



Maximum Permissible Exposure Evaluation

FCC ID: 2AH7X-VCF101R

1. Client Information

Applicant	:	ViewClix LLC
Address	:	11165 SW Novare Place,Tigard,OR,United States 97223
Manufacturer	:	AVIC TEECHNOLOGY LIMITED
Address	:	11165 SW Novare Place,Tigard,OR,United States 97223

2. General Description of EUT

EUT Name	:	ViewClix Smart Frame
Models No.	:	VCF101R, VCF156R
Model Different	:	All these models are identical in the same PCB, layout and electrical circuit, The only difference is model name.
Sample ID	:	RW-C-202209-0142-1-1#&RW-C-202209-0142-1-2#
Product Description	:	Operation Frequency: U-NII-1: 5180MHz~5240MHz U-NII-2A: 5260MHz~5320MHz U-NII-2C: 5500MHz~5700MHz U-NII-3: 5745MHz~5825MHz 802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz Bluetooth 4.1(BER+EDR): 2402MHz~2480MHz Bluetooth 4.1(BLE): 2402MHz~2480MHz
		Antenna Gain: 3.0dBi PCB Antenna
Power Rating	:	Adapter(LY030SPS-120250U) Input: 100-240V~50-60Hz 0.8A Output: 12V2.5A
Software Version	:	Android 11.0
Hardware Version	:	YS-F66C
Remark	:	The adapter and antenna gain provided by the applicant, the verified for the RF conduction test provided by TOBY test lab.

Method of Measurement for FCC

1. Max. Antenna Gain:

BT Antenna: 3.0dBi.
2.4G WIFI Antenna: 3.0dBi.
5G WIFI Antenna: 3.0dBi.

2. EUT Operation Condition:

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3. Exposure Evaluation:

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

Where

S: power density

P: power input to the antenna

G: power gain of the antenna in the direction of interest relative to an isotropic radiator.

R: distance to the center of radiation of the antenna

Simultaneous transmission MPE Considerations

According to KDB447498: All transmitters and antennas in the host must be either evaluated for MPE compliance, by measurement or computational modeling, or qualify for the standalone MPE test exclusion in section 7.1. Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modeled or measured field strengths or power density, is ≤ 1.0 .

This means that:

$$\sum \text{ of MPE ratios } \leq 1.0$$



4. Test Result:

Bluetooth MPE Result								
Mode	N _{TX}	Freq. (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm ²) [S]
GFSK	1	2402	-1.40	-1±1	0	3.0	20	0.0004
		2441	-0.71	0±1	1	3.0	20	0.0005
		2480	-0.99	0±1	1	3.0	20	0.0005
$\pi/4$ -DQPSK	1	2402	1.14	1±1	2	3.0	20	0.0006
		2441	1.77	1±1	2	3.0	20	0.0006
		2480	1.83	1±1	2	3.0	20	0.0006
8-DPSK	1	2402	1.77	1±1	2	3.0	20	0.0006
		2441	2.54	2±1	3	3.0	20	0.0008
		2480	2.57	2±1	3	3.0	20	0.0008

Note:
N_{TX}= Number of Transmit Antennas
RF Output power specifies that Maximum Conducted Peak Output Power.

BLE MPE Result								
Mode	N _{TX}	Freq. (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm ²) [S]
GFSK 1M	1	2402	-0.59	0±1	1	3.0	20	0.0005
		2440	-0.11	0±1	1	3.0	20	0.0005
		2480	-0.31	0±1	1	3.0	20	0.0005
GFSK 2M	1	2402	-0.65	0±1	1	3.0	20	0.0005
		2440	-0.10	0±1	1	3.0	20	0.0005
		2480	-0.32	0±1	1	3.0	20	0.0005

Note:
N_{TX}= Number of Transmit Antennas
RF Output power specifies that Maximum Conducted Peak Output Power.



2.4G WiFi MPE Result								
Mode	N _{TX}	Freq. (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm ²) [S]
802.11b	1	2412	17.49	17±1	18	3.0	20	0.0250
		2437	17.66	17±1	18	3.0	20	0.0250
		2462	17.86	17±1	18	3.0	20	0.0250
802.11g	1	2412	17.17	17±1	18	3.0	20	0.0250
		2437	17.36	17±1	18	3.0	20	0.0250
		2462	17.54	17±1	18	3.0	20	0.0250
802.11n20	1	2412	17.12	17±1	18	3.0	20	0.0250
		2437	17.32	17±1	18	3.0	20	0.0250
		2462	17.60	17±1	18	3.0	20	0.0250
802.11n40	1	2422	17.13	17±1	18	3.0	20	0.0250
	1	2437	17.11	17±1	18	3.0	20	0.0250
	1	2452	17.36	17±1	18	3.0	20	0.0250
Note: N _{TX} = Number of Transmit Antennas RF Output power specifies that Maximum Conducted Peak Output Power.								



5.2G WiFi MPE Result								
Mode	N _{TX}	Freq. (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm ²) [S]
802.11a	1	5180	14.89	14±1	15	3.0	20	0.0125
		5200	15.36	15±1	16	3.0	20	0.0158
		5240	15.33	15±1	16	3.0	20	0.0158
802.11n20	1	5180	14.76	14±1	15	3.0	20	0.0125
		5200	12.81	12±1	13	3.0	20	0.0079
		5240	12.86	12±1	13	3.0	20	0.0079
802.11n40	1	5190	15.27	15±1	16	3.0	20	0.0158
		5230	15.65	15±1	16	3.0	20	0.0158
802.11ac20	1	5180	14.79	14±1	15	3.0	20	0.0125
		5200	11.67	11±1	12	3.0	20	0.0063
		5240	12.59	12±1	13	3.0	20	0.0079
802.11ac40	1	5190	11.64	11±1	12	3.0	20	0.0063
		5230	12.78	12±1	13	3.0	20	0.0079
802.11ac80	1	5210	12.28	12±1	13	3.0	20	0.0079
Note: N _{TX} = Number of Transmit Antennas RF Output power specifies that Maximum Conducted average Output Power.								



5.3G WiFi MPE Result								
Mode	N _{Tx}	Freq. (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm ²) [S]
802.11a	1	5260	15.02	15±1	16	3.0	20	0.0158
		5280	14.60	14±1	15	3.0	20	0.0125
		5320	13.69	13±1	14	3.0	20	0.0099
802.11n20	1	5260	12.44	12±1	13	3.0	20	0.0079
		5280	11.89	11±1	12	3.0	20	0.0063
		5320	13.60	13±1	14	3.0	20	0.0099
802.11n40	1	5270	15.05	15±1	16	3.0	20	0.0158
		5310	14.17	14±1	15	3.0	20	0.0125
802.11ac20	1	5260	12.19	12±1	13	3.0	20	0.0079
		5280	11.29	11±1	12	3.0	20	0.0063
		5320	9.74	9±1	10	3.0	20	0.0039
802.11ac40	1	5270	12.08	12±1	13	3.0	20	0.0079
		5310	10.37	10±1	11	3.0	20	0.0049
802.11ac80	1	5290	11.13	11±1	12	3.0	20	0.0063
Note: N _{TX} = Number of Transmit Antennas RF Output power specifies that Maximum Conducted average Output Power.								



5.5G WiFi MPE Result								
Mode	N _{TX}	Freq. (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm ²) [S]
802.11a	1	5500	15.77	15±1	16	3.0	20	0.0158
		5580	14.34	14±1	15	3.0	20	0.0125
		5700	15.50	15±1	16	3.0	20	0.0158
802.11n20	1	5500	15.69	15±1	16	3.0	20	0.0158
		5580	9.93	9±1	10	3.0	20	0.0039
		5700	11.69	11±1	12	3.0	20	0.0063
802.11n40	1	5510	15.97	15±1	16	3.0	20	0.0158
		5550	14.95	14±1	15	3.0	20	0.0125
		5670	15.15	15±1	16	3.0	20	0.0158
802.11ac20	1	5500	13.93	13±1	14	3.0	20	0.0099
		5580	11.49	11±1	12	3.0	20	0.0063
		5700	13.08	13±1	14	3.0	20	0.0099
802.11ac40	1	5510	13.97	13±1	14	3.0	20	0.0099
		5550	12.65	12±1	13	3.0	20	0.0079
		5670	12.39	12±1	13	3.0	20	0.0079
802.11ac80	1	5610	13.92	13±1	14	3.0	20	0.0099
Note: N _{TX} = Number of Transmit Antennas RF Output power specifies that Maximum Conducted average Output Power.								



5.8G WiFi MPE Result								
Mode	N _{TX}	Freq. (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm ²) [S]
802.11a	1	5745	14.66	14±1	15	3.0	20	0.0125
		5785	14.59	14±1	15	3.0	20	0.0125
		5825	14.13	14±1	15	3.0	20	0.0125
802.11n20	1	5745	14.53	14±1	15	3.0	20	0.0125
		5785	14.29	14±1	15	3.0	20	0.0125
		5825	14.03	14±1	15	3.0	20	0.0125
802.11n40	1	5755	16.03	16±1	17	3.0	20	0.0198
		5795	15.67	15±1	16	3.0	20	0.0158
802.11ac20	1	5745	14.73	14±1	15	3.0	20	0.0125
		5785	15.05	15±1	16	3.0	20	0.0158
		5825	14.17	14±1	15	3.0	20	0.0125
802.11ac40	1	5755	14.43	14±1	15	3.0	20	0.0125
		5795	14.23	14±1	15	3.0	20	0.0125
802.11ac80	1	5775	14.96	14±1	15	3.0	20	0.0125
Note: N _{TX} = Number of Transmit Antennas RF Output power specifies that Maximum Conducted average Output Power.								



5. Conclusion:

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

Limits for General Population/ Uncontrolled Exposure

Frequency Range (MHz)	Power density (mW/ cm ²)
300-1,500	F/1500
1,500-100,000	1.0

For:2402~2480MHz&2412~2462MHz&5180~5240MHz&5260~5320MHz&5500~5700MHz&5745~5825MHz

MPE limit S: 1mW/ cm²

The MPE is calculated as ***0.0250mW / cm² < limit 1mW / cm²***.

So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b). The RF Exposure Information page from the manual is included here for reference.

-----END OF REPORT-----

