RF EXPOSURE EVALUATION REPORT

FCC ID	:	2AVOB-FH7K2H
Equipment	:	AMC Dash Cart
Model Name	:	FH7K2H
Applicant	:	Amazon.com Services LLC 410 Terry Avenue N, Seattle, WA 98109-5210 United States
Trademark	:	Nalloy LLC, Amazon Retail LLC
Standard	:	47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part2.1091 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 3786) and the FCC designation No. TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

The results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full

Approved by: Cona Huang / Deputy Manager

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History of this test report

Report No.	Version	Description	Issued Date
FA241118001	Rev. 01	Initial issue of report	Dec. 06, 2024

1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	AMC Dash Cart
Model Name	FH7K2H
FCC ID	2AVOB-FH7K2H
Wireless Technology and Frequency Range	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 66: 1710 MHz ~ 1780 MHz WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz
Mode	LTE: QPSK, 16QAM, WLAN: 802.11a/b/g/n/ac/ax HT20/HT40/VHT20/VHT40/VHT80/HE20/HE40/HE80

Reviewed by: Jason Wang

Report Producer: Daisy Peng

2. Maximum RF average output power among production units

Mode	Maximum Output Power (dBm)
LTE Band 2	23
LTE Band 4	23
LTE Band 5	23
LTE Band 12	23
LTE Band 13	23
LTE Band 25	23
LTE Band 26	23
LTE Band 66	23

<2.4GHz WLAN>						
				Ant 1+2 (1)	Ant 1+2 (2)	Ant 1+2
	Mode	Channel	Frequency (MHz)	Tune-Up Limit	Tune-Up Limit	Tune-Up Limit
2.4GHz WLAN	802.11b 1Mbps	1	2412	24.00	24.00	27.00
		6	2437	24.00	24.00	27.00
		11	2462	24.00	24.00	27.00
	802.11g 6Mbps	1	2412	20.00	20.00	23.00
		6	2437	23.50	23.50	26.50
		11	2462	17.50	17.50	20.50
	802.11n-HT20 MCS0	1	2412	18.50	18.50	21.50
		6	2437	23.00	23.00	26.00
		11	2462	16.50	16.50	19.50
	802.11n-HT40 MCS0	3	2422	17.50	17.50	20.50
		6	2437	20.00	20.00	23.00
		9	2452	13.50	13.50	16.50
	802.11ac-VHT20 MCS0	1	2412	18.50	18.50	21.50
		6	2437	23.00	23.00	26.00
		11	2462	16.50	16.50	19.50
	802.11ac-VHT40 MCS0	3	2422	17.50	17.50	20.50
		6	2437	20.00	20.00	23.00
		9	2452	13.50	13.50	16.50
	802.11ax-HE20 MCS0	1	2412	18.50	18.50	21.50
		6	2437	23.00	23.00	26.00
		11	2462	16.50	16.50	19.50
	802.11ax-HE40 MCS0	3	2422	17.50	17.50	20.50
		6	2437	20.00	20.00	23.00
		9	2452	13.50	13.50	16.50

<5.2GHz WLAN>						
				Ant 1+2 (1)	Ant 1+2 (2)	Ant 1+2
	Mode	Channel	Frequency (MHz)	Tune-Up Limit	Tune-Up Limit	Tune-Up Limit
5.2GHz WLAN	802.11a 6Mbps	36	5180	19.00	19.00	22.00
		44	5220	20.50	20.50	23.50
		48	5240	20.00	20.00	23.00
	802.11n-HT20 MCS0	36	5180	18.50	18.50	21.50
		44	5220	21.00	21.00	24.00
		48	5240	20.50	20.50	23.50
	802.11n-HT40 MCS0	38	5190	17.00	17.00	20.00
		46	5230	20.50	20.50	23.50
	802.11ac-VHT20 MCS0	36	5180	18.50	18.50	21.50
		44	5220	21.00	21.00	24.00
		48	5240	20.50	20.50	23.50
	802.11ac-VHT40 MCS0	38	5190	17.00	17.00	20.00
		46	5230	20.50	20.50	23.50
	802.11ac-VHT80 MCS0	42	5210	17.00	17.00	20.00
	802.11ax-HE20 MCS0	36	5180	18.50	18.50	21.50
		44	5220	21.00	21.00	24.00
		48	5240	20.50	20.50	23.50
	802.11ax-HE40 MCS0	38	5190	17.00	17.00	20.00
		46	5230	20.50	20.50	23.50
	802.11ax-HE80 MCS0	42	5210	17.00	17.00	20.00

<5.3GHz WLAN>						
				Ant 1+2 (1)	Ant 1+2 (2)	Ant 1+2
	Mode	Channel	Frequency (MHz)	Tune-Up Limit	Tune-Up Limit	Tune-Up Limit
5.3GHz WLAN	802.11a 6Mbps	52	5260	20.00	20.00	23.00
		60	5300	20.00	20.00	23.00
		64	5320	19.00	19.00	22.00
	802.11n-HT20 MCS0	52	5260	20.00	20.00	23.00
		60	5300	20.00	20.00	23.00
		64	5320	18.50	18.50	21.50
	802.11n-HT40 MCS0	54	5270	20.50	20.50	23.50
		62	5310	17.00	17.00	20.00
	802.11ac-VHT20 MCS0	52	5260	20.00	20.00	23.00
		60	5300	20.00	20.00	23.00
		64	5320	18.50	18.50	21.50
	802.11ac-VHT40 MCS0	54	5270	20.50	20.50	23.50
		62	5310	17.00	17.00	20.00
	802.11ac-VHT80 MCS0	58	5290	16.50	16.50	19.50
	802.11ax-HE20 MCS0	52	5260	20.00	20.00	23.00
		60	5300	20.00	20.00	23.00
		64	5320	18.50	18.50	21.50
	802.11ax-HE40 MCS0	54	5270	20.50	20.50	23.50
		62	5310	17.00	17.00	20.00
	802.11ax-HE80 MCS0	58	5290	16.50	16.50	19.50

<5.5GHz WLAN>						
				Ant 1+2 (1)	Ant 1+2 (2)	Ant 1+2
	Mode	Channel	Frequency (MHz)	Tune-Up Limit	Tune-Up Limit	Tune-Up Limit
5.5GHz WLAN	802.11a 6Mbps	100	5500	19.50	19.50	22.50
		116	5580	20.50	20.50	23.50
		140	5700	17.50	17.50	20.50
		144	5720	17.50	17.50	20.50
	802.11n-HT20 MCS0	100	5500	18.50	18.50	21.50
		116	5580	20.50	20.50	23.50
		140	5700	17.50	17.50	20.50
		144	5720	18.00	18.00	21.00
	802.11n-HT40 MCS0	102	5510	17.50	17.50	20.50
		110	5550	20.50	20.50	23.50
		134	5670	19.50	19.50	22.50
		142	5710	20.50	20.50	23.50
	802.11ac-VHT20 MCS0	100	5500	18.50	18.50	21.50
		116	5580	20.50	20.50	23.50
		140	5700	17.50	17.50	20.50
		144	5720	18.00	18.00	21.00
	802.11ac-VHT40 MCS0	102	5510	17.50	17.50	20.50
		110	5550	20.50	20.50	23.50
		134	5670	19.50	19.50	22.50
		142	5710	20.50	20.50	23.50
	802.11ac-VHT80 MCS0	106	5530	16.50	16.50	19.50
		122	5610	20.00	20.00	23.00
		138	5690	20.50	20.50	23.50
	802.11ax-HE20 MCS0	100	5500	18.50	18.50	21.50
		116	5580	20.50	20.50	23.50
		140	5700	17.50	17.50	20.50
		144	5720	18.00	18.00	21.00
	802.11ax-HE40 MCS0	102	5510	17.50	17.50	20.50
		110	5550	20.50	20.50	23.50
		134	5670	19.50	19.50	22.50
		142	5710	20.50	20.50	23.50
	802.11ax-HE80 MCS0	106	5530	16.50	16.50	19.50
		122	5610	20.00	20.00	23.00
		138	5690	20.50	20.50	23.50

<5.8GHz WLAN>						
				Ant 1+2 (1)	Ant 1+2 (2)	Ant 1+2
	Mode	Channel	Frequency (MHz)	Tune-Up Limit	Tune-Up Limit	Tune-Up Limit
5.8GHz WLAN	802.11a 6Mbps	149	5745	18.00	18.00	21.00
		157	5785	19.00	19.00	22.00
		165	5825	19.00	19.00	22.00
	802.11n-HT20 MCS0	149	5745	19.00	19.00	22.00
		157	5785	19.00	19.00	22.00
		165	5825	19.00	19.00	22.00
	802.11n-HT40 MCS0	151	5755	19.50	19.50	22.50
		159	5795	19.50	19.50	22.50
	802.11ac-VHT20 MCS0	149	5745	19.00	19.00	22.00
		157	5785	19.00	19.00	22.00
		165	5825	19.00	19.00	22.00
	802.11ac-VHT40 MCS0	151	5755	19.50	19.50	22.50
		159	5795	19.50	19.50	22.50
	802.11ac-VHT80 MCS0	155	5775	20.50	20.50	23.50
	802.11ax-HE20 MCS0	149	5745	19.00	19.00	22.00
		157	5785	19.00	19.00	22.00
		165	5825	19.00	19.00	22.00
	802.11ax-HE40 MCS0	151	5755	19.50	19.50	22.50
		159	5795	19.50	19.50	22.50
	802.11ax-HE80 MCS0	155	5775	20.50	20.50	23.50

3. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:
S = Power Density
P = Output Power at Antenna Terminals
G = Gain of Transmit Antenna (linear gain)
R = Distance from Transmitting Antenna

4. Radio Frequency Radiation Exposure Evaluation

4.1. Standalone Power Density Calculation

Band	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum PG (mW)	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)	Power Density / Limit
LTE Band 2	-3.83	23.00	19.2	82.60	0.016	1.000	0.016
LTE Band 4	-2.23	23.00	20.8	119.40	0.024	1.000	0.024
LTE Band 5	-3.66	23.00	19.3	85.90	0.017	0.549	0.031
LTE Band 12	-3.54	23.00	19.5	88.31	0.018	0.466	0.038
LTE Band 13	-2.64	23.00	20.4	108.64	0.022	0.518	0.042
LTE Band 25	-3.83	23.00	19.2	82.60	0.016	1.000	0.016
LTE Band 26	-3.66	23.00	19.3	85.90	0.017	0.543	0.032
LTE Band 66	-2.23	23.00	20.8	119.40	0.024	1.000	0.024
WLAN2.4GHz Band	2.0	27.0	29.0	794.33	0.158	1.000	0.158
WLAN5.2GHz Band	4.0	24.0	28.0	630.96	0.126	1.000	0.126
WLAN5.3GHz Band	4.0	23.5	27.5	562.34	0.112	1.000	0.112
WLAN5.5GHz Band	4.0	23.5	27.5	562.34	0.112	1.000	0.112
WLAN5.8GHz Band	4.0	23.5	27.5	562.34	0.112	1.000	0.112

4.2. Collocated Power Density Calculation

WWAN Power Density / Limit	WLAN Power Density / Limit	∑(Power Density / Limit) of WWAN+WLAN
0.042	0.158	0.2

Note:

1. ∑(Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for WWAN + WLAN .
2. Considering the WWAN module collocation with the WLAN transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 2 collocated transmitters is compliant

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.