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# **Channel measurement model**

## **30m - 3m-24m-3m**

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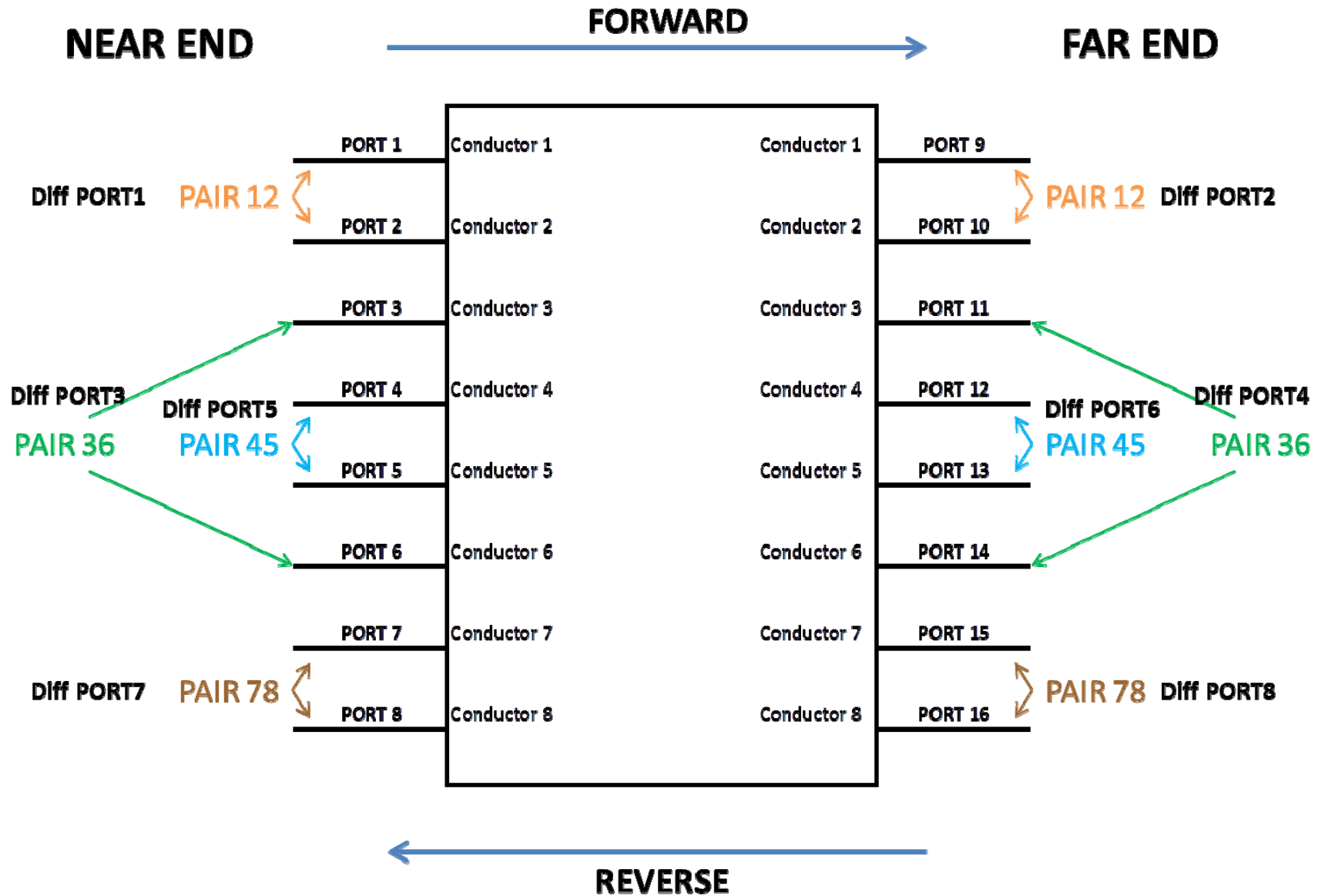
# Contributors

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- Paul Wachtel, Ron Nordin, Bob Wagner, Panduit

# Port mapping

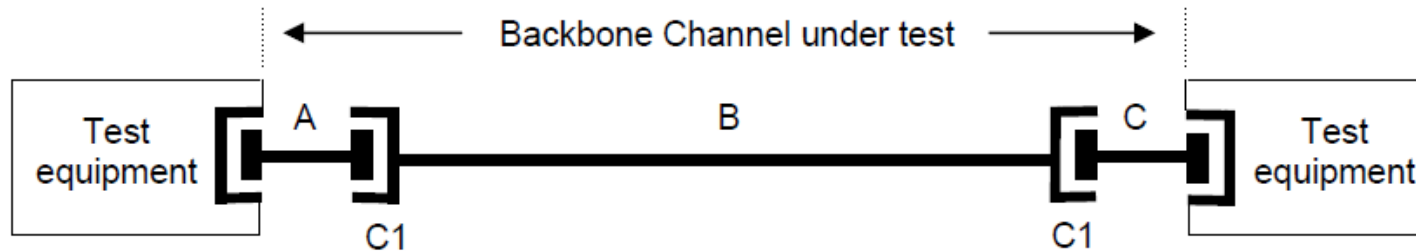
*Note: port mapping used here prior to consensus on port mapping*



Channel 30m- 3m-24m-3m

# Category 8 (d0.7) – Channel Insertion Loss

schematic representation of a backbone channel test configuration



## Legend

### Cables and cords

Equipment cord ..... A, C  
 Backbone cabling ..... B

### Connecting hardware

Interconnect ..... C1

**Channel insertion loss = 2\*connecting hardware IL+ Cable IL +ILD<sub>channel</sub>**

**Cable (100m) =  $1 \leq f \leq 2000$  (TBD) =  $1.8 * \text{sqrt}(f) + 0.005 * f + (0.25 / \text{sqrt}(f))$  (TBD)**

**Connecting Hardware=**

**$1 \leq f \leq 500$  (TBD)  $0.02 * \text{sqrt}(f)$  (TBD)**

**$500 < f \leq 2000$  (TBD)  $0.008 * \text{sqrt}(f) + 0.00029 * f + 0.5 * 10^{(-6)} * f^2$  (TBD)**

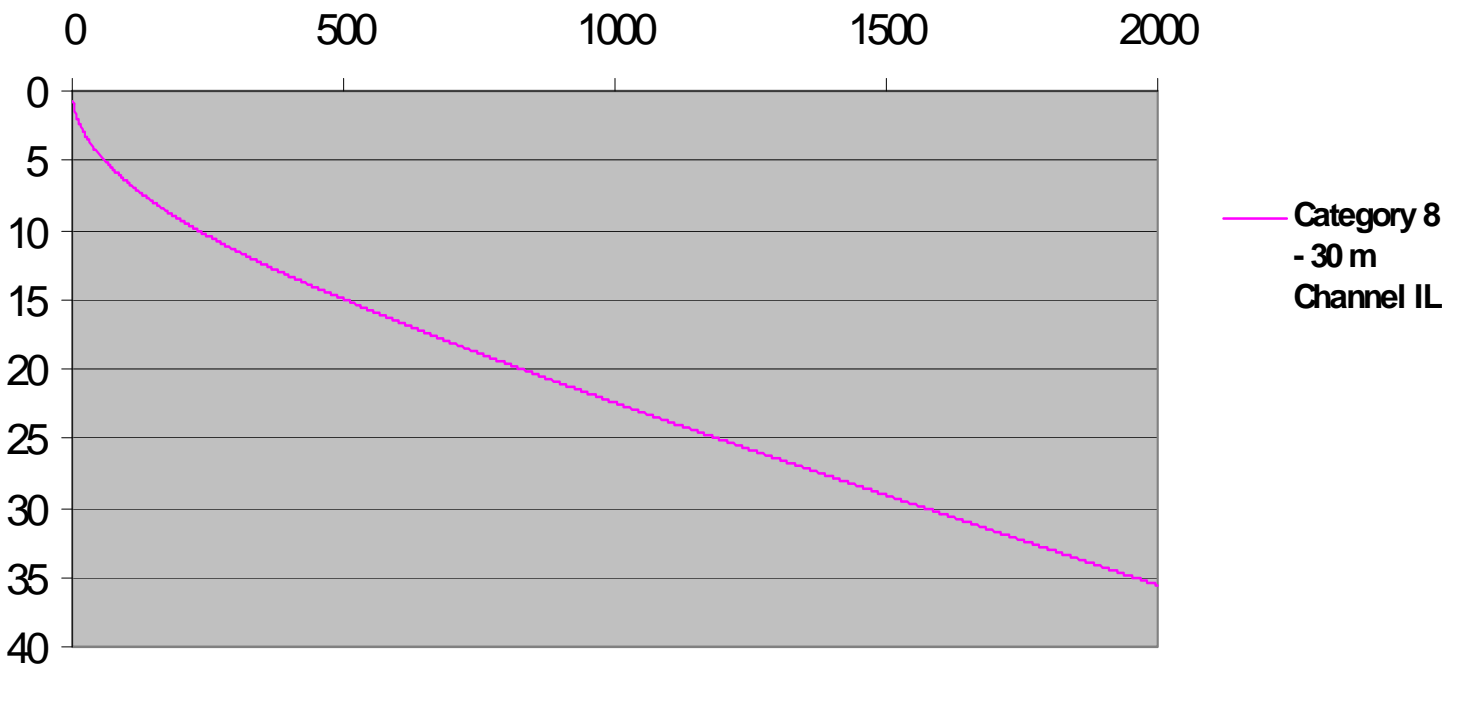
**Patch cord cable =  $1.2 * (\text{cable IL})$  (TBD)**

**ILD<sub>channel</sub> =  $0.0324 * \text{sqrt}(f_{\text{MHz}})$  (TBD)**

**Channel 30m- 3m-24m-3m**

# Category 8 (d0.7) – Channel IL – 30m – 3m-24m-3m

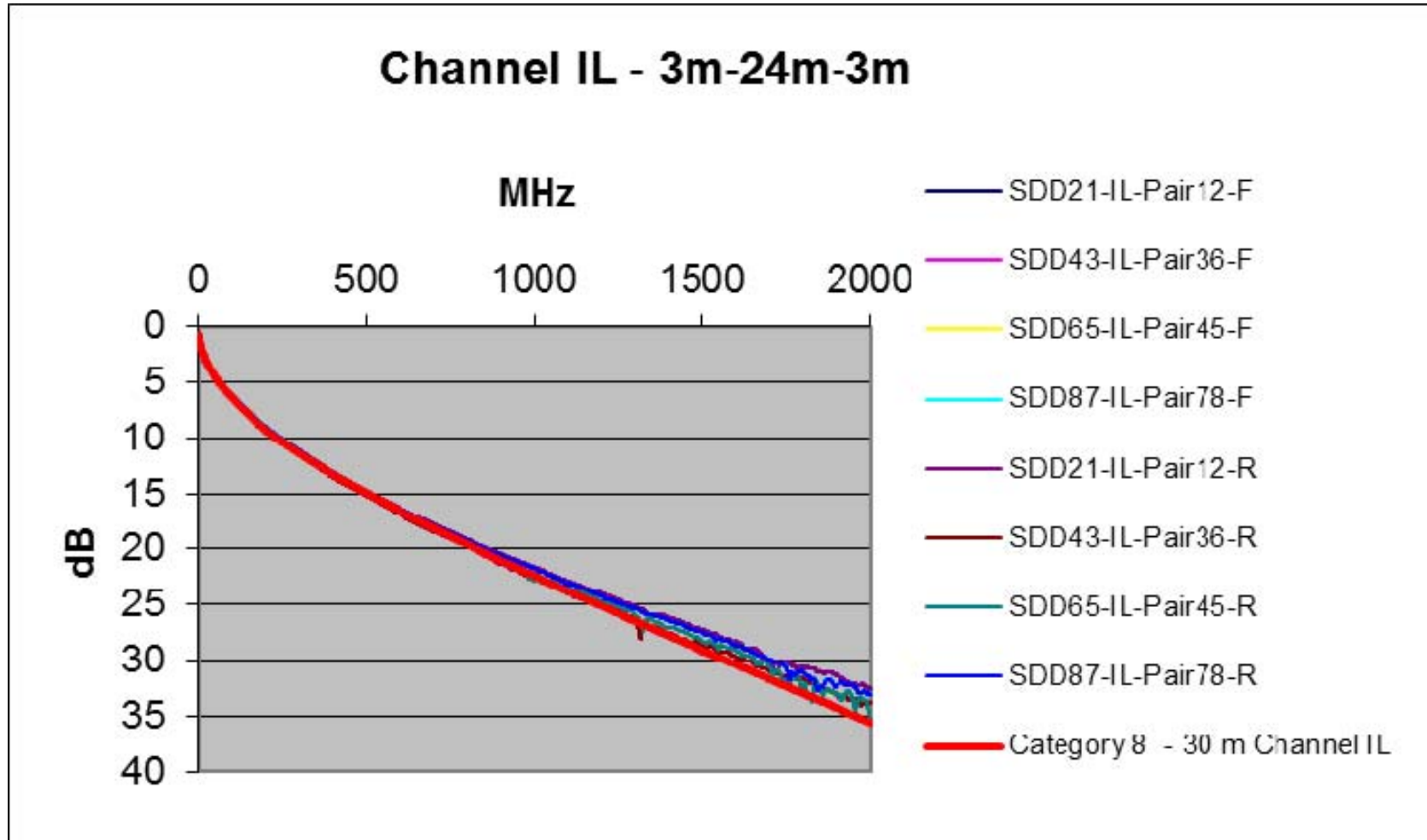
**Category 8 - 30 meter Channel Insertion Loss**



F[MHz]	Category 8 - 30 m Channel IL
1	0.7
4	1.3
8	1.8
10	2.0
16	2.6
20	2.9
25	3.2
31.25	3.6
62.5	5.1
100	6.5
200	9.3
250	10.4
300	11.5
400	13.3
500	15.0
600	16.6
1000	22.4
1500	29.1
2000	35.6

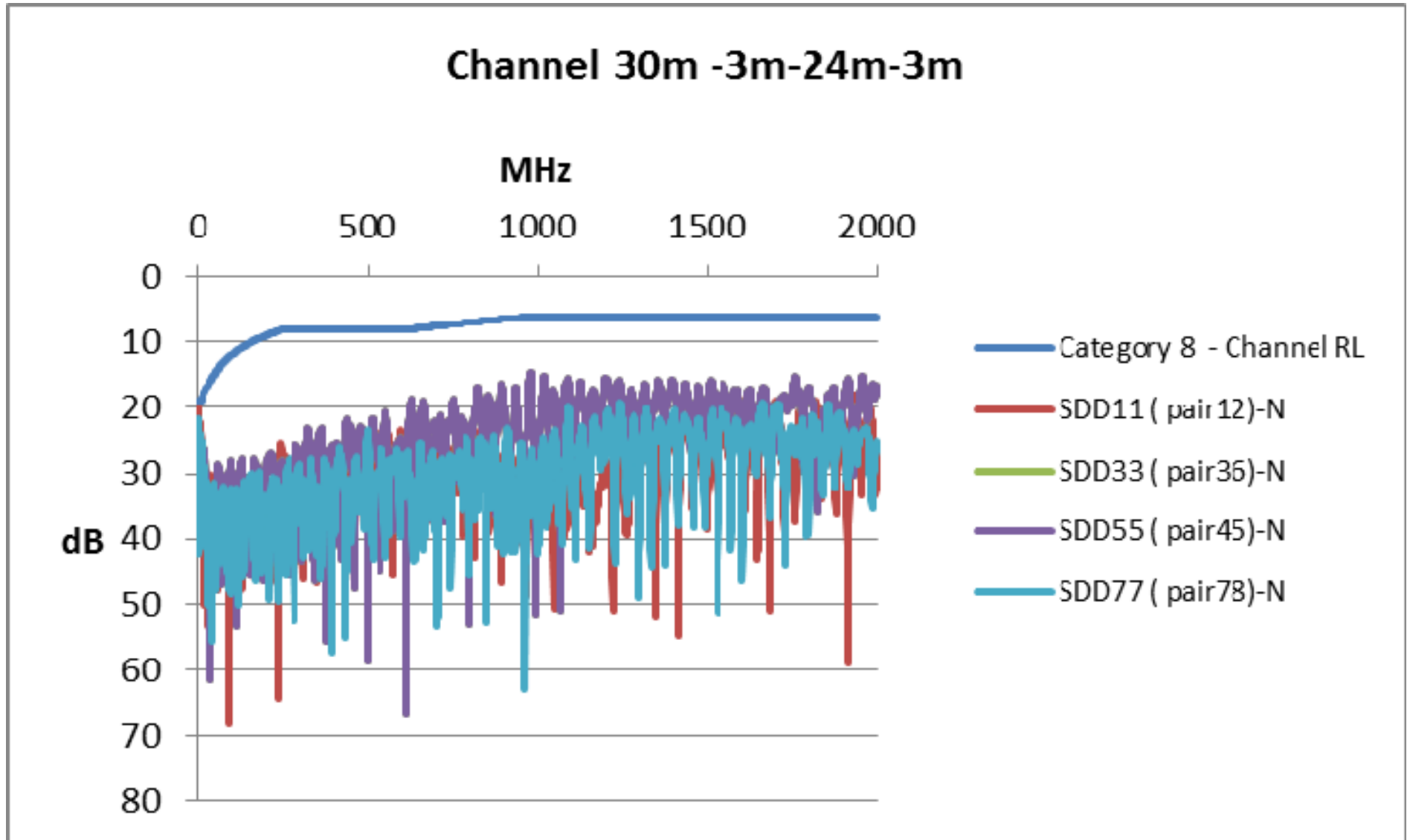
**Channel 30m- 3m-24m-3m**

# Channel insertion loss – 30 m

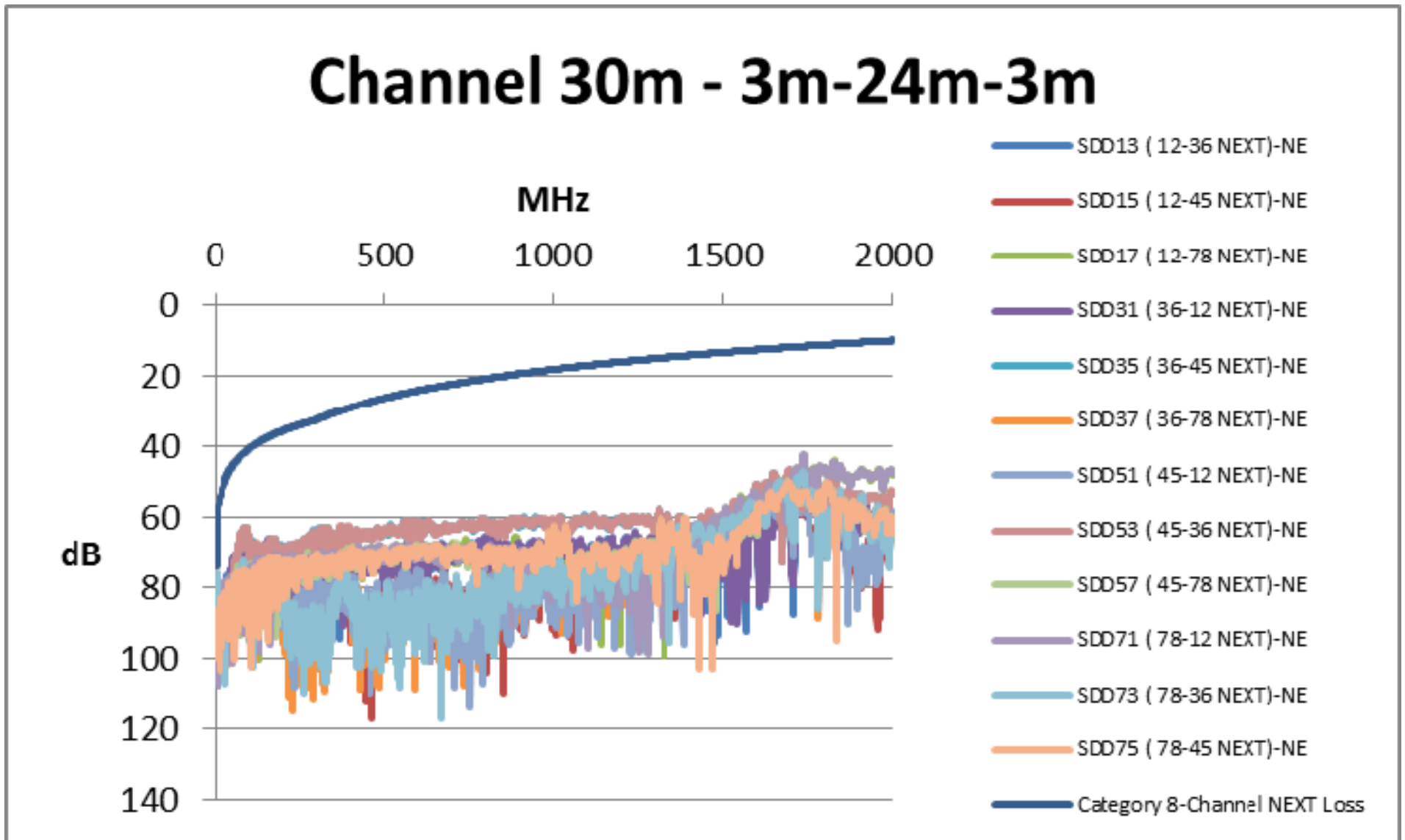


- Patch cords used to create worse case channel IL relative to limit. Measurement includes Test fixture IL.

# Channel return loss – 30 m

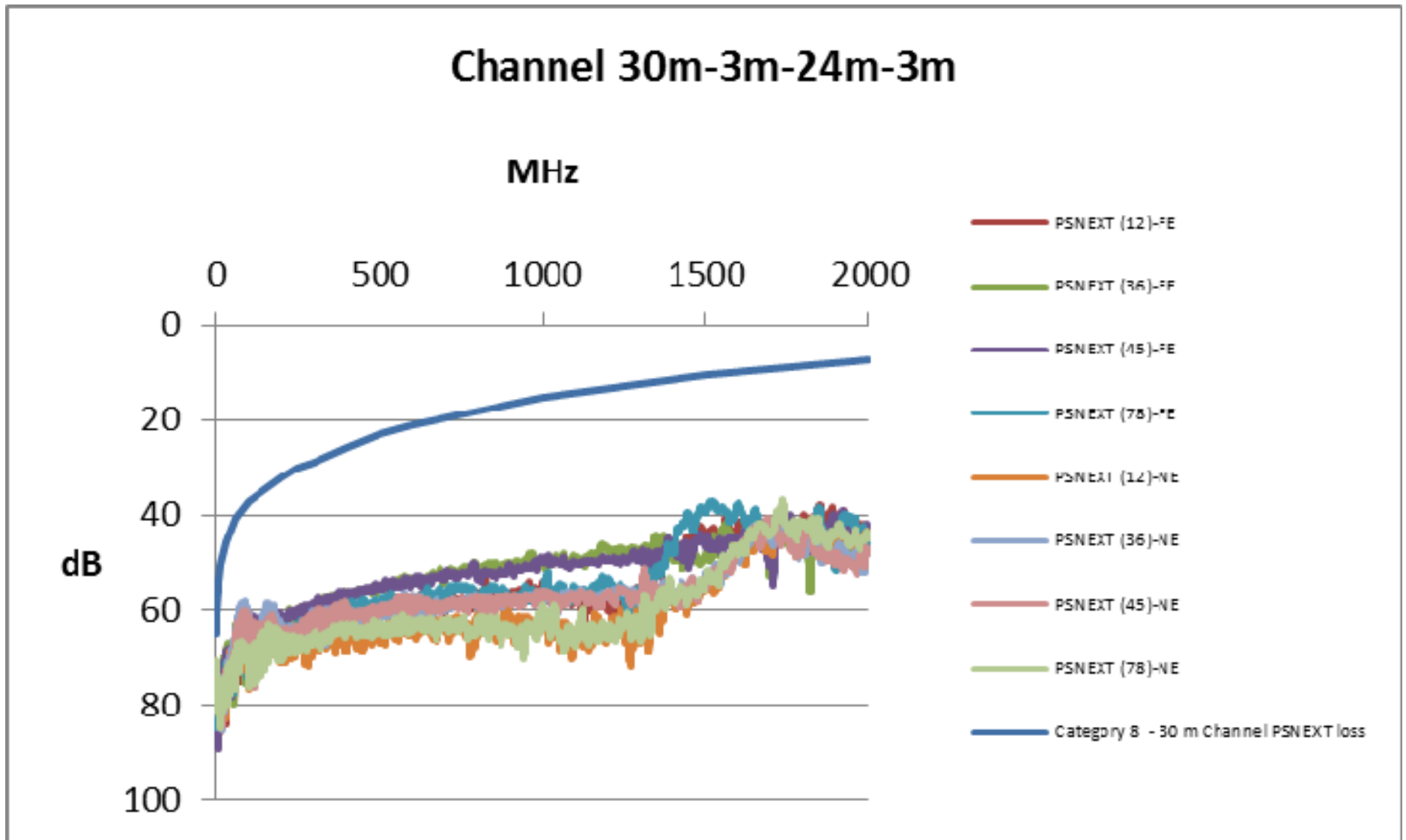


# Channel NEXT loss – 30 m

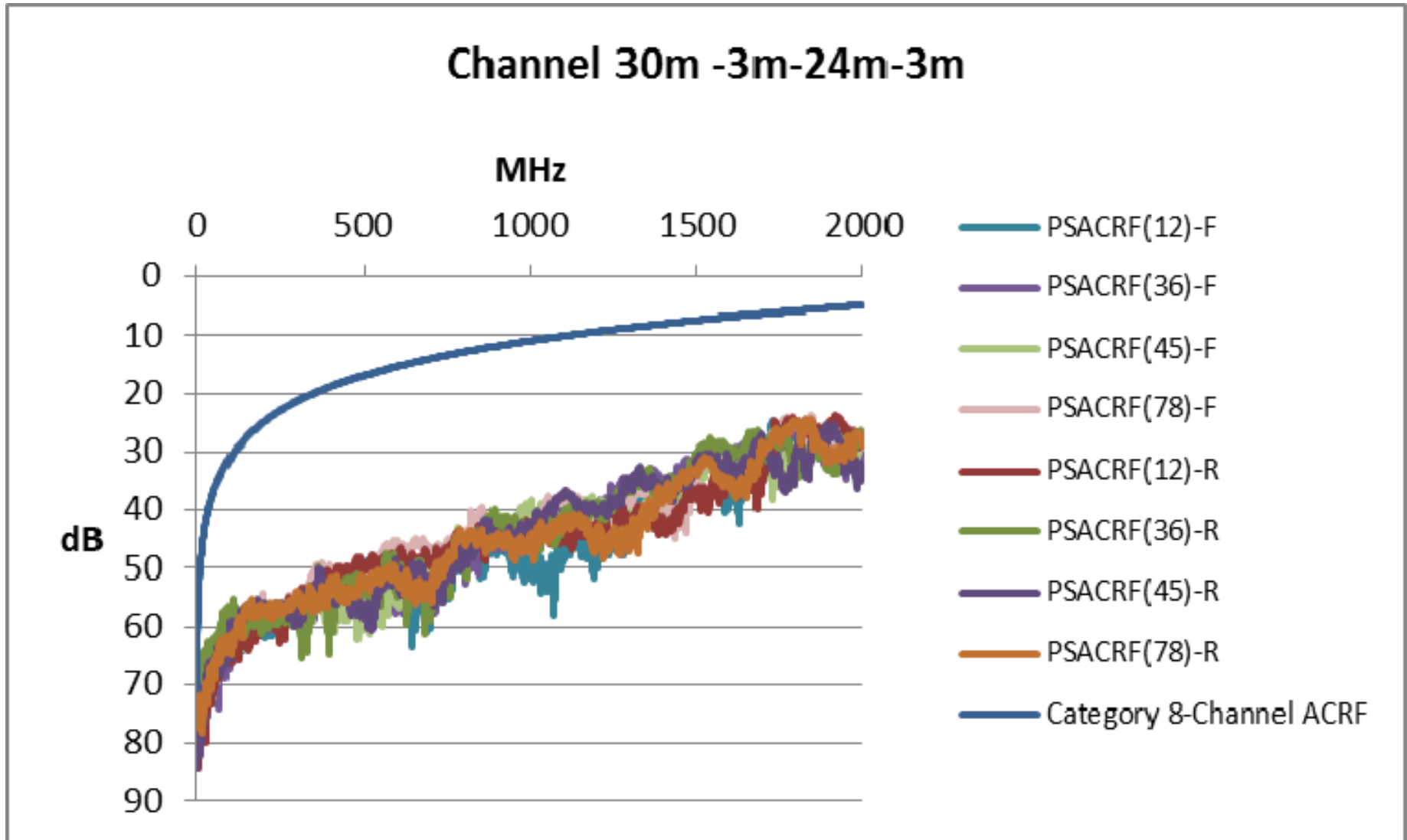




# Channel PSNEXT loss – 30 m



# Channel ACRF – 30 m



# Channel PSACRF – 30 m

