

USB-port with PD-ctrl TPS65987D

Status after connection of device with sink 5V, thereafter disconnection of cable.

- VBUS = +5V
- 3.3V on CC-signals.

Application Customization Tool

Settings Debug Documents Help

General Settings Device 1, port 0

Configuration Registers Debug Registers Commands Scripting

Debug Mode

Polling **connected** FTDI, 0x38 (I2C2)

Mode
UID
Version
Command Register for CMD1
Data Register for CMD1
Command Register for CMD2
Data Register for CMD2
Interrupt Event for I2C1
Interrupt Event for I2C2
Interrupt Clear for I2C1
Interrupt Clear for I2C2
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Power Path Status
Boot Flags
Build Identifier
Device Info
Received Source Capabilities
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Active Contract PDO
Active Contract RDO
Sink Request RDO
Power Status
PD Status
PD3.0 Status
RX Identity SOP
Received SOP Prime Identity Data Object
RX Attention structured VDM
RX VDM Results

Status (0x1a)

Field	Value
Plug Present	No plug present
Conn State	No connection
Plug Orientation	Upside-up orientation (plug CC on C_CC1) or orientation unknown or port is
Port Role	PD Controller is Source (C_CCx pull-up active).
Data Role	PD Controller is UFP or port is disabled/disconnected.
VBUS Status	VBUS is at vSafe5V (4.75V to 5.5V). See ADC Results for exact voltage prov
USB Host Present	No far-end device present providing VBUS or PD Controller power role is So
Acting as Legacy	PD Controller is not in a legacy (non PD mode).
Go To Min Active	No PD contract established or GotoMin restriction has been cleared by Sour
BIST	No BIST in progress
High Voltage Warning	PD Controller operating as Source and VBUS voltage is above limit specifiec
Low Voltage Warning	PD Controller operating as Sink or VBUS voltage is above limit specified by I
SOC ACK Timeout Occurred	Unknown (0x0)
Alternative Mode Status	No Alternate Modes attempted.

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Command Register for CMD2

Data Register for CMD2

Interrupt Event for I2C1

Interrupt Event for I2C2

Interrupt Clear for I2C1

Interrupt Clear for I2C2

Status

Power Path Status

Boot Flags

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Received Sink Capabilities

Active Contract PDO

Active Contract RDO

Sink Request RDO

Power Status

PD Status

PD3.0 Status

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RX Attention structured VDM

RX VDM Status

Power Path Status (0x26)

Field	Value
PP1_Cableswitch	PP1_CABLE switch disabled.
PP2_Cableswitch	PP2_CABLE switch disabled.
PP1switch	PP1 switch disabled.
PP2switch	PP2 switch enabled (system output).
PP3switch	PP3 switch disabled.
PP4switch	PP4 switch disabled.
PP1_CABLE Enable	PP1_CABLE power not enabled
PP2_CABLE Enable	PP2_CABLE power not enabled
PP1 Overcurrent	No overcurrent condition exists on PP1 switch
PP2 Overcurrent	No overcurrent condition exists on PP2 switch
PP1_CABLE Overcurrent	No overcurrent condition exists on PP1_CABLE switch
PP2_CABLE Overcurrent	No overcurrent condition exists on PP2_CABLE switch
PowerSource	PD Controller is powered from VIN_3P3.
PP1_RCP	0x0
PP2_RCP	0x0

Configuration status.

(Configuration downloaded from CPU, flash empty.)

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Pollingconnected

FTDI, 0x38 (I2C2)

Customer Use

Interrupt Mask for I2C1

Interrupt Mask for I2C2

Global System Configuration

Port Configuration

Port Control

Transmit Source Capabilities

Transmit Sink Capabilities

Autonegotiate Sink

Alternate Mode Entry Queue

PD3 Configuration Register

Event Delay

Transmit Identity Data Object

User Alternate Mode Config

Display Port Capabilities

Intel VID Config Register

MIPI VID Configuration

I/O Config

Retimer Debug Register

App Config Binary Data Indices

I2C Master Configuration

App configuration Register

Sleep Control Register

Tx Manufacturer Info SOP

Tx Source Capabilities Extended Data Block

Tx Battery Capabilities

Tx Manufacturer Info SOP Prime

Global System Configuration (0x27)

Field	Value
PP Cable 1 Switch Config	PP Cable Switch as Output, Guaranteed 4.5-5.5V
PP 1 Switch Config	PP Switch as Source Only (Output)
PP 2 Switch Config	PP Switch as Source Only (Output)
PP 3 Switch Config	PP Switch Disabled
PP 4 Switch Config	PP Switch Disabled
87 Emulation Mode	<input checked="" type="checkbox"/>
I2C1 Enable as Master	<input type="checkbox"/>
I2C3 Enable as Master	<input type="checkbox"/>
External Processor	Default
TBT Controller I2C Port	I2C1
I2C Timeout	1 S
SPI Read Only	<input type="checkbox"/>

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Port Configuration (0x28)

Field	Value
Port Configuration	DFP
Receptacle Type	Standard USB2-only USB-C receptacle
Audio Accessory Support	
Debug Accessory Support	
Type-C Supported Options	No Options
VConn Supported	VCONN supported as DFP only (reject VCONN_Swap req
USB3.0/3.1 Rate	USB3 not supported
Set UVP to 4.5 V	
Under-voltage Protection Trip Point, PP_5V	20%
Under-voltage Protection Usage, PP_HV	20%
Over Voltage Protection Trip Point	24 V
Over Voltage Protection Usage	Disconnect VBUS if voltage exceeds 15% of expected ma
High Voltage Warning Level	Warning when source VBUS voltage exceeds 20% from n
Low Voltage Warning Level	Warning when source VBUS Voltage dips below 20% from
Soft Start Slew Rate	0.41 V/mS typical
Set UVP Debounce	
Programmable Voltage Threshold	0 V
Programmable Power Threshold	0 W

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Tx Source Capabilities Extended Data Block

Tx Battery Capabilities

Tx Manufacturer Info SOP Prime

Port Control (0x29)

Field	Value
Type-C Current	3 A (strongest pullup)
PD Mode	Normal PD Behavior
Process Swap To Sink	<input type="checkbox"/>
Initiate Swap To Sink	<input type="checkbox"/>
Process Swap To Source	<input type="checkbox"/>
Initiate Swap To Source	<input type="checkbox"/>
Process VCONN Swap	<input type="checkbox"/>
Process Swap to UFP	<input type="checkbox"/>
Initiate Swap to UFP	<input type="checkbox"/>
Process Swap to DFP	<input type="checkbox"/>
Initiate Swap to DFP	<input type="checkbox"/>
Automatic ID Request	<input type="checkbox"/>
Force USB Generation 1	<input type="checkbox"/>
Externally Powered	<input type="checkbox"/>
Automatic Sink Cap	<input type="checkbox"/>
Sink Control Bit	<input type="checkbox"/>
15 kOhm Resistor Present	<input type="checkbox"/>
Data Contact Detection Enable	<input type="checkbox"/>

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App Config Binary Data Indices

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Sleep Control Register

Tx Manufacturer Info SOP

Tx Source Capabilities Extended Data Block

Tx Battery Capabilities

Tx Manufacturer Info SOP Prime

Transmit Source Capabilities (0x32)

Tx Source PDO Config

Field	Value
Active PDO Bank	Use Bank 0
Active PDO Bank Follows EP	<input type="checkbox"/>

Bank 0 Settings

Number of Bank 0 Source PDOs

2

Source PDO 1

Field	Value
Switch Source	PP2 sources this PDO
Maximum Current	3 A
Voltage	5 V
Peak Current	100%
Unchunked Extended Msg Supported	<input checked="" type="checkbox"/>
USB Capable	<input type="checkbox"/>
USB Suspend Supported	<input type="checkbox"/>
Supply Type	Fixed Source

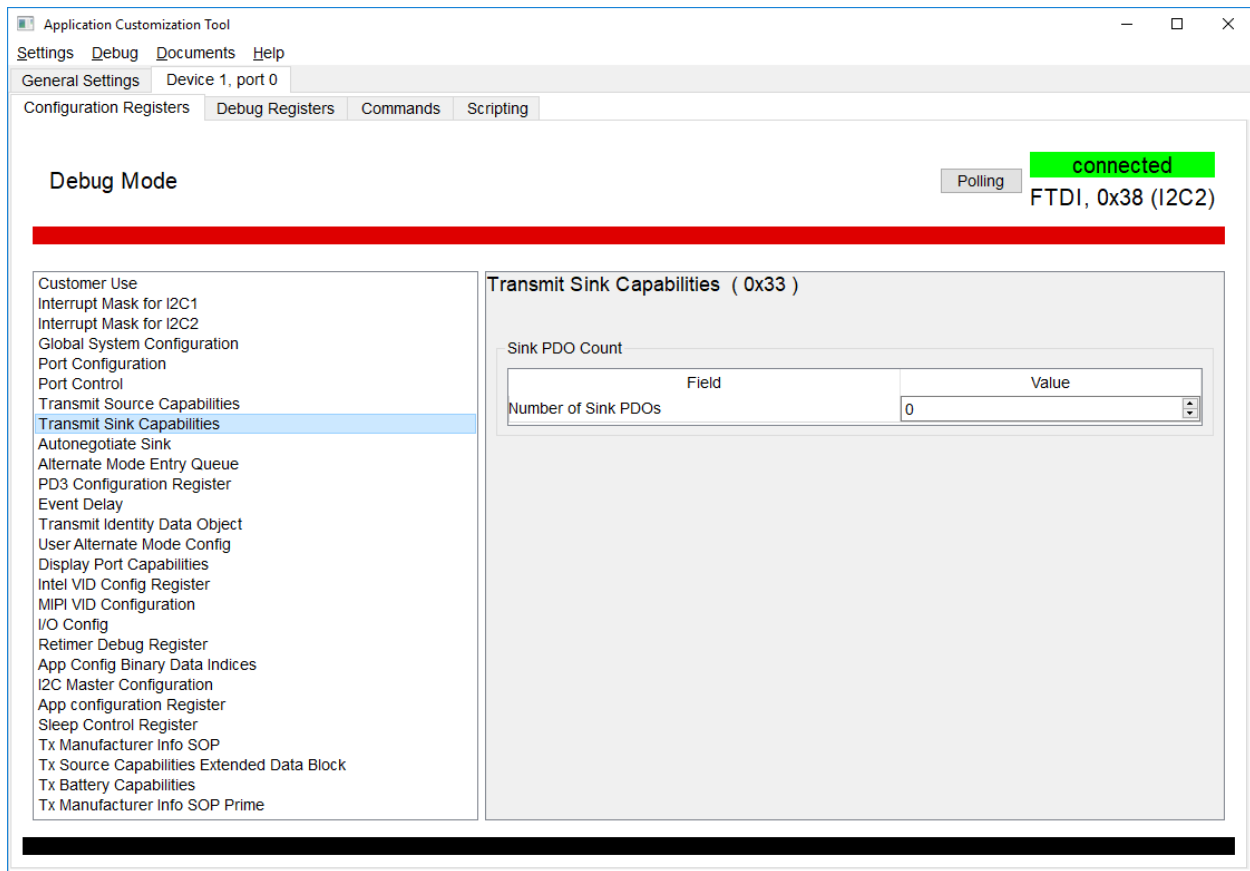
Source PDO 2

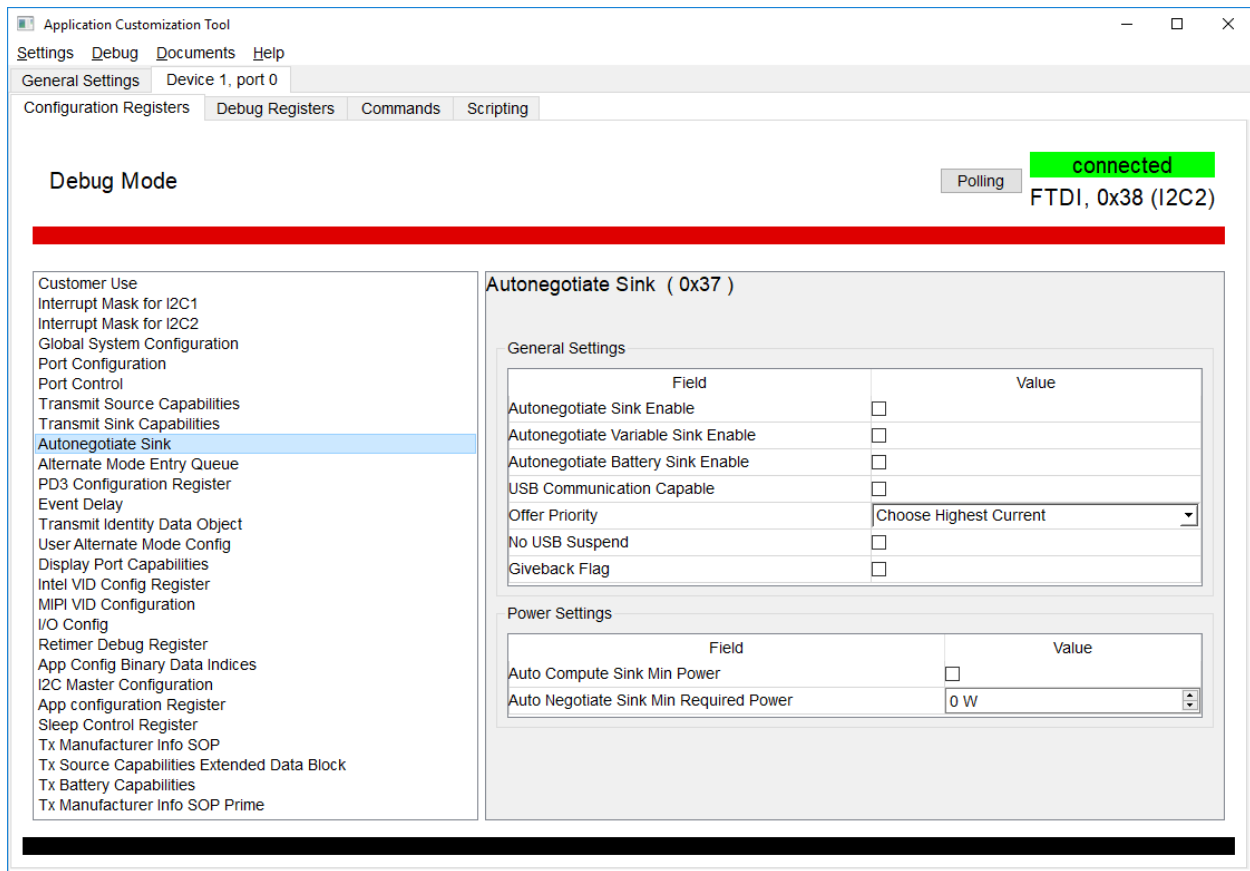
Field	Value
Advertised Mask	Always Advertise
Switch Source	PP1 sources this PDO
Maximum Current	1 A
Voltage	20 V
Peak Current	100%
Supply Type	Fixed Source

Bank 1 Settings

Number of Bank 1 Source PDOs

0





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Sleep Control Register (0x70)

Field	Value
Sleep Mode Allowed	<input type="checkbox"/>
Delay 100 mS Before Sleep	<input type="checkbox"/>
Delay 1000 mS Before Sleep	<input type="checkbox"/>
Delay 30000 mS Before Sleep	<input type="checkbox"/>
Sleep on 5V non-PD Load	<input type="checkbox"/>

If USB-cable is connected in this status, C1-signal is 3.3V and C2-signal 1.7V, VBUS +5V.

Status

Application Customization Tool

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Polling **connected** FTDI, 0x38 (I2C2)

Field	Value
Plug Present	Plug present, see Conn State (below) for details.
Conn State	Connection present, Ra detected (Rd and Ra detected) or Rp detected with
Plug Orientation	Upside-down orientation (plug CC on C_CC2).
Port Role	PD Controller is Source (C_CCx pull-up active).
Data Role	PD Controller is DFP.
VBUS Status	VBUS is not within any of the above ranges. See ADC Results for exact volta
USB Host Present	VBUS is being provided by a far-end device that is a PD device capable of U
Acting as Legacy	Unknown (0x3)
Go To Min Active	GotoMin has been received as Sink or sent as Source
BIST	BIST in progress
High Voltage Warning	PD Controller operating as Source and VBUS voltage is above limit specifiec
Low Voltage Warning	PD Controller operating as Source and VBUS voltage is below limit specified
SOCAK Timeout Occurred	Unknown (0x1)
Alternative Mode Status	Unknown (0x7)

Document19 [Compatibility Mode] - Word

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Active Contract RDO
Sink Request RDO
Power Status
PD Status
PD3.0 Status
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Power Path Status (0x26)

Field	Value
PP1_Cableswitch	PP1_CABLE switch CC2 enabled (system output).
PP2_Cableswitch	PP2_CABLE switch CC2 enabled (system output).
PP1switch	Unknown (0x7)
PP2switch	Unknown (0x7)
PP3switch	Unknown (0x7)
PP4switch	Unknown (0x7)
PP1_CABLE Enable	PP1_CABLE power enabled
PP2_CABLE Enable	PP2_CABLE power enabled
PP1 Overcurrent	PP1 switch is in overcurrent condition.
PP2 Overcurrent	PP2 switch is in overcurrent condition.
PP1_CABLE Overcurrent	PP1_CABLE a switch is in overcurrent condition.
PP2_CABLE Overcurrent	PP2_CABLE a switch is in overcurrent condition.
PowerSource	PD Controller is powered from VBUS and Dead Battery flag is not set.
PP1_RCP	0x1
PP2_RCP	0x1