2. Specification

2-1. GSM850&900/DCS1800/PCS1900 General Specification

	GSM 850	EGSM 900 Phase 2	DCS1800 Phase 1	PCS 1900	WCDMA 2100	WCDMA 900
Freq. Band(MHZ) Uplink/Downlink	824~849 869~894	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990	1920 ~ 1980 2110 ~ 2170	880 ~ 915 925 ~ 960
ARFCN range	128~251	0~124 & 975~1023	512~885	512~810	UL : 9612 ~ 9888 DL : 10562 ~ 10838	UL : 2712 ~ 2863 DL : 2937 ~ 3088
Tx/Rx spacing	45MHz	45MHz	95 MHz	80 MHz	190MHz	45MHz
Mod. Bit rate/ Bit Period	270.833 kbps 3.692 us	270.833 kbps 3.692 us	270.833 kbps 3.692 us	270.833 kbps 3.692 us	3.84Mcps	3.84Mcps
Time slot Period/Frame Period	576.9 us 4.615 ms	576.9 us 4.615 ms	576.9 us 4.615 ms	576.9 us 4.615 ms	10 ms	10 ms
Modulation	0.3 GMSK	0.3 GMSK	0.3 GMSK	0.3 GMSK	UL : BPSK DL : QPSK	UL : BPSK DL : QPSK
MS Power	33 dBm ~ 5dBm	33 dBm ~ 5dBm	30dBm~0dBm	30dBm~0dBm	Max : 24dBm Min : -50dBm	Max : 24dBm Min : -50dBm
Power Class	Class 4	Class 4	Class 1	Class 1	Class 3	Class 3
Sensitivity	-102 dBm	-102 dBm	-102 dBm	-102 dBm	-106.7 dBm	-103.7 dBm
TDMA Mux	8	8	8	8	-	-
Cell Radius	35Km	35 Km	2Km	-	-	-

2-2. GSM TX power class

TX POWER LEVEL CONTOL	EGSM 850/900	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

- Innovative Clean-back Slider Design Slider
- Hybrid User interface (full touch + 3X4 keypad)
- Accelerometer (Auto Rotate Display)
- 8 Mega Pixel AF Camera with Wide Preview & Capture
- 2.8 inch 240 by 400 WQVGA 16M WQVGA AMOLED
- SMS/MMS(OMA v 1.2), Video Messaging(H.263+AMR), Unified inbox (SMS/MMS)
- GPS Navigation(On-board, Off-board), Google Map
- E-mail (POP3/IMAP4/SMTP, SSL)
- WAP 2.0 Full HTML Browser (NF3.5), HTTP, OTA provisioning supported
- MP3/AAC/AAC+/eAAC+/WMA/AMR/MIDI/SP-MIDI/i-melody/WAV/MMF
- MPEG4/H.263/H.264/WMV
- JPEG/GIF/A-GIF/PNG/WBMP/Flash/SVG-T/TIFF
- GSM Phase 2+/ Class 12, EDGE, 3GPP Rel. 6 / Cat.6 HSDPA 7.2Mbps
- Quad Band (EGSM850/900/DCS/PCS), UMTS 900/2100MHz + GPS 1.575GHz
- MicroSD Card Support
- USB v2.0 High Speed, Bluetooth v2.1
- FM Radio with RDS (BT+FM One chip)
- SyncML DS v.1.1 Local/Net. Sync. MS Outlook (Express) Exchangeable
- Dictionary(English-Regional Language), Mobile Blog(Samsung)
- Mobile Printing BPP, OPP, PictBridge (USB printing)

4. Array Course Control

4-1. Software Adjustments

Test Jig (GH99-36900A)

Test Cable (GH39-01160A)

**RF Test Cable (GH39-00985A)**

Adapter (GH99-38251A)

4-2. Software Downloading

4-2-1. Pre-requsite for Download

- Downloader Program(**Multiloader V5.44.exe**)

- GT-S8300 Mobile Phone

- Micro USB Data Link Cable
- Binary files

4-2-2. S/W Download Process

■ Load the binary download program by executing the "**Multiloader V5.44.exe**"
 1. Execute the download SW, Multiloader.exe.
 2. Boot the S8300 by pressing '#9' + 'Power ON Key' at the same time.
   - if you do properly, you can see the 'DOWMLOAD' in the middle of the screen.
 3. Connect the Micro USB data cable to the S8300.
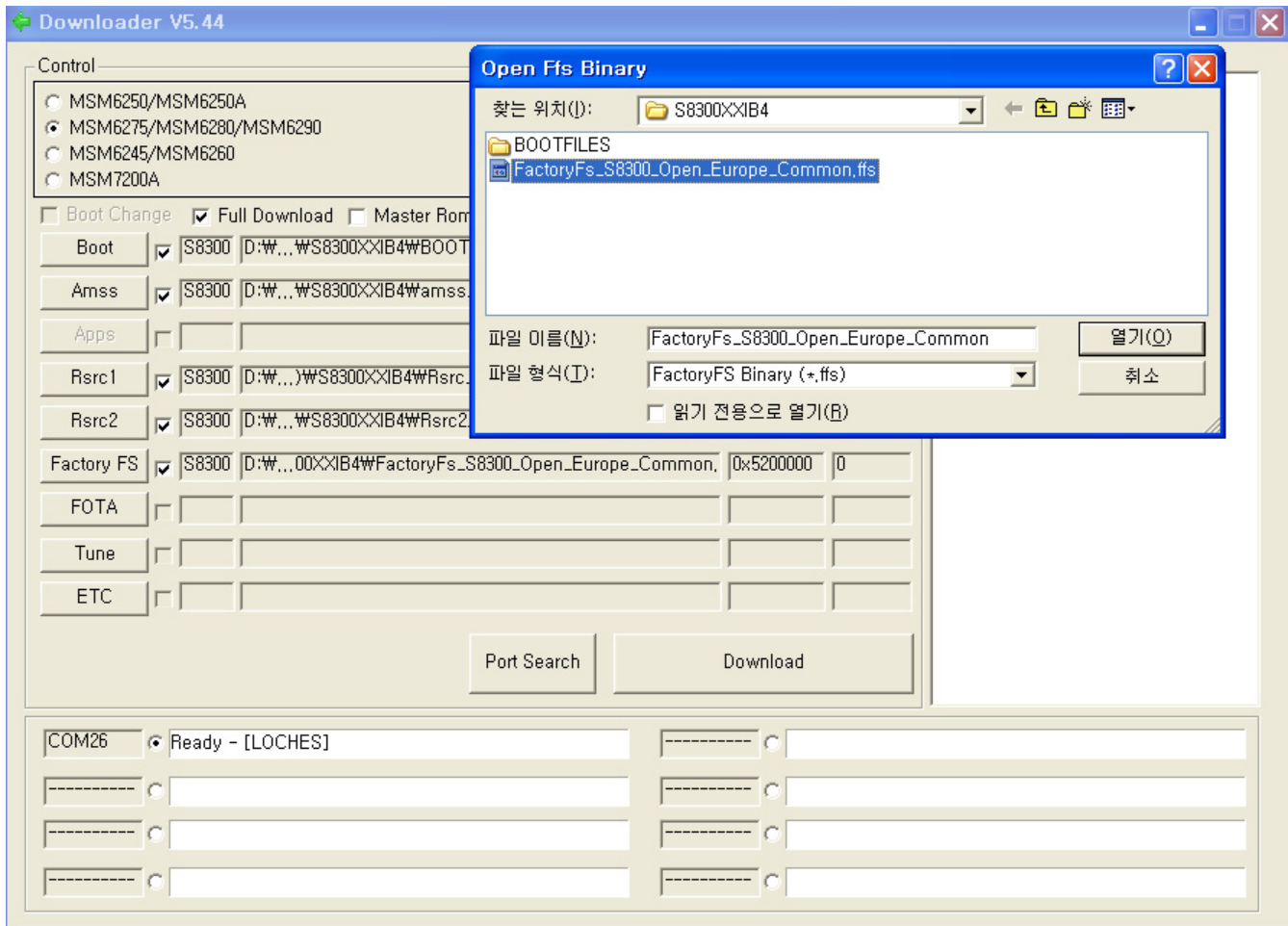 4. Press 'Port Search', then 'Port' is activated.
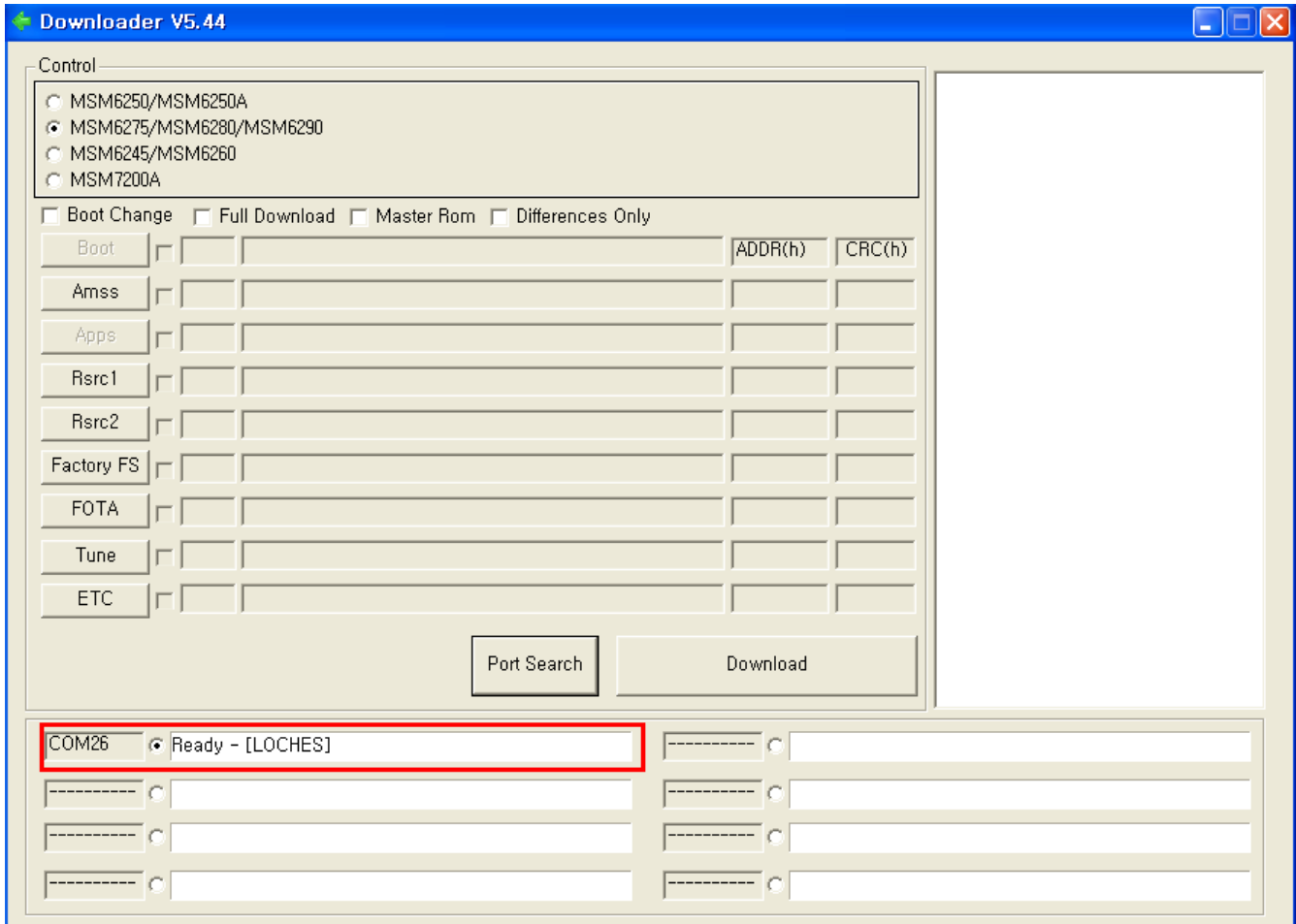
5. Choose MSM6275/MSM6280 and check 'Full Download', then All buttons will be activate exept Apps button.
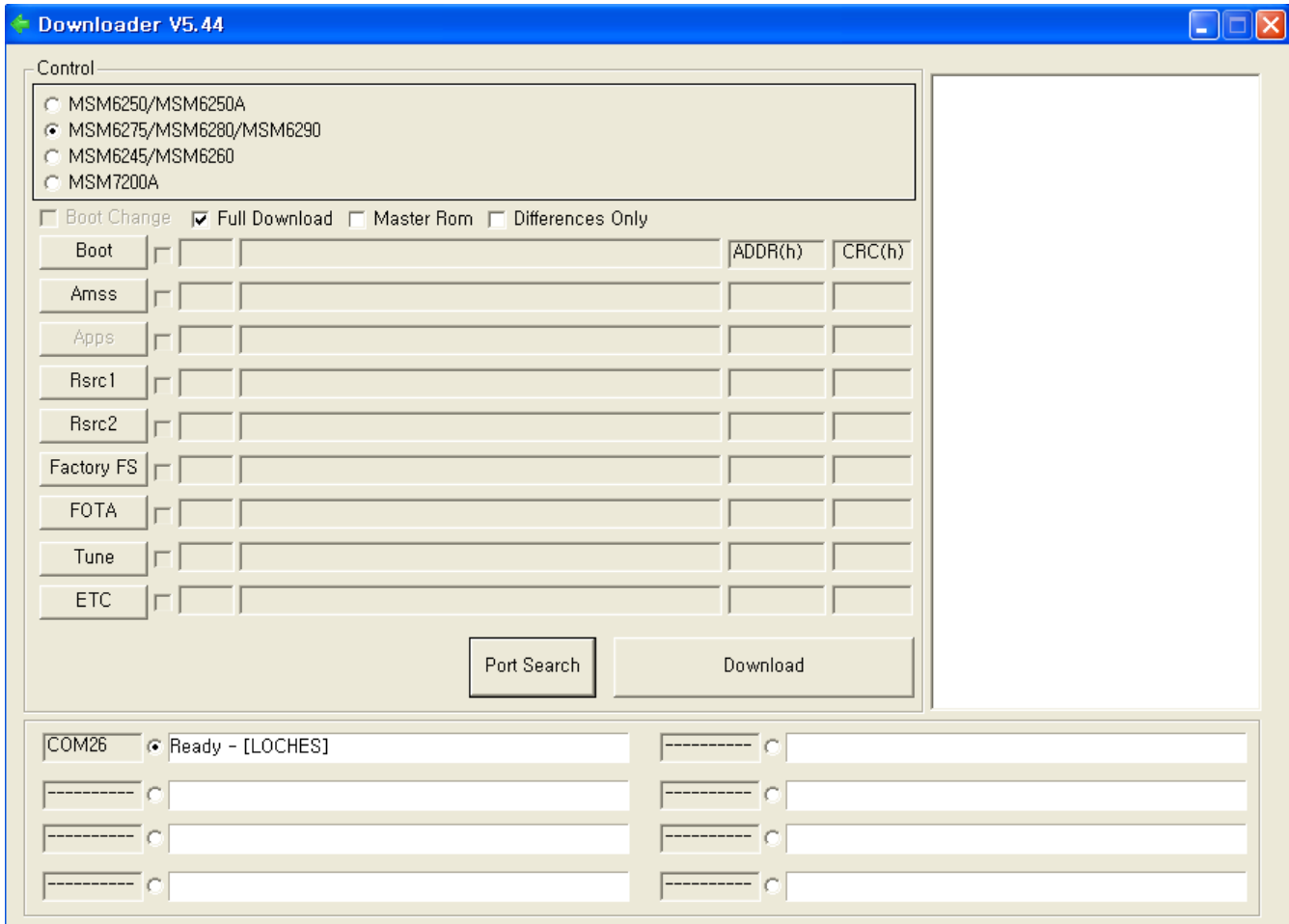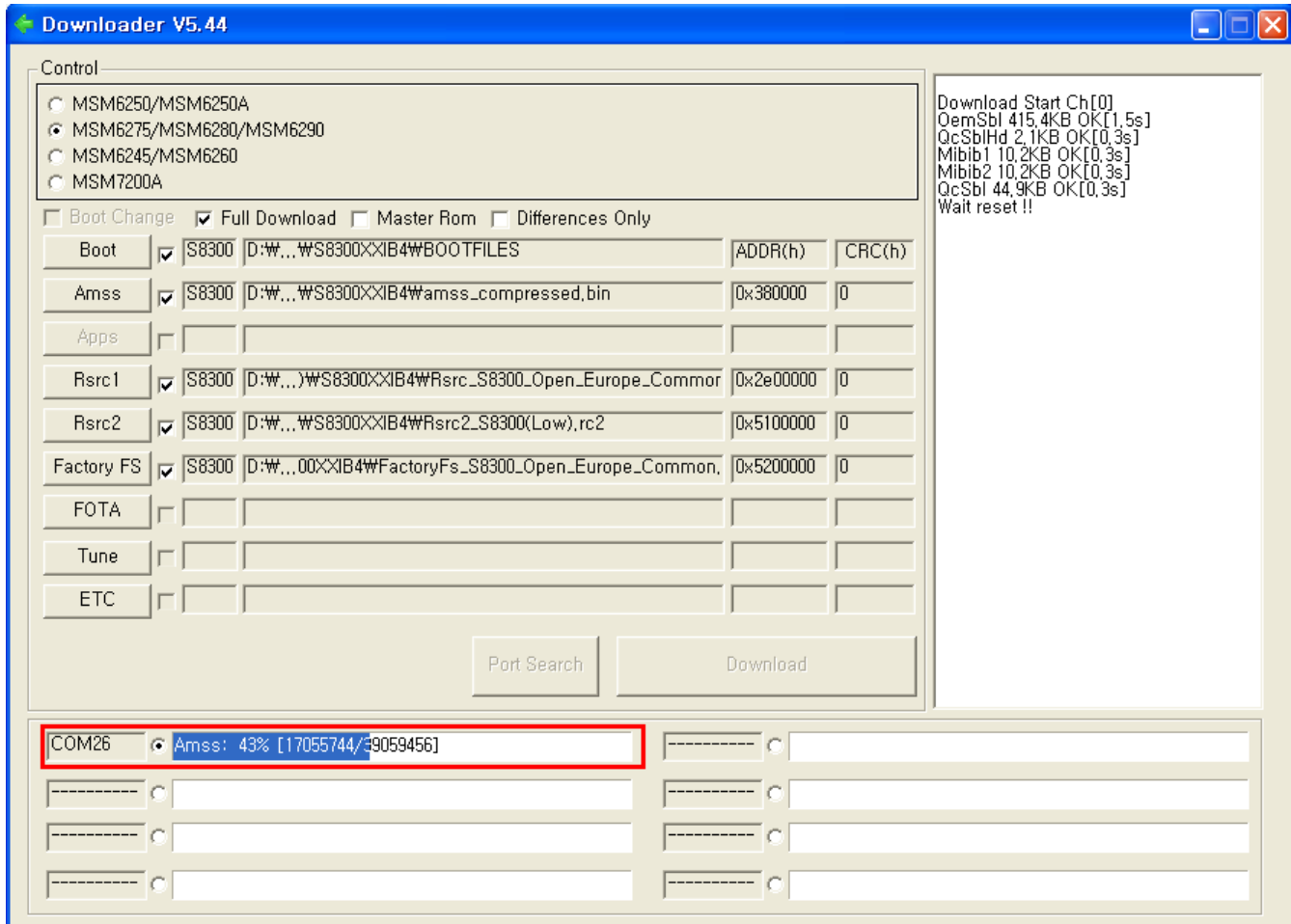
6. Click the 'Boot', then the dialogue box is opened. Select the wanted directory, and press 'OK'.
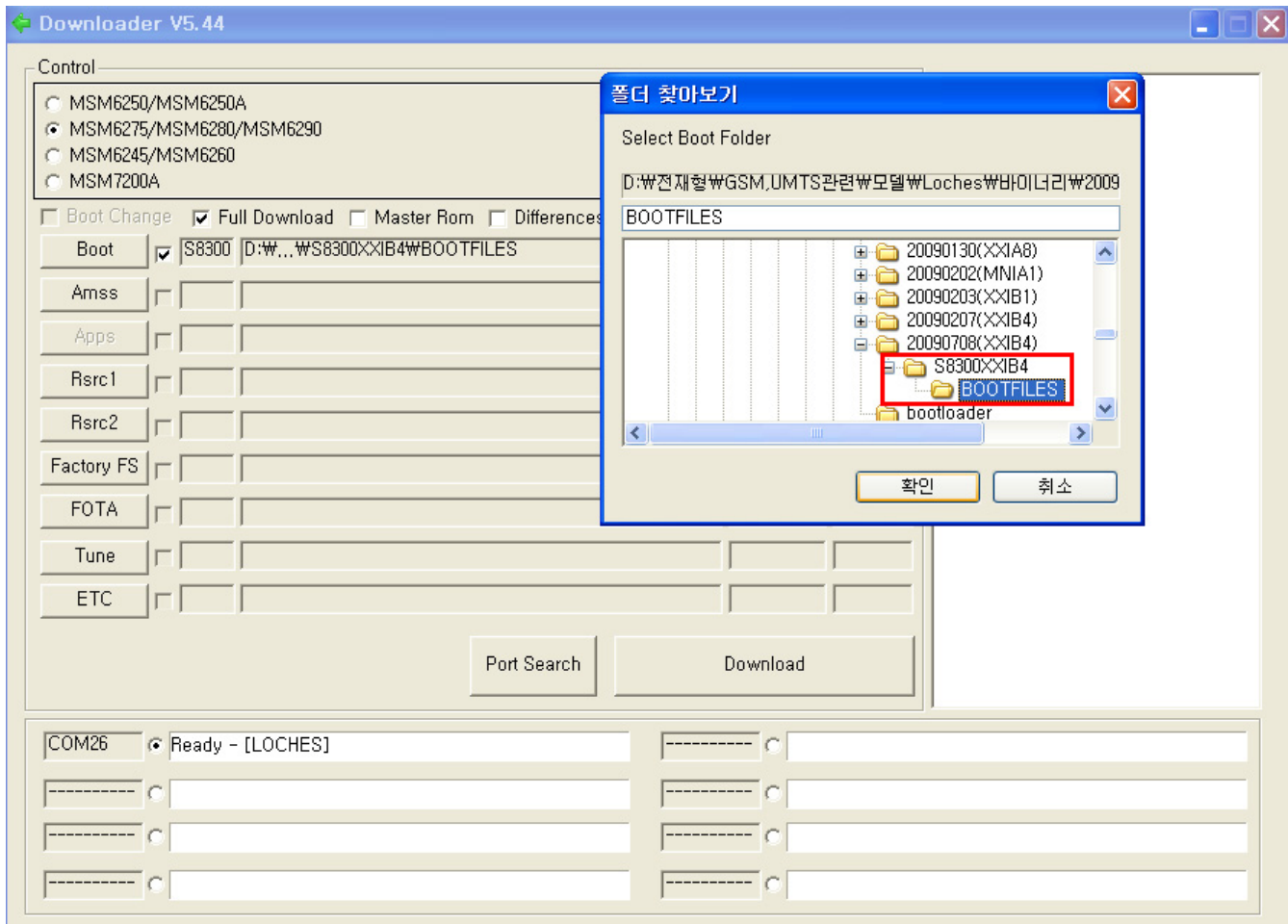
7. Click 'Amss', 'Rsrc1', 'Rsrc2', 'Factory FS' each, and select wanted files.

8. Click 'Download', then downloading is executed successively.If the download is completed, S/W downloading is finished. (Download time : about 4 minutes)

11. Reference data

Reference Abbreviate

— **AAC**: Advanced Audio Coding.

— **AVC** : Advanced Video Coding.

— **BER** : Bit Error Rate

— **BPSK**: Binary Phase Shift Keying

— **CA** : Conditional Access

— **CDM** : Code Division Multiplexing

— **C/I** : Carrier to Interference

— **DMB** : Digital Multimedia Broadcasting

— **EN** **:** European Standard

— **ES** **:** Elementary Stream

— **ETSI**: European Telecommunications Standards Institute

— **MPEG**: Moving Picture Experts Group

— **PN** : Pseudo-random Noise

— **PS** : Pilot Symbol

— **QPSK**: Quadrature Phase Shift Keying

— **RS** : Reed-Solomon

— **SI** : Service Information

— **TDM** : Time Division Multiplexing

— **TS** **:** Transport Stream

1. Safety Precautions

1-1. Repair Precaution

● Repair in Shield Box, during detailed tuning.
  Take specially care of tuning or test,
  because specipicty 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 disassembing 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 easilly 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.