NL2NP450K-01 RF-Generator Command
date:2021.10.12 / NRF Maeno Yoshimura

Data Format

SM	LEN	ID	CMD	DATAn	CRC	EM
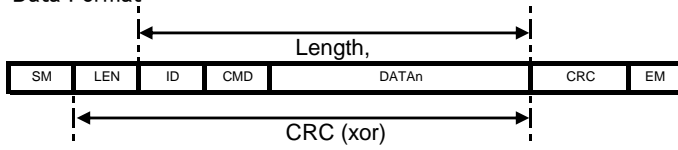
Length,

CRC (xor)

Name	Size	Function
SM	1	Start Marker(0x05)
LEN	1	Length
ID	1	ID
CMD	1	Comamnd
DATAn	1	Data Field
CRC	1	CRC(xor calc.)
EM	1	End Marker(0x0A)

RS-232c	Set Value
Baudrate	57,600bps
Data Width	8bits
Parity	even
Flow Cont	none
Stop Bit	1 bit

※DATAn：little endian

Ex　　　　　　　CTRL ⇒ RFU　　　　　　RF-ON제어로 응답 수신
　　RF-ON 제어

FUNCTION	Cont	SM	LEN	ID	CMD	DATA	DATA	CRC	END
set rf-gen. output mode	⇒	05	04	80	00	02	00	86	0A

장치에서 RF유닛으로 명령합니다.

ＲＦ유닛으로부터 장치로 응답합니다.
(100msec이내)

FUNCTION	SM	LEN	ID	CMD	DATA	CRC	END
Normal	05	03	80	[cmd]	01	[crc]	0A

(반드시 전송 명령어에 응답을 받아 다음 명령을 발행해 주세요.)

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1.set rf-gen. output mode

cont	CTRL 장치 측 ⇒ RFU 전원 유닛		
[cmd] 0x00	15 ... 4 3 2 1 0		
[id] 0x80	reserved ... rsv rsv		

	[0]	reserved	
	[1]	rf output control 0:RF-OFF, 1:RF-ON	
	[2]	rf mode control 0:CW, 1:PULSE	
	[3]	alarm reset 0:no-operation, 1:reset	
	[15:4]	reserved	
		[NOTE] alarm reset(=bit3) is auto-cleared.	

cont command

SM	LEN	ID	CMD	DATA0	DATA1	CRC	END
05	04	80	[cmd]	[DATA]		[crc]	0A

ANS	CTRL 장치 측 ← RFU 전원 유닛						
Normal	05	03	80	[cmd]	01	[crc]	0A
abnormal	05	03	80	[cmd]	[ER]	[crc]	0A

ER(Error Code)
0xF0:Communicaton Error
0xF1:CRC Error
0xF2:Data Error
0xF3:E2PROM Error

알람 리셋의 경우 alarm reset과 RF-ON을 동시에 1을
입력하지 마십시오.

3.respond rf-gen. status

ASK	CTRL 장치 측 ⇒ RFU 전원 유닛		
[cmd] 0x40	ASK Command		
[id] 0x80			

SM	LEN	ID	CMD	CRC	END
05	02	80	[cmd]	[crc]	0A

ANS	CTRL 장치 측 ← RFU 전원 유닛		
[cmd] 0xC0	[DATA]		
[id] 0x80	15 14 12 11 10 9 8 7 6 5 4 3 2 1 0 hd reserved amp rsv il tp rsv al rsv ar rsv ro rsv		

	[0]	reserved not assignment. read data is '0'.
	[1]	rf output control 0:RF-OFF, 1:RF-ON
	[2]	rf mode control 0:CW, 1:PULSE
	[3]	reserved not assignment. read data is '0'.
	[5:4]	reserved not assignment. read data is '0'.
	[6]	alarm 0:normal, 1:abnormal
	[7]	reserved not assignment. read data is '0'.
	[8]	temp 0:normal, 1:abnormal
	[9]	interlock 0:normal, 1:abnormal
	[10]	reserved not assignment. read data is '0'.
	[11]	AMP 0:normal, 1:abnormal
	[14:12]	reserved not assignment. read data is '0'.
	[15]	HD CON 0:disable, 1:enable
		[NOTE]

ANS Command

SM	LEN	ID	CMD	DATA0	DATA1	CRC	END
05	04	80	[cmd]	[DATA]		[crc]	0A

4.set pf-pwr

cont	CTRL 장치 측 ⇒ RFU 전원 유닛						
[cmd] 0x01	15 ─────────────── 0 / pfw						
[id] 0x80							
	[15:0]	pf-power 0~2000(0x0000~0x07D0)					
		[NOTE] pf-power unit is "W".					
	cont command						
	SM	LEN	ID	CMD	DATA0 DATA1	CRC	END
	05	04	80	[cmd]	[DATA]	[crc]	0A

ANS	CTRL 장치 측 ← RFU 전원 유닛						
Normal	05	03	80	[cmd]	01	[crc]	0A
abnormal	05	03	80	[cmd]	[ER]	[crc]	0A

ER(Error Code)
0xF0:Communicaton Error
0xF1:CRC Error
0xF2:Data Error
0xF3:E2PROM Error

6.respond set pf-pwr

ASK	CTRL 장치 측 ⇒ RFU 전원 유닛					
[cmd] 0x41	ASK Command					
[id] 0x80	SM	LEN	ID	CMD	CRC	END
	05	02	80	[cmd]	[crc]	0A

ANS	CTRL 장치 측 ← RFU 전원 유닛					
[cmd] 0xC1	[DATA]					
[id] 0x80	15 ─────────────── 0 / pfw					
	[15:0]	pf-power 0~2000(0x0000~0x07D0)				
		[NOTE] pf-power unit is "W".				

ANS Command

SM	LEN	ID	CMD	DATA0 DATA1	CRC	END
05	04	80	[cmd]	[DATA]	[crc]	0A

8.respond current pf-pwr

ASK	CTRL 장치 측 ⇒ RFU 전원 유닛					
[cmd] 0x42	ASK Command					
[id] 0x80	SM	LEN	ID	CMD	CRC	END
	05	02	80	[cmd]	[crc]	0A

ANS	CTRL 장치 측 ← RFU 전원 유닛					
[cmd] 0xC2	[DATA]					
[id] 0x80	15 ─────────────── 0 / Cpfw					
	[15:0]	current pf-power 0~2000(0x0000~0x07D0)				
		[NOTE] current pf-power unit is "W".				

ANS Command

SM	LEN	ID	CMD	DATA0 DATA1	CRC	END
05	04	80	[cmd]	[DATA]	[crc]	0A

10.respond current pr-pwr

ASK	CTRL 장치 측 ⇒ RFU 전원 유닛					
[cmd] 0x43	Command					
[id] 0x80		SM	LEN	ID	CMD	CRC	END
		05	02	80	[cmd]	[crc]	0A

ANS	CTRL 장치 측 ← RFU 전원 유닛
[cmd] 0xC3	[DATA]
[id] 0x80	15 0
	Cprw

	[15:0]	current pr-power(monitor) 0~2000(0x0000~0x07D0)
		[NOTE] current pr-power unit is "W".

ANS Command

SM	LEN	ID	CMD	DATA0	DATA1	CRC	END
05	04	80	[cmd]	[DATA]		[crc]	0A