

CR receiver test channel parameters

Comment #97

Adee Ran, Cisco

Table and comment

Table 179–11—Interference tolerance test parameters

| Parameter | Test 1 (low loss) | | Test 2 (high loss) | | Units |
|--|--------------------------|-----|--------------------|-----|-------|
| | Min | Max | Min | Max | |
| Test pattern | PRBS31Q | | | | |
| Block error ratio required ^a | < 1.45×10 ⁻¹¹ | | | | |
| Test channel insertion loss at 53.125 GHz ^b | | | | | |
| Host class HL | TBD | TBD | TBD | TBD | dB |
| Host class HN | TBD | TBD | TBD | TBD | dB |
| Host class HH | TBD | TBD | TBD | TBD | dB |
| Cable assembly insertion loss at 53.125 GHz | | | | | |
| Host class HL | TBD | TBD | TBD | TBD | dB |
| Host class HN | TBD | TBD | TBD | TBD | dB |
| Host class HH | TBD | TBD | TBD | TBD | dB |
| COM ^c | 3 | | 3 | | dB |

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Ran, Adee Cisco Systems, Inc.

Comment Type TR Comment Status X

Test channel and Cable assembly insertion loss at 53.125 GHz are TBD.

Since we have the die-to-die maximum loss of 40 dB, and the host channel ILdd allocation for each host class, the high-loss test channel ILdd should be straightforward.

The low-loss test channel is similar but with the minimum channel parameters in Table 179A–3.

SuggestedRemedy

Specific numbers will be provided.

Adopted min and max loss values

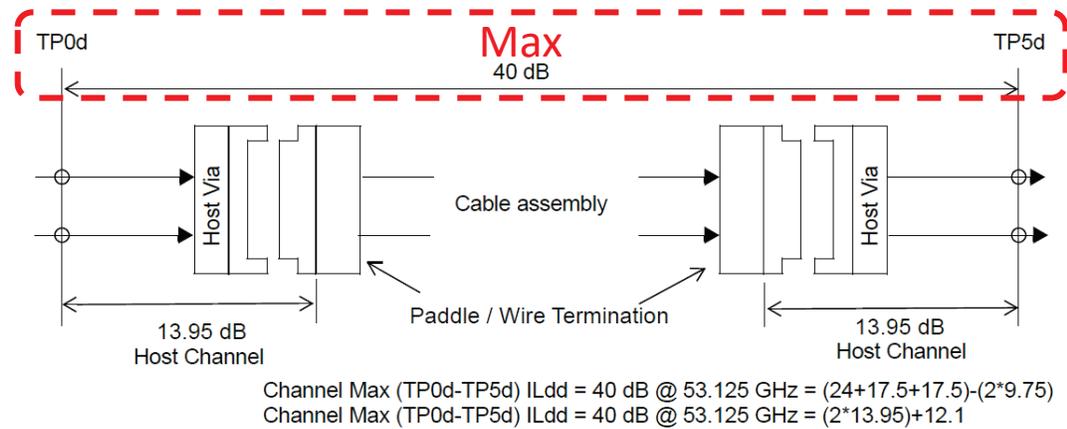


Figure 179A-2—HN-to-HN Channel Max (TP0d-TP5d) at 53.125 GHz

Table 179-13—Cable assembly characteristics summary

| Description | Reference | Value | Unit |
|---|-----------|-------|------|
| Insertion loss at 53.125 GHz, IL_{dd} (max) | 179.11.2 | 19 | dB |
| | | 24 | dB |
| | | 29 | dB |
| | | 34 | dB |
| Insertion loss at 53.125 GHz, IL_{dd} (min) | 179.11.2 | 16 | dB |

Min

Table 179A-1—Recommended differential insertion loss limits at 53.125 GHz

| Host class | Host channels | TP0d to TP2 or TP3 to TP5d |
|-------------------|---------------|----------------------------|
| | Range (dB) | Max (dB) |
| Host-Low (HL) | 4.45-8.95 | 12.75 |
| Host-Nominal (HN) | 4.45-13.95 | 17.75 |
| Host-High (HH) | 4.45-18.5 | 22.75 |

Min

Max (=X)

Should be 18.95

Calculating “Test channel measurement” IL

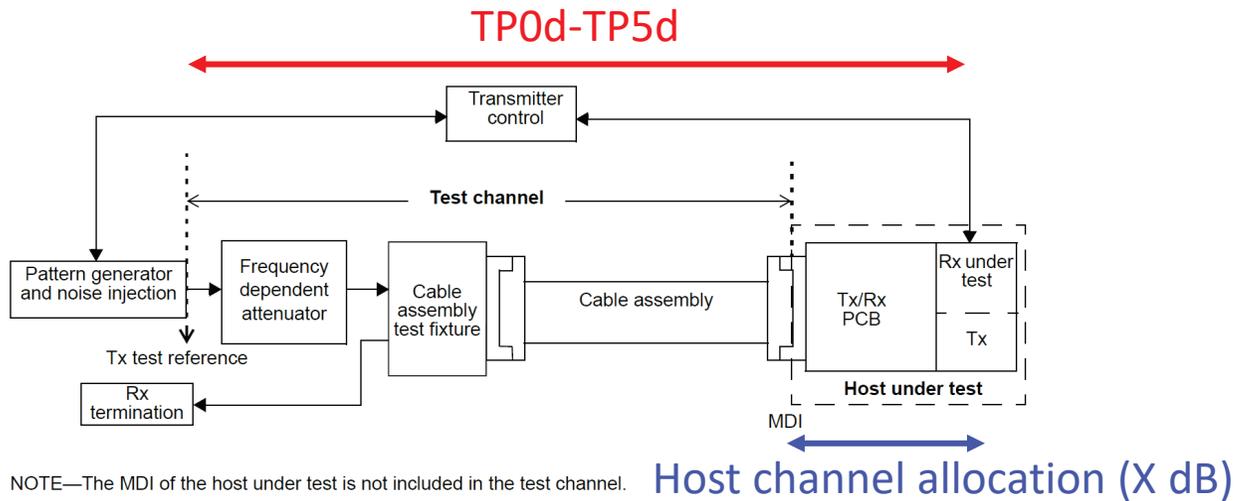


Figure 110-3a—Interference tolerance test setup

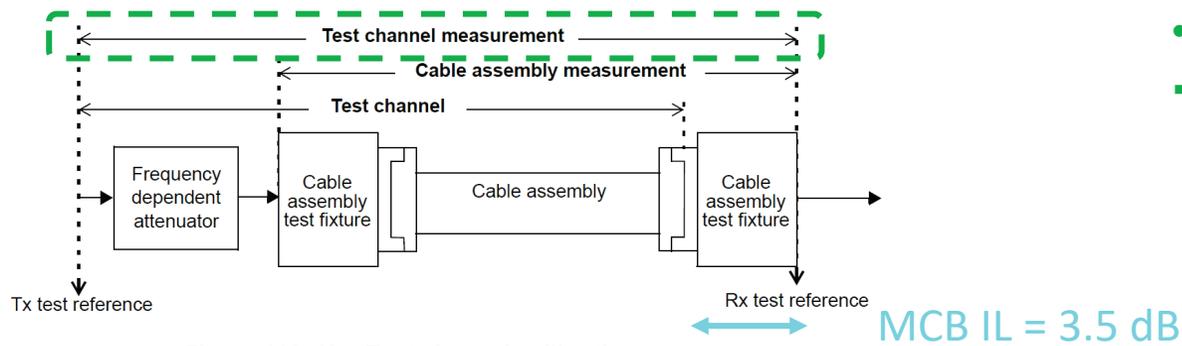


Figure 110-3b—Test channel calibration

For Test 2 (high loss):

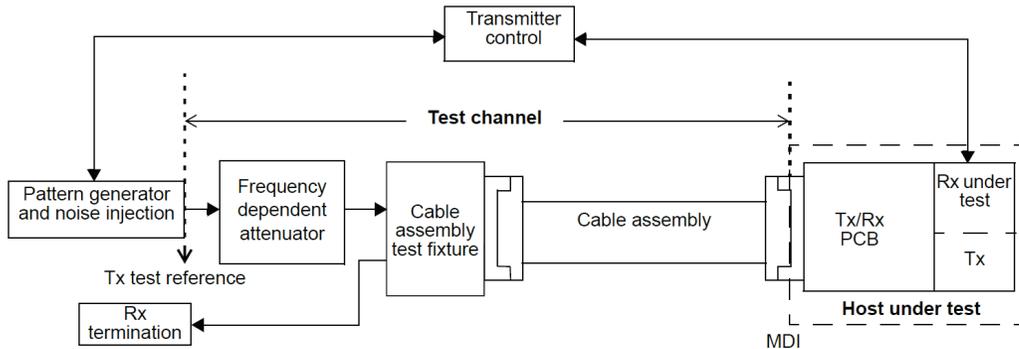
- Max TP0d-TP5d = 40 dB
 - Remove DUT host channel allocation = X dB
 - Add MCB (Rx side) = 3.5 dB
- ➔ Test channel measurement = $40 - X + 3.5$ dB
(HH: 24.55, HN: 29.55, HL: 34.55)

For Test 1 (low loss):

- Test channel = Min CA (including 2 MCBs, no FDA)
- ➔ Test channel measurement = 16 dB

± 0.5 dB

Calculating “Cable assembly” IL



NOTE—The MDI of the host under test is not included in the test channel.

Figure 110-3a—Interference tolerance test setup

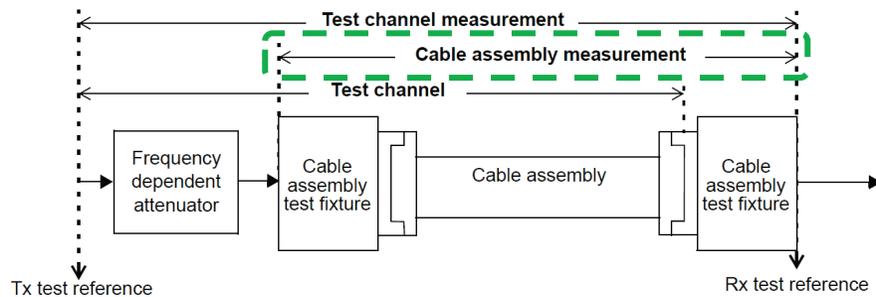


Figure 110-3b—Test channel calibration

The minimum cable assembly loss is 16 dB for all host classes.
The maximum supported cable assembly is based on host class:

- HH: up to CA-B (24 dB)
 - HN: up to CA-C (29 dB)
 - HL: up to CA-D (34 dB)
- ± 0.5 dB

Table 179A-2—Maximum Insertion loss budget values at 53.125 GHz

| Link Configuration | $ILdd_{CA,max}$ (dB) | $ILdd_{TP0d-TP2,max}$ (dB) | $ILdd_{TP3-TP5d,max}$ (dB) | $ILdd_{MTFRef}$ (dB) | $ILdd_{Ch,max}$ (dB) |
|--------------------|----------------------|----------------------------|----------------------------|----------------------|----------------------|
| HH to HN | CA-A (19) | 22.75 | 17.75 | 9.75 | 40 |
| HH to HL | CA-B (24) | 22.75 | 12.75 | 9.75 | 40 |
| HN to HN | CA-B (24) | 17.75 | 17.75 | 9.75 | 40 |
| HN to HL | CA-C (29) | 17.75 | 12.75 | 9.75 | 40 |
| HL to HL | CA-D (34) | 12.75 | 12.75 | 9.75 | 40 |

Proposed values

Table 179–11—Interference tolerance test parameters

| Parameter | Test 1 (low loss) | | Test 2 (high loss) | | Units |
|--|--------------------------|------|--------------------|-------|-------|
| | Min | Max | Min | Max | |
| Test pattern | PRBS31Q | | | | |
| Block error ratio required ^a | < 1.45×10 ⁻¹¹ | | | | |
| Test channel insertion loss at 53.125 GHz ^b | | | | | |
| Host class HL | 15.5 | 16.5 | 34.05 | 35.05 | dB |
| Host class HN | 15.5 | 16.5 | 29.05 | 30.05 | dB |
| Host class HH | 15.5 | 16.5 | 24.05 | 25.05 | dB |
| Cable assembly insertion loss at 53.125 GHz | | | | | |
| Host class HL | 15.5 | 16.5 | 33.5 | 34.5 | dB |
| Host class HN | 15.5 | 16.5 | 28.5 | 29.5 | dB |
| Host class HH | 15.5 | 16.5 | 23.5 | 24.5 | dB |
| COM ^c | 3 | | 3 | | dB |

That's all

Questions?