Operation Description

HW01 is a type of smart phone developed by HXY. Based on MT8788hardware platform, the mobile phone adopts Google's Android operating system and band supported FDD LTE.

The mobile phone's hardware is composed of the main board and other components.

As the main part of the overall hardware system, the main board is interfaced with MT8788, MT6177, MT6358,MT6371,MT6631. The system's main functions of baseband and RF are realized through the function combinations.

The MT8788 device , is a highly integrated baseband platform incorporating both modem and application processing subsystems to enable LTE/LTE-A smart phone applications. The chip integrates 12nm 4*A73 2.0GHz+4*A53 2.0GHz In addition, an extensive set of interfaces and connectivity peripherals are included to interface to cameras, touch-screen displays and UFS/MMC/SD cards.

MT8788 communicates with the RF processing chip MT6177through an exclusive SSBI interface, and it is composed of RF system with the external PA, SAW filter, antenna switch, test socket, the matching network between antenna and module. And accordingly it realizes the receiving and transmitting of users' communication signals.

MT8788 connects with MCP through EMI (External Memory Interface) to realize the storage of applications & data and the running of applications.

MT6631 are chips with the FM，GPS，Bluetooth and WIFI function. Bluetooth：MT8788 connect with MT8788 through IQ interface to realize the audio & file transmission function.

MT8788 controls the LCD display through an exclusive LCD interface; the LCD backlight power is realized through MT6371. The Tri Acceleration Sensor, Magnetic Induction Sensor and Distance Sensor control chip multiplex I2C and connect with MT8788 to realize the command and data transmission.

MT8788communicates with the power management chip MT6358 through an exclusive SPI interface, and performs the power management for each component on the main board. The keypad backlight is powered by MT6258, which provides one LED driver with current adjustment to realize the backlight function. The powers required by each function module are mostly supplied by MT6358.

The audio input/output system is composed of the codec IC which is inside MT6358, speaker, receiver, earphone and microphone. The speaker is driven by MT6358to realize the sound output; the receiver and earphone are

directly driven by MT6358output; there are two MIC inputs, one on the earphone wire, the other directly welded on the main board. The offset voltage required by the MIC is directly provided by MT6358.

The antenna feed point adopts ANT REED to connect the antenna and the RF board.

The Keyboard is composed of two keys exclusively used for VOLUME.

The 26MHZ main oscillator XO is connected to the MT6358and used as the clock source to generate RF signal; and the 26MHZ oscillator is also used as the main clock source of the Baseband .

The 26MHZ sub oscillator Integrated inMT6358and used as the clock source of RTC and the sleep clock of the Baseband.

The MT6631 integrates a FM、GPS WIFI and BT RF transceiver and protocol processing. The WiFi support 11a/b/g/1n/ac and BT support BT4.2+EDR. The work is done by it.

RF

Antenna Type	PIFA Antenna
Antenna Gain	BT/WIFI:2.47dBi, WIFI 5.2G: 0.73 dBi, WIFI 5.8G: 3.95 dBi GSM850:-2.51dBi; GSM1900:0.93dBi; WCDMA B2:0.93dBi; WCDMA B4:1.1dBi; WCDMA B5:-2.51dBi; LTE Band 2: 0.93 dBi, Band 4: 1.1dBi, Band 5: -2.21 dBi, Band 7: 2.11dBi, Band 12: -4.59dBi, Band 13: -3.55dBi, Band 17: -355 dBi, Band 26: -2.21 dBi, Band 41:2.11 dBi , Band 66: 1.1dBi
Battery Information	DC 3.87V,6280mAh, 24.30Wh

Device Operating Configurations

Supporting Mode(s)	GSM850/1900,WCDMABand2/4/5,LTEBand2/4/5/7/12/13/17/26A/26B/41/66, WLAN 2.4G/5G, Bluetooth, NFC
Test Modulation	GSM(GMSK/8PSK), WCDMA(QPSK), LTE(QPSK/16QAM), WLAN(DSSS/OFDM), Bluetooth(GFSK, π/4-DQPSK, 8DPSK), NFC(ASK)
Device Class	B

	Band	Tx (MHz)	Rx (MHz)
	GSM 850	824-849	869-894
	GSM 1900	1850-1910	1930-1990
	WCDMA Band 2	1850-1910	1930-1990
	WCDMA Band 4	1710-1755	2110-2155
	WCDMA Band 5	824-849	869-894
	LTE Band 2	1850-1910	1930-1990
	LTE Band 4	1710-1755	2110-2155
	LTE Band 5	824-849	869-894
	LTE Band 7	2500-2570	2620-2690
Operating Frequency Range(s)	LTE Band 12	699-716	729-746
	LTE Band 13	777-787	746-756
	LTE Band 17	704-716	734-746
	LTE Band 26A	814-824	859-869
	LTE Band 26B	824-849	869-894
	LTE Band 41	2535-2655	
	LTE Band 66	1710-1780	2110-2200
	WLAN 2.4G	2412-2462	
	WLAN 5.2G	5180-5240	
	WLAN 5.8G	5745-5825	
	Bluetooth	2402-2480	
	NFC	13.56	