An Amateur Radio publication for the Microwave Enthusiast

scatterpoint

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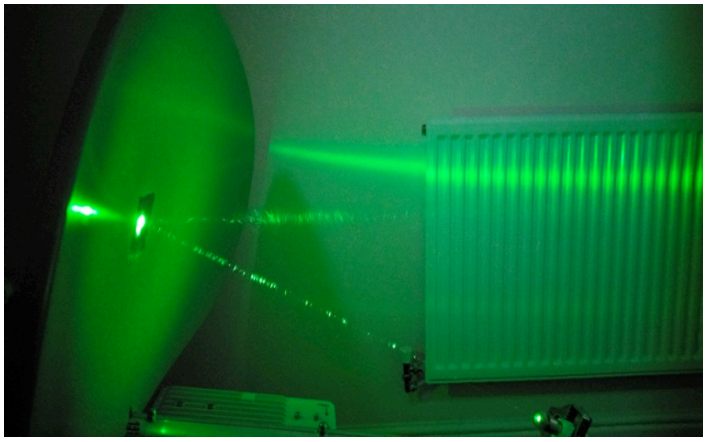
Offset Dish Alignment

By John McCarthy G7JTT



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WIKI

UKµG wiki - https://wiki.microwavers.org.uk/

Subscription Information

The following subscription rates apply.
UK £6.00 US $12.00 Europe €10.00

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/files and/or Dropbox. Also, **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

ukug@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@microwavers.org

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)

I can extract text and pictures from pdf files but tables can be a bit of a problem so please send these as separate files in one of the above formats.

Thank you for you co-operation.

Martin G8BHC

Reproducing articles from Scatterpoint

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You may not reproduce articles for profit or other commercial purpose.

You may not publish Scatterpoint on a website or other document server.

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 (eg 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 email john@g4bao.com

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 UKuG 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 a component on the site will not be a guarantee of availability of that component.

The service is run as a free benefit to all members and the UK Microwave Group will pick up the cost of packaging and postage, that is, Jiffy bags, small plastic bags for individual component values, and Large letter 2nd class postage, currently 76p.

Minimum quantity of small components supplied is 10.

The service may be withdrawn at the discretion of the committee if abuse such as reselling of components is suspected. We have asked Mike to check with the Chairman (or designated officer) if any individual is making excessive requests, and we will ensure that the service is only available to members.

There is an order form on the website with an address label which will slightly reduce what I have to do in dealing with orders so please could you use it.

Also, as many of the components are from unknown sources, if you have the facility to check the value, particularly unmarked items such as capacitors, do so, and let me know if any items have been mislabelled.

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

Barry Chambers G8AGN

Many readers will have used or even designed and built a Pi attenuator whose circuit configuration in shown in Figure 1.

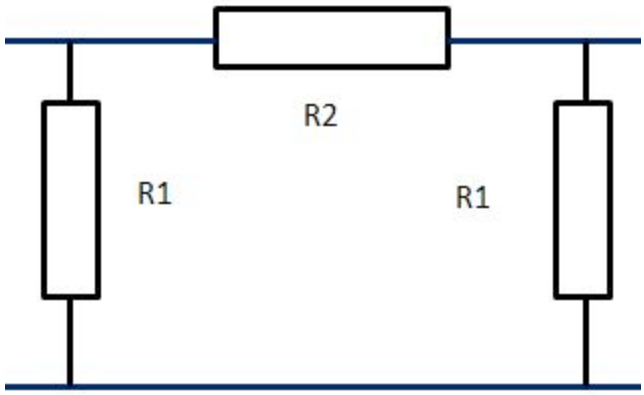


Figure 1: Pi attenuator

To produce a given attenuation A, the required values of R1 and R2 may be calculated from

$$R_1 = Z_o \left[\frac{10^{\frac{A_{dB}}{20}} + 1}{10^{\frac{A_{dB}}{20}} - 1} \right] ; \; R_2 = \frac{Z_o}{2} \left[10^{\frac{A_{dB}}{20}} - \frac{1}{10^{\frac{A_{dB}}{20}}} \right]$$

where Z_0 is the input and output impedance. To save tedious calculation, there are several good design calculators on the WWW and we will make use of one later in this discussion [1].

In a bid to increase the output power from my 5.6GHz ATV transmitter, I recently obtained a TXPA58002W5 PA module, shown in Photo 1.

Photo 1: TXPA58002W5 PA module for 5.8GHz

In common with many electronic items manufactured in China, the quoted specification is probably rather “flexible” and a number of people have found that this particular module is rather “fragile”; accordingly, I decided to proceed with caution before applying power. My first step was to try and establish which r.f. devices were used and to examine the r.f. circuit layout. The latter is covered by a tin-plate shield which is easily removed to reveal the PCB layout shown in Photo 2.

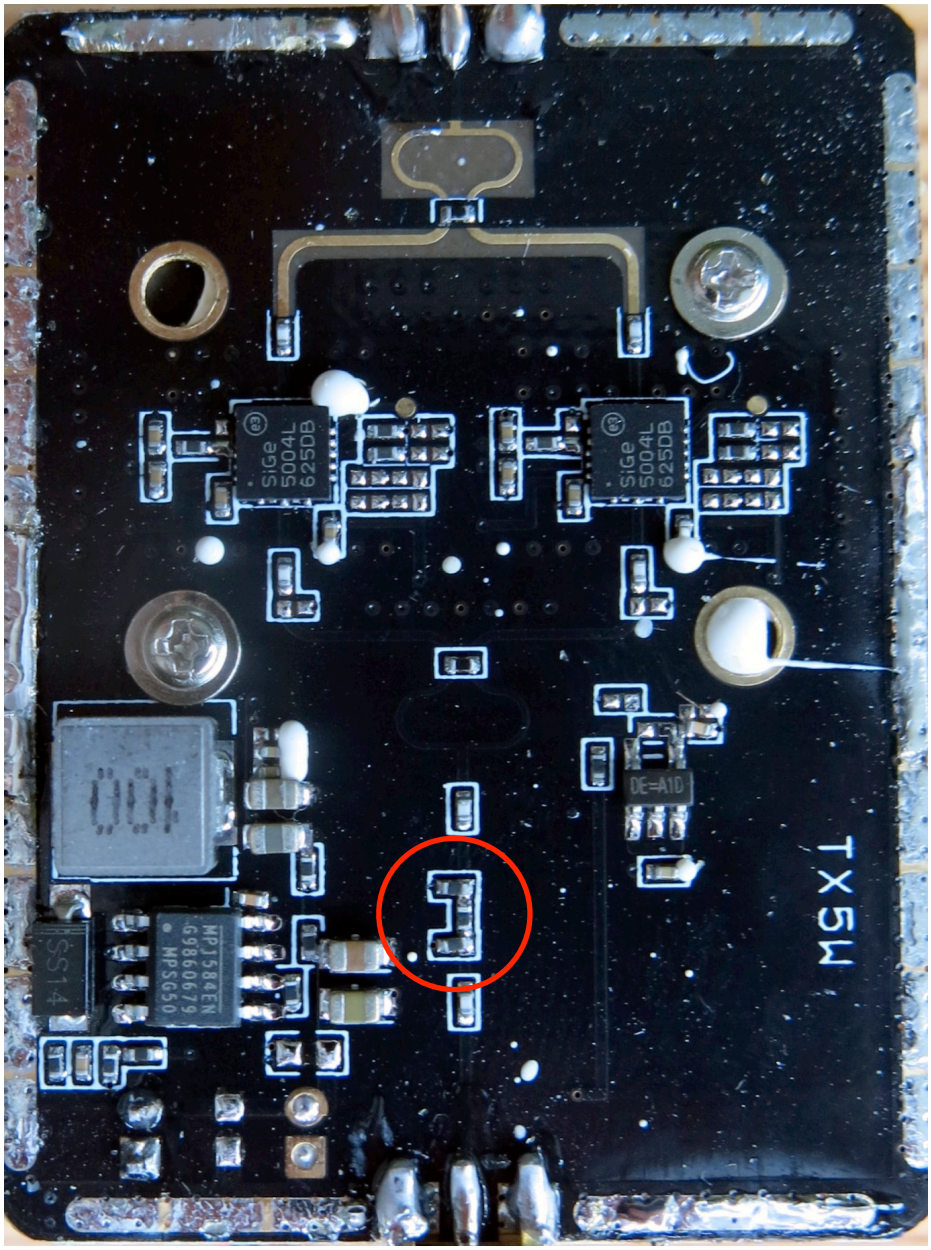


Photo 2: TXPA58002W5 PA module PCB showing input attenuator

The amplifier consists of two SiGe5004L devices in parallel together with associated input Pi attenuator, power splitter and combiner. The device data sheet quotes a maximum r.f. input drive power of 6dBm and the module specification suggests a maximum r.f. input power of 600mW (27.8dBm). This implies that the module input Pi attenuator must have an attenuation of around 15 – 18 dB but I thought it would be useful to confirm this, especially as I wanted to use a drive level of around 200mw and so might need to change the attenuator resistor values accordingly.

Since the resistors making up the Pi attenuator are easily accessible on the module PCB, it was a simple process to measure the resistance of each component. The values were: series resistance = 68.8 ohms and shunt resistance = 49.6 ohms. These values could then be entered into an attenuator calculator on the WWW and hey presto we get the attenuation, right? WRONG!

If the attenuator configuration was a Tee, then the above procedure would be valid but a look at the circuit diagram for a Pi attenuator shows that we have overlooked something.

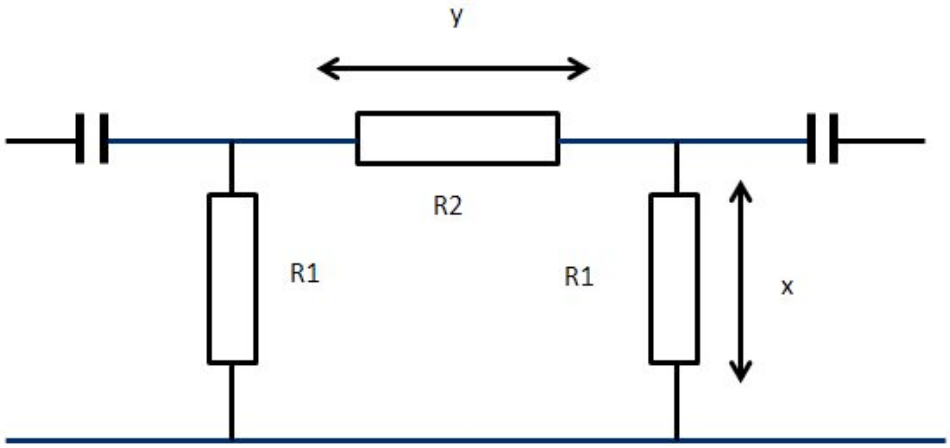


Figure 2: The Pi attenuator and the measured resistances x and y

As shown in Fig 2, we have measured resistance values x and y whereas the actual values are R1 and R2, which are different since

x = R1 in parallel with (R1 + R2)

y = R2 in parallel with 2R1

Hence

$$x=\frac{R1(R1+R2)}{2R1+R2} \quad (1) \qquad y=\frac{2R1R2}{2R1+R2} \quad (2)$$

It is straightforward to solve these equations for R1 and R2 when x and y are known but here I will just take some representative values of R1 and R2 which give particular values of attenuation and then calculate the values of x and y which would be measured in practice. Table 1 shows some typical results using preferred values of R1 and R2.

Attenuation dB	R1 ohms	Measured x	R2 ohms	Measured y
0.97	820	411.3	5.1	5.08
2.99	300	154.4	18	17.5
5.66	150	82.4	33	29.7
9.6	100	62.7	68	50.7
14.6	68	49.9	120	63.8
21.3	56	47.8	270	79.2
25.4	56	50.6	470	90.4
29.9	56	52.6	820	98.5

Table 1: Measured and actual values of R1 and R2 for various Pi attenuators

Two points can be made about the results. The first is that there are large differences between the measured values x and y and the actual values R1 and R2; the second is that this technique could be useful for checking the “health” of unknown coaxial attenuators.

Returning now to the case of the attenuator in the TXPA58002W5 module, I estimated the actual values of R1 and R2 by solving equations 1 and 2 using an iterative procedure. This gave R1 = 64.8 ohms and R2 = 146.7 ohms which indicates an attenuation of about 16.1dB. Hence if I want to drive the PA module using 200mw instead of the original 600mw, a new attenuator of about 11dB is required (16.1 – 4.8). This could be realised with a series resistance of 82 ohms and shunt resistances of 90 ohms (two 180 ohms in parallel).

Reference

1. http://chemandy.com/calculators/matching-pi-attenuator-calculator.htm

Offset Dish Alignment

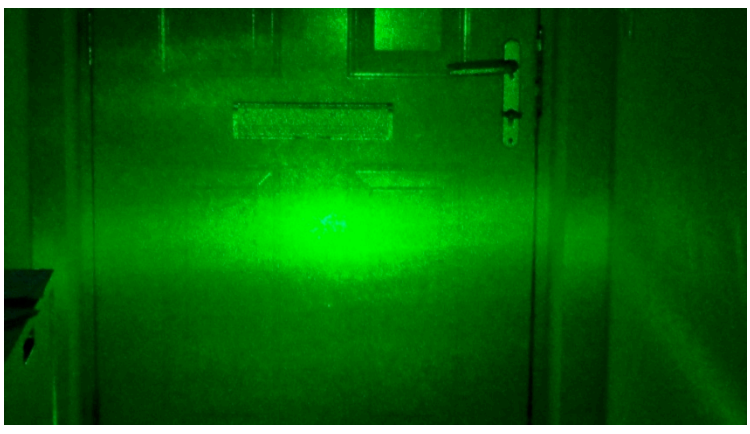
John McCarthy G7JTT

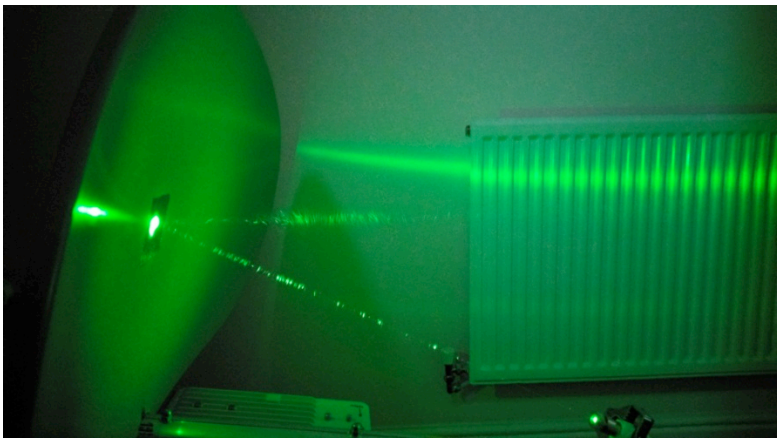
After picking up yet another satellite dish at the RAL µwave round table, I needed a way to work out what the offset angle was. The dish was not the usual oval type dish, it was much wider than high. So I need a nice simple way of finding the offset angle to find what angle I needed for it to be looking horizontal. A quick look on the internet found a way of checking this with a laser pointer. First thing to do is attach a laser pointer at the focal point of the dish by any means possible. In my case I used folded kitchen paper wrapped around the pointer and clamped it in the LNB holder.

The next thing to do is stick a small square of foil or silver foil tape (type used in air ducting industry) in the centre of the dish.

You then need somewhere dark, in my case my corridor to set up the dish. Next measure the height from the floor to the centre of the dish and then at the end of the corridor place a mark at that height. Now turn the laser on (taking the necessary precautions) and make sure the laser is pointing to the centre of the dish on the foil.

Lights off and adjust the dish's elevation until the reflected light is centred on the mark at the end of the corridor.





And just for fun if you sprinkle a little talc across the beam you can see the reflected beam is indeed horizontal.

This month I've been mostly...

From Graham Coyne G3YJR

On-air activity:

It was a busy month for contests! Over 5/6-May I entered the 10GHz Trophy & May Low Bands contests on 23cm & 13cm.
https://g3yjr.wordpress.com/2018/05/06/5-6-may-2018-70cm-3cm-trophy-contests-low-bands-contest/
It was all UK stuff, though I was pleased to work M1CRO/P in JO01 with 2W CW on 13cm.

Later in the month (17th) there seemed to be a bit of a tropo opening. I heard a couple of 23cm beacons in Germany. https://g3yjr.wordpress.com/2018/05/17/23cm-beacons-db0xy-and-db0ltg/

On 21-May I heard DB0GHZ on 3cm and GB3ANT on 13cm.
https://g3yjr.wordpress.com/2018/05/21/db0ghz-and-gb3cat-beacons/

On 3cm I failed to raise any actual German stations via KST.

The next day was the SHF UKAC contest. I worked fairly local stations, but Kjeld OZ1FF managed to copy my CW. So perhaps tropo conditions persisted or this was some sort of sea ducting? I didn't hear any other continental stations. I didn't hear any beacons. 13cm seemed pretty flat.
https://g3yjr.wordpress.com/2018/05/22/22-may-2018-ukac-oz1ff/

On 27-May I entered the Microwave Group contest on 3cm. I worked David G4RQI & Denis G3UVR & thought that would be it. Then Nick G4KUX came on from the north, a good signal. As thunderstorms crossed the midlands I found a scatterpoint & worked Neil G4LDR on SSB & then Ralph G4ALY to the obstructed south. I found the signals peaked with the dish elevated a few degrees, so perhaps this helped clear the local obstructions?

Shack activity:

I've been starting to learn about Arduinos this month, following a talk on them by Barry G8AGN at the Sheffield & District Wireless Society. I've got a little magnetometer feeding an Arduino.

I'm experimenting with it as a possible means of telling me which way the dish is pointing. So far I can get a sensible horizontal heading reading, but if I tilt it out of the horizontal plane, both the horizontal & elevation readings go a bit strange. It's probably my mathematics which is a bit strange. I've been avoiding programming for some years as it is so time-consuming!

Contest results

John Quarmby G3XDY

24GHz Contest May 2018

Entry levels remained the same as last year. GW3TKH/P amd G8CUB/P both made 3 contacts, with Keith winning out this time. Conditions were unexceptional. The scores will go forward to the mm-wave championship.

Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX km
1	GW3TKH/P	IO81LS	3	279	G0FDZ/P	93
2	G8CUB/P	IO91CL	3	248	GW3TKH/P	93
3	G4SJH/P	IO91RF	2	118	G8GKQ/P	70
4	G4LDR	IO91EC	2	68	G8GTZ/P	38

47GHz Contest May 2018

Three entries were received for this event, as last year. Congratulations to Roger G8CUB/P who worked GW3TKH/P and GW4HQX/P. GW3TKH/P was the runner up. G4LDR noted that he was probably the first fixed station entrant to a 47GHz event. The scores will go forward to the mm-wave championship.

Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX km
1	G8CUB/P	IO91CL	2	186	GW3TKH/P	93
2	GW3TKH/P	IO81LS	1	93	G8CUB/P	93
3	G4LDR	IO91EC	1	30	G8ACE/P	30

76GHz Contest May 2018

As last year three entries were received for this event. Congratulations go to Keith GW3TKH/P who won with three contacts. G4LDR is almost certainly the first fixed station to feature in a 76GHz event. The scores will go forward to the mm-wave championship.

Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX km
1	GW3TKH/P	IO81LS	3	279	G8CUB/P	93
2	G8CUB/P	IO91CL	2	186	GW3TKH/P	93
3	G4LDR	IO91EC	1	30	G8ACE/P	30

UKµG Microwave Contest Calendar 2018

Dates 2018	Time UTC	Contest name	Certificates
29 -Jul	0600 - 1800	3rd 5.7GHz Contest	F, P,L
29 -Jul	0600 - 1800	3rd 10GHz Contest	F, P,L
26-Aug	0600 - 1800	4th 5.7GHz Contest	F, P,L
26-Aug	0600 - 1800	4th 10GHz Contest	F, P,L
16- Sep	0900 - 1700	3rd 24GHz Contest	
16- Sep	0900 - 1700	3rd 47GHz Contest	
16- Sep	0900 – 1700	3rd 76GHz Contest	
30 -Sep	0600 - 1800	5th 5.7GHz Contest	F, P,L
30 -Sep	0600 - 1800	5th 10GHz Contest	F, P,L
21 -Oct	0900 - 1700	4th 24GHz Contest	
21 -Oct	0900 - 1700	4th 47GHz Contest	
21 -Oct	0900 – 1700	4th 76GHz Contest	
18 -Nov	1000 - 1400	5th Low band 1.3/2.3/3.4GHz	F, P,L
Key:	F	Fixed / home station	P Portable
	L	Low-power (<10W on 1.3-3.4GHz, <1W on 5.7/10GHz)	

French microwave activity for 2018

Ralph G4ALY

May	WE 26 & 27	August	WE 25 & 26
June	WE 23 & 24	September	WE 29 & 30
July	WE 28 & 29	October	WE 27 & 28

Activity News : May 2018

By Neil Underwood G4LDR

Please send your activity news to:

scatterpoint@microwavers. org

Introduction

Thank you to those who have contributed to this months' activity news. It is really good to get reports, keep them coming.

There has been quite a lot going on over the last couple of months including new records for 6cms ATV using the cheap First Person Video (FPV) drone units (as reported last month) and what is believed to be the first ever two way Digital Amateur Television (DATV) contact on the 76GHz band; with the UKuW Group's 76GHz loan equipment used on one end of the link.

Band Reports – cm Bands

From Denis, G3UVR, IO83

Just a quick one with regards to 3cm activity recently. Fab rain scatter in the May 5.7 and 10GHz contest. On 3m worked G3YJR G4KUX G4LDR G3SJH/P and G3VKV but failed after much trying with G4ALY.

On the late evening of 05/06/2018 having just returned from Friedrichshafen I copied the German beacon DB0GHZ JO34WE for the first time via tropo ducting. Just before I went off to bed at 00:30 BST it had risen in strength and I managed to get a recording of it this is now on my You Tube channel. I was very pleased to hear this on my indoor 3cm system. A link is below to this video and another showing Grahams 3cm SSB signal on the May 27th 3cm contest.

DB0GHZ JO34WE 3cm received at G3UVR 731km Tropo duct

https://www.youtube.com/watch?v=rsIFl5igWKs

G3YJR on 3cm as received at G3UVR

https://www.youtube.com/watch?v=GuTIjBYSLF0

From Dave, G1EHF, IO91

A few words on my 5.7GHz activity on Sunday 27th May during the first 5.7/10 GHz contest.

Firstly, I was pleased the kit all worked OK after wintering in the unheated garage. I did plan to give it a test before going out but you know how plans go! The weather had been threatening rain storms, with thunder and lightning, however it turned out bright and warm all day on Walbury Hill. Propagation seemed average for most of the day but we did find very strong RS from the North (probably over Birmingham) during the late afternoon. I heard the South Birmingham beacon for the first time (surprisingly) from Walbury Hill at over S9 and very scattered. Barry on 3cm and I were getting a number of other beacons reflected back from the same

band of rain, which was clearly very intense. My best DX on SSB was Ralph G4ALY at 216km. I also had my FPV-based WBFM kit with me and managed to give Pete G1DFL/P his first contact on the band, although I did have to go handheld because he needed vertical polarisation!

Band Reports – mm Bands

From Roger, G8CUB(/P), IO91

Roger reports on the mm wave contest on 20th May.

For the first of the year's outings for the millimetre contest, I again went to the usual spot at Hackpen IO92CL11. Chris G0FDZ and I set up for all three bands. Keith GW3TKH/P was a good signal on 24 and 47GHz though down on normal. Moving up to 76GHz both Keith & Pete GW4HQX/P were copying my separate 76GHz beacon. Initially the signal from Keith was good, but the when I adjusted the elevation down to around 4 degrees below the horizon, it was amazing. Fully quieting S9 on FM both ways, with just a trace of slow QSB. Contacts followed with Pete 76/24/47GHz in that order. Signals were not great on 47, but I later found that the LO level was dropping with the heat.

Noel G8GTZ arrived, and following an easy 24 GHz contact, worked Keith on 76GHz with assistance from Chris (to read the CW). It was good to see the 76GHz loan equipment producing a 94km contact!

Later we all had a contact with John G8ACE/P on 24GHz, but 47 did not go. Although for me, that was likely the LO issue. An attempt with Neil G4LDR on 24GHz who was operating from home failed, as the path was a difficult one. Although at one point we all heard Neil's signal.

From Pete, G(W)4HQX(P), IO81

Pete reports on the mm Wave contest on June 10th. He started operating adjacent to Keith GW3TKH/P on Cefn in South Wales before moving location.

Keith stayed at Cefn when I went back to Coaley Peak IO81UR40CE, just under 54km where we managed to work on all 3 bands. 24 and 47GHz went pretty much straight away, whereas 76GHz took about 10 mins, mostly finding the right frequency. The attached photographs taken after the contacts were made, shows the take-off towards GW3TKH/P on Cefn.

G4HQX/P Coaley Peak looking towards GW3TKH/P on the Blorenge

From Neil G4LDR, IO91, IO90

For the June 10th mmWave contest I first of all travelled to Hackpen Hill near Marlborough in Wiltshire, IO91CL11, only to find the gate to the usual site locked. Being early morning there was still a suitable parking place in the carpark adjacent to the road immediately above the White Horse cut into the chalk.

I completed contacts with GW3TKH/P and GW4HQX/P on the Blorenge over the 93km path on both 24 and 47GHz but was unsuccessful on 76GHz. I put this down to high humidity, at Hackpen the visibility was not

particularly good due to the misty conditions. Based on the temperature and humidity (18deg C and 80% r/h) at the time of the attempt, the path loss at 76GHz was 24dB greater than it would have been if the temperature and humidity had been 20deg C and 50% r/h.

I then completed a narrowband contact on 24GHz with G8GTZ/P on the Mendips (62km) followed by an easy two way contact using DATV with P5 pictures both ways again on 24GHz. Unfortunately we were unable to work each other on 76GHz narrowband due to the high humidity.

Finally an attempt on 24GHz with Dave G1EHF/P who was near Walbury Hill failed despite being a relatively short path due to the fact that I was on the wrong side of Hackpen to work towards the east or south.

I then drove to a site near Winchester where John G8ACE/P had set up to work three stations (Roger G8CUB/P, Chris G0FDZ/P and Chris VK5VD/P) on Cheesefoot Head just east on Winchester using the 122 and 134GHz bands. John had lent me his spare 122GHz equipment. Unfortunately no two way contact was made by John or myself which John put down to RF from the group of PMR masts under which we had set up, interfering with the frequency synthesiser in each of the rigs, (he had had this problem previously). In actual fact John did copy the 122GHz signal from Cheesefoot Head on one of his receivers that used a different frequency synthesiser.

mmWave Digital Amateur Television

From Neil, G4LDR, IO91, IO90

Having completed successful narrowband tests with Noel G8GTZ who is currently custodian of the UKuW Group's 76GHz equipment it was inevitable that Noel as Chairman of the British Amateur Television Club (BATC) would want to try television. During the winter and early spring Noel and Dave, G8GKQ, had successful used DATV on the 24GHz band over distances exceeding 50km, and G4FRE had received DATV pictures on the 47GHz band over a distance of 30km.

In early May I travelled to Noel's QTH in Basingstoke and I was able to verify reception of Noel's pictures using my 'MiniTiouner' receiver and software. At this time I had not completed my 'Portsdown' digital amateur television transmitter. We then moved to portable sites, 11km apart. Noel at Hannington and myself at a site just southwest of Basingstoke. Despite heavy rain at my end of the path, P5 pictures were received straightaway.

The following week Noel assisted by Dave G8GKQ was on the Isle of Wight (IoW) carrying out ATV tests with stations in Dorset and Devon on the 146MHz and 5.7GHz bands. I had persuaded Noel to take the 76GHz gear. The only problem was that Noel was on the south side of the IoW. The shortest line of sight path back to the mainland was in a north westerly direction to Barton on Sea, to the east of Bournemouth and Christchurch. Having established a narrowband contact on 76GHz I switched to receive on DATV. Almost immediately the G8GTZ/P test card appeared on my laptop screen followed by moving pictures of Noel and the area around his operating site. I had completed by DATV transmitter by this time but unfortunately despite receiving my modulated carrier no picture was resolved (with DATV it either goes or it doesn't, there is no in between like analogue TV).

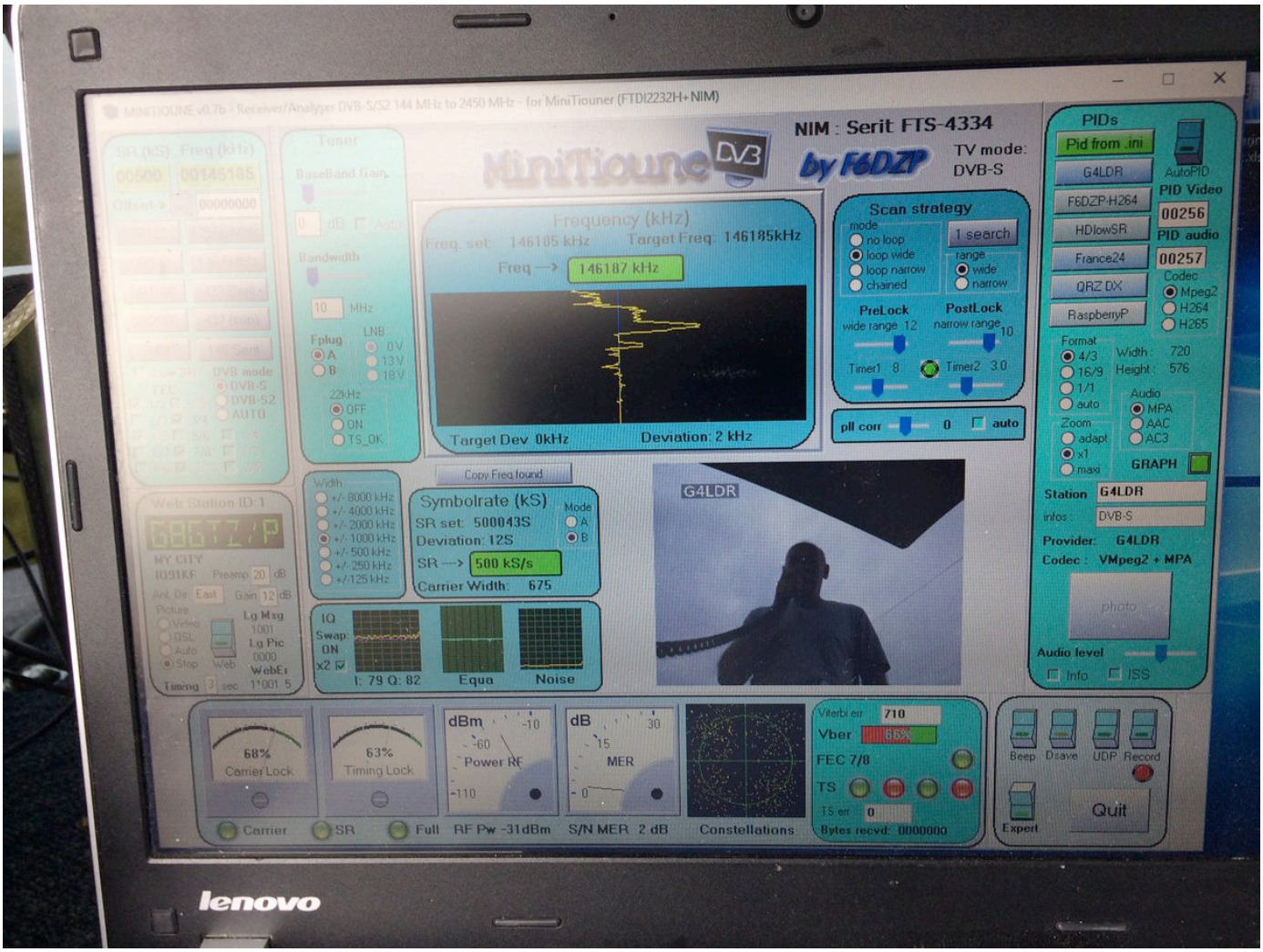
Following these tests Noel and I were confident that we could establish a two way DATV contact on 76GHz on a shorter path. We had to wait until the IARU ATV contest on the 9th June to find out if our confidence was justified and whether I would make my first two way ATV contact for over 25 years and on the 76GHz band! I will let Noel pick up the story in his report which is below.

From Noel, G8GTZ(P), IO90.

During the IARU ATV contest in June, Neil, G4LDR and Noel, G8GTZ completed a successful 2 way DATV QSO on 76GHz over 12Kms – this is believed to be a world first on that band. This success follows several narrow band QSOs and one way DATV contacts over 11 and 29km.

The equipment in use is standard narrow band equipment driven by Portsdown at 144 MHz and received by MiniTiouner, also at 144 MHz IF. G8GTZ used the UK microwave group loan equipment with a harmonic mixer and no LNA on receive and approximately 5mW on transmit. G4LDR used a homebuilt transverter with a reversible amplifier used on transmit and receive (13mW TX and 6dB NF).

The path used during the contest was a short clear line of sight path to guarantee the contact but it is planned to do more tests during the summer over much longer paths.



DATV picture of G4LDR/P received by G8GTZ/P during the first ever two way contact on 76GHz

…..and finally

The deadline for activity reports to be included in the next issue is Sunday 1st July 2018.

News from Ofcom

Ofcom has today [Wednesday, 27 June 2018] published a consultation on UK Broadband's request to vary its licence for use of spectrum in the 3.6 GHz band.

UK Broadband, which was acquired by Hutchison 3G UK Limited in 2017, holds a licence to use two separate 84 MHz blocks of spectrum within the 3.6 – 4.2 GHz frequency range.

UK Broadband has requested the following changes to their licence:

- to shift its lower frequency block down by 5 MHz;
- to reduce its frequency holding in its lower frequency block by 4 MHz;
- to update the technical requirements that would apply to the frequencies 3600 – 3680 MHz
- to allow a transitional period for these changes to take effect.

The variation would increase the amount of contiguous spectrum available when we auction airwaves in the 3.6 – 3.8 GHz band next year.

Our [Ofcom] provisional view, subject to consultation, is that it is appropriate to grant the requested variation.

This consultation closes on 8 August 2018.

Beginners workshop on SDR programming using the Gnu Radio Companion

John Worsnop G4BAO

On the day before the RSGB Convention, Friday the 12th of October, Kent's Hill Conference Centre Milton Keynes will be hosting a *"Beginners workshop on SDR programming using the Gnu radio companion"*

The course will be for RSGB members and based around "Gnu Radio" a free, graphical, software development toolkit that provides signal processing blocks to implement software-defined radios and signal-processing systems. It is widely used in hobbyist, academic, and commercial environments to support both wireless communications research and real-world radio systems. This is a PROGRAMMING course, so is aimed at people who want to create their own SDR Applications.

The Course Team

The course will be led by Derek Kozel MW0LNA, a Carnegie Mellon University graduate and Software Design Engineer at Ettus research, and Heather Lomond MIET, M0HMO an Embedded Software Engineer, specialising in Linux, audio and memory systems for mobile phones.

Delegate Requirements

As part of the course fee of £60, the course delegates will be provided with an "RTL Dongle" type SDR receiver and all the required software on a memory stick plus lunch and refreshments throughout the day.

Delegates must provide their own (preferably laptop) computer, meeting a minimum specification of, two or more USB ports, preferably one of which is USB 3.0, 4 GB or more of RAM, Wifi, Intel or AMD processor.

Numbers are strictly limited to 20 on the day. You may apply for a place at the workshop by emailing john@bravoao.co.uk requesting an application form. This will describe the course in more detail and in the interests of getting a balanced course intake it will ask you to provide a brief resume of your interests in Amateur radio and how you plan to use the knowledge gained on the day in advancing the SDR aspect of our hobby.

For further information see http://rsgb.org/sdr-workshop

Some links to whet your appetite

Getting Started 1	https://wiki.gnuradio.org/index.php/Guided_Tutorials
Getting Started 2	https://hackaday.com/2015/11/11/getting-started-with-gnu-radio/
The Manual	https://www.gnuradio.org/doc/doxygen/index.html

80m UK Microwavers net

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

73 Martyn Vincent G3UKV

RALRT 2018 – 17th June

Mike, G8CUL/F4VRB

There was a good turn-out at the RAL Round Table on the 17 June, again held at the Chilton Village hall. About 60 people attended with a number of stalls all selling interesting 'stuff'.

Some of the stalls

Three talks were presented, Gordon, G3WJG helped by Carl, M0ICR introduced us to a low-cost way of getting on the µwave bands using inexpensive modules from China.

This was followed by Dave, G8GKQ on Microwave digital TV made easy, demonstrating some 24GHz live TV pictures.

Finally, Mike, G8CUL showed the work he has done on his mWatt, multi-head power meter which won heat 1 of the project competition at the MMRT in April. Mike also talked about getting good quality low-cost boards made in China and what was needed to achieve it.

John, G3XDY and Dave, G4FRE judging the Project Competition

The project competition had 3 entries and was won by Dave, G8GKQ with his Portsdown transmitter control system. More details on the RALRT heat of the Project Competition in Scatterpoint next month.

Dave, G8GKQ receiving the Project Competition winner's cup from Mike, G8CUL

Food and drinks were provided by the Harwell Amateur Radio Society, led by Ann, G8NVI who did sterling work making the bacon butties in the morning. I'm sure the smell of the cooking bacon lured many into the hall!

Mike, G8CUL/F4VRB

Events calendar

2018

June 1–3	Ham Radio, Friedrichshafen	www.hamradio-friedrichshafen.de/
June 17	RAL, Chilton Village Hall OX11 0SH	www.microwavers.org/ral-2018.htm
July 7–8	Finningley RT	www.g0ghk.com/
August 17–19	EME2018, Egmond aan Zee,NL	https://www.eme2018.nl
Sept 7–9	63.UKW Tagung Weinheim	www.ukw-tagung.de/
Sept 9	Crawley Round Table	https://crawleyuwavert.blogspot.co.uk
Sept 15–16	BATC Convention (CAT 18), Midlands Air Museum	https://forum.batc.org.uk/viewforum.php?f=115
Sept 23–28	European Microwave Week, Madrid	www.eumweek.com/
Sept 28–29	National Hamfest	www.nationalhamfest.org.uk/
Oct 11–14	Microwave Update, Fairborn, Ohio USA	www.microwaveupdate.org/
Oct 12–14	RSGB Convention & AMSAT Colloquium	http://rsgb.org/convention/
Nov 3 tbc	Scottish Round Table	www.gmroundtable.org.uk

2019

May 17–19	Hamvention, Dayton	www.hamvention.org/
June 21–23	Ham Radio, Friedrichshafen	www.hamradio-friedrichshafen.de/
Sept 15–20	European Microwave Week, Utrecht	www.eumweek.com/

NB Some of the 2018/19 event links may not be working/updated yet.

Very Last Call for EME2018

ATTENTION!: All registrations (hotel + excursions) will be closed on the **30th of June**. Any registrations done after this date will not be processed anymore.

To all who are thinking about participating in EME 2018 and did not book yet. You only have a few days left to book. The booking agency will close the booking part of the website at the end of June.

We simply need the time to order all items, organise the tours, print the papers etc. To do that correctly we need to know the exact number of participants.

The booking module is not the most user friendly software I ever saw (to put it mildly...) But we cannot change it, so that is how it is.

Only the most popular arrangements can be booked via the website. If you want something else, that is perfectly possible!

Rooms are reserved for us until the end of June.To arrange things the way you want it you can e-mail the hotel: t.schripsema@zuiderduin.nl

Looking forward meeting many of you in Egmond aan Zee and in Dwingeloo at PI9CAM!

73! Jan

PA3FXB (team PI9CAM)