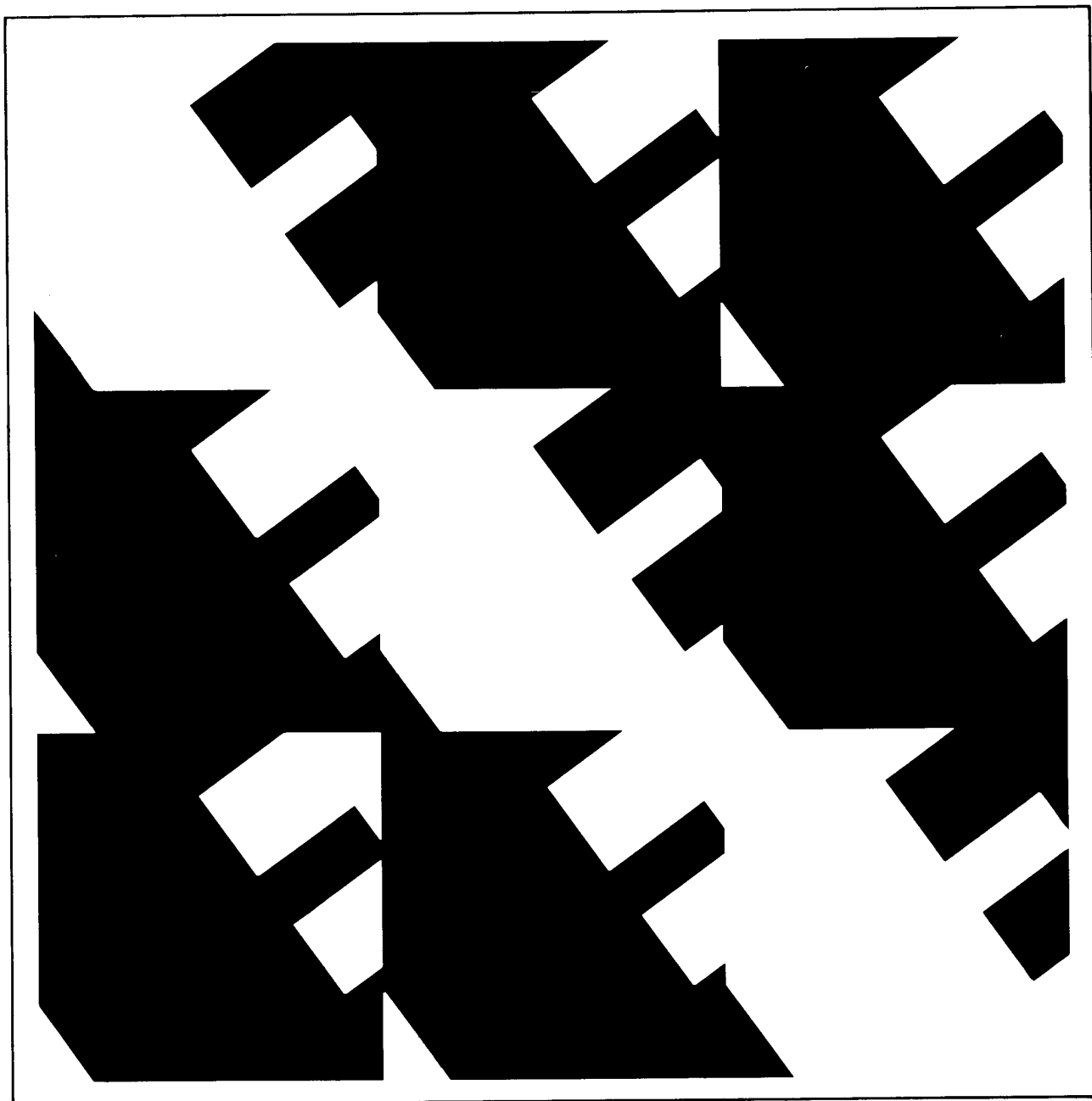


IEEE Standard on Network Analyzers (100 kHz to 18 GHz)

ANSI/IEEE Std 378-1986



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coefficient only as well as those systems that measure magnitude and phase

- (2) Operate manually or automatically
- (3) Cover a frequency range either continuously or in small enough steps to make coverage practically continuous
- (4) Vary frequency manually or automatically, stepped, or swept

signal purity (network analyzer). A measure of

freedom from frequency components other than the desired measurement frequency. It includes harmonics, subharmonics, spurious mixer products, and unwanted components of signal or local oscillator leakage.

NOTE: The resulting error in measurement is a function of the detection system and of the frequency response of the network under test, as well as the signal purity.

3. Parameters to Be Specified

Required

3.1 Frequency range

3.2 Port description: characteristic impedance, type of connectors

3.3 Network parameters that analyzer can measure [10], [11], [12]:

Transmission Coefficient (Gain or Loss)

- (1a) Transmission coefficient, magnitude, linear or in dB
- (1b) Transmission coefficient, phase in degrees or radians
- (2a) Transmission coefficient, real component
- (2b) Transmission coefficient, imaginary component
- (3) Transmission coefficient, phasor
- (4a) Insertion phase shift
- (4b) Group delay distortion
- (5) Time delay
- (6) Group delay

Reflection Coefficient

- (7a) Reflection coefficient, magnitude, linear or standing-wave ratio, or return loss in dB
- (7b) Reflection coefficient, phase in degrees or radians
- (8a) Reflection coefficient, real component
- (8b) Reflection coefficient, imaginary component
- (9) Reflection coefficient, vector

Optional

- Nature of frequency change: continuous, stepped, swept
- Repeatability vs life of connector
- Equivalent source reflection coefficient at active test port vs frequency (manual)
- Equivalent load reflection coefficient at passive test port at test frequency (manual)
- Residual equivalent source and load reflection coefficient after computer correction (automatic)
- (10a) Impedance, magnitude, linear
- (10b) Impedance, phase in degrees or radians
- (11a) Impedance, real component