BOSCH

Connectivity Gateway CG 3.2

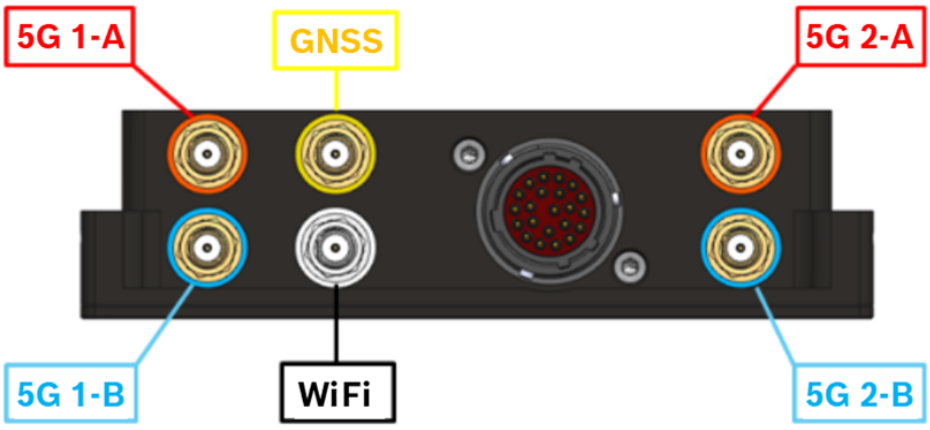
Antenna Guide

Version 1.0 09/02/2026

Content

1 Antenna Connections

The Connectivity Gateway CG 3.2 offers one device for world-wide use. This guide shows antenna options for a range of applications and for specific regions.



5G 1-A	Main Antenna for Modem 1
5G 1-B	Diversity Antenna for Modem 1
5G 2-A	Main Antenna for Modem 2
5G 2-B	Diversity Antenna for Modem 2
GNSS	Antenna for GNSS
WiFi	Antenna for WiFi

2 External Antenna 5G-LTE

The external 5G-LTE monopole antenna is for applications prioritizing RF performance. It is recommended to utilize an external antenna as the main antenna on one CG 3.2 modem and an internal antenna as the main antenna on the other modem to prevent debris from damaging both main antennas.

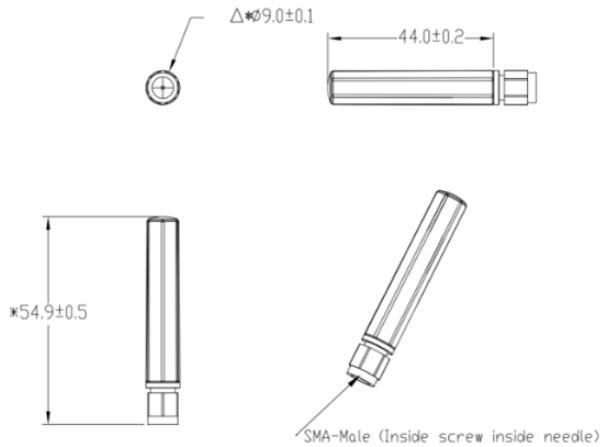
To optimise the coverage, two external antennas should be adopted, mounted roughly 70 mm apart and connected to the Main and Diversity CG 3.2 SMA connectors. Alternatively, only 1 external 5G-LTE antenna could be adopted and an internal antenna (e.g. F02U.00U.072-02) used for the diversity connection to 5G-1B SMA.

Please note that this monopole antenna requires a ground plane with a recommended radius of at least 10 mm.

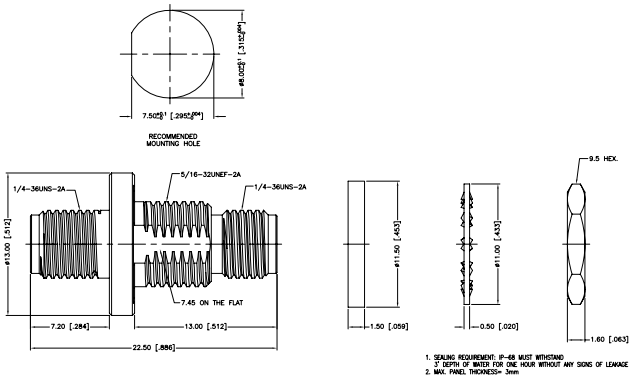
Technical Specifications	
Connection	5G-LTE
Installation	External, SMA male terminal mount
Mechanical Data	
Dimensions	Φ9 x 55 mm
Weight (antenna only)	5 g
Operating temperature	-40 to 85 °C
RF Performance	
Frequency Range	700 to 960 MHz 1,710 to 2,690 MHz 3,300 to 6,000 MHz
Peak Gain	<= 2.8 dBi
Region Approval	All, including Japan
Ground Plane Required	Min. radius 10 mm
125 mm space from other antennas recommended	

Ordering Information	
Part	**Order Number**
Antenna; Ext. 5G/LTE Monopole SMA plug	F02U.00U.094-01
Adapter; SMA Bulkhead for Ext. Ant.	F02U.00U.088-01
Cable; LMR195UF SMA M SMA M90 66 in/ 1.67 m	F02U.00U.089-01
Cable; LMR195UF SMA M SMA M90 120 in/ 3 m	F02U.00U.089-02

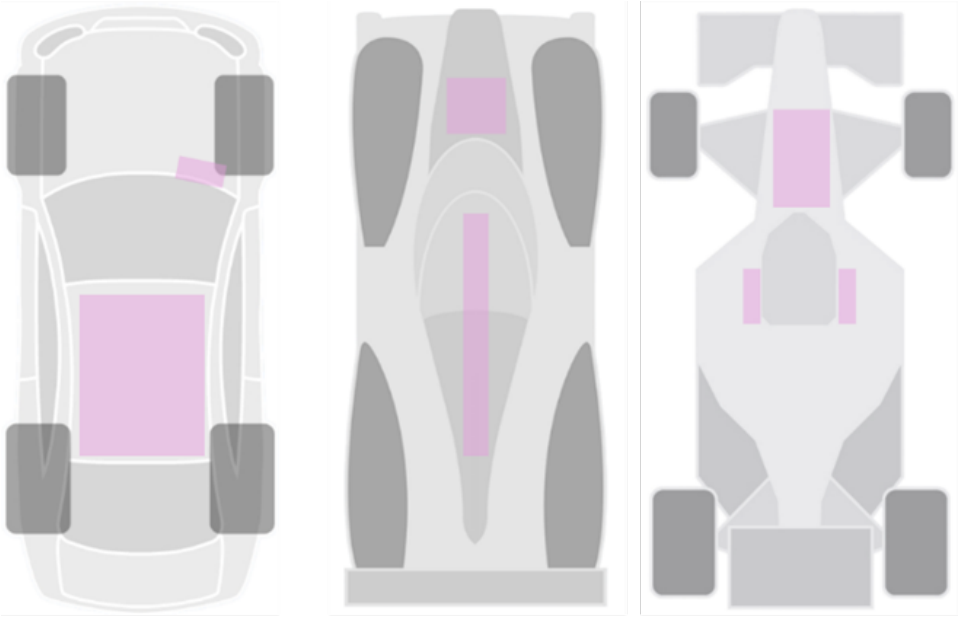
Dimensions of antenna



SMA Bulkhead



Recommended Mounting Positions



External mount recommendations, ground plane required
(consider debris and driver ingress / egress)

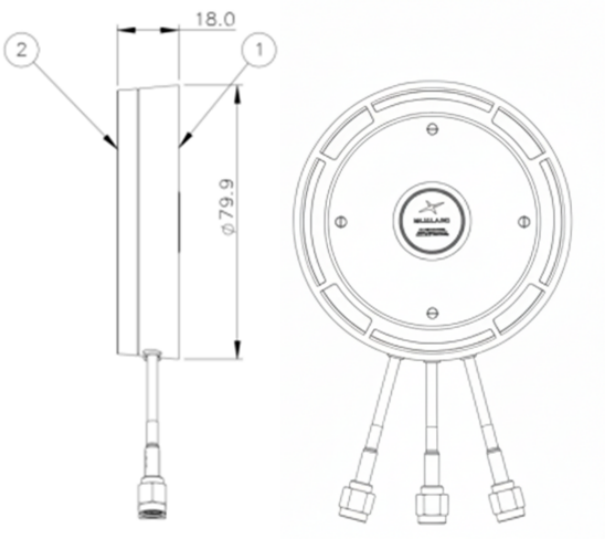
3 Internal Combination Antenna (2 x 5G-LTE + GNSS)

The internal combination antenna is for applications requiring GNSS alongside the external 5G-LTE antennas or alongside other internal antennas when prioritizing ease of installation.

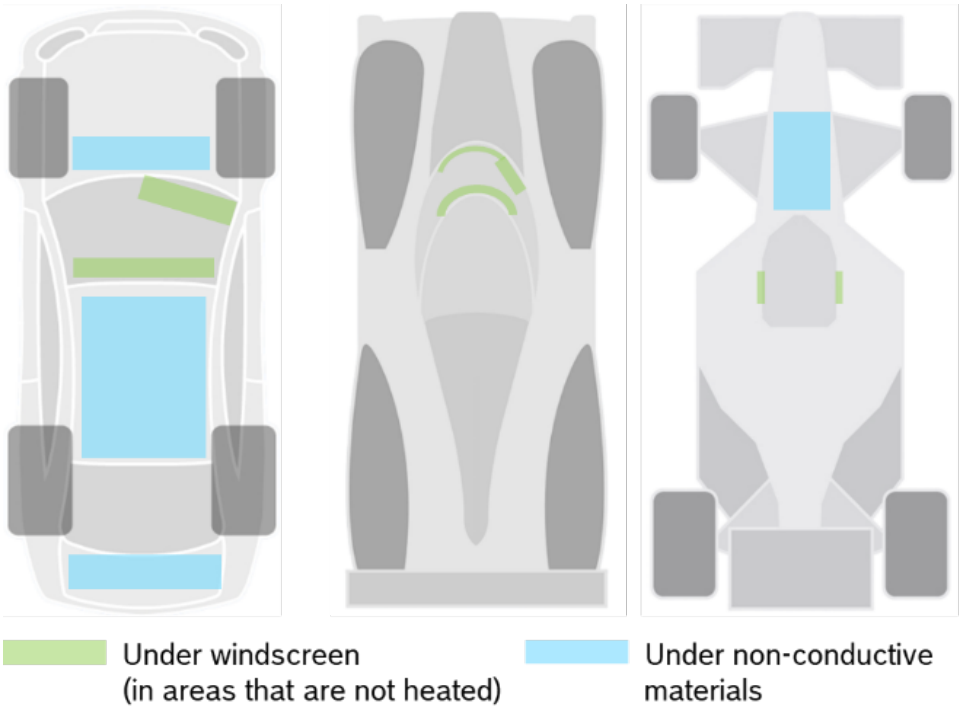
Technical Specifications	
Connection	2 x 5G-LTE GNSS
Installation	Internal to vehicle
Mechanical Data	
Dimensions	Φ80 x 18 mm
Weight (antenna only)	113 g
Operating temperature	-40 to 85 °C
Cable length	2 m
RF Performance	
5G-LTE Frequency Range	700 to 960 MHz 1,710 to 2,690 MHz 3,300 to 6,000 MHz
5G-LTE Peak Gain	<= 4 dBi
GNSS Frequency Band	L1 Active Antenna (1.8 to 5.5 V)
Region Approval	All, excluding Japan
Ground Plane Independent	Install under non-conductive material (Kevlar, fiberglass, non-heated portion of windscreen)

Ordering Information	
Part	**Order Number**
Antenna; Int. 2 x 5G-LTE; GNSS L1; 2 m	F02U.00U.095-01

Dimensions of antenna



Recommended Mounting Positions



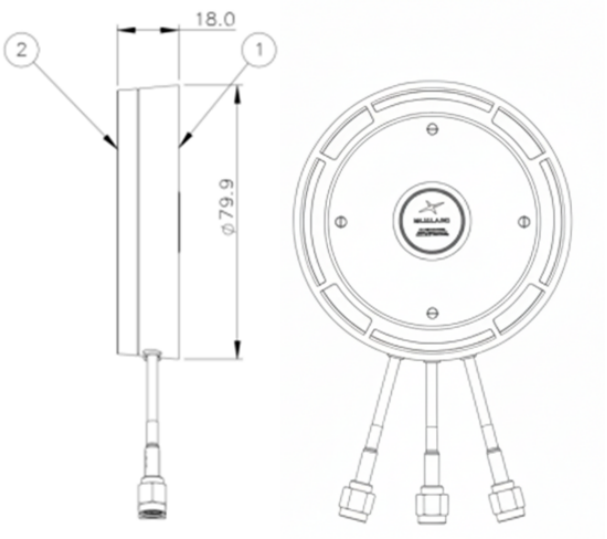
4 Internal Combination Antenna (2 x 5G-LTE + WiFi)

The internal combination antenna is for applications requiring WiFi alongside the external 5G-LTE antennas or alongside other internal antennas when prioritizing ease of installation.

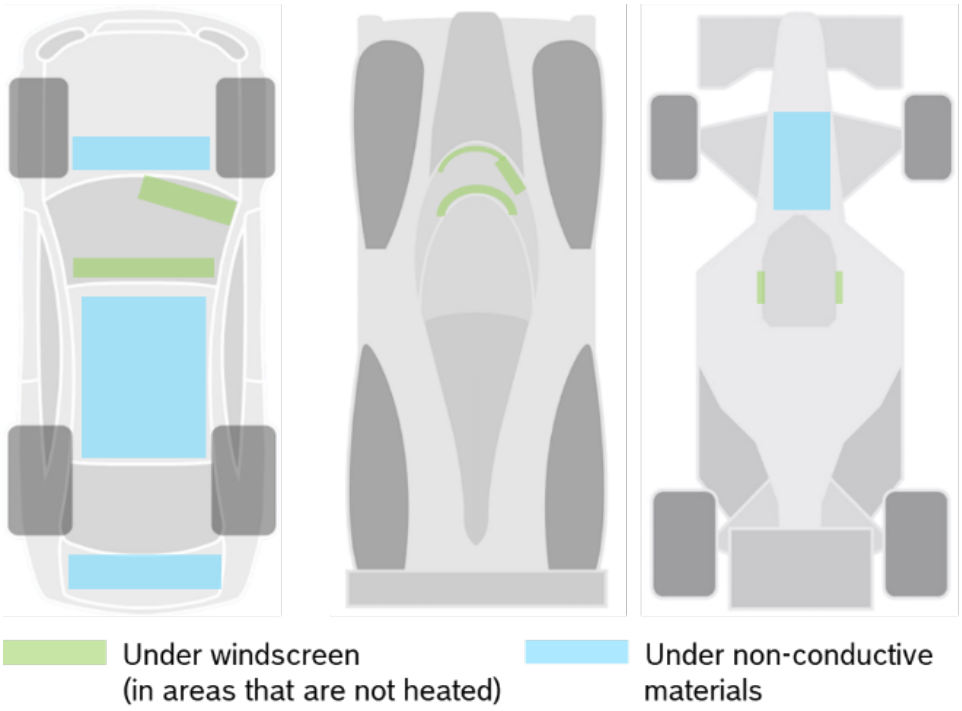
Technical Specifications	
Connection	2 x 5G-LTE WiFi
Installation	Internal to vehicle
Mechanical Data	
Dimensions	Φ80 x 18 mm
Weight (antenna only)	113 g
Operating temperature	-40 to 85 °C
Cable length	2 m
RF Performance	
5G-LTE Frequency Range	700 to 960 MHz 1,710 to 2,690 MHz 3,300 to 6,000 MHz
5G-LTE Peak Gain	<= 3 dBi
WiFi Frequency Band	2.4 GHz; 5 GHz; 6 GHz; 7 GHz Bluetooth
Region Approval	All, including Japan
Ground Plane Independent	Install under non-conductive material (Kevlar, fiberglass, non-heated portion of windscreen)

Ordering Information	
Part	**Order Number**
Antenna; Int. 2 x 5G-LTE; WIFI; 2 m	F02U.00U.096-01

Dimensions of antenna



Recommended Mounting Positions



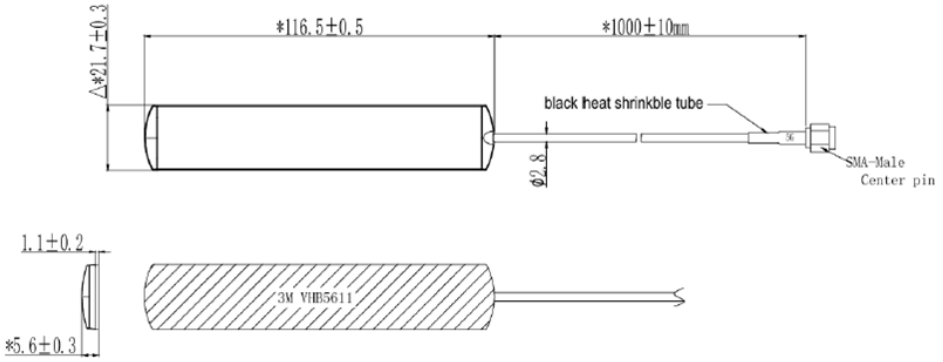
5 Internal Antenna (5G-LTE or WiFi)

The internal 5G-LTE / WiFi antenna is an excellent choice when for limited space applications. Antenna can be used for 5G-LTE or WiFi.

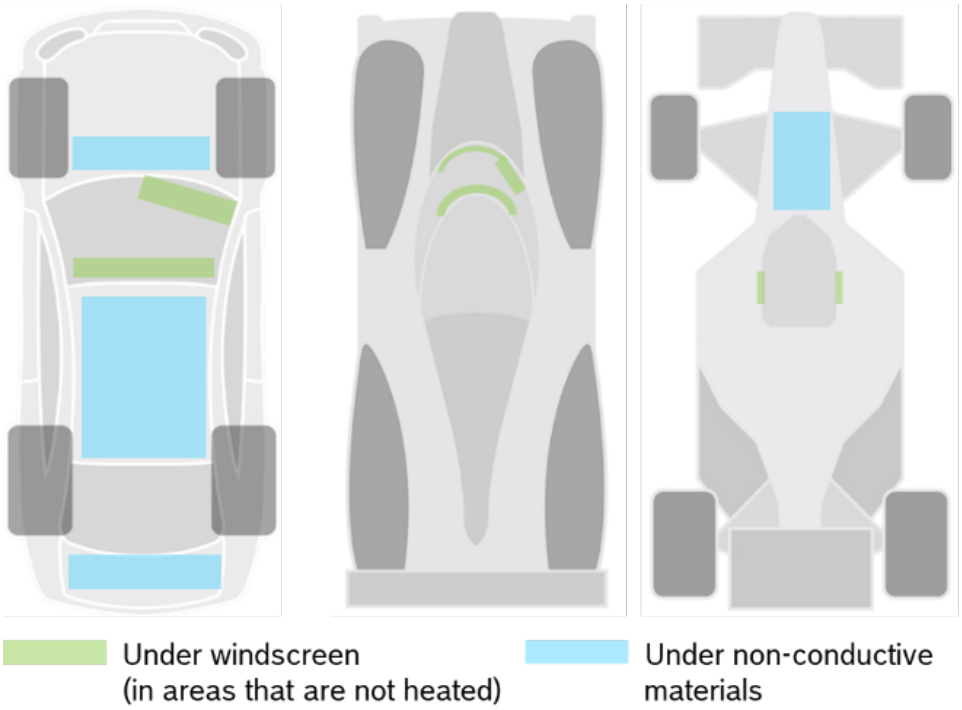
Technical Specifications	
Connections	5G-LTE WiFi (optional use)
Installation	Internal to vehicle
Mechanical Data	
Dimensions	117 x 22 x 6 mm
Weight (antenna only)	27 g
Operating temperature	-40 to 85 °C
Cable length	1 m
RF Performance	
5G-LTE Frequency Range	700 to 960 MHz 1,710 to 2,690 MHz 3,300 to 6,000 MHz
5G-LTE Peak Gain	<= 3 dBi
Region Approval	All
Ground Plane Independent	Install under non-conductive material (Kevlar, fiberglass, non-heated portion of windscreen)

Ordering Information	
Part	**Order Number**
Antenna; Int. 1 x 5G-LTE; 1 m	F02U.00U.072-02

Dimensions of antenna



Recommended Mounting Positions



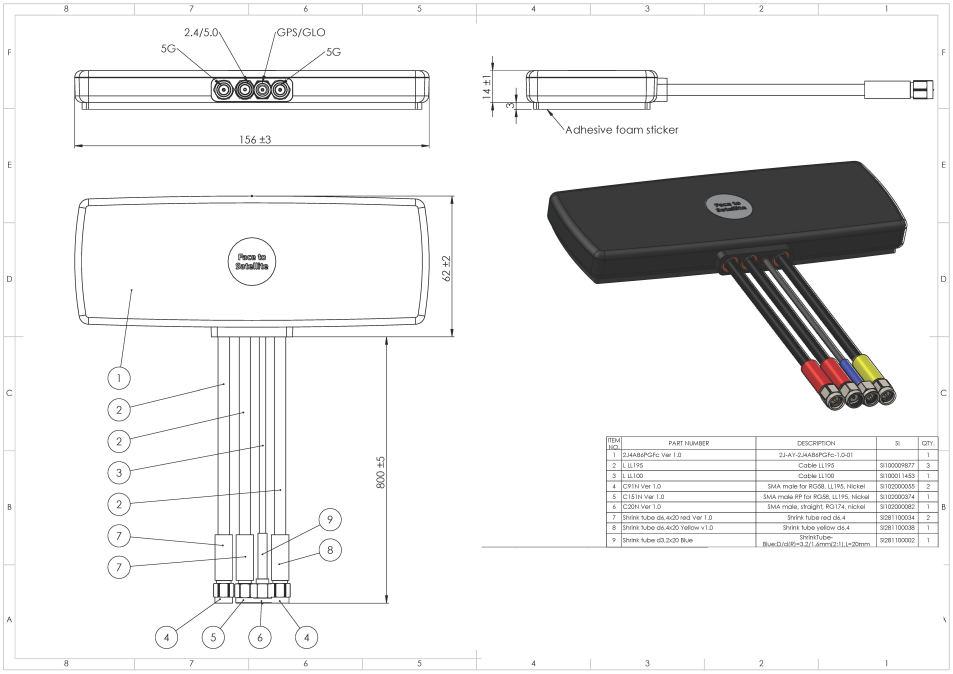
6 Internal Combination Antenna (2 x 5G-LTE + GNSS + WiFi)

The internal combination antenna is for applications requiring WiFi alongside the external 5G-LTE antennas or alongside other internal antennas when prioritizing ease of installation.

Technical Specifications	
Connection	2 x 5G-LTE WiFi GNSS L1
Installation	Internal to vehicle
Mechanical Data	
Dimensions	156 x 62 x 17 mm
Weight (antenna only)	27 g
Operating temperature	-40 to 85 °C
Cable length	2 m
RF Performance	
5G-LTE Frequency Range	700 to 960 MHz 1,710 to 2,690 MHz 3,300 to 6,000 MHz
5G-LTE Peak Gain	<= 3 dBi
WiFi Frequency Band	2.4 GHz; 5 GHz; 6 GHz Bluetooth
GNSS Frequency Band	L1 Active Antenna (1.5 to 3.6 V)
Region Approval	All, including Japan
Ground Plane Independent	Install under non-conductive material (Kevlar, fiberglass, non-heated portion of windscreen)

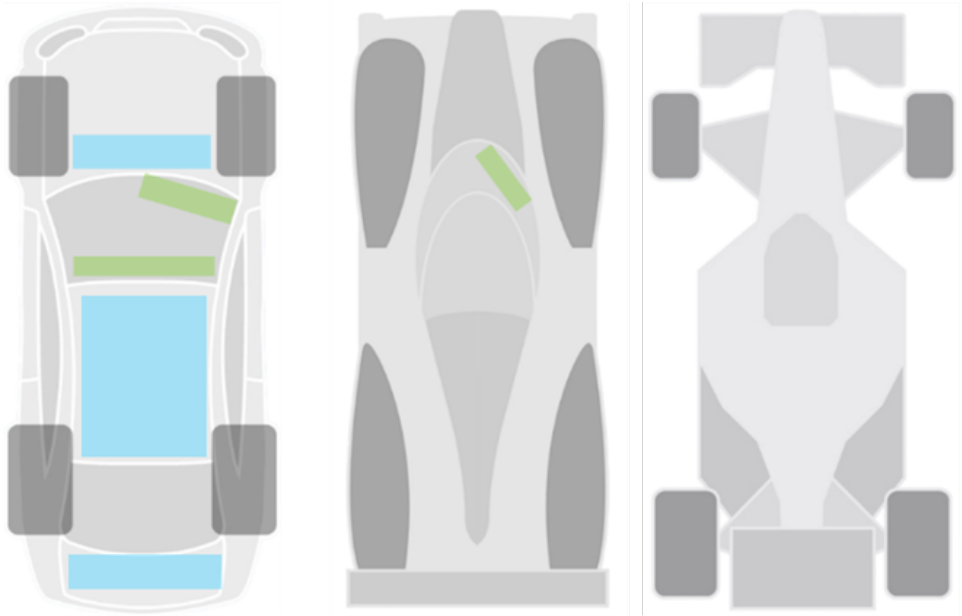
Ordering Information	
Part	**Order Number**
Antenna; Int. 2 x 5G; WIFI; GNSS L1; 80 cm	F02U.00U.098-01
Antenna; Int. 2 x 5G; WIFI; GNSS L1; 2 m	F02U.00U.100-01

Dimensions of antenna



ITEM NO.	PART NUMBER	DESCRIPTION	SI	QTY.
1	2J-AY-2J4AB6PGFc Ver 1.0	2J-AY-2J4AB6PGFc-1.0-01		1
2	L LL195	Cable LL195	S1100019877	3
3	L LL100	Cable LL100	S1100011453	1
4	C91N Ver 1.0	SMA male for RG58, LL195, Nickel	S1102000555	2
5	C151N Ver 1.0	SMA male RP for RG58, LL195, Nickel	S1102000374	1
6	C20N Ver 1.0	SMA male, straight, RG174, nickel	S1102000082	1
7	Shrink tube d6.4x20 red Ver 1.0	Shrink tube red d6.4	S2811100034	2
8	Shrink tube d6.4x20 Yellow v1.0	Shrink tube yellow d6.4	S2811100038	1
9	Shrink tube d3.2x30 Blue	ShrinkTube-Blue:D/d(R=3.2/1.6mm):1:L=30mm	S2811100002	1

Recommended Mounting Positions



7 External Antenna (WiFi)

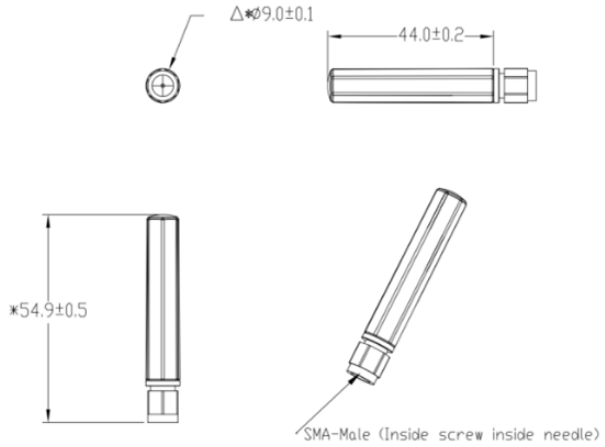
The external WiFi monopole antenna is for applications prioritizing RF performance. It is recommended for CG 3.2 “burst telemetry” applications.

Please note that this monopole antenna requires a ground plane with a recommended radius of at least 10 mm.

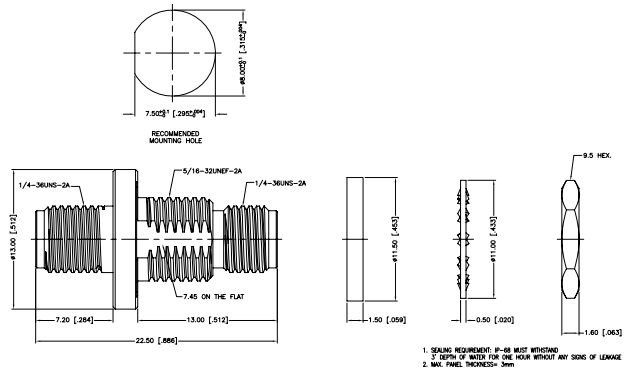
Technical Specifications	
Connection	WiFi
Installation	External, RP-SMA male terminal mount
Mechanical Data	
Dimensions	Φ9 x 55 mm
Weight (antenna only)	5 g
Operating temperature	-40 to 85 °C
RF Performance	
WiFi Frequency Range	2.4 GHz; 5 GHz; 6 GHz; 7 GHz Bluetooth
Peak Gain	<= 4.3 dBi
Region Approval	All, excluding Japan
Ground Plane Required	Min. radius 10 mm
125 mm space from other antennas recommended	

Ordering Information	
Part	**Order Number**
Antenna; Ext. WIFI Monopole SMA plug	F02U.00U.097-01
Adapter; SMA Bulkhead for Ext. Ant.	F02U.00U.088-01
Cable; LMR195UF SMA M SMA M90 66 in/ 1.67 m	F02U.00U.089-01
Cable; LMR195UF SMA M SMA M90 120 in/ 3 m	F02U.00U.089-02

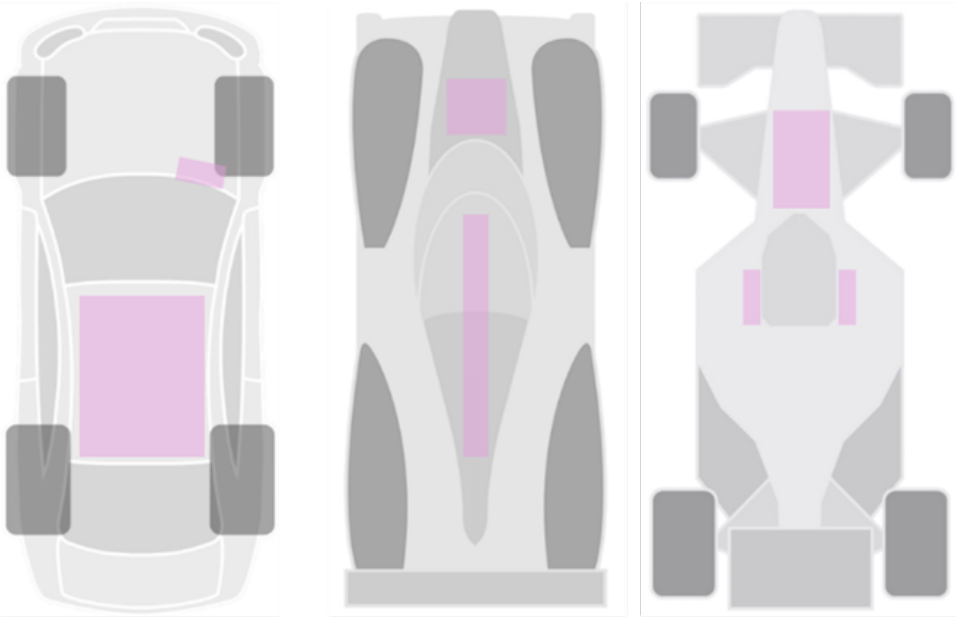
Dimensions of antenna



SMA Bulkhead



Recommended Mounting Positions



External mount recommendations, ground plane required (consider debris and driver ingress / egress)

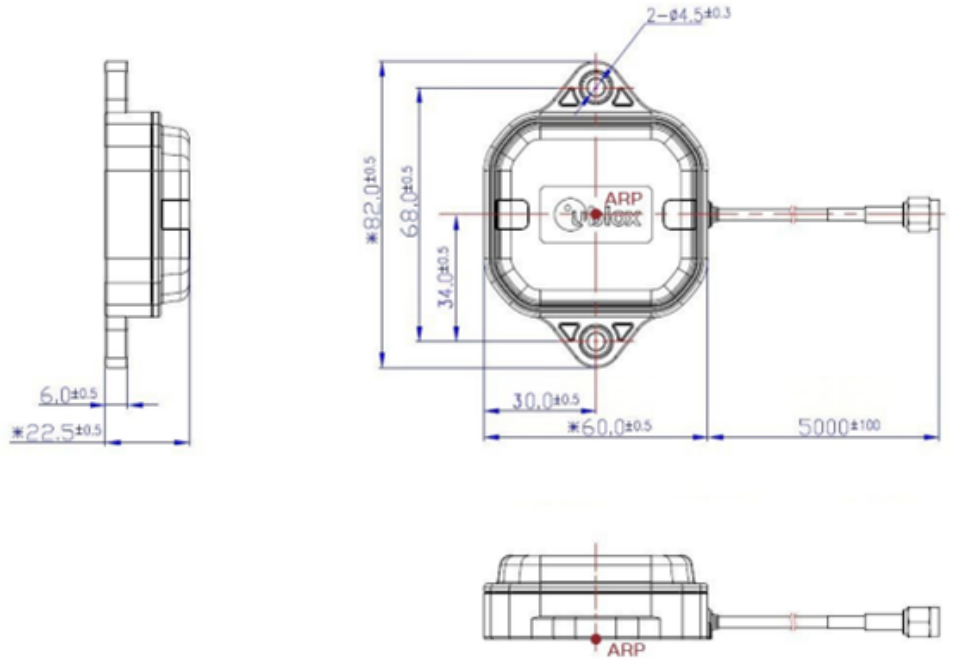
8 External GNSS L1, L5 Antenna

The external GNSS active antenna is for applications requiring a multi-band L1, L5 satellites connection.

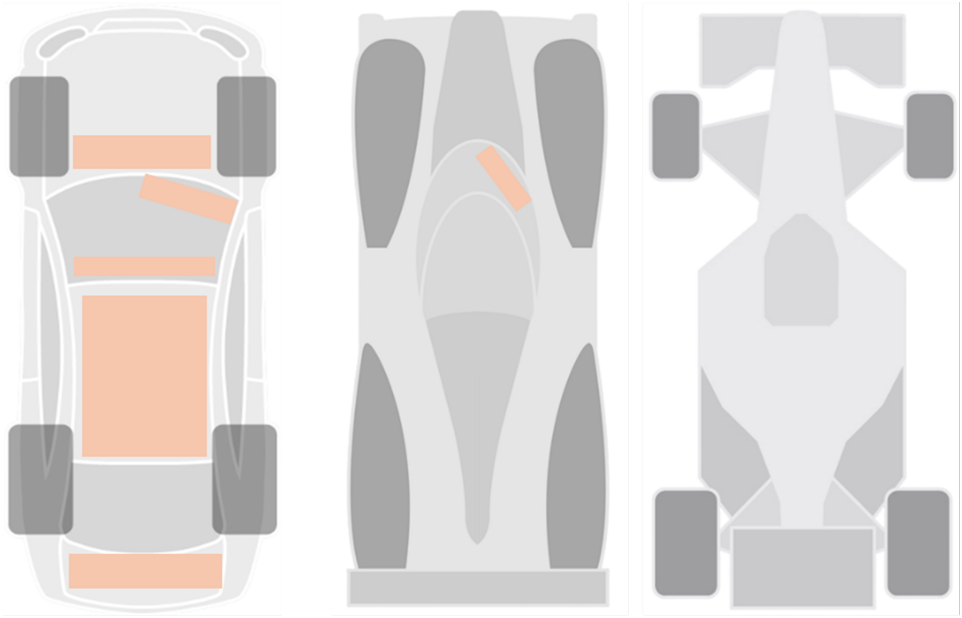
Technical Specifications	
Connection	GNSS
Installation	External
Mechanical Data	
Dimensions	82 x 60 x 23 mm
Weight (antenna only)	173 g
Operating temperature	-40 to 85°C
RF Performance	
GNSS Frequency Range	L1, L5 Active Antenna (3 to 5 V)

Ordering Information	
Part	**Order Number**
Antenna; GNSS L1-L5; 5 m	F02U.00U.099-01

Dimensions of antenna



Recommended Mounting Positions



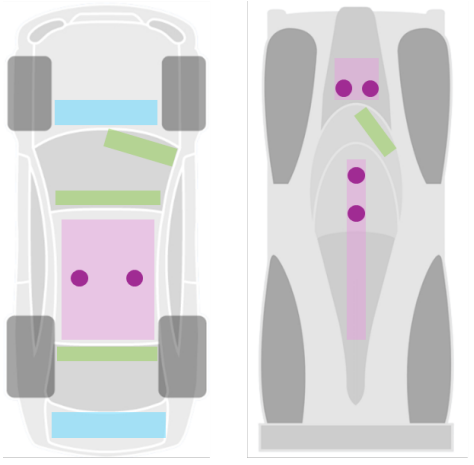
Under windscreen or non-conductive material
(in areas that are not heated)

8.1 Note on external GNSS antenna

An external dedicated GNSS antenna can be substituted for packaging or performance. The GNSS antennas in the combination antennas are L1 band only and adequate for basic positioning. The separate GNSS active antenna support multiple frequencies, improving accuracy and reliability.

Scenarios

Internal + external antennas



Internal
under windscreen

External antenna

Internal
under non-conductive material

9 Reference the table below as reference for your antenna selections

Antenna	Bosch PN	GT + LMP Internal + External (best performance) GNSS – Yes WiFi – Optional	GT + LMP Internal + External (best performance) GNSS – Yes WiFi – Optional	GT + LMP Internal Only (best packaging) GNSS – Yes WiFi – Yes	Open Wheel Internal + External (better packaging) GNSS – No WiFi – Optional	Japan Internal + External (best performance) GNSS – No WiFi – Optional	Japan Internal + External (minimal antennas) GNSS – Yes WiFi – Yes	Japan Internal Only (better packaging) GNSS – Yes WiFi – Yes
External 1 x 5G-LTE	F02U.00U.094-01	2 x** 5G-1A 5G-1B	2 x** 5G-1A 5G-1B		1 x 5G-1A	2 x** 5G-1A 5G-1B	2 x** 5G-1A 5G-1B	
Internal Combo 2 x 5G-LTE GNSS	F02U.00U.095-01	1 x 5G-2A 5G-2B GNSS		1 x 5G-2A 5G-2B GNSS				
Internal Combo 2 x 5G-LTE WiFi	F02U.00U.096-01		1 x (option A) 5G-2A 5G-2B WiFi	1 x (option A) 5G-2A 5G-2B WiFi		1 x (option A) 5G-2A 5G-2B WiFi		1 x (option A) 5G-2A 5G-2B WiFi
Internal 1 x 5G-LTE or WiFi	F02U.00U.072-02	1 x WiFi (option)	2 x (option B) 5G-2A 5G-2B 1 x WiFi (option)	2 x (option B) 5G-2A 5G-2B 1 x WiFi (option)	2 x (option B) 5G-2A 5G-1B 1 x WiFi (option)	2 x (option B) 5G-2A 5G-2B 1 x WiFi (option)		2 x (option B) 5G-2A 5G-2B
External 1 x WiFi	F02U.00U.097-01	1 x WiFi (option), recom-mended for burst*	1 x WiFi (option), recom-mended for burst*			1 x WiFi (option), recom-mended for burst*	1 x WiFi (option), recom-mended for burst*	
Internal Combo 2 x 5G-LTE WiFi GNSS 0. 8 m cables	F02U.00U.098-01						1 x 5G-2A 5G-2B WiFi GNSS	1 x 5G-2A 5G-2B WiFi GNSS
Internal Combo 2 x 5G-LTE WiFi GNSS 2 m cables	F02U.00U.100-01						1 x 5G-2A 5G-2B WiFi GNSS	1 x 5G-2A 5G-2B WiFi GNSS

* For burst applications, an external WiFi antenna is recommended to increase range and transmission-rate.

** If desired, only 1 external 5G-LTE antenna could be used and an internal antenna (F02U.00U.072-02) used for the 5G-1B connection. It is recommended to keep 5G-2A on an internal connection to prevent debris from damaging main an-tennas.

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