# PGY-UHS II SD/SDIO UHS II Protocol Analyzer

PGY-UHS II SD/SDIO UHS II Protocol Analyzer is the most feature rich comprehensive Protocol Analyzer available to capture and debug UHS-II protocol data. PGY-UHS-II Protocol Analyzer supports FD156 and HD312 data rate. The innovative active probe has minimum electrical loading on device under test (DUT) and captures protocol data without affecting the performance of DUT. PGY-UHS II protocol analyzer allows streaming of protocol data from PGY-UHS II Protocol Analyzer to host system (using USB3.0 or GbE interface). Comprehensive decoding of data, protocol tests, and error analysis enables verification of communication between UHS II host and device.

PGY-UHS II Protocol Analyzer allows Design and Test Engineers to test and debug SD UHS-II Interface triggering on command, response, data or CRC errors. PGY-UHS II Protocol analyzer instantaneously provides decoding of CCMD, DCMD, MSG, DATA and its arguments. The Analytics feature offer graphical representation of command, response, and data and frequency of operation for the acquired duration.

## Key features and benefits:

- Continuous monitoring and streaming of protocol data to capture elusive events (more than 30GB data capture)
- · Protocol tests of captured data for protocol integrity, DCMD, CCMD, MSG and DATA
- Instantaneous display Protocol activity while he PGY-UHS II is capturing the Protocol data allowing almost live analysis of protocol activity
- · Hardware based protocol aware trigger capability enables capturing specific events
- Trigger on CRC error conditions allow capturing infrequent error events
- · User can identify the anomalies by decoding command and response argument
- Analytics provides analysis of acquired protocol data by plotting command, response, data and frequency of operation over acquired time
- Decoding of device registers for easy analysis
- Filter feature allows you to view specific packets in decoded protocol packets
- Search for specific events in protocol activity
- Easy to use software user interfaces reduces the learning curve of protocol analysis
- Software is designed to handle long duration capture and display the decoded data without demanding extensive resources in host computer
- Insertion of markers in protocol activity helps in correlating the input digital signal with Protocol Activity
- Trigger out signal for any specific protocol event allows triggering of other instruments such as oscilloscope
- Interface to host system using USB3.0 or Gigabit Ethernet interface
- Flexibility to upgrade the hardware firmware using GbE interface provides easy field up gradation of firmware
- Decoded data packets can be exported to CSV file for further analysis



# **PGY-UHS II SD/SDIO UHS II Datasheet**

### **Specifications:**

Interfaces Supported	:	SD4.0 (UHS-II), FD156 and HD312, SDIO
Protocol Decode	:	CCMD, DCMD, MSG, DATA, Arguments, Device registers
Data Decode	:	Supported
Protocol Test	:	Protocol Integrity, CRC Errors, Timing values, Data CRC Errors, Reserved commands
Storage Capability	:	Continuous streaming of protocol activity upto 30GB
Capture Mode	:	Manual Run/Stop, Time specific
Trigger on	:	DCMD, CCMD, MSG, SYN, BSYN, DIR, LIDL, DIDL, SDB, SOP, EOP, EDB
Trigger Actions	:	Capture data and/or trigger out signal
Host Machine Minimum Requirements	:	Microsoft Windows® 8,Windows 7, 16GB of RAM; Storage with at least 50 GB HDD space for the storing the acquired data display with resolution of at least 1024x768

## Setup



PGY-UHS II Protocol Analyzer provides USB3.0 and GBe interface for host connectivity. PGY-UHS II software runs in host machine enables configuration of PGY-UHS II hardware for UHS II protocol analysis storage

### **UHS II Interposers:**

Prodigy Technovations provides UHS II fixture /interposer. This allows user to probe UHS II Signals to monitor the protocol between host and device.

### **Comprehensive Protocol Analysis**

PGY–UHS II Software provides industry best protocol analysis capabilities. Easy to use interface reduces the protocol analysis time. Time stamped view of protocol decode listing provides easy view of protocol activities between host and device. At click of a button user can get decode of argument of Response from the device. Decoding of registers provides detail information on devices. Analytics features quickly provide insight into protocol activity without going through the complete protocol activity.

CONNECT	SETUP	RUN ANALYZ	ANALYTICS	REPORT			_	_	-	_	_	Analysis com	olete		-	-	
) Search ) Filter	Type v		<<	>>	Rese						7 NP	6	5 TYP 0x2	4	3	2 1 DID (Destination )	10)
SM	Time	Packet Type	HOST→		Type	Abbreviation	Payload	Mode	CRC	Errors	0x1		RES		0	0x00	
1	05	CCHD NP	CMD REG		bc	DEVICE INIT	0x00000804	FD	0x869F	Pass	~		urce ID)		Rsvd	TID (Transact	tion
2	526.3750µ5	CCHD NP		CHD REG	bc	DEVICE INIT	0x00000003	FD	0x3A67	Pass		0x01			(msb)	0x00 IOADR	_
3	538.2000µs	CCHD NP	CMD REG		bc	DEVICE_INIT	0x00000804	FD	0x869F	Pass	NACK 0x0	Rsvd 0x0	PLE7 8 By	10x2	(msb)	0x00	
4	1.0884ms	CCHD NP		CHD_REG	bc	DEVICE_INIT	0x00000804	FD	0x869F	Pass	- CRO	0.00	0.09	IOADF		0.00	_
5	11.1184ms	CCHD NP	CMD_REG		bc	ENUMERATE	0x00000000	FD	0x8756	Pass				0ADF Ox			
6	11.6649ms	CCHD NP		CMD_REG	bc	ENUMERATE	0x00000011	FD	0xA438	Pass				UX.	~		_
7	21.7073ms	CCHD NP	CFG_REG		P2P	GENERIC CAPABILITIES REGIS		FD	0x0081	Pass							
8	22.2408ms	RESP NP	-	CFG_REG	P2P	GENERIC CAPABILITIES REGI	0x0000000000010100	FD	0xF055	Pass	_						
9	22.2958ms	CCHD NP	CFG_REG		P2P	PHY CAPABILITIES REGISTER		FD	0x0081	Pass			05150		LITES REC		_
10	22.8538ms	RESP NP		CFG_REG	P2P	PHY CAPABILITIES REGISTER	0x80000000000000000	FD	OxDEFF	Pass						JISTER	
11	22.8962ms	CCHD NP	CFG_REG		P2P	PHY SETTINGS REGISTER		FD	0x0081	Pass	Locatio	•	Rej	pister Fi	ld Name		
12	23.4158ms	RESP NP		CFG_REG	P2P	PHY SETTINGS REGISTER	0x0000000000000000000000000000000000000	FD	0xA947	Pass	63:24 ex0000			hve			
13	23.4346ms	CCHD NP	CFG_REG		P2P	PHY SETTINGS REGISTER	0x8000000040000000	FD	0x9518	Pass							
14	23.9778ms	RESP NP		CFG_REG	P2P	PHY SETTINGS REGISTER		FD	0x10A0	Pass	23:16 0x01		4	plicatio 6: SD Me	Type		
15	24.0235ms	CCHD NP	CFG_REG		P2P	LINK/TRAN CAPABILITIES REC		FD	0x0081	Pass	6001		b1	7: Non-Si			
16	24.5398ms	RESP NP		CFG_REG	P2P	LINK/TRAN CAPABILITIES REC	0x0000000000200220	FD	0x501A	Pass			bi	8: Card			
17	24.5700ms	CCHD NP	CFG_REG		P2P	LINK/TRAN SETTINGS REGIST		FD	0x0081	Pass	15			wd			
18	25.1018ms	RESP NP		CFG_REG	P2P	LINK/TRAN SETTINGS REGIST	0x0000000000010320	FD	Ox68F8	Pass	0×00						
19	25.1605ms	CCHD NP	CFG_REG		P2P	LINK/TRAN SETTINGS REGIST	0x040000000200020	FD	0x19CF	Pass	14			OR Lengt			
20	25.7148ms	RESP NP		CFG_REG	P2P	LINK/TRAN SETTINGS REGIST		FD	0x10A0	Pass	0x00		bi	4: 4 byt	15		
21	25.7493ms	CCHD NP	CFG_REG		P2P	GENERIC SETTINGS REGISTER		FD	0x0081	Pass	13:8				ific Funct	tionality	
22	26.2768ms	RESP NP		CFG_REG	P2P	GENERIC SETTINGS REGISTER	0x0000000000000000000000000000000000000	FD	OxCE81	Pass	exe1			NB: 2L-HD 19: 201U-1	o rei		
23	26-2876ms	CCHD NP	CFG_REG		P2P	GENERIC SETTINGS REGISTER	0x000000800000000	FD	0x2A80	Pass				0: 1D2U-			
24	26.8387ms	RESP NP		CFG_REG	P2P	GENERIC SETTINGS REGISTER		FD	0x10A0	Pass			01	at 2020-	o [6]		_
25	26.8852ms	CCHD NP	CMD_REG		P2P	GO_DORMANT_STATE	0x00000000	FD	0xE755	Pass			_				_
26	27.4007ms	RESP NP		CHD_REG	P2P	GO_DORMANT_STATE		FD	0x10A0	Pass				Stat	istics		
27	29.3476ms	CCHD	CMD0		bc	GO_IDLE_STATE	0x00000000	FD	0xD347	Pass		CCMD ·				Read Cycle -	
28	29.3484ms	RESP					0x00002074	FD	0x1020	Pass		RESP -	- 64		W	arite Cycle -	0
29	39.3581ms	CCHD	CMD8		ben	SEND_IF_COND	0xAA010000	FD	0x6F62	Pass		CCMD (	RC - 0				
30	39.3589ms	RESP		87		CARD INTERFACE CONDITION	0xAA010000	FD	OxAF69	Pass		RESP (	RC - 0				
31	39.3724ms	CCHD	ACHD41		ber	SD SEND OP COND	0x00003640	FD	OXEAEF	Pass	~						



## **Powerful Decide capabilities Registers**

PGY-UHS II Protocol Analyzer quickly decodes the UHS II register and displays register filter name. These decode tables allow identify the host and device setting being set and quickly debug it. Above image displays the Generic capabilities and settings between host and device.

7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0		
NP 0x0	NP     TYP 0x2     DID (Destination ID)       0x0     RES     0x00							NP 0x1									
0.00	SID (Source ID) Rsvd TID (Transaction ID)							0.11	SID (Source ID) Rsvd TID (Transacti						n ID)		
	0x01 0x00 0x00							0x00	arce ib)		0x0	0x00					
NACK								R/W	Rsvd	PLE	N 0x1	(msb)		IOADR			
0x0	0x0 0x00								0x0	4 By	rtes		0	x02			
Rsvd	d APP CMD_INDEX										IOADR	2			(Isb)		
0x0	0x0 0x03										Ox	02					
			SD_A 0x200	rg 050100							Pay	load					
			Payloa	d Details							DEVIC	E INIT					
New Pub	lished RC	A of the ca			1000000	0000101b	,	Property		D	escription	-					
	us bits[15			00000001								1					
Bit	[15]	-	=	Ob;COM_	CRC_ERR	OR(no err	or)	Group (	Descripto	r (	9x00						
Bit	[14]		-	Ob;ILLEG/				Group	Allocated	Power 1	1440 [mW]				I		
Bit Bit	[13]	101	-	0b;CARD_ 0000bCU				Device	Allocate	d Powe	ve 360 [mW]						
Bit	[9,10,11, [8]	12]	-	1b;READY				Completion Flag All Devices Complete Initialization									
Bit	[7]		=	Ob;Reserv	_	in queeday	,	Complet	tion Flag		AII Device	es compiet	e initial	ization			
Bit	[6]		-	Ob;FX_EV	ENT(No e	vent)											
Bit	[5]		=	Ob;APP_C													
Bit	[4]		-	Ob;Reserv													
	[3]		-	Ob;AKE_S			-										
	[2]			b;Reserve													
	[1]		=	Ob;Reserv													
Bit	[0]		=	Ob;Reserv	/ed_For_f	vianufacti	urer										

**Decoding of Payload bits** 

**Decoding of Device Init** 

6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	
NP     TYP 0x2     DID (Destination ID)       0x1     RES     0x00						NP 0x1		TYP 0x0 CCMD		DID (Destination ID) 0x01					
SID (Source ID)     Rsvd     TID (Transaction ID)       0x01     0x0     0x00						SID (Source ID)     Rsvd     TID (Transat 0x00       0x00     0x0     0x00						on ID)			
ACK Rsvd PLEN 0x2 (msb) IOADR x0 0x0 8 Bytes 0x00					R/W 0x1										
								IOADR (Isb) 0x08							
							Payload								
	GENER			GISTER					GEN		TINGS REG	ISTER			
1	Reg	gister Fie	eld Name				Locatio	Location Register Field Name							
00000						^	63 0x01								
23:16 Application Type 0x01 b16: SD Memory						62:32 0x0000	62:32 Rsvd 0x00000000								
						_	31:12 0x0000	99							
							11:8 0x00								
14     DADR Length       θxθθ     b14: 4 bytes							7:1	7:1 Rsvd							
13:8 Device Specific Functionality b08: 2L-HD b09: 2D1U-FD [0] b10: 1D2U-FD [0] b11: 2D2U-FD [0]				0 0x00		, ,	Power Con								
	SID (So 0x01 Rsvd 0x0	TYP 0x2 RES   SID (Source ID) 0x01   Rsvd PLEI   0x0 8 By   0x0 8 By	TYP 0x2 RES SID (Source ID) 0x01 Rsvd PLEN 0x2 0x0 8 Bytes IOADF Ox1 Register Fin P00000 Application b16: 5D Mer b17: Non-SI b18: Card Rsvd  DADR Length b10: 2DU-1 b10: 2DU-1 b10: 1DU-1 b10: 1DU-1	TYP 0x2 RES   SID (Source ID) 0x01 Rsvd 0x0   Rsvd PLEN 0x2 (msb) Rsvd 0x0   0x0 8 Bytes IOADR 0x00   IOADR 0x00   GENERIC CAPABILITIES RE   Beneric CAPABILITIES RE   O Application Type b16: SD Memory b16: SD Memory b17: Non-SDIO b18: Card   Rsvd DADR Length b14: 4 bytes   Device Specific Funct b08: 2L-HD b09: 2DIU-FD [0] b10: 1D2U-FD [0]	TYP 0x2 RES DID (Desi 0x00   SID (Source ID) 0x01 Rsvd TID 0x0   Rsvd PLEN 0x2 0x0 (msb)   0x0 8 Bytes (msb)   0x00 8 Bytes (msb)   IOADR 0x00   GENERIC CAPABILITIES REGISTER   Register Field Name   Rsvd Application Type b16: SD Memory b17: Non-SDIO b18: Card   DADR Length b14: 4 bytes   Device Specific Functionalit b88: 2L-HD b99: 2DIU-FD [0] b16: 1D2U-FD [0]	TYP 0x2 RES DID (Destination II 0x00   SID (Source ID) 0x01 Rsvd 0x00 TID (Transacti 0x00   Rsvd 0x0 PLEN 0x2 8 Bytes IOADR 0x00   IOADR 0x00 0x00   IOADR 0x00   GENERIC CAPABILITIES REGISTER   Register Field Name   Rsvd Application Type b16: SD Memory b17: Non-SDIO b18: Card   Rsvd DADR Length b14: 4 bytes   Device Specific Functionality b68: 2L-HD b69: 2D1U-FD [0] b16: 102U-FD [0]	TYP 0x2 RES DID (Destination ID) 0x00   SID (Source ID) 0x01 Rsvd 0x0 TID (Transaction ID) 0x00   Rsvd 0x0 PLEN 0x2 8 Bytes IOADR 0x00   IOADR Length b16: 5D Memory b15: 5D Memory b15: SO Memory b18: Card   DADR Length b14: 4 bytes   DADR Length b14: 4 bytes   Device Specific Functionality b08: 2L-HD b09: 2DIU-FD [0]   Device Specific Functionality b08: 2L-HD	TYP 0x2 DID (Destination ID) NP   RES Ox00 NP   SID (Source ID) Rsvd TID (Transaction ID)   Ox01 Ox0 Ox00   Rsvd PLEN 0x2 (msb) IOADR   Ox00 8 Bytes Ox00   IOADR (Isb)   Ox00 Carlow   GENERIC CAPABILITIES REGISTER   Register Field Name   Register Field Name   Application Type   b16: SD Memory   b17: Non-SDIO   b18: Card   Rsvd      DADR Length   b14: 4 bytes   Device Specific Functionality   b8: 2L+HD   b8: 2DHD   Device Specific Functionality   b8: 2DHD   B1: 102U-FD [0]	TYP 0x2 RES DID (Destination ID) 0x00 NP 0x1   SID (Source ID) 0x01 Rsvd 0x0 TID (Transaction ID) 0x00 NP 0x1   Rsvd 0x0 PLEN 0x2 8 Bytes (Isb) NP 0x1   IOADR 0x00 IOADR 0x00 (Isb) R/W Rsvd 0x1   IOADR 0x00 0x00 (Isb) IOADR 0x1 0x0   IOADR 0x00 0x00 (Isb) IOADR 0x1 0x0   IOADR 0x00 0x00 (Isb) IOADR 0x1 0x0   IOADR 0x00 Rsvd (Isb) IOCation   Bellering Rsvd IOADR 0x1 IOADR 0x0   IIII Rsvd IIIII IIIIII   DADR Length 014: 4 bytes IIIIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	TYP 0x2 RES DID (Destination ID) 0x00 NP 0x1 TYP 0x0 0x1   SID (Source ID) 0x01 Rsvd 0x0 TID (Transaction ID) 0x00 NP 0x1 SID (Source ID) 0x00   Rsvd 0x0 PLEN 0x2 8 Bytes (msb) IOADR 0x00 R/W Rsvd 0x00   IOADR 0x00 0x00 0x00 R/W Rsvd 0x1 PLEN 0x0   GENERIC CAPABILITIES REGISTER (lsb) 0x00 Register Field Name   000000 Rsvd Application Type b16: SD Memory b17: Non-SDIO b18: Card 63 (ex00000000 1   NP T12 1   Rsvd DADR Length b14: 4 bytes 11:8 (ex00 1   Device Specific Functionality b09: 201U-FD [0] 0   Device Specific Functionality b09: 201U-FD [0] 0	TYP 0x2 RES DID (Destination ID) 0x00 NP 0x00 TYP 0x0 0x1   SID (Source ID) 0x01 Rsvd 0x00 TID (Transaction ID) 0x00 SID (Source ID) 0x00 SID (Source ID) 0x00   Rsvd 0x0 PLEN 0x2 (msb) IOADR 0x00 IOADR 0x1 Rsvd 0x1 PLEN 0x2 0x1 Rsvd 0x1   IOADR 0x00 IOADR 0x00 (Isb) IOADR 0x0 IOADR 0x0 IOADR 0x1   GENERIC CAPABILITIES REGISTER GENERIC SETT IOADR 0x1 IOADR 0x1 IOADR 0x0   GENERIC CAPABILITIES REGISTER GENERIC SETT IOCation Register Field Name   IOADR   63 0x01 Rsvd 0x00 Bsvd 0x01   IOADR    11:3 Rsvd 0x000000   II:12 Rsvd 0x00  31:12 0x00 Rsvd 0x00    DADR Length b14: 4 bytes Device Specific Functionality b88: 21-HD b99: 2D1U-FD [0] IOA Power Con 0x00	TYP 0x2 DiD (Destination ID) 0x00 NP TYP 0x0 0x1 NP   SiD (Source ID) 0x01 Rsvd TID (Transaction ID) 0x0 0x0 NP TYP 0x0 0x1 Rsvd 0x0   Rsvd PLEN 0x2 (msb) IOADR 0x00 ND0 Rsvd 0x0 Rsvd 0x0 0x0   Bytes 0x00 (lsb) IOADR 0x00 0x08 PLEN 0x2 (msb)   Ox00 8 Bytes 0x00 (lsb) IOADR 0x1 0x0 8 Bytes   IOADR 0x00 0x00 0x08 PlEN 0x2 (msb)   Ox00 0x00 0x00 8 Bytes IOADR   Ox00 0x00 0x00 0x08 Payload   GENERIC CAPABILITIES REGISTER   Register Field Name 63 Rsvd b63: DLSM transits   633 Rsvd b63: DLSM transits 633: DLSM transits   631:12 Rsvd cr- 31:12 Rsvd 8x0000000   Born Length b16: SD Memory b17: Non-SDI0 b18: Card Number of Lanes and 2 Lanes FD/2L-HD me   DAOR Length b14: 4 bytes Price Specific Functionality b88: 21-H0 b08: 201U-FD [0] Power Control Mode b0: Fast Mode	TYP 0x2 RES DID (Destination ID) 0x00 NP 0x00 TYP 0x0 0x1 DID (Destination ID) 0x0   SID (Source ID) 0x0 Rsvd 0x0 TID (Transaction ID) 0x0 NP 0x1 CCMD DID (Destination ID) 0x0   Rsvd 0x0 Rsvd 0x0 TID (Transaction ID) 0x0 Rsvd 0x0 Rsvd 0x0 Rsvd 0x0 Rsvd 0x0 Rsvd 0x0 TID (Transaction ID) 0x00   Rsvd 0x0 PLEN 0x2 0x0 (msb) IOADR 0x0 Rsvd 0x1 Rsvd 0x0 Rsvd 0x0 TID (Transaction ID) 0x00   GENERIC CAPABILITIES REGISTER IOADR 0x0 8 Bytes Ox08   Generic CAPABILITIES REGISTER Generic SETTINGS REGISTER IOADR Ox08   B00000  Field Name 63 0x81 Rsvd b63: DLSM transits to Activ   Application Type b16: SD Memory b17: Non-SDIO b18: Card Rsvd 0x1 Rsvd 0x80 Rsvd Market A bytes II:8 0x80 Number of Lanes and Function 2 Lanes FD/2L-HD mode   DADR Length b14: 4 bytes Fist Mode   Device Specific Functionality b89: 2DU-FD [0] 0   B99: 2DU-FD [0] 0	TYP 0x2 DID (Destination ID) 0x00 NP TYP 0x0 DID (Destination ID) 0x01   SID (Source ID) Rsvd TID (Transaction ID) 0x00 NP CCMD 0x01   Rsvd PLEN 0x2 (msb) IOADR 0x00 Rsvd PLEN 0x2 (msb) IOADR   0x00 IOADR 0x00 0x00 0x00 Rsvd PLEN 0x2 (msb) IOADR   0x00 IOADR 0x00 0x00 0x00 Rsvd PLEN 0x2 (msb) IOADR   0x00 IOADR 0x00 0x00 0x00 Rsvd PLEN 0x2 (msb) IOADR   0x00 IOADR 0x00 0x00 0x00 Rsvd IOADR 0x08   GENERIC CAPABILITIES REGISTER   GENERIC SETTINGS REGISTER   Generic Sectific Field Name   63 Bsvd 0x0 Bsvd   060600  11:8 Rsvd   011 D63: DLSM transits to Active state   63 Rsvd    11:8 Number of Lanes and Functionality   05:00 D20-F0 11:8   0400 D40: Rsvd   05:10:DU-FD [6]   05:10:DU-FD <t< td=""></t<>	

Generic Capabilities Register Decode

Generic Setting Register Decode



# **PGY-UHS II SD/SDIO UHS II Datasheet**

											·				
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
NP	NP TYP 0x0 DID (Destination ID)					)	NP		TYP 0x2 DID (Destination ID						
0x1		CCMD			0x01			0x1		RES			0x00		
		urce ID)		Rsvd		Transacti	on ID)	11		urce ID)		Rsvd		Transactio	n ID)
	0x00			0x0	0x00				0x01			0x0 (msb)	0x00	IOADR	
R/W	Rsvd		N 0x2	(msb)		IOADR		NACK 0x0	Rsvd 0x0	PLET 8 By	N Ox2	(msb)	0	IOADR x00	
0x1	0x0	8 By			0	×00			0x0	ову	IOADE	<u> </u>	0	xuu	(Isb)
			IOADF				(Ist				IOADH Ox				(ISD)
L			0x	0C				↓			Ux	02			
				load											
		LINK/	TRAN SET	TINGS REC	GISTER					PHY	CAPABIL	TIES REGI	STER		
Location	n	Re	gister Fi	eld Name				Location	Location Register Field Name						
63:40 0x00000	90	Rsvd 				^	63:40 0x00000	00	R	svd				^	
39:32 0x04			DATA_GAP					39:36 0x08			evice-Spe [R LSS: 6	cific N_LS 4	SS_DIR		
31:20 0x0200			AX_BLKLEN ax Payloa	d length:	512			35:32 0x00			evice-Spe /N LSS: 6	cific N_LS 4	SS_SYN		
19:18 0x00															
17:16 0x00						Su b1	upporting L5: No Hi	Hibernate bernate Ma	e <b>Mode</b> ode						
15:8 0x20		N M	_ <b>FCU</b> ax Block	Number in	FCU: 32			14:6 0x0000		R	svd				
7:0 0x00								5:4 0x00			HY Major HS156	Revision			~

### LINK/TRAN Setting Register Decode

### **Data Packet Analysis:**

PGY-UHS II automatically identified if data transfer is FD156 and HD512 mode. PGY-UHS II will decode data commands and identifies, if data is in HD and FD mode and captures data. Display of captures can be viewed for each command. Data block is displayed as below

Software will validates CRC values and highlights in red color, for any CRC failure. Data is displayed iin HEX and ASCII format for each block.

Time	Data	CRC	View All Data Export Data
L0.460652s	512 B [36 37 38 39]	CRC	
10.460654s	512 B	CRC	44 2 Off 16 D
	[38 39 30 31]	D0=0xF4D2	
		D1=0x24E6	0010 34 35 36 37 38 39 30 31 32 33 34 35 36 37 38 39 4 5 6 7 8 9 0 1 2 3 4 5
L0.460656s	512 B [30 31 32 33]		0020 30 31 32 33 34 35 36 37 38 39 30 31 32 33 34 35 0 1 2 3 4 5 6 7 8 9 0 1
L0.460658s	512 B [32 33 34 35]		0030 36 37 38 39 30 31 32 33 34 35 36 37 38 39 30 31 6 7 8 9 0 1 2 3 4 5 6 7 0040 32 33 34 35 36 37 38 39 30 31 32 33 34 35 36 37 2 3 4 5 6 7 8 9 0 1 2 3
L0.460660s	512 B [34 35 36 37]		0050 38 39 30 31 32 33 34 35 36 37 38 39 30 31 32 33 8 9 0 1 2 3 4 5 6 7 8 9
0.460662s	512 B [36 37 38 39]	CRC	0060 34 35 36 37 38 39 30 31 32 33 34 35 36 37 38 39 4 5 6 7 8 9 0 1 2 3 4 5
LO.460664s	512 B [38 39 30 31]		0070 30 31 32 33 34 35 36 37 38 39 30 31 32 33 34 35 0 1 2 3 4 5 6 7 8 9 0 1 0080 36 37 38 39 30 31 32 33 34 35 36 37 38 39 30 31 6 7 8 9 0 1 2 3 4 5 6 7
0.460666s	512 B [30 31 32 33]	CRC	
10.460668s	512 B (32 33 34 35)	CRC	00A0 38 39 30 31 32 33 34 35 36 37 38 39 30 31 32 33 8 9 0 1 2 3 4 5 6 7 8 9
10.460670s	512 B [34 35 36 37]	CRC	0010 34 35 36 37 38 39 30 31 32 33 34 35 36 37 38 39 4 5 6 7 8 9 0 1 2 3 4 5 0 0 0 0 0 0 30 31 32 33 34 35 36 37 38 39 30 31 32 33 34 35 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4
0.460672s	512 B [36 37 38 39]	CRC	0000 36 37 38 39 30 31 32 33 34 35 36 37 38 39 30 31 32 33 34 35 0 1 2 3 4 5 6 7 8 9 0
0.460674s	512 B [38 39 30 31]	CRC	00E0 32 33 34 35 36 37 38 39 30 31 32 33 34 35 36 37 2 3 4 5 6 7 8 9 0 1 2 3
L0.460676s	512 B [30 31 32 33]	CRC	00F0 38 39 30 31 32 33 34 35 36 37 38 39 30 31 32 33 8 9 0 1 2 3 4 5 6 7 8 9 0100 34 35 36 37 38 39 30 31 32 33 34 35 36 37 38 39 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9
LO.460678s	512 B [32 33 34 35]	CRC	
10.460680s	512 B [34 35 36 37]	CRC	0120 36 37 38 39 30 31 32 33 34 35 36 37 38 39 30 31 6 7 8 9 0 1 2 3 4 5 6 7
10.460682s	512 8 [36 37 38 39]	CRC	0130 32 33 34 35 36 37 38 39 30 31 32 33 34 35 36 37 2 3 4 5 6 7 8 9 0 1 2 3
			0140 38 39 30 31 32 33 34 35 36 37 38 39 30 31 32 33 8 9 0 1 2 3 4 5 6 7 8 9 0150 34 35 36 37 38 39 30 31 32 33 34 35 36 37 38 39 4 5 6 7 8 9 0 1 2 3 4 5
			0160 30 31 32 33 34 35 36 37 38 39 30 31 32 33 34 35 0 1 2 3 4 5 6 7 8 9 0 1
			0170 36 37 38 39 30 31 32 33 34 35 36 37 38 39 30 31 6 7 8 9 0 1 2 3 4 5 6 7
			0180 32 33 34 35 36 37 38 39 30 31 32 33 34 35 36 37 2 3 4 5 6 7 8 9 0 1 2 3 0190 38 39 30 31 32 33 34 35 36 37 38 39 30 31 32 33 8 9 0 1 2 3 4 5 6 7 8 9
			01A0 34 35 36 37 38 39 30 31 32 33 34 35 36 37 38 39 4 5 6 7 8 9 0 1 2 3 4 5
			0180 30 31 32 33 34 35 36 37 38 39 30 31 32 33 34 35 0 1 2 3 4 5 6 7 8 9 0 1
			01C0 36 37 38 39 30 31 32 33 34 35 36 37 38 39 30 31 6 7 8 9 0 1 2 3 4 5 6 7 01D0 32 33 34 35 36 37 38 39 30 31 32 33 34 35 36 37 2 3 4 5 6 7 8 9 0 1 2 3
			0120 38 39 30 31 32 33 34 35 36 37 38 39 30 31 32 33 8 9 0 1 2 3 4 5 6 7 8 9
			01F0 34 35 36 37 38 39 30 31 32 33 34 35 36 37 38 39 4 5 6 7 8 9 0 1 2 3 4 5

**PHY Capabilities Register Decode** 

### **Analytics:**

PGY-UHS II offers analytical feature displays time stamped packets of host, device and data exchange in a time domain view. This allows user to look at protocol activity traffic between the host and device.

User can export the Protocol decoded to txt file for documentation and further analysis in a user environment.

### **Ordering information:**

PGY-UHS II UHS II SD/SDIO Protocol Analyzer

(Shipment includes Hardware, software CD, one set probe, USB3.0 and Ethernet Cable, Power Adopters, UHS II interposer)

#### Contact:

Prodigy Technovations Pvt. Ltd. #294, 3rd floor, 7th Cross, 7th Main, BTM 2nd stage Bangalore, India 560008 Phone: +91 80 42126100 Email: contact@prodigytechno.com

www.prodigytechno.com

### Warranty:

Hardware and software carries warranty of one year.

Probes are covered three months warranty for any manufacturing defects

