




Prüfbericht-Nr.: <i>Test Report No.:</i>	60376478 001	Auftrags-Nr.: <i>Order No.:</i>	238486185	Seite 1 von 5 Page 1 of 5	
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	238038630	Auftragsdatum: <i>Order date:</i>	05.05.2020		
Auftraggeber: <i>Client:</i>	BenQ Corporation 16 Jihu Road, Neihu, Taipei 114, Taiwan				
Prüfgegenstand: <i>Test item:</i>	Interactive Flat Panel				
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	RE7501, RE7501A, RE7501B, RE7501C, RE7501D, RE7501E, RE7501P, RE7501X, RE7501S (BenQ)				
Auftrags-Inhalt: <i>Order content:</i>	TÜV Rheinland Q-mark approval				
Prüfgrundlage: <i>Test specification:</i>	2PFG 2383/06.16 Evaluation of Low Blue light content				
Wareneingangsdatum: <i>Date of receipt:</i>	17.04.2020				
Prüfmuster-Nr.: <i>Test sample No.:</i>	A002828431-001				
Prüfzeitraum: <i>Testing period:</i>	20.05.2020 – 25.05.2020				
Ort der Prüfung: <i>Place of testing:</i>	Taipei Laboratory				
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland Taiwan Ltd.				
Prüfergebnis*: <i>Test result*:</i>	Pass				
geprüft von / tested by:	 20.05.2020 Tom Shen / Project Handler		kontrolliert von / reviewed by:	 25.05.2020 Derek Hsu / Technical Reviewer	
Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>
Sonstiges / Other:					
LCD panel: K750WD90 (KTC) with the touch module ME75AC-KGD2 (HUAXIN)					
LED chip: Not available for products evaluated according to method 1.					
Note: The report issued date the same as reviewed date.					
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>			Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet					
Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested					
<p>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</p> <p><i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i></p>					

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Liste der verwendeten Prüfmittel
List of used test equipment

Prüfmittel <i>Test equipment</i>	Prüfmittel-Nr. / ID-Nr. <i>Equipment No. / ID-No.</i>	Nächste Kalibrierung <i>Next calibration</i>
Temp./Humi. Recorder / SK-L200THII alpha	TW-Ergo-118	Aug.2020
Illuminance meter / CL-200A	TW-Ergo-148	Jan.2021
Display Measurement System / SS 420	TW-Ergo-171	Jan.2021

Note: Criteria are fulfilled without adding or subtracting the overall measurement uncertainty.

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Produktbeschreibung
Product description

1	Produktdetails <i>Product details</i>	See page 1.		
2	Maße / Gewicht <i>Dimensions / Weight</i>	N/A		
3	Bedienelemente <i>Operating elements</i>	N/A		
4	Ausstattung / Zubehör <i>Equipment / Accessories</i>	N/A		
5	Nennspannung und Nennfrequenz <i>Rated voltage and rated frequency</i>	100-240Vac, 50/60Hz		
6	Nennstrom und / oder Nennleistung <i>Rated current and / or rated power</i>	5.0A		
7	Externes Netzteil <i>External Power supply</i>	N/A		
8	Schlüsselkomponenten (z.B. LED-Chip, Panel) <i>Key components used (e.g. LED-chip, Panel)</i>	LCD panel: K750WD90 (KTC) with the touch module ME75AC-KGD2 (HUAXIN)		
9	Prüfungsbedingungen <i>Test conditions</i>	Temp.: 21±2°C	RH.: 58±10%	Am. Illumination: 1 lx

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Absatz	2PFG 2383/06.16	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation
1	<p>Prerequisite Safety:</p> <p>The Product must meet the safety criteria globally acknowledged for the product category based on IEC/EN-standards or regional / national requirements (e.g. IEC/EN 60065, IEC/EN 60950).</p>	<p>See CB certificate No.: FR_708389</p>	<p>P <input checked="" type="checkbox"/></p> <p>F <input type="checkbox"/></p> <p>N/A <input type="checkbox"/></p> <p>N/T <input type="checkbox"/></p>
2	<p>Photobiological Safety:</p> <p>Evidence has to be given that product under test is photobiologically safe under normal and abnormal conditions. Exempt group requirements laid down in EN 62471-1 have to be met.</p>	<p>Display products that emits a broadband visible spectrum within 380-780nm and with peak luminance level less than 1000 cd/m² can be considered to be exempt group.</p>	<p>P <input checked="" type="checkbox"/></p> <p>F <input type="checkbox"/></p> <p>N/A <input type="checkbox"/></p> <p>N/T <input type="checkbox"/></p>
3	<p>No UV-content:</p> <p>The Unit under test does not emit radiation in UV-range. (Neither UVA, UVB nor UVC) Requirements laid down in EN 62471-1 have to be met.</p>	<p>No UV content</p>	<p>P <input checked="" type="checkbox"/></p> <p>F <input type="checkbox"/></p> <p>N/A <input type="checkbox"/></p> <p>N/T <input type="checkbox"/></p>
4	<p>User Manual: Meaning of 'low blue light content'</p> <p>In the User Manual the meaning of "Low blue light content" has to be explained by the manufacturer to the end-user. The explanation has to be checked for conclusiveness. The by user manual described characteristics has to be met.</p>	<p>The explanation of "Eye Care" meaning was described in user manual.</p>	<p>P <input checked="" type="checkbox"/></p> <p>F <input type="checkbox"/></p> <p>N/A <input type="checkbox"/></p> <p>N/T <input type="checkbox"/></p>
5	<p>User Manual: Health recommendations</p> <p>The user manual shall be checked for the existence of these items and the recommendations. Proper break time and exercises have proven effective on reducing strain.</p>	<ul style="list-style-type: none"> ○ Break times ○ Look at distance objects ○ Eye Exercises 	<p>P <input checked="" type="checkbox"/></p> <p>F <input type="checkbox"/></p> <p>N/A <input type="checkbox"/></p> <p>N/T <input type="checkbox"/></p>
6	<p>User Manual: 'Low blue light content' modes</p> <p>The display can support more than one 'low blue light content' mode, e.g. a neutral, a warm, a vivid, etc. 'low blue light content' mode. It shall be clearly described in the user manual which mode or modes are ,low blue light content' modes and which are not and how to set the display to this modes.</p>	<p>The way of enter to "Eye Care" mode was clearly described in the user manual.</p>	<p>P <input checked="" type="checkbox"/></p> <p>F <input type="checkbox"/></p> <p>N/A <input type="checkbox"/></p> <p>N/T <input type="checkbox"/></p>

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7	<p>User Manual: Port used</p> <p>In case the port used for 'low blue light mode' differs from the port used for testing (see 5.2.2 Setup) they user manual shall describe which port shall be use.</p>	Port: HDMI	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>
8	<p>Ratio Blue to Irradiance:</p> <p>Based on a spectrum scan (resolution < 1nm) the peak in Blue has to be estimated. The irradiance emitted in this peak (bandwidth ±20nm) is brought in relationship to irradiance of the whole spectrum.</p> <p>The peak in Blue range is not allowed to exceed 20% of total power emitted.</p>	18.2%	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>
9	<p>Ratio Blue to other wavelengths:</p> <p>The peak wavelength in Blue part of the spectrum (<500nm) is estimated and the peak wavelength outside the blue part of the spectrum is estimated.</p> <p>The irradiance in other color ranges is not allowed to be less than 50% as the irradiance in blue range.</p>	73.8%	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>
10	<p>Max. Luminous output</p> <p>Device depending either [cd/m²] [Lux] or [Lumen]</p>	Max. brightness and contrast	512 cd/m ²
11	<p>Blue light ratio</p> <p>The ratio of light in the range from 415nm - 455nm compared to 400nm – 500nm shall be less than 50%.</p>	Not available for products evaluated according to method 1.	P <input type="checkbox"/> F <input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/T <input type="checkbox"/>
12	<p>Range of CCT</p> <p>The CCT in the 'low blue light content' mode (or 'low blue light content' modes, if more than one is chose able, e.g. for warm or neutral low blue light mode) shall be within the range of 5500K to 7000K. In case the measurement result of 5.3.5.1 (ratio of low blue/total blue) is less than 5% the requirement of 5.3.5.2 can be not applicable.</p>	Not available for products evaluated according to method 1.	P <input type="checkbox"/> F <input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/T <input type="checkbox"/>