

1000BASE-T1 TX PSD MASK Definition

“based on CISPR 25 Ed.3 2007 strip line emission test recommendation”

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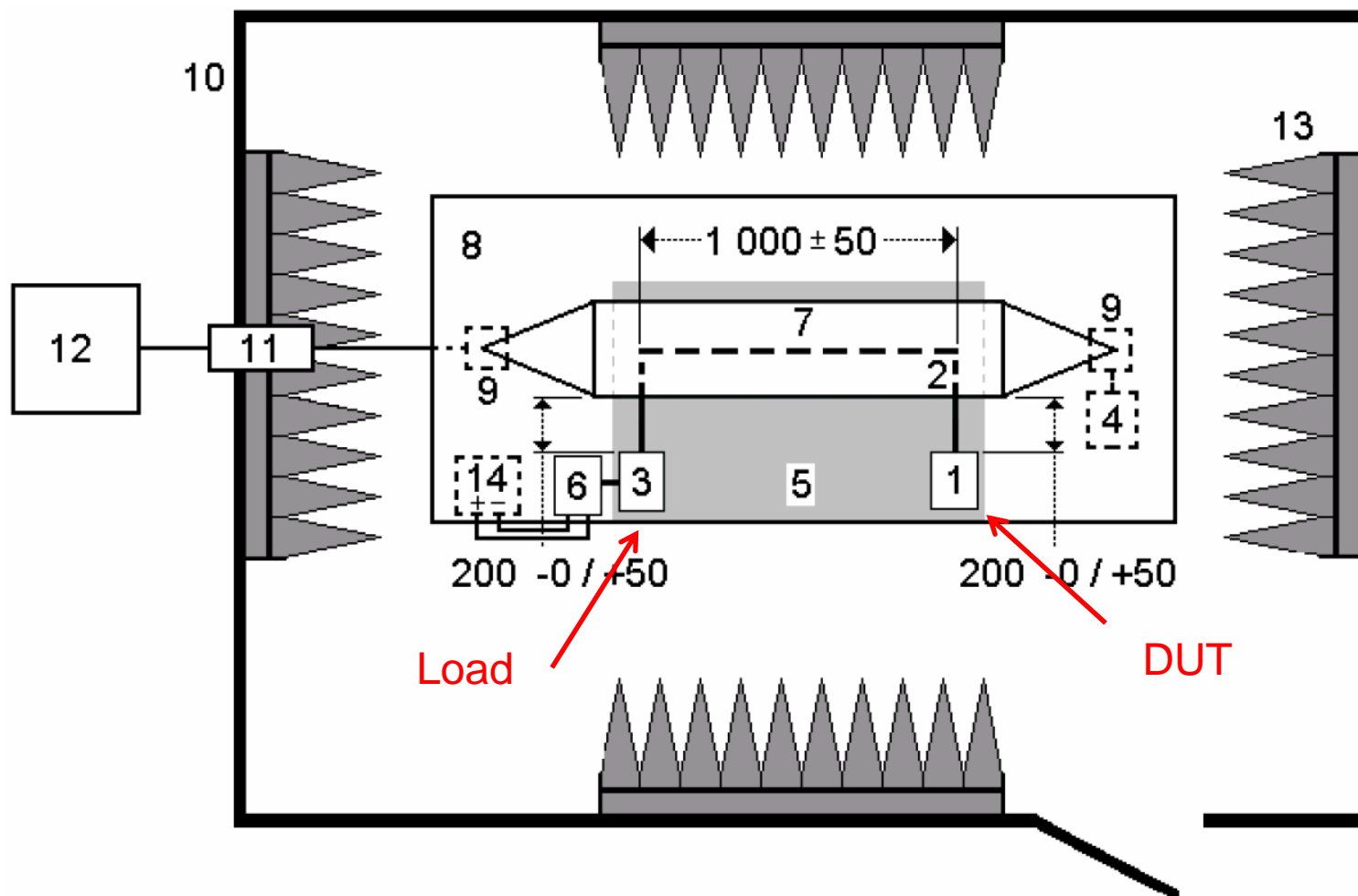
Mehmet Tazebay, Broadcom

- CISPR 25 Ed.3 2007 provides information on Stripline method for measurement of radiated emissions from components/modules.
- The recommended set up was used to define a PSD MASK for 1000BASE-T1.
- PSD MASK is defined for a single emitter regardless the solution is half or full duplex.
- CISPR 25 Ed.3 2007 Stripline test measures emission from a single EUT although there are many more emitting sources in a car.
- There are certainly more transmitters than the two transmitters at the two sides of a single link. The aggregate radio emission in a car is expected to be more when more transmitters operate at the same time. It is assumed that the test limit set for emission verification of a single transmitting device considers for the aggregate effect.

Stripline test set up per CISPR 25, Top View

Top view

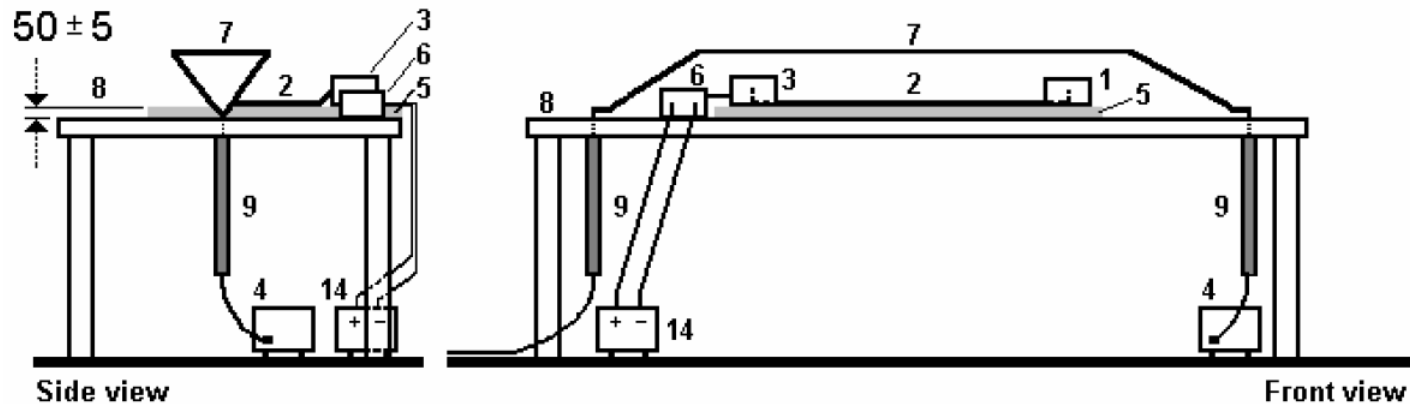
Dimensions in millimetres



Load

DUT

Stripline test set up per CISPR 25, Side View



Key:

1 EUT

2 Test harness

3 Load simulator

4 50 Ω load (location optional)

5 Low relative permittivity support ($\epsilon_r \leq 1,4$)

6 Artificial network (AN)

7 Septum

8 Ground Plane

9 Matching unit (if necessary)

10 Wall of shielded room

11 Bulkhead connector

12 Measuring instrument

13 Absorbers (if necessary)

14 Power supply (location optional)