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\*\*Please read the Technical & Submittal Requirements before completing/submitting your application.\*\*

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#### REGIONAL WIRELESS COOPERATIVE Radio Amplification System Rebroadcast Authorization Application

Pursuant to the Regional Wireless Cooperative (RWC) Radio Amplification Systems Policy, Section 5.1; and 47CFR 90.219, entities desiring to operate radio amplification systems on the RWC's licensed frequencies and within the service area of the RWC network must obtain written consent and approval from the licensee. Upon successful initial review of this document the RWC will provide a separate written acceptance of plans for construction. Following the successful completion of a field test by the RWC this signed document shall serve as written consent and approval to rebroadcast on RWC Spectrum.

#### PAGE 1 – APPLICANT INFORMATION (To be completed by applicant)

Proposed ERRCS Site Information:	Date Submitted:
Location Name:	
Street Address:	
City:	State: Zip Code:
Facility Owner Contact Information	Facility Occupant Contact Information
Name:	Name:
Address:	Address:
City: State: Zip:	City: State: Zip:
Phone:	Phone:
Email:	Email:
Engineering Agent/Vendor Contact Information	Expected system activation date:
	ERRCS System Latitude:
Name:	ERRCS System Longitude:
Address: State: Zip:	Donor Antenna Height Above Ground Ft.
	AHJ Contact Name:
Phone:	Phone:
Email:	Email:

#### Items to include with application:

- □ Facility floor plan for all building levels including square footage of each floor.
- System design including block diagram and itemized list of system components including manufacturer and make/model numbers.
- Pre-treatment test report.

#### Submit Application and Attachments to (Completed by RWC):

Email to: <a href="mailto:rwcazerrcs@phoenix.gov">rwcazerrcs@phoenix.gov</a>

CC Email to:

RWC RADIO AMPLIFICATION SYSTEM REBROADCAST AUTHORIZATION APPLICATION – REV: 05.17.2024 FOR OFFICIAL USE ONLY



#### PAGE 2 - LICENSEE AUTHORIZATION (To be completed by licensee)

Donor Site Information:		
Donor Site:	Simulcast:	
Street Address:		
City:	FCC Call Sign:	
Donor Site Lat/Long: °		
Donor Antenna Site Distance	Miles. Donor Antenna Site Azimuth	Degrees

#### LICENSEE AUTHORIZATION

In consideration of review of the information and requirements provided on this application, the authorized agent of the licensee operating on a RWC Member's licensed frequencies and within the service area of the RWC network hereby consents and approves activation of the radio amplification system as documented herein.

This authorization shall remain in effect as long as the ERRC system described in this document is properly maintained in accordance with RWC policy. Changes to the RWC P-25 network may require alterations to this ERRC system. RWC policy requires a current local point of contact to facilitate access in the event of radio interference caused by this device.

Current fire codes governing ERRC's deployments require annual inspections to be completed. Scheduling of annual inspections is the sole responsibility of the system owner or their designated representative. System owners should consult with their local Authority Having Jurisdiction (AHJ) for questions regarding annual inspection requirements.

For questions about the RWC, its policies and donor site info see: https://rwcaz.org

Authorized Signature:	Title:
Print Name:	Entity:

Date: \_\_\_\_\_



## **RWC Technical Requirements for ERRCS**

For new BDA's either due to new construction or retrofits/repairs:

- Class A amplifiers (see FCC 47 CFR 90.219 (a)) must be used for any ERRCS installed to operate on the RWC 700 MHz P25 network
- Existing Class B amplifiers must continue to be maintained on an annual basis. If an existing Class B amplifier fails, it must be replaced with a Class A amplifier
- The BDA shall support uplink squelch
- The BDA must have AGC Automatic Gain Control

## **BDA Configuration**

- BDA maximum uplink and downlink gain settings shall be 20dB less than isolation measured between donor antenna and the DAS.
- All appropriate RWC frequencies shall be programmed into the BDA
- Typical filter configuration shall be 12.5 kHz unless approved by the RWC
- Uplink Squelch should be enabled

## Donor Antenna

- The donor antenna shall be a directional antenna.
- The donor antenna frequency range shall support 700 MHz public safety band, 769-775 MHz (downlink) and 799-805MH.z (uplink)
- For DAS projects requesting design approval after August 1, 2024, the donor antenna shall support:
  - A horizontal beamwidth of 30 degrees or less
  - A vertical beamwidth of 30 degrees or less
  - A front-to-back ratio of 27db or greater

Antennas that meet this requirement listed below. If other antennas are discovered that meet these requirements, please feel free to update us.

- 1) ADRF: AD-PA-700-900-DIN-X
- 2) Gamma Nu: F16V28DHFB
- 3) Ventev: VHG-VL3015-ODNF
- The donor antenna must be placed and oriented with unobstructed view of the donor site. This criterion is concerned principally with near field obstructions such as parapets, HVAC units, ducting, screen walls, etc. Antennas need to be secured clearly above any near field obstacles. Wind loading should be considered when installing and securing antennas. Line of sight buildings or other obstructions will be considered by the RWC during uplink testing.



• The donor antenna must be oriented at the pre-approved donor site mentioned in the plan's acceptance document given with plans approval.

### **RWC DAS Technical Requirements**

• Filtration to remove nearby saturating cellular noise or other signals may be required.

## Fiber DAS

- For new DAS projects and DAS projects added to campuses or developments with the following characteristics must incorporate the new building's DAS into the fiber DAS, rather than adding a new BDA with a new donor antenna.
  - Building campuses with one address or parcel identified by the county assessor's office.
  - Buildings are connected or within 1000' and are of the same ownership.
- If a building requires more than a single BDA, per the manufacture installation recommendations, then an ERRCS fiber DAS system installation would be required.

## Regional Wireless Cooperative (RWC)

## Plan Submittal Requirements (\*\*for RWC use only\*\*)

1		Purpose of Requirements
		<ul> <li>To protect the integrity of the RWC Radio Network from interference sources.</li> <li>To eliminate unapproved equipment or undesirable design decisions.</li> <li>To better align RWC approval with AHJ requirements.</li> </ul>
2		Submittal Review Comments
2.1	Submittals	<ul> <li>Qualifications</li> <li>Construction floor plans</li> <li>One-line diagram</li> <li>Equipment list</li> <li>Equipment cut sheets</li> <li>Riser Diagram</li> <li>Baseline pre-treatment signal level report with proper RWC donor site and channel data</li> <li>RWC Radio Amplification System Authorization Form</li> </ul>
2.2	Qualifications	<ul> <li>FCC GROL (Required by Fire)</li> <li>Certificate issued by the manufacturer of the active RF equipment being installed</li> <li>NICET certifications for both designer and qualified staff performing the commissioning</li> </ul>
2.3	Construction Floor Plans	<ul> <li>Show the location with unique labels of each cable, splitter, coupler, tapper, antenna, BDA, fiber-fed remote, and donor antenna</li> </ul>
2.4	One-line Diagram	<ul> <li>Must present the cable connections between all DAS antennas and the donor antenna, including connections to external</li> </ul>

		filters, splitters, directional couplers, tappers, fiber-fed remotes, the BDA, and lighting arrestors	
		Must include unique labels for each component	
2.5	Equipment List	<ul> <li>DAS equipment list shall include the following components, if present:</li> <li>BDA</li> <li>Fiber-fed remote</li> <li>Coaxial Cable</li> <li>Donor Antenna</li> <li>DAS/Service Antennas</li> <li>Lightning arrestor</li> <li>Splitters/Couplers/Tappers</li> <li>External Filters</li> </ul> For each component in the equipment list, please provide: <ul> <li>Manufacturer</li> <li>Model number</li> </ul>	
2.6	Equipment Cut Sheets	<ul> <li>Manufacturer information sheets shall be provided for each item on the DAS equipment list</li> </ul>	
2.7	Riser Diagram	<ul> <li>Riser diagram to include splitters and service antennas, donor antenna, BDA</li> <li>Riser diagram to show all floors of a project that is treated with DAS</li> </ul>	
2.8	Baseline Signal Levels	<ul> <li>Pre-treatment grid test (if possible) including the proper frequencies for the project location</li> </ul>	
2.9	RWC Form	<ul> <li>Page one of the RWC Radio Amplification System Authorization Form filled out</li> <li>**The form can be found on page two of this packet.**</li> </ul>	

UV MH2 Channel         Site Name         Address         Lat/Org/         Cell sign         Off Mag         New Mag         New Mag         Mag		Simulc	ast A		Simulca	st A/B Site Info			nor site ntenna	ERRCS	Location
ChardiFeeq (Mb)CCCQQQ		700 MHz c	hannels	Site Name	Address	Lat/Long	Call Sign	ERP Watts	-	Miles	Azimuth
1         77.4822         Control Channel         FS34         50 N : 151 AVE         33 : 26 : 571 N : 112 : 401 : 63 W         WQGE204         32         95         I           3         772.1822         Control Channel         GLEN         4020 W. Glenosa Ave         33 : 25 : 571 N : 112 : 401 : 60 : 450 W         WQGE208         52         95         I           4         772.9312         Control Channel         MGII         701 W. Carfeere Hwy         33 : 41 : 431 N : 112 : 407 : 60 : 5W         WQGE208         151         34           6         772.2937         SQPW         6202 : 426 : 7X : 120 : 60 : 5W         WQGE209         126         136         80 : 915'           772.25475         GRWY         15040 N. Tatum Bivd         33 : 32 : 420 : 7X : 112 : 60 : 45 : W         WQGE202         50         90         I           10         772 : 7375         ARCA         5220 : Thomas Rd         33 : 32 : 420 : 9X : 113 : 80 : 60 : W         WQSE202         50         130         I           11         772 : 7375         ARCA         5220 : Thomas Rd         33 : 72 : 3X : 11 : 80 : 61 : W         WQSE202         50         130         I           12         774 : 7325         I         ACCA         522 : For (Chanel 3)         T130 : I         I	Chnl#	Freg (Mhz)		СТҮН	200 W. Washington St	33-26-55.2 N, 112-04-38.5 W	WQSE305	30			ucgicco
2         77.79375         Control Channel         GLEN         4020 W. Glenrosa Ave         33-29-562. Nr. 112-09-465. W         WQSE303         52         95         Image: State Sta			Control Channel	FS34			WQSE304				
3         772.1822         Control Channel         AMTN         2306 N. 27th Ave         33-41-43.1 N. 112-07-90.9 W         WGS2288         58         5           5         771.93125         MGI         201 W. Carlere Hayu         33-47-31.1 N. 112-07-90.5 W         WGS2288         121         105         2           6         772.28375         SAT         500 W         6020 H. 24th St         33-31-54.2 N, 112-01-50.5 W         WGS2398         121         0.50         2         104         2           7         772.48375         SAT         500 W         6200 H. 24th St         33-31-54.2 N, 112-01-50.5 W         WGS2309         29         104         2           7         772.48375         GMWY         15040 N. Tatum Bird         33-37-75.3 N, 111-58-05.1 W         WGS2302         50         90         100         727.32375           10         772.73375         ARCA         5220 E. Thomas Rd         33-37-63.8 N, 111-58-05.1 W         WGS5203         60         75         100           11         777.33125         ASCW         450 W. Sweetwater Rd         33-37-63.8 N, 111-58-06.1 W         WGS5203         60         130         120           12         774.73125         12.55 Kric (Chol 83)         71.43125         12.55 Kric (Chol	2	771.79375	Control Channel		4020 W. Glenrosa Ave	33-29-56.2 N, 112-08-46.5 W		52	95		
4         772.0937         Control Channel         MGIL         701. W. Carefree Hwy         33-47.31.11, 112.00-02.05.W         WQ51280         112         105         I           6         772.29375         NMTM         10600, The St.         33-36.08.11, N112-00-02.05.W         WQ51280         13.6         80@1195*         I         I           7         772.48125         SAPT         3400.5 Sky Harbo Bilvd         33-26.07.2.N, 112.003-6.5.W         WQ55200         20         104         I <td>3</td> <td></td>	3										
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6         772.29375         SQPW         6202 N 24th St         33-31.64.2 N, 112-015.02 W         WQSE307         316         80 (919")         Image: Control	5	771.93125		NMTN		· · · · ·					
7         722.8825         SAPT         3400 E. Sky Harbor Blvd         33-26-07.2 N, 121-03-43.5 W         WQSE302         29         104         1           9         772.73125         GWW         15040 M. Tatum Blvd         33-37-25 M. 111-58-43.9 W         WQSE302         29         104         1           10         772.73125         ARCA         5220 E. Thomas Rd         33-37-25 M. 111-58-08.0 W         WQSE283         90         130         1           11         772.93125         ARCA         5220 E. Thomas Rd         33-36-18 M. N112-09-18.0 W         WQSE292         60         130         1           12         774.73125         ARCA         5220 E. Thomas Rd         33-36-18 M. N112-09-18.0 W         WQSE292         60         130         1           12         774.73125         TY4.73125         12 S. Khz (Chnl B1)         1         100         771-13125         12 S. Khz (Chnl B3)         1				SQPW		,					
8         772:54375         GWW         15040 N. Tatum Blwd         33-72:53 N, 111:58-03 W         WQSE202         50         90         10           10         772:73375         DOVE         33003 N. Stand St.         33-47:90 N, 111:58-08.0 W         WQSE283         60         75         1           11         777:73375         ARCA         5220 E. Thomas Rd         33-28:49.8 N, 111:58-06.1 W         WQSE283         60         75         1           12         777:31325         ASUW         4350 W. Sweetwater Rd         33-61.8 R, 112:0-91.8 U         WQSE292         60         130         1           14         773.4825         The Freq (Mhz)         Filter         1         770.83125         12.5 Khz (Chnl 81)           16         774.23125         12.5 Khz (Chnl 81)         2         771.13125         12.5 Khz (Chnl 82)           700 MHz channels         5         771.13125         12.5 Khz (Chnl 81)         1         77.83125           711.1125         Control Channel         6         771.63125         12.5 Khz (Chnl 81)         1         77.71.83125         12.5 Khz (Chnl 81)           17         771.13125         12.5 Khz (Chnl 81)         1         771.93125         12.5 Khz (Chnl 81)         1         1         77.8	7	772.48125				33-26-07.2 N, 112-00-34.5 W		29			
9       772.7325       DOVE       33002 N. S2nd St       33-47-09.0 N, 111-58-08.0 W       WQSE283       90       130       Image: Control Channel Stream Stre	8	772.54375		GNWY		33-37-25.3 N, 111-58-43.9 W		50	90		
11       772.93125         12       774.73125         13       773.43125         14       773.43125         15       774.73125         16       773.43125         17       773.43125         16       774.43125         17       774.73125         16       774.43125         17       774.73125         18       774.43125         19       771.13125         10       770.83125         11       770.83125         12.5       Ktr (Chnl B3)         3       771.13125         10       777.13125         11       770.83125         12.5       Ktr (Chnl B3)         3       771.13125         11       771.63125         12.5       Ktr (Chnl B4)         13       771.13125         14       771.93125         15       771.3125         16       771.93125         17       771.93125         12       772.93125         13       772.13125         14       772.13125         15       771.23125         16 <t< td=""><td>9</td><td>772.73125</td><td></td><td></td><td></td><td></td><td></td><td>-</td><td>130</td><td></td><td></td></t<>	9	772.73125						-	130		
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13         773.18125         Special Frequency Programming Plan to fit 32 Filters           14         773.43125         #         Freq (Mhz)         Filter           15         774.43125         1         770.83125         1.2.5 Khz (Chnl B1)           16         774.48125         1.2.5 Khz (Chnl B2)         3         771.18125         1.2.5 Khz (Chnl B2)           700 MHz channels         5         771.43125         1.2.5 Khz (Chnl B2)         3         771.18125           1         770.83125         Control Channel         5         771.43125         1.2.5 Khz (Chnl B2)           1         770.83125         Control Channel         6         771.63125         1.2.5 Khz (Chnl B2)           1         770.83125         Control Channel         8         771.93125         1.2.5 Khz (Chnl B2)           1         771.83125         Control Channel         10         771.93125         1.2.5 Khz (Chnl B2)           5         771.38125         11         771.93125         1.2.5 Khz (Chnl B2)           6         771.93125         1.2.5 Khz (Chnl B2)         1.2.5 Khz (Chnl B2)           7         771.36125         1.2.5 Khz (Chnl B2)         1.2.5 Khz (Chnl B2)           1         771.37215         1.2.5 Khz (Chnl B2) <t< td=""><td>12</td><td></td><td></td><td></td><td></td><td>· · ·</td><td>· · · · · · · · · · · · · · · · · · ·</td><td></td><td></td><td></td><td></td></t<>	12					· · ·	· · · · · · · · · · · · · · · · · · ·				
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Simulcast B         3         771.18125         12.5 Khz (Chnl B2)           700 MHz channels         5         771.48125         12.5 Khz (Chnl B4)           Chnl#         Freq (Mhz)         6         771.68125         12.5 Khz (Chnl B4)           2         771.18125         Control Channel         7         771.68125         12.5 Khz (Chnl B4)           3         771.18125         Control Channel         7         771.68125         12.5 Khz (Chnl B4)           4         771.48125         Control Channel         9         771.88125         12.5 Khz (Chnl B4)           5         771.48125         Control Channel         9         771.88125         12.5 Khz (Chnl B4)           4         771.48125         Control Channel         9         771.88125         12.5 Khz (Chnl B4)           6         771.98125         12         772.04375         12.5 Khz (Chnl B1)           7         771.68125         12         772.38125         12.5 Khz (Chnl B1)           10         772.38125         12.5 Khz (Chnl B1)         13         772.38125           11         772.38125         12.5 Khz (Chnl B1)         14         772.38125         12.5 Khz (Chnl B1)           11         772.38125         12.5 Khz (Chnl B1)											
Simulcar B         4         771.38125         12.5 Khz (Chnl B5)           700 MHz chanels         5         771.43125         12.5 Khz (Chnl B4)           Chnl# Freq (Mhz)         6         771.63125         12.5 Khz (Chnl B7)           1         770.83125         Control Channel         7         771.68125         12.5 Khz (Chnl B7)           2         771.13125         Control Channel         8         771.79375         12.5 Khz (Chnl B7)           3         771.13125         Control Channel         9         771.88125         12.5 Khz (Chnl B7)           4         771.43125         Control Channel         9         771.88125         12.5 Khz (Chnl B6)           5         771.38125         11         771.93125         12.5 Khz (Chnl B6)           6         771.93125         12.5 Khz (Chnl A4)           7         771.63125         12         772.04375           8         772.23125         12.5 Khz (Chnl B3)           10         772.43125         12.5 Khz (Chnl A8)           11         772.63125         12.5 Khz (Chnl B3)           12         772.64125         12.5 Khz (Chnl B3)           13         772.43125         12.5 Khz (Chnl B3)           14         772.63125	-										
700 MHz channels         5         771.43125         12.5 Khz (Chnl B4)           Chnili         Freq (Mhz)         6         771.63125         12.5 Khz (Chnl B4)           1         770.83125         Control Channel         7         771.68125         12.5 Khz (Chnl A2)           3         771.13125         Control Channel         9         771.88125         12.5 Khz (Chnl A2)           4         771.43125         Control Channel         9         771.88125         12.5 Khz (Chnl A2)           5         771.38125         Control Channel         9         771.88125         12.5 Khz (Chnl A4)           6         771.98125         12         772.04375         12.5 Khz (Chnl B9)           7         771.63125         13         772.13125         12.5 Khz (Chnl B4)           7         771.63125         13         772.33125         12.5 Khz (Chnl B8)           10         772.43125         14         772.33125         12.5 Khz (Chnl B8)           11         772.33125         15         772.33125         12.5 Khz (Chnl B1)           12         772.63125         12.5 Khz (Chnl B1)         12         772.63125           13         772.43125         12.5 Khz (Chnl B1)         12         12	Simulcast B										
Chni#       Freq (Mhz)       6       771.63125       12.5 Khz (Chnl B7)         1       770.83125       Control Channel       7       771.68125       12.5 Khz (Chnl A2)         3       771.13125       Control Channel       8       777.73375       12.5 Khz (Chnl A2)         4       771.43125       Control Channel       9       771.88125       12.5 Khz (Chnl A2)         5       771.33125       Control Channel       10       771.93125       12.5 Khz (Chnl A5)         6       771.98125       11       771.93125       12.5 Khz (Chnl A5)         7       771.63125       12.2 T72.04375       12.5 Khz (Chnl A5)         8       772.33125       12.5 Khz (Chnl A5)         9       771.88125       13       772.23125       12.5 Khz (Chnl B1)         11       771.88125       15       772.23125       12.5 Khz (Chnl A5)         9       771.88125       15       772.23125       12.5 Khz (Chnl A5)         11       772.84125       15       772.23125       12.5 Khz (Chnl A6)         11       772.68125       18       772.54375       12.5 Khz (Chnl A5)         12       772.68125       18       772.68125       12.5 Khz (Chnl A6)         13	700 MHz channels										
1       770.83125       Control Channel       7       771.68125       12.5 Khz (Chnl A1)         2       771.13125       Control Channel       8       771.79375       12.5 Khz (Chnl A2)         3       771.13125       Control Channel       9       771.88125       12.5 Khz (Chnl A2)         5       771.43125       Control Channel       10       771.93125       12.5 Khz (Chnl A5)         6       771.98125       12.2 772.04375       12.5 Khz (Chnl B6)       13         7       771.63125       13       772.13125       12.5 Khz (Chnl A3)         9       771.83125       14       772.8125       12.5 Khz (Chnl B1)         10       772.43125       12.5 Khz (Chnl A3)       11       772.8125         9       771.83125       15       772.8125       12.5 Khz (Chnl B1)         11       772.3125       12.5 Khz (Chnl B3)       12       772.8125         12       772.63125       12.5 Khz (Chnl B1)       13       772.38125         13       772.38125       19       772.63125       12.5 Khz (Chnl B4)         14       772.63125       12.5 Khz (Chnl A10)       14       12.5 Khz (Chnl B1)         13       773.68125       20       772.79375 <td< td=""><td>Chnl#</td><td>Freg (Mhz)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Chnl#	Freg (Mhz)									
2       771.18125       Control Channel       8       771.79375       12.5 Khz (Chnl A2)         3       771.43125       Control Channel       9       771.88125       12.5 Khz (Chnl B9)         4       771.43125       Control Channel       10       771.93125       12.5 Khz (Chnl A5)         5       771.38125       11       771.98125       12.5 Khz (Chnl B6)         6       771.98125       12.5 Khz (Chnl B6)       11         7       771.63125       12.5 Khz (Chnl B6)       11         8       772.23125       12.5 Khz (Chnl B1)       11         8       772.33125       12.5 Khz (Chnl B8)       11         10       772.83125       12.5 Khz (Chnl B8)       12         11       772.33125       12.5 Khz (Chnl B8)       12         12       772.63125       12.5 Khz (Chnl B8)       13         13       772.33125       12.5 Khz (Chnl B4)       14         14       772.63125       12.5 Khz (Chnl B4)       14         15       772.83125       12.5 Khz (Chnl B4)       14         16       773.33125       12.5 Khz (Chnl B4)       12         17       773.38125       22       772.73125       12.5 Khz (Chnl B4)			Control Channel								
3     771.13125     Control Channel       4     771.43125     Control Channel       5     771.38125     12.5 Khz (Chnl A5)       6     771.98125     12.5 Khz (Chnl A4)       7     771.63125     12       9     771.88125     12.5 Khz (Chnl A4)       7     771.88125     13       9     771.88125     12.5 Khz (Chnl A4)       10     772.04375     12.5 Khz (Chnl A3)       9     771.88125     16       11     772.23125     12.5 Khz (Chnl A3)       10     772.43125     12.5 Khz (Chnl A3)       11     772.38125     12.5 Khz (Chnl A3)       12     772.43125     12.5 Khz (Chnl A3)       13     772.38125     12.5 Khz (Chnl A3)       14     772.43125     12.5 Khz (Chnl A8)       13     772.38125     12.5 Khz (Chnl A8)       14     772.63125     12.5 Khz (Chnl A8)       15     772.43125     12.5 Khz (Chnl A8)       14     772.63125     12.5 Khz (Chnl A8)       14     772.63125     12.5 Khz (Chnl A10)       15     772.63125     12.5 Khz (Chnl A10)       16     773.1325     12.5 Khz (Chnl A10)       17     73.38125     22     772.73125       17.7.73.38125	2		Control Channel	8		12.5 Khz (Chnl A2)					
4       771.43125       Control Channel       10       771.93125       12.5 Khz (Chnl A5)         5       771.38125       11       771.98125       12.5 Khz (Chnl A6)         6       771.93125       12.5 Khz (Chnl A4)       12         7       771.63125       12       772.04375       12.5 Khz (Chnl B1)         8       772.23125       14       772.13125       12.5 Khz (Chnl B1)         9       771.88125       15       772.23125       12.5 Khz (Chnl B3)         10       772.43125       16       772.23125       12.5 Khz (Chnl B3)         11       772.8125       12.5 Khz (Chnl B3)       11       772.8125         12       772.68125       18       772.43125       12.5 Khz (Chnl B1)         13       772.8125       12.5 Khz (Chnl B1)       11       17         14       772.68125       12.5 Khz (Chnl B1)       11       17         15       772.88125       12.5 Khz (Chnl B1)       11       12       12         16       773.13125       12.5 Khz (Chnl B1)       12       12       1772.68125       12.5 Khz (Chnl B1)         16       773.13125       12.5 Khz (Chnl B1)       12       12       12.5 Khz (Chnl B1)       12 </td <td>3</td> <td></td> <td>Control Channel</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	3		Control Channel								
5       771.38125       11       771.98125       12.5 Khz (Chnl B6)         6       771.98125       12       772.04375       12.5 Khz (Chnl A4)         7       771.63125       13       772.13125       12.5 Khz (Chnl B1)         8       772.23125       15       772.23125       12.5 Khz (Chnl A3)         9       771.88125       15       772.23125       12.5 Khz (Chnl A8)         10       772.43125       16       772.23125       12.5 Khz (Chnl A6)         11       772.13125       12.5 Khz (Chnl A8)       13       772.38125         12       772.68125       18       772.43125       12.5 Khz (Chnl B13)         13       772.8125       19       772.63125       12.5 Khz (Chnl B14)         14       772.8125       12.5 Khz (Chnl B14)       12.5 Khz (Chnl B12)         14       772.8125       12.5 Khz (Chnl B12)       12.5 Khz (Chnl B12)         14       773.38125       22       772.73125       12.5 Khz (Chnl B15)         17       773.38125       12.5 Khz (Chnl B15)       24       772.893125         18       773.68125       12.5 Khz (Chnl B15)       25       772.93125       12.5 Khz (Chnl B15)         18       773.68125       12.5 Kh	4	771.43125	Control Channel		771.93125	12.5 Khz (Chnl A5)					
6       771.98125       12       772.04375       12.5 Khz (Chnl A4)         7       771.63125       13       772.13125       12.5 Khz (Chnl B1)         8       772.23125       14       772.18125       12.5 Khz (Chnl B3)         9       771.88125       15       772.23125       12.5 Khz (Chnl B8)         10       772.43125       16       772.39375       12.5 Khz (Chnl B8)         11       772.13125       17       772.38125       12.5 Khz (Chnl B13)         12       772.68125       18       772.4525       75 Khz (Chnl B14)         13       772.8125       19       772.68125       12.5 Khz (Chnl B14)         14       772.88125       12.5 Khz (Chnl B14)       14         15       772.88125       12.5 Khz (Chnl B14)         14       772.88125       12.5 Khz (Chnl B14)       14         15       772.88125       12.5 Khz (Chnl B14)       14         16       773.13125       12.5 Khz (Chnl B14)       14         17       773.38125       12.5 Khz (Chnl A10)       18         18       773.68125       12.5 Khz (Chnl A10)       12         18       773.68125       12.5 Khz (Chnl B17)       26       773.38125	5	771.38125			771.98125						
7       771.63125       13       772.13125       12.5 Khz (Chnl B11)         8       772.23125       14       772.18125       12.5 Khz (Chnl A3)         9       771.83125       15       772.23125       12.5 Khz (Chnl B8)         10       772.43125       16       772.23125       12.5 Khz (Chnl B8)         11       772.13125       16       772.23125       12.5 Khz (Chnl B13)         12       772.68125       18       772.6525       75 Khz (Chnl B13)         13       772.38125       19       772.63125       12.5 Khz (Chnl B13)         14       772.63125       19       772.63125       12.5 Khz (Chnl B13)         15       772.88125       20       772.63125       12.5 Khz (Chnl B14)         15       772.88125       21       772.68125       12.5 Khz (Chnl B14)         16       773.38125       22       772.73125       12.5 Khz (Chnl B12)         17       773.88125       23       772.79375       12.5 Khz (Chnl B15)         18       773.68125       24       772.88125       12.5 Khz (Chnl B15)         26       773.38125       12.5 Khz (Chnl B17)       28       773.48125         27       773.38125       12.5 Khz (Chnl B18) </td <td>6</td> <td>771.98125</td> <td></td> <td>12</td> <td>772.04375</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	6	771.98125		12	772.04375						
8       772.23125       14       772.18125       12.5 Khz (Chil A3)         9       771.88125       15       772.23125       12.5 Khz (Chil A8)         10       772.43125       16       772.23375       12.5 Khz (Chil A6)         11       772.13125       17       772.38125       12.5 Khz (Chil A6)         11       772.68125       18       772.45625       75 Khz (A7 & B10)         13       772.68125       19       772.63125       12.5 Khz (Chil A8)         14       772.63125       20       772.63125       12.5 Khz (Chil A8)         14       772.63125       20       772.63125       12.5 Khz (Chil A8)         15       772.88125       21       772.63125       12.5 Khz (Chil B12)         16       773.13125       22       772.73125       12.5 Khz (Chil A10)         18       773.68125       24       772.88125       12.5 Khz (Chil B15)         125       772.93125       12.5 Khz (Chil B17)       28       773.43125         18       773.68125       12.5 Khz (Chil A14)       29       773.68125       12.5 Khz (Chil B17)         28       773.43125       12.5 Khz (Chil B18)       30       774.23125       12.5 Khz (Chil A14)       29 </td <td>7</td> <td></td> <td></td> <td>13</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	7			13							
9       771.88125       15       772.23125       12.5 Khz (Chnl B8)         10       772.43125       16       772.29375       12.5 Khz (Chnl A6)         11       772.13125       17       772.38125       12.5 Khz (Chnl B13)         12       772.68125       18       772.45625       75 Khz (Chnl B13)         13       772.38125       19       772.63125       12.5 Khz (Chnl B4)         14       772.63125       20       772.63125       12.5 Khz (Chnl B4)         15       773.8125       21       772.68125       12.5 Khz (Chnl B4)         15       773.38125       21       772.73125       12.5 Khz (Chnl B12)         16       773.38125       23       772.79375       12.5 Khz (Chnl B15)         17       773.38125       24       772.88125       12.5 Khz (Chnl B15)         18       773.68125       24       772.88125       12.5 Khz (Chnl B15)         25       772.93125       12.5 Khz (Chnl B17)       28       773.38125         18       773.68125       12.5 Khz (Chnl B17)       28       773.43125       12.5 Khz (Chnl B17)         28       773.43125       12.5 Khz (Chnl B18)       30       774.23125       12.5 Khz (Chnl A14)       29	8			14							
10       772.43125       16       772.29375       12.5 Khz (Chnl A6)         11       772.13125       17       772.38125       12.5 Khz (Chnl B13)         12       772.68125       18       772.45625       75 Khz (A7 & B10)         13       772.38125       19       772.63125       12.5 Khz (Chnl A8)         14       772.63125       20       772.63125       12.5 Khz (Chnl B14)         15       772.88125       21       772.68125       12.5 Khz (Chnl A9)         16       773.13125       22       772.73125       12.5 Khz (Chnl A10)         18       773.68125       23       772.79375       12.5 Khz (Chnl A10)         18       773.68125       24       772.83125       12.5 Khz (Chnl B15)         18       773.68125       12.5 Khz (Chnl B15)       25       772.93125       12.5 Khz (Chnl B15)         18       773.68125       75 Khz (A13 & B16)       26       773.38125       12.5 Khz (Chnl B17)         28       773.43125       12.5 Khz (Chnl B17)       28       773.43125       12.5 Khz (Chnl B18)         30       774.23125       12.5 Khz (Chnl A14)       29       773.68125       12.5 Khz (Chnl A15)         31       774.48125       12.5 Khz (Chnl A15	9	771.88125		15	772.23125						
11       772.13125       17       772.38125       12.5 Khz (Chil B13)         12       772.68125       18       772.45625       75 Khz (A7 & B10)         13       772.38125       19       772.54375       12.5 Khz (Chil A8)         14       772.63125       20       772.63125       12.5 Khz (Chil B14)         15       772.88125       21       772.68125       12.5 Khz (Chil B12)         16       773.13125       22       772.73125       12.5 Khz (Chil A9)         17       773.38125       23       772.79375       12.5 Khz (Chil B15)         18       773.68125       24       772.88125       12.5 Khz (Chil B15)         18       773.68125       25       772.893125       12.5 Khz (Chil B15)         25       772.8125       12.5 Khz (Chil B15)       25       773.38125         18       773.68125       12.5 Khz (Chil B15)       26       773.38125       12.5 Khz (Chil B15)         26       773.43125       12.5 Khz (Chil B17)       28       773.43125       12.5 Khz (Chil B17)         28       773.43125       12.5 Khz (Chil A14)       29       773.68125       12.5 Khz (Chil A15)         30       774.48125       12.5 Khz (Chil A15)       31 <t< td=""><td>10</td><td>772.43125</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	10	772.43125									
12       772.68125       18       772.45625       75 Khz (A7 & B10)         13       772.38125       19       772.54375       12.5 Khz (Chnl A8)         14       772.63125       20       772.63125       12.5 Khz (Chnl B14)         15       772.88125       21       772.68125       12.5 Khz (Chnl B12)         16       773.13125       22       772.73125       12.5 Khz (Chnl A9)         17       773.38125       23       772.79375       12.5 Khz (Chnl B15)         18       773.68125       24       772.88125       12.5 Khz (Chnl B15)         25       772.93125       12.5 Khz (Chnl B15)       25       772.93125         18       773.68125       12.5 Khz (Chnl B15)       25       773.38125         26       773.13625       75 Khz (A13 & B16)       27       773.38125         27       773.38125       12.5 Khz (Chnl B17)       28       773.43125       12.5 Khz (Chnl B18)         30       774.23125       12.5 Khz (Chnl A14)       29       774.48125       12.5 Khz (Chnl A16)	11	772.13125									
13       772.38125       19       772.54375       12.5 Khz (Chnl A8)         14       772.63125       20       772.63125       12.5 Khz (Chnl B14)         15       772.88125       21       772.68125       12.5 Khz (Chnl B12)         16       773.3125       22       772.73125       12.5 Khz (Chnl A9)         17       773.88125       23       772.79375       12.5 Khz (Chnl A10)         18       773.68125       24       772.88125       12.5 Khz (Chnl A10)         25       772.93125       12.5 Khz (Chnl B15)       25       772.93125         26       773.15625       75 Khz (A13 & B16)       27       773.38125       12.5 Khz (Chnl A11)         26       773.43125       12.5 Khz (Chnl B17)       28       773.43125       12.5 Khz (Chnl B17)         28       773.43125       12.5 Khz (Chnl B18)       30       774.23125       12.5 Khz (Chnl A14)         29       773.68125       12.5 Khz (Chnl A15)       31       774.48125       12.5 Khz (Chnl A16)	12	772.68125		18		75 Khz (A7 & B10)					
14       772.63125       20       772.63125       12.5 Khz (Chnl B14)         15       772.88125       21       772.68125       12.5 Khz (Chnl B12)         16       773.13125       22       772.73125       12.5 Khz (Chnl A9)         17       773.38125       23       772.79375       12.5 Khz (Chnl A10)         18       773.68125       24       772.88125       12.5 Khz (Chnl B15)         25       772.93125       12.5 Khz (Chnl B15)       25         25       772.93125       12.5 Khz (Chnl B15)         26       773.15625       75 Khz (A13 & B16)         27       773.38125       12.5 Khz (Chnl B17)         28       773.43125       12.5 Khz (Chnl B18)         30       774.23125       12.5 Khz (Chnl A15)         31       774.48125       12.5 Khz (Chnl A16)	13	772.38125									
15       772.88125       21       772.68125       12.5 Khz (Chrl B12)         16       773.13125       22       772.73125       12.5 Khz (Chrl A9)         17       773.38125       23       772.79375       12.5 Khz (Chrl A10)         18       773.68125       24       772.88125       12.5 Khz (Chrl A10)         25       772.93125       12.5 Khz (Chrl B15)       25         25       772.93125       12.5 Khz (Chrl B15)         26       773.15625       75 Khz (A13 & B16)         27       773.38125       12.5 Khz (Chrl B17)         28       773.43125       12.5 Khz (Chrl B17)         28       773.68125       12.5 Khz (Chrl B18)         30       774.23125       12.5 Khz (Chrl A14)         29       773.68125       12.5 Khz (Chrl A15)         31       774.48125       12.5 Khz (Chrl A16)	14										
16       773.13125       22       772.73125       12.5 Khz (Chnl A9)         17       773.38125       23       772.79375       12.5 Khz (Chnl A10)         18       773.68125       24       772.88125       12.5 Khz (Chnl B15)         25       772.93125       12.5 Khz (Chnl A11)         26       773.15625       75 Khz (A13 & B16)         27       773.38125       12.5 Khz (Chnl B17)         28       773.43125       12.5 Khz (Chnl B17)         28       773.43125       12.5 Khz (Chnl B18)         30       774.23125       12.5 Khz (Chnl A15)         31       774.48125       12.5 Khz (Chnl A16)	15			21							
17       773.38125       23       772.79375       12.5 Khz (Chnl A10)         18       773.68125       24       772.88125       12.5 Khz (Chnl B15)         25       772.93125       12.5 Khz (Chnl A11)         26       773.15625       75 Khz (A13 & B16)         27       773.38125       12.5 Khz (Chnl B17)         28       773.43125       12.5 Khz (Chnl B17)         28       773.68125       12.5 Khz (Chnl B18)         30       774.23125       12.5 Khz (Chnl B18)         31       774.48125       12.5 Khz (Chnl A16)	16	773.13125		22	772.73125						
18       773.68125       24       772.88125       12.5 Khz (Chrl B15)         25       772.93125       12.5 Khz (Chrl A11)         26       773.15625       75 Khz (A13 & B16)         27       773.38125       12.5 Khz (Chrl B17)         28       773.43125       12.5 Khz (Chrl B18)         30       774.23125       12.5 Khz (Chrl B18)         31       774.48125       12.5 Khz (Chrl A16)	17										
25         772.93125         12.5 Khz (Chnl A11)           26         773.15625         75 Khz (A13 & B16)           27         773.38125         12.5 Khz (Chnl B17)           28         773.43125         12.5 Khz (Chnl A14)           29         773.68125         12.5 Khz (Chnl B18)           30         774.23125         12.5 Khz (Chnl A15)           31         774.48125         12.5 Khz (Chnl A16)	18				772.88125						
26773.1562575 Khz (A13 & B16)27773.3812512.5 Khz (Chnl B17)28773.4312512.5 Khz (Chnl A14)29773.6812512.5 Khz (Chnl B18)30774.2312512.5 Khz (Chnl A15)31774.4812512.5 Khz (Chnl A16)					772.93125						
27773.3812512.5 Khz (Chnl B17)28773.4312512.5 Khz (Chnl A14)29773.6812512.5 Khz (Chnl B18)30774.2312512.5 Khz (Chnl A15)31774.4812512.5 Khz (Chnl A16)					773.15625						
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29773.6812512.5 Khz (Chnl B18)30774.2312512.5 Khz (Chnl A15)31774.4812512.5 Khz (Chnl A16)											
30         774.23125         12.5 Khz (Chnl A15)           31         774.48125         12.5 Khz (Chnl A16)											
31 774.48125 12.5 Khz (Chnl A16)											
				32	774.73125	12.5 Khz (Chnl A12)					

	Simul	cast C	Simulcast C Site Info					Donor site Antenna		RCS ation
	700 MHz	channels	Site Name	Address	Lat/Long	Call Sign	ERP Watts	Ant Height AGL Ft	Miles	Azimuth degrees
Chnl#	Freq (Mhz)		HAMI	911 S. Hamilton	33-17-34.9 N, 111-49-55.6 W	WQSH547	90	178		
1	770.10625	CONTROL CHANNEL	TFTC	1342 E. University Ave	33-25-24.3 N, 111-54-59.1 W	WQSH547	90	108		
2	772.10625	CONTROL CHANNEL	DPSS	12717 S. Central Ave	33-19-57.2 N, 112-04-00.5 W	WQSH547	200	65@150°		
3	770.35625	CONTROL CHANNEL	TPDS	8201 S. Hardy Dr	33-20-27.2 N, 111-57-10.5 W	WQSH547	90	130		
4	772.35625	CONTROL CHANNEL	CFTC	3550 S. Dobson Rd	33-15-11.4 N, 111-53-17.1 W	WQSH547	320	75@160°		
5	769.60625		MARC	45695 W. Edison Rd	33-03-55.7 N, 112-03-39.4 W	WQWW222	100	145@110°		
6	771.60625									
7	769.85625									
8	771.85625									
9	769.10625									
10	772.60625									
11	769.35625									
12	772.85625									
13	770.60625									
14	770.85625									
15	771.10625									
16	771.35625									

	Simulca	st D	Simulcast D Site Info				Donor site Antenna		ERRCS Location	
700 MHz channels			Site Name	Address	Lat/Long	Call Sign	ERP Watts	Ant Height AGL Ft	Miles	Azimuth degrees
Chnl#	Freq (Mhz)		OCTR	43240 N. Black Canyon Fwy	33-52-35.1 N, 112-08-51.0 W	WQSF641	100	100		
1	772.081250	<b>CONTROL CHANNEL</b>	F141	43814 N. New River Rd	33-53-00.0 N, 112-04-23.2 W	WQRY628	50	125		
2	772.331250	CONTROL CHANNEL	F146	3116 W. New River Rd	33-55-17.1 N, 112-07-41.5 W	WQRY628	50	125		
3	772.581250	CONTROL CHANNEL								
4	772.831250	<b>CONTROL CHANNEL</b>								
5	773.156250									
6	773.406250									

	Simu	lcast F		Simulcast F Site Info					ERRCS Location	
	700 MH	z channels	Site Name	Address	Lat/Long	Call Sign	ERP Watts	Ant Height AGL Ft	Miles	Azimuth degrees
Chnl#	Freq (Mhz)		TFTC	1342 E. University Dr	33-25-24.3 N, 111-54-59.1 W	WQJR969	55	134		
1	774.41875	CONTROL CHANNEL	TPDS	8201 S. Hardy Dr	33-20-27.2 N, 111-57-10.5 W	WQJR969	50	100		
2	773.16875	CONTROL CHANNEL	PGWT	245 E. Marigold Ln	33-26-43.3 N, 111-56-21.6 W	WQJR969	120	107@135°		
3	771.91875	CONTROL CHANNEL	BBUT	1705 W. Broadway Rd	33-24-24.1 N, 111-58-02.5 W	WQJR969	55	35		
4	774.16875	CONTROL CHANNEL	SMTN	12717 S. Central Ave	33-20-04.9 N, 112-03-35.4 W	WQJR969	110	96@075°		
5	772.91875									
6	771.66875									
7	773.91875									
8	772.66875									
9	771.41875									
10	773.66875									
11	772.41875									
12	771.16875									
13	773.41875									
14	772.16875									
15	772.55625									
16	772.80625									

	Simul	cast G	Simulcast G Site Info					Donor site Antenna		RCS ation
	700 MHz (	hannels	Site Name	Address	Lat/Long	Call Sign	ERP Watts	Ant Hgt AGL Ft	Miles	Azimuth degrees
Chnl#	Freq (Mhz)		GWTP	7300 W. Greenway Rd	33-37-34.9 N, 112-12-51.1 W	WQKP324 WQJY471	40	95		ucgrees
1	771.56875	<b>Control Channel</b>	TCTR	8343 W. Monroe St	33-34-37.4 N, 112-14-17.5 W	WQKP323 WQJY471	35	75		
2	771.61875	<b>Control Channel</b>	AFWT	9510 W. Lone Mountain Pkwy	33-44-22.6 N, 112-15-51.8 W	WQKP323	40	75		
3	771.06875	<b>Control Channel</b>	WADD	41835 N. Castle Hot Springs Rd	33-50-48.2 N, 112-16-38.1 W	WQJY471 WQKP323 WQJY471	18	60		
4	771.86875	<b>Control Channel</b>	LAFB	969 Super Saber St Luke AFB	33-31-50.9 N, 112-22-00.6 W	WQKN967 WQKP324	38	250		
5	770.56875		GLPD	6835 N. 57th Dr	33-32-14.6 N, 112-10-55.8 W	WQKN967	35	80		
6	772.11875		F195	23100 N. Lake Pleasant Rd	33-41-33.9 N, 112-16-42.6 W	WQKP324 WQKN967 WQKP324	40	95		
7	770.06875		TWTP	9501 W. Pima St	33-25-43.7 N, 112-15-41.9 W	WQKP324 WQJY471	90	155		
8	772.36875		РҮРК	28345 N. Pyramid Peak Pkwy	33-44-25.8 N, 112-11-39.0 W	WQZS652	37	118		
9	769.56875		SPA2	15667 W. Planada Ln	33-41-35.9 N, 112-23-51.7 W	WROP432	32	130		
10	772.61875									
11	772.05625									
12	772.86875									
13	771.31875									
14	770.81875									
15	770.31875									
16	769.81875									
17	769.31875									
18	772.30625									

	Simul	cast H	Simulcast H Site Info					Donor Site Antenna		RCS ition
	700 MHz o	channels	Site Name	Address	Lat/Long	Call Sign	ERP Watts	Ant Height AGL Ft	Distance Miles	Azimuth degrees
Chnl#	Freq (Mhz)		SCIV	3700 N. 75th St	33-29-19.4 N, 111-55-15.9 W	WQJU870	500	110@180°		
1	771.84375	Control Channel	S042	26906 N. Pima Rd	33-43-45.8 N, 111-53-36.5 W	WQJU870	85	65		
2	771.59375	Control Channel	SDMH	12575 E. Via Linda	33-35-17.3 N, 111-48-28.8 W	WQJU870	100	65		
3	771.34375	Control Channel	F610	16701 N. 100th St	33-38-08.0 N, 111-51-49.5 W	WQJU870	140	40		
4	771.09375	Control Channel	F614	27775 N. Alma School Rd	33-44-13.2 N, 111-50-41.7 W	WQJU870	68	60		
5	770.84375		S089	39205 N Alister Mckenzie Dr	33-50-32.2 N, 111-52-35.3 W	WQJU870	70	50@180°		
6	770.59375		SCSE	12177 Calle Serena	33-41-26.9 N, 111-49-00.6 W	WQJU871	110	20@0°		
7	770.34375		DOVE	33003 N 52nd St	33-47-09.5 N, 111-58-08.6 W	WQJU871	425	130@90°		
8	770.09375		PVRF	6827 E. Highlands Dr	33-32-10.3 N, 111-59-19.6 W	WQJU871	95	24@180°		
9	769.84375								-	
10	769.59375									
11	769.09375									

12

769.34375

Simulcast J			Simulcast J Site Info				Donor Site Antenna		ERRCS Location	
700 MHz channels			Site Name	Address	Lat/Long	Call Sign	ERP Watts	Ant Height AGL Ft	Distance Miles	Azimuth degrees
Chnl#	Freq (Mhz)		ATWR	26596 W. Lower Buckeye	33-25-22.2 N, 112-38-04.4 W	WQJG713	56	185	TAULES	uegrees
1	769.11875	Control Channel	FEST	28016 W. Sun Valley Pkwy	33-39-34.5 N, 112-39-18.0 W	WQJG713	87	107		
2	769.36875	Control Channel	ESTR	11461 S. 171st Ave	33-20-46.0 N, 112-25-20.0 W	WQJG713	45	150		
3	769.61875	Control Channel	RBVW	16699 S. Rainbow Valley Rd	33-17-41.2 N, 112-26-56.1 W	WQJG713	80	105@170°		
4	769.86875	Control Channel	GCOM	14455 W. Van Buren St	33-26-51.8 N, 112-22-09.4 W	WQJG713	100	105		
5	770.11875							-		
6	770.36875									
7	772.78125									
8	774.18125									

9

773.93125