M66 R2.0&M66

Difference Introduction

GSM/GPRS Module Series

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About the Document

Revision History

Version	Date	Author	Description
1.0	2017-11-07	King MA	Initial
1.1	2020-02-28	Claude WEI/ Ablaze LU	Added supported Bluetooth information by M66 R2.0 (Table 1 and 5)

Contents

Table Index

1 Introduction

This document introduces the differences between Quectel GSM/GPRS modules M66 R2.0 and M66. It is intended to ensure easy migration between them.

M66 R2.0 is a derivative version of M66. As compared with M66, M66 R2.0 integrates different but completely pin-to-pin compatible PA component and BB chip. The two modules are pin-to-pin compatible with each other.

The following chapters will describe the hardware and software functional differences between the two modules.

2 Hardware Comparison

2.1. Hardware Interfaces

M66 R2.0 shares the same hardware interface design and pins with M66. The details of the hardware interface design for the two modules are listed below.

Table 1: Pin Comparison of Hardware Interfaces

M66 R2.0		M66	
Pin No.	**Pin Definition**	**Pin No.**	**Pin Definition**
1	AGND	1	AGND
2	SPK2P	2	SPK2P
3	MICP	3	MICP
4	MICN	4	MICN
5	SPK1P	5	SPK1P
6	SPK1N	6	SPK1N
7	PWRKEY	7	PWRKEY
8	AVDD	8	AVDD
9	ADC0	9	ADC0
10	SIM_GND	10	SIM_GND
11	SIM_DATA	11	SIM_DATA
12	SIM_RST	12	SIM_RST
13	SIM_CLK	13	SIM_CLK
14	SIM_VDD	14	SIM_VDD

15	RESERVED	15	RESERVED
16	NETLIGHT	16	NETLIGHT
17	TXD	17	TXD
18	RXD	18	RXD
19	DTR	19	DTR
20	RI	20	RI
21	DCD	21	DCD
22	CTS	22	CTS
23	RTS	23	RTS
24	VDD_EXT	24	VDD_EXT
25	RFTXMON	25	RFTXMON
26	BT_ANT	26	BT_ANT
27	GND	27	GND
28	RXD_AUX	28	RXD_AUX
29	TXD_AUX	29	TXD_AUX
30	PCM_CLK	30	PCM_CLK
31	PCM_SYNC	31	PCM_SYNC
32	PCM_IN	32	PCM_IN
33	PCM_OUT	33	PCM_OUT
34	GND	34	GND
35	RF_ANT	35	RF_ANT
36	GND	36	GND
37	GND	37	GND
38	DBG_RXD	38	DBG_RXD
39	DBG_TXD	39	DBG_TXD

40	GND	40	GND
41	GND	41	GND
42	VBAT	42	VBAT
43	VBAT	43	VBAT
44	VRTC	44	VRTC

2.2. Electrical Features

The electrical feature differences between M66 R2.0 and M66 are listed in the tables below.

Table 2: Power Supply Ratings

Function	M66 R2.0	M66
Power down mode	150μA	150uA
Sleep mode @DRX=5	1.2mA	1.3mA
AT+CFUN=0 (Minimum functionality mode) Idle mode Sleep mode	13mA 0.89mA	13mA 0.98mA
AT+CFUN=4 (Airplane mode) Idle mode Sleep mode	13mA 0.95mA	13mA 1.0mA

Table 3: Current Consumption

Mode	Conditions	M66 R2.0	M66	Unit
Data Mode	3Rx, 2Tx GSM850/EGSM900 (PCL=5) DCS1800/PCS1900 (PCL=0)	363/393 268/257	363/393 268/257	mA
	2Rx, 3Tx GSM850/EGSM900 (PCL=5) DCS1800/PCS1900 (PCL=0)	506/546 366/349	506/546 366/349	mA
	4Rx, 1Tx GSM850/EGSM900 (PCL=5) DCS1800/PCS1900 (PCL=0)	237/224 190/178	217/234 172/170	mA

	1Rx, 4Tx GSM850/EGSM900 (PCL=5) DCS1800/PCS1900 (PCL=0)	554/522 514/479	458/485 462/439	mA
Voice Call	GSM850 (PCL=5) GSM850 (PCL=12) GSM850 (PCL=19)	225 88 65	223 83 62	mA
	EGSM900 (PCL=5) EGSM900 (PCL=12) EGSM900 (PCL=19)	209 86 65	219 83 63	mA
	DCS1800 (PCL=0) DCS1800 (PCL=7) DCS1800 (PCL=15)	186 83 64	153 73 60	mA
	PCS1900 (PCL=0) PCS1900 (PCL=7) PCS1900 (PCL=15)	176 81 64	151 76 61	mA
Peak supply current (during transmission slot)	GSM850/EGSM900 (PCL=5)	1.72	1.6	A

Table 4: RF Receiving Sensitivity

Frequency	M66 R2.0	M66
GSM850	< -109dBm	< -109dBm
EGSM900	< -109dBm	< -109dBm
DCS1800	< -109dBm	< -109dBm
PCS1900	< -109dBm	< -109dBm

3 Software Function Comparison

The following table lists the software functions supported by M66 R2.0 and M66. The function differences between the two modules are:

- M66 R2.0 does **NOT** support QuecOpen while M66 supports it.
- M66 R2.0 does **NOT** support SD card and UFS functions while M66 supports them.

Table 5: Function List

Function	M66 R2.0	M66
(U)SIM Detection	Supported	Supported
Flow Control	Supported	Supported
QuecCell	Supported	Supported
Jamming Detection	Supported	Supported
Phone Book	Supported	Supported
SMS	Supported	Supported
USSD	Supported	Supported
STK	Supported	Supported
MMS Send	Supported	Supported
RAM FILE	Supported	Supported
UFS FILE	Not Supported	Supported
SD FILE	Not Supported	Supported
PPP	Supported	Supported
TCP/UDP	Supported	Supported
FTP	Supported	Supported

HTTP	Supported	Supported
SMTP	Supported	Supported
SMTPS	Supported	Supported
SSL TCP	Supported	Supported
HTTPS	Supported	Supported
PING	Supported	Supported
NITZ	Supported	Supported
NTP	Supported	Supported
DTMF Decoding	Supported	Supported
CMUX	Supported	Supported
QuecFOTA®	Supported	Supported
Clock	Supported	Supported
Alarm	Supported	Supported
Audio Play	Supported	Supported
Audio Record	Supported	Supported
UART GNSS	Supported	Supported
BT	Supported	Supported
QuecOpen®	Not Supported	Supported

4 Appendix A Reference

Table 6: Terms and Abbreviations

Abbreviation	Description
BB	Baseband
BT	Bluetooth
CMUX	Customer Multiplexer
DCS	Digital Communications System
DRX	Discontinuous Reception
DTMF	Dual Tone Multi Frequency
FTP	File Transfer Protocol
GNSS	Global Navigation Satellite System
GPRS	General Packet Radio Service
GSM	Global System for Mobile Communications
HTTP	Hyper Text Transfer Protocol
HTTPS	HTTP over Transport Layer Security
MMS	Multimedia Messaging Service
NITZ	Network Identity and Time Zone
NTP	Network Time Protocol
PA	Power Amplifier
PCL	Power Control Level
PCS	Personal Communications Service
PING	Packet Internet Groper

PPP	Point-to-Point Protocol
RAM	Random Access Memory
SD	Secure Digital
SMS	Short Message Service
SMTP	Simple Message Transfer Protocol
SMTPS	Simple Mail Transfer Protocol Secure
SSL	Security Socket Layer
STK	SIM Tool Kit
TCP	Transmission Control Protocol
UART	Universal Asynchronous Receiver/Transmitter
UDP	User Datagram Protocol
UFS	User File System
(U)SIM	(Universal) Subscriber Identity Module
USSD	Unstructured Supplementary Service Data