Common-mode noise
Impedance Balance
Common-mode output voltage

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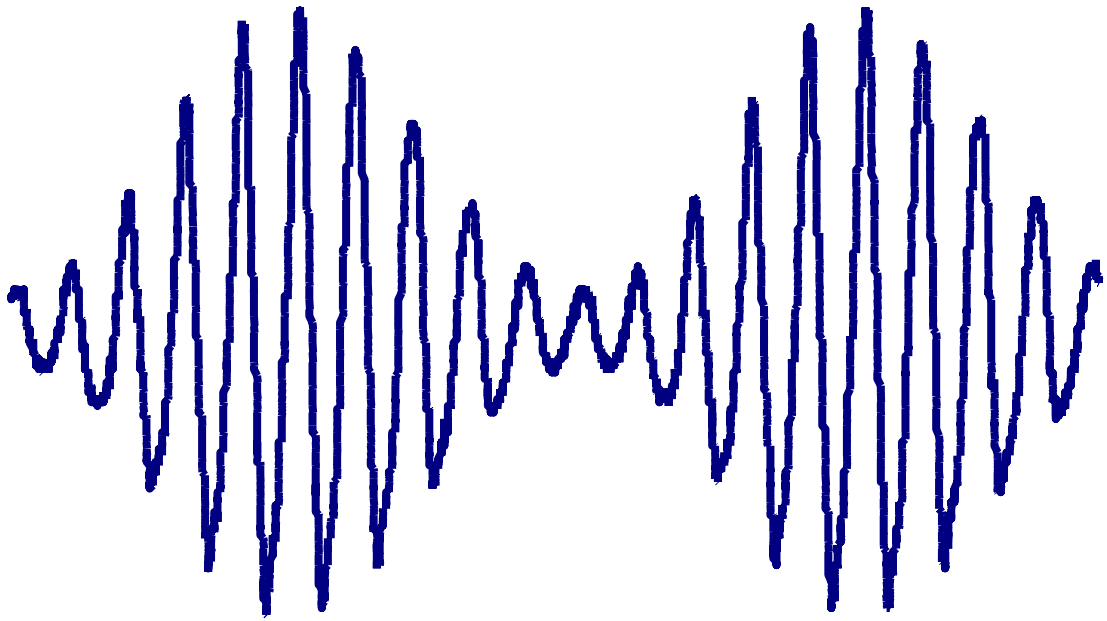
SYSTIMAX

Common-mode noise

- Generate a RF signal equal to the signal defined in IEC 61000 for an electromagnetic field immunity test and measure the common-mode current.
  - This test was not conducted in a chamber and the field was not calibrated, additional verification is required.
- Determine a clamp input voltage that would create a similar common-mode current.

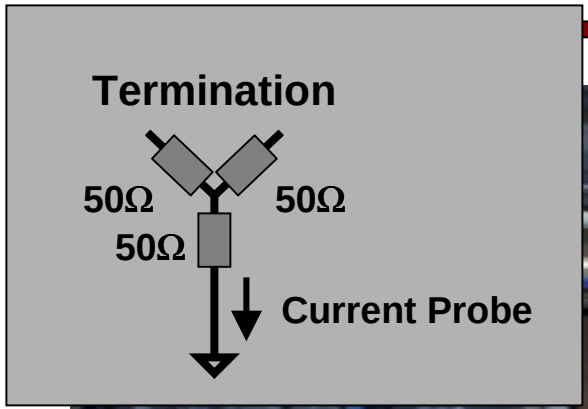
RF Signal

Modulated RF signal 80% AM, 5.1v p-p

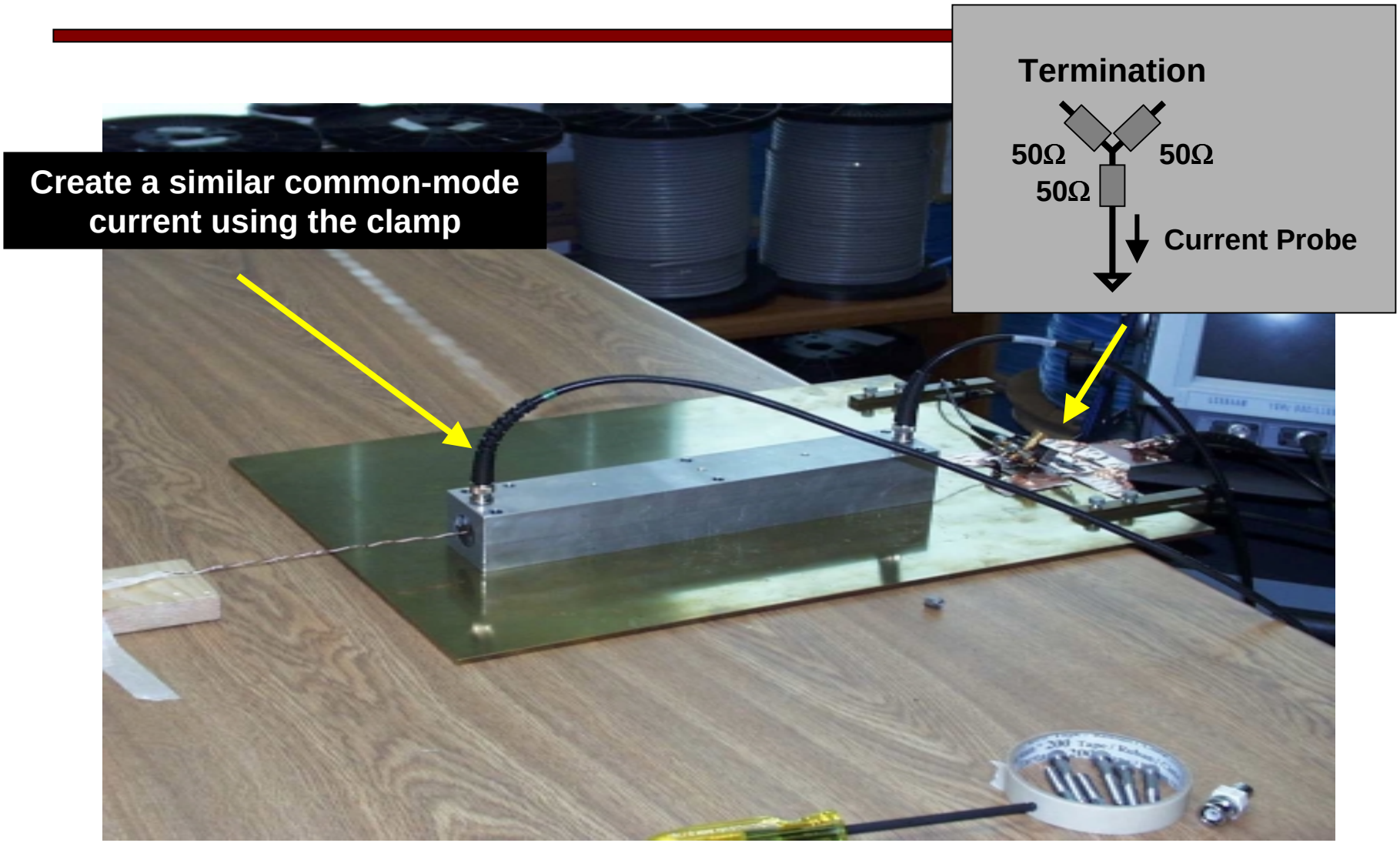


For the clamp an unmodulated RF signal is used.

Antenna Test Set Up



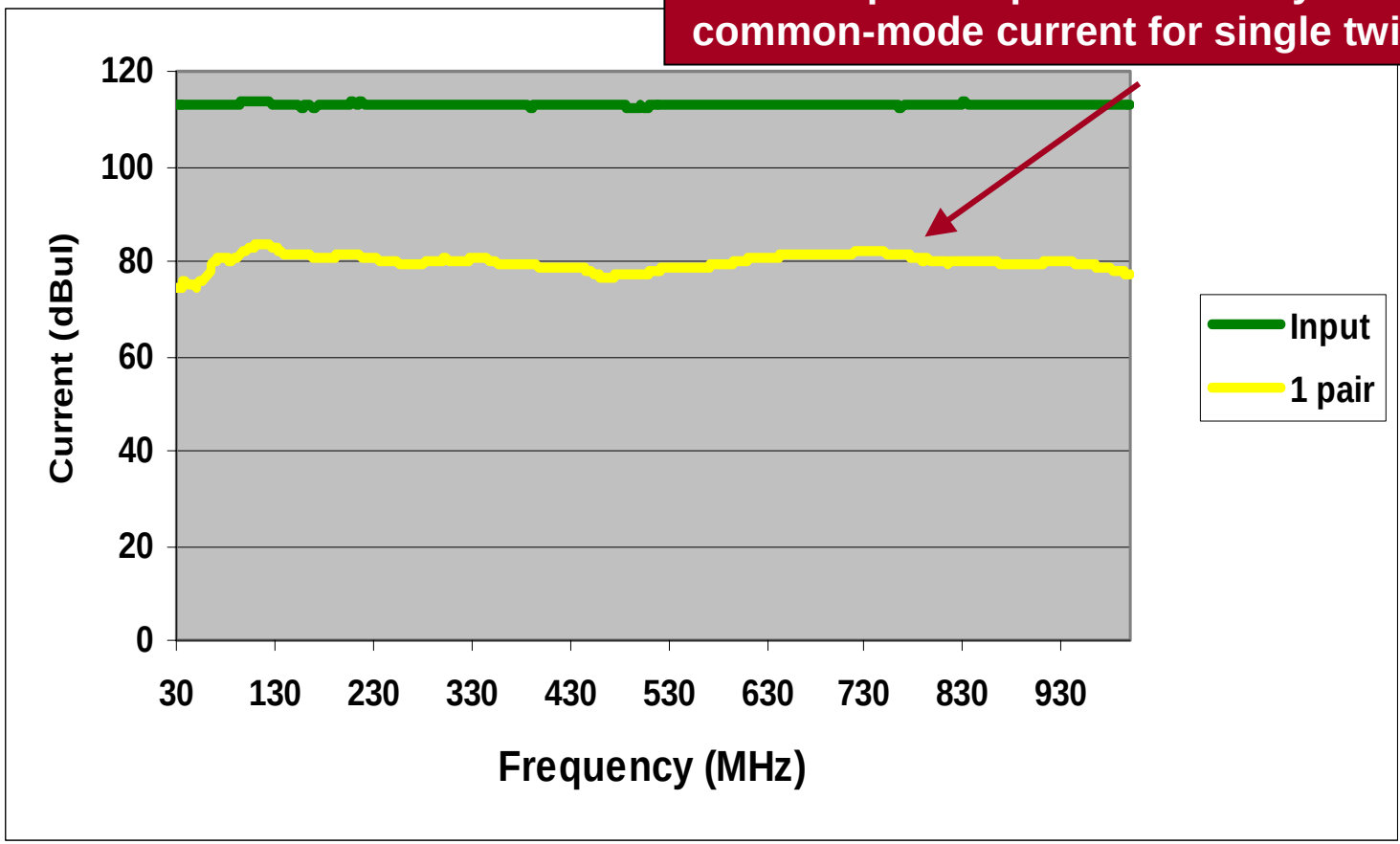
Clamp Test Set Up



Common-mode current

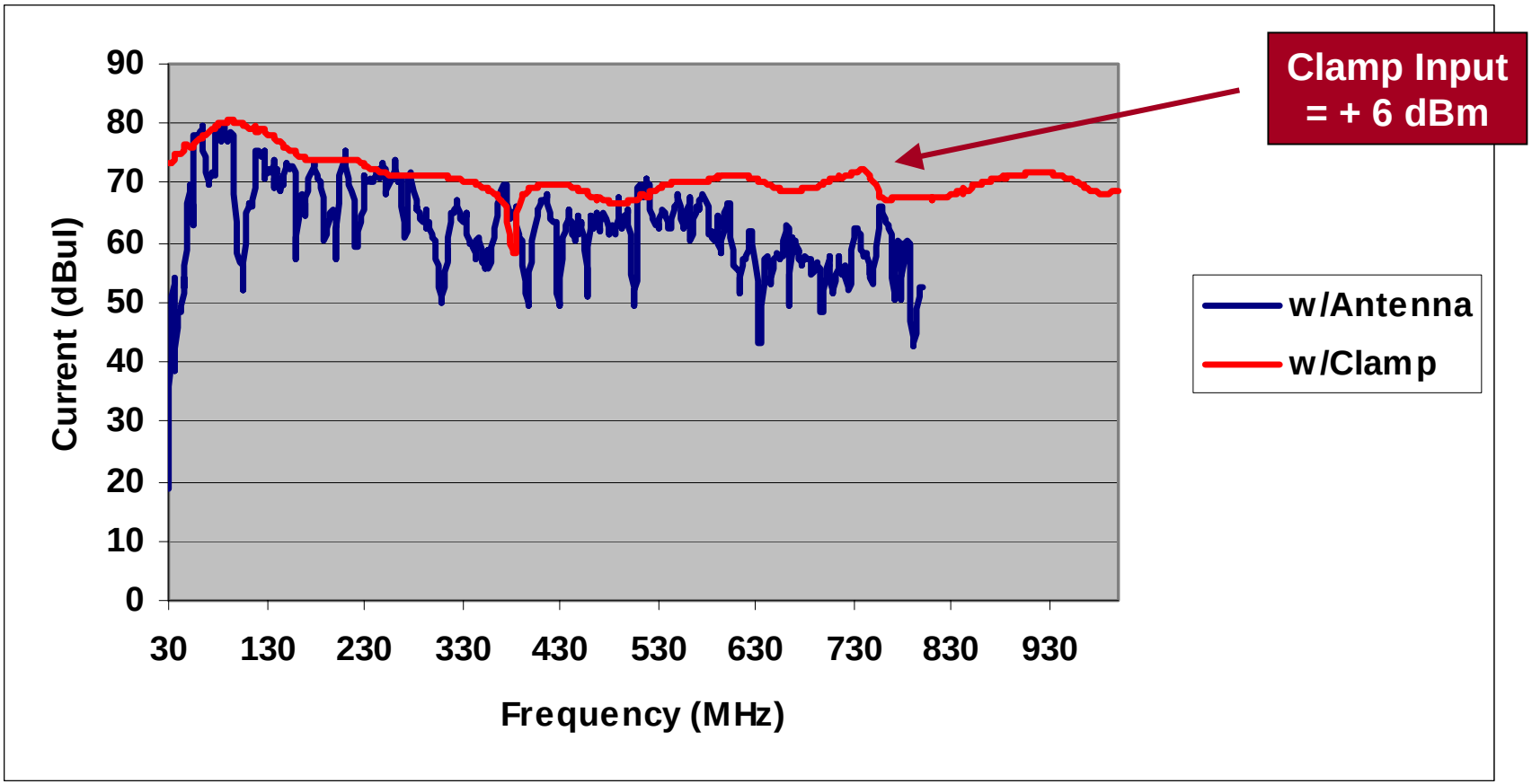
Using a single twisted pair

Clamp does produce a fairly constant common-mode current for single twisted pair



Comparison of common-mode current

Measuring one pair in a four pair cable

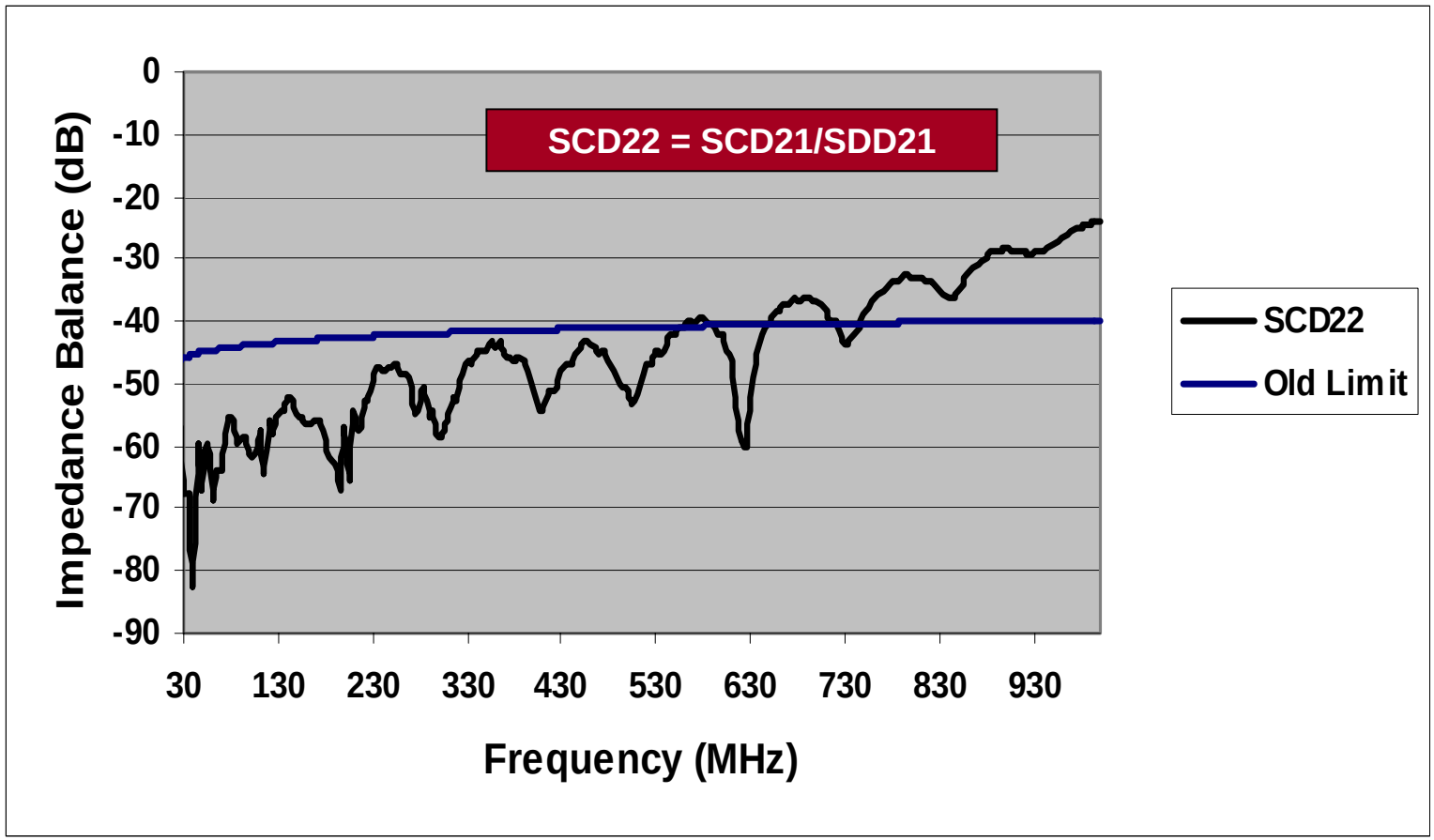


CISPR 24 Annex C (LAN) Requirement
for Radiated Immunity

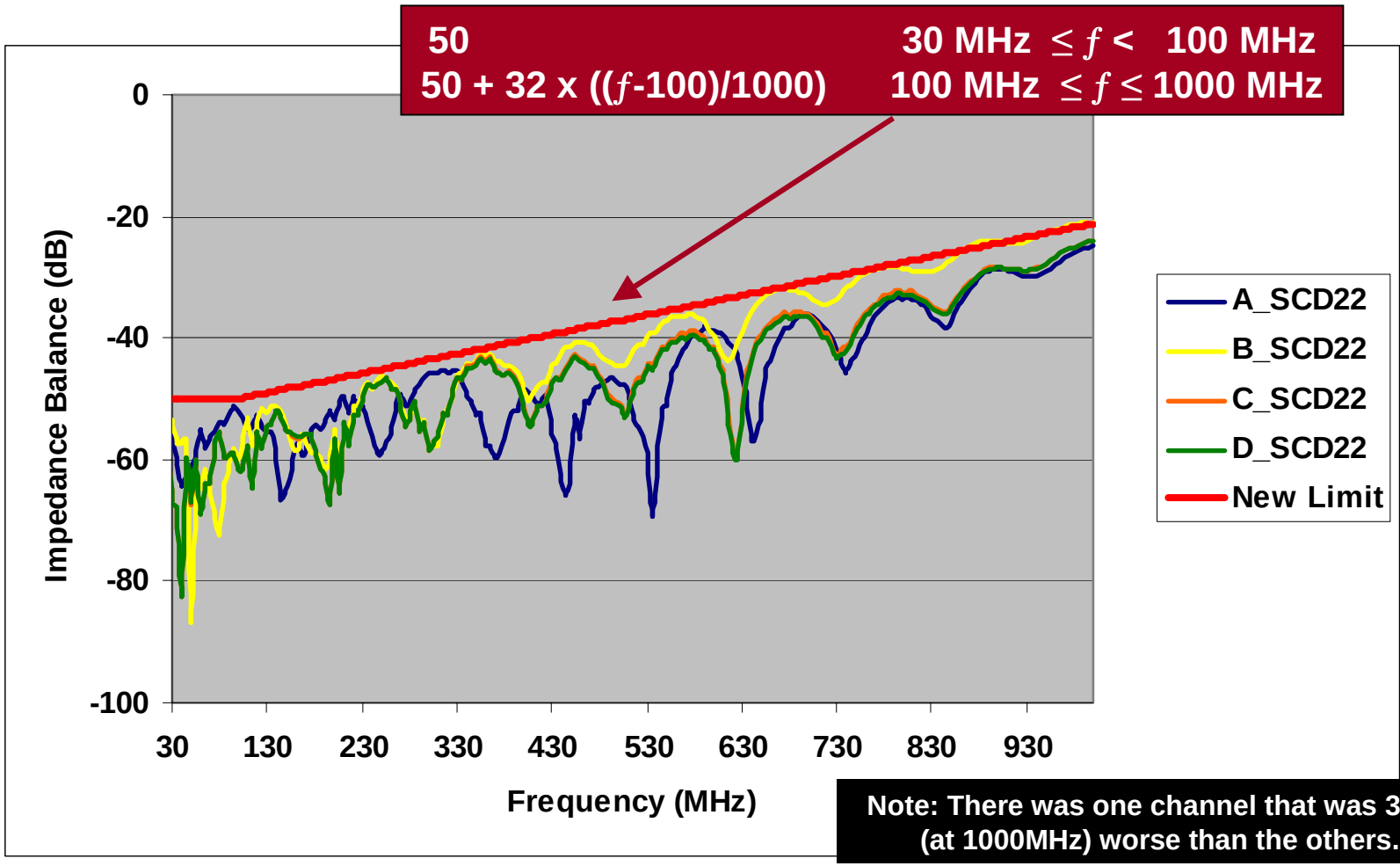
The following are the accepted performance criteria:

- **Performance criterion A**
  - **No errors.**
- **Performance criterion B**
  - **Degraded transmission but self-recoverable.**
- **Performance criterion C**
  - **Degraded transmission but self-recoverable or can be restored after the test by the operator.**

Impedance Balance

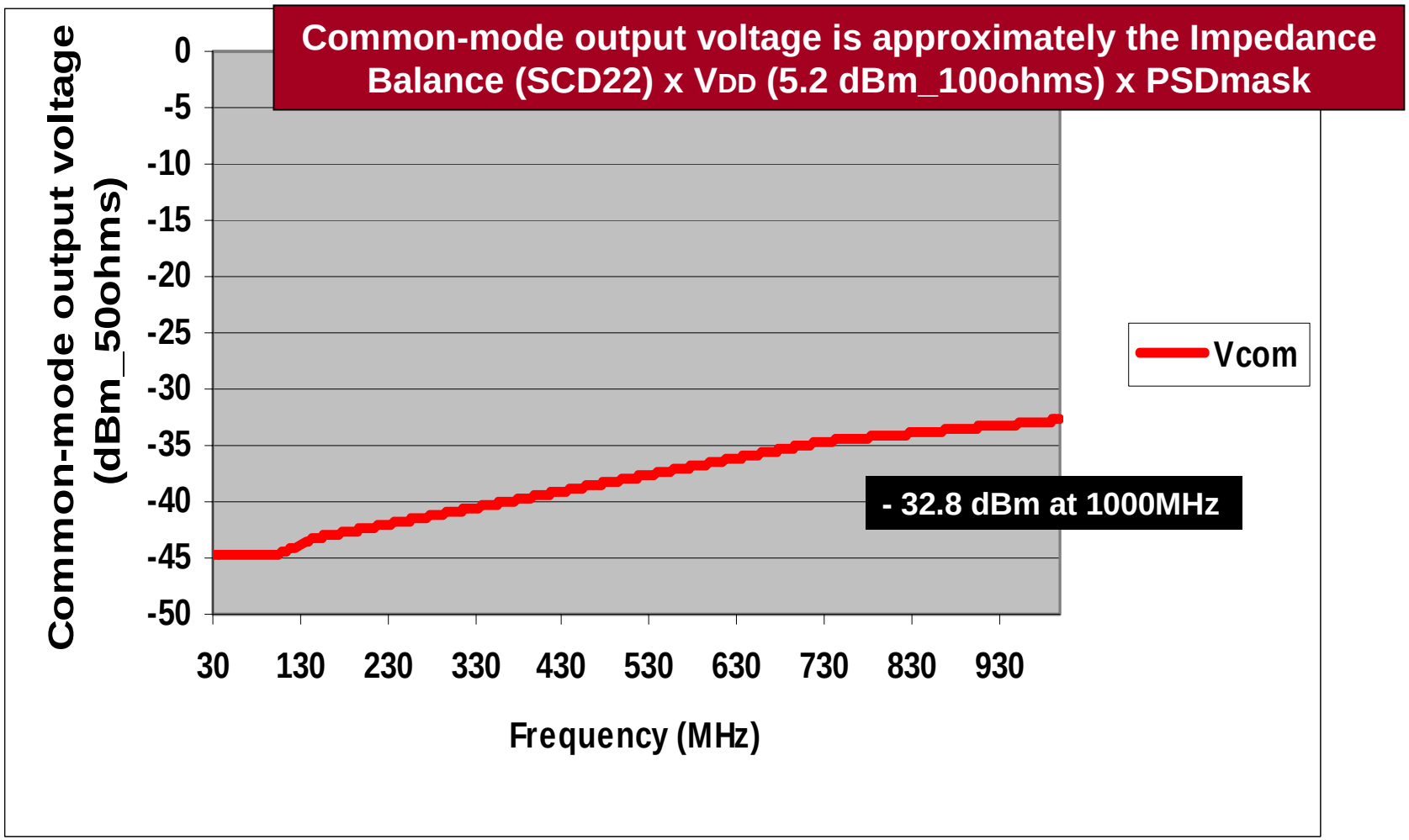


Proposed Impedance Balance

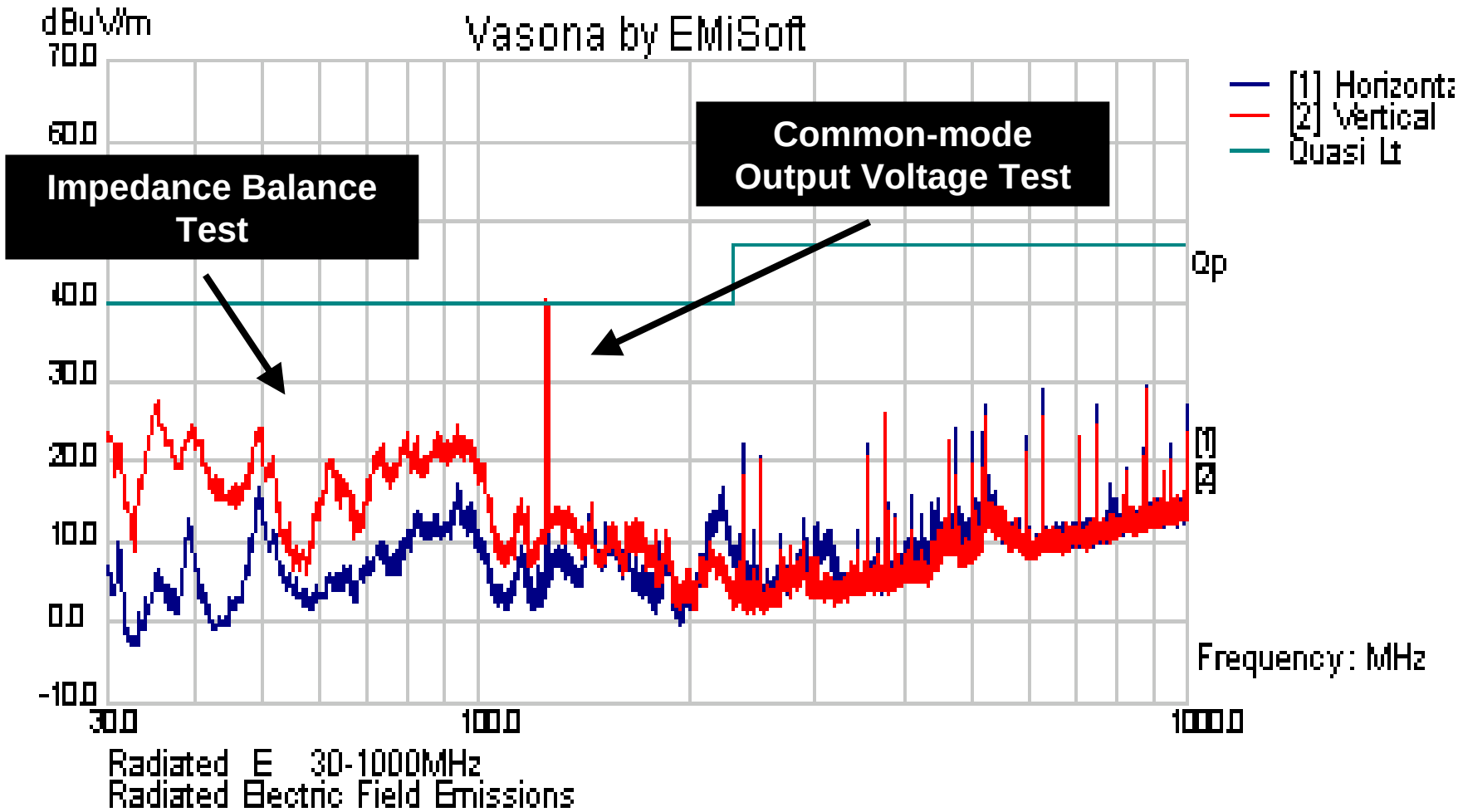


Note: There was one channel that was 3 dB (at 1000MHz) worse than the others.

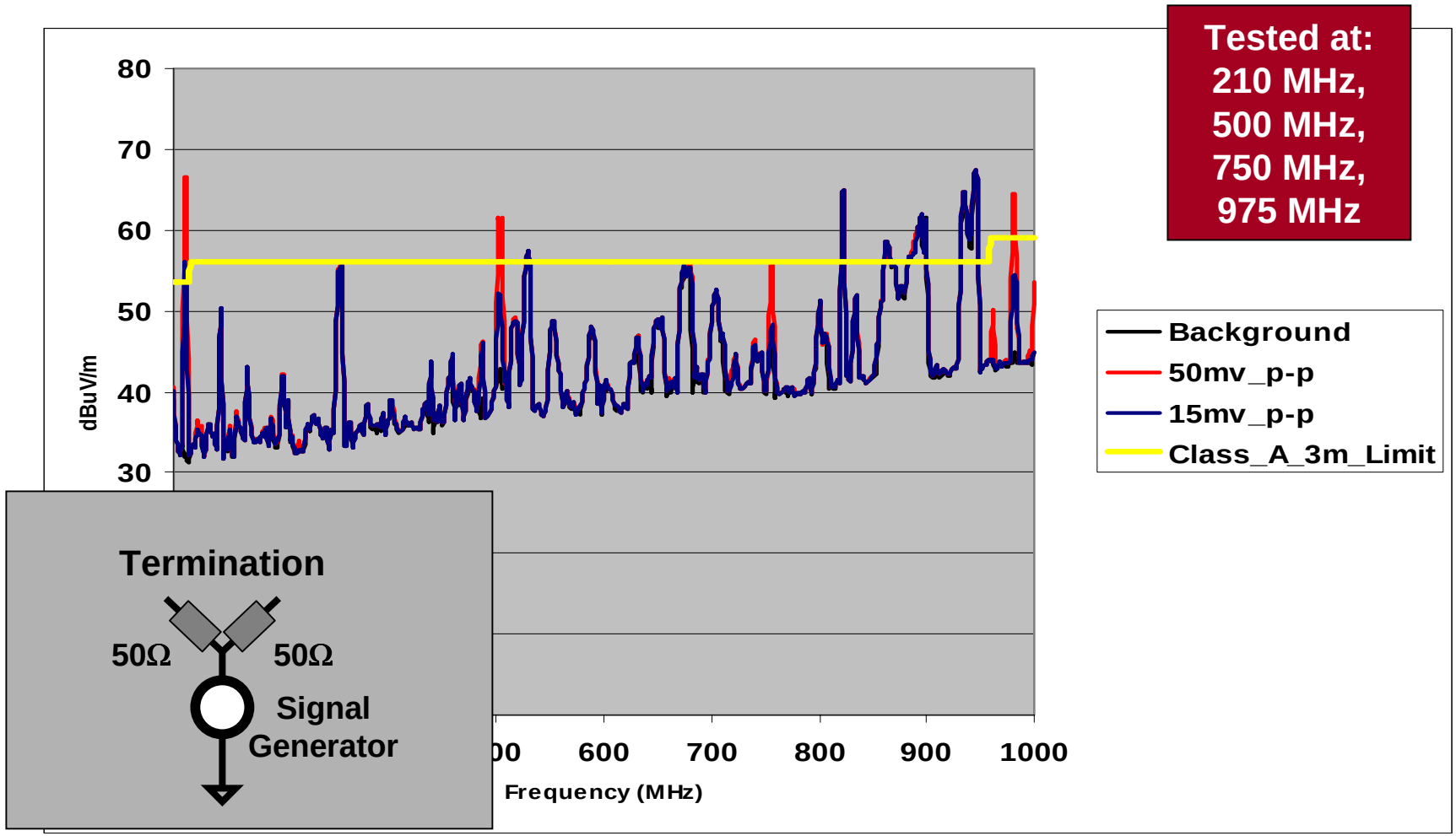
Common-mode output voltage



Purpose of Test



Common-mode Output Voltage Level



Common-mode Output Voltage Level

(without background noise)