# AMICCOM Electronics Corporation

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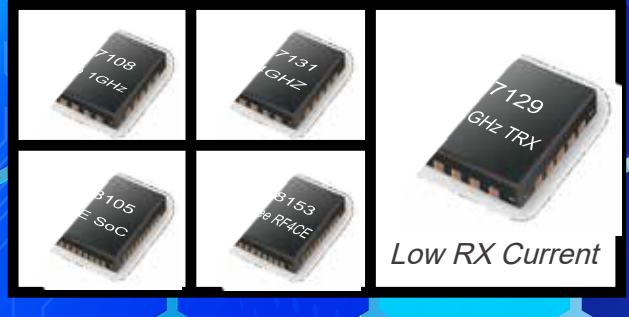
RF ICs



## About AMICCOM


AMICCOM is a professional semiconductor company offering a complete product family of industry-leading RF ICs. Our management team and technical groups have already stayed in RF field for decades. We definitely focus on RF ICs by CMOS process to provide our customers " high performance " , " low cost " , "high integration " RF ICs. In PC applications, we provide products for Wireless Mice / Keyboard / Vista Remote controller and Wireless USB. For Industrial applications, we provide Sub-1GHz and 2.4GHz product for AMR, Zigbee, Smart Building, and Automation Control. In Consumer Electronics, there are RF/SOC products used Bluetooth, PS/Xbox Wireless Game Pads, and Walkie Talkie. In Car Industry, product applications include Car Remote Controller, Car Security, and Wireless Video Parking System. We also have product in some specific applications, such as Satellite LNB, Intelligent Sports and Wireless Medicine. Those markets are what AMICCOM have dedicated to. Meanwhile, our management team always focuses on Blue Ocean Strategy and our technical groups keep developing the advanced RF ICs and SOC to issue our own patents. AMICCOM wish to bring better life experiences to human beings.

AMICCOM focuses on RF IC/SOC design with CMOS technology. From device layout, power optimization, circuit design, and advanced semiconductor processes, AMICCOM's high-frequency circuit characteristics have surpassed commercial standards. AMICCOM provides customers with three choices based on ISM Band wireless applications; 2.4GHz, Sub 1GHz (315/433/868 / 915MHz), and 5.8GHz. The complete product line includes: unidirectional / bidirectional RF IC and SOC; various transmission speeds: 0.25K ~ 500K / 500K ~ 2M / 3M / 4M / 6M bps; Programmable transmitting power: -10 ~ + 20dBm, with high receiving sensitivity, and can be used with AMICCOM LNA / PA or built-in PA according to customer requirements (1M ~ 1.0KM) for wireless applications.

The RF ICs provided by AMICCOM are highly integrated chips. These chips build in VCO, PLL, LNA, PA, FIFO, RSSI, CRC, FEC, Data Whitening, Auto Calibration and other functions. Users can choose the familiar MCU to control the RF IC through the SPI interface. AMICCOM RF IC is not critical to the MCU. Through the digital interface of RF IC and MCU, it is easy to develop and debug for customer. In conjunction with the reference code and development kit provided by AMICCOM, customers don't need to know the hard RF knowledge during development and no need for expensive RF equipment during production. RF modules only need a few external components and It's easy to develop all kind of wireless application with chips provided by AMICCOM. In addition to RF ICs, AMICCOM is actively developing highly integrated SOC products, with embedded micro-controller (including 8bit 1T 8051, 32-bit ARM Cortex-M0 and M4), various digital peripherals (UART, I2C, SPI, PWM) and audio codec, which are suitable for a variety of wireless applications.



## 2.4GHz Proprietary TRX

| PART NUMBER | Type | MODULATION | DATA RATE (kbps) | SENSITIVITY (dBm) | RX CURRENT (mA) | OUTPUT POWER (Max dBm) | TX CURRENT(dBm) 0 mA | +5 mA | +10 mA | Max. mA | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A7157 | TRX | DSSS | 133.3 - 66.6 | -100 @ 133.3Kbps | 65 | +17 | | | | 99 | QFN 32 |
| A7196 | TRX | FSK/GFSK | 6000 - 4000 | -83 @ 6Mbps | 29 | +19.5 | | | | 140 | QFN 24 |
| A7190 | TRX | FSK/GFSK | 4000 - 2000 | -87 @ 4Mbps | 28 | +20 | | | | 183 | QFN 24 |
| A7192 | TRX | FSK/GFSK | 2000-500 | -89 @ 2Mbps | 23 | +19.5 | | | | 140 | QFN 24 |
| A7131 | TRX | FSK/GFSK | 4000 - 2000 | -88 @ 4Mbps | 27 | +10 | | | 35 | | QFN 20 |
| A7130 | TRX | FSK/GFSK | 4000 - 2000 | -88 @ 4Mpbs | 27 | +5 | 20 | 29 | | | QFN 20 |
| A7121 | TRX | FSK/GFSK | 3000 | -80 @ 3Mpbs | 28 | +0 | 34 | | | | QFN 32 |
| A7137 | TRX | FSK/GFSK | 2000 - 500 | -90 @ 2Mbps | 24 | +10 | 23.5 | | 35.5 | | QFN 20 |
| A7125 | TRX | FSK | 2000 - 500 | -90 @ 2Mpbs | 17 | +5 | 16 | 23 | | | QFN 20 |
| A7325 | TX | FSK/GFSK | 2000 - 2 | - | - | +5 | 14.5 | 16.5 | | | QFN 16 |
| A7205 | RX | FSK/GFSK | 500 - 2 | -95 @ 500Kbps | 16 | - | - | - | - | - | QFN 20 |
| A7105 | TRX | FSK/GFSK | 500 - 2 | -95 @ 500Kbps | 16 | +0 | 20 | | | | QFN 20 |

## 2.4GHz RC Car

| PART NUMBER | Type | MODULATION | DATA RATE (kbps) | SENSITIVITY (dBm) | RX CURRENT (mA) | OUTPUT POWER (Max dBm) | TX CURRENT (mA) | Package |
|---|---|---|---|---|---|---|---|---|
| A7216 | RX | FSK/GFSK | 500 | -96 @ 500Kbps | 18 | - | - | SSOP24 |
| A7316 | TX | FSK/GFSK | 500 | - | - | +4 | 22 | SSOP24 |

## PA / LNA

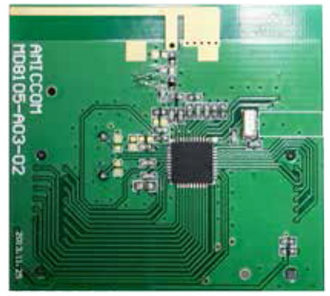
| PART NUMBER | Type | FREQUENCY (MHZ) | SLEEP CURRENT (uA) | RX CURRENT (mA) | OUTPUT POWER (Max dBm) | TX CURRENT (mA) | Package |
|---|---|---|---|---|---|---|---|
| A7700 | PA/LNA | 2400 - 2483.5 | 1 | 4.3 | +19 | 115 @ 19dBm | QFN 16 |
| A7701 | PA/LNA | 2400 - 2483.5 | 1 | 4.3 | +23 | 220 @ 23dBm | QFN 16 |

2.4GHz module

2.4GHz + A7700 module.

## 2.4GHz SoC

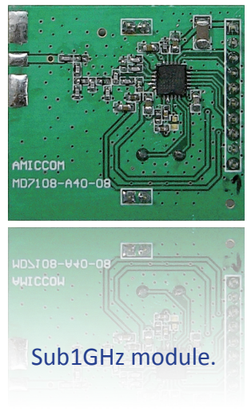
| PART NUMBER | Type | Code Memory | RAM | Digital I/O | Peripheral | ADC | MODULATION | DATA RATE (kbps) | SENSITIVITY (dBm) | RX CURRENT (mA) | OUTPUT POWER (Max dBm) | TX CURRENT(dBm) +0 mA | +5 mA | +10 mA | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A8137M0 | 2.4GHz 13dBm TRX SoC | | | | | | | | | | | | | | |
| A81U37F6101AQ6C | ARM® Cortex®-M0 | 64 KB Flash | 8KB | 24 | I2C, SPI, UARTx3, PWM x8 Li-ion Battery Charger | 4Ch, 12bit ; RSSI, 8bit | FSK/GFSK | 2000 ~ 8 | -92 @ 2Mbps | 20 | +13 | | | 58 @13dBm | QFN 48 |
| A8125M0 | 2.4GHz low power TRX SoC | | | | | | | | | | | | | | |
| A81U25F7101AQ5A | ARM® Cortex®-M0 | 128 KB Flash | 32KB | 23 | I2C, SPIx2, UARTx3, PWM x7 | 7Ch, 12bit ; RSSI, 8bit | FSK/GFSK | 2000 ~ 8 | -90 @ 2Mbps | 8.5@DCDC, MCU on | +5 | | | 10.5@DCDC, MCU on | QFN 40 |
| A8137 | 2.4GHz 10dBm TRX SoC | | | | | | | | | | | | | | |
| A81X37F4000AQ5A | 8051 CPU | 16 KB Flash | 256B | 24 | I2C, SPI, UART, PWM x2 | 4Ch, 8bit ; RSSI, 8bit | FSK/GFSK | 2000 ~ 8 | -90 @ 2Mbps | 23.5 | +10 | | | 40 | QFN 40 |
| A81X37F4005AQ58 | 8051 CPU | 16 KB Flash | 256B | 17 | I2C, SPI, UART, PWM x1 | 2Ch, 8bit ; RSSI, 8bit | FSK/GFSK | 2000 ~ 8 | -90 @ 2Mbps | 23.5 | +10 | | | 40 | QFN 32 |
| A8125 | 2.4GHz TRX SoC | | | | | | | | | | | | | | |
| A81X25F4000AQ5A | 8051 CPU | 16 KB Flash | 256B | 24 | I2C, SPI, UART, PWM x2 | 4Ch, 8bit ; RSSI, 8bit | FSK/GFSK | 2000 ~ 8 | -90 @ 2Mbps | 23.5 | +5 | | 24.5 | | QFN 40 |
| A81X25F4005AQ58 | 8051 CPU | 16 KB Flash | 256B | 17 | I2C, SPI, UART, PWM x1 | 2Ch, 8bit ; RSSI, 8bit | FSK/GFSK | 2000 ~ 8 | -90 @ 2Mbps | 23.5 | +5 | | 24.5 | | QFN 32 |
| A8106 | 2.4GHz TRX SoC | | | | | | | | | | | | | | |
| A81X06F4001AQ5A | 8051 CPU | 16 KB Flash | 2KB | 24 | I2C, SPI, UART, PWM x2 | 8Ch, 12bit; RSSI, 8bit | FSK/GFSK | 500 ~ 5 | -99 @ 500Kbps | 16 | +5 | 18 | 24 @ 4dBm | | QFN 40 |
| A81X06T4001AQ5A | 8051 CPU | 16 KB OTP | 2KB | 23 | I2C, SPI, UART, PWM x2 | 8Ch, 12bit; RSSI, 8bit | FSK/GFSK | 500 ~ 5 | -99 @ 500Kbps | 19 | +5 | 22 | 24 @ 4dBm | | QFN 40 |
| A81X06T3001AQ5A | 8051 CPU | 8 KB OTP | 2KB | 23 | I2C, SPI, UART, PWM x2 | 8Ch, 12bit; RSSI, 8bit | FSK/GFSK | 500 ~ 5 | -99 @ 500Kbps | 19 | +5 | 22 | 24 @ 4dBm | | QFN 40 |
| A8108 | 2.4GHz USB TRX SoC | | | | | | | | | | | | | | |
| A81X08F5004AQ58 | 8051 CPU | 32 KB Flash | 512B | 14 | USB, I2C, SPI, UART | 4Ch, 12bit; RSSI, 8bit | FSK/GFSK | 500 ~ 2 | -96 @ 500Kbps | 18 | +2 | 20 | 22 @ 2dBm | | QFN 32 |
| A8325 | 2.4GHz TX SoC | | | | | | | | | | | | | | |
| A83X25F400AAQ45 | 8051 CPU | 16 KB Flash | 1KB | 8 | UART,PWMx2 | 2Ch, 12bit ; RSSI, 8bit | FSK/GFSK | 2000 ~ 4 | | | +6 | 16 | 19.5 @ 6dBm | | QFN 20 |
| A83X25T300AAQ45 | 8051 CPU | 8 KB OTP | 1KB | 7 | UART,PWMx2 | 2Ch, 12bit ; RSSI, 8bit | FSK/GFSK | 2000 ~ 4 | | | +6 | 16 | 19.5 @ 6dBm | | QFN 20 |
| A8525/A8526 | 2.4GHz TRX SoC with LCD | | | | | | | | | | | | | | |
| A85X25F4001AH | 8051 CPU | 16KB Flash | 2KB | 22 | I2C, SPI, UART,PWMx2 TN LCD driver (4x48) | 8Ch, 12bit ; RSSI, 8bit | FSK/GFSK | 2000 ~ 5 | -89 @ 2Mbps | 20.5 @ 2Mbps | +4 | 20.5 | 23.5 @ 4dBm | | Dice |
| A85X26F4001AH | 8051 CPU | 16KB Flash | 2KB | 22 | I2C, SPI, UART,PWMx2 TN LCD driver (4x48) | 2Ch, 24bit 8Ch, 12bit ; RSSI, 8bit | FSK/GFSK | 2000 ~ 5 | -89 @ 2Mbps | 20.5 @ 2Mbps | +4 | 20.5 | 23.5 @ 4dBm | | Dice |




2.4GHz SoC module.

## Sub1GHz Proprietary TRX

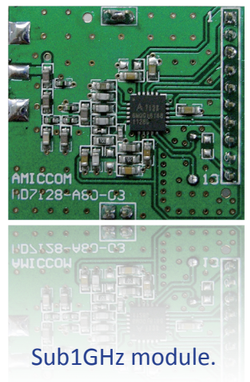
| PART NUMBER | Type | MODULATION | FREQUENCY (MHZ) | DATA RATE (kbps) | SENSITIVITY (dBm) | RX CURRENT (mA) | OUTPUT POWER (Max dBm) | TX CURRENT(dBm) mA +5 | +10 | +15 | +20 | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A7128 | TRX | FSK/GFSK | 433 - 915 | 2000 - 100 | -88 @ 2Mbps | 18.5 | +10 | | 36 | | | QFN 20 |
| A7108 | TRX | FSK/GFSK | 315 - 915 | 250 - 2 | -117 @ 2Kbps | 14 | +17 | | | | 70 @ 17dBm | QFN 20 |
| A7136 | TRX | 4FSK/FSK/ GFSK/4GFSK/OOK | 169-915 | 500- 0.25 | -97 @ 500Kbps -122 @ 1.25Kbps | 8.2 @ DC/DC | +20 | | | | 79.5@19.4dBm, DC/DC | QFN 24 |
| A7169 | TRX | FSK/GFSK | 315 - 915 | 500 - 2 | -108 @ 100Kbps | 3.3 | +20 | | | | 70 @19.1dBm | QFN 16 |
| A7159 | TRX | DSSS | 315 - 915 | 250 - 2 | -120 @ 10Kcps @ DSSS | 3.9 | +20 | | | | 86 @ 20dBm | QFN 24 |
| A7119 | TRX | DSSS | 315 - 915 | 250 - 2 | -120 @ 10Kcps @ DSSS | 3.9 | 12.5 | | | | 25 @ 10dBm | QFN 24 |
| A7139 | TRX | FSK/GFSK | 315 - 915 | 250 - 2 | -120 @ 2Kbps | 3.8 | +20 | | | | 77 @ 19dBm | QFN 24 |
| A7129 | TRX | FSK/GFSK | 315- 915 | 250 - 2 | -119 @ 2Kbps | 3.8 | +13 | | | 28 @ 13dBm | | QFN 24 |
| A7112 | TRX | FSK/GFSK | 315 - 915 | 250 - 2 | -117 @ 2Kbps | 13 | +13 | | | 40 @ 13dBm | | QFN 32 |
| A7102 | TRX | FSK | 315 - 915 | 150 -2 | -117 @ 2Kbps | 13 | +15 | | | 40 | | QFN 32 |
| A7103 | TRX | FSK/ASK | 315 - 915 | 10 - 1 | -110 @ 2.4Kbps | 9 | +10 | | 18 | | | SSOP24 |
| A7328 | TX | FSK/GFSK | 433 - 915 | 2000 - 500 | - | - | +10 | | 32 | | | QFN 16 |
| A7339 | TX | FSK/GFSK | 433 - 915 | 250-2 | - | - | +20 | | | | 73 @ 18.8dBm | QFN 20 |
| A7329 | TX | FSK/GFSK | 433 - 915 | 250-2 | - | - | +10 | | 22 | | | QFN 20 |
| A7229 | RX | FSK | 315 - 915 | 250-2 | -114 @ 10Kbps | 4 | - | - | - | - | - | QFN20 |
| A7209 | RX | ASK/OOK | 315 - 915 | 50 - 1 | -112 @ 2.4Kbps | 4 | - | - | - | - | - | QFN20 |
| A7210 | RX | ASK/OOK with decoder | 315 - 915 | 5 - 1 | -112 @ 2.4Kbps | 4 | - | - | - | - | - | QFN32 |
| A7302 | TX | FSK/ASK | 315 - 915 | 10 - 1 | - | - | +11 | | 14 @ 11dBm | | | DFN 10 |



Sub1GHz module.

## Sub1GHz SoC

| PART NUMBER | Type | Code Memory | RAM | Digital I/O | Peripheral | ADC | MODULATION | FREQUENCY (MHZ) | DATA RATE (kbps) | SENSITIVITY (dBm) | RX CURRENT (mA) | OUTPUT POWER (Max dBm) | TX CURRENT(dBm) mA +5 | +10 | +15 | +20 | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A9108 | Sub1GHz TRX | | | | | | | | | | | | | | | | |
| A91X08F4001AQ5A | 8051 CPU | 16 KB Flash | 2KB | 24 | I2C, SPI, UART, PWM x2 | 4Ch, 12bit ; RSSI, 8bit | FSK/GFSK | 315-915 | 250 - 2 | -117 @ 2Kbps | 20 | +20 | | | | 90 | QFN 40 |
| A9109 | Sub1GHz TRX | | | | | | | | | | | | | | | | |
| A91X09F4001AQ6C | 8051 CPU | 16 KB Flash | 2KB | 24 | I2C, SPI, UART, PWM x2 | 2Ch 24bit; 4Ch, 12bit ; RSSI, 8bit | FSK/GFSK | 315-915 | 250 - 2 | -117 @ 2Kbps | 20 | +20 | | | | 90 | QFN 48 |
| A9508 | Sub1GHz TRX with LCD | | | | | | | | | | | | | | | | |
| A95X08F4001AQAM | 8051 CPU | 16 KB Flash | 2KB | 24 | I2C, SPI, UART, PWM x2 TN LCD driver (4x48) | 4Ch, 12bit ; RSSI, 8bit | FSK/GFSK | 315-915 | 250 - 2 | -117 @ 2Kbps | 20 | +20 | | | | 90 | QFN88 |
| A9159 | Sub1GHz DSSS TRX | | | | | | | | | | | | | | | | |
| A91X59F4001AQ6C | 8051 CPU | 16 KB Flash | 2KB | 32 | I2C, SPI, UART, PWM x2 | 8Ch, 12bit ; RSSI, 8bit | DSSS | 315-915 | 250 - 2 | -119 @ 10Kcps @DSSS | 7.35 | +20 | | | | 80 | QFN 48 |
| A9139 | Sub1GHz TRX | | | | | | | | | | | | | | | | |
| A91U39F6001AQ6C | 8051 CPU | 64 KB Flash | 8KB | 32 | I2C, SPI, UARTx2, PWM x4 | 8Ch, 12bit ; RSSI, 8bit | FSK/GFSK | 315-915 | 500 - 2 | -108 @ 100Kbps | 8.4 | +20 | | | | 85 @ 19dBm | QFN 48 |
| A91X39F4001AQ6C | 8051 CPU | 16 KB Flash | 2KB | 32 | I2C, SPI, UART, PWM x2 | 8Ch, 12bit ; RSSI, 8bit | FSK/GFSK | 315-915 | 250 - 2 | -117 @ 2Kbps | 7.35 | +20 | | | | 80 | QFN 48 |
| A9112 | Sub1GHz TRX | | | | | | | | | | | | | | | | |
| A91X12F4001AQ5A | 8051 CPU | 16 KB Flash | 2KB | 24 | I2C, SPI, UART, PWM x2 | 4Ch, 12bit ; RSSI, 8bit | FSK/GFSK | 315-915 | 250 -2 | -117 @ 2Kbps | 20 | +13 | | | 45 @ 13dBm | | QFN 40 |
| A9129 | Sub1GHz TRX | | | | | | | | | | | | | | | | |
| A91U29F6001AQ6C | 8051 CPU | 64 KB Flash | 8KB | 32 | I2C, SPI, UARTx2, PWM x4 | 8Ch, 12bit ; RSSI, 8bit | FSK/GFSK | 315-915 | 500 - 2 | -108 @ 100Kbps | 8.4 | +10 | | 32.5 | | | QFN 48 |
| A91X29F4001AQ6C | 8051 CPU | 16 KB Flash | 2KB | 32 | I2C, SPI, UART, PWM x2 | 8Ch, 12bit ; RSSI, 8bit | FSK/GFSK | 315-915 | 250 -2 | -117 @ 2Kbps | 7.35 | +13 | | | 26 | | QFN 48 |



Sub1GHz module.

## 5.8GHz / 5.2GHz Proprietary TRX

| PART NUMBER | TYPE | MODULATION | FREQUENCY (MHZ) | DATA RATE (kbps) | SENSITIVITY (dBm) | RX CURRENT (mA) | OUTPUT POWER (Max dBm) | TX CURRENT(dBm) +0 | +3 mA | +15 | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A5130 | TRX | FSK/GFSK | 5725 - 5850 | 4000 -1000 | -86 @ 4Mbps | 30 | +2 | | 27 | | QFN 24 |
| A5129 | TRX | FSK/GFSK | 5150 - 5250 | 4000 -1000 | -86 @ 4Mbps | 30.5 | +2 | | 27.5 | | QFN 24 |
| A5125 | TRX | FSK/GFSK | 5725 - 5850 | 2000 -1000 | -89 @ 2Mbps | 28.5 | +2 | | 26.5 | | QFN 24 |
| A5124 | TRX | FSK/GFSK | 5150 - 5250 | 2000 -1000 | -89 @ 2Mbps | 29 | +2 | | 27 | | QFN 24 |
| A5133 | TRX | FSK | 5725 - 5850 | 4000 -500 | -91 @ 4Mbps | 33 | +15 | | | 88 | QFN 24 |

## 5.8GHz SOC

| PART NUMBER | Type | Code Memory | RAM | Digital I/O | Peripheral | ADC | MODULATION | DATA RATE (kbps) | SENSITIVITY (dBm) | RX CURRENT (mA) | OUTPUT POWER (Max dBm) | TX CURRENT(dBm) +0 | +3 mA | +10 | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A1011 | 5.8GHz CPC SoC | | | | | | | | | | | | | | |
| A10U11F6001AQ6C | 8051 CPU | 64 KB Flash | 8K | 24 | I2C, SPI, UART, ISO7816,PWM x4 | 8Ch, 8bit ; RSSI, 8bit | ASK | 256 | -85 | 32 | +9 | | | 50 @9dBm | QFN 48 |

## Wireless Audio / Voice SoC

| PART NUMBER | Type | Code Memory | RAM | Digital I/O | Peripheral | ADC | Audio Codec | MODULATION | FREQUENCY (MHZ) | DATA RATE (kbps) | SENSITIVITY (dBm) | RX CURRENT (mA) | OUTPUT POWER (Max dBm) | TX Currnet (mA) | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A8100 | Wireless Audio SoC | | | | | | | | | | | | | | |
| A81X00T400CAQ6C | 8051 CPU | 16KB OTP | 512B | 23 | I2C, SPI, UART, PWM x2 | 7Ch, 8bit ; RSSI, 8bit | 16 bits 16KSps | FSK/GFSK | 2400 - 2483.5 | 2000 - 500 | -90 @ 2Mbps | 29 | +10 | 45 @ 10dBm | QFN 48 |
| A81X00T400DAQ5A | 8051 CPU | 16KB OTP | 512B | 16 | I2C, SPI, UART | 4Ch, 8bit ; RSSI, 8bit | 16 bits 16KSps | FSK/GFSK | 2400 - 2483.5 | 2000 - 500 | -90 @ 2Mbps | 29 | +10 | 45 @ 10dBm | QFN 40 |
| A8101 | Wireless Audio SoC | | | | | | | | | | | | | | |
| A81X01F4000AQ6C | 8051 CPU | 16KB Flash | 512B | 24 | I2C, SPI, UART, PWM x2 | 4Ch, 8bit ; RSSI, 8bit | 16 bits 16KSps | FSK/GFSK | 2400 - 2483.5 | 2000 - 500 | -88 @ 2Mbps | 27.5 | +20 | 160 @ 20dBm | QFN 48 |
| A81X01F4003AQ58 | 8051 CPU | 16KB Flash | 512B | 8 | UART | 2Ch, 8bit ; RSSI, 8bit | 16 bits 16KSps | FSK/GFSK | 2400 - 2483.5 | 2000 - 500 | -88 @ 2Mbps | 27.5 | +20 | 160 @ 20dBm | QFN 32 |
| A8102 | Wireless Audio SoC | | | | | | | | | | | | | | |
| A81X02F5002AQ7E | 8051 CPU | 32KB Flash | 8.5KB | 22 | USB, I2S, I2C, SPI, UART, PWM x2 | 4Ch, 8bit ; RSSI, 8bit | Stereo 16 bits 48KSps | FSK/GFSK | 2400 - 2483.5 | 4000 | -85 @ 4Mbps | 32 | +17 | 122 @ 17dBm | QFN 56 |
| A9101 | Wireless Audio SoC | | | | | | | | | | | | | | |
| A91X01F4001AQ6C | 8051 CPU | 16KB Flash | 512B | 24 | I2C, SPI, UART, PWM x2 | RSSI, 8bit | 16 bits 32KSps | FSK/GFSK | 315 - 915 | 2000 - 500 | -94 @ 500Kbps @ 915MHz | 31 | +18 | 100 @ 18dBm | QFN 48 |
| A8301 | Wireless Audio TX SoC | | | | | | | | | | | | | | |
| A83X01F4006AQ6C | 8051 CPU | 16KB Flash | 512B | 16 | I2C, SPI, UART, PWM x2 | 2Ch, 8bit ; RSSI, 8bit | 16 bits 16KSps | FSK/GFSK | 2400 - 2483.5 | 2000 - 500 | - | - | +19.5 | 136 @ 19.5dBm | QFN 40 |
| A83X01F4007AQ58 | 8051 CPU | 16KB Flash | 512B | 8 | UART | 2Ch, 8bit ; RSSI, 8bit | 16 bits 16KSps | FSK/GFSK | 2400 - 2483.5 | 2000 - 500 | - | - | +19.5 | 136 @ 19.5dBm | QFN 32 |


## Zigbee/ RF4CE /IEEE 802.15.4

| PART NUMBER | Type | Code Memory | RAM | Digital I/O | Peripheral | ADC | MODULATION | FREQUENCY (MHZ) | DATA RATE (Max kbps) | SENSITIVITY (dBm) | RX CURRENT (mA) | OUTPUT POWER (Max dBm) | TX CURRENT(dBm) Normal | Max. mA | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A8153 | IEEE802.15.4 SoC | | | | | | | | | | | | | | |
| A81X53F5000AQ5A | 8051 CPU | 32KB Flash | 2KB | 24 | I2C, SPI, UART, PWM x2 | 4Ch, 8bit; RSSI, 8bit | DSSS/MSK | 2405 - 2480 | 250 | -96 @ 250Kbps | 23 | +3.5 | 18 @ 0dBm | 23 @3.5dbm | QFN 40 |


# Bluetooth Low Energy

| PART NUMBER | Type | Code Memory | RAM | Digital I/O | Peripheral | ADC | MODULATION | DATA RATE (kbps) | SENSITIVITY (dBm) | RX CURRENT (mA) | OUTPUT POWER (Max dBm) | TX CURRENT(dBm) Normal mA | Max. | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A7107 | Bluetooth Low Energy TRX | - | - | - | - | RSSI, 8bit | 1Mbps GFSK | 2000 - 500 | -90 @ 1Mbps | 17 | +8 | 17 @ 2dBm | 24.5 @ 8dBm | QFN 32 |
| A8105 | Bluetooth Low Energy SoC | | | | | | | | | | | | | |
| A81X05F5009AQ6C | 8051 CPU | 32KB Flash | 2KB | 28 | I2C, SPI, UART,PWM x2 | 8Ch, 12bit ; RSSI, 8bit | 1Mbps GFSK | 2000 - 500 | -92 @ 1Mbps | 18 | +6 | 19 @ 0dBm | 24 @ 6dBm | QFN 48 |
| A81X05F5001AQ5A | 8051 CPU | 32KB Flash | 2KB | 24 | I2C, SPI, UART,PWM x2 | 8Ch, 12bit; RSSI, 8bit | 1Mbps GFSK | 2000 - 500 | -92 @ 1Mbps | 18 | +6 | 19 @ 0dBm | 24 @ 6dBm | QFN 40 |
| A81U05F600BAQ6C | 8051 CPU | 64KB Flash | 8KB | 32 | I2C, SPI, UART,PWM x4 | 8Ch, 12bit; RSSI, 8bit | 1Mbps GFSK | 2000 - 5 | -94 @ 1Mbps | 13.5 | +7 | 14.5 @ 0dBm | 21 @ 7dBm | QFN 48 |
| A81U05F6001AQ5A | 8051 CPU | 64KB Flash | 8KB | 24 | I2C, SPI, UART,PWM x4 | 8Ch, 12bit; RSSI, 8bit | 1Mbps GFSK | 2000 - 5 | -94 @ 1Mbps | 13.5 | +7 | 14.5 @ 0dBm | 21 @ 7dBm | QFN 40 |
| A8115 | Bluetooth Low Energy SoC with Voice ADC | | | | | | | | | | | | | |
| A81U15F600BAQ6C | 8051 CPU | 64KB Flash | 8KB | 32 | I2C, SPI, UART,PWM x4, Mic x1 | 8Ch, 12bit; RSSI, 8bit | 1Mbps GFSK | 2000 - 5 | -94 @ 1Mbps | 13.5 | +7 | 14.5 @ 0dBm | 21 @ 7dBm | QFN 48 |
| A81U15F6001AQ5A | 8051 CPU | 64KB Flash | 8KB | 24 | I2C, SPI, UART,PWM x4, Mic x1 | 8Ch, 12bit; RSSI, 8bit | 1Mbps GFSK | 2000 - 5 | -94 @ 1Mbps | 13.5 | +7 | 14.5 @ 0dBm | 21 @ 7dBm | QFN 40 |
| A8107 | Bluetooth Low Energy SoC | | | | | | | | | | | | | |
| A81X07F600BAQ6C | 8051 CPU | 64KB Flash | 8KB | 32 | I2C, SPI, UART,PWM x4 | 8Ch, 12bit ; RSSI, 8bit | 1Mbps GFSK | 2000 - 500 | -92 @ 1Mbps | 20 | +6 | 18.5 @ 0dBm | 24 @ 6dBm | QFN 48 |
| A81X07F6001AQ5A | 8051 CPU | 64KB Flash | 8KB | 24 | I2C, SPI, UART,PWM x4 | 8Ch, 12bit; RSSI, 8bit | 1Mbps GFSK | 2000 - 500 | -92 @ 1Mbps | 20 | +6 | 18.5 @ 0dBm | 24 @ 6dBm | QFN 40 |
| A81X07F700BAQ6C | 8051 CPU | 128KB Flash | 8KB | 32 | I2C, SPI, UART,PWM x4 | 8Ch, 12bit ; RSSI, 8bit | 1Mbps GFSK | 2000 - 500 | -92 @ 1Mbps | 20 | +6 | 18.5 @ 0dBm | 24 @ 6dBm | QFN 48 |
| A81X07F7001AQ5A | 8051 CPU | 128KB Flash | 8KB | 24 | I2C, SPI, UART,PWM x4 | 8Ch, 12bit; RSSI, 8bit | 1Mbps GFSK | 2000 - 500 | -92 @ 1Mbps | 20 | +6 | 18.5 @ 0dBm | 24 @ 6dBm | QFN 40 |
| A8107M0 | Bluetooth Low Energy SoC | | | | | | | | | | | | | |
| A81U07F810GAQ6C | ARM® Cortex®-M0 | 256KB Flash | 32KB | 31 | I2C, SPI, UARTx3, PWM x4, i86 interface with DMA | 8 Ch, 12bit | 1Mbps GFSK | 2000 --5 | -94 @ 1Mbps | 6.4 @ DC/DC | +6 | 9.0 @ 5dBm @ DC/DC | | QFN 48 |
| A81U07F8102AQ5A | ARM® Cortex®-M0 | 256KB Flash | 32KB | 23 | I2C, SPI, UARTx2, PWM x4, i86 interface with DMA | 5Ch, 12bit | 1Mbps GFSK | 2000 --5 | -94 @ 1Mbps | 6.4 @ DC/DC | +6 | 9.0 @ 5dBm @ DC/DC | | QFN 40 |
| A3107M0 | Bluetooth Low Energy SoC | | | | | | | | | | | | | |
| A31U07F810GAQ6C | ARM® Cortex®-M0 | 256KB Flash | 32KB | 31 | I2C, SPI, UARTx3, PWM x4, i86 interface with DMA | 8 Ch, 12bit | 1Mbps GFSK | 2000 - 250 | -94 @ 1Mbps | 6.4 @ DC/DC | +6 | 9.0 @ 5dBm @ DC/DC | | QFN 48 |
| A31U07F8102AQ5A | ARM® Cortex®-M0 | 256KB Flash | 32KB | 23 | I2C, SPI, UARTx2, PWM x4, i86 interface with DMA | 5Ch, 12bit | 1Mbps GFSK | 2000 - 250 | -94 @ 1Mbps | 6.4 @ DC/DC | +6 | 9.0 @ 5dBm @ DC/DC | | QFN 40 |
| A3117M0 | Bluetooth Low Energy SoC | | | | | | | | | | | | | |
| A31U17F8101AQ5A | ARM® Cortex®-M0 | 256KB Flash | 72KB | 23 | I2C, SPI, UARTx2, PWM x4, 48M speed CPU i86 interface with DMA | 5Ch, 12bit | 1Mbps GFSK | 2000 - 250 | -94@ 1Mbps | 6.4 @DC/DC | +6 | 9.0 @ 5dBm @ DC/DC | | QFN 40 |
| A31U17F8102AQ6C | ARM® Cortex®-M0 | 256KB Flash | 72KB | 31 | I2C, SPI, UARTx3, PWM x4, 48M speed CPU i86 interface with DMA | 8Ch, 12bit | 1Mbps GFSK | 2000 - 250 | -94@ 1Mbps | 6.4 @DC/DC | +6 | 9.0 @ 5dBm @ DC/DC | | QFN 48 |
| A31U17F8105AQ6C | ARM® Cortex®-M0 | 256KB Flash | 72KB | 26 | I2C, SPI, UARTx3, PWM x4, 48M speed CPU i86 interface with DMA,USB | 6Ch, 12bit | 1Mbps GFSK | 2000 - 250 | -94@ 1Mbps | 6.4 @DC/DC | +6 | 9.0 @ 5dBm @ DC/DC | | QFN 48 |
| A31U17F8106AQ7E | ARM® Cortex®-M0 | 256KB Flash | 72KB | 32 | I2C, SPI, UARTx3, PWM x4, 48M speed CPU i86 interface with DMA,USB | 8Ch, 12bit | 1Mbps GFSK | 2000 - 250 | -94@ 1Mbps | 6.4 @DC/DC | +6 | 9.0 @ 5dBm @ DC/DC | | QFN 56 |
| A8507/A8508 | Bluetooth Low Energy SoC with LCD | | | | | | | | | | | | | |
| A85X07F7001AQ8H | 8051 CPU | 128KB Flash | 8KB | 24 | I2C, SPI, UART,PWM x2 TN LCD driver (4x38,6x36,8x34) | 8Ch, 12bit; RSSI, 8bit | 1Mbps GFSK | 2000 --5 | -92 @ 1Mbps | 20 | +6 | 19.5 @ 0dBm | 24 @ 6dBm | QFN68 |
| A85X08F7001AQ8H | 8051 CPU | 128KB Flash | 8KB | 24 | I2C, SPI, UART,PWM x2 TN LCD driver (4x38,6x36,8x34) | 2Ch, 24bit; 8Ch, 12bit; RSSI, 8bit | 1Mbps GFSK | 2000 --5 | -92 @ 1Mbps | 20 | +6 | 19.5 @ 0dBm | 24 @ 6dBm | QFN68 |
| A3513/A3512/A3113 | Bluetooth Low Energy SoC with 24bit SDADC and LCD driver | | | | | | | | | | | | | |
| A3513 A35U13F6001AQ7E | 8051 CPU | 64KB Flash | 8KB | 26 | I2C, SPI, UART,PWM x3 TN LCD driver (4x21) | 4Ch, 24bit SDADC (ENOB 20bit); 6Ch, 12bit; RSSI, 8bit | 1Mbps GFSK | 2000 - 5 | -93 @ 1Mbps | 14 | +5 | | 19.5 @ 5dBm | QFN56 |
| A3512 A35U12F6001AQ6C | 8051 CPU | 64KB Flash | 8KB | 22 | I2C, SPI, UART,PWM x2 TN LCD driver (4x15) | 3Ch, 24bit SDADC (ENOB 20bit); 4Ch, 12bit; RSSI, 8bit | 1Mbps GFSK | 2000 - 5 | -93 @ 1Mbps | 14 | +5 | | 19.5 @ 5dBm | QFN48 |
| A3113 A31U13F6001AQ5A | 8051 CPU | 64KB Flash | 8KB | 21 | I2C, SPI, UART,PWM x3 | 3Ch, 24bit SDADC (ENOB 20bit); 4Ch, 12bit; RSSI, 8bit | 1Mbps GFSK | 2000 - 5 | -93 @ 1Mbps | 14 | +5 | | 19.5 @ 5dBm | QFN40 |
| A8107 SiP | Bluetooth Low Energy SiP | | | | | | | | | | | | | |
| A81X07F7001SQ8A | A8107 + RF match + Crystal | 128KB Flash | 8KB | 24 | I2C, SPI, UART,PWM x4 | 8Ch, 12bit; RSSI, 8bit | 1Mbps GFSK | 2000 --5 | -92 @ 1Mbps | 20 | +6 | 18.5 @ 0dBm | 24 @ 6dBm | LGA 40 |
| A81X07F7000SQ8A | A8107 + RF match | 128KB Flash | 8KB | 24 | I2C, SPI, UART,PWM x4 | 8Ch, 12bit; RSSI, 8bit | 1Mbps GFSK | 2000 --5 | -92 @ 1Mbps | 20 | +6 | 18.5 @ 0dBm | 24 @ 6dBm | LGA 40 |

Bluetooth Low Energy module


BLE with Voice

BLE with LCD

In addition to the ISM Band RF IC, AMICCOM has designed LNB ICs based on CMOS technology So far, this product has been mass-produced many years and has won long-term trust from customers. In recent years, LNB Down-Converter has been developed to integrate PLL and VCO, and can directly drive pHENT bias.

AMICCOM provides two types of products for satellite communications: LNB Switch and LNB Down-Converter. AMICCOM takes advantage of Taiwan semiconductor industry resources to provide a low-cost and high-performance product for global satellite communications equipment manufacturers. We provide complete technical services, includes circuit design and system application, which greatly shorten the development schedule and simplify the test process for customers, and make the prototype products be imported into mass production easier.

## Satellite Switch

| PART NUMBER | Function | FREQUENCY (MHZ) | Isolation (Typical dB) | Insection loss (Typical dB) | Others | Package |
|---|---|---|---|---|---|---|
| A7511 | 1x4 DiSEqC Switch | 250 - 2150 | 35 | 3 | DiSEqC decoder | QFN 20 |
| A7522 | 2x2 Switch Matrix with detector | 250 - 2150 | 35 | 7 | Polarity detector | QFN 16 |
| A7524 | 2x4 SWITCH | 950 - 2150 | 28 | 4 | Polarity detector | QFN 24 |
| A7542 | 4x2 SWITCH | 250 - 2150 | 40 | 7.5 | Logic input | QFN 24 |
| A7533 | 2x4 Switch Matrix with detector | 250 - 2150 | 31 | 7.5 | Polarity detector Tone detector | QFN 20 |
| A7535 | 4x2 SWITCH | 250 - 2150 | 31 | 7.5 | Polarity detector Tone detector | QFN 24 |
| A7539 | 4x2 SWITCH | 250 - 2150 | 40 | 7.5 | Logic input | QFN 24 |
| A7540 | 2x4 Switch Matrix | 250 - 2150 | 40 | 7.5 | Polarity detector Tone detector | QFN 24 |
| A7544 | 4x4 Switch Matrix w/wo detector | 250 - 2150 | 28 | 12 | Polarity detector Tone detector | QFN 24 |

## Satellite PLO Down-Converter

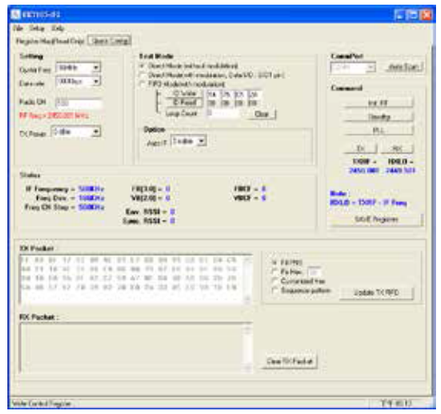
| PART NUMBER | Function | FREQUENCY (GHZ) | LO FREQUENCY (GHz) | Crystal (MHz) | Others | Package |
|---|---|---|---|---|---|---|
| A7832 | C band single LNB | 3.4 - 4.2 | 5.15 | 25 | FET Bias Polarity detector Tone detector | QFN 32 |
| A7837 | S Band Single LNB | 2.52 - 2.67 | 3.62 | 25 | FET Bias High Linerity | QFN 20 |


Satellite Switch evaluation kit

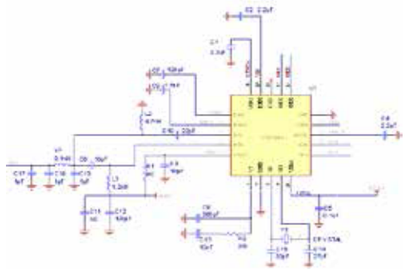


AMICCOM provides complete development tools for customers to quickly develop and provide simple test fixtures for mass-production. During the development phase, EK (Evaluation kit) board can be used with the radio frequency IC, for example, shown in the figure below is EK 7105. EK Board provides a USB connector to connect with a computer. Graphic user interface program is provided for application on computer as shown in the figure EK7105-G2. Customers can quickly explore the RF characteristics and develop programs to verify data transmission.

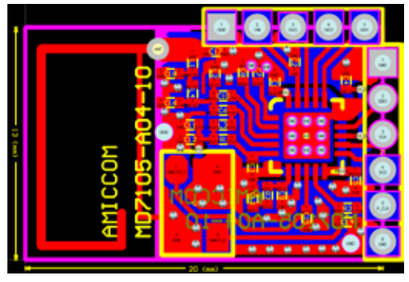

EK 7105



EK7105-G2



Reference circuit




Reference layout

In the development of SoC products, AMICCOM provides DVP (Development) board for system development. There are Buttons and LEDs on the DVP board for I / O input and output. In mass production, AMICCOM provides 1-to-1, 1-to-4, and 1-to-8 Writer, which can reduce a lot of programming time.

DVP

ICE_51

Writer1 to 1

Writer1 to 4

AMICCOM provides RF test fixtures that are inexpensive and can be used in mass-production, so customers do not need to invest in expensive RF test equipment.

RF Test fixture



**AMICCOM Awards**

A7108 2012 China ACE Award Best RF Wireless Product of the Year

Deloitte Technology Fast 500 Asia Pacific 2012

A7131 2013 China ACE Award **Best RF Wireless Product of the Year**

**Wireless RF technology with low receiving power**
2013 EDN China Inno**vation Award for Excellence in Innovation Technology**

The product information listed in this document is subject to change without further notice

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