

FTP Server Demo Instruction

Rev1.0 5-Jul-23

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FTP Server Demo Instruction

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This document describes the instruction to run FTP Server demo on FPGA development board by using FileZilla version 3.45.1 as FTP client. SATA-III device is applied as the storage to store file for transferring with TestPC by using FTP protocol through 1 Gb Ethernet. To interface with SATA device and 1 Gb Ethernet, exFAT-IP for SATA and TOE1G-IP are implemented in FPGA design. User interface for setting the test parameters on FPGA and monitoring the hardware status is NiosII command shell.

1 Environment Setup

To operate FTP Server demo, please prepare following test environment.

- 1) FPGA development boards (Cyclone10 GX development board)
- 2) 1-Gb Ethernet connection on Test PC
- 3) Micro USB cable for JTAG connection connecting between FPGA development board and PC
- 4) Ethernet cable (cat5e or Cat6) for network connection between FPGA development board and PC
- 5) AB09-FMCRAID board provided by Design Gateway
- 6) SATA-III device connecting to CN0 on AB09 board
- 7) ATX power supply for AB09 board
- 8) QuartusII Programmer for programming FPGA and NiosII command shell, installed on PC
- 9) Test Application named FileZilla version 3.45.1

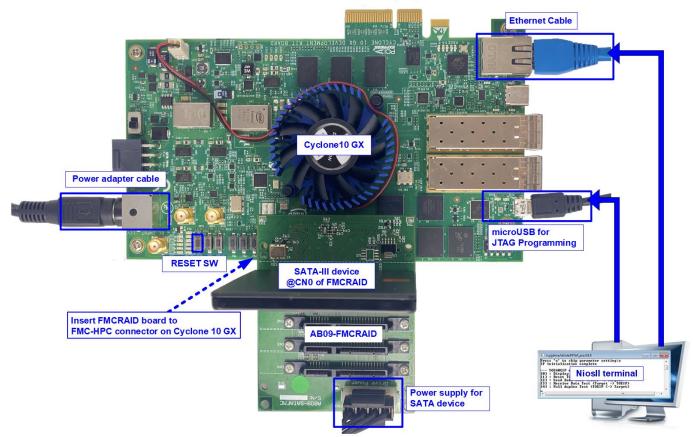


Figure 1-1 FTP Server demo (FPGA<->PC) on Cyclone10 GX



2 PC Setup

Before running demo, please check the network setting on PC. The example to set the network is shown as follows.

2.1 Ethernet Setting

Network and Sharing Center		\bigcirc				
← → × ↑ 🔽 > Control	Panel > Network and Internet > Network	and Sharing Center				
Control Panel Home	View your basic network info	rmation and set up connections				
Change adapter settings	View your active networks					
Change advanced sharing settings	Network Public network	Access type: Internet 2 Connections: <u>Ethernet</u>				
	Change your networking settings —					
•	<u>Figure 2-1 IPv4 settir</u>	ng				

- 1) Open Ethernet setting option from Control Panel -> Network and Internet -> Network and Sharing Center.
- 2) Click Ethernet icon which is used to connect with FPGA board.

📱 Ethernet Status	× Ethernet Properties
General	Networking
Connection IPv4 Connectivity: No Internet access IPv6 Connectivity: No network access Media State: Enabled Duration: 01:56:55 Speed: 1.0 Gbps Details Activity Sent — Sent — Received	Connect using: 1-Gb LAN connection
Bytes: 39,299,554 503,073,087	Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

Figure 2-2 Select IP address setting menu

- 3) Click Properties button in Ethernet Status window.
- 4) Select "TCP/IPv4".
- 5) Click Properties button in Ethernet Properties window.



Internet Protocol Version 4 (TCP/IPv4) Properties	×
General	
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.	
Obtain an IP address automatically	
Use the following IP address: (6a)	
IP address: 192 . 168 . 11 . 25	
Subnet mask: 255 . 255 . 255 . 0	
Default gateway:	
Obtain DNS server address automatically	
• Use the following DNS server addresses:	
Preferred DNS server:	
Alternate DNS server:	
Validate settings upon exit	
(6b) OK Cance	el
Figure 2-3 Set IP address	

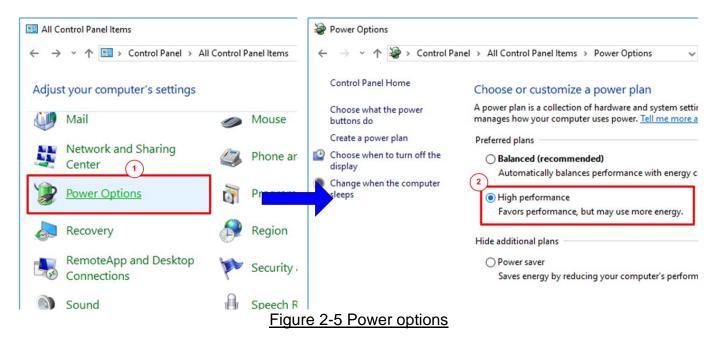
- 6) Set IP address = 192.168.11.25 and Subnet mask = 255.255.255.0. After that, click OK button to confirm IP address setting.
- 7) Click Configure button in Ethernet Properties window. On Link Speed, select "1 Gbps Full Duplex" and click OK button

Ethernet Properties X	Intel(R) Etherne	t Connection (7	7) I219-V Proper	ties	3
letworking	Teaming	VLANs	Driver	Details	Events
Connect using:	General	Link Speed	Advanced	Power M	Management
Intel(R) Ethemet Connection (7) I219-V (7a) Configure This connection uses the following items:	Link Status Speed:	Intel(R) PROSe	d Duplex Settings et Version: 23.2.0 ps Full Duplex (Et	.1006	
	Speed and Du 1.0 Gbps Full Auto Negotiat 10 Mbps Hall 10 Mbps Full 100 Mbps Hall	Duplex ion Duplex Duplex	<u>~</u>	Diagnostic Identify Ada	
Install Uninstall Properties Description Allows your computer to access resources on a Microsoft network.	100 Mbps Full 1.0 Gbps Full to automatic If the adapte settings to r	Duplex	et, you can set th		ttings. 🔨
OK Cancel		displayed when Ipable speed. In t			Cancel

Figure 2-4 Set link speed = 1 Gbps



2.2 Power Option Setting



- 1) Open Control Panel and select Power Options.
- 2) Select High performance plan.



2.3 FileZilla Setting

The reference design supports only one connection for transferring data through 1 Gb Ethernet. So, FileZilla must be configured to transfer data by using one connection as shown in Figure 2-6.

- 1) On FileZilla application, select Edit -> Settings.
- 2) In Transfers page, set "Maximum simultaneous transfer" = 1 (Default value is 2) and click "OK" button to confirm the setting.

E	FileZilla	
Eile	Edit View Transfer Server Bookmarks Help	
111	Network configuration wizard	
	Clear private data	
Hos	<u>Settings</u>	
Settings		×
Select page:	Concurrent transfers 2b	
- Connection	Maximum simultaneous <u>t</u> ransfers: 1 (1-10)	
E- FTP	Limit for concurrent downloads:	
Active mode Passive mode	Limit for concurrent <u>u</u> ploads: 0 (0 for no limit)	
FTP Proxy	Speed limits	
Gene 2a xy	Enable speed limits	
Transfers,	Download limit: 1000 (in KiB/s)	
FTP: File Types	Ugload limit: 100 (in KiB/s)	
- Interface	Burst tolerance: Normal	
Themes	Filter invalid characters in filenames	
Date/time format	Enable invalid character filtering	
Filesize format File lists	When enabled, characters that are not supported by the local operating system in filenames are replaced if downloading such a file.	
Language	Replace invalid characters with:	
File editing	The following characters will be replaced: \/:*?" < >	
Updates	Preallocation	
Logging Debug	Preallocate space before downloading	
ОК	2c	
<u>C</u> ancel		

Figure 2-6 FileZilla Setting



3 FPGA board setup

- 1) Turn off power switch and connect power supply to FPGA board.
- 2) Connect micro USB cable from FPGA board to PC.
- 3) Connect Ethernet cable (CAT5e or CAT6) between RJ45 on FPGA board to PC.

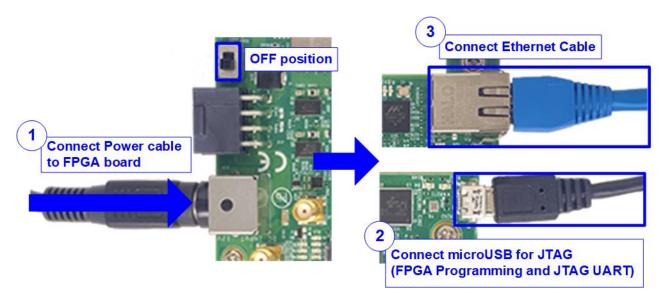


Figure 3-1 Power, Ethernet, and micro USB cable connection

- 4) Connect SATA-III device to AB09 and then connect AB09 to FPGA, as shown in Figure 3-2.
 - a. Connect AB09-FMCRAID board to FMC-HPC connector on FPGA board.
 - b. Connect SATA-III device to CN0 on AB09-FMCRAID board.
 - c. Connect ATX power to power connector on AB09-FMCRAID board.

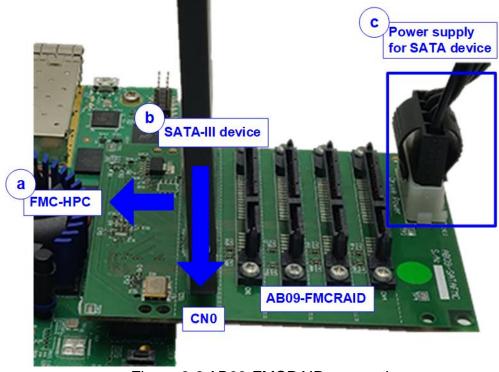


Figure 3-2 AB09-FMCRAID connection



- 5) Open QuartusII Programmer to program FPGA through USB-1 by following step.
 - a. Click "Hardware Setup..." to select USB-BlasterII[USB-1].
 - b. Click "Auto Detect" and select FPGA (10CX220Y).
 - c. Select 10CX device icon.
 - d. Click "Change File" button, select SOF file in pop-up window, and click "open" button.
 - e. Check "program".
 - f. Click "Start" button to program FPGA.
 - g. Wait until Progress status is equal to 100%.

😃 Quartus Prime Pro	grammer Pro Edition - [Chain1.	cdf]*					-		×
<u>File Edit View</u> P	a) Click Hardware S	 Setup -> USB-1	I	g) Wa	ait until Pr	ogress	s = 100%	A	0
Hardware Setup	a USB-Blasterii [USB-1]	Mode:	JTAG	•	Progres	g is:	100% (Si	uccessful)	
Enable real-time I	SP to allow background program		ole						
F™Start	f) Click "Start" buttor File	Device	Checksum	Usercode	Program/ Configure	Verify	Blank- Check	Examir	ne
Stop	b) Select 10CX220YF		00000000	00000000					
Auto Detect	D:/Demo/FTPCPUTest.sof	lGb 10CX220YF780	097247F0	097247F0					
XDelete					e	e) Che	ck "Pro	gram"	
Add File. d	d) Click "Change File'	' button -> Sel	ect TenGL	BackTest.	sof				
Change File	4								Þ
Save File									
Add Device	2*CFI_1Gb								
1 ¹ Up	↑	c) Sele	ct Cyclone [.]	10 Device					
↓ [™] Down									
		Figure 3-3 F		orammer					



6) Open NiosII command shell and type "nios2-terminal". The message is displayed to show current status as follows

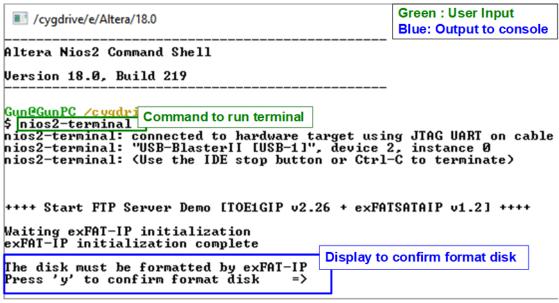


Figure 3-4 Message after system boot-up

- "Waiting exFAT-IP initialization" is displayed during running initialization.
- "exFAT-IP initialization complete" is displayed when finishing initialization and IP is idle.
- "The disk must be formatted by exFAT-IP" is displayed. User press 'y' to format the disk when the disk is the new disk which has never been formatted by exFAT-IP. Also, format the disk can be used to clear the data from the disk. The example to run Format command is shown in Figure 3-5. The user needs to set file size for storing in SATA device. This file size must be matched to the file in Test PC when the user loads the new file to SATA device through FTP client. User press other keys (not 'y') to skip Format operation.

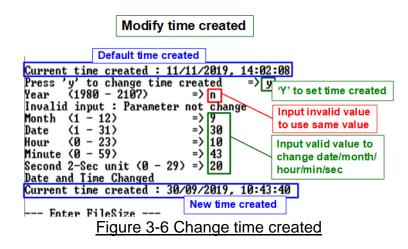
Format without modifying tin	ne created
/cygdrive/e/Altera/18.0	
The disk must be formatted by ex Press 'y' to confirm format disk	FAT−IP a) 'Y' to confirm to format disk =>y
Current time created : 11/11/201 Press 'y' to change time created	
Enter FileSize [0]:32 MB	b) Other keys ('n') to use default created time and date
[1]:128 MB [2]:512 MB [3]:2 GB	
[4]:8 GB [5]:32 GB =>3	
C) Select file size = 32 MB Format Disk complete.	d) system information is updated
File size in disk : 2.147 [GB Maximum file in disk : 118 File Iotal file in disk : 0 File	1

Figure 3-5 Format the disk



- "Current time created" is displayed to show default time. User can press 'y' to change time created or press other keys (not 'y') to use the default value. Figure 3-5 shows the example when the system is initialized by using default time created (11-Nov-2019, 14:02). Figure 3-6 shows the example to set time created. There are six parameters for setting created date and time for empty directory.
 - a) Year –Year of created date. Valid range is 1980 2107.
 - b) Month Month of created date. Valid range is 1 12.
 - c) Date Date of created date. Valid range is 1 31.
 - d) Hour Hour of created time. Valid range is 0 23.
 - e) Minute Minute of created time. Valid range is 0 59.
 - f) Second -x2 second of created time. Valid range is 0 29.

Input is received as decimal unit. User can add "0x" as a prefix for hexadecimal input. When the input is invalid, the parameter is not updated and the same value is used. After setting the new created date and time, "Date and Time changed" with the updated value are displayed on the console.





<u>Note</u>: Time created value is applied for two functions.

First, the new file which is loaded from Test PC to SATA device by using FTP client software uses this created time/date as created time/date of the file in the SATA device.

Second, when user reads the file list in SATA device through FTP client software, the created time/date of all files in the disk is equal to this set time. So, if some files in the disk is the old file, created from the previous test, the created time/date displayed on FTP client software may not be matched to the created time/date in the disk, as shown in Figure 3-7.

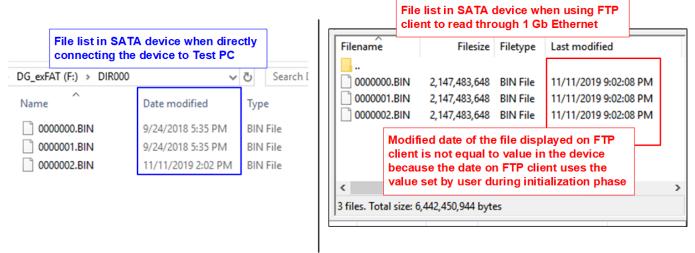


Figure 3-7 Time created comparison on real SATA device and on FTP client

7) After finishing date and time setting, default TOE1GIP parameter is displayed on the console. Figure 3-8 shows the example when the system is booted with some available files in the SATA device.

DG_exFAT (F:) > DIR000	v ∿	Search DIR000	م		The disk must be formatted by exFAT-IP Press 'y' to confirm format disk =>n
Name	Date modified	Туре	Size		Cancel format disk Input other keys('n') to skip format operation
0000000.BIN	9/24/2018 5:35 PM 9/24/2018 5:35 PM	BIN File BIN File	2,097,152 KB	2	File size in disk : 2.147 [GB] Maximum file in disk : 118 File Total file in disk : 2 File
					Current time created : 11/11/2019, 14:02:08 Press 'y' to change time created => n Input other keys('n') to us default TOEIGIP Parameter Window Update Gap = 0 FPGA MAC address = 0x000102030405 Target IP = 192.168.11.25 FPGA IP = 192.168.11.42 Default network parameters displayed after finishing

Figure 3-8 Initialization without format operation and time created updating

D•G

dg_ftp_server_instruction_intel_en.doc

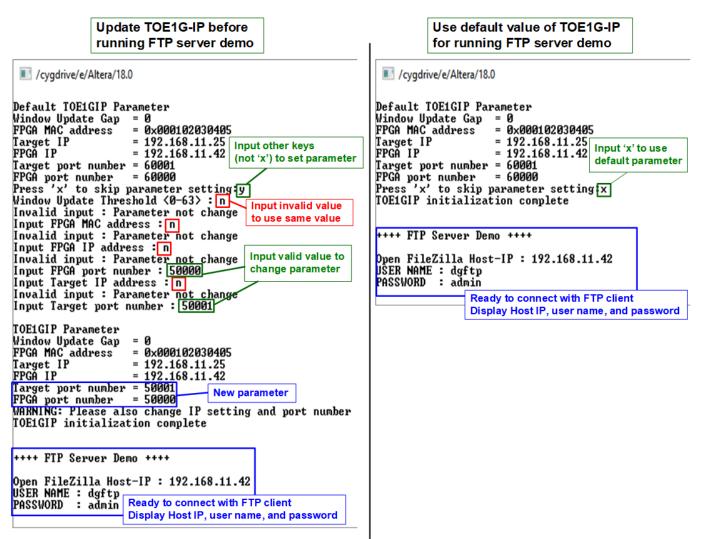


Figure 3-9 Set TOE1G-IP parameter before running demo

8) Input 'x' to skip parameter setting and use default parameters for system initialization. Otherwise, input other keys to change parameters. Seven parameters can be changed by the user.

During changing parameter, user can set the invalid value such as 'n' to the parameter for using the same value. After finishing parameter setting, TOE1G-IP is reset and begins initialization process. More details of each parameter are described as follows.

- Window Update Gap: Set threshold value to transmit window update packet. Valid value is 0x00 0x3F (0-63). The unit size of threshold value is 1 Kbyte. Default value is 0 (disable window update feature).
- FPGA MAC address: Input 12-digit of hex value. Add "0x" as a prefix for hexadecimal input.
- FPGA IP address: A set of four decimal digits is separated by ".". The valid range of each decimal digit is 0-255.
- FPGA port number: Valid range is 0-65535, except 21 which is control port number.
- Target IP address: A set of four decimals like FPGA IP address. This value is IP address of Test PC.
- Target port number: Valid range is 0-65535, except 21 which is control port number.



After finishing system initialization, three parameters for setting in FTP client application, i.e. Host IP, User name, and password are displayed. Now the user can open FTP client application on Test PC to connect with FTP server hardware.



4 FTP Client

4.1 Login FTP Server

To login FTP Server by FileZilla, the step is as follows.

- 1. Input server parameters following parameter recommended on the console.
 - a. Host IP : FPGA IP, set during initialization. Default value is 192.168.11.42.
 - b. Username : dgftp
 - c. Password : admin
- 2. Click "Quickconnect" button.

1a. Input Host IP = FPGA IP, displayed on the console											
	Image: Second State Ib. Input Username : dgftp Image: Second State Image: Second										
Host: 192.168.11.42 Username: dgftp Password: ••••• Port: Quickconnect V											
	to 192.168.11.			^							
			elcome message								
	ver, it does no not support n			File size in disk : 2.147 [GB]							
Status: Logged in	not support in			Maximum file in disk : 118 File							
Status: Retrieving d	irectory listing			Total file in disk : 2 File							
Status: Directory list	ting of "/F002	GB" successf									
			Login Success								
				Current directory name is file							
Local site: D:\Temp\			~	Remote site: /F002GB size in FTP Server storage							
😥 📊 Refde	sign		^	⊡?/							
😥 🔤 Share				F002GB							
Syster	n Volume Info	ormation									
			~	Display files in							
	E (1) - 1	C (1.)	1	FTP Server storage							
Filename	Filesize	Filetype	Last modified	Filename Filesize Filetype Last modified							
<u>.</u> .				<u> </u>							
	2,147,483,6	BIN File	1/16/2020 11:21								
0000001.BIN	2,147,483,6	BIN File	1/16/2020 11:26	0000001.BIN 2,147,483,648 BIN File 11/11/2019 9:02:08 PM							
0000002.BIN	2,147,483,6	BIN File	1/16/2020 11:26								
0000003.BIN 2	2,147,483,6	BIN File	1/16/2020 11:27								
0000004.BIN 2	2,147,483,6	BIN File	1/16/2020 11:36								
0000005.BIN 2	2,147,483,6	BIN File	1/16/2020 11:47	Current time created : 11/11/2019. 14:02:08							
<			>	Gurrent time created : 11/11/2019, 14:02:08 Press 'y' to change time created => n							
-	001 000 h. c		,	2 Elec Tetel size: 4 204 057 205 https://							
6 files. Total size: 12,884,9	901,888 bytes			2 files. Total size: 4,294,967,296 bytes							

Figure 4-1 Login FTP server

After finishing to set server parameter, the console shows logged in successful. Directory name shows file size set in the storage. In the example, File size is 2 GB, so directory name is F002GB. If FTP storage is not empty, file lists in the storage are displayed. The modified date and time of the file is equal to time created, set during initialization phase.

<u>Note</u>: FTP client reads time zone from FTP server as UTC+0 time zone, but the time displayed on FTP client is adjusted to user's time zone. In the example, when created time in initialization is 14:02, modified time on FTP client is 21:02 (user's time zone is UTC+7).



4.2 Upload file

To upload file to FTP Server from Test PC by using FileZilla, user must prepare the uploaded file on Test PC. The status during uploading can be monitored on FileZilla for FTP client side and NiosII command shell for FTP server side. The step for uploading file is as follows.

- 1. Select the uploaded file in Test PC. The limitation of the uploaded file is as follows.
 - a. File name is XXXXXX.BIN (X is hex value). The value of uploaded file name must be equal or less than the next value of the latest file in FTP server storage. In Figure 4-2, the latest file is 0000001.BIN, so, the uploaded file must be 0000002.BIN or less.
 - b. File size of the uploaded file name must be equal to FTP server directory name. In the example, F002GB supports only 2 GiB (1024x1024x1024 byte) file.
 - <u>Note:</u> (1) File size can be changed by format operation only.
 - (2) For the new disk, the 1st file name must be 0000000.BIN.
- 2. Right-click on the selected file and select "Upload", as shown in Figure 4-2.

User can select multiple files on Test PC to upload to FTP server.

Local site: D:\Temp\	~	Remote site:	/F002GB
Temp_PHY	^ •		D2GB
Filename Filesize Filetyp Select File to up to FTP server 0000000.BIN 147,483,6 BIN File 0000002.BIN 2,147,483,6 BIN File 0000003.BIN 2,147,483,6 BIN File 0000004.BIN 2,147,483,6 BIN File 0000005.BIN 2,147,483,6 BIN File 0000005.BIN 2,147,483,6 BIN File	1/16/2020 11:21 1/16/2020 11:26 1/16/2020 11:26 Upload Add files to queue	Filename 0000000.Bit 0000001.Bit 0000001.Bit Click Uplo	N 2,147,483,648 BIN File 11/11/2019 9:02:08 PM
Selected 1 file. Total size: 2,147,483,648 bytes	Edit		> 1,294,967,296 bytes
Server/Local file Direction	R Create directory R Create directory an Refresh Delete Rename	d enter it	Priority Status
Queued files Failed transfers Success	ul transfers		🔕 🕐 Queue: empty 🛛 🔍 🔍

Figure 4-2 Upload file



During uploading process, user can monitor the progress on FileZilla or NiosII command shell.

- a. Current transfer size of each file is displayed on NiosII command shell every second.
- b. After finishing uploading file, transfer speed is displayed on NiosII command shell.
- c. On Filezilla, total time and successful message are displayed as status.
- d. The new uploaded file is available on FTP server storage. In the example, 0000002.BIN is available in the storage.

						- Nios	ll commar	nd shell		
Z dgftp@192.168.11.42		ileZilla		/cygdrive/e/		L				-
<u>File Edit View Transt</u>		_		[STOR] File [STOR] File [STOR] File	0000002.BIN	12.147		71.225 [186.442 304.012	[MB]	nsfer
Host: 192.168.11.42 Status: Connecting to	<u>U</u> sername: o 192.168.11.42:		Pass <u>w</u> ord:	[STOR] File [STOR] File [STOR] File	 0000002.BIN 0000002.BIN 0000002.BIN	<2.147 <2.147 <2.147	 [GB]> : [GB]> : [GB]> :	1.916 [G 2.032 [G 2.137 [G	B] 🖵	second
Status: Connection es Status: Insecure serve	established, wait er, it does not su	ting for welcome upport FTP over -ASCII character	TLS.	[STOR] File	0000002.BIN	Complet	te		speed = 112[MB.	s]
Status: File transfer su Status: Retrieving dire	ad of D:\Temp\(uccessful, transl ectory listing of ng of "/F002GB'	ferred 2,147,483, F"/F002GB"	648 bytes in 23 se	conds C FileZi	ila message				erformance after file transferring	
Local site: D:\Temp\	ign I Volume Inform	nation	~ ^	Remote site: /F0	102GB B				~	
0000001.BIN 2,1 0000002.BIN 2,1 0000003.BIN 2,1 0000003.BIN 2,1 0000004.BIN 2,1	Filesize Fil 147,483,6 BII 147,483,6 BII	N File N File N File N File N File	Last modified 1/16/2020 11:21 1/16/2020 11:26 1/16/2020 11:26 1/16/2020 11:27 1/16/2020 11:36 1/16/2020 11:47	Filename 0000000.BIN 0000001.BIN 0000002.BIN	Filesize 2,147,483,648 2,147,483,648 2,147,483,648 0000002.B	BIN File BIN File BIN File	Last modifie 11/11/2019 9 11/11/2019 9 11/11/2019 9 d aded comp	:02:08 PM :02:08 PM :02:08 PM		
< Selected 1 file. Total size: 2	2,147,483,648 by	tes	> 1 0 0 1	< 3 files. Total size: 6	5,442,450,944 byte	s			>	

Figure 4-3 Status message during uploading file

e. As shown in Figure 4-4, when directly connecting SATA device which is FTP server storage to the PC, the new file shows modified date similar to time created of the demo.

	time created : <mark>11/11/201</mark> y' to change time created	
Organize	New Open	Select
DG_exFAT (F:) > DIR0	00 ✓ ♂ Sear	rch DIR000 🔎
Name	Date modified Type	Size
0000000.BIN	9/24/2018 5:35 PM BIN File	2,097,152 KB
0000001.BIN	9/24/2018 5:35 PN BIN File	2,097,152 KB
0000002.BIN	11/11/2019 2:02 PM BIN File	2,097,152 KB
	e ile is stored completely and mo qual to time created, set during	
Figure	4-4 Uploaded File in S	SATA device



4.3 Download file

To download file from FTP Server to Test PC, user selects the downloaded file on FTP server through FileZilla for storing the file to the destination folder on Test PC. The step for downloading file is as follows.

- 1. Select the downloaded file from FTP Server storage.
- 2. Right-click on the selected file and select "Download", as shown in Figure 4-5.

User can select multiple files for downloading from FTP server.

Local site: D:\Ten	np\		~	Remote site:	/F002GB	~
	New folder PIC Program Files (x86) Project		^ •	? / F 0	02GB	
Filename 0000000.BIN 0000001.BIN	Filesize 2,147,483,6 2,147,483,6		Last modified 1/16/2020 11:21 1/16/2020 11:26	Filename 0000000.B	Select File from FTP s	ize Filetype Last modified to download erver to Test PC 19 9:02:08 PM 548 BIN File 11/11/2019 9:02:08 PM
<			>	< 0000002.B	IN 2,147,482 4	Download Add files to queue View/Edit Click Create directory
2 files. Total size: 4,	294,967,296 bytes			Selected 1 file	. Total size: 2,14	Create directory and enter it
Server/Local file	Di	rection Remote	file		Size Priority	Create new file Refresh
Queued files	Failed transfers	Successful tra	nsfers (1)			Delete Rename Copy URL(s) to clipboard File permissions

Figure 4-5 Download file



During downloading file, user can monitor the progress on FileZilla or NiosII command shell like uploading process.

- a. Current transfer size of each file is displayed on NiosII command shell every second.
- b. After finishing downloading file, transfer speed is displayed on NiosII command shell.
- c. On Filezilla, total time and successful message are displayed as status.
- d. The new downloaded file is available on Test PC. In the example, 0000002.BIN is the new file downloaded from FTP server.

	Niosll command shell				
FileZilla	/cygdrive/e/Altera/18.0	-			
File Edit View Transfer Server Bookmarks Help New Versi	RETR] File 0000002.BIN <2.147 [GB]> : 117.646 [MB] RETR] File 0000002.BIN <2.147 [GB]> : 235.152 [MB] RETR] File 0000002.BIN <2.147 [GB]> : 353.757 [MB]				
	Display tran				
Host: 192.168.11.42 Username: dgftp Passwi	RETR] File 0000002.BIN <2.147 [GB]> : 1.892 [GB] a RETR] File 0000002.BIN <2.147 [GB]> : 2.011 [GB] a RETR] File 0000002.BIN <2.147 [GB]> : 2.128 [GB]				
Status: Retrieving directory listing of "/F002GB" Status: Directory listing of "/F002GB" successful	RETR] File 0000002.BIN Complete stal = 2.147 [GB], Time = 18158[ms], Transfer speed = 118[MB/ (b)	′s]			
Status: Insecure server, it does not support FTP over TLS. Status: Server does not support non-ASCII characters.	Display performance after finishing file transferring				
Status: Logged in Status: Starting download of /F002GB/0000002.BIN Status: File transfer successful, transferred 2,147,483,648 bytes in 22 status:	econds				
Local site: D:\Temp\	Remote site: /F002GB 🗸				
New folder PIC Program Files (x86) Project	E-? / □ F002GB				
Filename Filesize Filetype Last modified	Filename Filesize Filetype Last modified				
 0000000.BIN 2,147,483,6 BIN File 1/16/2020 11:2'	 0000000.BIN 2,147,483,648 BIN File 11/11/2019 9:02:08 PM				
0000001.BIN 2,147,483,6 BIN File 1/16/2020 11:20					
0000002.BIN 2,147,483,6 BIN File 1/16/2020 5:31:	0000002.BIN 2,147,483,648 BIN File 11/11/2019 9:02:08 PM				
(d) 0000002.BIN is downloaded completely					
< >	< >>				
3 files. Total size: 6,442,450,944 bytes	Selected 1 file. Total size: 2,147,483,648 bytes				
Figure 4-6 Downloading File					



5 Revision History

Revision	Date	Description	
1.0	7-Feb-20	Initial version release	