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| SUBJECT | | COMMITTEE C5 – Recommendations to Final Plenary | |
| Society | | IARU Region 1 | Country: |
| Committee | C5 | Paper number: | CT08_C5_Rec |
| : | | | |

Recommendation CT08_C5_Rec01

(Paper CT08_C5_03 Support for Satellite Frequency Coordination) Member Societies are recommended to work closely with the IARU Satellite Adviser and his Advisory Panel, and with their national administrations, with respect to requests for satellite frequency coordination originating in their respective countries,

Recommendation CT08_C5_Rec02

(Paper CT08_C5_03 Support for Satellite Frequency Coordination) Member Societies are recommended to promote the proper use of amateur frequencies consistent with the international Radio Regulations, with a view toward maintaining the integrity of the amateur service and its frequency allocations as well as promoting the success of amateur satellite activities in their country.

Recommendation CT08_C5_Rec03

(Paper CT08_C5_20 Amateur Satellite Handbook Chapter) That the IARU-R1 Amateur Satellite coordinator (or another agreed designate) is made directly responsible for a thorough review and replacement of the chapter

Recommendation CT08_C5_Rec04

(Paper CT08_C5_20 Amateur Satellite Handbook Chapter) That the IARU-R1 Amateur Satellite coordinator (or another agreed designate) liaise with those National Societies and their Amsat counterparts who have an interest in this topic, and encourage dialogue between them.

Recommendation CT08_C5_Rec05

(Paper CT08_C5_20 Amateur Satellite Handbook Chapter) That a first full draft of the new Chapter be distributed via the IARU-R1 VHF Managers’ Reflector or Newsletter in order to gain additional feedback as soon as practical

Recommendation CT08_C5_Rec06

(Paper CT08_C5_20 Amateur Satellite Handbook Chapter) That the result of recommendation CT_C8_05 is presented for adoption, no later than the next Interim IARU-R1 Conference

Recommendation CT08_C5_Rec07

(Paper CT08_C5_20 Amateur Satellite Handbook Chapter) That the new Chapter (CT08_C5_05) need not include all material directly. It may reference material on the internet on condition that they are at stable, well known and maintained addresses under IARU control

Recommendation CT08_C5_Rec08

(Paper CT08_C5_21 Beacon Definition) That the following definition for a beacon be included in the VHF Manager’s Handbook:

Beacon - a station in the Amateur Service or Amateur-Satellite Service that autonomously transmits in a defined format, which may include repetitive data or information, for the study of propagation, determination of frequency or bearing or for other experimental purposes including construction.

Recommendation CT08_C5_Rec09

(Paper CT08_C5_24 Low VHF Multiband Beacon) National Societies should encourage the deployment of multi-band beacon clusters covering low VHF between about 30 MHz and about 70 MHz.

Recommendation CT08_C5_Rec10

(Paper CT08_C5_24 Low VHF Multiband Beacon) Deployed beacon clusters should wherever possible provide signals at around 40 MHz and around 60 MHz.

Recommendation CT08_C5_Rec11

(Paper CT08_C5_24 Low VHF Multiband Beacon) Amateurs should be encouraged to set up and maintain automated monitoring stations and to contribute the measurement results to the community.

Recommendation CT08_C5_Rec12

(Paper CT08_C5_24 Low VHF Multiband Beacon) A common transmission format should be adopted to aid the reception of multiple clusters

Recommendation CT08_C5_Rec13

(Paper CT08_C5_33 Common Standards for APRS™ within IARU Region 1) To adopt the APRS “New n-N Paradigm”, as published by WB4APR, for use within IARU Region 1, to ensure World-wide consistency regarding parameter settings, improving the overall APRS network flow, as well as providing a common baseline for future improvements. This also ensures simple user training, and compatibility with all APRS platforms.

By simplifying the network to only accept “WIDEn-N”, and telling users to limit their “N's” to the minimum needed for their own area, a vast improvement in reliability and throughput will be achieved in a common IARU, Region 1 APRS System, and beyond.

Recommendation CT08_C5_Rec14

The meeting recommends the adoption of Paper CT08_C5_12 (QSO Procedure for Airplane Reflections) as the basis for an accepted standard for QSOs via Aeroplane Reflections and the adoption of this procedure in IARU Region 1, and the inclusion of the procedure in the VHF Managers Handbook.

Recommendation CT08_C5_Rec15

(Paper CT08_C5_41 RSQ and MOS signal quality reporting on HF and VHF) It is recommended that RSQ (Readability Strength Quality) reporting *may* be used for digital modes *if applicable* (e.g. PSK31), and that MOS (Mean Opinion Score) reporting be used for *digital voice*, as a supplement or substitute to the RST (Readability Strength Tone) reporting scale.

Recommendation CT08_C5_Rec16

(Paper CT08_C5_41 RSQ and MOS signal quality reporting on HF and VHF) The recommendation and the RSQ and MOS reporting scales with notes should be included in the HF- and the VHF Managers Handbook.

Recommendation CT08_C5_Rec17

(Paper CT08_C5_05 Digital Voice on 2m – change of 2m bandplan) It is recommended that all VHF/UHF/Microwave band plans in the voice repeater section are revised to allow for new digital

voice in addition to FM in the “Mode” column of the band plans and to add the following footnote to the band plan: “Embedded data traffic is allowed along with digital voice”.

Recommendation CT08_C5_Rec18

(Paper CT08_C5_36 Beacon Coordination) The following changes to be made to the VHF Managers Handbook in respect of beacons:

New general footnote in those bandplans that have beacon subbands defined:

"Refer to Chapter-10 for coordination of beacons in the beacon sub-band"

Second paragraph in Chapter-10 to be replaced with:-

Definition for a beacon:

"Beacon - a station in the Amateur Service or Amateur-Satellite Service that autonomously transmits in a defined format, which may include repetitive data or information, for the study of propagation, determination of frequency or bearing or for other experimental purposes including construction."

It is not intended that this document should specify the exact purpose of any individual beacon, its power level or the number of beacons in any country, as this should be agreed within the national society concerned.

It is also not intended to be applied rigorously to experimental beacons or beacons with a special purpose.

It should however apply to the vast majority of VHF/UHF/Microwave beacons for propagation monitoring purposes, as designated by the beacon sections of the bandplans.

Recommendation CT08_C5_Rec19

That the procedure described in the Paper CT08_C5_28 (Revised) (Transitory Weak Signal Procedure for VHF Contacts) be adopted as an aid to weak signal tropospheric contacts on the VHF bands and added to the VHF Managers Handbook.

Recommendation CT08_C5_Rec20

(Paper CT08_C5_07 - Frequencies for Digital Voice communication in the IARU, Region 1, VHF/UHF band plans)

The VHF Managers' Handbook to be amended as follows:

FM simplex voice channels in 50MHz, 145MHz, 435MHz and 1296MHz bands to be redesignated to be FM/DV in the bandplan mode column. DV users should check that the channel is not in use by other modes. Also, to change the mode column to add DV alongside FM
Bandplans be amended to show calling frequencies for digital voice as follows

50MHz: 50.630MHz

145MHz: 145.375MHz

435MHz: 433.450MHz

1296MHz: 1297.725MHz

In each case, these to be annotated with the following footnote:

“This segment is for simplex use only with no DV gateways. Embedded data traffic is allowed along with digital voice”.

Recommendation CT08_C5_Rec21

(Paper CT08_C5_15 VHF Managers' Handbook – changes and Paper CT08_C5_22 A change to the exclusive usage of EME communication between 144.000 – 144.035MHz

To delete from the USAGE column of the IARU Region 1 145MHz Band Plan the 'EME EXCLUSIVE' comment between 144.000 – 144.035MHz.

To delete from the VHF Managers Handbook in the USAGE column of the 145MHz Band Plan
144.120 - 144.150MHz FAI & EME MGM (JT65)
144.150 - 144.160MHz FAI & EME activity SSB

To delete from the Footnotes of the 145MHz Band Plan, in Section 2, "Usage", the reference to 144.140 – 144.160MHz as a proposed alternative band for EME operation.

To add in the Footnotes of the 144-146MHz Band Plan, in Section 2, "Usage",
EME activity using MGM is commonly practised between 144.110-144.160MHz,

To change the 145MHz bandplan to show to show a single band segment from 144.000 – 144.110MHz with the USAGE column showing CW (including EME CW) in addition to the existing references to the Telegraphy and Random MS frequencies.

Recommendation CT08_C5_Rec22

(Paper CT08_C5_16 Increased Amateur Satellite Service 2 Metre Usage) The presence of interfering non-amateur signals in the 145.80-146.00MHz part of this band, in many parts of the world, is well documented. To prevent the retransmission of interfering terrestrial signals, satellites in the Amateur Satellite Service that plan to use the 145MHz Amateur band for transponders, are encouraged to use this band for downlink (satellite to ground) modes only, regardless of modulation type

Recommendation CT08_C5_Rec23

(Paper CT08_C5_23 Deletion to the usage of FSK441 communication between 144.160 – 144.180MHz) To delete from the USAGE column of the IARU Region 1 145MHz Band Plan:
(i) the alternative MGM allocation 144.160-144.180MHz,
(ii) the alternative MGM calling frequency 144.170MHz.

Recommendation CT08_C5_Rec24

The meeting recommended consideration of the matters raised in paper CT08_C5_13 (23cms Narrowband Image and Data) and to amend the 23cm bandplan usage notes as follows:-

- a) 1296.500 Image Mode Centre of Activity (SSTV, Fax etc)
 - b) 1296.600 Narrowband Data Centre of Activity (MGM, RTTY, etc.)
 - c) 1296.600-1296.700 Linear Transponder output
2. To permit 1296.700-1296.800 to be used for alternative purposes

Recommendation CT08_C5_Rec25

(Paper CT08_C5_17 3400MHz Amateur Satellite Allocation)

- 1) National Societies should take all necessary steps in seeking 3400-3410MHz allocations on a Secondary non-interference basis as quickly as possible.
- 2) All Societies should explicitly include the Amateur Satellite Service (both S-E and E-S) in such requests on the basis that many years of terrestrial and EME operations (notably in the CEPT area) have not resulted in interference reports from other users.
- 3) National Societies and IARU-R1 should collaborate more closely to assist those Societies who in the past have not been able to achieve such allocations.
- 4) Societies should collectively obtain a critical mass of national allocations so that footnotes in regional allocation tables can be extended or acquired that include the Amateur Satellite Service
- 5) IARU-R1 to prioritise this band and to take active steps in support of these goals

Recommendation CT08_C5_Rec26

(Paper CT08_C5_18 3400 MHz EME developments) The VHF Managers' Handbook to be amended as follows:

Bandplan to show beacon section at 3400.8-3400.995, Usage: Propagation Beacons Only

Bandplan (all modes section) to be split at 3402-3410 Usage: Amateur Satellite Downlinks

Planned

Footnotes

a) CEPT Footnote EU17 permits Amateur Service in 3400-3410MHz

b) EME Centre of Activity has migrated from 3456 to 3400.1MHz to promote harmonised usage and activity

c) Amateur Satellite Service is allocated in 3400-3410MHz in Regions 2&3 and in some countries of Region-1.

d) 3400.750-3400.800MHz may be designated for Local Beacon use (10W ERP max) by National Societies. (Cavtat CT08_C5_25)

References

Vienna-2007 C5 Paper-B13: Allocations at 3400MHz

Cavtat-2008 Paper CT08_C5_17: 3400MHz Amateur Satellite Allocation

Cavtat-2008 Paper CT08_C5_18: 3400MHz EME developments

Cavtat-2008 Paper CT08_C5_25: Microwave Beacon Bands

Recommendation CT08_C5_Rec27

(Paper CT08_C5_19 A New Vision for 23 cm) The following recommendation is made:

1. That a usage note regarding an alternative or reserve narrowband centre of activity is agreed and added to the 23cm bandplan.
2. That the band 1240.0-1240.75MHz is designated as that alternative centre, based on 500kHz for operators and 250kHz for beacons. Our reasoning is that its position at the bottom of 23cms would match other bandplans, would not obstruct flexibility, is outside of the 'Galileo zone' (1260-1300) and would keep harmonics below the valuable new 3/4G mobile radio band at 2500-2690MHz.
3. That assignments for existing/other uses in this centre be made on a flexible basis to minimise any disruption should it be necessary to activate the reserve frequency and for them to be retuned.
4. That the VHF Handbook and 23cm Bandplan take account of new developments in DATV (which may for example use between ~2-6MHz BW in future), by being more flexible. For example a particular modulation should not be assumed.
5. To accommodate and describe flexible bandwidth use, especially for DATV applications, we propose that the 'block' method commonly used by CEPT and other regulators is adopted:-
 - 5.1. That the available spectrum for DATV is divided into regular discrete blocks
 - 5.2. An operator/repeater may merge a number of the blocks together for their required bandwidth and then use a simple designator for what is actually being used.
 - 5.3. A block edge-mask is used to specify out of band emissions. This is useful as it can describe spectrum re-growth due to power amplifier non-linearity. This is an important issue that can affect adjacent channels and can often occur with digital Tx modes.
 - 5.4. That an agreed method of labelling blocks and merged usage is developed and added to the VHF Handbook.
6. That as ATV increasingly uses digital techniques and less bandwidth than analogue FMATV, that opportunities are explored for accommodating additional services such as digital voice and data to provide a modern attractive overall offering.
7. As 6) gradually occurs, to move from the original analogue centre frequencies as illustrated in the example attached. This maximises the creation of space for extra channels.
8. As DATV repeater inputs will take time to develop, it is important to recognise the need for careful coordination to protect 1248/9 analogue FMATV inputs, prior to releasing 1248-1249 for other applications.

Recommendation CT08_C5_Rec28

(Paper CT08_C5_25 Microwave Beacon Bands) The following recommendation is made to Conference:

1. In the bands 23cms to 24GHz, the range x.750-x.800MHz of each narrowband segment may be designated for Local Beacon use (10W ERP max) by National Societies.
2. To note the use of x.800-x.995 MHz for propagation beacons in the usage columns of the narrowband sections of the 3.4, 5.7, 10 and 24GHz IARU bandplans. For example:-
3400.800-3400.995 MHz - Propagation Beacons Only
3. To formally incorporate 1) into the IARU-R1 bandplans as usage notes similar to 2) as per example below

10,368.750-10368.800 MHz - Local Beacons, 10W ERP max
10,368.800-10368.995 MHz - Propagation Beacons only

4. Local beacons need not be IARU-coordinated, but National societies should inform the IARU R1 Beacon coordinator of such local beacons and bandplan use.
5. That Section 10 of the IARU-R1 VHF Handbook has the text of Proposal a) in paper CT08_C5_25 added to document the guidance for local beacons

Recommendation CT08_C5_Rec29

(Paper CT08_C5_29 Contest Logs Exchange) National VHF Managers or properly nominated Contest Committees should send the electronic contest log data entries from IARU R1 contests to a special web page to allow an exchange of logs for more accurate national evaluation.

Recommendation CT08_C5_Rec30

(Paper CT08_C5_11) Acceptance of remote controlled VUSHF stations To add to the current definition of a contest station the following:

An OPERATOR may reside outside the station's area ("remote station"), connected to the station via a "remote control terminal". In such a case, the Locator for the contest is the Locator of the station's position. An operator may only operate one single station, regardless if it is locally or remotely operated, during the same event.

Recommendation CT08_C5_Rec31

(Paper CT08_C5_08 Frequencies for (simplex) Internet voice gateways) Personal internet gateways meant for experimental purposes will have to be dealt with according to national regulations. This should be carried out in accordance to the existing IARU R1 band plan and is not covered by this proposal.

For unattended Simplex (FM) Internet voice gateways, we propose to assign some common simplex frequencies in the VHF-UHF band plans, where to carry out traffic with coordinated, unattended internet voice gateways. The frequencies below will be coordinated by the national repeater coordinator.

50 MHz:

We propose to establish 50,520 - 50,530 and 50,540 MHz as the common frequencies for Simplex (FM) Internet voice gateways.

Change to Usage column needed: 50,520 - 50,530 and 50,540 MHz: Simplex (FM) Internet voice gateway.

All mode segment – no change needed in the mode column.

144 MHz:

We propose to establish 145,2375, 145,2875 & 145,3375 as the common frequencies for Simplex (FM) Internet voice gateways.

Change to Usage column needed: 145,2375, 145,2875 & 145,3375MHz: Simplex (FM) Internet voice gateway.

435 MHz:

We propose to establish 433,950, 433,9625, 433,975, 433,9875, 434,0125, 434,025, 434,0375, 434,050 MHz (not 434.000) as the common frequency segment assigned for Simplex (FM) Internet voice gateways to the Internet.

No change in Mode column.

Usage: 433,950, 433,9625, 433,975, 433,9875, 434,0125, 434,025, 434,0375, 434,050 MHz: Simplex (FM) Internet voice gateway.

1296 MHz:

We propose to establish 1297,900, 1297,925, 1297,950 & 1297,975 MHz as the common frequencies for Simplex (FM) Internet voice gateways.

No change in Mode column.

Usage: 1297,900, 1297,925, 1297,950 & 1297,975 MHz: Simplex (FM) Internet voice gateway

Recommendation CT08_C5_Rec32

(Paper CT08_C5_I_31 APRS Frequency on the 435 MHz Band) To remove the SSTV allocation on 432.500MHz and to show this as an alternative frequency for APRS in those situations where there are problems with the current frequency.

Recommendation CT08_C5_Rec33

(Paper CT08_C5_40 Narrow frequency band on 2 m for an automatic reporting beacons Network) It is recommended that an allocation be made of a 1000 Hz bandwidth channel at 50.400, 70.030 and 144.4905 MHz (+/- 500Hz) for very narrow band and low power automatic and synchronised beacons transmitted by any amateur radio station reporting to a specified data base open to all users. The use of the existing WSPR protocol and modulation is recommended for this purpose.

Recommendation CT08_C5_Rec34

(Paper CT08_C5_30 Exchanging ATV contest logs) Each society participating in an IARU Region 1 ATV contest, as well as each society organising sub-regional ATV contests, should be invited to deposit all log entries on the central repository within the timescales stated in the VHF Managers Handbook. The repository should be available to all participating contest managers from that date on for cross-checking purposes.

Recommendation CT08_C5_Rec35

That paper CT08_C5_32 *Electronic logsheet for ATV contests* be taken forward for endorsement by the final plenary.

Recommendation CT08_C5_Rec36

To introduce a new chapter into the VHF Managers Handbook covering Microwave Spectrum Requirements, based on Paper CT08_C5_26 (Microwave Spectrum Requirements).

Recommendation CT08_C5_Rec37

(Paper CT08_C5_37 Amateur Satellite Service Spectrum - Vienna 2007)

It is recommended that all IARU Region 1 societies request that the following additional Amateur Satellite Service bands be studied and considered, perhaps as a package, for a future WRC agenda item

50-51 MHz

1240-1250 MHz

2300-2330 MHz

2390-2400 MHz

3400-3410 MHz
5650-5670 MHz (Currently Earth-To-Space only)
10350-10400 MHz

Recommendation CT08_C5_Rec38

Conference is asked to adopt paper Paper CT08_C5_38 (revised) (Contest Section in the VHF Managers' handbook) as the basis of revised text for the contest chapter of the VHF Managers Handbook.