SCLCT06M
Module User's Manual

Chip PN：QCC3046 WLCSP

Version：V1.4

Date：12/17/2020

Approve	Review	Issue
KevinCY Chen	KevinCY Chen	Rick Wang

www.aseglobal.com

Features

Main Chip

- Qualified to Bluetooth v5.2 specification
- 120 MHz Qualcomm® Kalimba™ audio DSP
- 32 MHz Developer Processor for applications
- Firmware Processor for system
- Flexible QSPI flash programmable platform
- High-performance 24-bit stereo audio interface
- Digital and analog microphone interfaces
- Serial interfaces : USB 2.0
- Integrated battery charger supporting internal mode(up to200 mA)
- Flexible PIO controller and LED pins with PWM support
- Advanced audio algorithms
- Active Noise Cancellation:
Hybrid, Feedforward, and Feedback modes
- Using Digital or Analog Mics, enabled using license keys available from Qualcomm®
- Qualcomm® aptX™ and aptX HD Audio
- 1 or 2 mic Qualcomm® cVc™ headset speech processing

Device description

- Tri-core processor architecture
- High-performance programmable Bluetooth® mono audio SoC
- Low power modes to extend battery life

Applications

- Wireless speakers
- Wired/wireless stereo headsets/headphones
- TrueWireless™ stereo ear buds
- USB to Bluetooth dongle

SiP module feature

- 5 LED Ports (max)
- 1 Power Switch Port
- 1 USB Port
- 2 ECM Mic Ports
- 1 Speaker Ports
- 1 RF Port
- 1 Battery Port
- 1 Charger Port
- Module size : 4.55 x 9 x 1.6 mm (max)
- Module pin-out : 48 pins

Feature Summary

Audio subsystem	➢ 112 KB program random access memory (RAM) ➢ 448 KB data RAM ➢ 6 Mb ROM
Application subsystem	➢ Dual-core application subsystem 32 MHz operation
Bluetooth Profile	➢ HFP/HSP/A2DP/AVRCP
RF Frequency	➢ 2.4-2.48GHz
Audio DSP	➢ 32-bit Kalimba audio digital signal processor
Audio codec	➢ 1 codec output channel, supporting 8, 16, 32, 44.1, 48, 96, 192 kHz sample rates ➢ 8 codec input channels supporting 8, 16, 32, 44.1, 48, 96 kHz sample rates
Power	➢ Runs directly from a Li-ion, USB or external supply(2.8V to 6.5V) ➢ 1.8V SMPS generates power for both the device and off-chip circuits.
Operating Voltage	➢ 3.0V to 4.6V (VBAT)
Charger Current	➢ 100mA (max)
Operating Temperature	➢ 0˚C ~ +70˚C
Sip Package	➢ 4.55mm x 9 mm x 1.6mm, LGA-48 pin
Others	➢ Built-in 32MHz crystal for system clock
Power Consumption	➢ Detail in table

1. Specification

Model Name	SCLCT06M05
Chipset	QCC3046 WLCSP
Core	Dual-Core processor
Clock Speed	32 MHz
Flash	64Mb
Operation Conditions	
Temperature	Operating : 0℃ ~ +70℃ Storage : 0℃ ~ +70℃
Dimension	4.55mm X 9mm X 1.6mm

3.1 Recommended operating conditions

Symbol	Parameter	Min.	Typ.	Max.	Unit
VBATT	Battery voltage	3.0	3.7	4.6	V
USB_VBUS	Charger voltage	4.75	5	6.5	V
Digital I/O	VDD_PADS	1.7	1.8	3.6	V

FCC Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance.

This module is intended for OEM integrators under the following conditions:

1. This module is certified pursuant to two Part 15 rules section 15.247.
2. This module is limited to host model number: 6M05-DB02, Brand: ASE Group
3. This module has been approved to operate with the antenna types listed below, with the maximum permissible gain indicated.

Frequency Band	Antenna Type	Brand	Model Number	Gain(dBi)
2400-2483.5MHz	Chip	Unictron	AA080	-0.3

4. Label and compliance information

Label of the end product:

The host product must be labeled in a visible area with the following " Contains FCC ID: 2AYS4-AIP6MA ".
The end product shall bear the following 15.19 statement: This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

5. Information on test modes and additional testing requirements

The separate approval is required for all other operating configurations, including portable configurations with respect to Part 2.1093 and different antenna configurations
The information on how to configure test modes for host product evaluation for different operational conditions for a stand-alone modular transmitter in a host, versus with multiple, simultaneously transmitting modules or other transmitters in a host can be found at KDB Publication 996369 D04.

6. Additional testing, Part 15 Subpart B disclaimer

Appropriate measurements (e.g. Part 15 Subpart B compliance) and if applicable additional equipment authorizations (e.g. SDoC) of the host product to be addressed by the integrator/manufacturer.

This module is only FCC authorized for the specific rule parts 15.247 listed on the grant, and the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host product as being Part 15 Subpart B compliant.

7. The user manual of the end product should include:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The antenna(s) used for this transmitter must not transmit simultaneously with any other antenna or transmitter.