# System Test Report – Annual Testing and Maintenance

## Distributed Antenna Systems (DAS)

<table>
<thead>
<tr>
<th>STATUS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>🟢 Confidence Test</td>
<td></td>
</tr>
<tr>
<td>🟡 Deficiency Repair Test</td>
<td></td>
</tr>
<tr>
<td>🟠 Red</td>
<td></td>
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<tr>
<td>🟢 Yellow</td>
<td></td>
</tr>
<tr>
<td>🟠 White</td>
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</tbody>
</table>

## SECTION 1  BUILDING CONTACT AND DAS INVENTORY INFORMATION

(for jurisdictions with TCE, enter once, will re-populate in each subsequent test)

### Section 1.1  Building Address and Contact Information

- **Building Name:**
- **Building Address:**
- **Building Contact Name:**
- **Building Contact Phone:**
- **Contact Address:**
- **Contact Email:**
- **Central Station Monitoring:**
  - Yes
  - No
- **Monitoring Company Name:**
- **Monitoring Company Phone:**

### Section 1.2  DAS Inventory

- **System Make:**
- **System Model:**
- **Location of System in Building:**
- **Applicable Code Year/Building Permit Issue:**
- **Rebanding Retune Completed?**
- **PSERN Retune Completed (after 2020 Retune Date)?**

## SECTION 2  TESTING COMPANY, TECHNICIAN AND EQUIPMENT

### Section 2.1  Testing Company Information for Current Test

- **Company Name:**
- **Phone:**
- **Contact Name:**
- **Emergency Phone:**
- **Mailing Address:**
- **Email:**

### Section 2.2  Technician Information for Current Test

- **Technician Name:**
- **Phone:**
For DAS Located in Seattle, Please Complete This Additional Section:

Technician FCC Certification/GROL#: ________________________________

Technician performing testing has received manufacturer training or other equivalent:  Yes  No

Specify training received and date: ____________________________________________ 20___

Section 2.3 Testing Equipment for Current Test

Spectrum analyzer make/model**: ______________________________________________

Calibration date: __________________________

Calibration performed by firm (qualified firm name): ______________________________

** Use of a calibrated spectrum analyzer, with a current calibration, is required for this testing.

SECTION 3 CURRENT TEST – REQUIRED ELEMENTS AND TEST CHECKLIST

Date of Test: __________________________

The items on the checklists below shall be inspected and tested. This list does not constitute all of the required inspecting and testing of the fire and life safety system. Refer to the CURRENT FIRE CODE AND REFERENCED NFPA STANDARD and the MANUFACTURER’S INSTRUCTIONS for weekly, monthly, and/or quarterly inspecting and testing requirements.

Section 3.1 Pre-Test Check

Take precautions necessary to avoid preventable alarms.

1. If a monitored fire alarm system is present in the building, the Central Station Monitoring Service was notified that DAS testing is occurring and will be generating supervisory signals.  Yes  No  N/A

Section 3.2 General - Recordkeeping

2. The following documents from the installation/acceptance testing are stored in the same room as the head end electronics and available to technicians and fire personnel:

   a. Grid diagram for each floor, showing tested strengths in each grid square.  Yes  No
   b. Copies of manufacturer specification sheets for all BDA/DAS systems components, including amplifiers, signal boosters, antennas, coax, couplers, splitters, combiners, and other passive components.  Yes  No
   c. Data sheets for backup battery and charging system  Yes  No
   d. Certification letter stating that the BDA/DAS system has been installed per code and was complete/fully functional at time of install.  Yes  No

Section 3.3 DAS Specifications/Performance at Commissioning and Current

<table>
<thead>
<tr>
<th>At Commissioning (enter once, will auto-populate in TCE in subsequent tests)</th>
<th>Current Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenna Type</td>
<td></td>
</tr>
<tr>
<td>ERP to Donor Site (dBm)</td>
<td></td>
</tr>
<tr>
<td>Antenna Gain (dBd)</td>
<td></td>
</tr>
<tr>
<td>Antenna Coordinates (NAD83)</td>
<td></td>
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</tbody>
</table>

DAS (05/19)
### Antenna Azimuth (degrees true)

<table>
<thead>
<tr>
<th>Uplink Gain Setting</th>
<th>Downlink Gain Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gain Setting: _______ db</td>
<td>Gain Setting: _______ db</td>
</tr>
<tr>
<td>Power: _______ dbm</td>
<td>Power: _______ dbm</td>
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</table>

### Gain Setting: _______ db  
### Power: _______ dbm

### Signal Level Received at Donor Site (-dBm)

*Measure active control channel, w/20 KHz resolution bandwidth, at the jumper that connects to the DAS head-end donor port.*

### Signal Level Received from Donor Site (-dBm)

### Channelized Donor Site Name

### Channelized or Broadband

### Section 3.4 Active Components

3. Signal booster is within a NEMA 4 Enclosure (or IP66 if approved by Fire Marshal).  
   - Yes  
   - No

4. Battery is within a NEMA 4 Enclosure (or IP66 if approved by Fire Marshal).  
   - Yes  
   - No

5. Battery is supervised by Fire Alarm System.  
   - Yes  
   - No  
   - N/A

6. Signal booster is supervised by Fire Alarm System.  
   - Yes  
   - No  
   - N/A

7. Equipment is FCC certified.  
   - Yes  
   - No  
   - If no, list corrections required: 
     
     _______________________________________
     
     _______________________________________

8. Active components checked to verify operation within manufacturers’ specifications:

   a. Equipment alarm log checked for recurring or substantial alarms and addressed as per manufacturer’s recommendations.  
      - Yes  
      - No

   b. Isolation testing performed and measured system isolation is at least 20 db above the total downlink and the total uplink gain (whichever is greater) between least isolated DAS antenna and the donor antenna.  
      - Yes  
      - No

9. Signage at Fire Alarm Panel “This building is equipped with an Emergency Responder Radio Coverage System” (Zone 1 only)  
   - Yes  
   - No

10. DAS is communicating with same donor site as identified at time of commissioning or communicating with approved donor site as documented in writing by Radio System Operator or Authority Having Jurisdiction.  
    - Yes  
    - No

11. DAS signal strength received from donor site at the input to the BDA meets original installation values plus or minus 2 db.  
    - Yes  
    - No

12. Uplink amplifier gain matches gain at commissioning plus or minus 2 db.  
    - Yes  
    - No

13. Downlink amplifier gain matches gain values recorded at commissioning plus or minus 2 db.  
    - Yes  
    - No

14. Antenna azimuth (bearing) matches commissioning azimuth plus or minus 5 degrees.  
    - Yes  
    - No
### Section 3.5 Distribution System

15a. Perform grid test: Signal strength remains stronger than (less negative than) -95 dBm for 90% of grids on each floor in non-critical areas

Yes □  No □

If no, location(s) of failed grids:

15b. Create/verify list of critical areas in this building (once list is correct, select Yes)

Yes □  No □

15c. Critical areas are provided with 99% floor area radio coverage with coverage stronger than -95 dBm.

Yes □  No □

If no, location(s) of critical areas that do not meet threshold:

15d. Perform functional (talk-back) testing in each critical area using one radio in the building and one radio outside the building – radios function sufficiently for talk back testing.

Yes □  No □

If no, location(s) of non-acceptable communications:

15e. Perform functional (talk-back) testing in each critical area – is communication possible between the handheld radios?

Yes □  No □

If no, location(s) of non-acceptable communications:

### Section 3.6 Batteries/Secondary Power

16. Backup batteries and secondary power supply tested under load for one hour and meet requirements.

Yes □  No □

### Section 3.7 Alarm Panel Monitoring

17. If a fire alarm system is present in the building, the fire alarm system is supervising the DAS.

Yes □  No □  N/A □

18. If a fire alarm system is present in the building, a supervisory signal was received at Central Station Monitoring company.

Yes □  No □  N/A □
18a. For buildings without a fire alarm system, a dedicated monitoring panel annunciates supervisory and trouble signals for the signal booster system and power supply(ies) and sounds an audible signal at a constantly attended location.  

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<tr>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
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**Section 3.8 Final Checks**

19. If building includes a fire alarm system, inform alarm monitoring company that testing is complete.  

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<tr>
<th>Yes</th>
<th>No</th>
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### SECTION 4 SIGNATURES AND REPORTING

20. A copy of this test report will be given to the owner in either electronic or paper form and a status tag was posted on the DAS.  

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<tr>
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21. A copy of this test report will be provided to the Fire Department as required, by uploading report into The Compliance Engine, within seven days of the date of the test.  

www.thecomplianceengine.com

By accepting this statement I, the certified technician shown on this form, certify that this fire protection system(s) has been properly inspected for functional operation in accordance with the current Fire Code (FC) used by the department that has jurisdiction and NFPA Standards adopted by the FC for this system. Any deficiencies found are noted in the report and have been reported to the building Owner/Manager for corrective action.  

<table>
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<tr>
<th>Yes</th>
<th>No</th>
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I am authorized to submit this report for the certified technician who has accepted this statement.  

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<thead>
<tr>
<th>Yes</th>
<th>No</th>
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### SIGNATURES (OPTIONAL)

<table>
<thead>
<tr>
<th>Signature of Technician</th>
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<tr>
<th>Signature of Building Representative</th>
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