

Response Time Test of IR Remote Controller and IR Receiver

Hardware version of T99X171T00	RCU part number	Hardware Version and date code of RCU
V005	R-C-MVN-BMM-BA01	V1.1 181207 / 1812

1 Hardware Portion

1.1 Test Environment Setup and Measurement Point



Figure 1: Test Environment

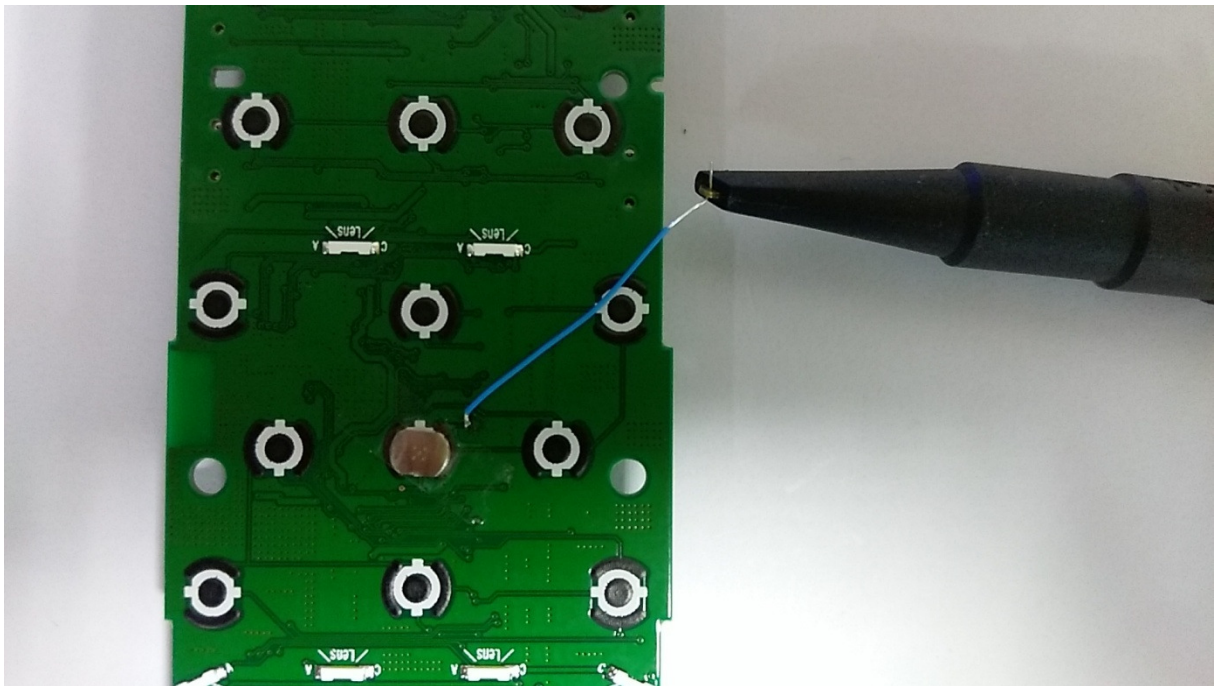


Figure 2: Measurement point of play button on RCU

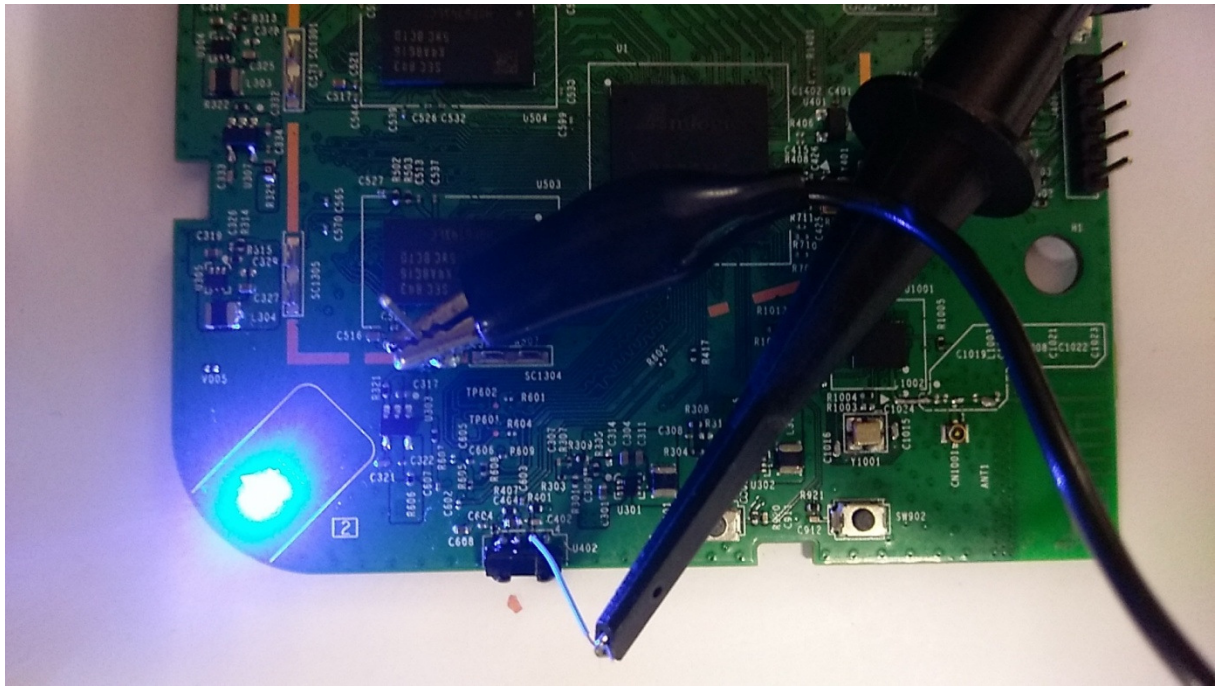


Figure 3: Measurement point of IR Receiver output on T99X171T00

1.2 Test Result and Picture

Test Item	Result	Picture
Response time of pressing play button on the RCU to IR receiver output	95.6ms	Figure 4

Table I: Test result of Haraware portion

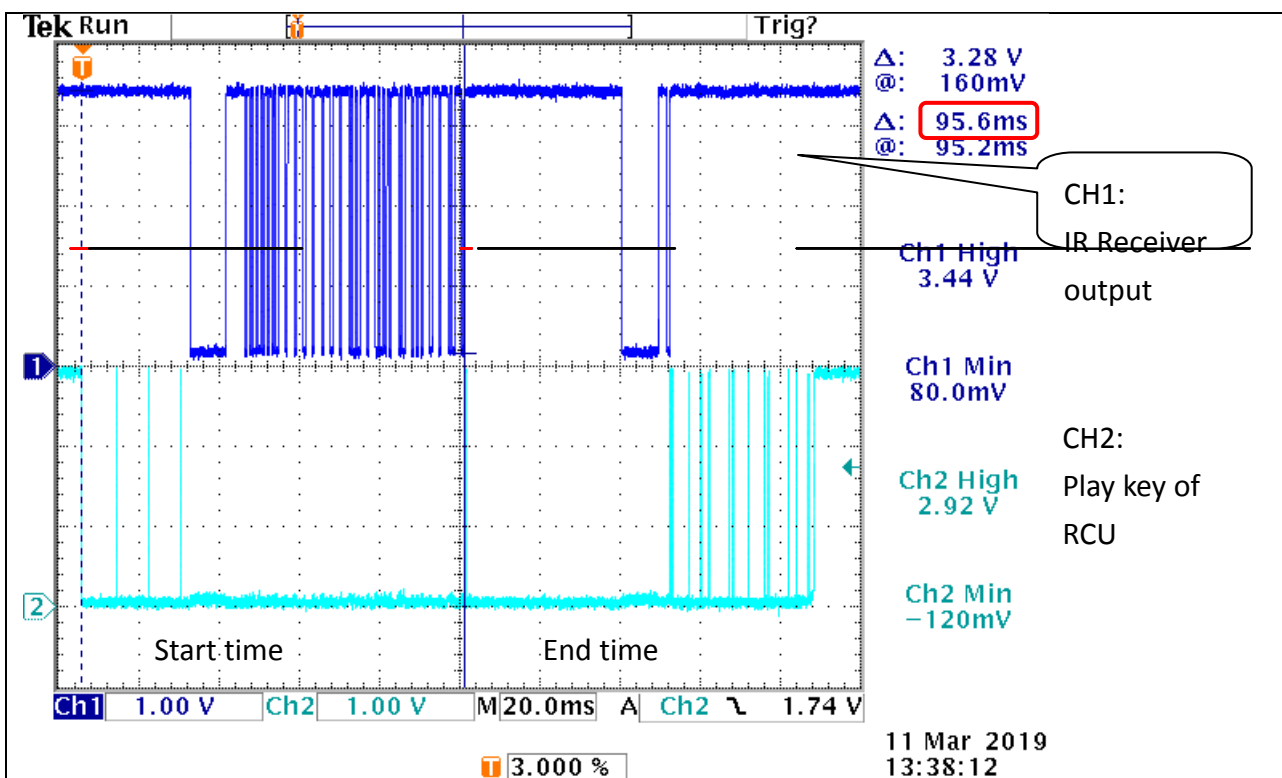


Figure 4: Response time of press play key on the RCU and IR receiver output on the T99X171T00

2 Software Portion

We measured that the time from receiving IR interrupt in kernel driver to send keycode in PhoneWindowManager is **1ms** (106047ms-106046ms) or less than 1ms.

```
03-12 10:06:58.359 3286 3362 I WindowManager: [framework][WindowManager][Info] KeyEvent { action=ACTION_DOWN, keyCode=KEYCODE_DPAD_DOWN, scanCode=108, metaState=0, flags=0x8, repeatCount=0, eventTime=106046, downTime=106046, deviceId=3, source=0x301 } Current: 106047
03-12 10:06:58.359 3286 3362 D WindowManager: >>>> KeyBeforeDispatching keycode : 20 -processed. Application handle the key.
03-12 10:06:58.440 3286 3362 I WindowManager: [framework][WindowManager][Info] KeyEvent { action=ACTION_UP, keyCode=KEYCODE_DPAD_DOWN, scanCode=108, metaState=0, flags=0x8, repeatCount=0, eventTime=106128, downTime=106046, deviceId=3, source=0x301 } Current: 106128
03-12 10:06:58.440 1905 1959 I 2821 audit: audit lost=200 audit rate limit=5 audit backlog limit=64
```

3 Conclusion

IR response speed that start from pressing play button on the RCU to send keycode in PhoneWindowManager is about 96.6ms.

IR Response Time Test Result		
Hardware: Pressing play button on the RCU	Software: Receiving IR interrupt in kernel driver to send keycode in PhoneWindowManager	Result (ms)
95.6 ms	1 ms	96.6