# BSRMission Keyword

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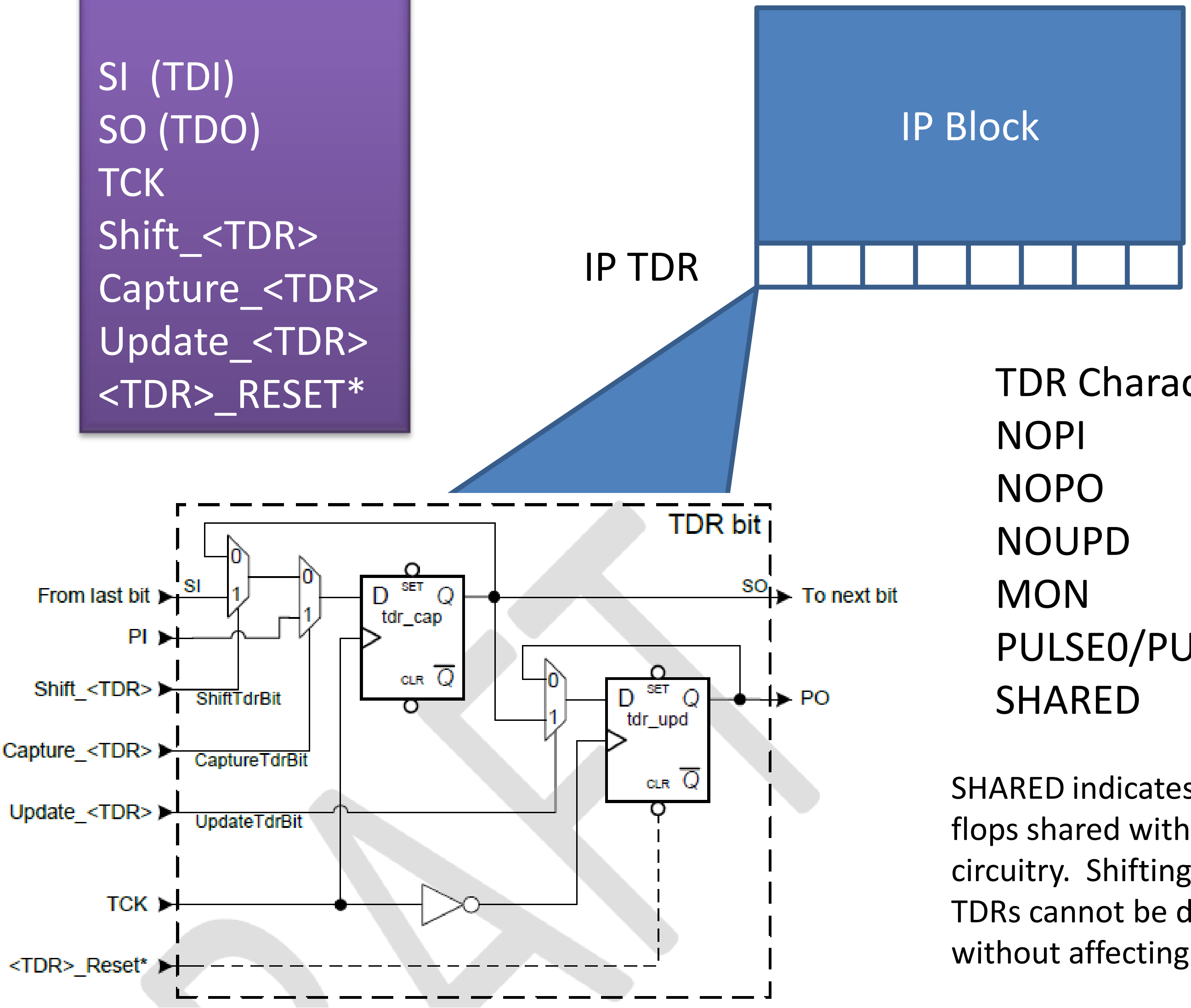
# Standard TDR interface for IP blocks

Standard signals

SI  (TDI)
SO (TDO)
TCK
Shift_<TDR>
Capture_<TDR>
Update_<TDR>
<TDR>_RESET*



TDR Characteristics "type"
NOPI
NOPO
NOUPD
MON
PULSE0/PULSE1
SHARED

SHARED indicates TDR is using flops shared with mission mode circuitry.  Shifting through SHARED TDRs cannot be done in mission mode without affecting operation

# All instructions set the mux on b-s cells to '1' or '0'

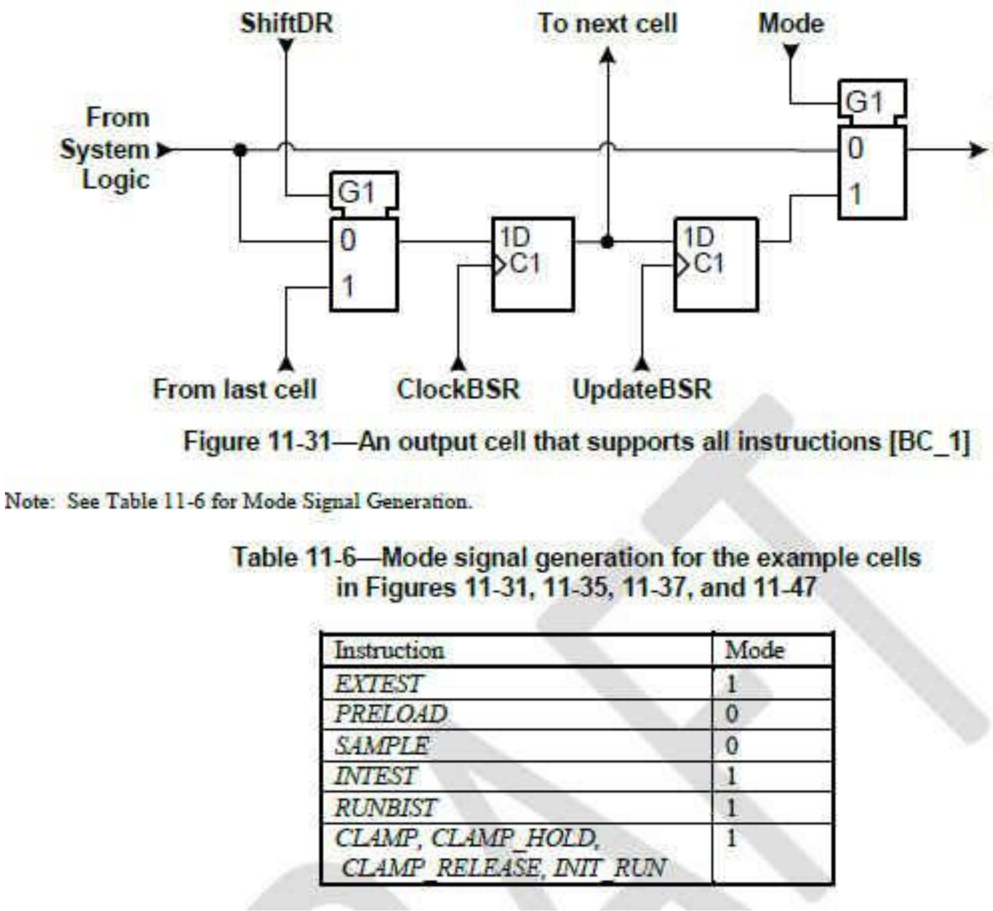


Figure 11-31—An output cell that supports all instructions [BC_1]

Note: See Table 11-6 for Mode Signal Generation.

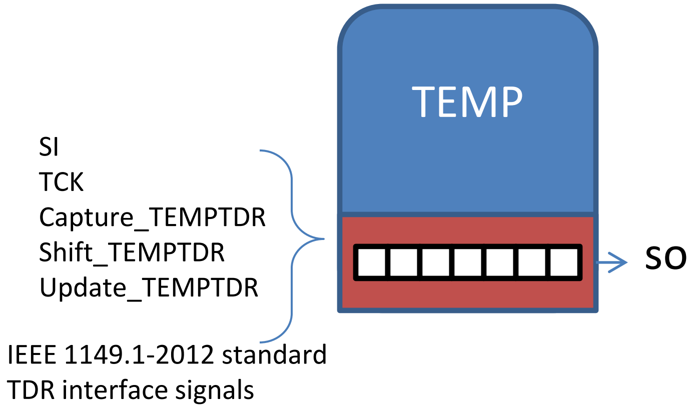
Table 11-6—Mode signal generation for the example cells in Figures 11-31, 11-35, 11-37, and 11-47

| Instruction | Mode |
|---|---|
| *EXTEST* | 1 |
| *PRELOAD* | 0 |
| *SAMPLE* | 0 |
| *INTEST* | 1 |
| *RUNBIST* | 1 |
| *CLAMP, CLAMP_HOLD, CLAMP_RELEASE, INIT_RUN* | 1 |

User Defined Instructions access user defined TDRs

These also set the mux to mission or test mode

# Temp Monitor with BSRMISSION keyword



SI
TCK
Capture_TEMPTDR
Shift_TEMPTDR
Update_TEMPTDR

IEEE 1149.1-2012 standard
TDR interface signals

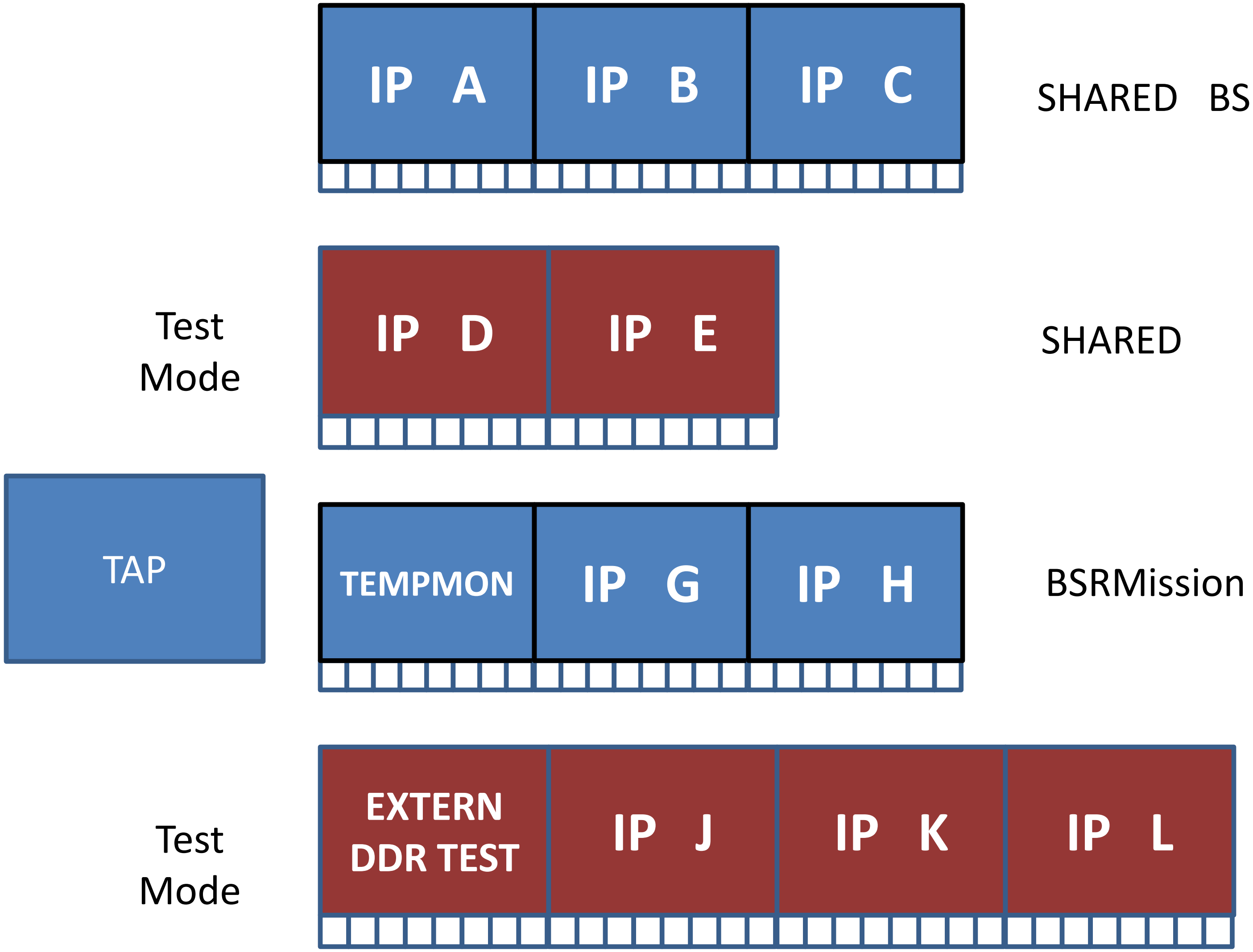
```
package tempmon is
use std_1149_1_2012.all;

attribute REGISTER_FIELDS of  XYZ_TEMP : entity is
“TEMPTDR[14]  ( " &
"(TempMon[14] IS (13 DOWNTO 0)  BSRMISSION ) "&
");”

end tempmon;
```

TempMon Package file

```
# vendor supplied reg to temp conversion
iPDLLevel 1 -version STD_IEEE_1149_1_2012
iProcGroup XYX_TEMP

proc  Reg2Temp { $regval $CorF }  {
…
…
}

# this proc returns a temperature  and
# high level warnings could be specified
iProc  -export -noninvasive temp-check { } {

iRead TempMon
iApply
set val  [iGet TempMon]
# convert reg value to temperature in celsius
set  temp [Reg2Temp $val  CEL]
if  {temp > 70}  {
puts "Temperature is excessive $temp"
}
return temp
}
```

TempMon PDL

4 TDRs accessed by 4 instructions
TDRs separated by instruction control of test/mission mode


IP A
IP B
IP C
SHARED BSRMission
Test Mode
IP D
IP E
SHARED
TAP
TEMPMON
IP G
IP H
BSRMission
Test Mode
EXTERN DDR TEST
IP J
IP K
IP L