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DMR828S and DMR828 Comparison

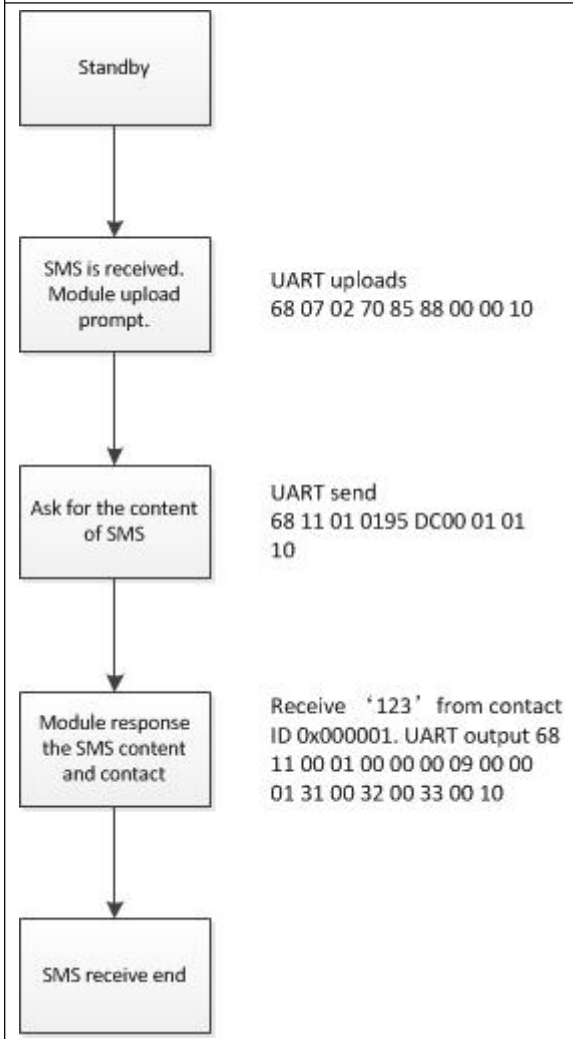
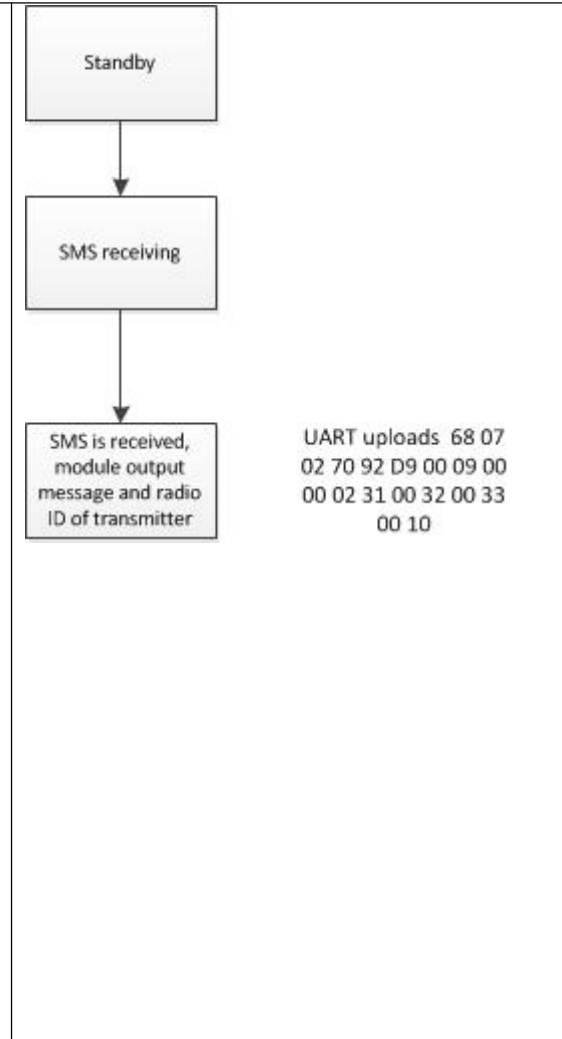
Compared with DMR828, DMR828S has deleted functions such as SCAN, adjusted parameters of some commands such as RSSI and encryption, and adjusted the functions of some commands such as alarm and SMS. Details as follows.

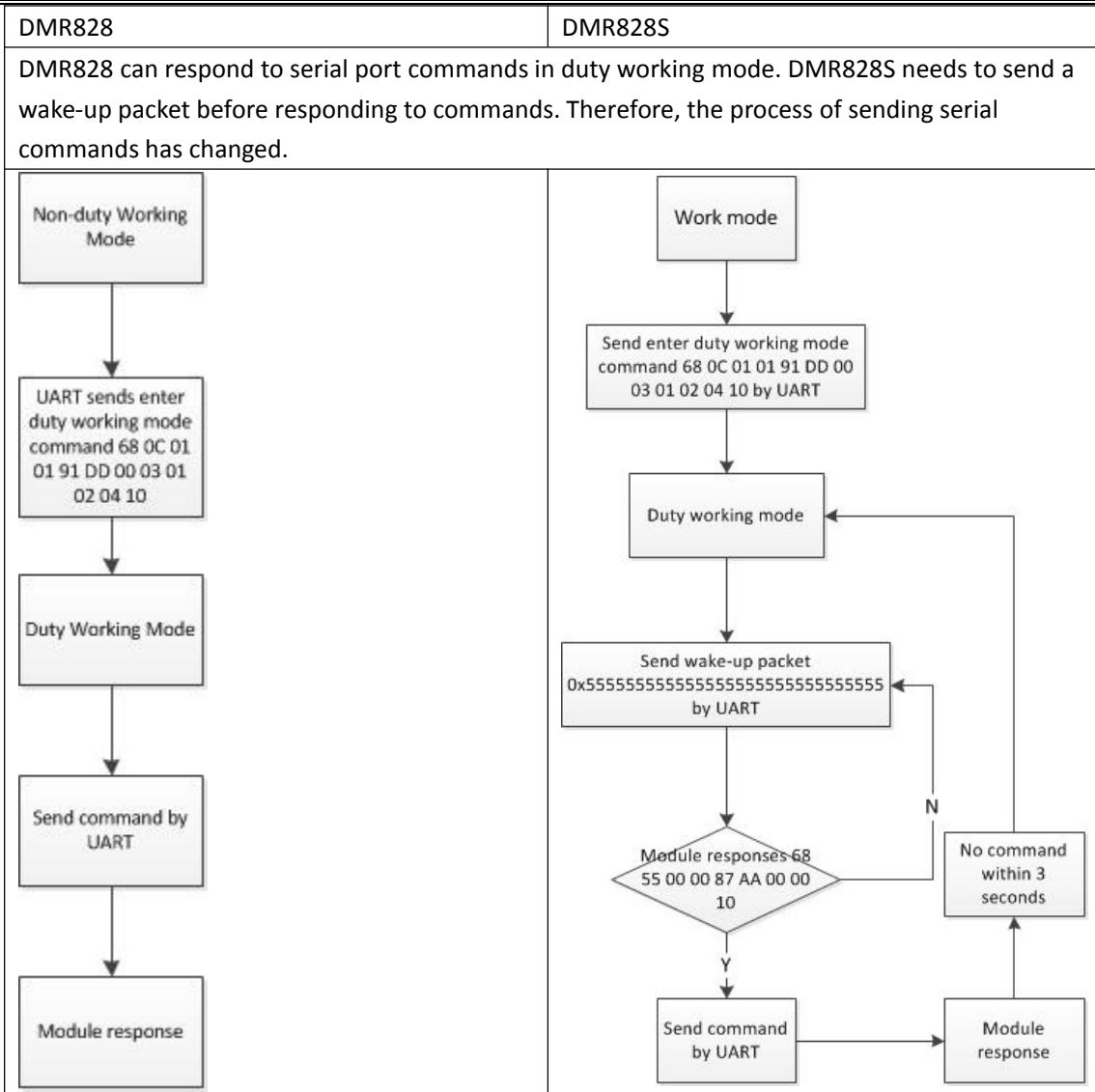
Command	DMR828	DMR828S
Scan	Yes	No
RSSI	5 Levels	127 Levels
Emergency alarm	Output prompt and come with alarm sound	Only output prompt
Duty working mode	Can response to the serial port command under this mode	Can't response to the serial port command without wake up command under this mode
SQ setting command	3 Levels	9 Levels
CXCSS		Do not support CTCSS of 62.5kHz
SMS	Cannot communicate with Hytera walkie-talkie	Not compatible with DMR828 SMS, can communicate with Motorola or Hytera walkie-talkie
	After receiving the SMS prompt, need to send the 0x11 command to get the SMS content	The content of SMS is included in the SMS prompt
	Support confirmation SMS	Do not support confirmation SMS
Encryption	DMR828 and DMR828S cannot communicate under Encryption	

1. RSSI

DMR828	DMR828S
Expanded the range of RSSI	
Response of RSSI 68 05 00 S/R CHKSUM 00 01 RSSI 10 RSSI: 1 byte, signal strength level(0x00~0x05), The higher the value, the stronger of the signal.	Response of RSSI 68 05 00 S/R CHKSUM 00 01 RSSI 10 RSSI: 1 byte, signal strength level(0x00~0x7F), The higher the value, the stronger of the signal.

2. SMS

DMR828	DMR828S
The SMS of DMR828S cannot communicate with that of DMR828, but it can communicate with the Motorola walkie-talkie.	
DMR828S delete the confirmation SMS function	
<p>68 07 01 01 CHKSUM LEN Msg_type CallNum Msg 10 LEN:2 bytes, message length +4 Msg_type: 1 byte, message type 0x01-> IP confirmed 0x02-> IP unconfirmed 0x09-> group calling CallNum: 3 bytes, contact ID Msg: Message content, ASCII format</p>	<p>68 07 01 01 CHKSUM LEN Msg_type Call_ID Msg 10 LEN:2 bytes,length of message+4 Msg_type: 1 byte, message type 0x01-> Private message 0x09-> Group message Call_ID: 3 bytes, the contact of receiver of this message Msg: Message contact, ASCII format</p>
The operation process is changed. After the DMR828S receives the SMS, the content of the SMS is directly output, and there is no need to send command 0x11.	
 <pre> graph TD A[Standby] --> B[SMS is received. Module upload prompt.] B --> C[Ask for the content of SMS] C --> D[Module response the SMS content and contact] D --> E[SMS receive end] </pre> <p>UART uploads 68 07 02 70 85 88 00 00 10</p> <p>UART send 68 11 01 0195 DC00 01 01 10</p> <p>Receive '123' from contact ID 0x000001. UART output 68 11 00 01 00 00 00 09 00 00 01 31 00 32 00 33 00 10</p>	 <pre> graph TD A[Standby] --> B[SMS receiving] B --> C[SMS is received, module output message and radio ID of transmitter] </pre> <p>UART uploads 68 07 02 70 92 D9 00 09 00 00 02 31 00 32 00 33 00 10</p>



6. CXCSS Code

DMR828	DMR828S
<p>DMR828S doesn't support the 62.5kHz CTCSS with index 0.</p>	
<p>68 14 01 01 CHKSUM 00 02 RX_CXCSS TX_CXCSS 10 RX_CXCSS: 1byte,CTCSS/CDCSS code,ctcss (0~50), CDCSS (0~83) TX_CXCSS: 1byte,CTCSS/CDCSS code,ctcss (0~50), CDCSS (0~83)</p>	<p>68 14 01 01 CHKSUM 00 02 RX_CXCSS TX_CXCSS 10 RX_CXCSS: 1 byte, index of RX CTCSS/CDCSS code, CTCSS (TPL) 1~50, CDCSS(DPL/ DPL Invert) 0~83 TX_CXCSS: 1 byte, index of TX CTCSS/CDCSS code, CTCSS (TPL) 1~50, CDCSS(DPL/ DPL Invert) 0~83</p>

7. Encryption

DMR828	DMR828S
Add parameters of key in this command	
68 19 01 01 CHKSUM 00 01 SWITCH 10 SWITCH: 1 byte 0x01-> on 0xFF-> off	68 19 01 01 CHKSUM 00 01 SWITCH KEY 10 SWITCH: 1 byte 0x01-> Encryption on KEY: 8 bytes, encryption key. The key of transmitter and receiver must be the same.

8. New command of DMR828S

DMR828S	
Set time slot 0x33	Set the time slot of current channel
On/off tone 0x1C	Turn off/on the boot tone, call out tone, etc.
Check the parameters of current channel 0x1D	Check the parameters of current channel
Reset to default parameters 0xF0	Set all the parameters of module to default
Software reset 0xF2	Software reset

9. Deleted commands

DMR828
Frequency scanning on/off command 0x03
Additional function 0x0a
Monitor mode command 0x15

10. Compatible Commands

Command	Description
Emergency Alarm	DMR828S adds a contact number in the alarm command, while the DMR828 does not have a contact number. If sending the alarm command without contact number to DMR828S, it will send alarm to the contact of the current channel. If the contact type of the current channel is not a group call, this command will report an error.
	68 09 01 01 CHKSUM 00 01 Alarm 10 68 09 01 01 CHKSUM 00 01 01 CallNum 10

	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> UART sends 68 09 01 01 CHKSUM 00 01 Alarm 10 </div> <div style="text-align: center;">↓</div> <div style="border: 1px solid black; padding: 5px;"> Send alarm to contact of current channel </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> UART sends 68 09 01 01 CHKSUM 00 01 01 CallNum 10 </div> <div style="text-align: center;">↓</div> <div style="border: 1px solid black; padding: 5px;"> Send alarm to contact which ID is CallNum </div>
Encryption	There is no key in this command of the DMR828. DMR828S adds key to this command. If sending an encryption command with key to DMR828S , it will set the default key as key.	
	68 19 01 01 CHKSUM 00 01 SWITCH 10	68 19 01 01 CHKSUM 00 01 SWITCH KEY 10
	Encryption with default key	Encryption with KEY of command