Explanatory paper to the 40/60 MHz allocation proposal for C5

September 2020

Dear OM,

As you already know the IARU R1 VGC NS20_C5_05 will be deciding regarding the allocations of 40 and 60 MHz bands, so we would like to provide additional information and arguments for it.

1) Who is backing 40/60 MHz allocation proposal and what other documents were adopted?

40/60 MHz group is not receiving any backing from any national organizations and any financial support from any entity. This is an initiative of the 40/60 MHz group and IARU R1 C5 took our request seriously for taking this responsibility.
In 1996 IARU AC updated *Spectrum Requirements of the Amateur and Amateur-Satellite Services* including narrow band (5x50 KHz) between 30-50 MHz for propagation experimentation. Later R1 officialy adopted recommendations REC./99/LH/C4.5, CT08_C5_Rec09 /10 /36 and informal recommendations during the conferences that National Societies should encourage the deployment of multi-band beacon clusters/alloc. covering low VHF between 30-70 MHz.

2) Why is it necessary to ask for 40/60 MHz allocations now?

Maybe it easier to wait when more countries appear with national allocation or special permissions. But due to the specifics of these bands and other reasons that set out in IARU R1 2014 70 MHz European Initiative, it is better to go in the centralized way through the IARU Conference. Also, RTOs (e.g. CEPT-WGFM/RAFG) recognize such support and it may facilitate satellite allocation that is difficult to coordinate. Similar process has already taken place in case of 2200/630m at least in terms of the number of entities who already have permits (can be encouraged along the way) or 2014 IARU R1 action in CEPT on 70 MHz at RTO's level.

3) Why do we need so many Low VHF bands 40/50/60/70 MHz?

The arguments for 40/60 MHz bands are set out in the original proposal. Also, it will become a full-fledged cluster of 28/40/50/60/70 MHz with possible sharing by mode/way of distribution, i.e. 40/60 MHz includes sat services and 50/70 MHz terrestrial repeaters/FM simplex and RB-TV. 60 MHz can be used only for propagation study, emergency and satelitte service Earth to space.

4) Why does the proposal mention satellite allocations?

As we can see from previous IARU R1 conference decisions this matter is under consideration (CT08_C5_Rec37). All IARU Region 1 societies request that the following additional Amateur Satellite Service bands including low VHF band should be studied and considered, perhaps as a package, for a future WRC agenda item.
Such allocation would fill the gap between 28 MHz and 144 MHz. Also, due to the low Doppler effect, it would be very appropriate for emergency communication as well since it is low cost and high availability and attractive to younger generation.

5) Why only weak signal/SAT and NB modes is there in the 40/60 MHz allocation proposal?

The narrow and weak signal would likely to cause less interference to governmental or other users in 600 KHz range. That is important for 40 MHz band in some areas of R1, despite the fact that 1/3 of the R1 area is located under wider so-called 'radio amateur umbrella', i.e. expanded ISM band 40.3-41.1 MHz in Belarus, Moldova, Russia and Ukraine (soon EK, EX, UN). Not everywhere land mobile services 29,7-50 MHz migrate to higher frequencies.

6) What frequency segments may be suitable for satellite allocations?
It could be the currently unused sub-band for Space research 39.986 - 40.02 MHz (e.g. used by Explorer 22/27) or ISM band owned by AMSAT SA. 5m - near 60 MHz or in the lower end,
Earth to space only.

7) If FM/WB modes are popular in your country, would you like to have it on 40/60 MHz?
This may be a later move at a national level. If the situation allows it can be included in the band plan or may be allocated the additional spectrum under ITU RR 4.4 according to IRTS band plan.

8) What does *any* allocation in the 60 MHz band proposal mean?
This means 600 KHz and less/more or propagation studies only and satellite, depending on opinion of C5/EC or just spectrum availability in negotiations with RTO's.

9) Where can we find information about 40/60 MHz and why the proposal is so short?
More info on 40/60 Mhz band can be found: https://ei7gl.blogspot.com/. The short form of the proposal was specifically chosen to leave space for other ideas from elsewhere, including this paper or possible WB experementation segment NS20_C4_16_V2 for new bands.

10) What achievements are currently being recorded on 40/60 MHz?
Currently on 40 MHz EI, S5, LY each contacted with each other, ZS only local qso's; EI-EI-LY on 60 MHz. Also, a number of EU crossband contacts 10/8/6/5/4 m were achieved. 40/60 MHz beacons EI1KNH, OZ7IGY, GB3RAL have been received throughout EU and OZ bcn was received in S. Africa. Transcontinental beacons are being developed, ZS6WAB for EU (on air) and in the Western Ireland for N. America (in progress). Can be used SNOTEL Pakistan/Nepal 40.530 MHz, Western US 40.670 MHz, all 1KW, FSK mode. From August PSK Reporter fully supports 8/5m bands.

11) What equipment can be used for these bands?
Some Rig's with a small TX modification are suitable for the 40 MHz (some 60MHz) operations: IC-706 (DIG problematic), IC-7000, IC-7100 EU, IC-7200, IC-7300 EU (for NB), IC-746/PRO, IC-756, FT-817D, FT-450D, FT-650 (spec. interface for DIG), FT-818, FT-847 (+PA condenser removal mod), FT-857D, FT-891, FT897D, FT-950, FT-991/A , FT-2000, FT-DX3000 and others. Note, after mods internal tuner poorly works on 40/60 MHz bands. Also, few models of 40/60 MHz transverters are available on the market.

12) What are the actions in case of the positive decision from the VGC?
Action should begin at IARU R1 and RTO's level and further, possibly WRC-27**.** The first possible step is to seek having footnotes in the ECA Table, e.g. *CEPT countries may authorize all or parts of the band 39.9-40.7 MHz to the Amateur and Amteur-Satellitte service on a secondary basis*. Respectively upgrade *SADC3* footnote/add to SADC FAP. Though allocation process is not fast but in positive case possibly the next step is to look for opportunities to launch CubeSat on 29/40/60 MHz.

We look forward to your positive decision and will be happy to answer any additional questions you may have.

Sincerely,
40 MHz & 60 MHz group