



An Amateur Radio publication for the Microwave Enthusiast

scatterpoint

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A Low pass filter for 1.3GHz

Ken Vickers G3YKI



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80m UK Microwavers net
Tuesdays 08:30 local on 3626 kHz (+/- QRM)

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Loan Equipment

Don't forget, UKμG has loan kit in the form of portable transceivers available to members for use on the following bands:

5.7GHz 10GHz 76GHz

Contact John G4BAO for more information.

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 the [Yahoo group](#) and/or Dropbox.

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, rtf, 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 your co-operation.

Martin G8BHC

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.

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

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

UKμG Chip Bank – A free service for members

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

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 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.

Minimum quantity of small components supplied is 10. Some people have ordered a single smd resistor!

The service may be withdrawn at the discretion of the committee if abuse such as reselling of components is suspected.

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. G4HUP's [Inductance/capacitance meter](#) with SM probes is ideal for this (Unsolicited testimonial!)

Don't forget it is completely free, you don't even have to pay postage!

Mike G3LYP

UKμG Project support

The UK Microwave Group is pleased to encourage and support microwave projects such as Beacons, Synthesiser development, etc. Collectively UKμG 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 UKμG 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 UKμG 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

AGM

A final reminder that the 2016 Annual General Meeting of the UK Microwave Group will be held at 10:00am on Sunday, 17 April 2016 as part of the Martlesham Microwave Round Table event which takes place over that weekend.

This will include the election of the officers of the committee and the presentation of the Chairman's, Secretary's and Treasurer's Annual Reports.

This year the following Committee officers/members are standing down:

- Bob Price G8DTF is retiring as Chairman and Activity Report editor for Scatterpoint
- Chris Whitmarsh G0FDZ is standing down from the committee

Other existing committee members are prepared to stand again, however new members would be very welcome.

Vacancies

- The position of Trophies Manager still needs to be filled.

The Trophies Manager

- i. is responsible for ensuring that the Committee decides in good time to whom to award the UKμG Annual contribution trophies.
 - ii. liaises with the Contest manager as to whom to award the Operation Trophies.
 - iii. is responsible for the safe keeping of the trophies and having them engraved with the Winner's callsign where necessary.
 - iv. ensures that the Trophies get to the relevant event for presentation by the Chairman and that a record is kept of all winners past and present.
- Scatterpoint editor Martin G8BHC needs a deputy able to cover for holidays/illness and to take over the Activity Reports section.

We are therefore interested to hear from anyone who would be willing to take on these vital UKμG positions. Any UKuG member wishing to stand should notify the UKμG Secretary, John Quarmby G3XDY, by 18th March 2016.

If you have any agenda or AOB items for the AGM then please contact the UKμG Secretary, John Quarmby G3XDY by 18th March 2016, email: secretary@microwavers.org

RSGB Job Vacancy – Microwave Manager

Following the recent appointment of Murray Niman G6JYB to be the overall Chair of the Spectrum Forum, the Society is now seeking applications for his previous role of Microwave Manager.

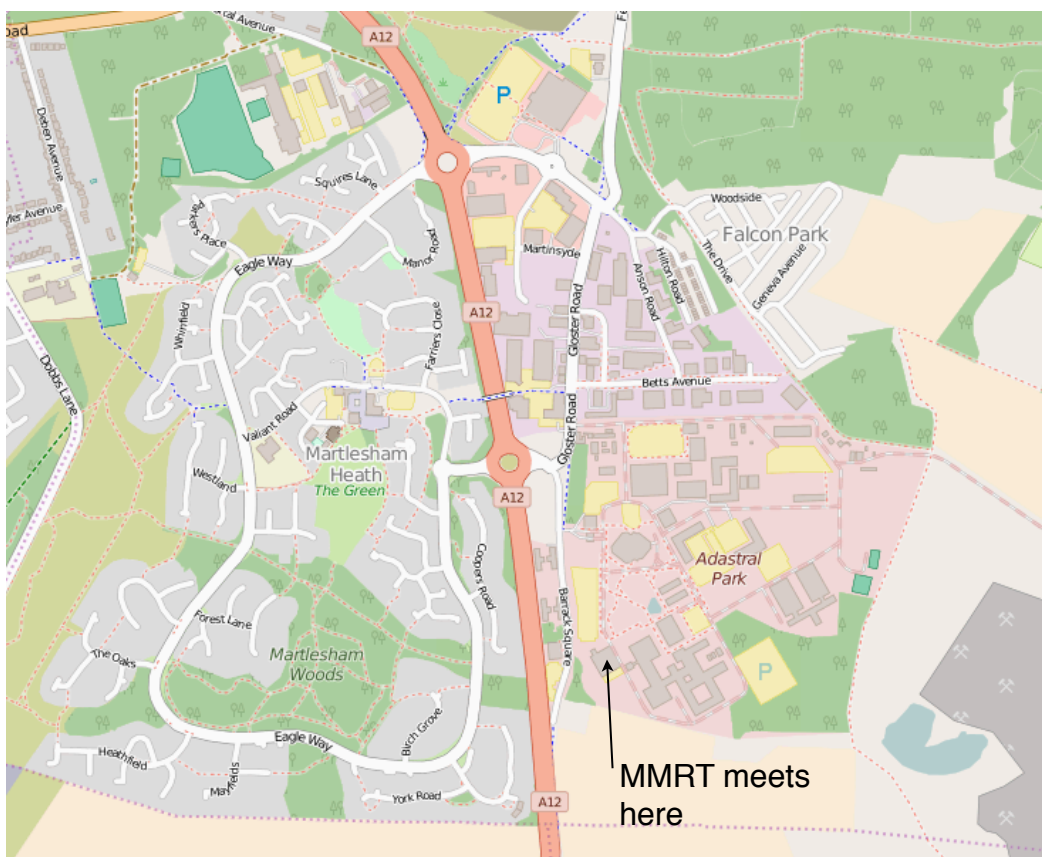
Whilst the full terms of reference can be found on the RSGB website <http://rsgb.org/main/about-us/honorary-officers/microwave-manager/>, applicants should be knowledgeable in microwave operation and technology developments.

Candidates should ideally have experience in spectrum management matters, good communication skills and be able to develop good working relations with the groups represented on the Spectrum Forum as well as bodies such as Ofcom and IARU Region-1.

The successful applicant will join the RSGB Spectrum Forum and, as with all positions within the Society, will be required to subscribe to the Society's Code of Conduct and Ethos, which is detailed on the RSGB website here <http://rsgb.org/main/about-us/rsgb-code-of-conduct/>.

Candidates should apply with a short CV to Graham Coomber, G0NBI, RSGB General Manager, via email to graham.coomber@rsgb.org.uk.

Martlesham Microwave Round Table Programme



Saturday 16th April 2016

10:00 Truck Stop Breakfast ([Orwell Crossing Lorry Park](#))

12:00 Doors Open

Refreshments available from 12:00 (drinks, biscuits & sandwiches)

13:00 Welcome & opening

13:15 G8KQW - '*134GHz The New Frontier - a progress update*'

14:15 WA5VJB - '*Circular polarisation*'

15:00 Refreshments

15:15 G4HUP - '*Dish Azimuth Drive Update*'

19:30 Meet for Dinner at 20:00

Sunday 17th April 2016

09:00 Doors Open

09:50 Welcome and Opening

10:00 UK Microwave Group AGM, Trophy Presentations

10:45 Refreshments & Judging of the Construction Contest

11:00 G4BAO - '*Using your 2300MHz NoV – options and ideas*'

11:45 G8GTZ - '*Tim Peake, on a TV near you*'

12:30 Lunch Break

13:30 G8DKK - '*23cm and 13cm PA LPFs*'

14:15 C8CUB/G0FDZ - '*241GHz- a new challenge*'

15:00 Refreshments

15:15 UKuG Contest Forum - John G3XDY

16:00 Close

Martlesham Round Table and UKμG AGM

The MMRT web site <http://mmrt.homedns.org> is live.

Booking closes Midnight Sunday 10th April

The 2016 Martlesham Microwave Round Table is planned for the weekend of 16th and 17th April 2016, at the Adastral Park, Martlesham, Ipswich.

This year the dinner will be held at the Holiday Inn Ipswich, London Road, IP2 0UA and accommodation is available at concessionary rates. See <http://www.hiipswichhotel.co.uk>

Concessionary room rates are £65.00 double/twin B&B and £55 single B&B for the 16th April.

Please book by phone (not via their web site) on **01473 786700** and quote booking code **MGG**.

Dinner Menu

Please book for the dinner on the main registration page

Starters

Honey Roasted Carrot and Parsnip Soup
Prawn and Crayfish Cocktail with Marie Rose Sauce
Brussels Pate with Onion Chutney and Toasted Ciabatta

Main Courses

Roasted Pork Rump with Cassoulet
Grilled Smoked Cod Loin with Beetroot, Sauteed New Potatoes and Samphire
Spinach and Ricotta Cannelloni with Garlic Ciabatta and Roquette and Parmesan Salad

Desserts

Homemade Chocolate Brownie with Chocolate Sauce and Vanilla Ice Cream
Sticky Toffee Pudding with Toffee Sauce and Caramel Ice Cream
Vanilla Bean Panna cotta with Coffee Syrup and Chantilly Cream
Tea and Coffee

Price: £20.00 per person

Travel

The talks and testing will be held at:

BT Adastral Park,
Martlesham Heath,
Suffolk, IP5 3RE.

This is located a few yards off the A12, just east of Ipswich. [CLICK](#) for map.

The evening meal and accomodation will be at:

Holiday Inn Ipswich, London Road, Ipswich, IP2 0UA

See <http://www.hiipswichhotel.co.uk>

A regular bus service between Ipswich and Stansted is available at a reasonable price.

For more details and booking, see : <http://www.nationalexpress.com/>

Refreshments

The usual catering services of sandwiches, biscuits, hot and cold beverages will be available on both days.

BroadBand HamNet (BBHN) Meeting 22nd May 2016

Location: Crawley Amateur Radio Club <http://www.carc.org.uk/>

A get together of BBHN Mesh Operators and those interested in this system of digital communications on the amateur microwave bands

We will be holding an initial meeting for all those interested in BBHN and hope to attract attendees from across the southern part of England for this event. Objectives for the day are to introduce the Mesh Network concept to newcomers and to allow existing operators to exchange information, opinions and even system components!

The morning will feature introductory presentations and a brief demonstration of a small BBHN system running on 2.4 GHz. Easily available and low-cost digital microwave transceivers will be displayed and explained which all use Open Source, FREE software/firmware!

The program of the meeting is flexible and, after lunch, will include open discussions on the potential for forming a UK-wide organisation to promote BBHN and microwave Mesh networking.

The usual "legendary" hospitality of CARC will be available including the famous bacon butties!

Please come out of the Cloud and Mesh together in a friendly environment.

Please contact Ted, G4ELM on BBHN.Event.2016@gmail.com to receive a copy of the agenda and to indicate likely attendance numbers - as a courtesy to the organisers and the venue hosts.

Access to Site:

The access road into Tilgate Recreational Centre and the CARC Clubhouse (Hut18) is via the slip-road at the new traffic lights on the southbound carriageway of the A23 (Brighton Road), just south of Crawley heading towards Brighton, and about 200m from the Broadfield Football Stadium roundabout which is well signposted.

The Clubhouse is accessed via a fairly narrow track for about 200m. Watch out for deliberate pinch points and other traffic restricting measures then turn right at the 3rd sleeping policeman!

More Detailed Directions are available on the [CARC Web site](#).

80m UK Microwavers net

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

Every Tuesday there is a μ Wave net on 80m – it was mentioned in the November Scatterpoint Activity News.

There is only a very small group of us currently active – come and join us!

Essentially, the UK Microwave net is held on Tuesday mornings from 08:30 on, or close to, 3626 kHz. Typically it lasts about half an hour at present. All are welcome to join in to share with others what they are up to, planning, worked, constructed, tested or experimenting with. Sometimes the content is unrelated to microwaves, but that's 80m for you!

73Martyn Vincent G3UKV

New RSGB General Manager

Steve Thomas, M1ACB, has been appointed as the new RSGB General Manager to succeed Graham Coomber G0NBI. Steve has volunteered for the Society since 2008. He has been part of the local Regional Team that supports radio amateurs throughout East Anglia, and has also volunteered in national roles as Secretary of the Regional Council and a member of other groups and committees. Recently, he has been part of the team supporting the ARISS schools contacts with Tim Peake, working with many of the schools and local clubs involved.

<http://rsgb.org/main/blog/news/gb2rs/headlines/2016/04/05/rsgb-announces-new-general-manager/>



Steve at the Bawdsey Manor event on Feb 2010 GB70BRS

A Low Pass Filter for 1.3 GHz

Ken Vickers G3YKI

We are encouraged to use low pass filtering when using solid state amplifiers on the GHz bands, especially because in recent years the power used by amateurs and the occupancy of the adjacent bands have all significantly increased. For high power I am still using a valve, but I have a lower power solid state driver system under construction.

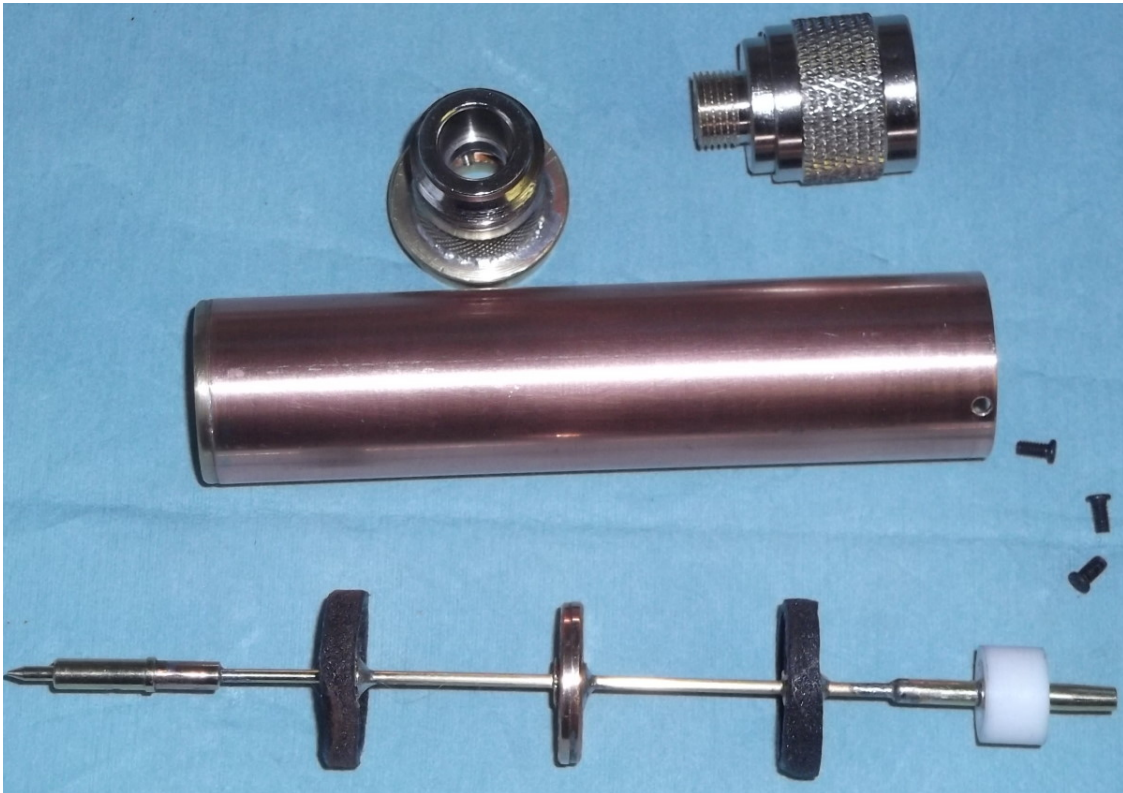
While there are lots of designs around for bandpass filters for microwave amateur bands, these generally use resonators which will have additional transmission pass bands at, or close to, harmonic frequencies so not ideal for harmonic suppression.

Low pass filters classed as "semi-lumped component" are described in some detail by Matthaei et al. [1] where the concept is explained and detailed design procedure is provided. They can provide a more extended stop band. Effectively they use short lengths of transmission line to approximate the L's and C's of the lumped component filter you would use at low frequency. In the book, an example filter was designed built and tested for 1.9GHz, so not far from what we need for 23cm, with no spurious responses below 7.7Ghz. Filters of this type are widely used, and are what you would probably get if you were to purchase a commercially made filter. So here is one I made earlier.....

I copied the equations into "mathcad" to design a 7 element filter and chose a cut-off frequency of 1.5GHz.

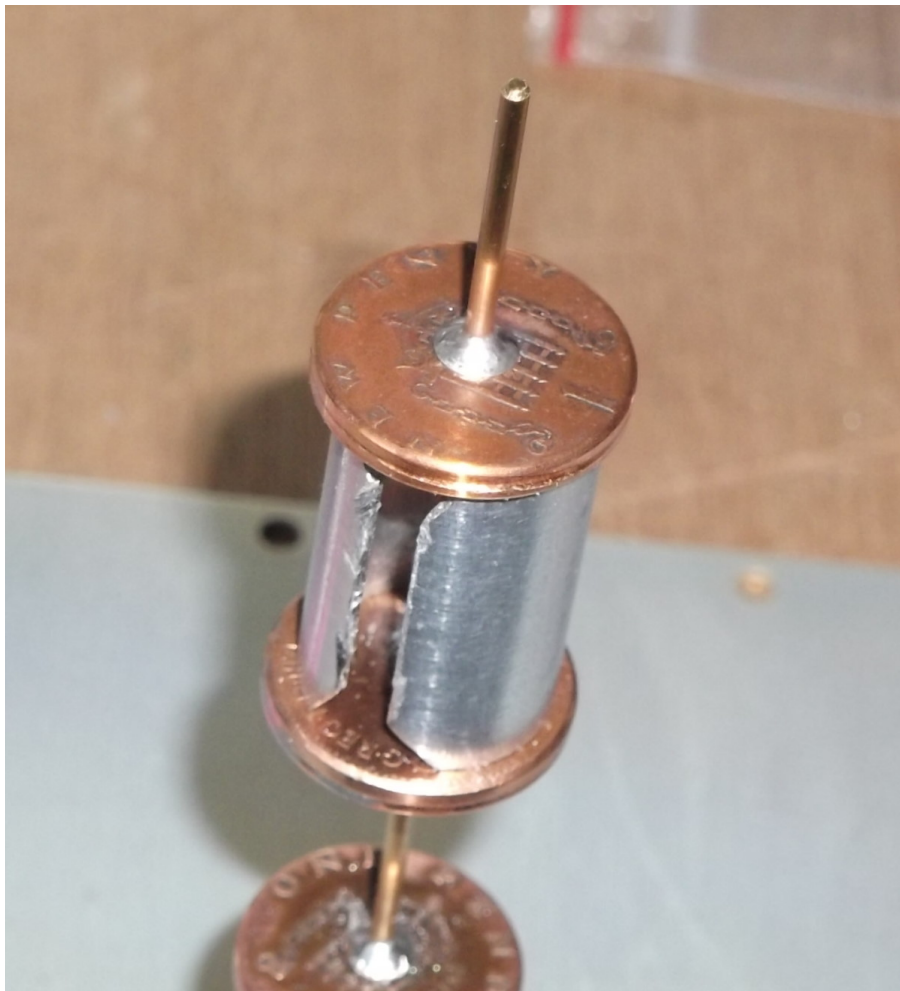
Materials used for the experiment were largely what was to hand. The inner is 1/16" brass brazing rod which is hard enough to withstand the handling without permanently bending, 22mm copper water pipe for the outer, and the discs are pennies (old copper ones, not the more recent steel ones!).

To get the 3mm thickness required two discs are soldered together so six are used in total.



Parts for the low pass filter.

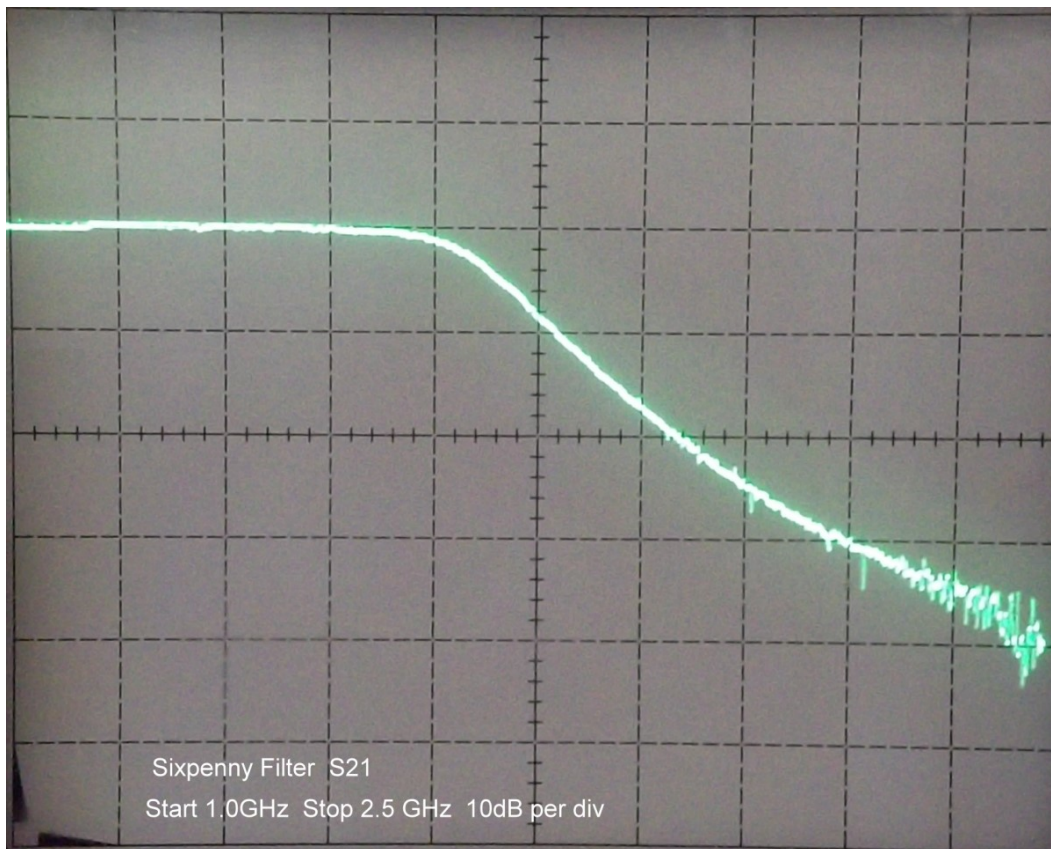
For the final assembly I put some foam around the outside of two outer discs in order support the inner and help maintain coaxial symmetry. The dielectric constant of an insulator at that point can be included in the design if required, and will affect both the velocity and characteristic impedance of the low impedance element. Mine was designed for air, but the foam, if anything, improved the match at 1.3 GHz and will have negligible effect on the stop band.



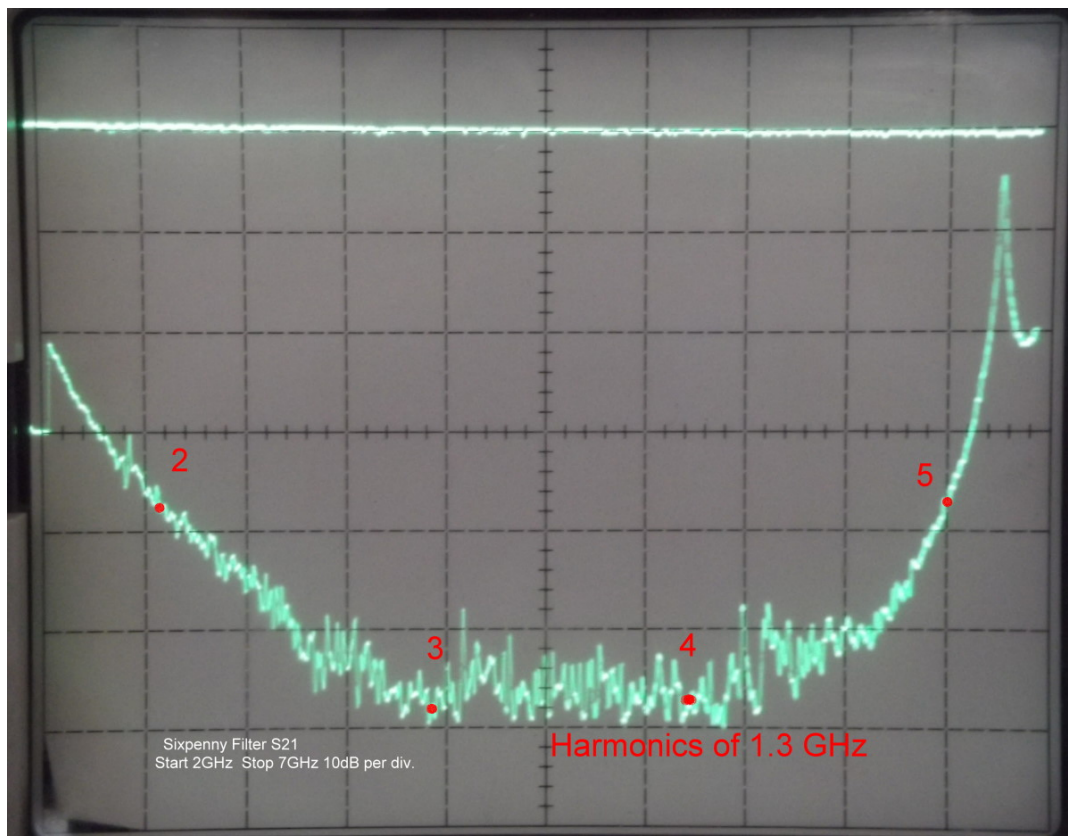
A temporary spacer helps get the discs square and at the right spacing when assembled.



Return Loss



Through loss: (Loss at 1.3GHz is about 0.15dB)



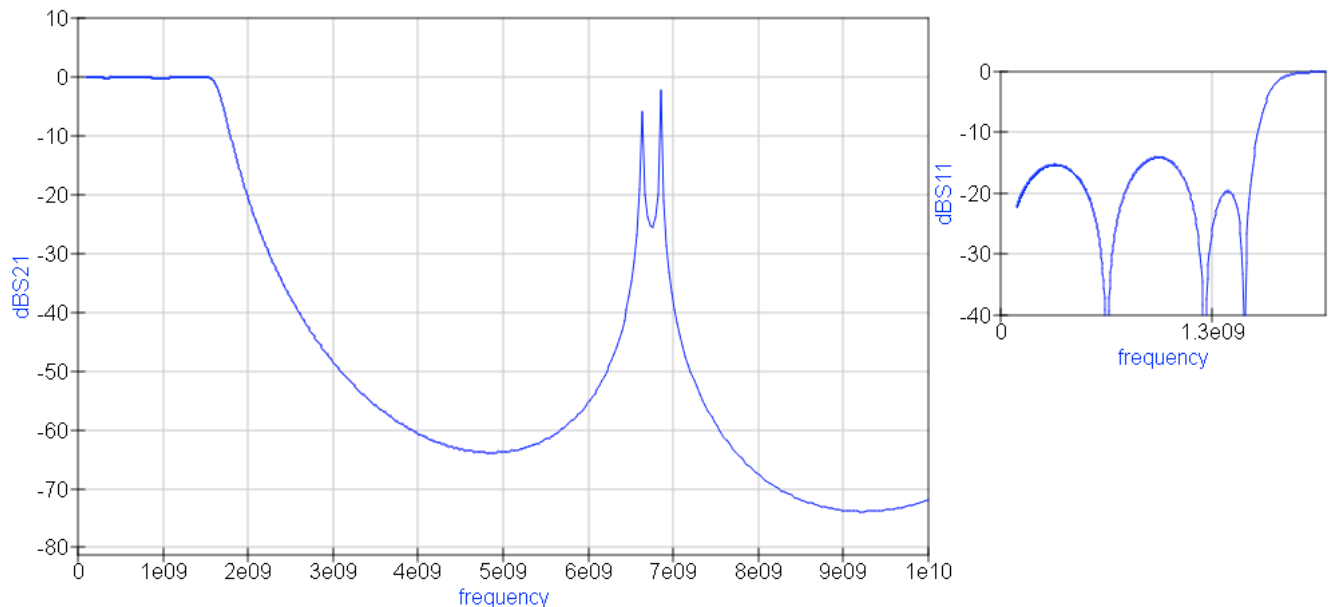
Stop Band:

A feature of the response of this filter is the significant transmission at 7 GHz. However, this is not a harmonic of 1.3 GHz, and all the harmonics are suppressed by at least 30dB. This is somewhat fortuitous, as it is not considered in the design calculations. It is a result of high impedance lines becoming half wave resonators at that frequency, so well beyond the validity of the assumptions (lumped components) made in the design.

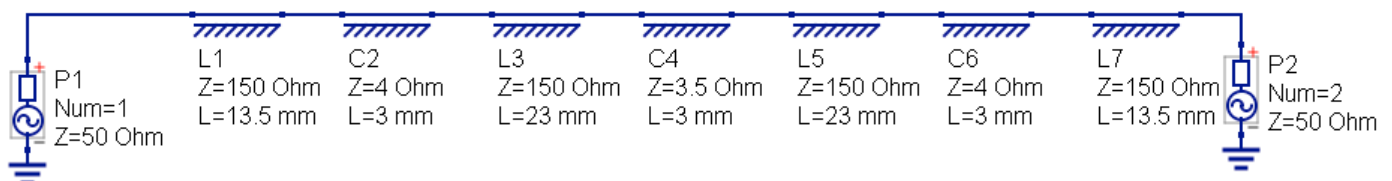


Because of the items used in the construction I called this the "Sixpenny Filter"

I subsequently experimented with the simulator "QUCS", which does successfully model the 7 GHz response.



There is scope for adjusting the spurious response and for other methods of construction such as different forms for the capacitive elements, which might lead me to offer more thoughts next month.



S parameter simulation

SP1
Type=log
Start=100MHz
Stop=10GHz
Points=1000

Equation

Eqn1
 $dBS21 = dB(S[2,1])$
 $dBS11 = dB(S[1,1])$

Chebyshev low-pass filter
1.5GHz cutoff, transmission line
impedance matching 50 Ohm

QUCS Model

Reference

1. [Matthaei, Young and Jones](#) "Microwave Filters, Impedance Matching Networks and Coupling Structures" is available on line at www.microwaves101.com/download-area

March 2016 Lowband Contest Results

Despite the DX available from EU stations in this event, the number of entries was poor.

Conditions were flat but the leading stations managed some good DX.

The Combe Gibberlets group (M0HNA/P) had a substantial lead on 1.3GHz and worked a lot of good DX, with the highest QSO total seen in a Low Band event for some time. Runner up was Neil G4LDR.

2.3GHz did not fare so well, although some good distances were worked. M0HNA/P and G4LDR were again the winner and runner up on this band too.

The leading positions were reversed on 3.4GHz with Neil G4LDR taking the honours this time, with much better DX worked than usual.

The Combe Gibberlets group were overall winners, with Neil G4LDR in overall runner-up position and leading fixed station.

Certificates go to M0HNA/P as overall winner, to G4LDR as runner-up and to the following band leaders, runners-up and leading portable and low power stations.

1.3GHz	M0HNA/P, G4LDR, G3YJR
2.3GHz	M0HNA/P, G4LDR
3.4GHz	G4LDR, M0HNA/P, M0GHZ

Normalised scores will be included in the overall championship table which will be published when the results of the next low band contest are available.

John G3XDY
UKuG Contest Manager

March 2016 Low Band Contest Results						
Overall						
Pos	Callsign	1.3GHz	2.3GHz	3.4GHz	Overall	
1	M0HNA/P	1000	1000	962	2962	
2	G4LDR	379	380	1000	1759	
3	G3UKV	209	282	646	1137	
4	M0GHZ	141	197	340	678	
6	G4BRK	90	24	229	343	
8	G8EOP	6	218	0	224	
5	G3YJR	139	0	0	139	
7	G3ZMF	29	0	0	29	

1.3GHz						
Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX km
1	M0HNA/P	IO91RF	31	7393	DF0MU	549
2	G4LDR	IO91EC	12	2800	PI4GN	620
3	G3UKV	IO82RR	11	1548	G3XDY	265
4	M0GHZ	IO81VK	6	1045	G4KCT	289
5	G3YJR	IO93FJ	6	1024	M0HNA/P	251
6	G4BRK	IO91HP	5	662	G3YJR	195
7	G3ZMF	IO91VH	4	216	G4KIY	140
8	G8EOP	IO93EQ	1	48	G4KCT	48
2.3GHz						
Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX km
1	M0HNA/P	IO91RF	13	3089	DF0MU	549
2	G4LDR	IO91EC	5	1173	DF0MU	626
3	G3UKV	IO82RR	6	871	M0HNA/P	216
4	G8EOP	IO93EQ	2	672	DF0MU	624
5	M0GHZ	IO81VK	4	609	G4KCT	289
6	G4BRK	IO91HP	1	75	M0HNA/P	75
3.4GHz						
Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX km
1	G4LDR	IO91EC	6	1236	DF0MU	626
2	M0HNA/P	IO91RF	6	1189	DF0MU	549
3	G3UKV	IO82RR	5	798	M0HNA/P	216
4	M0GHZ	IO81VK	3	420	G3XDY	246
5	G4BRK	IO91HP	3	283	G3UKV	145

G4HUP now trading as hupRF



Dave has told Scatterpoint that as of the beginning of April, the trading name has become hupRF. This is now a full time business, and will continue to provide quality products for the experimenter and builder of RF modules.

All previous products will continue to be supported, and information will be accessible via the new website at <http://hupRF.com>

A new product has been released at the same time – an upgrade kit for the DA1-4HL distribution amplifier to convert it to the 8 channel version – the DA1-8U. Details can be found on the website.



Activity News : March 2016

By Bob Price G8DTF

Please send your activity news to:

scatterpoint@microwavers.org

Introduction

This month there are some reports of activity in the Low Band contest, UKACs, some millimetre wave activity and some Monday Night Activity.

The time has come for me to hand over the column to someone else. I am now finding it difficult to do too much typing as the tremor in my hands has become much worse this year. This has also ended my ability to solder and build equipment. Operating has also become more difficult and I have not been active since last year.

Monday Night Activity

From John G7JTT IO90

After several failed attempts to work anyone on 3cm from home I've now got the 3cm portable gear to a point that I'm happy with, so I hope to be portable from Pickets Post IO90DU25 from 7:30pm onwards. I will have KST and limited 2m or I can give out my mobile for those who would like to give it a go. The next thing on the agenda is getting a better 2m portable set up as a FT290 with a whip ain't go'na work that well HI.

March Low Band Contest 6th March

From Martin GM8IEM in IO78

Although there isn't an entry from me I had some fun attempting to make some 23cm contacts. My first try was with Pete, GM4BYF – we made a few attempts via Aircraft Scatter, but the most success we had was a brief 3 seconds of audio from each other, not enough to make a contest exchange. Unfortunately Pete had limited time available, so we weren't able to continue the tests. Thanks to all the stations who contacted me to attempt QSOs – unfortunately AS on this occasion wasn't helped by poor tropo conditions and lack of suitable flights, and none of the attempts were successful. Also, a couple of stations I can usually work were absent or went QRT before I had the opportunity to work them. I shall unfortunately miss the April contest, although plan to be active in May when hopefully conditions will be rather more favourable.

From John Quarmby G3XDY

1.3GHz >400km

DH1FM	JO60
DF0MU	JO32
DL3IAS	JN49
DL0GTH/P	JO50
DG5ACX/P	JO52
DF4IAO	JN48
DL3IAE	JN49
DJ5AR	JN49

2.3GHz >300km

DL3IAS	JN49
DL0GTH/P	JO50

PI4GN	JO33
DF0MU	JO32
DK0PU	JO31

3.4GHz >200km

PI4GN	JO33
DF0MU	JO32
DK0PU	JO31
G4LDR	IO91
M0GHZ	IO81

10GHz

DF0MU	JO32
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1.3GHz UKAC/NAC 15th March >400km

From John Quarmby G3XDY

SK7MW	JO65
DL3IAS	JN49
DJ5AR	JN49
DL3IAE	JN49
DL0VV	JO64
DF9IC	JN48
OZ1FF	JO45
OZ9KY	JO45
OZ9ZZ	JO46
GM4JTJ	IO86
GM4JR	IO85
GD8EXI	IO74

I was away for the SHF UKAC but should be QRV in April.

Other 10GHz activity

From Steve G4HTZ JO01JN

March started off well on 10GHz , working on ssb

ON4CDU at 276km	57
G4LDR at 178km	57
ON7FLY at 180km	59 SSB and FM

All on what appeared to be flat conditions ??

Being new on 10GHz was pleased with results from the 10W transverter set up.

Unfortunately TVI to a neighbour's sky system has somewhat curtailed base station operations until it can, hopefully, be resolved.

From Roger Ray G8CUB

Just one QSO to report, for 20th March.

Working as G8CUB/P from One-Tree-Hill, Basildon, Essex JO01FN31 I worked Chris G0FDZ/P across the Thames at Higham Kent JO01FK60 on 134.4GHz, his report 579, mine was 549 but peaked S7.

Distance was 14.7km. This was a first 2-way contact for us at that distance.

I was limited to using a rather flimsy camera tripod, as I had to carry the gear up a hill in one go!

Millimetre Wave Activity

From Keith GW3TKH IO81

An update on our 76GHz progress:

The 76GHz gear is now in a portable form and was recently tested successfully across the garden on a rare dry day!

On Good Friday, Pete (G(W)4HQX) and I did some tests to get the hang of alignment over distance at this higher mm band. The first test was over a distance of 0.9Km from Cefn y Galchen to Pen-fford-goch, then 3.1Km across Cwm Afon from Pen-fford-goch to Waun Hoscyn.

Signals were S9 both ways in FM & SSB and the Elcom synthesisers very stable once warm. We have no way of measuring the power, but guess less than 100µW.

A longer path test across the Severn Estuary will take place soon.



Path across Cwm Afon

EME Beacon

From Per Dudek DK7LJ via moon-net

I am sorry to say that the 10GHz EME beacon had stopped transmitting today (4 April). I am busy renewing the complete tracking system, hardware and software. That may take a month. I will inform you when the beacon starts again.

... and finally

I want to encourage you to get on the air as often as possible and report your activity to clearly document use of the amateur microwave bands. This means not just DX or EME, but also local activity with ATV, low power or WB equipment.

Please send your reports to Scatterpoint@microwavers.org, and remember the deadline is the 1st of the month.

Editor's post script

As you will have seen from the AGM reminder on page 5 and the introduction to this column, Bob is stepping down as Chairman of UKμG and as editor of the Activity column. It has been a great support to have Bob doing this column and we wish him well.

Perhaps it is now time for younger members to step up and volunteer? No excuse that you are too busy – just wait until you retire – you'll be even busier ;-).

Still waiting for a volunteer....<cough>

73 Martin RH G8BHC

UKμG Microwave Contest Calendar 2016

Dates	Time UTC	Contest name	Certificates
6-Mar	1000 - 1600	1st Low band 1.3/2.3/3.4GHz	F, P,L
10-Apr	1000 - 1600	2nd Low band 1.3/2.3/3.4GHz	F, P,L
8-May	0800 - 1400	3rd Low band 1.3/2.3/3.4GHz	F, P,L
29-May	0600 - 1800	1st 5.7GHz Contest	F, P,L
29-May	0600 - 1800	1st 10GHz Contest	F, P,L
5-Jun	1000 - 1600	4th Low band 1.3/2.3/3.4GHz	F, P,L
19-Jun	0900 - 1700	1st 24GHz Contest	
19-Jun	0900 - 1700	1st 47GHz Contest	
19-Jun	0900 - 1700	1st 76GHz Contest	
26-Jun	0600 - 1800	2nd 5.7GHz Contest	F, P,L
26-Jun	0600 - 1800	2nd 10GHz Contest	F, P,L
17-Jul	0900 - 1700	24GHz Trophy / 47 / 76/122-248 GHz	
31-Jul	0600 - 1800	3rd 5.7GHz Contest	F, P,L
31-Jul	0600 - 1800	3rd 10GHz Contest	F, P,L
14-Aug	0900 - 1700	3rd 24GHz Contest	
14-Aug	0900 - 1700	3rd 47GHz Contest	
14-Aug	0900 - 1700	3rd 76GHz Contest	
28-Aug	0600 - 1800	4th 5.7GHz Contest	F, P,L
28-Aug	0600 - 1800	4th 10GHz Contest	F, P,L
11-Sep	0900 - 1700	4th 24GHz Contest	
11-Sep	0900 - 1700	4th 47GHz Contest	
11-Sep	0900 - 1700	4th 76GHz Contest	
25-Sep	0600 - 1800	5th 5.7GHz Contest	F, P,L
25-Sep	0600 - 1800	5th 10GHz Contest	F, P,L
13-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)

Contest results are also published online – please follow the link from the UKuG Contests page at:

www.microwavers.org/?contesting.htm

73

John Quarmby G3XDY

Microwave activity days in France. Journées d'Activité

JA March	WE 26 & 27	JA July	WE 30 & 31
JA of April	WE 23 & 24	JA August	WE 20 et 21
JA May	WE 28 et 29	JA September	WE 24 & 25
JA June	WE 18 & 19	JA October	WE 29 et 30

On the 17th July in the morning will be a special JA in memory of F6BSJ, all contacts will be done by reflection on Mont Blanc.

73 Jean Paul F5AYE

Events calendar

2016

Jan 23	Heelweg	www.pamicrowaves.nl/
Feb 13	Tagung Dorsten	www.ghz-tagung.de/
Apr 9	CJ-2016, Seigy	cj.ref-union.org/
Apr 16–17	Martlesham Microwave Round Table & UK μ G AGM	http://mmrt.homedns.org
Apr 16–17	IARU-R1, Vienna	
Apr 16–17	EUCARA (European Conference on Amateur Radio Astronomy)	https://www.eucara.nl
Apr 23	RSGB AGM, Scotland	rsgb.org/agm
May 20 – 22	Hamvention, Dayton	www.hamvention.org/
May 22	BroadBand HamNet (BBHN) Meeting, Crawley ARC	BBHN.Event.2016@gmail.com
June ?	“RAL” Round Table (RAL will probably change venue again to Chilton)	
Jun 24 – 26	Ham Radio, Friedrichshafen	www.hamradio-friedrichshafen.de/
July 9–10	Finningley Round Table	
Jul 29 – 31	Amsat-UK Colloquium, Holiday Inn, Guildford	www.amsat-uk.org/colloquium/
Aug 19–21	EME2016, Venice	www.eme2016.org/
Sept 9–11	61.UKW Tagung Weinheim	www.ukw-tagung.de/
Sept 18	Crawley Round Table	
Sept 24 –25	BATC Convention, RAF Museum Cosford	www.batc.org.uk/convention.html
Sept 30–Oct 1	National Hamfest	www.nationalhamfest.org.uk/
Oct 3 – 7	European Microwave Week, London	www.eumweek.com/
Oct 7 – 9	RSGB Convention	rsgb.org/convention/
Oct 14–15	Microwave Update, Saint Louis, Missouri	www.microwaveupdate.org/
Nov 12 (tbc)	Scottish Round Table	www.gmroundtable.org.uk/

2017

Jun 23 – 25	Ham Radio, Friedrichshafen	www.hamradio-friedrichshafen.de/
Oct 6 – 8	RSGB Convention	rsgb.org/convention/
Oct 8 – 13	European Microwave Week, Nurembourg	www.eumweek.com/

2018

June 22–24	Ham Radio, Friedrichshafen	http://www.hamradio-friedrichshafen.de/
Sept 23–28	European Microwave Week, Madrid	http://www.eumweek.com/

NB Some of the 2017/18 event links may not be working yet.