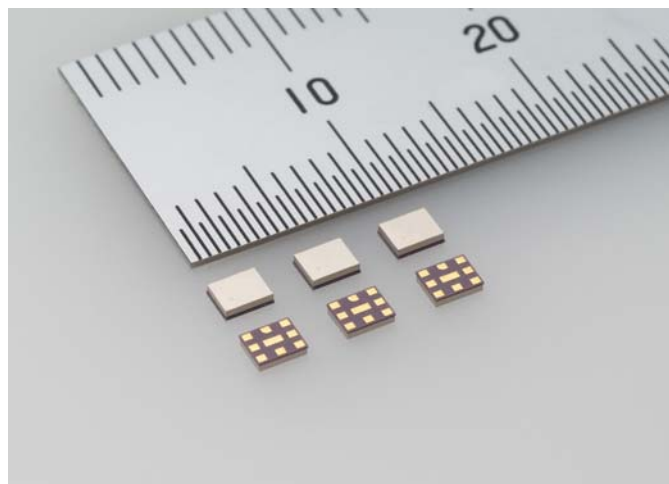


For immediate release

## Taiyo Yuden Announces the Successful Development of a Duplexer with Zero Frequency Fluctuation with Temperature

*Development Aimed at the 3<sup>rd</sup> to 3.9<sup>th</sup> Generation Mobile Phone 1.8 GHz-Band Communication Systems Such As the W-CDMA BAND III*



TOKYO, October 1, 2010 — TAIYO YUDEN CO., LTD. today, having evolved the ZERO-TCF technology for zero frequency fluctuation with temperature change in duplexers, announced details of the successful development of EIA 1008-size temperature-compensated duplexers, the D6UH1G842PH62 and the D6UK1G842MK22 (both 2.5 x 2.0 with a maximum height of 0.65 mm), which are aimed at the 3<sup>rd</sup> to 3.9<sup>th</sup> generation mobile phone communication systems for such bands as the W-CDMA BAND III, which make use of the 1.8 GHz band.

These products, intended for mobile phones such as smartphones, are planned to go into mass production by the end of this fiscal year at the domestic subsidiary, TAIYO YUDEN Mobile Technology Products Co., Ltd. (Suzaka City, Nagano Prefecture).

### Technology Background

In mobile phones, such as smartphones, the frequency bands to accommodate have been increasing, and the duplexer, the crucial part connecting the antenna and the transceiver circuits, must also handle these frequency bands. The communication systems utilizing the 1.8 GHz band, like the W-CDMA Band III, which are expected to become more widespread, are characterized by broader bandwidth, narrow spacing for transmit and receive frequency bands (transmit band frequency: 1710 to 1785 MHz, receive band frequency: 1805 to 1880 MHz, transmitting and receiving interval: 20 MHz), and the smaller margin for frequency fluctuation than for other systems. When temperature changes are applied to the duplexer, the transceiver band frequency fluctuates with the expansion and contraction of the filter substrate which comprises the duplexer, and then extra signals can get into the interval between transmit and receive, leading to possible signal quality degradation. Because of this, for duplexers handling bands such as the W-CDMA Band III, it is absolutely imperative to develop specific strategies against frequency fluctuation due to changes in temperature.

Taiyo Yuden has developed the ZERO-TCF technology to suppress the filter substrate expansion and contraction using original substrate materials and film-forming technology. By implementing SAW, advanced design, simulation and original encapsulating technologies, an EIA 1008-size temperature-compensated duplexer has been successfully developed which is suitable for communication systems utilizing the 1.8 GHz band.

Looking to the future market, new commercial high-frequency components by TAIYO YUDEN Mobile Technology Co., Ltd. (representative director: Katsushige Nakano, Kohoku-ku, Yokohama City, Kanagawa Prefecture) will continue to be developed, such as SAW and FBAR devices, as well as front-end modules.

**These products and technologies will be exhibited at the Taiyo Yuden booth during CEATEC JAPAN 2010 to be held at Makuhari Messe (Mihama-ku, Chiba City, Chiba Prefecture) from October 5.**

Characteristics of the D6UH1G842PH62 and D6UK1G842MK22 are as follows.

Ordering code	Frequency	System	Remarks
D6UH1G842PH62	Transmit: 1710 to 1785 MHz	W-CDMA Band III, etc.	Balanced output
D6UK1G842MK22	Receive : 1805 to 1880 MHz		Unbalanced output