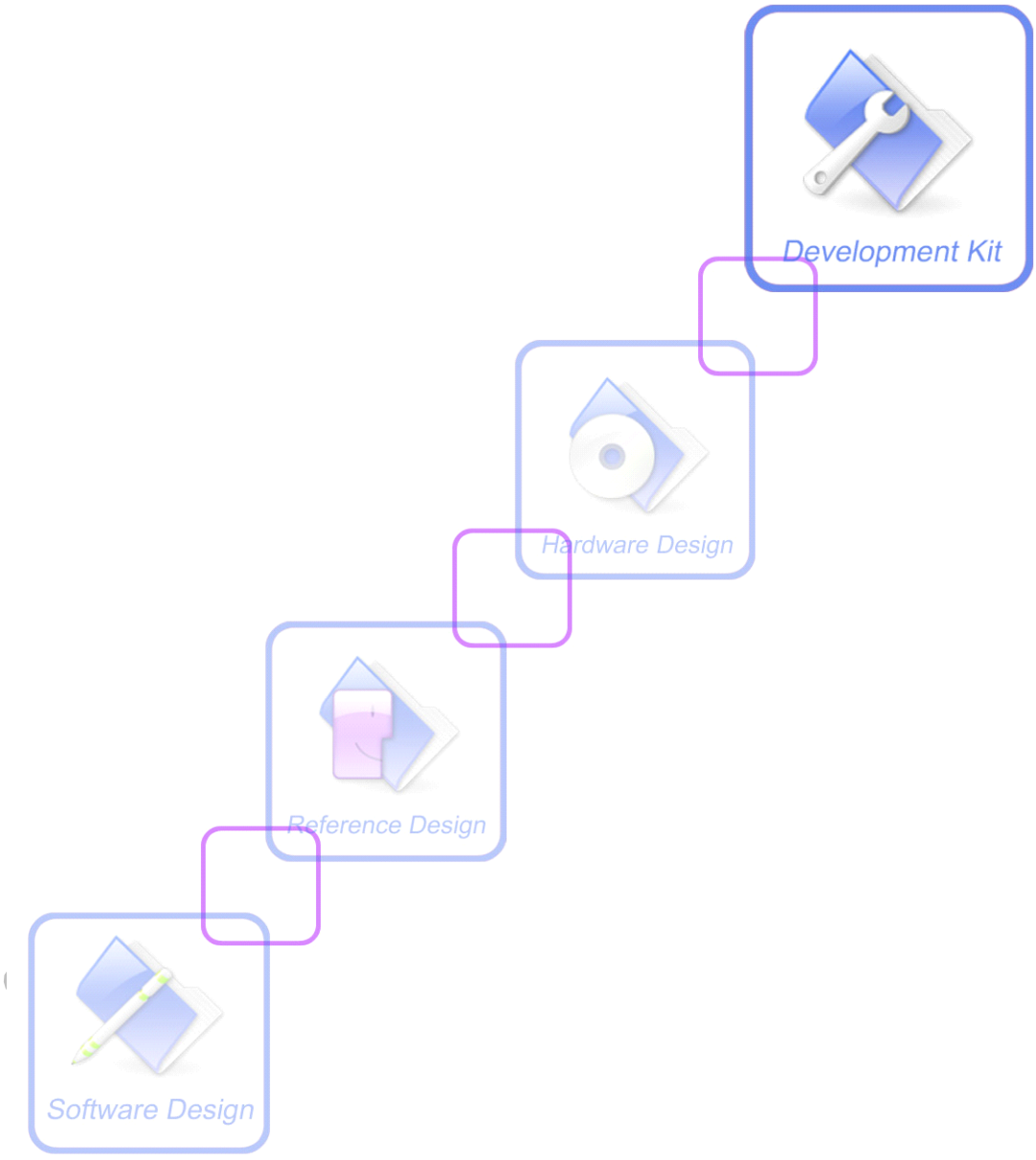
MyDiag Application Note



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Version History

Version	Chapter	Comments
V0.01	New Version	
V0.02	Modify replay section	

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1. Introduction

1.1 Overview

This document gives the usage of SIM52XX MyDiag functions; user can get useful information about the SIM52XX MyDiag functions quickly through this document.

The MyDiag functions are designed for customers to design their own diagnostic applications for SIM52XX module easily. User can access the MyDiag AT commands through UART/ USB interface which communicates with SIM52XX module.

SIM52XX MyDiag features:

- Support grabbing log through USB DIAG port.
- Support grabbing log packets filtered using configuration files.
- Support replaying the log files using MyDiag AT commands

1.2 References

1.3 Terms and Abbreviations

For the purposes of the present document, the following abbreviations apply:

- AT ATtention; the two-character abbreviation is used to start a command line to be sent from TE/DTE to TA/DCE
- MYDIAG User developed diagnostic tools instead of other log tools

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2. MyDiag Quick Start –Grabbing log

The purpose of this section is to help get you to develop applications used for grabbing SIM52XX log easily.

2.1 Configure USB DIAG port

SIM52XX supports tracing log packets through USB DIAG port, and customer applications can get the log by connecting the port and configuring log packets to trace. Following is the steps on how to configure the SIM52XX module to trace log:

1) Connect USB DIAG port

USB DIAG port is a virtual serial port, customer applications can use serial port APIs to connect the USB DIAG port. For example, on windows platform, the CreateFile() function can be used to connect the USB DIAG port:

```
hComm = CreateFile("\\\\.\\COM3",
                   GENERIC_READ | GENERIC_WRITE,
                   0,
                   0,
                   OPEN_EXISTING,
                   FILE_ATTRIBUTE_NORMAL |
                   FILE_FLAG_OVERLAPPED,
                   0);
```

2) Configure the type of log packets to trace

SIM52XX DIAG port supports tracing many types of log packets, and customer applications can configure the type of log packets to trace. Following is a configuring example using the data

diag_start.dat

in diag_start.dat :

```
WriteFile(hComm, hex2bin("60 00 12 6a    7e"), 5, &dwWritten, &osWrite);
ReadFile(hComm, buf, sizeof(buf), &dwRead, &osRead);
WriteFile(hComm, hex2bin("7300000000000000da817e"), 11, &dwWritten, &osWrite);
ReadFile(hComm, buf, sizeof(buf), &dwRead, &osRead);
WriteFile(hComm, hex2bin("7d5d05000000000000074417e"), 12, &dwWritten, &osWrite);
ReadFile(hComm, buf, sizeof(buf), &dwRead, &osRead);
WriteFile(hComm, hex2bin("4b040e000dd37e"), 7, &dwWritten, &osWrite);
ReadFile(hComm, buf, sizeof(buf), &dwRead, &osRead);
…
WriteFile(hComm, hex2bin("2a207d5e7e"), 5, &dwWritten, &osWrite);
ReadFile(hComm, buf, sizeof(buf), &dwRead, &osRead);
```

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All the hex packets under label "----------pkt req----------" should be sent to SIM52XX USB DIAG port orderly. For each request packet sent to SIM52XX USB DIAG port, the SIM52XX module should reply a response packet. The hex packets under label "----------pkt rsp----------" are the log packets which can be used to check whether each response packet from SIM52XX module is correct. The response packet data header should match the hex packet under "----------pkt rsp----------" followed.

2.2 Grab and Save log

After configuring the USB DIAG port using the data in diag_start.dat, the SIM52XX module will then trace log packets. All the log packets received from the module are separated by value 0x7E, and customer applications can save the raw received log packets to log files orderly. Following is an example of saving the log:

```
while (true)
{
   ReadFile(hComm, buf, sizeof(buf), &dwRead, &osRead);
   SaveToFile(hFile, buf, dwRead);
}
```

2.3 Stop Grabbing log

Customer applications can stop grabbing log by using the data in diag_stop.dat

diag_stop.dat

:

```
. WriteFile(hComm, hex2bin("60 00 12 6a    7e"), 5, &dwWritten, &osWrite);
  ReadFile(hComm, buf, sizeof(buf), &dwRead, &osRead);
  WriteFile(hComm, hex2bin("7300000000000000da817e"), 11, &dwWritten, &osWrite);
  ReadFile(hComm, buf, sizeof(buf), &dwRead, &osRead);
  WriteFile(hComm, hex2bin("7d5d05000000000074417e"), 12, &dwWritten, &osWrite);
  ReadFile(hComm, buf, sizeof(buf), &dwRead, &osRead);
  WriteFile(hComm, hex2bin("4b040e000dd37e"), 7, &dwWritten, &osWrite);
  ReadFile(hComm, buf, sizeof(buf), &dwRead, &osRead);
  WriteFile(hComm, hex2bin("4b040e000dd37e"), 7, &dwWritten, &osWrite);
  ReadFile(hComm, buf, sizeof(buf), &dwRead, &osRead);
```

After doing the upper operation, the SIM52XX module should stop tracing log packets. Then the customer applications can close the USB DIAG port. Following is an example on windows platform:

```
CloseHandle(hComm);
```

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