

APPROVAL SHEET

ITEM	SK Broadband Bluetooth Remote
DESCRIPTION	AI2 STB
PART NUMBER	BRM-BT10
RS MODEL	RD12B00
BUYER	SKB
DATE	2019. 08. 05
RCU VERSION	1.4
DOC VERSION	1.1

MAKER : REMOTE SOLUTION CO.,LTD.

CEHCK		APPROVAL
		
2019.08.05	2019.08.05	2019.08.05

DATE : 2019.08.05

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BRM-BT10 Version History (AI2)

[illegible]

BRM-BT10 Product Design



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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	1
REFORM :		BRM-BT10	57
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==== Table of Contents =====

NO	CONTENTS	PAGE
1.	Application Range	2
2.	Product Specifications	2 ~ 6
3.	Reliability Tests	7 ~ 8
4.	Software Specification	9 ~ 14
5.	Part List (Mechanical , Electronical)	15 ~ 18
6.	Schematics	19 ~ 22
7.	PCB Diagram	23 ~ 25
8	PCB Outline Specification	26
9.	Design Specification	27 ~ 31
10	Mechanical Specification	32 ~ 47
11.	Packaging Specification	48
12	Assembling Specification	49
13	Rubber Tension Test	50
14	Manufacturing Process Flow Chart	51 ~ 53
15	Manufacturing Control Plan	54 ~ 55
16	TV Brand List	56 ~ 57

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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	2
REFORM :		BRM-BT10	57
DECISION :			

1. Application Range : This Technical specification was made by Remote solution for IR/BLE Remote control of SK Broadband AI2 Settop Box.

2. Product Specifications

2-1 Mechanical

2-1-1 Appearance

- 2-1-1-1 There should be no issue for Button Locking
- 2-1-1-2 There should be no stiff and looseness when opening or closing the battery cover
- 2-1-1-3 There should be no issue for attachment of label
- 2-1-1-4 There should be no spread of printing in RCU
- 2-1-1-5 There should be no warpage in RCU
- 2-1-1-6 There should be no stick effect from rubber
- 2-1-1-7 Spring turn count should be matching to Spec
- 2-1-1-8 There should be no electricity issue because of deformation of spring
- 2-1-1-9 Spring should be horizontal when inserting the Battery
- 2-1-1-10 Edge of Spring should be rounded
- 2-1-1-11 There should be no sharpness in case
- 2-1-1-12 The Printing of product should be same as product specification
- 2-1-1-13 When 5Kg of force is applied to each part of the body for 3 seconds, there should be no structural defects such as destruction
- 2-1-1-14 No other specific matters

2-1-2 Decomposition Structure

- 2-1-2-1 Confirmation of internal parts after disassembly should match specification (drawing)
- 2-1-2-2 There should be no abnormality when confirming the incorporation of components and soldering condition after disassembly
- 2-1-2-3 There should be no touching of Mechanical parts and Electronical parts
- 2-1-2-4 It should match the drawing (specification) when comparing with the parts list
- 2-1-2-5 PCB Print contents should match the drawings
- 2-1-2-6 Circuit components should use specified standard products
- 2-1-2-7 The Carbon Contact should not have Flux

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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	3
REFORM :		BRM-BT10	57
DECISION :			

2-1-2-8 There should be no lead

2-1-2-9 Do not expose soldering copper area

2-1-3 Button Specification

2-1-4-1 Touch Feeling : There is no defect when key button is pressed vertically

2-1-4-2 Operating Force : Metal Dome 130g±20g

Rubber Key : Less then 220g±30g (Small Key)

Rubber Key : Less then 250g±30g (Large Key)

2-1-4-3 Operating distance : 0.5±0.1 mm

2-1-4-4 Return force : more then 40% of the operating force Spec[Key center measurement]

2-1-4-5 Load: There should no defect PCB and other general , when applied for 3 seconds
with a force of 3Kg vertically

2-1-4 Battery Specifications

2-1-4-1 There should no defect when battery injecting and ejecting

2-1-4-2 There should no defect of electronical contact when battery insert

2-1-4-4 Gap distance : Gap distance between (+) side and (–) side should be less than 0.4mm

2-1-4-5 Battery should not be energized in reverse

2-1-4-6 There should no battery heating or deformation of the mechanic when reversed
battery inserting

2-1-4-7 There should be no problem when checking battery compatibility by manufacturer
[Compatibility by Size: AAA(L=44.2~43.4, Φ10.5 ~9.5)] , AA (L=50.5~49.0 , Φ14.5 ~ 13.5)]

2-1-5 Dimension

Outside dimension of the product : must meet individual approval specs (overall Length Tolerance:±0.8)

GAP (standard 0.3 mm) - GAP: Front knob and side gap should be less than 0.6 mm.

However, only the total length is measured during import inspection

Product Size : 48mm*175mm*23mm

Weight : 131.7(±2)g (With AA Battery x 2EA)

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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	4
REFORM :		BRM-BT10	57
DECISION :			

2-2 Electronical Specification

2-2-1 General Operating Test

2-2-1-1 There should be no problem in Button operation

2-2-1-2 In case of remote controller with Multi Brand, there should be no problem in operation by each other maker

2-2-1-3 Other buttons does not work when Button is operated

2-2-1-4 There should be no abnormality in continuous key operation

2-2-1-5 In case of various LEDs, there should be no problem when checking the brightness and blurring. [Set limit sample if necessary]

2-2-2 Current consumption

Function	How to Test	Condition	SPEC		
			2.2V	2.5V	3.0V
Sleep Current (before pairing)	Leave after power on	Average	20 uA	20 uA	20 uA
Sleep Current (After pairing)	Leave after power on	Average	40 uA	40 uA	40 uA
IR output	TV Volume (+) button	Peak	50 mA	50 mA	50 mA
IR output (when Back Lighting)	TV Volume (+) button	Peak		70 mA	65 mA
RF output	Volume (+) button	Average	10 mA	10 mA	10 mA
RF output (When Back Lighting)	Volume (+) button	Average		25 mA	25 mA
Buzzer operating	delete + 4	Peak	55 mA	60 mA	60 mA
Streaming Volume Max	Insert ear phone jack	Average	60 mA	55 mA	50 mA
-Watching BTV CH0					
Voice recognition	Press voice recognition button	Peak	15 mA	15 mA	15 mA
Back Lighting	Move the RCU	Peak		25mA	20mA

2-2-3 High Voltage : When inputting 3.4V voltage, there should be no abnormality in remote control key operation

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REFORM :		BRM-BT10	57
DECISION :			

2-2-4 IR LED Current(2ohm) : Over 300mA (2 Battery)

2-2-5 Power Consumption : Less then 300mW (Battery 3.0V)

2-2-6 Oscillation frequency : Input Voltage : D.C 3.0V (Power supply 3.0V)

: 26.00 Mhz $\pm$ 10ppm

: 32.00 Mhz $\pm$ 10ppm

: 32.768 Khz $\pm$ 20ppm

2-2-7 Oscillation stop voltage: Less than 1.9V

2-2-8 All Key Operation Test

2-2-8-1 All Key operation is abnormal or not checked

2-2-8-2 There should be no abnormality when operating each key ON / OFF more than 10 times
[ON / OFF every 1 second]

2-2-9 Decompression / Boost Operating Voltage

2-2-9-1 There should be no problem in operation when repeating 5 times at 2.2V ~ 3.4V

2-2-9-2 Check the voltage at 0V starting operation

2-2-9-3 Check the operation stop voltage at the voltage drop from 2.2V

[However, when there is no regulation, it should be less than 2.2V]

2-2-10 Contact resistance

2-2-10-1 Conduction / Carbon is inspected according to specification

[Conduction: 200Ω or less / Carbon: 300Ω or less]

2-2-11 Transmission Format (Output Wave Form)

2-2-11-1 Format : uPD6122

2-2-11-2 Carrier : 37.9kHz $\pm$ 3%

2-2-11-3 Frame : Interval(TF) : 108ms $\pm$ 3%

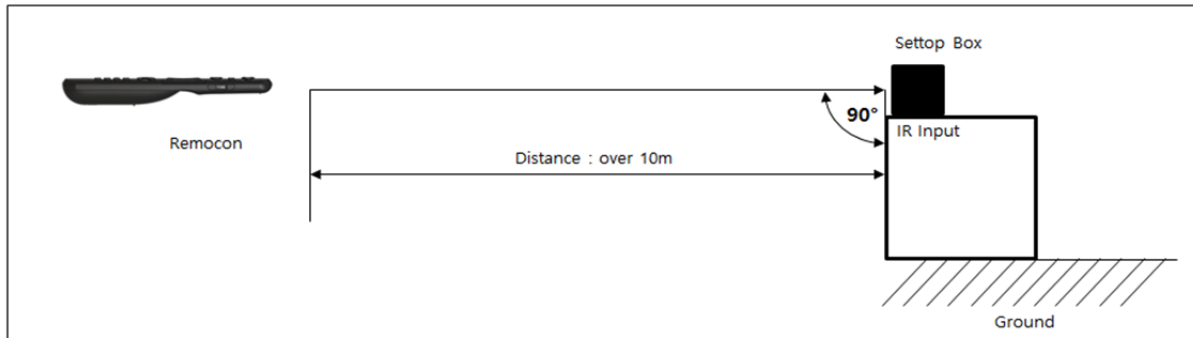
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REFORM :			
DECISION :		BRM-BT10	57

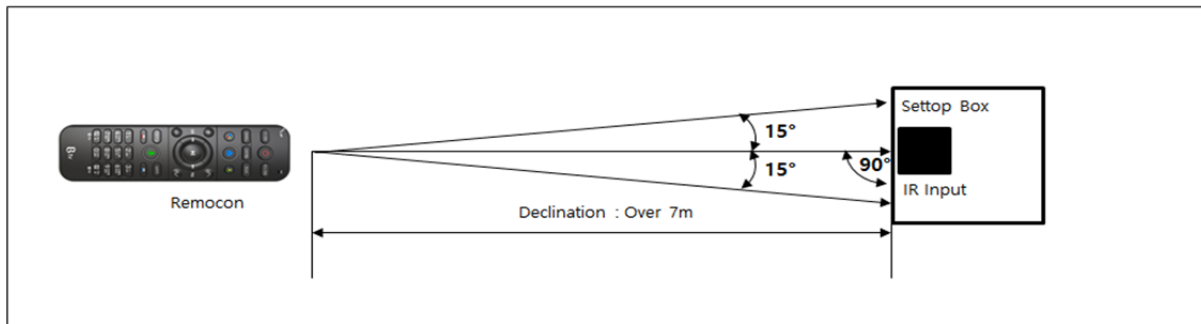
2-2-12 Operating distance and declination Operating distance:

2-2-12-1 Horizontal deflection (on optical axis) Straight line distance

When the receiver of the SET and the Remote Control Unit are horizontally or vertically on the optical axis



2-2-13-2 Remote control unit reference Horizontal deviation 15 ° (left, right, top, bottom) reaching distance (SET fixed)



2-2-12-3 RF straight line reach

RF Button : 10m

RF Voice Transmission : 7m

RF Streaming : 7m

- Measure using the buyer's set-top box. (Illumination : 200Lux, Temp. +25°C)

2-2-13 Streaming Function

2-2-13-1 When it is used for more than 4 hours, it is forcibly terminated automatically.

It works only when you insert it..

2-2-13-2 Earphone Jack Compatibility

- Type that can be inserted into Jack: 3.5mm (1/8 ")

Compatible Polarity Type: Stereo 3-polar or 4-polar (domestic and American type)

2-2-14 Buzzer Spec

Decibel : Measured at 10Cm distance using decibel meter: 85dB ±10dB

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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	7
REFORM :			
DECISION :		BRM-BT10	57

3. Environmental characteristics

3-1 Printing test

3-1-1 Eraser test

3-1-1-1 No abnormality by carrying out the round trip 50 times with the load of 1.6Kg with the eraser

3-1-1-2 There should be no abnormality by scratching the printed surface with the fingernail 5 times.

3-1-2 Tape Test

3-1-2-1 After printing, coating area is attached with Tape with 1Kg load, it is peeled at 45 ° and tested after 3 times test

3-1-3 Alcohol test

3-1-3-1 Gently apply alcohol to the gauze and perform 20 ~ 50 reciprocations with a load of 1 kg.
(CASE: 20 times, RUBBER: 50 times)

3-1-4 Coating property

3-1-4-1 After leaving 2HR at room temperature, 3M SCOTCH Brand No. 600 or more TAPE equivalent or better After close contact, do not pull instantly at 15° from flat surface.

3-2 Reliability Test

3-2-1 Load Life Test

3-2-1-1 After inserting the batteries and operating at a rate of 30 ~ 60 times per minute and operating 100,000 times : There should be no abnormality in function when inspecting.

3-2-2 High temperature operation test

3-2-2-1 50 ° C ± 3 ° C, humidity 65%, and left for 24 hours

The operation inspection shall be carried out at intervals of 12 hours, so that there should be no abnormality in function and appearance

3-2-3 Low-temperature operation test

3-2-3-1 Put a rated load in a thermostat of -5 ± 3 ° C and leave it for 24 hours

The operation inspection shall be carried out at intervals of 12 hours, so that there should be no abnormality in function and appearance.

3-2-4 High temperature and high humidity operation test

3-2-4-1 Leave at rated temperature of 50 ± 3 ° C and humidity 80% for 24 hours

The operation inspection shall be carried out at intervals of 12 hours, so that there should be no abnormality in function and appearance.

3-2-5 High temperature preservation test

3-2-5-1 Leave in a thermostatic chamber at 70 ± 3 ° C for 48 hours in a no-load state, and

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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	8
REFORM :		BRM-BT10	57
DECISION :			

leave it at room temperature and humidity for 1 hour

There should be no abnormality in function and appearance at the time of inspection

3-2-6 Cold storage test

3-2-6-1 Allow to stand for 48 hours in a no-load state in a thermostat at $-20 \pm 3^{\circ}\text{C}$ for 1 hour

There should be no abnormality in function and appearance at the time of inspection

3-2-7 High temperature and high humidity preservation test

3-2-6-1 Temperature $50 \pm 3^{\circ}\text{C}$ Leave in a constant temperature chamber of 95% humidity for 48 hours in a no-load state, and leave for one hour at normal temperature and humidity

There should be no abnormality in function and appearance at the time of inspection

3-2-8 Thermal shock test

3-2-8-1 Temperature: $70 \pm 3^{\circ}\text{C} \sim -20 \pm 3^{\circ}\text{C}$, 50 cycles at intervals of 30 minutes, left at room temperature and humidity for 1 hour

There should be no abnormality in function and appearance at the time of inspection.

3-2-8 Vibration test

3-2-8-1 Vibration frequency: 20Hz ~ 2000Hz ~ 20Hz / 1Cycle Exact width: 1.5 ~ 3mm, Peak acceleration: 20 minutes each in X, Y and Z directions

There should be no abnormality in examination

3-2-9 Drop Test

3-2-9-1 Tested on Hardwood 6 times, once every 4 times [Dropping at 100cm after battery insertion]

3-2-9-1-1 No Top / Bottom Widening and Crack

3-2-9-1-2 No defective energization due to spring deformation

3-2-9-1-3 There should be no stick phenomenon due to the rubber deviation.

3-2-9-1-4 There should be no other unusual phenomenon.

3-2-10 Static test

3-2-10-1 Place the R / C with the battery inserted on the copper plate and perform the static test

3-2-10-1-1 $\pm 10\text{kV}$: No problem in operation

3-2-10-1-2 $\pm 12\text{kV}$: No destruction

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INSTITUTION : 2019.07.02	<u>SPECIFICATION</u> (TRANSMITTER REMOCON)	MODEL NO :	9
REFORM :		BRM-BT10	57
DECISION :			

4. Software Specification (1/6)

APAC SKB UE878-based RCU Database Specification

Page 3 of 8

Table of Contents

APAC SKB UE878-based RCU - BT10	1
Database Specification	1
1 Introduction	4
1.1 Purpose & Description	4
1.2 Key Table for BT10	4
1.3 IR Configuration	5
1.3.1 Default Devices & Settings	5
1.3.2 Library Requirements	5
1.3.3 Device Mode Mapping	5
1.4 STB IR / RF Key Physical Key Table	5
1.5 TV Key code Load List	8

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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 10	57
REFORM :			
DECISION :		BRM-BT10	

4. Software Specification (2/6)

APAC SKB UE878-based RCU Database Specification

Page 4 of 8

1 Introduction

1.1 Purpose & Description

This document describes the **Database** requirements for SKB UE878-based RCU 2018. BT10

1.2 Key Table for BT10

No	Key	Key (English)
1	통합전원	All Power
2	TV 전원	TV Power
3	B tv 전원	B tv(STB) Power
4	전체메뉴	All Menu
5	선호채널	Favorite Channel
6	편성표	Guide
7	TV 외부입력	TV Input
8	조용히	Mute
9	TV 음량+	TV Vol +
10	TV 음량-	TV Vol -
11	검색	Search
12	홈	Home
13	키즈	Kids Zone
14	음량+	Vol+
15	음량-	Vol-
16	▲(상)	Up
17	▼(하)	Down
18	◀(좌)	Left
19	▶(우)	Right
20	OK	OK
21	채널▲	Channel▲
22	채널▼	Channel▼
23	이전	Previous
24	나가기	Exit
25	마이크	Mic
26	◀◀(되감기) / R	Rewind / R
27	▶▶(빨리감기) / B	Fast Forward / B
28	1	1
29	2	2
30	3	3
31	4	4
32	5	5
33	6	6
34	7	7
35	8	8
36	9	9
37	*/문자지움	*/Delete
38	0	0
39	#/문자변환	#/Language



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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 11	57
REFORM :			
DECISION :		BRM-BT10	

4. Software Specification (3/6)

APAC SKB UE878-based RCU Database Specification

Page 5 of 8

1.3 IR Configuration

1.3.1 Default Devices & Settings

Device	Default Code
Cable	C6026(Default Codeset), C6027 (Mode 2)
TV	T1860 + T2051 (LG + Samsung Combo Codeset)

1.3.2 Library Requirements

1.3.2.1 STB Codeset

- Standard NEC protocol
- However, Some keys, like <All Power>, <Home>, use the combo signal to send the SKB-specific IR code (this is handled by RCU FW separately)
- <HOME> key requires Break code (not All other keys should not have Break code)

1.3.2.2 TV Codesets

- Embedded codeset required

1.3.3 Device Mode Mapping

Device	Default Code	Device Type
Universal TV	T	1

1.4 STB IR / RF Key Physical Key Table

No	Key name	Key Name (in English)	ST B	TV	MODE1 CUSTOM 0x807F	MODE2 CUSTOM 0xF5A0	Page	Usage ID
1	통합전원	All Power	V	V	BTV Power + TV Power	BTV Power + TV Power		
2	TV 전원	TV Power		V	[0x070702FD]+[0x04FB08F7]			
3	B tv 전원	B tv(STB) Power	V		0x01FE	0x01EF	0x07	0x0100
4	전체메뉴	All Menu	V		0x47B8	0x478B	0x07	0x4700
5	선호채널	Favorite Channel	V		0x56A9	0x569A	0x07	0x5600
6	편성표	Guide	V		0x6D92	0x6D29	0x07	0x6D00
7	TV 음량+	TV Vol +		V	[0x070707F8]+[0x04FB02FD]			
8	TV 음량-	TV Vol -		V	[0x07070BF4]+[0x04FB03FC]			
9	TV 외부입력	TV Input		V	[0x070701FE]+[0x04FB0BF4]			
10	조용히	Mute	V		0x45BA	0x45AB	0x07	0x4500
11	검색	Search	V		0x4FB0	0x4F0B	0x07	0x4F00
12	홈	Home	V		0x02FD	0x02DF	0x07	0x0200
13	키즈	Kids Zone	V		0x58A7	0x587A	0x07	0x5800
14	음량+	Vol+	V		0x43BC	0x43CB	0x07	0x4300

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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 12	57
REFORM :		BRM-BT10	
DECISION :			

4. Software Specification (4/6)

APAC SKB UE878-based RCU

Page 6 of 8

Database Specification

15	음량-	Vol-	v		0x42BD	0x42DB	0x07	0x4200
16	▲(상)	Up	v		0x49B6	0x496B	0x07	0x4900
17	▼(하)	Down	v		0x4AB5	0x4A5B	0x07	0x4A00
18	◀(좌)	Left	v		0x4BB4	0x4B4B	0x07	0x4B00
19	▶(우)	Right	v		0x4CB3	0x4C3B	0x07	0x4C00
20	OK	OK	v		0x46B9	0x469B	0x07	0x4600
21	채널^	Channel^	v		0x40BF	0x40FB	0x07	0x4000
22	채널v	Channelv	v		0x41BE	0x41EB	0x07	0x4100
23	이전	Previous	v		0x4EB1	0x4E1B	0x07	0x4E00
24	나가기	Exit	v		0x34CB	0x34BC	0x07	0x3400
25	마이크	Mic	v		0xD12E	0xD1E2	0x07	0x2300
26	◀◀(되감기)/ R	Rewind / R	v		0x609F	0x60F9	0x07	0x6000
27	▶▶(빨리감기) / B	Fast Forward / B	v		0x639C	0x63C9	0x07	0x6300
28	1	1	v		0x21DE	0x21ED	0x07	0x2100
29	2	2	v		0x22DD	0x22DD	0x07	0x2200
30	3	3	v		0x23DC	0x23CD	0x07	0x2300
31	4	4	v		0x24DB	0x24BD	0x07	0x2400
32	5	5	v		0x25DA	0x25AD	0x07	0x2500
33	6	6	v		0x26D9	0x269D	0x07	0x2600
34	7	7	v		0x27D8	0x278D	0x07	0x2700
35	8	8	v		0x28D7	0x287D	0x07	0x2800
36	9	9	v		0x29D6	0x296D	0x07	0x2900
37	*/문자지움	*/Delete	v		0x2AD5	0x2A5D	0x07	0x2A00
38	0	0	v		0x20DF	0x20FD	0x07	0x2000
39	#/문자변환	#/Language	v		0x2BD4	0x2B4D	0x07	0x2B00
Virtual Key Table								
40	I ◀◀뒤건너뛰기	Skip Reverse	v		0x649B	0x64B9	0x07	0x6400
41	▶/II (재생/일시정지)	Play/Pause	v		0x629D	0x62D9	0x07	0x6200
42	▶▶ I (앞건너뛰기)	Skip Forward	v		0x659A	0x65A9	0x07	0x6500
43	123	123	v		0x2CD3	0x2C3D	0x07	
44	음량 STB 로 설정	Volume lock to STB	v		0x916E	0x91E6	0x07	
45	음량 TV 로 설정	Volume lock to TV	v		0x926D	0x92D6	0x07	
46	선호채널 Up	Favorte Channel Up	v		0x956A	0x95A6	0x07	
47	선호채널 Down	Favorte Channel Down	v		0x9669	0x9696	0x07	
48	Channel Toggle	Ch for All Ch (a)	v		0x936C	0x93C6	0x07	0x9300
49		Ch for Fav Ch (B)	v		0x946B	0x94B6	0x07	0x9400
Special Key Table								
1	Normal Battery	Normal Battery	v		0x3AC5	0x3A5C	0x07	0x3A00
2	Low Battery	Low Battery	v		0x3BC4	0x3B4C	0x07	0x3B00

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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	13
REFORM :		BRM-BT10	57
DECISION :			

4. Software Specification (5/6)

APAC SKB UE878-based RCU

Page 7 of 8

Database Specification

3	Empty Battery	Empty Battery	V		0x3CC3	0x3C3C	0x07	0x3C00
4	EarJack Insert	EarJack Insert	V		0x3DC2	0x3D2C	0x07	0x3D00+0x FFFF
5	Break Data Code	Break Data Code	V		0xFF00	0xFF00	0x07	0xFFFF
6	동조 시작	TV Sync Start	V		0x54AB	0x54BA	0x07	0x5400+0x FFFF
7	동조 종료	Sync Stop	V		0x55AA	0x55AA	0x07	0x5500+0x FFFF
8	드래그 모드(상)	Drag Mode – Up	V		0x8778	0x8787	0x07	0x8700+0x FFFF
9	드래그 모드(하)	Drag Mode – Down	V		0x827D	0x82D7	0x07	0x8200+0x FFFF
10	드래그 모드(좌)	Drag Mode – Left	V		0x837C	0x83C7	0x07	0x8300+0x FFFF
11	드래그 모드(우)	Drag Mode - Right	V		0x847B	0x84B7	0x07	0x8400+0x FFFF
12	IR_RCU_NOT_CO NN	IR_RCU_NOT_CONN	V		0xD22D	0xD2D2	N/A	N/A
13	RTT Voice Start	RTT Voice Start	V		0x906F	0x90F6	0x07	0x9000
14	(Reserved) - TBD	(Reserved)	V		0xD32C	0xD3C2	0x07	0xD300

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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	14
REFORM :		BRM-BT10	57
DECISION :			

4. Software Specification (6/6)

APAC SKB UE878-based RCU Database Specification

Page 8 of 8

1.5 TV Key code Load List

T0001	T0354	T1377	T2297	T4646	T7134
T0003	T0374	T1378	T2300	T7098	T7135
T0027	T0391	T1474	T2308	T7099	T7136
T0035	T0402	T1480	T2377	T7106	T7137
T0036	T0425	T1524	T2434	T7107	T7138
T0044	T0463	T1543	T2731	T7108	T7139
T0060	T0482	T1569	T2799	T7109	T7140
T0066	T0491	T1606	T2855	T7110	T7141
T0068	T0571	T1697	T2877	T7111	T7142
T0092	T0627	T1703	T3115	T7112	T7143
T0093	T0634	T1728	T3129	T7113	T7144
T0095	T0653	T1867	T3291	T7114	T7145
T0145	T0672	T1895	T3382	T7115	T7146
T0153	T0683	T1907	T3418	T7116	T7147
T0154	T0698	T1911	T3498	T7118	T7148
T0158	T0810	T1920	T3506	T7119	
T0170	T0813	T1924	T3559	T7120	
T0172	T0835	T1934	T3582	T7121	
T0177	T0841	T1935	T3676	T7122	
T0178	T0876	T1959	T3785	T7123	
T0180	T1046	T1985	T3787	T7124	
T0186	T1130	T2050	T3908	T7125	
T0208	T1152	T2051	T4165	T7127	
T0214	T1244	T2062	T4182	T7128	
T0232	T1273	T2165	T4195	T7129	
T0254	T1294	T2256	T4206	T7130	
T0264	T1298	T2262	T4399	T7131	
T0279	T1371	T2275	T4590	T7132	
T0329	T1373	T2283	T4613	T7133	

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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	15
REFORM :		BRM-BT10	57
DECISION :			

5. Part List

5.1 Mechanical List

No.	Part Name	Spec	Q'ty	Maker	비고
1	TOP CASE	ABS HF-0680, K21383(BLACK), SILK1	1	Ilsang Elect	
2	BOTTOM COVER	ABS HF-0680, K21383(BLACK)	1	Ilsang Elect	
3	BATTERY COVER	ABS HF-0680, K21383(BLACK)	1	Ilsang Elect	
4	IR WINDOW	PC SC-1220R, 40697 B (D/Red)	1	Ilsang Elect	
5	CH VOL KNOB	ABS HF-0680, K21383(BLACK), SILK1	1	Ilsang Elect	
6	INDICATOR LED	PC Milky, LD7800, W1020J(MILKY) / TP-1020, LDW542(MILKY)	1	Ilsang Elect	
7	RING LED	PC Milky, LD7800, W1020J(MILKY) / TP-1020, LDW542(MILKY)	2	Ilsang Elect	
8	SIDE KEY MUTE	ABS HF-0680, K21383(BLACK), SILK1	1	Ilsang Elect	
9	SIDE KEY VOLUME	ABS HF-0680, K21383(BLACK), SILK1	1	Ilsang Elect	
10	RUBBER KEYPAD	SILICONE, 성형1도(CLEAR), SILK5, SPRAY2, LASER, SOFT COATING	1	RS HK	
11	METAL DOME SHEET	Φ5DR, 130G, 35KEY	1	J&TECH	
12	(+)SPRING	SUS 304 NI-CO Φ0.6	1	DS-hitech	
13	(-)SPRING	SUS 304 NI-CO Φ0.6	1	DS-hitech	
14	COMMON SPRING	SUS 304 NI-CO Φ0.6	1	SG Spring	
15	MESH	MESH, RC56,0.05T	2	Alotech	
16	PE BAG	80X265X0.08T, RECYCLE MARK	1	Gun-A Tech	
17	CARTON BOX	553*415*282 (80EA/1Box)	0.0125	DH	
18	BACK LABEL	BOPP,30X42,SILK2	1	Top print	
19	MANUAL	SMILAR PAPER,250X170	1	Morning Print	
20	LABEL	ART PAPER, 16X4	1	Top print	
21	PASS LABEL	ART PAPER,15X30,SILK2	1	Top print	
22	TAPE	TAPE, RB50	1	J&Tech	

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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	16
REFORM :			
DECISION :		BRM-BT10	57

5.2 Electronical Part List

PART NAME	PART NUMBER	Manufacture	Q'ty	Location
BLUETOOTH IC	UE878NMEG_R(QFN40P)	UEI	1	U1
BLUETOOTH IC	CSR8630B04(QFN56)	Qualcomm	1	U3
IO EXPANDER IC	PI4IOE5V6408ZTAEX-UQFN16	Diodes	1	U2
BAND PASS FILTER	LFB182G45CL3D264	Murata	1	U4
HEADPHONE AMP IC	TPA6132A2RTER(WQFN16)	TI	1	U7
ACCELEROMETER IC	LIS2DH12TR(LGA-12)	STmicro	1	U8
ANTENNA CHIP	ACA3216A1CCS	INPAQ	2	ANT1,ANT2
PHOTO TRANSISTOR	PT12-21B-TR8(SMD,R/A)	Everight	1	PT1
ELECTRO CAP CHIP	47UF,16V,±20%,5053	Samhwa Samyoung Teapo GuoYu BaiYang Liron	1	CE1
LED	BL-HZ336G-L8-TRB(WHITE,T4-4J,1608) 19-217UTD/S759/TR8(WHITE,C,1608) HL-PT-1608H322W-L(WHITE,HF4,1608)	Bright LED Everight Hong-Li	23	LED2,LED3,LED4,LED5,LED6,LED7,LED8,LED9,LED10,LED11,LED12,LED13,LED14,LED15,LED16,LED17,LED18,LED19,LED20,LED21,LED22,LED23,LED24
LED DUAL	BL-HGEJE36HTRB(RED/YG,15,1612)		1	LED1
IR LED SMD	BIR-HMC33K-TRB(30DEG,1206)		1	IR2
IR LED SMD	BIR-HMC33M-TRC-SIDE(30DEG)		1	IR1
TACT SWITCH SMD	SKRTLAE010(1.6N,R/A)	Alps Eastun Ele.	4	KB15,KB22,KB28,KB34
MIC	F1-(A)HDMO-D100R26-5P F4-(A)HDMO-D100R26-5P ZTS6071	BSE BSE ZillTek	1	MIC1
X-TAL SMD	32MHZ,10PPM,9PF,QS3225	H&S Sunny Partron Seiko	1	X2
X-TAL SMD	26MHZ,10PPM,12PF,SX-32,3225		1	X3
X-TAL SMD	32.768KHZ,20PPM,12.5PF,KS3215		1	X1
TRANSISTOR NPN	MMBTSD123(SOT23) STD123S(SOT23)	PANJIT KEC IMS Semtech Diodes Onsemi Fairchild UTC Vishay Changjiang First silicon	4	Q5,Q6,Q7,Q8
SCHOTTKY DIODE	MBR0540W-HAF(SOD123FL) MBR0540(SOD123) MBR0540T1-D(SOD123)		1	D1
FET P-CH	FTK2301(SOT23) IMP2301A(SOT-23) CJ2301(SOT23-3)		1	Q1
FET N-CH	2N7002K(SOT23) MMBT7002K(SOT23)		3	Q2,Q3,Q4
BUZZER SMD	HR-9027BT3S2 BSMT-9032S-3027 BMY-2703 KDM-09D-3V BM9027S	HS Tech Bosan EL3 FHD	1	BZ1
DC-DC IC	TPS61097A-33DBVR IM8132S	Ti IMS	1	U6

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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	17
REFORM :		BRM-BT10	57
DECISION :			

SERIAL EEPROM	M24C64-FMN6TP(SOIC8) GT24C64A AT24C64A IM24C64P	ST Giantec Atmell IMS Semtech AIT	1	U5
BEAD	1.5K, ±25%, 0.1A, 1005	TDK MAX-ECHO Murata Sunlord Chilisin Samsung Fenghua INPAQ Pikcor Darfon	1	FB1
PHONE JACK SMD	PJ-357 PJ-356 PJ-3571-L6G PJ-3571-L1G	IRIS YUQIU Hantech nosung Gana	1	J2
INDUCTOR	4.7UH, ±20%, 750MA, 2012	H&S Sunlord Murata	3	L7, L8, L9
INDUCTOR	2.4NH, ±0.3NH, 300MA, 1005	TDK INPAQ MAXECHO	1	L6
INDUCTOR	2.7NH, ±0.3NH, 1005	Samsung Chilisin Fenghua	1	L2
INDUCTOR	1.5NH, ±0.3NH, 300MA, 1005	Pikcor Darfon	1	L3
MLCC	22NF, X7R, ±10%, 1005	MURATA TDK Samsung YAGEO Taiyouden WALSIN Darfon samhwa AVX Kyocera KEMET Eyang Fenghua NIC Compenets Pikcor	1	C2
MLCC	1.2PF, NP0, ±0.25PF, 1005		2	C7, L1
MLCC	10UF, X5R, ±20%, 1608		5	C5, C35, C37, C38, C39
MLCC	1PF, NP0, ±0.25PF, 1005		3	C8, C9, C10
MLCC	150PF, X7R, ±10%, 1005		1	C55
MLCC	15PF, C0G, ±5%, 1005		4	C13, C14, C15, C16
MLCC	1UF, X5R, ±10%, 1005		4	C29, C34, C45, C53
MLCC	2.2UF, X5R, ±20%, 1608		7	C19, C20, C21, C30, C41, C46, C48
MLCC	220NF, X7R, ±10%, 1005		4	C42, C43, C44, C47
MLCC	10NF, X5R, ±10%, 1005		3	C3, C40, C49
MLCC	100NF, X5R, ±10%, 1005		15	C1, C4, C11, C12, C22, C23, C25, C26, C27, C32, C33, C50, C51, C52, C54
MLCC	4.7UF, X5R, ±20%, 1608		3	C24, C28, C36
MLCC	470NF, X5R, ±10%, 1005		1	C31
MLCC	1NF, X5R, ±10%, 1005		1	C17
MLCC	2PF, NP0, ±0.25PF, 1005		1	L5
RESISTOR CHIP	0 OHM, 1/10W, ±5%, 1608	ABCO, YAGEO Tyco, Cosmtech, Samsung ROHM, TA-I	1	R29
RESISTOR CHIP	22K OHM, 1/16W, ±5%, 1005		3	R4, R8, R35
RESISTOR CHIP	100K OHM, 1/16W, ±5%, 1005		4	R19, R20, R31, R68
RESISTOR CHIP	4.7K OHM, 1/16W, ±5%, 1005		5	R6, R7, R12, R69, R70
RESISTOR CHIP	1 OHM, 1/10W, ±5%, 1608		2	R77, R78
RESISTOR CHIP	470 OHM, 1/16W, ±5%, 1005		3	R30, R32, R67

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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	18
REFORM :			
DECISION :		BRM-BT10	57

RESISTOR CHIP	180 OHM,1/16W,±5%,1005	WALSIN	7	R1,R45,R46,R47,R48,R49,R50
RESISTOR CHIP	2 OHM,1/10W,±5%,1608	PIKCOR	1	R34
RESISTOR CHIP	100 OHM,1/16W,±5%,1005	Fenghua,	1	R65
RESISTOR CHIP	15K OHM,1/16W,±5%,1005	AVX	1	R75
RESISTOR CHIP	10K OHM,1/16W,±5%,1005	MURATA	3	R41,R66,R79
RESISTOR CHIP	1K OHM,1/16W,±5%,1005	TDK	4	R24,R25,R26,R33
RESISTOR CHIP	1M OHM,1/16W,±5%,1005	Taiyouden	5	R21,R23,R27,R38,R71
RESISTOR CHIP	10M OHM,1/16W,±5%,1005	Darfon	1	R5
RESISTOR CHIP	2.2K OHM,1/16W,±5%,1005	Eyang	3	R15,R16,R17
RESISTOR CHIP	22 OHM,1/16W,±5%,1005	Fenghua	4	R13,R22,R39,R40
RESISTOR CHIP	330 OHM,1/16W,±5%,1005	KEMET	2	R57,R58
RESISTOR CHIP	2 OHM,1/16W,±5%,1005	Kyocera	1	R18
RESISTOR CHIP	270 OHM,1/16W,±5%,1005	NIC	8	R55,R56,R59,R60,R61,R62,R63,R64
RESISTOR CHIP	560 OHM,1/16W,±1%,1005	Compenets	7	R42,R43,R44,R51,R52,R53,R54
RESISTOR CHIP	47 OHM,1/16W,±5%,1005	DARFON	1	R2
RESISTOR CHIP	47K OHM,1/16W,±5%,1005		4	R9,R10,R11,R36
PCB	RD12A,MAIN(FR-4,4L,1.2T,OSP)	Sinsung SG	1	
		APEX		
		Bongwoo		
		ASK		
		GE		
ALKALINE BAT	1.5V,2.2A,AA,BEXEL	BEXEL	2	
		DURACELL		
		ROCKET		

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INSTITUTION : 2019.07.02

REFORM :

DECISION :

SPECIFICATION

(TRANSMITTER REMOCON)

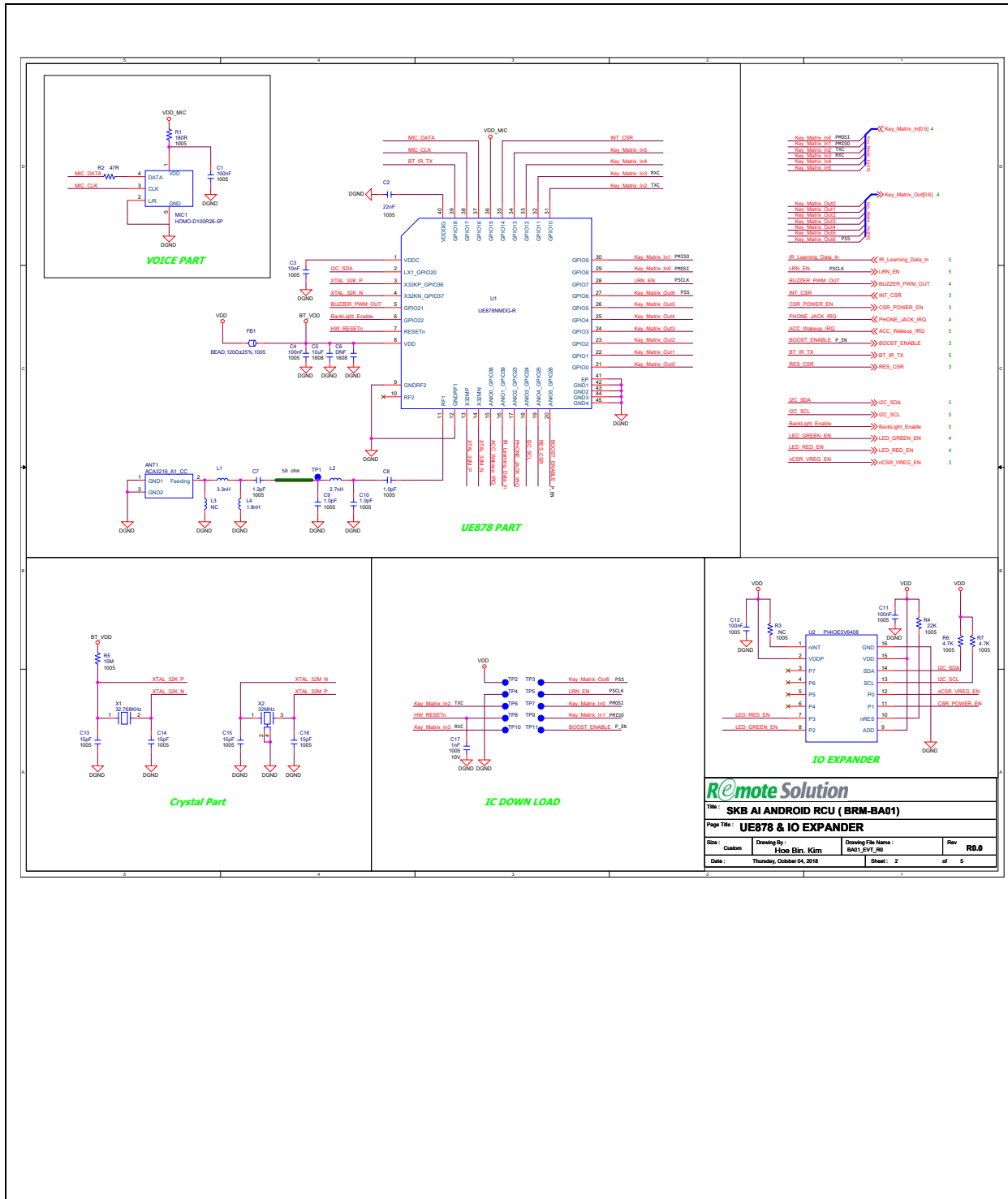
MODEL NO : 19

BRM-BT10

57

6. Schematics

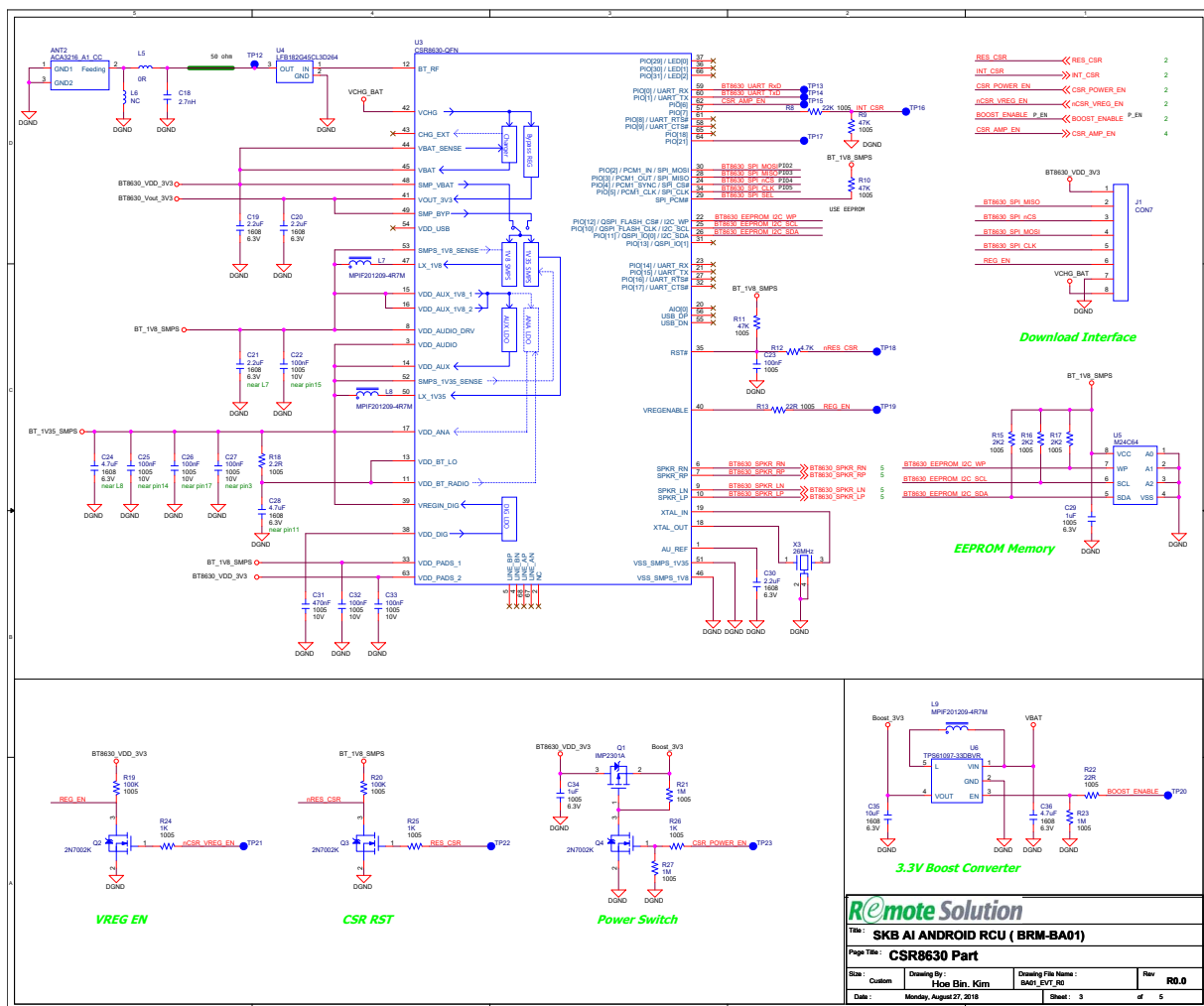
6.1 RTL8762 BLE PART



REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	20
REFORM :			
DECISION :		BRM-BT10	57

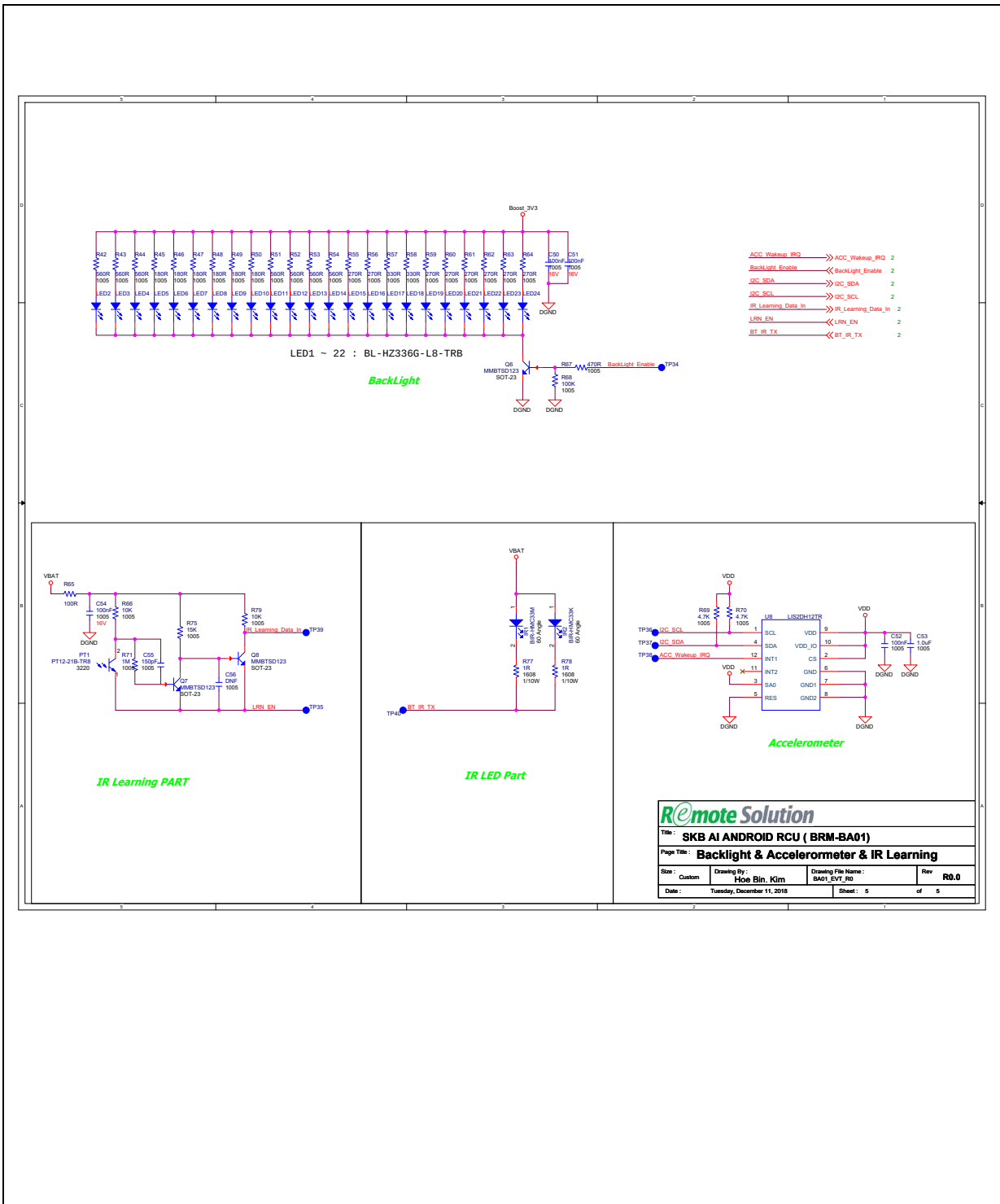
6.2 CSR8630 PART



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INSTITUTION : 2019.07.02	<u>SPECIFICATION</u> (TRANSMITTER REMOCON)	MODEL NO :	22
REFORM :			
DECISION :		BRM-BT10	57

6.4 Backlight & Acceleror Meter & IR LED & Learning PART Part

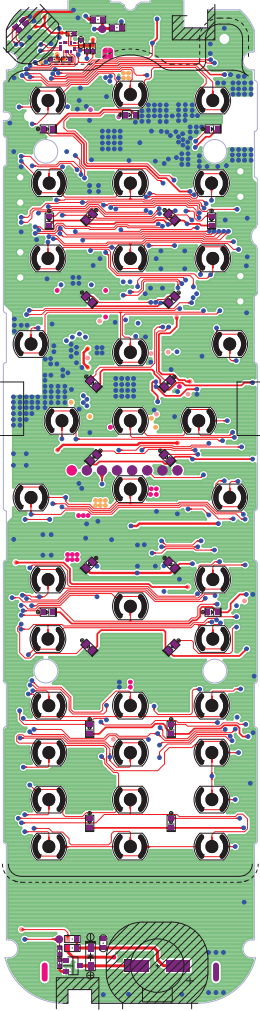
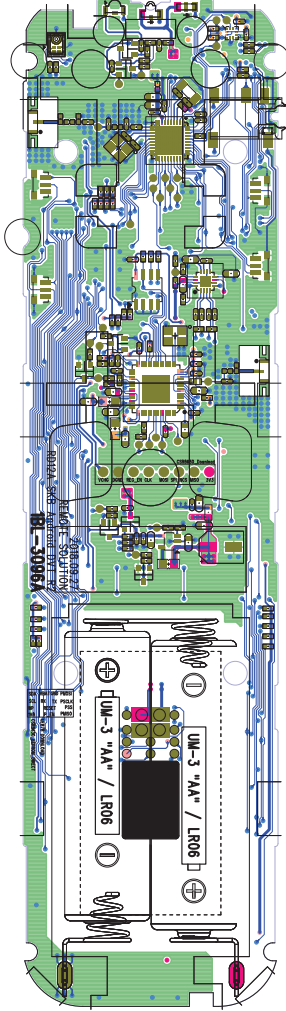


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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 23	57
REFORM :		BRM-BT10	
DECISION :			

7. PCB Diagram

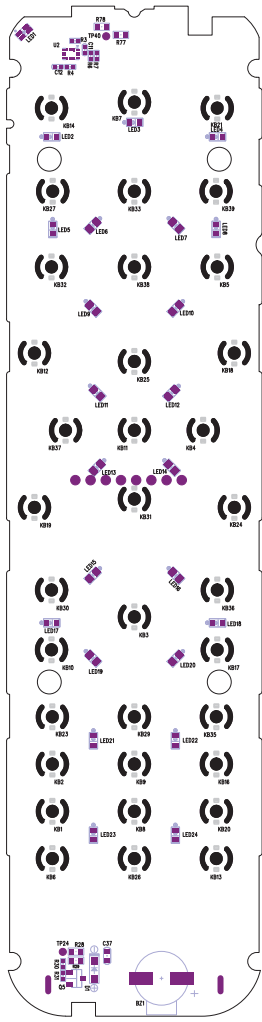
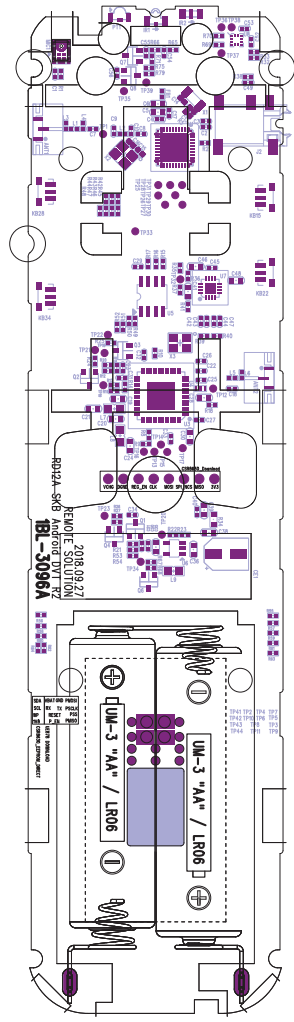
7.1 Main PCB (1/3)

7-1-1 Top Layer	7-1-2 Bottom Layer
	

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INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 24	57
REFORM :			
DECISION :		BRM-BT10	

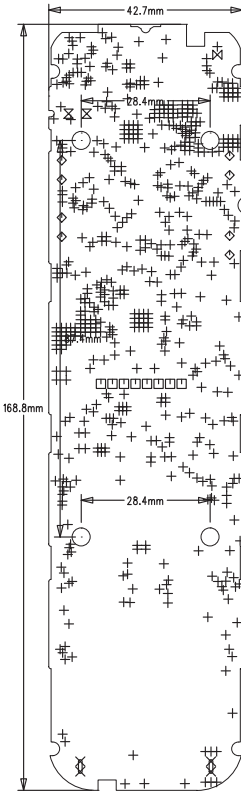
7.2 Main PCB(2/3)

7-1-3 Top Silkscreen	7-1-4 Bottom Silkscreen
 The top silkscreen shows the layout of components on the top side of the PCB. Labels include component identifiers such as R78, R74, R77, R814, R81, R815, R816, R817, R818, R819, R820, R821, R822, R823, R824, R825, R826, R827, R828, R829, R830, R831, R832, R833, R834, R835, R836, R837, R838, R839, R840, R841, R842, R843, R844, R845, R846, R847, R848, R849, R850, R851, R852, R853, R854, R855, R856, R857, R858, R859, R860, R861, R862, R863, R864, R865, R866, R867, R868, R869, R870, R871, R872, R873, R874, R875, R876, R877, R878, R879, R880, R881, R882, R883, R884, R885, R886, R887, R888, R889, R890, R891, R892, R893, R894, R895, R896, R897, R898, R899, R900, R901, R902, R903, R904, R905, R906, R907, R908, R909, R910, R911, R912, R913, R914, R915, R916, R917, R918, R919, R920, R921, R922, R923, R924, R925, R926, R927, R928, R929, R930, R931, R932, R933, R934, R935, R936, R937, R938, R939, R940, R941, R942, R943, R944, R945, R946, R947, R948, R949, R950, R951, R952, R953, R954, R955, R956, R957, R958, R959, R960, R961, R962, R963, R964, R965, R966, R967, R968, R969, R970, R971, R972, R973, R974, R975, R976, R977, R978, R979, R980, R981, R982, R983, R984, R985, R986, R987, R988, R989, R990, R991, R992, R993, R994, R995, R996, R997, R998, R999, R1000. It also shows various other components like capacitors, resistors, and connectors.	 The bottom silkscreen shows the layout of components on the bottom side of the PCB. Labels include component identifiers such as R1001, R1002, R1003, R1004, R1005, R1006, R1007, R1008, R1009, R1010, R1011, R1012, R1013, R1014, R1015, R1016, R1017, R1018, R1019, R1020, R1021, R1022, R1023, R1024, R1025, R1026, R1027, R1028, R1029, R1030, R1031, R1032, R1033, R1034, R1035, R1036, R1037, R1038, R1039, R1040, R1041, R1042, R1043, R1044, R1045, R1046, R1047, R1048, R1049, R1050, R1051, R1052, R1053, R1054, R1055, R1056, R1057, R1058, R1059, R1060, R1061, R1062, R1063, R1064, R1065, R1066, R1067, R1068, R1069, R1070, R1071, R1072, R1073, R1074, R1075, R1076, R1077, R1078, R1079, R1080, R1081, R1082, R1083, R1084, R1085, R1086, R1087, R1088, R1089, R1090, R1091, R1092, R1093, R1094, R1095, R1096, R1097, R1098, R1099, R1100. It also shows various other components like capacitors, resistors, and connectors.

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	25
REFORM :			
DECISION :		BRM-BT10	57

7.3 Main PCB (3/3)

7-1-5 Drill Chart	7-1-6 Main PCB Spec																																			
 <table><thead><tr><th>SIZE</th><th>QTY</th><th>SYM</th><th>PLATED</th><th>TOL</th></tr></thead><tbody><tr><td>0.3</td><td>622</td><td>+</td><td>YES</td><td>+/-0.0</td></tr><tr><td>0.8 x 3</td><td>2</td><td>×</td><td>YES</td><td>+/-0.0</td></tr><tr><td>0.5</td><td>8</td><td>□</td><td>YES</td><td>+/-0.0</td></tr><tr><td>0.8</td><td>8</td><td>◇</td><td>NO</td><td>+/-0.0</td></tr><tr><td>1.5</td><td>2</td><td>⊗</td><td>NO</td><td>+/-0.0</td></tr><tr><td>0.5</td><td>1</td><td>⊠</td><td>NO</td><td>+/-0.0</td></tr></tbody></table>	SIZE	QTY	SYM	PLATED	TOL	0.3	622	+	YES	+/-0.0	0.8 x 3	2	×	YES	+/-0.0	0.5	8	□	YES	+/-0.0	0.8	8	◇	NO	+/-0.0	1.5	2	⊗	NO	+/-0.0	0.5	1	⊠	NO	+/-0.0	1) PCB Material : FR-4 4-Layer 2) PCB Thickness : 1.2T 3) Copper Foil Thickness : - Out Layer 0.5 OZ - Inner Layer 1.0 OZ 4) PCB Size Single - 42.7mm x 168.8mm Array - 221.5mm x 188.8mm (5 In 1) 5) SilkScreen Color : White 6) PSR Ink Color : Green 7) Surface : OSP 8) Dome Key : Carbon 9) PCB Version : 1BL-3082A
SIZE	QTY	SYM	PLATED	TOL																																
0.3	622	+	YES	+/-0.0																																
0.8 x 3	2	×	YES	+/-0.0																																
0.5	8	□	YES	+/-0.0																																
0.8	8	◇	NO	+/-0.0																																
1.5	2	⊗	NO	+/-0.0																																
0.5	1	⊠	NO	+/-0.0																																

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02

REFORM :

DECISION :

SPECIFICATION

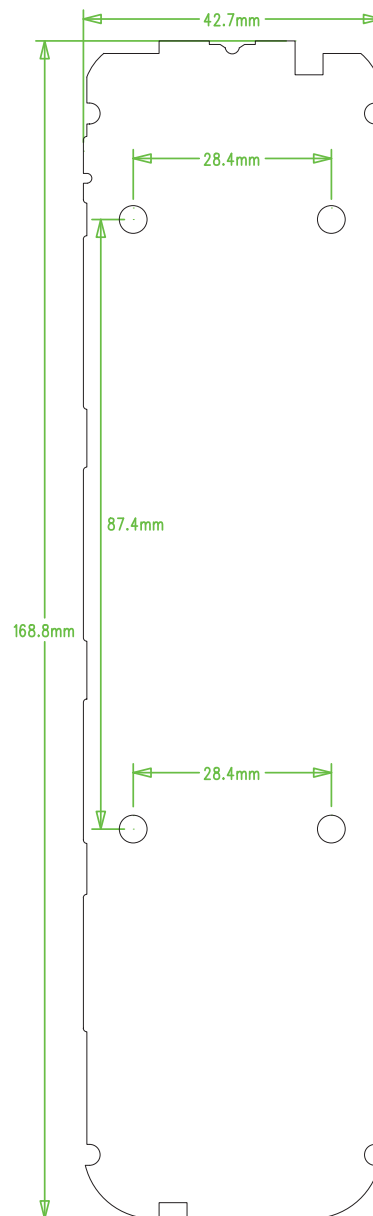
(TRANSMITTER REMOCON)

MODEL NO : 26

BRM-BT10

57

8. PCB Outline Specification – Main PCB



REMOTE SOLUTION CO., LTD.

INSTITUTION : 2018.12.11	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 27	57
REFORM :			
DECISION :		BRM-BT10	

9. Design & Mechanical Specification

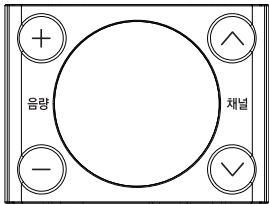
9.1 Design (1/5) – Mold

DESIGN SPECIFICATION	Model : RD12B00
The drawing shows three views of the remote control RD12B00: Front View: Shows the top section with an 'INDICATOR LED CASE' and a 'NUGU' logo. Below are several rows of buttons, including a large circular '음량' (Volume) control with '+' and '-' buttons, and a 'Btv' logo at the bottom. Side View: Shows the 'IR WINDOW' at the top, a 'COVER' on the upper half, a 'HIGHGLOSSY' finish on the lower half, and a 'B/T COVER' at the bottom. Back View: Shows two circular 'BUTTON LED' locations highlighted by a red dashed rectangle.	
1. MOLD 1.1 MOLD COLOR * CASE, B/T COVER : ABS, HF-0680, K21383(Black), TEXTURE * COVER : ABS, HF-0680, K21383(Black), TEXTURE & HIGH GROSSY * IR WINDOW : PC, SC-1220R, 40697B(D/Red), HIGH GROSSY * INDICATOR, BUTTON LED : PC, LD7800, W1020J (Milky), TEXTURE 1.2 SILK COLOR * COOLGREY 3C	

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2018.12.11	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	28
REFORM :			
DECISION :		BRM-BT10	57

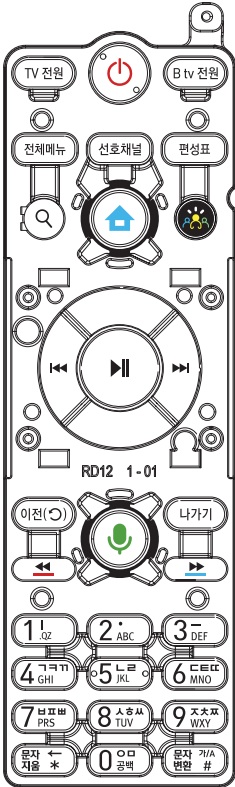
9.1 Design (2/5) – KNOB

DESIGN SPECIFICATION		Model : RD12B00
 CH/VOL KNOB   SIDE KNOB		
2.KNOB		
2.1 MOLD COLOR * ABS, HF-0680, K21383(Black), TEXTURE		2.2 SILK COLOR * COOLGREY 3C

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2018.12.11	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 29	57
REFORM :			
DECISION :		BRM-BT10	

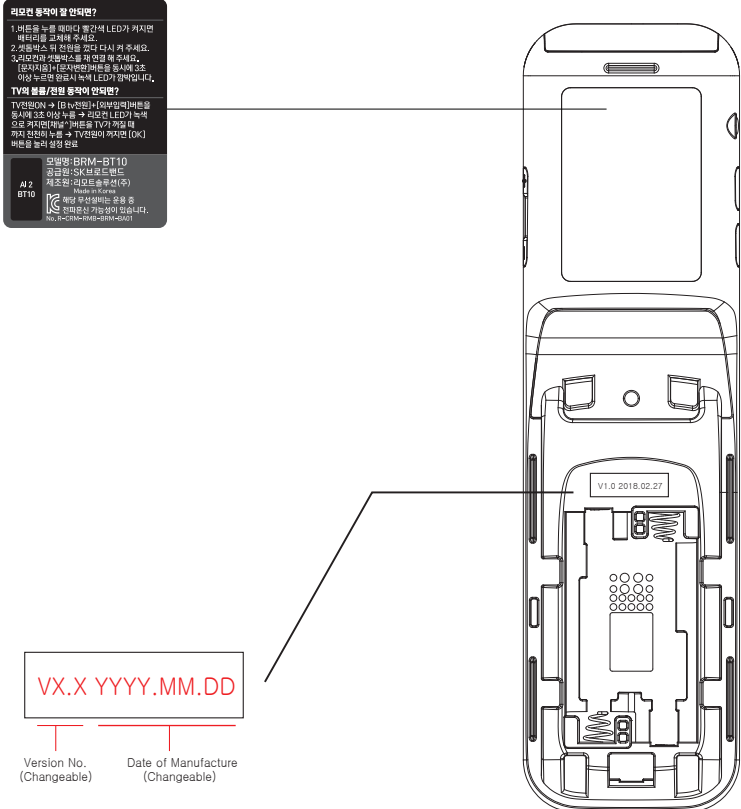
9.1 Design (3/5) – RUBBER

DESIGN SPECIFICATION		Model : RD12B00
 RD12 1-01 ALL BACK LIGHTING	P/T 179C(RED)   P/T 7738C(GREEN)   P/T 1225C(YELLOW)    P/T 2173C(BLUE)   	
	TV 전원  B tv 전원  전체메뉴  신호채널  편성표     이전(◀)  나가기  COOLGREY 3C 이전(◀)  나가기  1! 2. 3- DEF 4 5 6 7 8 9 문자 ← 0 공백 문자 → # (LASER)	
3.RUBBER		
3.1 RUBBER COLOR 3.1.1 TRANSLUCENCE WHITE 3.2 SPRAY & SILK COLOR COOLGREY 3C SPRAY SILK-179C,7738C,1225C,2173C BLACK SPRAY LASER ETCHING SOFT COATING		

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2018.12.11	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 30	57
REFORM :		BRM-BT10	
DECISION :			

9.1 Design (4/5) – LABEL

DESIGN SPECIFICATION		Model : RD12B00
 리모컨 동작에 잘 안되나요? 1. 버튼을 누를 때마다 빨간색 LED가 켜지면 배터리를 교체해 주세요. 2. 설정방법 및 위치를 꼭 다시 꼭 주세요. 3. 리모컨과 수신기의 위치를 꼭 맞춰 주세요. (음성지령) 리모컨과 수신기의 위치를 꼭 맞춰 주세요. 이상 누르면 리모컨 LED가 깜빡입니다. TV와 불꽃/전원 동작에 안되나요? TV전원ON → [ON 누르면] + [ON/오프/전원] 버튼을 동시에 누르면 전원 → 리모컨 LED가 깜빡이므로 리모컨(리모컨) 버튼을 TV가 켜질 때 까지 전원이 누르면 → TV전원이 켜지면 [OK] 버튼을 눌러 설정 완료 모델명: BRM-BT10 공급원: SK브로드밴드 제조원: 리모트솔루션(주) Made in Korea 해당 무상서비스는 유효 중 고객센터: 1588-0000 No. 1-C-PRG-HR-0001-0001 VX.X YYYY.MM.DD Version No. (Changeable) Date of Manufacture (Changeable)		
4. BACK LABEL	5. VERSION LABEL	
4.1 Material : White Bopp 4.2 Size : 30 X 42mm(±0.1mm) 4.3 Silk Color : Black, 420C 4.4 Coating : Matte Laminating	5.1 Material : Art Paper 5.2 Size : 16 X 4mm(±0.1mm) 5.3 Silk Color : Black	

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2018.12.11	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	31
REFORM :		BRM-BT10	
DECISION :			
			57

9.1 Design (5/5) – MANUAL

DESIGN SPECIFICATION		Model : RD12B00
Passed Label 		
SK broadband 리모컨 사용설명서 이 설명서는 Btv 리모컨의 올바른 사용법과 리모컨의 기능에 대해 설명합니다. 리모컨의 기능을 올바르게 사용하기 위해 설명서를 꼭 읽고 이해하십시오. 1. 구성품 확인하기 리모컨 1개 AA 배터리 2개 사용설명서 1개 2. 리모컨 연결하기 리모컨의 전원을 켜고, 리모컨의 버튼을 눌러 리모컨의 기능을 확인하십시오. 3. 리모컨 사용 주의사항 리모컨을 사용할 때는 리모컨의 버튼을 눌러 리모컨의 기능을 확인하십시오. 4. 리모컨 주요기능 사용안내 리모컨의 주요기능을 설명합니다.	SK broadband 리모컨 사용설명서 이 설명서는 Btv 리모컨의 올바른 사용법과 리모컨의 기능에 대해 설명합니다. 리모컨의 기능을 올바르게 사용하기 위해 설명서를 꼭 읽고 이해하십시오. 5. 리모컨 키 상세설명 리모컨의 키 기능을 설명합니다. 6. 리모컨 사용 주의사항 리모컨을 사용할 때는 리모컨의 버튼을 눌러 리모컨의 기능을 확인하십시오. 7. TV의 볼륨/채널 등 제어 안내 리모컨을 사용하여 TV의 볼륨/채널 등을 제어합니다. 8. 리모컨 사용 주의사항 리모컨을 사용할 때는 리모컨의 버튼을 눌러 리모컨의 기능을 확인하십시오.	
6.PASSED LABEL	7.MANUAL	
6.1 Material : Art Paper 6.2 Size : 30 X 15mm (±0.1mm) 6.3 Silk Color : Text-Black, P/T 2728C Background – White	7.1 Material : 80 Vellum Paper 7.2 Size : 170 X 250mm (±0.2mm) 7.3 Silk Color : Offset 4 Color	

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02

REFORM :

DECISION :

SPECIFICATION

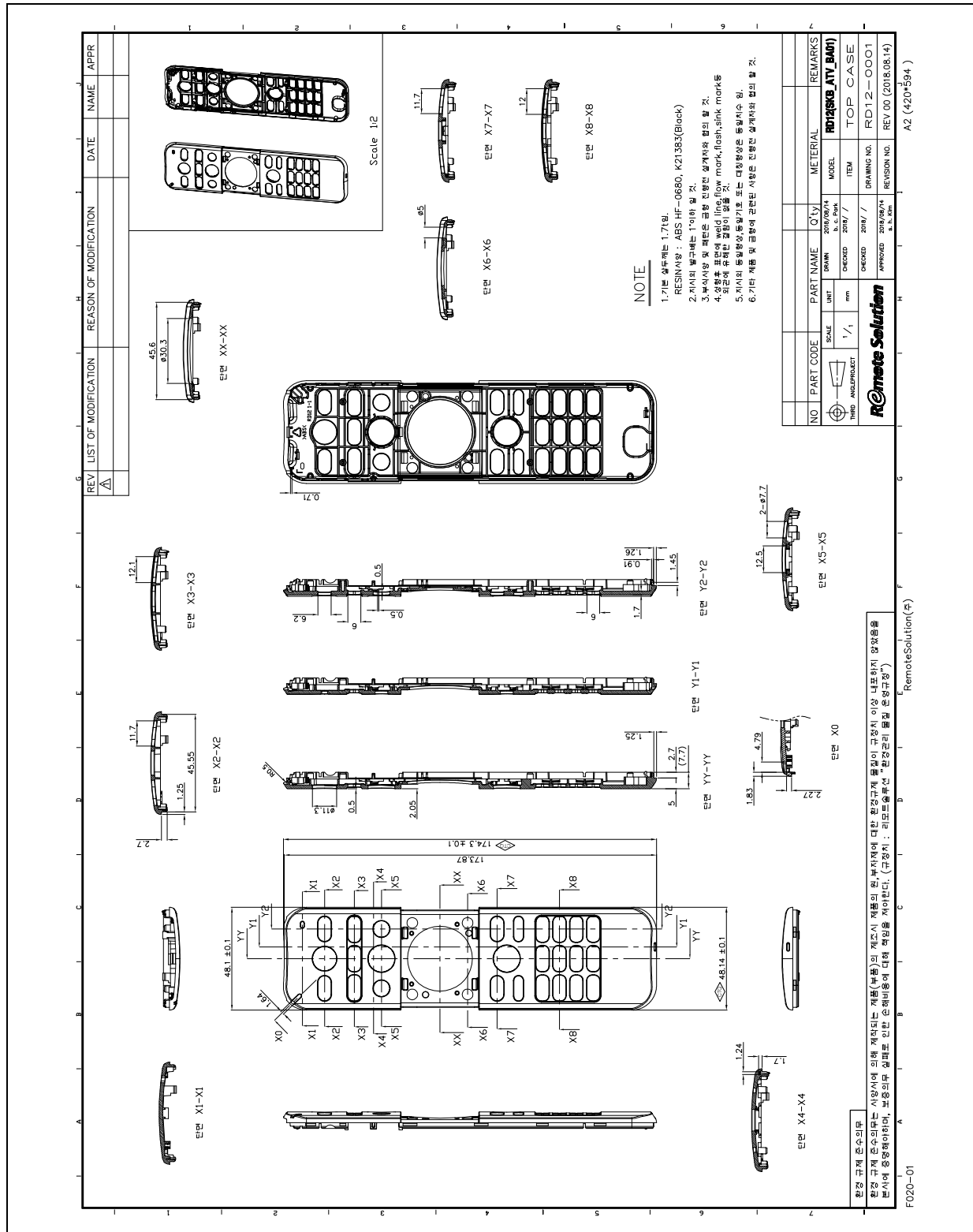
(TRANSMITTER REMOCON)

MODEL NO :	32
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BRM-BT10

57

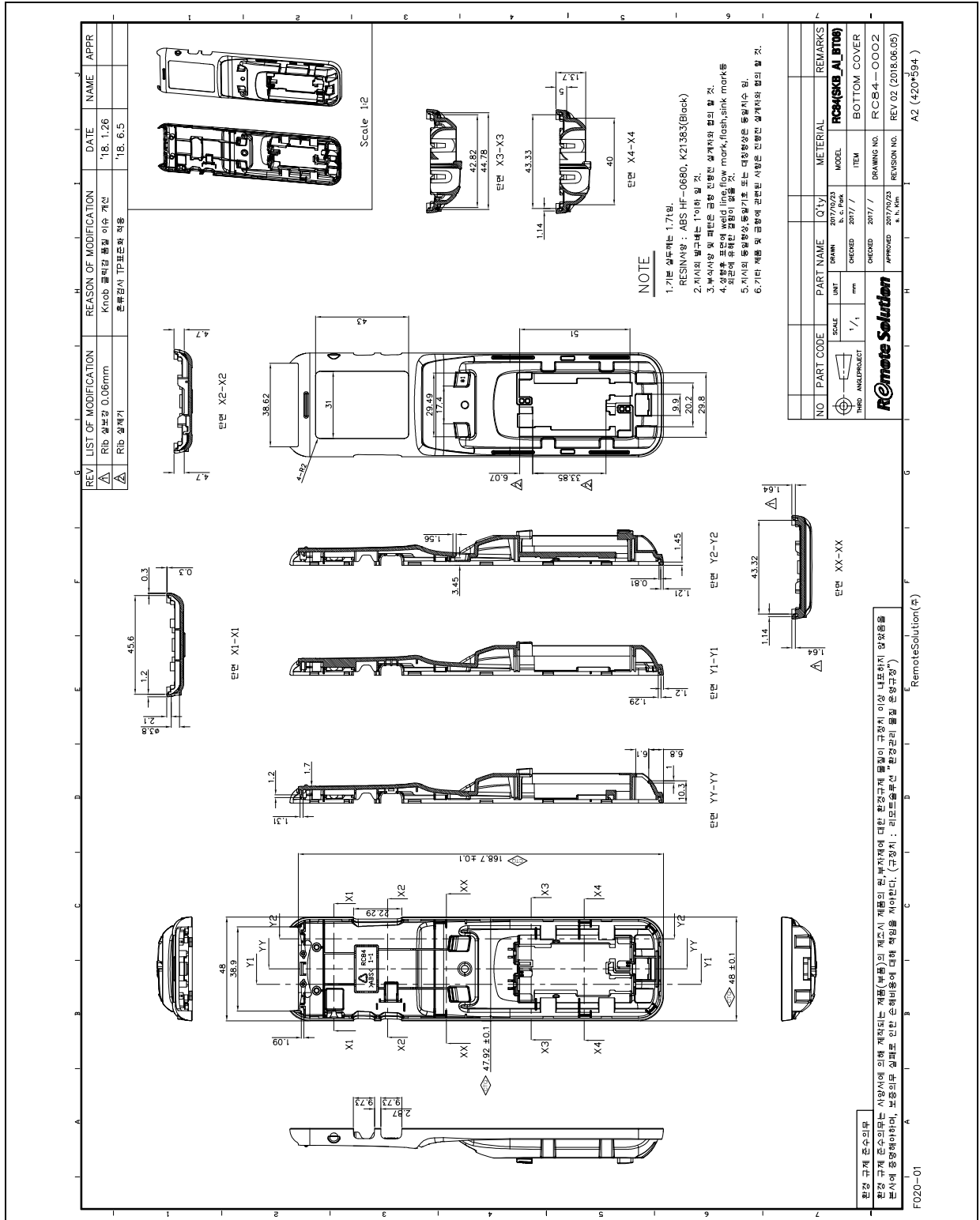
9.2 Mechanical Spec (1/16) – TOP CASE



REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 33	57
REFORM :			
DECISION :		BRM-BT10	

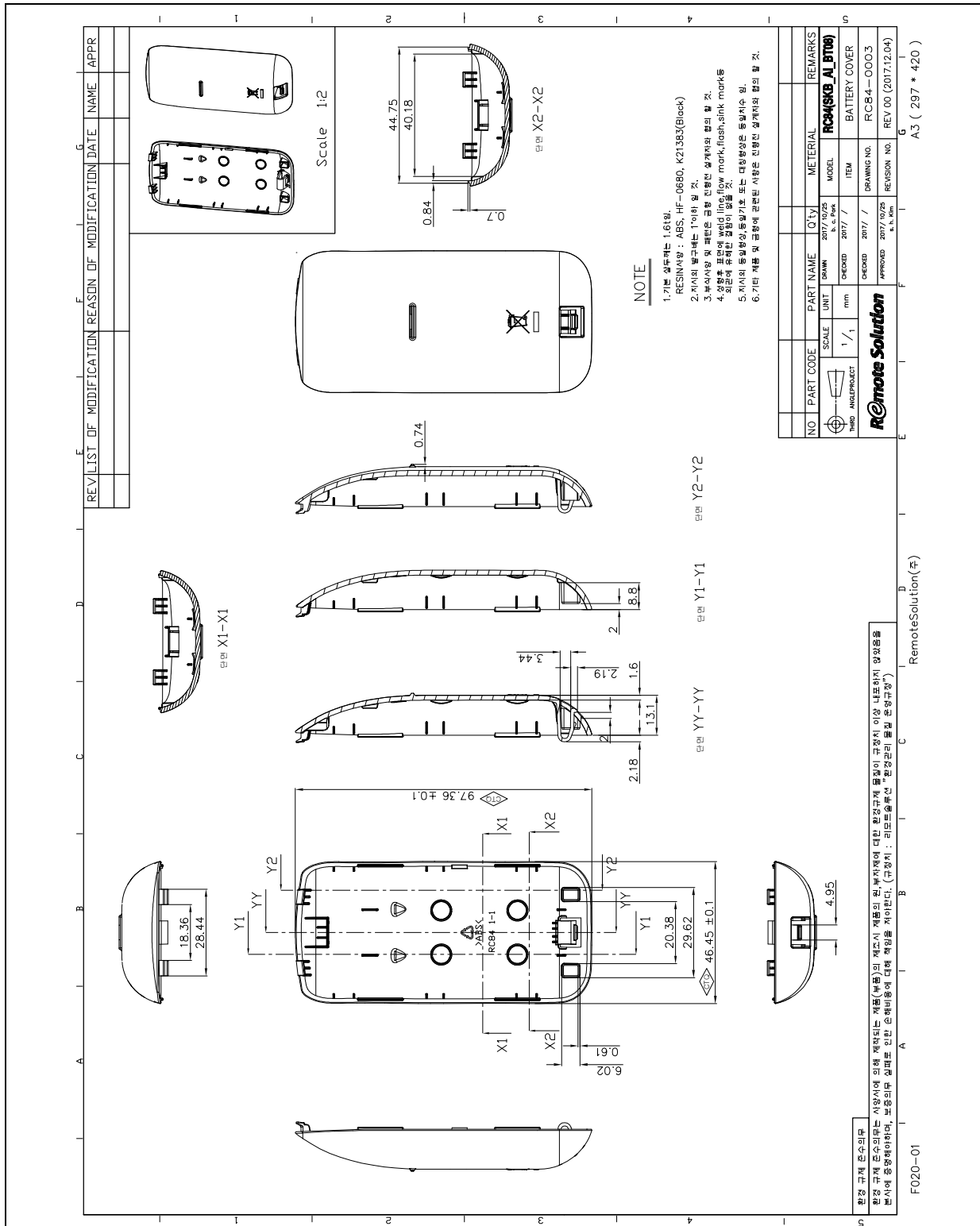
9.2 Mechanical Spec (2/16) – BOTTOM COVER



REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	<u>SPECIFICATION</u> (TRANSMITTER REMOCON)	MODEL NO :	34
REFORM :			
DECISION :		BRM-BT10	57

9.2 Mechanical Spec (3/16) – BATTERY COVER



REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02

REFORM :

DECISION :

SPECIFICATION

(TRANSMITTER REMOCON)

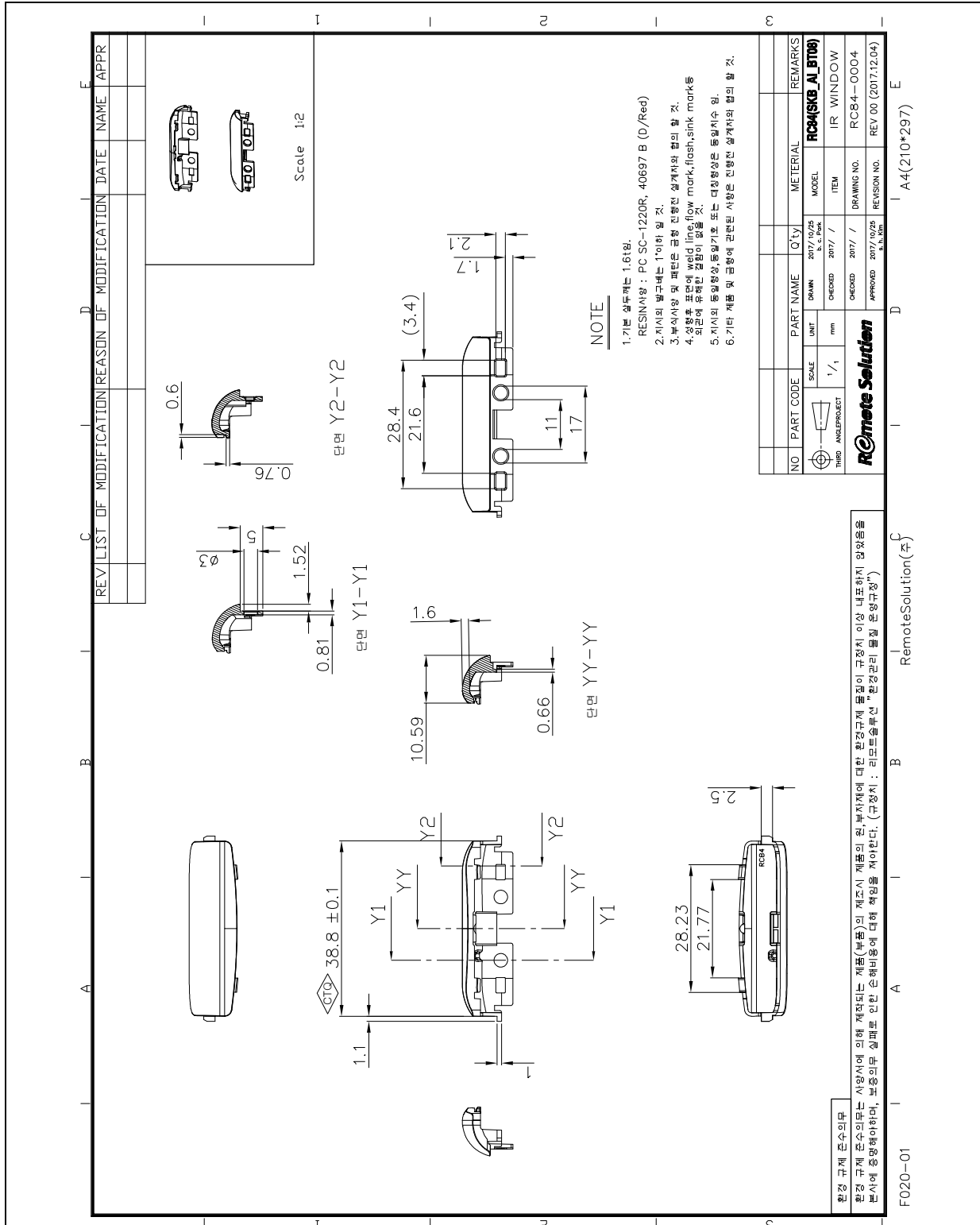
MODEL NO :

35

BRM-BT10

57

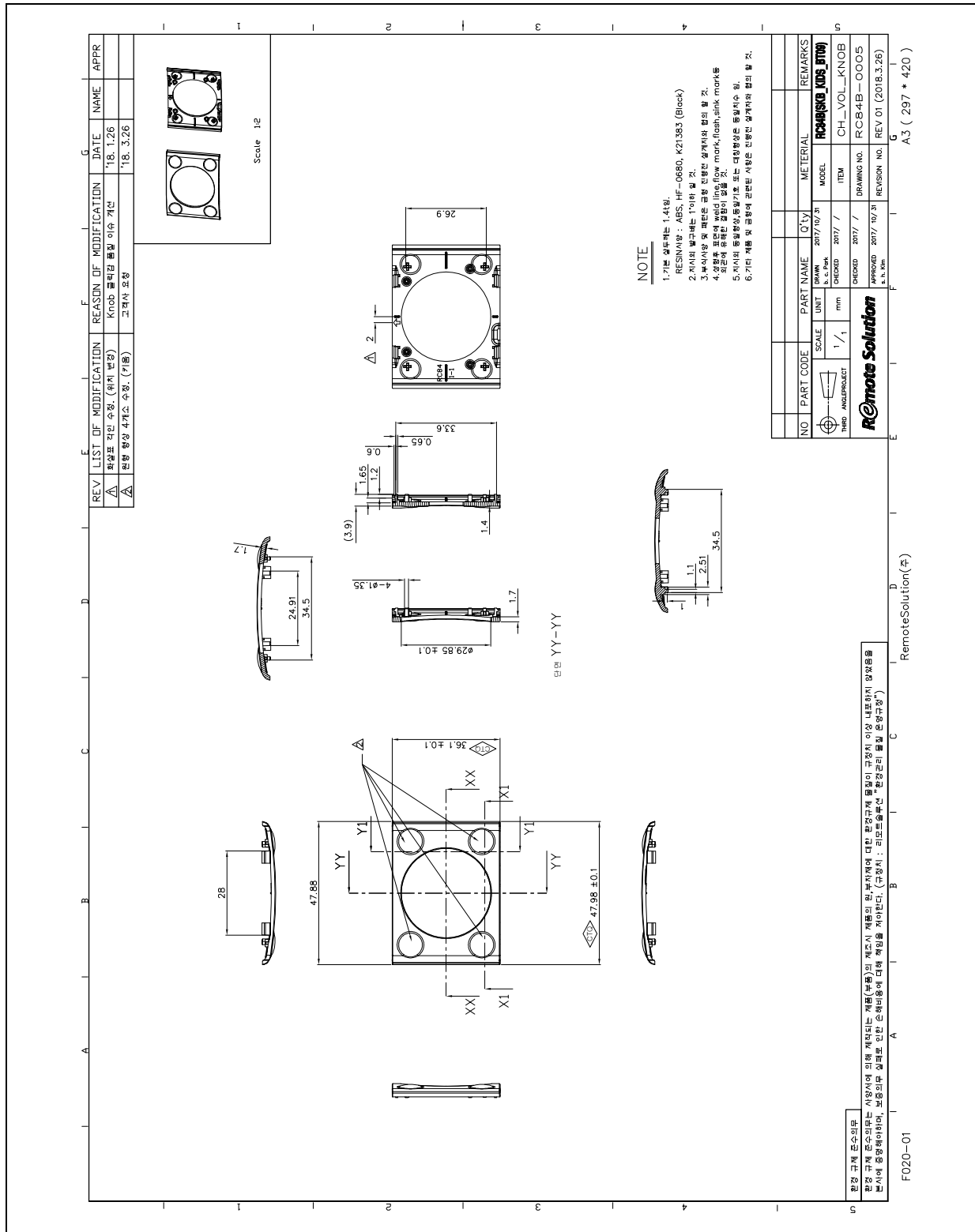
9.2 Mechanical Spec (4/16) – IR WINDOW



REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	<u>SPECIFICATION</u> (TRANSMITTER REMOCON)	MODEL NO :	36
REFORM :			
DECISION :		BRM-BT10	57

9.2 Mechanical Spec (5/16) – CH , VOL KNOB



REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02

REFORM :

DECISION :

SPECIFICATION

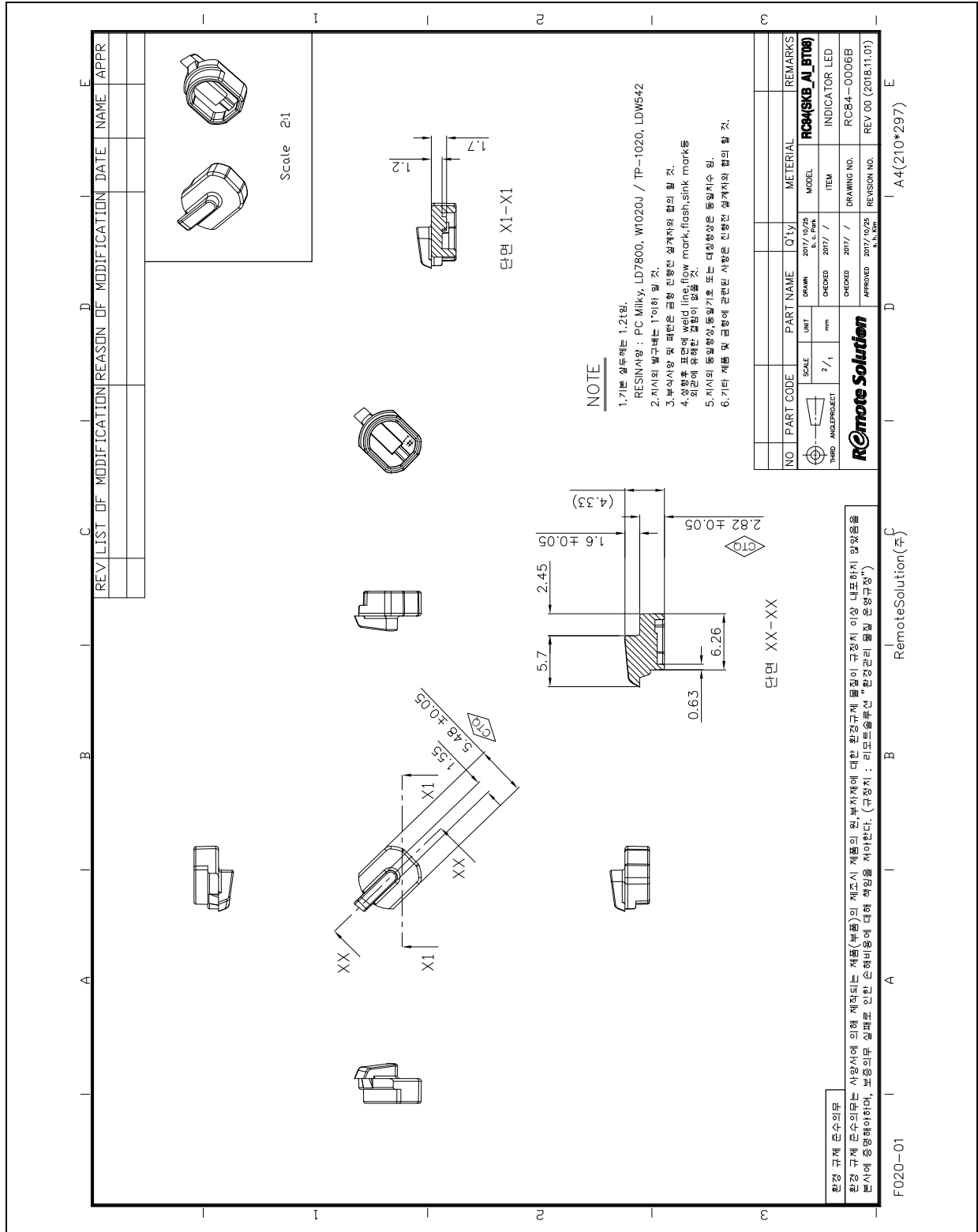
(TRANSMITTER REMOCON)

MODEL NO : 37

BRM-BT10

57

9.2 Mechanical Spec (6/16) – INDICATOR LED



REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02

REFORM :

DECISION :

SPECIFICATION

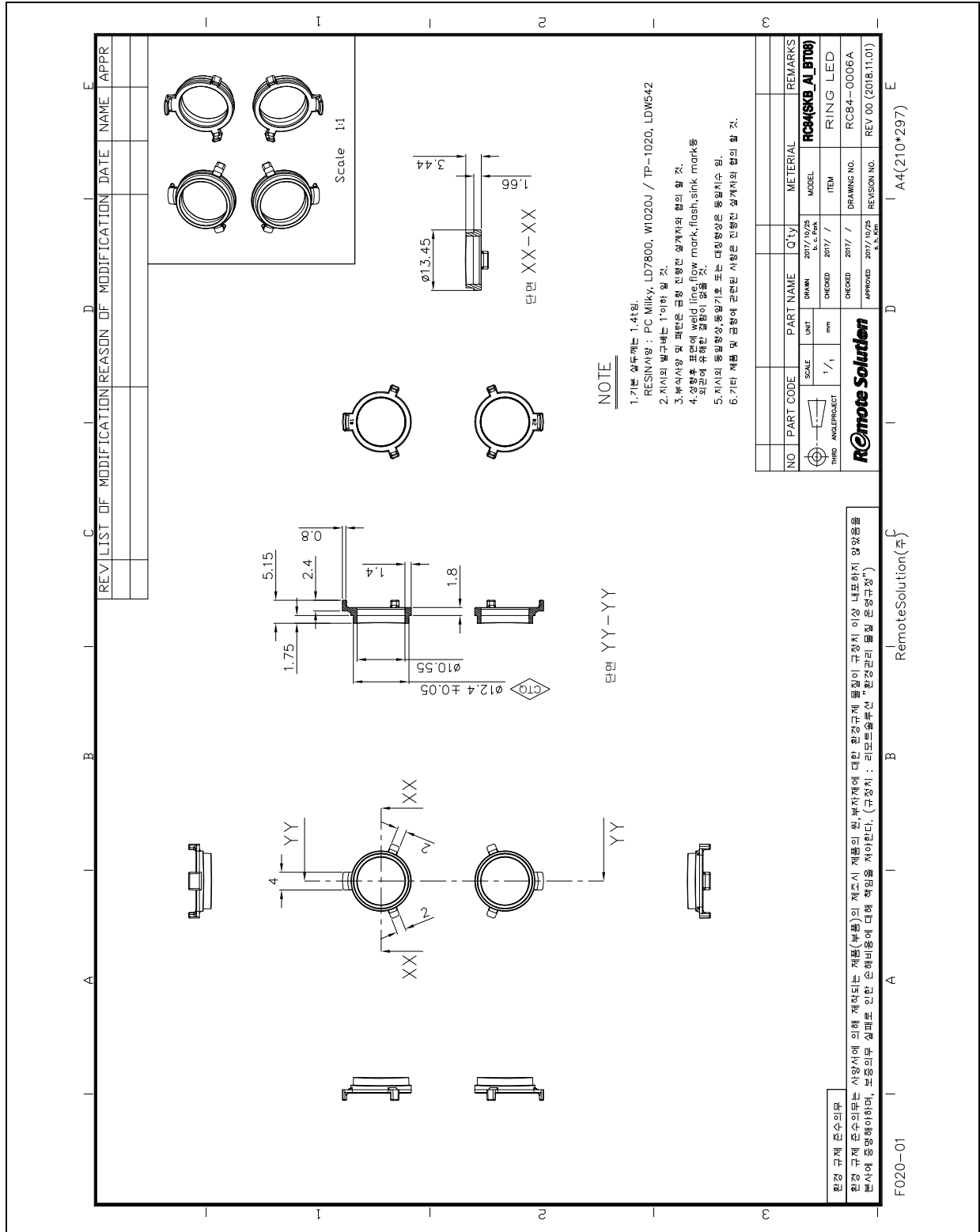
(TRANSMITTER REMOCON)

MODEL NO : 38

BRM-BT10

57

9.2 Mechanical Spec (7/16) – RING LED



REVISIONS

NO	DATE	REVISION NO.	REVISION NO.	REVISION NO.
1	2017/10/25	RCB4-0006A	REV 00 (2018.11.01)	REV 00 (2018.11.01)

환경 규제 준수 의무

환경 규제 준수의무는 사양서에 의해 제정되는 제품(부품)의 제조시 제품의 원 부자재에 대한 환경규제 물질이 규정치 이상 내포하지 않았음을 본사에 증명해야하며, 보증이후 실패로 인한 손해배상에 대해 책임을 지어한다. (규정치 : 리모트솔루션 "환경관리 물질 운용규정")

F020-01

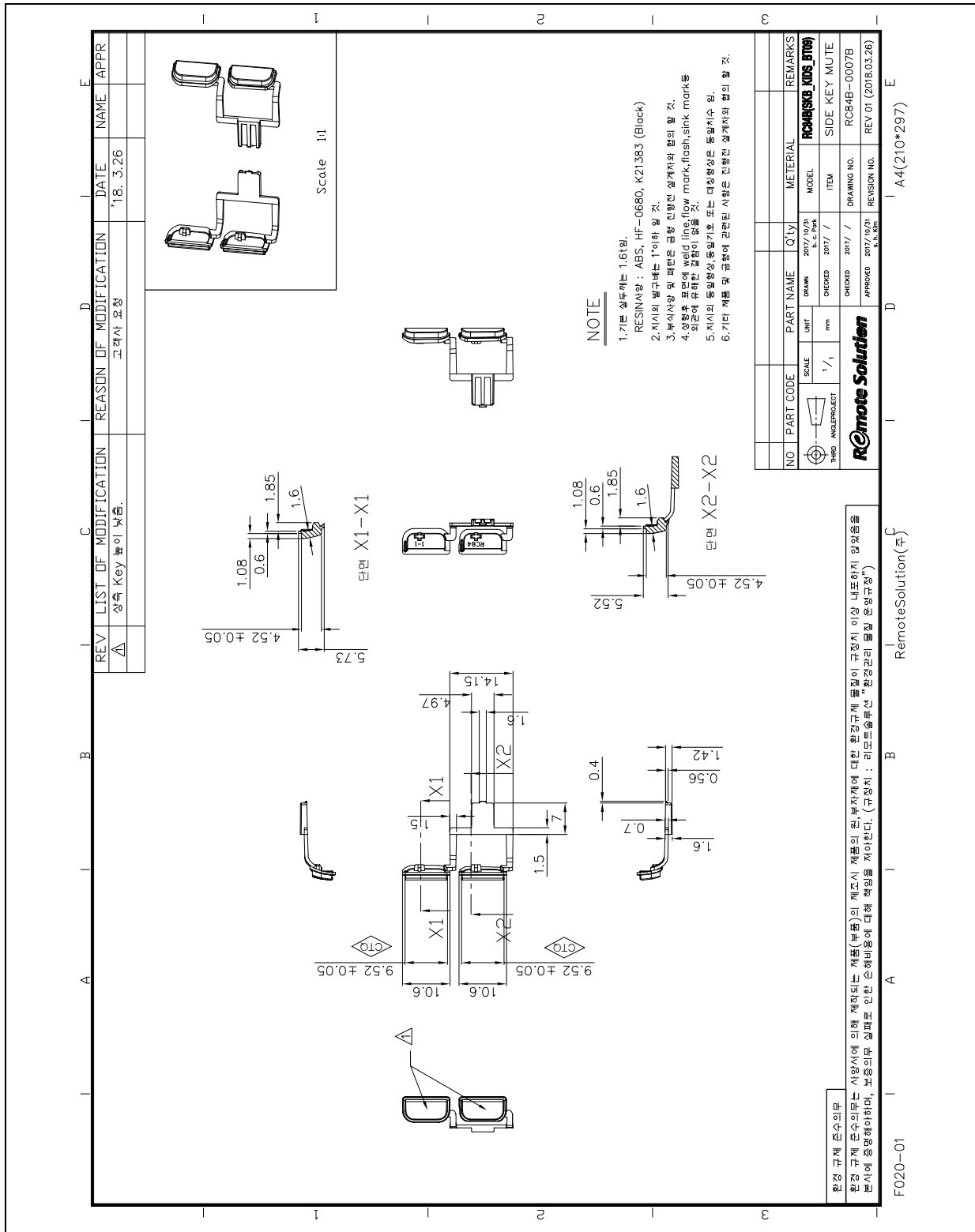
RemoteSolution(주)

A4(210*297)

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	39
REFORM :			
DECISION :		BRM-BT10	57

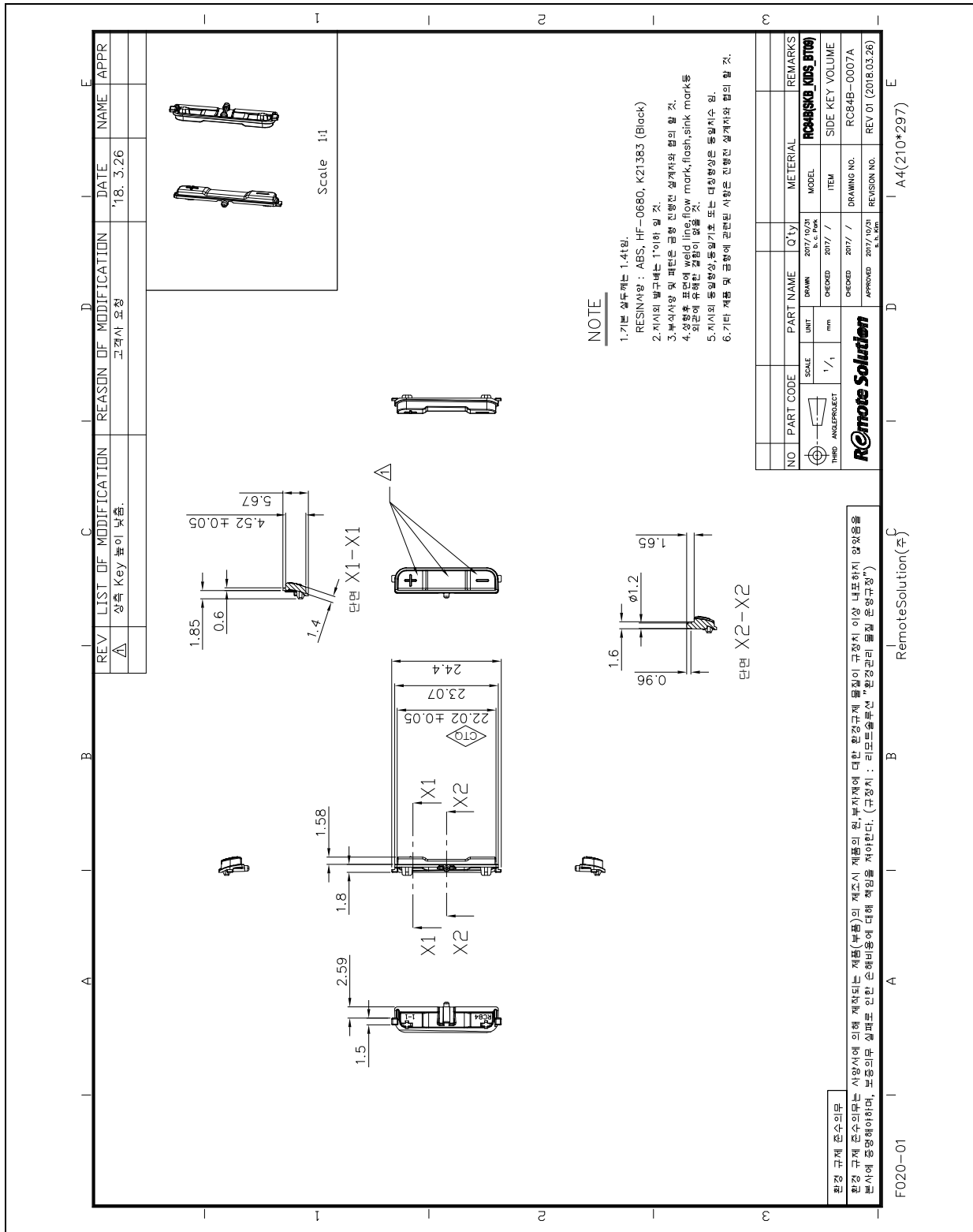
9.2 Mechanical Spec (8/16) – SIDE KEY MUTE



REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	40
REFORM :			
DECISION :		BRM-BT10	57

9.2 Mechanical Spec (9/16) – SIDE KEY VOLUME



REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02

REFORM :

DECISION :

SPECIFICATION

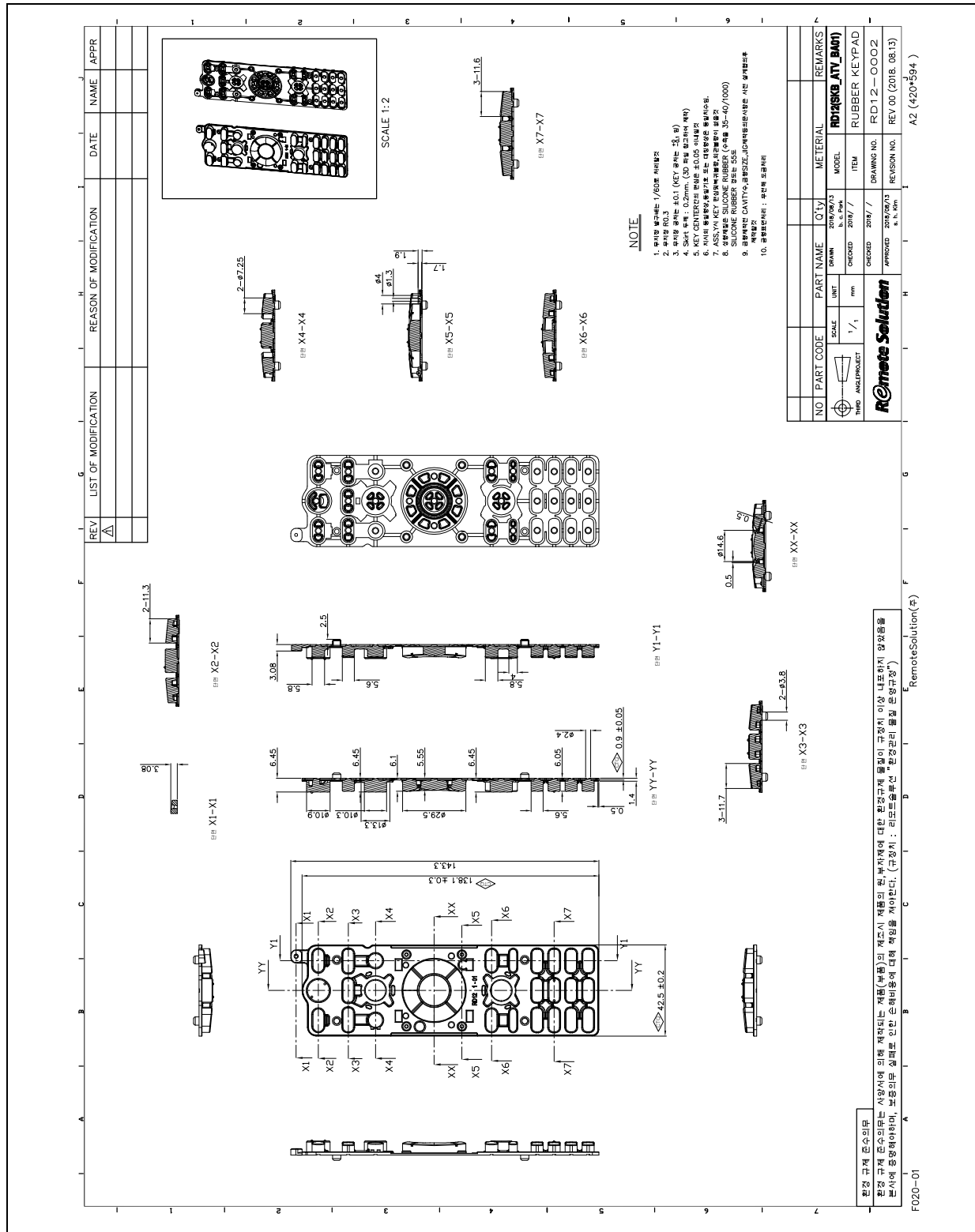
(TRANSMITTER REMOCON)

MODEL NO :	41
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BRM-BT10

57

9.2 Mechanical Spec (10/16) – RUBBER KEYPAD



REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	42
REFORM :		BRM-BT10	57
DECISION :			

9.2 Mechanical Spec (11/16) – METAL DOME

REV LIST OF MODIFICATION

NO	REASON OF MODIFICATION	DATE	NAME	APPR

[Roll 방향 'A']

[Roll 방향 'B']

배면

전면

< Roll 작업시 Dome Sheet 방향 및 Roll Size >

1. Roll 치관 내경은 Ø150mm이고, Dome Sheet 길은 외곽이 Ø400mm를 넘지 않아야 함.

2. Roll 작업시 Dome Sheet 수량은 5,000매를 기준 함. 단, 외곽이 Ø400mm를 넘을시 수량 조정 함.

3. Roll 작업시 Dome Sheet의 방향은 IR LED 기준 'A' 방향으로 장함.

단, SMD 진행 방향에 따라 관련 부시와 협의하여 장함.

NOTE

1. Metal Dome : DR Type, Ø5 dot SEA 직경, (E)
2. Operating Force : 130gf ± 20gf (50%)
3. Material & Thickness : SUS 301 (NI Coating), 0.06t
4. Stroke : 0.22 ± 0.02mm
5. Life Cycle : 500,000 Cycle
6. Click Rate : 50% ± 10

NO	PART CODE	PART NAME	QTY	MATERIAL	REMARKS

REVISION NO.

REV 01 (2018.08.17)

A3 (297 * 420)

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 43	57
REFORM :		BRM-BT10	
DECISION :			

9.2 Mechanical Spec (12/16) – (+) SPRING

NO	M O D E L	TITLE	MATERIAL	FINISH	REMARK
1					
2					

종 류	압 축 SPRING	총 권 수	2.25 권
재 질	SUS304-WPB NI-CO	권 방 향	우
선 경	Ø0.6	자유장 길이	1.2±0.2

NOTE

- ① 지시치수 중점관리할것
- 재료 절단부 처리 주의할것
- BENDING 부 직각 유지 할 것
직각부는 필히 자연 "R" 가공 할 것

환경 규제 준수 의무

환경 규제 준수 의무는 사양서에 의해 제작되는 제품(부품)의 제조시 제품의 원,부자재에 대한 환경규제 물질이 규정치 이상 내포하지 않았음을 본사에 증명해야하며, 보증의무 실패로 인한 손해비용에 대해 책임을 져야한다. (규정치 : 리모트솔루션 "환경관리 물질 운영규정")

NO	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS

	SCALE	UNIT	DRAWN	(+)SPRING RC84(SKB_AI_BT08) 2SP-RC84
	2/1	mm	2017/10/19 b. c. Park	
			2017/10/19 s. b. Lim	
			2017/10/19 s. h. Kim	

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 45	57
REFORM :		BRM-BT10	
DECISION :			

9.2 Mechanical Spec (14/16) – (±) SPRING

NO	MODEL	TITLE	MATERIAL	FINISH	REMARK
1					
2					

종 류	압 축 SPRING	총 권 수	A	2.25 권	B	4.25 권
재 질	SUS304-WPB NI-CO	권 방 향	A	좌	B	우
선 경	Ø0.6	자유장 길이	A	1.2 ⁺⁰ _{-0.2}	B	8 ± 0.2

NOTE

- ① 지시치수 중점관리할것
- 재료 절단부 처리 주의할것
- BENDING부 직각유지할것
직각부는 필히 자연"R"가공할것

환경 규제 준수 의무

환경 규제 준수의무는 사양서에 의해 제작되는 제품(부품)의 제조시 제품의 원,부자재에 대한 환경규제 물질이 규정치 이상 내포하지 않았음을 본사에 증명해야하며, 보증의무 실패로 인한 손해비용에 대해 책임을 지어한다. (규정치 : 리모트솔루션 "환경관리 물질 운영규정")

NO	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS

COMMON SPRING

RC65(SK_B_Smart)

2SC-RC65

2015/06/01

b. c. Park

2015/06/01

s. b. Lim

2015/06/01

2015/06/01

b. c. Kim

2015/06/01

b. c. Kim

2015/06/01

b. c. Kim

2015/06/01

b. c. Kim

2015/06/01

b. c. Kim

F020-01

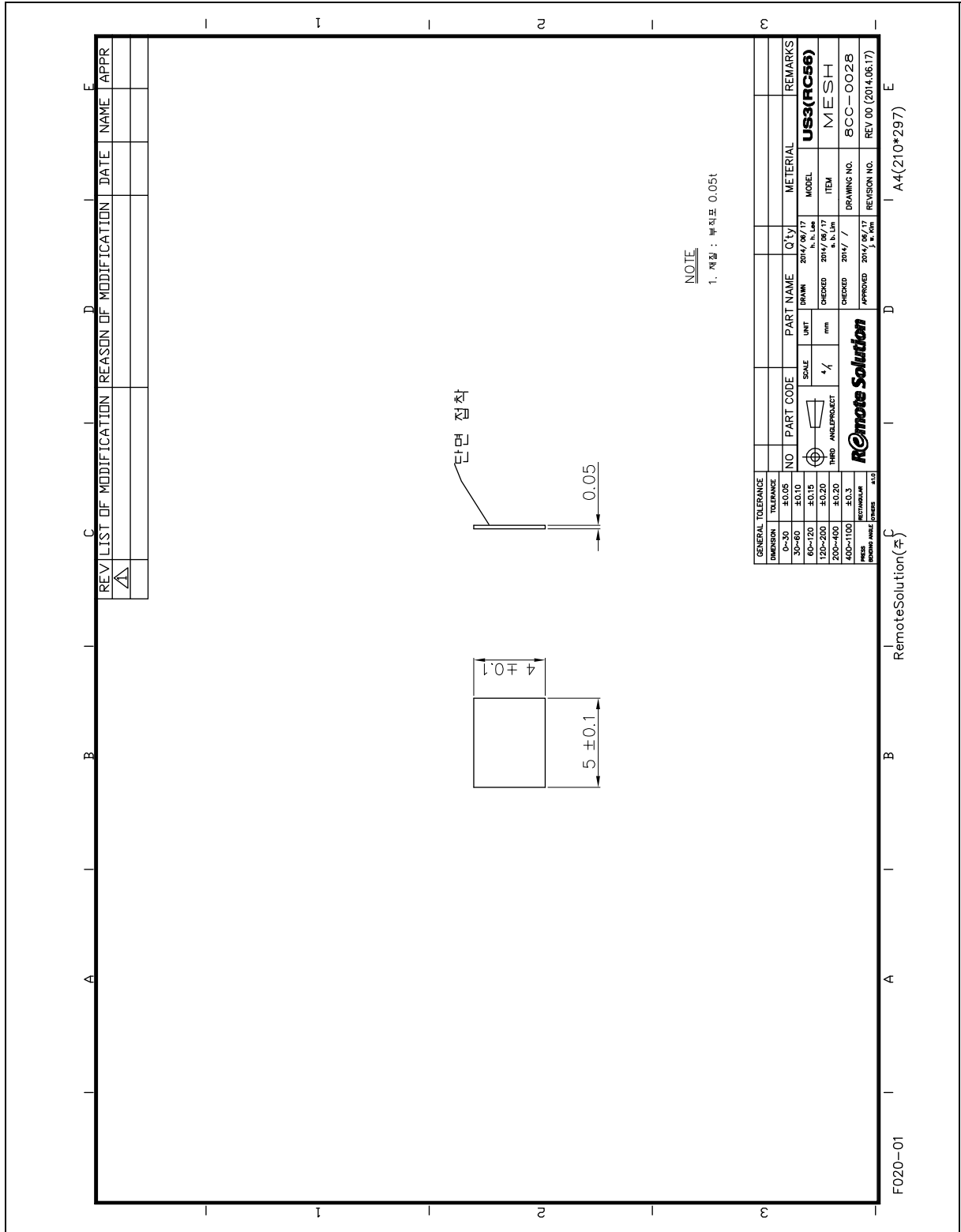
리모트솔루션(주)

A4 (210 * 297)

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 46	57
REFORM :			
DECISION :		BRM-BT10	

9.2 Mechanical Spec (15/16) – MESH



REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 47	57
REFORM :			
DECISION :		BRM-BT10	

9.2 Mechanical Spec (16/16) – PE BAG

NO	MODEL	TITLE	MATERIAL	FINISH
1				

COLOR : BLACK

NOTE

- 도면 치수로 관리 할 것.
- 재료 : PE 0.08t 투명

△	ISSUE NO	MM/DD/YY	SIGNATURE	CHANGE NO	CHANGE CONTENTS
	SCALE	UNIT	DRAWN	2014/12/10	PE BAG CJ(RC60) 7PP-0052T
	N / S	mm	CHECKED	2014/12/10	
	DRAWN	2014/12/10		ISSUE	

REMOTE SOLUTION CO., LTD.

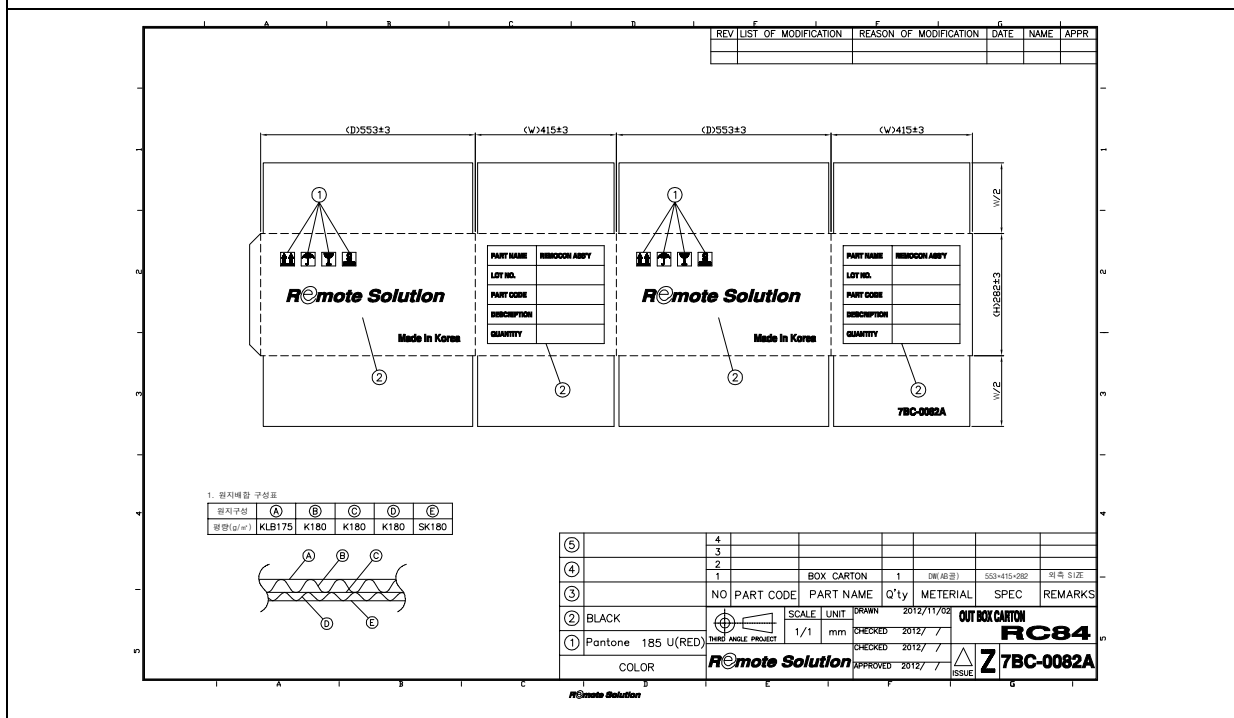
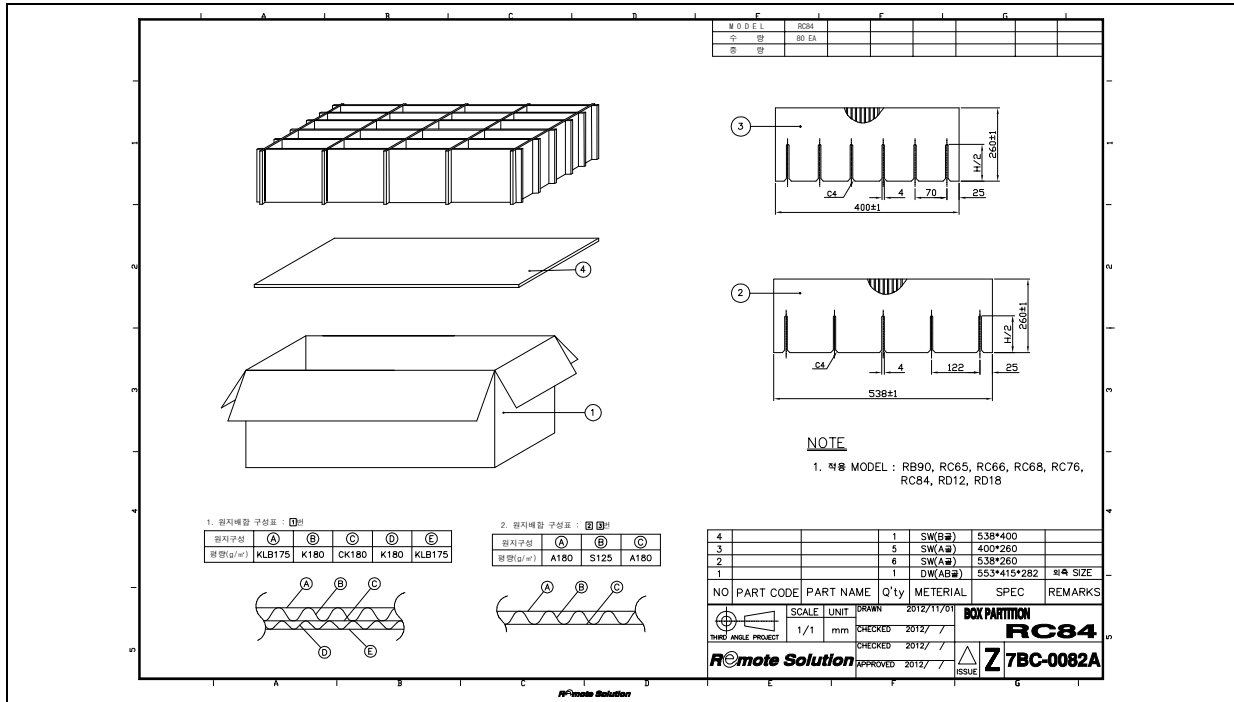
INSTITUTION : 2018.12.11	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 48	57
REFORM :			
DECISION :		BRM-BT10	

10. Packaging Specification

10-1 MATERIAL : CARTON

10-2 SIZE : 553(L)*415(W)*282(H) (Out Side)

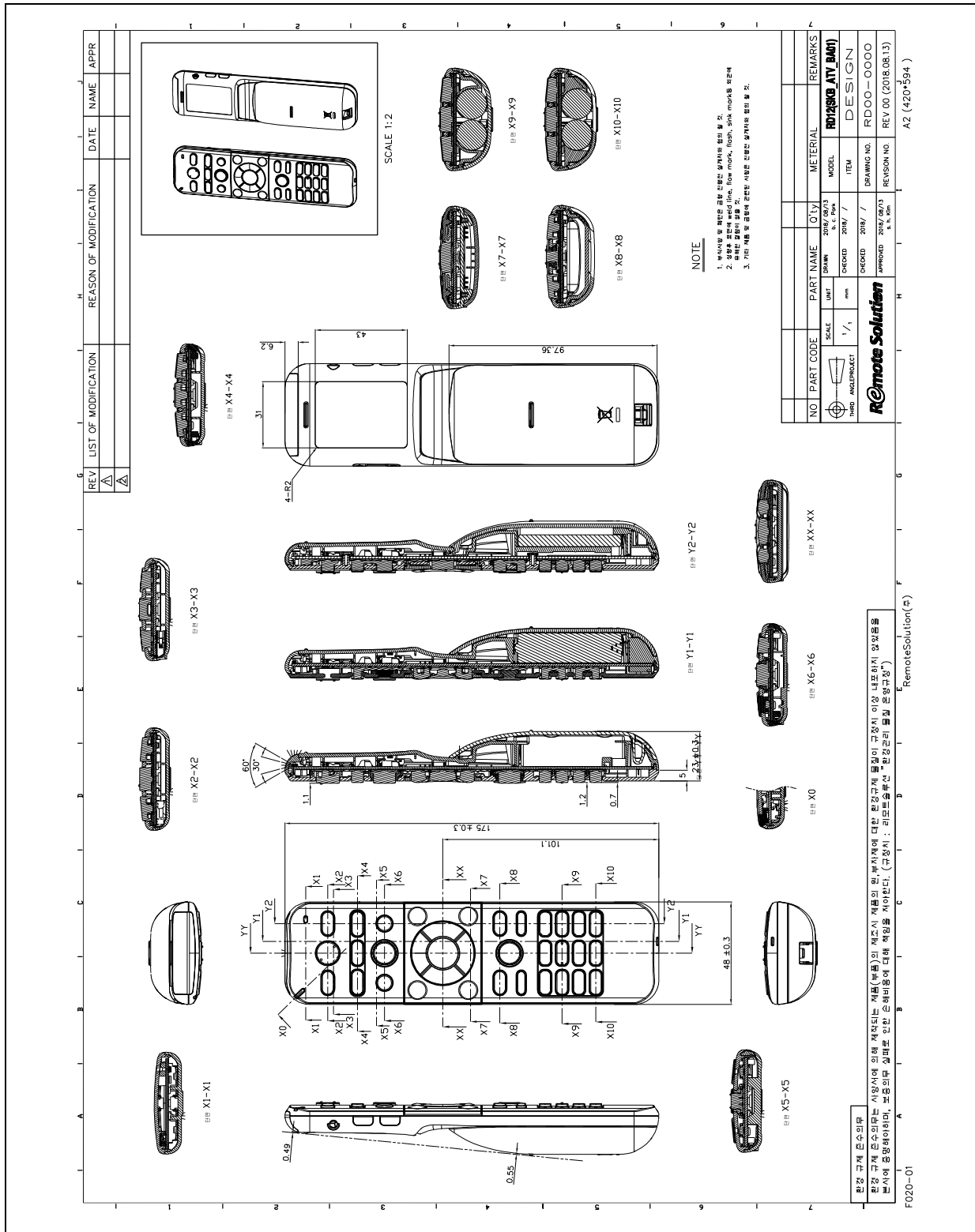
10-3 QUANTITY : 80EA



REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	49
REFORM :		BRM-BT10	57
DECISION :			

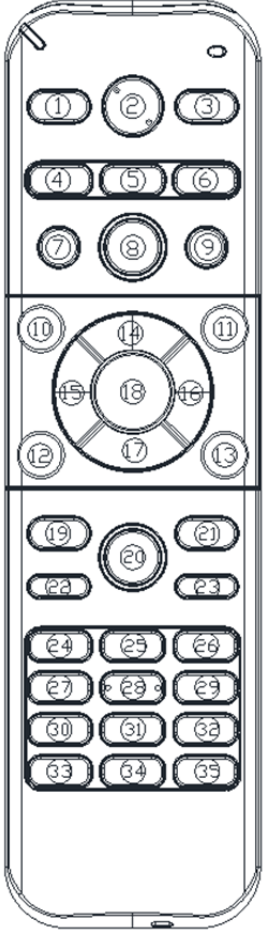
11. Assembling Specification



REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	50
REFORM :		BRM-BT10	57
DECISION :			

12. Rubber Tension Test

	NO.	Tension	Return	NO.	Tension	Return
	1	240	144	25	230	138
	2	240	144	26	240	144
	3	230	138	27	240	144
	4	220	132	28	230	138
	5	230	138	29	220	132
	6	240	144	30	240	144
	7	240	144	31	230	138
	8	230	138	32	230	138
	9	220	132	33	240	144
	10	250	150	34	220	132
	11	260	156	35	230	138
	12	250	150			
	13	250	150			
	14	260	156			
	15	250	150			
	16	260	156			
	17	250	150			
	18	280	168			
	19	240	144			
	20	240	144			
	21	230	138			
	22	240	144			
	23	230	138			
	24	230	138			
	Tension Spec :		Small Key : 220 ±30gr			
			Large Key(10,11,12,13,14,15,16,17,18번 Key) : 250 ±30gr			

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 51	57
REFORM :		BRM-BT10	
DECISION :			

13. Manufacturing Process Flow Chart (1/3) - SMD

고객명	SKB	공정흐름 및 배치도				문서NO	RS-W-R1-A244	작 성		
제품명	BA01					작성일	2018. 10. 24	검 토	권태걸	
모델명	RD12A					PART명	SMD	승 인		
기호	개정일자	개정내역			확인	기호	개정일자	개정내역		확인
내 역 배 분	01	02	03	04	05	06	07	08		
내 역 배 분	외주									
	MAIN									
	SUB									
	작업원	-	-		-	-	-	-		
공 정 명	LOADER	SCREEN PRINTER	Worktable	CHIP MOUNTER	CHIP MOUNTER	REFLOW	UNLOADER	VISION 검사		
작 업 내 용	.PCB 단품 실장	.PCB 납땜면 솔더 크림 인쇄	.Spring 삽입.	.PCB에 부품안착	.PCB에 부품안착	.PCB에 일정한 열을 가하여 솔더를 용융함.	.PCB 안착	.PCB에 부품안착 및 납땜성 확인.		
설비명	LOADER	SCREEN PRINTER	.	CHIP MOUNTER	CHIP MOUNTER	REFLOW	UNLOADER	VISION 검사기		
치공구명	.	.	.Spring 삽입 봉	.	.	.	.	.		
검사구	.	.3D 측정정비	.	.	.	.	.	.		
중 정 관 리 항 목	.PCB 안착 위치	.솔더크림 두께	.Spring 역삼 주의	.좌표값	.좌표값	.온도 관리	.PCB 안착 위치	.판정 기준 입력		

RSC-200-001(Rev.0)

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 52	57
REFORM :		BRM-BT10	
DECISION :			

13. Manufacturing Process Flow Chart (2/3) - PBA

고객명	SKB	공정흐름 및 배치도			문서NO	RS-W-R1-A244	작 성		
제품명	BA01				작성일	2018. 10. 24	검 토	권태걸	
모델명	RD12A				PART명	PBA	승 인		
기호	개정일자	개정내역			확인	기호	개정일자	개정내역	확인
공 정 번 호	01	02	03	04	05	06	07	08	
내 역 배 정	외주								
	MAIN								
	SUB								
	작업원								
공 정 명	Dome Sheet 부착	CSR Writing	UE878 Writing	누설 전류검사	IR 동작검사	날짜인쇄마킹	외관검사		
작 업 내 용	.Dome Sheet 부착	.CSR Writing	.UE878 Writing	. 누설 전류검사	.IR 동작확인	.날짜 인쇄 마킹	.외관검사		
설비명	.Dome Sheet 부착	.Writing jig,PC	.Writing jig,PC	. 누설전류측정 PC	.성능검사 PC	.인쇄마킹장비			
치공구명	.이온아이저	.Dome Sheet 부착tool		.전류계	.POWER Supply		.메거진		
검사구									
중 점 관 리 항 목	.Dome Sheet 부착상태	.Writing 파일 확인	.Writing 파일 확인	.부적합품 구분	.IR CODE 확인	.인쇄상태확인	.부적합품 구분		

RSC-200-001(Rev.0)

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 53	57
REFORM :		BRM-BT10	
DECISION :			

13. Manufacturing Process Flow Chart (3/3) – 조립

고객명	SKB	공정흐름 및 배치도				문서NO	RS-W-R1-A244	작 성	
제품명	BA01					작성일	2018. 10. 24	검 토	권태걸
모델명	RD12A					PART명	조립	승 인	
기호	개정일자	개정내역		확인	기호	개정일자	개정내역		확인
공 정 번 호		01	02	03	04	05	06	07	08
내재영역	외주								
	MAIN								
	SUB								
	작업원								
공 정 명	TOP CASE 조립	TOP CASE 조립	back case 조립	TOP CASE 조립	형합	학습	IR CODE 검사	POB RMC 성능검사	
작 업 내 용	.Indicator LED 결속. .채널/음량 KEY 삽입 .라이트링 1점 삽입	.Mike mesh 2점 부착 .라이트링 1점 삽입	.SIDE KEY 삽입 .Rubber 안착	.SIDE KEY 삽입 .POB 파쇄 및 안착	.필터 삽입 .형합.	.건전지 삽입. .네비키 삽입. .학습 진행. .필터 보호피 부착	.IR CODE 검사 .Back Label 부착. .SIDE KEY 검사 .Back Light 검사	.Pairing 검사 .Rssi 검사 .음성 검사 .부저 검사 .Audio 검사	
설비명	.	.	.	.	.형합기	.PC	4IN1 장비	.PC	
치공구명	.	.	.	.	.	.IR 수신부	.IR 수신부	.Pairing 동글	
검사구	.	.	.	.	.	.	.	.모니터	
중 점 관 리 항 목	.규형 및 이물확인	.규형 및 이물확인	.규형 및 이물상태 확인	.규형 및 이물 확인	.형합 상태 확인	.IR CODE 확인. .LED 검사.	.IR CODE 확인. .LED 검사.	.Rssi 검사 .PAIRING 검사 .음성 검사 .Unpairing 검사	
공 정 번 호		09	10						
내재영역	외주								
	MAIN								
	SUB								
	작업원								
공 정 명	외관검사.	포장							
작 업 내 용	.BATTERYCOVER 삽입 .외관검사.	.PE BAG 포장 .CARTON BOX .MANUAL 삽입 .건전지 삽입및 동작							
설비명		.							
치공구명		.							
검사구		.							
중 점 관 리 항 목	.BATTERYCOVER 삽입 .외관검사	.포장수량 확인							

RSC-200-001(Rev.0)

RSC-200-001(Rev.0)

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION	MODEL NO : 54
REFORM :		
DECISION :		57

14. Manufacturing Control Plan (1/2)

양산 관리 계획서 (Control Plan)

리모트솔루션㈜										*공정 : SMD → PBA → 조립						
단 계	품 종	Remote Control		NO	개정일자	개정사유		작성	검토	승인	제정일자 : 2018. 12. 04					
시제품작품	품 명	SK Broadband Andriod TV STB RCU (BA01)									작성 검토 승인					
양산선형	품 번	RD12									결					
양산단계	상호기능원	기구 백방전 책임 / 회로 감회변 선임 / 소프트웨어 감회변 선임 디자인 서문호 선임 / 품질 김소영 사원 / 생기 송민수 책임 생산 이성의 부장 / 구매 유진영 차장 / PM 김동욱 주임									재					
업체코드		고객기술 승인/일자(요구시):		고객품질 승인/일자(요구시):						기타승인/일자(요구시)						
공정 번호	공정 명	설비명	NO	제 품	공정 내용	특성	규 격	관 리 기 준	확인방법	주 기	관리방안	생산	QC	이상 발생시 조치사항	비고	
10	원자재 입고		1	원자재	형격업체 (입고)											
	수입검사	육안	1	원자재	외관검사 (Design)	유해한 결함이 없을것			육안검사	Sampling	검사 기준서	○		격리,반품, 부적합 발행		
		배너 캘리퍼스	2	원자재	치수 검사	기구를 도면에 만족 할 것 - 전장치수 관리				측정 Data	Sampling	검사 기준서	○		격리,반품, 부적합 발행	
		Tension Gauge	3	원자재	특성 검사	기구를 도면에 만족 할 것				측정 Data	Sampling	검사 기준서	○		격리,반품, 부적합 발행	
		육안	4	원자재	형합 검사	형합 이상 없을 것				조립	Sampling	검사 기준서	○		격리,반품, 부적합 발행	
		Chamber	5	원자재	신뢰성 시험	신뢰성 시험 규격에 만족 할 것				측정 Data	1회/월	시험규격	○		격리,반품, 부적합 발행	
EA 1000AIII	6	원자재	유해물질 측정	유해물질 관리 기준				측정 Data	1ea/Lot	유해물질 관리기준	○		격리,반품, 부적합 발행			
20	자재 입/출고	자재 운반 대차	1	원자재	선입선출	자재 규격 확인 선입선출관리			현품표 바코드	매 Lot	전산 (SAP)			격리,반품		
S1	정전기 방지	정전기 Checker	1	정전기	정전기관리 (재전복,재전하,एस 화)	Good Zone 이내 일 것			재전 측정기	1회/1일	Check Sheet	○		재전하 및 एस링 교체		
S2	솔더크림 교반	솔더크림 교반기 (DMS200), 점도계	1	솔더크림	솔더크림 보관	5±3℃ 냉장보관			온도계	1회/1일	온도 측정시트	○		재설정,조정		
			2	솔더크림	상온 방지	25±5℃, 2Hr ~ 12Hr (자동방치기 : fool-proof)			타이머	사용전	임,출고 관리대장	○		재설정,조정		
			3	솔더크림	교반 시간	교반 관리기준 준수(45sec)			타이머	사용전	임,출고 관리대장	○		재설정,조정		
30	PCB공급	Vacuum Loader (SBSF-200)	1	PCB	정렬 상태	진행방향 정렬			육안	전수	-	○		재 정렬		
2			PCB	PCB 정착	PCB Pick up 후 떨어짐이 없을것			육안	전수	-	○		재 장착			
40	PCB 세척	PCB Cleaner	1	PCB	PCB 이물 세척	브러쉬 위치 및 Air 작동 이상 없을 것			육안	전수	-	○		재 설정		
50	솔더크림 도포	Screen Printer (HP-520S), 정온유지장치 (HTC-1380)	1	솔더크림	스퀴즈 압력	14-16kgf			설비 확인	전수	설비점검 대장	○		설비 재설정		
			2	솔더크림	스퀴즈 스피드/각도	35 ~ 100mm/sec, 60도 (Normal : 70~80mm/sec)			설비 확인	전수	설비점검 대장	○		설비 재설정		
			3	솔더크림	크림솔더 인쇄상태	과남,미남,틀어짐 없을것			육안검사 (확대경)	전수	매Time	○		설비 재설정		
			4	솔더크림	내부 정온유지	25 ±2℃ (23 ~ 27℃)			설정 Display	전수	-	○		온도 재설정		
			5	솔더크림	메탈마스크 자동 세척	개구부 찌꺼기,막힘이 없을것 (1회/2Hrs 수동세척 실시)			설비 확인	1회/5회	설비	○		조건 재설정		
S3	솔더 3D 측정	3D측정기 (SP12500)	1	솔더크림	솔더 두께 측정 CSR B630, UE878 IC	Metal Mask Thickness 별 도포량 관리 0.131: 155±35µm 0.101: 125±20µm 과남,미남,틀어짐 없을것			설비 확인	매 Time	3D측정 시트	○		조건 재설정		
60	SMD 부품실장	Chip Mount (SM471)	1	Chip부품	Air / Nozzle 압력	Air : 4.50 ~ 5.50 MPa Nozzle : -80±10mmHg			압력계	1회/일	설비점검 대장	○		조건 재설정		
			2	Chip부품	자재 규격 일치	Feeder List (MONITOR) *혼입방지 시스템			바코드 스캔	Model 교체시	바코드 스캔	○		Program 재설정		
			3	Chip부품	부품 Pick up 위치	부품 높이의 5~25%			설비 확인	Model 교체시	설비점검 대장	○		Program 재설정		
		이형 Mount (SM421)	4	Chip부품	Air / Nozzle 압력	Air : 4.50 ~ 5.50 MPa Nozzle : -100±10mmHg			압력계	1회/일	설비점검 대장	○		조건 재설정		
			5	Chip부품	부품 실장 상태	LAND 범위의 1/3이내			생물비교, 확대경	Model 교체시	설비점검 대장	○		조건 재설정		
70	스프링 삽입	-	1	원자재	부품 실장 상태	스프링 이탈, 누락 없을 것			육안	전수	작업 지도서	○		수정,재작업		
80	Reflow Soldering	Reflow Oven (1809 EXL)	1	SMD제품	예열구간	Temperature : 150 ~ 200℃ Soldering time : 90 ~ 130sec			예열온도 Check	1회/일	Reflow Profile	○		조건 재설정		
			2	SMD제품	Soldering	Temperature : 200℃ 이상 (peak245~255℃) - PCR 1.2t			Profile Check	1회/일	Reflow Profile	○		조건 재설정		
						Soldering time : 40 ~ 70sec			Profile Check	1회/일	Reflow Profile	○		조건 재설정		
						PCB 정렬										
90	PCB Out	SMB-220	1	SMD제품	냉각	PCB 정렬 (결립 없을 것)			육안	전수	-	○		조건 재설정		
100	비전 검사	비전 검사기 (MV-3L)	1	Main PCBA	부품실장, 납땜 상태 검사	SMD 외관검사 표준			설비 확인	전수	SMD 외관 검사 표준	○		식별,격리,수리		
S4	부적합품 분석 및 수리	확대경, 인두기	1	SMD제품	인두기온도 관리	인두기 실측온도 관리 (380~420℃) 납땜 및 부품 규격 이상 없을 것			온도측정	2회/일	인두기온도 체크시트	○		인두기 교체		

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO : 55	57
REFORM :			
DECISION :		BRM-BT10	

14. Manufacturing Control Plan (2/2)

공정 번호	공정흐름도 SUB/MAIN 위치	공정명	설비명	관리 항목		특성	관리 기준			관리방법	이상 발생시 조치사항	비고
				NO	재 용	공정 내용	규 격	확인방법	주 기			
110		Metal Dome sheet 부착	Metal Dome sheet M/C	1	원자재	Metal Dome sheet 부착	부착상태 이상 없음	설비	전수	설비	○	식별, 격리, 수리
120		CSR IC Writing	Writing M/C	1	Main PCBA	CSR IC Writing	Writing 이상 없음	설비	전수	설비	○	식별, 격리, 수리
130		UE878 IC Writing	Writing M/C	1	Main PCBA	UE878 IC Writing	Writing 이상 없음	설비	전수	설비	○	식별, 격리, 수리
140		누설전류 검사	Function Test M/C	1	Main PCBA	누설 전류측정	누설전류 Spec 만족할 것	설비	전수	설비	○	식별, 격리, 수리
150		IR/RF 출력 및 동작전류 검사	Function Test M/C	1	Main PCBA	IR/RF 동작 검사 (저전압 : 2.3V 인가)	IR/RF 동작 이상 없음	설비	전수	설비	○	식별, 격리, 수리
				2	Main PCBA	동작전류 검사	동작전류 Spec 만족할 것	설비	전수	설비	○	식별, 격리, 수리
160		생산일자 마킹	Marking	1	Main PCBA	생산일자 마킹	마킹상태 문제 없음	설비	전수	설비	○	식별, 격리, 수리
170		제품 포장	매거진	1	PCB Assy	제품포장	모델 혼입 없음 식별 확인	육안	전수	설비	○	재 포장
55		부적합품 분석 및 수리	확대경, 인두기, 검사 JIG	1	Main PCBA	인두기 온도 관리	인두기 실측 온도 관리 (380~420°C)	온도측정	1회/일	인두기온도 체크시트	○	인두기 교체
				2	Main PCBA	분석 및 수리	재 검사시 양품 판정일것, 납땜 이상 없음	기능검사 전류검사	부적합품	공정 부적합 관리대장	○	수리후 재검사, 패기
180		Top Case 조립	수작업	1	Top Case, Keypad, Main PCBA	Top Case + Keypad + Main PCBA	Keypad 및 Main PCBA 안착시 들뜸 없음	육안	전수	작업 지도서	○	수정, 재작업
190		완제품 형합	수작업	1	Top Assy, Bottom Cover, Filter	Top Case Assy + Bottom Cover 형합	Spring 이탈, 단차, 벌어짐 없음 필터 결함 상태 확인 할 것 가형할 후 완전 형합 할 것 가형할시 문제 파손 주의	육안	전수	작업 지도서	○	수정, 재작업
200		학습 검사	수작업	1	완제품	리모컨 Learning 확인 + IR Filter 부호피 부착	Learning 기능에 이상이 없음 IR Filter 부호피 부착 후 상태 확인 할 것	육안	전수	작업 지도서	○	식별, 격리, 수리
210		IR 동작검사	4IN1 검사JIG	1	완제품	IR 동작검사 Back Label 부착 Side key 검사	Full Key IR 출력 이상 없음 LED 점등 확인 할 것 Side key 이상 없음	설비	전수	작업 지도서	○	식별, 격리, 수리
220		Back Light 검사	암실박스	1	완제품	리모컨 Back Light 확인	Back Light 점등에 이상이 없음	육안	전수	작업 지도서	○	식별, 격리, 수리
230		RF 동작검사	RF 검사JIG	1	완제품	페어링	페어링 상태 및 부저음 확인 RSSI 값, SW, FW 버전 확인 Voice 및 누설전류 확인 버전라벨(제조일자) 부착	육안	전수	작업 지도서	○	격리, 수리
240		오디오 Streaming 검사	PC 검사JIG 섀드 Box	1	완제품	오디오 페어링	페어링 이상 없음	육안	전수	작업 지도서	○	격리, 수리
250		PE-BAG 용착	검사JIG	1	완제품	PE-BAG 용착	PE-BAG 용착 상태 이상 없음	육안	전수	작업 지도서	○	격리, 수리
260		외관검사	육안	1	완제품	외관 상태	형합상태(Gap, 단차) 이상 없음 IR Filter 부호피 부착 상태 이상 없음 사양 이상 없음, 이물 및 찍힘 등 없음	육안	전수	검사 기준서	○	격리, 수리
				2	완제품	PE-BAG 건전지 삽입	PE-BAG 에 건전지 삽입	육안	전수	작업 지도서	○	격리, 수리
270		제품포장	수작업	1	완제품	매뉴얼, PE-Bag	매뉴얼 누락 및 찢어짐 없음	육안	전수	작업 지도서	○	격리, 수정
				2	완제품	Carton Box 포장	혼입 및 정량 이상 없음 (Box : 80EA)	육안	Box	작업지도서 비교도라벨	○	격리, 수정
56		부적합품 분석 및 해체	수작업	1	완제품	분석 및 해체	기구물과 성능 불량 관리, 해체시 부품 파손 주의 및 확인	육안/ 식별 라벨	부적합품	공정 부적합 관리대장	○	수리 후 재검사, 패기
				2	완제품	식별관리	양품과 부적합품 혼입되지 않을 것	육안/ 식별 라벨	부적합품	공정 부적합 관리대장	○	수리 후 재검사, 패기
280		출하검사	페어링 Dongle, 검사 P/G, JIG, Power Supply, 전류계, 확대경	1	완제품	외관검사 (Design)	디자인 사양 및 승인 샘플과 일치할 것 유해한 결함이 없을 것	표준샘플 /육안	sampling G-II, n.65	검사 기준서	○	선별, 재작업, 부적합 발행
				2	완제품	성능 검사	페어링, 음성, 오디오, LED 점등, 부저, Back Light, Full Key 동작 이상 없음	검사 P/G	sampling G-II, n.65	검사 기준서	○	선별, 재작업, 부적합 발행
				3	완제품	전기적 특성	1. RFI(물류)동작 전류 : 25mA 이하 2. IR(TV물류) 동작전류 : 65mA 이하 3. 누설 전류 - 페어링 전 : (AVR) 20 uA 이하 - 페어링 후 : (AVR) 40 uA 이하 4. 동작전압 : 2.2 ~ 3.4V	Power Supply, 전류계	Sampling n=5, c=0	검사 기준서	○	선별, 재작업, 부적합 발행
				4	완제품	분해검사	소납, 내부이물, 부품 미삽, 파손 등 없음	육안, 확대경	n=1, c=0	검사 기준서	○	선별, 재작업, 부적합 발행
				5	완제품	제품포장상태	포장재 찢어짐, 이물이 없을 것 식별 및 정량, 정품 이상 없음	육안	Sampling Check	검사 기준서	○	선별, 재작업, 부적합 발행
57		출하	지게차, 납품차	1	완제품	제품 재고 관리	재고 수량, 제품 혼입 및 보관 상태 이상 없음	현물표	출하 대기물	전산 (SAP)		

※ 기호 설명

No.	기호 명칭	기 호	의 미
1	가공	○	원자재나 반제품을 가공적으로 처리하여 새로운 제품을 만든
2	방향지시	→	원자재, 반제품, 완제품이 공정에 따라 흐르는 이동하는 과정
3	저장	▽	원자재, 반제품, 완제품이 공정에 따라 저장하는 과정
4	수량검사	□	원자재, 반제품, 완제품의 개수를 개량하여 그 결과 확인하는 과정
5	검사	◇	원자재, 반제품, 완제품의 품질 특성을 시험하고 합격, 불합격을 판정하는 과정
6	수입출하검사	◇	원자재의 품질 특성을 시험하고 합격, 불합격을 판정하는 과정
7	수리 공정	⊗	공정 부적합품에 대해 수리하여 양품, 불량률 판정하는 과정

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	SPECIFICATION (TRANSMITTER REMOCON)	MODEL NO :	56
REFORM :		BRM-BT10	57
DECISION :			

15. TV Brand List (1/2)

[illegible]

REMOTE SOLUTION CO., LTD.

INSTITUTION : 2019.07.02	<u>SPECIFICATION</u> (TRANSMITTER REMOCON)	MODEL NO :	57
REFORM :		BRM-BT10	57
DECISION :			

15. TV Brand List (2/2)

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