

RF EXPOSURE EVALUATION REPORT

FCC ID : 2AXFL-4269
Equipment : Digital Media Receiver
Model Name : H6Y2A5
Applicant : Orthoclase Feldspar LLC
1202 NE McClain Road
Bentonville, AR 72712
Standard : 47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part 2.1091 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

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Approved by: Cona Huang / Deputy Manager



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History of this test report

Report No.	Version	Description	Issued Date
FA120234-01	Rev. 01	Initial issue of report	Jun. 22, 2021

1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Digital Media Receiver
Model Name	H6Y2A5
FCC ID	2AXFL-4269
Wireless Technology and Frequency Range	WLAN 2.4GHz Band: 2400 MHz ~ 2483.5 MHz WLAN U-NII 1: 5150 MHz ~ 5250 MHz WLAN U-NII 2-A: 5250 MHz ~ 5350 MHz WLAN U-NII 2-C: 5470 MHz ~ 5725 MHz WLAN U-NII 3: 5725 MHz ~ 5825 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz
Mode	WLAN: 802.11a/b/g/n/ac HT20/HT40/VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

Reviewed by: Jason Wang

Report Producer: Carlie Tsai

2. Maximum RF average output power among production units

<Bluetooth>

Mode	Average power (dBm)				
	BR / EDR			LE	
	1Mbps	2Mbps	3Mbps	1Mbps	2Mbps
Tune-up Limit	17	15	15	8	8

<2.4GHz WLAN>

	Mode	Channel	Frequency (MHz)	Ant 1 Tune-up Limit	Ant 2 Tune-up Limit	Ant 1+2 Tune-up Limit
2.4GHz WLAN	802.11b 1Mbps	1	2412	16.50	16.50	19.50
		6	2437	16.50	16.50	19.50
		11	2462	16.50	16.50	19.50
		12	2467	12.50	12.50	15.50
		13	2472	10.50	10.50	13.50
	802.11g 6Mbps	1	2412	18.50	18.50	21.50
		6	2437	19.50	19.50	22.50
		11	2462	17.50	17.50	20.50
		12	2467	11.00	11.00	14.00
		13	2472	7.00	7.00	10.00
	802.11n-HT20 MCS0	1	2412	17.00	17.00	20.00
		6	2437	19.00	19.00	22.00
		11	2462	16.50	16.50	19.50
		12	2467	10.50	10.50	13.50
		13	2472	4.50	4.50	7.50

<5GHz WLAN>

5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Ant 1 Tune-up Limit	Ant 2 Tune-up Limit	Ant 1+2 Tune-up Limit
	802.11a 6Mbps	36	5180	17.00	17.00	20.00
		40	5200	17.00	17.00	20.00
		44	5220	17.00	17.00	20.00
		48	5240	17.00	17.00	20.00
	802.11n-HT20 MCS0	36	5180	16.50	16.50	19.50
		40	5200	16.50	16.50	19.50
		44	5220	16.50	16.50	19.50
		48	5240	16.50	16.50	19.50
	802.11n-HT40 MCS0	38	5190	17.00	17.00	20.00
		46	5230	17.00	17.00	20.00
	802.11ac-VHT20 MCS0	36	5180	16.00	16.00	19.00
		40	5200	17.00	17.00	20.00
		44	5220	17.00	17.00	20.00
		48	5240	17.00	17.00	20.00
	802.11ac-VHT40 MCS0	38	5190	17.00	17.00	20.00
		46	5230	17.00	17.00	20.00
	802.11ac-VHT80 MCS0	42	5210	13.00	13.00	16.00

5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Ant 1 Tune-up Limit	Ant 2 Tune-up Limit	Ant 1+2 Tune-up Limit
	802.11a 6Mbps	52	5260	16.50	16.50	19.50
		56	5280	17.00	17.00	20.00
		60	5300	17.00	17.00	20.00
		64	5320	17.00	17.00	20.00
	802.11n-HT20 MCS0	52	5260	16.50	16.50	19.50
		56	5280	16.50	16.50	19.50
		60	5300	16.50	16.50	19.50
		64	5320	17.00	17.00	20.00
	802.11n-HT40 MCS0	54	5270	16.50	16.50	19.50
		62	5310	16.50	16.50	19.50
	802.11ac-VHT20 MCS0	52	5260	16.50	16.50	19.50
		56	5280	16.50	16.50	19.50
		60	5300	16.50	16.50	19.50
		64	5320	16.50	16.50	19.50
	802.11ac-VHT40 MCS0	54	5270	16.50	16.50	19.50
		62	5310	16.50	16.50	19.50
	802.11ac-VHT80 MCS0	58	5290	13.00	13.00	16.00

5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Ant 1 Tune-up Limit	Ant 2 Tune-up Limit	Ant 1+2 Tune-up Limit
	802.11a 6Mbps	100	5500	16.50	16.50	19.50
		116	5580	16.50	16.50	19.50
		124	5620	16.50	16.50	19.50
		132	5660	16.50	16.50	19.50
		140	5700	16.50	16.50	19.50
		144	5720	16.50	16.50	19.50
	802.11n-HT20 MCS0	100	5500	16.50	16.50	19.50
		116	5580	16.50	16.50	19.50
		124	5620	16.50	16.50	19.50
		132	5660	16.50	16.50	19.50
		140	5700	16.50	16.50	19.50
		144	5720	16.50	16.50	19.50
	802.11n-HT40 MCS0	102	5510	16.50	16.50	19.50
		110	5550	16.50	16.50	19.50
		126	5630	16.50	16.50	19.50
		134	5670	16.50	16.50	19.50
		142	5710	16.50	16.50	19.50
	802.11ac-VHT20 MCS0	100	5500	16.50	16.50	19.50
		116	5580	16.50	16.50	19.50
		124	5620	16.50	16.50	19.50
		132	5660	16.50	16.50	19.50
		140	5700	16.50	16.50	19.50
		144	5720	16.50	16.50	19.50
	802.11ac-VHT40 MCS0	102	5510	16.50	16.50	19.50
		110	5550	16.50	16.50	19.50
		126	5630	16.50	16.50	19.50
		134	5670	16.50	16.50	19.50
		142	5710	16.50	16.50	19.50
	802.11ac-VHT80 MCS0	106	5530	15.00	15.00	18.00
		122	5610	15.00	15.00	18.00
		138	5690	15.00	15.00	18.00

5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Ant 1 Tune-up Limit	Ant 2 Tune-up Limit	Ant 1+2 Tune-up Limit
	802.11a 6Mbps	149	5745	17.50	17.50	20.50
		157	5785	17.50	17.50	20.50
		165	5825	17.50	17.50	20.50
	802.11n-HT20 MCS0	149	5745	17.50	17.50	20.50
		157	5785	17.50	17.50	20.50
		165	5825	17.50	17.50	20.50
	802.11n-HT40 MCS0	151	5755	16.00	16.00	19.00
		159	5795	16.00	16.00	19.00
	802.11ac-VHT20 MCS0	149	5745	17.50	17.50	20.50
		157	5785	17.50	17.50	20.50
		165	5825	17.50	17.50	20.50
	802.11ac-VHT40 MCS0	151	5755	16.00	16.00	19.00
		159	5795	16.00	16.00	19.00
	802.11ac-VHT80 MCS0	155	5775	15.00	15.00	18.00



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/f ²)	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/f ²)	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 EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)	Power Density / Limit
WLAN2.4GHz Band	5.0	22.5	27.5	0.56	562.34	0.112	1.000	0.112
WLAN5GHz Band	5.5	20.5	26.0	0.40	398.11	0.079	1.000	0.079
Bluetooth	4.2	17.0	21.2	0.13	131.83	0.026	1.000	0.026

WLAN Power Density / Limit	Bluetooth Power Density / Limit	Σ (Power Density / Limit) of WLAN+Bluetooth
0.112	0.026	0.138

Note:

1. Σ (Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for WLAN + Bluetooth.
2. Considering the WLAN collocation with the Bluetooth 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.