

MPX1214A

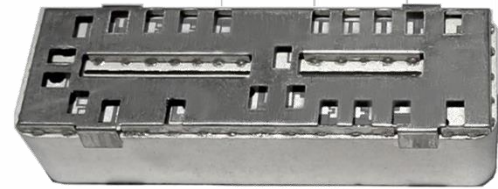
699-715/729-768/777-798MHz Special Duplexer

Features

- Supports combination of Band 12+13+14 with combined DL, and shared port for lower + upper UL.
- Superior power handling and reliability

Applications

- High-performance carrier-grade Wireless Infrastructure up to 2W/band at the antenna port.



Part Dimensions: 63.5 x 20.9 x 16.5 • 86.0 g
Materials: Ag plated ceramic block with tin plated brass shield

Description

Surface mount ceramic tri-band duplexer provides superior rejection, insertion loss, reliability, as well as both peak and average power handling compared to other technologies.

Electrical Specifications

Parameter	Frequency (MHz)	Typical at 25°C	Spec. at 25°C	Spec. over -40°C to +85°C
Nominal Impedance	-	50 ohms	-	-
Average Input Power per port	-	-	-	5.0 Watt max
Peak Input Power per port	-	-	-	50 Watt max

Antenna to Uplink Response

Low-band Insertion Loss (5 MHz avg)	699-715	2.1 dB	2.6 dB max	2.8 dB max
Low-band Insertion Loss (single point)	699-715	2.6 dB	3.1 dB max	3.4 dB max
Low-band Return Loss	699-715	14 dB	12 dB min	12 dB min
Low-band Ripple	699-715	1.6 dB	2.2 dB max	2.5 dB max
High-band Insertion Loss (5 MHz avg)	777-798	2.7 dB	3.2 dB max	3.4 dB max
High-band Insertion Loss (single point)	777-798	3.4 dB	3.9 dB max	4.2 dB max
High-band Return Loss	777-798	14 dB	12 dB min	12 dB min
High-band Ripple	777-798	1.8 dB	2.8 dB max	3.2 dB max
Attenuation:	729-731	53 dB	50 dB min	50 dB min
	731-766	57 dB	55 dB min	55 dB min
	766-768	53 dB	50 dB min	50 dB min

Downlink to Antenna Response

Passband Insertion Loss (5 MHz avg)	729-768	3.0 dB	3.2 dB max	3.4 dB max
Passband Insertion Loss (single point)	729-768	3.7 dB	3.9 dB max	4.2 dB max
Passband Return Loss	729-768	13 dB	12 dB min	12 dB min
Passband Ripple	729-768	2.0 dB	2.5 dB max	2.8 dB max
Attenuation:	663-698	75 dB	65 dB min	65 dB min
Low-band	699-715	67 dB	65 dB min	65 dB min
High-band	777-798	67 dB	65 dB min	65 dB min
	799-924	75 dB	65 dB min	65 dB min

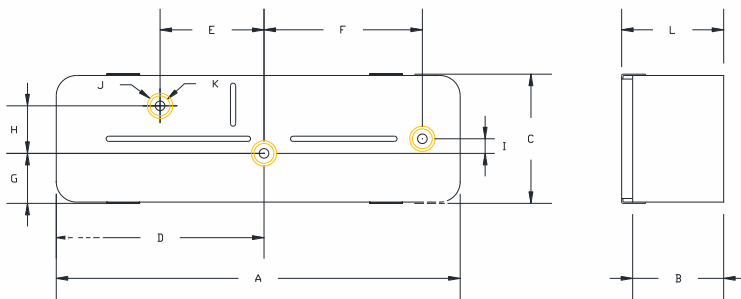
Note: CTS tests each unit to the critical specifications above. Subsequent audits may deviate due to repeatability among different test systems which shall not exceed these allowances.

Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

Electrical Specifications (continued)

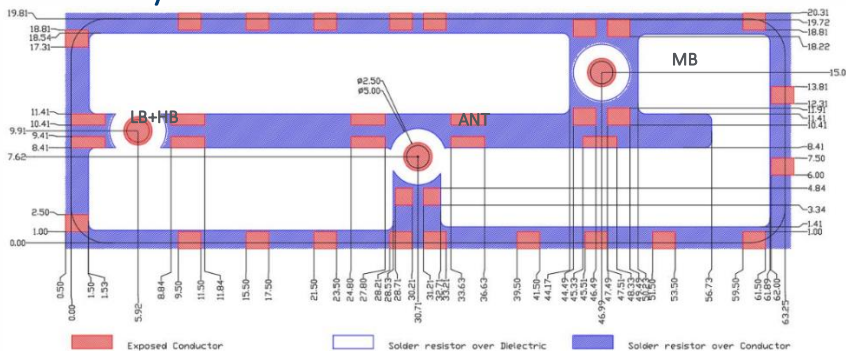
Parameter	Frequency (MHz)	Typical at 25°C	Spec. at 25°C	Spec. over -40°C to +85°C
DL to UL Isolation Response				
Attenuation for UL low-band	699-715	67 dB	65 dB min	65 dB min
Attenuation for DL mid-band	729-731	53 dB	50 dB min	50 dB min
	731-766	58 dB	55 dB min	55 dB min
	766-768	53 dB	50 dB min	50 dB min
Attenuation for UL high-band	777-798	67 dB	65 dB min	65 dB min

Mechanical Drawing

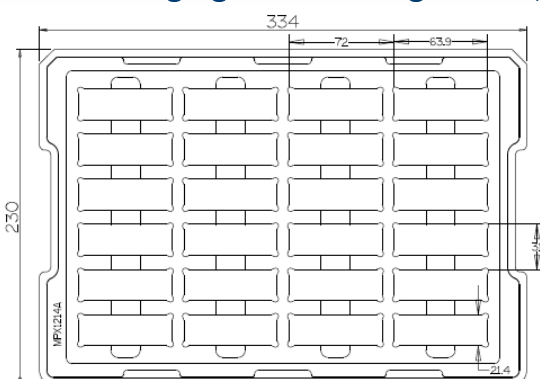


Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	63.50	Max
B	14.30	0.30
C	20.70	0.20
D	32.53	0.30
E	16.28	0.13
F	24.80	0.13
G	7.80	0.13
H	7.44	0.13
I	2.29	0.13
J (radius)	1.98	0.13
K (radius)	1.55	0.13
L	16.50	Max

PCB Layout



Packaging and Marking

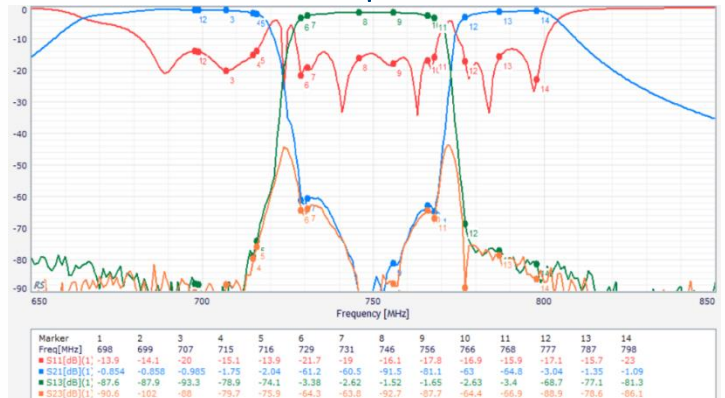


Product Marking



Product is shipped in thermo formed plastic trays

Electrical Response



The trays have 24 slots each with one filter per slot. Boxes are packed with 4 Trays per box for a total of 96 filters per box.