CIRCUIT DESCRIPTION

the Rugged Laptop with a 15.6" convertible display and an LED- backlit keyboard is powered by the Intel® processor, offering optimal combinations of performance and power savings. The LT350 Rugged Laptop is available with Microsoft® Windows® operating system. The software operating system features web browser, client/ server computing software, media player, accessories, and applications support.

The LT350 contains a certified Bluetooth+WLAN Module, FCC ID: YE3600-AX200NG, Granted at 05/25/2020.

This device does not come with an LTE module and there are multiple models: LT35XX-XXX(X=blank, A~Z or 0~9), only different on Model No..

1. PMIC powered for system
   All the system powered by PMIC when power button on.
   When adapter on, the PMIC charges main battery through +PMIC_IPSOUT after inserting the main battery. When press the power button, the battery discharge from PMIC and system will work.

2. Auto shutdown circuit

   When system on the circuits can detect main battery voltage level by GPIO.
   1. when the main battery voltage level is above 3.5V, system can work normal;
   2. when the main battery voltage level is and/or below 3.5V, system will shut down auto.

3. Headphone and loudspeaker circuit
   The speaker is drived by inner power amplifier of audio codec ALC256. The headphone is drived by audio codec ALC256.

4. WIFI/BT CON Circuit
   The NGFF con support Intel wireless module AX200NGW. The Intel wireless module gives a boost with Bluetooth® technology 5.0, 2x2 11ac/ax Wi-Fi delivering up to 867Mbps.

5. Back mipi camera circuit
   The back mipi camera derives by Soc. The signals are defined as follows:
   +2.8VA_CAM: vdd power and AF power, provided by PMIC
   +1.2VA_CAM: Core vdd power, provided by PMIC
   +1.8VA_CAM: Io vdd power, provided by PMIC Reset: reset signal, provided by soc

6. TF Card circuit
   TF CARD CON, powered controlled by soc GPIO SDIO signal: provided by soc V-SDIO signals.

7. LCD Panel circuit
   The LCD mipi signals is provided by SOC. The signals are defined as follows: MIPI signals /reset signal: provided by soc

   The LT350 has two batteries for system, one is main battery and another is backup battery. the RF modules powered by the main battery, and the backup battery is only for data backup.

   The RF power of the host product will be reduced by software at the time of production and cannot be adjusted by the end user. And the RF output power of the main antenna in MIMO mode is lower than in SISO mode.

Main Chipset Information

Item	Specification
Main IC	SOC
Oscillator	32.768KHz*2, 24MHz, 25MHz, 12MHz

For Bluetooth:

Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	Bluetooth V5.0
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Number of Channels:	79
Channel Spacing:	1MHz
Antenna Type:	PIFA Antenna
Antenna Gain:	2.7dBi

For BLE:

Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	Bluetooth V5.0
Modulation Type:	GFSK
Number of Channels:	40
Channel Spacing:	2MHz
Antenna Type:	PIFA Antenna
Antenna Gain:	2.7dBi

For 802.11b/g/n:

Operation Frequency:	802.11b/g/n/ax(HT20): 2412MHz to 2472MHz 802.11n/ax(HT40): 2422MHz to 2462MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11n(HT20 and HT40): OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ax(HT20 and HT40): OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Number of Channels:	802.11b/g/n/ax(HT20):13 802.11n/ax(HT40):9
Channel Spacing:	5MHz
Antenna Type:	PIFA Antenna
Antenna Gain:	Antenna1: 2.8dBi, Antenna2: 2.7dBi

Operation Frequency:	Band	Mode	Frequency Range(MHz)	Number of channels
	UNII Band I	IEEE 802.11a/n/ax(HT20)	5180-5240	4
		IEEE 802.11n/ax(HT40)	5190-5230	2
		IEEE 802.11ac/ax(HT80)	5210-5210	1
		IEEE 802.11ac/ax(HT160)	5250-5250	1
	UNII Band II-A	IEEE 802.11a/n/ax(HT20)	5260-5320	4
		IEEE 802.11n/ax(HT40)	5270-5310	2
		IEEE 802.11ac/ax(HT80)	5290-5290	1
	UNII Band II-C	IEEE 802.11a/n/ax(HT20)	5500-5700	11
		IEEE 802.11a/n/ax(HT20)	5720-5720	1
		IEEE 802.11n/ax(HT40)	5710-5710	1
		IEEE 802.11ac/ax(HT80)	5530-5690	3
	UNII Band III	IEEE 802.11a/n/ax(HT20)	5745-5825	5
		IEEE 802.11n/ax(HT40)	5755-5795	2
		IEEE 802.11ac/ax(HT80)	5775-5775	1
Modulation Type:	IEEE 802.11a: OFDM (BPSK, QPSK, 16QAM, 64QAM) IEEE 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM) IEEE 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) IEEE 802.11ax: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)			
DFS Function:	Slave without radar detection			

TPC Function:	Not support
Sample Type:	Portable device
Antenna Type:	PIFA Antenna
Antenna Gain:	Antenna1: 2.3dBi, Antenna2: 1.7dBi