Test Logs

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Applicant:	Sercomm Corp.
Address:	8F, No. 3-1, YuanQu St., NanKang, Taipei 115, Taiwan, R.O.C. (NanKang Software Park)
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan

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1 CBSD Registration Process

1.1 WINNF.FT.C.REG.5

2019-11-14T02:55:25.190Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-11-14T02:55:25.190Z - INFO - the selected test from the user : WINNF.FT.C.REG.5 is starting now
2019-11-14T02:58:22.970Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "cpiSignatureData": {
                "digitalSignature":
"hXKueSxpeQBjO3vGQSUgutvX95LSIYWilpqdvUw4y1DTQgWpv1DhAp3zI2Rm05zWz4VbbJ3hcodgMKlz4
VHEOMRlK3YFYz7xUnyPW5d6VLV0NkiB1OhuSnd_QIxU_xosfA4Ld0wCpxEctrzJfEqS8MBmPZKzSXsga1L
T4oQ3v3qslQt_80E4N78qUwUhrFMgTp4R21kmKGcGs3bJs1lMO-pS29ZpVo-Vu8BnW7YNHbGW_DiqcuXS
voxvQrmwB86wKXKfo5fXnNCKjYUZSgleeaK8AqcEG_hk-DkVCa6pLzP6EH5ukQK5tXK365MwOXZ30c99z
KSSl-MGhQVfC2zETRrcC8vROkBC2RzT79Q5H0l7vw7wwyyqhzgx8a3RaCCGhMpFjFKhXG4tr0sZirtOq_7u
JlG_TkLgzXL21QP4_kcMXphj8SJ_05Xi-Nq_ObrnnH0fI7EGJ4CxDdnI7uhhTQDZwUzgRUxtNc9DIxm8EMS-
hR8_k-5D_u_ER5Id5RTNXBQR144eKC31rODNeA6JB5SPjZOEgPoMwwdjtlJLUEaVVepTG8tGGIhm9Yy71
1o3YShJkrqbicG27CjPJR2c9xbg85ygyjRoUysAC5PTlQnesprzfVERA08OD7t9NC3EZ25r8C4oPEzIItovergfal
TqOQ8FjQFPViCZ07lSfKI",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiU2VyY29tbS0xODA4Q1BFMDAwMDEwIiwiZmNjSWQiOiJmZW10by5pIi
wiaW5zdGFsbGF0aW9uUGFyYW0iOnsiYW50ZW5uYUF6aW11dGgiOjAsImFudGVubmFCZWFtd2lkdGgiOj
kwLCJhbnRlbm5hRG93bnRpbHQiOjAsImFudGVubmFHYWluIjoxMiwiYW50ZW5uYU1vZGVsIjoiIiwiZWlycE
NhcGFiaWxpdHkiOjQxLCJoZWlnaHQiOjEuOCwiaGVpZ2h0VHlwZSI6IkFNU0wiLCJob3Jpem9udGFsQWNjd
XJhY3kiOjMsImluZG9vckRlcGxveW1lbnQiOnRydWUsImxhdGl0dWRlIjo0Ny41Mjc2MDUsImxvbmdpdHVkZS
I6LTk3LjYyNzA5NiwidmVydGljYWxBY2N1cmFjeSI6M30sInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOnsiY3
BpSWQiOiIiLCJjcGlOYW1lIjoiIiwiaW5zdGFsbENlcnRpZmljYXRpb25UaW1lIjoiMjAxOS0xMS0xNFQwMjo1Nz
ozNloifX0",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
```


2019-11-14T02:58:22.986Z - INFO - Registration message contains cpiSignatureData
2019-11-14T02:58:22.986Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2019-11-14T02:58:22.986Z - INFO - encodedCpiSignedData contents = {

```
    "installationParam": {
        "eirpCapability": 41,
        "antennaAzimuth": 0,
        "heightType": "AMSL",
        "antennaModel": "",
        "longitude": -97.627096,
        "antennaGain": 12,
        "indoorDeployment": true,
        "latitude": 47.527605,
        "horizontalAccuracy": 3,
        "antennaDowntilt": 0,
        "antennaBeamwidth": 90,
        "height": 1.8,
        "verticalAccuracy": 3
    },
    "fccId": "femto.i",
    "professionalInstallerData": {
        "cpiName": "",
        "installCertificationTime": "2019-11-14T02:57:36Z",
        "cpiId": ""
    },
    "cbsdSerialNumber": "Sercomm-1808CPE000010"
}
```

2019-11-14T02:58:23.048Z - INFO - verified signature on cpiSignatureData
2019-11-14T02:58:23.048Z - INFO - cpiSignatureData data successfully validated against jsonschema
2019-11-14T02:58:23.048Z - INFO - engine sent successfully, the response to CBRS : {

```
    "registrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2019-11-14T02:58:24.391Z - INFO - arrived to nstep starting question answer session with the technician
2019-11-14T02:58:24.391Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2019-11-14T03:00:38.628Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2019-11-14T03:00:38.956Z - INFO - The final result of the test : WINNF.FT.C.REG.5 is - passed

1.2 WINNF.FT.C.REG.8

2019-10-22T08:44:38.138Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-10-22T08:44:38.138Z - INFO - the selected test from the user : WINNF.FT.C.REG.8 is starting now
2019-10-22T08:44:51.996Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 90,
                "antennaDowntilt": 0,
                "antennaGain": 12,
                "antennaModel": "",
                "eirpCapability": 41,
                "height": 1.8,
                "heightType": "AMSL",
                "horizontalAccuracy": 3,
                "indoorDeployment": false,
                "latitude": 47.527605,
                "longitude": -97.627096,
                "verticalAccuracy": 3
            },
            "measCapability": [
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
```


2019-10-22T08:44:52.012Z - INFO - engine sent successfully, the response to CBRS : {


```
    "registrationResponse": [
        {
            "response": {
                "responseCode": 102
            }
        }
    ]
}
```


2019-10-22T08:44:53.246Z - INFO - arrived to nstep starting question answer session with the technician
2019-10-22T08:44:53.246Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2019-10-22T08:49:42.016Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2019-10-22T08:49:42.803Z - INFO - The final result of the test : WINNF.FT.C.REG.8 is – passed

1.3 WINNF.FT.C.REG.10

2019-10-22T08:50:51.023Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-10-22T08:50:51.023Z - INFO - the selected test from the user : WINNF.FT.C.REG.10 is starting now
2019-10-22T08:51:20.302Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 90,
                "antennaDowntilt": 0,
                "antennaGain": 12,
                "antennaModel": "",
                "eirpCapability": 41,
                "height": 1.8,
                "heightType": "AMSL",
                "horizontalAccuracy": 3,
                "indoorDeployment": false,
                "latitude": 47.527605,
                "longitude": -97.627096,
                "verticalAccuracy": 3
            },
            "measCapability": [
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
```


2019-10-22T08:51:20.325Z - INFO - engine sent successfully, the response to CBRS : {


```
    "registrationResponse": [
        {
            "response": {
                "responseCode": 200
            }
        }
    ]
}
```


2019-10-22T08:51:21.407Z - INFO - arrived to nstep starting question answer session with the technician
2019-10-22T08:51:21.407Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2019-10-22T08:56:01.572Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n2019-10-22T08:56:02.355Z - INFO - The final result of the test : WINNF.FT.C.REG.10 is – passed

1.4 WINNF.FT.C.REG.12

2019-10-22T08:57:12.638Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-10-22T08:57:12.638Z - INFO - the selected test from the user : WINNF.FT.C.REG.12 is starting now
2019-10-22T08:57:25.216Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 90,
                "antennaDowntilt": 0,
                "antennaGain": 12,
                "antennaModel": "",
                "eirpCapability": 41,
                "height": 1.8,
                "heightType": "AMSL",
                "horizontalAccuracy": 3,
                "indoorDeployment": false,
                "latitude": 47.527605,
                "longitude": -97.627096,
                "verticalAccuracy": 3
            },
            "measCapability": [
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
```


2019-10-22T08:57:25.247Z - INFO - engine sent successfully, the response to CBRS : {


```
    "registrationResponse": [
        {
            "response": {
                "responseCode": 103
            }
        }
    ]
}
```


2019-10-22T08:57:26.825Z - INFO - arrived to nstep starting question answer session with the technician
2019-10-22T08:57:26.825Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2019-10-22T09:00:17.888Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2019-10-22T09:00:18.450Z - INFO - The final result of the test : WINNF.FT.C.REG.12 is - passed

1.5 WINNF.FT.C.REG.14

2019-10-22T09:00:50.934Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-10-22T09:00:50.934Z - INFO - the selected test from the user : WINNF.FT.C.REG.14 is starting now
2019-10-22T09:01:12.653Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "",
        "cbsdCategory": "B",
        "cbsdSerialNumber": "Sercomm-1808CPE000010",
        "fccId": "femto.i",
        "groupingParam": [
            {
                "groupId": "SERCOMM_111",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 90,
            "antennaDowntilt": 0,
            "antennaGain": 12,
            "antennaModel": "",
            "eirpCapability": 41,
            "height": 1.8,
            "heightType": "AMSL",
            "horizontalAccuracy": 3,
            "indoorDeployment": false,
            "latitude": 47.527605,
            "longitude": -97.627096,
            "verticalAccuracy": 3
        },
        "measCapability": [
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "XywyE9"
    }
]
}
```


2019-10-22T09:01:12.684Z - INFO - engine sent successfully, the response to CBRS : {


```
"registrationResponse": [
    {
        "response": {
            "responseCode": 101
        }
    }
]
}
```


2019-10-22T09:01:14.293Z - INFO - arrived to nstep starting question answer session with the technician
2019-10-22T09:01:14.293Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2019-10-22T09:04:11.592Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2019-10-22T09:04:11.982Z - INFO - The final result of the test : WINNF.FT.C.REG.14 is - passed

1.6 WINNF.FT.C.REG.16

2019-10-22T09:04:20.059Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-10-22T09:04:20.059Z - INFO - the selected test from the user : WINNF.FT.C.REG.16 is starting now
2019-10-22T09:04:48.213Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 90,
                "antennaDowntilt": 0,
                "antennaGain": 12,
                "antennaModel": "",
                "eirpCapability": 41,
                "height": 1.8,
                "heightType": "AMSL",
                "horizontalAccuracy": 3,
                "indoorDeployment": false,
                "latitude": 47.527605,
                "longitude": -97.627096,
                "verticalAccuracy": 3
            },
            "measCapability": [
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
```


2019-10-22T09:04:48.236Z - INFO - engine sent successfully, the response to CBRS : {


```
    "registrationResponse": [
        {
            "response": {
                "responseCode": 100
            }
        }
    ]
}
```


2019-10-22T09:04:49.401Z - INFO - arrived to nstep starting question answer session with the technician
2019-10-22T09:04:49.401Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2019-10-22T09:09:41.700Z - INFO - for the question : Were there RF transmissions from the CBSD1 during
2019-10-22T09:09:42.920Z - INFO - The final result of the test : WINNF.FT.C.REG.16 is - passed

1.7 WINNF.FT.C.REG.18

2019-10-22T09:10:22.046Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-10-22T09:10:22.046Z - INFO - the selected test from the user : WINNF.FT.C.REG.18 is starting now
2019-10-22T09:10:49.796Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "",
        "cbsdCategory": "B",
        "cbsdSerialNumber": "Sercomm-1808CPE000010",
        "fccId": "femto.i",
        "groupingParam": [
            {
                "groupId": "SERCOMM_111",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 90,
            "antennaDowntilt": 0,
            "antennaGain": 12,
            "antennaModel": "",
            "eirpCapability": 41,
            "height": 1.8,
            "heightType": "AMSL",
            "horizontalAccuracy": 3,
            "indoorDeployment": false,
            "latitude": 47.527605,
            "longitude": -97.627096,
            "verticalAccuracy": 3
        },
        "measCapability": [
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "XywyE9"
    }
]
}
```


2019-10-22T09:10:49.828Z - INFO - engine sent successfully, the response to CBRS : {


```
"registrationResponse": [
    {
        "response": {
            "responseCode": 201
        }
    }
]
}
```


2019-10-22T09:10:51.421Z - INFO - arrived to nstep starting question answer session with the technician
2019-10-22T09:10:51.421Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2019-10-22T09:13:19.259Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2019-10-22T09:13:19.821Z - INFO - The final result of the test : WINNF.FT.C.REG.18 is - passed

CBSD SPECTRUM GRANT PROCESS

1.8 WINNF.FT.C.GRA.1

2019-10-23T02:06:36.523Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-10-23T02:06:36.523Z - INFO - the selected test from the user : WINNF.FT.C.GRA.1 is starting now
2019-10-23T02:06:58.450Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 90,
                "antennaDowntilt": 0,
                "antennaGain": 12,
                "antennaModel": "",
                "eirpCapability": 41,
                "height": 1.8,
                "heightType": "AMSL",
                "horizontalAccuracy": 3,
                "indoorDeployment": false,
                "latitude": 47.527605,
                "longitude": -97.627096,
                "verticalAccuracy": 3
            },
            "measCapability": [
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
```


2019-10-23T02:06:58.503Z - INFO - engine sent successfully, the response to CBRS : {


```
    "registrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```


2019-10-23T02:06:58.693Z - INFO - spectrumInquiry request from CBRS : {


```
    "spectrumInquiryRequest": [
        {
```

```
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            ]
        }
    ]
}
2019-10-23T02:06:58.714Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3635000000,
                        "lowFrequency": 3615000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-10-23T02:06:58.857Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "operationParam": {
                "maxEirp": 31,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-10-23T02:06:58.868Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 400
            }
        }
    ]
}
2019-10-23T02:07:00.542Z - INFO - arrived to nstep starting question answer session with the technician
2019-10-23T02:07:00.542Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2019-10-23T02:10:06.095Z - INFO - for the question : Were there RF transmissions from the CBSD1 during
```

the test? , the user choose n
2019-10-23T02:10:06.526Z - INFO - The final result of the test : WINNF.FT.C.GRA.1 is - passed

1.9 WINNF.FT.C.GRA.2

2019-10-23T02:11:11.690Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-10-23T02:11:11.690Z - INFO - the selected test from the user : WINNF.FT.C.GRA.2 is starting now
2019-10-23T02:11:34.086Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 90,
                "antennaDowntilt": 0,
                "antennaGain": 12,
                "antennaModel": "",
                "eirpCapability": 41,
                "height": 1.8,
                "heightType": "AMSL",
                "horizontalAccuracy": 3,
                "indoorDeployment": false,
                "latitude": 47.527605,
                "longitude": -97.627096,
                "verticalAccuracy": 3
            },
            "measCapability": [
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
```


2019-10-23T02:11:34.141Z - INFO - engine sent successfully, the response to CBRS : {


```
    "registrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```


2019-10-23T02:11:34.328Z - INFO - spectrumInquiry request from CBRS : {


```
    "spectrumInquiryRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "inquiredSpectrum": [
```

```
                {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            ]
        }
    ]
}
2019-10-23T02:11:34.335Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3635000000,
                        "lowFrequency": 3615000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-10-23T02:11:34.493Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "operationParam": {
                "maxEirp": 31,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-10-23T02:11:34.499Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 401
            }
        }
    ]
}
2019-10-23T02:11:35.707Z - INFO - arrived to nstep starting question answer session with the technician
2019-10-23T02:11:35.709Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2019-10-23T02:13:40.766Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2019-10-23T02:13:41.336Z - INFO - The final result of the test : WINNF.FT.C.GRA.2 is - passed
```

2 CBSD Heart Beat Process

2.1 WINNF.FT.C.HBT.1

2019-11-06T03:27:15.470Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-11-06T03:27:15.470Z - INFO - the selected test from the user : WINNF.FT.C.HBT.1 is starting now
2019-11-06T03:27:30.407Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
```


2019-11-06T03:27:30.423Z - INFO - engine sent successfully, the response to CBRS : {


```
    "registrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```


2019-11-06T03:27:30.563Z - INFO - spectrumInquiry request from CBRS : {


```
    "spectrumInquiryRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            ]
        }
    ]
}
```


2019-11-06T03:27:30.563Z - INFO - engine sent successfully, the response to CBRS : {


```
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
```

```
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3635000000,
                        "lowFrequency": 3615000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T03:27:30.736Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "operationParam": {
                "maxEirp": 31,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-11-06T03:27:30.736Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "channelType": "GAA",
            "grantExpireTime": "2019-11-13T03:27:30Z",
            "grantId": "50788647",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T03:27:30.891Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "50788647",
            "grantRenew": true,
            "operationState": "GRANTED"
        }
    ]
}
2019-11-06T03:27:30.891Z - INFO - grantRenew received in HBT request message
2019-11-06T03:27:30.891Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
```

```
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantExpireTime": "2019-11-13T03:27:30Z",
                "grantId": "50788647",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-11-06T03:30:50Z"
            }
        ]
}
2019-11-06T03:28:31.046Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantId": "50788647",
                "grantRenew": false,
                "operationState": "AUTHORIZED"
            }
        ]
}
2019-11-06T03:28:31.046Z - INFO - Time interval between two heartbeat request messages is: 60.154, limit
is: 65.0
2019-11-06T03:28:31.046Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantId": "50788647",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-11-06T03:31:51Z"
            }
        ]
}
2019-11-06T03:29:31.151Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantId": "50788647",
                "grantRenew": false,
                "operationState": "AUTHORIZED"
            }
        ]
}
2019-11-06T03:29:31.151Z - INFO - Time interval between two heartbeat request messages is: 60.105, limit
is: 65.0
2019-11-06T03:29:31.167Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantId": "50788647",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-11-06T03:32:51Z"
            }
        ]
}
```

2019-11-06T03:30:31.362Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
"grantId": "50788647",
"grantRenew": false,
"operationState": "AUTHORIZED"
}
]
}
2019-11-06T03:30:31.362Z - INFO - Time interval between two heartbeat request messages is: 60.212, limit is: 65.0
2019-11-06T03:30:31.362Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
"grantId": "50788647",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-11-06T03:33:51Z"
}
]
}
2019-11-06T03:31:31.470Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
"grantId": "50788647",
"grantRenew": false,
"operationState": "AUTHORIZED"
}
]
}
2019-11-06T03:31:31.470Z - INFO - Time interval between two heartbeat request messages is: 60.108, limit is: 65.0
2019-11-06T03:31:31.486Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
"grantId": "50788647",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-11-06T03:34:51Z"
}
]
}
2019-11-06T03:32:31.719Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
"grantId": "50788647",
"grantRenew": false,
"operationState": "AUTHORIZED"
}
]
}

2019-11-06T03:32:31.719Z - INFO - Time interval between two heartbeat request messages is: 60.248, limit is: 65.0
2019-11-06T03:32:31.719Z - INFO - engine sent successfully, the response to CBRS : {


```
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "50788647",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T03:35:51Z"
        }
    ]
}
```


2019-11-06T03:32:33.140Z - INFO - arrived to nstep starting question answer session with the technician
2019-11-06T03:32:33.140Z - INFO - the question is : Did CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose one of the answers :
2019-11-06T03:35:22.872Z - INFO - for the question : Did CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose n
2019-11-06T03:35:22.872Z - INFO - the question is : Did CBSD1 transmit only within the frequency range specified in its grantRequest message? please choose one of the answers :
2019-11-06T03:35:24.888Z - INFO - for the question : Did CBSD1 transmit only within the frequency range specified in its grantRequest message? , the user choose y
2019-11-06T03:35:25.670Z - INFO - The final result of the test : WINNF.FT.C.HBT.1 is - passed

2.2 WINNF.FT.C.HBT.3

2019-11-06T06:17:12.450Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-11-06T06:17:12.450Z - INFO - the selected test from the user : WINNF.FT.C.HBT.3 is starting now
2019-11-06T06:17:31.075Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "",
        "cbsdCategory": "B",
        "cbsdSerialNumber": "Sercomm-1808CPE000010",
        "fccId": "femto.i",
        "groupingParam": [
            {
                "groupId": "SERCOMM_111",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT"
        ],
        "userId": "XywyE9"
    }
]
```

}
2019-11-06T06:17:31.105Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
    {
        "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
        "response": {
            "responseCode": 0
        }
    }
]
```

}
2019-11-06T06:17:31.230Z - INFO - spectrumInquiry request from CBRS : {

```
"spectrumInquiryRequest": [
    {
        "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
        "inquiredSpectrum": [
            {
                "highFrequency": 3635000000,
                "lowFrequency": 3615000000
            }
        ]
    }
]
```

}
2019-11-06T06:17:31.230Z - INFO - engine sent successfully, the response to CBRS : {

```
"spectrumInquiryResponse": [
    {
        "availableChannel": [
            {
                "channelType": "GAA",
                "frequencyRange": {
```

```
                        "highFrequency": 3635000000,
                        "lowFrequency": 3615000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T06:17:31.403Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "operationParam": {
                "maxEirp": 31,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-11-06T06:17:31.403Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "channelType": "GAA",
            "grantExpireTime": "2019-11-13T06:17:31Z",
            "grantId": "844250367",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T06:17:31.559Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "844250367",
            "grantRenew": true,
            "operationState": "GRANTED"
        }
    ]
}
2019-11-06T06:17:31.559Z - INFO - grantRenew received in HBT request message
2019-11-06T06:17:31.559Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantExpireTime": "2019-11-13T06:17:31Z",
            "grantId": "844250367",
```

```
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T06:20:51Z"
        }
    ]
}
2019-11-06T06:18:31.697Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "844250367",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T06:18:31.713Z - INFO - Time interval between two heartbeat request messages is: 60.139, limit is: 65.0
2019-11-06T06:18:31.713Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "844250367",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T06:21:51Z"
        }
    ]
}
2019-11-06T06:19:31.819Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "844250367",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T06:19:31.819Z - INFO - Time interval between two heartbeat request messages is: 60.121, limit is: 65.0
2019-11-06T06:19:31.835Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "844250367",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T06:22:51Z"
        }
    ]
}
2019-11-06T06:20:31.944Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
```

```
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "844250367",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
```

2019-11-06T06:20:31.944Z - INFO - Time interval between two heartbeat request messages is: 60.125, limit is: 65.0
2019-11-06T06:20:31.944Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "844250367",
            "response": {
                "responseCode": 105
            },
            "transmitExpireTime": "2019-11-06T06:20:31Z"
        }
    ]
}
```

2019-11-06T06:20:33.289Z - INFO - arrived to nstep starting question answer session with the technician
2019-11-06T06:20:33.289Z - INFO - the question is : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 105? please choose one of the answers :
2019-11-06T06:23:21.052Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 105? , the user choose y
2019-11-06T06:23:21.459Z - INFO - The final result of the test : WINNF.FT.C.HBT.3 is - passed

2.3 WINNF.FT.C.HBT.4


```
2019-11-06T06:25:44.243Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-11-06T06:25:44.243Z - INFO - the selected test from the user : WINNF.FT.C.HBT.4 is starting now
2019-11-06T06:26:11.571Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
2019-11-06T06:26:11.648Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T06:26:11.821Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            ]
        }
    ]
}
2019-11-06T06:26:11.836Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
```

```
                        "highFrequency": 3635000000,
                        "lowFrequency": 3615000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T06:26:11.993Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "operationParam": {
                "maxEirp": 31,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-11-06T06:26:11.993Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "channelType": "GAA",
            "grantExpireTime": "2019-11-13T06:26:11Z",
            "grantId": "827898763",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T06:26:12.134Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "827898763",
            "grantRenew": true,
            "operationState": "GRANTED"
        }
    ]
}
2019-11-06T06:26:12.148Z - INFO - grantRenew received in HBT request message
2019-11-06T06:26:12.148Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantExpireTime": "2019-11-13T06:26:12Z",
            "grantId": "827898763",
```

```
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-11-06T06:29:32Z"
            }
        ]
}
2019-11-06T06:27:12.288Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "827898763",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T06:27:12.288Z - INFO - Time interval between two heartbeat request messages is: 60.154, limit
is: 65.0
2019-11-06T06:27:12.303Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "827898763",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T06:30:32Z"
        }
    ]
}
2019-11-06T06:28:12.407Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "827898763",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T06:28:12.407Z - INFO - Time interval between two heartbeat request messages is: 60.12, limit is:
65.0
2019-11-06T06:28:12.424Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "827898763",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T06:31:32Z"
        }
    ]
}
2019-11-06T06:29:12.539Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
```

```
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "827898763",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T06:29:12.539Z - INFO - Time interval between two heartbeat request messages is: 60.131, limit is: 65.0
2019-11-06T06:29:12.539Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "827898763",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T06:32:32Z"
        }
    ]
}
2019-11-06T06:30:12.645Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "827898763",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T06:30:12.645Z - INFO - Time interval between two heartbeat request messages is: 60.107, limit is: 65.0
2019-11-06T06:30:12.661Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "827898763",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T06:33:32Z"
        }
    ]
}
2019-11-06T06:31:12.766Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "827898763",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T06:31:12.766Z - INFO - Time interval between two heartbeat request messages is: 60.121, limit is: 65.0
2019-11-06T06:31:12.782Z - INFO - engine sent successfully, the response to CBRS    : {
```

```
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "827898763",
            "response": {
                "responseCode": 500
            },
            "transmitExpireTime": "2019-11-06T06:31:12Z"
        }
    ]
}
```


2019-11-06T06:31:13.859Z - INFO - arrived to nstep starting question answer session with the technician
2019-11-06T06:31:13.859Z - INFO - the question is : Did the CBSD1 stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 500? please choose one of the answers :
2019-11-06T06:34:30.900Z - INFO - for the question : Did the CBSD1 stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 500? , the user choose y
2019-11-06T06:34:31.368Z - INFO - The final result of the test : WINNF.FT.C.HBT.4 is - passed

2.4 WINNF.FT.C.HBT.5


```
2019-11-06T06:35:28.200Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-11-06T06:35:28.200Z - INFO - the selected test from the user : WINNF.FT.C.HBT.5 is starting now
2019-11-06T06:35:58.135Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
2019-11-06T06:35:58.167Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T06:35:58.933Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            ]
        }
    ]
}
2019-11-06T06:35:58.933Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
```

```
                        "highFrequency": 3635000000,
                        "lowFrequency": 3615000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T06:35:59.088Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "operationParam": {
                "maxEirp": 31,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-11-06T06:35:59.104Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "channelType": "GAA",
            "grantExpireTime": "2019-11-13T06:35:59Z",
            "grantId": "918341737",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T06:35:59.244Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "918341737",
            "grantRenew": true,
            "operationState": "GRANTED"
        }
    ]
}
2019-11-06T06:35:59.260Z - INFO - grantRenew received in HBT request message
2019-11-06T06:35:59.260Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantExpireTime": "2019-11-13T06:35:59Z",
            "grantId": "918341737",
```

```
                "response": {
                    "responseCode": 501
                },
                "transmitExpireTime": "2019-11-06T06:35:59Z"
            }
        ]
}
2019-11-06T06:36:09.463Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantId": "918341737",
                "grantRenew": false,
                "operationState": "GRANTED"
            }
        ]
}
```

2019-11-06T06:36:09.463Z - INFO - Time interval between two heartbeat request messages is: 10.218, limit is: 65.0

```
2019-11-06T06:36:09.463Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantId": "918341737",
                "response": {
                    "responseCode": 501
                },
                "transmitExpireTime": "2019-11-06T06:36:09Z"
            }
        ]
}
```

2019-11-06T06:36:10.806Z - INFO - arrived to nstep starting question answer session with the technician
2019-11-06T06:36:10.806Z - INFO - the question is : Did the CBSD transmit at any time during the test? please choose one of the answers :
2019-11-06T06:39:23.441Z - INFO - for the question : Did the CBSD transmit at any time during the test? , the user choose n
2019-11-06T06:39:23.786Z - INFO - The final result of the test : WINNF.FT.C.HBT.5 is - passed

2.5 WINNF.FT.C.HBT.6

2019-11-14T07:09:30.938Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-11-14T07:09:30.938Z - INFO - the selected test from the user : WINNF.FT.C.HBT.6 is starting now
2019-11-14T07:09:51.823Z - INFO - registration request from CBRS : {
"registrationRequest": [
{
"airInterface": {
"radioTechnology": "E_UTRA",
"supportedSpec": "FFS"
},
"callSign": "",
"cbsdCategory": "B",
"cbsdSerialNumber": "Sercomm-1808CPE000010",
"cpiSignatureData": {
"digitalSignature":
"O6hbcs9qt_yVTwct93wADsh71Gl_f2BnZYveMD-wgvWdJW195OUuhCPIZeyRvksEl2TNiPiU9Xy4r8e4G-dR
fU27sfCs5Mlo98ndHxTjIAnnKy9Di3U-1UeglTvF387guaNDA8M1HT0bOAdvV5IGBpdYsjZQFLt0UU8gODqY
SjMd72KHtMleFwaowrhGMmNbeE9WJdfNmoN1XefmFczqPLvpcDjurfHrZwnaCLQKPshoXH4jL7DnnXZheC
zEHKplhoy5xRsmo6IXBZC3MZTmUUj33GWvA8KlDJi2p9nNZP7Xn2gEdqMMVWpRfdMjwzHM05oCjuSLdVj
oPmeQkZmaE7yFFS-U_TfnBKeA-BsWnoDlzbkLw_qdN1MZI4jwMD_0qSUuKT5SPqKI0vmkpx4Fm8CvTGJa
4VaDrR-RXQsSH-EfkUQnPYkTjnxCmt_rOzZHPPcU6TJoCweuVuJeaI19kxNS4HfEUmmpEj6MV2POennLS
DQLAAzRlSkTCInXRjbI8xo-SE_KMuVpwYUbwa0g1kydWCj8KA8yp0TxgR8JSS3hLxlXRGn9HTEGEH6Mm
oPDb2ZJ1YLYEdBwx2WhCd4Y0u-Zqd1asIAuUGVE-n0StTFgJerS5uDpqDkFPomFMi1gCnLm3RLwO9XkXt
Ex_5TKSsyJO5xfT3H2MR-sg72rAic",
"encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiU2VyY29tbS0xODA4Q1BFMDAwMDEwIiwiZmNjSWQiOiJmZW10by5pIi
wiaW5zdGFsbGF0aW9uUGFyYW0iOnsiYW50ZW5uYUF6aW11dGgiOjAsImFudGVubmFCZWFtd2lkdGgiOj
kwLCJhbnRlbm5hRG93bnRpbHQiOjAsImFudGVubmFHYWluIjoxMiwiYW50ZW5uYU1vZGVsIjoiIiwiZWlycE
NhcGFiaWxpdHkiOjQxLCJoZWlnaHQiOjEuOCwiaGVpZ2h0VHlwZSI6IkFNU0wiLCJob3Jpem9udGFsQWNjd
XJhY3kiOjMsImluZG9vckRlcGxveW1lbnQiOnRydWUsImxhdGl0dWRlIjo0Ny41Mjc2MDUsImxvbmdpdHVkZS
I6LTk3LjYyNzA5NiwidmVydGljYWxBY2N1cmFjeSI6M30sInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOnsiY3
BpSWQiOiIiLCJjcGlOYW1lIjoiIiwiaW5zdGFsbENlcnRpZmljYXRpb25UaW1lIjoiMjAxOS0xMS0xNFQwNzowO
TowNVoifX0",
"protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
},
"fccId": "femto.i",
"groupingParam": [
{
"groupId": "SERCOMM_111",
"groupType": "INTERFERENCE_COORDINATION"
}
],
"measCapability": [
"RECEIVED_POWER_WITH_GRANT"
],
"userId": "XywyE9"
}
]
}
2019-11-14T07:09:51.855Z - INFO - Registration message contains cpiSignatureData
2019-11-14T07:09:51.855Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2019-11-14T07:09:51.855Z - INFO - encodedCpiSignedData contents = {
"installationParam": {
"eirpCapability": 41,
"antennaAzimuth": 0,
"heightType": "AMSL",
"antennaModel": "",

```
            "longitude": -97.627096,
            "antennaGain": 12,
            "indoorDeployment": true,
            "latitude": 47.527605,
            "horizontalAccuracy": 3,
            "antennaDowntilt": 0,
            "antennaBeamwidth": 90,
            "height": 1.8,
            "verticalAccuracy": 3
      },
      "fccId": "femto.i",
      "professionalInstallerData": {
            "cpiName": "",
            "installCertificationTime": "2019-11-14T07:09:05Z",
            "cpiId": ""
      },
      "cbsdSerialNumber": "Sercomm-1808CPE000010"
}
2019-11-14T07:09:51.917Z - INFO - verified signature on cpiSignatureData
2019-11-14T07:09:51.917Z - INFO - cpiSignatureData data successfully validated against jsonschema
2019-11-14T07:09:51.917Z - INFO - engine sent successfully, the response to CBRS    : {
      "registrationResponse": [
            {
                  "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                  "response": {
                        "responseCode": 0
                  }
            }
      ]
}
2019-11-14T07:09:52.058Z - INFO - spectrumInquiry request from CBRS    : {
      "spectrumInquiryRequest": [
            {
                  "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                  "inquiredSpectrum": [
                        {
                              "highFrequency": 3635000000,
                              "lowFrequency": 3615000000
                        }
                  ]
            }
      ]
}
2019-11-14T07:09:52.058Z - INFO - engine sent successfully, the response to CBRS    : {
      "spectrumInquiryResponse": [
            {
                  "availableChannel": [
                        {
                              "channelType": "GAA",
                              "frequencyRange": {
                                    "highFrequency": 3635000000,
                                    "lowFrequency": 3615000000
                              },
                              "ruleApplied": "FCC_PART_96"
                        }
                  ],
                  "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                  "response": {
```

```
                "responseCode": 0
            }
        }
    ]
}
2019-11-14T07:09:52.214Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "operationParam": {
                "maxEirp": 31,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-11-14T07:09:52.230Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "channelType": "GAA",
            "grantExpireTime": "2019-11-21T07:09:52Z",
            "grantId": "791393724",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-14T07:09:52.371Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "791393724",
            "grantRenew": true,
            "operationState": "GRANTED"
        }
    ]
}
2019-11-14T07:09:52.371Z - INFO - grantRenew received in HBT request message
2019-11-14T07:09:52.385Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantExpireTime": "2019-11-21T07:09:52Z",
            "grantId": "791393724",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-14T07:13:12Z"
        }
    ]
}
2019-11-14T07:10:52.618Z - INFO - heartbeat request from CBRS    : {
```

```
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "791393724",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-14T07:10:52.618Z - INFO - Time interval between two heartbeat request messages is: 60.248, limit is: 65.0
2019-11-14T07:10:52.618Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "791393724",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-14T07:14:12Z"
        }
    ]
}
2019-11-14T07:11:52.877Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "791393724",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-14T07:11:52.877Z - INFO - Time interval between two heartbeat request messages is: 60.258, limit is: 65.0
2019-11-14T07:11:52.877Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "791393724",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-14T07:15:12Z"
        }
    ]
}
2019-11-14T07:12:53.092Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "791393724",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-14T07:12:53.092Z - INFO - Time interval between two heartbeat request messages is: 60.216, limit
```

is: 65.0
2019-11-14T07:12:53.099Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "791393724",
            "response": {
                "responseCode": 501
            },
            "transmitExpireTime": "2019-11-14T07:12:53Z"
        }
    ]
}
```

2019-11-14T07:13:03.349Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "791393724",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
```

2019-11-14T07:13:03.349Z - INFO - Time interval between two heartbeat request messages is: 10.257, limit is: 65.0
2019-11-14T07:13:03.349Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "791393724",
            "response": {
                "responseCode": 501
            },
            "transmitExpireTime": "2019-11-14T07:13:03Z"
        }
    ]
}
```

2019-11-14T07:13:04.923Z - INFO - arrived to nstep starting question answer session with the technician
2019-11-14T07:13:04.923Z - INFO - the question is : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 501? please choose one of the answers :
2019-11-14T07:14:23.313Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 501? , the user choose y
2019-11-14T07:14:24.250Z - INFO - The final result of the test : WINNF.FT.C.HBT.6 is - passed

2.6 WINNF.FT.C.HBT.7

2019-11-06T07:00:34.056Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-11-06T07:00:34.056Z - INFO - the selected test from the user : WINNF.FT.C.HBT.7 is starting now
2019-11-06T07:00:48.868Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 90,
                "antennaDowntilt": 0,
                "antennaGain": 12,
                "antennaModel": "",
                "eirpCapability": 41,
                "height": 1.8,
                "heightType": "AMSL",
                "horizontalAccuracy": 3,
                "indoorDeployment": true,
                "latitude": 47.527605,
                "longitude": -97.627096,
                "verticalAccuracy": 3
            },
            "measCapability": [
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
```


2019-11-06T07:00:48.900Z - INFO - engine sent successfully, the response to CBRS : {


```
    "registrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```


2019-11-06T07:00:49.072Z - INFO - spectrumInquiry request from CBRS : {


```
    "spectrumInquiryRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "inquiredSpectrum": [
```

```
                {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            ]
        }
    ]
}
2019-11-06T07:00:49.072Z - INFO - engine sent successfully, the response to CBRS   : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3635000000,
                        "lowFrequency": 3615000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T07:00:49.227Z - INFO - grant request from CBRS   : {
    "grantRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "operationParam": {
                "maxEirp": 31,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-11-06T07:00:49.243Z - INFO - engine sent successfully, the response to CBRS   : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "channelType": "GAA",
            "grantExpireTime": "2019-11-13T07:00:49Z",
            "grantId": "38228152",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T07:00:49.384Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
```

```
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "38228152",
            "grantRenew": true,
            "operationState": "GRANTED"
        }
    ]
}
2019-11-06T07:00:49.384Z - INFO - grantRenew received in HBT request message
2019-11-06T07:00:49.384Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantExpireTime": "2019-11-13T07:00:49Z",
            "grantId": "38228152",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T07:04:09Z"
        }
    ]
}
2019-11-06T07:01:49.615Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "38228152",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T07:01:49.615Z - INFO - Time interval between two heartbeat request messages is: 60.232, limit
is: 65.0
2019-11-06T07:01:49.631Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "38228152",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T07:05:09Z"
        }
    ]
}
2019-11-06T07:02:49.782Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "38228152",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T07:02:49.782Z - INFO - Time interval between two heartbeat request messages is: 60.167, limit
is: 65.0
```

2019-11-06T07:02:49.782Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "38228152",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T07:06:09Z"
        }
    ]
}
```

2019-11-06T07:03:50.017Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "38228152",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
```

2019-11-06T07:03:50.017Z - INFO - Time interval between two heartbeat request messages is: 60.235, limit is: 65.0
2019-11-06T07:03:50.017Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "38228152",
            "response": {
                "responseCode": 502
            },
            "transmitExpireTime": "2019-11-06T07:03:50Z"
        }
    ]
}
```

2019-11-06T07:03:50.134Z - INFO - relinquishment request from CBRS : {

```
    "relinquishmentRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "38228152"
        }
    ]
}
```

2019-11-06T07:03:50.150Z - INFO - engine sent successfully, the response to CBRS : {

```
    "relinquishmentResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "38228152",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2019-11-06T07:03:51.887Z - INFO - arrived to nstep starting question answer session with the technician
2019-11-06T07:03:51.887Z - INFO - the question is : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 502? please choose one of the answers :

2019-11-06T07:06:05.263Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 502? , the user choose y
2019-11-06T07:06:05.608Z - INFO - The final result of the test : WINNF.FT.C.HBT.7 is - passed

2.7 WINNF.FT.C.HBT.9


```
2019-11-06T07:07:21.970Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-11-06T07:07:21.970Z - INFO - the selected test from the user : WINNF.FT.C.HBT.9 is starting now
2019-11-06T07:08:02.938Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 90,
                "antennaDowntilt": 0,
                "antennaGain": 12,
                "antennaModel": "",
                "eirpCapability": 41,
                "height": 1.8,
                "heightType": "AMSL",
                "horizontalAccuracy": 3,
                "indoorDeployment": true,
                "latitude": 47.527605,
                "longitude": -97.627096,
                "verticalAccuracy": 3
            },
            "measCapability": [
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
2019-11-06T07:08:02.984Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T07:08:03.144Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "inquiredSpectrum": [
```

```
                {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            ]
        }
    ]
}
2019-11-06T07:08:03.144Z - INFO - engine sent successfully, the response to CBRS   : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3635000000,
                        "lowFrequency": 3615000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T07:08:03.305Z - INFO - grant request from CBRS   : {
    "grantRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "operationParam": {
                "maxEirp": 31,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-11-06T07:08:03.305Z - INFO - engine sent successfully, the response to CBRS   : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "channelType": "GAA",
            "grantExpireTime": "2019-11-13T07:08:03Z",
            "grantId": "209662124",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T07:08:03.460Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
```

```
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "209662124",
            "grantRenew": true,
            "operationState": "GRANTED"
        }
    ]
}
```

2019-11-06T07:11:23.477Z - INFO - grantRenew received in HBT request message
2019-11-06T07:11:23.477Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantExpireTime": "2019-11-13T07:11:23Z",
            "grantId": "209662124",
            "response": {
                "responseCode": 501
            },
            "transmitExpireTime": "2019-11-06T07:11:23Z"
        }
    ]
}
```

2019-11-06T07:11:25.469Z - INFO - arrived to nstep starting question answer session with the technician
2019-11-06T07:11:25.469Z - INFO - the question is : Were there RF transmissions from the CBSD during the test? please choose one of the answers :
2019-11-06T07:13:34.174Z - INFO - for the question : Were there RF transmissions from the CBSD during the test? , the user choose n
2019-11-06T07:13:34.957Z - INFO - The final result of the test : WINNF.FT.C.HBT.9 is - passed

2.8 WINNF.FT.C.HBT.10


```
2019-11-06T07:19:59.582Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-11-06T07:19:59.582Z - INFO - the selected test from the user : WINNF.FT.C.HBT.10 is starting now
2019-11-06T07:20:30.562Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 90,
                "antennaDowntilt": 0,
                "antennaGain": 12,
                "antennaModel": "",
                "eirpCapability": 41,
                "height": 1.8,
                "heightType": "AMSL",
                "horizontalAccuracy": 3,
                "indoorDeployment": true,
                "latitude": 47.527605,
                "longitude": -97.627096,
                "verticalAccuracy": 3
            },
            "measCapability": [
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
2019-11-06T07:20:30.598Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T07:20:30.730Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "inquiredSpectrum": [
```

```
                {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            ]
        }
    ]
}
2019-11-06T07:20:30.730Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3635000000,
                        "lowFrequency": 3615000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T07:20:30.884Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "operationParam": {
                "maxEirp": 31,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-11-06T07:20:30.900Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "channelType": "GAA",
            "grantExpireTime": "2019-11-13T07:20:30Z",
            "grantId": "448451176",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T07:20:31.048Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
```

```
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "448451176",
            "grantRenew": true,
            "operationState": "GRANTED"
        }
    ]
}
2019-11-06T07:20:31.048Z - INFO - grantRenew received in HBT request message
2019-11-06T07:20:31.048Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantExpireTime": "2019-11-13T07:20:31Z",
            "grantId": "448451176",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T07:23:51Z"
        }
    ]
}
2019-11-06T07:21:31.237Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "448451176",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T07:21:31.237Z - INFO - Time interval between two heartbeat request messages is: 60.19, limit is:
65.0
2019-11-06T07:21:31.253Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "448451176",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T07:24:51Z"
        }
    ]
}
2019-11-06T07:22:31.407Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "448451176",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T07:22:31.407Z - INFO - Time interval between two heartbeat request messages is: 60.17, limit is:
65.0
```

2019-11-06T07:22:31.407Z - INFO - LAST HBT RESPONSE THAT SET TRANSMIT_EXPIRE_TIME WAS AT: 2019-11-06 07:21:31.238000
2019-11-06T07:25:51.427Z - INFO - engine sent successfully, the response to CBRS : {


```
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "448451176",
            "response": {
                "responseCode": 501
            },
            "transmitExpireTime": "2019-11-06T07:25:51Z"
        }
    ]
}
```


2019-11-06T07:25:52.724Z - INFO - arrived to nstep starting question answer session with the technician
2019-11-06T07:25:52.724Z - INFO - the question is : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? please choose one of the answers :
2019-11-06T07:26:19.019Z - INFO - for the question : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? , the user choose y
2019-11-06T07:26:19.427Z - INFO - The final result of the test : WINNF.FT.C.HBT.10 is - passed

3 CBSD Measurement Report

3.1 WINNF.FT.C.MES.1

2019-11-06T08:28:04.915Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-11-06T08:28:04.915Z - INFO - the selected test from the user : WINNF.FT.C.MES.1 is starting now
2019-11-06T08:28:45.618Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 90,
                "antennaDowntilt": 0,
                "antennaGain": 12,
                "antennaModel": "",
                "eirpCapability": 41,
                "height": 1.8,
                "heightType": "AMSL",
                "horizontalAccuracy": 3,
                "indoorDeployment": true,
                "latitude": 47.527605,
                "longitude": -97.627096,
                "verticalAccuracy": 3
            },
            "measCapability": [
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
```


2019-11-06T08:28:45.664Z - INFO - Response message contains measReportConfig
2019-11-06T08:28:45.664Z - INFO - engine sent successfully, the response to CBRS : {


```
    "registrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "measReportConfig": [
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "response": {
                "responseCode": 0
            }
        }
```

```
    ]
}
2019-11-06T08:28:45.884Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            ],
            "measReport": {
                "rcvdPowerMeasReports": [
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3550000000,
                        "measRcvdPower": -93.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3560000000,
                        "measRcvdPower": -94.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3570000000,
                        "measRcvdPower": -95.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3580000000,
                        "measRcvdPower": -94.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3590000000,
                        "measRcvdPower": -94.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3600000000,
                        "measRcvdPower": -71.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3610000000,
                        "measRcvdPower": -55.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3620000000,
                        "measRcvdPower": -51.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3630000000,
                        "measRcvdPower": -50.0
```

```
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3640000000,
                        "measRcvdPower": -75.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3650000000,
                        "measRcvdPower": -92.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3660000000,
                        "measRcvdPower": -92.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3670000000,
                        "measRcvdPower": -93.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3680000000,
                        "measRcvdPower": -94.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3690000000,
                        "measRcvdPower": -94.0
                    }
                ]
            }
        }
    ]
}
2019-11-06T08:28:45.898Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3635000000,
                        "lowFrequency": 3615000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T08:28:46.086Z - INFO - grant request from CBRS    : {
    "grantRequest": [
```

```
{
    "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
    "measReport": {
        "rcvdPowerMeasReports": [
            {
                "measBandwidth": 10000000,
                "measFrequency": 3550000000,
                "measRcvdPower": -93.0
            },
            {
                "measBandwidth": 10000000,
                "measFrequency": 3560000000,
                "measRcvdPower": -94.0
            },
            {
                "measBandwidth": 10000000,
                "measFrequency": 3570000000,
                "measRcvdPower": -95.0
            },
            {
                "measBandwidth": 10000000,
                "measFrequency": 3580000000,
                "measRcvdPower": -94.0
            },
            {
                "measBandwidth": 10000000,
                "measFrequency": 3590000000,
                "measRcvdPower": -94.0
            },
            {
                "measBandwidth": 10000000,
                "measFrequency": 3600000000,
                "measRcvdPower": -71.0
            },
            {
                "measBandwidth": 10000000,
                "measFrequency": 3610000000,
                "measRcvdPower": -55.0
            },
            {
                "measBandwidth": 10000000,
                "measFrequency": 3620000000,
                "measRcvdPower": -51.0
            },
            {
                "measBandwidth": 10000000,
                "measFrequency": 3630000000,
                "measRcvdPower": -50.0
            },
            {
                "measBandwidth": 10000000,
                "measFrequency": 3640000000,
                "measRcvdPower": -75.0
            },
            {
                "measBandwidth": 10000000,
                "measFrequency": 3650000000,
                "measRcvdPower": -92.0
```

```
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3660000000,
                        "measRcvdPower": -92.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3670000000,
                        "measRcvdPower": -93.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3680000000,
                        "measRcvdPower": -94.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3690000000,
                        "measRcvdPower": -94.0
                    }
                ]
            },
            "operationParam": {
                "maxEirp": 31,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-11-06T08:28:46.101Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "channelType": "GAA",
            "grantExpireTime": "2019-11-13T08:28:46Z",
            "grantId": "282864275",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T08:28:47.571Z - INFO - arrived to nstep starting question answer session with the technician
2019-11-06T08:29:29.891Z - INFO - The final result of the test : WINNF.FT.C.MES.1 is - passed
```

3.2 WINNF.FT.C.MES.3


```
2019-11-06T08:30:40.519Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-11-06T08:30:40.519Z - INFO - the selected test from the user : WINNF.FT.C.MES.3 is starting now
2019-11-06T08:31:05.256Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 90,
                "antennaDowntilt": 0,
                "antennaGain": 12,
                "antennaModel": "",
                "eirpCapability": 41,
                "height": 1.8,
                "heightType": "AMSL",
                "horizontalAccuracy": 3,
                "indoorDeployment": true,
                "latitude": 47.527605,
                "longitude": -97.627096,
                "verticalAccuracy": 3
            },
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
2019-11-06T08:31:05.308Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T08:31:05.457Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "inquiredSpectrum": [
```

```
                {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            ]
        }
    ]
}
2019-11-06T08:31:05.457Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3635000000,
                        "lowFrequency": 3615000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T08:31:05.619Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "operationParam": {
                "maxEirp": 31,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-11-06T08:31:05.628Z - INFO - Response message contains measReportConfig
2019-11-06T08:31:05.630Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "channelType": "GAA",
            "grantExpireTime": "2019-11-13T08:31:05Z",
            "grantId": "950949725",
            "heartbeatInterval": 60,
            "measReportConfig": [
                "RECEIVED_POWER_WITH_GRANT"
            ],
            "response": {
                "responseCode": 0
            }
        }
```

```
    ]
}
2019-11-06T08:31:05.848Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "950949725",
            "grantRenew": true,
            "measReport": {
                "rcvdPowerMeasReports": [
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3550000000,
                        "measRcvdPower": -92.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3560000000,
                        "measRcvdPower": -92.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3570000000,
                        "measRcvdPower": -92.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3580000000,
                        "measRcvdPower": -92.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3590000000,
                        "measRcvdPower": -92.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3600000000,
                        "measRcvdPower": -72.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3610000000,
                        "measRcvdPower": -51.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3620000000,
                        "measRcvdPower": -53.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3630000000,
                        "measRcvdPower": -53.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3640000000,
```

```
                        "measRcvdPower": -76.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3650000000,
                        "measRcvdPower": -92.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3660000000,
                        "measRcvdPower": -93.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3670000000,
                        "measRcvdPower": -93.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3680000000,
                        "measRcvdPower": -94.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3690000000,
                        "measRcvdPower": -95.0
                    }
                ]
            },
            "operationState": "GRANTED"
        }
    ]
}
2019-11-06T08:31:05.848Z - INFO - measReport received in heartbeat message
2019-11-06T08:31:05.858Z - INFO - grantRenew received in HBT request message
2019-11-06T08:31:05.858Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantExpireTime": "2019-11-13T08:31:05Z",
            "grantId": "950949725",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T08:34:25Z"
        }
    ]
}
2019-11-06T08:32:06.009Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "950949725",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
```

2019-11-06T08:32:06.009Z - INFO - Time interval between two heartbeat request messages is: 60.161, limit is: 65.0
2019-11-06T08:32:06.009Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
"grantId": "950949725",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-11-06T08:35:26Z"
}
]
}
2019-11-06T08:33:06.163Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
"grantId": "950949725",
"grantRenew": false,
"operationState": "AUTHORIZED"
}
]
}
2019-11-06T08:33:06.163Z - INFO - Time interval between two heartbeat request messages is: 60.153, limit is: 65.0
2019-11-06T08:33:06.177Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
"grantId": "950949725",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-11-06T08:36:26Z"
}
]
}
2019-11-06T08:34:06.286Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
"grantId": "950949725",
"grantRenew": false,
"operationState": "AUTHORIZED"
}
]
}
2019-11-06T08:34:06.286Z - INFO - Time interval between two heartbeat request messages is: 60.123, limit is: 65.0
2019-11-06T08:34:06.286Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
"grantId": "950949725",
"response": {
"responseCode": 0
},

```
                "transmitExpireTime": "2019-11-06T08:37:26Z"
            }
        ]
}
2019-11-06T08:35:06.421Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantId": "950949725",
                "grantRenew": false,
                "operationState": "AUTHORIZED"
            }
    ]
}
2019-11-06T08:35:06.421Z - INFO - Time interval between two heartbeat request messages is: 60.136, limit
is: 65.0
2019-11-06T08:35:06.421Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantId": "950949725",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-11-06T08:38:26Z"
            }
    ]
}
2019-11-06T08:35:08.312Z - INFO - arrived to nstep starting question answer session with the technician
2019-11-06T08:35:59.076Z - INFO - The final result of the test : WINNF.FT.C.MES.3 is - passed
```

3.3 WINNF.FT.C.MES.4


```
2019-11-06T08:36:30.444Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-11-06T08:36:30.444Z - INFO - the selected test from the user : WINNF.FT.C.MES.4 is starting now
2019-11-06T08:36:51.839Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 90,
                "antennaDowntilt": 0,
                "antennaGain": 12,
                "antennaModel": "",
                "eirpCapability": 41,
                "height": 1.8,
                "heightType": "AMSL",
                "horizontalAccuracy": 3,
                "indoorDeployment": true,
                "latitude": 47.527605,
                "longitude": -97.627096,
                "verticalAccuracy": 3
            },
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
2019-11-06T08:36:51.887Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T08:36:52.012Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "inquiredSpectrum": [
```

```
                {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            ]
        }
    ]
}
2019-11-06T08:36:52.012Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3635000000,
                        "lowFrequency": 3615000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T08:36:52.167Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "operationParam": {
                "maxEirp": 31,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-11-06T08:36:52.184Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "channelType": "GAA",
            "grantExpireTime": "2019-11-13T08:36:52Z",
            "grantId": "789965003",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-06T08:36:52.323Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
```

```
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "789965003",
            "grantRenew": true,
            "operationState": "GRANTED"
        }
    ]
}
2019-11-06T08:36:52.339Z - INFO - grantRenew received in HBT request message
2019-11-06T08:36:52.339Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantExpireTime": "2019-11-13T08:36:52Z",
            "grantId": "789965003",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T08:40:12Z"
        }
    ]
}
2019-11-06T08:37:52.602Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "789965003",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T08:37:52.602Z - INFO - Time interval between two heartbeat request messages is: 60.279, limit
is: 65.0
2019-11-06T08:37:52.602Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "789965003",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T08:41:12Z"
        }
    ]
}
2019-11-06T08:38:52.730Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "789965003",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T08:38:52.730Z - INFO - Time interval between two heartbeat request messages is: 60.127, limit
is: 65.0
```

2019-11-06T08:38:52.730Z - INFO - Response message contains measReportConfig
2019-11-06T08:38:52.730Z - INFO - engine sent successfully, the response to CBRS : {


```
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "789965003",
            "measReportConfig": [
                "RECEIVED_POWER_WITH_GRANT"
            ],
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T08:42:12Z"
        }
    ]
}
```


2019-11-06T08:39:52.921Z - INFO - heartbeat request from CBRS : {


```
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "789965003",
            "grantRenew": false,
            "measReport": {
                "rcvdPowerMeasReports": [
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3550000000,
                        "measRcvdPower": -93.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3560000000,
                        "measRcvdPower": -93.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3570000000,
                        "measRcvdPower": -93.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3580000000,
                        "measRcvdPower": -92.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3590000000,
                        "measRcvdPower": -93.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3600000000,
                        "measRcvdPower": -74.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3610000000,
                        "measRcvdPower": -56.0
```

```
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3620000000,
                        "measRcvdPower": -50.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3630000000,
                        "measRcvdPower": -49.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3640000000,
                        "measRcvdPower": -75.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3650000000,
                        "measRcvdPower": -92.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3660000000,
                        "measRcvdPower": -93.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3670000000,
                        "measRcvdPower": -93.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3680000000,
                        "measRcvdPower": -94.0
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3690000000,
                        "measRcvdPower": -94.0
                    }
                ]
            },
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T08:39:52.921Z - INFO - Time interval between two heartbeat request messages is: 60.192, limit
is: 65.0
2019-11-06T08:39:52.921Z - INFO - measReport received in heartbeat message
2019-11-06T08:39:52.921Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "789965003",
            "response": {
                "responseCode": 0
            },
```

```
            "transmitExpireTime": "2019-11-06T08:43:12Z"
        }
    ]
}
2019-11-06T08:40:53.032Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "789965003",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T08:40:53.032Z - INFO - Time interval between two heartbeat request messages is: 60.111, limit is: 65.0
2019-11-06T08:40:53.049Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "789965003",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T08:44:13Z"
        }
    ]
}
2019-11-06T08:41:53.155Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "789965003",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T08:41:53.155Z - INFO - Time interval between two heartbeat request messages is: 60.123, limit is: 65.0
2019-11-06T08:41:53.155Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "789965003",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T08:45:13Z"
        }
    ]
}
2019-11-06T08:42:53.279Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "789965003",
            "grantRenew": false,
```

```
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T08:42:53.279Z - INFO - Time interval between two heartbeat request messages is: 60.123, limit is: 65.0
2019-11-06T08:42:53.279Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "789965003",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T08:46:13Z"
        }
    ]
}
2019-11-06T08:43:53.510Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "789965003",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-06T08:43:53.510Z - INFO - Time interval between two heartbeat request messages is: 60.232, limit is: 65.0
2019-11-06T08:43:53.526Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "789965003",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-06T08:47:13Z"
        }
    ]
}
2019-11-06T08:43:54.933Z - INFO - arrived to nstep starting question answer session with the technician
2019-11-06T08:44:31.118Z - INFO - The final result of the test : WINNF.FT.C.MES.4 is - passed
```

4 CBSD Relinquishment Process

4.1 WINNF.FT.C.RLQ.1

2019-11-07T02:44:48.161Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-11-07T02:44:48.161Z - INFO - the selected test from the user : WINNF.FT.C.RLQ.1 is starting now
2019-11-07T02:44:57.365Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 90,
                "antennaDowntilt": 0,
                "antennaGain": 12,
                "antennaModel": "",
                "eirpCapability": 41,
                "height": 1.8,
                "heightType": "AMSL",
                "horizontalAccuracy": 3,
                "indoorDeployment": true,
                "latitude": 47.527605,
                "longitude": -97.627096,
                "verticalAccuracy": 3
            },
            "measCapability": [
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
```


2019-11-07T02:44:57.380Z - INFO - engine sent successfully, the response to CBRS : {


```
    "registrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```


2019-11-07T02:44:57.520Z - INFO - spectrumInquiry request from CBRS : {


```
    "spectrumInquiryRequest": [
```

```
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            ]
        }
    ]
}
2019-11-07T02:44:57.536Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3635000000,
                        "lowFrequency": 3615000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-07T02:44:57.693Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "operationParam": {
                "maxEirp": 31,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-11-07T02:44:57.693Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "channelType": "GAA",
            "grantExpireTime": "2019-11-14T02:44:57Z",
            "grantId": "484569719",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
```

```
}
2019-11-07T02:44:57.848Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "484569719",
            "grantRenew": true,
            "operationState": "GRANTED"
        }
    ]
}
2019-11-07T02:44:57.848Z - INFO - grantRenew received in HBT request message
2019-11-07T02:44:57.848Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantExpireTime": "2019-11-14T02:44:57Z",
            "grantId": "484569719",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-07T02:48:17Z"
        }
    ]
}
2019-11-07T02:45:58.127Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "484569719",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-07T02:45:58.127Z - INFO - Time interval between two heartbeat request messages is: 60.278, limit
is: 65.0
2019-11-07T02:45:58.127Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "484569719",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-07T02:49:18Z"
        }
    ]
}
2019-11-07T02:46:13.674Z - INFO - relinquishment request from CBRS    : {
    "relinquishmentRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "484569719"
        }
    ]
}
2019-11-07T02:46:13.688Z - INFO - engine sent successfully, the response to CBRS    : {
```

```
    "relinquishmentResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "484569719",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```


2019-11-07T02:46:15.377Z - INFO - arrived to nstep starting question answer session with the technician
2019-11-07T02:46:15.377Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :
2019-11-07T02:49:44.765Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y
2019-11-07T02:49:45.687Z - INFO - The final result of the test : WINNF.FT.C.RLQ.1 is - passed

5 CBSD Deregistration Process

5.1 WINNF.FT.C.DRG.1

2019-11-07T02:50:17.388Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-11-07T02:50:17.388Z - INFO - the selected test from the user : WINNF.FT.C.DRG.1 is starting now
2019-11-07T02:50:29.513Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "",
        "cbsdCategory": "B",
        "cbsdSerialNumber": "Sercomm-1808CPE000010",
        "fccId": "femto.i",
        "groupingParam": [
            {
                "groupId": "SERCOMM_111",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 90,
            "antennaDowntilt": 0,
            "antennaGain": 12,
            "antennaModel": "",
            "eirpCapability": 41,
            "height": 1.8,
            "heightType": "AMSL",
            "horizontalAccuracy": 3,
            "indoorDeployment": true,
            "latitude": 47.527605,
            "longitude": -97.627096,
            "verticalAccuracy": 3
        },
        "measCapability": [
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "XywyE9"
    }
]
```

}
2019-11-07T02:50:29.545Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
    {
        "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
        "response": {
            "responseCode": 0
        }
    }
]
```

}
2019-11-07T02:50:29.670Z - INFO - spectrumInquiry request from CBRS : {

```
"spectrumInquiryRequest": [
```

```
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            ]
        }
    ]
}
2019-11-07T02:50:29.686Z - INFO - engine sent successfully, the response to CBRS   : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3635000000,
                        "lowFrequency": 3615000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-07T02:50:29.842Z - INFO - grant request from CBRS   : {
    "grantRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "operationParam": {
                "maxEirp": 31,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-11-07T02:50:29.842Z - INFO - engine sent successfully, the response to CBRS   : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "channelType": "GAA",
            "grantExpireTime": "2019-11-14T02:50:29Z",
            "grantId": "590382045",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
```

```
}
2019-11-07T02:50:29.997Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "590382045",
            "grantRenew": true,
            "operationState": "GRANTED"
        }
    ]
}
2019-11-07T02:50:29.997Z - INFO - grantRenew received in HBT request message
2019-11-07T02:50:29.997Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantExpireTime": "2019-11-14T02:50:29Z",
            "grantId": "590382045",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-07T02:53:49Z"
        }
    ]
}
2019-11-07T02:51:30.275Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "590382045",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-11-07T02:51:30.275Z - INFO - Time interval between two heartbeat request messages is: 60.277, limit
is: 65.0
2019-11-07T02:51:30.290Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "590382045",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-11-07T02:54:50Z"
        }
    ]
}
2019-11-07T02:51:46.711Z - INFO - relinquishment request from CBRS    : {
    "relinquishmentRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "590382045"
        }
    ]
}
2019-11-07T02:51:46.711Z - INFO - engine sent successfully, the response to CBRS    : {
```

```
    "relinquishmentResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "590382045",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-11-07T02:51:46.836Z - INFO - deregistration request from CBRS    : {
    "deregistrationRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010"
        }
    ]
}
2019-11-07T02:51:46.836Z - INFO - engine sent successfully, the response to CBRS    : {
    "deregistrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2019-11-07T02:51:48.664Z - INFO - arrived to nstep starting question answer session with the technician
2019-11-07T02:51:48.664Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? please choose one of the answers :
2019-11-07T02:54:44.868Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? , the user choose y
2019-11-07T02:54:45.227Z - INFO - The final result of the test : WINNF.FT.C.DRG.1 is - passed

6 CBSD Security Validation

6.1 WINNF.FT.C.SCS.1

2019-11-07T06:10:24.003Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-11-07T06:10:24.003Z - INFO - the selected test from the user : WINNF.FT.C.SCS.1 is starting now
2019-11-07T06:10:58.145Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 90,
                "antennaDowntilt": 0,
                "antennaGain": 12,
                "antennaModel": "",
                "eirpCapability": 41,
                "height": 1.8,
                "heightType": "AMSL",
                "horizontalAccuracy": 3,
                "indoorDeployment": true,
                "latitude": 47.527605,
                "longitude": -97.627096,
                "verticalAccuracy": 3
            },
            "measCapability": [
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
```


2019-11-07T06:10:58.177Z - INFO - engine sent successfully, the response to CBRS : {


```
    "registrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```


2019-11-07T06:10:59.466Z - INFO - arrived to nstep starting question answer session with the technician
2019-11-07T06:10:59.466Z - INFO - the question is : Were there RF transmissions from the CBSD1 during

the test? please choose one of the answers :
2019-11-07T06:16:42.322Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2019-11-07T06:16:43.102Z - INFO - The final result of the test : WINNF.FT.C.SCS.1 is - passed

6.2 WINNF.PT.C.HBT.1(Max Eirp = 13 dBm/MHz)


```
2019-10-18T02:20:02.959Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-10-18T02:20:02.959Z - INFO - Selected spectrum frequency is {'lowFrequency': 3615000000L,
'highFrequency': 3635000000L}
2019-10-18T02:20:02.959Z - INFO - Granted Spectrum Max Eirp = 13dBm/MHz
2019-10-18T02:20:02.959Z - INFO - the selected test from the user : PowerMeasTest is starting now
2019-10-18T02:20:11.302Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "",
            "cbsdCategory": "B",
            "cbsdSerialNumber": "Sercomm-1808CPE000010",
            "fccId": "femto.i",
            "groupingParam": [
                {
                    "groupId": "SERCOMM_111",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 90,
                "antennaDowntilt": 0,
                "antennaGain": 12,
                "antennaModel": "",
                "eirpCapability": 41,
                "height": 1.8,
                "heightType": "AMSL",
                "horizontalAccuracy": 3,
                "indoorDeployment": true,
                "latitude": 47.527605,
                "longitude": -97.627096,
                "verticalAccuracy": 3
            },
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT"
            ],
            "userId": "XywyE9"
        }
    ]
}
2019-10-18T02:20:11.332Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
```

```
}
2019-10-18T02:20:11.459Z - INFO - spectrumInquiry request from CBRS    : {
      "spectrumInquiryRequest": [
            {
                  "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                  "inquiredSpectrum": [
                        {
                              "highFrequency": 3635000000,
                              "lowFrequency": 3615000000
                        }
                  ]
            }
      ]
}
2019-10-18T02:20:11.459Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code
is 0
2019-10-18T02:20:11.459Z - INFO - engine sent successfully, the response to CBRS    : {
      "spectrumInquiryResponse": [
            {
                  "availableChannel": [
                        {
                              "channelType": "GAA",
                              "frequencyRange": {
                                    "highFrequency": 3635000000,
                                    "lowFrequency": 3615000000
                              },
                              "maxEirp": 13,
                              "ruleApplied": "FCC_PART_96"
                        }
                  ],
                  "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                  "response": {
                        "responseCode": 0
                  }
            }
      ]
}
2019-10-18T02:20:11.584Z - INFO - grant request from CBRS    : {
      "grantRequest": [
            {
                  "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                  "operationParam": {
                        "maxEirp": 13,
                        "operationFrequencyRange": {
                              "highFrequency": 3635000000,
                              "lowFrequency": 3615000000
                        }
                  }
            }
      ]
}
2019-10-18T02:20:11.584Z - INFO - engine sent successfully, the response to CBRS    : {
      "grantResponse": [
            {
                  "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                  "channelType": "GAA",
                  "grantExpireTime": "2019-10-25T02:20:11Z",
                  "grantId": "629546218",
```

```
                "heartbeatInterval": 60,
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
2019-10-18T02:20:11.740Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "629546218",
            "grantRenew": true,
            "operationState": "GRANTED"
        }
    ]
}
2019-10-18T02:20:11.740Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantExpireTime": "2019-10-18T02:26:11Z",
            "grantId": "629546218",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-10-18T02:23:31Z"
        }
    ]
}
2019-10-18T02:21:08.049Z - INFO - relinquishment request from CBRS    : {
    "relinquishmentRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "629546218"
        }
    ]
}
2019-10-18T02:21:08.065Z - INFO - engine sent successfully, the response to CBRS    : {
    "relinquishmentResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "629546218",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-10-18T02:21:08.174Z - INFO - deregistration request from CBRS    : {
    "deregistrationRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010"
        }
    ]
}
2019-10-18T02:21:08.174Z - INFO - engine sent successfully, the response to CBRS    : {
    "deregistrationResponse": [
```

```
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

6.3 WINNF.PT.C.HBT.1(Max Eirp = 22 dBm/MHz)

2019-10-18T02:15:36.687Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-10-18T02:15:36.687Z - INFO - Selected spectrum frequency is {'lowFrequency': 3615000000L, 'highFrequency': 3635000000L}
2019-10-18T02:15:36.687Z - INFO - Granted Spectrum Max Eirp = 22dBm/MHz
2019-10-18T02:15:36.687Z - INFO - the selected test from the user : PowerMeasTest is starting now
2019-10-18T02:15:48.828Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "",
        "cbsdCategory": "B",
        "cbsdSerialNumber": "Sercomm-1808CPE000010",
        "fccId": "femto.i",
        "groupingParam": [
            {
                "groupId": "SERCOMM_111",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 90,
            "antennaDowntilt": 0,
            "antennaGain": 12,
            "antennaModel": "",
            "eirpCapability": 41,
            "height": 1.8,
            "heightType": "AMSL",
            "horizontalAccuracy": 3,
            "indoorDeployment": true,
            "latitude": 47.527605,
            "longitude": -97.627096,
            "verticalAccuracy": 3
        },
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT"
        ],
        "userId": "XywyE9"
    }
]
}
```

2019-10-18T02:15:48.858Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
    {
        "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
        "response": {
            "responseCode": 0
        }
    }
]
}
```

2019-10-18T02:15:48.983Z - INFO - spectrumInquiry request from CBRS : {

```
"spectrumInquiryRequest": [
```

```
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            ]
        }
    ]
}
2019-10-18T02:15:48.983Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2019-10-18T02:15:48.983Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3635000000,
                        "lowFrequency": 3615000000
                    },
                    "maxEirp": 22,
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-10-18T02:15:49.108Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "operationParam": {
                "maxEirp": 22,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-10-18T02:15:49.108Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "channelType": "GAA",
            "grantExpireTime": "2019-10-25T02:15:49Z",
            "grantId": "422124957",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
```

```
                }
            }
        ]
}
2019-10-18T02:15:49.265Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantId": "422124957",
                "grantRenew": true,
                "operationState": "GRANTED"
            }
    ]
}
2019-10-18T02:15:49.265Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantExpireTime": "2019-10-18T02:21:49Z",
                "grantId": "422124957",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-10-18T02:19:09Z"
            }
    ]
}
2019-10-18T02:16:49.486Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantId": "422124957",
                "grantRenew": false,
                "operationState": "AUTHORIZED"
            }
    ]
}
2019-10-18T02:16:49.502Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantId": "422124957",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-10-18T02:20:09Z"
            }
    ]
}
2019-10-18T02:17:49.694Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantId": "422124957",
                "grantRenew": false,
                "operationState": "AUTHORIZED"
            }
    ]
```

```
}
2019-10-18T02:17:49.694Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "422124957",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-10-18T02:21:09Z"
        }
    ]
}
2019-10-18T02:18:20.934Z - INFO - relinquishment request from CBRS    : {
    "relinquishmentRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "422124957"
        }
    ]
}
2019-10-18T02:18:20.950Z - INFO - engine sent successfully, the response to CBRS    : {
    "relinquishmentResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "422124957",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-10-18T02:18:21.059Z - INFO - deregistration request from CBRS    : {
    "deregistrationRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010"
        }
    ]
}
2019-10-18T02:18:21.059Z - INFO - engine sent successfully, the response to CBRS    : {
    "deregistrationResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

6.4 WINNF.PT.C.HBT.1(Max Eirp = 31 dBm/MHz)

2019-10-18T02:03:27.795Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-10-18T02:03:27.795Z - INFO - Selected spectrum frequency is {'lowFrequency': 3615000000L, 'highFrequency': 3635000000L}
2019-10-18T02:03:27.795Z - INFO - Granted Spectrum Max Eirp = 31dBm/MHz
2019-10-18T02:03:27.795Z - INFO - the selected test from the user : PowerMeasTest is starting now
2019-10-18T02:04:14.548Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "",
        "cbsdCategory": "B",
        "cbsdSerialNumber": "Sercomm-1808CPE000010",
        "fccId": "femto.i",
        "groupingParam": [
            {
                "groupId": "SERCOMM_111",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 90,
            "antennaDowntilt": 0,
            "antennaGain": 12,
            "antennaModel": "",
            "eirpCapability": 41,
            "height": 1.8,
            "heightType": "AMSL",
            "horizontalAccuracy": 3,
            "indoorDeployment": true,
            "latitude": 47.527605,
            "longitude": -97.627096,
            "verticalAccuracy": 3
        },
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT"
        ],
        "userId": "XywyE9"
    }
]
}
```

2019-10-18T02:04:14.578Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
    {
        "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
        "response": {
            "responseCode": 0
        }
    }
]
}
```

2019-10-18T02:04:14.726Z - INFO - spectrumInquiry request from CBRS : {

```
"spectrumInquiryRequest": [
```

```
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            ]
        }
    ]
}
2019-10-18T02:04:14.726Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2019-10-18T02:04:14.726Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3635000000,
                        "lowFrequency": 3615000000
                    },
                    "maxEirp": 31,
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-10-18T02:04:14.880Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "operationParam": {
                "maxEirp": 31,
                "operationFrequencyRange": {
                    "highFrequency": 3635000000,
                    "lowFrequency": 3615000000
                }
            }
        }
    ]
}
2019-10-18T02:04:14.895Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "channelType": "GAA",
            "grantExpireTime": "2019-10-25T02:04:14Z",
            "grantId": "447548521",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
```

```
            }
        }
    ]
}
2019-10-18T02:04:15.028Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "447548521",
            "grantRenew": true,
            "operationState": "GRANTED"
        }
    ]
}
2019-10-18T02:04:15.042Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantExpireTime": "2019-10-18T02:10:15Z",
            "grantId": "447548521",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-10-18T02:07:35Z"
        }
    ]
}
2019-10-18T02:05:15.269Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "447548521",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-10-18T02:05:15.269Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "447548521",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-10-18T02:08:35Z"
        }
    ]
}
2019-10-18T02:06:15.477Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "447548521",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
```

```
}
2019-10-18T02:06:15.477Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "447548521",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-10-18T02:09:35Z"
        }
    ]
}
2019-10-18T02:07:15.711Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "447548521",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-10-18T02:07:15.711Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "447548521",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-10-18T02:10:35Z"
        }
    ]
}
2019-10-18T02:08:15.974Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "447548521",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-10-18T02:08:15.974Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "447548521",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-10-18T02:11:35Z"
        }
    ]
}
2019-10-18T02:09:16.144Z - INFO - heartbeat request from CBRS    : {
```

```
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "447548521",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-10-18T02:09:16.160Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "447548521",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-10-18T02:12:36Z"
        }
    ]
}
2019-10-18T02:10:16.424Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "447548521",
            "grantRenew": true,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-10-18T02:10:16.424Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantExpireTime": "2019-10-18T02:16:16Z",
            "grantId": "447548521",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-10-18T02:13:36Z"
        }
    ]
}
2019-10-18T02:11:16.596Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "grantId": "447548521",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-10-18T02:11:16.611Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
```

```
                "grantId": "447548521",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-10-18T02:14:36Z"
            }
        ]
}
2019-10-18T02:12:16.825Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantId": "447548521",
                "grantRenew": false,
                "operationState": "AUTHORIZED"
            }
        ]
}
2019-10-18T02:12:16.841Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantId": "447548521",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-10-18T02:15:36Z"
            }
        ]
}
2019-10-18T02:12:56.799Z - INFO - relinquishment request from CBRS    : {
    "relinquishmentRequest": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantId": "447548521"
            }
        ]
}
2019-10-18T02:12:56.815Z - INFO - engine sent successfully, the response to CBRS    : {
    "relinquishmentResponse": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
                "grantId": "447548521",
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
2019-10-18T02:12:56.969Z - INFO - deregistration request from CBRS    : {
    "deregistrationRequest": [
            {
                "cbsdId": "femto.iMock-SASSercomm-1808CPE000010"
            }
        ]
}
2019-10-18T02:12:56.984Z - INFO - engine sent successfully, the response to CBRS    : {
    "deregistrationResponse": [
```

```
        {
            "cbsdId": "femto.iMock-SASSercomm-1808CPE000010",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```