

JLR VDC User Manual

TA4HEB-W Introduction

VDC (Vehicle Domain Controller)

Telematics device equipped in the JLR(Jaguar Land Rover) vehicles.

In charge of wireless communications in LTE-A/LTE/WCDMA/GSM network

Platform for Telematics Virtual Machine (VM) and other VMs based on Hypervisor

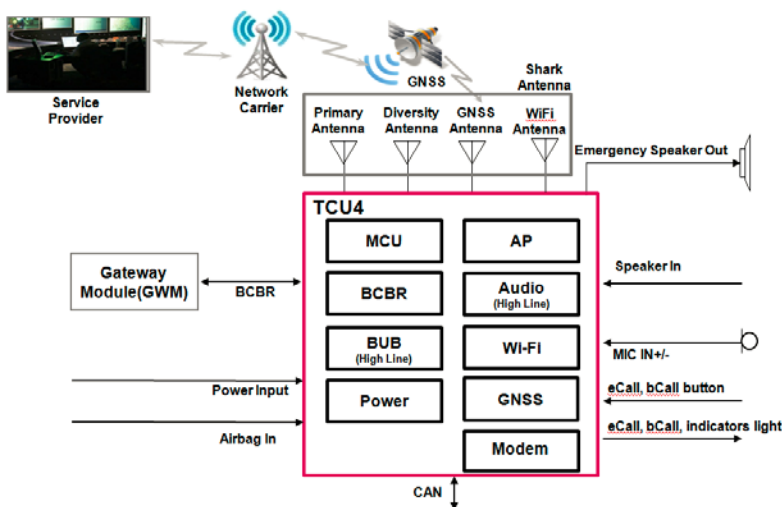
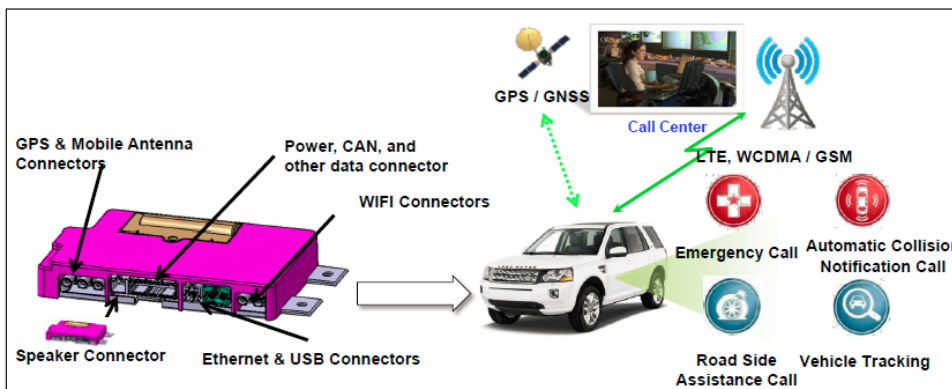
TA4HEB-W supports GSM850/1900, WCDMA B5, LTE B5/7/26, 2.4/ 5GHz WLAN (UNII 1, 3)

Service types which are provided by VDC

Voice service : eCall, bCall1) via TSP2)

SMS service : MO/MT SMS between Telematics VM – TSP2)

Data service : Telematics services between Telematics VM – TSP



Major functions of VDC (TA4HEB)

Multi-mode LTE, Wi-Fi 11ac-Client, Ethernet connection.

Micom for a vehicle interface and a power control, AP for an Ethernet interface and Wi-Fi operation

Audio circuitry for Emergency Call and Breakdown Call

Operating Frequency Band					
Common Name	Uplink	Downlink	GSM/EDGE	UMTS	FD-LTE
2100 (B1)	1920–1980	2110–2170			
1900(B2)	1850–1910	1930–1990	V		
1800 (B3)	1710–1785	1805–1880			
850 (B5)	824–849	869–894	V	V	V
2600 (B7)	2500–2570	2620–2690			V
900 (B8)	880–915	925–960			
800(B20)	832–862	791–821			
850(B26)	814–849	859–894			V
700(B28)	703–748	758–803			

2DL CA (Carrier-aggregated) LTE

- Intra-band CA (Contiguous) : CA_3C, CA_7B, CA_7C
- Intra-band CA (Non-contiguous) : CA_3A-3A, CA_7A-7A,
- Inter-band CA : CA_1A-3A, CA_1A-5A, CA_1A-7A, CA_1A-8A, CA_3A-5A, CA_3A-7A, CA_3A-8A, CA_3A-20A, CA_5A-7A, CA_7A-20A

Wi-Fi

Mode/Band	Frequency Band (MHz)
802.11b, g, n / 2.4GHz	2412 ~ 2462
802.11a, n, ac / 5GHz	5180~5240, 5745~5825

VDC (Vehicle Domain Controller) supports highly integrated multimode, multiband RF CMOS transceiver IC. It provides a single-chip solution for LTE carrier aggregation support up to 20 MHz+20 MHz for 2DLCA. For the WiFi, Qualcomm engine are used. Overall the TCU4 directly supports with up to 2 GSM bands, 3UMTS bands and 6 FDD-LTE bands with 2DLCA. Additional Qualcomm IC as QCA6574 support WiFi 11ac.

VDC Functions

Item	Low Line - ROW	High Line - ROW	High Line - NAS	High Line - China
Modem Technology	GSM/WCDMA/LTE	GSM/WCDMA/LTE	GSM/WCDMA/LTE	GSM/WCDMA/LTE
RF variants (Market variants)	EU/RoW	EU/RoW	NAS	China
Modem / AP	O	O	O	O
Audio Amp, DSP	X	O	O	O
Ethernet(BCBR)	O	O	O	O
WiFi Client	O	O	O	O
CAN	HSCAN	HSCAN	HSCAN	HSCAN
BUB	X	O	O	O
DSRC	X	X	X	X

FCC Part 15.21 statement

Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

FCC Part 15.19 statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RF Exposure (MPE)

This equipment complies with FCC and IC RF Radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Cet équipement est conforme à l'exposition de FCC et IC rayonnements RF limites établies pour un environnement non contrôlé. L'antenne pour ce transmetteur ne doit pas être même endroit avec d'autres émetteur sauf conformément à FCC et IC procédures de produits Multi-émetteur. Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps.

IC Warning

"This device complies with Industry Canada licence-exempt RSS standard(s)." Operation is subject to the following conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas provoquer de brouillage, et (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.