RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency(RF) Radiation as specified in §1.1307(b)

FCC ID：2ADFS-B02

EUT Specification

EUT	**EZCast Pro Box**
Frequency band (Operating)	☒WLAN: 2.412GHz ~ 2.462GHz ☒WLAN: 5.18GHz ~ 5.32GHz ☒WLAN: 5.745GHz ~ 5825GHz ☐Others
Device category	☐Portable (<20cm separation) ☒Mobile (>20cm separation) ☐Others ___
Exposure classification	☐Occupational/Controlled exposure (S = 5mW/cm2) ☒General Population/Uncontrolled exposure (S=1mW/cm2)
Antenna diversity	☒Single antenna ☐Multiple antennas ☐Tx diversity ☐Rx diversity ☐Tx/Rx diversity
Max. output power	15.59dBm (0.0362W)
Antenna gain (Max)	4.91 dBi
Evaluation applied	☒MPE Evaluation ☐SAR Evaluation

Limits for Maximum Permissible Exposure(MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm^2)	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500	**--**	**--**	**F/300**	**6**
1500-100000	**--**	**--**	**5**	**6**
(B) Limits for General Population/Uncontrol Exposures				
300-1500	**--**	**--**	**F/1500**	**6**
1500-100000	**--**	**--**	**1**	**30**

Friis transmission formula: Pd=(Pout*G)\(4*pi*R2)

Where
Pd= Power density in mW/cm^2
Pout=output power to antenna in Mw
G= gain of antenna in linear scale
Pi=3.1416
R= distance between observation point and center of the radiator in cm
Pd the limit of MPE, 1mW/cm2. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

Measurement Result

Operating Mode	Channel Frequency	Measured Power	Tune up tolerance	Max. Tune up Power	Antenna Gain	Power density at 20cm	Power density Limits
	(MHz)	(dBm)	(dBm)	(dBm)	(dBi)	(mW/ cm2)	(mW/cm2)
802.11b	2412	17.49	17.49±1	18.49	4.91	0.0435	1
	2437	18.32	18.32±1	19.32	4.91	0.0527	1
	2462	19.62	19.62±1	20.62	4.91	0.0711	1
802.11g	2412	17.81	17.81±1	18.81	4.91	0.0469	1
	2437	18.91	18.91±1	19.91	4.91	0.0604	1
	2462	19.13	19.13±1	20.13	4.91	0.0635	1
802.11n (HT20)	2412	17.40	17.40±1	18.40	4.91	0.0426	1
	2437	18.02	18.02±1	19.02	4.91	0.0492	1
	2462	18.97	18.98±1	19.97	4.91	0.0612	1
802.11n (HT40)	2422	15.69	15.69±1	16.69	4.91	0.0288	1
	2437	16.23	16.23±1	17.23	4.91	0.0326	1
	2452	17.66	17.66±1	18.66	4.91	0.0453	1

Operating Mode	Channel Frequency	Measured Power	Tune up tolerance	Max. Tune up Power	Antenna Gain	Power density at 20cm	Power density Limits (mW/cm^2)
	(MHz)	(dBm)	(dBm)	(dBm)	(dBi)	(mW/ cm2)	
802.11n (HT20)	5180	17.53	17.53±1	18.53	4.75	0.0423	1
	5200	16.81	16.81±1	17.81	4.75	0.0359	1
	5240	15.84	15.84±1	16.84	4.75	0.0287	1
802.11n (HT20)	5745	12.92	12.92±1	13.92	4.75	0.0146	1
	5785	15.13	15.13±1	16.13	4.75	0.0244	1
	5825	15.76	15.76±1	16.76	4.75	0.0282	1
802.11n (HT40)	5190	13.07	13.07±1	14.07	4.75	0.0152	1
	5230	13.81	13.81±1	14.81	4.75	0.0180	1
802.11n (HT40)	5755	17.18	17.18±1	18.18	4.75	0.0391	1
	5795	17.19	17.19±1	18.19	4.75	0.0391	1

Operating Mode	Channel Frequency	Measured Power	Tune up tolerance	Max. Tune up Power	Antenna Gain	Power density at 20cm	Power density Limits (mW/cm2)
	(MHz)	(dBm)	(dBm)	(dBm)	(dBi)	(mW/ cm2)	
802.11n (HT20)	5180	12.68	12.68±1	13.68	4.75	0.0139	1
	5200	12.49	12.49±1	13.49	4.75	0.0133	1
	5240	12.53	12.53±1	13.53	4.75	0.0134	1
802.11n (HT20)	5745	12.80	12.80±1	13.8	4.75	0.0142	1
	5785	14.18	14.18±1	15.18	4.75	0.0196	1
	5825	15.03	15.03±1	16.03	4.75	0.0238	1
802.11n (HT40)	5190	12.97	12.97±1	13.97	4.75	0.0148	1
	5230	12.12	12.12±1	13.12	4.75	0.0122	1
802.11n (HT40)	5755	18.41	18.41±1	19.41	4.75	0.0518	1
	5795	18.03	18.03±1	19.03	4.75	0.0475	1
802.11n (HT80)	5210	10.75	10.75±1	11.75	4.75	0.0089	1
	5775	17.95	17.95±1	18.95	4.75	0.0466	1

Simultaneous Transmission Analysis

WAN Mode 2.4G(max)	Power density at 20cm (mW/ cm2)	WAN Mode 5G (max)	Power density at 20cm (mW/ cm2)	□ Power density at 20cm (mW/ cm2)	Power density Limits (mW/cm2)
802.11 b 2437MHz	0.0711	802.11n (HT40) 5755MHz	0.0518	0.1229	1

Note □Power density at 20cm=WANMode 2.4G(max)+WANMode 5G(max)