

## **3 RF Components**

- 3-1 STEP Attenuator
- 3-2 Fixed Attenuator
- 3-3 High power splitter
- 3-4 Splitter(Wilkinson type)
- 3-5 2x2 Hybrid Coupler
- 3-6 4x4 Hybrid Coupler
- 3-7 Directional Coupler
- 3-8 Power Tapper
- 3-9 Standard Bias - Tee
- 3-10 Lightning Surge Protection Device

## Key Features

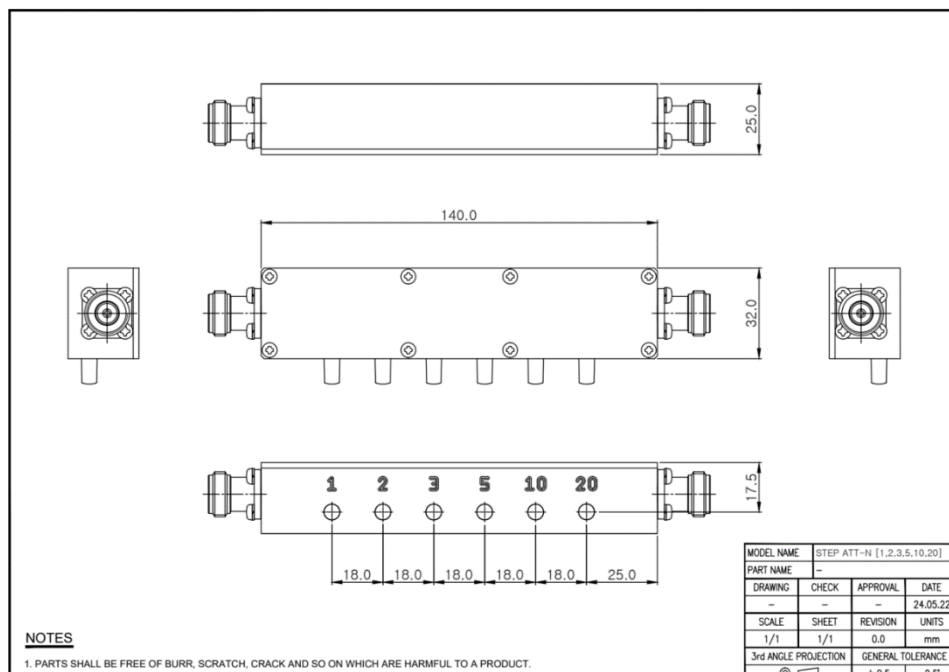
- Supports 700 to 5000 MHz frequencies
- Choice of N-Type or SMA female connectors
- Simple Button Type
- Low insertion loss and excellent VSWR
- 0~41dB Wide Attenuation range

## Technical Specification

Part No.	KGSATT2403
Frequency Range	DC ~ 5000MHz
Insertion Loss(dB)	$\leq 3.0\text{dB}$ (DC-2200MHz) $\leq 3.6\text{dB}$ (2200-4000MHz) $\leq 4.5\text{dB}$ (4000-4700MHz) $\leq 4.9\text{dB}$ (4700-4900MHz) $\leq 5.5\text{dB}$ (4900-5000MHz)
VSWR	$\leq 1.3$ (DC-2200MHz) $\leq 1.5$ (2200-5000MHz)
Attenuation error	Under $\pm(4\%+0.4)\text{dB}$ Under $\pm(5\%+0.6)\text{dB}$
Attenuation range	1dB Step Max 41dB
Power	1.5W
Impedance	50 $\Omega$
Temperature range	0 ~ +40 °C
Connector Type	N-Female
Dimensions (W x D x H)	140mm*25mm*32mm



## Outline Drawing



## Key Features

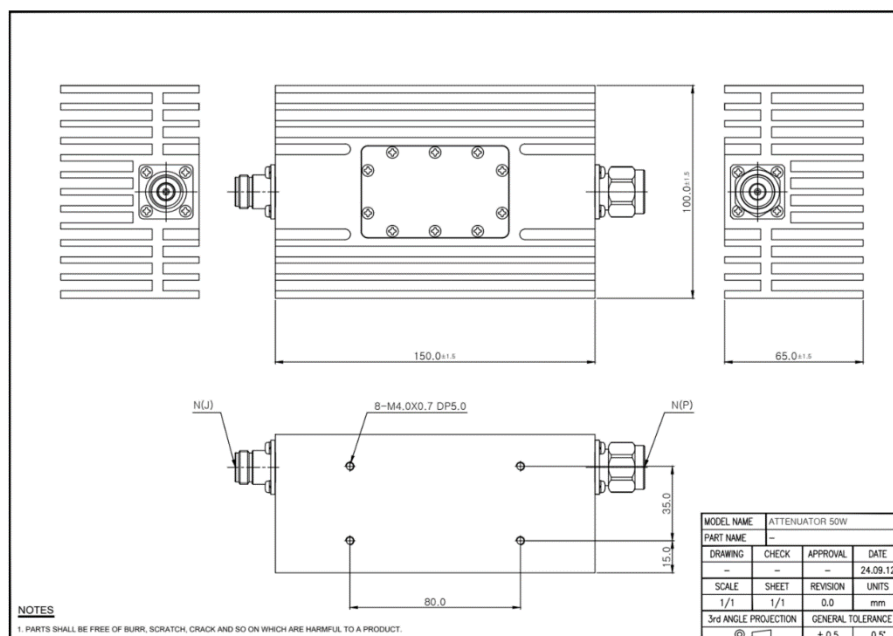
- Wide Frequency
- 50W Power
- Excellent Electrical Performance
- Lowest Attenuation Tolerance
- Low VSWR
- Totally Maintenance Free



## Technical Specification

Part No.	KG-AT-50-20
Frequency Range	DC-5GHz
VSWR	≤ 1.25
Average Power(W)	50W(Ave.)
Attenuation(dB)	3/5/6/8 _ ±0.6 10/13/15 _ ±1.0 20 _ ±1.2
Impedance	50 Ω
Temperature range	-30 ~ +65 °C
Protection class	IP60
Connector Type	N-male to N-female

## Outline Drawing



## Key Features

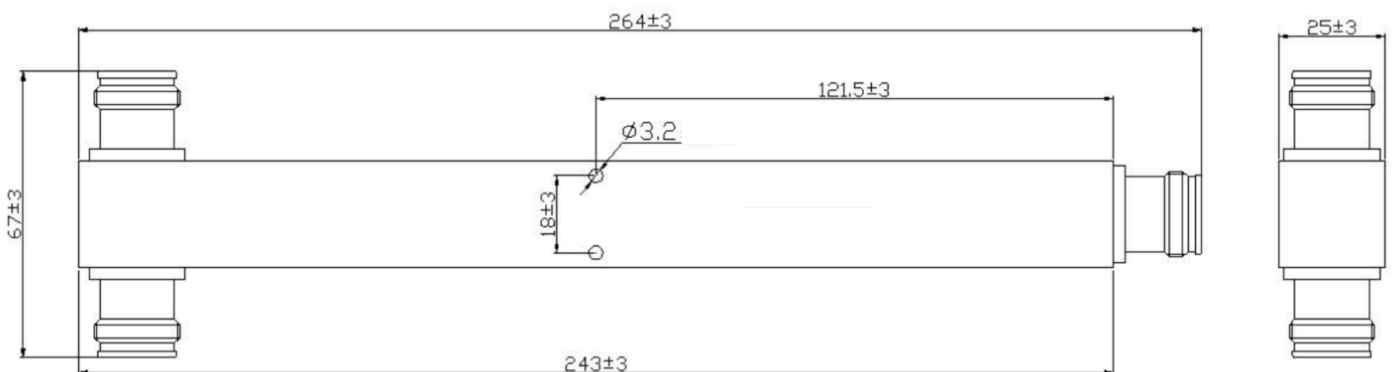
- 2,3,4-way power splitter
- Supports 600 to 6000 MHz frequencies
- Choice of N-Type or 4.3-10 female connectors
- 50 Ohm coaxial
- Low insertion loss and excellent VSWR
- Input power level up to 300 watts

## Technical Specification

<b>Part No.</b>	<b>KG-PS-2W-600/6000</b>
Frequency Range	600MHz ~ 6000MHz
RF Power	300W (Ave.)
Input Port Number	1
Output Port Number	2
Split Loss(dB)	3.0
Insertion Loss(dB)	≤0.3 (600-2700MHz) ≤0.4 (2700-6000MHz)
VSWR	≤1.3 (600-2700MHz) ≤1.3 (2700-6000MHz)
PIM (dBc)	≤-160dBc@2*43dBm (4.3-10 Type)
Impedance	50 Ω
Temperature range	-35 ~ +65 °C
Connector Type	4.3-10 Female or N-Female
Dimensions (W x D x H)	264mm*25mm*25mm (Connectors Included)



## Outline Drawing



## Key Features

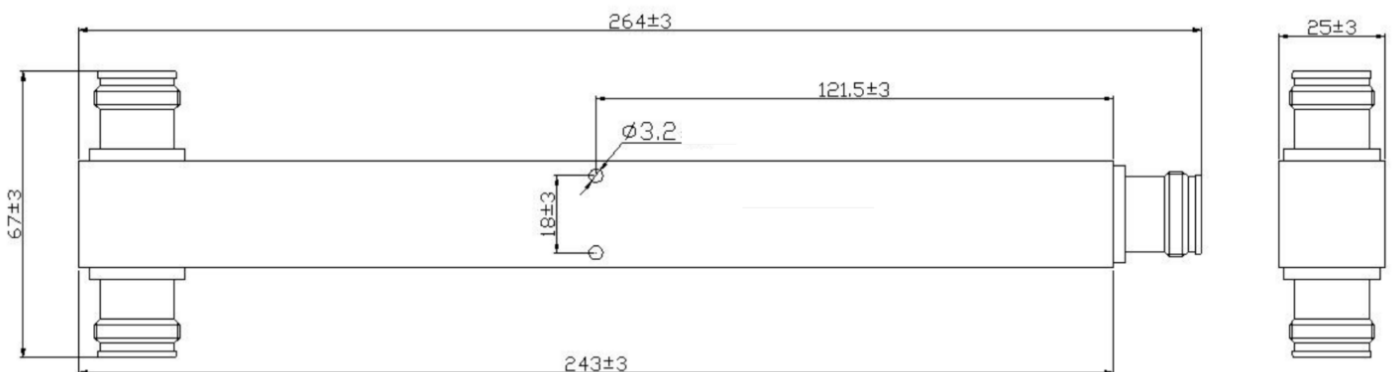
- 2,3,4-way power splitter
- Supports 600 to 6000 MHz frequencies
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## Technical Specification

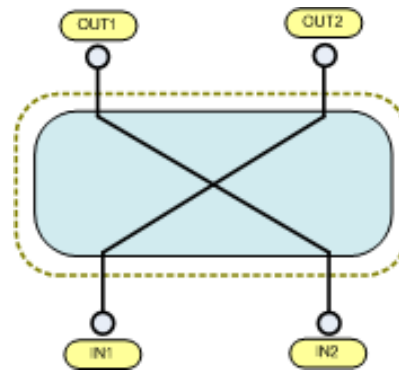
Part No.	KG-D-2 Way	KG-D-3Way	KG-D-4Way
Frequency Range	600 ~ 6000 MHz		
RF Power	min 50		
Insertion Loss	max 0.8	max 1.0	max 1.1
Isolation	min 18	min 18	min 18
Return Loss	min 20	min 20	min 20
Impedance	50 Ω		
PIMD	153dBc @ 43* 2tone		
Temperature range	-40 ~ +65		
Connector Type	4.3-10 Female * 3	4.3-10 Female * 4	4.3-10 Female * 5
Protection class	IP65		
Bracket	Wall & Pole Mount		

## Outline Drawing



The Hybrid Combiner 2 in 2out 600-6000MHz is a compact and high-performance device specifically designed for signal optimization in the frequency range of 600-6000MHz. This 4-port combiner enables seamless integration of multiple RF sources into a single system, while maintaining excellent signal integrity.

- Broadband Frequency Range
- Low Insertion Loss
- High Isolation
- Excellent Return Loss
- Compact Size

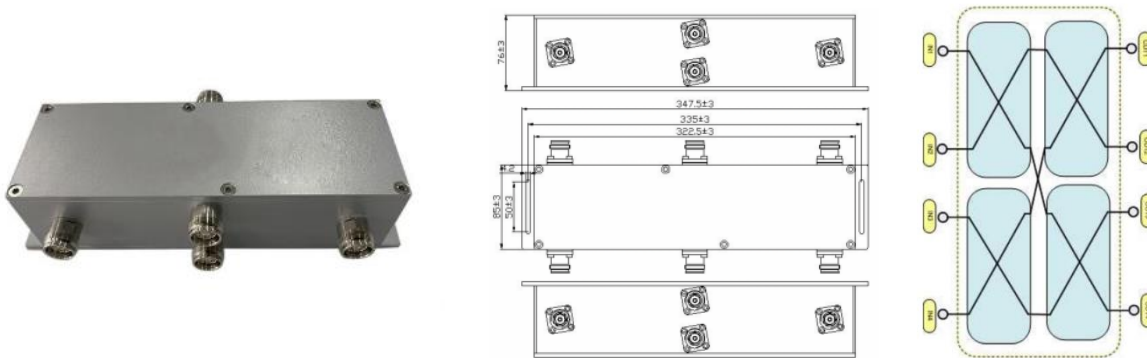


## Technical Specification

Part No.	KG-HC-2X2-600/6000
Frequency Range	600 ~ 6000 MHz
RF Power	300W min
Insertion Loss	3.1±1.1
Isolation	22 dB min
VSWR	1.35 : 1 max
PIMD	≤153dBc@694-2700MHz
Impedance	50 Ω
Temperature range	-35 ~ +60 °C
Protection class	IP65
Connector Type	N-Female
Dimensions	148.0mm x 45.0mm x 37.0mm

The RF Hybrid Coupler is a highly efficient, low-loss RF component designed for use in a wide range of applications. This high-performance coupler is capable of splitting an input signal into two output signals with minimal loss, making it ideal for use in amplifier and antenna systems.

At its core, the RF Hybrid Coupler features a unique design that utilizes the constructive and destructive interference of electromagnetic waves to achieve high levels of signal isolation and coupling efficiency. This allows for excellent low frequency performance and high power handling, making it suitable for use in high-performance RF systems.



## Technical Specification

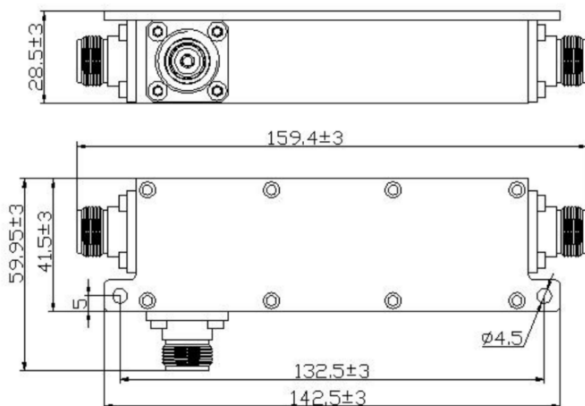
Part No.	KG-HC-4X4-600/6000
Frequency Range	600 ~ 6000 MHz
RF Power	300W min
Insertion Loss	6.2±2
Isolation	18 dB min
VSWR	≤1.5
PIMD	≤153dBc@790-2700MHz.
Impedance	50 Ω
Temperature range	-30 ~ +60 °C
Protection class	IP65
Connector Type	N-Female
Dimensions	225.0mm x72.0mm x 69.5mm

## Key Features

- Wide Bandwidth
- Low Insertion Loss, Low PIM, Low VSWR
- Cavity Structure, High Power Handling
- High Power Handling, High Reliability

Part No.	KG-DC-5/6	KG-DC-8	KG-DC-10	KG-DC-13	KG-DC15	KG-DC-20/30
Frequency Range	600 ~ 6000 MHz					
Coupling(dB)	5/6	8	10	13	15	20/30
IL(dB)	≤2.5/≤1.8	≤1.3	≤1.1	≤0.6	≤0.5	≤0.4/≤0.3
Accuracy(dB)	±1.6	±1.7	±1.8	±1.8	±1.8	±2.0/±2.2
Isolation(dB)						
600-2700MHz	≥24/≥25	≥27	≥29	≥32	≥34	≥37/≥47
2700-3800MHz	≥22/≥23	≥25	≥27	≥30	≥32	≥35/≥45
3800-4800MHz	≥21/≥22	≥23	≥25	≥28	≥30	≥34/≥42
4800-6000MHz	≥17/≥18	≥20	≥22	≥25	≥27	≥30/≥40
VSWR	≤1.35					
Impedance	50 Ω					
PIMD	≤-160dBc@2*43dBm (698-2700MHz)					
Power	200 (average)					
Temperature range	-35 ~ +75					
Connector Type	N-female					
Protection class	IP67					
Net Weight	0.23kg					

## Outline Drawing





## Key Features

- Guaranteed Parameters Compliance
- Wide Frequency Band Covering 600-6000MHz
- Low Insertion Loss
- Low VSWR
- Indoor & Outdoor Using IP67
- Available with Type N, 7/16DIN, 4.3/10 Connectors



## Technical Specification

Part No.	KG-PT-3	KG-PT-5	KG-PT-10	KG-PT-15	KG-PT-20	KG-PT-30
Frequency Range	600-960/1710-2700/3500-4500/4900- 6000 MHz					
Coupling(dB)	3(4.8)	5	10	15	20	30
Output Split (Main Loss)	-2.05	-1..85	-0.45	-0.15	-0.1	-0.1
Dissapative Loss(dB)	0.35	0.35	0.35	0.35	0.35	0.35
Accuracy(dB)	±1.6	±1.7	±1.8	±1.8	±1.8	±2.0/±2.2
Accuracy(dB)						
600-960MHz	±1.0	±0.8	±1.0	±1.0	±1.0	±1.5
1710-2700MHz	±1.0	±0.8	±0.8	±0.8	±1.2	±1.5
3500-4500MHz	+0.5/-1.5	+0.3/-1.5	+0.3/-1.5	±1.2	±1.7	±1.8
4900-6000MHz	+0.3/-1.5	+0.3/-1.5	±1.2	±1.2	±1.5	±2.5
VSWR	<b>ng</b>					
600-960MHz	1.35:1	1.35:1	1.25:1	1.25:1	1.25:1	1.25:1
1710-2700MHz	1.35:1	1.35:1	1.25:1	1.25:1	1.25:1	1.25:1
3500-4500MHz	1.45:1	1.45:1	1.3:1	1.3:1	1.25:1	1.25:1
4900-6000MHz	1.45:1	1.45:1	1.3:1	1.3:1	1.25:1	1.25:1
PIMD	-160dBc@2*43dBm					
Impedance	50 Ω					
Power	300					
Temperature range	-35 ~ +75					
Connector Type	4.3/10-female					
Applications	Indoor/Outdoor Use, IP67					

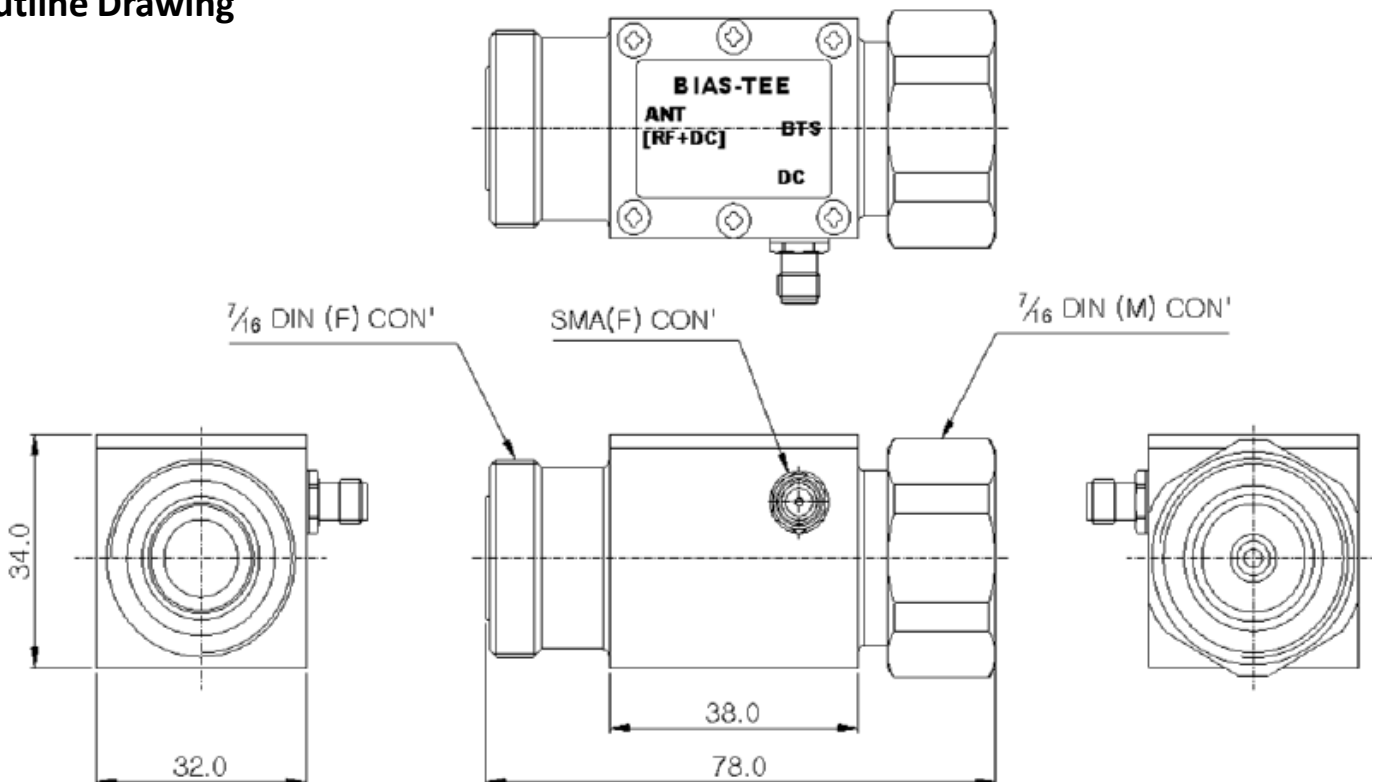
- Wideband(690 ~ 2700MHz) Bias - Tee
- High reliability & Suitable for operation under outdoor conditions

## Technical Specification

<b>Part No.</b>		<b>KG-SBT-698/2700</b>
Frequency Range		698 ~ 2700 MHz
Input Avg. Power		300W (as a splitter)
Insertion Loss (Port 1 Port 2)		≤ 0.1 dB max
Isolation	BTS ↔ ANT	70 dB max
	BTS ↔ DC	
VSWR		≤ 1.2
PIMD		161dBc Typ. @ 2-Tone 43 dBm Input
Impedance		50 Ω
Temperature range		-40 ~ +70 °C
Protection class		IP67
Connector Type	ANT	7/16 Din – Female
	BTS	7/16 Din – Male
	DC	SMA – Female
Dimensions (W x D x H)		38.0 x 32.0 x 34.0
Weight		≤ 0.7 Kg



## Outline Drawing



- Very low let-through voltage
- High quality RF & Electrical performance
- Compact size(Light, Thin, Short and Small) & Simple design
- Suitable for operation under outdoor conditions



## Technical Specification

Model	KG-GPS-AR100(KG041703000)
Frequency	1565 ~ 1615 MHz
Input voltage range	< +6 V
Insertion loss	< 0.1 dB
Return loss	< 22 dB
Connectors	N-type female
Temperature range	-40 ~ +85°C
Protection class	IP68
Surge protection	8/20US ±5KA(Line to Line, IEC61000-4-5)
Housing material	Outer : Brass Connector body : Brass Center contact : Beryllium copper
Weight	< 220 g
Dimensions	Φ34.8 x 50.0 mm(only body)



## Outline Drawing

