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# Subco/Mfg Spec.

# **User Guide Test Control Software**

## S4110 MFR Evaluation Kit

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## 1. Purpose

The purpose of this document is to demonstrate the Test Control software for the S4110 MFR Evaluation Kit..

## 2. Hardware Set up

## 2.1 S4110 MFR Evaluation Kit Hardware supplied

- 1) S4110 MFR Evaluation Kit Black Box Reader
- 2) S4110 MFR Evaluation Kit Software Development Kit (SDK) Reader
- 3) Power Supply, 9.0 Vdc 1.0 A, Globtek Part Number: TR9CD1700LCP-Y Globtek Model Number: GT-21089-1509-T3

DC Power connector +9 Vdc is center pin RS485 Connector RS232 Connector

Figure 1: Back Panel MFR Evaluation Kit Black Box Reader



Figure 2: Software Development Kit (SDK)

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GREEN W YELLOW STRIPES JACKET, TO Y SAFETY CAPACITORS COMMON (OPTION: ISO-LATE DC COMMON FROM SAFETY GROUND)





A = 5.5 mm B = 2.5 mm C = 11 mm

## Figure 3: Globtek Power Supply Model Number: GT-21089-1509-T3 **Globtek Part Number: TR9CD1700CP-Y**

#### 2.2 Hardware Set Up



## Figure 4: Hardware Set Up MFR Evaluation Kit

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#### 3. Test Software

#### 3.1 Initial Start Screen

- 1) After double clicking the MFR Demo software icon the software screen below will appear.
- 2) Double click desired application folder tab to select application.

15493 labrary	Tog-IT Wonary	LP-DITLibrary		'Com' port
MFR Appin Commonds	14442-8 Ubrory	14440-6 sibrory		com por
Set Priority	Find lokes	Ľ	COMI	Press to Ope
find Token Commo	nd		Gonnect	"Com" Port
				When Status is Green 'Co
Request Packet			COM Channel	port is open
Reporce Packet				
D+	oute C	avce		

#### **Figure 5: Initial Start Screen**

#### 3.2 Connection to RS232 Communications (Com) Port

- Click on 'Connect' button to open the COM port. You'll see the red indicator box with 'COM Closed' text change color to GREEN and read '<u>COM Opened</u>' for successful connection.
- 2) If red indicator box stays red and reads 'Com Closed', the COM port did not open successfully.

#### 3.2.1 Communications Port Choices

1) If the default Com Port of Com1 is not the desired Com Port, use Com Port selection arrow to select desired Com Port; from the following choices 1) Com1, 2) Com2, 3) Com3, 4) Com4.

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- 2) Click on 'Connect' button to open the COM port. You'll see the red indicator box with 'COM Closed' text change color to GREEN and read 'COM Opened' for successful connection.
- 3) If red indicator box stays red and reads 'Com Closed', the COM port did not open successfully.

	Use Com Po Arrow to se desired Con	ort Select lect n Port	
HFR Demo Teol			
15893 Library	Tag-If Library	LP-DST Library	
MFR Appin Commands	14443-A Library	14443-8 Library	
Set Priotty	Find Token		COMI -
- <u>Find Token Comm</u>	<u>nd</u>		COM3 COM4 Connect
Request Packet			COM Closed
Eesur j	cuite Ca	ncel	Бл
8/2004 9:06 AM	COM Closed		

#### Figure 6: Com Port Choices supported

#### 3.3 Turn On HF Transmitter

To Turn on the HF Transmitter:

- 1) Select 14443A Library folder Tab
- 2) Under 14443A Library folder Tab select Transmitter On
- 3) Click on 'Execute' button to issue a HF- Transmitter ON Command.
- 4) If successful, you would see the Green indicator with '<u>TRANSMITTER</u> <u>ON - 14443A</u>' text.

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MIR Demo Tool     Tool     Tool     Tool	Togriff library	Select Folder for 14443-A Library

MF8 Apple Commands	1440-4 Uproxy 14440-6 Up	rory	start HF transmit
Set Privaty	Find loken	<u>cowi</u> .	turn on procedure
Find Token Comm	mit		
		Disconnect	
			When Status Box
Emporie Requeil Packet		CONIL Open	is Green 'Com' port is open
Sepone Padet			
Result			
De	cute Concel		
		b#	
16/2004 10:57 PM	DOMI Opened		

Figure 7: Successful "Com" Port Connection



Figure 8: Turn On HF Transmitter

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NFORMATION	TEXAS	INSTRUME	NTS	Revision:
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	SPEC		N	00
				Select Folder for
AFR Damo Tool			508	LF-DST Library to
				start LF transmitte
15693 tibrary	TogHT library	LP-DIT Morary	3	turn on procedure
MIT Apply Commandi	14463-Alibrary	14443-8 library	]	
Token Present burn	anifer ON Torunitier Off	3	COMI +	
Transmitter DM	10 million (10 mil		1	
tistin at the set				<b>HE</b> (13 56 MHz)
_	and the second		TI	$\prod (13.30 \text{ WHZ})$
	Transmitter ON - 14	443A		Transmitter On
	Transmitter ON - 14	443A	Deconnect	Transmitter On
	Transmitter ON - 14	443A	Deconnect	Transmitter On
Response	Transmitter ON - 14	<u>443A</u>	Deconnect	Transmitter On
Response Request Packet   D1 00	Transmitter ON - 144	443A	Deconnect	Transmitter On
Ansporter Pequert Packet 01.08 Response Packet 01.09	Transmitter ON - 14	443A	Deconnect	Transmitter On
Response Packet 01.06 Response Packet 01.06 Response Packet 01.06 Result (19.15	Transmitter ON - 144	<u>443A</u>	Deconnect	Transmitter On
Response Packet   01.05 Response Packet   01.05 Result   101.05 Result   101.05	Transmitter ON - 144		Disconnect	Transmitter On
Čespotae Response Packet   D1 08 Besponse Packet   D1 08 Result   Text 13 Descuit	Transmitter ON - 144		Déconnect	Transmitter On
Associate Request Packet 01 08 Response Packet 01 08 Result 01 08 Result 01 08 Result 01 08	Transmitter ON - 14		Disconnect	Transmitter On
Associate Required Packet 01 08 Response Packet 01 09 Result 04:05 Result 04:05 Result	Transmitter ON - 144		Disconnect	Transmitter On
Response Packet 01 08 Response Packet 01 08 Result 101 09 Result 101 09 Discuss	Transmitter ON - 144 00030248498F 0003024800498E concest#		Disconnect COMIX Open Brit	Transmitter On

Figure 9: Successful "Turn On " of HF Transmitter

#### 3.4 Turn On LF Transmitter

To Turn on the LF Transmitter:

- 1) Select LF-DST Library folder Tab
- 2) Under LF-DST Library folder Tab select Transmitter On
- 3) Click on 'Execute' button to issue a LF- Transmitter ON Command.
- 4) If successful, you would see the Green indicator with '<u>TRANSMITTER</u> <u>ON – LF-DST</u>' text.

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Figure 10: Turn On LF Transmitter



Figure 11: Successful "Turn On" of LF Transmitter

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### 3.5 Turn Off HF Transmitter

To Turn Off the HF Transmitter:

- 1) Select 14443A Library folder Tab
- 2) Under 14443A Library folder Tab select Transmitter Off
- 3) Click on 'Execute' button to issue a HF- Transmitter Off Command.
- 4) If successful, you would see the Green indicator with '<u>TRANSMITTER</u> <u>OFF - 14443A</u>' text.



Figure 12: Turn Off HF Transmitter

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### 3.6 Turn Off LF Transmitter

To Turn off the LF Transmitter:

- 1) Select LF-DST Library folder Tab
- 2) Under LF-DST Library folder Tab select Transmitter OFF
- 3) Click on 'Execute' button to issue a LF- Transmitter OFF Command.
- 4) If successful, you would see the Green indicator with <u>'TRANSMITTER</u> <u>OFF – LF-DST</u>' text.

Off Folder Tal	r >	/		start LF trar turn off pro
Mitt Apple Commanda	1440-8185439	144 a laberary	_	
15693 Library	Tog-Iff Ubrary	LF-DST Library		
find Token Tha	numitier ON hummitter Off	)	COM	
Transmitter OFE	Transmitter OFF - LF-	DST	Disc	annect
Inansmitter Off	<u>Transmitter OFF - LF-</u>	DST	Disc	unnest
Inansmitter.Off Resource Resource	Transmitter OFF - LF-	DST	Disc	onnest
Ensoenie Resoenie Request Packet 01 Regonie Packet 01 Result Tech	Transmitter OFF + LF- 08 00 03 06 49 45 BA 09 00 03 06 49 00 44 BB			tzenno

Figure 13: Turn Off LF Transmitter

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#### 3.7 Close Com Port

- 1) Close the COM port by clicking on 'Disconnect' button.
- 2) You will see the Green Status Indicator with 'COM Open' text, change color to RED with a text change to 'Com Closed to indicate successful closure of the COM port.

Venn Tool			
MIT Apple Commands	1440-A Ubrary	1446-8 labrory	
15693 labeary	Tag-If Library	LP-DST Library	
			I COMM
Insurruitter OFE	Transmitter O	FF - LF-DST	
Instantifier OFF	Transmitter O	FF - LF-DST	
Ensembler OFF	Transmitter O	FF - (F-DST	
Enanamilitar OFF Response Response Packet Response Packet	Transmitter OH         Nonsen	FF - LF - DST	
Entransmitter OFF Belgomie Request Pocket Reporte Pocket Reput	Transmitter OH         Nonice           Transmitter O         010800030649458A         010900030649458A           010900030649004488         (7eit SuccessM)         0109004488	FF - LF - DST	

**Figure 14: Com Port Closure** 

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	STECHTOMITON	

15693 Gorary	Tog-IT Library	LP-DIST Library	
MFR Applin Commands	14442-A Ubnory	14440-8 sibrory	
Set Picety	Find Inken	ř	COMI
find Token Commo	nit		
			Sonnes
- 6esponse			
Request Packet		1	eposis etca
Response Packet			
Result			
De	oute Co	not	

Figure 15: Successful Com Port Closure

#### 3.8 Close Application

1) Click EXIT button to close the application.

#### 4. Installation Guide S4110R MFR Evaluation Kits as shipped from factory

The Box unit and SDK unit configurations of the S4110 MFR Evaluation Kit as shipped from the factory are compliant with FCC Part 15 Rules.



Figure 16: FCC Label for S4110R MFR Evaluation Kit

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#### 4.1 Box Unit S4110 MFR Evaluation Kit as shipped from factory

4.1.1 Placement of FCC Label on Box Unit



Figure 17: Placement of FCC Label on S4110R Evaluation Kit Box Unit

- 4.2 SDK Unit S4110 MFR Evaluation Kit as shipped from factory
- 4.2.1 Placement of FCC Label on Box Unit



Figure 18: Placement of FCC Label on S4110R Evaluation Kit SDK Unit

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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.

## 5. Revision History

Rev.	SCN	Description of Change	Date submitted	By
0		New Issue	04/20/2004	C.Bohren

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