

## ANTENNA DESCRIPTION

|               |                      |
|---------------|----------------------|
| Applicant:    | IDENTEC SOLUTIONS AG |
| Model:        | IDS1009              |
| Product name: | iQ350 RNB            |

### 1.1 RF antenna

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |              |  |  |            |            |              |           |        |        |        |                       |         |         |         |                    |      |      |      |                     |        |        |        |              |       |       |       |  |              |              |           |        |        |                       |         |         |                    |      |      |                     |         |        |              |       |       |
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| Description:          | LTE antenna ANTENOVA SR4L002<br>UHF antenna 902-928MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |              |  |  |            |            |              |           |        |        |        |                       |         |         |         |                    |      |      |      |                     |        |        |        |              |       |       |       |  |              |              |           |        |        |                       |         |         |                    |      |      |                     |         |        |              |       |       |
| RF characteristics:   | <table><tr><td></td><td>698-824MHZ</td><td>824-960MHZ</td><td>1710-2170MHZ</td></tr><tr><td>PEAK GAIN</td><td>0.5dBi</td><td>1.0dBi</td><td>2.5dBi</td></tr><tr><td>AVERAGE GAIN (LINEAR)</td><td>-1.5dBi</td><td>-1.5dBi</td><td>-1.5dBi</td></tr><tr><td>AVERAGE EFFICIENCY</td><td>&gt;45%</td><td>&gt;60%</td><td>&gt;65%</td></tr><tr><td>MAXIMUM RETURN LOSS</td><td>-6.0dB</td><td>-6.0dB</td><td>-6.0dB</td></tr><tr><td>MAXIMUM VSWR</td><td>3.2:1</td><td>2.8:1</td><td>3.1:1</td></tr></table><br><table><tr><td></td><td>2300-2400MHZ</td><td>2500-2690MHZ</td></tr><tr><td>PEAK GAIN</td><td>1.6dBi</td><td>2.5dBi</td></tr><tr><td>AVERAGE GAIN (LINEAR)</td><td>-2.0dBi</td><td>-2.0dBi</td></tr><tr><td>AVERAGE EFFICIENCY</td><td>&gt;50%</td><td>&gt;50%</td></tr><tr><td>MAXIMUM RETURN LOSS</td><td>-10.0dB</td><td>-5.0dB</td></tr><tr><td>MAXIMUM VSWR</td><td>1.7:1</td><td>3.4:1</td></tr></table> <p><i>All data measured on Antenna's evaluation PCB Part<br/>No. SR4L002-EVB-1</i></p> |              |              |  |  | 698-824MHZ | 824-960MHZ | 1710-2170MHZ | PEAK GAIN | 0.5dBi | 1.0dBi | 2.5dBi | AVERAGE GAIN (LINEAR) | -1.5dBi | -1.5dBi | -1.5dBi | AVERAGE EFFICIENCY | >45% | >60% | >65% | MAXIMUM RETURN LOSS | -6.0dB | -6.0dB | -6.0dB | MAXIMUM VSWR | 3.2:1 | 2.8:1 | 3.1:1 |  | 2300-2400MHZ | 2500-2690MHZ | PEAK GAIN | 1.6dBi | 2.5dBi | AVERAGE GAIN (LINEAR) | -2.0dBi | -2.0dBi | AVERAGE EFFICIENCY | >50% | >50% | MAXIMUM RETURN LOSS | -10.0dB | -5.0dB | MAXIMUM VSWR | 1.7:1 | 3.4:1 |
|                       | 698-824MHZ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 824-960MHZ   | 1710-2170MHZ |  |  |            |            |              |           |        |        |        |                       |         |         |         |                    |      |      |      |                     |        |        |        |              |       |       |       |  |              |              |           |        |        |                       |         |         |                    |      |      |                     |         |        |              |       |       |
| PEAK GAIN             | 0.5dBi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.0dBi       | 2.5dBi       |  |  |            |            |              |           |        |        |        |                       |         |         |         |                    |      |      |      |                     |        |        |        |              |       |       |       |  |              |              |           |        |        |                       |         |         |                    |      |      |                     |         |        |              |       |       |
| AVERAGE GAIN (LINEAR) | -1.5dBi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -1.5dBi      | -1.5dBi      |  |  |            |            |              |           |        |        |        |                       |         |         |         |                    |      |      |      |                     |        |        |        |              |       |       |       |  |              |              |           |        |        |                       |         |         |                    |      |      |                     |         |        |              |       |       |
| AVERAGE EFFICIENCY    | >45%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | >60%         | >65%         |  |  |            |            |              |           |        |        |        |                       |         |         |         |                    |      |      |      |                     |        |        |        |              |       |       |       |  |              |              |           |        |        |                       |         |         |                    |      |      |                     |         |        |              |       |       |
| MAXIMUM RETURN LOSS   | -6.0dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | -6.0dB       | -6.0dB       |  |  |            |            |              |           |        |        |        |                       |         |         |         |                    |      |      |      |                     |        |        |        |              |       |       |       |  |              |              |           |        |        |                       |         |         |                    |      |      |                     |         |        |              |       |       |
| MAXIMUM VSWR          | 3.2:1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2.8:1        | 3.1:1        |  |  |            |            |              |           |        |        |        |                       |         |         |         |                    |      |      |      |                     |        |        |        |              |       |       |       |  |              |              |           |        |        |                       |         |         |                    |      |      |                     |         |        |              |       |       |
|                       | 2300-2400MHZ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2500-2690MHZ |              |  |  |            |            |              |           |        |        |        |                       |         |         |         |                    |      |      |      |                     |        |        |        |              |       |       |       |  |              |              |           |        |        |                       |         |         |                    |      |      |                     |         |        |              |       |       |
| PEAK GAIN             | 1.6dBi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2.5dBi       |              |  |  |            |            |              |           |        |        |        |                       |         |         |         |                    |      |      |      |                     |        |        |        |              |       |       |       |  |              |              |           |        |        |                       |         |         |                    |      |      |                     |         |        |              |       |       |
| AVERAGE GAIN (LINEAR) | -2.0dBi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -2.0dBi      |              |  |  |            |            |              |           |        |        |        |                       |         |         |         |                    |      |      |      |                     |        |        |        |              |       |       |       |  |              |              |           |        |        |                       |         |         |                    |      |      |                     |         |        |              |       |       |
| AVERAGE EFFICIENCY    | >50%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | >50%         |              |  |  |            |            |              |           |        |        |        |                       |         |         |         |                    |      |      |      |                     |        |        |        |              |       |       |       |  |              |              |           |        |        |                       |         |         |                    |      |      |                     |         |        |              |       |       |
| MAXIMUM RETURN LOSS   | -10.0dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -5.0dB       |              |  |  |            |            |              |           |        |        |        |                       |         |         |         |                    |      |      |      |                     |        |        |        |              |       |       |       |  |              |              |           |        |        |                       |         |         |                    |      |      |                     |         |        |              |       |       |
| MAXIMUM VSWR          | 1.7:1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3.4:1        |              |  |  |            |            |              |           |        |        |        |                       |         |         |         |                    |      |      |      |                     |        |        |        |              |       |       |       |  |              |              |           |        |        |                       |         |         |                    |      |      |                     |         |        |              |       |       |

Photo:

