

mil_std_1553.py

AUTHORS

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DATES

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INFORMATION

Brief

MIL-STD-1553 cocotb

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MILSTD1553Source

MILSTD1553Source

A mil-std-1553 transmit test routine.

FUNCTIONS

__init__

```
def __init__(
    self,
    data,
    args,
    kwargs
)
```

Initialize the object

VARIABLES

self._data

self._data

Set internal data connection to 1553 differential bus

self._base_delay

self._base_delay

1 MHz is 1000 nano seconds need half that due to manchester encoding method

self._idle

self._idle

Event trigger for cocotb

self._data

Event trigger for cocotb

self._run_cr

```
self._run_cr
```

Thread instance of `_run` method

FUNCTIONS

`_restart`

```
def _restart(  
    self  
)
```

kill and restart `_run` thread.

`write_cmd`

```
async def write_cmd(  
    self,  
    data  
)
```

Write data to send that uses the command sync

`write_data`

```
async def write_data(  
    self,  
    data  
)
```

Write data to send that uses the data sync

`write_nowait_cmd`

```
def write_nowait_cmd(  
    self,  
    data  
)
```

Write data to send that uses command sync but do not wait after writing.

`write_nowait_data`

```
def write_nowait_data(  
    self,  
    data  
)
```

Write data to send that uses data sync but do not wait after writing.

count

```
def count(  
    self  
)
```

How many items in the queue

empty

```
def empty(  
    self  
)
```

Is the queue empty?

idle

```
def idle(  
    self  
)
```

Is the queue empty and the `_run` is not active processing data.

clear

```
def clear(  
    self  
)
```

Remove all items from queue

_check_type

```
def _check_type(  
    self,  
    data  
)
```

Check and make sure we are only sending 2 bytes at a time and that it is a bytes/bytearray

_cmd_sync

```
async def _cmd_sync(  
    self,  
    data  
)
```

Generate a command sync on the diff output

_data_sync

```
async def _data_sync(  
    self,  
    data  
)
```

Generate a data sync on the diff output

wait

```
async def wait(  
    self  
)
```

Wait for the run thread to become idle.

_run

```
async def _run(  
    self,  
    data  
)
```

Thread that processing queue and outputs data in mil-std-1553 format.

MILSTD1553Sink

MILSTD1553Sink

A mil-std-1553 transmit test routine.

FUNCTIONS

init

```
def __init__(  
    self,  
    data,  
    args,  
    kwargs  
)
```

Initialize the object

VARIABLES

self._data

```
self._data
```

Set internal data connection to 1553 differential bus

self._base_delay

```
self._base_delay
```

1 MHz is 1000 nano seconds need half that due to manchester decoding method

self._base_delay

```
self._base_delay_half
```

1 MHz is 1000 nano seconds need half of half that due to manchester decoding method

_cmd_sync

```
self._cmd_sync
```

command sync array value

_data_sync

```
self._data_sync
```

data sync array value

self._run_cr

```
self._run_cr
```

Thread instance of _run method

FUNCTIONS

_restart

```
def _restart(  
    self  
)
```

Kill and restart run function

read_cmd

```
async def read_cmd(  
    self  
)
```

Read any data that was identified with a command sync

read_nowait_cmd

```
def read_nowait_cmd(  
    self  
)
```

Read any data that was identified with a command sync, and do not wait for data to become available.

read_data

```
async def read_data(  
    self  
)
```

Read any data that was identified with a data sync.

read_nowait_data

```
def read_nowait_data(  
    self  
)
```

Read any data that was identified with a data sync, and do not wait for data to become available.

count_cmd

```
def count_cmd(  
    self  
)
```

How many elements are in the command queue?

count_data

```
def count_data(  
    self  
)
```

How many elements are in the data queue?

empty_cmd

```
def empty_cmd(  
    self  
)
```

Is the queue empty?

empty_data

```
def empty_data(  
    self  
)
```

Is the queue empty?

idle

```
def idle(  
    self  
)
```

Is _run waiting to process data?

clear_cmd

```
def clear_cmd(  
    self  
)
```

Clear the command queue

clear_data

```
def clear_data(  
    self  
)
```

Clear the data queue

wait_cmd

```
async def wait_cmd(  
    self,  
    timeout  
    =  
    0,  
    timeout_unit  
    =  
    'nsreg_data'  
)
```

Wait for command data

wait_data

```
async def wait_data(  
    self,  
    timeout  
    =  
    0,  
    timeout_unit  
    =  
    'nsreg_data'  
)
```

Wait for data data.

_run

```
async def _run(  
    self,  
    data  
)
```

Thread that takes input data in mil-std-1553 format and puts it in the proper command or data queue.