

# Directional Coupler

# D20C+

## Typical Performance Data

TEST CONDITIONS: INPUT POWER = -10dBm @Temperature = +25°C

| FREQ.<br>(MHz) | MAINLINE<br>LOSS<br>(dB) | COUPLING<br>(dB) | ISOLATION<br>(dB) | DIRECTIVITY<br>(dB) | RETURN LOSS |        |         |
|----------------|--------------------------|------------------|-------------------|---------------------|-------------|--------|---------|
|                |                          |                  |                   |                     | INPUT       | OUTPUT | COUPLED |
| 500            | 0.10                     | 24.00            | 40.64             | 16.64               | 46.54       | 41.24  | 30.80   |
| 550            | 0.11                     | 23.18            | 39.82             | 16.64               | 46.73       | 42.15  | 30.60   |
| 600            | 0.12                     | 22.44            | 39.05             | 16.61               | 45.90       | 40.66  | 30.47   |
| 650            | 0.13                     | 21.77            | 38.36             | 16.58               | 45.46       | 40.73  | 30.48   |
| 700            | 0.14                     | 21.14            | 37.71             | 16.58               | 45.02       | 40.81  | 30.21   |
| 750            | 0.15                     | 20.56            | 37.16             | 16.59               | 44.75       | 39.66  | 30.30   |
| 780            | 0.15                     | 20.22            | 36.79             | 16.57               | 44.87       | 40.51  | 30.05   |
| 790            | 0.15                     | 20.11            | 36.68             | 16.57               | 44.50       | 40.56  | 29.97   |
| 800            | 0.16                     | 20.02            | 36.57             | 16.56               | 44.39       | 40.45  | 29.91   |
| 810            | 0.16                     | 19.92            | 36.46             | 16.54               | 44.20       | 40.16  | 29.88   |
| 815            | 0.15                     | 19.87            | 36.41             | 16.54               | 44.20       | 40.04  | 29.87   |
| 820            | 0.16                     | 19.82            | 36.38             | 16.56               | 44.12       | 39.83  | 29.88   |
| 825            | 0.16                     | 19.77            | 36.32             | 16.55               | 44.15       | 39.67  | 29.87   |
| 830            | 0.16                     | 19.72            | 36.27             | 16.55               | 44.06       | 39.46  | 29.89   |
| 835            | 0.16                     | 19.67            | 36.22             | 16.55               | 44.07       | 39.26  | 29.90   |
| 840            | 0.16                     | 19.62            | 36.17             | 16.55               | 44.00       | 39.22  | 29.91   |
| 845            | 0.17                     | 19.57            | 36.14             | 16.57               | 44.00       | 39.04  | 29.92   |
| 850            | 0.17                     | 19.52            | 36.06             | 16.53               | 44.00       | 38.97  | 29.91   |
| 855            | 0.17                     | 19.47            | 36.02             | 16.55               | 44.01       | 38.99  | 29.90   |
| 860            | 0.17                     | 19.42            | 35.97             | 16.55               | 44.05       | 39.05  | 29.88   |
| 865            | 0.18                     | 19.37            | 35.91             | 16.54               | 44.07       | 39.11  | 29.85   |
| 870            | 0.17                     | 19.32            | 35.87             | 16.55               | 44.04       | 39.19  | 29.83   |
| 875            | 0.17                     | 19.27            | 35.81             | 16.54               | 43.88       | 39.27  | 29.78   |
| 880            | 0.17                     | 19.22            | 35.77             | 16.55               | 43.94       | 39.32  | 29.74   |
| 885            | 0.17                     | 19.18            | 35.72             | 16.54               | 43.75       | 39.42  | 29.71   |
| 890            | 0.17                     | 19.12            | 35.67             | 16.55               | 43.60       | 39.46  | 29.66   |
| 895            | 0.17                     | 19.08            | 35.63             | 16.55               | 43.45       | 39.54  | 29.62   |
| 900            | 0.17                     | 19.04            | 35.57             | 16.54               | 43.32       | 39.50  | 29.57   |
| 905            | 0.17                     | 18.99            | 35.54             | 16.55               | 43.25       | 39.43  | 29.55   |
| 910            | 0.18                     | 18.95            | 35.48             | 16.53               | 43.17       | 39.42  | 29.50   |
| 915            | 0.18                     | 18.90            | 35.43             | 16.52               | 42.95       | 39.28  | 29.50   |
| 920            | 0.18                     | 18.86            | 35.39             | 16.53               | 42.79       | 39.16  | 29.48   |
| 925            | 0.18                     | 18.82            | 35.35             | 16.53               | 42.76       | 39.00  | 29.47   |
| 930            | 0.18                     | 18.77            | 35.32             | 16.55               | 42.67       | 38.84  | 29.47   |
| 935            | 0.18                     | 18.73            | 35.23             | 16.50               | 42.71       | 38.69  | 29.49   |
| 940            | 0.18                     | 18.68            | 35.20             | 16.52               | 42.58       | 38.56  | 29.47   |
| 945            | 0.18                     | 18.64            | 35.15             | 16.51               | 42.59       | 38.40  | 29.48   |
| 950            | 0.19                     | 18.60            | 35.12             | 16.52               | 42.60       | 38.27  | 29.47   |
| 955            | 0.19                     | 18.55            | 35.07             | 16.52               | 42.62       | 38.18  | 29.48   |
| 960            | 0.19                     | 18.51            | 35.03             | 16.52               | 42.66       | 38.14  | 29.48   |
| 970            | 0.19                     | 18.43            | 34.94             | 16.51               | 42.59       | 38.07  | 29.47   |
| 980            | 0.19                     | 18.34            | 34.86             | 16.52               | 42.55       | 38.00  | 29.42   |
| 990            | 0.19                     | 18.26            | 34.76             | 16.49               | 42.37       | 38.01  | 29.34   |
| 1000           | 0.20                     | 18.17            | 34.66             | 16.49               | 42.00       | 37.91  | 29.24   |
| 1050           | 0.20                     | 17.78            | 34.27             | 16.48               | 40.63       | 37.02  | 29.02   |
| 1100           | 0.21                     | 17.39            | 33.84             | 16.45               | 40.26       | 36.60  | 28.90   |
| 1150           | 0.22                     | 17.05            | 33.47             | 16.42               | 38.67       | 35.79  | 28.59   |
| 1200           | 0.24                     | 16.69            | 33.10             | 16.41               | 37.57       | 34.93  | 28.49   |
| 1250           | 0.24                     | 16.38            | 32.77             | 16.39               | 37.00       | 34.57  | 28.12   |
| 1300           | 0.26                     | 16.05            | 32.41             | 16.36               | 35.56       | 33.57  | 27.97   |

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# Directional Coupler

# D20C+

## Typical Performance Data

TEST CONDITIONS: INPUT POWER = -10dBm @Temperature = -40°C

| FREQ.<br>(MHz) | MAINLINE<br>LOSS<br>(dB) | COUPLING<br>(dB) | ISOLATION<br>(dB) | DIRECTIVITY<br>(dB) | RETURN LOSS |        |         |
|----------------|--------------------------|------------------|-------------------|---------------------|-------------|--------|---------|
|                |                          |                  |                   |                     | INPUT       | OUTPUT | COUPLED |
| 500            | 0.07                     | 24.01            | 41.23             | 17.22               | 49.76       | 44.84  | 28.51   |
| 550            | 0.08                     | 23.20            | 40.36             | 17.16               | 47.84       | 45.33  | 28.44   |
| 600            | 0.08                     | 22.44            | 39.58             | 17.13               | 47.30       | 42.41  | 28.35   |
| 650            | 0.09                     | 21.78            | 38.94             | 17.16               | 46.32       | 42.43  | 28.21   |
| 700            | 0.10                     | 21.13            | 38.27             | 17.13               | 44.58       | 42.25  | 27.92   |
| 750            | 0.11                     | 20.56            | 37.69             | 17.12               | 42.48       | 40.43  | 28.11   |
| 780            | 0.11                     | 20.22            | 37.31             | 17.09               | 41.22       | 40.63  | 28.05   |
| 790            | 0.11                     | 20.11            | 37.20             | 17.09               | 40.68       | 40.39  | 28.03   |
| 800            | 0.11                     | 20.01            | 37.10             | 17.09               | 40.30       | 40.01  | 28.04   |
| 810            | 0.11                     | 19.92            | 36.98             | 17.06               | 40.01       | 39.60  | 28.09   |
| 815            | 0.11                     | 19.86            | 36.93             | 17.07               | 39.90       | 39.43  | 28.13   |
| 820            | 0.11                     | 19.82            | 36.89             | 17.07               | 39.78       | 39.21  | 28.19   |
| 825            | 0.12                     | 19.77            | 36.81             | 17.04               | 39.75       | 39.02  | 28.23   |
| 830            | 0.12                     | 19.72            | 36.78             | 17.06               | 39.65       | 38.77  | 28.28   |
| 835            | 0.12                     | 19.67            | 36.73             | 17.06               | 39.65       | 38.64  | 28.32   |
| 840            | 0.12                     | 19.62            | 36.66             | 17.04               | 39.58       | 38.65  | 28.37   |
| 845            | 0.12                     | 19.57            | 36.60             | 17.03               | 39.47       | 38.40  | 28.41   |
| 850            | 0.12                     | 19.52            | 36.56             | 17.04               | 39.50       | 38.39  | 28.44   |
| 855            | 0.13                     | 19.46            | 36.52             | 17.06               | 39.52       | 38.40  | 28.47   |
| 860            | 0.13                     | 19.41            | 36.46             | 17.05               | 39.59       | 38.46  | 28.49   |
| 865            | 0.13                     | 19.37            | 36.40             | 17.04               | 39.63       | 38.52  | 28.49   |
| 870            | 0.13                     | 19.31            | 36.34             | 17.03               | 39.62       | 38.59  | 28.48   |
| 875            | 0.13                     | 19.26            | 36.29             | 17.03               | 39.54       | 38.64  | 28.46   |
| 880            | 0.13                     | 19.21            | 36.23             | 17.02               | 39.57       | 38.68  | 28.45   |
| 885            | 0.13                     | 19.17            | 36.18             | 17.02               | 39.51       | 38.80  | 28.45   |
| 890            | 0.12                     | 19.12            | 36.13             | 17.01               | 39.47       | 38.84  | 28.42   |
| 895            | 0.13                     | 19.08            | 36.09             | 17.02               | 39.39       | 38.88  | 28.41   |
| 900            | 0.13                     | 19.03            | 36.04             | 17.01               | 39.43       | 38.85  | 28.40   |
| 905            | 0.12                     | 18.99            | 36.02             | 17.04               | 39.45       | 38.87  | 28.39   |
| 910            | 0.13                     | 18.94            | 35.94             | 17.00               | 39.48       | 38.84  | 28.37   |
| 915            | 0.13                     | 18.90            | 35.91             | 17.01               | 39.50       | 38.79  | 28.38   |
| 920            | 0.13                     | 18.86            | 35.85             | 16.99               | 39.54       | 38.76  | 28.40   |
| 925            | 0.14                     | 18.82            | 35.81             | 16.99               | 39.66       | 38.67  | 28.40   |
| 930            | 0.13                     | 18.77            | 35.76             | 16.99               | 39.75       | 38.67  | 28.41   |
| 935            | 0.14                     | 18.72            | 35.73             | 17.01               | 39.95       | 38.66  | 28.46   |
| 940            | 0.14                     | 18.68            | 35.65             | 16.98               | 40.10       | 38.61  | 28.46   |
| 945            | 0.14                     | 18.63            | 35.62             | 16.99               | 40.34       | 38.58  | 28.48   |
| 950            | 0.14                     | 18.59            | 35.59             | 17.01               | 40.54       | 38.53  | 28.50   |
| 955            | 0.14                     | 18.55            | 35.55             | 17.00               | 40.83       | 38.62  | 28.52   |
| 960            | 0.14                     | 18.50            | 35.49             | 16.99               | 41.15       | 38.70  | 28.51   |
| 970            | 0.14                     | 18.42            | 35.40             | 16.98               | 41.52       | 38.83  | 28.50   |
| 980            | 0.15                     | 18.33            | 35.32             | 16.98               | 41.88       | 38.97  | 28.43   |
| 990            | 0.15                     | 18.24            | 35.22             | 16.97               | 42.09       | 39.15  | 28.34   |
| 1000           | 0.15                     | 18.16            | 35.15             | 16.99               | 42.05       | 39.21  | 28.25   |
| 1050           | 0.15                     | 17.77            | 34.69             | 16.92               | 42.25       | 38.70  | 28.05   |
| 1100           | 0.16                     | 17.37            | 34.28             | 16.91               | 42.69       | 38.47  | 27.96   |
| 1150           | 0.16                     | 17.03            | 33.90             | 16.86               | 40.54       | 37.25  | 27.78   |
| 1200           | 0.18                     | 16.67            | 33.52             | 16.85               | 39.13       | 36.11  | 27.85   |
| 1250           | 0.18                     | 16.36            | 33.17             | 16.80               | 38.40       | 35.54  | 27.54   |
| 1300           | 0.20                     | 16.02            | 32.79             | 16.77               | 37.03       | 34.48  | 27.46   |

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# Directional Coupler

**D20C+**

## Typical Performance Data

TEST CONDITIONS: INPUT POWER = -10dBm @Temperature = +85°C

| FREQ.<br>(MHz) | MAINLINE<br>LOSS<br>(dB) | COUPLING<br>(dB) | ISOLATION<br>(dB) | DIRECTIVITY<br>(dB) | RETURN LOSS |        |         |
|----------------|--------------------------|------------------|-------------------|---------------------|-------------|--------|---------|
|                |                          |                  |                   |                     | INPUT       | OUTPUT | COUPLED |
| 500            | 0.13                     | 23.97            | 40.13             | 16.16               | 35.21       | 34.16  | 32.71   |
| 550            | 0.13                     | 23.16            | 39.34             | 16.18               | 36.12       | 35.15  | 32.48   |
| 600            | 0.14                     | 22.41            | 38.61             | 16.20               | 36.26       | 34.77  | 32.18   |
| 650            | 0.15                     | 21.75            | 37.96             | 16.21               | 36.44       | 34.96  | 32.21   |
| 700            | 0.16                     | 21.11            | 37.34             | 16.23               | 36.35       | 34.83  | 31.88   |
| 750            | 0.17                     | 20.54            | 36.79             | 16.25               | 36.03       | 34.14  | 32.27   |
| 780            | 0.18                     | 20.20            | 36.44             | 16.24               | 36.01       | 34.40  | 32.15   |
| 790            | 0.18                     | 20.10            | 36.33             | 16.23               | 35.88       | 34.32  | 32.09   |
| 800            | 0.18                     | 19.99            | 36.25             | 16.25               | 35.80       | 34.22  | 32.06   |
| 810            | 0.18                     | 19.90            | 36.16             | 16.26               | 35.69       | 34.05  | 32.06   |
| 815            | 0.18                     | 19.85            | 36.08             | 16.24               | 35.65       | 33.98  | 32.08   |
| 820            | 0.18                     | 19.80            | 36.03             | 16.23               | 35.61       | 33.85  | 32.11   |
| 825            | 0.18                     | 19.75            | 35.99             | 16.24               | 35.60       | 33.78  | 32.15   |
| 830            | 0.19                     | 19.70            | 35.96             | 16.26               | 35.54       | 33.68  | 32.18   |
| 835            | 0.19                     | 19.65            | 35.89             | 16.25               | 35.51       | 33.57  | 32.24   |
| 840            | 0.19                     | 19.60            | 35.84             | 16.24               | 35.40       | 33.50  | 32.29   |
| 845            | 0.19                     | 19.55            | 35.80             | 16.25               | 35.36       | 33.43  | 32.33   |
| 850            | 0.20                     | 19.50            | 35.74             | 16.24               | 35.36       | 33.42  | 32.36   |
| 855            | 0.20                     | 19.45            | 35.70             | 16.25               | 35.35       | 33.40  | 32.37   |
| 860            | 0.20                     | 19.40            | 35.65             | 16.25               | 35.38       | 33.44  | 32.40   |
| 865            | 0.21                     | 19.35            | 35.58             | 16.23               | 35.43       | 33.48  | 32.39   |
| 870            | 0.20                     | 19.30            | 35.53             | 16.23               | 35.40       | 33.51  | 32.40   |
| 875            | 0.20                     | 19.26            | 35.48             | 16.22               | 35.35       | 33.56  | 32.34   |
| 880            | 0.20                     | 19.21            | 35.43             | 16.22               | 35.38       | 33.58  | 32.30   |
| 885            | 0.20                     | 19.16            | 35.39             | 16.23               | 35.37       | 33.64  | 32.26   |
| 890            | 0.20                     | 19.11            | 35.34             | 16.23               | 35.33       | 33.64  | 32.21   |
| 895            | 0.20                     | 19.06            | 35.31             | 16.24               | 35.30       | 33.67  | 32.19   |
| 900            | 0.20                     | 19.02            | 35.27             | 16.24               | 35.27       | 33.65  | 32.13   |
| 905            | 0.20                     | 18.97            | 35.23             | 16.26               | 35.29       | 33.63  | 32.09   |
| 910            | 0.20                     | 18.93            | 35.19             | 16.25               | 35.27       | 33.63  | 32.04   |
| 915            | 0.21                     | 18.89            | 35.12             | 16.23               | 35.25       | 33.56  | 32.03   |
| 920            | 0.21                     | 18.84            | 35.07             | 16.23               | 35.22       | 33.54  | 32.02   |
| 925            | 0.21                     | 18.80            | 35.03             | 16.23               | 35.22       | 33.45  | 32.01   |
| 930            | 0.21                     | 18.76            | 34.98             | 16.22               | 35.22       | 33.42  | 32.03   |
| 935            | 0.22                     | 18.71            | 34.94             | 16.23               | 35.26       | 33.38  | 32.07   |
| 940            | 0.21                     | 18.67            | 34.89             | 16.23               | 35.22       | 33.34  | 32.07   |
| 945            | 0.22                     | 18.62            | 34.84             | 16.22               | 35.25       | 33.26  | 32.08   |
| 950            | 0.22                     | 18.58            | 34.80             | 16.22               | 35.29       | 33.22  | 32.08   |
| 955            | 0.22                     | 18.54            | 34.75             | 16.21               | 35.34       | 33.25  | 32.13   |
| 960            | 0.22                     | 18.50            | 34.71             | 16.22               | 35.41       | 33.26  | 32.14   |
| 970            | 0.22                     | 18.41            | 34.63             | 16.21               | 35.46       | 33.31  | 32.14   |
| 980            | 0.22                     | 18.33            | 34.54             | 16.21               | 35.56       | 33.36  | 32.07   |
| 990            | 0.23                     | 18.24            | 34.45             | 16.21               | 35.62       | 33.45  | 31.99   |
| 1000           | 0.23                     | 18.16            | 34.36             | 16.20               | 35.61       | 33.51  | 31.86   |
| 1050           | 0.23                     | 17.77            | 33.93             | 16.16               | 35.68       | 33.40  | 31.51   |
| 1100           | 0.25                     | 17.38            | 33.54             | 16.15               | 36.35       | 33.71  | 31.41   |
| 1150           | 0.25                     | 17.04            | 33.14             | 16.10               | 36.18       | 33.66  | 30.96   |
| 1200           | 0.27                     | 16.69            | 32.75             | 16.06               | 36.22       | 33.54  | 30.92   |
| 1250           | 0.28                     | 16.38            | 32.42             | 16.04               | 36.52       | 33.83  | 30.36   |
| 1300           | 0.30                     | 16.05            | 32.04             | 15.99               | 35.94       | 33.48  | 30.19   |

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