



INTERIM MEETING OF VHF & up Committee of IARU REGION 1
VIENNA April 15 - 17. 2016

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Subject	Widening the 144 MHz SSB/CW segment for 24 hours only during IARU R1 VHF contest		
Author/ contact		Status	Proposal

Introduction

IARU R1 VHF Contest is the largest 2m contest in the world! Analysis of contest activity trends showed (<http://slovhf.net/vhfmanager/modules/results.php?ContestID=133&language=S5>) that almost 10% of EU radio amateurs take participation in it. It is probably the most massive event in EU VHF&up hamradio community.

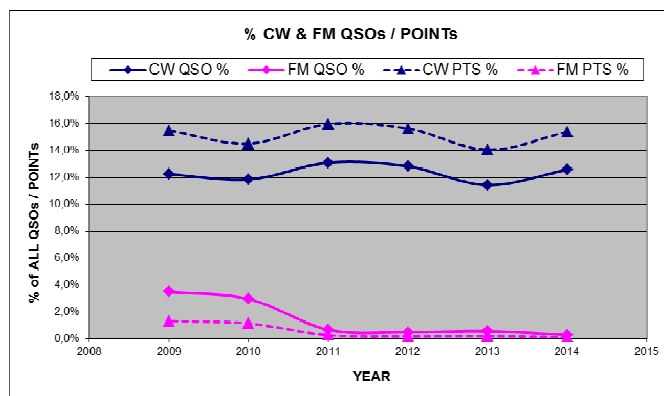
Table shows number of logs, different call signs and QSO's made in IARU R1 VHF Contest from 2007 to 2014

	2007	2008	2009	2010	2011	2012	2013	2014
LOGS	824	1311	976	1516	945	803	1080	1050
CALLS	4319	6147	4942	5789	4453	3883	4613	4437
QSOs	134724	174133	145169	177847	146486	130875	136186	146470

Although the number of different call signs during last 8 years spreads between 4400 and 6200 it should be noted that this variation is mainly a consequence of poor contest log collection practices. The maximum number of different call signs in year 2008 is not due to some extraordinary high activity, it only reflects the fact that logs from more countries were collected than for other years. Taking into account number of multi-operator stations and averaging number of operators to 4 per station, one can see that almost 10.000 hams are in one or another way participating in this event.

Stations get better equipped over the years. The emerging practice of using more than one antenna system during transmission (for example, in 2014 IARU VHF contest, 8,4 % of stations that sent the log used more than one antenna system) creates more interference than ever before. This effect, more interference, has stipulated many innovative technical solutions and home brew designs that are pure amateur radio projects, like reducing TX noise by using narrow IF crystal filters, deploying ultra low noise oscillators, building low sidelobe antennas, improving linearity of RX chains, improving noise and linearity performance of linear amplifiers, implementing interference cancellation methods, just to name some. It is encouraging to see that amateur radio technical spirit is still alive whenever it is challenged with really hard technical problems.

Analysis also revealed that most of the contacts nowadays are done in SSB mode (see graph). The CW activity starts about 5 hours after contest start and is more or less constant right to the end.



Looking at the band plan one can see high disproportion of the band allocation with respect to the mode of operation. CW has 400 kHz allocation, 150 kHz being exclusive, while SSB only spreads over 250 kHz. Brief calculation of number of communication channels shows that 60% of all available channels are allocated to CW (see chart below). On the other hand only about 15% of contest points (QRB kilometers) are done in CW mode.

144.025 – CW – 144.150	144.150 – SSB – 144.400
125 working channels (1kHz CH BW) 60% of all (CW+SSB) channels 15% of all points	83 working channels (3kHz CH BW) 40% of all (CW+SSB) channels 85% of all points

Present “incentive” in form of large CW-only band available is obviously not attractive enough to have more stations stay more time on CW during the contest. This is mainly due to the fact that contest QSO can be completed much faster in SSB than in CW thus increasing the probability of logging the QSO during fast fading propagation conditions.

Proposal

It is therefore proposed to enlarge the portion of SSB sub-band during the IARU VHF contest (only during those 24 hours!).

We identified three possible solutions:

- move the SSB lower limit from 144.150 kHz to 144.100 kHz
 - 50 kHz of additional frequency allocation would be available for SSB
 - exclusive CW band gets shrunk by 50 kHz
- move the SSB upper limit from 144.400 kHz to 144.490 kHz
 - 90 kHz of additional frequency allocation is available for SSB
 - CW band is untouched
 - beacon sub-band loses exclusiveness during those 24 hours
 - we believe 144 MHz beacon service is of low importance/usage during this contest
- apply both above changes