# Edge 신호수신 및 집계 시험

중기부 디딤돌 과제 수행

2021-7-16

㈜에스오엑스

# 시험 개요

# 시험 아키텍처
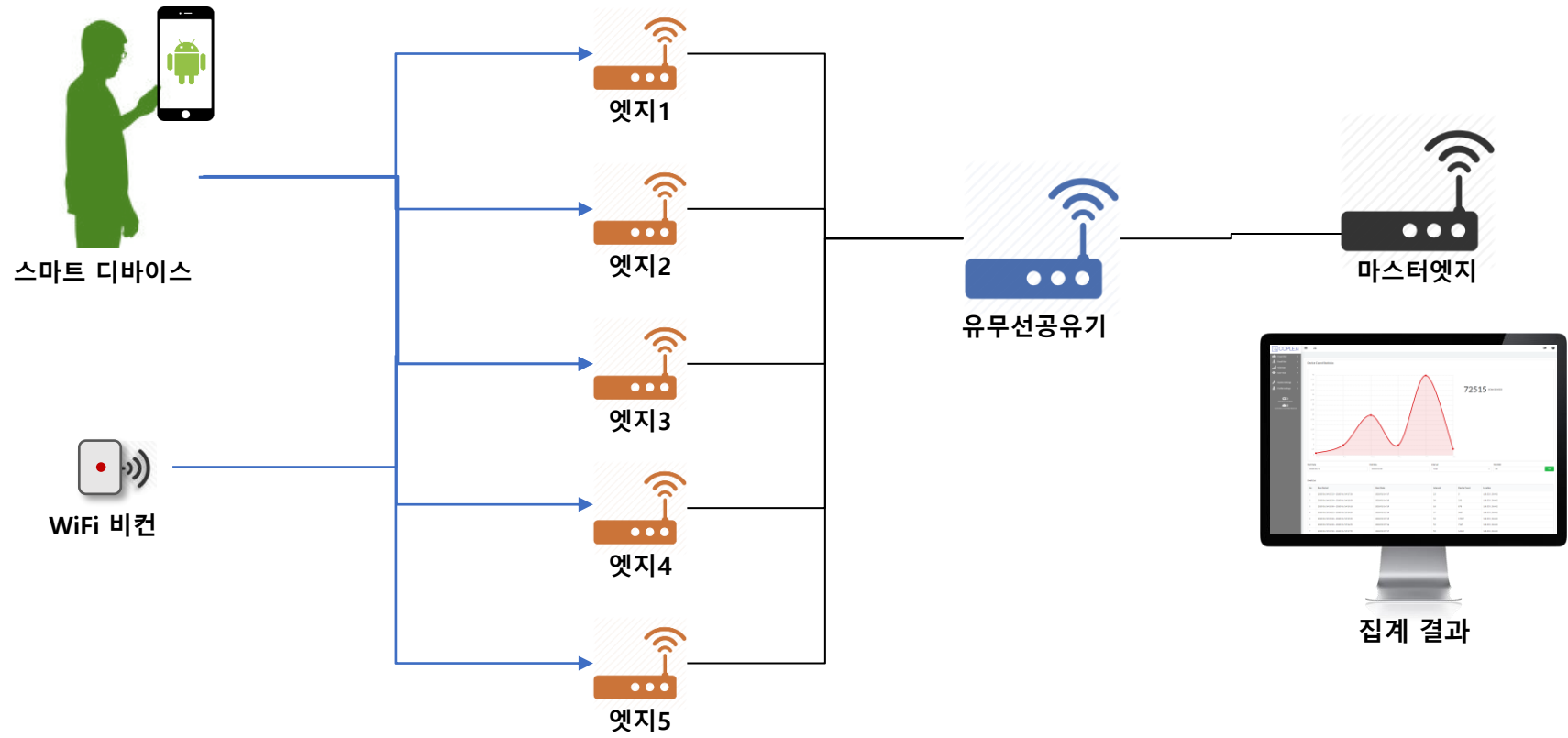
# 시험 개요

**1** **업링크 측위 테스트**
: 디바이스에서 발생시키는 무선 신호를 엣지에서 센싱해서 신호정보를 이용하여 측위

**2** **시험 일정**
- 7월 16일
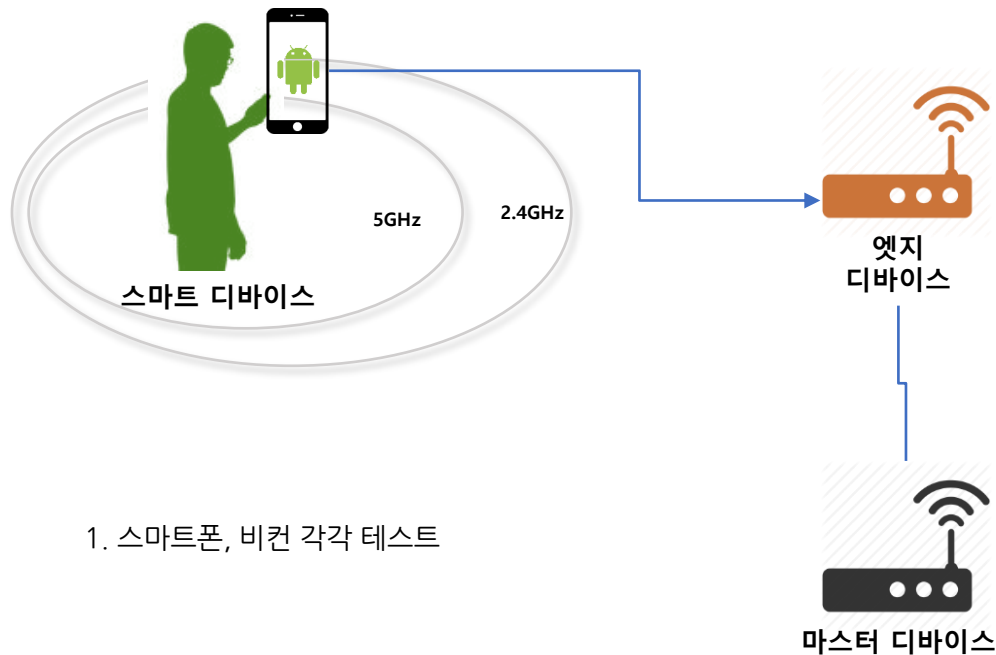  : 시험을 위한 엣지 셋팅 (5대 설치)
  : 라디오 맵 구축 (2가지 디바이스 사용)
  : 측위 결과 확인

# 시험 내용

# 1. 라디오맵 구축

**1** 수집 지점 정의
　: 3~4미터 간격으로 수집 지점 지정 및 좌표 입력

**2** 신호 센싱 및 저장
　: 각 수집 지점에 대해 20초씩 조사
　　10초 대기 + 10초 수집
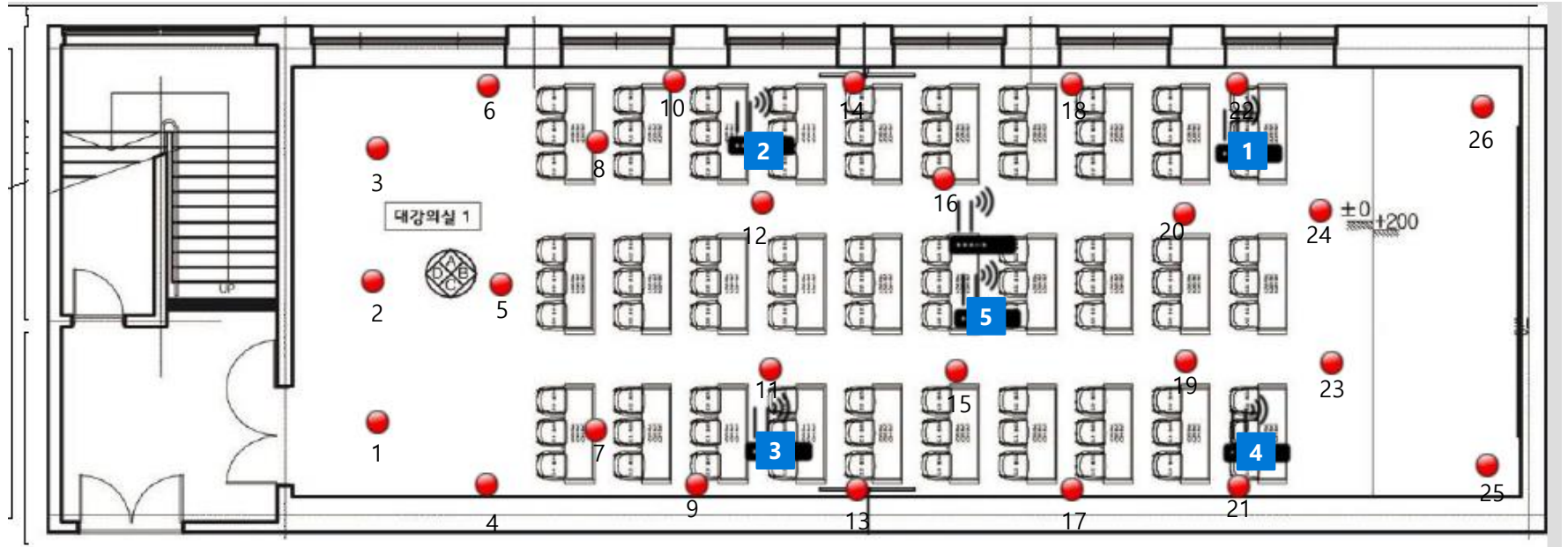
**3** 라디오 맵 확인



5GHz  2.4GHz

**스마트 디바이스**

**엣지 디바이스**

1. 스마트폰, 비컨 각각 테스트

**마스터 디바이스**

# 시험 공간

시험 공간 및 Edge 배치

| no | ssid | mac | x | y |
|---|---|---|---|---|
| 1 | Coplein01 | dc:a6:32:fe:13:76 | 1144 | 920 |
| 2 | Coplein02 | dc:a6:32:fe:13:75 | 840 | 925 |
| 3 | Coplein03 | dc:a6:32:fe:13:a1 | 851 | 734 |
| 4 | Coplein04 | dc:a6:32:d6:cc:04 | 1149 | 733 |
| 5 | Coplein05 | dc:a6:32:d8:39:a7 | 981 | 817 |
|  | CopleinMaster | 64:e5:99:39:79:64 | 978 | 863 |

# 시험 공간

수집 지점 : 26 지점



| 조사위치 | |
|---|---|
| Coods | 597.0 , 825.0 |
| Time | 2021-07-16 11:52:19 |
| Signal | Start   Stop |
| Delete | Delete |

# 시험 결과

**S7 기기로 조사**
  **- 5대 신호값 수신**

| id | x | y | time | wifiCount | mac | rssi |
|---|---|---|---|---|---|---|
| 1 | 600 | 737 | 2021-07-16 11:04 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -66,-72,-66,-73,-70 |
| 2 | 597 | 825 | 2021-07-16 11:05 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -66,-71,-71,-72,-67 |
| 3 | 600 | 908 | 2021-07-16 11:06 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -62,-75,-68,-67,-72 |
| 4 | 668 | 698 | 2021-07-16 11:07 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -59,-70,-66,-62,-69 |
| 5 | 677 | 823 | 2021-07-16 11:07 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -63,-69,-66,-67,-67 |
| 6 | 669 | 947 | 2021-07-16 11:06 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -59,-70,-62,-70,-73 |
| 7 | 736 | 732 | 2021-07-16 11:09 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -53,-68,-67,-68,-68 |
| 8 | 737 | 912 | 2021-07-16 11:09 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -66,-66,-60,-71,-68 |
| 9 | 799 | 698 | 2021-07-16 11:11 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -49,-65,-70,-58,-67 |
| 10 | 785 | 950 | 2021-07-16 11:10 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -61,-67,-52,-67,-68 |
| 11 | 845 | 770 | 2021-07-16 11:11 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -49,-62,-68,-60,-63 |
| 12 | 840 | 874 | 2021-07-16 11:12 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -57,-63,-52,-62,-66 |
| 13 | 899 | 695 | 2021-07-16 11:13 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -56,-68,-55,-71,-70 |
| 14 | 897 | 949 | 2021-07-16 11:12 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -53,-62,-58,-62,-63 |
| 15 | 961 | 769 | 2021-07-16 11:13 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -56,-60,-62,-51,-56 |
| 16 | 953 | 889 | 2021-07-16 11:14 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -58,-59,-67,-57,-65 |
| 17 | 1033 | 695 | 2021-07-16 11:15 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -69,-61,-68,-63,-57 |
| 18 | 1033 | 948 | 2021-07-16 11:15 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -56,-61,-66,-62,-66 |
| 19 | 1104 | 775 | 2021-07-16 11:16 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -63,-59,-68,-69,-52 |
| 20 | 1103 | 867 | 2021-07-16 11:16 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -60,-51,-67,-57,-61 |
| 21 | 1137 | 697 | 2021-07-16 11:17 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -66,-56,-67,-64,-52 |
| 22 | 1136 | 948 | 2021-07-16 11:17 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -58,-53,-65,-66,-61 |
| 23 | 1195 | 774 | 2021-07-16 11:18 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -64,-54,-69,-71,-62 |
| 24 | 1188 | 869 | 2021-07-16 11:18 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -64,-60,-69,-72,-63 |
| 25 | 1292 | 710 | 2021-07-16 11:19 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -64,-67,-70,-72,-61 |
| 26 | 1289 | 934 | 2021-07-16 11:19 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -56,-58,-71,-72,-64 |

# 시험 결과

WiFi Tag로 조사
- 5대 신호값 수신

| id | x | y | time | wifiCount | mac | rssi |
|---|---|---|---|---|---|---|
| 1 | 600 | 737 | 2021-07-16 11:51 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -79,-90,-84,-88,-92 |
| 2 | 597 | 825 | 2021-07-16 11:52 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -70,-78,-74,-76,-73 |
| 3 | 600 | 908 | 2021-07-16 11:52 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -94,-84,-80,-80,-91 |
| 4 | 668 | 698 | 2021-07-16 11:54 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -72,-76,-76,-83,-76 |
| 5 | 677 | 823 | 2021-07-16 11:53 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -63,-73,-78,-77,-73 |
| 6 | 669 | 947 | 2021-07-16 11:53 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -71,-77,-87,-83,-84 |
| 7 | 736 | 732 | 2021-07-16 11:54 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -61,-78,-71,-88,-75 |
| 8 | 737 | 912 | 2021-07-16 11:55 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -68,-76,-66,-70,-84 |
| 9 | 799 | 698 | 2021-07-16 11:56 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -64,-83,-79,-72,-77 |
| 10 | 785 | 950 | 2021-07-16 11:55 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -71,-81,-63,-72,-79 |
| 11 | 845 | 770 | 2021-07-16 11:56 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -61,-73,-85,-78,-73 |
| 12 | 840 | 874 | 2021-07-16 11:57 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -65,-64,-81,-70,-73 |
| 13 | 899 | 695 | 2021-07-16 11:58 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -63,-79,-81,-79,-79 |
| 14 | 897 | 949 | 2021-07-16 11:57 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -73,-75,-82,-78,-76 |
| 15 | 961 | 769 | 2021-07-16 11:58 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -74,-71,-73,-83,-74 |
| 16 | 953 | 889 | 2021-07-16 11:58 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -71,-79,-76,-74,-86 |
| 17 | 1033 | 695 | 2021-07-16 11:59 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -70,-77,-78,-73,-70 |
| 18 | 1033 | 948 | 2021-07-16 11:59 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -74,-77,-77,-78,-79 |
| 19 | 1104 | 775 | 2021-07-16 12:00 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -70,-81,-82,-75,-58 |
| 20 | 1103 | 867 | 2021-07-16 12:00 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -78,-54,-68,-74,-80 |
| 21 | 1137 | 697 | 2021-07-16 12:01 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -84,-75,-84,-76,-63 |
| 22 | 1136 | 948 | 2021-07-16 12:01 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -78,-76,-81,-76,-71 |
| 23 | 1195 | 774 | 2021-07-16 12:02 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -70,-75,-70,-70,-75 |
| 24 | 1188 | 869 | 2021-07-16 12:02 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -76,-83,-89,-88,-72 |
| 25 | 1292 | 710 | 2021-07-16 12:03 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -72,-73,-86,-80,-66 |
| 26 | 1289 | 934 | 2021-07-16 12:02 | 5 | dc:a6:32:fe:13:a1,dc:a6:32:fe:13:76,dc:a6:32:fe:13:75,dc:a6:32:d8:39:a7,dc:a6:32:d6:cc:04 | -73,-75,-79,-83,-78 |