

VK3NX – OK1KIR QSO 16/11/2013 24 GHz JT4

CW Contact also followed

19/11/2013

Equipment VK3NX:

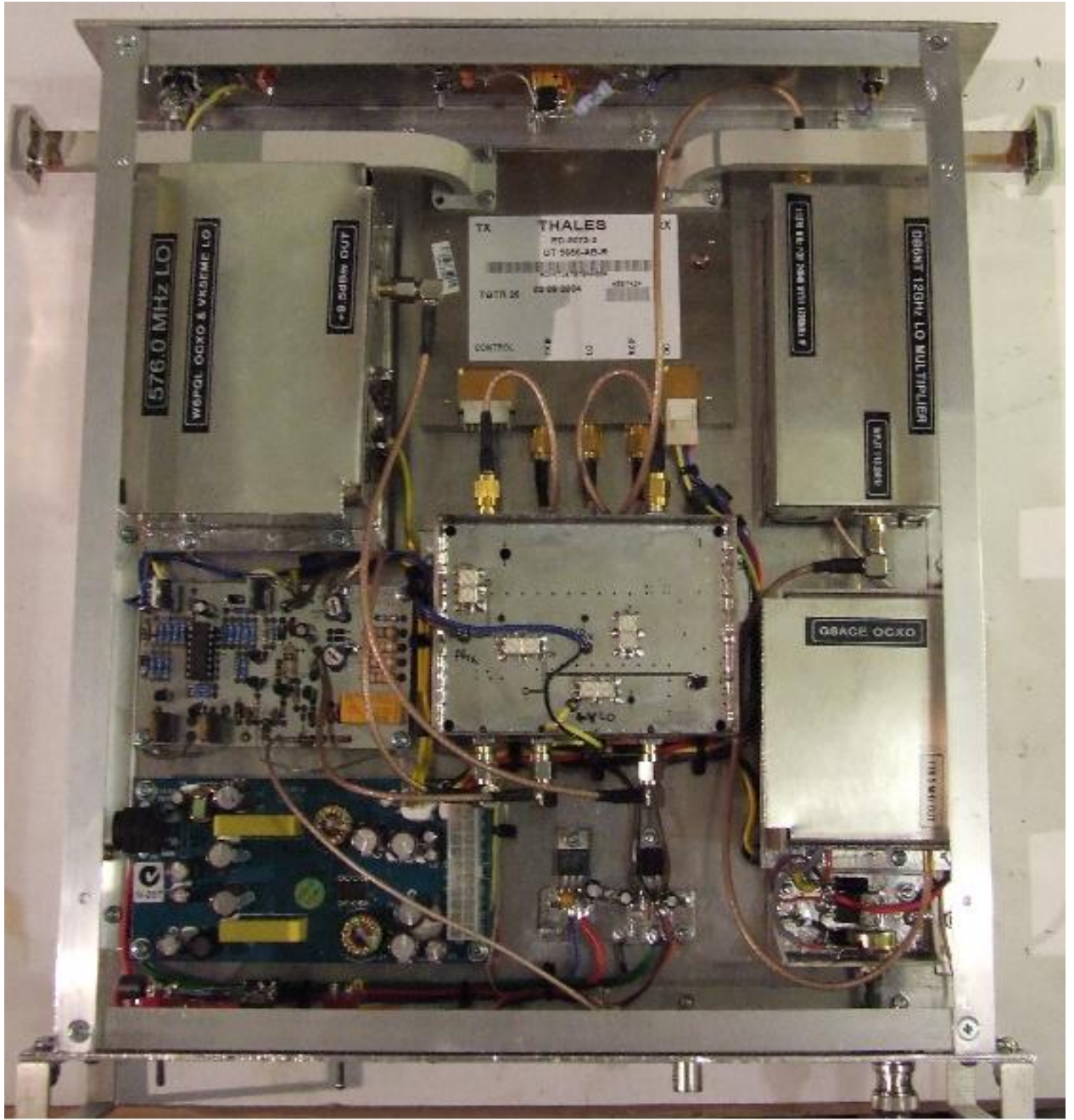
- *2.4 m Solid dish (Andrews)*
- *11.5 W Kuhne SSPA (10 W at feed) short WR42 flexible W/G to W/G Switch (~0.5dB loss)*
- *Feed: Super VE4MA choke flange with Circular to rectangular transition (WR42)*
- *W/G switch: "EVENTS HORIZON"*
- *LNA @ feed*
 - *Kuhne 1.5dB NF 27 db gain + DB6NT design (homebrew) NF= Max 2.0dB Gain = 11.5dB*
 - *Total gain is 38.5dB in "feed box"*
- *LMR240 with Radiall 18GHz connectors for short run on Tx and Rx from "feed box" to transverter*
- *Transverter = Thales 26 GHz units running 1296 MHz IF. Then down-converted to 144MHz IF. IF driver IC-746. (With 500 Hz filter used for CW contact)*
- *Kuhne 24 GHz W/G filters on Rx and Tx ports of Thales unit. (Absolutely necessary due to very poor image rejection ~4dB only with 1296 MHz IF)*

Performance:

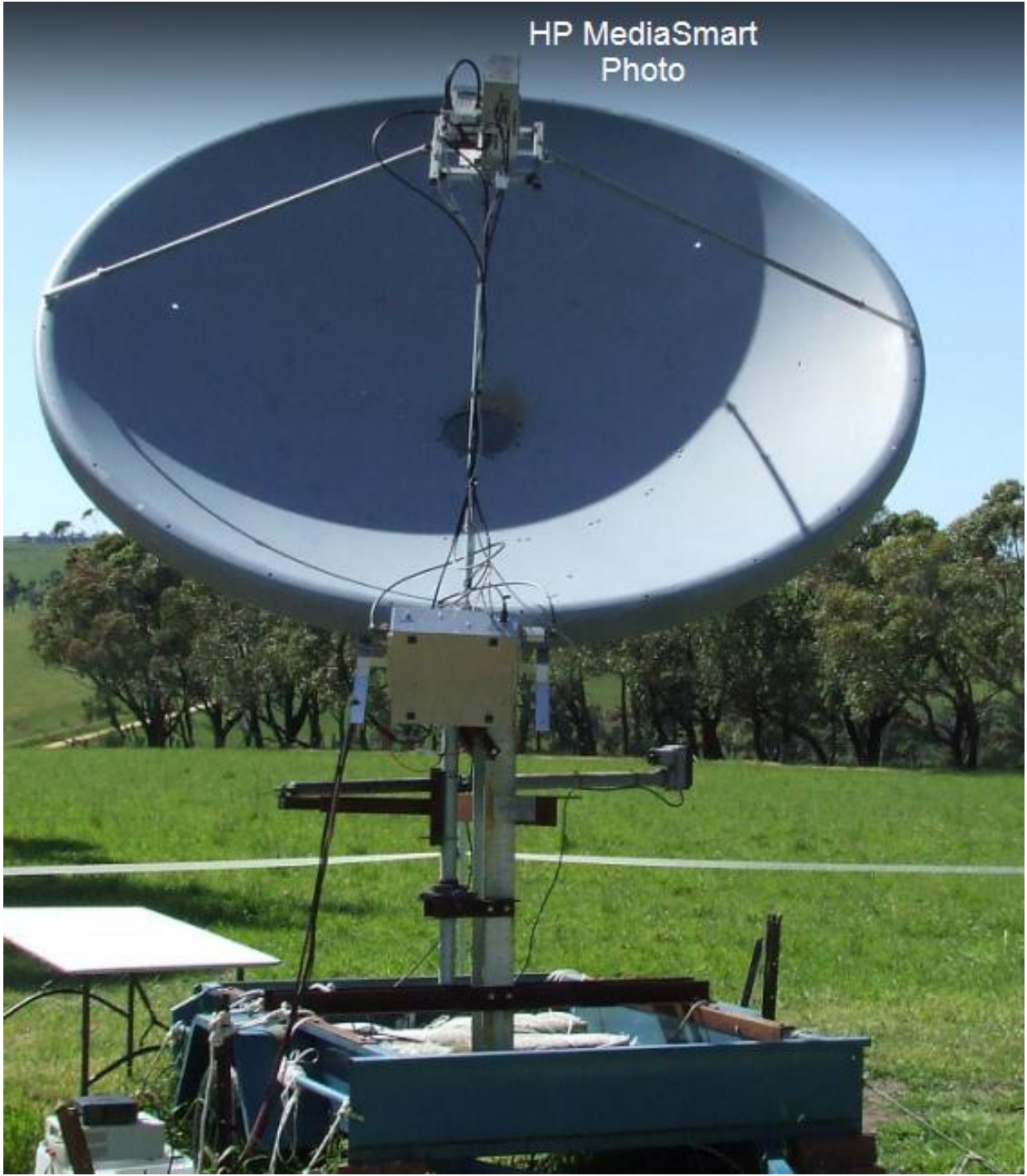
- *Best Moon noise measured at 2.2dB*
- *Moon noise at time of sked = 1.8dB*

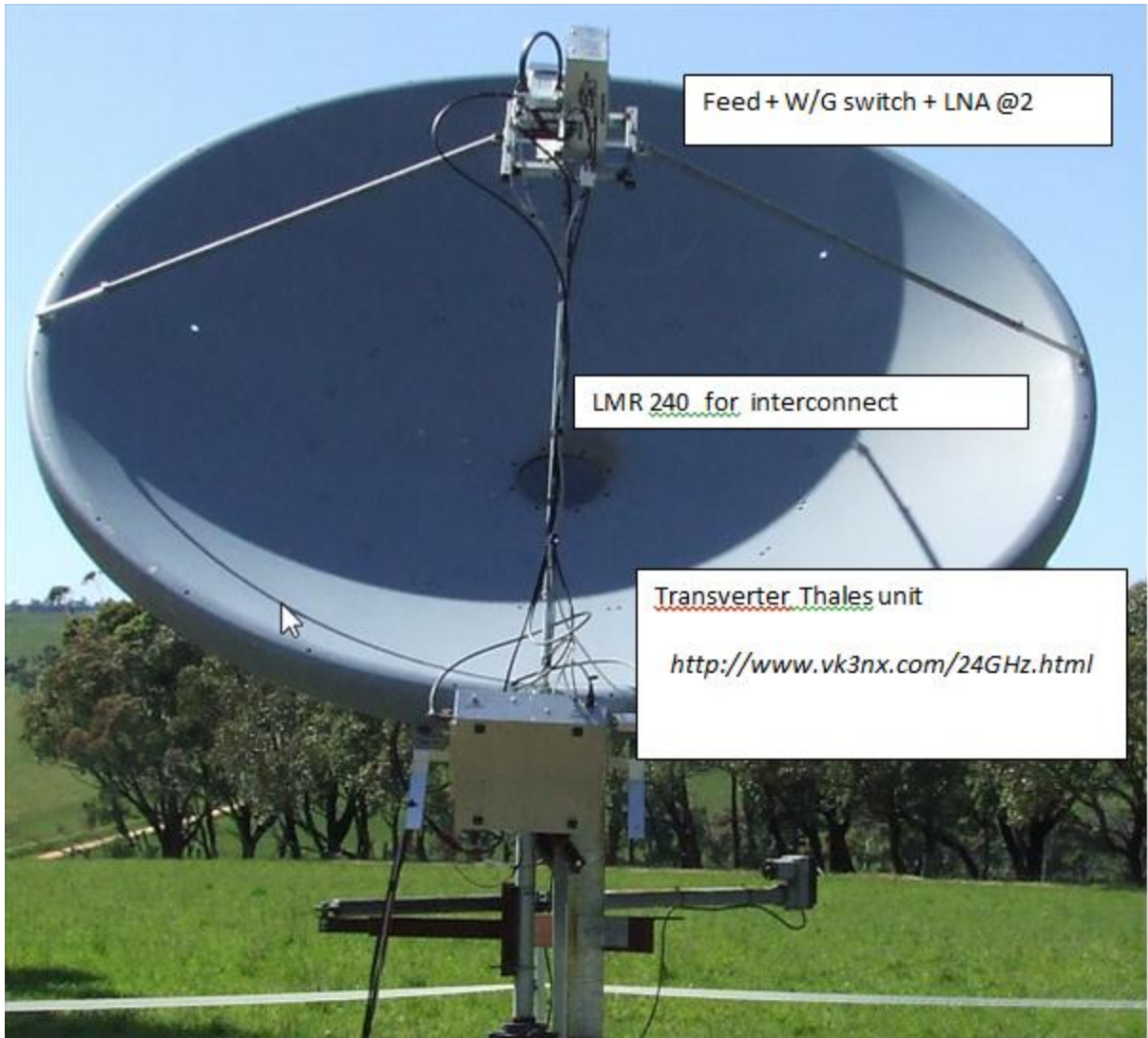
Condx on 18/11/2013:

- *Light fog / precipitation in the air.*
- *Humidity ~90%*
- *PW= 17-20mm during sked with OK1KIR (as calculated by G3WDG)*



HP MediaSmart
Photo



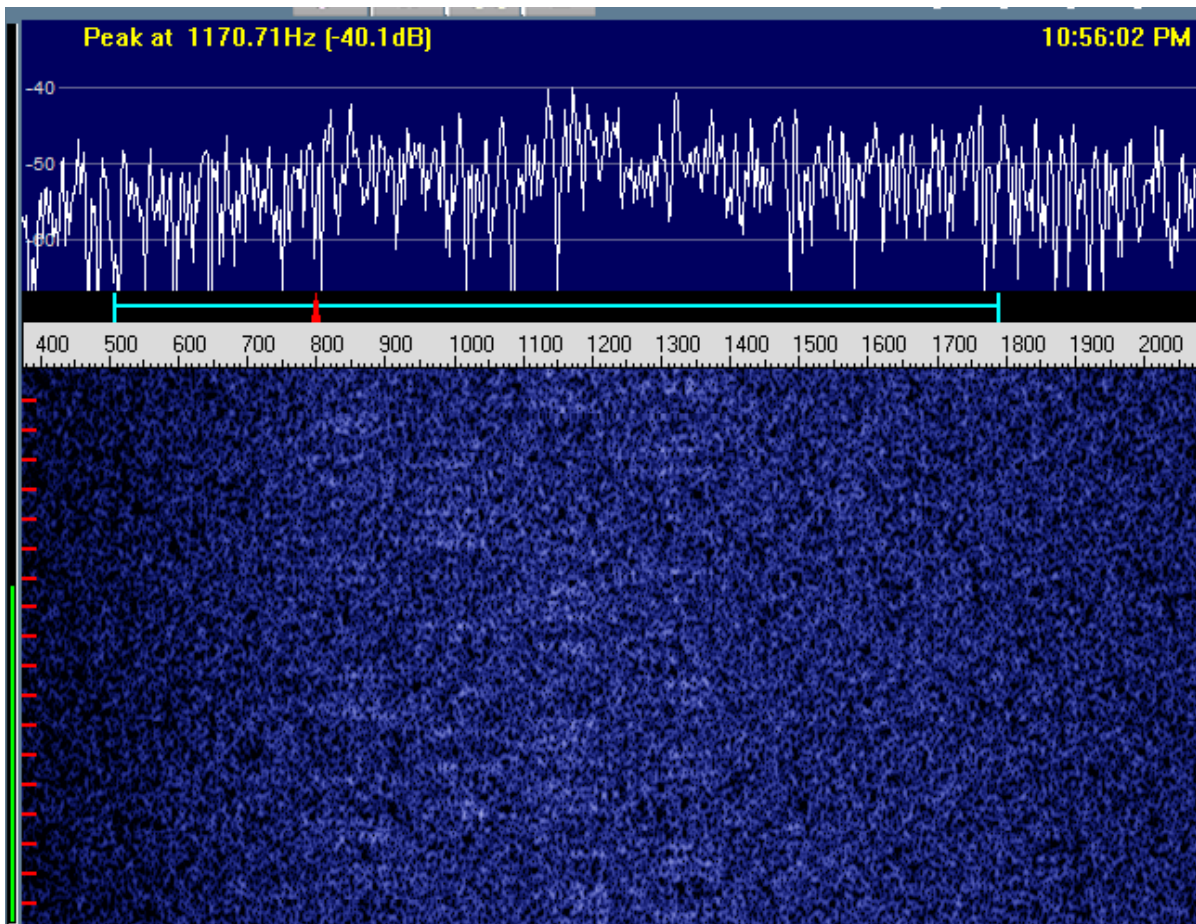


Feed + W/G switch + LNA @2

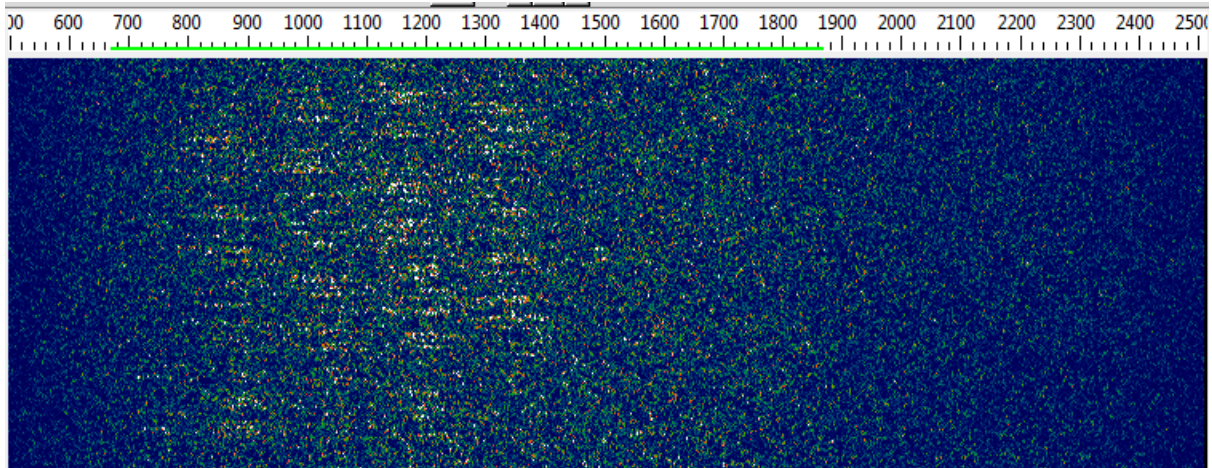
LMR 240 for interconnect

Transverter Thales unit

<http://www.vk3nx.com/24GHz.html>

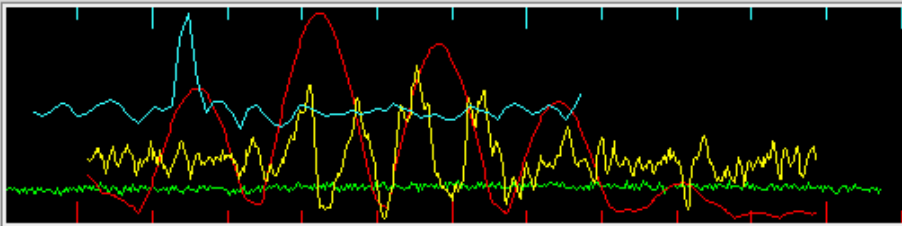


SPECTRAN view of 1558z rcvd from OK1KIR



Same Signal (1558) in SpecJT

File Setup View Mode Decode Save Band Help



Moon
 Az: 49.00
 El: 14.42
 Dop: -10437
 Dgrd: -2.2

1.2 Time (s) -16_131116_155800

FileID	Sync	dB	DT	DF	W				
155800	6	-14	0.5	-177	88	#	VK3NX OK1KIR RRR	OOO	1 0 E
155800	1	1/1					VK3NX OK1KIR RRR		1 0

Log QSO
Stop
Monitor
Decode
Erase
Clear Avg
Include
Exclude
TxStop

To radio:

Grid:

Az: 77 9062 mi

2013 Nov 19
12:16:52

Sync Zap

Tol 400 AFC

MinW E Freeze

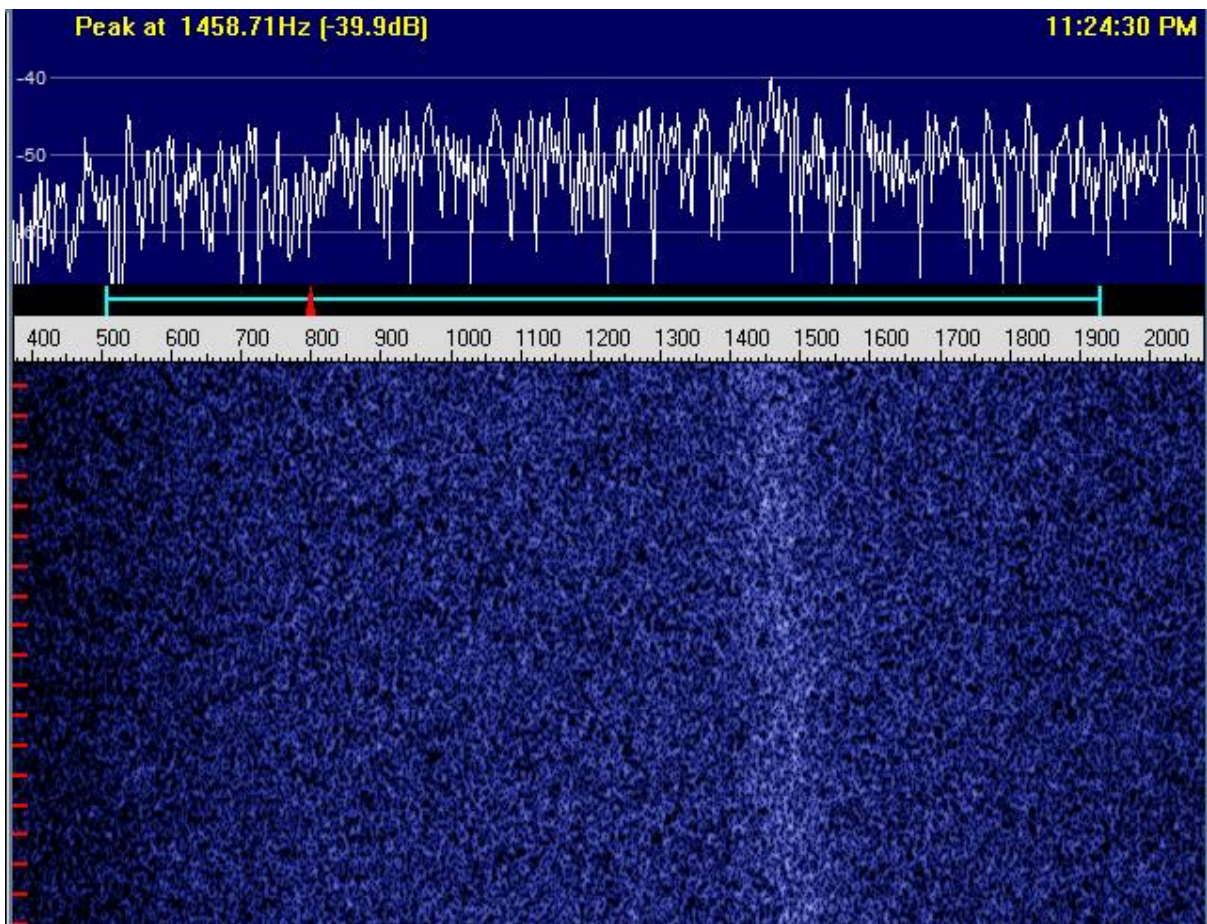
Tx First

Rpt:

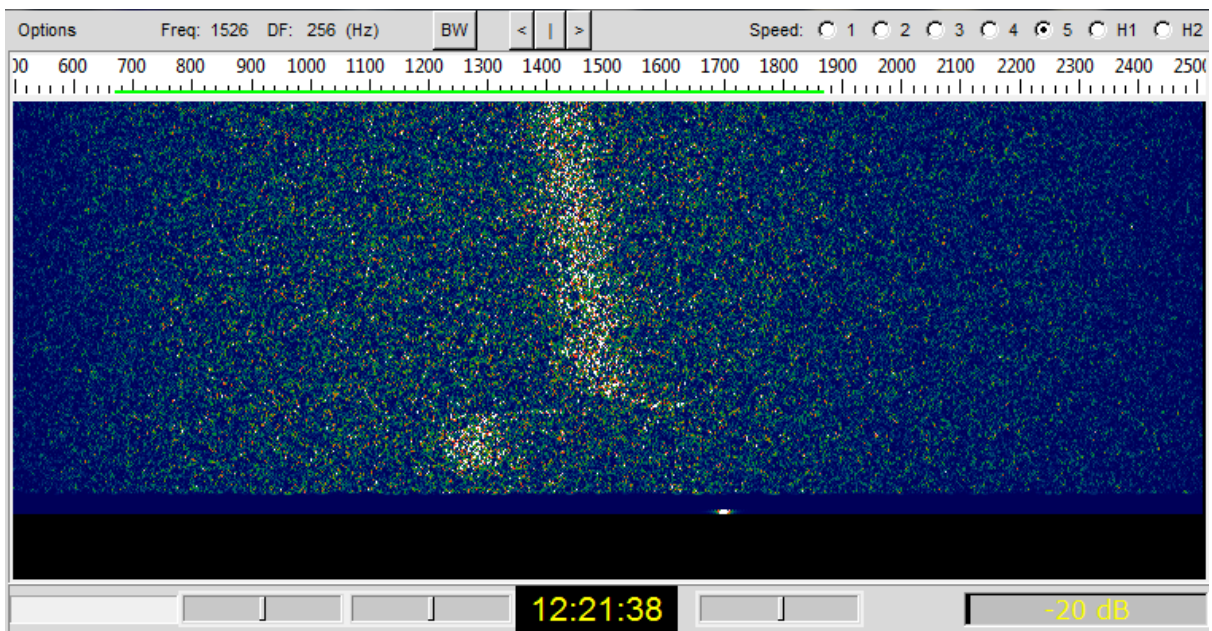
W5LUA VK3NX QF21	<input checked="" type="radio"/>	Tx1
W5LUA VK3NX -20	<input type="radio"/>	Tx2
W5LUA VK3NX R-20	<input type="radio"/>	Tx3
@1500 (RRR)	<input type="radio"/>	Tx4
@1700 (73)	<input type="radio"/>	Tx5
CQ VK3NX QF21	<input type="radio"/>	Tx6

1.0000 1.0000
JT4F
Freeze DF: 0
Rx noise: -1 dB
T/R Period: 60 s
Receiving

WSJT SCREEN of 1558



Spectran view screen of 1604z single tone



Single tone Signal at 1604z in SpecJT

File Setup View Mode Decode Save Band Help

35.4 Time (s) -16_131116_160400

Moon
 Az: 47.92
 El: 15.26
 Dop: -11098
 Dgrd: -2.2

FileID	Sync	dB	DT	DF	W
160400	0	-21	0.7	-59	46
160400	1	0/1			

Log QSO
Stop
Monitor
Decode
Erase
Clear Avg
Include
Exclude
TxStop

To radio: W5LUA Lookup

Grid: EM13qc Add

Az: 77 9062 mi

2013 Nov 19
12:22:44

Dsec 0.0

Sync 1 Zap

Tol 400 AFC

MinW E Freeze

Tx First

Rpt: -20

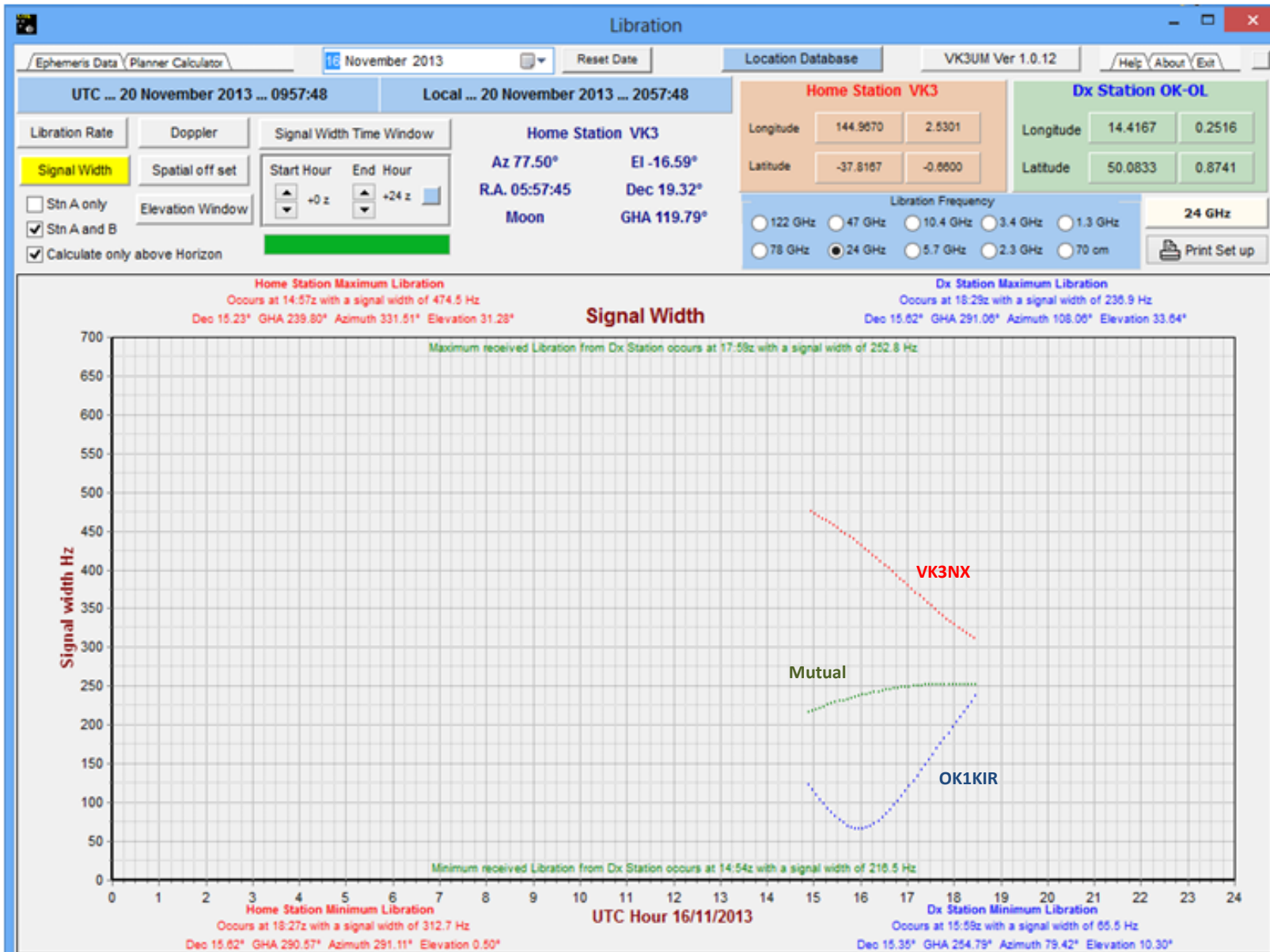
Gen Msgs Auto is Off

W5LUA VK3NX QF21	<input checked="" type="radio"/>	Tx1
W5LUA VK3NX -20	<input type="radio"/>	Tx2
W5LUA VK3NX R-20	<input type="radio"/>	Tx3
@1500 (RRR)	<input type="radio"/>	Tx4
@1700 (73)	<input type="radio"/>	Tx5
CQ VK3NX QF21	<input type="radio"/>	Tx6

1.0000 1.0000
JT4F
Freeze DF: 0
Rx noise: 0 dB
T/R Period: 60 s
Receiving

Screen Shot of 1604z

On 16/11/2013



WSJT9.5_3033

 WSJT Version 9.5 r3033 by K1JT
 Revision date: 2013-03-01 21:43:00 -0500 <Fri, 0
 Run date: Fri Nov 22 16:15:39 2013 UTC

Audio Device	Input Channels	Output Channels	Device Name
0	2	0	Microsoft Sound Ma
1	2	0	Integrovanú Mikrof
2	0	2	Microsoft Sound Ma

DF: 395 (Hz) BW < | > Speed: 1 2 3

WSJT 9.5 r3033 by K1JT

File Setup View Mode Decode Save Band Help

Moon
 Az: 27
 El: 30
 Dop: 21
 Dgrd: -

-1.2 Time (s) -16_131116_160400

FileID	Sync	dB	DT	DF	W	Text
155600	7	-13	0.3	-144	92 #	VK3NX OK1KIR -16 1 28 E
155800	6	-14	0.5	-177	88 #	VK3NX OK1KIR RRR 000 1 17 E
160000	7	-13	0.7	-219	92 #	VK3NX OK1KIR RRR 000 1 25 E
160200	8	-12	0.5	-260	92 #	VK3NX OK1KIR 73 000 1 19 E
160400	0	-21	0.7	-59	46 *	

160400 1 5/5 VK3NX OK1KIR RRR 1 0

Log QSO Stop Monitor Decode Erase Clear Avg Include Exclude

To radio: Lookup
 Grid: Add
 Az: 304 15908 km

2013 Nov 22
16:22:50

Dsec 0.0

Sync -1 Zap
 Tol 400 AFC
 MinW E Efreeze
 Tx First
 Rpt: -20

OK1KIR VK3NX QF21
OK1KIR VK3NX -20
OK1KIR VK3NX R-20
@1500 (RRR)
@1700 (73)
CQ VK3NX QF21

1.0000 0.9999 JT4F Freeze DF: 0 Rx noise: 0 dB T/R Period: 60 s

VK3NX-OK1KIR EME 24GHz QSO as received at VK3NX