

# DATA SHEET

## WIRELESS COMPONENTS

Coupler  
CPL1608LL12RWHEXA

LTE  
I608 Series



**FEATURES**

- Compact size design
- RoHS compliant

**APPLICATIONS**

- WWAN Hexa-band
- LTE (0.6-2.7GHz)

**ORDERING INFORMATION**

All part numbers are identified by the series, packing type, material, size, antenna type, working frequency and packing quantity.

**PART NUMBER**

**CPL 1608 LL 12 R WHEXA**  
(1) (2) (3) (4) (5) (6)

**(1) PRODUCT**

CPL = Directional Coupler

**(2) SIZE**

1608 = 1.6 × 0.8 mm

**(3) MATERIALS**

Material Code LL

**(4) TYPE**

12 = Type 12

**(5) PACKING STYLE**

R = Tape and Reel

**(6) WORKING FREQUENCY**

WHEX = WWAN Hexa-band, LTE (0.6-2.7GHz) application

**SPECIFICATION**

Table 1

<b>(MHz)</b>	689 ~ 960	1425 ~ 2170	2300 ~ 2700
<b>Insertion Loss (dB)</b>	0.15 max. at 25°C	0.25 max. at 25°C	0.3 max. at 25°C
<b>V.S.W.R</b>	1.5 max.		
<b>Coupling (dB)</b>	23 ~ 28	21.5 ~ 26.5	22.5 ~ 27.5
<b>Isolation (dB)</b>	42 min.	38 min.	35 min.
<b>Operating Temperature</b>	-40 ~ +85 °C		

**DIMENSIONS**

Table 2 Machinical Dimension

	<b>DIMENSION</b>
L (mm)	1.60 ±0.15
W (mm)	0.80 ±0.15
T (mm)	0.60 ±0.15
P1 (mm)	0.20 ±0.15
P2 (mm)	0.20 ±0.15
P3 (mm)	0.20 ±0.15
P4 (mm)	0.20 ±0.15
P5 (mm)	0.20 ±0.15
P6 (mm)	0.20 ±0.15
D1 (mm)	0.20 ± 0.15
D2 (mm)	0.30 ± 0.10
D3 (mm)	0.15 ± 0.10

**OUTLINES**

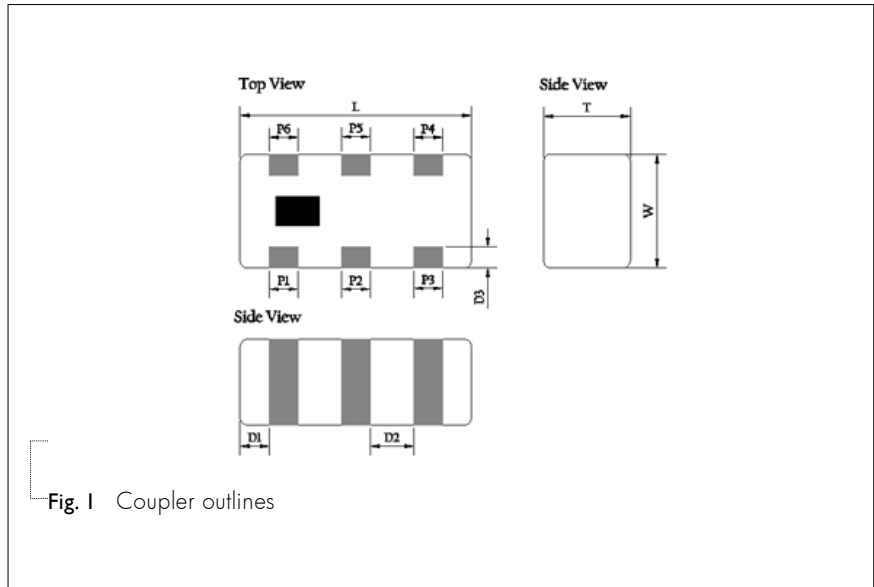
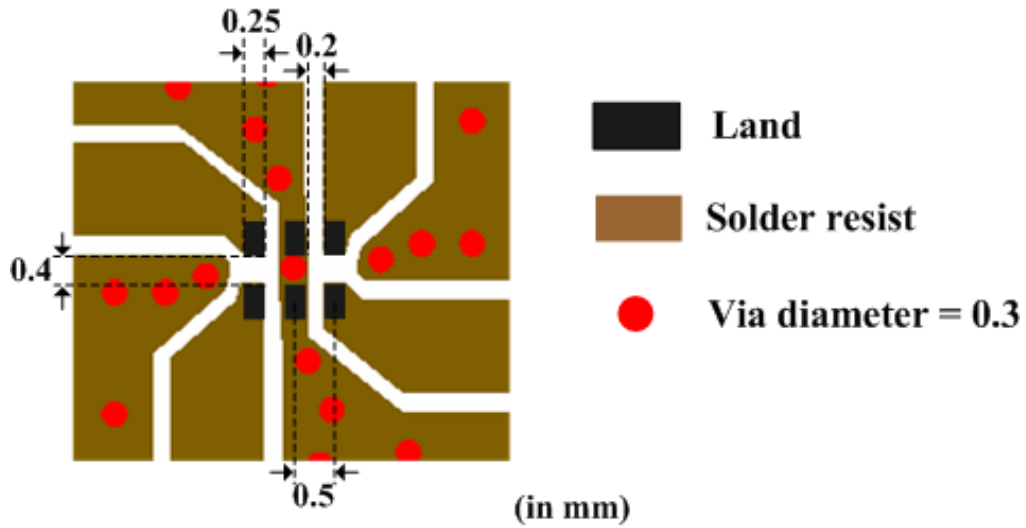


Fig. 1 Coupler outlines

Table 3 Termination configuration

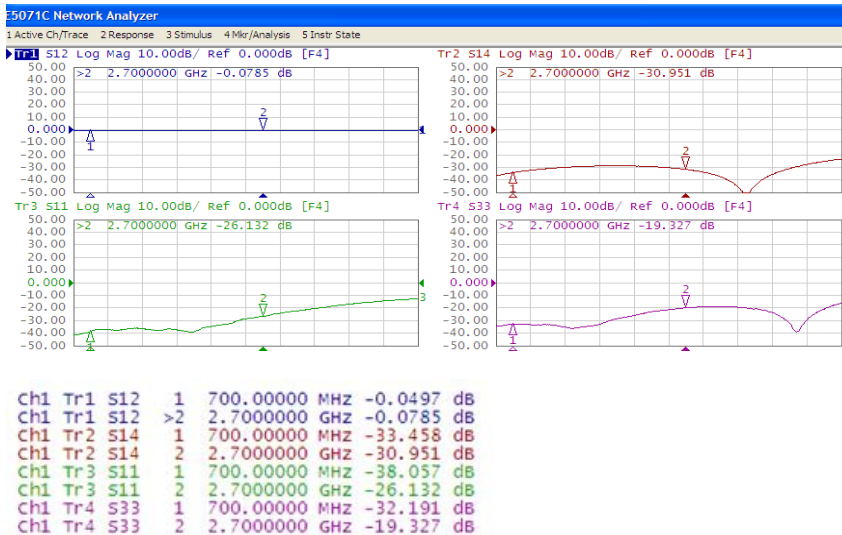
<b>TERMINAL NAME</b>	<b>FUNCTION</b>
P1	Input
P2	GND
P3	Output
P4	50-Ω Term
P5	GND
P6	Coupling



•Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

Fig. 2 Reference design of evaluation board

**ELECTRICAL PERFORMANCES**



- Measured on Agilent E5071C Network Analyzer
- Input port : Port 1 (Return loss : S11)
- Output port : Port 2 (Insertion loss : S21)
- Coupling port : Port 4 (Coupling S41)
- 50-Ω termination port : Port 3 (Isolation S31)

Fig. 3 Frequency Characteristics

**REVISION HISTORY**

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 0	Jul. 15, 2016		- New datasheet for Coupler
Version 1	Jan. 18, 2018		- Correct Dimension L