Test Logs

FCC ID: H8NSCU2080

Test Model: SCU2080 N48

Received Date: May 22, 2025

Test Date: May 28, 2025 ~ Jun. 9, 2025

Issued Date: Jun. 19, 2025

Applicant: Askey Computer Corp

Address: 10F, NO. 119, JIANKANG RD., ZHONGHE DIST., NEW TAIPEI CITY 23585, TAIWAN.

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

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FCC Registration/ Designation Number: 281270 / TW0032

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1 CBSD Registration Process

1.1 WINNF.FT.C.REG.5

2025-05-28T02:58:40.178Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-05-28T02:58:40.178Z - INFO - the selected test from the user : WINNF.FT.C.REG.5 is starting now
2025-05-28T02:59:09.216Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1Ib
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-05-28T02:59:09.232Z - INFO - Registration message contains cpiSignatureData
2025-05-28T02:59:09.232Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-05-28T02:59:09.232Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
```

"indoorDeployment": false,
"antennaBeamwidth": 0,
"horizontalAccuracy": 3,
"antennaDowntilt": 0,
"latitude": 62.5,
"height": 5.0,
"verticalAccuracy": 3
},
"fccId": "H8NSCU2080",
"professionalInstallerData": {
"cpiName": "BV Installer Certificate",
"installCertificationTime": "2025-05-22T05:00:00Z",
"cpiId": "cpi9001"
},
"cbsdSerialNumber": "E1F41000196"
}
2025-05-28T02:59:09.295Z - INFO - verified signature on cpiSignatureData
2025-05-28T02:59:09.295Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-05-28T02:59:09.295Z - INFO - engine sent successfully, the response to CBRS : {
"registrationResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"response": {
"responseCode": 0
}
}
]
}
2025-05-28T02:59:10.513Z - INFO - arrived to nstep starting question answer session with the technician
2025-05-28T02:59:10.513Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2025-05-28T03:01:30.575Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2025-05-28T03:01:30.966Z - INFO - The final result of the test : WINNF.FT.C.REG.5 is - passed

1.2 WINNF.FT.C.REG.7

2025-06-02T06:00:12.569Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-02T06:00:12.571Z - INFO - the selected test from the user : WINNF.FT.C.REG.7 is starting now
2025-06-02T06:00:40.855Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-02T06:00:40.882Z - INFO - Registration message contains cpiSignatureData
2025-06-02T06:00:40.882Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-02T06:00:40.882Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
        "antennaDowntilt": 0,
        "latitude": 62.5,
        "height": 5.0,
        "verticalAccuracy": 3
    },
    "fccId": "H8NSCU2080",
    "professionalInstallerData": {
        "cpiName": "BV Installer Certificate",
        "installCertificationTime": "2025-05-22T05:00:00Z",
        "cpiId": "cpi9001"
    },
    "cbsdSerialNumber": "E1F41000196"
}
2025-06-02T06:00:40.948Z - INFO - verified signature on cpiSignatureData
2025-06-02T06:00:40.953Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-02T06:00:40.953Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2025-06-02T06:00:45.423Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3590000000.0,
                    "lowFrequency": 3550000000.0
                }
            ]
        }
    ]
}
2025-06-02T06:00:45.447Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3590000000.0,
                        "lowFrequency": 3550000000.0
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-02T06:00:49.854Z - INFO - grant request from CBRS : {

```
    "grantRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "operationParam": {
                "maxEirp": 36.0,
                "operationFrequencyRange": {
                    "highFrequency": 3590000000.0,
                    "lowFrequency": 3550000000.0
                }
            }
        }
    ]
}
```

2025-06-02T06:00:49.872Z - INFO - engine sent successfully, the response to CBRS : {

```
    "grantResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "channelType": "GAA",
            "grantExpireTime": "2025-06-09T06:00:49Z",
            "grantId": "348870370",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-02T06:00:53.756Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "348870370",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
```

2025-06-02T06:00:53.775Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "348870370",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-02T06:04:13Z"
        }
    ]
}
```

2025-06-02T06:01:55.588Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "348870370",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
```

```
    ]
}
2025-06-02T06:01:55.592Z - INFO - Time interval between two heartbeat request messages is: 61.833, limit is: 65.0
2025-06-02T06:01:55.598Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "348870370",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-02T06:05:15Z"
        }
    ]
}
2025-06-02T06:02:58.635Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "348870370",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-02T06:02:58.637Z - INFO - Time interval between two heartbeat request messages is: 63.047, limit is: 65.0
2025-06-02T06:02:58.644Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "348870370",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-02T06:06:18Z"
        }
    ]
}
2025-06-02T06:04:00.957Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "348870370",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-02T06:04:00.957Z - INFO - Time interval between two heartbeat request messages is: 62.321, limit is: 65.0
2025-06-02T06:04:00.963Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "348870370",
            "response": {
```

```
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-02T06:07:20Z"
        }
    ]
}
```

2025-06-02T06:05:04.638Z - INFO - relinquishment request from CBRS : {

```
    "relinquishmentRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "348870370"
        }
    ]
}
```

2025-06-02T06:05:04.661Z - INFO - engine sent successfully, the response to CBRS : {

```
    "relinquishmentResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "348870370",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-02T06:05:08.529Z - INFO - deregistration request from CBRS : {

```
    "deregistrationRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196"
        }
    ]
}
```

2025-06-02T06:05:08.546Z - INFO - engine sent successfully, the response to CBRS : {

```
    "deregistrationResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-02T06:05:09.693Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-02T06:05:09.694Z - 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 :
2025-06-02T06:07:42.240Z - 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
2025-06-02T06:07:42.532Z - INFO - The final result of the test : WINNF.FT.C.REG.7 is - passed

1.3 WINNF.FT.C.REG.8

2025-05-28T03:02:24.892Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-05-28T03:02:24.892Z - INFO - the selected test from the user : WINNF.FT.C.REG.8 is starting now
2025-05-28T03:02:59.582Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-05-28T03:02:59.630Z - INFO - Registration message contains cpiSignatureData
2025-05-28T03:02:59.630Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-05-28T03:02:59.630Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
            "antennaDowntilt": 0,
            "latitude": 62.5,
            "height": 5.0,
            "verticalAccuracy": 3
        },
        "fccId": "H8NSCU2080",
        "professionalInstallerData": {
            "cpiName": "BV Installer Certificate",
            "installCertificationTime": "2025-05-22T05:00:00Z",
            "cpiId": "cpi9001"
        },
        "cbsdSerialNumber": "E1F41000196"
}
```


2025-05-28T03:02:59.691Z - INFO - verified signature on cpiSignatureData
2025-05-28T03:02:59.691Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-05-28T03:02:59.691Z - INFO - engine sent successfully, the response to CBRS : {


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


2025-05-28T03:03:01.255Z - INFO - arrived to nstep starting question answer session with the technician
2025-05-28T03:03:01.255Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2025-05-28T03:05:08.299Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2025-05-28T03:05:08.565Z - INFO - The final result of the test : WINNF.FT.C.REG.8 is - passed

1.4 WINNF.FT.C.REG.10

2025-05-28T03:24:58.697Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-05-28T03:24:58.697Z - INFO - the selected test from the user : WINNF.FT.C.REG.10 is starting now
2025-05-28T03:25:28.779Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-05-28T03:25:28.795Z - INFO - Registration message contains cpiSignatureData
2025-05-28T03:25:28.795Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-05-28T03:25:28.795Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
            "antennaDowntilt": 0,
            "latitude": 62.5,
            "height": 5.0,
            "verticalAccuracy": 3
        },
        "fccId": "H8NSCU2080",
        "professionalInstallerData": {
            "cpiName": "BV Installer Certificate",
            "installCertificationTime": "2025-05-22T05:00:00Z",
            "cpiId": "cpi9001"
        },
        "cbsdSerialNumber": "E1F41000196"
}
```


2025-05-28T03:25:28.872Z - INFO - verified signature on cpiSignatureData
2025-05-28T03:25:28.872Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-05-28T03:25:28.872Z - INFO - engine sent successfully, the response to CBRS : {


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


2025-05-28T03:25:29.936Z - INFO - arrived to nstep starting question answer session with the technician
2025-05-28T03:25:29.936Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2025-05-28T03:28:10.592Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2025-05-28T03:28:10.890Z - INFO - The final result of the test : WINNF.FT.C.REG.10 is - passed

1.5 WINNF.FT.C.REG.12

2025-05-28T03:37:42.167Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-05-28T03:37:42.170Z - INFO - the selected test from the user : WINNF.FT.C.REG.12 is starting now
2025-05-28T03:38:13.351Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6lLXL8GAZwwQlTCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNlk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZlNnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-05-28T03:38:13.384Z - INFO - Registration message contains cpiSignatureData
2025-05-28T03:38:13.384Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-05-28T03:38:13.384Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
            "antennaDowntilt": 0,
            "latitude": 62.5,
            "height": 5.0,
            "verticalAccuracy": 3
        },
        "fccId": "H8NSCU2080",
        "professionalInstallerData": {
            "cpiName": "BV Installer Certificate",
            "installCertificationTime": "2025-05-22T05:00:00Z",
            "cpiId": "cpi9001"
        },
        "cbsdSerialNumber": "E1F41000196"
}
```


2025-05-28T03:38:13.450Z - INFO - verified signature on cpiSignatureData
2025-05-28T03:38:13.453Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-05-28T03:38:13.454Z - INFO - engine sent successfully, the response to CBRS : {


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


2025-05-28T03:38:15.181Z - INFO - arrived to nstep starting question answer session with the technician
2025-05-28T03:38:15.183Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2025-05-28T03:40:44.016Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2025-05-28T03:40:44.243Z - INFO - The final result of the test : WINNF.FT.C.REG.12 is - passed

1.6 WINNF.FT.C.REG.14

2025-06-02T07:14:28.762Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-02T07:14:28.762Z - INFO - the selected test from the user : WINNF.FT.C.REG.14 is starting now
2025-06-02T07:15:00.779Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-02T07:15:00.809Z - INFO - Registration message contains cpiSignatureData
2025-06-02T07:15:00.809Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-02T07:15:00.809Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
            "antennaDowntilt": 0,
            "latitude": 62.5,
            "height": 5.0,
            "verticalAccuracy": 3
        },
        "fccId": "H8NSCU2080",
        "professionalInstallerData": {
            "cpiName": "BV Installer Certificate",
            "installCertificationTime": "2025-05-22T05:00:00Z",
            "cpiId": "cpi9001"
        },
        "cbsdSerialNumber": "E1F41000196"
}
2025-06-02T07:15:00.872Z - INFO - verified signature on cpiSignatureData
2025-06-02T07:15:00.888Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-02T07:15:00.888Z - INFO - engine sent successfully, the response to CBRS    : {
        "registrationResponse": [
            {
                "response": {
                    "responseCode": 101
                }
            }
        ]
}
2025-06-02T07:15:02.107Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-02T07:15:02.107Z - INFO - the question is : Were there RF transmissions from the CBSD1 during
the test? please choose one of the answers :
2025-06-02T07:17:07.194Z - INFO - for the question : Were there RF transmissions from the CBSD1 during
the test? , the user choose n
2025-06-02T07:17:07.522Z - INFO - The final result of the test : WINNF.FT.C.REG.14 is - passed
```

1.7 WINNF.FT.C.REG.16

2025-06-02T07:26:00.611Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-02T07:26:00.611Z - INFO - the selected test from the user : WINNF.FT.C.REG.16 is starting now
2025-06-02T07:26:33.128Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-02T07:26:33.160Z - INFO - Registration message contains cpiSignatureData
2025-06-02T07:26:33.160Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-02T07:26:33.160Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
            "antennaDowntilt": 0,
            "latitude": 62.5,
            "height": 5.0,
            "verticalAccuracy": 3
        },
        "fccId": "H8NSCU2080",
        "professionalInstallerData": {
            "cpiName": "BV Installer Certificate",
            "installCertificationTime": "2025-05-22T05:00:00Z",
            "cpiId": "cpi9001"
        },
        "cbsdSerialNumber": "E1F41000196"
}
2025-06-02T07:26:33.221Z - INFO - verified signature on cpiSignatureData
2025-06-02T07:26:33.221Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-02T07:26:33.237Z - INFO - engine sent successfully, the response to CBRS    : {
        "registrationResponse": [
            {
                "response": {
                    "responseCode": 100
                }
            }
        ]
}
2025-06-02T07:26:34.940Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-02T07:26:34.940Z - INFO - the question is : Were there RF transmissions from the CBSD1 during
the test? please choose one of the answers :
2025-06-02T07:28:44.161Z - INFO - for the question : Were there RF transmissions from the CBSD1 during
the test? , the user choose n
2025-06-02T07:28:44.457Z - INFO - The final result of the test : WINNF.FT.C.REG.16 is - passed
```

1.8 WINNF.FT.C.REG.18

2025-06-02T07:47:28.046Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-02T07:47:28.046Z - INFO - the selected test from the user : WINNF.FT.C.REG.18 is starting now
2025-06-02T07:47:58.111Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-02T07:47:58.141Z - INFO - Registration message contains cpiSignatureData
2025-06-02T07:47:58.141Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-02T07:47:58.157Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
            "antennaDowntilt": 0,
            "latitude": 62.5,
            "height": 5.0,
            "verticalAccuracy": 3
        },
        "fccId": "H8NSCU2080",
        "professionalInstallerData": {
            "cpiName": "BV Installer Certificate",
            "installCertificationTime": "2025-05-22T05:00:00Z",
            "cpiId": "cpi9001"
        },
        "cbsdSerialNumber": "E1F41000196"
}
```


2025-06-02T07:47:58.236Z - INFO - verified signature on cpiSignatureData
2025-06-02T07:47:58.236Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-02T07:47:58.236Z - INFO - engine sent successfully, the response to CBRS : {


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


2025-06-02T07:47:59.377Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-02T07:47:59.377Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2025-06-02T07:51:31.221Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2025-06-02T07:51:31.436Z - INFO - The final result of the test : WINNF.FT.C.REG.18 is - passed

2 CBSD SPECTRUM GRANT PROCESS

2.1 WINNF.FT.C.GRA.1

2025-06-02T08:07:01.546Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-02T08:07:01.546Z - INFO - the selected test from the user : WINNF.FT.C.GRA.1 is starting now
2025-06-02T08:07:32.750Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-02T08:07:32.798Z - INFO - Registration message contains cpiSignatureData
2025-06-02T08:07:32.798Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-02T08:07:32.798Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
```

```
            "horizontalAccuracy": 3,
            "antennaDowntilt": 0,
            "latitude": 62.5,
            "height": 5.0,
            "verticalAccuracy": 3
        },
        "fccId": "H8NSCU2080",
        "professionalInstallerData": {
            "cpiName": "BV Installer Certificate",
            "installCertificationTime": "2025-05-22T05:00:00Z",
            "cpiId": "cpi9001"
        },
        "cbsdSerialNumber": "E1F41000196"
}
2025-06-02T08:07:32.861Z - INFO - verified signature on cpiSignatureData
2025-06-02T08:07:32.875Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-02T08:07:32.875Z - INFO - engine sent successfully, the response to CBRS    : {
        "registrationResponse": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
2025-06-02T08:07:36.611Z - INFO - spectrumInquiry request from CBRS    : {
        "spectrumInquiryRequest": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "inquiredSpectrum": [
                    {
                        "highFrequency": 3590000000.0,
                        "lowFrequency": 3550000000.0
                    }
                ]
            }
        ]
}
2025-06-02T08:07:36.611Z - INFO - engine sent successfully, the response to CBRS    : {
        "spectrumInquiryResponse": [
            {
                "availableChannel": [
                    {
                        "channelType": "GAA",
                        "frequencyRange": {
                            "highFrequency": 3590000000.0,
                            "lowFrequency": 3550000000.0
                        },
                        "ruleApplied": "FCC_PART_96"
                    }
                ],
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "response": {
                    "responseCode": 0
                }
            }
        ]
```

}
2025-06-02T08:07:41.627Z - INFO - grant request from CBRS : {
"grantRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"operationParam": {
"maxEirp": 36.0,
"operationFrequencyRange": {
"highFrequency": 3590000000.0,
"lowFrequency": 3550000000.0
}
}
}
}
]
}
2025-06-02T08:07:41.627Z - INFO - engine sent successfully, the response to CBRS : {
"grantResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"response": {
"responseCode": 400
}
}
}
]
}
2025-06-02T08:07:42.954Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-02T08:07:42.954Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2025-06-02T08:10:23.246Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2025-06-02T08:10:23.793Z - INFO - The final result of the test : WINNF.FT.C.GRA.1 is – passed

2.2 WINNF.FT.C.GRA.2

2025-06-02T08:17:40.493Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-02T08:17:40.493Z - INFO - the selected test from the user : WINNF.FT.C.GRA.2 is starting now
2025-06-02T08:18:10.994Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-02T08:18:11.042Z - INFO - Registration message contains cpiSignatureData
2025-06-02T08:18:11.042Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-02T08:18:11.042Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
            "antennaDowntilt": 0,
            "latitude": 62.5,
            "height": 5.0,
            "verticalAccuracy": 3
        },
        "fccId": "H8NSCU2080",
        "professionalInstallerData": {
            "cpiName": "BV Installer Certificate",
            "installCertificationTime": "2025-05-22T05:00:00Z",
            "cpiId": "cpi9001"
        },
        "cbsdSerialNumber": "E1F41000196"
}
2025-06-02T08:18:11.105Z - INFO - verified signature on cpiSignatureData
2025-06-02T08:18:11.119Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-02T08:18:11.119Z - INFO - engine sent successfully, the response to CBRS    : {
        "registrationResponse": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
2025-06-02T08:18:16.184Z - INFO - spectrumInquiry request from CBRS    : {
        "spectrumInquiryRequest": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "inquiredSpectrum": [
                    {
                        "highFrequency": 3590000000.0,
                        "lowFrequency": 3550000000.0
                    }
                ]
            }
        ]
}
2025-06-02T08:18:16.184Z - INFO - engine sent successfully, the response to CBRS    : {
        "spectrumInquiryResponse": [
            {
                "availableChannel": [
                    {
                        "channelType": "GAA",
                        "frequencyRange": {
                            "highFrequency": 3590000000.0,
                            "lowFrequency": 3550000000.0
                        },
                        "ruleApplied": "FCC_PART_96"
                    }
                ],
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
```

2025-06-02T08:18:20.028Z - INFO - grant request from CBRS : {

```
    "grantRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "operationParam": {
                "maxEirp": 36.0,
                "operationFrequencyRange": {
                    "highFrequency": 3590000000.0,
                    "lowFrequency": 3550000000.0
                }
            }
        }
    ]
}
```

2025-06-02T08:18:20.043Z - INFO - engine sent successfully, the response to CBRS : {

```
    "grantResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 401
            }
        }
    ]
}
```

2025-06-02T08:18:21.903Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-02T08:18:21.903Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2025-06-02T08:20:32.869Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2025-06-02T08:20:33.135Z - INFO - The final result of the test : WINNF.FT.C.GRA.2 is - passed

3 CBSD Heart Beat Process

3.1 WINNF.FT.C.HBT.1

2025-06-02T09:04:40.964Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-02T09:04:40.980Z - INFO - the selected test from the user : WINNF.FT.C.HBT.1 is starting now
2025-06-02T09:05:14.328Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-02T09:05:14.375Z - INFO - Registration message contains cpiSignatureData
2025-06-02T09:05:14.375Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-02T09:05:14.375Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
        "antennaDowntilt": 0,
        "latitude": 62.5,
        "height": 5.0,
        "verticalAccuracy": 3
    },
    "fccId": "H8NSCU2080",
    "professionalInstallerData": {
        "cpiName": "BV Installer Certificate",
        "installCertificationTime": "2025-05-22T05:00:00Z",
        "cpiId": "cpi9001"
    },
    "cbsdSerialNumber": "E1F41000196"
}
2025-06-02T09:05:14.437Z - INFO - verified signature on cpiSignatureData
2025-06-02T09:05:14.437Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-02T09:05:14.437Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2025-06-02T09:05:18.390Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3590000000.0,
                    "lowFrequency": 3550000000.0
                }
            ]
        }
    ]
}
2025-06-02T09:05:18.390Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3590000000.0,
                        "lowFrequency": 3550000000.0
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-02T09:05:22.233Z - INFO - grant request from CBRS : {

```
    "grantRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "operationParam": {
                "maxEirp": 36.0,
                "operationFrequencyRange": {
                    "highFrequency": 3590000000.0,
                    "lowFrequency": 3550000000.0
                }
            }
        }
    ]
}
```

2025-06-02T09:05:22.250Z - INFO - engine sent successfully, the response to CBRS : {

```
    "grantResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "channelType": "GAA",
            "grantExpireTime": "2025-06-09T09:05:22Z",
            "grantId": "854327527",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-02T09:05:27.141Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "854327527",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
```

2025-06-02T09:05:27.141Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "854327527",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-02T09:08:47Z"
        }
    ]
}
```

2025-06-02T09:06:29.584Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "854327527",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
```

```
    ]
}
2025-06-02T09:06:29.584Z - INFO - Time interval between two heartbeat request messages is: 62.443, limit is: 65.0
2025-06-02T09:06:29.599Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "854327527",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-02T09:09:49Z"
        }
    ]
}
2025-06-02T09:07:30.871Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "854327527",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-02T09:07:30.871Z - INFO - Time interval between two heartbeat request messages is: 61.288, limit is: 65.0
2025-06-02T09:07:30.871Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "854327527",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-02T09:10:50Z"
        }
    ]
}
2025-06-02T09:08:32.612Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "854327527",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-02T09:08:32.628Z - INFO - Time interval between two heartbeat request messages is: 61.741, limit is: 65.0
2025-06-02T09:08:32.628Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "854327527",
            "response": {
```

```
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-02T09:11:52Z"
        }
    ]
}
```

2025-06-02T09:09:33.884Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "854327527",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
```

2025-06-02T09:09:33.884Z - INFO - Time interval between two heartbeat request messages is: 61.272, limit is: 65.0
2025-06-02T09:09:33.901Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "854327527",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-02T09:12:53Z"
        }
    ]
}
```

2025-06-02T09:10:35.407Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "854327527",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
```

2025-06-02T09:10:35.407Z - INFO - Time interval between two heartbeat request messages is: 61.522, limit is: 65.0
2025-06-02T09:10:35.407Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "854327527",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-02T09:13:55Z"
        }
    ]
}
```

2025-06-02T09:10:37.078Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-02T09:10:37.078Z - INFO - the question is : Did CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose one of the answers :
2025-06-02T09:19:44.134Z - INFO - for the question : Did CBSD1 transmit power prior to AUTHORIZED state

(first successful HBT response)? , the user choose n
2025-06-02T09:19:44.134Z - INFO - the question is : Did CBSD1 transmit only within the frequency range specified in its grantRequest message? please choose one of the answers :
2025-06-02T09:19:45.792Z - INFO - for the question : Did CBSD1 transmit only within the frequency range specified in its grantRequest message? , the user choose y
2025-06-02T09:19:46.401Z - INFO - The final result of the test : WINNF.FT.C.HBT.1 is - passed

3.2 WINNF.FT.C.HBT.3

2025-06-03T06:15:40.914Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-03T06:15:40.914Z - INFO - the selected test from the user : WINNF.FT.C.HBT.3 is starting now
2025-06-03T06:16:11.573Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-03T06:16:11.589Z - INFO - Registration message contains cpiSignatureData
2025-06-03T06:16:11.589Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-03T06:16:11.589Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
            "antennaDowntilt": 0,
            "latitude": 62.5,
            "height": 5.0,
            "verticalAccuracy": 3
        },
        "fccId": "H8NSCU2080",
        "professionalInstallerData": {
            "cpiName": "BV Installer Certificate",
            "installCertificationTime": "2025-05-22T05:00:00Z",
            "cpiId": "cpi9001"
        },
        "cbsdSerialNumber": "E1F41000196"
}
2025-06-03T06:16:11.667Z - INFO - verified signature on cpiSignatureData
2025-06-03T06:16:11.667Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-03T06:16:11.667Z - INFO - engine sent successfully, the response to CBRS    : {
        "registrationResponse": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
2025-06-03T06:16:16.105Z - INFO - spectrumInquiry request from CBRS    : {
        "spectrumInquiryRequest": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "inquiredSpectrum": [
                    {
                        "highFrequency": 3590000000.0,
                        "lowFrequency": 3550000000.0
                    }
                ]
            }
        ]
}
2025-06-03T06:16:16.105Z - INFO - engine sent successfully, the response to CBRS    : {
        "spectrumInquiryResponse": [
            {
                "availableChannel": [
                    {
                        "channelType": "GAA",
                        "frequencyRange": {
                            "highFrequency": 3590000000.0,
                            "lowFrequency": 3550000000.0
                        },
                        "ruleApplied": "FCC_PART_96"
                    }
                ],
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
```

2025-06-03T06:16:20.464Z - INFO - grant request from CBRS : {
"grantRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"operationParam": {
"maxEirp": 36.0,
"operationFrequencyRange": {
"highFrequency": 3590000000.0,
"lowFrequency": 3550000000.0
}
}
}
]
}
2025-06-03T06:16:20.464Z - INFO - engine sent successfully, the response to CBRS : {
"grantResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"channelType": "GAA",
"grantExpireTime": "2025-06-10T06:16:20Z",
"grantId": "460509163",
"heartbeatInterval": 60,
"response": {
"responseCode": 0
}
}
]
}
2025-06-03T06:16:25.605Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "460509163",
"grantRenew": false,
"operationState": "GRANTED"
}
]
}
2025-06-03T06:16:25.621Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "460509163",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2025-06-03T06:19:45Z"
}
]
}
2025-06-03T06:17:27.767Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "460509163",
"grantRenew": false,
"operationState": "AUTHORIZED"
}

```
    ]
}
2025-06-03T06:17:27.767Z - INFO - Time interval between two heartbeat request messages is: 62.162, limit is: 65.0
2025-06-03T06:17:27.767Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "460509163",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-03T06:20:47Z"
        }
    ]
}
2025-06-03T06:18:29.368Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "460509163",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-03T06:18:29.368Z - INFO - Time interval between two heartbeat request messages is: 61.6, limit is: 65.0
2025-06-03T06:18:29.368Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "460509163",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-03T06:21:49Z"
        }
    ]
}
2025-06-03T06:19:30.888Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "460509163",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-03T06:19:30.888Z - INFO - Time interval between two heartbeat request messages is: 61.521, limit is: 65.0
2025-06-03T06:19:30.888Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "460509163",
            "response": {
```

"responseCode": 105
},
"transmitExpireTime": "2025-06-03T06:19:30Z"
}
]
}
2025-06-03T06:19:32.201Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-03T06:19:32.201Z - 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 :
2025-06-03T06:22:42.782Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 105? , the user choose y
2025-06-03T06:22:43.049Z - INFO - The final result of the test : WINNF.FT.C.HBT.3 is - passed

3.3 WINNF.FT.C.HBT.4

2025-06-03T06:48:10.075Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-03T06:48:10.075Z - INFO - the selected test from the user : WINNF.FT.C.HBT.4 is starting now
2025-06-03T06:48:41.342Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6lLXL8GAZwwQlTCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-03T06:48:41.394Z - INFO - Registration message contains cpiSignatureData
2025-06-03T06:48:41.394Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-03T06:48:41.394Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
            "antennaDowntilt": 0,
            "latitude": 62.5,
            "height": 5.0,
            "verticalAccuracy": 3
        },
        "fccId": "H8NSCU2080",
        "professionalInstallerData": {
            "cpiName": "BV Installer Certificate",
            "installCertificationTime": "2025-05-22T05:00:00Z",
            "cpiId": "cpi9001"
        },
        "cbsdSerialNumber": "E1F41000196"
}
2025-06-03T06:48:41.463Z - INFO - verified signature on cpiSignatureData
2025-06-03T06:48:41.467Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-03T06:48:41.470Z - INFO - engine sent successfully, the response to CBRS    : {
        "registrationResponse": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
2025-06-03T06:48:45.490Z - INFO - spectrumInquiry request from CBRS    : {
        "spectrumInquiryRequest": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "inquiredSpectrum": [
                    {
                        "highFrequency": 3590000000.0,
                        "lowFrequency": 3550000000.0
                    }
                ]
            }
        ]
}
2025-06-03T06:48:45.496Z - INFO - engine sent successfully, the response to CBRS    : {
        "spectrumInquiryResponse": [
            {
                "availableChannel": [
                    {
                        "channelType": "GAA",
                        "frequencyRange": {
                            "highFrequency": 3590000000.0,
                            "lowFrequency": 3550000000.0
                        },
                        "ruleApplied": "FCC_PART_96"
                    }
                ],
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
```

2025-06-03T06:48:50.845Z - INFO - grant request from CBRS : {
"grantRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"operationParam": {
"maxEirp": 36.0,
"operationFrequencyRange": {
"highFrequency": 3590000000.0,
"lowFrequency": 3550000000.0
}
}
}
]
}
2025-06-03T06:48:50.851Z - INFO - engine sent successfully, the response to CBRS : {
"grantResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"channelType": "GAA",
"grantExpireTime": "2025-06-10T06:48:50Z",
"grantId": "676820375",
"heartbeatInterval": 60,
"response": {
"responseCode": 0
}
}
]
}
2025-06-03T06:48:55.048Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "676820375",
"grantRenew": false,
"operationState": "GRANTED"
}
]
}
2025-06-03T06:48:55.055Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "676820375",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2025-06-03T06:52:15Z"
}
]
}
2025-06-03T06:49:57.470Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "676820375",
"grantRenew": false,
"operationState": "AUTHORIZED"
}

```
    ]
}
2025-06-03T06:49:57.470Z - INFO - Time interval between two heartbeat request messages is: 62.421, limit is: 65.0
2025-06-03T06:49:57.476Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "676820375",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-03T06:53:17Z"
        }
    ]
}
2025-06-03T06:50:59.509Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "676820375",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-03T06:50:59.512Z - INFO - Time interval between two heartbeat request messages is: 62.041, limit is: 65.0
2025-06-03T06:50:59.516Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "676820375",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-03T06:54:19Z"
        }
    ]
}
2025-06-03T06:52:01.732Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "676820375",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-03T06:52:01.733Z - INFO - Time interval between two heartbeat request messages is: 62.222, limit is: 65.0
2025-06-03T06:52:01.740Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "676820375",
            "response": {
```

```
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-03T06:55:21Z"
        }
    ]
}
```

2025-06-03T06:53:03.701Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "676820375",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
```

2025-06-03T06:53:03.703Z - INFO - Time interval between two heartbeat request messages is: 61.969, limit is: 65.0
2025-06-03T06:53:03.709Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "676820375",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-03T06:56:23Z"
        }
    ]
}
```

2025-06-03T06:54:05.509Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "676820375",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
```

2025-06-03T06:54:05.512Z - INFO - Time interval between two heartbeat request messages is: 61.808, limit is: 65.0
2025-06-03T06:54:05.516Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "676820375",
            "response": {
                "responseCode": 500
            },
            "transmitExpireTime": "2025-06-03T06:54:05Z"
        }
    ]
}
```

2025-06-03T06:54:07.217Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-03T06:54:07.219Z - 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 :
2025-06-03T07:01:10.618Z - INFO - for the question : Did the CBSD1 stop RF transmission within 60

seconds of receiving Heartbeat response with responseCode = 500? , the user choose y
2025-06-03T07:01:10.914Z - INFO - The final result of the test : WINNF.FT.C.HBT.4 is - passed

3.4 WINNF.FT.C.HBT.5

2025-06-03T08:21:31.331Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-03T08:21:31.331Z - INFO - the selected test from the user : WINNF.FT.C.HBT.5 is starting now
2025-06-03T08:22:02.821Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-03T08:22:02.867Z - INFO - Registration message contains cpiSignatureData
2025-06-03T08:22:02.867Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-03T08:22:02.867Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
        "antennaDowntilt": 0,
        "latitude": 62.5,
        "height": 5.0,
        "verticalAccuracy": 3
    },
    "fccId": "H8NSCU2080",
    "professionalInstallerData": {
        "cpiName": "BV Installer Certificate",
        "installCertificationTime": "2025-05-22T05:00:00Z",
        "cpiId": "cpi9001"
    },
    "cbsdSerialNumber": "E1F41000196"
}
2025-06-03T08:22:02.930Z - INFO - verified signature on cpiSignatureData
2025-06-03T08:22:02.946Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-03T08:22:02.946Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2025-06-03T08:22:06.851Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3590000000.0,
                    "lowFrequency": 3550000000.0
                }
            ]
        }
    ]
}
2025-06-03T08:22:06.851Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3590000000.0,
                        "lowFrequency": 3550000000.0
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-03T08:22:10.884Z - INFO - grant request from CBRS : {
"grantRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"operationParam": {
"maxEirp": 36.0,
"operationFrequencyRange": {
"highFrequency": 3590000000.0,
"lowFrequency": 3550000000.0
}
}
}
]
}
2025-06-03T08:22:10.884Z - INFO - engine sent successfully, the response to CBRS : {
"grantResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"channelType": "GAA",
"grantExpireTime": "2025-06-10T08:22:10Z",
"grantId": "670364189",
"heartbeatInterval": 60,
"response": {
"responseCode": 0
}
}
]
}
2025-06-03T08:22:15.368Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "670364189",
"grantRenew": false,
"operationState": "GRANTED"
}
]
}
2025-06-03T08:22:15.384Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "670364189",
"response": {
"responseCode": 501
},
"transmitExpireTime": "2025-06-03T08:22:15Z"
}
]
}
2025-06-03T08:23:19.374Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "670364189",
"grantRenew": false,
"operationState": "GRANTED"
}

```
    ]
}
```

2025-06-03T08:23:19.374Z - INFO - Time interval between two heartbeat request messages is: 64.006, limit is: 65.0
2025-06-03T08:23:19.374Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "670364189",
            "response": {
                "responseCode": 501
            },
            "transmitExpireTime": "2025-06-03T08:23:19Z"
        }
    ]
}
```

2025-06-03T08:23:21.358Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-03T08:23:21.358Z - INFO - the question is : Did the CBSD transmit at any time during the test? please choose one of the answers :
2025-06-03T08:26:15.174Z - INFO - for the question : Did the CBSD transmit at any time during the test? , the user choose n
2025-06-03T08:26:15.392Z - INFO - The final result of the test : WINNF.FT.C.HBT.5 is - passed

3.5 WINNF.FT.C.HBT.6

2025-06-03T08:36:14.891Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-03T08:36:14.905Z - INFO - the selected test from the user : WINNF.FT.C.HBT.6 is starting now
2025-06-03T08:36:45.003Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-03T08:36:45.051Z - INFO - Registration message contains cpiSignatureData
2025-06-03T08:36:45.051Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-03T08:36:45.051Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
            "antennaDowntilt": 0,
            "latitude": 62.5,
            "height": 5.0,
            "verticalAccuracy": 3
        },
        "fccId": "H8NSCU2080",
        "professionalInstallerData": {
            "cpiName": "BV Installer Certificate",
            "installCertificationTime": "2025-05-22T05:00:00Z",
            "cpiId": "cpi9001"
        },
        "cbsdSerialNumber": "E1F41000196"
}
2025-06-03T08:36:45.114Z - INFO - verified signature on cpiSignatureData
2025-06-03T08:36:45.114Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-03T08:36:45.114Z - INFO - engine sent successfully, the response to CBRS    : {
        "registrationResponse": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
2025-06-03T08:36:49.941Z - INFO - spectrumInquiry request from CBRS    : {
        "spectrumInquiryRequest": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "inquiredSpectrum": [
                    {
                        "highFrequency": 3590000000.0,
                        "lowFrequency": 3550000000.0
                    }
                ]
            }
        ]
}
2025-06-03T08:36:49.941Z - INFO - engine sent successfully, the response to CBRS    : {
        "spectrumInquiryResponse": [
            {
                "availableChannel": [
                    {
                        "channelType": "GAA",
                        "frequencyRange": {
                            "highFrequency": 3590000000.0,
                            "lowFrequency": 3550000000.0
                        },
                        "ruleApplied": "FCC_PART_96"
                    }
                ],
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
```

2025-06-03T08:36:53.943Z - INFO - grant request from CBRS : {

```
    "grantRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "operationParam": {
                "maxEirp": 36.0,
                "operationFrequencyRange": {
                    "highFrequency": 3590000000.0,
                    "lowFrequency": 3550000000.0
                }
            }
        }
    ]
}
```

2025-06-03T08:36:53.959Z - INFO - engine sent successfully, the response to CBRS : {

```
    "grantResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "channelType": "GAA",
            "grantExpireTime": "2025-06-10T08:36:53Z",
            "grantId": "428486125",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-03T08:36:58.286Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "428486125",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
```

2025-06-03T08:36:58.302Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "428486125",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-03T08:40:18Z"
        }
    ]
}
```

2025-06-03T08:38:00.415Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "428486125",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
```

```
    ]
}
2025-06-03T08:38:00.415Z - INFO - Time interval between two heartbeat request messages is: 62.129, limit is: 65.0
2025-06-03T08:38:00.415Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "428486125",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-03T08:41:20Z"
        }
    ]
}
2025-06-03T08:39:03.224Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "428486125",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-03T08:39:03.224Z - INFO - Time interval between two heartbeat request messages is: 62.809, limit is: 65.0
2025-06-03T08:39:03.240Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "428486125",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-03T08:42:23Z"
        }
    ]
}
2025-06-03T08:40:05.540Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "428486125",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-03T08:40:05.540Z - INFO - Time interval between two heartbeat request messages is: 62.316, limit is: 65.0
2025-06-03T08:40:05.540Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "428486125",
            "response": {
```

```
                "responseCode": 501
            },
            "transmitExpireTime": "2025-06-03T08:40:05Z"
        }
    ]
}
```

2025-06-03T08:41:07.739Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "428486125",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
```

2025-06-03T08:41:07.739Z - INFO - Time interval between two heartbeat request messages is: 62.198, limit is: 65.0
2025-06-03T08:41:07.739Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "428486125",
            "response": {
                "responseCode": 501
            },
            "transmitExpireTime": "2025-06-03T08:41:07Z"
        }
    ]
}
```

2025-06-03T08:41:09.457Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-03T08:41:09.457Z - 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 :
2025-06-03T08:44:09.582Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 501? , the user choose y
2025-06-03T08:44:09.832Z - INFO - The final result of the test : WINNF.FT.C.HBT.6 is - passed

3.6 WINNF.FT.C.HBT.7

2025-06-03T08:56:25.546Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-03T08:56:25.546Z - INFO - the selected test from the user : WINNF.FT.C.HBT.7 is starting now
2025-06-03T08:56:58.213Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-03T08:56:58.262Z - INFO - Registration message contains cpiSignatureData
2025-06-03T08:56:58.262Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-03T08:56:58.263Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
        "antennaDowntilt": 0,
        "latitude": 62.5,
        "height": 5.0,
        "verticalAccuracy": 3
    },
    "fccId": "H8NSCU2080",
    "professionalInstallerData": {
        "cpiName": "BV Installer Certificate",
        "installCertificationTime": "2025-05-22T05:00:00Z",
        "cpiId": "cpi9001"
    },
    "cbsdSerialNumber": "E1F41000196"
}
2025-06-03T08:56:58.325Z - INFO - verified signature on cpiSignatureData
2025-06-03T08:56:58.329Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-03T08:56:58.331Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2025-06-03T08:57:02.299Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3590000000.0,
                    "lowFrequency": 3550000000.0
                }
            ]
        }
    ]
}
2025-06-03T08:57:02.305Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3590000000.0,
                        "lowFrequency": 3550000000.0
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-03T08:57:07.165Z - INFO - grant request from CBRS : {

```
    "grantRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "operationParam": {
                "maxEirp": 36.0,
                "operationFrequencyRange": {
                    "highFrequency": 3590000000.0,
                    "lowFrequency": 3550000000.0
                }
            }
        }
    ]
}
```

2025-06-03T08:57:07.171Z - INFO - engine sent successfully, the response to CBRS : {

```
    "grantResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "channelType": "GAA",
            "grantExpireTime": "2025-06-10T08:57:07Z",
            "grantId": "292363237",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-03T08:57:12.539Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "292363237",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
```

2025-06-03T08:57:12.546Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "292363237",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-03T09:00:32Z"
        }
    ]
}
```

2025-06-03T08:58:14.427Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "292363237",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
```

```
    ]
}
2025-06-03T08:58:14.428Z - INFO - Time interval between two heartbeat request messages is: 61.888, limit is: 65.0
2025-06-03T08:58:14.434Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "292363237",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-03T09:01:34Z"
        }
    ]
}
2025-06-03T08:59:16.688Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "292363237",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-03T08:59:16.690Z - INFO - Time interval between two heartbeat request messages is: 62.261, limit is: 65.0
2025-06-03T08:59:16.694Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "292363237",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-03T09:02:36Z"
        }
    ]
}
2025-06-03T09:00:18.115Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "292363237",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-03T09:00:18.117Z - INFO - Time interval between two heartbeat request messages is: 61.427, limit is: 65.0
2025-06-03T09:00:18.121Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "292363237",
            "response": {
```

```
                "responseCode": 502
            },
            "transmitExpireTime": "2025-06-03T09:00:18Z"
        }
    ]
}
```

2025-06-03T09:00:21.987Z - INFO - relinquishment request from CBRS : {

```
    "relinquishmentRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "292363237"
        }
    ]
}
```

2025-06-03T09:00:22.012Z - INFO - engine sent successfully, the response to CBRS : {

```
    "relinquishmentResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "292363237",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-03T09:00:23.638Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-03T09:00:23.638Z - 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 :
2025-06-03T09:02:54.493Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 502? , the user choose y
2025-06-03T09:02:54.763Z - INFO - The final result of the test : WINNF.FT.C.HBT.7 is - passed

3.7 WINNF.FT.C.HBT.9

2025-06-03T09:31:15.829Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-03T09:31:15.831Z - INFO - the selected test from the user : WINNF.FT.C.HBT.9 is starting now
2025-06-03T09:31:48.947Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-03T09:31:48.989Z - INFO - Registration message contains cpiSignatureData
2025-06-03T09:31:48.989Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-03T09:31:48.989Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
        "antennaDowntilt": 0,
        "latitude": 62.5,
        "height": 5.0,
        "verticalAccuracy": 3
    },
    "fccId": "H8NSCU2080",
    "professionalInstallerData": {
        "cpiName": "BV Installer Certificate",
        "installCertificationTime": "2025-05-22T05:00:00Z",
        "cpiId": "cpi9001"
    },
    "cbsdSerialNumber": "E1F41000196"
}
2025-06-03T09:31:49.053Z - INFO - verified signature on cpiSignatureData
2025-06-03T09:31:49.058Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-03T09:31:49.059Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2025-06-03T09:31:52.815Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3590000000.0,
                    "lowFrequency": 3550000000.0
                }
            ]
        }
    ]
}
2025-06-03T09:31:52.822Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3590000000.0,
                        "lowFrequency": 3550000000.0
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-03T09:31:57.036Z - INFO - grant request from CBRS : {

```
    "grantRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "operationParam": {
                "maxEirp": 36.0,
                "operationFrequencyRange": {
                    "highFrequency": 3590000000.0,
                    "lowFrequency": 3550000000.0
                }
            }
        }
    ]
}
```

2025-06-03T09:31:57.043Z - INFO - engine sent successfully, the response to CBRS : {

```
    "grantResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "channelType": "GAA",
            "grantExpireTime": "2025-06-10T09:31:57Z",
            "grantId": "367225101",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-03T09:32:01.368Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "367225101",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
```

2025-06-03T09:33:38.519Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "367225101",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
```

2025-06-03T09:33:38.519Z - INFO - request message received while HBT is absent, sleep 107 sec before responding
2025-06-03T09:35:17.196Z - INFO - heartbeat request from CBRS : {

```
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "367225101",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
```

```
    ]
}
```

2025-06-03T09:35:17.197Z - INFO - request message received while HBT is absent, sleep 9 sec before responding
2025-06-03T09:35:21.375Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "367225101",
            "response": {
                "responseCode": 501
            },
            "transmitExpireTime": "2025-06-03T09:35:21Z"
        }
    ]
}
```

2025-06-03T09:35:22.923Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-03T09:35:22.924Z - INFO - the question is : Were there RF transmissions from the CBSD during the test? please choose one of the answers :
2025-06-03T09:35:25.519Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2025-06-03T09:35:26.197Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2025-06-03T09:37:38.444Z - INFO - for the question : Were there RF transmissions from the CBSD during the test? , the user choose n
2025-06-03T09:37:39.391Z - INFO - The final result of the test : WINNF.FT.C.HBT.9 is - passed

3.8 WINNF.FT.C.HBT.10

2025-06-04T03:00:41.486Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-04T03:00:41.486Z - INFO - the selected test from the user : WINNF.FT.C.HBT.10 is starting now
2025-06-04T03:01:11.664Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-04T03:01:11.703Z - INFO - Registration message contains cpiSignatureData
2025-06-04T03:01:11.703Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-04T03:01:11.703Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
            "antennaDowntilt": 0,
            "latitude": 62.5,
            "height": 5.0,
            "verticalAccuracy": 3
        },
        "fccId": "H8NSCU2080",
        "professionalInstallerData": {
            "cpiName": "BV Installer Certificate",
            "installCertificationTime": "2025-05-22T05:00:00Z",
            "cpiId": "cpi9001"
        },
        "cbsdSerialNumber": "E1F41000196"
}
2025-06-04T03:01:11.766Z - INFO - verified signature on cpiSignatureData
2025-06-04T03:01:11.769Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-04T03:01:11.772Z - INFO - engine sent successfully, the response to CBRS    : {
        "registrationResponse": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
2025-06-04T03:01:16.759Z - INFO - spectrumInquiry request from CBRS    : {
        "spectrumInquiryRequest": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "inquiredSpectrum": [
                    {
                        "highFrequency": 3590000000.0,
                        "lowFrequency": 3550000000.0
                    }
                ]
            }
        ]
}
2025-06-04T03:01:16.766Z - INFO - engine sent successfully, the response to CBRS    : {
        "spectrumInquiryResponse": [
            {
                "availableChannel": [
                    {
                        "channelType": "GAA",
                        "frequencyRange": {
                            "highFrequency": 3590000000.0,
                            "lowFrequency": 3550000000.0
                        },
                        "ruleApplied": "FCC_PART_96"
                    }
                ],
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
```

2025-06-04T03:01:20.644Z - INFO - grant request from CBRS : {
"grantRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"operationParam": {
"maxEirp": 36.0,
"operationFrequencyRange": {
"highFrequency": 3590000000.0,
"lowFrequency": 3550000000.0
}
}
}
]
}
2025-06-04T03:01:20.651Z - INFO - engine sent successfully, the response to CBRS : {
"grantResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"channelType": "GAA",
"grantExpireTime": "2025-06-11T03:01:20Z",
"grantId": "192917909",
"heartbeatInterval": 60,
"response": {
"responseCode": 0
}
}
]
}
2025-06-04T03:01:24.677Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "192917909",
"grantRenew": false,
"operationState": "GRANTED"
}
]
}
2025-06-04T03:01:24.683Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "192917909",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2025-06-04T03:04:44Z"
}
]
}
2025-06-04T03:02:26.746Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "192917909",
"grantRenew": false,
"operationState": "AUTHORIZED"
}

```
    ]
}
2025-06-04T03:02:26.749Z - INFO - Time interval between two heartbeat request messages is: 62.07, limit is:
65.0
2025-06-04T03:02:26.753Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "192917909",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-04T03:05:46Z"
        }
    ]
}
2025-06-04T03:03:28.505Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "192917909",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-04T03:03:28.506Z - INFO - Time interval between two heartbeat request messages is: 61.758, limit
is: 65.0
2025-06-04T03:03:28.509Z - INFO - LAST HBT RESPONSE THAT SET TRANSMIT_EXPIRE_TIME WAS AT:
2025-06-04 03:02:26.747000
2025-06-04T03:05:05.420Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "192917909",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-04T03:05:05.420Z - INFO - request message received while HBT is absent, sleep 108 sec before
responding
2025-06-04T03:06:42.328Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "192917909",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-04T03:06:42.329Z - INFO - request message received while HBT is absent, sleep 11 sec before
responding
2025-06-04T03:06:48.516Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
```

"grantId": "192917909",
"response": {
"responseCode": 501
},
"transmitExpireTime": "2025-06-04T03:06:48Z"
}
]
}
2025-06-04T03:06:49.618Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-04T03:06:49.619Z - INFO - the question is : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? please choose one of the answers :
2025-06-04T03:06:53.329Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2025-06-04T03:06:53.421Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2025-06-04T03:07:03.533Z - INFO - for the question : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? , the user choose y
2025-06-04T03:07:04.190Z - INFO - The final result of the test : WINNF.FT.C.HBT.10 is - passed

4 CBSD Relinquishment Process

4.1 WINNF.FT.C.RLQ.1

2025-06-04T07:27:23.773Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-04T07:27:23.773Z - INFO - the selected test from the user : WINNF.FT.C.RLQ.1 is starting now
2025-06-04T07:27:52.977Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-04T07:27:53.102Z - INFO - Registration message contains cpiSignatureData
2025-06-04T07:27:53.102Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-04T07:27:53.102Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
        "antennaDowntilt": 0,
        "latitude": 62.5,
        "height": 5.0,
        "verticalAccuracy": 3
    },
    "fccId": "H8NSCU2080",
    "professionalInstallerData": {
        "cpiName": "BV Installer Certificate",
        "installCertificationTime": "2025-05-22T05:00:00Z",
        "cpiId": "cpi9001"
    },
    "cbsdSerialNumber": "E1F41000196"
}
2025-06-04T07:27:53.555Z - INFO - verified signature on cpiSignatureData
2025-06-04T07:27:53.572Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-04T07:27:53.572Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2025-06-04T07:27:59.197Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3590000000.0,
                    "lowFrequency": 3550000000.0
                }
            ]
        }
    ]
}
2025-06-04T07:27:59.213Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3590000000.0,
                        "lowFrequency": 3550000000.0
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-04T07:28:03.107Z - INFO - grant request from CBRS : {
"grantRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"operationParam": {
"maxEirp": 36.0,
"operationFrequencyRange": {
"highFrequency": 3590000000.0,
"lowFrequency": 3550000000.0
}
}
}
]
}
2025-06-04T07:28:03.121Z - INFO - engine sent successfully, the response to CBRS : {
"grantResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"channelType": "GAA",
"grantExpireTime": "2025-06-11T07:28:03Z",
"grantId": "684200406",
"heartbeatInterval": 60,
"response": {
"responseCode": 0
}
}
]
}
2025-06-04T07:28:07.561Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "684200406",
"grantRenew": false,
"operationState": "GRANTED"
}
]
}
2025-06-04T07:28:07.575Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "684200406",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2025-06-04T07:31:27Z"
}
]
}
2025-06-04T07:29:09.450Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "684200406",
"grantRenew": false,
"operationState": "AUTHORIZED"
}

```
    ]
}
2025-06-04T07:29:09.450Z - INFO - Time interval between two heartbeat request messages is: 61.89, limit is:
65.0
2025-06-04T07:29:09.467Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "684200406",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-04T07:32:29Z"
        }
    ]
}
2025-06-04T07:29:42.483Z - INFO - relinquishment request from CBRS   : {
    "relinquishmentRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "684200406"
        }
    ]
}
2025-06-04T07:29:42.500Z - INFO - engine sent successfully, the response to CBRS   : {
    "relinquishmentResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "684200406",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2025-06-04T07:29:44.171Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-04T07:29:44.171Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of
Relinquishment Request by Test Harness? please choose one of the answers :
2025-06-04T07:32:16.664Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of
Relinquishment Request by Test Harness? , the user choose y
2025-06-04T07:32:16.928Z - 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

2025-06-04T09:14:10.651Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-04T09:14:10.651Z - INFO - the selected test from the user : WINNF.FT.C.DRG.1 is starting now
2025-06-04T09:14:42.657Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BiSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-04T09:14:42.698Z - INFO - Registration message contains cpiSignatureData
2025-06-04T09:14:42.698Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-04T09:14:42.700Z - INFO - encodedCpiSignedData contents = {


```
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
            "antennaDowntilt": 0,
            "latitude": 62.5,
            "height": 5.0,
            "verticalAccuracy": 3
        },
        "fccId": "H8NSCU2080",
        "professionalInstallerData": {
            "cpiName": "BV Installer Certificate",
            "installCertificationTime": "2025-05-22T05:00:00Z",
            "cpiId": "cpi9001"
        },
        "cbsdSerialNumber": "E1F41000196"
}
2025-06-04T09:14:42.760Z - INFO - verified signature on cpiSignatureData
2025-06-04T09:14:42.763Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-04T09:14:42.766Z - INFO - engine sent successfully, the response to CBRS    : {
        "registrationResponse": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
2025-06-04T09:14:46.684Z - INFO - spectrumInquiry request from CBRS    : {
        "spectrumInquiryRequest": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "inquiredSpectrum": [
                    {
                        "highFrequency": 3590000000.0,
                        "lowFrequency": 3550000000.0
                    }
                ]
            }
        ]
}
2025-06-04T09:14:46.690Z - INFO - engine sent successfully, the response to CBRS    : {
        "spectrumInquiryResponse": [
            {
                "availableChannel": [
                    {
                        "channelType": "GAA",
                        "frequencyRange": {
                            "highFrequency": 3590000000.0,
                            "lowFrequency": 3550000000.0
                        },
                        "ruleApplied": "FCC_PART_96"
                    }
                ],
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
```

2025-06-04T09:14:52.063Z - INFO - grant request from CBRS : {
"grantRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"operationParam": {
"maxEirp": 36.0,
"operationFrequencyRange": {
"highFrequency": 3590000000.0,
"lowFrequency": 3550000000.0
}
}
}
]
}
2025-06-04T09:14:52.069Z - INFO - engine sent successfully, the response to CBRS : {
"grantResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"channelType": "GAA",
"grantExpireTime": "2025-06-11T09:14:52Z",
"grantId": "123895283",
"heartbeatInterval": 60,
"response": {
"responseCode": 0
}
}
]
}
2025-06-04T09:14:56.108Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "123895283",
"grantRenew": false,
"operationState": "GRANTED"
}
]
}
2025-06-04T09:14:56.114Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "123895283",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2025-06-04T09:18:16Z"
}
]
}
2025-06-04T09:15:57.987Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "123895283",
"grantRenew": false,
"operationState": "AUTHORIZED"
}

```
    ]
}
```

2025-06-04T09:15:57.989Z - INFO - Time interval between two heartbeat request messages is: 61.88, limit is: 65.0
2025-06-04T09:15:57.993Z - INFO - engine sent successfully, the response to CBRS : {

```
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "123895283",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-04T09:19:17Z"
        }
    ]
}
```

2025-06-04T09:16:26.836Z - INFO - deregistration request from CBRS : {

```
    "deregistrationRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196"
        }
    ]
}
```

2025-06-04T09:16:26.855Z - INFO - engine sent successfully, the response to CBRS : {

```
    "deregistrationResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-04T09:16:28.706Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-04T09:16:28.707Z - 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 :
2025-06-04T09:21:18.562Z - 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
2025-06-04T09:21:18.835Z - 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


```
2025-06-04T09:25:58.312Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-04T09:25:58.312Z - INFO - the selected test from the user : WINNF.FT.C.SCS.1 is starting now
2025-06-04T09:27:00.319Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
2025-06-04T09:27:00.338Z - INFO - Registration message contains cpiSignatureData
2025-06-04T09:27:00.338Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2025-06-04T09:27:00.338Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "eirpCapability": 46,
        "antennaAzimuth": 0,
        "heightType": "AGL",
        "longitude": -155.5,
        "antennaGain": 12,
        "indoorDeployment": false,
        "antennaBeamwidth": 0,
        "horizontalAccuracy": 3,
```

```
            "antennaDowntilt": 0,
            "latitude": 62.5,
            "height": 5.0,
            "verticalAccuracy": 3
        },
        "fccId": "H8NSCU2080",
        "professionalInstallerData": {
            "cpiName": "BV Installer Certificate",
            "installCertificationTime": "2025-05-22T05:00:00Z",
            "cpiId": "cpi9001"
        },
        "cbsdSerialNumber": "E1F41000196"
}
```


2025-06-04T09:27:00.405Z - INFO - verified signature on cpiSignatureData
2025-06-04T09:27:00.410Z - INFO - cpiSignatureData data successfully validated against jsonschema
2025-06-04T09:27:00.411Z - INFO - engine sent successfully, the response to CBRS : {


```
        "registrationResponse": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
```


2025-06-04T09:27:02.349Z - INFO - arrived to nstep starting question answer session with the technician
2025-06-04T09:27:02.351Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2025-06-04T09:28:29.387Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2025-06-04T09:28:29.726Z - INFO - The final result of the test : WINNF.FT.C.SCS.1 is – passed

6.2 WINNF.FT.C.SCS.2

2025-06-04T09:33:39.322Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-04T09:33:39.322Z - INFO - the selected test from the user : WINNF.FT.C.SCS.2 is starting now

6.3 WINNF.FT.C.SCS.3

2025-06-04T09:43:33.819Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-04T09:43:33.819Z - INFO - the selected test from the user : WINNF.FT.C.SCS.3 is starting now

6.4 WINNF.FT.C.SCS.4

2025-06-06T08:55:34.628Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-06T08:55:34.628Z - INFO - the selected test from the user : WINNF.FT.C.SCS.4 is starting now

6.5 WINNF.FT.C.SCS.5

2025-06-06T09:09:51.444Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-06T09:09:51.444Z - INFO - the selected test from the user : WINNF.FT.C.SCS.5 is starting now

7 CBSD RF Power Measurement

7.1 WINNF.PT.C.HBT.1(Max Eirp = 20 dBm/MHz)

2025-06-08T07:41:15.795Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-08T07:41:15.796Z - INFO - Selected spectrum frequency is {'lowFrequency': 3550000000L, 'highFrequency': 3590000000L}
2025-06-08T07:41:15.796Z - INFO - Granted Spectrum Max Eirp = 20dBm/MHz
2025-06-08T07:41:15.796Z - INFO - the selected test from the user : PowerMeasTest is starting now
2025-06-08T07:41:47.165Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"vJIS450z8XD1TS3NElkOyCOL9iMyiHAbozCH_k4hH8iTzG_tl8laHppncnXYal1el_lDzb4tP6eC9pf77fCV99Q
yHdPeaUcMe78QGoL5OiojGUdgieO0zhMaH2gDa3opVGtiBVKs0QQOBBLZgr6LwGkjGpUMBXcC0C1_tXU
0l3KJsemStNCL3qkTeOXvfRFv4iP_8TqAk_wWYpnb6A6JQ0sSIAx-VjjoSu_k9lBT_Mb6FbA8nyo0ZttjCFoWA
dlRaYWa7phS69zjzErNWvscaZn59j22Rorq2Im9SjHfqhF1iF4dJTu-aYKu5yAZYK941xcUwoKFFyIqoP0d5uw
EaQ",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDMwLAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-08T07:41:47.190Z - INFO - engine sent successfully, the response to CBRS : {


```
    "registrationResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
```

```
            }
        ]
}
2025-06-08T07:41:51.875Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3590000000.0,
                    "lowFrequency": 3550000000.0
                }
            ]
        }
    ]
}
2025-06-08T07:41:51.881Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code
is 0
2025-06-08T07:41:51.882Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3590000000.0,
                        "lowFrequency": 3550000000.0
                    },
                    "maxEirp": 20,
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2025-06-08T07:41:56.427Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "operationParam": {
                "maxEirp": 20,
                "operationFrequencyRange": {
                    "highFrequency": 3590000000.0,
                    "lowFrequency": 3550000000.0
                }
            }
        }
    ]
}
2025-06-08T07:41:56.431Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "channelType": "GAA",
```

```
                "grantExpireTime": "2025-06-15T07:41:56Z",
                "grantId": "522599955",
                "heartbeatInterval": 60,
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
2025-06-08T07:42:01.299Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "grantId": "522599955",
                "grantRenew": false,
                "operationState": "GRANTED"
            }
        ]
}
2025-06-08T07:42:01.305Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "grantId": "522599955",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2025-06-08T07:45:21Z"
            }
        ]
}
2025-06-08T07:43:03.476Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "grantId": "522599955",
                "grantRenew": false,
                "operationState": "AUTHORIZED"
            }
        ]
}
2025-06-08T07:43:03.483Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "grantId": "522599955",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2025-06-08T07:46:23Z"
            }
        ]
}
2025-06-08T07:44:05.246Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
            {
                "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
                "grantId": "522599955",
```

"grantRenew": false,
"operationState": "AUTHORIZED"
}
]
}
2025-06-08T07:44:05.252Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "522599955",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2025-06-08T07:47:25Z"
}
]
}
2025-06-08T07:45:07.361Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "522599955",
"grantRenew": false,
"operationState": "AUTHORIZED"
}
]
}
2025-06-08T07:45:07.367Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "522599955",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2025-06-08T07:48:27Z"
}
]
}
2025-06-08T07:46:09.121Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "522599955",
"grantRenew": false,
"operationState": "AUTHORIZED"
}
]
}
2025-06-08T07:46:09.131Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"grantId": "522599955",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2025-06-08T07:49:29Z"

```
        }
    ]
}
```

7.2 WINNF.PT.C.HBT.1(Max Eirp = 28 dBm/MHz)

2025-06-08T07:36:02.421Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-08T07:36:02.421Z - INFO - Selected spectrum frequency is {'lowFrequency': 3550000000L, 'highFrequency': 3590000000L}
2025-06-08T07:36:02.423Z - INFO - Granted Spectrum Max Eirp = 28dBm/MHz
2025-06-08T07:36:02.423Z - INFO - the selected test from the user : PowerMeasTest is starting now
2025-06-08T07:36:34.190Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"il7VT7KR1-D_7Zr9UvJdjcU69zpbaYXAf9eBwwlzCtbSG1UU2WBFR5cQHLV1aLwlAAUQB7Y1FOEQxor5jC
hDOzSEPrJv4VBxidVtswh_2TwtGlXkLnPaDSY5J8x33CatPz3PjEf2gZOor6P4GqbL1Mfw_caD2LjTgpSvMcc
Sp07VPdg70MDeSqqP8qHk6NzMY7OwSMsTO39hc74OebXifV5NxuZsmzVI8Zlw55UG3Egtw6jfQtNGPtn2b
TMdtcSSnnJOw4iooirwqwwVOV0Ghy3onq3u_XKVZkYPTJ4NRnX7Db2T4Y5b4CGievoj8fKqjA5LnaoGvCL_
Y7btGKX2Xw",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDM4LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-08T07:36:34.217Z - INFO - engine sent successfully, the response to CBRS : {


```
    "registrationResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
```

}
2025-06-08T07:36:38.321Z - INFO - spectrumInquiry request from CBRS : {
"spectrumInquiryRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"inquiredSpectrum": [
{
"highFrequency": 3590000000.0,
"lowFrequency": 3550000000.0
}
]
}
]
}
2025-06-08T07:36:38.326Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2025-06-08T07:36:38.328Z - INFO - engine sent successfully, the response to CBRS : {
"spectrumInquiryResponse": [
{
"availableChannel": [
{
"channelType": "GAA",
"frequencyRange": {
"highFrequency": 3590000000.0,
"lowFrequency": 3550000000.0
},
"maxEirp": 28,
"ruleApplied": "FCC_PART_96"
}
],
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"response": {
"responseCode": 0
}
}
]
}
2025-06-08T07:36:42.836Z - INFO - grant request from CBRS : {
"grantRequest": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"operationParam": {
"maxEirp": 28,
"operationFrequencyRange": {
"highFrequency": 3590000000.0,
"lowFrequency": 3550000000.0
}
}
}
]
}
2025-06-08T07:36:42.841Z - INFO - engine sent successfully, the response to CBRS : {
"grantResponse": [
{
"cbsdId": "H8NSCU2080Mock-SASE1F41000196",
"channelType": "GAA",
"grantExpireTime": "2025-06-15T07:36:42Z",
"grantId": "867051340",

```
                "heartbeatInterval": 60,
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
2025-06-08T07:36:47.232Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "867051340",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
2025-06-08T07:36:47.236Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "867051340",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-08T07:40:07Z"
        }
    ]
}
2025-06-08T07:37:49.279Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "867051340",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-08T07:37:49.283Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "867051340",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-08T07:41:09Z"
        }
    ]
}
2025-06-08T07:38:51.565Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "867051340",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
```

```
        }
    ]
}
2025-06-08T07:38:51.572Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "867051340",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-08T07:42:11Z"
        }
    ]
}
2025-06-08T07:39:53.625Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "867051340",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-08T07:39:53.631Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "867051340",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-08T07:43:13Z"
        }
    ]
}
```

7.3 WINNF.PT.C.HBT.1(Max Eirp = 36 dBm/MHz)

2025-06-08T07:29:02.496Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2025-06-08T07:29:02.497Z - INFO - Selected spectrum frequency is {'lowFrequency': 3550000000L, 'highFrequency': 3590000000L}
2025-06-08T07:29:02.497Z - INFO - Granted Spectrum Max Eirp = 36dBm/MHz
2025-06-08T07:29:02.499Z - INFO - the selected test from the user : PowerMeasTest is starting now
2025-06-08T07:29:32.888Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "NR"
            },
            "cbsdCategory": "B",
            "cbsdInfo": {
                "firmwareVersion": "0.47.6.145",
                "hardwareVersion": "REV0",
                "model": "SCU2080 N48",
                "softwareVersion": "v2.1.013.5.11.3650",
                "vendor": "Askey Corporation"
            },
            "cbsdSerialNumber": "E1F41000196",
            "cpiSignatureData": {
                "digitalSignature":
"j5ZFgi-nXtNpvz7VlBjpAuhyDS2H-gXt0v4CCiD1pFen823tegtlSPnTnRyqhlc_DniqY6ILXL8GAZwwQITCXoIs
2i6rh8-Q4HCH66yXV__jJY605qy7cXF3um5EKLHsPiTN_SqcA6IwDVss2QHezmezu_wNIk-mqA96Nd_lylDc
dBaCN9-TVSu06bEq98kAsrQ7UjWb_LzmQg-Ui7WmepDy_mLrmcFyl20cbshwKLHoHrykM1xg34cIeH2ybv5
yH-fYgd8Ez4TTaYXFX-AYSzcxZINnpwmyNOjhgtaWc3BzEbUsX7IQozfABxneaWQK1L4obNDnLbZoPBFFs7
fg7g",
                "encodedCpiSignedData":
"ewogICJmY2NJZCI6ICJIOE5TQ1UyMDgwIiwKICAiY2JzZFNlcmlhbE51bWJlciI6ICJFMUY0MTAwMDE5NiIs
CiAgImluc3RhbGxhdGlvblBhcmFtIjogewogICAgImxhdGl0dWRlIjogNjIuNSwKICAgICJsb25naXR1ZGUiOiAt
MTU1LjUsCiAgICAiaGVpZ2h0IjogNS4wLAogICAgImhlaWdodFR5cGUiOiAiQUdMIiwKICAgICJhbnRlbm5hR
2FpbiI6MTIsCiAgICAiaG9yaXpvbnRhbEFjY3VyYWN5IjogMywKICAgICJ2ZXJ0aWNhbEFjY3VyYWN5IjogMy
wKICAgICJhbnRlbm5hRG93bnRpbHQiOiAwLAogICAgImFudGVubmFCZWFtd2lkdGgiOiAwLAogICAgImFud
GVubmFBemltdXRoIjogMCwKICAgICJlaXJwQ2FwYWJpbGl0eSI6IDQ2LAogICAgImluZG9vckRlcGxveW1lb
nQiOiBmYWxzZQogIH0sCiAgInByb2Zlc3Npb25hbEluc3RhbGxlckRhdGEiOiB7CiAgICAiY3BpSWQiOiAiY3B
pOTAwMSIsCiAgICAiY3BpTmFtZSI6ICJCViBJbnN0YWxsZXIgQ2VydGlmaWNhdGUiLAogICAgImluc3RhbG
xDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMjUtMDUtMjJUMDU6MDA6MDBaIgogIH0KfQ",
                "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
            },
            "fccId": "H8NSCU2080",
            "measCapability": [],
            "userId": "AskeyUserId-000001"
        }
    ]
}
```


2025-06-08T07:29:32.948Z - INFO - engine sent successfully, the response to CBRS : {


```
    "registrationResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-08T07:29:36.709Z - INFO - spectrumInquiry request from CBRS : {

```
    "spectrumInquiryRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3590000000.0,
                    "lowFrequency": 3550000000.0
                }
            ]
        }
    ]
}
```

2025-06-08T07:29:36.736Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2025-06-08T07:29:36.737Z - INFO - engine sent successfully, the response to CBRS : {

```
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3590000000.0,
                        "lowFrequency": 3550000000.0
                    },
                    "maxEirp": 36,
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2025-06-08T07:29:41.351Z - INFO - grant request from CBRS : {

```
    "grantRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "operationParam": {
                "maxEirp": 36,
                "operationFrequencyRange": {
                    "highFrequency": 3590000000.0,
                    "lowFrequency": 3550000000.0
                }
            }
        }
    ]
}
```

2025-06-08T07:29:41.378Z - INFO - engine sent successfully, the response to CBRS : {

```
    "grantResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "channelType": "GAA",
            "grantExpireTime": "2025-06-15T07:29:41Z",
            "grantId": "498273056",
            "heartbeatInterval": 60,
```

```
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
2025-06-08T07:29:45.713Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "498273056",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
2025-06-08T07:29:45.740Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "498273056",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-08T07:33:05Z"
        }
    ]
}
2025-06-08T07:30:48.147Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "498273056",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-08T07:30:48.151Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "498273056",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-08T07:34:08Z"
        }
    ]
}
2025-06-08T07:31:49.799Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "498273056",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
```

```
    ]
}
2025-06-08T07:31:49.805Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "498273056",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-08T07:35:09Z"
        }
    ]
}
2025-06-08T07:32:51.165Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "498273056",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-08T07:32:51.171Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "498273056",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-08T07:36:11Z"
        }
    ]
}
2025-06-08T07:33:52.846Z - INFO - heartbeat request from CBRS   : {
    "heartbeatRequest": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "498273056",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2025-06-08T07:33:52.852Z - INFO - engine sent successfully, the response to CBRS   : {
    "heartbeatResponse": [
        {
            "cbsdId": "H8NSCU2080Mock-SASE1F41000196",
            "grantId": "498273056",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2025-06-08T07:37:12Z"
        }
    ]
}
```