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Actual measurement example of ETC / ITS spot using the signal

◇The burst signal of ETC/ITS spot is certainly captured using real time mode and trigger function.

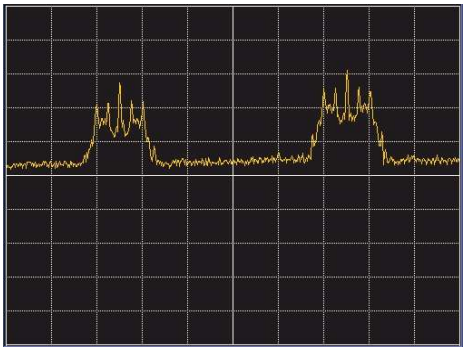
＊Application＊

Since the interval of burst signal of ETC / ITS spot is very short, a spectrum analyzer by sweep system can not measure the signal well.
If the real time mode of signal analyzer MSA500 series is used, any spectrum will not be missed.

＊Solution＊

■ Spectrum measurement

[Power trigger & MaxHold functions]

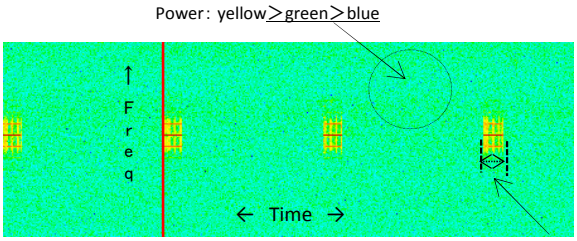


※ 2 channel signals of ETC roadside unit (5795 & 5805MHz)

■ Spectrogram analysis

[Spectrogram]

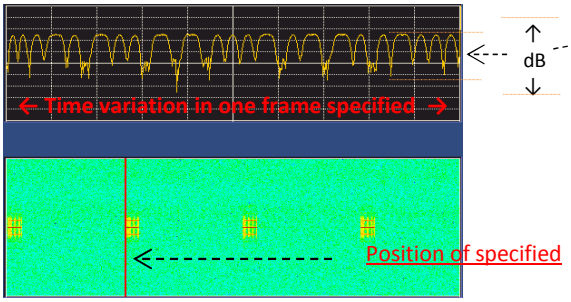
: X axis is time(frame),Y axis is frequency and Z axis is power (displayed by color).
By display by three dimensions, the time response of signal can be analyzed.



※ 5795MHz of ETC roadside unit (ASK signal)　Interval: 500μsec

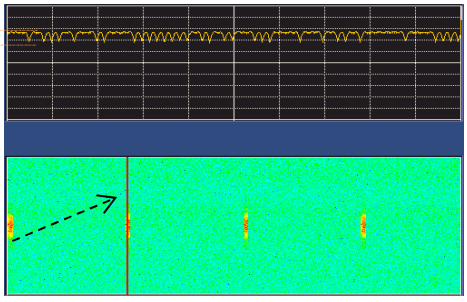
■ Time domain analysis　※ SPAN: 20MHz@all images

① ["Power vs time" & "Spectrogram" of ASK signal]



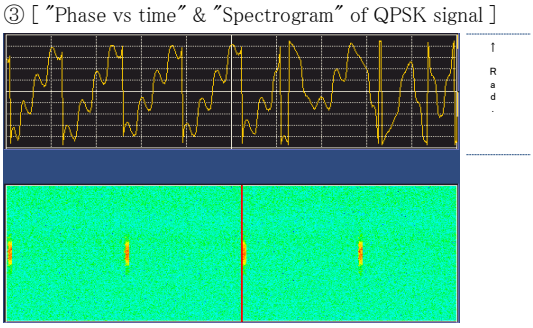
※The time response of the transmission signal of the ETC roadside unit generated in burst and modulated by ASK is observed.

② ["Power vs time" & "Spectrogram" of QPSK signal]

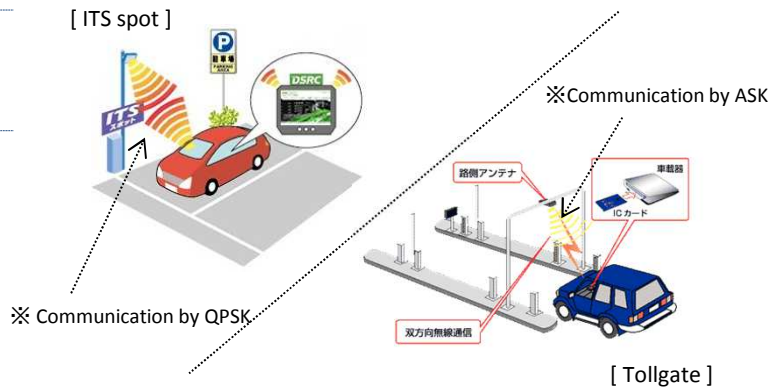


※The average transmission power can be determined from "power vs time" analysis of QPSK signal at ITS spot.

③ ["Phase vs time" & "Spectrogram" of QPSK signal]



※The time response of the transmission signal of the ITS spot generated in burst and modulated by QPSK is observed.



＊System configuration＊

・Configuration 〔 MSA558 〕

2013/7

MICRONIX Corporation
2987-2 Kobiki-cho, Hachioji-shi, Tokyo Japan
URL http://www.micronix-jp.com
E-mail micronix_e@micronix-jp.com