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PRODUCT INTRODUCTION

MX368033A (for MG3681A)

CDMA2000 1XEV-DO Signal Generation Software

Update News

ANRITSU CORPORATION

MX368033A CDMA2000 1xEV-DO Signal Generation Software for MG3681A
Update News

MX368033A software is updated for the function enhancement.

The present document introduces the following contents of the MX368033A software to the customers who already have MG3681A+MU368030A+MX368033A.

- Version-up History
- How to check Version
- How to upgrade
- File configuration in PC memory card

Version-up History

Version	Release (yyyy.mm.dd)	Contents
2.01	2005.2.28	**Patch** ● The mistake of the version displayed on the screen of the main body is corrected.
2.00	2003. 7.29	**Firmware improvement** ● AWGN mixed internally can be outputted by installing in a MU368060A AWGN unit and a MU368040A CDMA modulation unit. **Signal pattern** ● Changed RA Channel and 13 RPC Channels of MAC Channel in Forward signal patterns * details later - RA Bits / RPC Bits: PRBS ← All"0" - RAChannelGain: 1/16 (-12.04 dB) ← 1/14 (-11.46 dB) - RPCChannelGain: 15/16 × 1/13 (-11.42 dB) ← 1/14 (-11.46 dB) ● Enhanced pattern file for multi-carrier to 12 signal patterns - 1x Reverse 9.6kbps DRCChannelGain: 3dB ACKChannelGain: 3dB Reference to 3GPP2 C.S0033 Ver 1.0 AT Transmitter test
1.02	2003. 4. 8	**Signal pattern** ● Changed Long Code Mask of Reverse signal patterns In order to follow to 3GPP2 C.S0024 Ver 4.0 MI: 3FF00000000 ← 3333333333 MQ: 3FE00000001 ← 26666666667 ● Added the signal patterns which changed ChannelGain of Reverse signal patterns for single carrier In order to follow to 3GPP2 C.S0032 Ver 1.0 AN Receiver test ACKChannelGain: 0dB ← 3dB Pattern: RVS_9.6kbps_RT RVS_19.2kbps_RT RVS_38.4kbps_RT RVS_76.8kbps_RT RVS_153.6kbps_RT Usual Reverse signal patterns reference to 3GPP2 C.S0033 Ver 1.0 AT Transmitter test

1.01	2003. 1.29	**Firmware improvement** ● Output of 8 carriers is possible. **Signal pattern** ● Enhanced pattern file for multi-carrier to 11 signal patterns - 8,4,3,2,1x Forward Active slot (16QAM) - 8,4,3,2,1x Forward Idle slot - 1x Reverse 153.6kbps DRCChannelGain: 3dB ACKChannelGain: 3dB Reference to 3GPP2 C.S0033 Ver 1.0 AT Transmitter test

Changed RA Channel and 13 RPC Channels of MAC Channel in Forward signal patterns

RA Bits and RPC Bits are made to random bit sequence so they are averaged in Envelope Mask at average sweep in 3GPP2 C.S0032 3.1.2.3.2 Pilot/MAC Channel Power (and 3.1.2.3.1 Total Power) test.
In addition, RAChannelGain and RPCChannelGain are slightly changed to the level approaching actual operation.

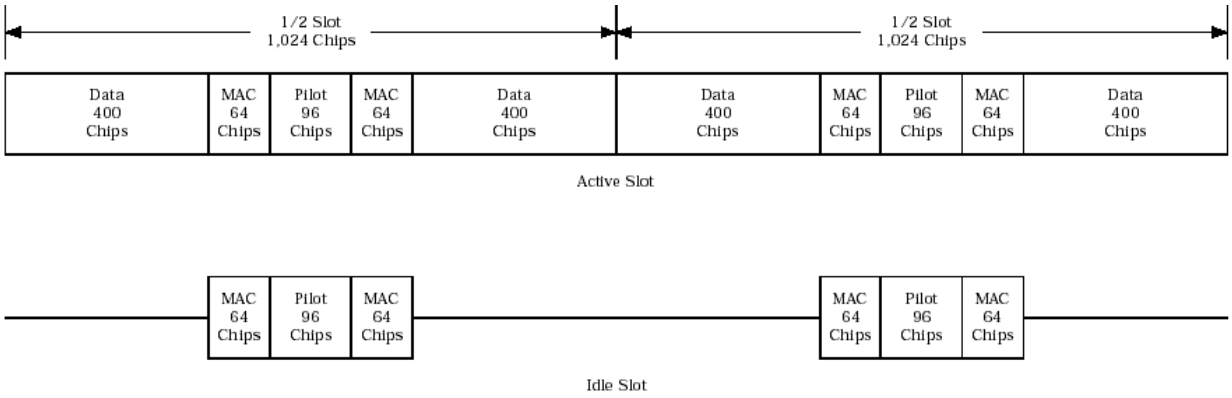


Figure 9.3.1.3.1-2. Forward Link Slot Structure

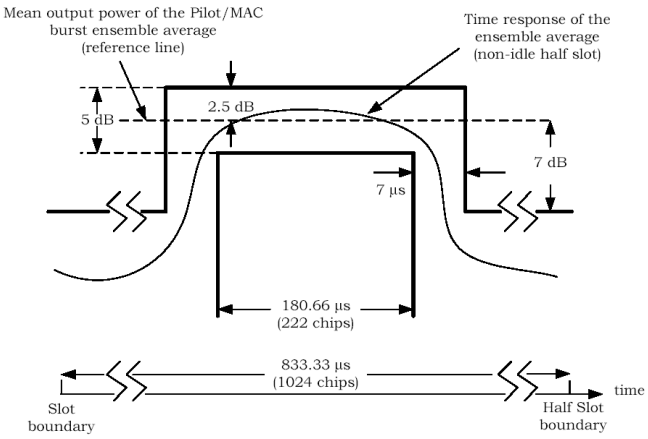


Figure 3.1.2.3.2.3-1. Transmission Envelope Mask (Average idle half slot)

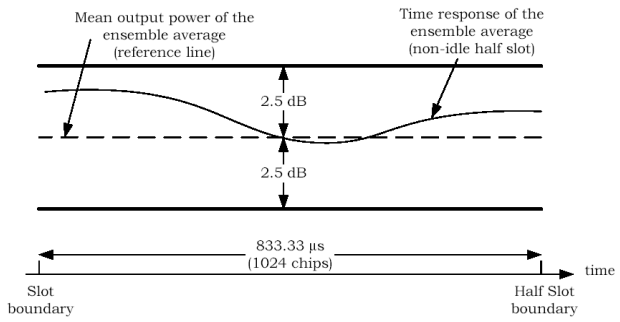
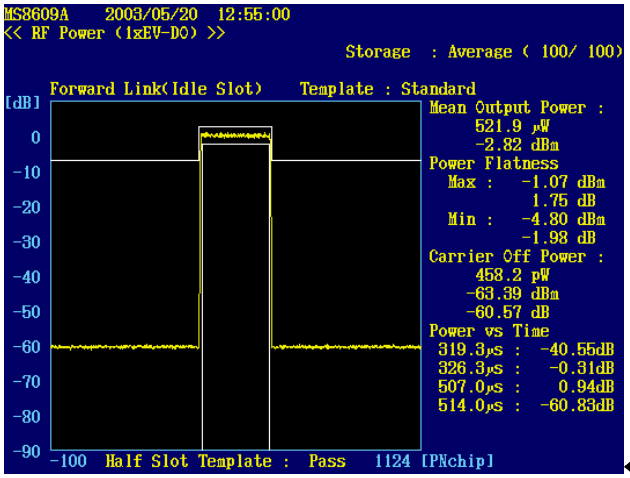
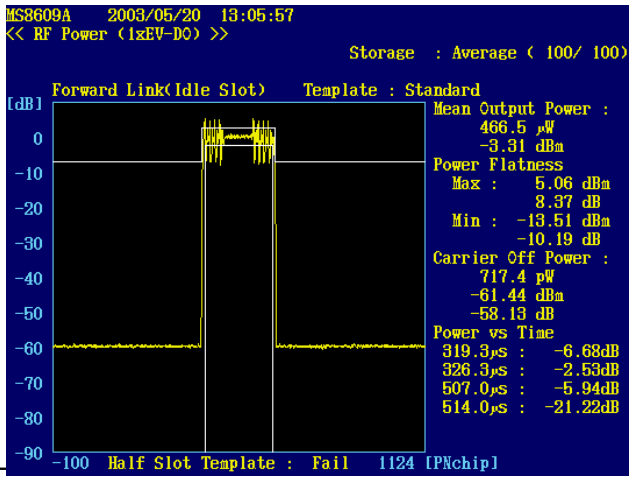


Figure 3.1.2.3.1.3-1. Transmission Envelope Mask (Average non-idle half slot)

Pilot/MAC Channel Power



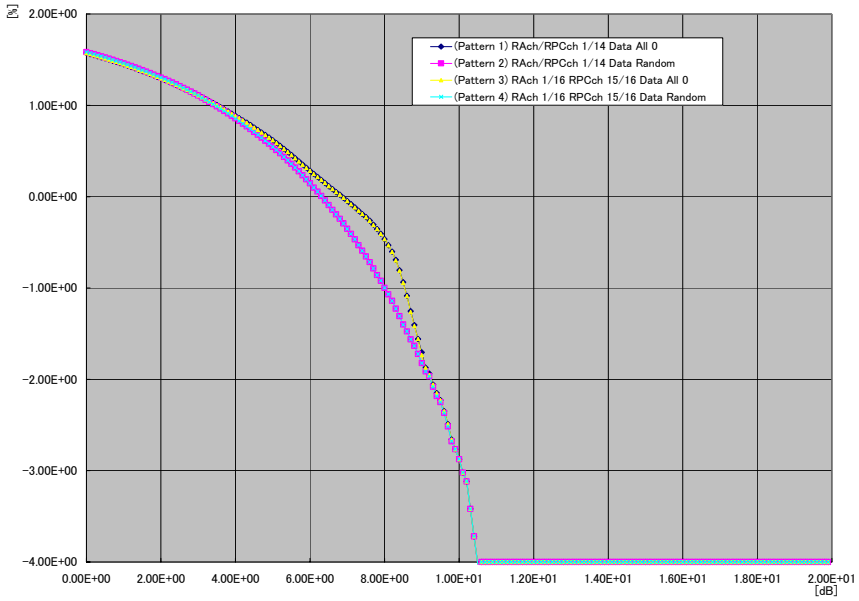
V2.00



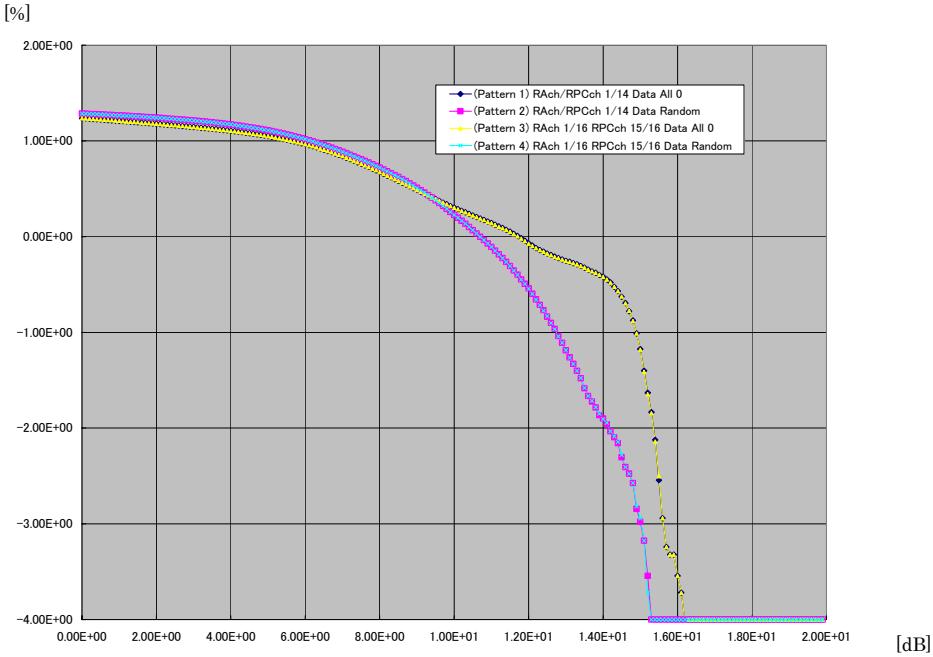
V1.02

We consider the influence on CCDF through the simulation.
The CCDF is not changed by slightly changing RAChannelGain and RPCChannel Gain.
A random bit sequence of RA Bits and RPC Bits gives some changes to CCDF.
In Active slot, CCDF changes in >0.01%, therefore, it is considered to be a peak curve of DataChannel in <0.01%.

- Active slot



- Idle slot

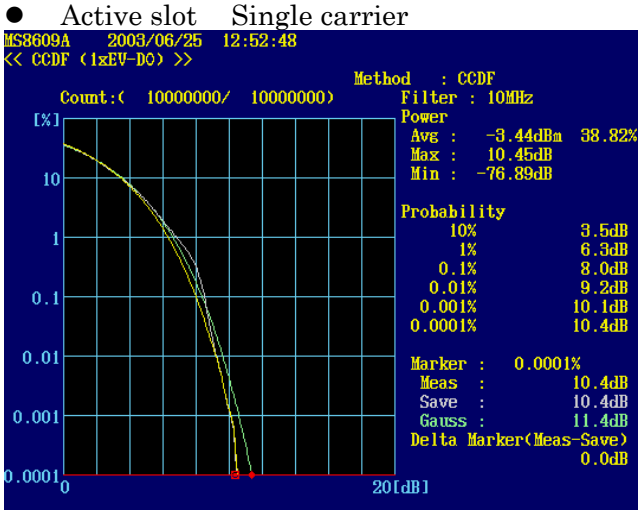


Mean power of the Pilot/MAC burst / Mean power of the ensemble = 6.6 dB

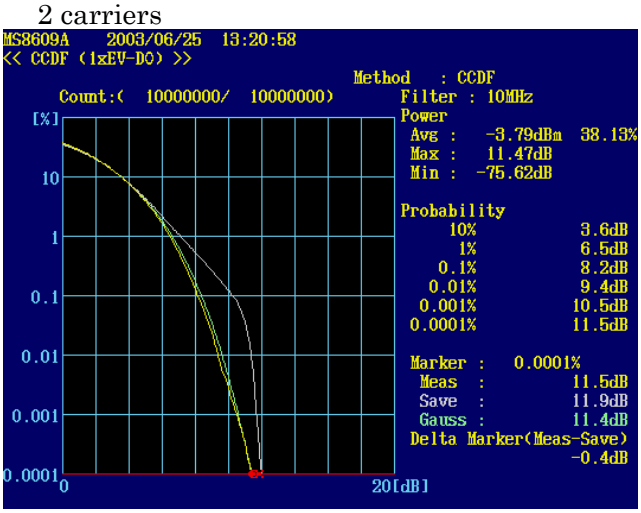
(Pattern 4: V2.00, Pattern 1: V1.02)

We consider the influence on CCDF at multi-carrier.
If Data Bits, RA Bits and RPC Bits are random bit sequence, CCDF approaches to gaussian curve at multi-carrier.
If RA Bits and RPC Bits are fixed bit sequence, the peak level of CCDF increases for the number of carriers. (The peak gains 3 dB in case of 2 carriers.)
Statistically, CCDF is normal distribution in case of random bit sequence, and worst distribution in case of fixed bit sequence.
A key seems to be how much probability of the peak level is specified as margin.

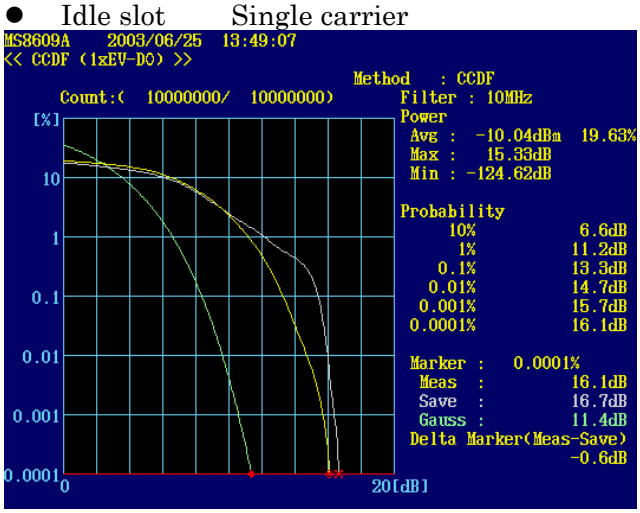
- Active slot Single carrier



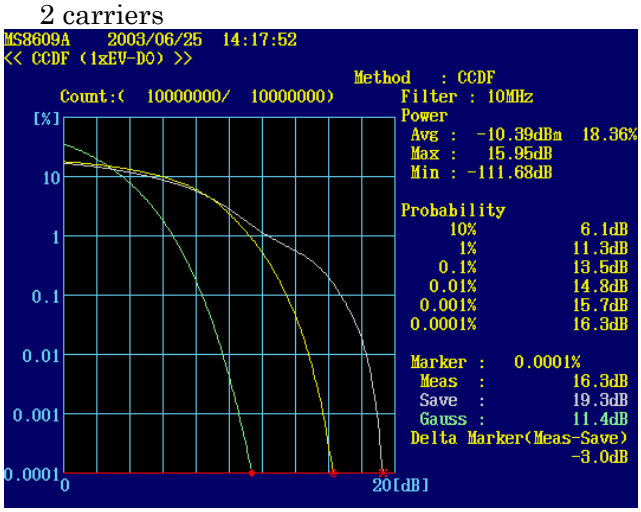
2 carriers



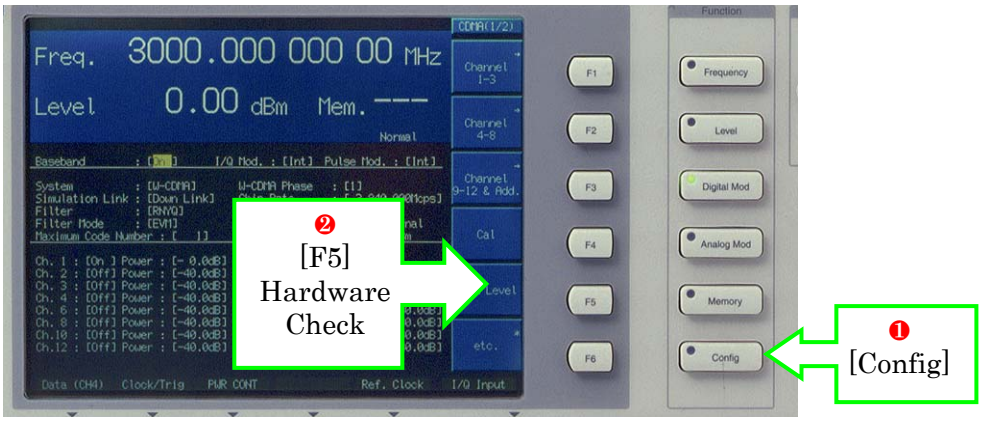
- Idle slot Single carrier

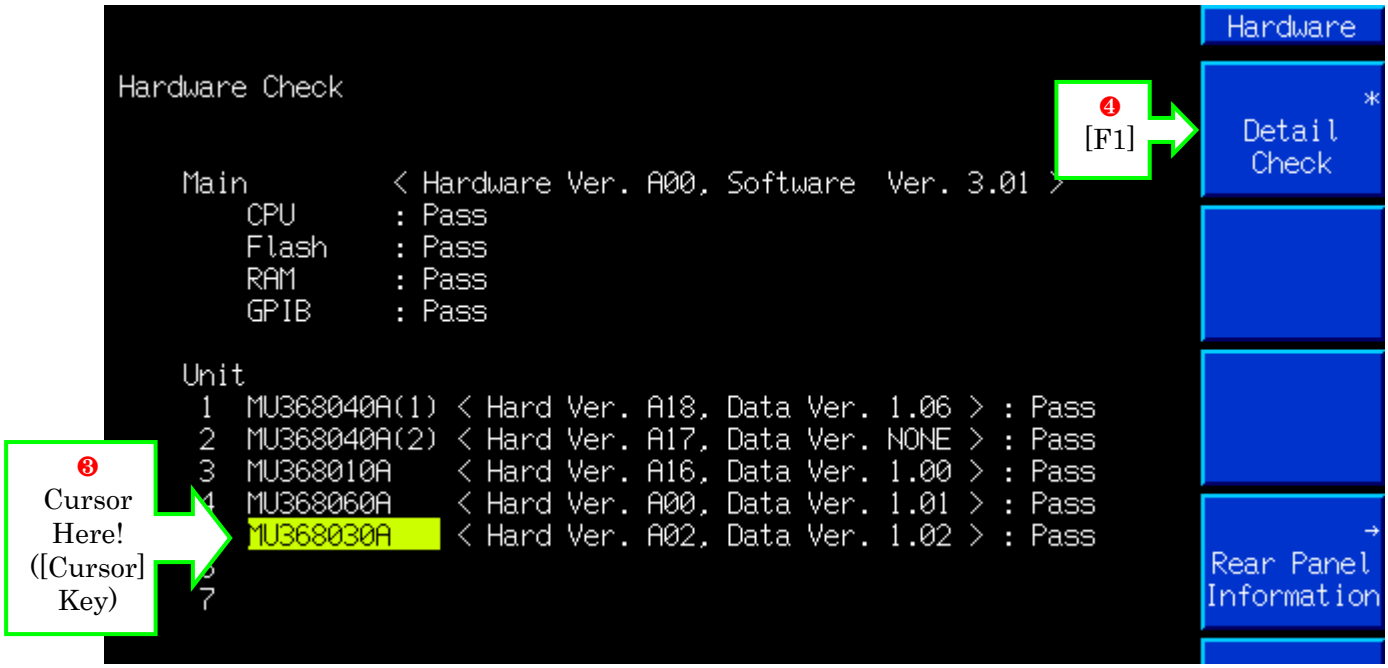


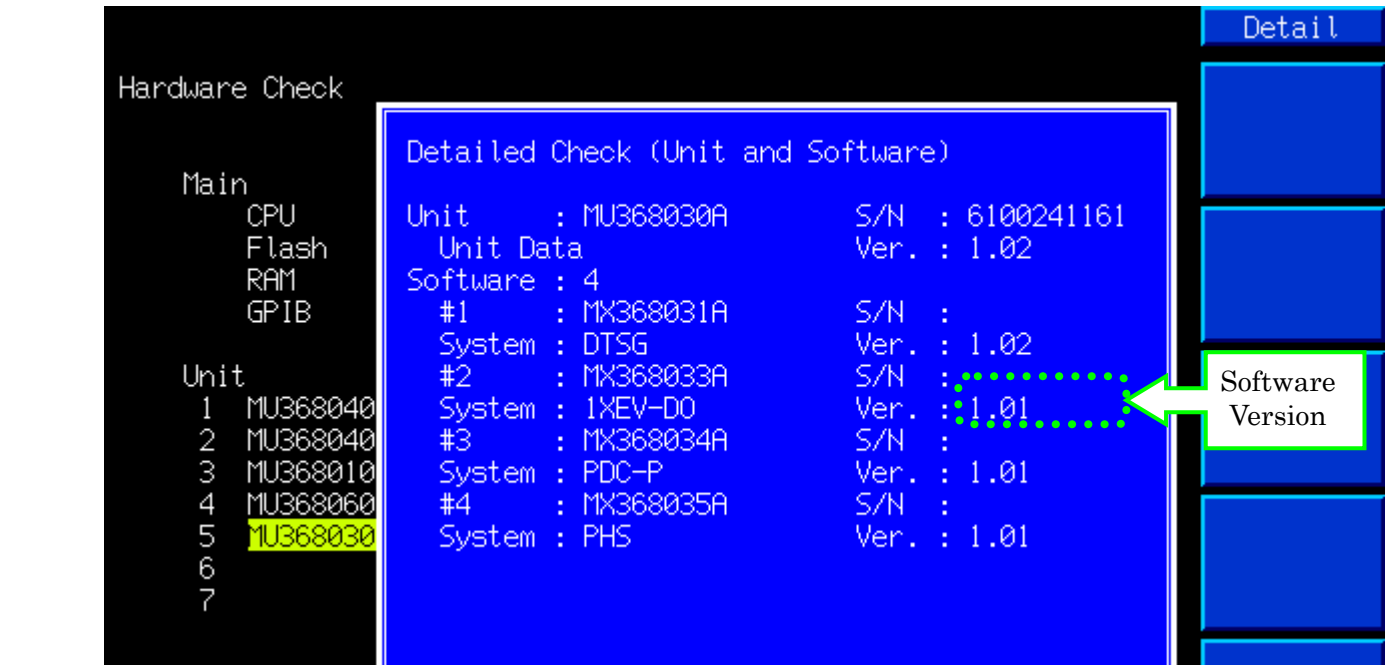
2 carriers



(Meas: V2.00, Save: V1.02)

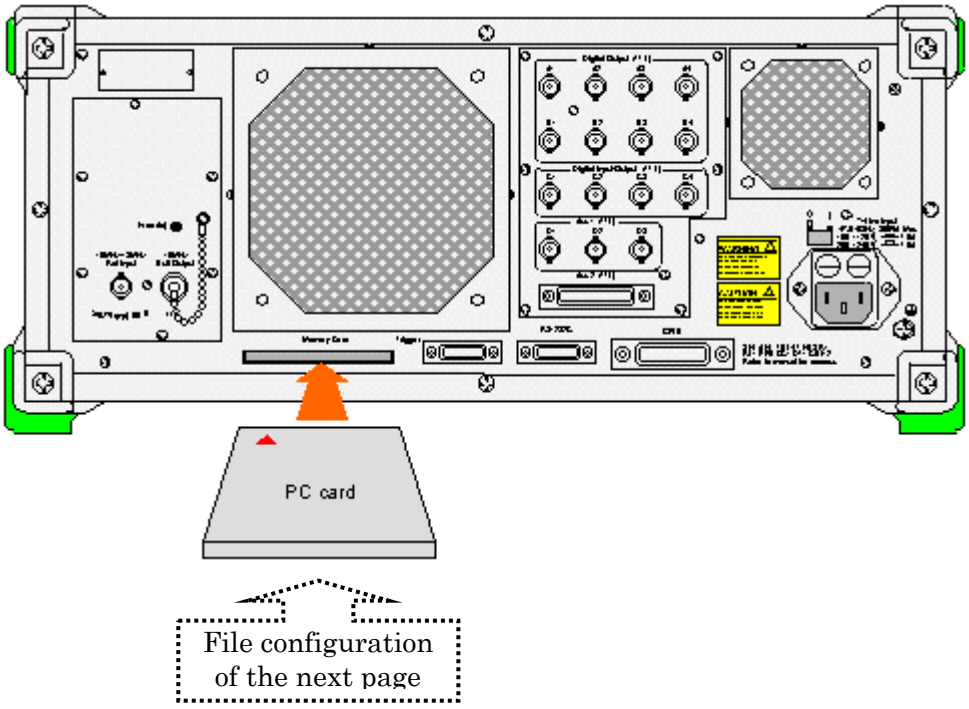

Freq. 3000.000 000 00 MHz
Level 0.00 dBm Mem. ---
❷ [F5] Hardware Check
❶ [Config]


Hardware Check
Main < Hardware Ver. A00, Software Ver. 3.01 >
CPU : Pass
Flash : Pass
RAM : Pass
GPIB : Pass
Unit
1 MU368040A(1) < Hard Ver. A18, Data Ver. 1.06 > : Pass
2 MU368040A(2) < Hard Ver. A17, Data Ver. NONE > : Pass
3 MU368010A < Hard Ver. A16, Data Ver. 1.00 > : Pass
4 MU368060A < Hard Ver. A00, Data Ver. 1.01 > : Pass
5 MU368030A < Hard Ver. A02, Data Ver. 1.02 > : Pass
6
7
❸ Cursor Here! ([Cursor] Key)
❹ [F1]
Hardware
Detail Check
Rear Panel Information


Hardware Check
Main
CPU
Flash
RAM
GPIB
Unit
1 MU368040
2 MU368040
3 MU368010
4 MU368060
5 MU368030
6
7
Detailed Check (Unit and Software)
Unit : MU368030A S/N : 6100241161
Unit Data Ver. : 1.02
Software : 4
#1 : MX368031A S/N :
System : DTSG Ver. : 1.02
#2 : MX368033A S/N :
System : 1XEV-DO Ver. : 1.01
#3 : MX368034A S/N :
System : PDC-P Ver. : 1.01
#4 : MX368035A S/N :
System : PHS Ver. : 1.01
Detail
Software Version

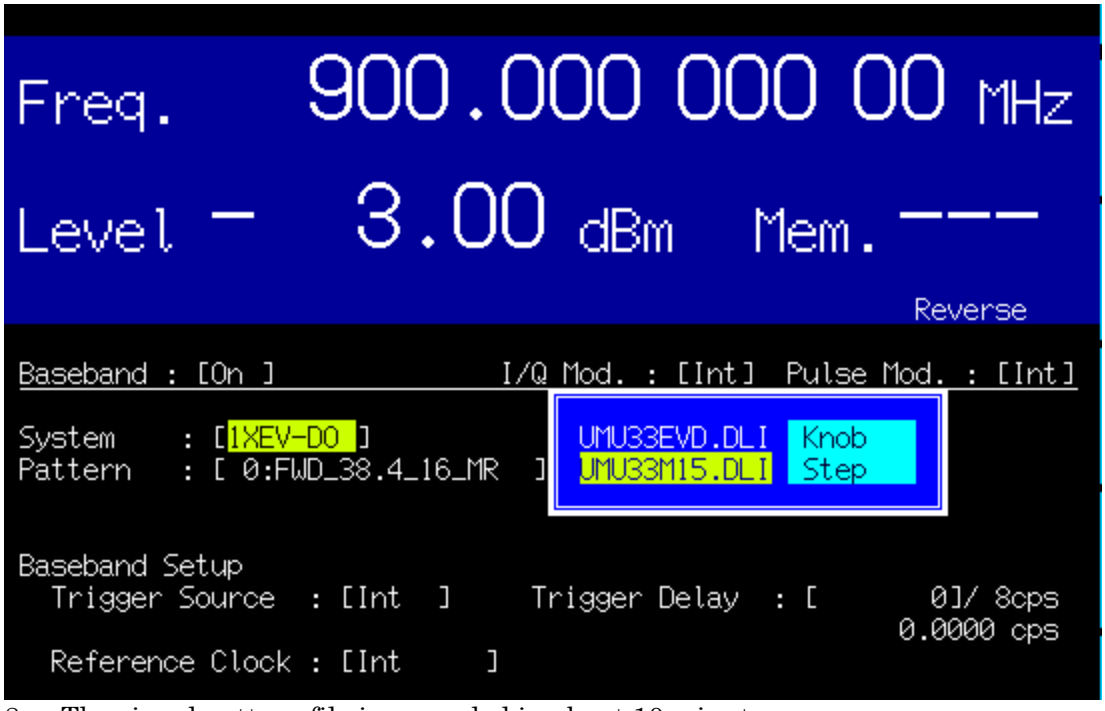
Please consult with our sales staff about updated firmware object.

1. Please prepare clear PC memory card (MX368033A card that the file and folder are empty).
2. Please copy to PC memory card like the following page.
3. Please power-off MG3681A.
4. Please insert PC memory card in [Memory Card] on the rear panel of MG3681A.



[Updated software object]

5. Please power-on MG3681A.
6. The firmware is upgraded in 1 to 2 minutes.
7. Please press [Digital Mod.] key and then [F5]:Wave Data Download key, select a signal pattern file by [Cursor] key, and set by [Set] key.
   UMU33EVD.DLI: for single carrier
   UMU33M15.DLI: for multi-carrier



8. The signal pattern file is upgraded in about 10 minutes.

File configuration in PC memory card for version 2.00

Manritsu

Folder　: Firmware

umu33evd.dli

Configuration file for single carrier

1xEV19I.dlw

I signal pattern file for single carrier

1xEV19Q.dlw

Q signal pattern file for single carrier

UMU33M15.dli

Configuration file for multi-carrier

EVMCv15I.dlw

I signal pattern file for multi-carrier

EVMCv15Q.dlw

Q signal pattern file for multi-carrier

Anritsu

Specifications are subject to change without notice.

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