

G8C-01-NA2 Antenna Compliance with Cellular Module Integration Requirements

1 Document Revision History

Revision	Date	Author	Summary
1	Jan 5, 2026	Scott Jacobsen	Initial Release

2 Purpose of this Report

The purpose of this report is to show the radio frequency (RF) exposure compliance of the cellular module integration on G8C-01-NA2

3 Identifiers

3.1 Host Product

Product Name: G8C

Model: G8C-01-NA2

3.2 Module Identifiers

Module Description	Model	FCC ID	IC ID	Grantee
Cellular	LARA-R6404	XPYUBX21B02	8595A-UBX21B02	u-blox AG

3.3 Antennas

Frequency Band	Vendor	Model	Peak Gain(dBi)	Data Sheet Reference
Cellular	Blackline Safety	107550	See section	

3.4 Module Grant Requirements – XPYUBX21B02

Output power listed is conducted. Single Modular Approval. The module antenna must be installed to meet the RF exposure compliance separation distance of 20 cm. For mobile and fixed operating configurations the antenna gain, including cable loss, must not exceed

*9.5dBi at FDD LTE Band 2;
6.0dBi at FDD LTE Band 4;
10.4dBi at FDD LTE Band 5;
9.7dBi at FDD LTE Band 12;
10.2dBi at FDD LTE Band 13;
10.2dBi at FDD LTE Band 14;
8.7dBi at FDD LTE Band 66 and
9.5dBi at FDD LTE Band 71.*

Integration not consistent with these conditions will entail additional testing and authorization process. Co-location of this module with other transmitters that operate simultaneously are required to be evaluated using the FCC multi-transmitter procedures. Host integrators must be provided with antenna installation instructions and transmitter operating conditions to satisfy RF exposure compliance. Host integrator is responsible for complying with the instructions and requirements for each transmitter they choose to integrate into a host product. This device supports bandwidth modes of 1.4, 3, 5, 10, 15 and 20 MHz for FDD LTE Bands 2, 4 and 66; bandwidth modes of 1.4, 3, 5 and 10 MHz for FDD LTE Bands 5, 12 and 71; bandwidth modes of 5 and 10 MHz for FDD LTE Band 13 and 14.

3.5 Comparison of Antenna Gain with Module Requirements

<i>Requirement Maximum Gain</i>	Measured Actual Gain	Frequency
<i>9.5dBi at FDD LTE Band 2</i>	-2.0 dBi	1880 MHz
<i>6.0dBi at FDD LTE Band 4</i>	-1.5 dBi	1733 MHz
<i>10.4dBi at FDD LTE Band 5</i>	-8.1 dBi	837 MHz
<i>9.7dBi at FDD LTE Band 12</i>	-4.7 dBi	708 MHz
<i>10.2dBi at FDD LTE Band 13</i>	-4.5 dBi	782 MHz
<i>10.2dBi at FDD LTE Band 14</i>	-4.6 dBi	793 MHz
<i>8.7dBi at FDD LTE Band 66</i>	-1.5 dBi	1745 MHz
<i>9.5dBi at FDD LTE Band 71</i>	-6.5 dBi	680 MHz

3.6 Antenna Pictures



3.7 Test Setup Pictures



4 Statement of Compliance

The gain values found for Blackline cellular antenna 107550 are below the maximum allowed levels according to module integration requirements.