

From: donotreply_from_webfcr@faa.gov
To: Powell, Kenecia
Cc: Timothy.J-CTR.Pawlowitz@faa.gov
Subject: [BULK] FAA Concurrence of Record TRK 230223, Project: NFEKP02/21/2023(1)
Date: Tuesday, March 21, 2023 3:08:37 PM
Attachments: [TRK 230223_NG T230236_Card3_Approved.txt](#)
[NTIA-Card3-Descriptions.pdf](#)

Dear kenecia.powell@gtri.gatech.edu,

The FAA Spectrum Engineering Services has completed the review of your Frequency Coordination Request.

TRK 230223 is assigned an FAA Coordination number NG T230236 that indicates FAA's coordination that may or may not include operational limits/conditions as part of the requirement for FAA concurrence. The FAA Spectrum Engineering Services has provided the following comments:

COMMENTS: THIS PROPOSED OPERATION FAILS THE ENGINEERING CRITERIA OF -6DB I/N AGAINST OUR CARSR OPERATING IN DANSVILLE, NY. THIS THE ONLY RADAR THAT FAILS. THE CARSR SITS AT A BEARING OF 258 DEGREES FROM THE INTERFERER. THE ANTENNA OF THE INTERFERER IS ORIENTED AT AN AZIMUTH OF 267 DEGREES. AT 13 DB OF GAIN, THIS CARSR IS LIKELY WITHIN THE BEAMWIDTH OF THE GIT ANTENNA, BUT AT A LESSER GAIN THAN 13 DB. THERE IS ALSO CROSS POLARIZATION. THE INTERFERER IS HORIZONTALLY POLARIZED AND OUR RADAR IS VERTICAL OR CIRCULAR POLAEIZED. PAST EXPERIENCE WITH MEASUREMENTS OF A SIMILAR SETUP SHOWED 15 DB TO 20 DB OF BENEFIT IN REDUCED SIGNAL DUE TO CROSS POLARIZATION. AS A SIDENOTE, I DIDN'T HAVE THE WAVEFORM SO I ESTIMATED THE EMISSION MASK BY TAKING THE 28 MHZ BANDWIDTH AS THE -20 DB POINTS, AND EXTRAPOLATED A SLOPE AT 20 DB PER DECADE TO CALCULATE FDR, BUT THE CARSR FREQUENCIES ARE NEARLY THE SAME AS THE GIT OPERATION. THIS LINK IS ONLY FAILING BY LESS THAN 9 DB. I AM ASSUMING THAT BETWEEN THE BEARING OF THE CARSR AT DANSVILLE, NY BEING 9 DEGREES OFF FROM THE DIRECTION THAT THE GIT ANTENNA IS ORIENTED, THE CROSS POLARIZATION, BEING BEYOND RLOS AND THE FLUCTUATION IN PROP LOSS DUE TO TROPOSCATTER OF THE WEAKER GIT SIGNAL, AND THE FACT THAT WITH A 28 MHZ BANDWIDTH ONLY ABOUT 36% OF THE ENERGY IS GETTING INTO THE 10 MHZ CARSR BANDPASS FILTER, THE ACTUAL SIGNAL AT THE RECEIVER WILL BE AT LEAST 8.4 DB LESS THAN PREDICTED BY THIS LINK BUDGET. THEREFORE, I AM CONCURRING WITH THIS PROPOSAL, BUT WITH CONDITIONS THAT THEY DO NOT ALTER THE POLARIZATION OR THE AZIMUTH OF THE ANTENNA, THAT THE WAVEFORM IS CENTERED ON 1275 MHZ, THAT THE -20 DB EMISSION BANDWIDTH DOES NOT EXTEND OUTSIDE OF THE REQUESTED 1261-1289 MHZ BAND, AND THAT THE EMISSION MASK ROLLS OFF AT A RATE OF AT LEAST 20 DB PER DECADE.

Please note that this concurrence does not constitute authority to transmit. Your authority to transmit must be obtained from the FCC.

Please provide this concurrence notice to the FCC as part of your frequency application, to demonstrate completion of the FAA coordination process. The FAA Coordination number is only valid until 9/17/2023; if you need an extension, please submit an inquiry via WebFCR .

The attached file contains a Card 3 format with all technical and operational parameters; operations are required to be contained within these parameters for the FAA's concurrence to remain valid. If any of these parameters change, the license to transmit shall be re-coordinated with the FAA and updated with the FCC. A document that explains each field of the Card 3 format in plain text is attached.

The following Revision Table outlines key parameters of this coordination:

Attribute	Record Parameter

Serial Number	NG T230236
Frequency	M1261.0000
Upper Frequency	M1289.0000
City	CAZENOVIA
State	NY
Transmitter Radius	3 NM
Transmitter Latitude	425545.00N
Transmitter Longitude	0755320.00W
Antenna Height	16 Feet
Receiver Latitude	425545.00N
Receiver Longitude	0755320.00W
Equipment Type	C,GIT 001
Antenna Type	HORN

Best regards,

FAA Spectrum Engineering Services