



FCC ID: 2ATZ6- AH11-22-11
Report No.: T210308W07-MF1

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Rev.: 00

KDB 447498 D03
47 C.F.R. Part 1, Subpart I, Section 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091

RF EXPOSURE REPORT

For

ActiveHome

Model: AH11-22-11

Trade Name: Upstream S.A

Issued to

UPSTREAM S.A
Rue de Gosselies 13/9 Jumet 6040 Belgium

Issued by

Compliance Certification Services Inc.
Wugu Laboratory
No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City, Taiwan. (R.O.C.)
Issue Date: July 22, 2021

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	July 22, 2021	Initial Issue	ALL	Doris Chu



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1. TEST RESULT CERTIFICATION

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247.

The test results of this report relate only to the tested sample EUT identified in this report.

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted
Statements of Conformity	
Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

Approved by:

Kevin Tsai
Deputy Manager
Compliance Certification Services Inc.

2. LIMIT

According to §15.247(i), 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 levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

3. EUT SPECIFICATION

EUT	ActiveHome																			
Model	AH11-22-11																			
Model Discrepancy	N/A																			
Frequency band (Operating)	<input checked="" type="checkbox"/> LTE Band 2: 1850MHz ~ 1910MHz <input checked="" type="checkbox"/> LTE Band 4: 1710MHz ~ 1755MHz <input checked="" type="checkbox"/> LTE Band 12: 699 MHz ~ 716 MHz <input type="checkbox"/> Others																			
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others																			
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm ²) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm ²) Frequency Range 300MHz~1500MHz = f/1500 (mW/cm ²) Frequency Range 1500MHz~100000MHz = 1 (mW/cm ²)																			
Antenna Specification	WWAN FPC Antenna <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:25%;">LTE Band 2:</td> <td style="width:15%;">Gain :</td> <td style="width:15%;">4.70 dBi</td> <td style="width:15%;">(Numeric gain: 2.95)</td> <td style="width:30%;">Worst</td> </tr> <tr> <td>LTE Band 4:</td> <td>Gain :</td> <td>4.60 dBi</td> <td>(Numeric gain: 2.88)</td> <td>Worst</td> </tr> <tr> <td>LTE Band 12:</td> <td>Gain :</td> <td>4.50 dBi</td> <td>(Numeric gain: 2.82)</td> <td>Worst</td> </tr> </table>					LTE Band 2:	Gain :	4.70 dBi	(Numeric gain: 2.95)	Worst	LTE Band 4:	Gain :	4.60 dBi	(Numeric gain: 2.88)	Worst	LTE Band 12:	Gain :	4.50 dBi	(Numeric gain: 2.82)	Worst
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LTE Band 12:	Gain :	4.50 dBi	(Numeric gain: 2.82)	Worst																
Maximum Measurement Average Power	WWAN <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:40%;">LTE Band 2:</td> <td style="width:15%;">21.98 dBm</td> <td style="width:45%;">(157.761 mW)</td> </tr> <tr> <td>LTE Band 4:</td> <td>22.41 dBm</td> <td>(174.181 mW)</td> </tr> <tr> <td>LTE Band 12:</td> <td>22.19 dBm</td> <td>(165.577 mW)</td> </tr> </table>					LTE Band 2:	21.98 dBm	(157.761 mW)	LTE Band 4:	22.41 dBm	(174.181 mW)	LTE Band 12:	22.19 dBm	(165.577 mW)						
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Maximum tune up power	WWAN <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:40%;">LTE Band 2:</td> <td style="width:15%;">22.50 dBm</td> <td style="width:45%;">(177.828 mW)</td> </tr> <tr> <td>LTE Band 4:</td> <td>23.00 dBm</td> <td>(199.526 mW)</td> </tr> <tr> <td>LTE Band 12:</td> <td>23.00 dBm</td> <td>(199.526 mW)</td> </tr> </table>					LTE Band 2:	22.50 dBm	(177.828 mW)	LTE Band 4:	23.00 dBm	(199.526 mW)	LTE Band 12:	23.00 dBm	(199.526 mW)						
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LTE Band 12:	23.00 dBm	(199.526 mW)																		
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A																			

4. TEST RESULTS

No non-compliance noted.

Calculation

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377d^2}$$

Changing to units of mW and cm, using:

P (mW) = P (W) / 1000 and

d (cm) = d(m) / 100

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

5. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

LTE Band 2 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm ²)
18150	1905	177.828	2.95	20	0.1044	1

LTE Band 4 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm ²)
19975	1712.5	199.526	2.88	20	0.1144	1

LTE Band 12 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm ²)
23017	699.7	199.526	2.82	20	0.1120	0.466

--End of Report--