The Western Design Center, Inc.

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Effective: January, 2018

RE: RoHS 2 and RoHS 3 Supplier Declaration of Compliance

Dear Customer,

Regarding WDC IC products with respect to the Restriction of Hazardous Substance in Electrical and Electronic Equipment (RoHS), Please be advised of the following:

WDC Products in Compliance:

Manufacturers Part Number	*Description*	*Wafer Foundry*	*Packaging Vendor*
W65C02S6TPG-14	8-bit Microprocessor - 40 Pin PDIP Package	TSMC	GTK
W65C02S6PLG-14	8-bit Microprocessor - 40 Pin PDIP Package	SANYO	GTK
W65C02S6TPLG-14	8-bit Microprocessor - 44 Pin PLCC package	TSMC	GTK
W65C02S6TQG-14	8-bit Microprocessor - 44 Pin QFP package	TSMC	GTK
W65C816S6PG-14	8/16-bit Microprocessor - 40 Pin PDIP Package	SANYO	GTK
W65C816S6PLG-14	8/16-bit Microprocessor - 44 Pin PLCC package	SANYO	GTK
W65C816S6TPG-14	8/16-bit Microprocessor - 40 Pin PDIP Package	TSMC	GTK
W65C816S6TPLG-14	8/16-bit Microprocessor - 44 Pin PLCC package	TSMC	GTK
W65C816S6TQG-14	8/16-bit Microprocessor - 44 Pin QFP Package	TSMC	GTK
W65C21S6TPG-14	Peripheral Interface Adapter (PIA) - 40 Pin PDIP Package	TSMC	GTK
W65C21S6TPLG-14	Peripheral Interface Adapter (PIA)- 44 Pin PLCC package	TSMC	GTK
W65C21N6TPG-14	Peripheral Interface Adapter (PIA) - NMOS Compatible - 40 Pin PDIP Package	TSMC	GTK
W65C21N6TPLG-14	Peripheral Interface Adapter (PIA) - NMOS Compatible - 44 Pin PLCC package	TSMC	GTK
W65C22S6TPG-14	Versatile Interface Adapter (VIA) - 40 Pin PDIP Package	TSMC	GTK
W65C22S6TPLG-14	Versatile Interface Adapter (VIA) - 44 Pin PLCC package	TSMC	GTK
W65C22N6TPG-14	Versatile Interface Adapter (VIA)- NMOS Compatible - 40 Pin PDIP Package	TSMC	GTK
W65C22N6TPLG-14	Versatile Interface Adapter (VIA)- NMOS Compatible - 44 Pin PLCC package	TSMC	GTK
W65C51N6TPG-14	Asynchronous Communication Interface Adapter - NMOS Comp - 28 Pin PDIP	TSMC	GTK
W65C51N6TPLG-14	Asynchronous Communication Interface Adapter - NMOS Comp - 28 Pin PLCC	TSMC	GTK
W65C134S8PLG-8	8-bit Microcontroller - 68 Pin PLCC Package	SANYO	ASE
W65C134S8QG-8	8-bit Microcontroller - 80 Pin QFP Package	TSMC	GTK
W65C265S8PLG-8	8/16-bit Microcontroller - 84 Pin PLCC Package	SANYO	ASE
W65C265S8QG-8	8/16-bit Microcontroller - 100 Pin QFP Package	TSMC	GTK

Summary of RoHS 2:

RoHS Directive 2011/65/EU (RoHS2) became effective on January 3rd 2013. RoHS 2 deals with the same hazardous substances and the same maximum concentration limits as Directive 2002/95/EC (RoHS1). Therefore, all products meeting the substance restrictions of RoHS 1 remain compliant to the substance restrictions of RoHS 2. The scope of RoHS 2 expanded the phase in the previously excluded categories of medical devices and monitoring& control interments, as well as certain cables. In addition, RoHs 2, for finished EEE, requires the use of the CE mark to demonstrate compliance with the directive. As of July 2016 updates have been made to increase the effectiveness of these standards by China's Ministry of Industry and Information Technology (MIIT). WDC recommends that if your products have the potential to be effected by the new RoHS 2 standards that you become familiar with all requirements. As a service to our customers we have included key items to understand below.

RoHS 2 Update July 1, 2016 key changes to understand:

Key differences with the previous version of China RoHS that directly impact manufacturers in the near term include:

- A different, and broader scope. In an attempt to harmonize more closely with EU RoHS, the scope has been changed from "Electronic Information Products" (as was defined by a very long and curious listing of finished goods, components and materials back in 2006, before China RoHS came into effect) to "Electrical and Electronic Products." EEP are defined to be equipment dependent on electric current or electromagnetic fields for operation and equipment for the generation, transfer and measurement of such currents and fields, with a working voltage rating not to exceed 1000 volts alternating current or 1500 volts direct current. This is effectively the same as the EU RoHS Directive (2011/65/EU) definition in Article 3, paragraph 1.
    - Note that unless MIIT and the group of ministries defines this scope more succinctly, this could encompass products that are not yet subject to EU RoHS, particularly industrial Category 9 products and Category 11 products, as well as all EEE that are currently defined as being excluded from the scope of EU RoHS (as described in Article 2, including military products, large scale industrial tools, etc.). To expect such companies to be able to comply with this requirement in a few short months is impractical and should raise alarm bells among manufacturers of these products and their industry associations.

- Rather than calling out specific metals as hazardous substances, the new regulation defines the metals and their compounds as the targeted restricted substances. For instance, "lead" is now "lead and its compounds". The definition of the two classes of flame retardants, PBBs and PBDEs, has not changed.
    - While phthalates are not mentioned, the ability to add "Other harmful substances as regulated by the State" exists.
- Substance restrictions will again be limited to products listed in a "catalogue", and, according to Article 18, there will be a "conformity assessment system" that will be developed in the future.

- The updated marking/labeling standard, SJ/T 11364-2014, will supersede SJ/T 11364-2006 on July 1, 2016 as well. Note that the reference to the package labeling standard, GB 18455-2001 (which has become GB/T 18455-2010, a voluntary standard), has been removed, as has the requirement to label the name of the packaging materials.

- SJ/T 11363-2006, "Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products," has been replaced by GB/T 26572-2011, "Requirements of concentration limits for certain restricted substances in electrical and electronic products." While the name change is subtle, the details remain consistent with the previous standard. For instance, EEP-C is consistent with the definition of EIP-C in the original standard, which allows components which are below 4mm3 in size (such as 0805 and smaller SMT devices) to be considered as a single homogeneous material for the purposes of the restriction.

RoHS 3:

RoHS 3 adds four additional restricted substances (phthalates) to the list of six.

- Bis(2-Ethylhexyl) phthalate (DEHP): 0.1% (added in 2015)
- Benzyl butyl phthalate (BBP): 0.1% (added in 2015)
- Dibutyl phthalate (DBP): 0.1% (added in 2015)
- Diisobutyl phthalate (DIBP): 0.1% (added in 2015)

Compliance Statement:

This statement is to certify that all active WDC products are manufactured in full compliance with EU RoHS Directives 2002/95/EU-2011/65/EU and the council of June 8th 2011 as well as any updates regarding the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS Directives) including Directive 2015/863/EU additions. WDC's wafers (part number indicated with a "T") are supplied by Taiwan Semiconductor Company (TSMC) and packaged by Greatek Technologies (GTK). Previous parts contain wafer die from Sanyo (as indicated in above table). We hereby declare the following substances are not contained therein (the material/substance is not found above the threshold level listed other than exemptions approved by RoHS). The restricted substances and their limits per the RoHS Directive 2011/65/EU Article 4, Annex II dated June 8th 2011 listed below and added substances in compliance with RoHS 3 Directives of 2015 listed above.

Material/Substance	Threshold Level	Percent by Weight
Lead and Lead Components	1000 PPM	0.1% by weight in homogeneous materials
Mercury and Mercury Compounds	1000 PPM	0.1% by weight in homogeneous materials
Cadmium and Cadmium Compounds	100 PPM	0.01% by weight in homogeneous materials
Hexavalent Chromium Compounds	1000 PPM	0.1% by weight in homogeneous materials
Polybrominated Biphenyls, PBBs	1000 PPM	0.1% by weight in homogeneous materials
Polybrominated Diphenyl ethers, PBDEs including deca-BDE	1000 PPM	0.1% by weight in homogeneous materials

Best Regards,

David Gray
Vice President - Technology Development