



USER'S MANUAL PN# 140806-00
REVISION NO# 00
DATE OF ISSUE# 2014-12-24

RF Module

USER'S MANUAL



POSKOM Co., Ltd.

405, Unitech Ville Bldg., 1141-2, Baeksuk-dong, Goyang, Korea
Tel : +82-31-906-9007, Fax : +82-31-908-4208
<http://www.poskom.com> E-mail: sales@poskom.com

Content

1. Hardware Specification	2
1.1 Connector.....	2
1.2 Status LED.....	4
1.3 Schematic	5
2. Setting	9
2.1 Frequency Channel.....	9
2.2 Net No.....	10
2.3 Option Function.....	11
3. Communication Frame	13
3.1 Transmit Frame	13
3.2 ACK Frame.....	13
4. I/O Signal Control.....	14
4.1 Default Status.....	14
4.2 Signal Control.....	15
4.3 ALIVE Check MODE	18
4.4 ERROR	18
5. Supplement.....	19
5.1 Label	19
5.2 RF Communication Timing Chart	20
5.3 Antenna	24
5.4 Link Wire	25

[ABBREVIATION]

MAIN	R/F Main Module Communication
SUB	R/F Sub Module Communication

RF Exposure Statement

This device and its antenna must not be collocated or operated in conjunction with any other Antenna or transmitter.

To comply with FCC RF exposure requirements. Only use supplied antenna.

Any unauthorized modification to the antenna or device could void the user's authority to operate this device.

Product Description

This device is RF transceiver.

It sends and receives at frequency band between RF-1B(MAIN) and RF-2B(MAIN/SUB).

Both of MAIN and SUB are worked at 433.700MHz ~ 433.8875Mhz frequency band.

You can control this MHz frequency band in terms of 0.0125 MHz with SW2 of MAIN and SUB.

MAIN supplies Ready, Exposure information to SUB.

Hand Switch is connected to MAIN directly, and received Ready, Exposure information and sends it to SUB.

After receiving DR OK information from SUB, MAIN send Exposure signal to Portable x-ray unit.

Driving power is 5V, and it's from Portable x-ray unit.

SUB supplies outside DR_OK information to MAIN.

After receiving Exposure signal from MAIN, it sends DR EXP IN information to outside.

And receive DR OK information from outside connection, and sends it to MAIN.

Driving power is 5V, and it's from outside connection.

Transceiver module MD1 is wireless transceiver module at UHF frequency band, works with low current and low tension, and its variable and it has various properties.

This module designed to work easily at 433MHz frequency band.

Transceiver module MD1 uses regulation antenna at 433MHz frequency band.

FCC ID	
RF-1B	V5K-RF-1B
RF-2B	V5K-RF-2B
Poskom Co., Ltd.	

1. Hardware Specification

1.1 Connector

1) RF-1B(MAIN)

Part_No	Specification	PIN	Remark
CN1	DEK623PCB-TI (6P4C)	01 Pin : GND	Connect to Hand S/W
		02 Pin : Exposure Signal (Hand S/W)	
		03 Pin : GND	
		04 Pin : Ready Signal (Hand S/W)	
CN2	DEK623PCB-TI (6P6C)	01 Pin : Not Use	Connect to Portable X-ray unit Hand S/W connector
		02 Pin : GND	
		03 Pin : DR-OK Signal (RF Module Main Signal - Exposure)	
		04 Pin : GND	
		05 Pin : Ready Signal (Hand S/W)	
		06 Pin : +5VDC	
JTAG1	53261-08P	01 Pin : TCK	Firmware Download Connector
		02 Pin : GND	
		03 Pin : TDO	
		04 Pin : VCC	
		05 Pin : TMS	
		06 Pin : /RESET	
		07 Pin : TDI	
		08 Pin : GND	

2) RF-2B(SUB)

Part No.	Specification	PIN	Remark
CN1	53261-15P	01 Pin : +5VDC	Input Voltage
		02 Pin : GND	
		03 Pin : RF ON Signal	Input Signal (MAIN Mode)
		04 Pin : Ready Signal (Hand S/W)	Input Signal (MAIN Mode)
		05 Pin : GND	
		06 Pin : Exposure Signal (Hand S/W)	Input Signal (MAIN Mode)
		07 Pin : DR-OK Signal	Input Signal (SUB Mode)
		08 Pin : Ready Signal	Output Signal (MAIN Mode)
		09 Pin : GND	
		10 Pin : DR-OK Signal	Output Signal (MAIN Mode)
		11 Pin : Ready Signal	Output Signal (SUB Mode)
		12 Pin : Exposure Signal	Output Signal (SUB Mode)
		13 Pin : RS232 - RX	RS232 RX
		14 Pin : RS232 - TX	RS232 TX
		15 Pin : GND	
JTAG1	53261-08P	01 Pin : TCK	Firmware Download Connector
		02 Pin : GND	
		03 Pin : TDO	
		04 Pin : VCC	
		05 Pin : TMS	
		06 Pin : /RESET	
		07 Pin : TDI	
		08 Pin : GND	

1.2 Status LED**1) RF-1B(MAIN)**

Symbol	LED No.	Color	Mean
COMM	LED5	Green	RF MAIN, SUB Linked
ERROR	LED6	Red	RF MAIN, SUB Communication Error
READY	LED7	Orange	Input Hand S/W Ready
EXPOSURE	LED8	Orange	Input Hand S/W Exposure
DR OK	LED9	Red	Output Receive DR OK Signal

You can control On/Off of Ready, Exposure Status only with Hand S/W.

2) RF-2B(SUB)

Symbol	LED No.	Color	Mean
COMM	LED7	Green	RF MAIN, SUB Linked
ERROR	LED8	Red	RF MAIN, SUB Communication Error
DR OK	LED9	Orange	Input DR OK Signal from DR System
READY	LED14	Red	Output Receive Ready
EXPOSURE	LED15	Red	Output Receive Exposure

1.3 Schematic

2) PXMRF_2A (SUB)

2. Setting

You can change Frequency Channel or Net No. and Option Function with DIP SW(SW1, SW2).
 (* If you changed SW1 status, do not forget to push RST1(Reset).)

2.1 Frequency Channel

Initial frequency is configured to 433.7000MHz (Ch 01). If you would like other channels, you can change the channels with SW2 (1,2,3,4). There are totally 16 channels - No.1 (433.7000MHz)~No.16(433.8875MHz) -, frequency of each channel interval is 0.0125MHz.

Channel (Ch)	Frequency (MHz)	SW2 (■ = ON , □ = OFF)							
		1	2	3	4	5	6	7	8
01	433.7000	□	□	□	□	-	-	-	-
02	433.7125	■	□	□	□	-	-	-	-
03	433.7250	□	■	□	□	-	-	-	-
04	433.7375	■	■	□	□	-	-	-	-
05	433.7500	□	□	■	□	-	-	-	-
06	433.7625	■	□	■	□	-	-	-	-
07	433.7750	□	■	■	□	-	-	-	-
08	433.7875	■	■	■	□	-	-	-	-
09	433.8000	□	□	□	■	-	-	-	-
10	433.8125	■	□	□	■	-	-	-	-
11	433.8250	□	■	□	■	-	-	-	-
12	433.8375	■	■	□	■	-	-	-	-
13	433.8500	□	□	■	■	-	-	-	-
14	433.8625	■	□	■	■	-	-	-	-
15	433.8750	□	■	■	■	-	-	-	-
16	433.8875	■	■	■	■	-	-	-	-

2.2 Net No.

Initial Net No. is configured to No.01. If you would like other Net No., you can change the Net No. with SW2 (5,6,7,8). There are totally 16 Net No. – No.01~ No.16 like channels. You can configure 16 Net No. with one channel.

Net No.	SW2 (■ = ON , □ = OFF)							
	1	2	3	4	5	6	7	8
No. 01	-	-	-	-	□	□	□	□
No. 02	-	-	-	-	■	□	□	□
No. 03	-	-	-	-	□	■	□	□
No. 04	-	-	-	-	■	■	□	□
No. 05	-	-	-	-	□	□	■	□
No. 06	-	-	-	-	■	□	■	□
No. 07	-	-	-	-	□	■	■	□
No. 08	-	-	-	-	■	■	■	□
No. 09	-	-	-	-	□	□	□	■
No. 10	-	-	-	-	■	□	□	■
No. 11	-	-	-	-	□	■	□	■
No. 12	-	-	-	-	■	■	□	■
No. 13	-	-	-	-	□	□	■	■
No. 14	-	-	-	-	■	□	■	■
No. 15	-	-	-	-	□	■	■	■
No. 16	-	-	-	-	■	■	■	■

2.3 Option Function

1) RF-1B (SW1)

Pin Number	Setting	Information	Remark
1	OFF	-	
	ON	Not Use	
2	OFF	-	
	ON	Not Use	
3	OFF	-	
	ON	Certification Test Mode use (500ms RF COMM. Send)	
4	OFF	-	
	ON	-	

2) RF-2B (SW1)

Pin Number	Setting	Information	Remark
1	OFF	RF ON Signal Use	MAIN Mode Setting
	ON	RF ON Signal Not use	SUB Mode Setting
2	OFF	MAIN Mode Setting	
	ON	SUB Mode Setting	
3	OFF	-	
	ON	Certification Test Mode use (500ms RF COMM. Send)	
4	OFF	-	
	ON	Ready Signal Control (to Portable)	

3) RF-2B MAIN mode, SUB mode Chang

Dip Switch (SW1)

- MAIN Mode Set (Portable In type)

Pin Number	Setting
1	OFF
2	OFF
3	OFF
4	OFF

- SUB Mode Set (External Type)

Pin Number	Setting
1	ON
2	ON
3	OFF
4	OFF

4) RF-2B MAIN mode Ready Signal Control

Hand Switch(Ready Signal) ON the power to Portable X-ray Unit
Dip Switch (SW1) – Pin 4 ON (Off : Not Use)

Pin Number	Setting
1	ON
2	ON
3	OFF
4	ON

4. I/O Signal Control

4.1 Default Status

1) In case of turning RF-1B(MAIN) On

When RF-2B(SUB) power is OFF, as you turn RF-1B(MAIN) power On, **ERROR(LED6)** of RF-1B(MAIN) is turned on.

Part	COMM	ERROR	READY	EXPOSURE	DR OK	-
	LED5	LED6	LED7	LED8	LED9	-
RF-1B(MAIN)	OFF	ON	OFF	OFF	OFF	-

Part	COMM	ERROR	DR OK	-	READY	EXPOSURE
	LED7	LED8	LED9	-	LED14	LED15
RF-2B(SUB)	OFF	OFF	OFF	-	OFF	OFF

2) In case of turning RF-2B(SUB) On

When RF-1B(MAIN) power is OFF, as you turn RF-2B(SUB) power on, **ERROR(LED8)** of RF-2B(SUB) is turned on.

Part	COMM	ERROR	READY	EXPOSURE	DR OK	-
	LED5	LED6	LED7	LED8	LED9	-
RF-1B(MAIN)	OFF	OFF	OFF	OFF	OFF	-

Part	COMM	ERROR	DR OK	-	READY	EXPOSURE
	LED7	LED8	LED9	-	LED14	LED15
RF-2B(SUB)	OFF	ON	OFF	-	OFF	OFF

3) In case of turning RF-1B(MAIN) On in '1' or '2' status

- ① in case of RF-1B(MAIN) of '1': **ERROR(LED6)** is turned off and **COMM(LED5)** is turned on within 5sec..
- ② in case of RF-2B(SUB) of '2': **ERROR(LED8)** is turned off and **COMM(LED7)** is turned on within 10sec.

Part	COMM	ERROR	READY	EXPOSURE	DR OK	-
	LED5	LED6	LED7	LED8	LED9	-
RF-1B(MAIN)	ON	OFF	OFF	OFF	OFF	-

Part	COMM	ERROR	DR OK	-	READY	EXPOSURE
	LED7	LED8	LED9	-	LED14	LED15
RF-2B(SUB)	ON	OFF	OFF	-	OFF	OFF

4.2 Signal Control

Whenever transmission connection status is normal between RF-1B(MAIN) and RF-2B(SUB) and there is a change on Hand S/W condition basically, Signal Control treats Signal by creating transmission Frame.

1) Ready Signal

① RF-1B(MAIN)

When Ready S/W of Hand S/W is pushed, Ready Signal is inputted to RF-1B(MAIN) and X-Ray Generator. Then, **READY(LED7)** of RF-1B(MAIN) is turned on, and MAIN creates transmission Frame about Ready Signal and transmit it to RF-2B(SUB). Then, it waits for Receipt OK(ACK) Signal of Ready Signal from RF-2B(SUB).

If it fails to receive Receipt OK(ACK) after transmitting Ready Signal, retry to transmit Ready Signal 5 times. If it fails again, considering it to Error, **ERROR(LED6)** is turned on.

- This is normal status when you push READY S/W of Hand S/W

Part	COMM	ERROR	READY	EXPOSURE	DR OK	-
	LED5	LED6	LED7	LED8	LED9	-
RF-1B(MAIN)	ON	OFF	ON	OFF	OFF	-

- Status of not receiving Receipt OK(ACK) Signal according to Ready Signal transmission

Part	COMM	ERROR	READY	EXPOSURE	DR OK	-
	LED5	LED6	LED7	LED8	LED9	-
RF-1B(MAIN)	OFF	ON	ON	OFF	OFF	-

② RF-2B(SUB)

When Ready Signal is received from RF-1B(MAIN), **READY(LED14)** is turned on. And SUB transmits Receipt OK(ACK) Signal of Ready Signal to RF-1B(MAIN).

- This is normal status of receiving Ready Signal

Part	COMM	ERROR	DR OK	-	READY	EXPOSURE
	LED7	LED8	LED9	-	LED14	LED15
RF-2B(SUB)	ON	OFF	OFF	-	ON	OFF

2) Exposure Signal

When '1) Ready Signal' handling is finished and Ready S/W of Hand S/W and Exposure S/W are pushed, Exposure Signal is transmitted from RF-1B(MAIN) to RF-2B(SUB).

① RF-1B(MAIN)

When Exposure S/W of Hand S/W is pushed, **EXPOSURE(LED8)** is turned on, and MAIN creates transmission Frame about Exposure Signal, transmits it to RF-2B(SUB), and waits for Receipt OK(ACK) Signal from RF-2B(SUB).

If it fails to receive Receipt OK(ACK) for **240ms** after transmitting Exposure Signal, retry to send it 5 times. If it fails again, consider it to Error and **ERROR(LED6)** is turned on.

- This is normal status when you push Exposure S/W of Hand S/W. (in case of pushing Ready S/W)

Part	COMM	ERROR	READY	EXPOSURE	DR OK	-
	LED5	LED6	LED7	LED8	LED9	-
RF-1B(MAIN)	ON	OFF	ON	ON	OFF	-

- This is no receipt status of Receipt OK(ACK) Signal from Exposure Signal transmission

Part	COMM	ERROR	READY	EXPOSURE	DR OK	-
	LED5	LED6	LED7	LED8	LED9	-
RF-1B(MAIN)	OFF	ON	ON	ON	OFF	-

② RF-2B(SUB)

When Exposure Signal is received from RF-1B(MAIN), **EXPOSURE(LED15)** is turned on, and SUB transmits Receipt OK(ACK) Signal of Exposure Signal to RF-1B(MAIN).

At the same time, Exposure Trans Line 1,2 of **CN1-12Pin, 15Pin** are Closed, and give Exposure Signal to DR System. While Exposure S/W of Hand S/W is pushed, they are Closed, and when it is released, they become Open. (Signal of contacting point : On=Close, Off=Open)

If DR OK Signal is occurred from DR System, ignore Receipt OK(ACK) of Exposure Signal, and create transmission Frame of DR OK Signal and transmit it to RF-1B(MAIN). (refer to - '4.2-3)DR OK Signal')

- This is normal status of receiving Exposure Signal.

Part	COMM	ERROR	DR OK	-	READY	EXPOSURE
	LED7	LED8	LED9	-	LED14	LED15
RF-2B(SUB)	ON	OFF	OFF	-	ON	ON

- In case of DR OK Signal

Part	COMM	ERROR	DR OK	-	READY	EXPOSURE
	LED7	LED8	LED9	-	LED14	LED15
RF-2B(SUB)	ON	OFF	ON	-	ON	ON

3) DR OK Signal

When '2) Exposure Signal' handling is finished and, DR OK Signal occurs from DR System, DR OK Signal is transmitted from RF-2B(SUB) to RF-1B(MAIN).

① RF-2B(SUB)

If Exposure Signal maintains from RF-1B(MAIN), and DR OK Signal occurs from DR System, at the same time **DR OK(LED9)** is turned on, and SUB creates transmission Frame of DR OK Signal and transmits it to RF-1B(MAIN). Then, it waits for Receipt OK(ACK) Signal from RF-1B(MAIN).

If Receipt OK(ACK) Signal is not received for **240ms** after transmitting DR OK Signal, retry to transmit DR OK Signal 5 times. If it fails again, consider it to Error, then **ERROR(LED8)** is turned on.

- This is the status of DR OK Signal occurrence

Part	COMM	ERROR	DR OK	-	READY	EXPOSURE
	LED7	LED8	LED9	-	LED14	LED15
RF-2B(SUB)	ON	OFF	ON	-	ON	ON

② RF-1B(MAIN)

When Hand S/W EXPOSURE is pushed and DR OK Signal is received from RF-2B(SUB) **DR OK(LED9)** is turned on, and MAIN transmits Receipt OK(ACK) Signal to RF-2B(SUB). At the same time, send Exposure Signal to X-Ray Generator.

If Exposure S/W of Hand S/W is pushed and DR OK Signal is Off or out of transmission range in condition of received as RF-1B(MAIN), 5 sec. later, **COMM(LED5)** of RF-1B(MAIN) and **DR OK(LED9)** are turned off and **ERROR(LED6)** is turned on.

- This is normal status of receiving DR OK Signal (in case of, Ready S/W, Exposure S/W are pushed)

Part	COMM	ERROR	READY	EXPOSURE	DR OK	-
	LED5	LED6	LED7	LED8	LED9	-
RF-1B(MAIN)	ON	OFF	ON	ON	ON	-

-RF-2B(SUB) Power Off or out of transmission range status during processing DR OK Signal receiving.

Part	COMM	ERROR	READY	EXPOSURE	DR OK	-
	LED5	LED6	LED7	LED8	LED9	-
RF-1B(MAIN)	OFF	ON	ON	ON	OFF	-

4.3 ALIVE Check MODE

This is to check the transmission connection when there is no Hand S/W Signal in RF-1B(MAIN) or power is off in status of normal transmission connection between RF-1B(MAIN) and RF-2B(SUB).

1) RF-1B(MAIN)

In case that there is no Signal input of Ready S/W of Hand S/W or Exposure S/W for 5sec. MAIN transmits present Hand S/W condition (Ready, Exposure, Off) to RF-2B(SUB), then waits for its Receipt OK(ACK) Signal.

If it fails to receive Receipt OK(ACK) Signal, retry to transmit 5 times. If it fails again, considering it to Error, **COMM(LED5)** is turned off, and **ERROR(LED6)** is turned on.

2) RF-2B(SUB)

When there is no transmission Signal from RF-1B(MAIN) for 10sec., considering it to Error, **COMM(LED7)** is turned off and **ERROR(LED8)** is turned on.

4.4 ERROR

1) RF-1B(MAIN)

Whenever is there is a change in Hand S/W condition (Ready, Exposure, Off), MAIN transmits the condition to RF-2B(SUB). Or when there is no change in Hand S/W for 5sec. MAIN transmits present Hand S/W condition to (Alive check mode) and waits for its Receipt OK(ACK) Signal.

If it fails to receive Receipt OK(ACK) Signal, retry to transmit 5 times. If it fails again, considering it to ERROR, **COMM(LED5)** is turned off, and **ERROR(LED6)** is turned on.

2) RF-2B(SUB)

When there is no Signal for 10sec. after transmitting Receipt OK(ACK) Signal received from RF-1B(MAIN) or transmitting DR OK Signal to RF-1B (MAIN), **COMM(LED7)** is turned off and **ERROR(LED4)** is turned on.

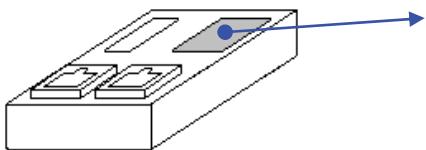
3) ERROR release

When there is normal transmission connecting status after handling Error, RF-1B(MAIN) and RF-2B(SUB) - **ERROR(LED8)**- are turned off and **COMM(LED7)** is turned on.

5. Supplement

5.1 Label

1) RF-1B (MAIN)



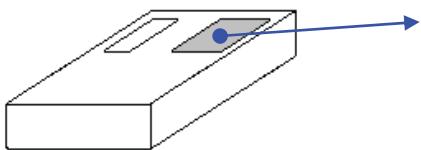
This Device Complies with FCC Rules Part 15.

Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference that may be received including interference that may cause undesired operation.

FCC ID	V5K - RF - 1B
S/N	

POSKOM Co., Ltd

2) RF-2B (SUB)



This Device Complies with FCC Rules Part 15.

Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference that may be received including interference that may cause undesired operation.

FCC ID	V5K - RF - 2B
S/N	0912002

POSKOM Co., Ltd

5.4 Link Wire

HARNESS LIST							CONFIDENTIAL
No.	품목명	규격	소요량	단위	구매처명	도면 번호	기타
1	CABLE	ASS'Y	1	EA	-	RF-MAIN-H01	RF-1B
2	CABLE	ASS'Y	1	EA	-	RF-MAIN-H02	RF-2B(MAIN)
3	CABLE	ASS'Y	1	EA	-	RF-SUB-H01	RF-2B(SUB)
4	CABLE	ASS'Y	1	EA	-	RF-DOWNLOAD	Download
5							
6							

*도면별로 각각 사용됨으로, 각각의 도면번호 발주 수량 확인 후 제작 필요함.

History

No.	DATE	Rev	도면 번호	변경 내용
1	2014.03.25	00	ALL	First
2	2014.08.06	1	ALL	RF-MAIN-H01 추가됨
3				
4				
5				
6				
7				
8				
9				
10				

RF-MAIN-H01

RF Board - MAIN Cable

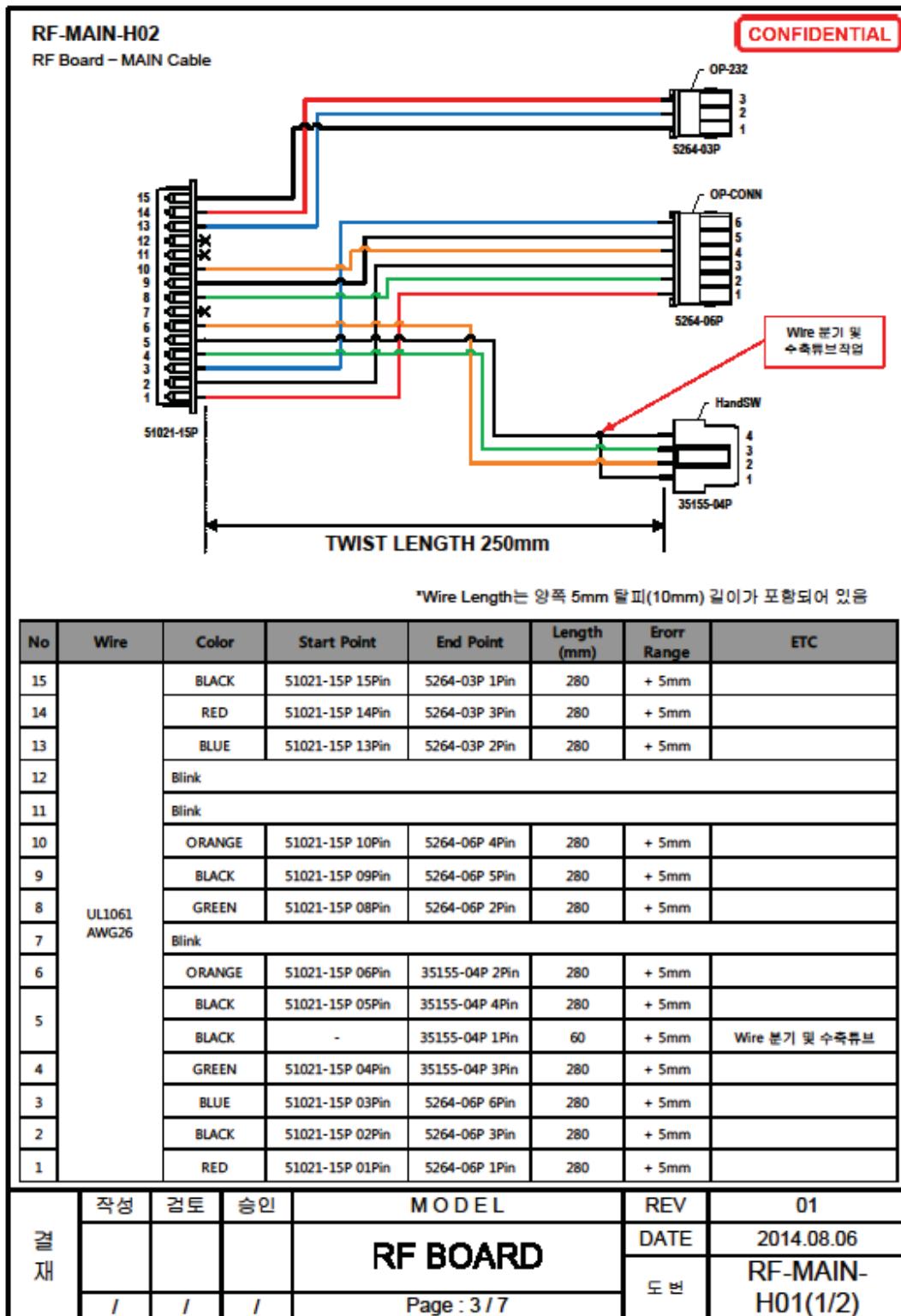
CONFIDENTIAL



No	Wire	Color	Start Point	End Point	Length (mm)	Errr Range	ETC
6	RJ12 Flat Cable (6P)	-	6P6C 6Pin	6P6C 6Pin	150	+ 5mm	+5VDC
5		-	6P6C 5Pin	6P6C 5Pin			Ready (Hand Switch)
4		-	6P6C 4Pin	6P6C 4Pin			GND
3		-	6P6C 3Pin	6P6C 3Pin			DR-OK (MAIN Output)
2		-	6P6C 2Pin	6P6C 2Pin			GND
1		-	6P6C 1Pin	6P6C 1Pin			Not Use

No	Part Name	Spec	Vender	Description	Q'ty	Remark
1	CONNECTOR	6 Pin	Anyvender	6P6C (RJ12)	2	

결 재	작성	검토	승인	MODEL	REV	01
				RF BOARD	DATE	2014.08.06
	/	/	/		도 번	RF-MAIN-H01
				Page : 2 / 7		



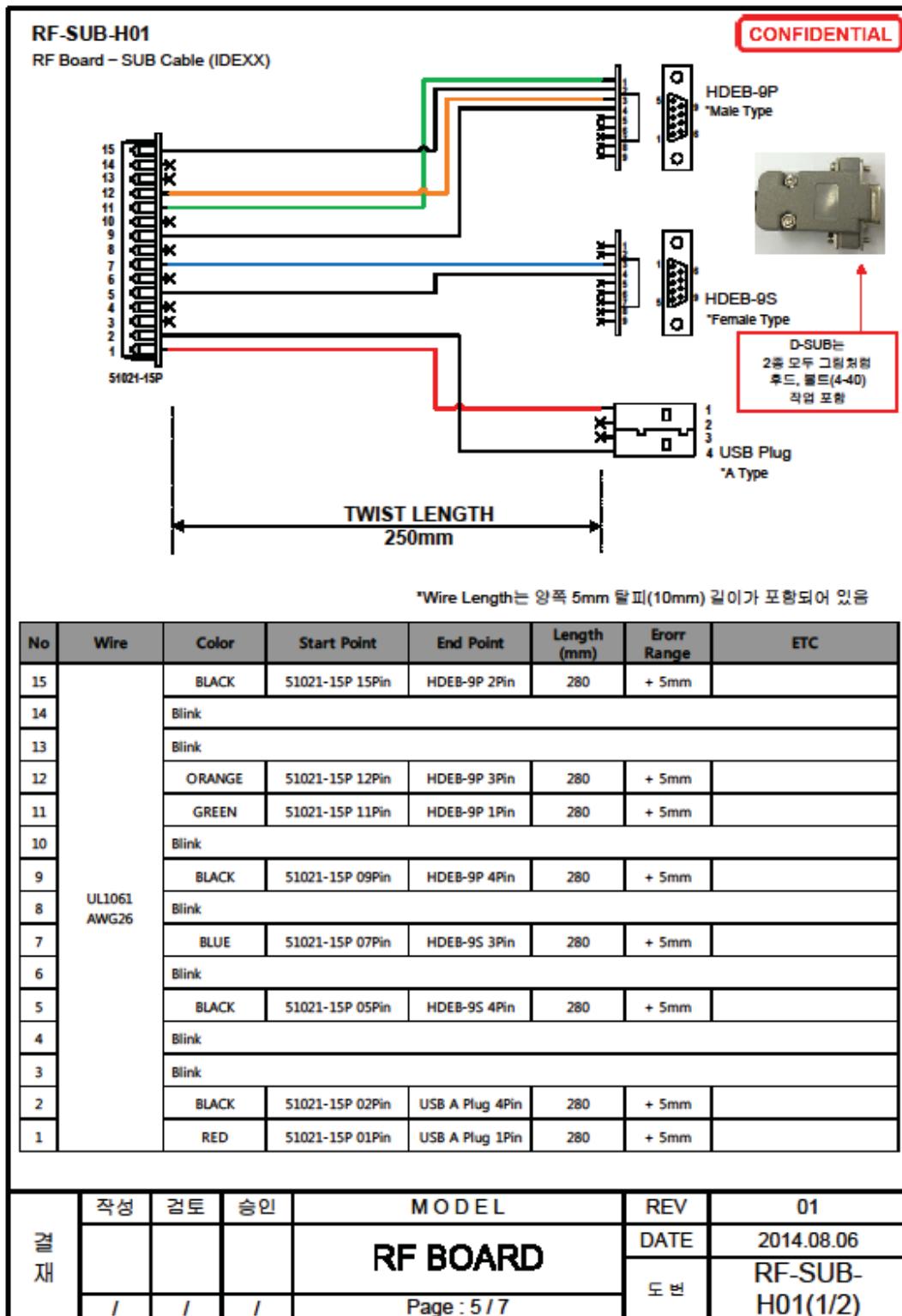
RF-MAIN-H01

RF Board – MAIN Cable

CONFIDENTIAL

No	Part Name	Spec	Vender	Description	Q'ty	Remark
1	CONNECTOR	15 Pin	MOLEX	51021-15P	1	
2	CONNECTOR	3 Pin	MOLEX	5264-03P	1	Label : OP-232
3	CONNECTOR	6 Pin	MOLEX	5264-06P	1	Label : OP-CONN
4	CONNECTOR	4 Pin	MOLEX	35155-04P	2	Label : HandSW
5	Crimp Terminal	Female AWG26,28	MOLEX	50079	12	-
6	Crimp Terminal	Female AWG22,24,26,28	MOLEX	5263	9	-
7	Crimp Terminal	Female AWG22,24,26,28	MOLEX	5103	4	-

결재	작성	검토	승인	MODEL	REV	01
				RF BOARD	DATE	2014.08.06
	/	/	/	Page : 4 / 7	도 번	RF-MAIN-H01(2/2)



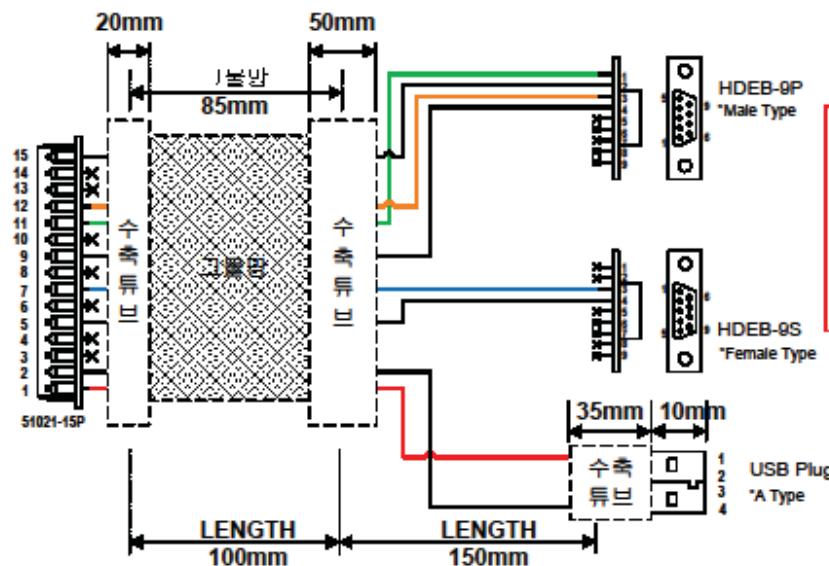
RF-SUB-H01

CONFIDENTIAL

RF Board – SUB Cable (IDEXX)

No	Part Name	Spec	Vender	Description	Q'ty	Remark
1	CONNECTOR	15 Pin	MOLEX	51021-15P	1	
2	CONNECTOR	9 Pin Male Type 후드, 블트(4-40) 포함	HIROSE	HDEB-9P	1	Label : 'X-ray Signal'
3	CONNECTOR	9 Pin Female Type 후드, 블트(4-40) 포함	HIROSE	HDEB-9S	1	Label : 'FPD Signal'
4	CONNECTOR	4 Pin	Anyvender	USB A Type Plug	1	
5	Crimp Terminal	Femal AWG26,28	MOLEX	50079	8	-

*RF-SUB-H01 후작업 : 그물망, 수축튜브, 후드작업(블트포함)



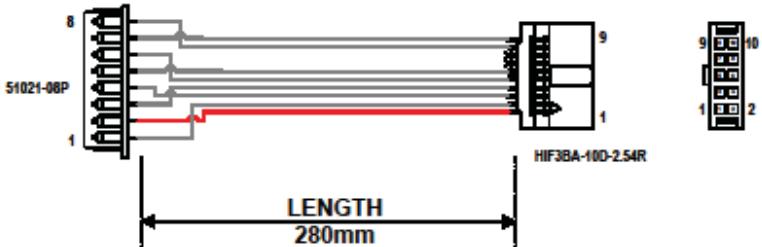
*USB Pin 번호에 주의(1Pin : Red, 4Pin : Black)



*USB 수축튜브 작업 주의(USB 끝 10mm 공간 확보)



결재	작성	검토	승인	MODEL RF BOARD	REV	01
					DATE	2014.08.06
	/	/	/		도 번	RF-SUB-H02(2/2)
Page : 6 / 7						

RF-DOWNLOAD JTAG Download Cable							
CONFIDENTIAL							
							
*Wire Length는 양쪽 5mm 달피(10mm) 길이가 포함되어 있음							
No	Wire	Color	Start Point	End Point	Length (mm)	Error Range	ETC
8	FLAT CABLE	GRAY	51021-08P 8Pin	HIF3BA-10D 9Pin	300	+ 5mm	
7		GRAY	51021-08P 7Pin	HIF3BA-10D 10Pin	300	+ 5mm	
6		GRAY	51021-08P 6Pin	HIF3BA-10D 5Pin	300	+ 5mm	
5		GRAY	51021-08P 5Pin	HIF3BA-10D 6Pin	300	+ 5mm	
4		GRAY	51021-08P 4Pin	HIF3BA-10D 3Pin	300	+ 5mm	
3		GRAY	51021-08P 3Pin	HIF3BA-10D 4Pin	300	+ 5mm	
2		GRAY	51021-08P 2Pin	HIF3BA-10D 1Pin	300	+ 5mm	
1		RED	51021-08P 1Pin	HIF3BA-10D 2Pin	300	+ 5mm	
No	Part Name	Spec		Vender	Description	Q'ty	Remark
1	CONNECTOR	8 Pin		MOLEX	51021-08P	1	
2	CONNECTOR	10 Pin		HIROSE	HIF3BA-10D-2.54R	1	Label : 'X-ray Signal'
5	Crimp Terminal	Female AWG26,28		MOLEX	50079	8	-
결재	작성	검토	승인	M O D E L		REV	01
				RF BOARD		DATE	2014.08.06
	/	/	/	Page : 7 / 7		도 번	RF-DOWNLOAD

<FCC NOTICE>

WARNING: *This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.*

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.

NOTE: 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.