^2)	MPE Limits (mW/cm^2)
	dBm	mW					
802.11a	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11n20	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11ac20	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11n40	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11ac40	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11ac80	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000

5.8GWLAN

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	Duty Cycle	MPE (mW/cm^2)	MPE Limits (mW/cm^2)
	dBm	mW					
802.11a	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11n20	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11ac20	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11n40	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11ac40	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000
802.11ac80	12.00	15.8489	2.50	1.7783	100%	0.0056	1.0000

Antenna 4&5 :

LTE

Modulation Type	**Output power**		**Antenna Gain (dBi)**	**Antenna Gain (linear)**	**MPE (mW/cm2)**	**MPE Limits (mW/cm2)**
	dBm	**mW**				
LTE Band 2	23.00	199.5262	3.00	1.9953	0.0792	1.0000
LTE Band 4	25.00	316.2278	2.50	1.7783	0.1119	1.0000
LTE Band 66	25.00	316.2278	2.50	1.7783	0.1119	1.0000

Remark:

1. Output power including tune-up tolerance;

2. MPE evaluate distance is 20cm from user manual provide by manufacturer;

6.2 Simultaneous Transmission MPE

The sample support Two WLAN and Two LTE transmit antenna, so need consider simultaneous transmission;
The sample supports 2T2R MIMO technology for WLAN.
According to KDB447498 for Transmitters used in mobile exposure conditions for simultaneous transmission operations;

∑ of MPE ratios ≤ 1.0

8.2.1 Summary simultaneous transmission information

2.4G &5G WLAN+LTE			
Mode	**∑ MPE ratios**	**Limit**	**Results**
2.4G (ant 0+ant 1)+ 5.2G (ant 0+ant 1) + LTE Band 2+Band 4	0.2325	1.000	Pass
2.4G (ant 0+ant 1)+ 5.2G (ant 0+ant 1) + LTE Band 2+Band 66	0.2325	1.000	Pass
2.4G (ant 0+ant 1)+ 5.8G (ant 0+ant 1) + LTE Band 2+Band 4	0.1206	1.000	Pass
2.4G (ant 0+ant 1)+ 5.8G (ant 0+ant 1) + LTE Band 2+Band 66	0.1206	1.000	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 KDB 447498 v06, No SAR is required.

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