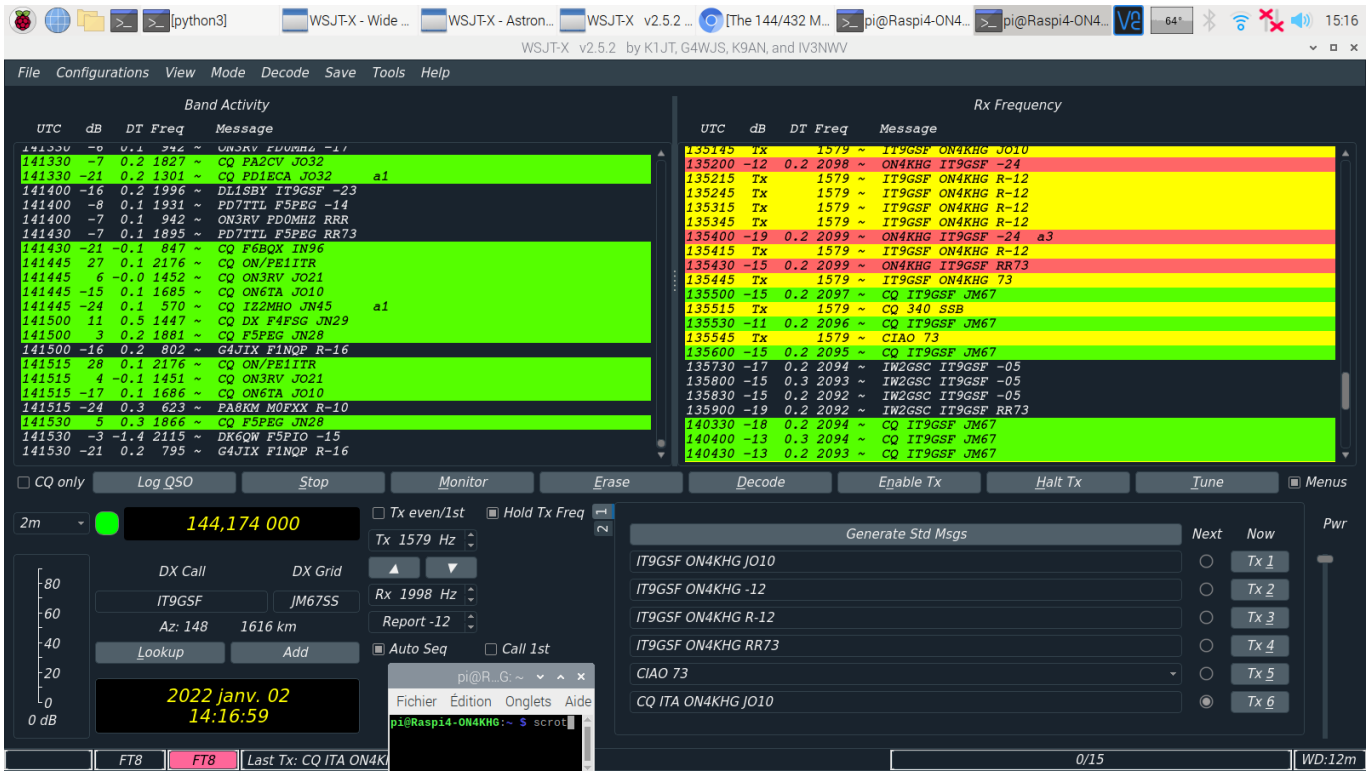
144 MHz Tropo to / vers IT9 !

Dimanche 2 janvier 2022, une ouverture inespérée s'est produite sur 144 MHz, un "duct" vers la Sicile (IT9) ! Il s'agissait bien de Tropo, IT9GSF (Fabio) était visible sur mon écran en FT8 durant environ 4h30 (13h24 > 17h52 UTC), avec un QSB lent. J'ai eu la chance de contacter Fabio dans l'après-midi, il est situé en JM67SS, soit à 1615 km de moi. Vu le niveau des signaux, un contact n'aurait pas été possible en SSB ni en CW, seul le FT8 le permettait. Plus tôt dans la journée, Frank, PA4EME avait aussi déjà spotté IT9GSF (merci Frank). Cliquez sur la capture d'écran WSJT-X pour agrandir.

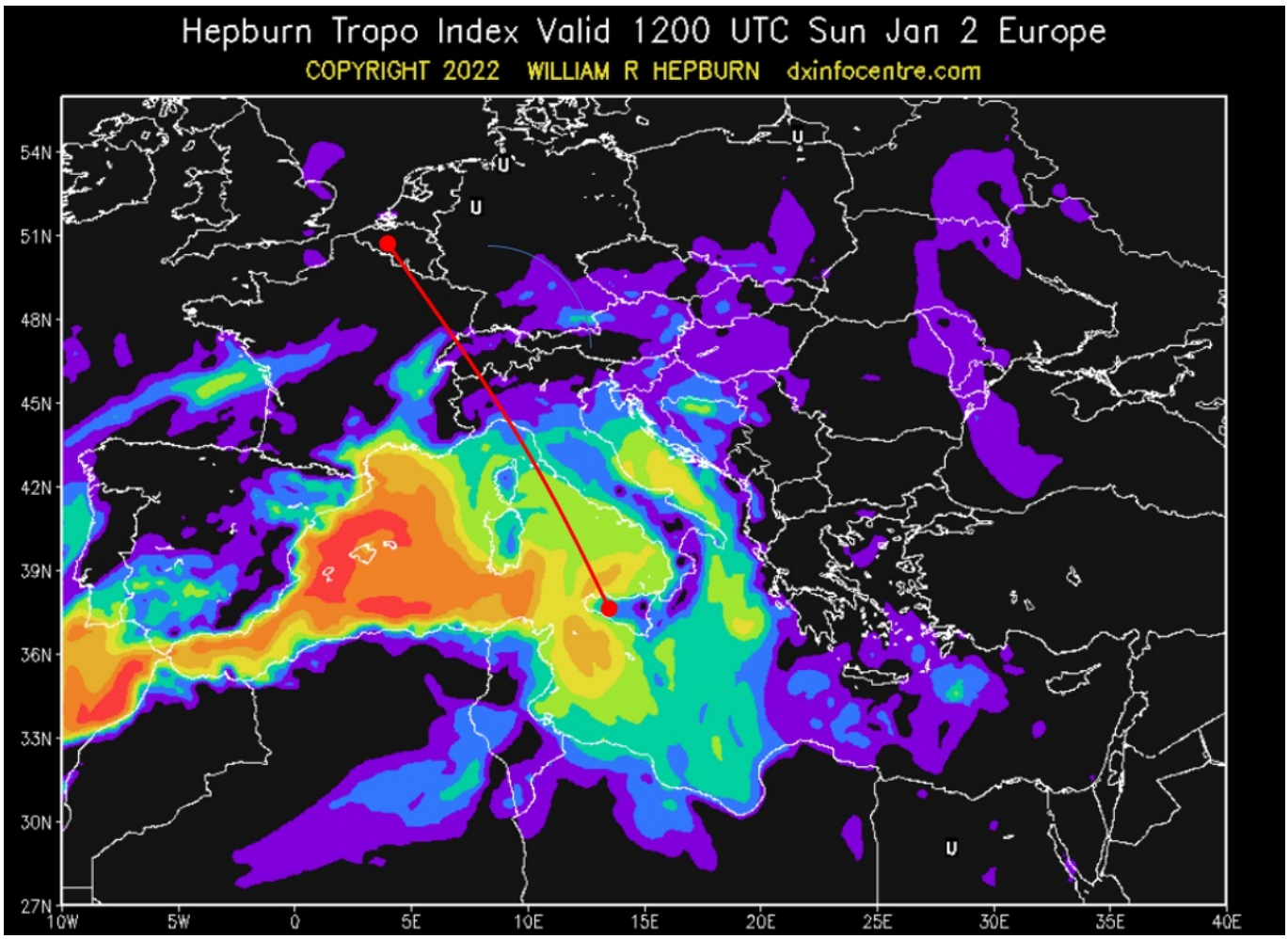
On Sunday 2 January 2022, an unexpected opening occurred on 144 MHz, a "duct" to Sicily (IT9)! It was well Tropo, IT9GSF (Fabio) was visible on my screen in FT8 for around 4h30 (13h24 > 17h52 UTC), with a slow QSB. I was lucky enough to contact Fabio in the afternoon, he is located in JM67SS, 1615 km from me. Given the signal level, contact would not have been possible in SSB nor CW, only FT8 allowed it. Earlier in the day, Frank, PA4EME already spotted IT9GSF too (thanks Frank). Click on the WSJT-X screenshot to enlarge.



L'amélioration des conditions de propagation ("duct") sur la Mer Méditerranée est clairement visible sur la carte de W. Hepburn. Encore fallait-il avoir la géométrie

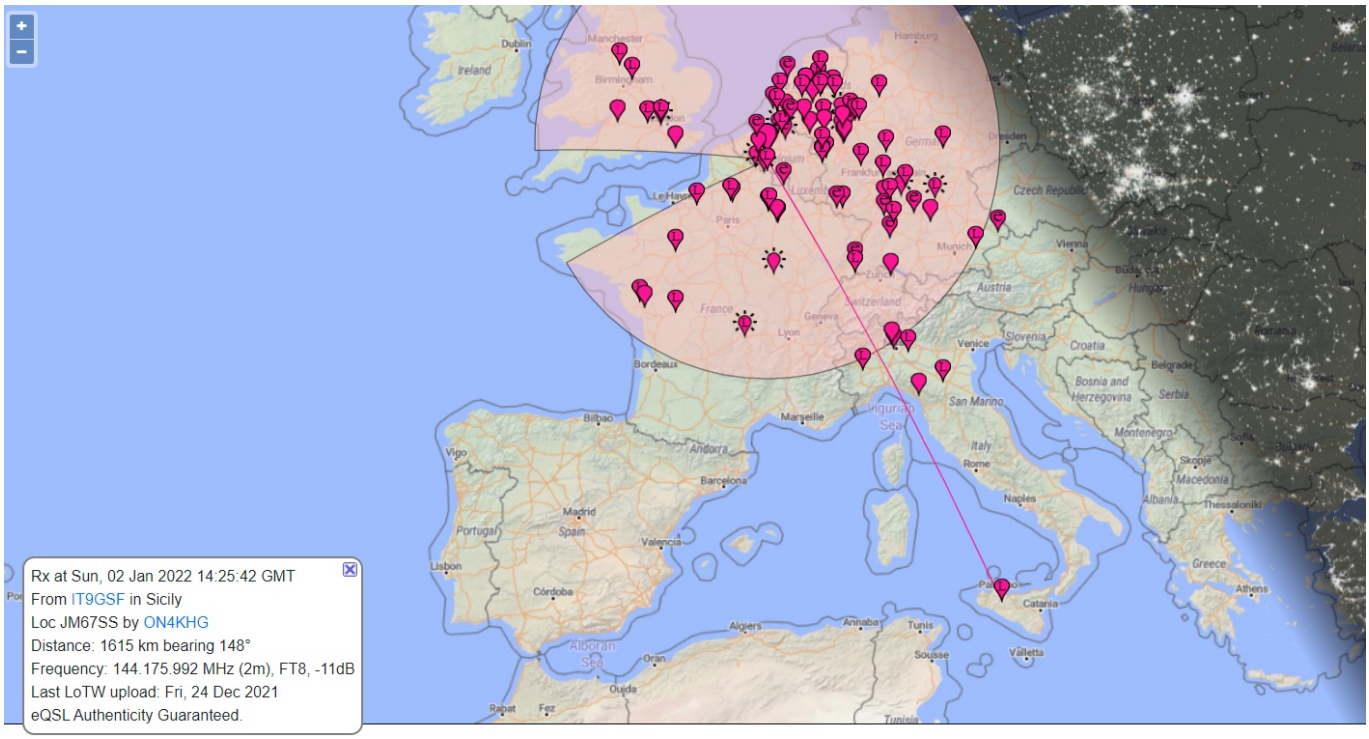
adéquate pour pouvoir entrer dans ce duct.

The improvement of the propagation conditions (“duct”) on the Mediterranean Sea is clearly visible on the map of W. Hepburn. However, it was necessary to have the right geometry to be able to enter this duct.



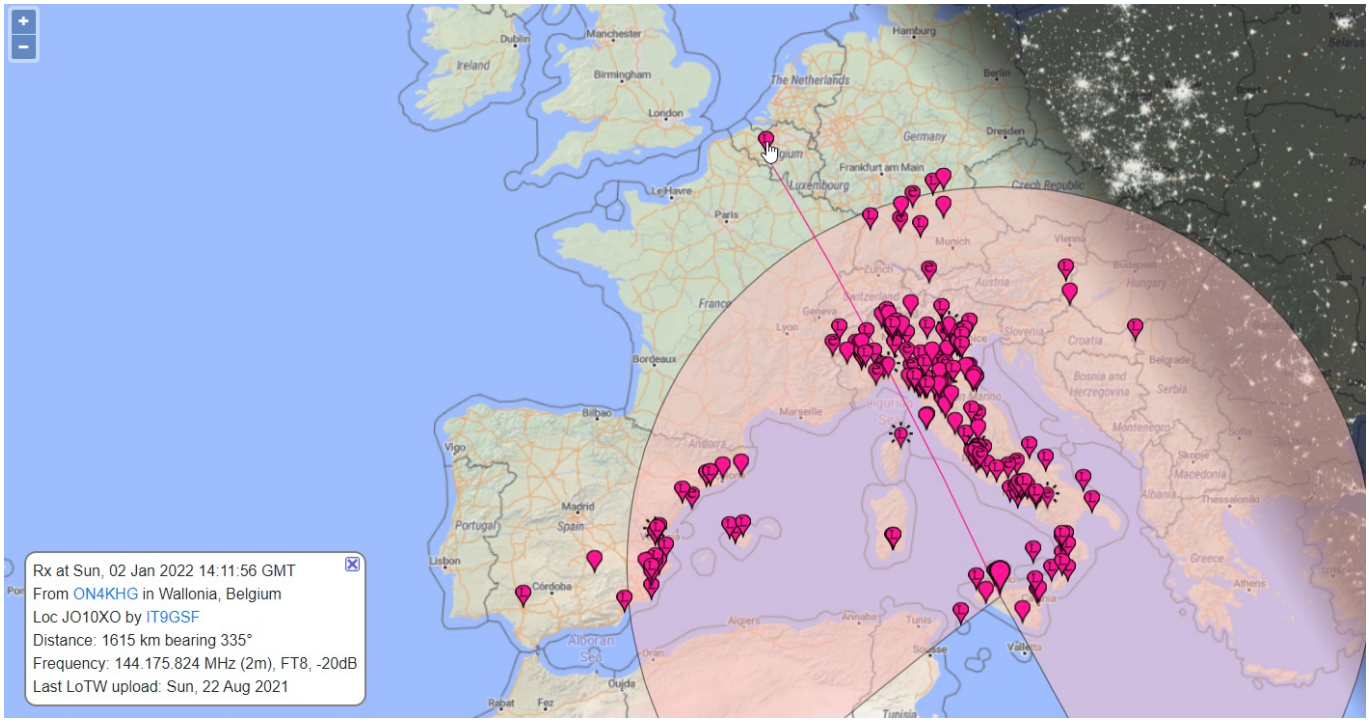
Ci-dessous les stations que j’ai vues jusque peu avant 14h30 (il y en a encore eu d’autres par la suite). On voit les stations du nord de l’Italie et IT9GSF.

Below are the stations I saw until shortly before 14h30 (there were some more afterwards). You can see the stations in Northern Italy and IT9GSF.



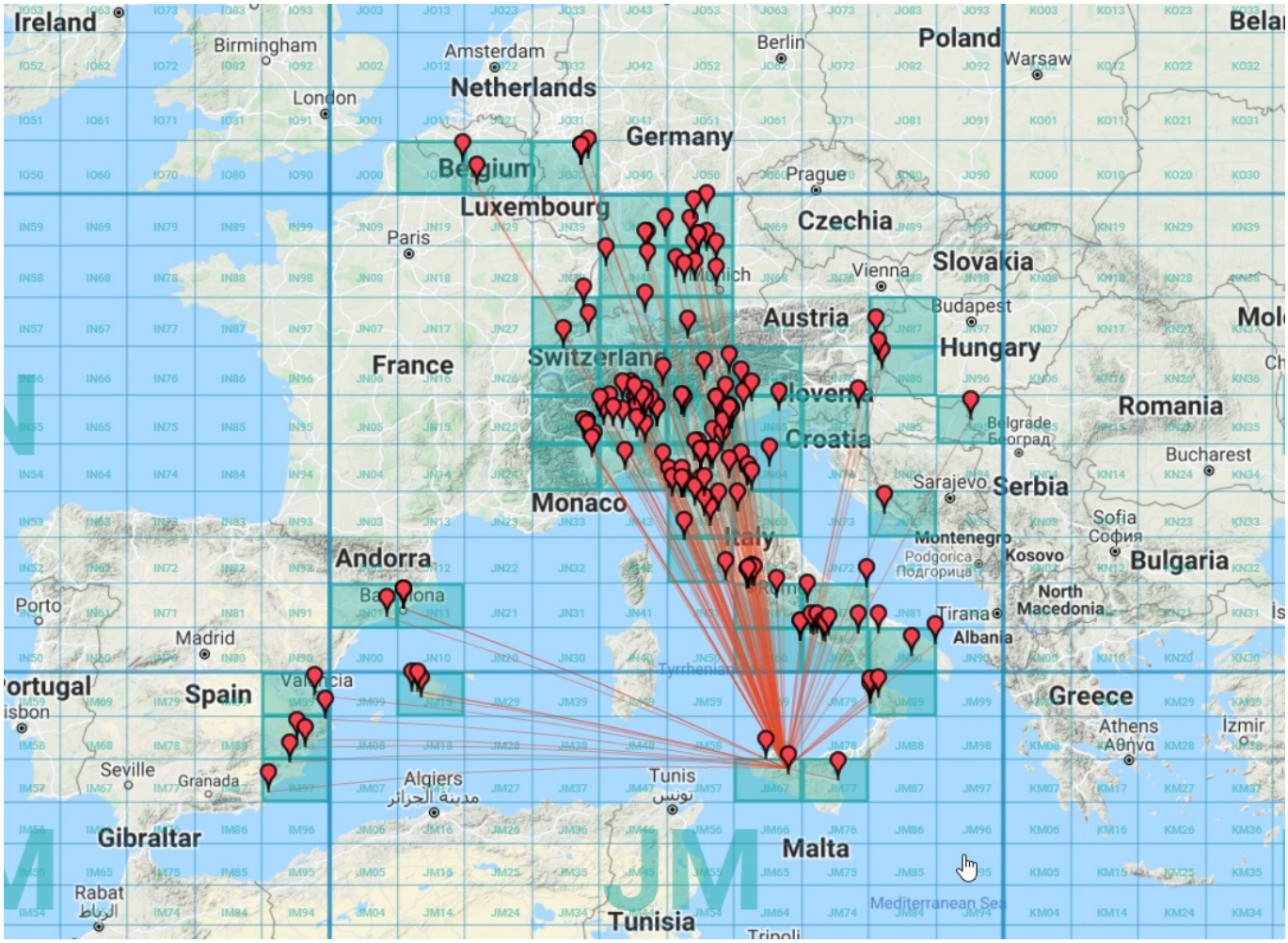
Et plus bas, les stations que voyait Fabio, IT9GSF au même moment. Ils ne sont pas visibles sur la carte à ce moment-là mais ON/PE1ITR en JO20EE et DF2ZC en JO30RN ont aussi contacté IT9GSF.

And further down, the stations that Fabio, IT9GSF was seeing at the same time. They are not visible on the map at that time but ON/PE1ITR in JO20EE and DF2ZC in JO30RN also contacted IT9GSF.



Et finalement le log de Fabio durant cette journée (source MMMonVHF).

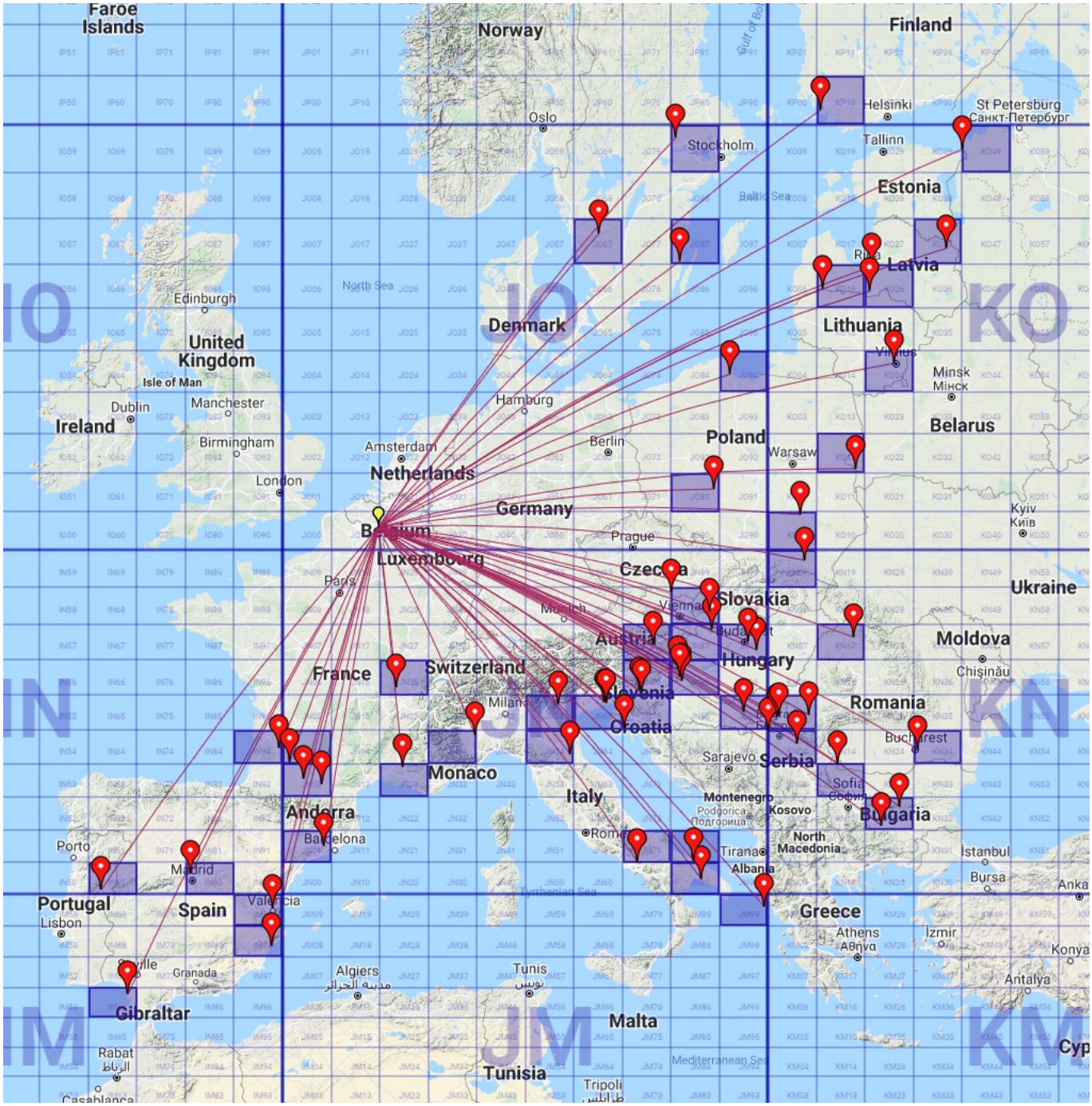
And finally the log of Fabio during that day (source MMMonVHF).



Geminids / Géminides 2021

Ci-dessous la carte des stations que j'ai contactées durant les Géminides 2021 sur 144 MHz, au total 61 stations mais pas de grands DX's cette année. Le meilleur DX est LZ5D à 1851 km (KN22RR). Quelques stations russes et ukrainiennes à 2000 km+ entendues mais pas de QSO. Le maximum se situait, selon moi, la nuit du 13 au 14 décembre aux alentours de minuit. La carte a été réalisée à l'aide de Log Analyzer de DL4MFM, disponible ici.

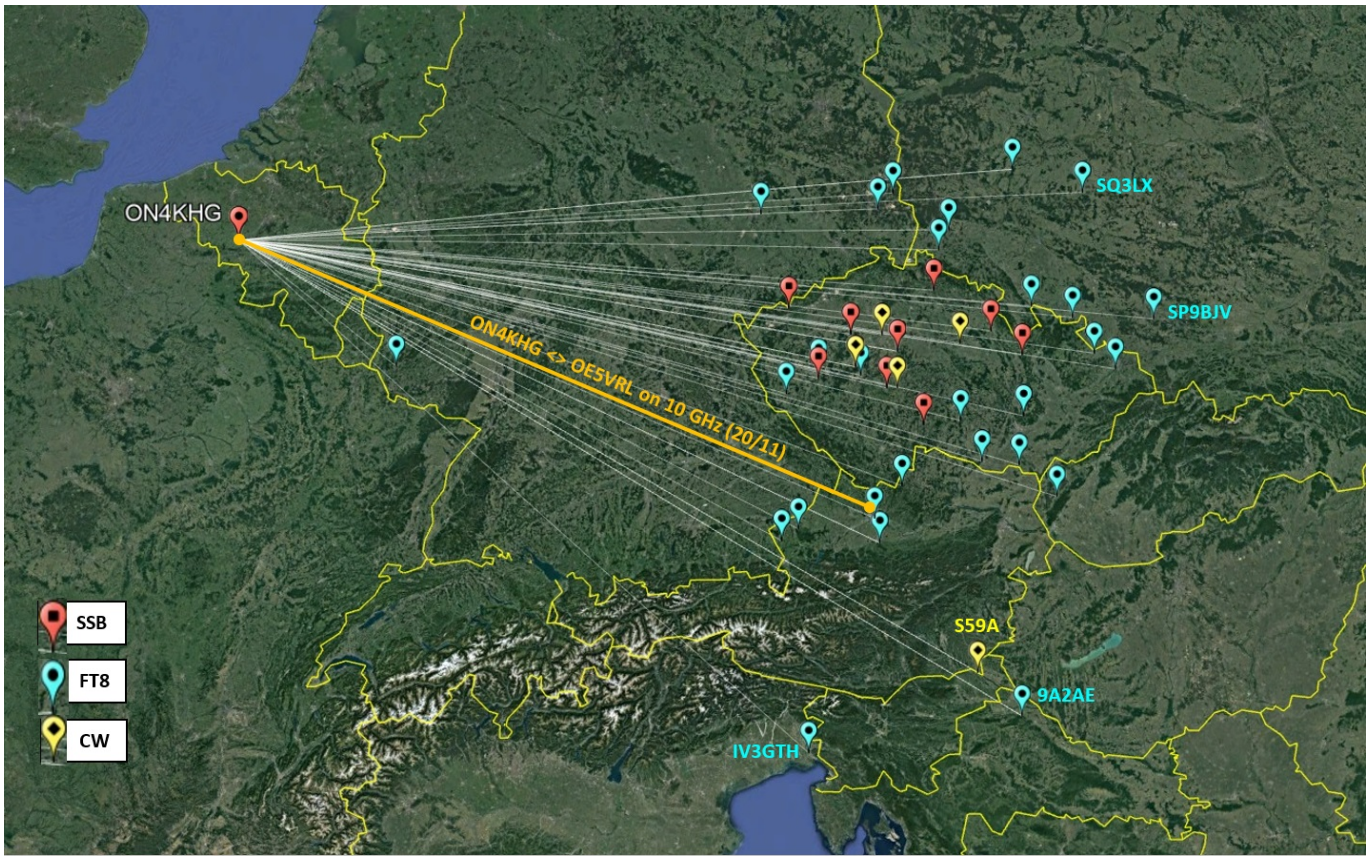
Below is the map of the stations I contacted during the Geminids 2021 on 144 MHz, in total 61 stations but no big DX's this year. The best DX is LZ5D at 1851 km (KN22RR). Some Russian and Ukrainian stations at 2000 km+ heard but no QSOs made. The maximum was, in my opinion, on the night of 13 to 14 December around midnight. The map was made using DL4MFM's Log Analyzer, available here.



Tropo 144 MHz & 10 GHz Novembre/er 2021

Belle ouverture Tropo ces 19, 20 et 21 novembre 2021. Depuis chez moi, pas de super DX's possibles (juste un peu plus de 1000 km) mais des signaux assez forts, surtout vers OK. La carte ci-dessous montre les QSO's réalisés, en CW, SSB et FT8 sur 144 MHz. La cerise sur le gâteau fût le QSO en CW avec S59A (JN76XQ), 519/519. Le 10 GHz s'est également ouvert. Après deux tentatvies infructueuses, la troisième sur 10 GHz avec Rudi, OE5VRL, fût la bonne ! Nous avons fait QSO sur 10.368,120 MHz en CW 559/539. La distance entre JN78DK et JO10XO (mon QRA locator) est de 783 km. C'est évidemment mon nouveau record de distance en Tropo sur 10 GHz ! Merci à Matej, OK1TEH, de m'avoir averti de la présence de Rudi sur l'air.

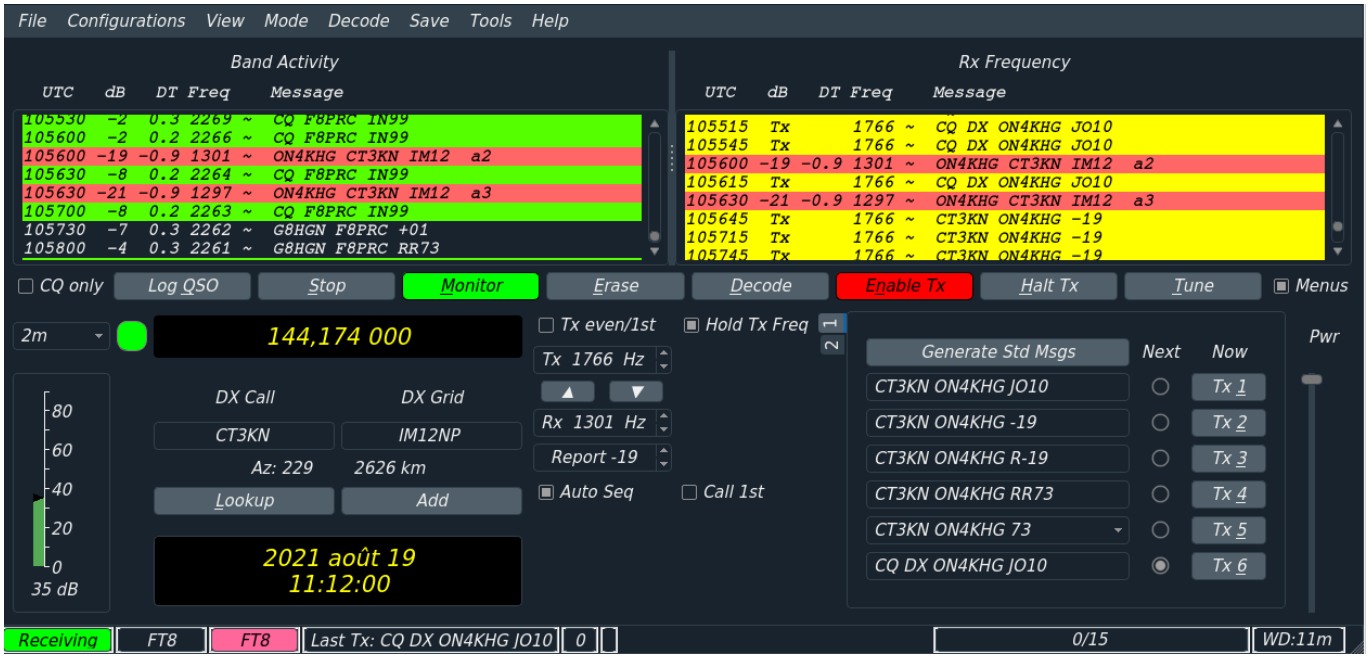
Nice Tropo opening these 19, 20 and 21 November 2021. From my location, no super DX's possible (just over 1000 km) but quite strong signals, especially towards OK. The map below shows the QSO's made, in CW, SSB and FT8 on 144 MHz. The icing on the cake was the CW QSO with S59A (JN76XQ), 519/519. 10 GHz also opened up. After two unsuccessful attempts, the third one on 10 GHz with Rudi, OE5VRL, was the right one ! We made a QSO on 10.368,120 MHz in CW 559/539. The distance between JN78DK and JO10XO (my QRA locator) is 783 km. This is obviously my new distance record in Tropo on 10 GHz ! Thanks to Matej, OK1TEH, for alerting me on Rudi's presence on the air.



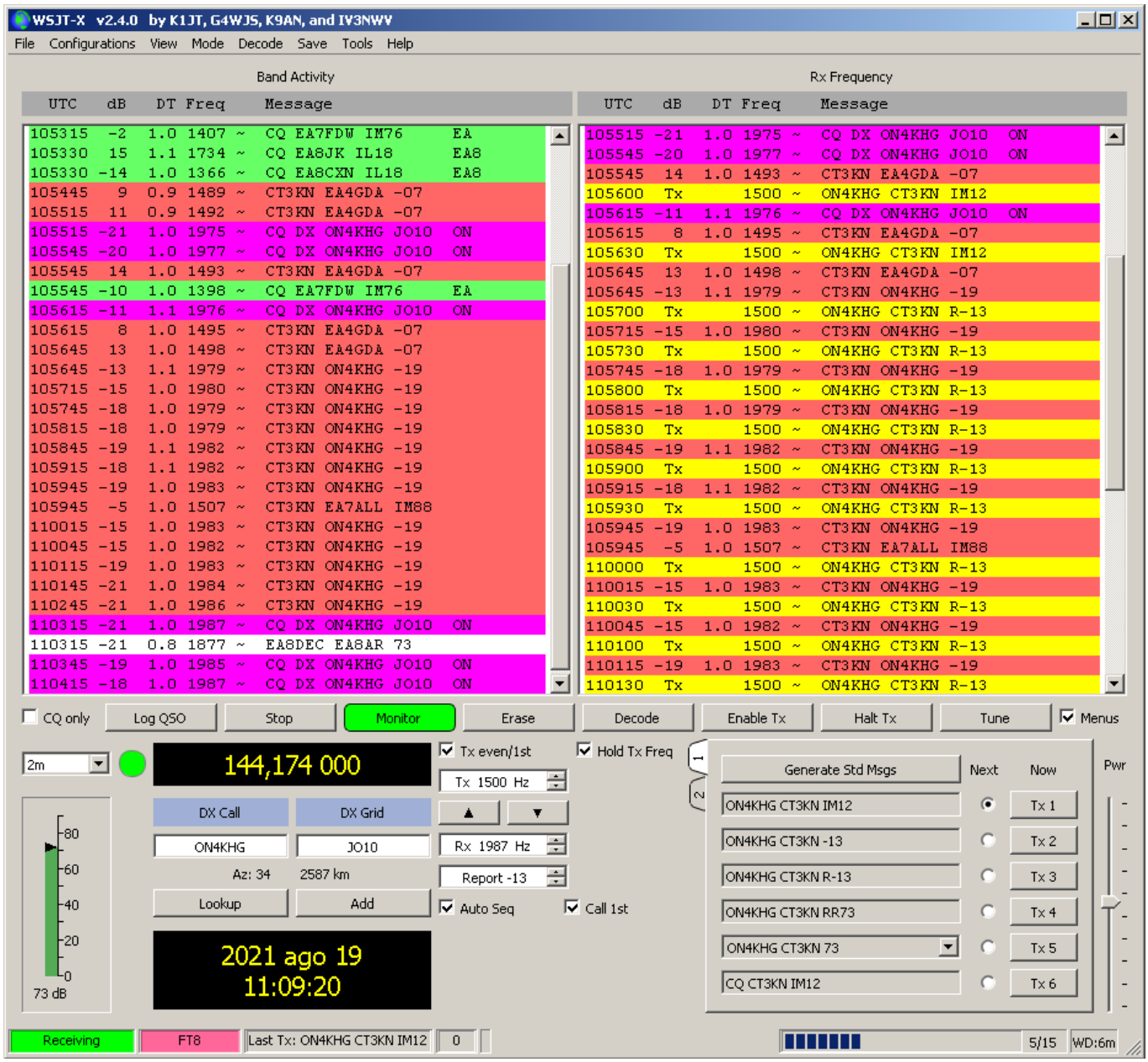
CT3 <> ON Tropo path on 144 MHz

On August 19th, 2021, I had the surprise to see “CT3KN” (IM12MT) on my screen in FT8 on 144 MHz at 10:56 UTC. Unfortunately, we couldn’t make a 2 ways QSO over that 2614 km path, 2-3 dB were missing to achieve it ! In 2011 and 2019, I already worked the Azores Islands (CU8) on 144 MHz in Tropo. Nevertheless, I never thought the path to CT3 (Madeira Island) would ever been possible. Indeed, if the sea propagation seems sometimes without “limits” (see the QSO’s on 144 MHz between D4 and EA8 and the Caribbean Islands), when there is land in between, that is another story. If on the path to the Azores the amount of land is very limited, on the path to Madeira, there is about 750 km of land to cross, with as many opportunities to have the tropo sea duct being interrupted.

Nevertheless, knowing that G stations as close to me as JO01/02 made their way to the Ricardo (CT3KN)’s log on August 18th evening, I called “CQ” from time to time with the antennas heading to the Azores on the 19th. And it paid ! Below a screenshot taken at my station :



And here is the screen at Ricardo’ side at the same time :



Ricardo is using 80W and 2×9 elements antennas. I'm using 1,2 kW and 2×9 elements too. It makes a difference of more than 10 dB, which is somehow reflected in the reports seen. I saw Ricardo -19 dB at best and he saw me -11 at best. At -11 dB, my signal was barely audible in a reduced bandwidth. Hence, even in CW, a QSO would have been hard to achieve (at same RF power level both sides).

In the morning of August 19th, 2 EA1 stations lying on the path (both in IN73DM) have been worked too. EB1B has been worked at 07:27 UTC and EB1FNS at 09:42 UTC.

After analysis of the PSK Reporter data and my log, one can see :

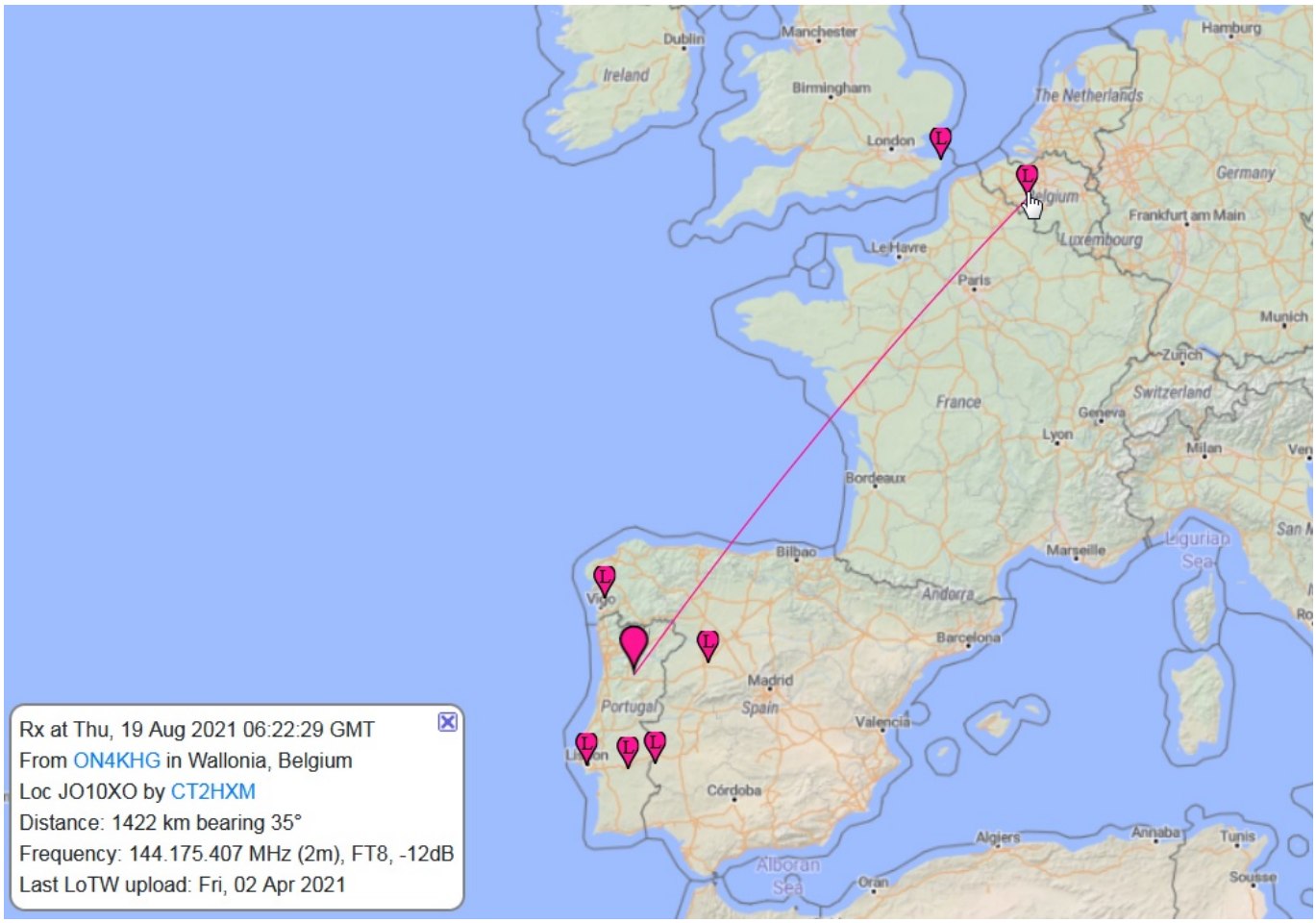
- 06:22 UTC : CT2HXM (IN60CR) sees my signal -12 dB. Thierry sees also G0MBL in JO01 at 07:23 UTC, nobody else around or in between. This can be MS or

Tropo but I assume it was more MS than Tropo. See the map below.

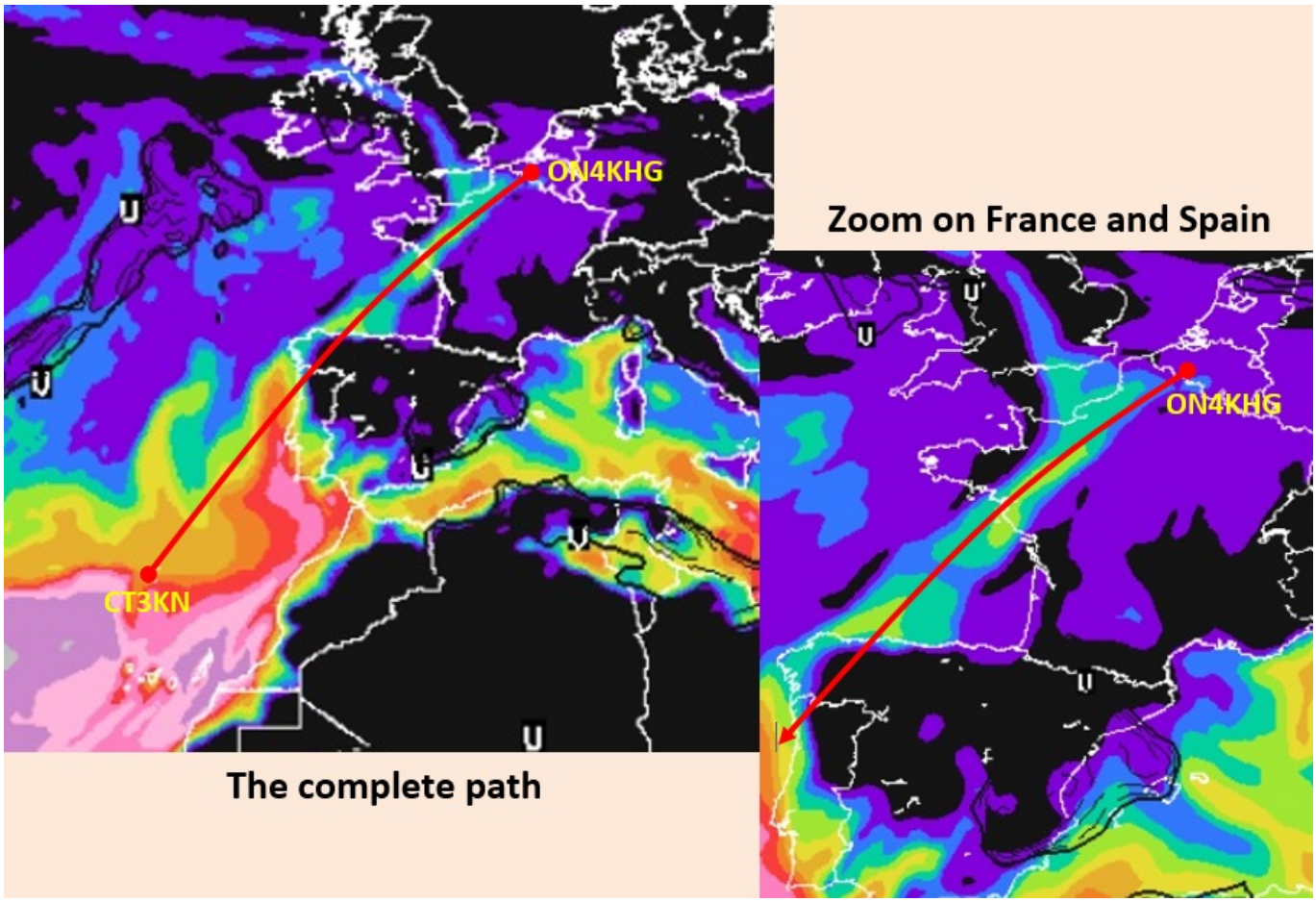
- 07:27 UTC : I make QSO with EB1B in IN73DM (-08 dB / -08 dB)
- 09:42 UTC : I make QSO with EB1FNS in IN73DM (-08 dB / -01 dB)
- 10:56 UTC : uncomplete QSO with CT3KN in IN12MT (2614 km)
- 11:40 UTC EB1FNS sees my signal +15 dB. So, the duct seems to be stronger now, provided the antenna at the EB1FNS' side was heading the same QTF (to me ?) at 09:42 too.

This is the complete path :

CT2HXM, Thierry sees "local" stations and my signal at 06:22 UTC. G0MBL (JO01) is seen at 07:23 UTC. Surprisingly, no stations in between or around G0MBL and I. However, I checked PSK Reporter and there were not many F stations QRV on the path between 06:10 and 06:40 UTC (F0FWC and F0GFI, both in JO10. F4KKV in IN98. F4ELJ in IN78). At 07:27 UTC, about when CT2HXM sees G0MBL, I have worked EB1B but CT2HXM doesn't see me then. So, the spot of 06:22 is probably MS, unless CT2HXM has turned his antenna between 07:23 and 07:27. Or, since I was in QSO with EB1B, not CQing, PSK reporter didn't report my signal around 07:23-27 UTC at CT2HXM' side ?



Looking at Hepbrun’s Tropo maps, the duct was clearly visible. It seems it peaked (for my location) between 09:00 and 12:00 UTC. The map below shows the Tropo forecast at 09:00 UTC on August 19th :



This was a very thrilling experience, even though we couldn’t complete a 2 ways QSO !

In such nice tropo conditions, working Ricardo (CT3KN) should be easy in Meteor-Scatter (actually “Tropo-enhanced MS”). Hopefully, as from IM12MT, Ricardo is located on the North side of Madeira, while Funchal (the capital city), is located on the South side, obstructed to Europe by mountains. I’m looking forward to try in MS with Ricardo, if not trying again and succeeding in Tropo !

Reception of 144 MHz beacons OY6BEC and IQ2MI in Tropo on July 23rd, 2021

Good Tropo conditions on Friday July 23rd, 2021 on 144 MHz.

Reception of the beacons IQ2MI in JN35WW (first time heard) and OY6BEC in IP62MD.

IQ2MI/B is the Europe highest VHF Beacon, located at “Capanna Margherita” refuge, at 4560 m asl. The power is only **500 mW** into a dipole !

Below, you can hear the recording of the beacon received on July 23rd, 2021. There is a transverter 144 > 28 MHz in front of the FT-857, so that the “real” frequency is 144.415 MHz, not 28.415.

Morse code translation :
V V V de IQ2MI/B JN35WW BAT 13.82V SUN 14.03V TIN 29C TOUT -32C www.arimi.it

Message format :
“V V V de IQ2MI/B JN35WW BAT nn.nnV SUN nn.nnV TIN xxC TOUT xxC www.arimi.it“

VBAT = battery voltage
VSUN = photovoltaic panel voltage
TIN = radio box temperature (°C)
TOUT = external temperature (°C)

You will hear that there is another beacon on the same frequency, it is DB0JW in JO30.
Well, I have some doubts about the outside temperature… -32°C mid day during the summer (even if the altitude is high) ?

Now, heading north to the Faroes Islands, the 2m OY6BEC is located in that radome, in IP62MD :