
UHD TV
MU6100

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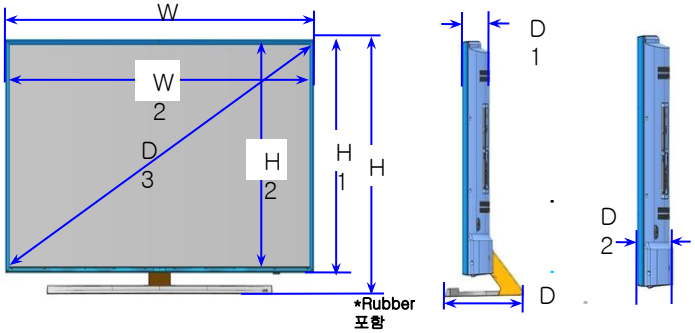
UHD TV
Product Introduction



MU6100 Specification

- 2160P Ultra HD
- 3HDMI
-- PurColor
- Smart HUB
- Built–in Wi-Fi / BT
- Simple Smart Control

MU6100 Detail spec.

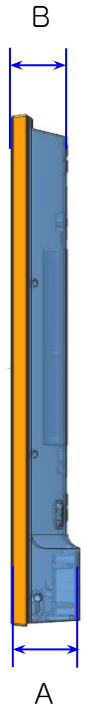
- Front Color : Dark Titan
- Design : Flat Y-Shape
- Panel : 60Hz
- Memory : Flash 4G

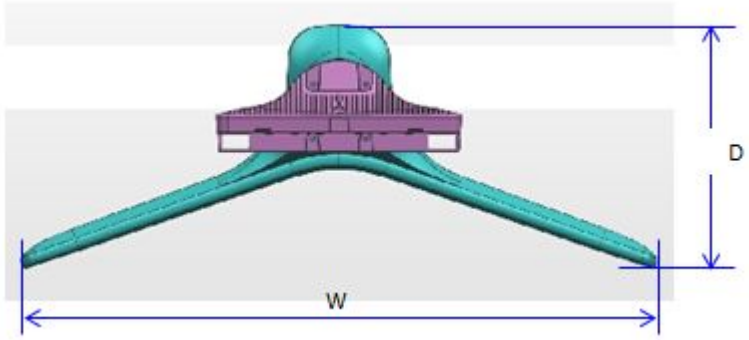
		40”	43”	50”	55”	65”
Front Color		Dark Titan	Dark Titan	Dark Titan	Dark Titan	Dark Titan
Dimensions W x D x H [(mm]	Without Stand <Inch>	917.7 * 535.7 * 62.6 <36.1 * 21.1 * 2.5>	975.8 * 569.0 * 62.6 <38.4 * 22.4 * 2.5>	1128.9 * 654.4 * 63.2 <44.4 * 25.8 *2.5>	1242.6 * 718.4 * 63.2 <48.9 * 28.3 * 2.5>	1463.5 * 844.5 * 64.6 <57.6 * 33.2 * 2.5>
	With Stand <Inch>	917.7 * 596.5 * 288.1 <36.1 * 23.5 * 11.3>	975.8 * 637.0 * 288.1 <38.4* 25.1 * 11.3>	1128.9 * 723.7 * 310.5 <44.4 * 28.5 * 12.2>	1242.6 * 787.5 * 310.5 <48.9 * 31.0 * 12.2>	1463.5 * 907.6 * 369.4 <57.6 * 35.7 * 14.5>
Weight [Kg]	Without Stand <Lb>	7.7 <17.0>	8.8 <19.4>	12.2 <26.9>	15.0 <33.1>	23.7 <52.2>
	With Stand <Lb>	8.6 <19.0>	9.7 <21.4>	13.2 <29.1>	16.0 <35.3>	25.8 <56.9>

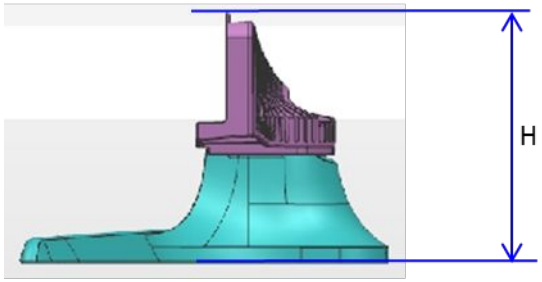
Specification

	MU6100
CPU	4 X CA72 @1.7GHz
DDR	LPDDR4 64bit @1.6GHz, 2GB
Flash	4GB (eMMC5.0)
HDMI USB	3 INPUT, HDMI 2.0 2 INPUT, USB 2.0
Voice Recognition	O
Camera	X
Eco Sensor/IR/LED , BT/WIFI	Built-in bottom Frame
Sound output	20W(Left 10W Right 10W)
Screen Mirroring	YES (TV to Mobile, Mobile to TV)

Dimension – Stand & Cover Rear Area



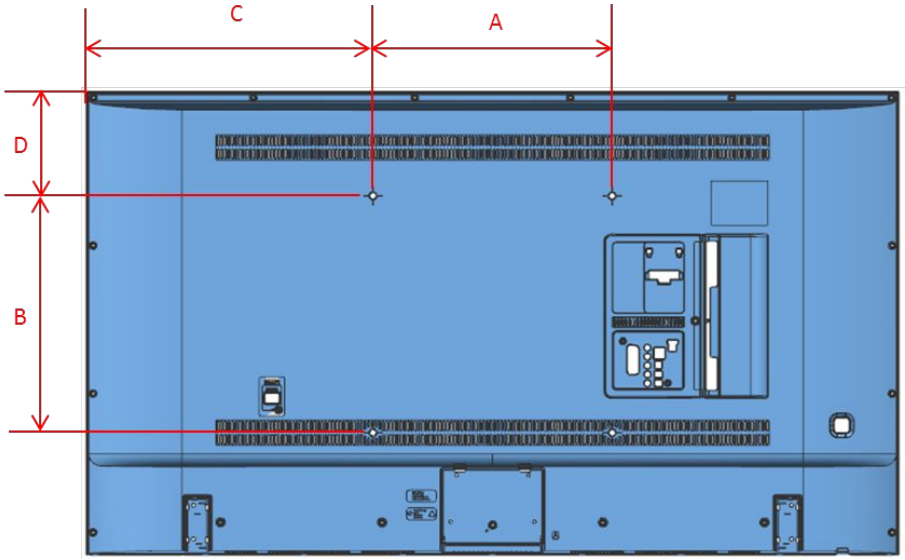




*Rubber 포함

항 목	KU6000						
	40"	43"	50"	55"	60"	65"	70"
ASSY-STAND (W * D * H)	751.3*288.1 *159.4	751.3*288.1 *159.4	833.2*310.5 *159.2	833.2*310.5 *159.2	963.3*369.4 *221.1	963.3*369.4 *221.1	1061.12*378.57*27 8.23
COVER-REAR A mm(B mm)	62.6(49.5)	62.5(51.2)	63.2(50.1)	63.2(50.1)	64.0(50.8)	64.6(51.4)	63.7(50.6)

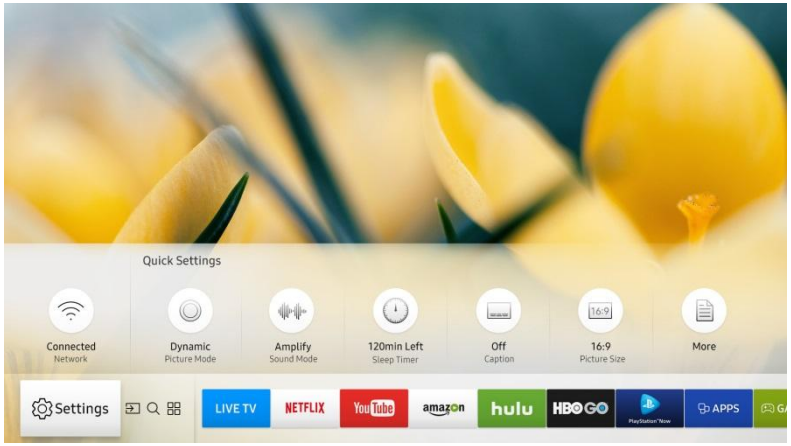
Dimension – Stand & Cover Rear Area



구분	40"	43"	50"	55"	60"	65"	70"
WALL MOUNT(AXB)	200.0*200.0	200.0*200.0	400.0*400.0	400.0*400.0	400.0*400.0	400.0*400.0	400.0*400.0
C	356.7	385.8	362.2	419.1	479.6	529.5	583.9
D	124.7	179.5	92.6	149.5	176.6	217.1	235.3

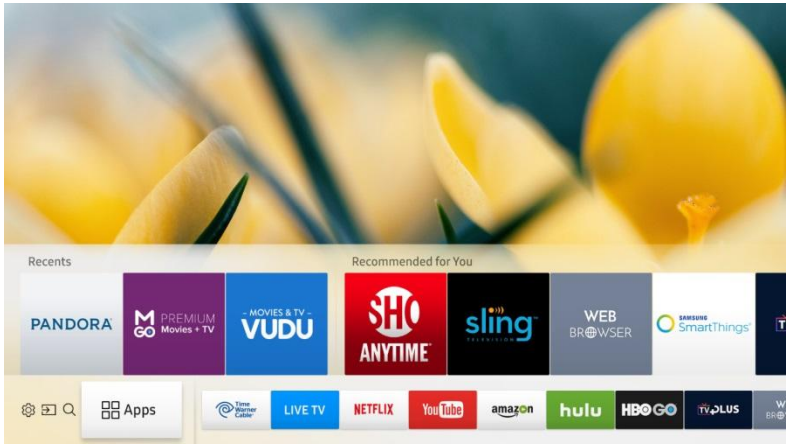

UHD TV
Key Features & Operation

2017” GUI / Eden 2.0

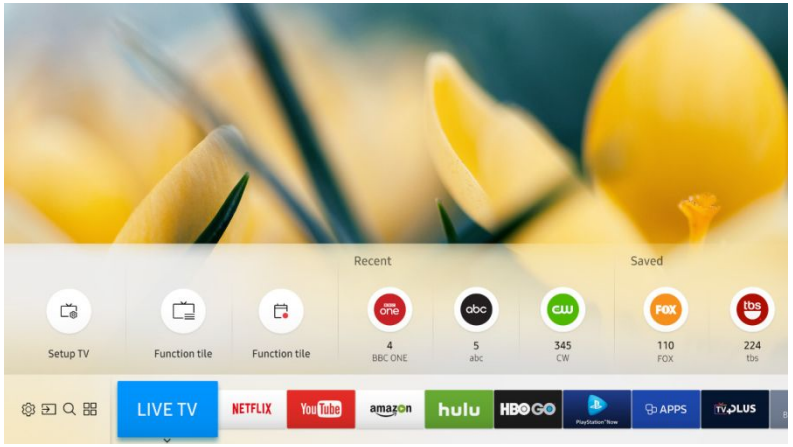


Quick Settings

Sources



Apps



Live TV

2017” Smart Control

Simple & Easy Remote

STB	US	REC / STOP / Yellow / Blue / Red / Green / Info / Last / STB power * Exceptions are specified for cases
	EU	REC / STOP / Red / Green / Yellow / Blue / Info / Last / STB power * UX Solution for Broadcaster certification issue
	KOR	Info / Red / Green / Yellow / Blue / STB power * Exceptions are specified for cases
BD		Info / Red / Green / Yellow / Blue / BD Power
HTS		Info / Red / Green / Yellow / Blue / HTS Power

※ ex : TWC STB (US), Key Set detail TBD

One Remote

[One Remote Auto Setting Process]

2017” Smart Control

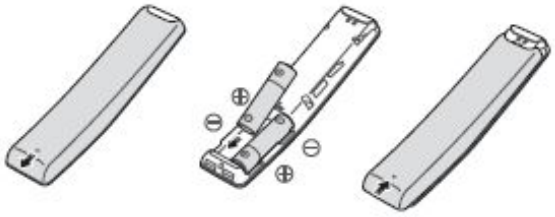
Pairing the TV to the Samsung Smart Control

When you turn on the TV for the first time, the Samsung Smart Control pairs to the TV automatically. If the Samsung Smart Control does not pair to the TV automatically, point it at the remote control sensor of the TV, and then press and hold the buttons labeled ① and ② in the following figure simultaneously for 3 seconds or more.

Installing batteries into the Samsung Smart Control

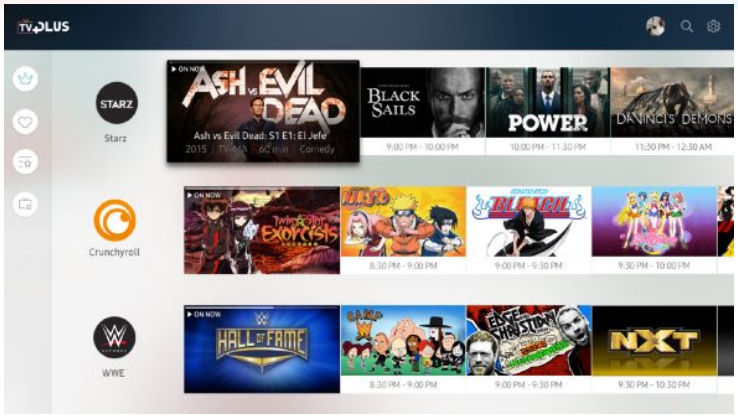
To install the batteries, push the rear cover open in the direction of the arrow and insert the batteries as shown in the figure. Make sure that the positive and negative ends are facing in the correct direction.

Alkaline batteries are recommended for longer battery life.

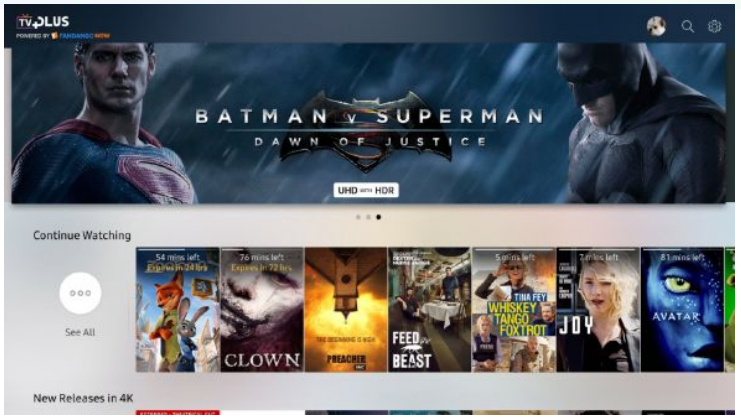


TV Plus (US Edition)

① TV Shows



② Movies



③ Samsung Check-out


UHD TV
Front View

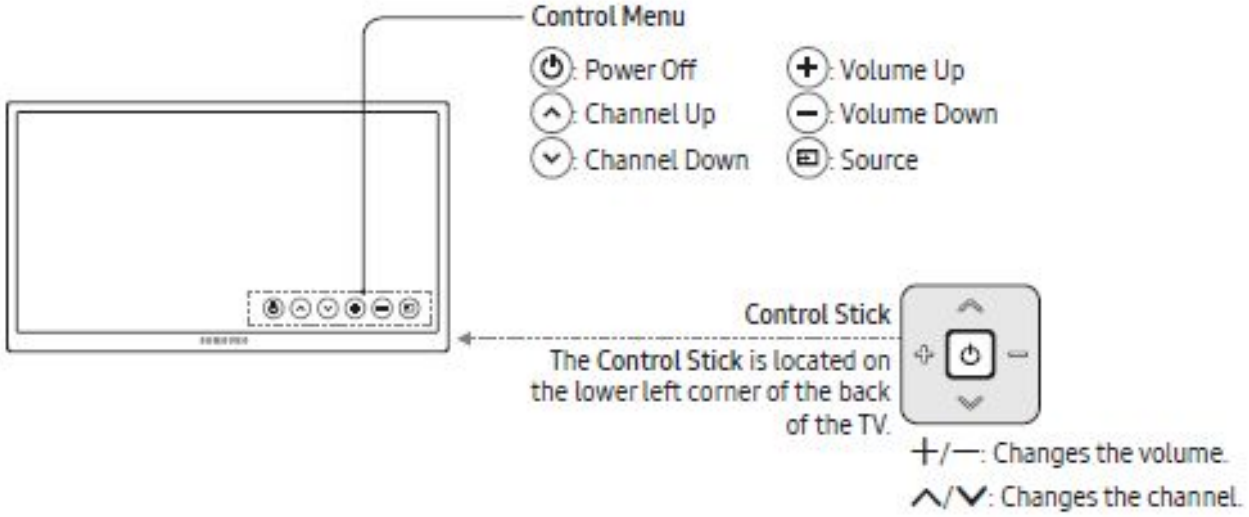
Front View MU6100

Initial Setup

When you turn on your TV for the first time, it immediately starts the Initial Setup. During Initial Setup, your TV pairs with the Samsung Smart Control, connects to your home network, implements Smart Hub agreements, links to the source of your live TV signal, and sets up control of your cable or satellite box.

Using the TV Controller

You can use the TV Controller on the back of the TV instead of the remote control to control most of the functions of your TV. While watching TV or cable TV, you can change the channel or adjust the volume by pressing the Control Stick. When using Smart Hub, the TV's menu, or selecting a source, move the Control Stick up, down, left, or right to move the cursor. Press the Control Stick to select or activate the item highlighted by the cursor.



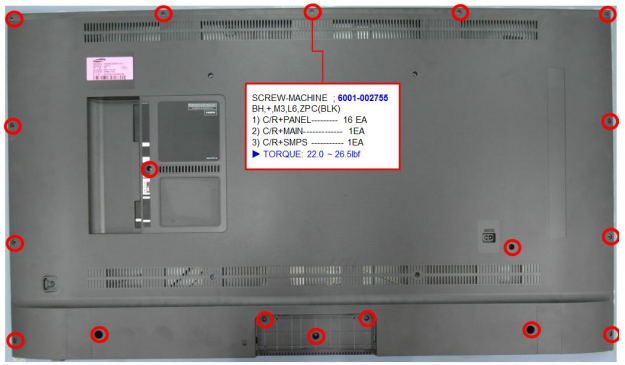

UHD TV
Repair Preparations

1.

Repair Preparations

1. Disconnect PWR Cord.
2. Lay the TV Face Down on Protective Table with a screen cushion
3. Remove the 4 Stand Screws and remove the stand
4. Remove the Rear Panel Screws and Rear Panel Cover.
5. Reconnect PWR.
   Option: Can re-install stand to test the TV in the normal upright position.

2, 4.



SCREW-MACHINE ;
6001-002755
BH,+,M3,L6,ZPC(BLK)
1) C/R+PANEL----- 16 EA

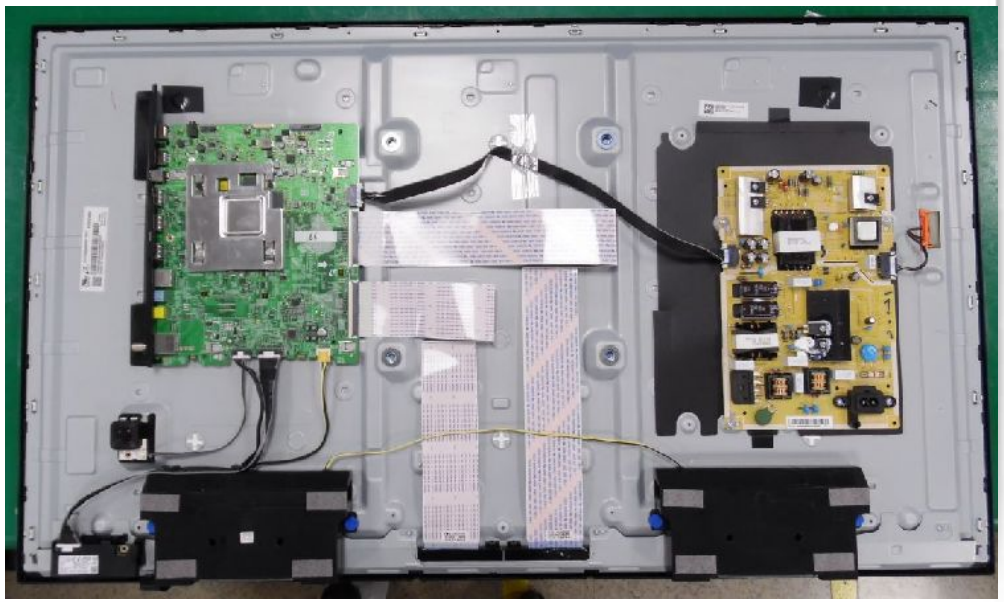
2) C/R+MAIN ------ 1 EA
3) C/R+SMPS ------ 1 EA
▸ TORQUE: 7~ 8Kgf.cm.

3.

- 6902-002474
  4ea

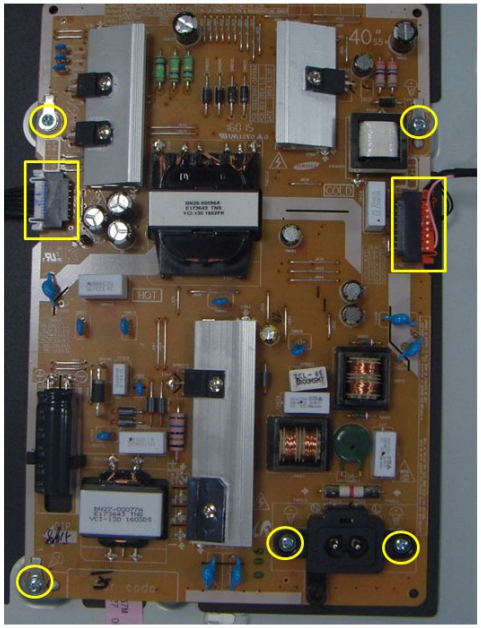
▸ TORQUE: 7~ 8Kgf.cm

5.



Removing SMPS board

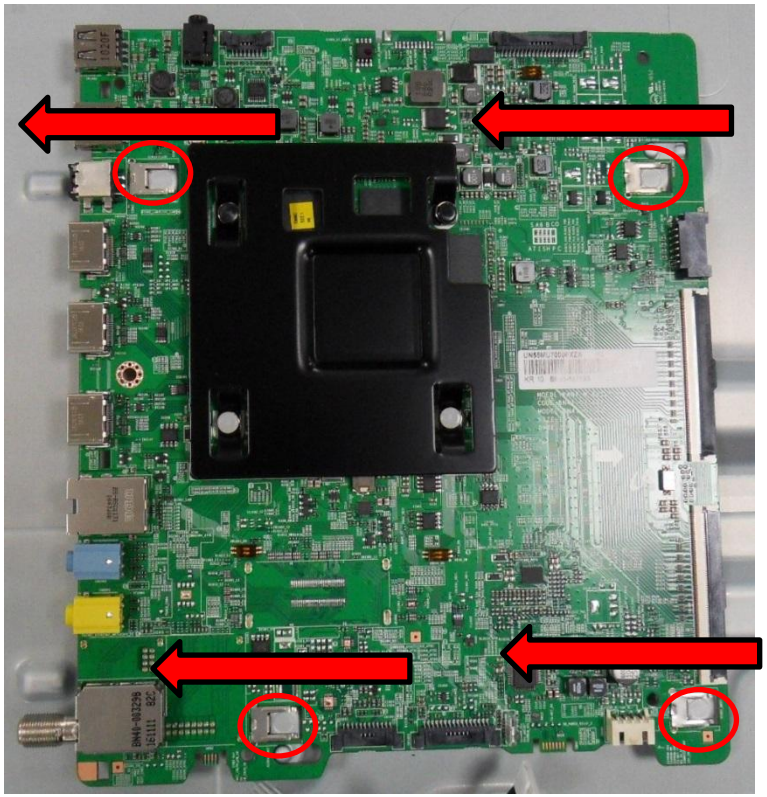
Remove 2 Cables and 4 Screws on Power Connector



Removing Main board

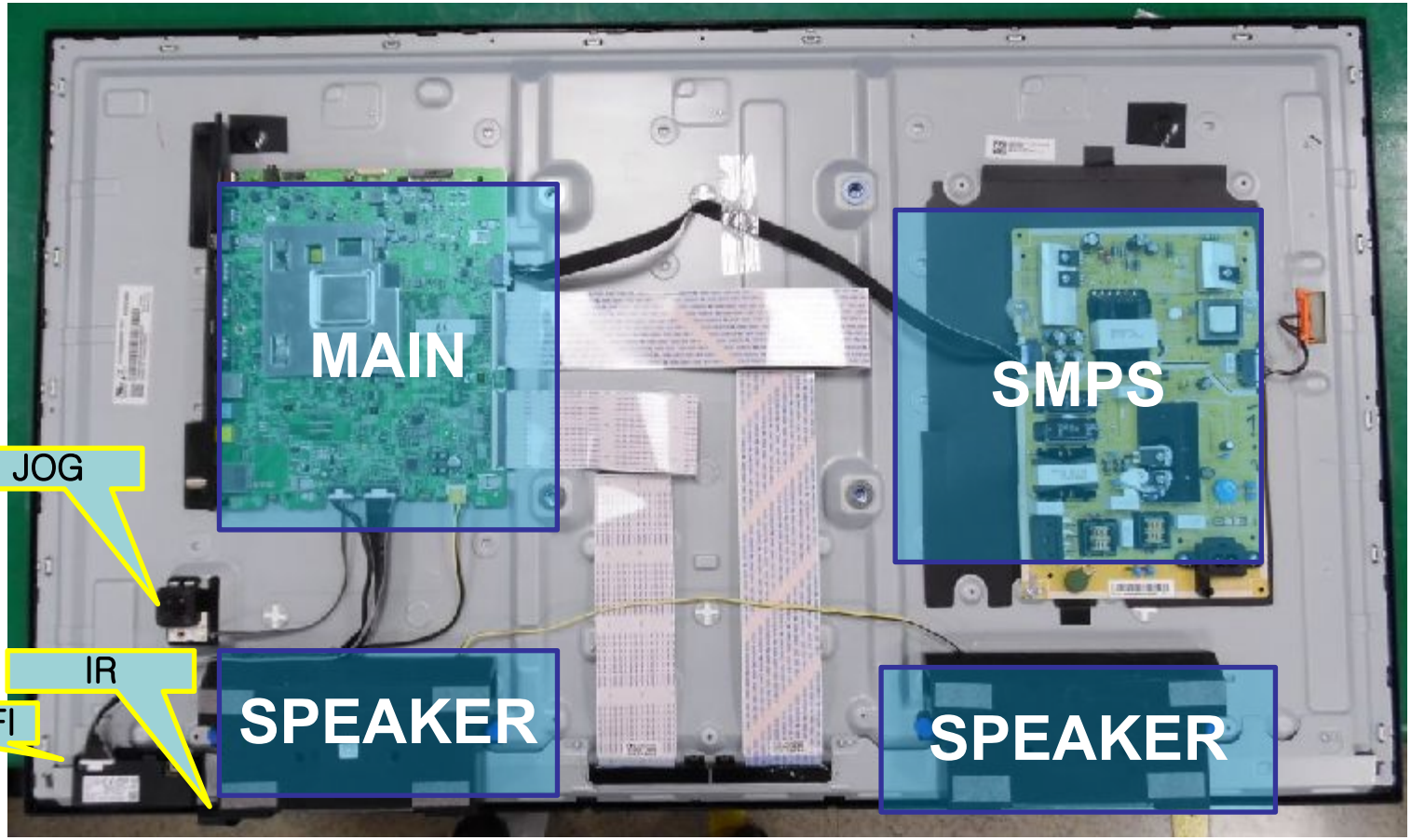
- Use both hands to hold the 'TV Board' and slide the board to the right to release the board.

Then carefully remove the 'TV Board'.



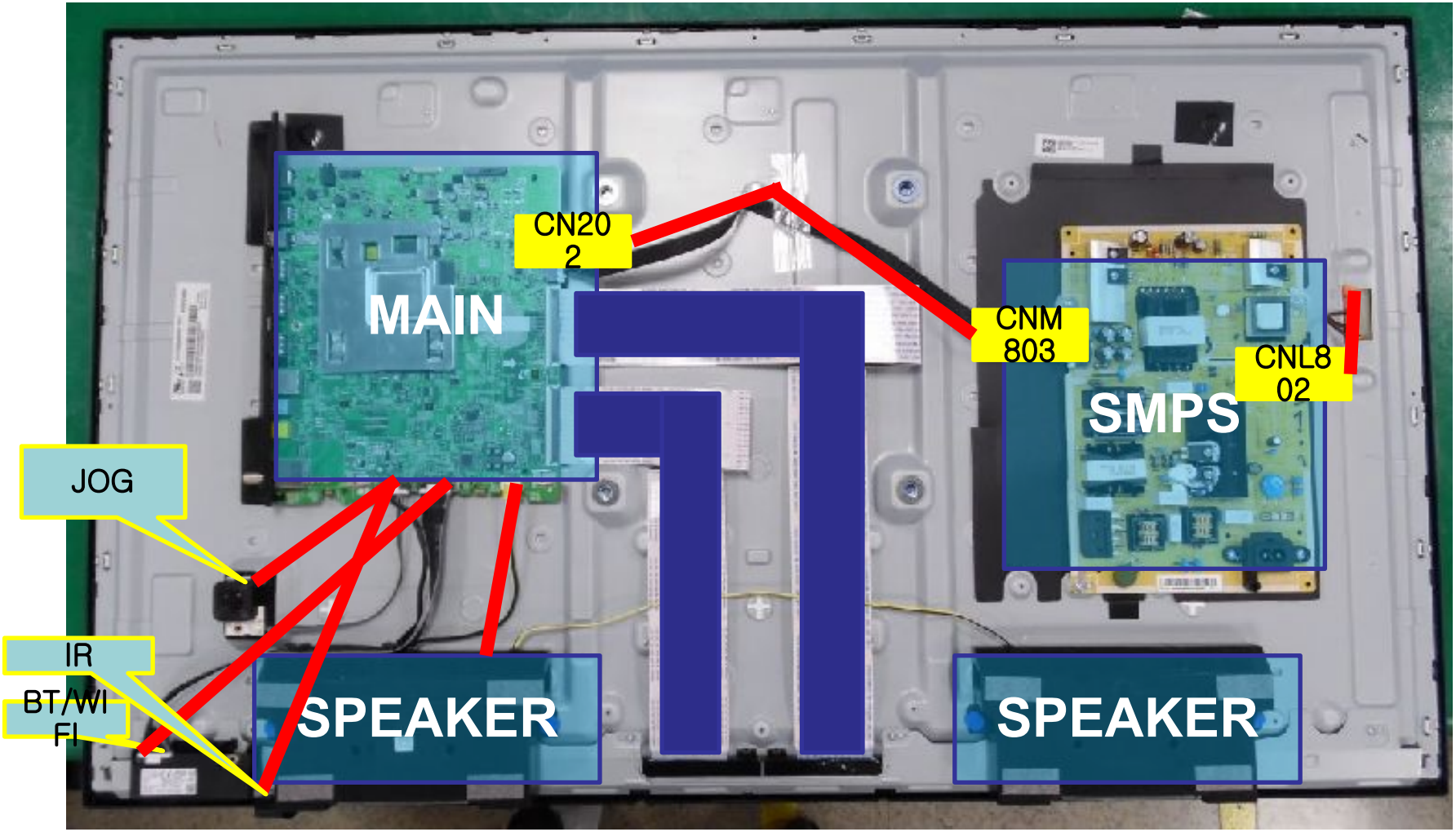

UHD TV
Layout

Layout



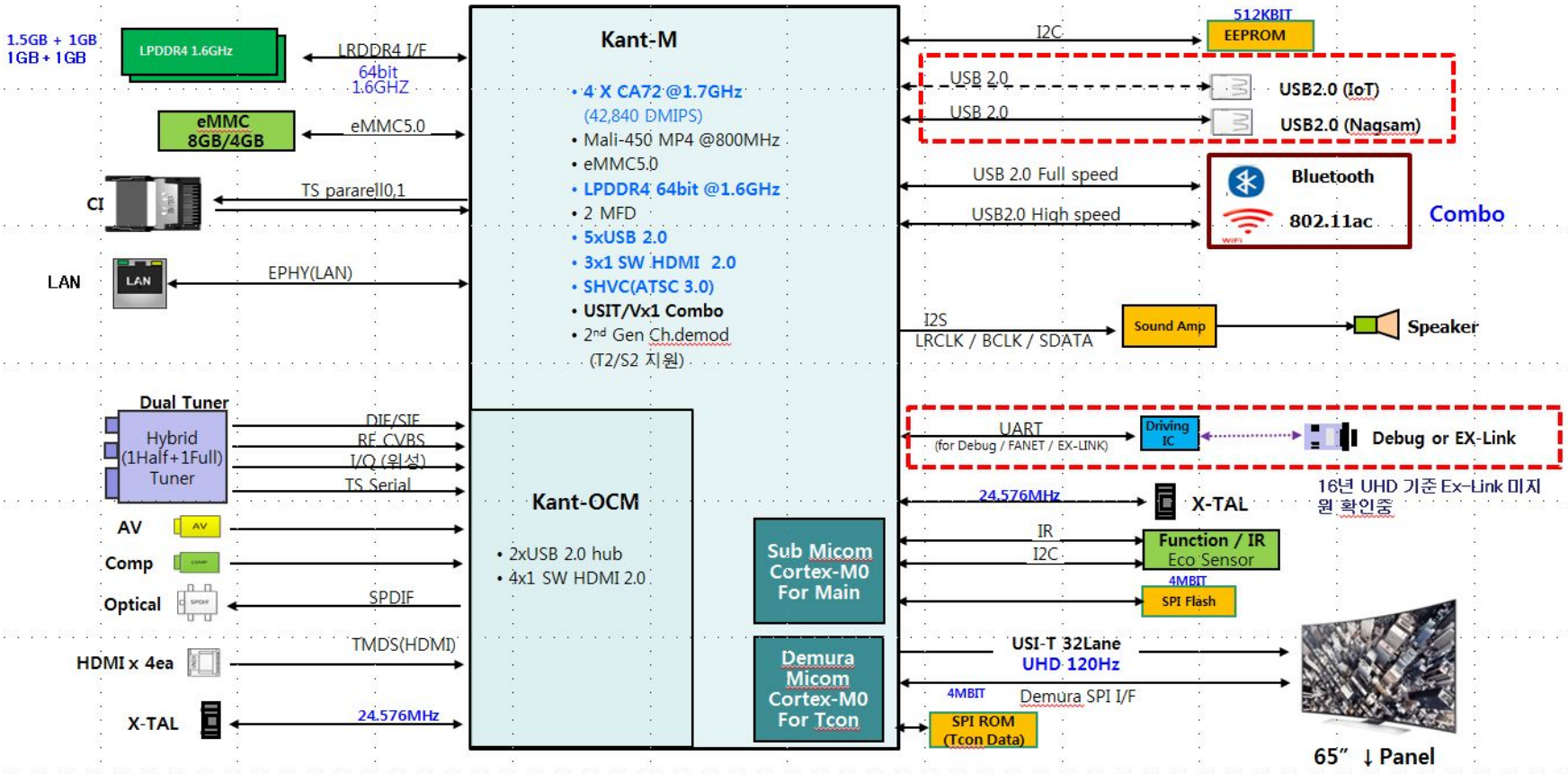

UHD TV
Wiring Diagram

Wiring Diagram

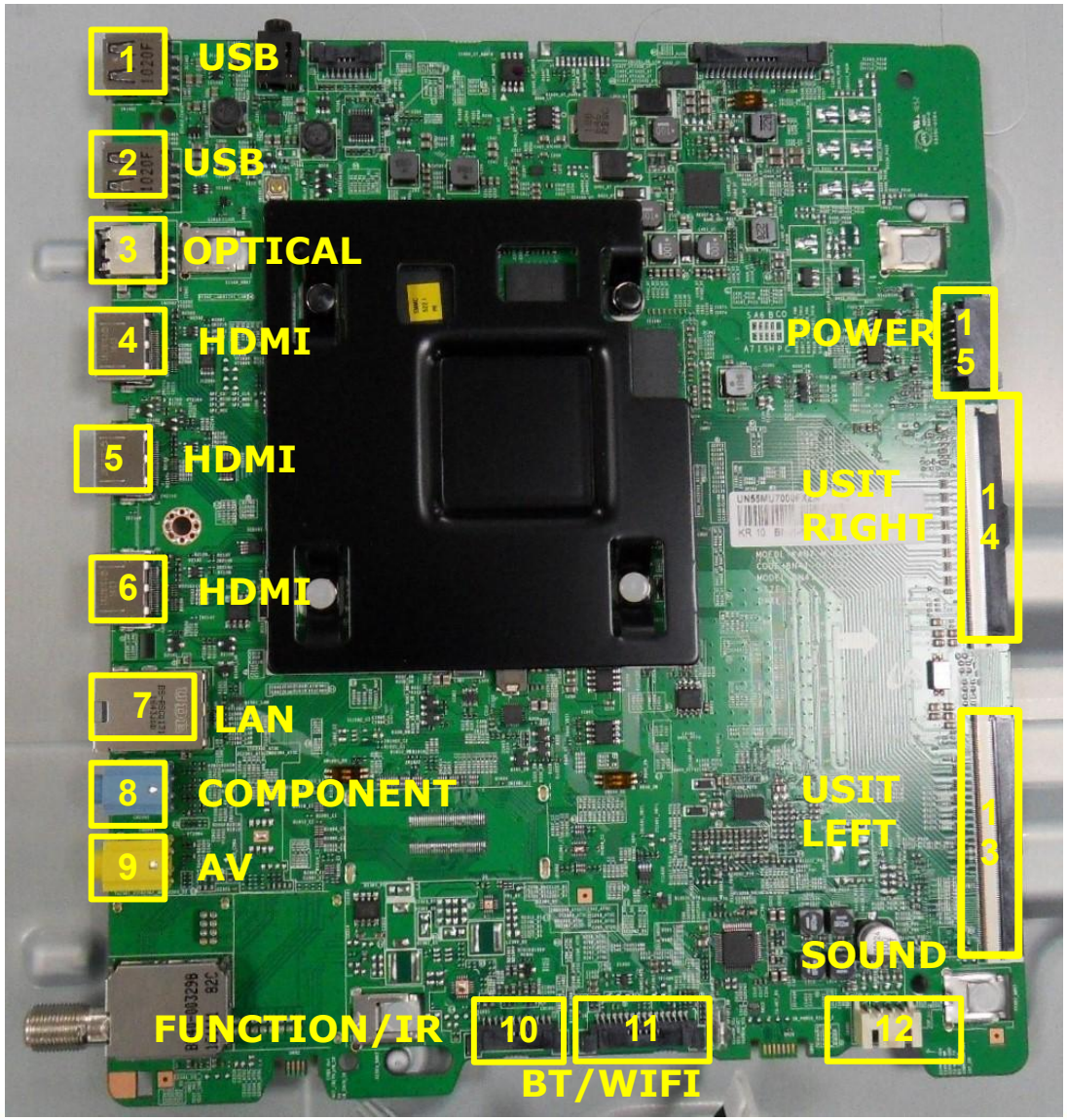



UHD TV
Circuit Description

Block Diagram



Main Board


1
USB
2
USB
3
OPTICAL
4
HDMI
5
HDMI
6
HDMI
7
LAN
8
COMPONENT
9
AV
POWER
1
5
USIT
RIGHT
1
4
USIT
LEFT
1
3
SOUND
FUNCTION/IR
10
11
BT/WIFI
12

Main Board Pin Map

13. CN1801_UT (USI-T LEFT)			
1	FB_TRDY_1	2	GND
3	PANEL_3.3V_PW	4	PANEL_3.3V_PW
5	FB_VCOM1_2_CELL	6	VCOM1_CELL
7	VCOM2_CELL	8	VCOM3_CELL
9	VSS_-7.5V_PW	10	VOFF_-11V_PW
11	-	12	CKV1_MB4
13	CKV2_MB4	14	CKV3_MB4
15	CKV4_MB4	16	CKVB1_MB4
17	CKVB2_MB4	18	CKVB3_MB4
19	CKVB4_MB4	20	STVP_MB4
21	ASG_MON_L_MB4	22	-
23	GND	24	GND
25	DEMURA_SSPHOLD_SPI	26	DEMURA_SSPWP_SPI
27	DEMURA_SSPRXD_SPI	28	DEMURA_SSPTXD_SPI
29	DEMURA_SSPFRM_SPI	30	DEMURA_SSPCLK_SPI
31	GND	32	JM_USIT_TX_CH0_A+
33	JM_USIT_TX_CH0_A-	34	GND
35	JM_USIT_TX_CH0_B+	36	JM_USIT_TX_CH0_B-
37	GND	38	JM_USIT_TX_CH1_A+
39	JM_USIT_TX_CH1_A-	40	GND
41	JM_USIT_TX_CH1_B+	42	JM_USIT_TX_CH1_B-
43	GND	44	JM_USIT_TX_CH2_A+
45	JM_USIT_TX_CH2_A-	46	GND
47	JM_USIT_TX_CH2_B+	48	JM_USIT_TX_CH2_B-
49	GND	50	JM_USIT_TX_CH3_A+
51	JM_USIT_TX_CH3_A-	52	GND
53	JM_USIT_TX_CH3_B+	54	JM_USIT_TX_CH3_B-
55	GND	56	JM_USIT_TX_CH4_A+
57	JM_USIT_TX_CH4_A-	58	GND
59	JM_USIT_TX_CH4_B+	60	JM_USIT_TX_CH4_B-
61	GND	62	JM_USIT_TX_CH5_A+
63	JM_USIT_TX_CH5_A-	64	GND
65	JM_USIT_TX_CH5_B+	66	JM_USIT_TX_CH5_B-
67	GND	68	JM_USIT_TX_CH6_A+
69	JM_USIT_TX_CH6_A-	70	GND
71	JM_USIT_TX_CH6_B+	72	JM_USIT_TX_CH6_B-
73	GND	74	JM_USIT_TX_CH7_A+
75	JM_USIT_TX_CH7_A-	76	GND
77	JM_USIT_TX_CH7_B+	78	JM_USIT_TX_CH7_B-
79	GND	80	SFC1
81	GND	82	PI_DSF_MONITOR
83	PORTNUM	84	VCCA_1.9V_PW
85	VCCB_1.8V_PW	86	L_L_CELL
87	L_H_CELL	88	HAVDD_8.5V_PW
89	U_L_CELL	90	U_H_CELL
91	AVDD_17V_PW	92	AVDD_17V_PW
93	AVDD_17V_PW	94	AVDD_17V_PW
95	-	96	FB_TRDY_2

14. CN1802_UT (USI-T RIGHT)			
1	FB_TRDY_2	2	
3	AVDD_17V_PW	4	AVDD_17V_PW
5	AVDD_17V_PW	6	AVDD_17V_PW
7	U_H_CELL	8	U_L_CELL
9	HAVDD_8.5V_PW	10	L_H_CELL
11	L_L_CELL	12	VCCB_1.8V_PW
13	VCCA_1.9V_PW	14	PI_DSF_MONITOR
15	PORTNUM	16	GND
17	-	18	-
19	-	20	GND
21	SFC1	22	GND
23	JM_USIT_TX_CH8_A+	24	JM_USIT_TX_CH8_A-
25	GND	26	JM_USIT_TX_CH8_B+
27	JM_USIT_TX_CH8_B-	28	GND
29	JM_USIT_TX_CH9_A+	30	JM_USIT_TX_CH9_A-
31	GND	32	JM_USIT_TX_CH9_B+
33	JM_USIT_TX_CH9_B-	34	GND
35	JM_USIT_TX_CH10_A+	36	JM_USIT_TX_CH10_A-
37	GND	38	JM_USIT_TX_CH10_B+
39	JM_USIT_TX_CH10_B-	40	GND
41	JM_USIT_TX_CH11_A+	42	JM_USIT_TX_CH11_A-
43	GND	44	JM_USIT_TX_CH11_B+
45	JM_USIT_TX_CH11_B-	46	GND
47	JM_USIT_TX_CH12_A+	48	JM_USIT_TX_CH12_A-
49	GND	50	JM_USIT_TX_CH12_B+
51	JM_USIT_TX_CH12_B-	52	GND
53	JM_USIT_TX_CH13_A+	54	JM_USIT_TX_CH13_A-
55	GND	56	JM_USIT_TX_CH13_B+
57	JM_USIT_TX_CH13_B-	58	GND
59	JM_USIT_TX_CH14_A+	60	JM_USIT_TX_CH14_A-
61	GND	62	JM_USIT_TX_CH14_B+
63	JM_USIT_TX_CH14_B-	64	GND
65	JM_USIT_TX_CH15_A+	66	JM_USIT_TX_CH15_A-
67	GND	68	JM_USIT_TX_CH15_B+
69	JM_USIT_TX_CH15_B-	70	GND
71	SFC2	72	GND
73	-	74	ASG_MON_R_MB4
75	STVP_MB4	76	CKVB4_MB4
77	CKVB3_MB4	78	CKVB2_MB4
79	CKVB1_MB4	80	CKV4_MB4
81	CKV3_MB4	82	CKV2_MB4
83	CKV1_MB4	84	-
85	VOFF_-11V_PW	86	VSS_-7.5V_PW
87	-	88	VCOM3_CELL
89	FB_VCOM3_CELL	90	VCOM2_CELL
91	VCOM1_CELL	92	FB_VCOM4_CELL
93	PANEL_3.3V_PW	94	PANEL_3.3V_PW
95	FB_TRDY_3	96	GND

1. CN2303 (USB)			
1	A5V_USB2_PW	3	JACK_D+_USB2
2	JACK_D-_USB2	4	GND

2. CN2304 (USB)			
1	B5V_USB1_PW	3	JACK_D+_USB1
2	JACK_D-_USB1	4	GND

3. CN501 (OPTICAL)			
1	SPDIF_OUT	3	GND
2	B5V_PW		

4. CON_H4 (HDMI)			
1	HDMI4_RX2+_HDMI	11	GND
2	GND	12	HDMI4_RXC-_HDMI
3	HDMI4_RX2-_HDMI	13	CEC
4	HDMI4_RX1+_HDMI	14	GND
5	GND	15	HDMI4_SCL_DDC
6	HDMI4_RX1-_HDMI	16	HDMI4_SDA_DDC
7	HDMI4_RX0+_HDMI	17	GND
8	GND	18	HDMI4_IDENT
9	HDMI4_RX0-_HDMI	19	HDMI4_HPD
10	HDMI4_RXC+_HDMI		

5. CON_H3 (HDMI)			
1	HDMI3_RX2+_HDMI	11	GND
2	GND	12	HDMI3_RXC-_HDMI
3	HDMI3_RX2-_HDMI	13	CEC
4	HDMI3_RX1+_HDMI	14	ARC_SINGLE
5	GND	15	HDMI4_SCL_DDC
6	HDMI3_RX1-_HDMI	16	HDMI4_SDA_DDC
7	HDMI3_RX0+_HDMI	17	GND
8	GND	18	HDMI3_IDENT
9	HDMI3_RX0-_HDMI	19	HDMI3_HPD
10	HDMI3_RXC+_HDMI		

6. CON_H2 (HDMI)			
1	HDMI2_RX2+_HDMI	11	GND
2	GND	12	HDMI2_RXC-_HDMI
3	HDMI2_RX2-_HDMI	13	CEC
4	HDMI2_RX1+_HDMI	14	GND
5	GND	15	HDMI2_SCL_DDC_BUFFER
6	HDMI2_RX1-_HDMI	16	HDMI2_SDA_DDC_BUFER
7	HDMI2_RX0+_HDMI	17	GND
8	GND	18	HDMI2_IDENT
9	HDMI2_RX0-_HDMI	19	HDMI2_HPD
10	HDMI2_RXC+_HDMI		

7. CN2401_LAN (LAN)			
1	LAN_TXD+_LAN	5	GND
2	GND	6	LAN_RXD-_LAN
3	LAN_TXD-_LAN	7	NC
4	LAN_RXD+_LAN	8	GND

8. CN601 (COMPONENT)			
1	GND	5	TEST_PR
2	COMP_PB	6	GND
3	COMP_PR	7	GND
4	IDENT_COMP		

9. CN602 (AV)			
1	GND	5	TEST_SR
2	AV1_CVBS_IN	6	TEST_SL
3	COMP_AV1_SR_IN	7	COMP_AV1_SL_IN
4	IDENT_VIDEO		

10. CN1101 (FUNCTION&IR)			
1	IR	7	KEY_INPUT2
2	GND	8	LED_STB_OUT
3	A3.3V_PW	9	NC
4	AMP_SCL_I2C	10	NC
5	AMP_SDA_I2C	11	NC
5	KEY_INPUT1	12	NC

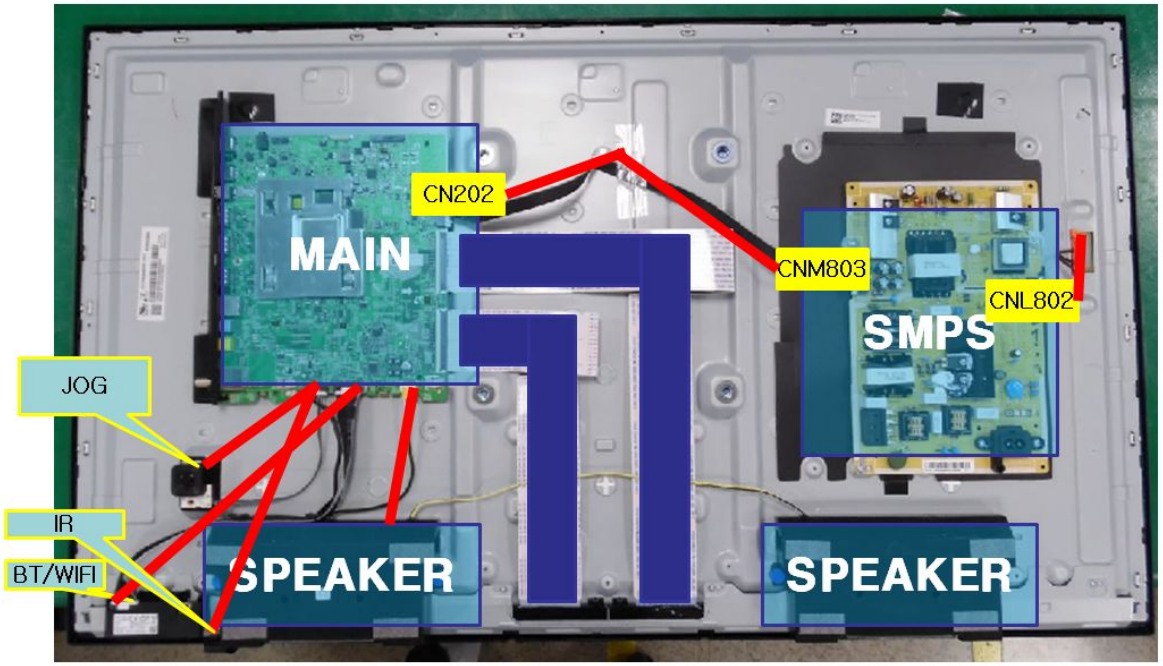
11. CN2301 (BT&WIFI)			
1	BT_NRESET	9	WIFI_PHY_ON
2	BT_MODULE_WAKE	10	GND
3	BT_WAKE	11	WIFI_D+_USB
4	GND	12	WIFI_D-_USB
5	BT_D-_USB	13	GND
6	BT_D+_USB	14	A5V_PW
7	GND	15	WIFI_WOL
8	BT_WELCOME	16	WIFI_NRESET

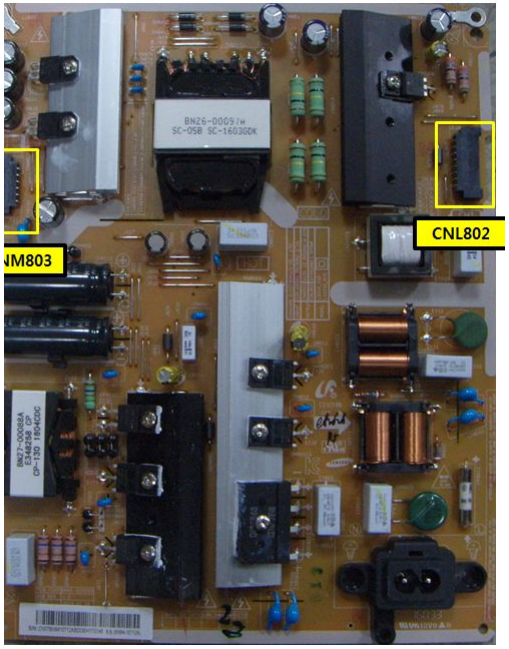
12. CN501 (SOUND)			
1	OUT_C	3	OUT_A
2	OUT_D	4	OUT_B

15. CN202 (POWER)			
1	GND	7	A13V_PW
2	GND	8	PWM_DIMMING_OUT1
3	A13V_PW	9	A13V_PW
4	GND	10	OVD_ON_OFF
5	A13V_PW	11	SMPS_FET_FAIL_DEFECT
6	SW_POWER	12	ANA_DIMMING


UHD TV
Troubleshooting

SMPS





CNM803			
1	Fail Count	7	A13V
2	ANA-DIM	8	Power_On/Off
3	A13V	9	A13V
4	OD_ON/OFF	10	GND
5	A13V	11	GND
6	BLU_PWM	12	GND

CNL802			
1	2+	9	1+
2	NC	10	NC
3	NC	11	NC
4	2-	12	1-
5	NC	13	NC
6	NC	14	NC
7	NC	15	IF2
8	NC	16	IF1

SMPS /Power Sequence Troubleshooting

TV POWER STANDBY TEST:

- TV in Standby
- ✓ **Standby LED Indicator**
- ▪ If Not Lit:
- ✓ AC 120Vac Line
- • If missing:
- ✓ 120Vac Source/Power Cord
- • If OK:
- ✓ Resistance on SMPS Fuse(s) after first removing AC power cord.
- • If fusses are open replace SMPS.
- • If fuses are OK:
- ✓ **Standby: A13V** (Always On) to Main Board. Should all be approx. 9 **VDC**
- ▪ If any missing remove the SMPS connector to Main Board .
- ✓ Standby A13V again for 9VDC .
- • If OK replace **Main Board**
- • If still missing replace **SMPS**.

FUNCTION/IR Control Test

- TV in Standby
- ✓ **LED Status**
- • **If LED is OFF**
- ✓ LED 1.7Vdc (pin 8)and VCC for 3.3Vdc
- • If missing suspect Function Assy/Cable/Main board.
- • **If LED is ON**
- ✓ Switch Operation activates on screen display

If missing:

1. Check the STBY voltage from SMPS to Main Board. If STBY is OK suspect **Main Board**.
2. Check Jog Shuttle 5 SW Operation (**Key 1** & **Key 2**) for com mand changes. If incorrect suspect a **stuck Jog switch** which al so holds data to Main preventing operation.
3. Check **SDA**, **SCL** for effective 3.3Vdc (after power on)
4. Check **IR** with Standard Remote command changes. (3.3V to 2.5V effective DC)

Function /IR Assy

Jog Function Switch

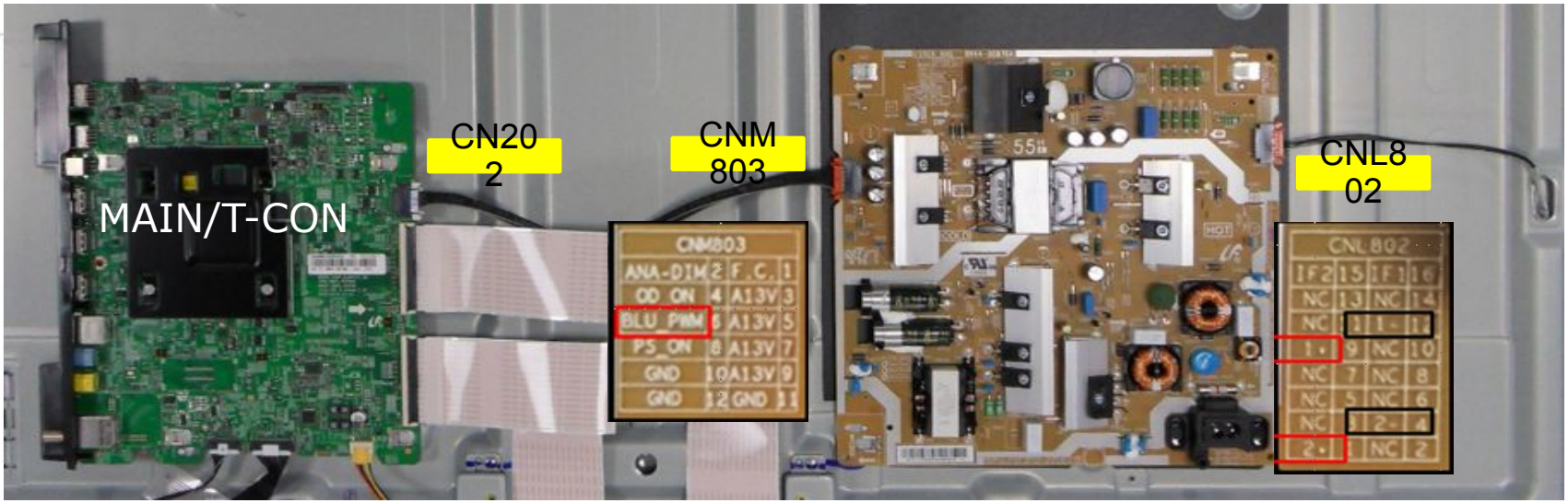
P	CMD	Signal	DC Voltage
1	Center	Key 1	1.8V to 0 Vdc
2	Vol+	Key 2	1.8V to 1.0Vdc
2	Vol-	Key 2	1.8V to 1.5Vdc
2	CH+	Key 2	1.8V to 0 Vdc
2	CH-	Key 2	1.8V to 0.6Vdc
3		GND	

Main Board - CN1101 (FUNCTION/IR)			
1	IR 3.3Vdc to 2.5Vdc (Effective DC)	2	GND
3	A3.3V_PW	4	AMP_SCL_I2C 3.3Vdc (effective DC)
5	AMP_SDA_I2C 3.3 Vdc (effective DC)	6	KEY_INPUT1 1.8dc to 0V with PWR On command
7	KEY_INPUT2 1.8Vdc to command Voltage	8	LED_STB_OUT 1.7Vdc STBY
9	N/C	10	N/C
11	N/C	12	N/C

TV POWER ON SEQUENCE TEST:

1. **Power TV On**
✓ PS_ON **.2Vdc** (when off) changes to **3.3Vdc** (on)
- PS On stays active for approx 20 sec. after TV is placed in Standby. It also remains ON for approx 2 min. after initial AC Power Cord is connected, even though standby indicator is lit.

2. If voltage error or no change:
✓ Jog Function Control Test
3. If OK replace Main Board.
✓ All **A13V supplies to** full voltage level **12.7VDC**
4. If any wrong voltage, remove SMPS connector to Main Board
✓A13V again for 12.7VDC
5. If OK replace Main Board
6. If still wrong voltage replace SMPS.
✓**OD** (Over Voltage Detect) 3.3Vdc - Operating Normal
7. If 0V or changing, an SMPS or Panel error exists. Perform Backlight Test.
✓ **BLU_PWM** 0V- Off to approx 1 – 3.3 V pending Backlight dim level
•If missing/error replace Main Board.



Simplified: SMPS/PANEL BACKLIGHT TEST (40"~55"):

Activate Backlights Test: – Disconnect Lead Cable from Main to Power Supply. (CN202)

√ TV Screen for active backlight LEDs.

2. If NO BACKLIGHTS

√ Plus (+) & Minus (-) pin voltages on the Panel Connector.

•If no pin voltages replace SMPS.

•If voltages exist but no backlight:

√ The highest pin voltage (BL Drive Supply)

•Remove Panel connector and measure again to compare.

•If the voltage was high and stays the same high reading a string of Panel LEDs are open. Replace the Panel.

•If the **voltage was low** and remains low the SMPS is defective.

•If the voltage was low and goes high a string of panel LEDs are shorted replace the **Panel.**

BACK LIGHT DIMMING PROBLEMS:

•Go to Menu/Picture/Expert/Backlight and vary level (0 – 20)

•If no backlight changes are observed:

✓Panel Connector pin voltages and BLU_PWM voltages (CNM801) while changing backlight level.

•If Panel voltages don't change, and BLU_PWM changes, replace **SMPS.**

•If BLU_PWM doesn't change replace **Main/T-Con Board.**

Simplified: SMPS/PANEL BACKLIGHT TEST (65"~):

Activate Backlights Test: – Disconnect Lead Cable from Main to Power Supply. (CN202)

√ TV Screen for active backlight LEDs.

2. If NO BACKLIGHTS

√ Minus (Control) pins & Plus (Supply) pins voltages on the Panel Connector.

•If no pin voltages replace **SMPS**.

3. If BACKLIGHTS ON BUT PANEL SECTION(S) OFF (for SMPS wired in parallel)

√ The Supply Drive + pins should each measure the same voltages.

And the - pins should each measure the same voltages. This verifies the SMPS is wired with LED Strings in parallel and operating correctly.

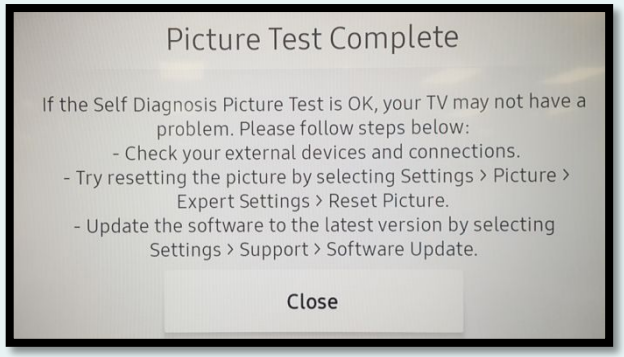
•If a Minus (-) pin measures low (near 0 volts), a string(s) of LEDs are likely open. **Replace Panel.**

•If a plus pins measures higher than the others, a string of LEDs is also likely opened. **Replace Panel.**

•Can remove Panel connector and verify same open backlight voltage condition. **Replace Panel.**

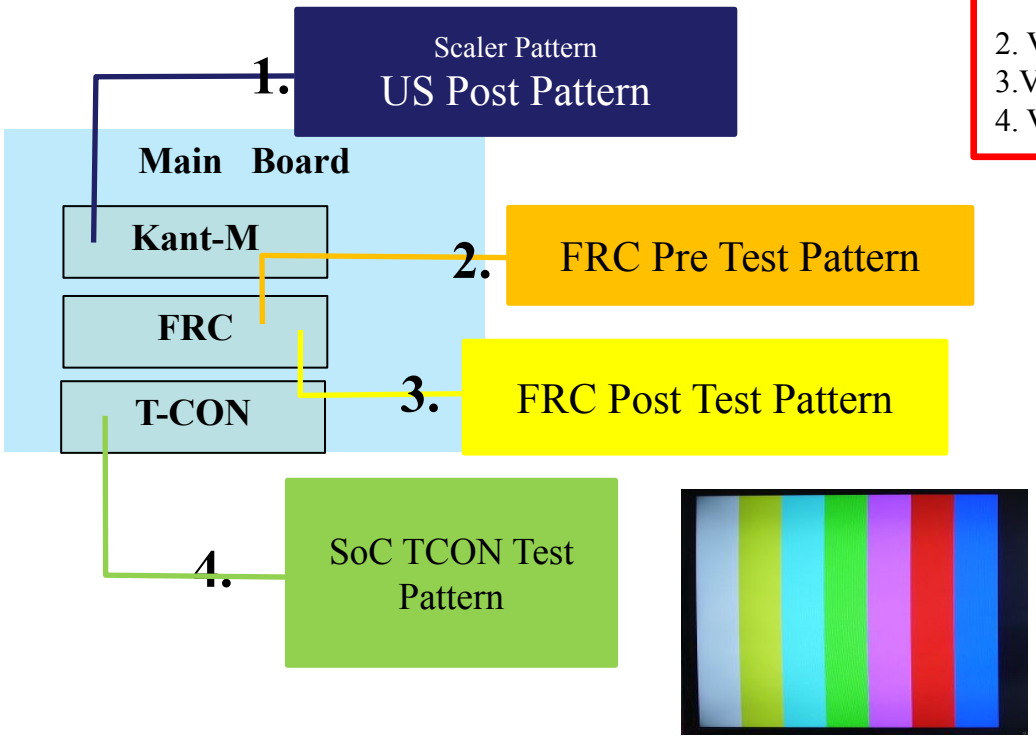
•If a Plus pin measures low: Remove the Panel connector, if it stays low **Replace SMPS.** If it goes high like the other plus pins, **the Replace Panel.**

Video: Customer Picture Test

Main Section	Test Result	Problem
Pass		Check Signal Source and other inputs to One Connect
Fail		Replace Main/T-CON Board

Video

ENTER: Factory mode -> SVC -> Test Pattern

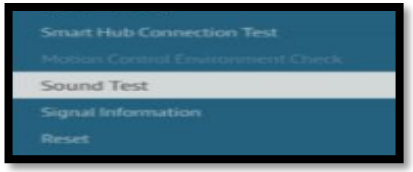


Check Test Patterns

1. Verify “Scaler Pattern” and “US Post Pattern”
2. Verify “FRC Pre Test Pattern”
3. Verify “FRC Post Test Pattern”
4. Verify “SoC TCON Test Pattern”

AUDIO Troubleshooting:

Source (One Connect Mini) → **Main Board** → **Speakers**



AUDIO TEST

- **No TV Sound**

✔ Menu/Audio/Speaker Settings/set to **TV Speaker**

- **Noisy/Distorted TV Audio**

✔ Customer Menu/Support/ **SOUND TEST**

- **If SOUND TEST FAILS (Missing/Noisy Audio)**

✔ Speakers (compare resistance/quality)

- Compare audio level out to speakers with multi meter.

✔ Replace defective Speakers or Main Board or Cable

- **IF SOUND TEST OK**

✔ Audio Source & External Cables

✔ With external Audio Generator (device or App)

✔ Other Inputs

✔ One Connect Mini

- **Optical Digital Out Errors**

✔ Red light from Optical Digital Out
If missing replace One Connect Mini

- **No HDMI Audio**

✔ Source / HDMI Cable & One Connect Mini Connectors

- Swap with other HDMI Inputs/Sources
- Perform **EDID Write** in Factory Mode
- (Can restore missing HDMI Audio).

✔ Bulletins and Latest firmware on TV

- If not restored replace One Connect Mini/Main.
- Check Audio Format PCM/Dolby based on external Receiver

- **ARC Issues**

✔ HDMI Cable is input to the ARC Designated HDMI port

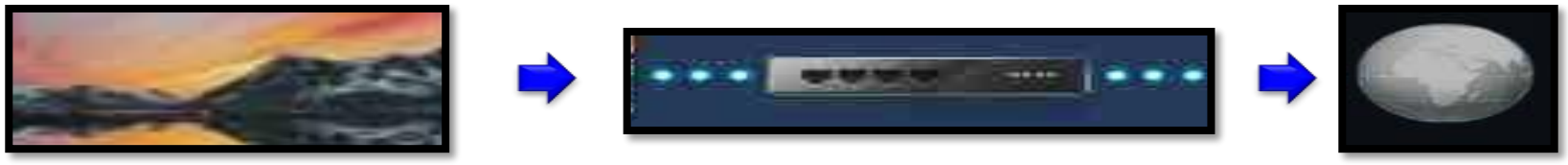
✔ ARC (HDMI Control) is enabled on the external Receiver.

- **Bluetooth Audio “Sound Share” Connection Issues**

✔ Sound Bar is in TV Mode

- To Connect, Press & Hold Play Button until Sound Bar pairing mode begins.

Network Troubleshooting



TV → Router → Internet

TV to Router "Failure"

✔ **Check** Network Status

✔ **Wired & Wireless MAC Address** in Customer Support Menu.
- **No Wired MAC Address**: Replace Main Board
- **No Wireless MAC Address**:

✔ Module cabling & voltages from Main Board.
- If operating voltages are OK but signal missing Replace WiFi Module (WiFi/Bluetooth Module)

✔ Proper **security passcode**

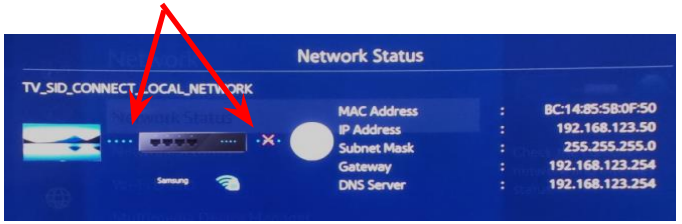
✔ **Check** Wi-Fi signal strength at TV (use WiFi Analyzer or similar App)
- Try another source (Hot spot or Test Router)

✔ **Check** related Bulletins

✔ **Check** Factory Mode / SVC / Info/ WiFi Error Count (replace module for high error counts)

Router to Network "Failure"

✔ **Check** Network Status



- Instruct the customer the TV has proper connection to the router and is likely OK.

✔ **Check** other devices using network are OK. If they test OK this does not mean the TV should be working.

- Try another source (Hotspot) to test/show TV Network operation.

Smart Hub Connection Test

TV → Router → Internet → Samsung Server

Go to **Menu > Support > Self Diagnosis > Smart Hub Connection Test**

Network Test/ Gateway Test

- If it Fails
- ✔ TV to Router Connection Test in "Network Trouble - shooting"

DNS Test

- If it fails
- ✔ **DNS** setting in "Network Settings"
- If DNS is set manually
- ✔ settings are correct (may be set to 8.8.8.8 to prevent Netflix issues)
- If it still fails
- ✔ DNS Test with setting to Auto Mode
- If it fails both Manual & Auto
- problem is ISP or Router

ISP Blocking

- If it fails
- ✔ Internet Service Provider is Active
- ✔ With DNS setting at 8888
- ✔ With Hot Spot

Samsung Server Test

- If it fails
- ✔ Network Status
- If OK
- Reset Smart Hub
- ✔ Terms of Agreement are accepted.

Samsung Apps Test

- If it Fails
- **Reset** Smart Hub
- ✔ Samsung Apps load correctly
- If it Fails
- Perform **"Apps Reset"** in Factory Mode
- Go to Smart Hub and complete Terms of Agreement and set up information
- ✔ Samsung Apps load correctly
- Before selecting an App, allow Apps to load or failure will re-occur.

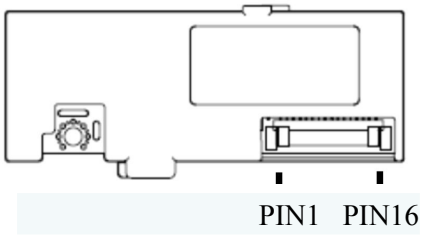
For Netflix Operation/Connection Issues:

- ✔ **Check** Certificate & Netflix ESN Status in Factory Mode.
- If Certificate and ESN exists, "**CO**", "**NfO**", change the **DNS** to **8.8.8.8**
- If Certificate is missing, "**C/**" replace the TV's Main board.
- If ESN number is missing: **NF/** do not replace the Main Board.
  - Reset TV Clock and check for correct Time & Date. Netflix relies on correct settings.
  - Reset Smart Hub. / Reset Apps In Factory Mode

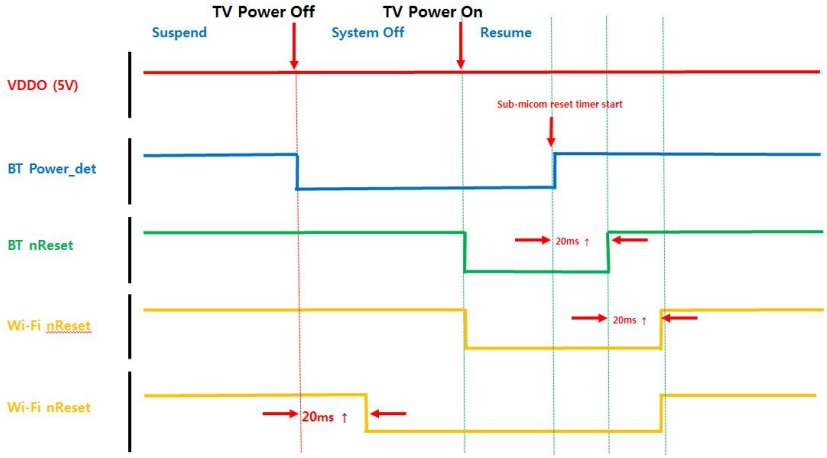
For Streaming Issues:

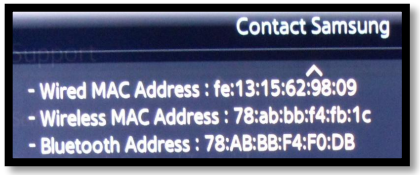
- Go to TV Web Browser / Go to speedof.me / testmy.net
- ✔ **Check Speed** for at least 5 Mbps (HD streaming)/ 25 Mbps (4K Streaming)
- ✔ **Check Latency** for less than 50ms

BT/WIFI			
1	BT_NRESET	2	BT_POWER_DET
3	BT_WAKE	4	-
5	BT_D-_USB	6	BT_D+_USB
7	-	8	BT_WELCOME
9	WIFI_PHY_ON	10	-
11	WIFI_D+_USB	12	WIFI_D-_USB
13	-	14	WIFI_5V
15	WIFI_WOL	16	WIFI_NRESET



Pins	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stand by	3.3 Vdc	0	3.3VVdc	NC	0	0	0	0V	0V	0	3 Vdc	0	0	5Vdc VCC	3.3 Vdc	3.3 Vdc
Pwr On	3.3Vdc	3.3 Vdc	3.3Vdc		0.7V *eff.* dc BT Sig (DM) 4V P-P	2.5V eff.dc BT Sig (DP) 4VP-P	0	0V	3.3 Vdc	0	.02V *eff.*dc WiFi Sig (DP) 0.5V P-P	.02V *eff.*dc WiFi Sig (DM) 0.5V P-P	0	5Vdc VCC	3.3 Vdc	3.3 Vdc





- **Go to Menu/Support/Contact Samsung**

✔. **Wired MAC Address (missing or error - replace Main Board)**

✔. **Wireless MAC Address**

✔. **Bluetooth Address**

- If **Bluetooth Address** **or** **Wireless MAC Address** are missing or errors exist

✔ **BT & Wi-Fi Connector Voltages**. If Voltages are OK but no BT or Wi-Fi Signals voltage(s), replace defective Module.


UHD TV
Factory Mode

Factory Mode

Setting TV into Factory Mode:

Part No.
AA81-00243A

Factory Remote

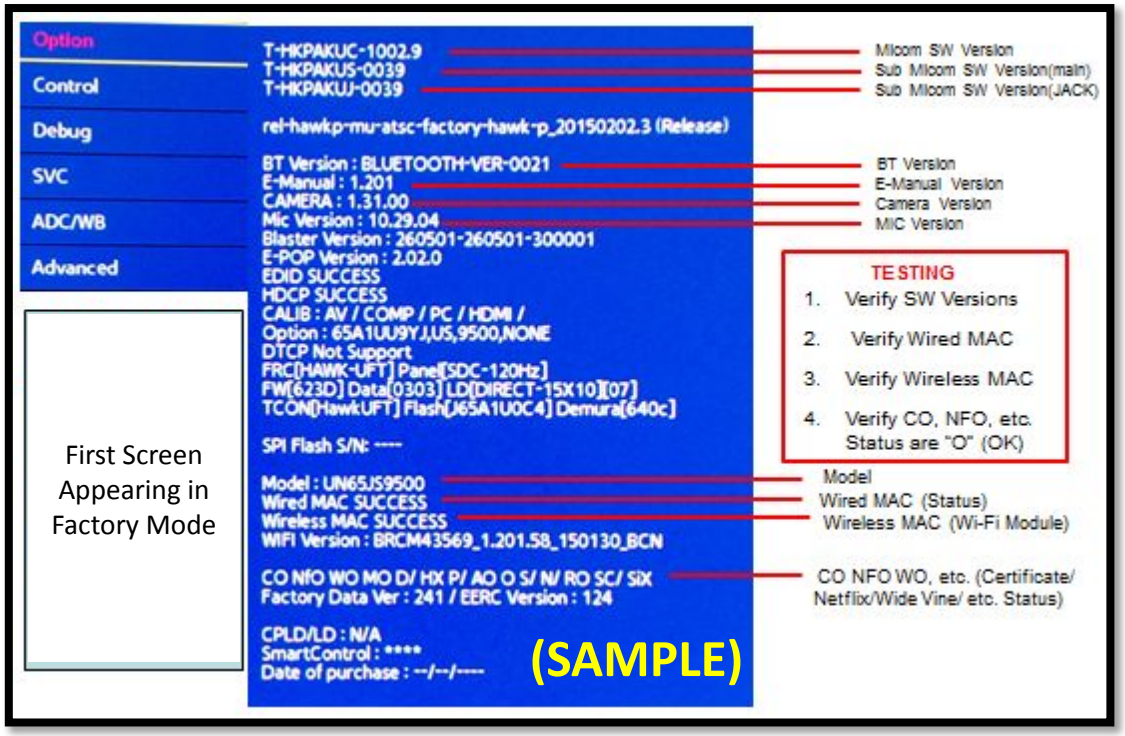
1. Power TV ON
2. Select TV Source
3. Info/Factory
4. Use MENU for return

Samsung IR Remote
(Limited Operation)

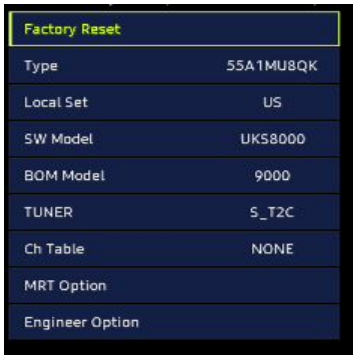
1. TV Power Standby
2. INFO/MENU/MUTE/POWER

Important Items:

- **Option** (must set Option Bytes when replacing Main Board)
- Option/ **Factory Reset** (returns TV to out of box condition. Does not reset Apps)
- SVC / **Test Patterns**
- SVC/Info/ **ER Count** (Important to check for errors. Note: Resets to 0 with Factory Reset.



- **Factory Reset:** Select Factory Reset

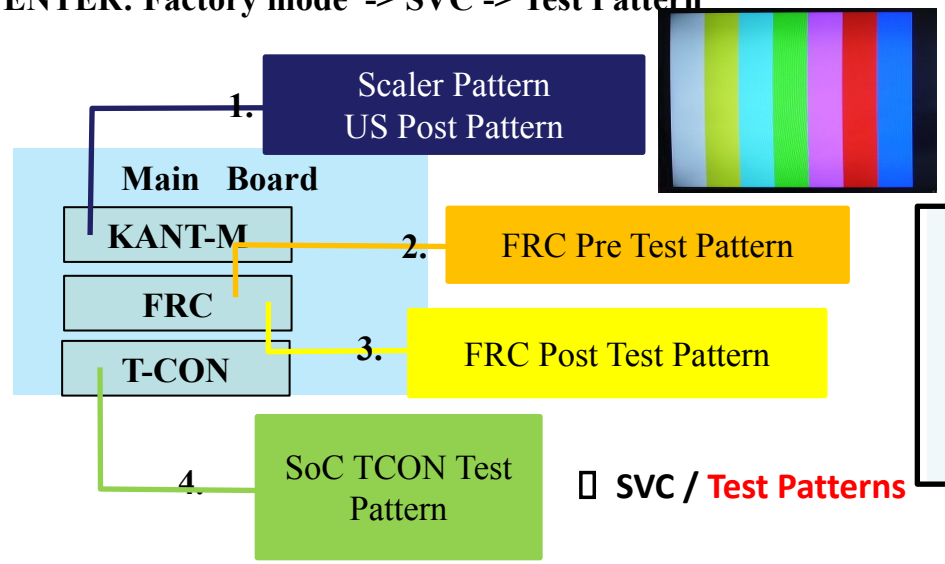


- **Setting Option Bytes**

1. Enter Factory Mode with Service Remote (only)
2. Check Option Byte Table located on GSPN (Fast Track or Tips)
3. Select each item to change
4. Soft power TV Off to load

Scaler Pattern	OFF
US Post Pattern	OFF
FRC Pre Pattern	0
FRC Post Pattern	0
SOC TCON Pattern	0
SOC TCON Pattern Level	255
FRC OSD Pre Pattern	0
FRC OSD Post Pattern	0
FRC2 Pre Pattern	0
FRC2 Post Pattern	0
SOC TCON2 Pattern	0
SOC TCON2 Pattern Level	255

ENTER: Factory mode -> SVC -> Test Pattern



Check Test Patterns

1. Verify "Scaler Pattern" and "US Post Pattern"
2. Verify "FRC Pre Test Pattern"
3. Verify "FRC Post Test Pattern"
4. Verify "SoC TCON Test Pattern"

SVC / Test Patterns

WD Count	0
Power Fail Count	0
AR Count	0
RS Count	3
WIFI NO DETECTION COUNT	0
WIFI DETACHMENT COUNT	0
BT ER Count	0
BT NO DETECTION COUNT	0
BT DETACHMENT COUNT	0
BT MGT OPEN FAIL COUNT	0
BT MGT DISCONNECT COUNT	0
Camera ER Count	0
FRC3D Emergency Reboot On/Off	ON
FRC3D ER Count	0
Fan Error Count	0
Serdes Error Count	0
Serdes Reset Count	0
Serdes WatchDog On/Off	ON
SMPS FET Fail Detect	0

SVC / Info/ER Count

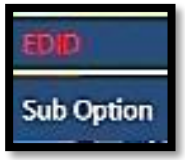
- **WD Count**: Watch Dog (Hardware related issue)
- **AR Count**: Auto Reset (software (i.e. Apps) related

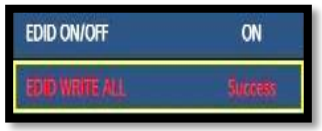
✔ important **Error Count** Status Screen.

- Verify each item listed.

Factory Mode / Control / EDID

1. **Remove ALL HDMI connections**
2. **Factory Mode/Control/EDID** (Press Enter)
3. **Select EDID/OFF to ON** (Right Arrow Key)
4. **Select EDID WRITE ALL** (Enter)
5. **Wait to Success** (Right Arrow Key)
6. **Confirm EDID WRITE ALL Success** (Menu Key)






Disassembly
And
Reassembly
(40”~65”)

40”~65
”

1. Carefully position the TV so that the screen is facing downwards. Make sure to place the TV upon a soft cushion or any material that will prevent damage to the screen.

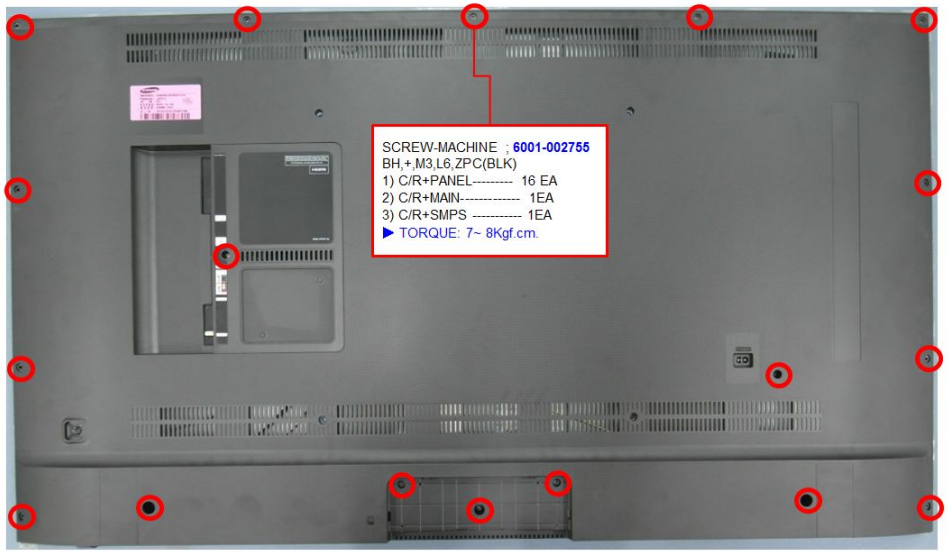
2. Remove the screws connecting the stand to the TV. Then carefully remove the stand.

-
5902-002474
4EA
- TORQUE
7~8Khf.cm

40”~65
”

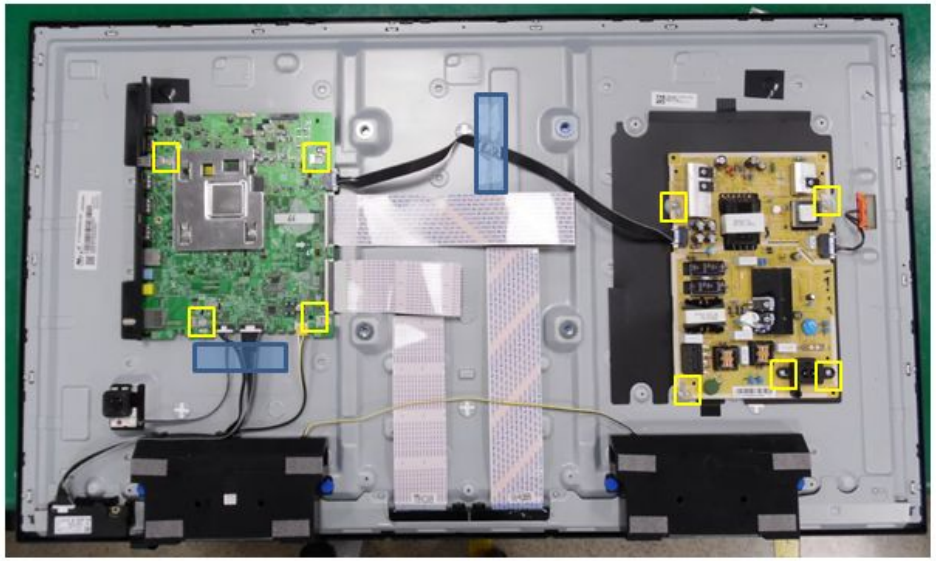
3. Remove the screws for the 'Rear Cover'. Then carefully remove the 'Rear Cover'.

- 6001-002755
  18EA
- TORQUE
  7~8Khf.cm



4. Remove the Electric tapes shown on the images.

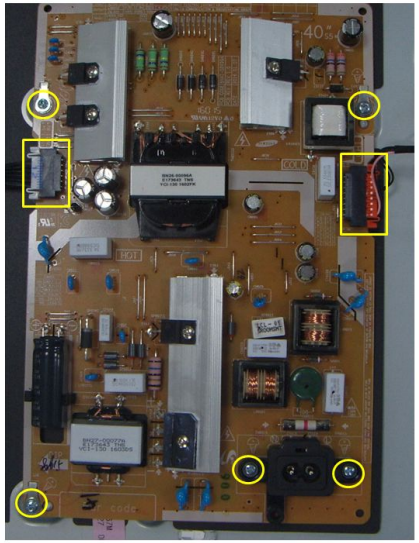
※When assembling the TV, the electric tapes must be applied on the same locations. Please remember to take a picture of where the tapes were first applied.



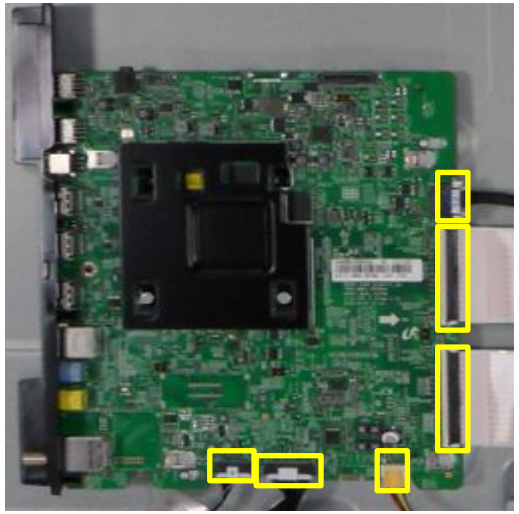
40”~65
”

5. Remove the 'Lead Connectors' and screws from the SMPS unit Then carefully remove the SMPS unit.

- 6001-003016
  5EA (SMPS-PANEL)
- TORQUE
  7~8Kgf.cm



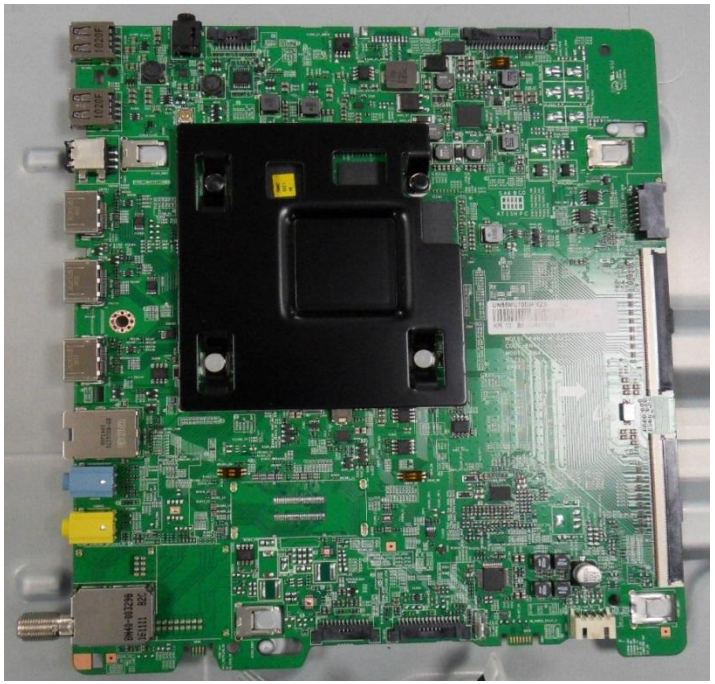
6. Remove the cables from the 'TV Board'



40”~65
”

7. Use both hands to hold the 'TV Board' and slide the board to the right to release the board.

Then carefully remove the 'TV Board'.



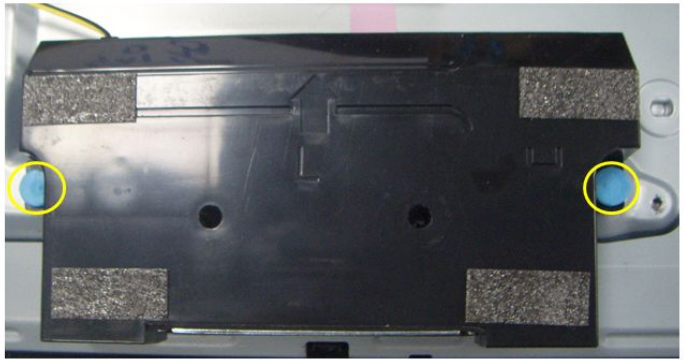
8. Remove the BT/WIFI unit.

40”~65
”

9. Remove the IR unit.

10. Remove the JOG unit.

11. Lastly, remove the speakers on both side.



40”~65
”

12. Completely Disassembly