



Deutsche
Akkreditierungsstelle
D-PL-12053-01-00

**Annex acc. to FCC Title 47 CFR Part 15
relating to
Hella KGaA Hueck & Co.
BCM2R**

Annex no. 5 User Manual/ Functional Description

**Title 47 - Telecommunication
Part 15 - Radio Frequency Devices
Subpart C – Intentional Radiators
Measurement Procedure:
ANSI C63.4-2014
ANSI C63.10-2013**

User Manual / Functional Description of the test equipment (EUT)

Functional Description

Project/ Modelcode: BCM2R

Version: 1.0

Document History

MKS version no.	Date	Status	Description	Person
1.0	2016/02/19	Released	Final Version	Elbers / Siekmann /

Hella 8601EN_GE (2016-02)



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Hella 8601EN_GE (2016-02)

1 Functional Description – LF Transmitter

The LF-Transmitter in the BCM is part of a driving authorisation system with the following function: Car access by sending LF-Signals for Passive Entry and Passive Start function.

General Technical Data: LF part

Temperature range:
Working temperature: -40 ...+85 ° C

Data of LF-Part

Kind of data transmission:	simplex
Center frequency:	21,85 kHz
Transmitter power	< 6mA/m @ 3m distance(free space)
Modulation:	BPSK-signal (phase shift keying)
Modulation content:	digital data
Data rate:	5,4 kBit/s ; 2,7 kBit/s
Data content:	Wake Pattern 4 Byte (5,4 Kbit/s): Data 19Byte (2,7kbit/s) Field no Modulation (3 to 6 times 3ms) WP-Field (0 to 4 times 2Byte with 5,4kBit/s)
Antenna:	Serial capacity and inductivity resonance circuit C = 150nF, L = 1601H, Q :: 80 3 (to 5) Antenna
Antenna connection:	twisted pair
Antenna position in the car:	Rear antenna: trunk border (inside car) Inside antenna: center console Side antenna: inside door covering

2 Functional description – Receiver

The Receiver in the BCM is part of a driving authorisation system with the following function:
Remote control for car access by receiving RF- Signals and optional with Passive Entry function

General Technical Data: RF part

Temperature range:
Working temperature: -40 ...+85 ° C

Data of RF-Part

Kind of data transmission: simplex

Receiver:

Center frequency: 315,00 MHz
433,92 MHz
868,30 MHz

3 dB bandwidth >300 kHz

Frequency tolerance:
(production, aging, temperature) +/- 80 ppm

Sensitivity typ. -95 dBm @315,00 MHz
typ. -95 dBm @433,92 MHz
typ. -95 dBm @868,30 MHz

Modulation: 2-FSK (frequency shift keying)

Frequency deviation: +/- 16 kHz @ 315 MHz (+/-50%)
+/- 16 kHz @ 433,92 MHz (+/-50%)
+/- 25 kHz @ 868,3 MHz (+/-50%)

Modulation content: digital data
Data rate: 1,3 kBit/s ; 10 kBit/s
Coding: Manchester

Data content: Remote control value (1,3 Kbit/s):
130 Zero-Bits preamble + 96 data bits

Antenna: Window antenna connected with a coax cable