SAMSUNG SM-G965F TroubleShooting Guide

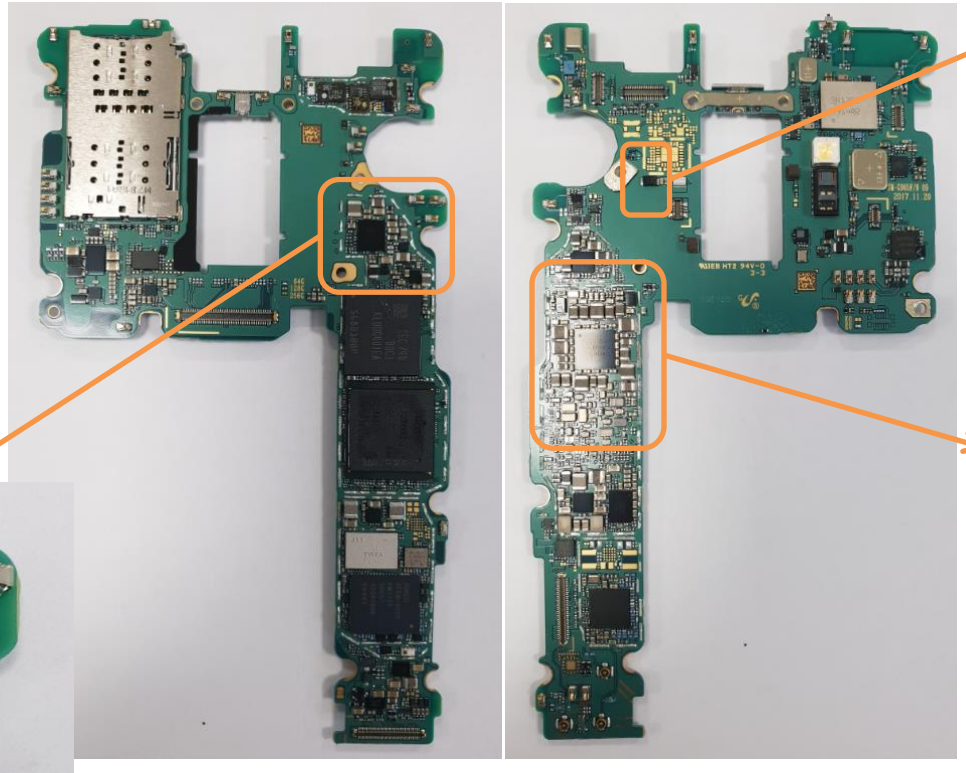
No Power

Step	Check point	Result value	Defect point
1	Confirm the defect symptom	-	-
2	* * Analyse reasons of No-Power using **the Power & Current test jig Power test mode**.	PASS	Battery, Battery terminal, Physical Key
		Leakage Current fail	Go to the step 2.1
		Power On Current fail	Go to the step 3
2.1	Check the Resistance between JIG Power V_Battery / V_BAT and Ground. (TA7003,C7118)	Normal (Over dozens of KΩ)	Go to the step 4
		Abnormal	Capacitors for ESD protection
3	It's possible to enter the download mode?	Yes	Go to the step 3.1
		No	Go to the step4
3.1	Check if it's rooted. MT Pro	Rooted	OOW
		Normal	S/W update
4	Check the voltage of C7118	C7118= Power supply voltage	Go to the step 5
		If not the correct value	Replace the U7006(=IF PMIC)
5	Check the voltage of C7043(=PMIC Output)	C7043 = 1.8V	Go to the step 6
		If not the correct value	Replace the U7011
6	Check the frequency of TCX3000	26MHz	Main chip (UCP500)
		If not the correct value	TCXO (TCX300)

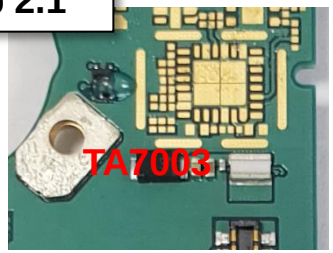
Troubleshooting

No Power

MT Pro

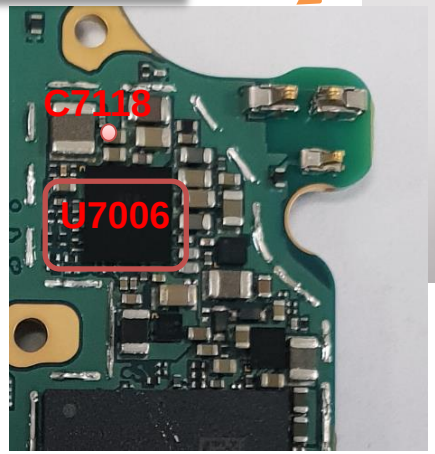


Step 2.1



Step5, 6

Step 4



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Troubleshooting

The connection diagram of the Power & Current test jig has been changed by applying USB type-C.
Please refer to the another document.
(New connectivity - USB Type C_Rev1.0)

Power on but no operation (freezing)

Step	Check point	Result value	Defect point
1	Confirm the defect symptom	-	-
2	* * Analyze reasons of No-Power using **the Power & Current test jig**.	PASS	Go to the step 1
		Leakage Current fail	Refer to the No-power Troubleshooting
		Power On Current fail	Go to the step 3
3	It's possible to enter the download mode?	Yes	Go to the step 3.1
		No	Go to the step 4
3.1	Check if it's rooted. MT Pro	Rooted	Out of warranty
		Normal	Go to the step 4
4	Enter the safe mode, and check if powers up.	Solved	3rd party Apps.
		Not solved	Go to the step 5
5	Perform full reset.	Solved	S/W or 3rd party Apps
		Not solved	Go to the step 6
6	Upgrade software to the latest version.	Solved	S/W
		Not solved	Replace UCP500 (AP&DRAM)

Troubleshooting

The connection diagram of the Power & Current test jig has been changed by applying USB type-C.
Please refer to the another document.
(New connectivity - USB Type C_Rev1.0)

No Charging

MT Pro

Step	Check point	Result value	Defect point
1	Confirm the defect symptom	-	-
2	Replace a battery.	Solved	Go to the step 2.1
		Not solved	Go to the step 3
2.1	Charge the customer battery during 5min at least.	Solved	Totally discharged battery
		Not solved	Battery
3	** Analyse reasons of No-Charging using **the Power & Current test jig Charging test mode** with no defect charger. (Test battery voltage should be below 85%)	PASS	Go to the step 4
		FAIL	Go to the step 5
4	** Test a customer's charger using **the Power & Current test jig TA test mode**.	PASS	Go to the step 1
		FAIL	Customer's Charger
5	Disassemble and check I/F connector visually	Dust	Clean I/F connector
		Damage	Replace I/F connector
		Normal	Go to the step 6
6	Check the voltage of C8070	C8070 = 5V	Go to the step 7
		If not the correct value	may not connected charger
7	Check the voltage of C8069	C8069 = 5V	Replace the U7006
		If not the correct value	Replace the U14007

** Usage guide of the Power & Current test jig has been uploaded at GSPN. (Power & Current Tester_Rev5_150716.pdf)

Troubleshooting

No Charging

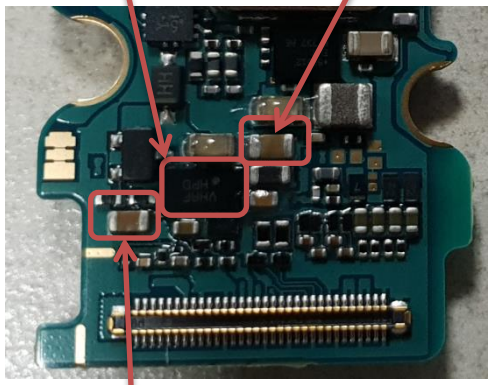
MT Pro

Step 6

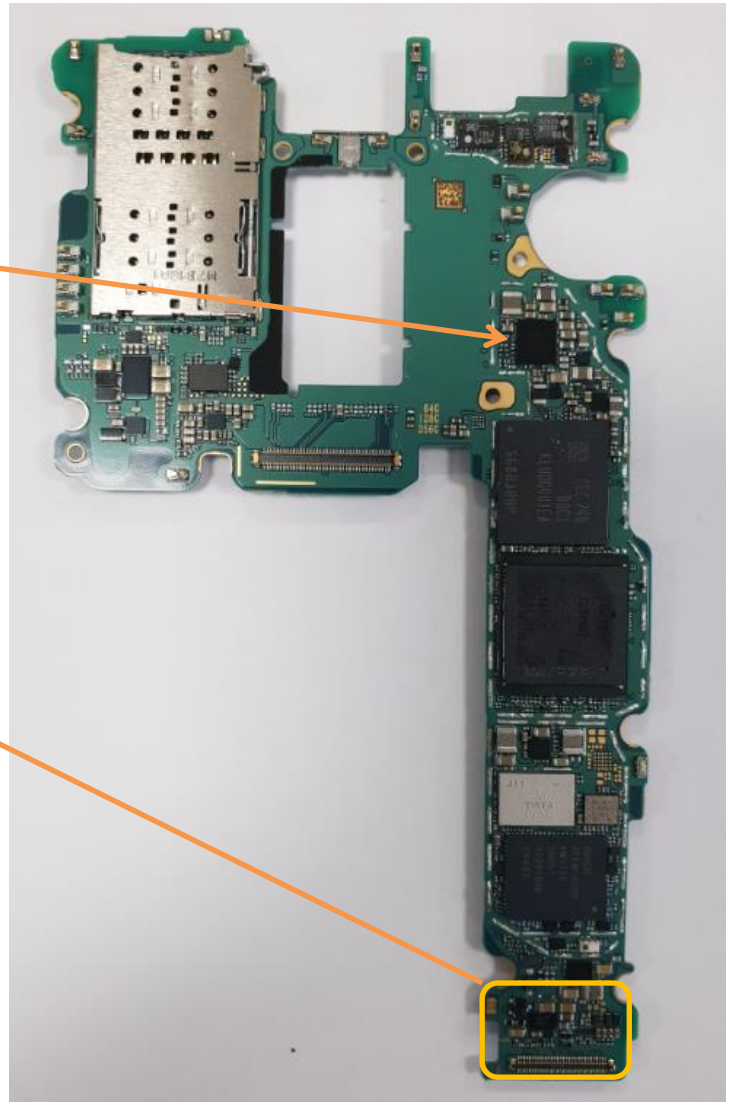
U7006

U14007

C8069



C8070



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Troubleshooting

Call Problem (with RF equipment)

MT Pro

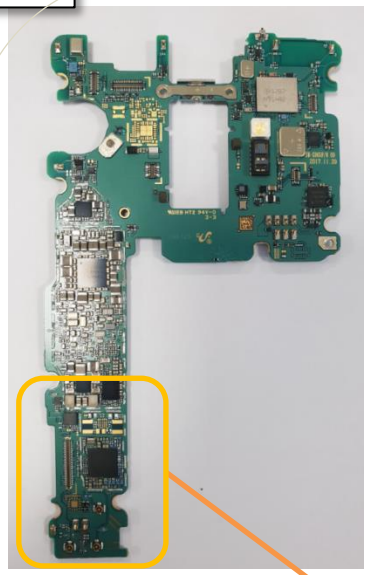
Step	Check point	Result value		Defect point
1	Confirm the defect symptom	-		-
2	RF radiation test	Pass		Network or Settings
		Fail		Go to the next step
3	RF calibration	Pass		Go to the step 4
		Fail		Go to the step 5
4	RF radiation test	Pass		Repaired
		Fail		Except PBA (Coaxial cable, Antenna, Shielding condition)
5	A type of failure	TX	2G/3G/LTE LB	TRANSCEIVER(U2001), LB LPAMID(PAM1000) 2G PAM(PAM1001)
			2G/3G/LTE MHB	TRANSCEIVER(U2001), MHB LPAMID(PAM1002) 2G PAM(PAM1001)
		RX	2G/3G/LTE LB	TRANSCEIVER(U2001), LB LPAMID(PAM1000) LB LFEM(F2001)
			2G/3G/LTE MHB	TRANSCEIVER(U2001), MHB LPAMID(PAM1002) MB LFEM(F2005), OMH LFEM(F2007)

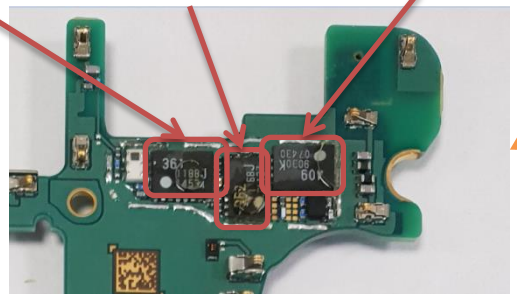
Troubleshooting

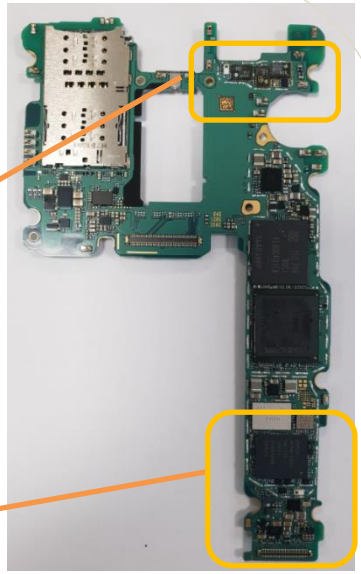
Call Problem

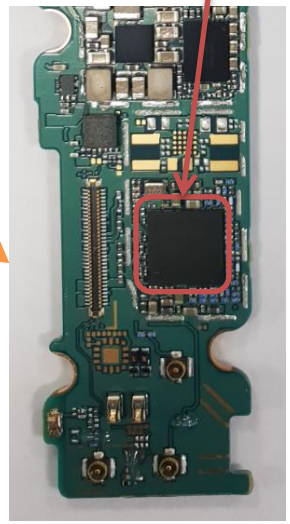
MT Pro

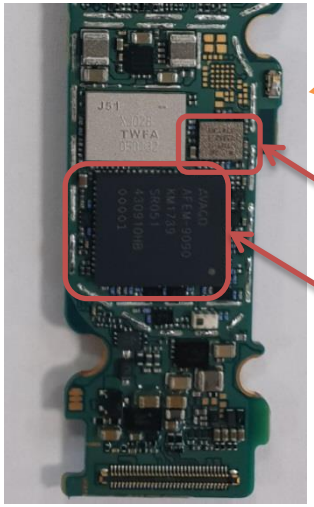
Step5











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Troubleshooting

Call Problem (without RF equipment)

MT Pro

Step	Check point	Result value	Defect point
1	Confirm the defect symptom	-	-
2	Check the settings (airplane mode, Mobile networks)	Abnormal	Settings
		Normal	Go to the next step
3	Check the debug screen *#0011# (Compare to normal device)	Abnormal	Go to the next step
		Normal	Network
4	Check the RF parts except PBA. (Coaxial cable, Antenna, Shielding condition, etc..)	Broken, dust, corrosion	RF parts
		Loose fitting	Connection
		Normal	Go to the next step
5	Check the status visually(crack, missing, Corrosion..etc) of RF components. (compare to normal PBA) U2001 Transceiver PAM1000 PAM1002 LPAMID PAM1001 2G PAM F2001 F2005 F2007 LFEM U1003 ET Modulator	Abnormal	RF components.
		Normal	CP(Call Processor) (UCP500) CP PMIC(U7011)

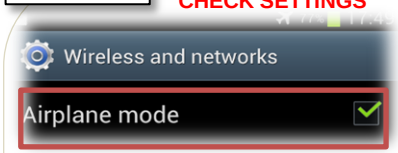
Troubleshooting

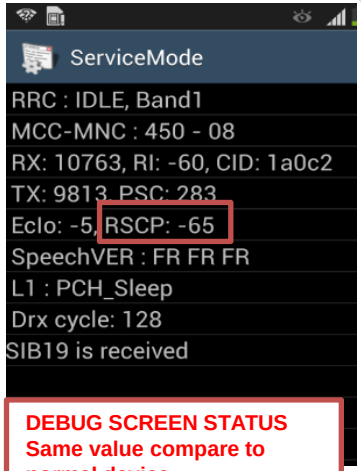
Call Problem

MT Pro

Step2,3

CHECK SETTINGS

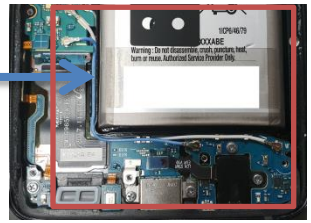


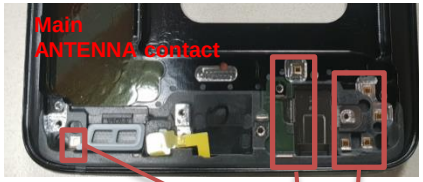


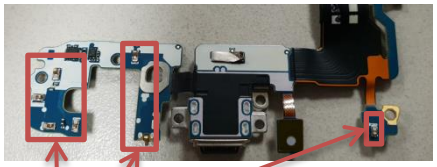
DEBUG SCREEN STATUS
Same value compare to normal device.

Step4

Coaxial cable
(connect Main Ant. with PBA)



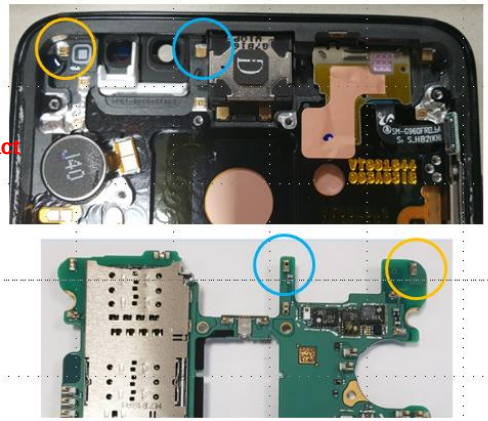




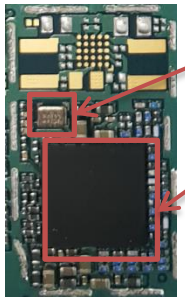
ANT. Contact (for main RF)

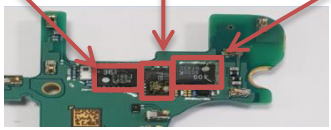
Step4

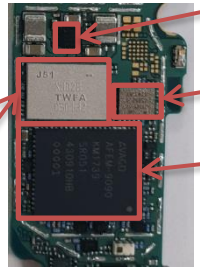
Diversity
ANTENNA contact



Step5







F2001
LB LFEM

F2005
MB LFEM

F2007
OMH LFEM

TCX3000
26MHz
TCXO

U2001
Transceiver

PAM1000
LB LPAMID

U1003
ET Modulator

PAM1001
2G PAM

PAM1002
OMH LPAMID

Troubleshooting

Sound Problem

MT Pro

Step.	Check point	Result value	Defect point
1	Confirm the defect symptom.	-	-
2	*#0*# → speaker	No sound	Go to the next step
		Normal	S/W or Settings
3	Check which speaker (upper or lower) has a problem. And replace the speaker	Solved	speaker
		Not solved	Go to the next step
4	Activate the speaker path. (*#0*# → Speaker)	-	-
5	Check the signal at two of speaker contacts. (Using oscilloscope) Notice : It should be measured when the speaker path is activated on.	Same signal compared with a good PBA	Go to step 6
		No signal	Go to step 7
6	Check if the SPK is contacted to PBA well	Solved	Assembly error
		Not solved	Go to step 7
7	Check SPK AMP	Solved	Main PBA
		Not solved	Audio Codec (U8004)

Troubleshooting

Sound Problem

MT Pro

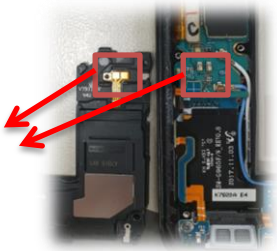
Step3

Upper Speaker

Speaker module (lower)

Step6

Speaker Contacts (upper)



Speaker Contacts (lower)

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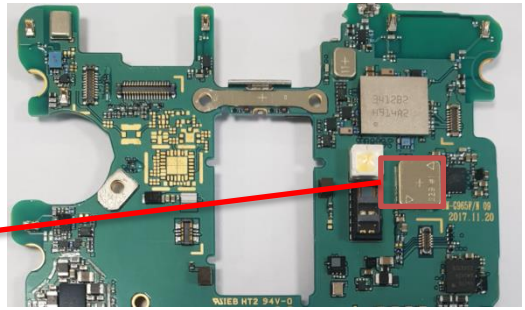
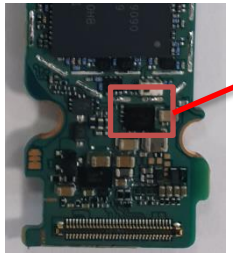
Step7



SPK AMP upper



SPK AMP lower

Troubleshooting

Display Problem

MT Pro

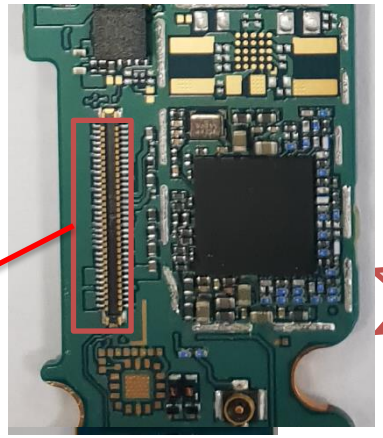
Step	Check point	Result value	Defect point
1	Confirm the defect symptom	-	-
2	Check the AMOLED connector (HDC9000)	Broken, dust, corrosion	AMOLED connector (HDC9000)
		Loose fitting	Connection
		Normal	Go to the next step
3	Replace the AMOLED	Solved	AMOLED
		Not solved	Go to the next step
4	Connect a AMOLED, and display on with a power supply (power supply voltage : 4.0V)	-	-
5	Check the voltage of following chips C9063, C9064, C9070, C9071, C9065, C9069 Notice. It should be measured when the display is activated on	If not the correct value	PMIC(U9000)
		C9063= 3.0V C9064 = 1.8V C9070 = 1.6V C9071(ELVDD) = 4.6V C9065(ELVSS) = -6.6 ~ -1.4V C9069(ELAVDD) = 6.9 ~ 7.9V	UCP500 AP

Troubleshooting

Display Problem

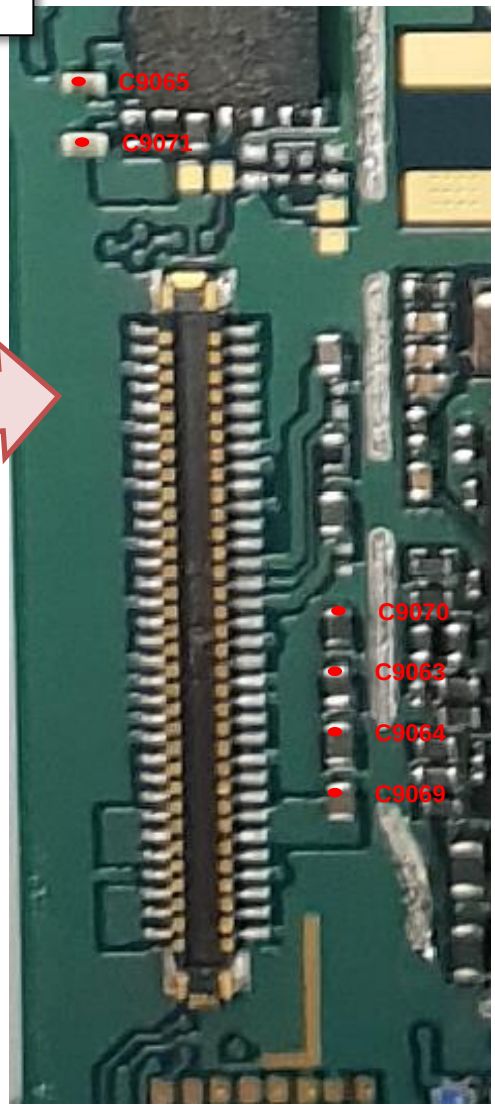
MT Pro

Step2



AMOLED Connector
(HDC9000)

Step5



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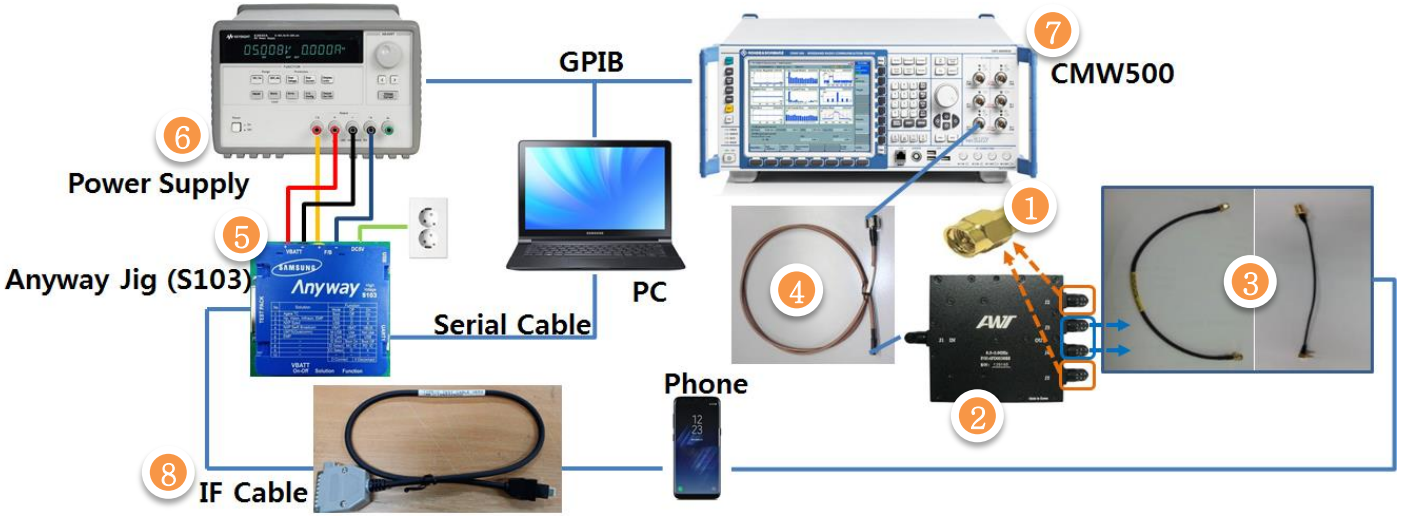
RF Calibration Preparation

Item	Quantity	Code
1 4 Port Divider	1	GH81-11962A
2 50 ohm Termination	2	GH81-11962E MT Pro
3 RF cable (Divider to phone)	2 of each	GH81-11962M GH81-11962U
4 RF cable (Instrument to divider)	1	GH81-11962B
5 Anyway JIG	1	GH81-12520B(S103)
6 Power Supply	1	E3632A
7 RF Equipment	1	CMW500
8 IF cable	1	GH81-11962W

Connection Diagram



SVC Technical Information

Basic Information

AP/CP Chipset	Charger Spec	IF Cable	RF Cable	Water Resistance
Samsung Exynos 9810	Adaptive (9.0V-1.67A)	GH81-11962W (7PIN)	GH81-11962M 2ea GH81-11962U 2ea	IP 68

SVC Jig List for Galaxy S9+

MT Pro

Item	Code	Item	Code
Hot Plate	GH81-12712E	OCTA Disass'y Jig Upper	GH81-12833A
OCTA Disassembly Holder	GH81-12119A	New Pressing Pad for Battery	GH81-14967B
Glass Absorber	GH81-11902D	Pressing JIG Body	GH81-11903A
TSP tape Attaching JIG	GH81-11905A	Pressing Pad(by model)	**GH81-15436A**

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