DUT driver:

-There will be a directory labeled ‘DUT\_Drivers’

-Within the DUT\_Driver directory there will be other folders labeled with the name of the DUT.

Ex: ‘DUT\_Drivers/AEWB/’ , ’ DUT\_Drivers/AEWD\_X21/’

-Within the DUT name folder will be a python file with the name of the DUT and ‘\_driver’.

Ex. ‘‘DUT\_Drivers/AEWB/AEWB\_driver.py’ ‘DUT\_Drivers/AEWD\_X21/AEWD\_X21\_driver.py’

Also within the DUT name folder will be any other folders or files needed for the DUT control to work. Such files might include beam tables, power level tables, directories containing files needed to be uploaded to the unit. Etc. The only file needed to interface the unit is the \_driver.py file.

-Within the driver file is the driver class. This class is called ‘ DUT\_driver’

The python file containing the DUT driver should be dynamically imported only after the DUT type is known. (don’t want to import all the DUT driver files especially when the class is the same in all of them)

DUT driver pass parameters:

The DUT driver requires for operation a number of setup parameters that change per unit. Thus the setup parameters should be passed in as a python dictionary. An example of such pass parameters is below:

Module – a string that indicated the main module that is to be tested. For example, an AEWB only has one module so it does not need to be passed in the dictionary, but the AEWD has 2 modules, and the AEWE has 4. A string is used so that the module could also be ‘A’,’B’, etc

Mode- a string [‘TX’ or ‘RX’] indicating whether the parameters in the dictionary refer to transmit or receive setup

Polarization – a string [‘Horizontal’ or ‘Vertical’] indicate which polarity is to be tested

Frequency – a list of strings. The number of elements in the list determines the number of frequencies that the unit will output (ex.[‘38.5’ , ‘38.975’] would bring up 2 carriers. It is also possible to send [‘8\_carrier\_hi’] for an 8 carrier setup on the high end of the band. If this method is to be used, a configuration file defining the ‘8\_carrier\_high’ setup must either be known to the DUT driver or a reference to a configuration sent to the driver

Power – a string indicating the desired power level.

Modulation – a string indicating the desired modulation scheme (ex. ‘TM1’, ‘WAVEFORM’)

BeamAngle – a string indicating azimuth and elevation of a beam. If a beam number is sent, then the azm and ele should not be sent (ex. ‘azm=0 ele=5’ OR ‘234’) If this is not included in the dictionary, boresite will be assumed.

DUT\_driver methods:

Setup(DUT\_parameters) – DUT\_parameters is a dictionary containing elements described above. After a setup, the TX or RX will be disabled. An enable will need to be sent after the setup.

Enable(‘TX’ or ‘RX’) – if TX is selected, this command will start the unit transmitting. IF RX will begin an RX measurement

Disable(‘TX’ or ‘RX’) – will stop transmitting or stop the receive measurement

Power(‘UP’,’DOWN’,value) - ‘UP’ followed by a number will increase power a number of discrete steps dependant upon the DUT. Same for ‘DOWN’. Value will set the DUT to the value specified. This method can be used to calibrate or adjust the unit to a specified power.