

# LongRanger 2050 - Signal to Jammer Ratio

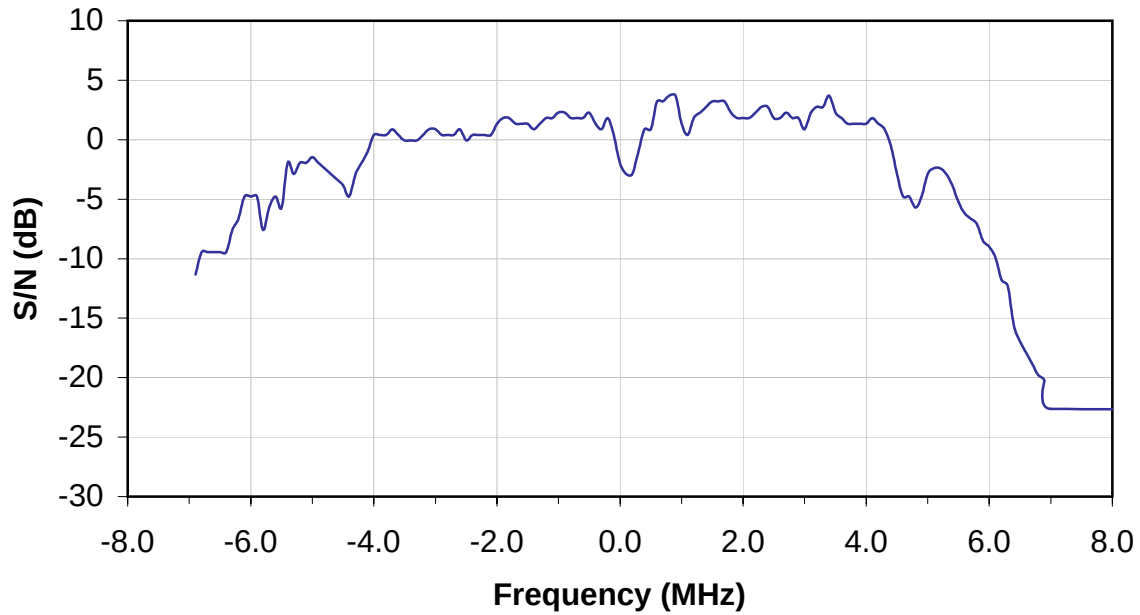
Chip Rate = 9.216 Mchips

BER= 0.000050

DQPSK Eb/No= 11.2 dB

Jammer Level -56.0 dBm

## Processing Gain Measurements



Average over 9.216 MHz channel width

0.88 dB

| Freq. Number | Jam Freq, MHz | Signal, dBm | Freq.<br>from Center | S/J, dB |
|--------------|---------------|-------------|----------------------|---------|
| 1            | 2434.572      | -67.34      | -7.0                 | -11.34  |
| 2            | 2434.672      | -65.46      | -6.9                 | -9.46   |
| 3            | 2434.772      | -65.46      | -6.8                 | -9.46   |
| 4            | 2434.872      | -65.46      | -6.7                 | -9.46   |
| 5            | 2434.972      | -65.46      | -6.6                 | -9.46   |
| 6            | 2435.072      | -65.46      | -6.5                 | -9.46   |
| 7            | 2435.172      | -63.58      | -6.4                 | -7.58   |
| 8            | 2435.272      | -62.64      | -6.3                 | -6.64   |
| 9            | 2435.372      | -60.76      | -6.2                 | -4.76   |
| 10           | 2435.472      | -60.76      | -6.1                 | -4.76   |

|    |          |        |      |       |
|----|----------|--------|------|-------|
| 11 | 2435.572 | -60.76 | -6.0 | -4.76 |
| 12 | 2435.672 | -63.58 | -5.9 | -7.58 |
| 13 | 2435.772 | -61.70 | -5.8 | -5.70 |
| 14 | 2435.872 | -60.76 | -5.7 | -4.76 |
| 15 | 2435.972 | -61.70 | -5.6 | -5.70 |
| 16 | 2436.072 | -57.94 | -5.5 | -1.94 |
| 17 | 2436.172 | -58.88 | -5.4 | -2.88 |
| 18 | 2436.272 | -57.94 | -5.3 | -1.94 |
| 19 | 2436.372 | -57.94 | -5.2 | -1.94 |
| 20 | 2436.472 | -57.47 | -5.1 | -1.47 |
| 21 | 2436.572 | -57.94 | -5.0 | -1.94 |
| 22 | 2436.672 | -58.41 | -4.9 | -2.41 |
| 23 | 2436.772 | -58.88 | -4.8 | -2.88 |
| 24 | 2436.872 | -59.35 | -4.7 | -3.35 |
| 25 | 2436.972 | -59.82 | -4.6 | -3.82 |
| 26 | 2437.072 | -60.76 | -4.5 | -4.76 |
| 27 | 2437.172 | -58.88 | -4.4 | -2.88 |
| 28 | 2437.272 | -57.94 | -4.3 | -1.94 |
| 29 | 2437.372 | -57.00 | -4.2 | -1.00 |
| 30 | 2437.472 | -55.59 | -4.1 | 0.41  |
| 31 | 2437.572 | -55.59 | -4.0 | 0.41  |
| 32 | 2437.672 | -55.59 | -3.9 | 0.41  |
| 33 | 2437.772 | -55.12 | -3.8 | 0.88  |
| 34 | 2437.872 | -55.59 | -3.7 | 0.41  |
| 35 | 2437.972 | -56.06 | -3.6 | -0.06 |
| 36 | 2438.072 | -56.06 | -3.5 | -0.06 |
| 37 | 2438.172 | -56.06 | -3.4 | -0.06 |
| 38 | 2438.272 | -55.59 | -3.3 | 0.41  |
| 39 | 2438.372 | -55.12 | -3.2 | 0.88  |
| 40 | 2438.472 | -55.12 | -3.1 | 0.88  |
| 41 | 2438.572 | -55.59 | -3.0 | 0.41  |
| 42 | 2438.672 | -55.59 | -2.9 | 0.41  |
| 43 | 2438.772 | -55.59 | -2.8 | 0.41  |
| 44 | 2438.872 | -55.12 | -2.7 | 0.88  |
| 45 | 2438.972 | -56.06 | -2.6 | -0.06 |
| 46 | 2439.072 | -55.59 | -2.5 | 0.41  |
| 47 | 2439.172 | -55.59 | -2.4 | 0.41  |

|    |          |        |      |       |
|----|----------|--------|------|-------|
| 48 | 2439.272 | -55.59 | -2.3 | 0.41  |
| 49 | 2439.372 | -55.59 | -2.2 | 0.41  |
| 50 | 2439.472 | -54.65 | -2.1 | 1.35  |
| 51 | 2439.572 | -54.18 | -2.0 | 1.82  |
| 52 | 2439.672 | -54.18 | -1.9 | 1.82  |
| 53 | 2439.772 | -54.65 | -1.8 | 1.35  |
| 54 | 2439.872 | -54.65 | -1.7 | 1.35  |
| 55 | 2439.972 | -54.65 | -1.6 | 1.35  |
| 56 | 2440.072 | -55.12 | -1.5 | 0.88  |
| 57 | 2440.172 | -54.65 | -1.4 | 1.35  |
| 58 | 2440.272 | -54.18 | -1.3 | 1.82  |
| 59 | 2440.372 | -54.18 | -1.2 | 1.82  |
| 60 | 2440.472 | -53.71 | -1.1 | 2.29  |
| 61 | 2440.572 | -53.71 | -1.0 | 2.29  |
| 62 | 2440.672 | -54.18 | -0.9 | 1.82  |
| 63 | 2440.772 | -54.18 | -0.8 | 1.82  |
| 64 | 2440.872 | -54.18 | -0.7 | 1.82  |
| 65 | 2440.972 | -53.71 | -0.6 | 2.29  |
| 66 | 2441.072 | -54.65 | -0.5 | 1.35  |
| 67 | 2441.172 | -55.12 | -0.4 | 0.88  |
| 68 | 2441.272 | -54.18 | -0.3 | 1.82  |
| 69 | 2441.372 | -55.59 | -0.2 | 0.41  |
| 70 | 2441.472 | -57.94 | -0.1 | -1.94 |
| 71 | 2441.572 | -58.88 | 0.0  | -2.88 |
| 72 | 2441.672 | -58.88 | 0.1  | -2.88 |
| 73 | 2441.772 | -57.00 | 0.2  | -1.00 |
| 74 | 2441.872 | -55.12 | 0.3  | 0.88  |
| 75 | 2441.972 | -55.12 | 0.4  | 0.88  |
| 76 | 2442.072 | -52.77 | 0.5  | 3.23  |
| 77 | 2442.172 | -52.77 | 0.6  | 3.23  |
| 78 | 2442.272 | -52.30 | 0.7  | 3.70  |
| 79 | 2442.372 | -52.30 | 0.8  | 3.70  |
| 80 | 2442.472 | -54.65 | 0.9  | 1.35  |
| 81 | 2442.572 | -55.59 | 1.0  | 0.41  |
| 82 | 2442.672 | -54.18 | 1.1  | 1.82  |
| 83 | 2442.772 | -53.71 | 1.2  | 2.29  |
| 84 | 2442.872 | -53.24 | 1.3  | 2.76  |

|     |          |        |     |       |
|-----|----------|--------|-----|-------|
| 85  | 2442.972 | -52.77 | 1.4 | 3.23  |
| 86  | 2443.072 | -52.77 | 1.5 | 3.23  |
| 87  | 2443.172 | -52.77 | 1.6 | 3.23  |
| 88  | 2443.272 | -53.71 | 1.7 | 2.29  |
| 89  | 2443.372 | -54.18 | 1.8 | 1.82  |
| 90  | 2443.472 | -54.18 | 1.9 | 1.82  |
| 91  | 2443.572 | -54.18 | 2.0 | 1.82  |
| 92  | 2443.672 | -53.71 | 2.1 | 2.29  |
| 93  | 2443.772 | -53.24 | 2.2 | 2.76  |
| 94  | 2443.872 | -53.24 | 2.3 | 2.76  |
| 95  | 2443.972 | -54.18 | 2.4 | 1.82  |
| 96  | 2444.072 | -54.18 | 2.5 | 1.82  |
| 97  | 2444.172 | -53.71 | 2.6 | 2.29  |
| 98  | 2444.272 | -54.18 | 2.7 | 1.82  |
| 99  | 2444.372 | -54.18 | 2.8 | 1.82  |
| 100 | 2444.472 | -55.12 | 2.9 | 0.88  |
| 101 | 2444.572 | -53.71 | 3.0 | 2.29  |
| 102 | 2444.672 | -53.24 | 3.1 | 2.76  |
| 103 | 2444.772 | -53.24 | 3.2 | 2.76  |
| 104 | 2444.872 | -52.30 | 3.3 | 3.70  |
| 105 | 2444.972 | -53.71 | 3.4 | 2.29  |
| 106 | 2445.072 | -54.18 | 3.5 | 1.82  |
| 107 | 2445.172 | -54.65 | 3.6 | 1.35  |
| 108 | 2445.272 | -54.65 | 3.7 | 1.35  |
| 109 | 2445.372 | -54.65 | 3.8 | 1.35  |
| 110 | 2445.472 | -54.65 | 3.9 | 1.35  |
| 111 | 2445.572 | -54.18 | 4.0 | 1.82  |
| 112 | 2445.672 | -54.65 | 4.1 | 1.35  |
| 113 | 2445.772 | -55.12 | 4.2 | 0.88  |
| 114 | 2445.872 | -56.53 | 4.3 | -0.53 |
| 115 | 2445.972 | -58.88 | 4.4 | -2.88 |
| 116 | 2446.072 | -60.76 | 4.5 | -4.76 |
| 117 | 2446.172 | -60.76 | 4.6 | -4.76 |
| 118 | 2446.272 | -61.70 | 4.7 | -5.70 |
| 119 | 2446.372 | -60.76 | 4.8 | -4.76 |
| 120 | 2446.472 | -58.88 | 4.9 | -2.88 |
| 121 | 2446.572 | -58.41 | 5.0 | -2.41 |

|     |          |        |     |        |
|-----|----------|--------|-----|--------|
| 122 | 2446.672 | -58.41 | 5.1 | -2.41  |
| 123 | 2446.772 | -58.88 | 5.2 | -2.88  |
| 124 | 2446.872 | -59.82 | 5.3 | -3.82  |
| 125 | 2446.972 | -61.23 | 5.4 | -5.23  |
| 126 | 2447.072 | -62.17 | 5.5 | -6.17  |
| 127 | 2447.172 | -62.64 | 5.6 | -6.64  |
| 128 | 2447.272 | -63.11 | 5.7 | -7.11  |
| 129 | 2447.372 | -64.52 | 5.8 | -8.52  |
| 130 | 2447.472 | -64.99 | 5.9 | -8.99  |
| 131 | 2447.572 | -65.93 | 6.0 | -9.93  |
| 132 | 2447.672 | -67.81 | 6.1 | -11.81 |
| 133 | 2447.772 | -68.28 | 6.2 | -12.28 |
| 134 | 2447.872 | -71.57 | 6.3 | -15.57 |
| 135 | 2447.972 | -72.98 | 6.4 | -16.98 |
| 136 | 2448.072 | -73.92 | 6.5 | -17.92 |
| 137 | 2448.172 | -74.86 | 6.6 | -18.86 |
| 138 | 2448.272 | -75.80 | 6.7 | -19.80 |
| 139 | 2448.372 | -76.27 | 6.8 | -20.27 |
| 140 | 2448.472 | -78.62 | 6.9 | -22.62 |
| 141 | 2448.572 | -80.50 | 7.0 | -24.50 |