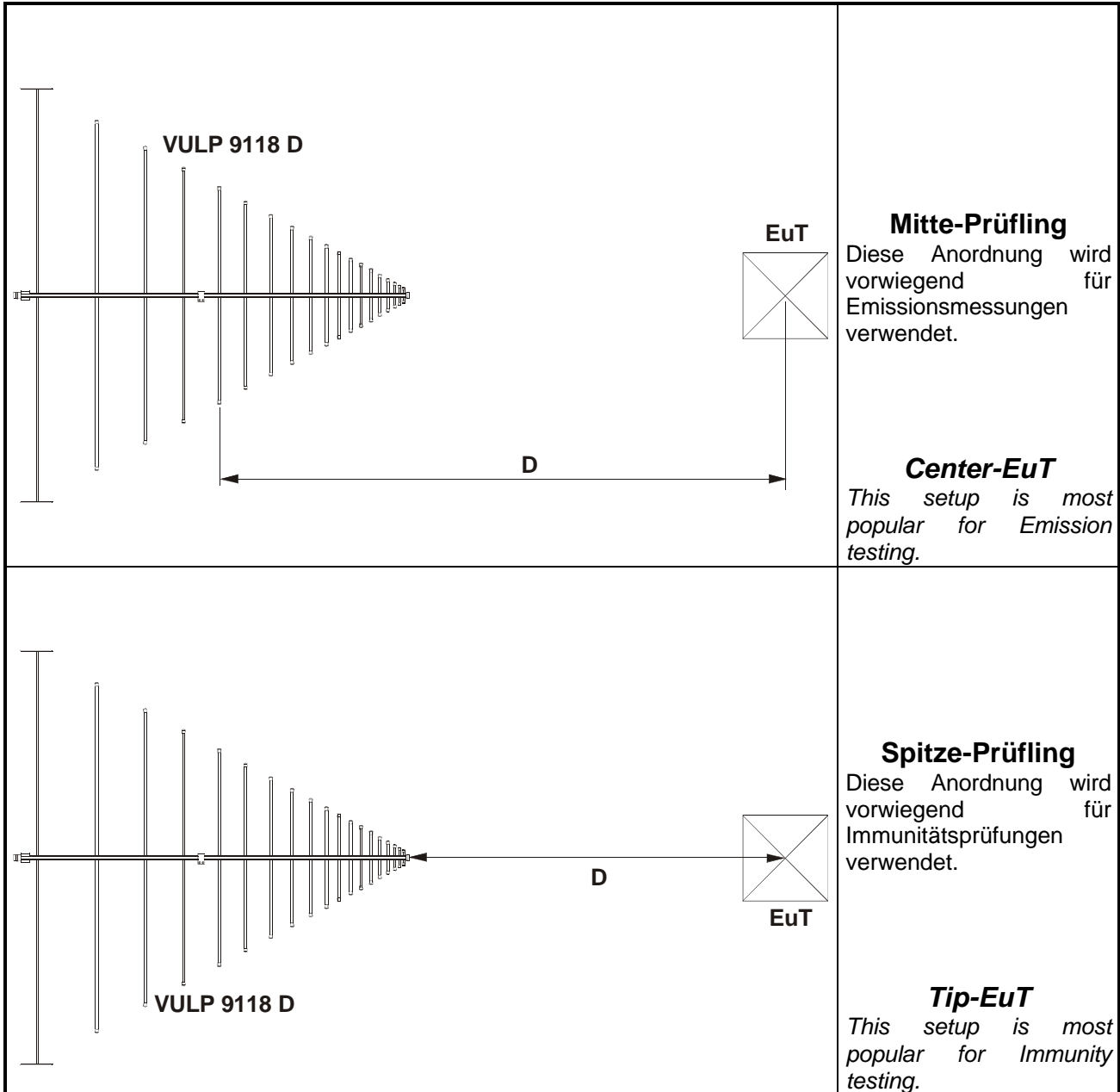


SCHWARZBECK MESS - ELEKTRONIK

An der Klinge 29 D-69250 Schönau Tel.: 06228/1001 Fax.: (49)6228/1003

VULP 9118 D Korrektur für kurze Messentfernung (Skizze der Bezugspunkte) Correction for short Measuring Distance (Sketch of Reference Points)



SCHWARZBECK MESS - ELEKTRONIK

An der Klinge 29 D-69250 Schönau Tel.: 06228/1001 Fax.: (49)6228/1003

VULP 9118 D Kalibrierdaten (Fernfeld und 1, 3, 10 m Spitze-Prüfling)

VULP 9118 D Calibration Data (Farfield and 1, 3, 10 m Tip-EuT)

| Frequency | Gain(Iso.) | Ant.-Fact k | gi (10 m) | k (10m) | gi (3m) | k (3m) | gi (1m) | k (1m) |
|-----------------------------------|-----------------------------------|-----------------------------------|--|---------|---------|--------|---------|--------|
| Frequenz | Gewinn | Ant.Faktor | gi (10 m) | k (10m) | gi (3m) | k (3m) | gi (1m) | k (1m) |
| MHz | dBi | dB/m | dBi | dB/m | dBi | dB/m | dBi | dB/m |
| 65.0 | 2.03 | 4.45 | 0.82 | 5.66 | -1.49 | 7.97 | -5.93 | 12.41 |
| 70.0 | 2.78 | 4.35 | 1.57 | 5.56 | -0.74 | 7.86 | -5.18 | 12.30 |
| 75.0 | 2.21 | 5.51 | 1.00 | 6.73 | -1.31 | 9.03 | -5.75 | 13.47 |
| 80.0 | 2.36 | 5.92 | 1.15 | 7.14 | -1.16 | 9.44 | -5.60 | 13.88 |
| 85.0 | 3.30 | 5.51 | 2.09 | 6.72 | -0.22 | 9.03 | -4.66 | 13.47 |
| 90.0 | 4.41 | 4.90 | 3.20 | 6.11 | 0.89 | 8.42 | -3.55 | 12.85 |
| 95.0 | 5.08 | 4.69 | 3.93 | 5.85 | 1.71 | 8.06 | -2.60 | 12.37 |
| 100.0 | 5.66 | 4.56 | 4.56 | 5.66 | 2.44 | 7.78 | -1.74 | 11.96 |
| 110.0 | 6.22 | 4.83 | 5.22 | 5.83 | 3.26 | 7.79 | -0.71 | 11.75 |
| 120.0 | 6.17 | 5.63 | 5.25 | 6.55 | 3.43 | 8.38 | -0.34 | 12.14 |
| 130.0 | 6.31 | 6.19 | 5.46 | 7.04 | 3.76 | 8.74 | 0.18 | 12.32 |
| 140.0 | 6.50 | 6.64 | 5.71 | 7.43 | 4.11 | 9.03 | 0.70 | 12.44 |
| 150.0 | 6.57 | 7.17 | 5.83 | 7.91 | 4.32 | 9.42 | 1.06 | 12.68 |
| 160.0 | 6.72 | 7.59 | 6.03 | 8.27 | 4.61 | 9.69 | 1.49 | 12.81 |
| 170.0 | 6.91 | 7.92 | 6.26 | 8.57 | 4.91 | 9.91 | 1.93 | 12.90 |
| 180.0 | 6.95 | 8.38 | 6.34 | 8.99 | 5.06 | 10.27 | 2.19 | 13.14 |
| 190.0 | 6.97 | 8.82 | 6.39 | 9.40 | 5.17 | 10.62 | 2.41 | 13.38 |
| 200.0 | 6.91 | 9.33 | 6.36 | 9.88 | 5.19 | 11.05 | 2.53 | 13.71 |
| 220.0 | 6.77 | 10.30 | 6.27 | 10.80 | 5.21 | 11.86 | 2.74 | 14.33 |
| 240.0 | 6.85 | 10.97 | 6.39 | 11.43 | 5.41 | 12.41 | 3.10 | 14.72 |
| 260.0 | 6.86 | 11.65 | 6.44 | 12.08 | 5.53 | 12.99 | 3.37 | 15.15 |
| 280.0 | 6.73 | 12.43 | 6.34 | 12.82 | 5.50 | 13.66 | 3.47 | 15.69 |
| 300.0 | 6.71 | 13.05 | 6.35 | 13.41 | 5.56 | 14.20 | 3.63 | 16.13 |
| 325.0 | 6.56 | 13.90 | 6.23 | 14.23 | 5.50 | 14.96 | 3.70 | 16.76 |
| 350.0 | 6.81 | 14.29 | 6.51 | 14.59 | 5.84 | 15.26 | 4.17 | 16.93 |
| 375.0 | 6.74 | 14.96 | 6.46 | 15.24 | 5.83 | 15.87 | 4.26 | 17.44 |
| 400.0 | 6.62 | 15.64 | 6.35 | 15.91 | 5.77 | 16.50 | 4.27 | 17.99 |
| 425.0 | 6.62 | 16.16 | 6.38 | 16.41 | 5.83 | 16.96 | 4.44 | 18.35 |
| 450.0 | 6.73 | 16.55 | 6.50 | 16.79 | 5.98 | 17.30 | 4.65 | 18.63 |
| 475.0 | 6.89 | 16.87 | 6.67 | 17.08 | 6.18 | 17.57 | 4.92 | 18.84 |
| 500.0 | 6.68 | 17.52 | 6.47 | 17.73 | 6.01 | 18.19 | 4.81 | 19.39 |
| 550.0 | 6.65 | 18.38 | 6.47 | 18.56 | 6.05 | 18.98 | 4.96 | 20.07 |
| 600.0 | 6.61 | 19.18 | 6.45 | 19.34 | 6.08 | 19.71 | 5.10 | 20.68 |
| 650.0 | 6.81 | 19.67 | 6.66 | 19.82 | 6.32 | 20.16 | 5.41 | 21.07 |
| 700.0 | 6.48 | 20.65 | 6.34 | 20.78 | 6.03 | 21.09 | 5.19 | 21.93 |
| 750.0 | 6.77 | 20.95 | 6.64 | 21.08 | 6.36 | 21.36 | 5.59 | 22.13 |
| 800.0 | 6.38 | 21.90 | 6.26 | 22.02 | 6.00 | 22.28 | 5.28 | 23.00 |
| 850.0 | 6.55 | 22.25 | 6.44 | 22.37 | 6.20 | 22.61 | 5.53 | 23.28 |
| 900.0 | 6.48 | 22.82 | 6.38 | 22.92 | 6.15 | 23.15 | 5.53 | 23.77 |
| 950.0 | 6.18 | 23.60 | 6.09 | 23.69 | 5.88 | 23.89 | 5.31 | 24.46 |
| 1000.0 | 6.55 | 23.67 | 6.46 | 23.76 | 6.27 | 23.95 | 5.72 | 24.50 |
| Bezugs- punkt: | Strahl- ungszone | Strahl- ungszone | Spitze der Log. - Per. Struktur | | | | | |
| Reference Point: | Radiating Zone | Radiating Zone | Tip of Log. - Per. Structure | | | | | |

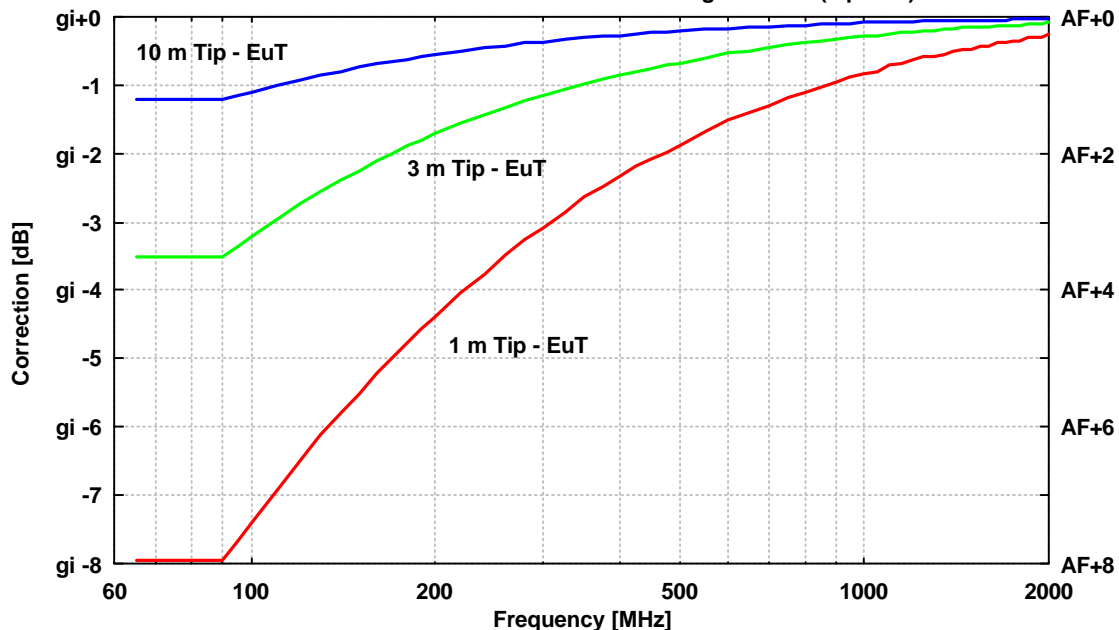
SCHWARZBECK MESS - ELEKTRONIK

An der Klinge 29 D-69250 Schönau Tel.: 06228/1001 Fax.: (49)6228/1003

VULP 9118 D Kalibrierdaten (Fernfeld und 1, 3, 10 m Spitze-Prüfling) VULP 9118 D Calibration Data (Farfield and 1, 3, 10 m Tip-EuT)

| Frequency | Gain(Iso.) | Ant.-Fact k | gi (10 m) | k (10m) | gi (3m) | k (3m) | gi (1m) | k (1m) |
|-----------------------------------|-----------------------------------|-----------------------------------|--|---------|---------|--------|---------|--------|
| Frequenz | Gewinn | Ant.Faktor | gi (10 m) | k (10m) | gi (3m) | k (3m) | gi (1m) | k (1m) |
| MHz | dBi | dB/m | dBi | dB/m | dBi | dB/m | dBi | dB/m |
| 1000.0 | 6.55 | 23.67 | 6.46 | 23.76 | 6.27 | 23.95 | 5.72 | 24.50 |
| 1050.0 | 6.50 | 24.14 | 6.42 | 24.23 | 6.23 | 24.41 | 5.71 | 24.93 |
| 1100.0 | 6.23 | 24.82 | 6.16 | 24.89 | 5.99 | 25.06 | 5.52 | 25.53 |
| 1150.0 | 5.95 | 25.48 | 5.88 | 25.55 | 5.72 | 25.71 | 5.28 | 26.15 |
| 1200.0 | 6.18 | 25.63 | 6.12 | 25.69 | 5.97 | 25.84 | 5.55 | 26.25 |
| 1250.0 | 6.15 | 26.01 | 6.09 | 26.07 | 5.95 | 26.21 | 5.56 | 26.60 |
| 1300.0 | 5.96 | 26.54 | 5.90 | 26.60 | 5.76 | 26.74 | 5.37 | 27.13 |
| 1350.0 | 5.36 | 27.46 | 5.30 | 27.52 | 5.17 | 27.65 | 4.81 | 28.01 |
| 1400.0 | 5.32 | 27.82 | 5.27 | 27.87 | 5.15 | 27.99 | 4.81 | 28.33 |
| 1450.0 | 5.59 | 27.86 | 5.54 | 27.91 | 5.43 | 28.02 | 5.12 | 28.32 |
| 1500.0 | 5.54 | 28.20 | 5.49 | 28.25 | 5.38 | 28.36 | 5.07 | 28.67 |
| 1550.0 | 4.96 | 29.06 | 4.92 | 29.11 | 4.82 | 29.21 | 4.54 | 29.49 |
| 1600.0 | 3.90 | 30.40 | 3.86 | 30.45 | 3.76 | 30.55 | 3.48 | 30.83 |
| 1650.0 | 3.29 | 31.28 | 3.25 | 31.32 | 3.16 | 31.41 | 2.91 | 31.66 |
| 1700.0 | 2.79 | 32.04 | 2.75 | 32.08 | 2.66 | 32.17 | 2.41 | 32.42 |
| 1750.0 | 3.20 | 31.88 | 3.17 | 31.92 | 3.08 | 32.00 | 2.86 | 32.22 |
| 1800.0 | 4.07 | 31.26 | 4.04 | 31.29 | 3.95 | 31.37 | 3.73 | 31.60 |
| 1850.0 | 4.27 | 31.30 | 4.24 | 31.32 | 4.17 | 31.39 | 3.97 | 31.59 |
| 1900.0 | 3.67 | 32.13 | 3.64 | 32.16 | 3.57 | 32.23 | 3.37 | 32.42 |
| 1950.0 | 2.55 | 33.47 | 2.52 | 33.50 | 2.45 | 33.57 | 2.25 | 33.77 |
| 2000.0 | 1.11 | 35.13 | 1.08 | 35.16 | 1.02 | 35.22 | 0.85 | 35.39 |
| Bezugs- punkt: | Strahl- ungszone | Strahl- ungszone | Spitze der Log. - Per. Struktur | | | | | |
| Reference Point: | Radiating Zone | Radiating Zone | Tip of Log. - Per. Structure | | | | | |

VULP 9118 D Korrektur für kurze Messentfernung (Bezugspunkt: Spitze)
VULP 9118 D Correction for short Measuring Distance (Tip-EuT)



SCHWARZBECK MESS - ELEKTRONIK

An der Klinge 29 D-69250 Schönau Tel.: 06228/1001 Fax.: (49)6228/1003

VULP 9118 D Kalibrierdaten (Fernfeld und 3, 10 m Mitte-Prüfling)

VULP 9118 D Calibration Data (Farfield and 3, 10 m Center-EuT)

| Frequency | Gain(Iso.) | Ant.-Fact k | gi (10 m) | k (10m) | gi (3m) | k (3m) | gi (1m) | k (1m) |
|-----------------------------------|-----------------------------------|-----------------------------------|--|---------|---------|--------|---------|--------|
| Frequenz | Gewinn | Ant.Faktor | gi (10 m) | k (10m) | gi (3m) | k (3m) | gi (1m) | k (1m) |
| MHz | dBi | dB/m | dBi | dB/m | dBi | dB/m | dBi | dB/m |
| 65.0 | 2.03 | 4.45 | 1.40 | 5.08 | 0.09 | 6.39 | -2.83 | 9.31 |
| 70.0 | 2.78 | 4.35 | 2.15 | 4.97 | 0.84 | 6.28 | -2.08 | 9.20 |
| 75.0 | 2.21 | 5.51 | 1.58 | 6.14 | 0.27 | 7.45 | -2.65 | 10.37 |
| 80.0 | 2.36 | 5.92 | 1.73 | 6.55 | 0.42 | 7.86 | -2.50 | 10.78 |
| 85.0 | 3.30 | 5.51 | 2.67 | 6.14 | 1.36 | 7.45 | -1.56 | 10.37 |
| 90.0 | 4.41 | 4.90 | 3.78 | 5.52 | 2.47 | 6.83 | -0.45 | 9.76 |
| 95.0 | 5.08 | 4.69 | 4.52 | 5.26 | 3.33 | 6.45 | 0.63 | 9.15 |
| 100.0 | 5.66 | 4.56 | 5.16 | 5.06 | 4.09 | 6.13 | 1.60 | 8.62 |
| 110.0 | 6.22 | 4.83 | 5.82 | 5.23 | 4.96 | 6.09 | 2.87 | 8.17 |
| 120.0 | 6.17 | 5.63 | 5.86 | 5.95 | 5.17 | 6.63 | 3.47 | 8.34 |
| 130.0 | 6.31 | 6.19 | 6.07 | 6.42 | 5.55 | 6.95 | 4.20 | 8.30 |
| 140.0 | 6.50 | 6.64 | 6.33 | 6.81 | 5.94 | 7.20 | 4.92 | 8.23 |
| 150.0 | 6.57 | 7.17 | 6.45 | 7.29 | 6.19 | 7.55 | 5.47 | 8.27 |
| 160.0 | 6.72 | 7.59 | 6.66 | 7.65 | 6.51 | 7.80 | 6.09 | 8.21 |
| 170.0 | 6.91 | 7.92 | 6.89 | 7.94 | 6.84 | 7.99 | 6.70 | 8.13 |
| 180.0 | 6.95 | 8.38 | 6.97 | 8.36 | 7.01 | 8.32 | 7.13 | 8.20 |
| 190.0 | 6.97 | 8.82 | 7.02 | 8.77 | 7.15 | 8.65 | 7.51 | 8.29 |
| 200.0 | 6.91 | 9.33 | 6.99 | 9.25 | 7.19 | 9.05 | 7.78 | 8.46 |
| 220.0 | 6.77 | 10.30 | 6.91 | 10.16 | 7.25 | 9.82 | 8.28 | 8.78 |
| 240.0 | 6.85 | 10.97 | 7.03 | 10.79 | 7.48 | 10.34 | 8.90 | 8.93 |
| 260.0 | 6.86 | 11.65 | 7.08 | 11.44 | 7.63 | 10.89 | 9.42 | 9.10 |
| 280.0 | 6.73 | 12.43 | 6.99 | 12.17 | 7.63 | 11.53 | 9.77 | 9.40 |
| 300.0 | 6.71 | 13.05 | 7.00 | 12.77 | 7.71 | 12.06 | 10.12 | 9.64 |
| 325.0 | 6.56 | 13.90 | 6.88 | 13.58 | 7.67 | 12.79 | 10.44 | 10.02 |
| 350.0 | 6.81 | 14.29 | 7.16 | 13.94 | 8.04 | 13.07 | 11.17 | 9.93 |
| 375.0 | 6.74 | 14.96 | 7.11 | 14.59 | 8.05 | 13.65 | 11.47 | 10.23 |
| 400.0 | 6.62 | 15.64 | 7.01 | 15.25 | 8.00 | 14.26 | 11.66 | 10.60 |
| 425.0 | 6.62 | 16.16 | 7.03 | 15.75 | 8.08 | 14.70 | 12.05 | 10.73 |
| 450.0 | 6.73 | 16.55 | 7.16 | 16.13 | 8.24 | 15.04 | 12.41 | 10.87 |
| 475.0 | 6.89 | 16.87 | 7.33 | 16.42 | 8.46 | 15.30 | 12.82 | 10.93 |
| 500.0 | 6.68 | 17.52 | 7.13 | 17.06 | 8.30 | 15.90 | 12.88 | 11.32 |
| 550.0 | 6.65 | 18.38 | 7.13 | 17.90 | 8.36 | 16.67 | 13.30 | 11.73 |
| 600.0 | 6.61 | 19.18 | 7.11 | 18.67 | 8.40 | 17.38 | 13.74 | 12.04 |
| 650.0 | 6.81 | 19.67 | 7.32 | 19.15 | 8.66 | 17.82 | 14.24 | 12.24 |
| 700.0 | 6.48 | 20.65 | 7.01 | 20.11 | 8.38 | 18.74 | 14.22 | 12.90 |
| 750.0 | 6.77 | 20.95 | 7.31 | 20.41 | 8.73 | 18.99 | 14.84 | 12.88 |
| 800.0 | 6.38 | 21.90 | 6.93 | 21.35 | 8.37 | 19.91 | 14.67 | 13.61 |
| 850.0 | 6.55 | 22.25 | 7.11 | 21.70 | 8.58 | 20.23 | 15.07 | 13.74 |
| 900.0 | 6.48 | 22.82 | 7.05 | 22.26 | 8.55 | 20.76 | 15.23 | 14.07 |
| 950.0 | 6.18 | 23.60 | 6.76 | 23.02 | 8.28 | 21.49 | 15.18 | 14.60 |
| 1000.0 | 6.55 | 23.67 | 7.13 | 23.09 | 8.67 | 21.55 | 15.67 | 14.55 |
| Bezugs- punkt: | Strahl- ungszone | Strahl- ungszone | Mitte der Log. - Per. Struktur | | | | | |
| Reference Point: | Radiating Zone | Radiating Zone | Center of Log. - Per. Structure | | | | | |

SCHWARZBECK MESS - ELEKTRONIK

An der Klinge 29 D-69250 Schönau Tel.: 06228/1001 Fax.: (49)6228/1003

VULP 9118 D Kalibrierdaten (Fernfeld und 3, 10 m Mitte-Prüfling)

VULP 9118 D Calibration Data (Farfield and 3, 10 m Center-EuT)

| Frequency | Gain(Iso.) | Ant.-Fact k | gi (10 m) | k (10m) | gi (3m) | k (3m) | gi (1m) | k (1m) |
|-----------------------------------|-----------------------------------|-----------------------------------|--|---------|---------|--------|---------|--------|
| Frequenz | Gewinn | Ant.Faktor | gi (10 m) | k (10m) | gi (3m) | k (3m) | gi (1m) | k (1m) |
| MHz | dBi | dB/m | dBi | dB/m | dBi | dB/m | dBi | dB/m |
| 1000.0 | 6.55 | 23.67 | 7.13 | 23.09 | 8.67 | 21.55 | 15.67 | 14.55 |
| 1050.0 | 6.50 | 24.14 | 7.09 | 23.56 | 8.64 | 22.00 | 15.74 | 14.90 |
| 1100.0 | 6.23 | 24.82 | 6.83 | 24.22 | 8.41 | 22.64 | 15.73 | 15.32 |
| 1150.0 | 5.95 | 25.48 | 6.55 | 24.88 | 8.15 | 23.29 | 15.58 | 15.85 |
| 1200.0 | 6.18 | 25.63 | 6.79 | 25.02 | 8.39 | 23.41 | 15.94 | 15.86 |
| 1250.0 | 6.15 | 26.01 | 6.76 | 25.40 | 8.38 | 23.78 | 16.05 | 16.11 |
| 1300.0 | 5.96 | 26.54 | 6.57 | 25.93 | 8.19 | 24.31 | 15.86 | 16.64 |
| 1350.0 | 5.36 | 27.46 | 5.98 | 26.85 | 7.61 | 25.22 | 15.39 | 17.43 |
| 1400.0 | 5.32 | 27.82 | 5.94 | 27.20 | 7.59 | 25.55 | 15.49 | 17.65 |
| 1450.0 | 5.59 | 27.86 | 6.22 | 27.23 | 7.88 | 25.57 | 15.90 | 17.54 |
| 1500.0 | 5.54 | 28.20 | 6.17 | 27.58 | 7.83 | 25.91 | 15.85 | 17.89 |
| 1550.0 | 4.96 | 29.06 | 5.59 | 28.44 | 7.27 | 26.76 | 15.42 | 18.61 |
| 1600.0 | 3.90 | 30.40 | 4.53 | 29.77 | 6.21 | 28.09 | 14.36 | 19.94 |
| 1650.0 | 3.29 | 31.28 | 3.93 | 30.64 | 5.62 | 28.95 | 13.89 | 20.68 |
| 1700.0 | 2.79 | 32.04 | 3.43 | 31.40 | 5.12 | 29.71 | 13.39 | 21.44 |
| 1750.0 | 3.20 | 31.88 | 3.84 | 31.24 | 5.55 | 29.54 | 13.95 | 21.13 |
| 1800.0 | 4.07 | 31.26 | 4.71 | 30.62 | 6.42 | 28.91 | 14.82 | 20.50 |
| 1850.0 | 4.27 | 31.30 | 4.91 | 30.65 | 6.63 | 28.93 | 15.17 | 20.39 |
| 1900.0 | 3.67 | 32.13 | 4.31 | 31.48 | 6.03 | 29.76 | 14.57 | 21.22 |
| 1950.0 | 2.55 | 33.47 | 3.19 | 32.83 | 4.91 | 31.11 | 13.45 | 22.57 |
| 2000.0 | 1.11 | 35.13 | 1.76 | 34.48 | 3.49 | 32.75 | 12.17 | 24.07 |
| Bezugs- punkt: | Strahl- ungszone | Strahl- ungszone | Mitte der Log. - Per. Struktur | | | | | |
| Reference Point: | Radiating Zone | Radiating Zone | Center of Log. - Per. Structure | | | | | |

VULP 9118 D Korrektur für kurze Messentfernung (Bezugspunkt: Mitte)

VULP 9118 D Correction for short Measuring Distance (Center-EuT)

