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To Craig D Mauldin <Craig_D_Mauldin@raytheon.com>

cc Clarence N Banks <Clarence_N_Banks@raytheon.com>, timothy.j.pawlowitz@faa.gov, donald.nellis@faa.gov, victor.hinton@faa.gov, Thomas.CTR.Christein@faa.gov, bcc

Subject Re: Request FAA Coordination/Raytheon Test and Measurement

Craig,

Per your request, we deleted the band 108-121.9375 and 9000-9200 MHz from consideration and also modified the range 2700-3000 to 2900-4200 previously authorized with renewal concurrence noted below.

Coord Asg	FREQ (MHz)	Pwr (mW/dBm)	Rx sens (dBm)	Safe Dist (ft/mi)	Coord Status (assignment number)
Pending	225-328.6	6.3/8.0		-104 78,000/13	Non-concur (except single freq)
NG T080538	1215-1390	8.17/8.1		-105 32,728/5.4	Concur (prior authorized and renewal NG067694/5)
NG T090051	2900-4200	63.1/18		-105 40,939/6.75	Concur (prior authorized and renewal NG067702)
NG T080539	5000-5250	63.1/18		-105 22107/3.64	Concur (prior authorized and renewal NG067704)

In order to provide a blanket authorization over the entire range from 225-328.6 MHz, we must protect to an aircraft at 500 feet over the facility. So the maximum power could not exceed threshold of - 104 dBm at the aircraft. So $P_{tx} - [20 \log(f \times d) - 37.87] \leq - 104$ dBm and then $P_{tx} = 20 \log f \times d - 37.87 - 104 = - 40.85$ dBm or -0.0000823 mW. That very low level would probably not be sufficient for your test purposes.

And at the power desired of 6.3 mW, we must protect to a - 104 dBm threshold zone of approximately 13 nmi. There would be approximately 1000 FAA and military UHF assignments possibly impacted that would need to be analyzed with a good portion of these with a service volume that would extend into the 13 mile protection zone. Also, we would be precluded from engineering for the 2 year term of your experimental license in a 13 mile radius for any service volume.

So, in the range 225-328.6, we would only be able to provide you with several individual frequencies at the most in that range, but we would have to non-concur to the entire band 225-328.6 MHz at 6.3 mW power.

In any event, the band 225-328.6 MHz is under the Department of Defense and so must also be coordinated with DOD.

Sydney Bradfield
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