User’s Manual

(Model Name: HMVD-01GB, HMVD-512B)

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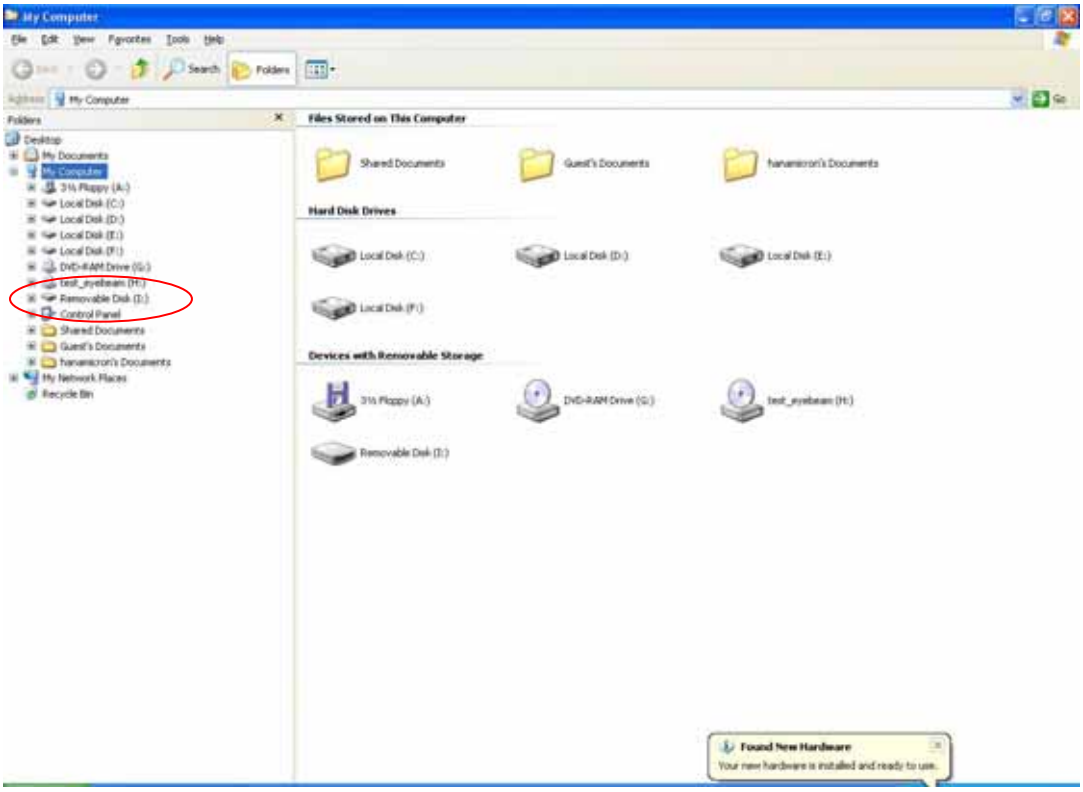
BLUETOOTH 제품관련 문의 : 031-778-6212,6213

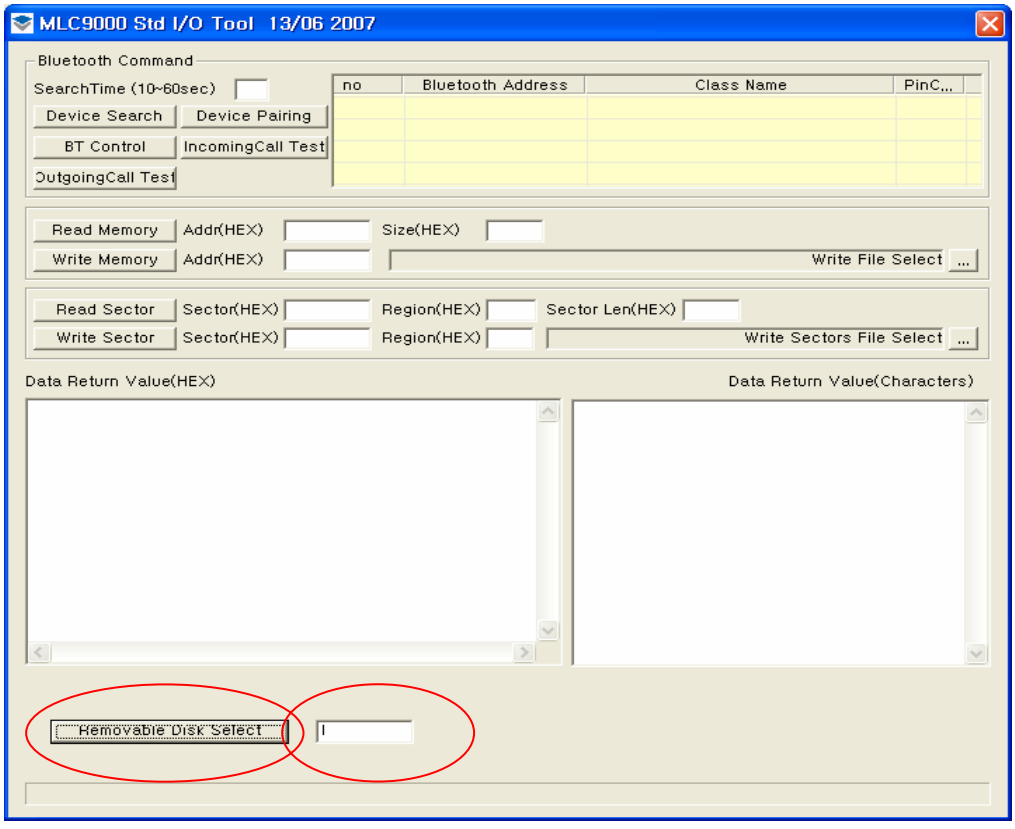
< Introductions for Bluetooth & Hidden Area Testing>

Preparation

1. Plug the device into the USB port of PC.



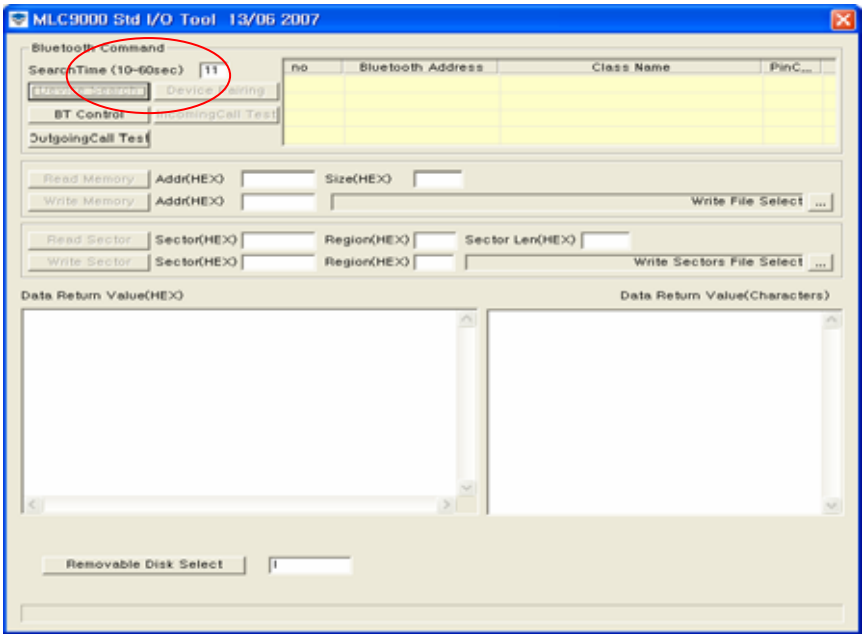
2. Check if the device has been successfully installed and connected. And run the StdDTool.exe.
   (Make sure that connection is properly working first then, run the StdDTool.exe)
3. Enter the drive letter of the installed removable disk('I'" as an example) into the blank at the bottom of the software as following, then click the 'Removable Disk Select' button. Then, this software becomes available to access to the hidden area and also available to use BT functions.



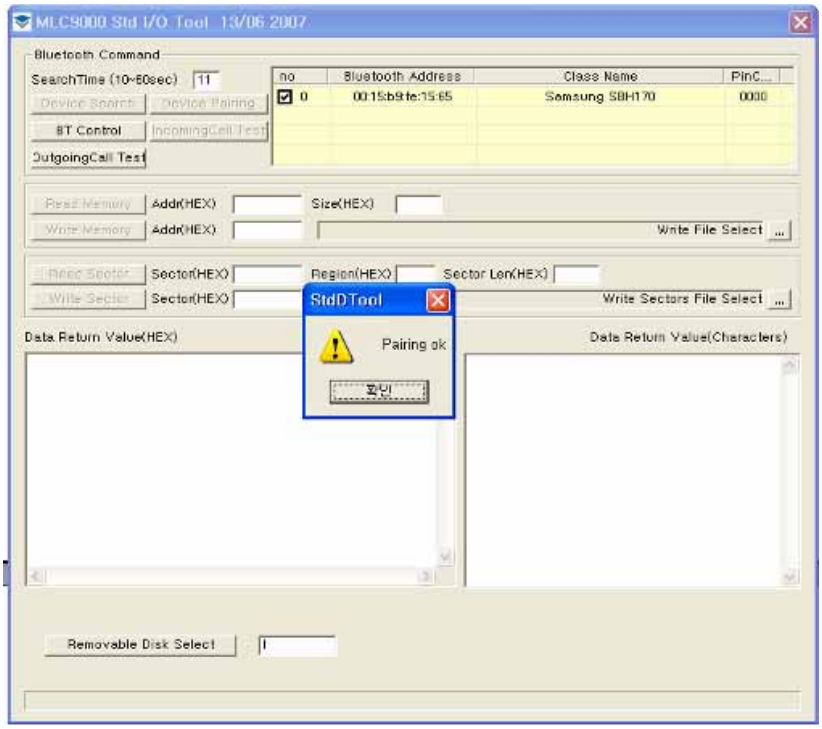
BT TEST

1. Enter the preferred search time (’11 as an example) at the top of the software as following, then click the ‘Device Search’ button.

   (Before performing this stage, make sure that the BT headset is set to ‘paring ready’ mode)



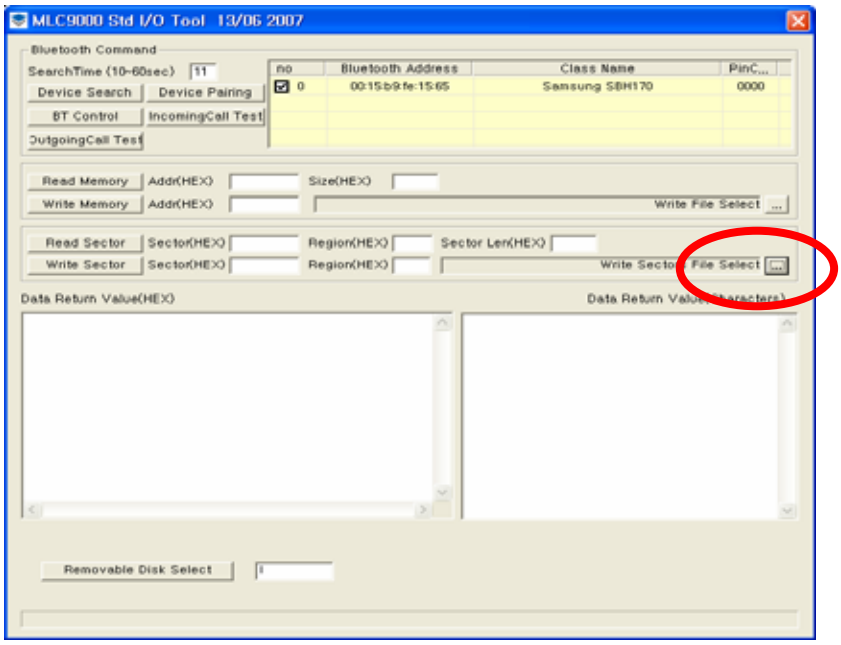
2. If a device appear in the right pane, check the device vice which you want to pair, then click the ‘Device Paring’ Button. Then ‘Paring OK’ pop-up will appear as following picture.



3. Play any audio(music) file like MP3 to test if you can hear any sound.
4. When you are able to listen to sound properly, click ‘incoming call test’ button. At this stage, you will be able to make voice call tests. (When clicking the ‘incoming call test button’, you will found that the quality of the sound becomes a little worse. This happens because the BT profile mode is changed from Stereo Audi’ to Mono Headset. - ** Note: This version doesn’t support Mono headsets directly yet’)
5. You can also test with ‘recorder’ in the Windows or can control the volumes in the control panel if it’s not loud enough.

Hidden Area TEST

1. Perform the ‘Preparation’ stage as mentioned above.
2. Click the ‘File Select’ button on reselect the file to write in hidden area.

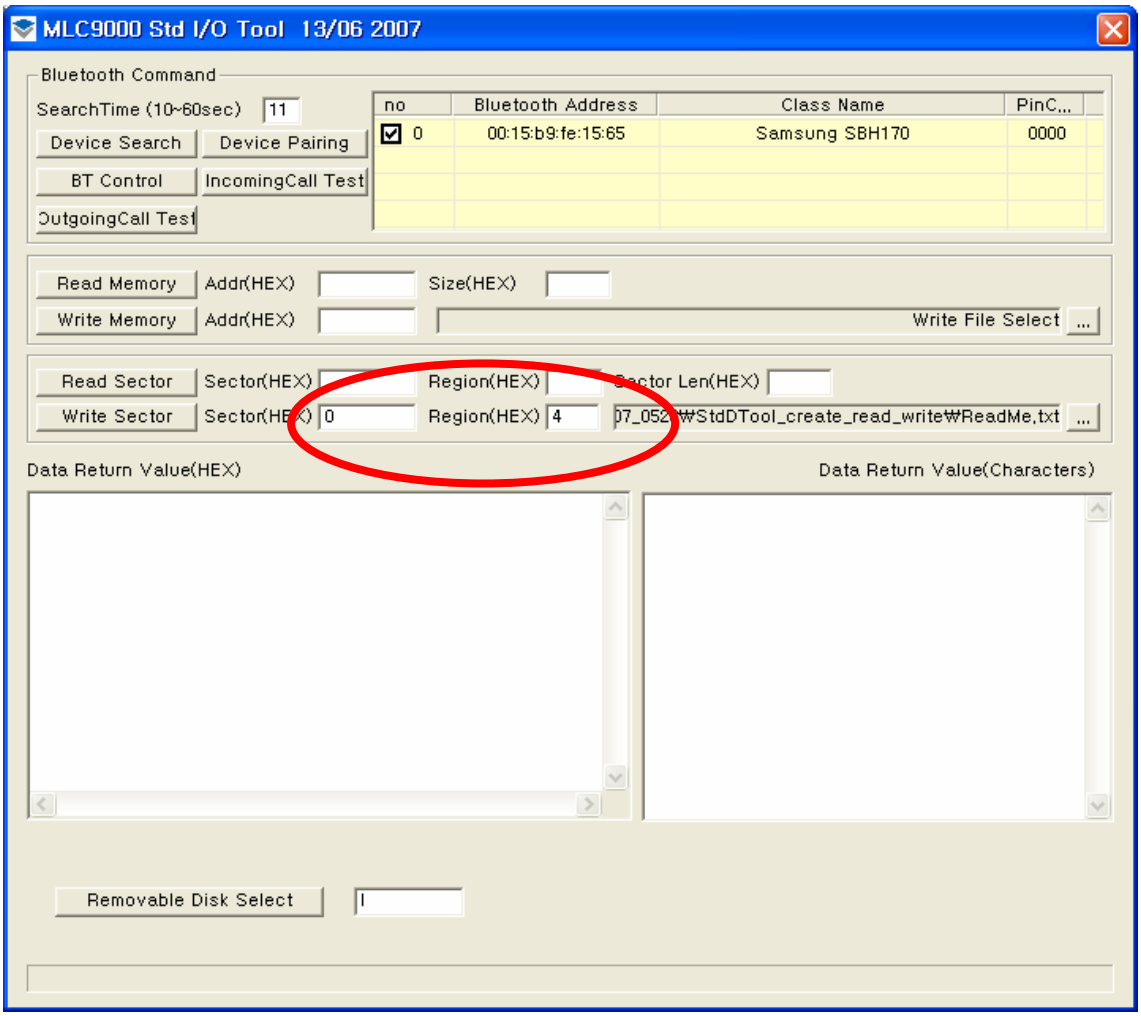


3. Select a Sector (‘0’ as an example. Sector=Address)

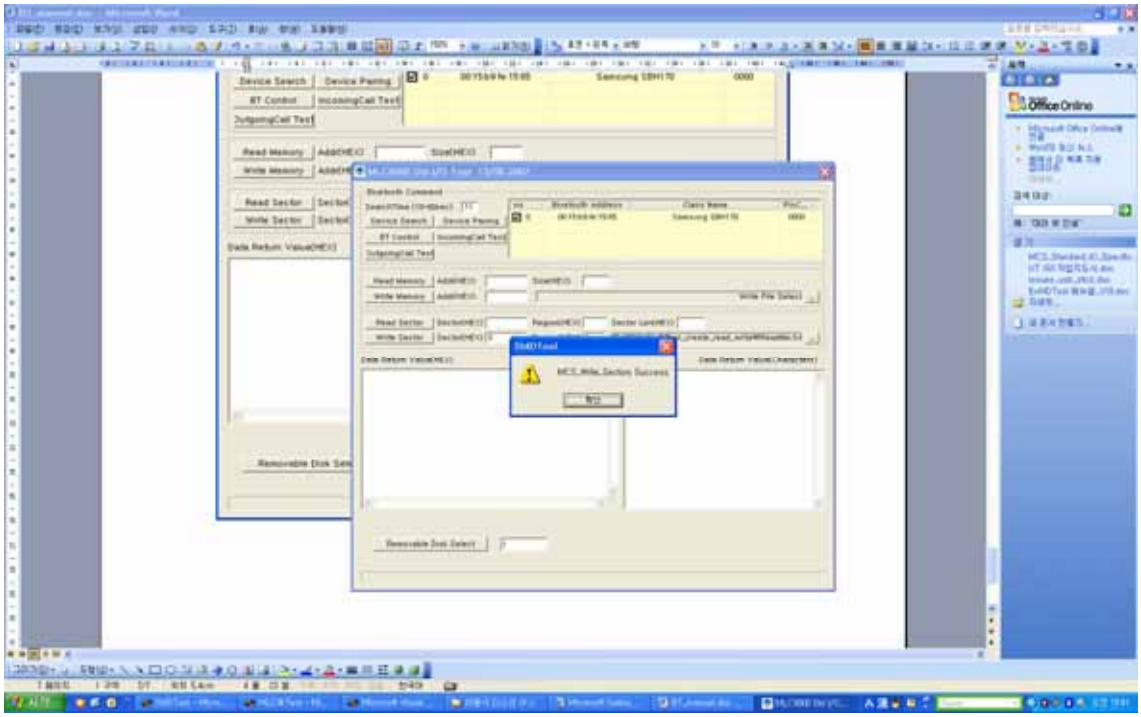
   1 sector is 512 bytes. Basically starts from 1024 bytes.

   (Range: 0~ max sector)

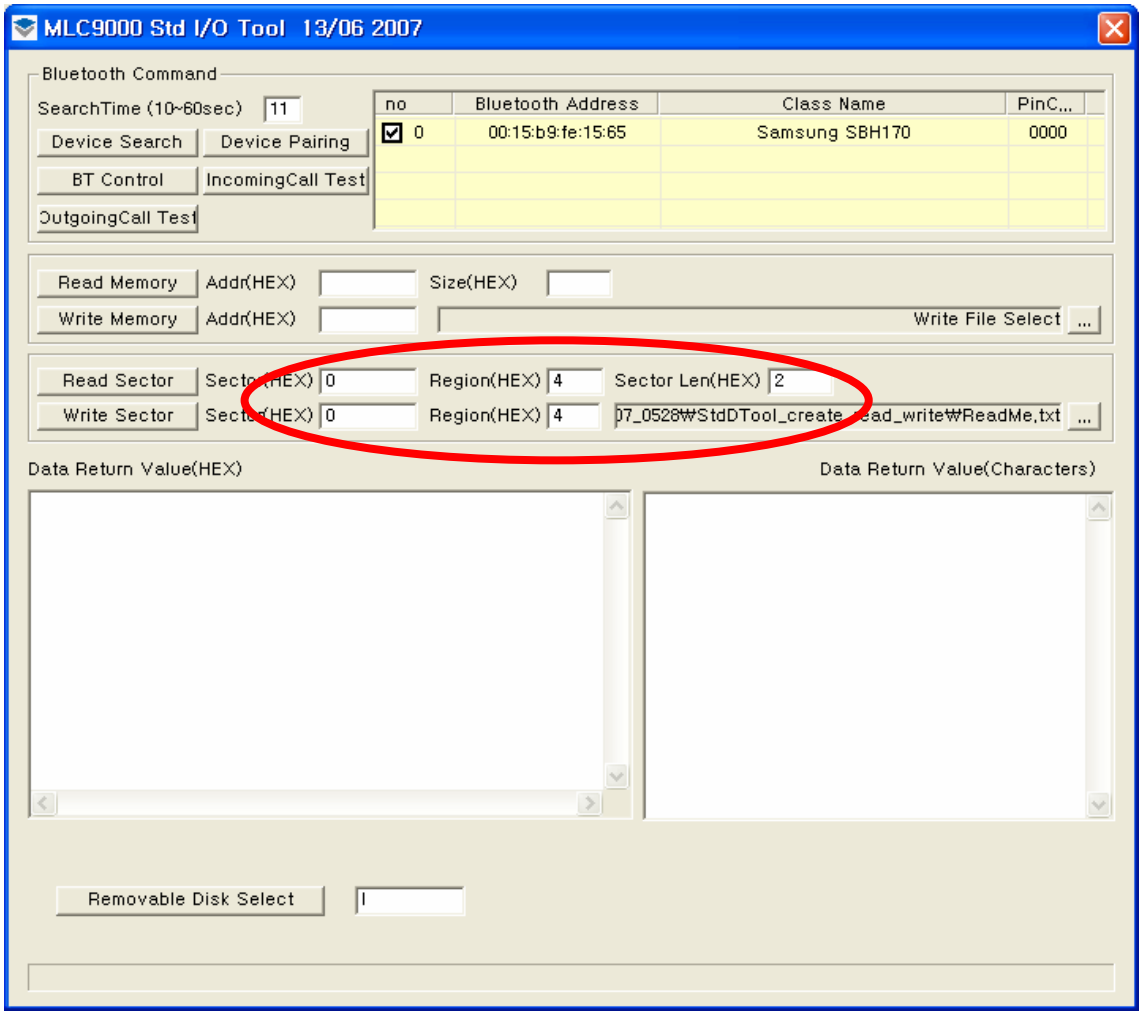
   Select a Region (‘4’ as an example)



4. Click the ‘Write Sector’ button, then ‘MCS_Write_Sectors Success’ pop-up will appear as following picture.



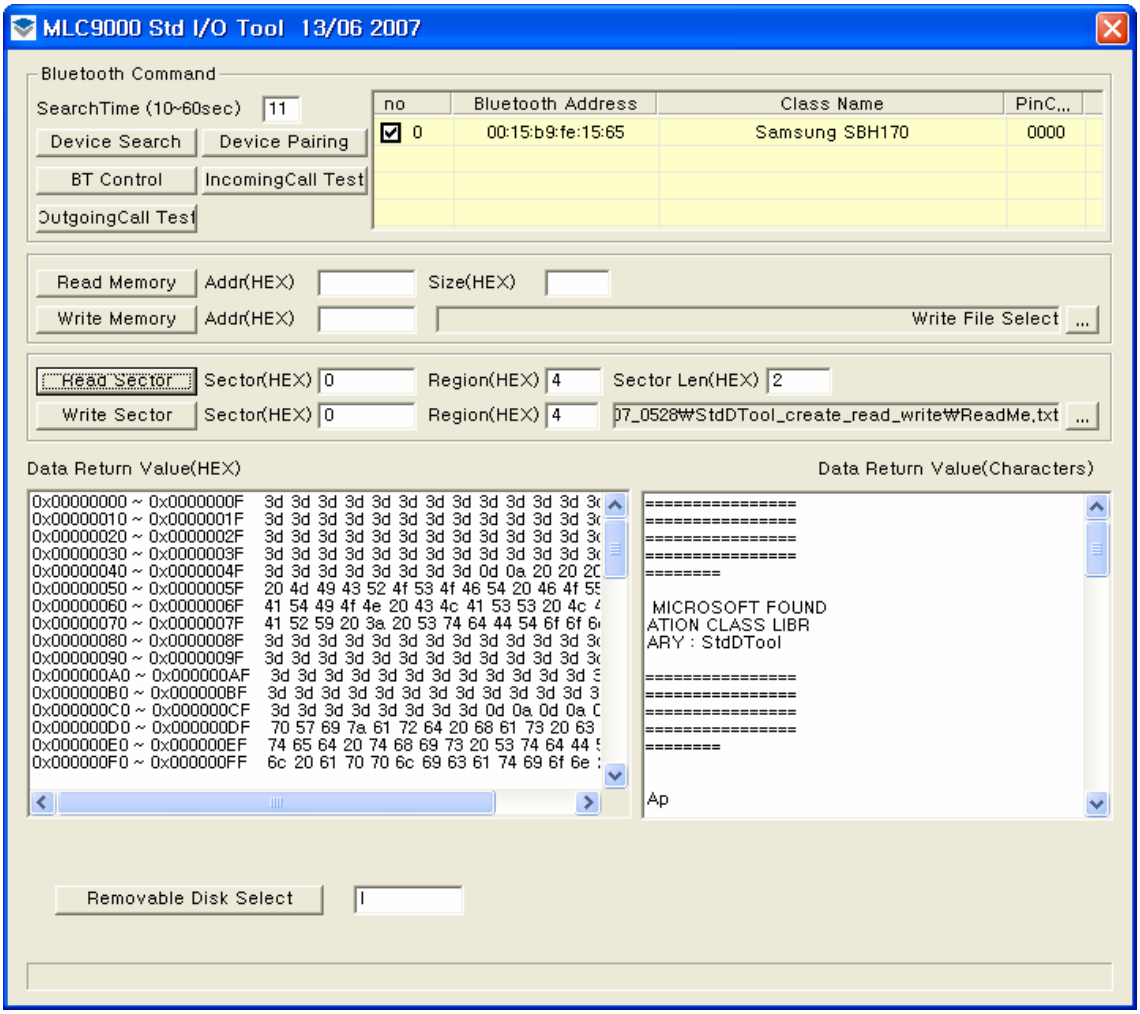
5. In order to read the hidden area, set the options as followings;



if set the Sector Len to ‘2’, 1024(0x400) bytes will be read.

if set the Sector Len to ‘4’, 2048 (0x800) bytes will be read.

6. Click the ‘Read Sector’ button. (The below is an example when succeeded)



Features

- Fully Qualified Bluetooth System
- Bluetooth 2.0 Specification Compliant
- Kalimba DSP Open Platform Co-Processor
- Full Speed Bluetooth Operation with Full Piconet Support
- Operating Voltage 2.8~3.6V
- UART Interface With programmable baud rate up to 1.5Mbaud with an optional bypass mode
- Full Speed USB v1.1 Interface Supports OHCI And UHCI Host Interfaces
- 16-bit Resolution Stereo Audio Codec, Standard Sample Rates of 8kHz, 11.025kHz, 16kHz, 2.05kHz, 32kHz, 44.1kHz And 48kHz (DAC Only)
- Integrated Amplifiers For Driving Microphone And Speakers With Minimum External Components
- Standard HCI (UART and USB) support
- Fully Embedded RFCOMM
- External 8Mbit Flash Memory
- Integrated 26MHz Reference Clock
- Competitive Size (9.0mm x 10.0mm x 1.5mm : LGA 44Pin)

Application

- Stereo Headphones
- Automotive Hands-Free Kits
- Echo Cancellation
- High Performance Telephony Headsets
- A/V Profile Support
- Cellular Handsets

Characteristics

Electrical Characteristics

Absolute Maximum Ratings		
Rating	**Minimum**	**Maximum**
Storage temperature	-40℃	85℃
Supply voltage : VCC	-0.4V	3.7V
Other terminal voltages	VSS -0.4	VCC +0.4V

Recommended Operating Conditions		
Operating Conditions	**Minimum**	**Maximum**
Operating temperature range	-30℃	80℃
Supply voltage : VCC	2.8V	3.6V

Power Consumption

Operation Mode	Connection Type	UART Rate (Kbits/s)	Average	Unit
Inquiring mode	-	115.2	40	mA
ACL data transfer no traffic	Master	115.2	7	mA
ACL data transfer with file transfer	Master	115.2	14	mA
SCO connection	Slave		32	mA
ACL connection	Slave		42	mA
Standby Host connection	-		0.02	mA

Note :

Conditions : 25°C, 3.3V supply

RF Characteristics

Transmitter

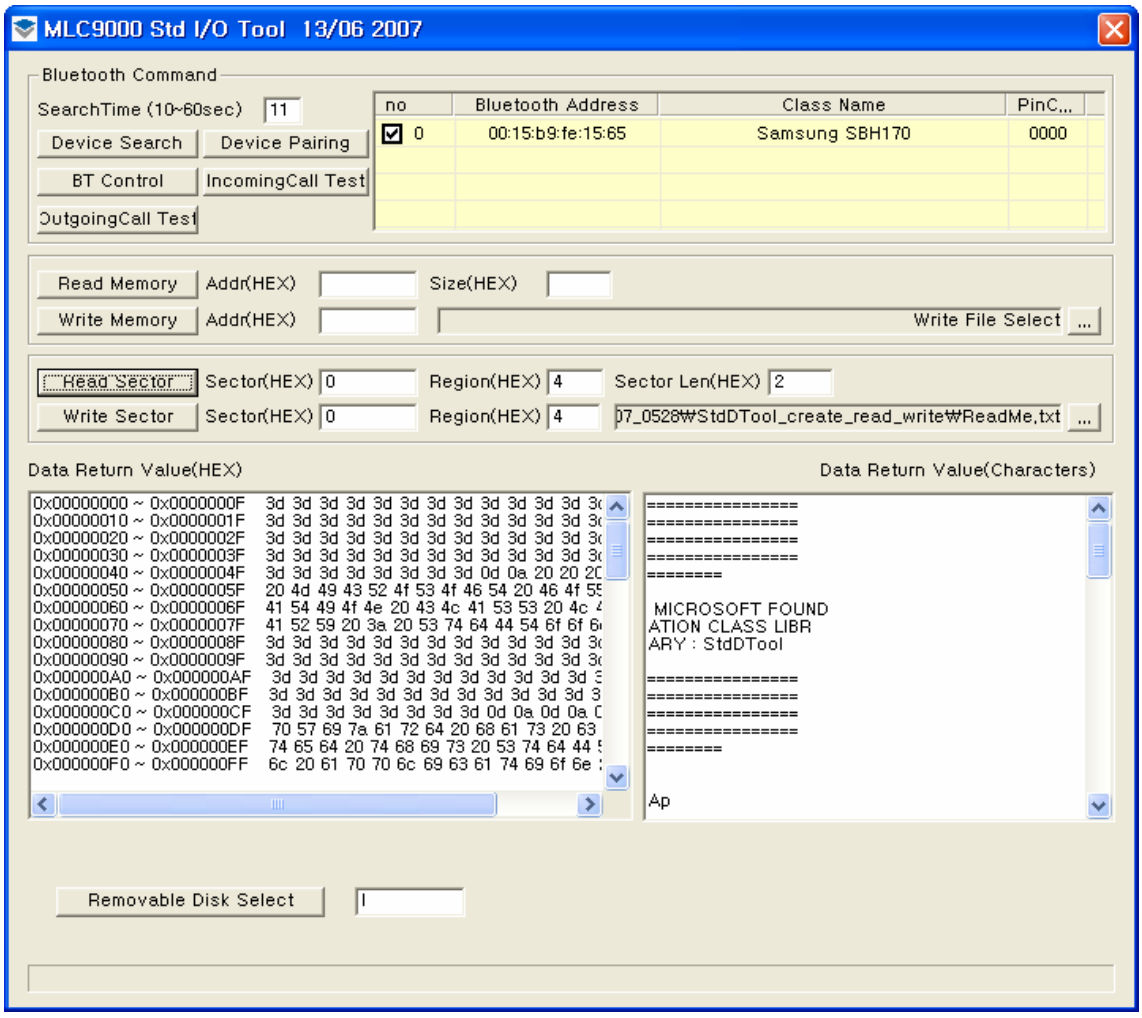
Specification	Condition	Min	Typ	Max	Unit
Output power	Normal	0	1	4	dBm
Power density	Normal	-	-	2	dBm
Power control	Normal	2	-	8	dBm
Frequency range	Normal	2400	-	2483.5	MHz
20dB bandwidth for modulated carrier	Normal	-	950	1000	KHz
Adjacent channel power	±2MHz	-	-	-20	dBm
	±3MHz	-	-	-40	
	±4MHz	-	-	-40	
Modulation Characteristics	Δ f1avg	140	165	175	KHz
	Δ f2max	115	150	-	KHz
	Δ f2avg / Δf1avg	80	-	-	%
Initial carrier frequency tolerance	Normal	-20	-	20	KHz
Carrier frequency Drift	One slot packet(DH1)	-25	-	25	kHz
	Five slot packet(DH5)	-40	-	40	

Transceiver

Specification	Condition	Min	Typ	Max	Unit
Out of band spurious emissions	30MHz ~ 1GHz			-36	dBm
	1GHz ~12.75GHz			-30	
	1.8GHz ~5.1GHz			-47	
	5.1GHz ~5.3GHz			-47	

Receiver

Specification	Condition	Min	Typ	Max	Unit
Sensitivity level (0.1% BER)	Single slot packets	-80	-80	-82	dBm
Sensitivity level (0.1% BER)	Multi slot packet	-80	-80	-82	dBm
C/I performance	co - channel	-	-	11	dB
	1MHz (Adjacent channel)	-	-	0	
	2MHz (2 nd Adjacent channel)	-	-	-30	
	≥3MHz (3 rd Adjacent channel)	-	-	-40	
Blocking performance	30MHz ~ 2000MHz	-10	-	-	dBm
	2000MHz ~ 2400MHz	-27	-	-	
	2500MHz ~ 3000MHz	-27	-	-	
	3000MHz ~ 12.75GHz	-10	-	-	
Intermodulation performance	n = 5	-39		-	dBm
Maximum input level		-20	-10	-	dBm



FCC Information

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note:

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: -Reorient or relocate the receiving antenna -Increase the separation between the equipment and receiver -Connect the equipment into an outlet on a circuit different from that to which the receiver is connected -Consult the dealer or an experienced radio/TV technician for help.

CAUTION:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.