Table XX summarizes the rules described above.

Table XX – Allowed Terminal\_type Associations1

| **Terminal\_type** | **Terminal\_type\_qualifier** | **aggressor** |
| --- | --- | --- |
| **pin\_name** | **signal\_name** | **bus\_label** | **pad\_name** |
| Buf\_I/O | X |  |  |  | A |
| Pullup\_ref | X |  |  |  |  |
| Pulldown\_ref | X |  |  |  |  |
| Power\_clamp\_ref | X |  |  |  |  |
| Gnd\_clamp\_ref | X |  |  |  |  |
| Ext\_ref | X |  |  |  |  |
| Buf\_Rail |  | Y | Y |  |  |
| Pad\_I/O | X |  |  |  | A |
| Pad\_Rail |  | Y | Y | Z |  |
| Pin\_I/O | X |  |  |  | A |
| Pin\_Rail | Y | Y | Y |  |  |

Notes

1. In the table, “X” refers to I/O pin names. “Y” and “Z” are POWER and GND names. The letter “A” designates the word "Aggressor"

Table XYX summarizes the rules described above.

Table XYZ – Allowed Terminal\_type Associations1-6

| **Terminal\_type** | **Terminal\_type\_qualifier** | **aggressor** |
| --- | --- | --- |
| **pin\_name** | **signal\_name** | **bus\_label** | **pad\_name** |
| Buf\_I/O | B |  |  |  | A |
| Pad\_I/O | B |  |  |  | A |
| Pin\_I/O | B |  |  |  | A |
| Pullup\_ref | B |  |  |  |  |
| Pulldown\_ref | B |  |  |  |  |
| Power\_clamp\_ref | B |  |  |  |  |
| Gnd\_clamp\_ref | B |  |  |  |  |
| Ext\_ref | B |  |  |  |  |
| Buf\_Rail |  | R | R |  |  |
| Pad\_Rail |  | R | R | D |  |
| Pin\_Rail | R | R | R |  |  |

Notes

1. Except for the aggressor column, each table entry is for the designated Terminal\_type\_qualifier and its corresponding name (two columns).
2. “B” refers to I/O pin names, as declared by the [Pin] keyword.
3. “A” designates the optional column entry “Aggressor” (a single column entry).
4. “B” also associates Rails named by Terminal\_type \*\_ref terminals to their corresponding buffers identified by Buf\_I/O pin\_name. The [Pin Mapping] keyword is not needed nor used.
5. Buf\_Rail uses the [Pin Mapping] keyword information to associate the Rails with Buf\_I/O terminals, and the associations cannot co-exist with the \*\_ref Terminal\_types when the Terminal\_type\_qualifiers define overlapping terminals.
6. “R” and “D” show allowable Terminal\_type\_qualifiers for POWER and GND terminals, where the pad\_name for “D” is declared by with [Die Supply Pads]

Table WXYZ – Allowed Terminal\_type Associations

| **Terminal\_type** | **Terminal\_type\_qualifier** | **Aggressor**2 |
| --- | --- | --- |
| **pin\_name**1 | **signal\_name**1 | **bus\_label**1 | **pad\_name**1 |
| Buf\_I/O3 | I |  |  |  | A |
| Pad\_I/O3 | I |  |  |  | A |
| Pin\_I/O3 | I |  |  |  | A |
| Pullup\_ref4 | I |  |  |  |  |
| Pulldown\_ref4 | I |  |  |  |  |
| Power\_clamp\_ref4 | I |  |  |  |  |
| Gnd\_clamp\_ref4 | I |  |  |  |  |
| Ext\_ref4 | I |  |  |  |  |
| Buf\_Rail5,6 |  | R | R |  |  |
| Pad\_Rail6 |  | R | R | D |  |
| Pin\_Rail6 | R | R | R |  |  |

Notes

1. Each Terminal\_type\_qualifier and its corresponding argument occupies two columns
2. “A” designates an optional, single-column entry “Aggressor”
3. “I” refers to I/O pin names, as declared by the [Pin] keyword
4. “I” also associates Rails named by Terminal\_type \*\_ref terminals to their corresponding buffers identified by Buf\_I/O pin\_name. The [Pin Mapping] keyword is not needed nor used.
5. Buf\_Rail uses the [Pin Mapping] keyword information to associate the Rails with Buf\_I/O terminals, and the associations cannot co-exist with the \*\_ref Terminal\_types when the Terminal\_type\_qualifiers define overlapping terminals.
6. “R” and “D” show allowable Terminal\_type\_qualifiers for POWER and GND terminals, where the pad\_name entry for “D” is declared by the [Die Supply Pads] keyword