An Amateur Radio publication for the Microwave Enthusiast

scatterpoint

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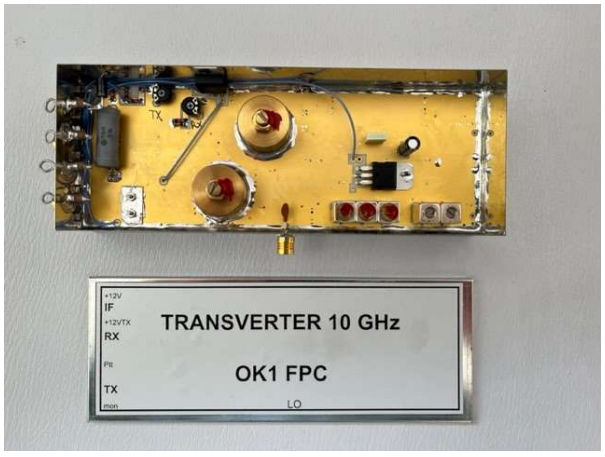
Clive GW4MBS operating /P on 24GHz



OK1FPC Transverter review

UK Microwave Group

Subscription Information

The following subscription rates apply

UK £6.00 US $9.00 Europe €9.00

This basic sum is for **UKuG membership** For this you receive Scatterpoint for **FREE** by electronic means (now internet only) via

https://groups.io/g/Scatterpoint and/or DropboxAlso, **free access to the Chip Bank**

Please make sure that you pay the stated amounts when you renew your subs next time If the amount is not correct your subs will be allocated on a pro-rata basis and you could miss out on a newsletter or two!

You will have to make a quick check with the membership secretary if you have forgotten the renewal date Please try to renew in good time so that continuity of newsletter issues is maintained Put a **renewal date reminder** somewhere prominent in your shack

Please also note the payment methods and be meticulous with PayPal and cheque details

PLEASE QUOTE YOUR CALLSIGN!

Payment can be made by: PayPal to

payukug@microwavers.org

or a cheque (drawn on a UK bank) payable to 'UK Microwave Group' and sent to the membership secretary (or, as a last resort, by cash sent to the Treasurer!)

Articles for Scatterpoint

News, views and articles for this newsletter are always welcome

Please send them to

editor@microwaversorg

The CLOSING date is

the FIRST day of the month

if you want your material to be published in the next issue

Please submit your articles in any of the following formats:

Text: txt, rtf, rtfd, doc, docx, odt, Pages

Spreadsheets: Excel, OpenOffice, Numbers

Images: tiff, png, jpg

Schematics: sch (Eagle preferred)

Please send pictures and tables separately, as they can be a bit of a problem.

Thank you for you co-operation

Roger G8CUB

Reproducing articles from Scatterpoint

If you plan to reproduce an article exactly as in Scatterpoint then please contact the Editor – otherwise you need to seek permission from the original source/author.

UKµG Project support

The UK Microwave Group is pleased to encourage and support microwave projects such as Beacons, Synthesiser development, etc. Collectively UKuG has a considerable pool of knowledge and experience available, and now we can financially support worthy projects to a modest degree.

Note that this is essentially a small-scale grant scheme, based on 'cash-on-results'. We are unable to provide ongoing financial support for running costs – it is important that such issues are understood at the early stages along with site clearances/licensing, etc.

The application form has a number of guidance tips on it – or just ask us if in doubt! In summary:-

- Please apply in advance of your project
- We effectively reimburse costs - cash on results (e.g. Beacon on air)
- We regret we are unable to support running costs

Application forms below should be submitted to the UKuG Secretary, after which they are reviewed/ agreed by the committee

www.microwavers.org/proj-support.htm

UKµG Technical support

One of the great things about our hobby is the idea that we give our time freely to help and encourage others, and within the UKuG there are a number of people who are prepared to (within sensible limits!) share their knowledge and, what is more important, test equipment. Our friends in America refer to such amateurs as “Elmers” but that term tends to remind me too much of that rather bumbling nemesis of Bugs Bunny, Elmer Fudd, so let’s call them Tech Support volunteers.

While this is described as a “service to members” it is not a “right of membership!”

Please understand that you, as a user of this service, must expect to fit in with the timetable and lives of the volunteers. Without a doubt, the best way to make people withdraw the service is to hassle them and complain if they cannot fit in with YOUR timetable!

Please remember that a service like our support people can provide would cost lots of money per hour professionally and it’s costing you nothing and will probably include tea and biscuits!

If anyone would like to step forward and volunteer, especially in the regions where we have no representative, please contact the committee.

The current list is available at

www.microwavers.org/tech-support.htm

UKµG Chip Bank – A free service for members

By Mike Scott, G3LYP

Non-members can join the UKµG by following the non-members link on the same page and members will be able to email Mike with requests for components. All will be subject to availability, and a listing of components on the site will not be a guarantee of availability of that component.

The service is run as a free benefit to all members of the UK Microwave Group. The service may be withdrawn at the discretion of the committee if abused. Such as reselling of components.

There is an order form on the website with an address label which will make processing the orders slightly easier.

Minimum quantity of small components is 10.

These will be sent out in a small jiffy back using a second class large letter stamp. The group is currently covering this cost.

As many components are from unknown sources. It is suggested values are checked before they are used in construction. The UKµG can have no responsibility in this respect.

The catalogue is on the UKµG web site at www. microwavers.org/chipbank.htm

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Loan Equipment

Don't forget, UKuG has loan kit in the form of portable transceivers available to members for use on the following bands: **Contact Neil G4DBN for more information**

5.7GHz 10GHz 24GHz 76GHz 122GHz

Internal pictures of transverter

Specification from OK2KKW.com:
Parameters: IF 2m (70cm on demand) to 3cm transverter (very similar to DB6NT's G2 version):
RF output on 3cm: typical 250mW (power output is always tested!)
Noise figure on 3cm: typical 1,4dB NF (noise figure is always tested!) PTT: classical GND shortage or

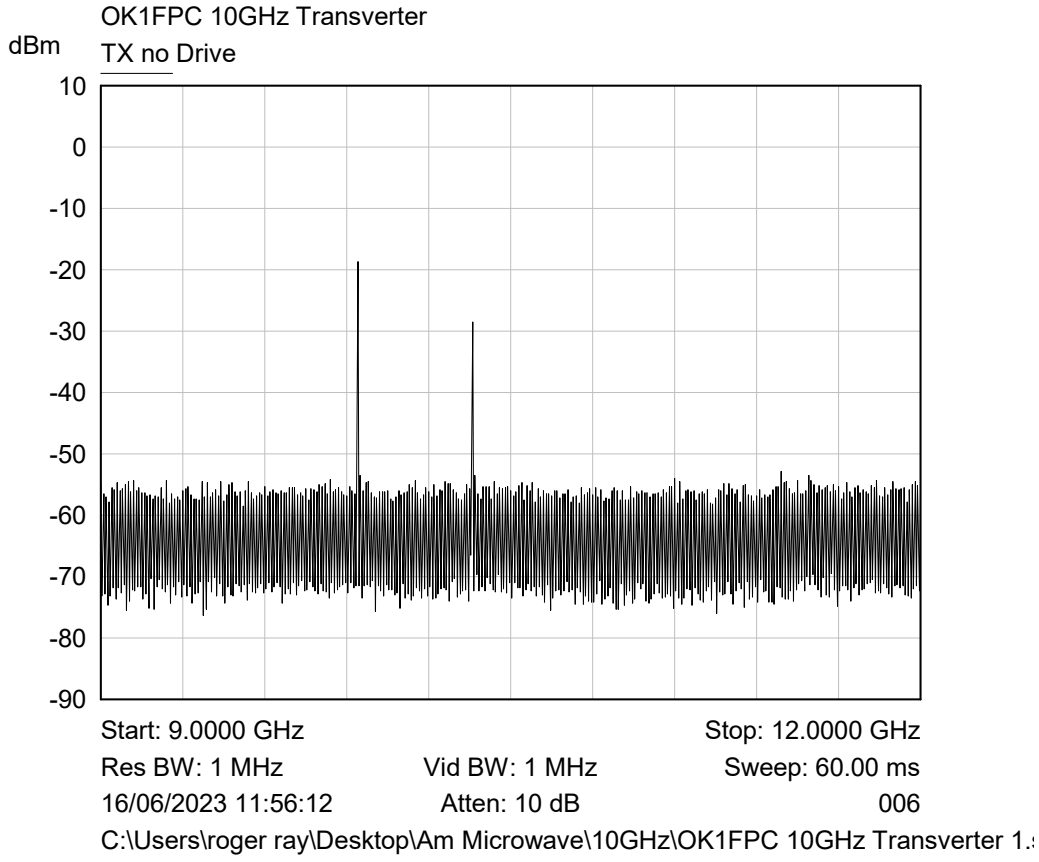
PTT via IF coax (+12V) MON: about 1,5V should be equal to 250mW but you can't absolutely rely on it Dimensions of the box: 147 x 55,5x 31mm Space between RX SMA and TX SMA Connectors: 21,81mm (good for SMA relay) LO input: is working around 106 MHz. Older versions need max 0dBm. Newer version has 6dB attenuator from resistors, it can be seen after opening box directly at the LO connector. Even with that 6dB attenuator Ales found that still +0dBm is enough. At the newer version GPSDO's power is recommended not to get over about 10 dBm. LO connector: CMX (not SMA). 10368 MHz = (LO input x 96) + IF.

Inside the transverter are 2 trimmers for the gain regulation of RX and TX. Measured Noise Figure, output power and voltage for PWR monitor will be written on body of TRX. Price on request, tracking number included. More via ok1tehlist@seznam.cz 73, Matej, OK1TEH

Transverter Measurements:
The Transverter 10368 / 432MHz (70cm IF version) was on loan for measurement from Pete G4HQX.
This required a 103.5MHz input for the LO. This was initially provided by a 8GHz WB-SG2 signal generator at 0dBm.
Reducing this input to -10dBm made no difference.
The plots were taken using a Leo Bodnar GPS set to 103.5MHz. This is probably the best way of providing an LO signal.
The alternative is a crystal. Still the best for low phase noise, but limited frequency accuracy and stability.
Measure current receive 205mA, with LO applied, 196mA without, with 12V supply.
This reduced to 200mA @ 10V, 207mA @ 13V.
Receive conversion gain as set was +15dB. Though this is adjustable.
LO out of RX connector -70.5dBm.
Receive Image rejection -28.5dBm

Transmit current 296mA. Note +12VTX marked connection is an **output** to drive a TX/RX relay.
TX spectrum as originally measured (see later plots):
LO -19dBm
Image -70dBC
Fixed signal 10.350 -28.5dBm (this is 100th harmonic of 103.5MHz LO)
Signals around carrier <-50dBC (due to mixing with the above product)
Output power:
Drive 1W 432MHz.
TX level adjusted for max linear output.
1dB compression +22.0dBm
Saturated output +23.2dBm.

Conclusion:
Appears to work pretty well. No RX NF measurements were made, but it appeared very sensitive.
Image response oddly not great, but probably good enough in most situations.
Output power a bit down on 250mW spec. Good TX image rejection. If running high power, the fixed spurious @ 10.350 GHz may be an issue, and would be very difficult to filter out, as so close in.


OK1FPC 10GHz Transverter
dBm
TX no Drive
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Start: 9.0000 GHz
Stop: 12.0000 GHz
Res BW: 1 MHz
Vid BW: 1 MHz
Sweep: 60.00 ms
16/06/2023 11:56:12
Atten: 10 dB
006
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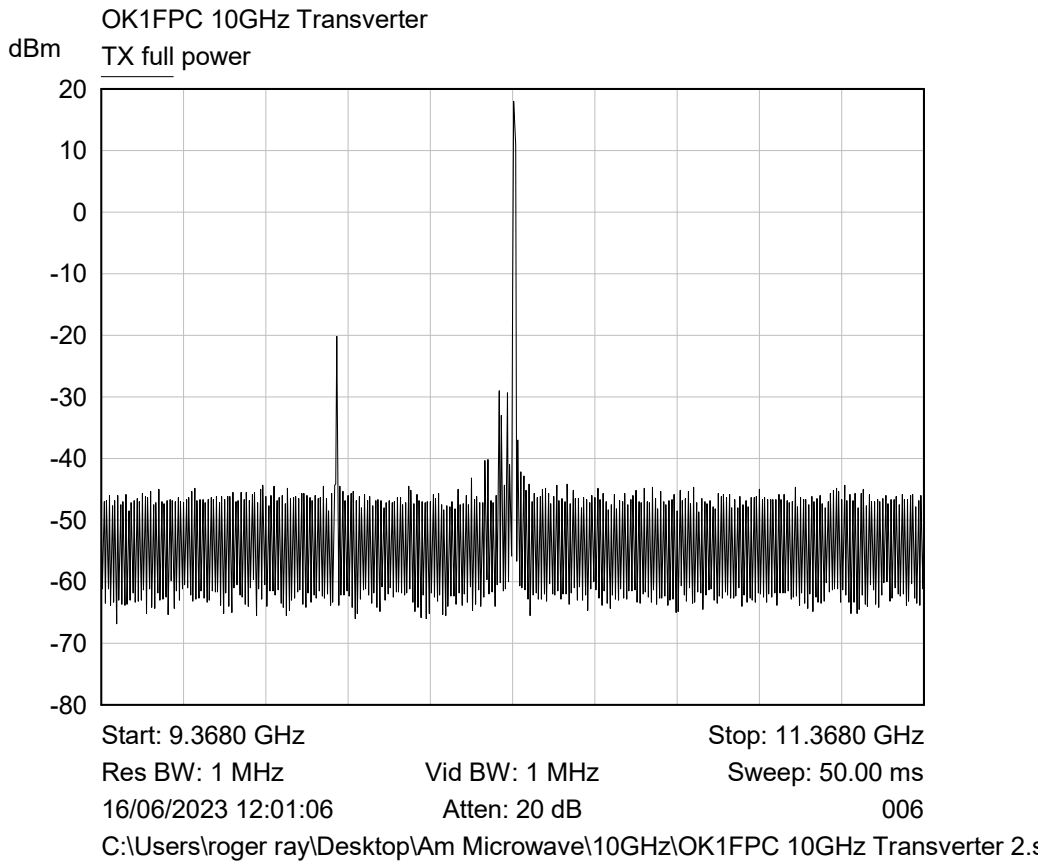
OK1FPC 10GHz Transverter
dBm
TX full power
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Start: 9.3680 GHz
Stop: 11.3680 GHz
Res BW: 1 MHz
Vid BW: 1 MHz
Sweep: 50.00 ms
16/06/2023 12:01:06
Atten: 20 dB
006
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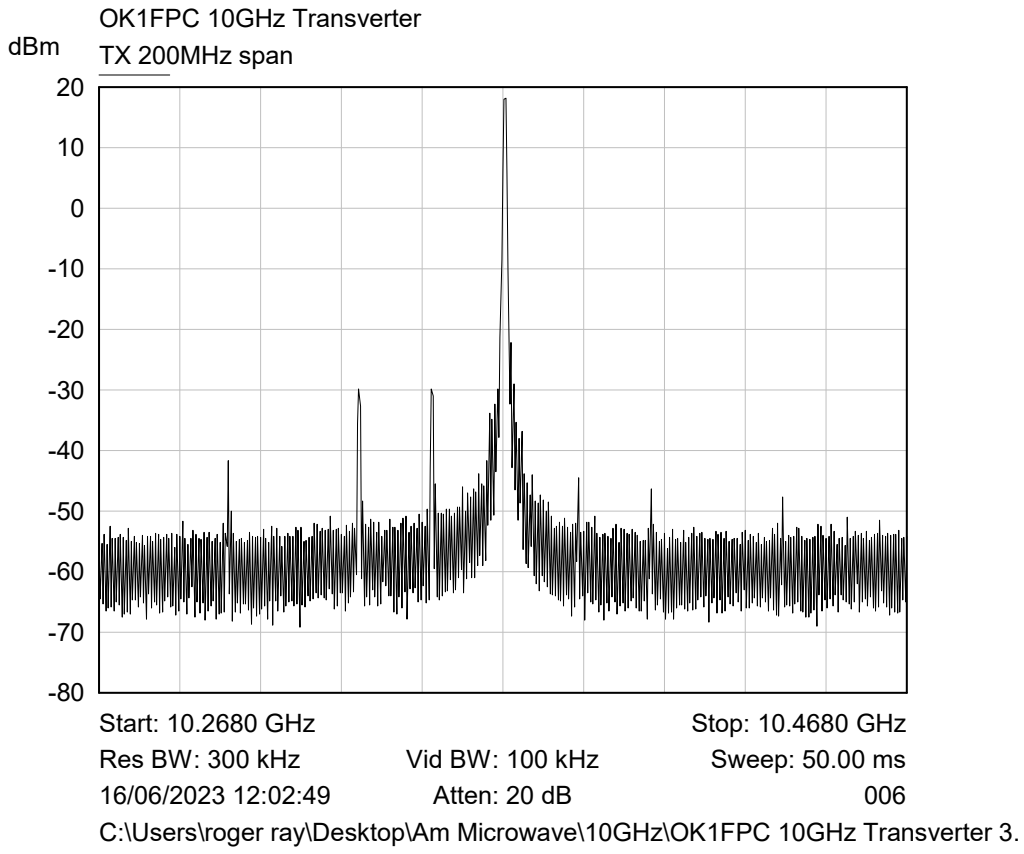
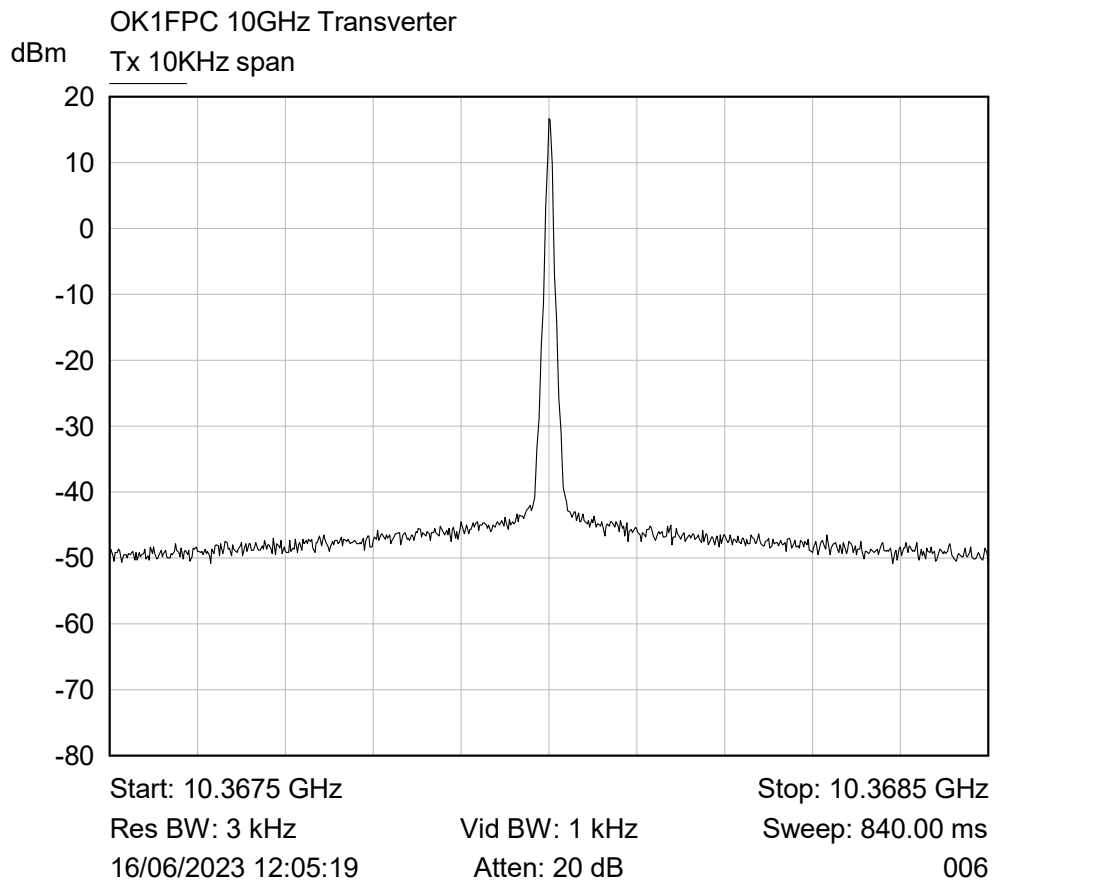
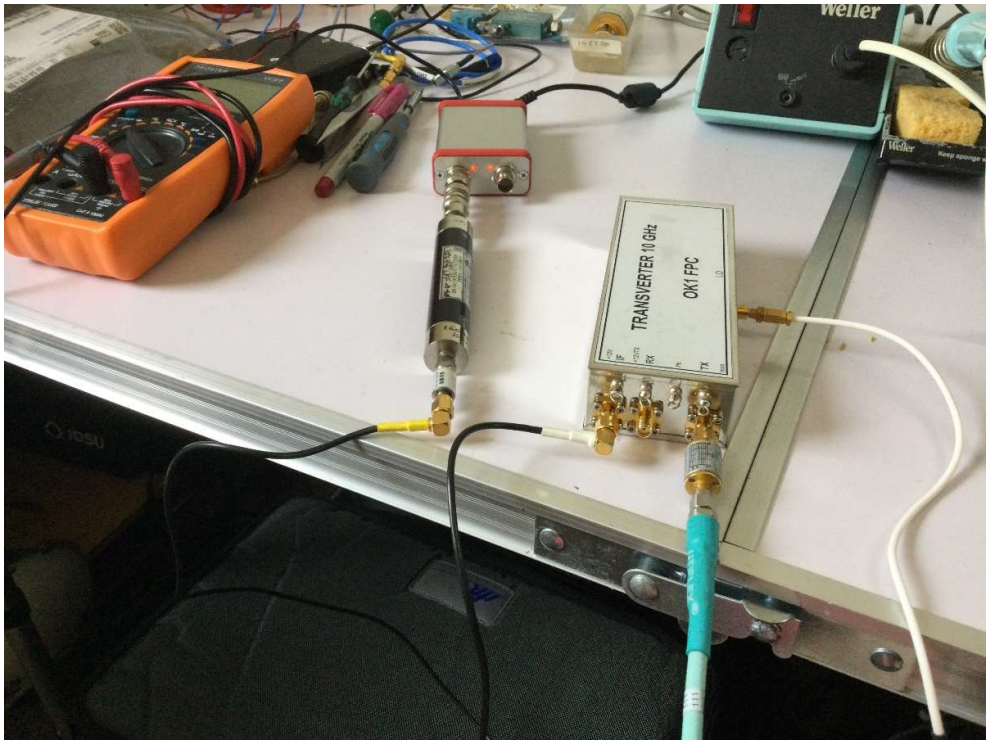

OK1FPC 10GHz Transverter
dBm
TX 200MHz span
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Start: 10.2680 GHz
Stop: 10.4680 GHz
Res BW: 300 kHz
Vid BW: 100 kHz
Sweep: 50.00 ms
16/06/2023 12:02:49
Atten: 20 dB
006
C:\Users\roger ray\Desktop\Am Microwave\10GHz\OK1FPC 10GHz Transverter 3.

The last plot close in and video averaged, is more a measurement of the Leo Bodnar reference.
The Leo Bodnar GPS unit was set to 103.5MHz. The output going through a 150MHz LPF and 10dB attenuator to give 0dBm input into the transverter.





A Quick look at the ProgRock2

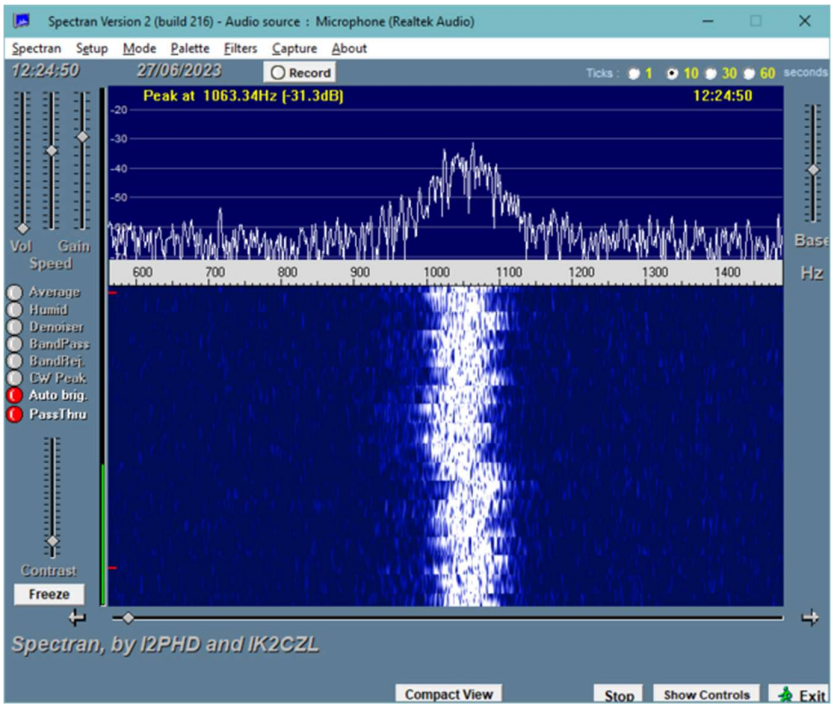
Andy G4JNT

At a recent club talk I was introduced to the ProgRock2 "GPS-Disciplined programmable clock". This is a product made by QRP Labs based around the ubiquitous Si5351A programmable clock source. I hesitate to call it a 'synthesizer', as you'll see why! Up until now I'd never played with that family of devices at all, yet many seemed to sing their praises and the chip has become very popular amongst homebrewers at low frequencies, but has rarely, if ever, appeared in articles for UHF and up.
So:
After the talk I thought I'd order one and see just how it behaved. It runs either standalone, you connect the PPS from a separate GPS module and it uses that to steer the frequency - I use the term "steer" guardedly.
It delivers 10MHz on one output as supplied, although can be programmed for three frequencies out when not GPS controlled, or two when it is.

!!

For the first test, I viewed the 10MHz output on a scope whose timebase was locked to a good stable reference, the HP5061 OCXO. The ProgRock2 generated a square wave that jumped in phase every second, the phase jump being as much as 180 degrees initially then smaller, but still noticeable as time went on.
Then I used that 10MHz to drive an ADF4351 generating 3400MHz. The plot for that is shown below.
The plot is 100Hz wide to start with, but that's nothing to do with the GPS locking. The square edged jumps visible in the plot are there even when GPS is removed, but then the mean frequency does drift around by a few 100Hz

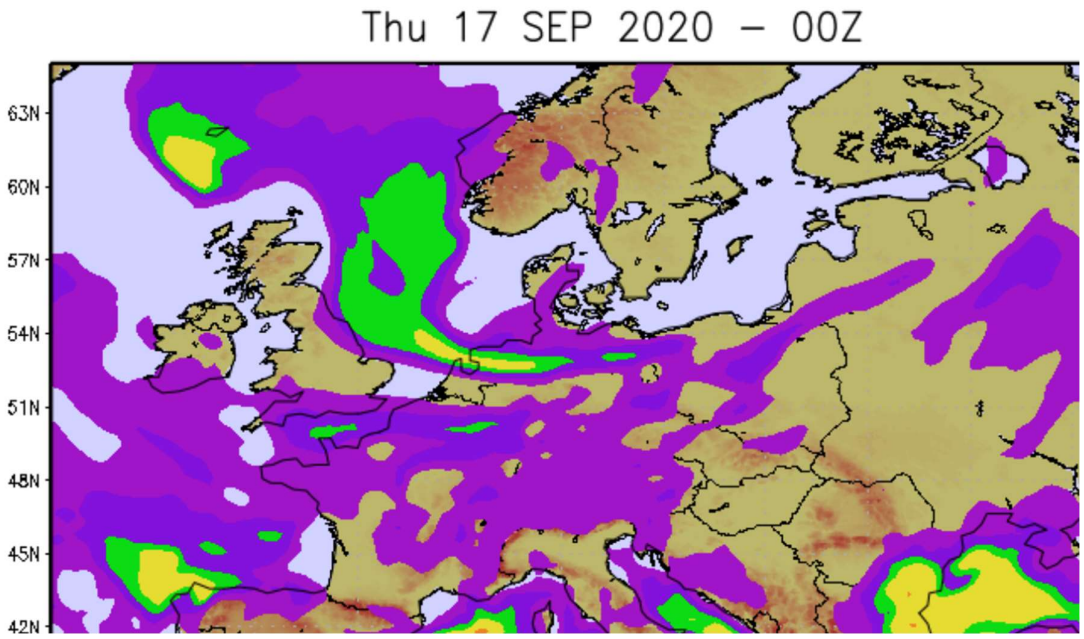
That's why the Si family of devices aren't used at higher frequencies. It's not very nice.
I'd wondered what the PLL bandwidth was in those chips to get the wide frequency range and ultra-fine tuning grid that made them so popular. Clearly a few tens of Hz.

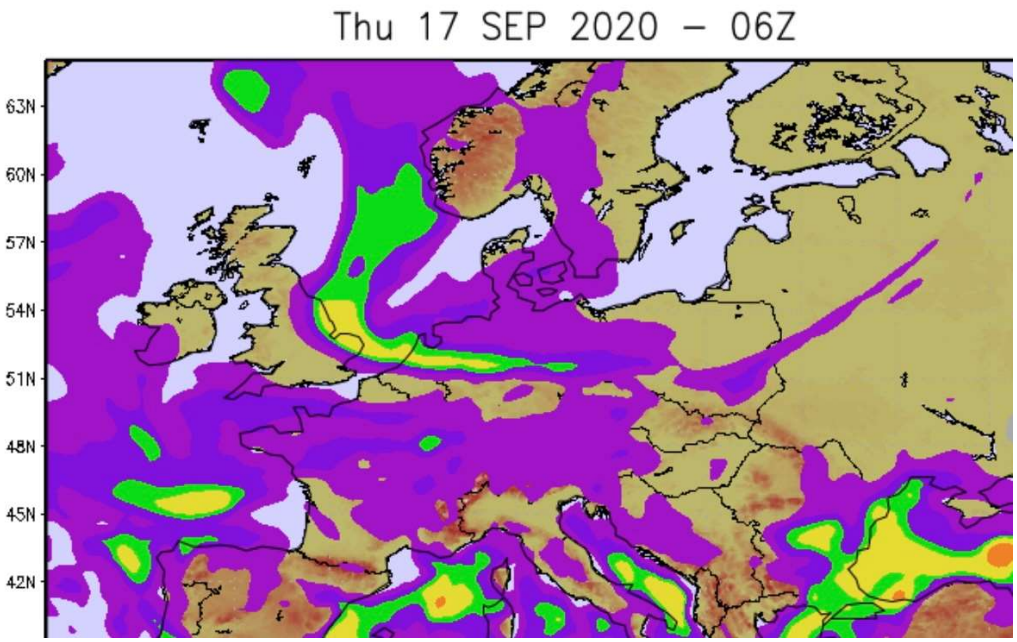


Some experiences of Ducting on 10GHz

Dave G4GLT

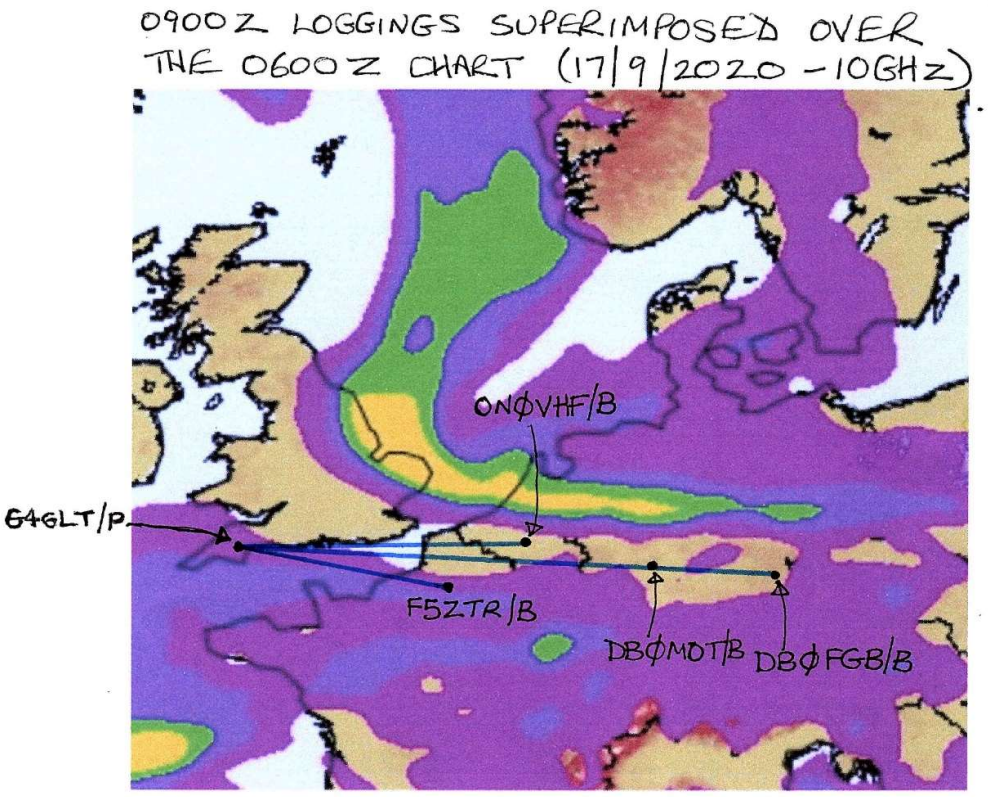
When a widespread opening occurs, such as in the massive inversion across Europe at the end of December 2019, you are spoilt for choice and signals come in from a wide area and you can have a field-day.
However, these events are very rare and most of the time you have to do what you can with the patchy propagation on offer.
Being a portable-only station, I put a fair reliance on the tropospheric predictions by F5LEN and the Hepburn charts, so that I know when it is best to go out and listen. They are mostly fairly accurate, though they can differ somewhat on occasion.
Some of the propagation is very selective, especially where a narrow finger of ducting occurs. If the duct is reasonably straight you stand a better chance, especially if the finger of ducting lines up with your location and you are connected into that duct. On 17th September 2020 I went out early before 0600GMT and heard nothing much on 10GHz. I went back later around 0900GMT and started hearing F5ZTR/B and ON0VHF/B both very strongly. Their azimuths with me were 101.5 degrees and 86.3 degrees respectively. I looked on Beaconspot to see which beacons further away were between these two azimuths. This resulted in my hearing DB0MOT/B very strongly (AZ 88.1 deg)(864km) and then DB0FGB/B (AZ 87.2 deg) at a distance of 1108km and moderate strength. One of the reasons why I had not heard anything earlier may be that I just wasn't in the duct, and that later it continued its movement south such that it lined up with me. If you look at the chart for 0000GMT , then the chart for 0600GMT, you can see that the duct has moved quite considerably south.





I don't have the 0900GMT chart, but I have superimposed what I heard around 0900GMT on the 0600GMT chart and the movement of the duct is quite marked especially the western end.

So my advice is to hang around if you think you should be hearing something via a narrow duct as it may soon line up with you.



On 5th June 2023 I was out very early and at 0445GMT I was hearing GB3SCX (AZ 72.8 deg) on 10GHz at 5-9 plus 20dB and GB3SEE (AZ 72.2 deg) at 5-9 plus. On tuning around at 0454GMT I heard DB0MU (AZ 74.5 deg) at 794km at 559. The strange thing about this was I didn't hear any beacons at all from PA. Later on at 0616GMT I heard DB0VC (AZ 62 deg) (1058 km) at 569.

The reason why I didn't hear any PA beacons was the narrowness of the duct. My portable location that day was at 392m ASL at IO80CN. I would say that just because the predictions seem to give the best conditions at 0600GMT, don't be misled by this as I have found that in the summer good conditions may start well before this time. So do look out for this type of ducting, but be aware that you have to keep probing, often with no other signs than some UK beacons being very strong indeed.

Addendum:
With the stable high pressure of the last couple of weeks roughly centred on the UK, giving a bitter NE wind here, this has given tropo conditions to DB0MU twice and DB0VC once prior to the conditions mentioned above. I was contacted by Olli DJ2QZ at JO31QX asking for a sked on 10GHz. Unfortunately, on the day he chose there were no significant tropo conditions, though we did chat on KST for quite a while which was pleasant. He is the builder of the DB0MU beacon, which is located on top of the 150 year old clubhouse, near Munster. I enclose pictures of his gear and location and a video showing his clubhouse. He runs 4watts to a 50cm dish.

Enjoy the tropo.
Dave (G4GLT).

RAL Round Table 2023 Report

This year's RAL Microwave Round Table, was a very popular event, with an attendance of 76.

The popularity did come at a price, of some difficulty in finding a parking spot!

As seen above the talks were very popular. This year the emphasis was on 24GHz, probably not surprisingly due the popularity of the Wavelab units. Both Gareth G4XAT, and David M0GHZ covered their experiences from a different angle. Gareth used the conversion board from Maarten PA0MHE, while David used a Pluto transceiver to cope with the odd IF frequency. Further 24GHz was covered by John G4BAO. EME in this case. Never easy at this frequency, so well done John in getting there.

Barry G4SJH gave an update on the 23cm situation. I came away with the understanding, that the situation is not as bad as many had feared. Barry has put a huge amount of work into this, attending a large number of meetings. So many thanks Barry, I am sure we would be in a much worse place without all your work.

Andy G4JNT gave a great talk on using direct up conversion. This has seen a practical implementation in the Bell Hill GB3SCS Beacon.

Away from the talks there was also a great selection of 'junk', and excellent food and drinks.

John G4BAO giving his EME talk, and doing weight lifting in the second picture.

Andy G4JNT summing up with lessons learnt

Excellent TV test equipment

Even more gear being shown / demonstrated

2022 Awards were presented here at RAL this year.

Finningley Round Table 2023

The team at Finningley are hosting our Microwave Round Table again this year.

It'll be on the weekend of **July 8th and 9th**. Please let us know you'll be coming by clicking here
> Registration

We've got together a rough programme to the weekend which will see the following:

All weekend

Trader tables
UK Microwave group
Test & demo areas across the site. Portable stations welcome
30THz Demos across the grounds
Test lab NF measurement
VNA HP 8510 -26Ghz
Power measurement
SMD soldering & practice areas.
A well stocked B2

Sunday 9th Talks

Barry G8AGN Binary phase modulation on the 30THz band"

Kevin G3AAF SMD placement & soldering refresher inc 0402

Chris M7JDK Hydrogen line Rx & demo TBC

Martin MØHOM 144 MHz square chasing on a budget

Kevin G3AAF Chinese ADF4351 Synths & NF measurement @24Ghz " learning Experience"
If you've built anything over the winter, bring it along.

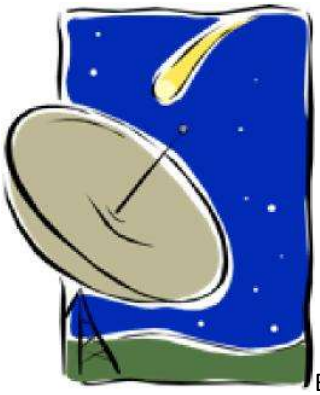
On the Saturday 8th July, evening there will be an evening meal at the Red Lion Inn, Epworth.
If you're interested in joining in, you'll be welcome, and are to pre book with the inn, Ref FARS RT.
Here's a link to their menu and contact info.

Phone: 01427 872208

The Menu is
here: https://drive.google.com/file/d/1Kg7Ea5DaCLZ4pPjFNQG8RiDiqWWLGicp/view?usp=drive_link

Those wishing to come with a camper van, or tent are welcome to do so.

Activity News June 2023



By John G4BAO

Please send your activity news to: **scatterpoint@microwavers.org**

From John G4BAO

No GHz QSOs for me this month, I'm still working on my 24GHz EME system. More tweaking to do.
Es and the lower VHF bands have grabbed my interest again this summer.
Sorry but no good news to report on the repair of 24GHz GB3CAM beacon again. It's looking more and more likely that I'll have to give up on it due to site access issues, but beacon keeper, Bernie, G4HJW is still negotiating with the site owners to get roof access and the 10GHz beacon continues to function normally. GB3PV the Cambridge 1.3GHz TV repeater at Maddingly JO02AF had a little hiccup in June, and disappeared for 24 hours, probably due to a power outage. When it returned, I took the opportunity, with help from Brian G6HFS (who can measure this stuff off-air) to remotely increase, and correctly set, the through audio levels. No site visit was required thanks to the Camb-Hams IT team's excellent VPN access to the repeater's Raspberry Pis. Please look for "PV" on 1316MHz 1000ks/sec (1249MHz input 333-2000ks/s) and use it! I had a report from "Up North" from M0DTS who gave me the heads up that it had returned.

From Neil G4DBN

Despite the usual "no humans" during propagation events that don't coincide with contests, on Sunday June 11th I had a 10 GHz CW QSO with Maurice F6DKW in JN18CS via a big lump of rain at 172 degrees from here. Nice 56s once I'd peaked everything up here. 592 km.

From Clive GW4MBS

I was pleased to have a chance to put the new 24GHz rig (2W to 30cm dish) through its paces in the contest. On 19th May. The set up worked quite well with 4 contacts and best ODX of the contest of 190km to G1EHF/P. I only operate within a few kilometres of home and as an act of defiance I like to sit on top of what normally screens me in my valley below. I operate from verges, ditches and if I am lucky a field entrance that is not in use. I use a 5m pneumatic mast so that I can see over hedges, but on 24GHz the height was limited by being able to reach the elevation control based on a turnbuckle through a large knob. I am now looking for something to get me going on 47GHz. Please email me if you would like a sked.

From G4RFR

John, G0API reports from Flight Refuelling ARS.
Following on from our recent JA and VK activities on 10GHz, the FR EME Group, G4RFR, have been working on kit for other bands , following requests from QSO partners. 5.7 and 24GHz are the target bands, with transverters built for both bands. It's the "add-ons" like TWT and LNAs that need work. 5.7GHz has a G4DDK/G4BAO Franco board LNA working well and producing 14.3dB of Sun noise with the 3.65m prime dish and a VE4MA feed. We have several donated TWTs in the 100W area and a multi-rail PSU is now part built. On 24GHz the RX performance of a barefoot Alcatel link RX is believed to be around 5dB, so it was not really a surprise to initially find low Sun noise from the 57dBi dish. A Super VE4MA feed was built and feeds the TVTR through 5 " of squashed 190mm Copper plumbing guide, via a 4 port WG42 switch. Thanks to John G4BAO and Barry VE4MA for advice - we tested again and improved the RX performance slightly to give an estimated 5dB noise fig in the dish, with 1.1dB ground and 5dB Sun. Moon noise was just detectable. One issue that has come up is how do you measure the beamwidth of a large dish with high directional gain, at 24GHz? Answers please! The near field extends out to several km and even using a QRP local source at several hundred Metres is near impossible at zero degrees of elevation. Plans to use optic theory next, with lots of sticky backed Aluminium foil.
G4RFR will be demonstrating the system at Hamfest 2023 on Sunday 13th August.

From Adrian G4UVZ

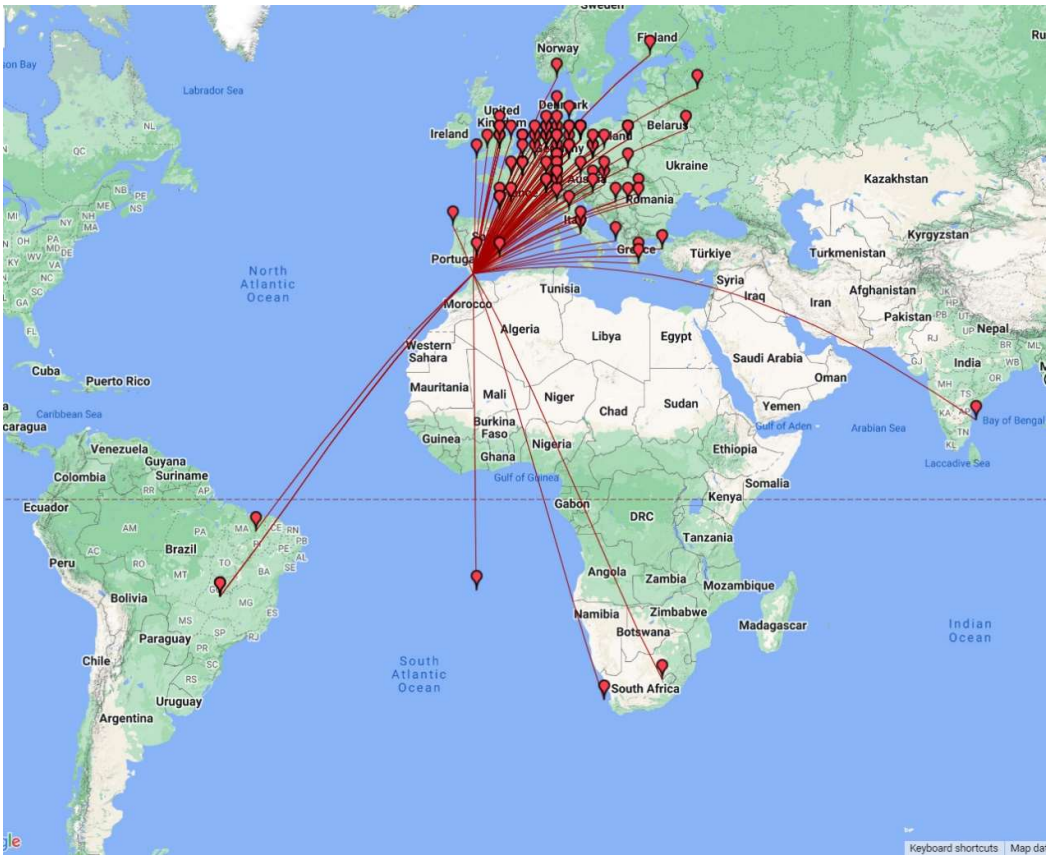
An update on the GB3KBQ rebuild. The team had a site meeting with the Waterboard to agree where 'they will core drill ' to provide access for cables. They are really being very helpful, and we are awaiting the postal service to deliver the new antenna, radome and mounting brackets from the G4DBN workshop. All the remaining hardware / electronics is now complete and fully tested. Anxious to get every dB I can out of the system I would like to ensure that the antenna is optimally matched to the waveguide; something which was not done 25 years ago.

From Nick G0HIK

I've got going this month again on 23cm EME. I had hoped to use my small offset dish, but I struggled to find a good feed for it after measuring Sun noise.
I've gone back to 2x33 ele Yagis, this time with 400w from my now completed W6PQL amplifier.
I've also been Roving in Scotland on QO-100 using my backpacking kit.
I've put on IO85,86,87,97,88 and 89 so far. Many GM squares have not been activated before and are rarely worked.
I've had around 400 QSO's, with a few more squares to put on as we are now starting to work our way south.

From Kev ZB2GI

Gibraltar Amateur Radio Society activated ZQ2HRH throughout May, to celebrate the Coronation of King Charles III on the 6th May 2023. I made 100 SSB QSOs operating as ZQ2HRH on QO-100. ZQ2HRH QO-100 QSO Map below



Editors Comments

Many thanks to the contributors this month. An excellent RAL this year. Many thanks to the organisers Mike G0MJW and Mike G8CUL and others, and especially Ann and supporters in the kitchen. There were certainly some well-travelled bits, from Australia in the case of Doug VK4OE.
I was very sorry to hear that Chris G0FDZ is in hospital, now for six weeks. He had a serious fall in the garden, and still undergoing scans. I am sure we all wish him well, and a speedy recovery.

Roger G8CUB

June 2023 Lowband Contest Results

M0HNA/P continued to dominate the results on 1296MHz, with a commanding lead over runner up John G4ZTR. John G3SQQ takes the certificate for the leading low power station. Best DX was the contact from G3DCT/P (IO84) to F6DKW (JN18) at 710km.

G3DCT/P joined the fray on 2300MHz and topped the table, with Neil G4LDR as runner up. This band segment saw a new DX record set between them at 360km. Four stations entered with five stations known to be active.

On 2320MHz M0HNA/P had a good lead over John G4ZTR, with Anthony G7LRQ receiving the certificate as leading low power station. Best DX was between M0GHZ (IO81) and DL5EBS (JO31) at 648km.

John G4ZTR won 3400MHz with runner up M0HNA/P. Best DX was from G4LDR to G1LPS at 399km. G3DCT/P receives the leading low power entrant award.

Certificates go to the following band leaders, runners-up and leading low power stations.

1296MHz M0HNA/P, G4ZTR, G3SQQ
2300MHz G3DCT/P, G4LDR
2320MHz M0HNA/P, G4ZTR, G7LRQ
3400MHz G4ZTR, M0HNA/P, G3DCT/P

John G3XDY
UKuG Contest Manager

1296MHz Contest June 2023

Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX kms
1	M0HNA/P	IO91GI	46	12916	DF2VJ	637
2	G4ZTR	JO01KW	30	8877	DJ3AK	661
3	G7LRQ	IO91TQ	29	7836	DF2VJ	580
4	G4LDR	IO91EC	25	6319	DF0MU	626
5	G8CUL	IO91JO	25	6100	DF0MU	587
6	G3DCT/P	IO84JE	21	5693	F6DKW	710
7	G4BRK	IO91HP	20	4786	DF0MU	597
8	G3SQQ	IO93JC	19	4162	PA0O	523
9	GW4JQP	IO71KR	18	3448	G3XDY	437
10	M0GHZ	IO81VK	16	3430	DL5EBS	648
11	GM4BYF	IO85JV	6	2790	G4ZTR	515
12	G6GVI	IO83SN	11	2086	G3XDY	298
13	G4GFI	IO91VH	9	982	G3SQQ	211
14	G8HGN	JO01FO	7	809	M0GHZ	186
15	GM4DIJ	IO85IW	0	0		0

2300MHz Contest June 2023

Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX kms
1	G3DCT/P	IO84JE	2	697	G4LDR	360
2	G4LDR	IO91EC	4	677	G3DCT/P	360
3	M0HNA/P	IO91GI	4	601	G3DCT/P	337
4	G8CUL	IO91JO	3	270	G3XDY	174

2320MHz Contest June

Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX kms
1	M0HNA/P	IO91GI	21	4464	DL5EBS	597
2	G4ZTR	JO01KW	16	3075	F8DLS	360
3	M0GHZ	IO81VK	14	2764	DL5EBS	648
4	G4LDR	IO91EC	15	2723	ON4CJQ/P	455
5	G3DCT/P	IO84JE	10	2717	G4LDR	360
6	G8CUL	IO91JO	15	2585	ON4CJQ/P	430
7	G7LRQ	IO91TQ	14	2321	ON4CJQ/P	375
8	G4BRK	IO91HP	14	1972	ON4CJQ/P	442
9	G3SQQ	IO93JC	11	1802	G4LDR	225

3400MHz Contest June 2023

Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX kms
1	G4ZTR	JO01KW	11	1903	GW3TKH/P	270
2	M0HNA/P	IO91GI	15	1586	G1LPS	371
3	G4LDR	IO91EC	11	1410	G1LPS	399
4	M0GHZ	IO81VK	11	1384	G3DCT/P	314
5	G8CUL	IO91JO	13	1346	G1LPS	344
6=	GW3TKH/P	IO81LS	7	1243	G1LPS	338
6=	G3DCT/P	IO84JE	4	1243	G4LDR	360
8	G7LRQ	IO91TQ	10	1210	G1LPS	344
9	G4BRK	IO91HP	11	1101	G1LPS	339
10	GW4HQX/P	IO81LS	4	516	G4CLA	148

2023 Lowband Contest Overall Results

After four sessions, best three count to final score

1.3 GHz

Pos	Call	05/03/23	02/04/23	07/05/23	04/06/	Total
1	M0HNA/P	0	576	1000	1000	2,576
2	G4ZTR	813	1000	0	687	2,500
3	G3DCT/P	1000	927	0	441	2,368
4	G7LRQ (G7L)	0	667	812	607	2,086
5	G8CUL	973	0	537	472	1,982
6	M0GHZ	873	677	288	266	1,838
7	GW4JQP	531	674	354	267	1,559
8	G3SQQ	407	530	0	322	1,259
9	G4LDR	0	441	314	489	1,244
10	GM4DIJ(/P)	255	599	332	0	1,186
11	G4KUX	0	861	0	0	861
12	G6GVI	342	275	155	162	779
13	GI6ATZ	0	739	0	0	739
14	G3UKV	321	295	0	0	616
15	G8SEI	0	542	0	0	542
16	G8DOH	0	508	0	0	508
17	G4EPA	0	446	0	0	446
18	G4GFI	0	208	152	76	436
19	G4LPP	0	0	416	0	416
20	EI8KN	0	395	0	0	395
21	G4BRK	0	0	0	371	371
22	G4KZY/P	0	0	300	0	300
23	G8AIM	0	221	65	0	286
24	G3YJR	232	0	0	0	232
25	GM4BYF	0	0	0	216	216
26	GM8IEM	0	171	0	0	171
27	G4CSD	0	163	0	0	163
28	G8HGN	0	0	0	63	63
29	G8TZJ	0	33	0	0	33

2.30 GHz

Pos	Call	05/03/23	02/04/23	07/05/23	04/06	Total
1	M0HNA/P	0	1000	1000	862	2,862
2	G8CUL	1000	0	784	387	2,171
3	G4LDR	0	0	117	971	1,088
4	G3DCT/P	0	0	0	1000	1,000

2.32 GHz

Pos	Call	05/03/23	02/04/23	07/05/23	04/06	Total
1	M0HNA/P	812	637	977	1000	2,789
2	M0GHZ	1000	590	1000	619	2,619
3	G4ZTR	599	899	0	689	2,187
4	G3DCT/P	475	1000	0	609	2,084
5	G7LRQ (G7L)	0	550	961	520	2,031
6	G8CUL	646	0	468	579	1,693
7	G4LDR	238	414	448	610	1,472
8	G3SQQ	429	613	0	404	1,446
9	G4BRK	0	491	425	442	1,358
10	G3UKV	173	513	0	0	686
11	G8AIM	0	279	303	0	582
12	G4KZY/P	0	0	569	0	569
13	GM4DIJ/P	0	314	198	0	512
14	G8SEI	0	325	0	0	325

3.4 GHz

Pos	Call	05/03/23	02/04/23	07/05/23	04/06	Total
1	G4ZTR	1000	736	0	1,000	2,736
2	M0GHZ	575	1000	1000	727	2,727
3	M0HNA/P	631	811	852	833	2,496
4	G4LDR	590	609	308	741	1,940
5	G8CUL	535	0	665	707	1,907
6	G7LRQ (G7L)	0	0	647	636	1,283
7	GW3TKH/P	525	0	0	653	1,178
8	G4BRK	0	312	198	579	1,089
9	GW4HQX/P	461	0	0	271	732
10	G3DCT/P	0	0	0	653	653
11	G3UKV	477	0	0	0	477
12	G1DFL/P	270	0	0	0	270

Overall

Pos	Call	1296MHz	2300MHz	2320MH	3400MH	Total
						1072
1	M0HNA/P	2576	2862	2789	2496	3
2	G8CUL	1982	2171	1693	1907	7753
3	G4ZTR	2500	0	2187	2736	7423
4	M0GHZ	1838	0	2619	2727	7184
5	G3DCT/P	2368	1000	2084	653	6105
6	G4LDR	1244	1088	1472	1940	5744
7	G7LRQ (G7L)	2086	0	2031	1283	5400
8	G4BRK	371	0	1358	1089	2818
9	G3SQQ	1259	0	1446	0	2705
10	G3UKV	616	0	686	477	1779
11	GM4DIJ/P	1186	0	512	0	1698
12	GW4JQP	1559	0	0	0	1559
13	GW3TKH/P	0	0	0	1178	1178
14	G8AIM	286	0	582	0	868
15	G8SEI	542	0	325	0	867
16	G4KUX	861	0	0	0	861
17	G6GVI	779	0	0	0	779
18	GI6ATZ	739	0	0	0	739
19	GW4HQX/P	0	0	0	732	732
20	G8DOH	508	0	0	0	508
21	G4EPA	446	0	0	0	446
22	G4GFI	436	0	0	0	436
23	EI8KN	395	0	0	0	395
24	G1DFL/P	0	0	0	270	270
25	G3YJR	232	0	0	0	232
26	GM8IEM	171	0	0	0	171
27	G4CSD	163	0	0	0	163
28	G8HGN	63	0	0	0	63
29	G8TZJ	33	0	0	0	33

24GHz/47GHz/76GHz Contest May 2023

The weather was kind to entrants this day with a warm but overcast day, not that this helped with propagation, but activity in Southern England and SW Wales was good on 24GHz.

Congratulations go to the following:

24GHz Winner Keith GW3TKH/P Runner up Dave G1EHF/P
47GHz Winner Roger G8CUB/P Runner up Noel G8GTZ/P
76GHz Winner Roger G8CUB/P Runner up Neil G4LDR/P

John G3XDY
UKuG Contest Manager

24GHz Contest
May 2023

Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX Kms
1	GW3TKH/P	IO81LS19	9	860	G8ACE/P	136
2	G1EHF/P	IO91GI44	10	704	GW4MBS/P	190
3	M0GHZ/P	IO81TK79	9	573	GW4MBS/P	129
4	G3UKV/P	IO82QL83	6	541	G1EHF/P	147
5	G8GTZ/P	IO91DH05	10	381	GW3TKH/P	106
6	G8CUB/P	IO91DL56	9	367	GW3TKH/P	101
7	G8ACE/P	IO91GC68	7	331	GW3TKH/P	136
8	G4LDR/P	IO81WG22	7	319	GW3TKH/P	87
9	GW4MBS/P	IO71XW59	3	312	M0GHZ/P	129
10	G1DFL/P	IO91CL35	7	282	GW3TKH/P	94
11	G4FRE	IO82UC05	1	45	G3UKV/P	45

47GHz Contest May 2023

Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX Kms
1	G8CUB/P	IO91DL56	5	148	G4LDR/P	40
2	G8GTZ/P	IO91DH05	4	121	G8CUB/P	38
3	G4LDR/P	IO81WG22	2	89	G1EHF/P	49
4	G8ACE/P	IO91GC68	2	53	G8CUB/P	27
5	G1EHF/P	IO91GI44	2	28	G8ACE/P	26

76GHz Contest May 2023

Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX Kms
1	G8CUB/P	IO91DL56	3	86	G4LDR/P	40
2	G4LDR/P	IO81WG22	1	40	G8CUB/P	40
3	G8ACE/P	IO91GC68	1	27	G8CUB/P	27
4	G8GTZ/P	IO91IB50	1	19	G8CUB/P	19

UKuG MICROWAVE CONTEST CALENDAR 2023

Dates, 2023	Time UTC	Contest name
25-Jun	0600 - 1800	2nd 5.7GHz Contest
25-Jun	0600 - 1800	2nd 10GHz Contest
9-Jul	0900 – 1700	2nd 24GHz Contest
9-Jul	0900 – 1700	2nd 47GHz Contest
9-Jul	0900 – 1700	2nd 76GHz Contest
30 -Jul	0600 - 1800	3rd 5.7GHz Contest
30 -Jul	0600 - 1800	3rd 10GHz Contest
27-Aug	0600 - 1800	4th 5.7GHz Contest
27-Aug	0600 - 1800	4th 10GHz Contest
10-Sep	0900 - 1700	3rd 24GHz Contest & 24GHz Trophy
10-Sep	0900 - 1700	3rd 47GHz Contest
10-Sep	0900 - 1700	3rd 76GHz Contest
24 -Sep	0600 - 1800	5th 5.7GHz Contest
24 -Sep	0600 - 1800	5th 10GHz Contest
15 -Oct	0900 - 1700	4th 24GHz Contest
15 -Oct	0900 - 1700	4th 47GHz Contest
15 -Oct	0900 - 1700	4th 76GHz Contest
12 -Nov	1000 - 1400	5th Low band 1.3/2.3/3.4GHz

UKuG MICROWAVE CONTEST CALENDAR 2023

Month	Contest name	Certificates	Date 2023	Time GMT	Notes
Jan	1.3GHz Activity Contest	*Arranged by RSGB*	17-Jan	2000 - 2230	RSGB Contest
Jan	2.3GHz+ Activity Contest	*Arranged by RSGB*	24-Jan	1930 - 2230	RSGB Contest
Feb	1.3GHz Activity Contest	*Arranged by RSGB*	21-Feb	2000 - 2230	RSGB Contest
Feb	2.3GHz+ Activity Contest	*Arranged by RSGB*	28-Feb	1930 - 2230	RSGB Contest
Mar	REF/DUBUS EME 3.4GHz	*Arranged by REF/DUBUS*	4-Mar to 5-Mar	0000 - 2400	REF/DUBUS EME 3.4GHz
Mar	Low Band 1296/2300/2320/3400MHz	F, P,L	5-Mar	1000 - 1600	First 4 hours coincide with IARU
Mar	1.3GHz Activity Contest	*Arranged by RSGB*	21-Mar	2000 - 2230	RSGB Contest
Mar	2.3GHz+ Activity Contest	*Arranged by RSGB*	28-Mar	1930 - 2230	RSGB Contest
Jun	REF/DUBUS EME 2.3GHz	*Arranged by REF/DUBUS*	25-Mar to 26-Mar	0000 - 2400	REF/DUBUS EME 2.3GHz
Apr	Low Band 1296/2300/2320/3400MHz	F, P,L	2-Apr	1000 - 1600	
Apr	1.3GHz Activity Contest	*Arranged by RSGB*	18-Apr	1900 - 2130	RSGB Contest
Apr	REF/DUBUS EME 1.2GHz	*Arranged by REF/DUBUS*	22-Apr to 23-Apr	0000 - 2400	REF/DUBUS EME 1.2GHz
Apr	2.3GHz+ Activity Contest	*Arranged by RSGB*	25-Apr	1830 - 2130	RSGB Contest
May	*432MHz & up*	*Arranged by RSGB*	6-May to 7-May	1400 -1400	RSGB Contest
May	*10GHz Trophy*	*Arranged by RSGB*	7-May	0800 - 1400	Sunday, to coincide with IARU
May	Low Band 1296/2300/2320/3400MHz	F, P,L	7-May	0800 - 1400	Aligned with IARU event
May	24GHz/47/76GHz		14-May	0900-1700	
May	1.3GHz Activity Contest	*Arranged by RSGB*	16-May	1900 - 2130	RSGB Contest
May	REF/DUBUS EME 10GHz & Up	*Arranged by REF/DUBUS*	20-May to 21-May	0000 - 2400	REF/DUBUS EME 10GHz & up
May	2.3GHz+ Activity Contest	*Arranged by RSGB*	23-May	1830 - 2130	RSGB Contest
May	5.7GHz/10GHz	F, P,L	28-May	0600-1800	
Jun	Low Band 1296/2300/2320/3400MHz	F, P,L	4-Jun	1000 - 1600	Aligned with some Eu events
Jun	1.3GHz Activity Contest	*Arranged by RSGB*	20-Jun	1900 - 2130	RSGB Contest
Jun	5.7GHz/10GHz	F, P,L	25-Jun	0600-1800	
Jun	2.3GHz+ Activity Contest	*Arranged by RSGB*	27-Jun	1830 - 2130	RSGB Contest
Jul	VHF NFD (1.3GHz)	*Arranged by RSGB*	1-Jul to 2-Jul	1400 - 1400	RSGB Contest
Jul	24GHz/47/76GHz		9-Jul	0900-1700	
Jul	REF/DUBUS EME 5.7GHz	*Arranged by REF/DUBUS*	15-Jul to 16-Jul	0000 - 2400	REF/DUBUS EME 5.7GHz
Jul	1.3GHz Activity Contest	*Arranged by RSGB*	18-Jul	1900 - 2130	RSGB Contest
Jul	2.3GHz+ Activity Contest	*Arranged by RSGB*	25-Jul	1830 - 2130	RSGB Contest
Jul	5.7GHz/10GHz	F, P,L	30-Jul	0600-1800	
Aug	ARRL Microwave EME	*Arranged by ARRL*	12-Aug to 13-Aug	0000 - 2359	ARRL EME 2.3GHz & Up
Aug	1.3GHz Activity Contest	*Arranged by RSGB*	15-Aug	1900 - 2130	RSGB Contest
Aug	2.3GHz+ Activity Contest	*Arranged by RSGB*	22-Aug	1830 - 2130	RSGB Contest
Aug	5.7GHz/10GHz	F, P,L	27-Aug	0600-1800	
Sep	ARRL Microwave EME	*Arranged by ARRL*	9-Sep to 10-Sep	0000 - 2359	ARRL EME 2.3GHz & Up
Sep	24GHz/47/76GHz		10-Sep	0900-1700	
Sep	1.3GHz Activity Contest	*Arranged by RSGB*	19-Sep	1900 - 2130	RSGB Contest
Sep	5.7GHz/10GHz	F, P,L	24-Sep	0600-1800	
Sep	2.3GHz+ Activity Contest	*Arranged by RSGB*	26-Sep	1830 - 2130	RSGB Contest
Oct	*432MHz & up*	*Arranged by RSGB*	7-Oct to 8-Oct	1400 - 1400	IARU/RSGB Contest
Oct	*1.3 & 2.3GHz Trophies*	*Arranged by RSGB*	7-Oct	1400 - 2200	RSGB Contest
Oct	24GHz/47/76GHz		15-Oct	0900-1700	
Oct	1.3GHz Activity Contest	*Arranged by RSGB*	17-Oct	1900 - 2130	RSGB Contest
Oct	2.3GHz+ Activity Contest	*Arranged by RSGB*	24-Oct	1830 - 2130	RSGB Contest
Oct	ARRL EME 50-1296MHz	*Arranged by ARRL*	28-Oct to 29-Oct	0000 - 2359	ARRL EME Contest
Nov	Low Band 1296/2300/2320/3400MHz	F, P,L	12-Nov	1000 - 1400	
Nov	1.3GHz Activity Contest	*Arranged by RSGB*	21-Nov	2000 - 2230	RSGB Contest
Nov	ARRL EME 50-1296MHz	*Arranged by ARRL*	25-Nov to 26-Nov	0000 - 2359	ARRL EME Contest
Nov	2.3GHz+ Activity Contest	*Arranged by RSGB*	28-Nov	1930 - 2230	RSGB Contest
Dec	1.3GHz Activity Contest	*Arranged by RSGB*	19-Dec	2000 - 2230	RSGB Contest

EVENTS 2023

July 8/9	Finningley Roundtable	g0ghk.com
August 6	BATC Convention, Midlands Air Museum, Coventry	www.batc.org.uk
September 8-10	68.UKW Tagung Weinheim, Germany	www.ukw-tagung.de
September 17	Crawley Round Table	carc.org.uk
September 17-22	European Microwave week, Berlin	www.eumweek.com
November11	Scottish Round Table	www.gmroundtable.org.uk
November 20 -Dec 15	ITU WRC 23, Dubai	rsgb.org/wrc-23
December 2	Midlands Roundtable, Eaton Manor, SY6 7DH	eatonmanor.co.uk/midlands-round-table-event/

80m UK Microwavers net

Tuesdays 08:30 local on 3626 kHz (+/- QRM)

73 Martyn Vincent G3UKV