RF EXPOSURE REPORT

Product:	UMTS/HSPA+ Module
Model Name:	H330S
FCC ID:	ZMOH330S
Applicant:	Fibocom Wireless Inc.
Address:	5/F, Tower A, Technology Building Ⅱ,1057# Nanhai Blvd, Shenzhen, China
Manufacturer:	Fibocom Wireless Inc.
Address:	5/F, Tower A, Technology Building Ⅱ,1057# Nanhai Blvd, Shenzhen, China
Prepared by:	BV 7Layers Communications Technology (Shenzhen) Co. Ltd
Lab Location:	No.B102, Dazu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China
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Report No.:	SA190621W002-1
Received Date:	Jun. 21, 2019
Test Date:	Jul. 03, 2019 ~ Jul. 04, 2019
Issued Date:	Jul. 10, 2019

This report should not be used by the client to claim product certification, approval, or endorsement by A2LA or any government agencies.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA190621W002-1	Original release	Jul. 10, 2019

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1 CERTIFICATION

PRODUCT:	UMTS/HSPA+ Module
BRAND NAME:	Fibocom
MODEL NAME:	H330S
APPLICANT:	Fibocom Wireless Inc.
TESTED:	Jul. 03, 2019 ~ Jul. 04, 2019
TEST SAMPLE:	Production Unit
STANDARDS:	**FCC Part 2 (Section 2.1091)** **FCC OET Bulletin 65, Supplement C (01-01)** **KDB 447498 D01 General RF Exposure Guidance v06** IEEE C95.1

The above equipment has been tested by **BV 7Layers Communications Technology (Shenzhen) Co. Ltd** 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 :  , **DATE:** Jul. 10, 2019

(Alex Chen/ Engineer)

APPROVED BY :  , **DATE:** Jul. 10, 2019

(Luke Lu / Manager)

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	UMTS/HSPA+ Module	
MODEL NAME	H330S	
NOMINAL VOLTAGE	DC 3.3V	
OPERATING TEMPERATURE RANGE	-30 ~ 75℃	
MODULATION TYPE	**GPRS/EDGE**	GMSK, 8PSK
	WCDMA	BPSK/QPSK
OPERATING FREQUENCY	**GPRS/EDGE**	824.2MHz ~ 848.8MHz (FOR GPRS 850) 1850.2MHz ~ 1909.8MHz (FOR GPRS 1900)
	WCDMA	1852.4MHz ~ 1907.6MHz (FOR WCDMA Band 2) 826.4MHz ~ 846.6MHz (FOR WCDMA Band 5)
ANTENNA TYPE	External Antenna	
ANTENNA GAIN	-1dBi for GPRS 850/ WCDMA Band 5 -2dBi for GPRS 1900/ WCDMA Band 2	
HW VERSION	V1.1.1	
SW VERSION	V1H.10.33	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	N/A	

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The EUT was powered by the following adapter:

ADAPTER	
BRAND:	N/A
MODEL:	TY0901000
INPUT:	AC 100-240V, 50/60Hz
OUTPUT:	DC 9V, 1A

3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

3 RF EXPOSURE

3.1 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				
300-1500	…	…	F/1500	30
1500-100,000	…	…	1.0	30

F = Frequency in MHz

3.2 MPE CALCULATION FORMULA

Pd = (Pout*G) / (4*pi*r2)

where

Pd = power density in mW/cm2

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

3.3 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**.

3.4 CONDUCTED POWER

Band	GSM850			GSM1900		
Channel	128	189	251	512	661	810
Frequency	824.2	836.4	848.8	1850.2	1880	1909.8
GPRS (GMSK, 1Tx-slot)	32.20	32.09	**32.28**	29.38	29.62	**30.04**
GPRS (GMSK, 2Tx-slot)	30.46	30.35	30.54	27.20	27.44	27.86
GPRS (GMSK, 3Tx-slot)	29.08	28.97	29.16	25.84	26.08	26.50
GPRS (GMSK, 4Tx-slot)	28.01	27.90	28.09	24.83	25.07	25.49
EDGE (8PSK, 1Tx-slot)	26.76	26.65	26.84	25.66	25.90	26.32
EDGE (8PSK, 2Tx-slot)	24.55	24.44	24.63	23.60	23.84	24.26
EDGE (8PSK, 3Tx-slot)	23.26	23.15	23.34	22.21	22.45	22.87
EDGE (8PSK, 4Tx-slot)	23.29	23.18	23.37	22.22	22.46	22.88

Band	WCDMA II			WCDMA V		
Channel	9262	9400	9538	4132	4182	4233
Frequency (MHz)	1852.4	1880	1907.6	826.4	836.4	846.6
RMC 12.2K	**22.98**	22.45	22.66	22.90	**23.00**	22.85
HSPA						
HSDPA Subtest-1	22.02	21.49	21.70	21.94	22.04	21.89
HSDPA Subtest-2	21.95	21.42	21.63	21.87	21.97	21.82
HSDPA Subtest-3	21.64	21.11	21.32	21.56	21.66	21.51
HSDPA Subtest-4	21.73	21.20	21.41	21.65	21.75	21.60
HSUPA Subtest-1	21.88	21.35	21.56	21.80	21.90	21.75
HSUPA Subtest-2	20.12	19.59	19.80	20.04	20.14	19.99
HSUPA Subtest-3	21.02	20.49	20.70	20.94	21.04	20.89
HSUPA Subtest-4	20.21	19.68	19.89	20.13	20.23	20.08
HSUPA Subtest-5	21.74	21.21	21.42	21.66	21.76	21.61

3.5 CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

TUNE-UP POWER TABLE

Band	Frequency (MHz)	Operating Mode	Tune-Up Power And Tolerance (dBm)
GSM850	848.8	GPRS12	32.5 ± 0.5
GSM1900	1909.8	GPRS12	30.5 ± 0.5
WCDMA II	1852.4	RMC12.2K	23.0 ± 0.5
WCDMA V	836.4	RMC12.2K	23.0 ± 0.5

GSM

Band	Frequency (MHz)	Operating Mode	Antenna Gain (dBi)	Tune-up Power (dBm)	E.I.R.P Power (mW)	Power Density (mW/cm^2)	limit (mW/cm^2)	PASS / FAIL
GSM850	848.8	GPRS12	-1	33.0	1258.925	0.250	0.57	PASS
GSM1900	1909.8	GPRS12	-2	31.0	630.957	0.126	1.00	PASS

WCDMA

Band	Frequency (MHz)	Operating Mode	Antenna Gain (dBi)	Tune-up Power (dBm)	E.I.R.P Power (mW)	Power Density (mW/cm^2)	limit (mW/cm^2)	PASS / FAIL
WCDMA II	1852.4	RMC12.2K	-2	23.5	125.893	0.025	1.00	PASS
WCDMA V	836.4	RMC12.2K	-1	23.5	158.489	0.032	0.56	PASS

--END--