

RF EXPOSURE REPORT

OF

Applicant: Barco NV
Barco NV President Kennedypark 35, 8500 Kortrijk, Belgium
Product Name: ClickShare CSE-200+, ClickShare
Brand Name: Barco
Model No. / Type No.: CSE-200+, C 5010S
Model Difference: For the detail, please refer to product diversity table in page 4.
Report Number: ER/2019/60052
FCC ID 2AAED-R9861521
FCC Rule Part Part 2.1091
Issue Date: Dec. 05, 2019
Date of Test: Jun. 18, 2019 ~ Nov. 11, 2019
Date of EUT Received: Jun. 18, 2019

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. The test data, data evaluation in this report is in compliance with FCC Rules Part 2.
The test results of this report relate only to the tested sample identified in this report.

Approved By: _____

John Yeh
John Yeh / Assistant Manager



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Revision History			
Revision	Description	Issue Date	Remark
Rev.00	Original.	Dec. 05, 2019	Revised By: Karen Huang

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1 DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

General:

Product Name:	ClickShare CSE-200+, ClickShare
Brand Name:	Barco
Model No. / Type No.:	CSE-200+, C 5010S
Model Difference:	For the detail, please refer to product diversity table below
Product SW/HW Version:	N/A / EVT2
WLAN Module:	Model No.: WCBN807A
WLAN Module:	Model No.: WCBN811A
Power Supply:	120Vac input / 12Vdc output from AC/DC adapter
Adapter:	1. Model No.: BA070-120417GXX, Supplier: BILLION 2. Model No.: ATS050T-A121, Supplier: Adapter Technology

Product Diversity Description Table:

Product Name:	Product name for CSE-200+ is ClickShare CSE-200+; Product name for C 5010S is ClickShare.
PCB and Hardware changes:	- USB audio codec IC - Stereo class-D audio amplifier - USB2.0 hub controller IC - 1 watt speaker through wire connection

1.1 Multiple Model numbers

The variant model numbers are assessed as identical in hardware and software to each other, hence all variants are fully covered by the test results in this test report without further verification test.

1.2 Disclaimer

Variant information between model numbers is provided by the applicant, test results of this report are applicable to the sample EUT received.

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Antenna Information:

Module Model No.: WCBN807A

Antenna Type	Supplier	Ant 1 / Ant 2	Antenna Part No.	Frequency (MHz)	Peak Antenna Gain (dBi)	MIMO Antenna Gain (dBi)	Worst Antenna Gain
PCB	INPAQ TECHNOLOGY CO., LTD	Antenna 1	WA-P-LB-02-531	5250~5350	0.64	3.01	
				5470~5725	1.19	3.29	V
	INPAQ TECHNOLOGY CO., LTD	Antenna 2	WA-P-LB-02-534	5250~5350	-0.1	3.74	V
				5470~5725	0.24	3.01	

Module Model No.: WCBN811A

Antenna Type	Supplier	Ant 1 / Ant 2	Antenna Part No.	Frequency (MHz)	Peak Antenna Gain (dBi)	Worst Antenna Gain
PCB	INPAQ TECHNOLOGY CO., LTD	Antenna 1	WA-P-LB-02-531	5250~5350	1.16	V
				5470~5725	1.19	V

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Module Model No.: WCBN807A

Wi-Fi	Freq. Range (MHz)	Modulation Technology	Module	Max. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Worst Case
11a	5250~5350	OFDM	WCBN807A	17.96	3.74	21.7	
	5470~5725			18.00	3.29	21.29	
n_HT ac_VHT 20M	5250~5350			18.19	3.74	21.93	V
	5470~5725			18.24	3.29	21.53	
n_HT ac_VHT 40M	5250~5350			17.25	3.74	20.99	
	5470~5725			17.01	3.29	20.3	
ac_VHT 80M	5250~5350			12.93	3.74	16.67	
	5470~5725			16.63	3.29	19.92	
Modulation type		64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 802.11ac only					

Module Model No.: WCBN811A

Wi-Fi	Freq. Range (MHz)	Modulation Technology	Module	Max. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Worst Case
11a	5250~5350	OFDM	WCBN811A	17.28	1.16	18.44	
	5470~5725			17.21	1.19	18.4	
n_HT ac_VHT 20M	5250~5350			17.13	1.16	18.29	
	5470~5725			17.28	1.19	18.47	V
n_HT ac_VHT 40M	5250~5350			14.85	1.16	16.01	
	5470~5725			14.81	1.19	16	
ac_VHT 80M	5250~5350			10.84	1.16	12	
	5470~5725			11.00	1.19	12.19	
Modulation type		64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 802.11ac only					

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2 FCC MAXIMUM PERMISSIBLE EXPOSURE (MPE)

2.1 FCC Standard Applicable

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

This is a Mobile device, the MPE is required.

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

Limits for Maximum Permissive Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-15000	/	/	1.0	30

f = frequency in MHz

* = Plane-wave equipment power density

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2.2 Power Density Calculation (Worst Case)

FCC								
Operation Mode	Evaluation Frequency (MHz)	Operation Distance (cm)	Max. output Power (dBm)	Antenna Gain (dBi)	Max. output Power EIRP (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Pass / Fail
WLAN 5G (807 module)	5250.00	20	18.19	3.74	155.96	0.031	1.000	Pass
WLAN 5G (811 module)	5470.00	20	17.28	1.19	70.31	0.014	1.000	Pass

Note: For conservativeness, the lowest uplink frequency of each band is used to determine the MPE limit of that band.

2.3 Collocated Power Density Calculation

FCC				
Operation Mode	Power Density (mW/cm ²)	Limit (mW/cm ²)	Power Density / Limit	$\Sigma(E\text{-} \text{Field Strength / Limit})$
WLAN 5G (807 module)	0.031	1.00	0.031	0.0450
WLAN 5G (811 module)	0.014	1.00	0.014	

Note:

1. $\Sigma(E\text{-} \text{Field Strength / Limit})$: This is a summation of [(E- Field Strength for each transmitter/antenna included in the simultaneous transmission) / (corresponding MPE limit)], for WLAN + Bluetooth + WWAN + RFID.
2. Considering the WLAN and Bluetooth transmitter, the aggregated (E- Field Strength /limit) is smaller than 1, and MPE of 2 collocated transmitters is compliant

~ *End of Report* ~

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