

## **Antenna Kitting for LTE/UMTS/GSM Compensator**

Originator: Khaled Bathich  
Approver: Raimo Jacobi  
Location: Dabendorf, Germany

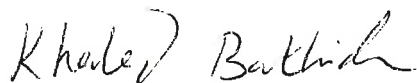
**Change History**

<b>Version</b>	<b>Date</b>	<b>Status</b>	<b>Handled by</b>	<b>Comments</b>
0.1	19-Dec-16	draft	Khaled Bathich	
1.0	20-Jan-17	review	Raimo Jacobi	
2.0	24-Feb-17	release	Khaled Bathich	

To whom it may concern:

The antenna kitting options were done for 9 mobile outside car antennas that can be used with the LTE/UMTS/GSM Compensator. Inside antenna options are not applicable for the Compensator.

Yours sincerely,

A handwritten signature in black ink that reads "Khaled Bathich". The signature is written in a cursive style.

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List of operational frequency bands supported by the Laird LTE/UMTS/GSM Compensator:

Operational Frequency Band	Uplink Frequency Range (MHz)
12	698-716
13	777-787
5	824-849
4	1710-1755
2	1850-1910

Final output power limited to 30 dBm (EIRP) in all operational uplink frequency bands:

Operational Frequency Band	12	13	5	4	2
Max. Conducted Uplink Output Power (dBm)	22.70	22.20	28.40	21.50	28.00

List of fixed outside antenna kit options:

1. E-Call Antenna (4M0.035.504)

Operational Frequency Band	12	13	5	4	2
Antenna Gain (dBi)	2.00	2.00	2.00	2.00	2.00
Min. Cable Loss (dB)	0.53	0.53	0.57	0.87	0.87
Max. EIRP Uplink Output Power (dBm)	<b>24.17</b>	<b>23.67</b>	<b>29.83</b>	<b>22.63</b>	<b>29.13</b>

2. Bumper Antenna (4M0.035.507)

Operational Frequency Band	12	13	5	4	2
Antenna Gain (dBi)	2.00	2.00	2.00	2.00	2.00
Min. Cable Loss (dB)	0.53	0.53	0.57	0.87	0.87
Max. EIRP Uplink Output Power (dBm)	<b>24.17</b>	<b>23.67</b>	<b>29.83</b>	<b>22.63</b>	<b>29.13</b>

3. Shark-Fin Antenna (3C0.035.507.N)

Operational Frequency Band	12	13	5	4	2
Antenna Gain (dBi)	1.70	1.70	1.70	2.50	2.50
Min. Cable Loss (dB)	1.06	1.06	1.14	1.74	1.74
Max. EIRP Uplink Output Power (dBm)	<b>23.34</b>	<b>22.84</b>	<b>28.96</b>	<b>22.26</b>	<b>28.76</b>

4. Rear Windshield Antenna (3G5.035.534)

Operational Frequency Band	12	13	5	4	2
Antenna Gain (dBi)	-2.00	-2.00	-2.00	-0.60	-0.60
Min. Cable Loss (dB)	0.53	0.53	0.57	0.87	0.87
Max. EIRP Uplink Output Power (dBm)	<b>20.17</b>	<b>19.67</b>	<b>25.83</b>	<b>20.03</b>	<b>26.53</b>

5. Shark-Fin Antenna (5Q0.035.507.Q)

Operational Frequency Band	12	13	5	4	2
Antenna Gain (dBi)	0.50	0.50	0.50	3.40	3.40
Min. Cable Loss (dB)	1.06	1.06	1.14	1.74	1.74
Max. EIRP Uplink Output Power (dBm)	<b>22.14</b>	<b>21.64</b>	<b>27.76</b>	<b>23.16</b>	<b>29.66</b>

6. Shark-Fin Antenna (5Q0.035.507.S)

Operational Frequency Band	12	13	5	4	2
Antenna Gain (dBi)	1.40	1.40	1.40	2.50	2.50
Min. Cable Loss (dB)	1.06	1.06	1.14	1.74	1.74
Max. EIRP Uplink Output Power (dBm)	<b>23.04</b>	<b>22.54</b>	<b>28.66</b>	<b>22.26</b>	<b>28.76</b>

### 7. Shark-Fin Antenna (6R0.035.501.L)

Operational Frequency Band	12	13	5	4	2
Antenna Gain (dBi)	-1.80	-1.80	-1.80	2.80	2.80
Min. Cable Loss (dB)	1.06	1.06	1.14	1.74	1.74
Max. EIRP Uplink Output Power (dBm)	<b>19.84</b>	<b>19.34</b>	<b>25.46</b>	<b>22.56</b>	<b>29.06</b>

### 8. Rear Crossbar Antenna (3G9.035.534)

Operational Frequency Band	12	13	5	4	2
Antenna Gain (dBi)	0.00	0.00	0.00	-3.50	-3.50
Min. Cable Loss (dB)	0.53	0.53	0.57	0.87	0.87
Max. EIRP Uplink Output Power (dBm)	<b>22.17</b>	<b>21.67</b>	<b>27.83</b>	<b>17.13</b>	<b>23.63</b>

### 9. Film Antenna (971.035.510.C, 982.035.510.B)

Operational Frequency Band	12	13	5	4	2
Antenna Gain (dBi)	-2.94	-2.94	-2.94	-2.94	-2.94
Min. Cable Loss (dB)	0.53	0.53	0.57	0.87	0.87
Max. EIRP Uplink Output Power (dBm)	<b>19.23</b>	<b>18.73</b>	<b>24.89</b>	<b>17.69</b>	<b>24.19</b>