

# Acura TCU Teardown

## 試読用抜粋レポート

### FEATURES:

- Telematics Control Unit
- CDMA, Bluetooth
- Renesas R8A77610, 32-bit, 200MHz




Manufacturer	Johnson Controls Interiors L.L.C.
Model Number	CB2-BLUE15M-TCU
Carrier	-
Assembled in	(probably) USA
Retail Price	unknown
Product Release	2015.??.??
Document ID	1117

# SPECIFICATIONS

BASIC	Product Name	CB2-BLUE15M-TCU, P/N: 39770-TZ3-A510-M1					
	Manufacturer	Johnson Controls Interiors L.L.C.					
	Minimum Size (mm)	141.8 x 118.0 x 32.7					
	Weight (g)	179					
BATTERY TIME	Standby (hours)	3.9G: FDD-LTE: -	3.9G: TD-LTE: -	3G: WCDMA: -	3G: CDMA: ?	3G: TD-SCDMA: -	2G: GSM: -
	Voice Call (minutes)	3.9G: FDD-LTE: -	3.9G: TD-LTE: -	3G: WCDMA: -	3G: CDMA: ?	3G: TD-SCDMA: -	2G: GSM: -
	Video Call (minutes)	-					
	Digital TV (minutes)	-					
	Other	-					
	Battery (size in mm)	-					
SYSTEM	OS	unknown					
	CPU / ROM / RAM	CPU: Renesas R8A77610, 32-bit, 200MHz ROM: 256MByte + 256MByte + 4MByte RAM: 128MByte + 256MByte					
DISPLAY	Main Display	-					
	Sub Display	-					
COMMUNICATION	Protocol (MHz)	3.9G: FDD-LTE: - 3.9G: TD-LTE: - 3G: WCDMA: - 3G: CDMA: 800, 1900 3G: TD-SCDMA: - 2G: GSM: -					
	HSDPA/HSUPA (Mbps)	3G: 3.1/1.8			LTE: -		
	Wireless LAN	-					
	Bluetooth	4.0					
	GPS	Yes					
	Infrared	-					
	RFID/NFC	-					
CAMERA	Main Camera	-					
	Sub Camera	-					
SENSOR	Motion	Accelerometer: -	Digital Compass: -	Gyroscope: -	Barometer: -		
		Gesture Recognition: -	-	-	-		
	Ambient	Light Sensor: -	Proximity Sensor: -	Temperature Sensor: -	Humidity Sensor: -		
	Security	Fingerprint Sensor: -	-	-	-		
	Healthcare	Heart Rate Monitor: -					
	Touch Panel	-					
OTHER	HDMI	-					
	MicroSD (max capacity)	-					
	Waterproof/Anti-shock	-					



  
**TAM255545503FE11**  
**HONDA P/N: 39770-TZ3-A510-M1**

JCI <sup>TM</sup> ASM NUMBER: 2555455 REV. 11 JOHNSON CONTROLS INTERIORS  
 U.S. PATENTS: 7,257,426 7,346,374 7,349,722 ADDITIONAL PATENTS PENDING SW REV: 01.05.000  
 FCC ID: CB2-BLUE15M-TCU JOHNSON CONTROLS INC  
 Contains FCC ID: N7NAR5550 915 E. 32ND ST.  
 HOLLAND, MI 49423-9160  
 HECHO EN MEXICO

 CONFIG. **DY**

 <sup>®</sup>  
 BLUETOOTH ADDRESS: 0C:D9:C1:C9:1B:AD  
 BLUETOOTH QD ID D017887 17/DEC/2014

Top Cover

PCB#1

Bottom Cover



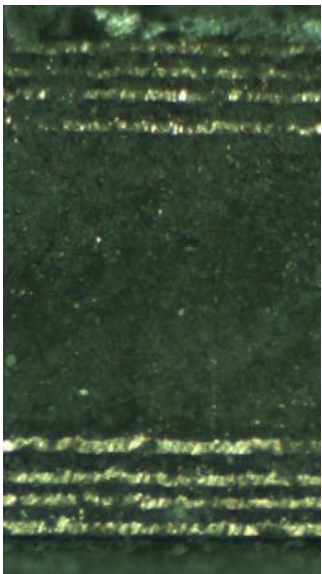
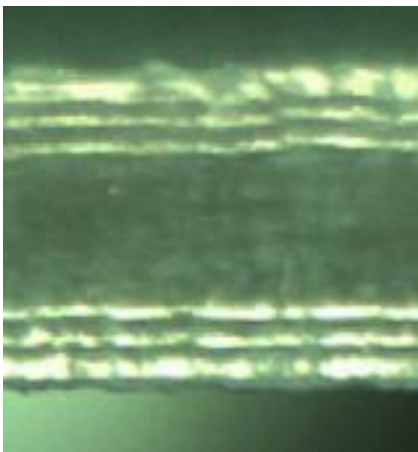
PCB#2



# PCB DIMENSION & MARKING

Unit: millimeter otherwise specified

	PCB #1	PCB #2	-	-	-	-
Manufacturer	KCE	unknown	-	-	-	-
Dimension	101.59 x 109.08 x 1.64	40.01 x 40.26 x 1.61	-	-	-	-
Layer	6	8	-	-	-	-
Connector (pin)	0	0	-	-	-	-
Connector (socket)	3	0	-	-	-	-
Connector (ACF)	0	0	-	-	-	-

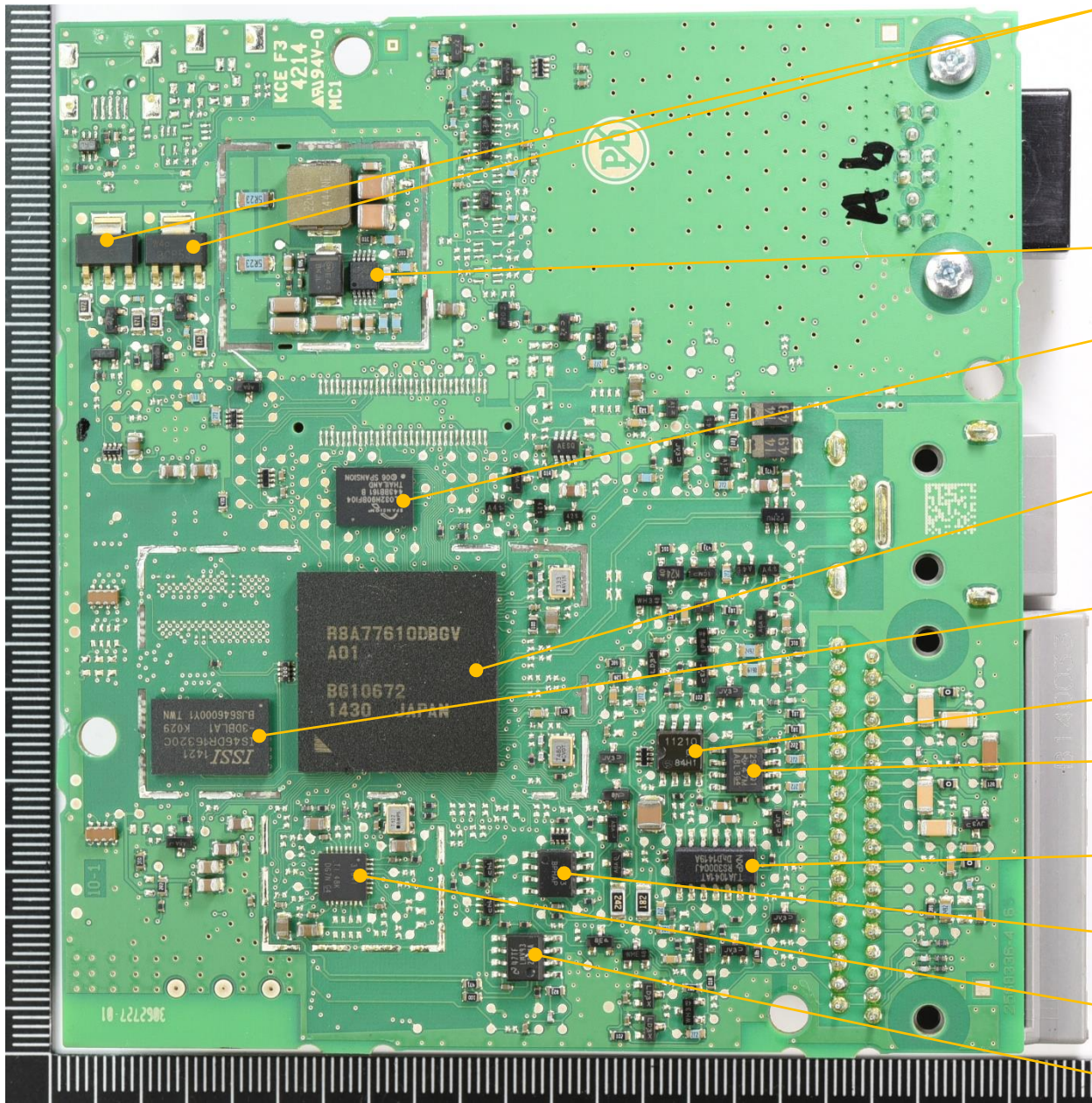








# PCB#1 SIDE B: KEY COMPONENTS



PNP Medium Power Transistor (NXP)  
BCP53

Step-Down DC-DC Converter (TI)  
TPS57140-Q1

Flash Memory (Spansion)  
GL032N90BF104

Application Processor (Renesas)  
R8A77610DBGV

DRAM (ISSI)  
IS46DR16320C-3DBLA1

Driver/Receiver for Bus Interface (Renesas)  
R2A11210SP

Dual Differential Comparator (TI)  
LM2903-Q1

High-Speed CAN Transceiver (NXP)  
TJA1041

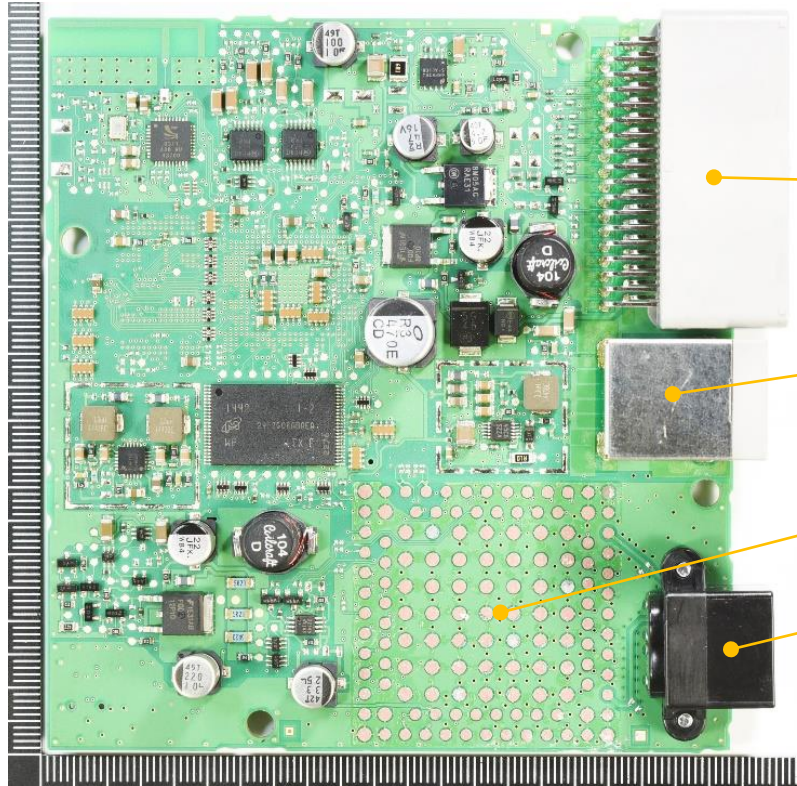
Operational Amplifier (TI)  
OPA2313

Audio Codec (TI)  
TLV320AIC3104-Q1

Operational Amplifier (TI)  
LMV932-N-Q1



# PCB#1: CONNECTORS



Connecting to	Input/Output		
Mnf.	unknown	L (mm)	26.18
Pin Pitch (mm)	2.20	W (mm)	45.45
Pin #	36	(H) (mm)	15.97
Connecting to	USB Port		
Mnf.	unknown	L (mm)	23.21
Pin Pitch (mm)	-	W (mm)	17.24
Pin #	4	(H) (mm)	17.86
Connecting to	PCB#2		
Mnf.	-	L (mm)	-
Pin Pitch (mm)	-	W (mm)	-
Pin #	133	(H) (mm)	-
Connecting to	Antenna Port (CDMA)		
Mnf.	unknown	L (mm)	18.27
Pin Pitch (mm)	-	W (mm)	28.55
Pin #	4	(H) (mm)	12.49



# PCB#2 SIDE A: CELLULAR

1 notch = 1mm

3G Module  
AR5550 (Sierra Wireless)

Filter (mnf. unknown)  
HF14  
3925  
9214

CDMA Power Amplifier (Avago)  
ACPM-5002

Filter (mnf. unknown)  
PA6  
X63

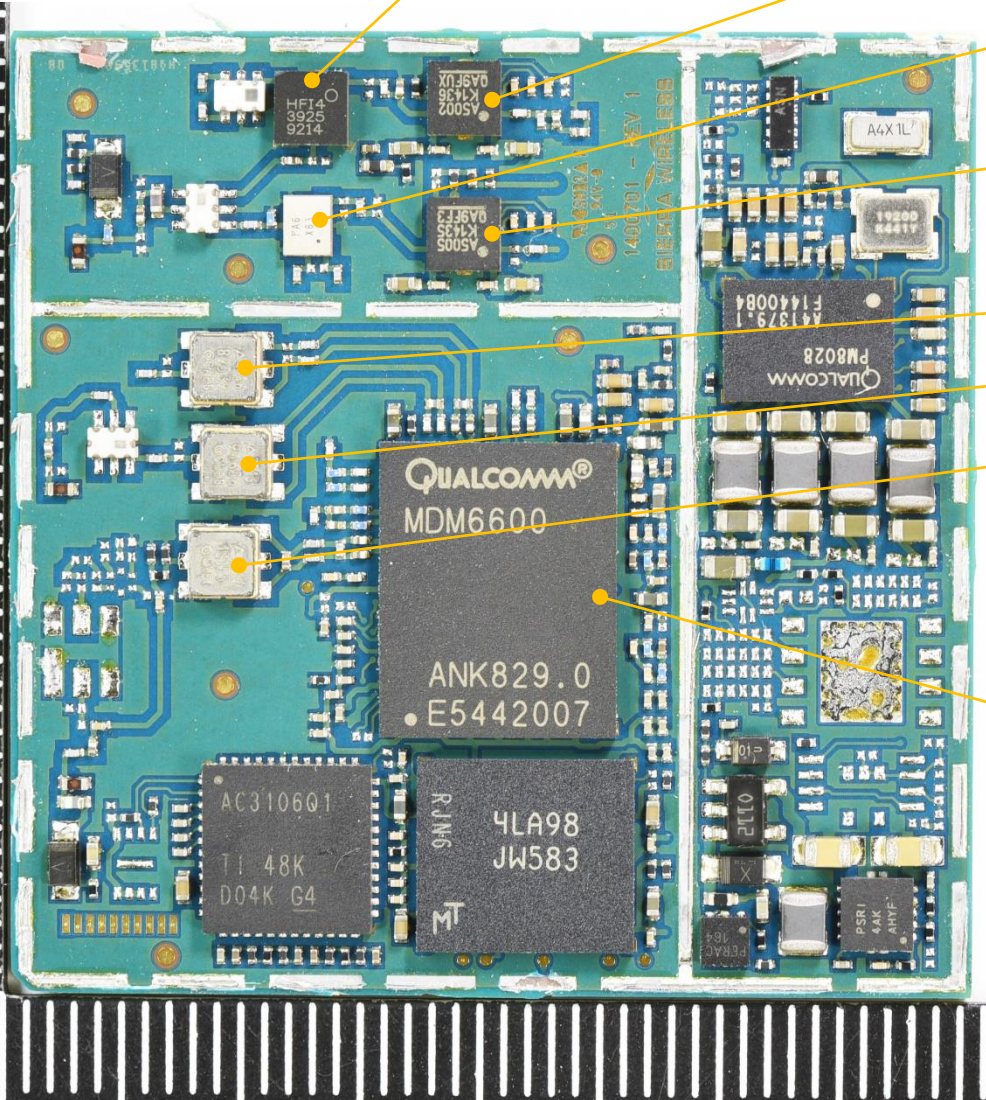
CDMA Power Amplifier (Avago)  
ACPM-5005

SAW Filter (TDK)  
B4146

SAW Filter (TDK)  
B3513

SAW Filter (TDK)  
B3517

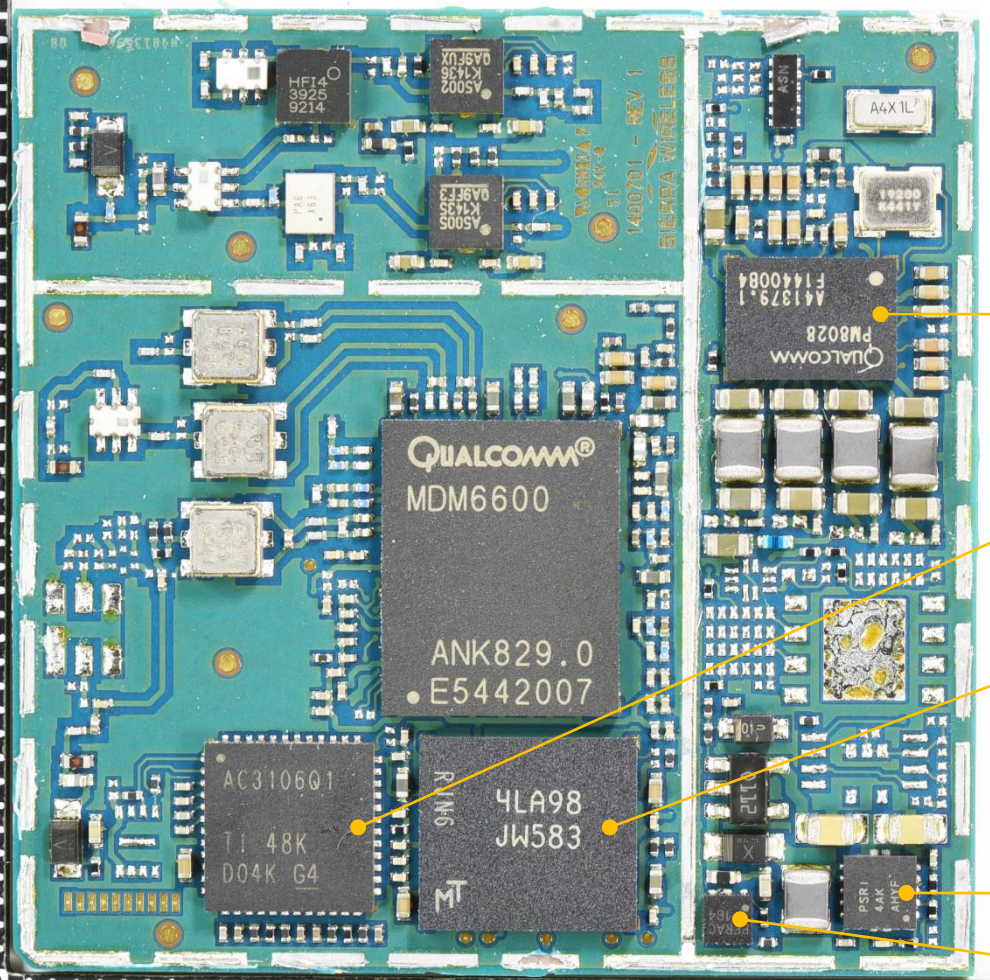
Baseband Processor + CDMA Transceiver + GPS (Qualcomm)  
MDM6600





# PCB#2 SIDE A: KEY COMPONENTS

1 notch = 1mm



Power Management (Qualcomm)  
PM8028

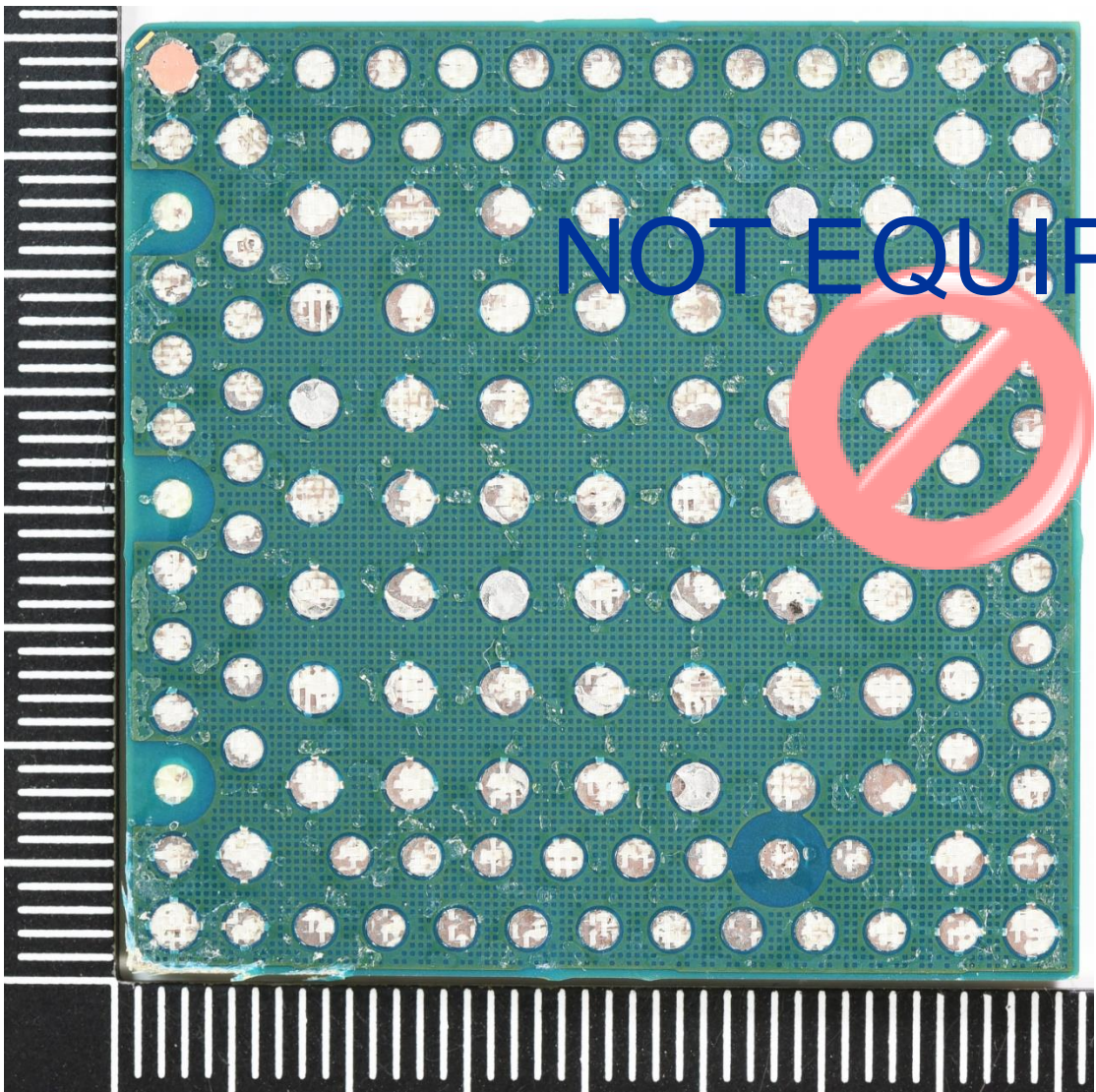
Audio Codec (TI)  
TLV320AIC3106-Q1

Flash Memory + DRAM (Micron)  
MT29C2G24MAAAAHAMD-5IT

Step-Up DC-DC Converter (TI)  
TPS61086

Unknown  
PERAC  
164

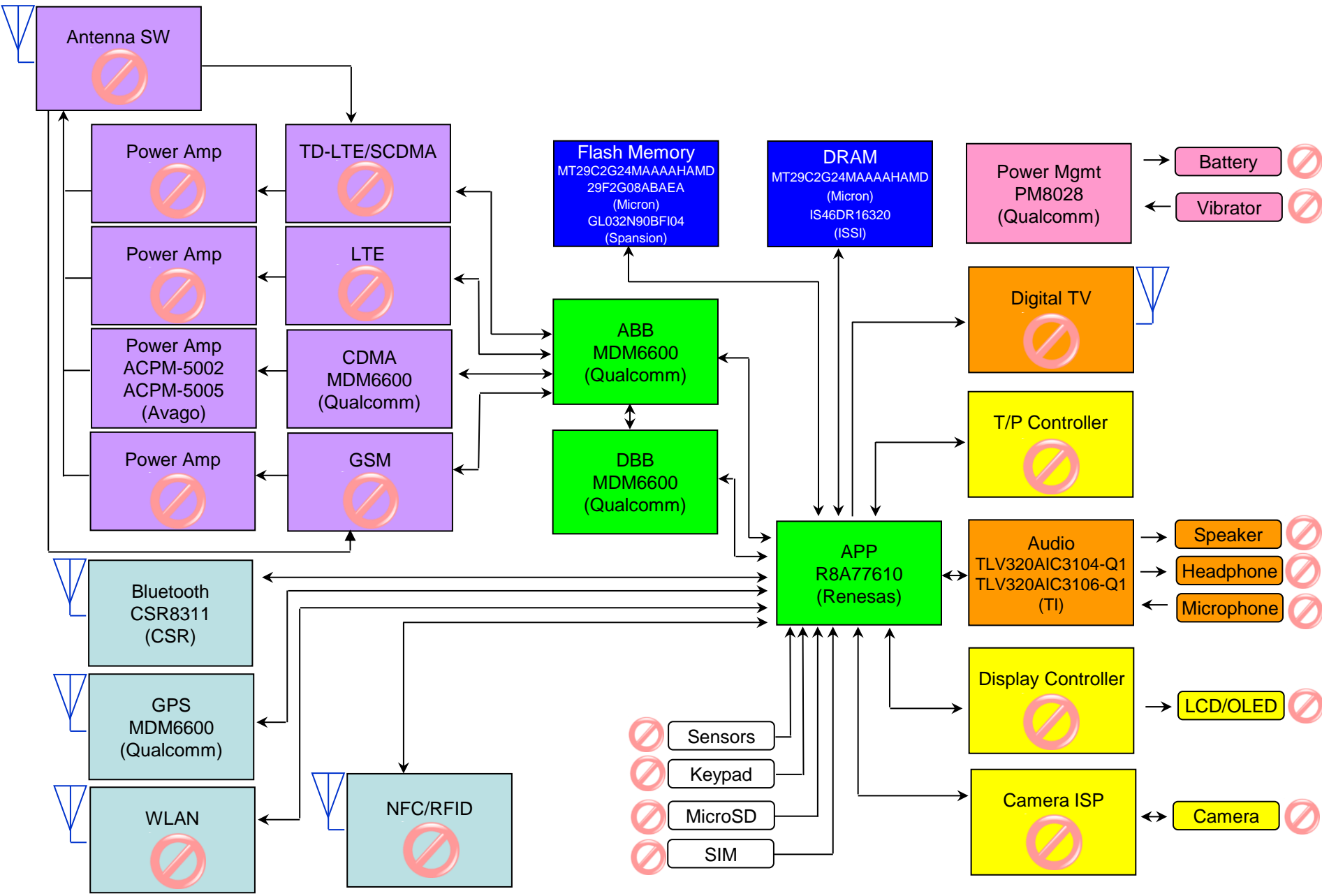




NOT EQUIPPED



# BLOCK DIAGRAM (with assumption)



# 試読用抜粋レポート

## SERVICES

- TEARDOWN: on cellular phone, smartphone, tablet, laptop PC, digital still camera, LCD TV, and other mobile equipments.
- BILL OF MATERIALS: all-component-cost breakdown into more than 100 categories.
- MARKET REPORT: based on requests.
- SEMINAR: based on requests. Free seminars offered to regular subscribers every quarter.
- INTELLECTUAL PROPERTY: old phones available since 1996 up to date. Most of them are functional.

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