
1. Safety Precautions

1-1. Repair Precaution

- Repair in Shield Box, during detailed tuning.
Take specially care of tuning or test,
because specipcty of cellular phone is sensitive for surrounding interference(RF noise).
- Be careful to use a kind of magnetic object or tool,
because performance of parts is damaged by the influence of manetic force.
- Surely use a standard screwdriver when you disassemble this product,
otherwise screw will be worn away.
- Use a thicken twisted wire when you measure level.
A thicken twisted wire has low resistance, therefore error of measurement is few.
- Repair after separate Test Pack and Set because for short danger (for example an
overcurrent and furious flames of parts etc) when you repair board in condition of
connecting Test Pack and tuning on.
- Take specially care of soldering, because Land of PCB is small and weak in heat.
- Surely tune on/off while using AC power plug, because a repair of battery charger is
dangerous when tuning ON/OFF PBA and Connector after disassembling charger.
- Don't use as you pleases after change other material than replacement registered on SEC
System.
Otherwise engineer in charge isn't charged with problem that you don't keep this rules.

1-2. ESD(Electrostatically Sensitive Devices) Precaution

Several semiconductor may be damaged easily by static electricity. Such parts are called by ESD(Electrostatically Sensitive Devices), for example IC,BGA chip etc. Read Precaution below. You can prevent from ESD damage by static electricity.

- Remove static electricity remained your body before you touch semiconductor or parts with semiconductor. There are ways that you touch an earthed place or wear static electricity prevention string on wrist.
- Use earthed soldering steel when you connect or disconnect ESD.
- Use soldering removing tool to break static electricity. , otherwise ESD will be damaged by static electricity.
- Don't unpack until you set up ESD on product. Because most of ESD are packed by box and aluminum plate to have conductive power,they are prevented from static electricity.
- You must maintain electric contact between ESD and place due to be set up until ESD is connected completely to the proper place or a circuit board.

2. Specification

2-1. GSM/DCS1800/PCS1900/WCDMA2100 General Specification

	EGSM 900 Phase 2	DCS1800 Phase 1	PCS 1900	WCDMA
Freq. Band(MHZ) Uplink/Downlink	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990	1920~1980 2110~2170
ARFCN range	1~124 & 975~1023	512~885	512~810	10562~10838
Tx/Rx spacing	45MHz	95 MHz	80 MHz	190MHz
Mod. Bit rate/ Bit Period	270.833 kbps 3.692 us	270.833 kbps 3.692 us	270.833 kbps 3.692 us	3.84 Mcps/s
Time slot Period/Frame Period	576.9 us 4.615 ms	576.9 us 4.615 ms	576.9 us 4.15 ms	10 ms
Modulation	0.3 GMSK	0.3 GMSK	0.3 GMSK	UL : 2BPSK DL : QPSK
MS Power	33 dBm ~ 5dBm	30dBm~0dBm	30dBm~0dBm	MAX:24(+1,-3)dBm MIN :<-50dBm
Power Class	5 pcl ~ 19 pcl	0 pcl ~ 15pcl	0 pcl ~ 15pcl	CLASS3
Sensitivity	-103 dBm	-100dBm	-100dBm	-106.7 dBm
TDMA Mux	8	8	8	-
Cell Radius	35 Km	2Km	-	-

2-2. GSM TX power class

TX POWER LEVEL CONTOL	EGSM 900	TX POWER LEVEL CONTOL	DCS 1800	TX POWER LEVEL CONTOL	PCS 1900
5	33±2 dBm	0	30±3 dBm	0	30±3 dBm
6	31±2 dBm	1	28±3 dBm	1	28±3 dBm
7	29±2 dBm	2	26±3 dBm	2	26±3 dBm
8	27±2 dBm	3	24±3 dBm	3	24±3 dBm
9	25±2 dBm	4	22±3 dBm	4	22±3 dBm
10	23±2 dBm	5	20±3 dBm	5	20±3 dBm
11	21±2 dBm	6	18±3 dBm	6	18±3 dBm
12	19±2 dBm	7	16±3 dBm	7	16±3 dBm
13	17±2 dBm	8	14±3 dBm	8	14±3 dBm
14	15±2 dBm	9	12±3 dBm	9	12±3 dBm
15	13±2 dBm	10	10±4 dBm	10	10±4 dBm
16	11±3 dBm	11	8±4 dBm	11	8±4 dBm
17	9±3 dBm	12	6±4 dBm	12	6±4 dBm
18	7±3 dBm	13	4±4 dBm	13	4±4 dBm
19	5±3 dBm	14	2±5 dBm	14	2±5 dBm
		15	0±5 dBm	15	0±5 dBm

3. Product Function

Main Function

- 3M Camera / CIF Camera
- LCD - Main:2.2" 240x320 262K Color TFT
- Video Recording & Messaging
- Music Player(MP3/AAC/AAC+/Enhanced ACC+)
- Multimedia Message Service (MMS)
- Bluetooth Wireless Technology
- E-mail
- Voice recorder
- Java / WAP2.0
- Tri-band(900/1800/1900MHz), UMTS 2100MHz
- USB 2.0
- FM Radio

4. Array Course Control

4-1. Software Adjustments



1. JIG(GH80-03308A) :Download,Calibration



2. RF test cable(GH39-00985A) : RF test



3. Test cable
(1.5M:GH39-01011A / 0.4M:GH39-01013A)
:JIG to phone



4. Data Link Cable(GH39-00922A): USB cable

4-2. Software Downloading

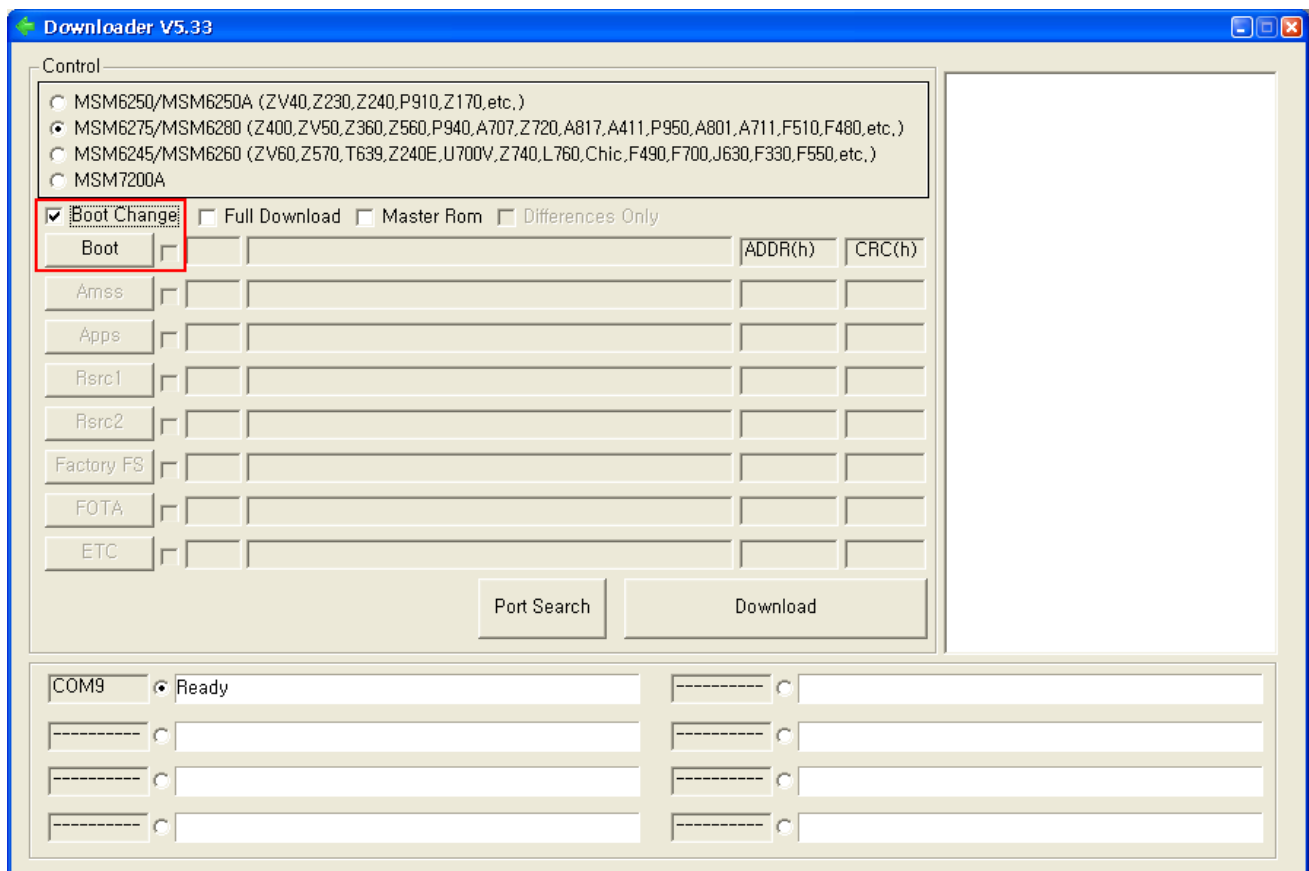
4-2-1. Pre-requisite for Download

- Downloader Program(**Multiloader V5.33.exe**)
- F400 Mobile Phone
- USB Data Link Cable
- Binary files

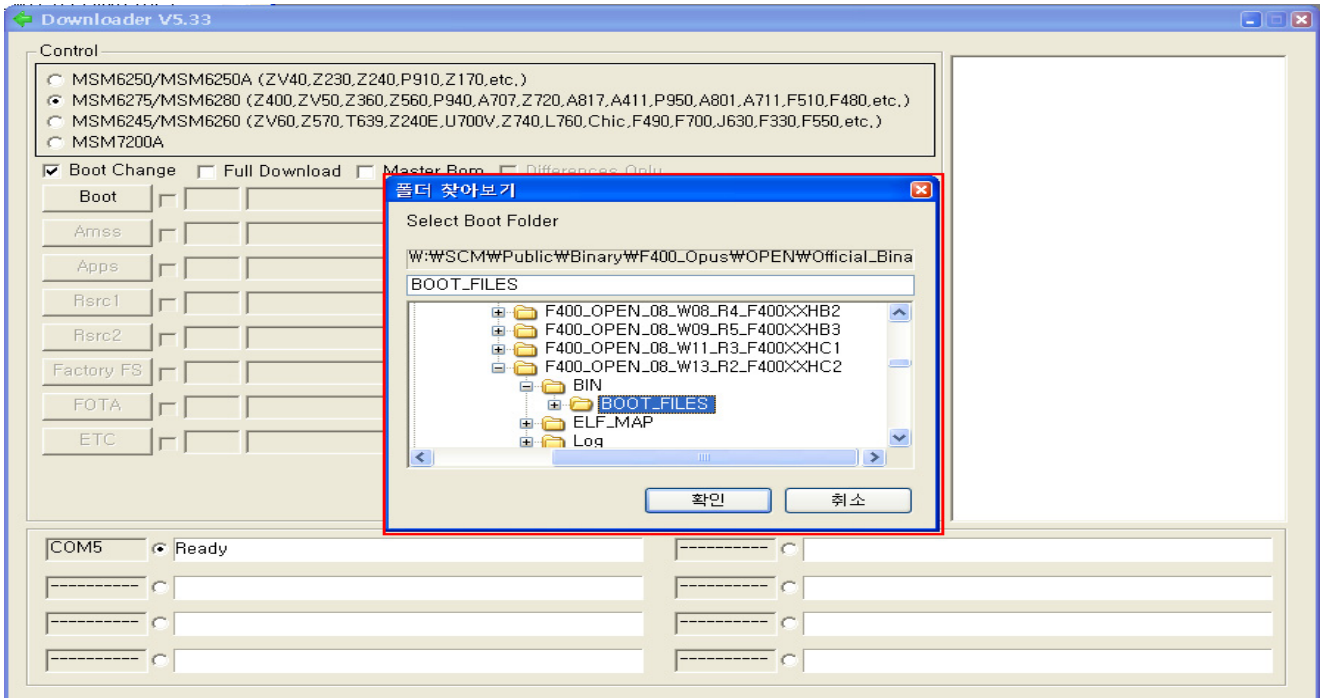
4-2-2. S/W Download Process

■ Load the binary download program by executing the “**Multiloader V5.33.exe**”

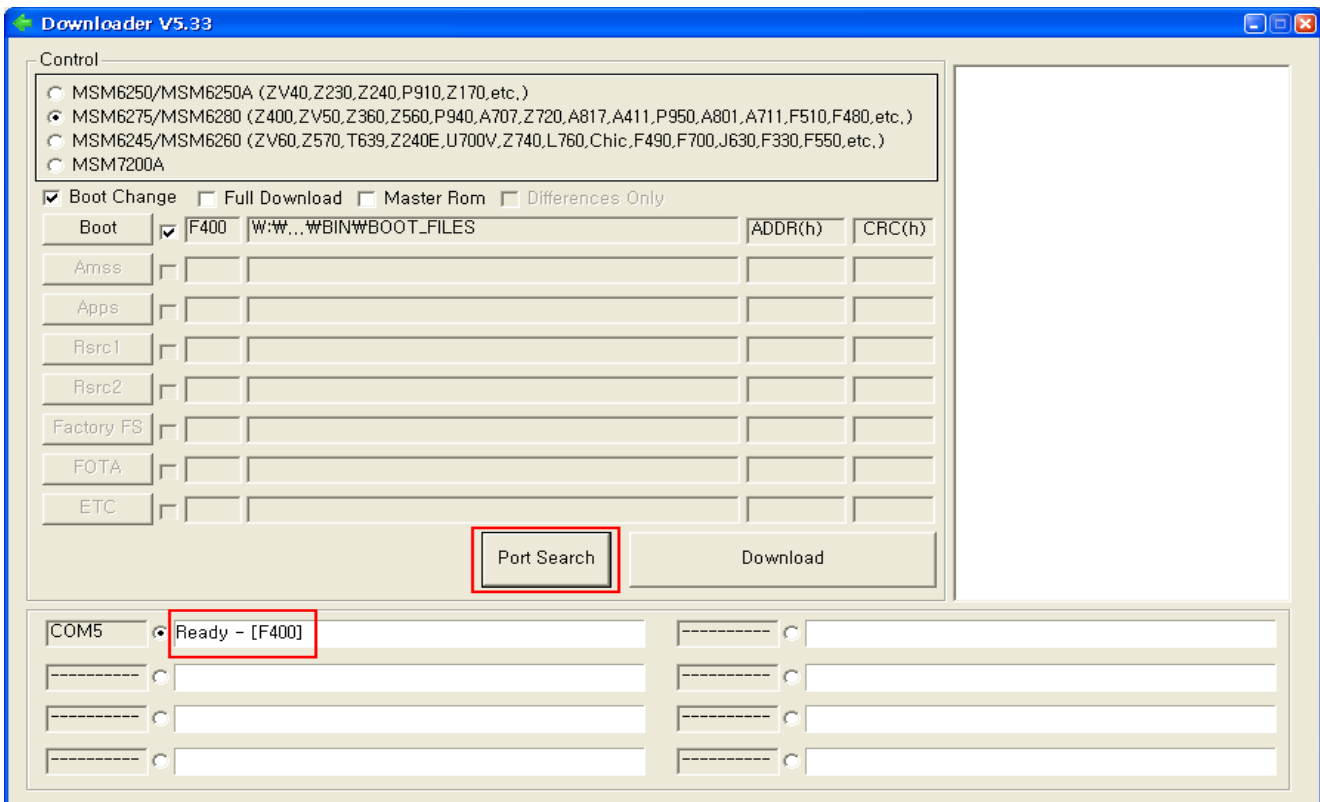
1. Execute the download SW, Multiloader.exe.
2. Boot the F400 by pressing 'Power ON Key' + '9 key' at the same time.
 - if you do properly, you can see the 'DOWMLOAD' in the middle of the screen.
3. Connet the USB data cable to the F400.
4. Choose MSM6275/MSM6280 and check 'Boot Change', then the 'Boot' button will be activated.



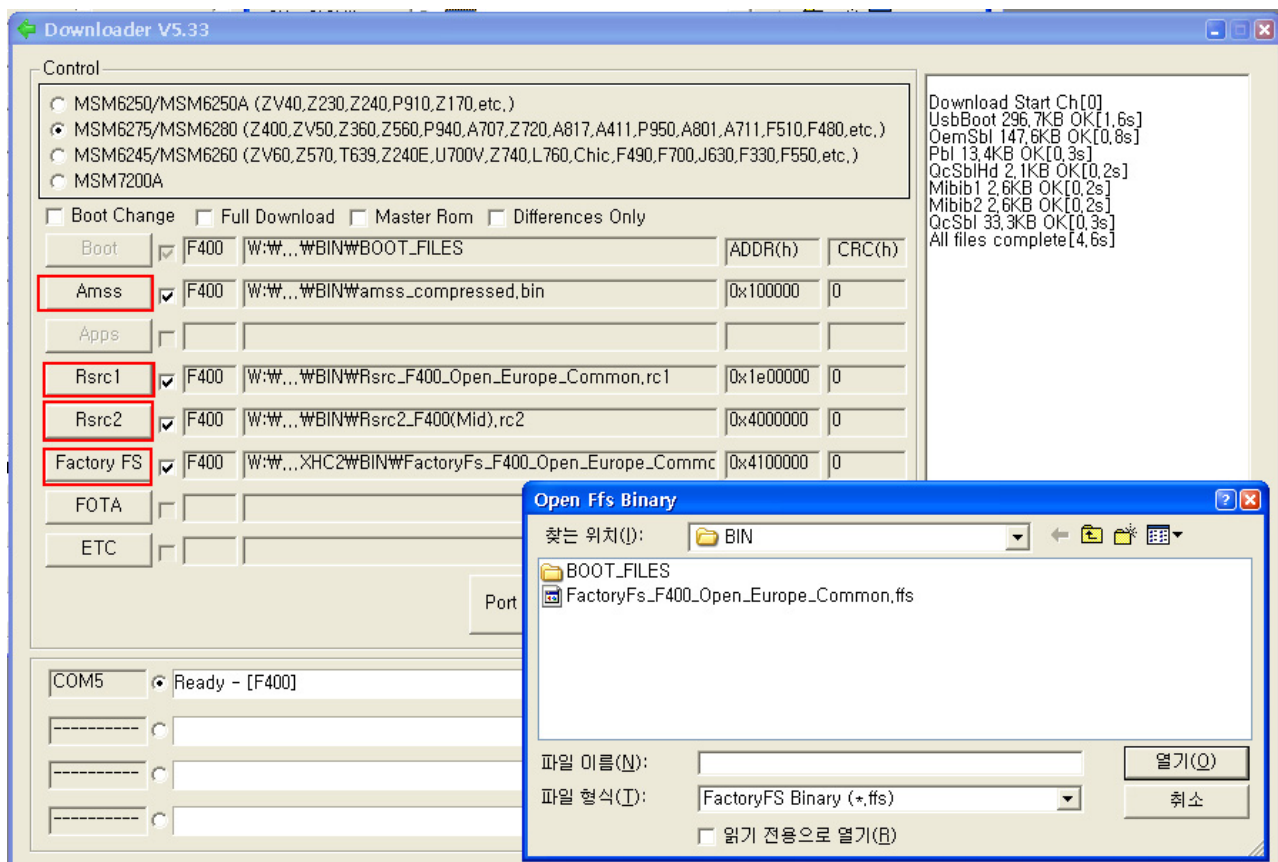
- Click the 'Boot', then the dialogue box is opened. Select the wanted directory, and press 'OK'.



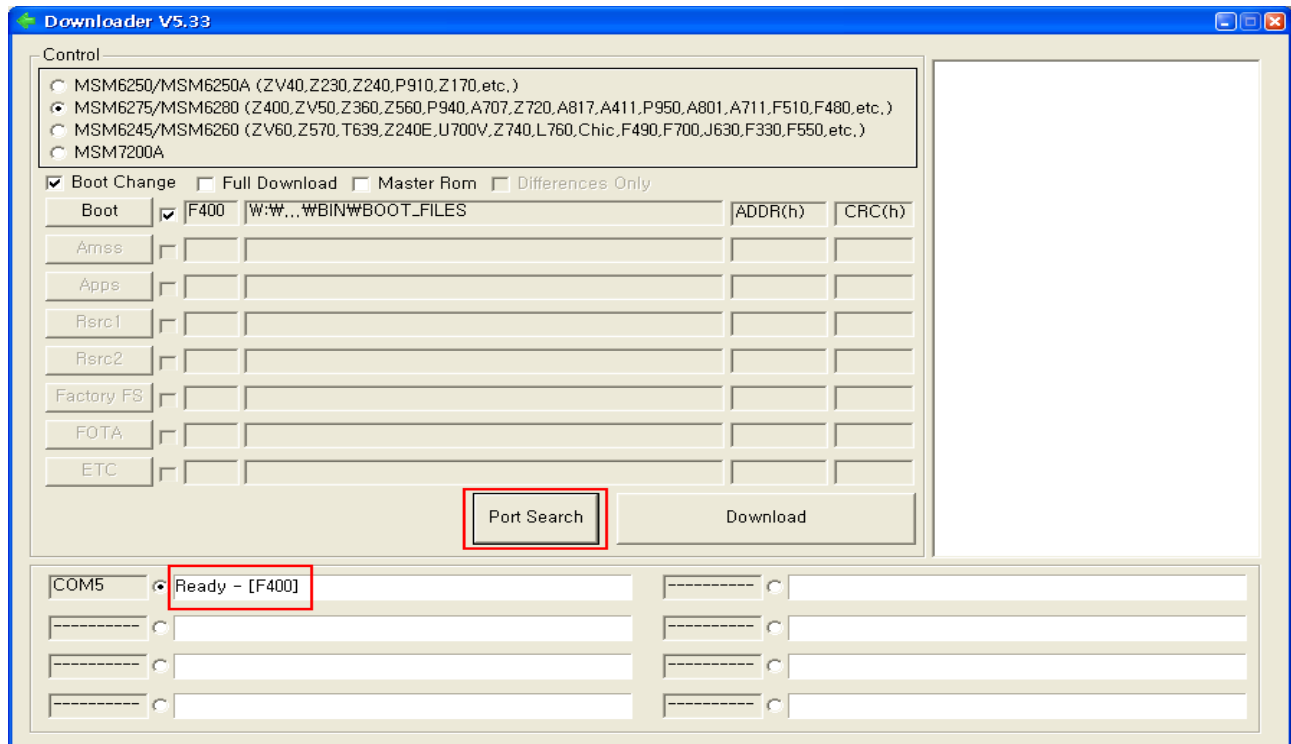
- Select 'Port Search', then 'Port' is activated.



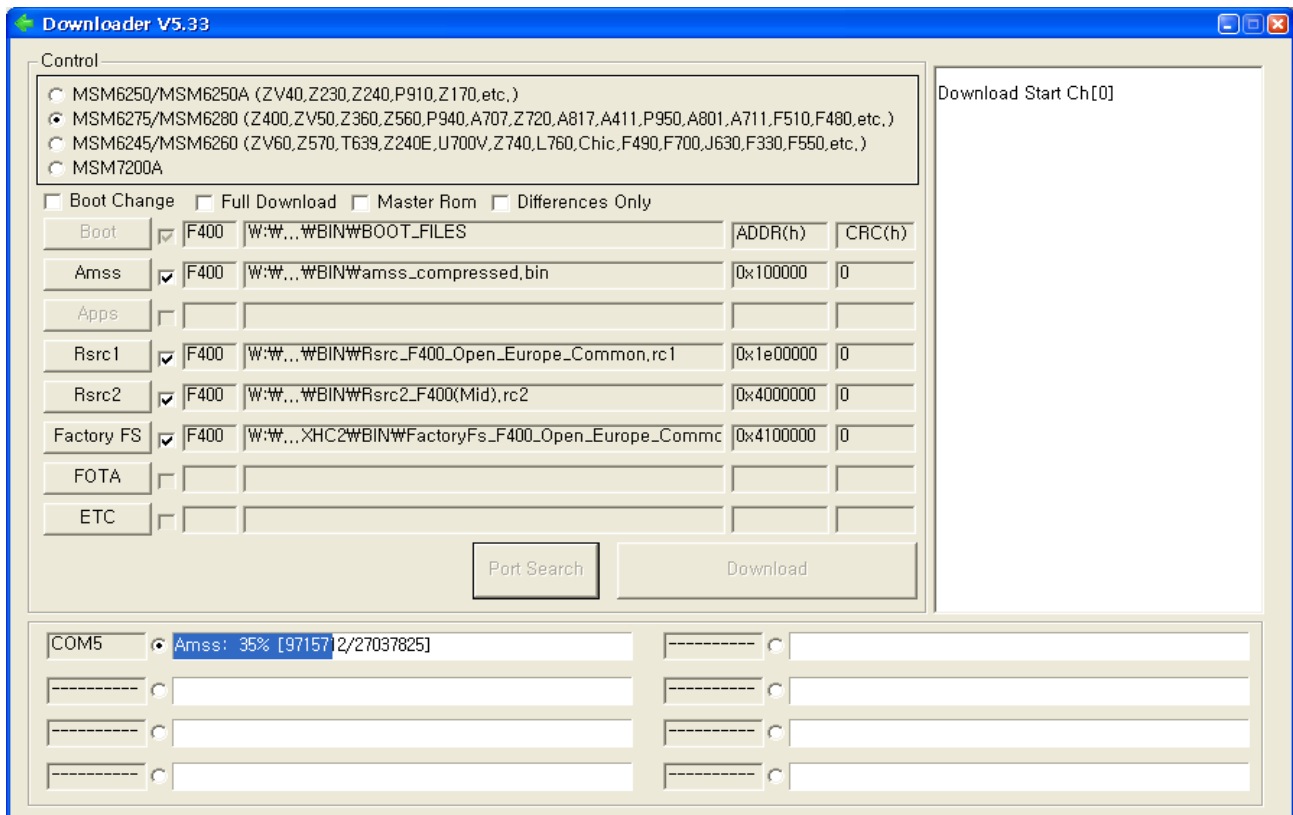
7. Click 'Download', then downloading is executed successively. After **10seconds**, F400 rebooting.
9. Disconnet the USB data cable to the F400.
9. One more boot the F400 by pressing '**Power ON Key**+'**9 key**' at the same time
 - if you do properly, you can see the 'DOWMLOAD' in the middle of the screen.
10. Connet the USB data cable to the F400.
11. Select the 'Boot Change' once more, then 'Boot' button will be inactivated, and the others('Amss', 'Rsrc1', 'Rsrc2', 'FactoryFS', 'FOTA', and 'ETC') are activated.
 - Click 'AMSS', 'Rsrc1', 'Rsrc2', and 'FactoryFS' each, and select wanted files.



12. Select 'Port Search', then 'Port' is activated.

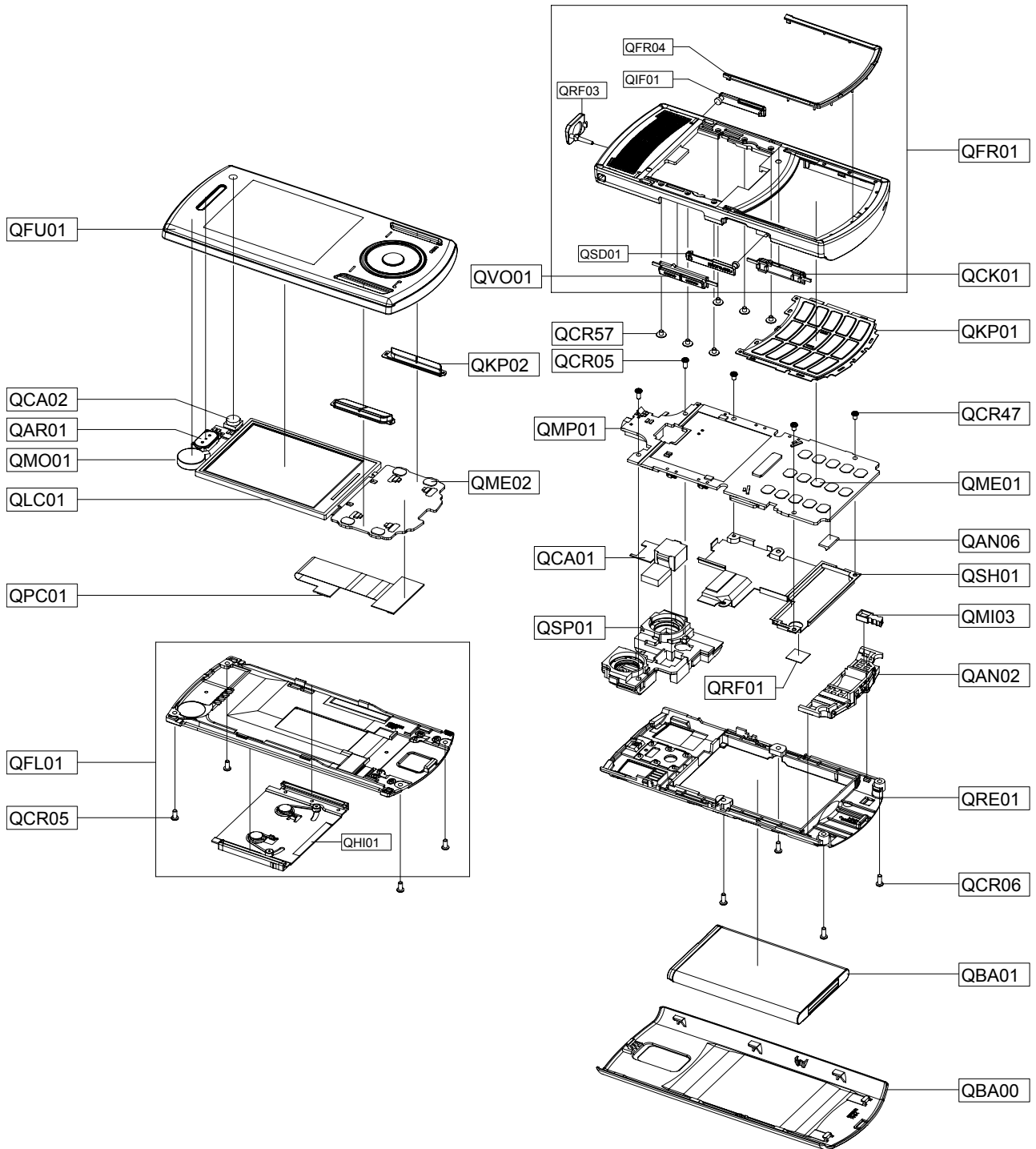


13. Click 'Download', then downloading is executed successively. If the download is completed, S/W downloading is finished. (Download time : about 7 minutes)



5. Exploded View and Parts List

5-1. Cellular phone Exploded View



5-2. Cellular phone Parts list

Design LOC		Discription	SEC CODE
QAN02		INTENNA-SGH-F400	GH42-01592A
QAN06		ASSY RUBBER-INTENNA CONTACT	GH98-04988A
QAR01		AUDIO-RECEIVER	3009-001320
QBA00		PMO CASE-BATT COVER	GH72-46521A
QBA01		INNER BATTERY PACK-960MAH,BLK,	GH43-02720A
QCA01		CAMERA MODULE-SGH F340 MAIN	GH59-05667A
QCA02		CAMERA MODULE-SGH F340 SUB	GH59-05495A
QCK01		PMO KEY-CAMERA	GH72-46524A
QCR05		SCREW-MACHINE	6001-001478
QCR05		SCREW-MACHINE	6001-001478
QCR06		SCREW-MACHINE	6001-001155
QCR47		SCREW-MACHINE	6001-001695
QCR57		SCREW-MACHINE	6001-002001
QFU01		ASSY CASE-SLIDE UPPER	GH98-07653A
QKP01		ASSY KEYPAD-MAIN	GH98-07651A
QKP02		ASSY KEYPAD-SUB	GH98-07652A
QLC01		LCD-MODULE SGH F340	GH07-01262A
QME01		DOME SHEET-SGH F340 MAIN	GH59-05514A
QME02		DOME SHEET-SGH F340 SUB	GH59-05517A
QMI03		PMO COVER-RUBBER MIC	GH72-47483A
QMO01		MOTOR DC-SGHZ130	GH31-00154C
QMP01		PBA MAIN-SGHF400	GH92-04481A
QPC01		FPC-SGH F400	GH41-02096A
QRE01		ASSY CASE-REAR	GH98-07657A
QRF01		TAPE-RF	GH74-35673A
QSH01		ASSY COVER-SHIELD CAN	GH98-08166A
QSP01		ASSY ETC-SGHF400 SPEAKER MODUL	GH59-05486A
QVO01		PMO KEY-VOLUME	GH72-46525A
QFL01		ASSY CASE-SLIDE LOWER	GH98-07654A
	QHI01	ASSY HINGE	GH98-07658A
QFR01		ASSY CASE-FRONT	GH98-07655A
	QFR04	PMO DAMPER-FRONT BUSH	GH72-46530A
	QIF01	PMO COVER-IF	GH72-47485A
	QRF03	PMO COVER-EAR	GH72-47484A
	QSD01	PMO COVER-SD	GH72-46528A

6. MAIN Electrical Parts List

SEC CODE	Design LOC	Discription
0403-001547	ZD603	DIODE-ZENER
0404-001153	D700	DIODE-SCHOTTKY
0404-001172	D300,D301	DIODE-SCHOTTKY
0406-001208	ZD500,ZD601,ZD602	DIODE-TVS
0406-001215	ZD400,ZD401,ZD700	DIODE-TVS
0406-001231	D701	DIODE-TVS
0406-001254	ZD501,ZD502,ZD503	DIODE-TVS
0406-001254	ZD600,ZD604,ZD605	DIODE-TVS
0407-001002	U401	DIODE-ARRAY
0504-000168	Q400	TR-DIGITAL
0504-001151	Q200	TR-DIGITAL
0601-002268	LED700,LED701	LED
1001-001336	U700	IC-ANALOG SWITCH
1001-001436	U503,U504	IC-ANALOG SWITCH
1001-001483	U701,U702,U703,U704	IC-ANALOG SWITCH
1001-001483	U705,U706	IC-ANALOG SWITCH
1009-001020	U600,U601	IC-HALL EFFECT S/W
1108-000189	UME300	IC-MCP
1201-002461	U200	IC-POWER AMP
1201-002470	U501	IC-AUDIO AMP
1201-002570	PAM100	IC-POWER AMP
1202-001068	U500	IC-VOLTAGE COMP
1203-004089	U502	IC-DC/DC CONVERTER
1203-004339	U603,U604,U605	IC-MULTI REG
1203-004447	U602	IC-MULTI REG
1203-004778	U400	IC-POWER SUPERVISOR
1203-004838	U402	IC-BATTERY
1205-003216	U201	IC-TRANSCEIVER
1205-003341	U100	IC-TRANSCEIVER
1205-003360	UCP300	IC-MODEM
1404-001224	TH300	THERMISTOR-NTC
1405-001082	VR700,VR701,VR703	VARISTOR
1405-001082	VR705,VR707	VARISTOR
1405-001110	VR401	VARISTOR
1405-001133	VR400	VARISTOR
2007-000140	R604,R605	R-CHIP
2007-000141	R706,R707	R-CHIP

SEC CODE	Design LOC	Discription
2007-000145	R512	R-CHIP
2007-000148	R422,R509,R528,R529	R-CHIP
2007-000148	R530	R-CHIP
2007-000162	R403,R600,R610	R-CHIP
2007-000168	R502,R513	R-CHIP
2007-000171	R102,R316,R409,R427	R-CHIP
2007-000171	R428,R429,R506,R510	R-CHIP
2007-000171	R532,R533,R534,R535	R-CHIP
2007-000171	R536,R537,R622,R624	R-CHIP
2007-000171	R708	R-CHIP
2007-000173	R609	R-CHIP
2007-000932	R401	R-CHIP
2007-001119	R524,R527	R-CHIP
2007-001298	R301	R-CHIP
2007-001305	R516,R519,R520,R521	R-CHIP
2007-001319	R606	R-CHIP
2007-003001	R704,R705	R-CHIP
2007-003015	R114	R-CHIP
2007-007092	R511	R-CHIP
2007-007107	R311,R616,R617,R618	R-CHIP
2007-007107	R619,R621,R701	R-CHIP
2007-007136	R507,R508	R-CHIP
2007-007142	R323	R-CHIP
2007-007193	R121	R-CHIP
2007-007306	R700,R703	R-CHIP
2007-007313	R607,R608	R-CHIP
2007-007316	R424	R-CHIP
2007-007317	R109,R423	R-CHIP
2007-007318	R425	R-CHIP
2007-007334	R420,R702	R-CHIP
2007-007468	R404	R-CHIP
2007-007489	R204	R-CHIP
2007-007528	R525,R526	R-CHIP
2007-007538	R310,R523,R612,R613	R-CHIP
2007-007538	R614,R615,R620	R-CHIP
2007-007741	R110,R312,R322,R324	R-CHIP
2007-007942	R504,R505	R-CHIP

SEC CODE	Design LOC	Discription
2007-007943	R500	R-CHIP
2007-008044	R104,R201	R-CHIP
2007-008045	R105,R106,R119,R202	R-CHIP
2007-008046	R107,R108	R-CHIP
2007-008049	R318	R-CHIP
2007-008055	R300,R414	R-CHIP
2007-008275	R501,R503	R-CHIP
2007-008483	R412	R-CHIP
2007-008486	R410	R-CHIP
2007-008516	R317,R319,R320,R411	R-CHIP
2007-008516	R413,R415,R416,R417	R-CHIP
2007-008516	R418,R419	R-CHIP
2007-008531	R112	R-CHIP
2007-008806	R103,R118,R120,R200	R-CHIP
2007-008806	R406	R-CHIP
2007-008809	R408	R-CHIP
2007-009115	R315	R-CHIP
2007-009171	R305,R306,R307,R308	R-CHIP
2007-009171	R309,R405	R-CHIP
2007-009212	R123	R-CHIP
2007-009420	R113	R-CHIP
2007-009801	R203	R-CHIP
2203-000138	C200	C-CER,CHIP
2203-000233	C104,C126,C137,C157	C-CER,CHIP
2203-000233	C166,C213,C215	C-CER,CHIP
2203-000254	C208,C314	C-CER,CHIP
2203-000278	C224,C234	C-CER,CHIP
2203-000330	C109,C229	C-CER,CHIP
2203-000386	C230	C-CER,CHIP
2203-000425	C414,C431,C437	C-CER,CHIP
2203-000438	C129,C201,C202,C218	C-CER,CHIP
2203-000438	C305,C306,C319,C322	C-CER,CHIP
2203-000438	C400	C-CER,CHIP
2203-000466	C223	C-CER,CHIP
2203-000628	C124,C159	C-CER,CHIP
2203-000643	L206	C-CER,CHIP
2203-000812	C100,C205,C505,C511	C-CER,CHIP

MAIN Electrical Parts List

SEC CODE	Design LOC	Discription
2203-000812	C519,C520,C529,C530	C-CER,CHIP
2203-000812	C533,C534,C700,C701	C-CER,CHIP
2203-000995	C107,C220,C222,C301	C-CER,CHIP
2203-000995	C522,C532	C-CER,CHIP
2203-001072	C114	C-CER,CHIP
2203-001210	C506	C-CER,CHIP
2203-001259	C108,C318,C507,C510	C-CER,CHIP
2203-002668	C163,C210,L205	C-CER,CHIP
2203-002709	C217,C221	C-CER,CHIP
2203-005054	C601,C603	C-CER,CHIP
2203-005061	C123,C125,C158,C160	C-CER,CHIP
2203-005061	C167	C-CER,CHIP
2203-005234	C103,C105,L202	C-CER,CHIP
2203-005281	C110,C113	C-CER,CHIP
2203-005288	C102	C-CER,CHIP
2203-005444	C164,C165	C-CER,CHIP
2203-005482	C500,C501,C504,C508	C-CER,CHIP
2203-005482	C509,C524,C525,C527	C-CER,CHIP
2203-005682	C111,C112,C115,C121	C-CER,CHIP
2203-005682	C130,C147,C149,C150	C-CER,CHIP
2203-005682	C435,C436,C443,C444	C-CER,CHIP
2203-005682	C445,C446,C447,C448	C-CER,CHIP
2203-005683	C116,C118,C119	C-CER,CHIP
2203-005725	C132,C133,C134,C135	C-CER,CHIP
2203-005725	C139,C141,C143,C145	C-CER,CHIP
2203-005725	C146,C153,C154	C-CER,CHIP
2203-005732	C117,C120	C-CER,CHIP
2203-005736	C430,C432	C-CER,CHIP
2203-006048	C106,C232,C401,C402	C-CER,CHIP
2203-006048	C406,C407,C513,C514	C-CER,CHIP
2203-006137	C526,C528	C-CER,CHIP
2203-006194	C142,C144,C162,C303	C-CER,CHIP
2203-006194	C308,C310,C312,C320	C-CER,CHIP
2203-006194	C323,C326,C336,C338	C-CER,CHIP
2203-006194	C339	C-CER,CHIP
2203-006208	C207	C-CER,CHIP
2203-006305	C404,C425	C-CER,CHIP

SEC CODE	Design LOC	Discription
2203-006307	C602	C-CER,CHIP
2203-006324	C427,C434,C518	C-CER,CHIP
2203-006348	C433,C440,C441,C442	C-CER,CHIP
2203-006399	C219,C231,C233,C316	C-CER,CHIP
2203-006399	C317,C600,C604	C-CER,CHIP
2203-006410	C148,C151	C-CER,CHIP
2203-006423	C128,C131,C136,C138	C-CER,CHIP
2203-006423	C140,C152,C155,C300	C-CER,CHIP
2203-006423	C302,C304,C307,C309	C-CER,CHIP
2203-006423	C311,C313,C315,C321	C-CER,CHIP
2203-006423	C324,C325,C327,C328	C-CER,CHIP
2203-006423	C329,C330,C331,C332	C-CER,CHIP
2203-006423	C335,C337,C340,C412	C-CER,CHIP
2203-006423	C423,C429	C-CER,CHIP
2203-006462	C333	C-CER,CHIP
2203-006562	C127,C227,C228,C605	C-CER,CHIP
2203-006562	C606,C607,C608,C609	C-CER,CHIP
2203-006562	C610,C611,C612,C613	C-CER,CHIP
2203-006562	C614,C615	C-CER,CHIP
2203-006642	C214	C-CER,CHIP
2203-006668	C334	C-CER,CHIP
2203-006712	C420	C-CER,CHIP
2203-006824	C156,C161,C409,C521	C-CER,CHIP
2203-006839	C438	C-CER,CHIP
2203-006841	C439,C516,C517	C-CER,CHIP
2203-006872	C405,C410,C411,C415	C-CER,CHIP
2203-006872	C416,C421,C422,C426	C-CER,CHIP
2203-006872	C702,C703,C704,C705	C-CER,CHIP
2203-006872	C706	C-CER,CHIP
2203-007165	C403,C413,C417,C418	C-CER,CHIP
2203-007165	C419,C502,C503	C-CER,CHIP
2203-007240	C408,C424	C-CER,CHIP
2203-007270	C428	C-CER,CHIP
2404-001377	TA503	C-TA,CHIP
2404-001381	TA500	C-TA,CHIP
2404-001414	TA501,TA502	C-TA,CHIP
2404-001474	TA100,TA400,TA600	C-TA,CHIP

MAIN Electrical Parts List

SEC CODE	Design LOC	Discription
2703-000295	L207	INDUCTOR-SMD
2703-001178	L105	INDUCTOR-SMD
2703-001722	L102,L103	INDUCTOR-SMD
2703-001724	C211	INDUCTOR-SMD
2703-001729	C203	INDUCTOR-SMD
2703-001749	R100	INDUCTOR-SMD
2703-001750	C206,L204	INDUCTOR-SMD
2703-001751	C212	INDUCTOR-SMD
2703-002155	L100,L101	INDUCTOR-SMD
2703-002267	L109	INDUCTOR-SMD
2703-002308	L500,L501,L502	INDUCTOR-SMD
2703-002313	L208,L508,L510	INDUCTOR-SMD
2703-002506	C204	INDUCTOR-SMD
2703-002714	L505,L506	INDUCTOR-SMD
2703-002798	L201	INDUCTOR-SMD
2703-002840	L400,L401,L402	INDUCTOR-SMD
2703-002858	L111	INDUCTOR-SMD
2703-002907	L200	INDUCTOR-SMD
2703-002917	L110	INDUCTOR-SMD
2703-002918	L112	INDUCTOR-SMD
2703-003249	L209	INDUCTOR-SMD
2801-004373	OSC400	CRYSTAL-SMD
2801-004515	OSC200	CRYSTAL-SMD
2809-001280	OSC100	OSCILLATOR-VCTCXO
2901-001353	F705,F706,F707	FILTER-EMI/ESD
2901-001409	F700,F701,F703,F704	FILTER-EMI SMD
2904-001628	F100	FILTER-SAW
2904-001658	F200	FILTER-SAW
2904-001716	F101	FILTER-SAW
2904-001769	F102	FILTER-SAW
2909-001279	DUF200	FILTER-LC
2910-000039	F202	DUPLEXER-FBAR
3301-001659	L210	BEAD-SMD
3301-001812	L600,L601,L602,L603	BEAD-SMD
3301-001812	L604	BEAD-SMD
3404-001303	TAC700,TAC701,TAC702	SWITCH-TACT
3404-001303	TAC703	SWITCH-TACT

SEC CODE	Design LOC	Discription
3705-001503	RFS100	CONNECTOR-COAXIAL
3709-001392	CD400	CONNECTOR-CARD EDGE
3709-001447	SIM400	CONNECTOR-CARD EDGE
3710-002499	IFC600	SOCKET-INTERFACE
3711-005643	HDC701	HEADER-BOARD TO BOARD
3711-006568	HDC700	HEADER-BOARD TO BOARD
3711-006808	BTC400	HEADER-BATTERY
3722-002609	EAR500	JACK-EAR PHONE
4302-001130	BAT400	BATTERY-LI(2ND)
4709-001399	F201	COUPLER-DIRECTION
GH30-00450A	MIC500	MICROPHONE
GH71-06379A	ANT100,ANT102	NPR-ANTENNA CONTACT

Please consult the GSPN website (Samsung Portal) for the most recent version of the product's part list.