

## **FUTURE INTERNATIONAL FREQUENCY COORDINATION BETWEEN MTSAT AND OTHER METEOROLOGICAL SATELLITE NETWORKS**

### **Summary and purpose of document**

Regarding the ACTION 27.11 which requests CGMS members to cooperate for the international frequency coordination between MTSAT and other meteorological satellite networks, the purpose of this document is to explain the future transaction of Action 27.11 and to request again the cooperation for the international frequency coordination to CGMS members, because of a failure of MTSAT launch on November 1999.

### **Action Required**

All satellite operators in CGMS members are requested to carry out ACTION 27.11, in order to complete the frequency coordination between MTSAT and other meteorological satellite networks.

## **FUTURE INTERNATIONAL FREQUENCY COORDINATION BETWEEN MTSAT AND OTHER METEOROLOGICAL SATELLITE NETWORKS**

### **1. INTRODUCTION**

At the CGMS XXVII, JMA requested CGMS members' cooperation for the ITU procedure, regarding the international frequency coordination between MTSAT that would be launched on November 1999 and other meteorological satellite networks in the UHF, S-band and USB. CGMS XXVII set up the action item as ACTION 27.11, as follow;

**ACTION 27.11 All satellite operators to inform their responsible Telecommunication Administration (with copy to JMA) before MTSAT will be operational, that they are convinced that there would be no unacceptable interference between MTSAT and their satellite system in UHF, S-band and USB.**

However, MTSAT launch was a failure on November 1999, and JMA started to design and manufacture the advanced MTSAT at once. As WP-JPN-03 input to CGMS, JMA has a plan to launch MTSAT-1R early in 2003 and MTSAT-2 in 2004. JMA informs CGMS members of the future transaction of ACTION 27.11.

### **2. FREQUENCY BAND FOR THE BUS AND FOR THE METEOROLOGICAL MISSION IN MTSAT-1R AND MTSAT-2**

Frequency bands of UHF, S-band and USB will be used by JMA for the BUS and the meteorological mission in MTSAT-1R and MTSAT-2. These frequency bands are the same as MTSAT and GMS-5. Attachment shows the radio frequencies for MTSAT-1R and MTSAT-2 on ITU procedure for the satellite network fillings.

In MTSAT-1R and MTSAT-2, HRIT signal for MDUS is added, however, the frequency for HRIT is the same as HiRID.

### **3. CURRENT STATUS OF THE ITU PROCEDURE AND THE FREQUENCY COORDINATION FOR MTSAT SATELLITE NETWORKS**

#### **3.1 MTSAT**

MTSAT satellite networks were filed to ITU-R, which are named MTSAT-135E(135°E), MTSAT-140E(140°E) and MTSAT-145E(145°E).

Weekly circulars for MTSATs are as follows;

MTSAT-135E(135°E)•AR11/C2777	published 1997-08-05
MTSAT-140E(140°E)•AR11/C2778	published 1997-08-05
MTSAT-145E(145°E)•AR11/C2779	published 1997-08-05

The frequency coordination between administration of Japan and each administration of satellite operators except India is not completed yet.

### 3.2 MTSAT-1R

The procedure of the MTSAT-1R will be planned to proceed as the additional and/or the modification of the MTSAT filings, because MTSAT-1R launch will be planned before August 2003 that is the expiration of the MTSAT filings. The procedure is going to be finished by the beginning of 2001.

### 3.3 MTSAT-2

In case of MTSAT-2, it is necessary for JMA to proceed as the new MTSAT-2 filings, because MTSAT-2 launch will be planned after August 2003.

## 4 COORDINATION WITH CGMS MEMBERS

Regarding the frequency coordination between MTSAT and other meteorological satellite networks, JMA explained the frequencies for MTSAT network at CGMS XXVI, and requested CGMS members to assist JMA in the international frequency coordination for MTSAT networks at CGMS XXVII. And at this CGMS, JMA informs CGMS members of the frequencies for MTSAT-1R and MTSAT-2. JMA believes CGMS members understand that the frequencies for MTSAT-1R and MTSAT-2 are the same as they were allocated to GMS and MTSAT. Therefore, JMA would like to understand that there is no coordination issue between MTSAT and other meteorological satellite networks. However, CGMS members are kindly requested to send comments and information about the frequency coordination matter to the following contact person, if there are any problems, in order to coordinate each other at once.

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## 5. FUTURE TRANSACTION OF ACTION 27.11

With relation to the future transaction of ACTION 27.11, CGMS members are kindly requested to agree with JMA proposal as follows;

- i) ACTION 27.11 will be kept "Open" until a few months before MTSAT-1R will be launched, because of considering ITU procedures, and
- ii) ACTION 27.11 will be modified as follow.

### **MOD. ACTION 27.11**

**All satellite operators to inform their responsible Telecommunication Administration (with copy to JMA) by a few months before MTSAT will be launched, that they are convinced that there would**

**be no unacceptable interference between MTSAT and their satellite system in UHF, S-band and USB.**

JMA respects CGMS members for their cooperation and assistance and believes that CGMS members will contribute to operating MTSATs smoothly in the future on this matter. The frequency coordination for MTSAT between MPT and other frequency authorities will be successfully completed in 2002.

## Attachment

**Radio Frequency for MTSAT-1R, -2 (TT/C & Meteorological Mission)**

	Radio Frequency	
	Down Link (bandwidth)	Up Link (bandwidth)
DCPI-1	468.875 MHz ( 6 kHz)	
-2	468.883 MHz ( 6 kHz)	
-3	468.924 MHz ( 6 kHz)	
IMAGER	1677.0 MHz (10 MHz)	
TRRR-1	1684.0 MHz ( 1 MHz)	
HiRID/HRIT (HiRID) (HRIT)	1687.1 MHz ( 6 MHz) ( 6 MHz)	
TRRR-2	1688.2 MHz ( 1 MHz)	
TRRR-3	90.2 MHz ( 1 MHz)	
WEFAX/LRIT 1690.2 (WEFAX) (LRIT)	1691.0 MHz (260 kHz) (1.2 MHz)	
TLM	1694.0 MHz (400 kHz)	
DCPR (International)  (Regional)	1694.3-1694.4 MHz (100 kHz / 33 ch) 1694.4-1694.7 MHz (300 kHz / 100 ch)	
USB TLM/RNG	2280.721MHz(1.1 MHz)	
DCPR (International)  (Regional)		402.0-402.1 MHz (100 kHz / 33 ch) 402.1-402.2 MHz (300 kHz / 100 ch)
TRRR-1		2026.0 MHz ( 1 MHz)
HiRID/HRIT (HiRID) (HRIT)		2029.1 MHz ( 2 MHz) ( 2 MHz)
TRRR-2		2030.2 MHz ( 1 MHz)
TRRR-3		2032.2 MHz ( 1 MHz)
WEFAX/LRIT (WEFAX) (LRIT)		2033.0 MHz (260 kHz) (0.4 MHz)
CMD		2034.2 MHz (100 kHz)
DCPI-1		2034.925 MHz ( 6 kHz)
-2		2034.933 MHz ( 6 kHz)
-3		2034.974 MHz ( 6 kHz)
USB CMD/RNG		2100.164MHz (550 kHz)