



BF7264B+ SGMII Solution

Index

Feature:	2
FAQ	8
Probe and test object connection.....	10
Pin connection.....	10
Way Station connection.....	10

Feature:

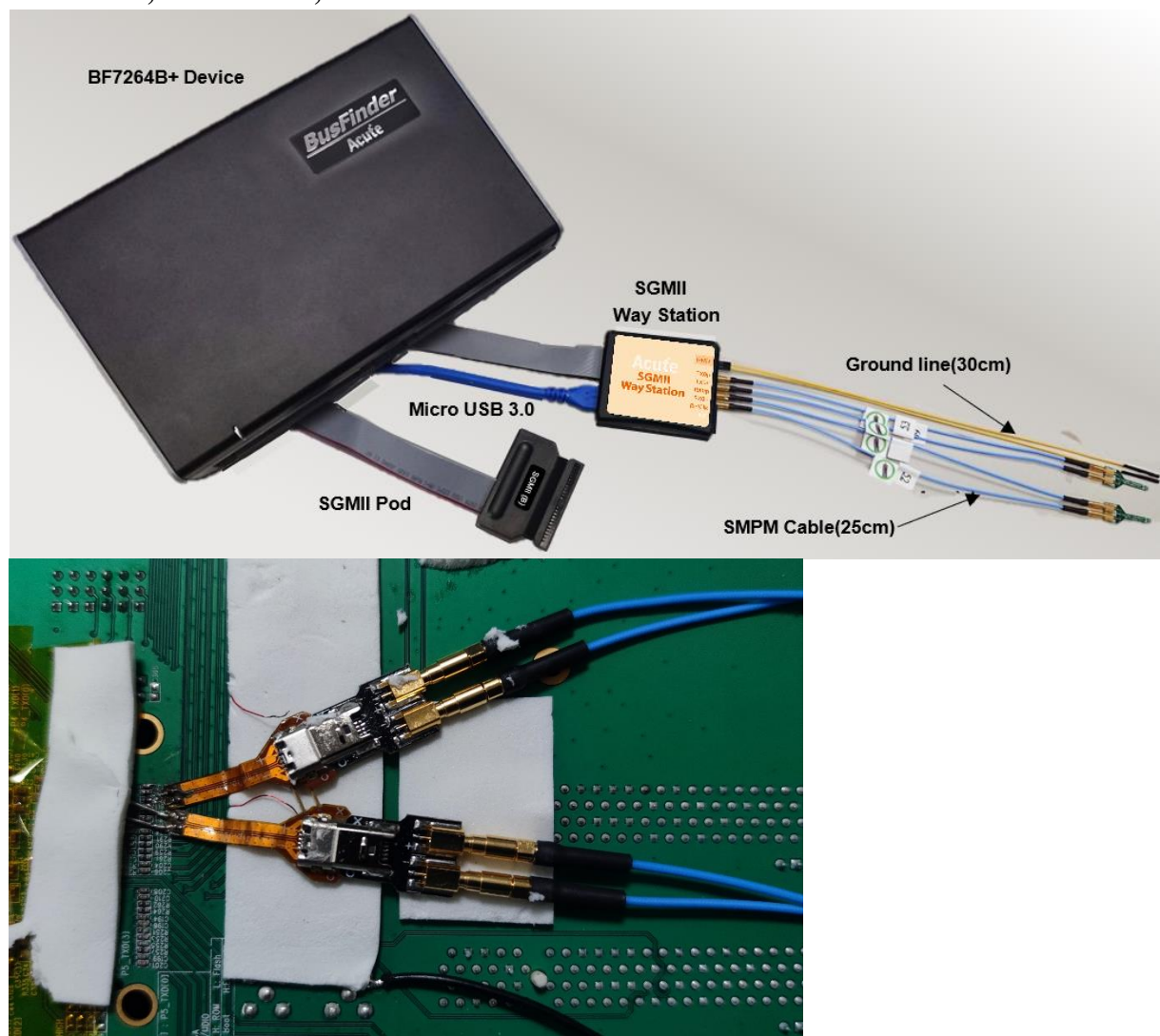
The BF7264B+ is an SGMII analyzer and offers other protocol analyzer options like eMMC5, NAND flash, SD3, SD4 or MIPI D-PHY(DSI, CSI), MIPI M-PHY(UFS2.1) as its predecessor.

Specifications:

1. Overview:

SGMII uses two data signals and two clock signals to convey frame data and link rate information between a 10/100/1000 PHY and an Ethernet MAC. The data signals operate at 1.25 Gbaud and the clocks operate at 625 MHz (a DDR interface). Due to the speed of operation, each of these signals is realized as a differential pair thus providing signal integrity while minimizing system noise.

2. BF7264B+, 32Gb RAM, SGMII Probes



3. Can simultaneously display PCS or GMII protocol packet data in tabular form, including command parsing.

Timestamp (Unit: ns or us or ms)	Tx Code	Rx Code	Tx	Rx	Tx Set	Rx Set
20047	10123136.754.069.396	3.33ns	D16.2	50	IDLE2 /12/	
20048	10123136.754.069.396	0.00ns	K28.5	50	IDLE2 /12/	
20049	10123136.754.069.399	3.33ns	D16.2	50	IDLE2 /12/	
20050	10123136.754.069.406	6.66ns	K28.5	50	IDLE2 /12/	
20051	10123136.754.069.409	0.00ns	D16.2	50	IDLE2 /12/	
20052	10123136.754.069.409	0.00ns	K28.5	50	IDLE2 /12/	
20053	10123136.754.069.413	3.33ns	D16.2	50	IDLE2 /12/	
20054	10123136.754.069.419	6.66ns	K28.5	50	IDLE2 /12/	
20055	10123136.754.069.423	3.33ns	D16.2	50	IDLE2 /12/	
20056	10123136.754.069.423	0.00ns	K28.5	50	IDLE2 /12/	
20057	10123136.754.069.426	3.33ns	D16.2	50	IDLE2 /12/	
20058	10123136.754.069.433	6.66ns	K28.5	50	IDLE2 /12/	
20059	10123136.754.069.436	3.33ns	D16.2	50	IDLE2 /12/	
20060	10123136.754.069.436	0.00ns	K28.5	50	IDLE2 /12/	
20061	10123136.754.069.439	3.33ns	D16.2	50	IDLE2 /12/	
20062	10123136.754.069.446	6.66ns	K28.5	50	IDLE2 /12/	
20063	10123136.754.069.449	0.00ns	D16.2	50	IDLE2 /12/	
20064	10123136.754.069.449	0.00ns	K28.5	50	IDLE2 /12/	
20065	10123136.754.069.453	3.33ns	D16.2	50	IDLE2 /12/	
20066	10123136.754.069.459	6.66ns	K28.5	50	IDLE2 /12/	
20067	10123136.754.069.463	3.33ns	D16.2	50	IDLE2 /12/	
20068	10123136.754.069.463	0.00ns	K27.7	50	SPD /8/	
20069	10123136.754.069.463	0.00ns	D16.2	50	IDLE2 /12/	
20070	10123136.754.069.466	3.33ns	D21.2	55	IDLE2 /12/	
20071	10123136.754.069.473	6.66ns	K28.5	50	IDLE2 /12/	
20072	10123136.754.069.476	3.33ns	D21.2	55	IDLE2 /12/	
20073	10123136.754.069.476	0.00ns	D16.2	50	IDLE2 /12/	
20074	10123136.754.069.479	3.33ns	D21.2	55	IDLE2 /12/	
20075	10123136.754.069.486	6.66ns	K28.5	50	IDLE2 /12/	
20076	10123136.754.069.489	3.33ns	D21.2	55	IDLE2 /12/	
20077	10123136.754.069.489	0.00ns	D16.2	50	IDLE2 /12/	
20078	10123136.754.069.493	3.33ns	D21.2	55	IDLE2 /12/	
20079	10123136.754.069.499	6.66ns	K28.5	50	IDLE2 /12/	
20080	10123136.754.069.503	3.33ns	D21.2	55	IDLE2 /12/	
20081	10123136.754.069.503	0.00ns	D16.2	50	IDLE2 /12/	
20082	10123136.754.069.506	3.33ns	D21.6	55	IDLE2 /12/	
20083	10123136.754.069.513	6.66ns	K28.5	50	IDLE2 /12/	
20084	10123136.754.069.516	0.00ns	D16.2	50	IDLE2 /12/	
20085	10123136.754.069.516	0.00ns	D16.2	50	IDLE2 /12/	
20086	10123136.754.069.519	3.33ns	D0.7	50	IDLE2 /12/	
20087	10123136.754.069.526	6.66ns	K28.5	50	IDLE2 /12/	

Direction: TX
Address:
Destination: 00-E0-4C-60-7B-82
Source : 04-D4-C4-4A-42-9D
EtherType: IPv4(0800)
FCS: 3963A0D1
[Raw Data]
0 1 2 3 4 5 6 7 ASCII
00h 45 00 00 40 DD CB 00 00 E..@....
08h 80 11 D9 8B C0 A8 01 02
10h C0 A8 01 03 04 00 04 D2
18h 00 2C BA B9 54 52 49 47 ...TRIG
20h 30 30 30 30 30 30 30 00000000
28h 31 31 31 31 31 31 31 11111111
30h 32 32 32 32 32 32 32 22222222
38h 33 33 33 33 33 33 33 33333333

4. Use 32Gb RAM as the buffer to stream all Way Station data into the SSD/HDD.
5. “Data Filter” & “Idle Filter” filter unwanted data and idle to save memory.

Filter

Data Filter Range: 14~1475 bytes.

CRC is not available with data filter.

Must reserve Address and EtherType bytes.

☒ Data filter > 14 bytes

☒ Idle filter

6. “Search” searches specific data.
7. “CRC Packet” displays and counts CRC
8. SGMII command statistics include numbers of packets, individual command, different data length, and errors

Navigator			Navigator		
Discription	Txns	Bytes	Discription	Txns	Bytes
▼ GMII			▼ PCS		
▼ Errors	1		Tx	38239	
Frame Error	0		Rx	40337	
CRC Error	1				
▼ Destination Address	2				
00-E0-4C-60-7B-82	119				
04-D4-C4-4A-42-9D	90				
▼ Source Address	2				
04-D4-C4-4A-42-9D	119				
00-E0-4C-60-7B-82	90				
Statistics			Statistics		
Discription	Txns	Bytes	Discription	Txns	Bytes
▼ 04-D4-C4-4A-42-9D			▼ Configuration /C/	0	
▼ Direction	90		CFG_REG1 /C1/	0	
TX	0		CFG_REG2 /C2/	0	
RX	90		▼ IDLE /I/	37846	
			IDLE1 /I1/	62	
			IDLE2 /I2/	37784	
			▼ LP /LI/	0	
			LPI1 /LI1/	0	
			LPI2 /LI2/	0	
			▼ Encapsulation	393	
			CAR_EXTEND /R/	131	
			SPD /S/	131	
			EPD /T/	131	
			ERR_PROP /V/	0	
			▼ Error	0	
			Disparity	0	
			Not in table	0	

9. SGMII command trigger

- Trigger parameters include commands and data in order to cover all kinds of packets.
- GMII & PCS Packet
- Trigger CRC Error, Frame Error, Propagation Error, Start of Packet, End of Packet, Carrier Extend, Configuration.
- The Trigger-Out port is to trigger a DSO to capture waveforms

☒ Trigger On

Direction: Both TX & RX

PCS

☐ Start of Packet (K27_7, SPD) ☐ End of Packet (K29_7, EPD)

☐ Carrier Extend (K23_7) ☐ Propagation Error (K30_7)

☐ Disparity Error ☐ Not in Table

☐ Configuration (K28_5, D21_5 / K28_5, D2_2)

GMII

☐ Frame Error ☐ CRC Error

☒ Data Trigger

Direction for Data: Both TX & RX

☐ PCS Configuration Register XXXXh

☒ GMII Data ⚙️

GMII Trigger Settings

Destination Address

XXh - XXh - XXh - XXh - XXh - XXh

Source Address

XXh - XXh - XXh - XXh - XXh - XXh

Ethertype/Length XXXXh

Data

Byte 1: XXh Byte 2: XXh Byte 3: XXh Byte 4: XXh

Byte 5: XXh Byte 6: XXh Byte 7: XXh Byte 8: XXh

☐ Data Offset: 0

☒ Default ✔ OK ✖ Cancel

9. Advanced usage of the report area

- a. Dual report correlation: PCS and GMII reports are related to each other. Double-click to track the corresponding data in another report area.

ex: Click the PCS area report to link to the GMII corresponding report.

Timestamp (h:m:s.ms.us.ns dur)	Tx Code	Rx Code	Tx 'Rx' Tx Set	Rx Set
10:23:36.754.077.652 3.33ns	D16.2		50	
10:23:36.754.077.658 6.66ns				
10:23:36.754.077.658 0.00ns	K27.7		FR	SPD /S/
10:23:36.754.077.662 3.33ns	D21.2		55	
10:23:36.754.077.662 0.00ns	K28.5		BC	IDLE2 /I2/
10:23:36.754.077.666 3.33ns	D16.2		50	
10:23:36.754.077.672 6.66ns	D21.2		55	
10:23:36.754.077.676 3.33ns	D21.2		55	
10:23:36.754.077.676 0.00ns	K28.5		BC	IDLE2 /I2/
10:23:36.754.077.678 3.33ns	D16.2		50	
10:23:36.754.077.680 6.66ns	D21.2		55	
10:23:36.754.077.680 3.33ns	D21.2		55	
10:23:36.754.077.692 3.33ns	D16.2		50	
10:23:36.754.077.696 6.66ns	K28.5		BC	IDLE2 /I2/
10:23:36.754.077.698 3.33ns	D16.2		50	
10:23:36.754.077.702 3.33ns	D21.2		55	
10:23:36.754.077.702 0.00ns	D21.6		D5	
10:23:36.754.077.706 3.33ns	K28.5		BC	IDLE2 /I2/
10:23:36.754.077.710 3.33ns	D16.2		50	
10:23:36.754.077.712 6.66ns	D4.0		O4	
10:23:36.754.077.716 3.33ns	D20.6		D4	
10:23:36.754.077.716 0.00ns	K28.5		BC	IDLE2 /I2/
10:23:36.754.077.718 3.33ns	D16.2		50	
10:23:36.754.077.720 6.66ns	D4.6		C4	
10:23:36.754.077.720 3.33ns	D10.2		4A	
10:23:36.754.077.720 0.00ns	K28.5		BC	IDLE2 /I2/
10:23:36.754.077.722 3.33ns	D16.2		50	
10:23:36.754.077.726 6.66ns	D2.2		42	
10:23:36.754.077.726 3.33ns	D29.4		9D	
10:23:36.754.077.726 0.00ns	K28.5		BC	IDLE2 /I2/
10:23:36.754.077.728 3.33ns	D16.2		50	
10:23:36.754.077.730 6.66ns	D12.2		4C	
10:23:36.754.077.730 3.33ns	D0.3		60	
10:23:36.754.077.730 0.00ns	K28.5		BC	IDLE2 /I2/
10:23:36.754.077.732 3.33ns	D16.2		50	
10:23:36.754.077.736 6.66ns	D27.3		7B	
10:23:36.754.077.736 3.33ns	D2.4		82	
10:23:36.754.077.782 0.00ns	K28.5		BC	IDLE2 /I2/

Timestamp (h:m:s.ms.us.ns dur)	Dir	Destination Address	Source Address	EtherData
10:23:36.754.041.919 3.27us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.044.385 2.46us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.047.545 3.15us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.050.358 2.81us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.052.118 1.75us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.055.477 3.35us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.056.517 1.03us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.061.400 4.88us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.065.066 3.66us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.066.570 1.50us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.069.466 2.89us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.072.542 3.07us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.074.359 1.85us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.077.662 3.26us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.078.355 723.2	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.083.634 5.24us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.087.704 4.06us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.088.754 1.04us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.091.477 2.72us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.094.727 3.24us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.096.357 1.62us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.100.876 4.51us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.104.982 4.10us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.105.819 836.5	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.109.755 3.93us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.111.792 2.03us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.114.528 2.73us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.116.911 2.38us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.118.101 1.18us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.123.301 5.19us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.126.887 3.58us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.128.003 1.11us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.132.006 4.00us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.133.976 1.96us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.135.593 1.41us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.140.139 4.54us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.145.068 4.92us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.149.058 4.02us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.151.041 1.94us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00
10:23:36.754.153.991 2.94us	TX	00-E0-4C-60-7B-82	04-D4-C4-4A-42-9D	0800 45 00 00
10:23:36.754.156.161 2.16us	RX	04-D4-C4-4A-42-9D	00-E0-4C-60-7B-82	0800 45 00 00

- b. Statistics list: Quickly categorize and track the location of data with statistical functions.

File

Capa

Cursor

Connect

Protocol

Protocol Analyzer

Hide Waveforms...

Run

Search All Field

3454 / 175883

Tb to Item

Window

Save to File

EXPORT

Turning

Timestamp (h:m:s.ms.us.ns dur)

Tx Code

Rx Code

Tx 'Rx' Tx Set

Rx Set

3438

10:23:36.754.011.442 3.33ns

D19.1

33

3439

10:23:36.754.011.442 0.00ns

D19.2

32

3440

10:23:36.754.011.452 3.33ns

D19.1

49

3441

10:23:36.754.011.452 0.00ns

D9.2

33

49

3442

10:23:36.754.011.455 3.33ns

D19.1

33

3443

10:23:36.754.011.455 0.00ns

D7.2

67

3444

10:23:36.754.011.460 9.99ns

D25.5

89

3445

10:23:36.754.011.460 0.00ns

03

3446

10:23:36.754.011.460 3.33ns

D19.6

03

3447

10:23:36.754.011.460 0.00ns

D0.0

00

3448

10:23:36.754.011.470 9.99ns

D11.1

28

3449

10:23:36.754.011.470 0.00ns

D0.0

00

3450

10:23:36.754.011.482 3.33ns

D13.7

ED

3451

10:23:36.754.011.482 0.00ns

FD

EPD /T/

3452

10:23:36.754.011.492 9.99ns

K29.7

3453

10:23:36.754.011.492 3.33ns

K29.7

3454

10:23:36.754.011.495 3.33ns

K23.7

FT

CAR_EXTEND /R/

3455

10:23:36.754.011.495 0.00ns

00

3456

10:23:36.754.011.505 9.99ns

3457

10:23:36.754.011.505 0.00ns

D28.5

BC

IDLE2 /I2/

3458

10:23:36.754.011.508 3.33ns

D16.2

3459

10:23:36.754.011.508 0.00ns

D0.0

3454 / 175883

Tb to Item

Window

Save to File

EXPORT

Timestamp (h:m:s.ms.us.ns dur)

Dir

Destination Address

Source Address

EtherData

14

10:23:36.754.038.639 4.99us

TX

00-E0-4C-60-7B-82

04-D4-C4-4A-42-9D

0800 45 00 00

15

10:23:36.754.041.919 3.27us

TX

00-E0-4C-60-7B-82

04-D4-C4-4A-42-9D

0800 45 00 00

16

10:23:36.754.044.385 2.46us

RX

04-D4-C4-4A-42-9D

00-E0-4C-60-7B-82

0800 45 00 00

17

10:23:36.754.047.545 3.15us

TX

00-E0-4C-60-7B-82

04-D4-C4-4A-42-9D

0800 45 00 00

18

10:23:36.754.050.358 2.81us

RX

04-D4-C4-4A-42-9D

00-E0-4C-60-7B-82

0800 45 00 00

19

10:23:36.754.052.118 1.75us

TX

00-E0-4C-60-7B-82

04-D4-C4-4A-42-9D

0800 45 00 00

20

10:23:36.754.055.477 3.35us

RX

04-D4-C4-4A-42-9D

00-E0-4C-60-7B-82

0800 45 00 00

21

10:23:36.754.056.517 1.03us

TX

00-E0-4C-60-7B-82

04-D4-C4-4A-42-9D

0800 45 00 00

22

10:23:36.754.061.400 4.88us

RX

04-D4-C4-4A-42-9D

00-E0-4C-60-7B-82

0800 45 00 00

23

10:23:36.754.065.066 3.66us

TX

00-E0-4C-60-7B-82

04-D4-C4-4A-42-9D

0800 45 00 00

24

10:23:36.754.066.570 1.50us

RX

04-D4-C4-4A-42-9D

00-E0-4C-60-7B-82

0800 45 00 00

25

10:23:36.754.069.466 2.89us

TX

00-E0-4C-60-7B-82

04-D4-C4-4A-42-9D

0800 45 00 00

26

10:23:36.754.072.542 3.07us

RX

04-D4-C4-4A-42-9D

00-E0-4C-60-7B-82

0800 45 00 00

27

10:23:36.754.074.359 1.85us

TX

00-E0-4C-60-7B-82

04-D4-C4-4A-42-9D

0800 45 00 00

28

10:23:36.754.077.662 3.26us

RX

04-D4-C4-4A-42-9D

00-E0-4C-60-7B-82

0800 45 00 00

29

10:23:36.754.078.355 723.2

TX

00-E0-4C-60-7B-82

04-D4-C4-4A-42-9D

0800 45 00 00

30

10:23:36.754.083.634 5.24us

RX

04-D4-C4-4A-42-9D

00-E0-4C-60-7B-82

0800 45 00 00

31

10:23:36.754.087.704 4.06us

TX

00-E0-4C-60-7B-82

04-D4-C4-4A-42-9D

0800 45 00 00

32

10:23:36.754.088.754 1.04us

RX

04-D4-C4-4A-42-9D

00-E0-4C-60-7B-82

0800 45 00 00

33

10:23:36.754.091.477 2.72us

TX

00-E0-4C-60-7B-82

04-D4-C4-4A-42-9D

0800 45 00 00

34

10:23:36.754.094.727 3.24us

RX

04-D4-C4-4A-42-9D

00-E0-4C-60-7B-82

0800 45 00 00

35

10:23:36.754.096.357 1.62us

TX

00-E0-4C-60-7B-82

04-D4-C4-4A-42-9D

0800 45 00 00

3454 / 175883

Tb to Item

Window

Save to File

EXPORT

Navigation

Trans

Bytes

▼ PCS

Description

Tx

36398

Rx

40137

Statistics

Trans

Bytes

▼ Configuration IC2

CFC_REG1 IC1/

0

CFC_REG2 IC2/

0

▼ ILE #1

IDLE1 #1/

82

IDLE2 #2/

3784

▼ LP1 AL1

0

LP2 AL2

0

▼ Encapsulation

393

CAR_EXTEND R/

131

SPO R/

131

EPD /T/

131

EPD_PROP R/

0

▼ Error

Disparity

Not in table

0

Detail

Navigator

Hide Items

Search List [PCS]

Trigger List

Statistics List

Bookmark List [PCS]

Search List [GM]

Bookmark List [GM]

Statistics List

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10. SGMII settings

1. SGMII probe settings

Acute SGMII Way Station

Pin Configuration:

- GND
- TX0p
- TX0n
- RX0p
- RX0n
- RefClk
- NC

☐ Ref. Clock

2. Startup Settings

Packet Speed

- ☒ 1000 Mbps
- ☐ 100 Mbps
- ☐ 10 Mbps

3. Filter

Data Filter Range: 14~1475 bytes.

CRC is not available with data filter.

Must reserve Address and Ethertype bytes.

☐ Data filter > 14 bytes

☒ Idle filter

4. Trigger On

Direction: Both TX & RX

PCS

- ☐ Start of Packet (K27_7, SPD)
- ☐ End of Packet (K29_7, EPD)
- ☐ Carrier Extend (K23_7)
- ☐ Propagation Error (K30_7)
- ☐ Disparity Error
- ☐ Not in Table
- ☐ Configuration (K28_5, D21_5 / K28_5, D2_2)

GMII

- ☐ Frame Error
- ☐ CRC Error

☒ Data Trigger

Direction for Data: Both TX & RX

☐ PCS Configuration Register XXXXh

☒ GMII Data

Default OK Cancel

- SGMII way station settings:** Exchange p, n of the same Lane,
- Startup Settings:** It needs to be set the mode of the ethernet packet speed at the moment of capturing data.
- Trigger On:** Can set GMII/PCS packets, CRC Error, Frame Error, Propagation Error, Start of Packet, End of Packet, Carrier Extend, Configuration, Disparity Error, Configuration, Not in Table trigger settings.
- Filter:** After opening Data Filter or Idle Filter, Data Filter will filter out the data behind the packet greater than the set value and Idle Filter will filter out the Idle packet to save memory while recording.

FAQ

1. What SGMII speed is supported, any limitation for differential ports?

A: Support SGMII 1Gbps 、100Mbps 、10Mbps , Ports: TXp 、TXn 、RXp 、RXn 、Ref.Clk 。

2. Will the signal quality be affected during measurement?

A: The measurement of the external instrument will inevitably have some load effect. We use the SMPM Coaxial Cable connection to reduce the interference of the object to be measured and improve the signal quality.

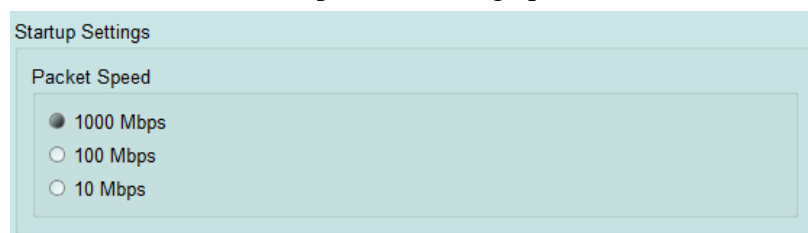
3. Is Tx supported?

A: No

4. Precautions during measurement

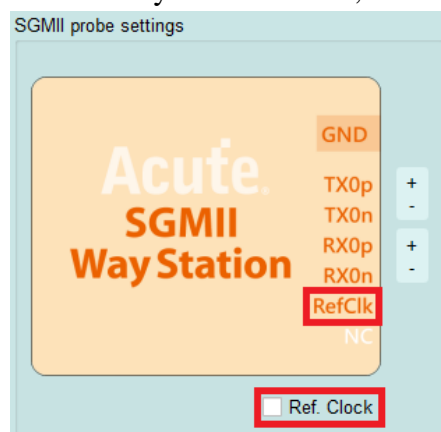
a. Startup Settings:

SGMII supports different packet speeds. If the initial speed is not set correctly, the data volume will be 10 times or 100 times, which will seriously affect the decoding analysis. Besides, if a Speed Config packet appears during the capture process, the Config packet will be used as the new packet sending speed.



b. Reference clock setting method:

Reference clock is provided in Probe Settings. You can access the Ref Clk port from the SGMII Way Station below, and select Ref. Clock.



5. Can I specify a PCS, GMII packet as the trigger point function?

A: You can specify specific PCS, GMII packet or Error to trigger.

Trigger On

Direction: TX Only

PCS

☐ Start of Packet (K27_7, SPD) ☐ End of Packet (K29_7, EPD)

☐ Carrier Extend (K23_7) ☐ Propagation Error (K30_7)

☐ Disparity Error ☐ Not in Table

☐ Configuration (K28_5, D21_5 / K28_5, D2_2)

GMII

☒ Frame Error ☐ CRC Error

Data Trigger

Direction for Data: TX Only

☐ PCS Configuration Register XXXXh

☒ GMII Data

Destination Address

XXh - XXh - XXh - XXh - XXh - XXh

Source Address

XXh - XXh - XXh - XXh - XXh - XXh

Ethertype/Length

XXXXh

Data

Byte 1: XXh Byte 2: XXh Byte 3: XXh Byte 4: XXh

Byte 5: XXh Byte 6: XXh Byte 7: XXh Byte 8: XXh

Data Offset: 0

Default OK Cancel

6. Is it possible to set a PCS, GMII starting point, and specify how much time to capture Data?

A: You can set the starting condition to the trigger item and adjust to the data monitor mode in the working mode menu. And specify the length of acquisition time.

Acute BusFinder

File Capture Cursor Configuration No Support Waveforms Run Search All Field Search / 0 To bottom Window Save As

Configuration Settings

Operation mode

☐ Protocol analyzer

☐ Protocol logger

☒ Protocol monitor

BusFinder memory limitation

Wait for Stop

☒ Wait for Trigger

Trigger Position: < 50%

When Triggered

☐ Fill device memory then stop

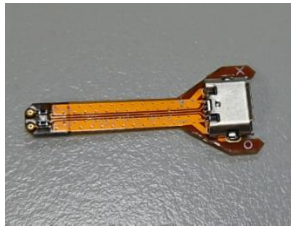
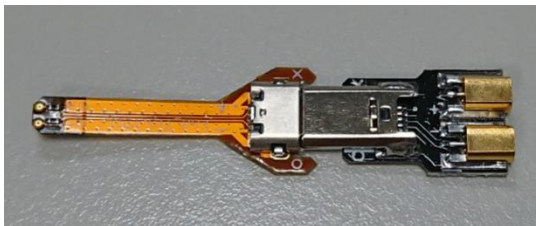
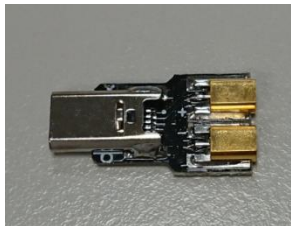
☐ Stop immediately

☒ Wait for 15 seconds then stop

Default OK Cancel

Probe and test object connection

With End-Tip connection:

Components		
End-tip (FPC)		Combined 
End-Tip Connector(FPC)		

The resistance on the end-tip(FPC) is 250ohm ◦

Pin connection

For SGMII way station USB3.0 connection, please plug in the bottom one.



Way Station connection

