

Power Consumption

1. Customer Specification:

5V/2A

2. Test equipment:
1. Eagle EVT board V005. 2. AC POWER: APG-1005N: 220Vac @60Hz 3. AC Adapter: BSY012U050200U 5V/2A 4. 4K HDR TV: Sony KD-55X9000E 5. Power meter with accumulator: Yokogawa WT210

3. Test Items and Condition:
1. Video play back with 4K stream through Smart YouTube, WiFi disable, Play Video format: 3840X2160, 60fps, 29.25Mbit, id:337, video/vp9.2, HDR on. 2. Normal condition without video play, WiFi disable, UI display only 3. Standby mode 4. Deep sleep mode

4. Test Environment:
1. Test place: FXN CNSBG Building 1F office 2. Test DUT name: 1. Eagle EVT V005 borad, 2. EVB board 3. Test environment condition : temperature: 25 deg-C, humidity: 65 4. Test date: 2019/2/19 5. Test process: 1. DUT power on 2. Display 4k stream, HDR on (As Test condition, item 1 video format) 3. Aging 30 minutes, then measure the consumption with power meter. (real time measurement after aging 30 minutes) 6. Test result: See 5th test results. 7. Test setup picture (block diagram and real test environment picture) Note: 4K HDR 4Kp60 video is only 5 minutes, so the power meter to measurement of Eagle board only accumulate 5 minutes. An example of the calculation for real power value: measure result is 219.14mWH, so the real power of Eagle board is 219.14mWH/ (5/60) =2629.68mW=2.63W

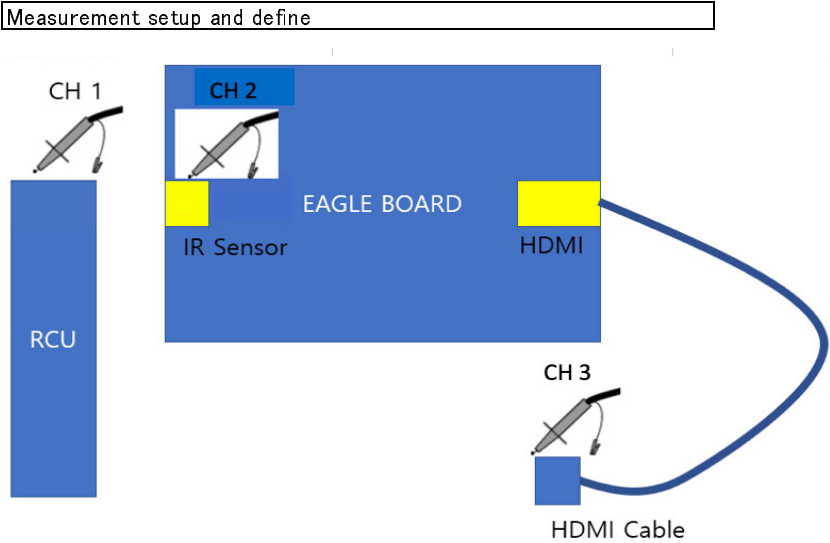
5. Test Results: Kernal version: 4.9.113 #34 Tue Feb 19 14:56:38 CST 2019					
Item No. (please refer section 3 for the detailed test condition)	AC port EVB board	AC port Eagle Board	DC port Eagle Board		
1	220Vac/48mA @60Hz, 3.8W	220Vac/32mA @60Hz, 2.63W	5.04Vdc/400mA, 2.016W		
2	220Vac/29mA @60Hz, 2.2W	220Vac/20mA @60Hz, 1.51W	5.10Vdc/200mA, 1.02W		
3	220Vac/19mA @60Hz, 1.3W	220Vac/20mA @60Hz, 1.35W	5.11Vdc/190mA, 0.9709W		
4	220Vac/7.7mA @60Hz, 0.44W	220Vac/8.0mA @60Hz, 0.50W	5.14Vdc/50mA, 0.257W		
Note: 1. Item 4 is deep sleep mode, Eagle board is not included this mode since Sleep mode in Eagle board is not implemented yet. 2. EVB board: Standby mode(1.3W)-->Deep sleep mode(0.44W)(needs 1~2 minutes). 3. The EVB board power consumption in standby mode that the result higher than previous result could be caused by instrument difference					

5.1 Booting time			
Item describe	EVB board	Eagle board	Eagle board signal measurement
normal mode-->deep sleep	~5 seconds/Average time	~5 seconds/Average time	NA
Deep sleep-->normal mode	~5 seconds/Average time	~5 seconds/Average time	1.145 seconds
normal mode-->Active standby	~2 seconds/Average time	~2 seconds/Average time	NA
Active standby-->normal mode	~5 seconds/Average time	~5 seconds/Average time	615.2 mini-seconds

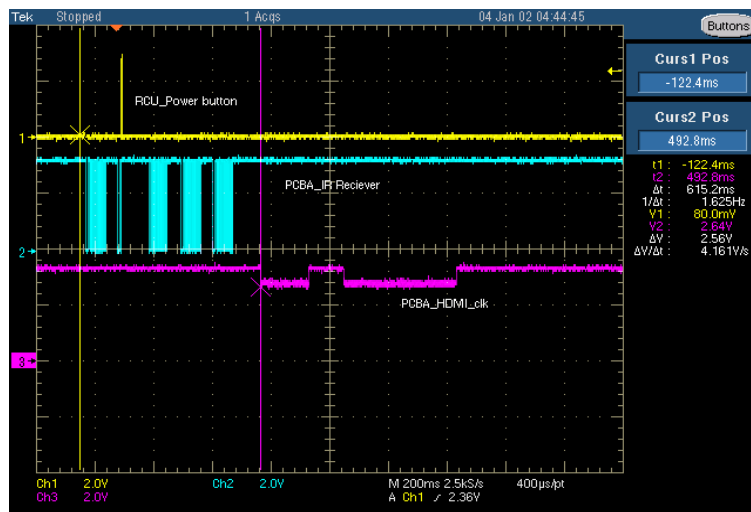
Eagle board signal meausrement setup and define
Deep sleep mode-->normal mode time measurement
Active standby mode-->normal mode time measurement

Oscilloscope define:
Ch1: RCU power button signal
Ch2: IR Reciever
CH3: HDMI_clk

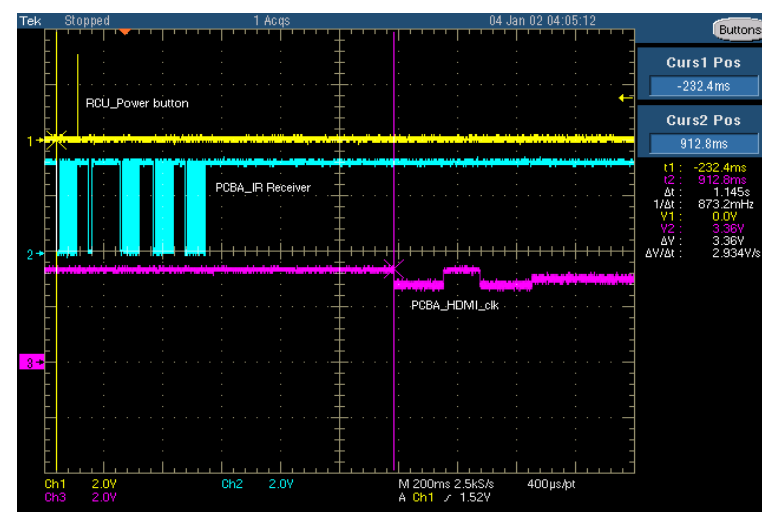
Test Result
Deep sleep mode-->normal mode: 1.145s
Active standby mode-->normal mode: 615.2ms



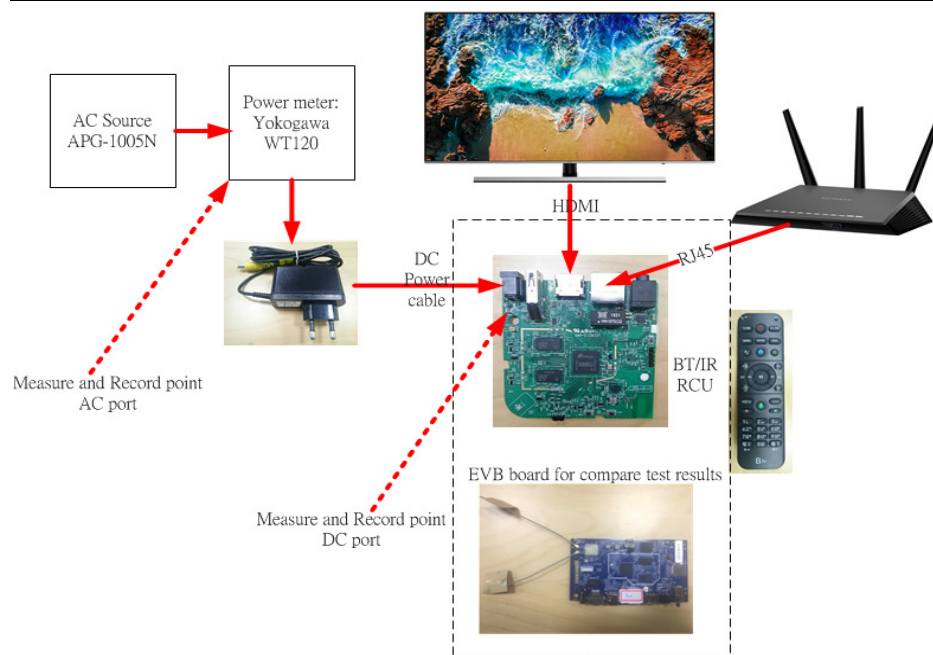
Active standby mode --> normal mode time measurement



Deep sleep mode --> normal mode time measurement



Block Diagram



Test setup picture



4K HDR Video content and setup:

