

Coulisse B.V

MPE ASSESSMENT REPORT

Report Type:

FCC MPE assessment report

Model:

CM-20

REPORT NUMBER:

181201447SHA-002

ISSUE DATE:

Mar 7, 2019

DOCUMENT CONTROL NUMBER:

TTRFFCCMPE-01_V1 © 2018 Intertek



Applicant: Coulisse B.V
Vonderweg 48, 7468 DC Enter, Netherlands

Manufacturer: Coulisse B.V
Vonderweg 48, 7468 DC Enter, Netherlands

Manufacturing site: NINGBO DOOYA MECHANIC & ELECTRONIC TECHNOLOGY CO., LTD.
No.168 Shengguang Road, Luotuo, Zhenhai, Ningbo, ZHEJIANG,
China

FCC ID: ZY4CM20

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

KDB447498 D01 General RF Exposure Guidance v06
FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

PREPARED BY:



Project Engineer
Teddy Yin

REVIEWED BY:



Reviewer
Daniel Zhao

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Revision History

Report No.	Version	Description	Issued Date
181201447SHA-002	Rev. 01	Initial issue of report	Mar 7, 2019

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	MOTION Wi-Fi bridge
Type/Model:	CM-20
Description of EUT:	The EUT is a transceiver to control the working condition of the corresponding receiver, there is one model only. The EUT contains an approved WIFI modular(FCC ID: 2AC7Z-ESPWROOM32)
Rating:	5VDC, 2A
Category of EUT:	Class B
EUT type:	<input checked="" type="checkbox"/> Table top <input type="checkbox"/> Floor standing
Software Version:	/
Hardware Version:	/
Sample received date:	Dec 20, 2018
Date of test:	Dec 20, 2018~Jan 6, 2019

1.2 Technical Specification

Operation Frequency:	433.92MHz
Type of Modulation:	FSK
Product Type:	<input type="checkbox"/> Mobile <input type="checkbox"/> Portable <input checked="" type="checkbox"/> Fix Location
Channel Number:	1
Antenna Designation:	Integral PCB antenna, non-user removable
Gain of Antenna:	1.2dBi max (Declared by manufacture)

1.3 Description of Test Facility

Name:	Intertek Testing Services Shanghai
Address:	Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L0139
	FCC Accredited Lab Designation Number: CN1175
	IC Registration Lab CAB identifier.: CN0051
	VCCI Registration Lab Registration No.: R-14243, G-10845, C-14723, T-12252
	A2LA Accreditation Lab Certificate Number: 3309.02

2 MPE Assessment

Test result: Pass

2.1 MPE Assessment Limit

Mobile device exposure for standalone operations:

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (uT)	Equivalent plane wave power density S_{eq} (W/m ²)
0-1 Hz	-	$3,2 \times 10^4$	4×10^4	-
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	-
8-25 Hz	10 000	$4\ 000/f$	$5\ 000/f$	-
0,025-0,8 kHz	$250/f$	$4/f$	$5/f$	-
0,8-3 kHz	$250/f$	5	6,25	-
3-150 kHz	87	5	6,25	-
0,15-1 MHz	87	$0,73/f$	$0,92/f$	-
1-10 MHz	$87/f^{1/2}$	$0,73/f$	$0,92/f$	-
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375 f^{1/2}$	$0,0037 f^{1/2}$	$0,0046 f^{1/2}$	$f/200$
2-300 GHz	61	0,16	0,20	10

Mobile device exposure for simultaneous transmission operations: **the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0**

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2.2 Assessment Results

Power density (S) is calculated according to the formula:

$$S = PG / (4\pi R^2)$$

Where S = power density in mW/cm²

P = Radiated transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

For 433.92MHz, as we can see from the test report 181201447SHA-002:

Frequency band (MHz)	Field Strength (dBuV/m)	Max power		R	S
433.92MHz	79.4	-15.9dBm	0.026mW	20cm	0.000005

For WIFI, (FCC ID: 2AC7Z-ESPWROOM32)

Frequency band (MHz)	Max power		Antenna Gain		R	S
2412-2462MHz	16.62dBm	45.92mW	2.0dBi	1.585	20cm	0.014480

The sum of the MPE ratios = 0.000005+0.014480=0.014485mW/cm²<1.0

Appendix I

Definition below must be outlined in the User Manual:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.

***** END *****