

# IEC 61000-4-39

PART 4-39. TESTING AND MEASUREMENT TECHNIQUES.  
RADIATED FIELDS IN CLOSE PROXIMITY.  
IMMUNITY TEST

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# 近距離輻射場測試規劃

因IEC 61000-4-3; IEC 61000-4-20; IEC 61000-4-21;  
IEC 61000-4-22等現行標準EMI抗擾度量測不適用於評  
估近距離表面影響。

故以此標準實踐近距離輻射場測試。

# 頻率 - 場強(A/m)等級

等級 \ 頻率	9k - 150kHz	150k - 26MHz	26M - 380MHz	380M - 6GHz
1	1	0.1	under consideration.	10
2	3	0.3		30
3	10	1		100
4	30	3		300
X	Special	Special		Special

# 調變Modulation

調變 \ 頻率	9k - 150kHz	150k - 26MHz	26M - 380MHz	380M - 6GHz
Modulation	AM	PM	under consideration.	PM
Frequency	1 kHz	2 Hz or 217 Hz		2 Hz, 217 Hz or 1 kHz.
Parameter	80%	50%		50%
on/off ratio	N/A	20dB		20dB
Level setting	CW	CW		CW

# Magnetic field @ 9k-150kHz



## Radiating Loop

- diameter :  $120 \pm 10$  mm
- number of turns : 20
- wire diameter approx. 2.0mm(AWG12)
- 1A Coil Current (with 50mm distance ring) : 75.56A/m



# Magnetic field @ 150k-26MHz



## Radiating Loop

- diameter :  $100 \pm 10$  mm
- number of turns : 3
- wire diameter approx. 1mm
- 1A Coil Current (with 50mm distance ring) : 10.61A/m

# Field monitoring coil @ 150k-26MHz



## Sensor Frame

- diameter :  $40 \pm 2$  mm
- number of turns : 1
- wire diameter approx. 0.5mm
- shielding : electrostatic



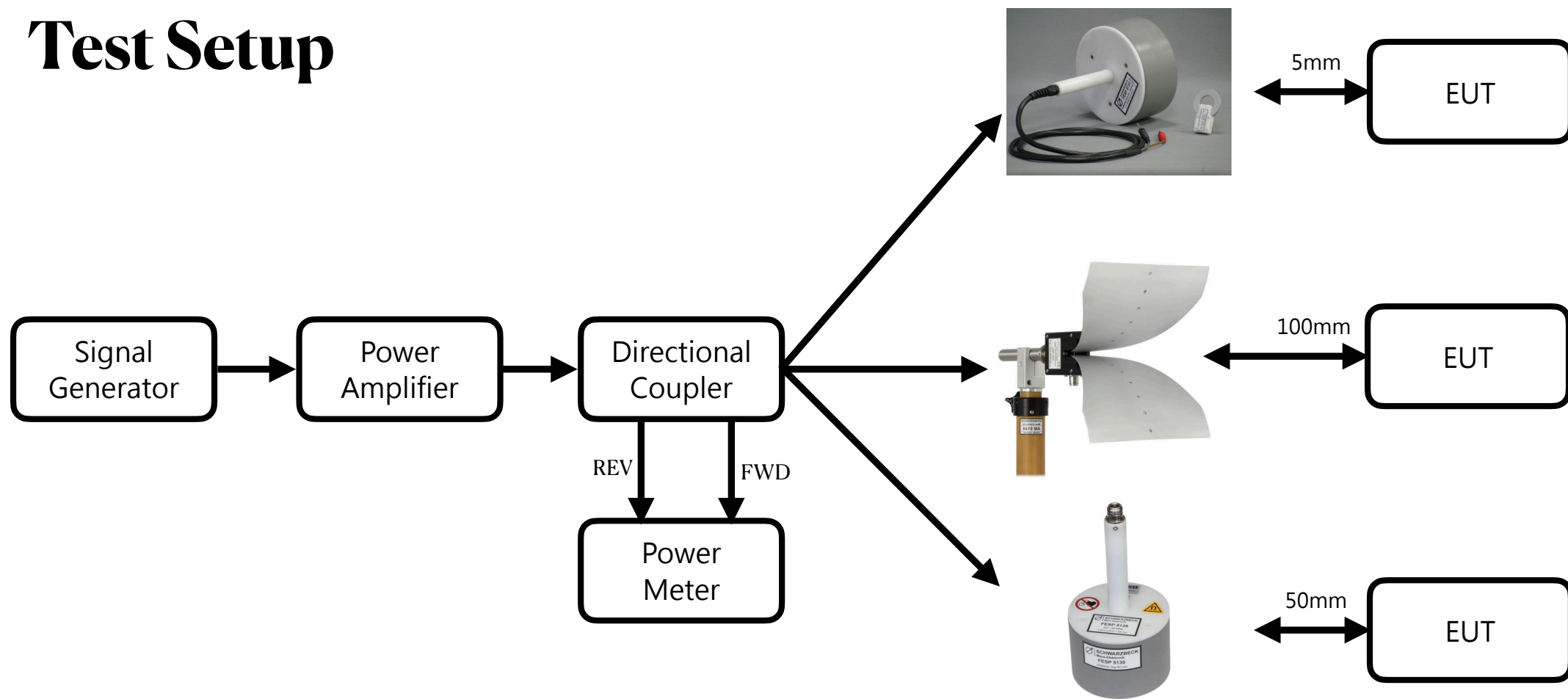
# RF field @ 380M-6GHz



TEM Horn Antenna

- frequency : 380MHz - 6GHz
- impedance : 50 ohm
- $\pm 4$ dB uniform area dimension in 100mm distance
- VSWR under 3.0:1

# Test Setup



# Test Distance and Window Size

Frequency range	Maximum window size [mm]	Test distance d [mm]
9 kHz to 150 kHz (120mm loop antenna)	100 x 100	50 ± 3
150 kHz to 26 MHz (100mm loop antenna)	80 x 80	50 ± 3
380 MHz to 6 GHz (100mm loop antenna)	300 x 300	100 ± 5

# EUT setup

**Table-top, portable and wall-mounted** EUTs shall be placed on a support having a height of 800mm.

**Floor standing** equipment it is acceptable to test vertical surfaces down to a distance of 100mm above the floor.

Grounding of housing or case of the equipment shall be consistent with the manufacturer's installation recommendations. **If earthed and unearthed configurations are supported, both shall be tested.**

# 感謝瀏覽

EMC專業規劃  
TAF校正實驗室



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