Parameter	Case of utilisation	Description (unit of measure)	Value	Default Value	Notes
Simulation settings					
seed	Always	Seed for random numbers generation	Integer, if set to 0 it is randomly selected	0	
simulationTime	Always	Simulation duration (s)	Double, > 0	10	
Technology	Always	Choice between LTE-V2V, 802.11p, or coexistence using separate bands (no interference) or the same band)	String, [LTEV2V,80211p, COEX-NO-INTERF]	LTEV2V	Added from v3.1, COEX-NO-INTERF added from v5.0
numVehiclesLTE	When Technology= COEX-NO-INTERF	Number of vehicles that are LTE-V2V between groups of vehicles that are IEEE 802.11p	Integer, >0	1	From v5.0
numVehicles11p	When Technology= COEX-NO-INTERF	Number of vehicles that are IEEE 802.11p between groups of vehicles that are LTE-V2V	Integer, >0	1	From v5.0
fileTrace	Always	Set file trace	Boolean	false	Removed in v5.0 Replaced with TypeOfScenario
TypeOfScenario	Always	Set scenario to simulate; PPP on multiple lanes with various speeds, file traces, or ETSI highway high speed as per TR 36.885	String, [PPP,Traces, ETSI-Highway]	PPP	Added from v5.0
roadLength	When *TypeOfScenario* =PPP or TypeOfScenario=ETSI-Highway	Length of the road to be simulated (m)	Double, > 0	4000 if TypeOfScenario =PPP, 2000 if TypeOfScenario =ETSI-Highway	
roadWidth	When *TypeOfScenario* =PPP or TypeOfScenario=ETSI-Highway	Width of each lane (m)	Double, >= 0 (width 0 means 1-D)	3.5 if TypeOfScenario =PPP, 4 if TypeOfScenario =ETSI-Highway	
rho	When *TypeOfScenario* =PPP or TypeOfScenario=ETSI-Highway	Density of vehicles (vehicles/km)	Double, > 0	100 if TypeOfScenario =PPP, 35 if TypeOfScenario =ETSI-Highway	
vMean	When *TypeOfScenario* =PPP or TypeOfScenario=ETSI-Highway	Mean speed of vehicles (km/h)	Double, >= 0	114.23 if TypeOfScenario =PPP, 240 if TypeOfScenario =ETSI-Highway	
vStDev	When *TypeOfScenario* =PPP or TypeOfScenario=ETSI-Highway	Standard deviation of speed of vehicles (km/h)	Double, >= 0	12.65 if TypeOfScenario =PPP, 0 if TypeOfScenario =ETSI-Highway	
NLanes	When *TypeOfScenario* =PPP or TypeOfScenario=ETSI-Highway	Number of lanes per direction	Integer, > 0	3	
filenameTrace	When *TypeOfScenario* =Traces	File trace name	String	null.txt	
fileObstaclesMap	When *TypeOfScenario* =Traces	Set obstacles map file	Boolean	false	From v3.1

filenameObstaclesMap	When *TypeOfScenario* =Traces	File obstacles map name	String	null.txt	From v3.1
XminTrace	When *TypeOfScenario* =Traces	Minimum X coordinate to keep in the traffic trace (m)	Double, >= 0 or -1 (auto calculation)	-1	From v3.3
XmaxTrace	When *TypeOfScenario* =Traces	Maximum X coordinate to keep in the traffic trace (m)	Double, >= 0 or -1 (auto calculation)	-1	From v3.3
YminTrace	When *TypeOfScenario* =Traces	Minimum Y coordinate to keep in the traffic trace (m)	Double, >= 0 or -1 (auto calculation)	-1	From v3.3
YmaxTrace	When *TypeOfScenario* =Traces	Maximum Y coordinate to keep in the traffic trace (m)	Double, >= 0 or -1 (auto calculation)	-1	From v3.3
positionTimeResolution	When *TypeOfScenario* =Traces	Positioning update for the vehicles in the traffic trace	Double, >= 0 or -1 (auto calculation)	-1	
neighborsSelection	Always	If using significant neighbors selection	Boolean	False	From v3.5; not active from v5.0
Mvicinity	If neighborsSelection=true	Margin for trajectory vicinity (m)	Integer, > 0	10	Removed in v5.0 Replaced with TypeOfScenario
Mborder	Always	Margin for border effect removal (m)	Integer, >= 0	0	Removed in v4.1
Application settings					
Tbeacon	Always	Beacon period (s)	Double, > 0	0.100000	Replaced in v5.0 by averageTbeacon
averageTbeacon	Always	Average beacon period (s)	Double, > 0	0.100000	From v5.0
variabilityTbeacon	Always	Interval of variability of Tbeacon from vehicle to vehicle (applies only to 11p)	Double, >=0 & <averageTbeacon	0	From v5.0
beaconSizeBytes	Always	Beacon size (Bytes)	Integer, > 0 & <10000	190	
resourcesV2V	When Technology~=80211p	Resource allocated to V2V (%)	Integer, > 0 & <=100	100	
variableBeaconSize	When Technology=80211p	Allows packets of 2 sizes	Boolean	false	Not tested in v5.0
beaconSizeSmallBytes	When variableBeaconSize=true (& Technology=80211p)	Set size of smaller packets	Integer, >0 & <= beaconSizeBytes	190	
NbeaconsSmall	When variableBeaconSize=true (& Technology=80211p)	Set number of smaller packets after each large packet	Integer, >0	4	
cbrSensingInterval	Always	Sets the duration of the time interval for CBR calculation (s)	Double, >0	1	Not tested in v5.0
Physical layer settings					
BwMHz	Always	Bandwidth (MHz)	Double, [1.4, 5, 10, 20] if Technology=LTEV2V; only 10 otherwise	10	
Raw	Always	Awareness range (m); can be a vector of increasing numbers, which will create groups of distances for the outputs	Integer, > 0, or String including an increasing list of integers, >0	150	Before v5.0 it was an Integer (String option added from v5.0)
Ptx_dBm	Always	Transmitted power (dBm)	Double	23	
Gt_dB	Always	Transmitter antenna gain (dB)	Double	3	From v3.1
Gr_dB	Always	Receiver antenna gain (dB)	Double	3	
F_dB	Always	Noise figure of the receiver (dB)	Double	9	

folderPERcurves	Always	Folder for the PER vs. SINR curves (names of files are fixed)	String; 'null' means not used	'null'	From v5.0
pWithLTEPHY	When *Technology* ~= LTEV2V	Option to use in 11p SINR and data-rate of the MCS of LTE	Boolean	false	From v4.1
Mode	When *Technology* = 80211p	802.11p TX Mode	Integer, [1,2,3,4,5,6,7,8]	3	From v3.1, replaced in v5.1 by MCS_11p
MCS_11p	When pWithLTEPHY=false (& *Technology* ~= LTEV2V)	802.11p TX MCS	Integer, [0,1,2,3,4,5,6,7]	2	From v5.0
MCS_pWithLTEphy	When pWithLTEPHY=true (& *Technology* ~= LTEV2V)	LTE MCS to use in 802.11p	Integer, within 0 and 28	3	From v4.1
CW	When *Technology* ~= LTEV2V	Contention Window	Integer in [3, 7, 15, 31, 63] (was Integer, >= 1)	15 (was 16)	From v3.1. Modified in v5.2
AifsN	When *Technology* ~= LTEV2V	Arbitration inter-frame space N	Integer, >= 0	6	From v5.0 (was fixed before)
CCAthreshold11p	When *Technology* ~= LTEV2V	CCA threshold of IEEE 802.11p for undecodable signals (dBm)	Double	-65	From v5.0
sinrThreshold11p	When *Technology* ~= LTEV2V	SINR threshold to be used for all IEEE 802.11p transmissions	Double; -1000 means that curves or embedded thresholds are used	-1000	From v5.0
BLERcurveLTE	When *Technology* ~= 80211p	Option to use error vs. SINR curves	Boolean	false	From v4.1; removed in v5.0
filenameBLER	When BLERcurveLTE=true (& Technology~=802.11p)	File to be used as error vs. SINR curves	String	null.txt	Removed in v5.0 Replaced with
RBPsBeacon	When BLERcurveLTE=true (& Technology~=802.11p)	Number of RBs pairs per beacon to use with BLER curve	Integer	20	
MCS	When *Technology* = LTEV2V	Modulation and coding scheme	Integer, >= 0 & <= 28	4	Replaced in v5.0 by MCS_LTE
MCS_LTE	When *Technology* ~= 80211p	Modulation and coding scheme	Integer, >= 0 & <= 28	4	From v5.0
sinrThresholdLTE	When *Technology* ~= 80211p	SINR threshold to be used for all LTE-V2X transmissions	Double; -1000 means that curves or embedded thresholds are used	-1000	From v5.0
duplex	When *Technology* = LTEV2V	Duplexing type	String, [HD,FD]	HD	Replaced in v5.0 by duplexLTE
duplexLTE	When *Technology* ~= 80211p	Duplexing type	String, [HD,FD]	HD	From v5.0
Ksi_dB	When *Technology* ~= 80211p	Self-interference cancellation coefficient (dB)	Double	-110	
NumBeaconsFrequency	When *Technology* ~= 80211p	Maximum number of BRs in the frequency domain	Integer, > 0 or -1(meaning all BRs)	-1	From v3.1
ifAdjacent	When *Technology* ~= 80211p	If using adjacent PSCCH and PSSCH	Boolean	true	From v3.5
sizeSubchannel	When *Technology* ~= 80211p	Subchannel size in LTE-V2V	Integer (input values must be supported by 3GPP standard), -1 means that LTEV2Vsim automatically selects the best value)	-1	From v3.5
winnerModel	Always	Set Winner+ channel model	Boolean	True	From v3.1

stdDevShadowLOS_dB	Always	Standard deviation of shadowing in LOS (dB)	Integer	3	From v3.1
stdDevShadowNLOS_dB	Always	Standard deviation of shadowing in NLOS (dB)	Integer	*4*	From v3.1
L0_dB	When *winnerModel* = false	Path loss at 1m (dB)	Double	47.86	
beta	When *winnerModel* = false	Path loss exponent	Double	2.20	
Abuild_dB	When *winnerModel* = false & *fileObstaclesMap* = true	Attenuation every meter inside buildings (dB)	Double	0.4	From v3.1
Awall_dB	When *winnerModel* = false & *fileObstaclesMap* = true	Attenuation for each wall crossed (dB)	Double	6	From v3.1
Settings of resource allocation algorithm					
BRAlgorithm	Always	Allocation algorithm	Integer, [2,7,9,10,18,101,102]	18	
			1 - Controlled		Not supported from v4.1
			2 - Controlled with scheduled BR reassignment		Not tested in v5.0
			3 - Autonomous with sensing range		Not supported from v4.1
			4 - Autonomous with BR map		Not supported from v4.1
			5 - Autonomous with sensing (Qualcomm)		Not supported from v4.1
			6 - Autonomous with sensing (Intel)		Not supported from v4.1
			7 - Controlled with Maximum Reuse Distance (MRD)		From v3.5; not tested in v5.0
			8 - Autonomous with sensing with allocations synch to beacon interval (3GPP standard mode 4)		From v3.1; not supported from v5.0
			9 - Controlled with power control and target blocking rate		From v3.5; not tested in v5.0
			10 - Controlled with Maximum Reuse Power (MRD)		From v4.1; not tested in v5.0
			18 - Autonomous with sensing (3GPP standard mode 4)		From v4.1
			101 - Random allocation		From v4.1; not tested in v5.0
			102 - Ordered allocation following X coordinate		From v4.1; not tested in v5.0
posError95	When *BRAlgorithm* = 2	LTE positioning error - 95th percentile (m)	Double	0	

Tupdate	When *BRAlgorithm* = 2	Time interval between position updates at the eNodesB (s)	Double, > 0	*Tbeacon*	
Mreuse	When *BRAlgorithm* = 2	Reuse margin (m)	Integer	0	
Treassign	When *BRAlgorithm* = 2,7,9, 10	Interval of scheduled reassignment (s)	Double, > 0	*Tbeacon*	
randomOrder	All algorithms except *BRAlgorithm* = 101,102	Set whether resources are selected randomly (at first assignment for all BRAlgorithm except 101,102,7 and for BRAlgorithm 1,2)	Boolean	True	Removed from v4.1
blockTarget	When *BRAlgorithm* = 9	Target blocking rate	Double	0.01	From v3.5
knownShadowing	When *BRAlgorithm* = 10	Sets if the shadowing is estimated by the eNodeB	Boolean	false	From v4.1
Rsense	When *BRAlgorithm* = 3	Sensing Range (m)	Integer, >= Raw & <Rnoise (distance at which rx power is equal to noise power)	*Raw*	Algorithm not supported from v4.1
pReselect	When *BRAlgorithm* = 5	Probability of resources reselection	Double	0.1	Algorithm not supported from v4.1
kBest	When *BRAlgorithm* = 5	Number of best candidates for resource reselection	Integer	20	Algorithm not supported from v4.1
hysteresysM	When *BRAlgorithm* = 5	Hysteresys Margin (dB) for resource reselection	Double	6	Algorithm not supported from v4.1
Tsps	When *BRAlgorithm* = 6	Resource Reselection Period for Semi-persistent Scheduling (s)	Double	0.5	Algorithm not supported from v4.1
MBest	When *BRAlgorithm* = 6	Number of best candidates for resource reselection	Integer	20	Algorithm not supported from v4.1
probResKeep	When *BRAlgorithm* = 18	Probability to keep the previously selected BR	Double, >=0 & <=0.8	0	From v3.1
ratioSelectedMode4	When *BRAlgorithm* = 18	Percentage of resources to be considered for random selection	Double, >0 & <=1	0.2	From v3.5
NsensingPeriod	When *BRAlgorithm* = 18	Number of beacon periods during which performing sensing	Integer, >0	10	From v3.1; replaced by TsensingPeriod in v5.0
TsensingPeriod	When *BRAlgorithm* = 18	Duration of the sensing period	Double, >0	1	From v5.0
minRandValueMode4	When *BRAlgorithm* = 18	Minimum duration keeping the same allocation	Integer,>0; -1 for standard values	-1	From v3.5
maxRandValueMode4	When *BRAlgorithm* = 18	Maximum duration keeping the same allocation	Integer,>minRandValueMode4; -1 for standard values	-1	From v3.5
subframeT1Mode4	When *BRAlgorithm* = 18	Minimum subframe for the next allocation	Integer, >=1 & <=4	1	From v3.5
subframeT2Mode4	When *BRAlgorithm* = 18	Maximum subframe for the next allocation	Integer, >=20 & <=100	100	From v3.5
powerThresholdMode4	When *BRAlgorithm* = 18	Minimum power threshold to consider a BR as occupied (dBm)	Integer, >=-128 & <=-2 (multiple of 2)	-110	From v3.5
minSCIsinr	When *BRAlgorithm* = 18	Minimum SINR for a SCI to be correctly decoded (dB)	Double	0	From v3.5
Output settings					
outputFolder	Always	Folder for the output files	String	Output	From v3.1

printNeighbors	Always	Activate the print to file of the number of neighbors	Boolean	False	To be updated in v5.0
printUpdateDelay	Always	Activate the print to file of the update delay (a.k.a. inter-packet gap) between successive successfully received beacons	Boolean	False	Previously named *printBeaconDelay*
printPacketDelay	Always	Activate the print to file of the packet delay between successive successfully received beacons	Boolean	False	From v3.1
printdataAge	Always	Activate the print to file of the data age of successfully received beacons	Boolean	False	From 5.0
delayResolution	When *printUpdateDelay* = true or *printUpdateDelay* = true or printdataAge = true	Delay resolution (s)	Double, >0	0.001	From v3.1
printDistanceDetails	Always	Activate the print to file of the details on reception rate for distances from 0 up to the max awareness range	Boolean	False	From v3.1; replaced in v5.0 by printPacketReceptionRatio
printPacketReceptionRatio	Always	Activate the print to file the packet reception ratio for distances from 0 up to the max awareness range	Boolean	False	From 5.0
prrResolution	When printPacketReceptionRatio=true	Gralunarity in PRR vs. distance calculation (m)	Integer, >0	10	From 5.0
printPRRmap	When *TypeOfScenario* =Traces	Activate the creation and print of a PRR map	Boolean	False	From v3.1; To be updated from v5.0
printCBR	Always	Activate the print to file of a cdf of the CBR	Boolean	False	From v4.2; To be updated from v5.0
printPowerControl	*Always*	Activate the print to file of the power control allocation	Boolean	False	From v3.5; To be updated from v5.0
powerResolution	When *printPowerControl* = true	Power resolution (dBm)	Double,>0	1	From v3.5