

TCI Message Generator Version 1.02 Changes:

- 1- You can now make the WSM payload a BSM, a checkbox has been added to the Start WSM Tx Message to create a BSM as a payload. The BSM is UPER encoded before being included in the WSM. Click on the Payload is a BSM checkbox and another form will open to input the BSM Core Data. Part II and Regional entries are not supported yet. After you input the Core data values click on OK to save the parameters as WSM payload or Cancel to abort.

802.11	1609.3	1609.4	2945.1	1609.2
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Set Initial State	Set WSM TX Info	Start WSM TX	Stop WSM TX	Start WSM RX	Stop WSM RX
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Radio IF Parameters

Radio

Include Antenna ☐

Antenna

Payload

Repeat Rate every 5 seconds

PSID

Payload From a File ☐

File Name

Payload is a BSM ☐

Figure 1. Start WSM TX message with new BSM Checkbox

The screenshot shows a software window titled "BSM Core Data" with a standard Windows interface (minimize, maximize, close buttons). The form is organized into several sections:

- Top Left:** Fields for Temp Id (99), SecMark (12345), Speed (55), and Heading (2400).
- Below Top Left:** Steering Wheel Angle (22) and Transmission State (ForwardGears dropdown).
- Left Side:** A large box labeled "Regional Data" containing the text "TBD".
- Center:** A section titled "Brake System Status" containing:
 - Brake Applied Status:** Four checkboxes for Unavailable, Left Front, Right Front, Left Rear, and Right Rear.
 - Traction:** A dropdown menu set to "On".
 - Antilock Brake:** A dropdown menu set to "On".
 - Stability Control:** A dropdown menu set to "On".
 - Brake Boost Applied:** A dropdown menu set to "On".
 - Auxiliary Brake:** A dropdown menu set to "On".
- Right Side:**
 - Vehicle Size:** Length (512) and Width (400).
 - Acceleration Set:** LAT (900), LON (180), Elev (-2), and Yaw (2400).
 - Position:** Lat (76000000), Long (122300000), and Elev (-200).
 - Accuracy:** Semi. Major (113), Semi. Minor (45), and Orientation (24000).
- Bottom:** "Cancel" and "OK" buttons.

Figure 2. BSM Form

- 2- Received Indication packets are parsed and printed. If the WSM payload is a BSM, its fields are printed to the text area. WSA parsing and printing will be completed after the plugfest. Regardless of the PSID, the contents of the packet are printed in hex.

- 3- Anything printed in the text area is logged to a file in the c:/users/public/dalaw directory. The file name is TCI_Msg_Generator_LogFile.txt.

Example of BSM parsing and printing

Received an Indication Message

Indication Radio: Radio0, indication event = E80211PktRx

Event Parameters:

802.11 Frame Parameters:

Radio: Radio0

RCPI: 255

PDU Type: D80211frame

/***** 802.11 Header Parameters *****/

Frame Control, Version = 2, Type = 0 , SubType = 8 , ToDS = 0 , FromDS = 0 More Flags = 0 , Retry = 0 , Power management = 0 , More Data = 0 ,
WEP = 0 , Order = 0

Duration = 0

Destination MAC Address = FF-FF-FF-FF-FF-FF

Source MAC Address = 84-8F-69-B0-C8-CA

BSSID MAC Address = FF-FF-FF-FF-FF-FF

Sequence Control = 36864

QoS TX OP Duration = 39

QoS EOSP = NO

QoS TID = 0

QoS ACK Policy = No ACK (1)

/***** LLC Parameters *****/

Ether Type = 88-DC

/***** WSM Parameters *****/

WSM version: 3

WSM indication:Info Elements Exist

WSM Header InfoElement channel number included, length = 1, value = 176

WSM Header InfoElement data rate included, length = 1, value = 8

WSM Header InfoElement TX Power included, length = 1, value = 0

TPID = 0, PSID : 32, looks like it is a BSM
Core data msg count = 0
Core data msg id = 55667788
Core data secMark = 12345
Core data latitude = 76000000, longitude = 122300000, elevation = -200
Core data speed = 55, heading = 2400, angle = 22
Core data vehicle length = 512, width = 400
Core data Accuracy, SemiMajor = 113, SemiMinor = 45, Orientation = 24000
Core data transmission state = ForwardGears
Core data AccelerationSet4Way, Lat = 900, Long = 180, Vert = -2, Yaw = 2400
Core data Brakes, wheel brakes leftF: OFF, leftR: OFF, rightF: OFF, rightR: OFF
Core data Brakes, traction: On, ABS: On, Scs: On, BrakeBoost: On, AuxBrakes: On

PDU Data in Hex:

0x88 0x00 0x00 0x00 0xff 0xff 0xff 0xff 0xff 0x84 0x8f 0x69 0xb0 0xc8 0xca 0xff 0xff 0xff 0xff 0xff 0x90 0x00 0x27 0x00 0x88 0xdc 0x0b
0x03 0x0f 0x01 0xb0 0x10 0x01 0x08 0x04 0x01 0x00 0x00 **0x20** 0x25 0x00 0x15 0x59 0x9d 0xe2 0x0c 0x0e 0x5d 0x16 0x4a 0x00 0x39 0x49 0xfc
0x2f 0x87 0x9c 0x38 0x96 0xae 0xe0 0x20 0x1b 0x89 0x60 0x94 0x88 0x4b 0x54 0x7d 0x89 0x5f 0x05 0x54 0xc8 0x10 0x00 0xe6 0xe5 0x99 0x2b

Yellow: 802.11 header

Green: LLC Header

Light Blue: WSM Header , Bold is the PSID (0x20) and the following byte is the payload length 0x25

Grey: WSM payload