Prüfbericht-Nr.: *Test Report No.:*	**60381783 001**	**Auftrags-Nr.:** *Order No.:* **238486187**	**Seite 1 von 7** *Page 1 of 7*
Kunden-Referenz-Nr.: *Client Reference No.:*	**238038631**	**Auftragsdatum: 05.05.2020** *Order date:*	
Auftraggeber: *Client:*	BenQ Corporation 16 Jihu Road, Neihu, Taipei 114, Taiwan		
Prüfgegenstand: *Test item:*	Interactive Flat Panel		
Bezeichnung / Typ-Nr.: *Identification / Type No.:*	RE8601, RE8601A, RE8601B, RE8601C, RE8601D, RE8601E, RE8601P, RE8601X, RE8601S (BenQ)		
Auftrags-Inhalt: *Order content:*	TÜV Rheinland Flicker Free approval		
Prüfgrundlage: *Test specification:*	2 PfG1797 / 12.13 Flicker Free Devices		

Wareneingangsdatum: *Date of receipt:*	29.05.2020
Prüfmuster-Nr.: *Test sample No.:*	A002837741-001
Prüfzeitraum: *Testing period:*	01.06.2020 - 09.06.2020
Ort der Prüfung: *Place of testing:*	Taipei Laboratory
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland Taiwan Ltd.
Prüfergebnis*: *Test result*:*	Pass

geprüft / tested by:			**kontrolliert /** reviewed by:		
01.06.2020	Tom Shen / Project Handler		09.06.2020	Derek Hsu / Technical Reviewer	
Datum *Date*	**Name/Stellung** *Name/Position*	**Unterschrift** *Signature*	**Datum** *Date*	**Name/Stellung** *Name/Position*	**Unterschrift** *Signature*

Sonstiges / Other:
LCD panel and LCD panel manufacturer: **K860WD90 (KTC)**
The EUT is with the touch module ME86AC-KGD2 (HUAXIN).
Note: The report issued date the same as reviewed date.

Zustand des Prüfgegenstandes bei Anlieferung: *Condition of the test item at delivery:*	Test item complete and undamaged *Prüfmuster vollständig und unbeschädigt*

* 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

V04

Verwendete Meßgeräte/Prüfmittel

Messung / *measurement*	**Geräte-Ident.-Nummer** *equipment ident. Number*	**nächste Kalibrierung /** *next calibration*
Optiscope-SA-12 Response time module	TW-Ergo-116	Oct-20
Microvision SS 420 Display Analysis System Luminance, Distance and Color	TW-Ergo-171	Jan-21

Measurement Uncertainty

The reported measurement uncertainty is estimated based on CIPM:
GUIDE TO THE EXPRESSION OF UNCERTAINTY IN MEASUREMENT
(Corrected and Reprinted 1993)

Visual Ergonomics

Coverage Factor k = 2

Confidence Level = 95%

Luminance (cd/m²) = ± 4.77% (≥ 1cd/m²)

Luminance (cd/m²) = ± 7.47% (< 1cd/m²)

Note

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

Test sample set up and configuration

VDU:	Interactive Flat Panel
Identification:	RE8601, RE8601A, RE8601B, RE8601C, RE8601D, RE8601E, RE8601P, RE8601X, RE8601S (BenQ)
Manufacturer:	BenQ Corporation 16 Jihu Road, Neihu, Taipei 114, Taiwan
LCD brand/model:	KTC / K860WD90
LCD S/N and Rev.:	Revision 3.2
Surface treatment:	Hard coating(2H), Anti-glare treatment of the front polarizer(Haze 28%(Typ.)) clear (Bottom Polarizer)
Test mode:	3840 x 2160 (H x V) @ 60Hz
Test luminance level:	Default & Low luminance mode
Color mode setting:	Normal
Image type:	2D Images
Input port used:	HDMI
Ambient Condition:	Dark-room screen illuminance < 2 lux Room temperature: 21°C Relative humidity: 60%
Power Rating:	100-240Vac, 50/60Hz, 5.5A Class I
AC-Adapter:	--
Remark:	This is 85.6 inch Interactive Flat Panel with LED Backlight.

Attribute	Result
5.1.1 Prerequisite-safety	**Pass**

Mandate: The product must be safe to be operated during normal operation as well as in single fault condition. A test report or better a certificate as evidence is required.

Safety certified: CB Certificate is provided
Certificate No.: FR_708505

5.1.2 Setup	**Pass**

Mandate: For measurements the device under test shall be set up as described by the manufacturer. Minimum configuration requirements have to be considered

Setup: Default mode if not specified otherwise in test result

5.1.3 Laboratory condition	**Pass**

Mandate: The test shall be conducted under an ambient temperature of 23°C ±5°C with a relative humidity of 30% to 60%. The test sample shall be warmed up until the luminance level of the Display system is reasonably stable.

Ambient temperature: 21°C
Relative Humidity: 60%

Attribute	Result
5.2 Temporal instability (flicker)	**Pass**

Mandate: The image shall be free of flicker to at least 90% of the user population.
2D images: Eobs,n ≤ Epred,n → Display System is flickerfree

Condition 1 (default luminance)
Brightness: 50/100
Contrast: 50/100

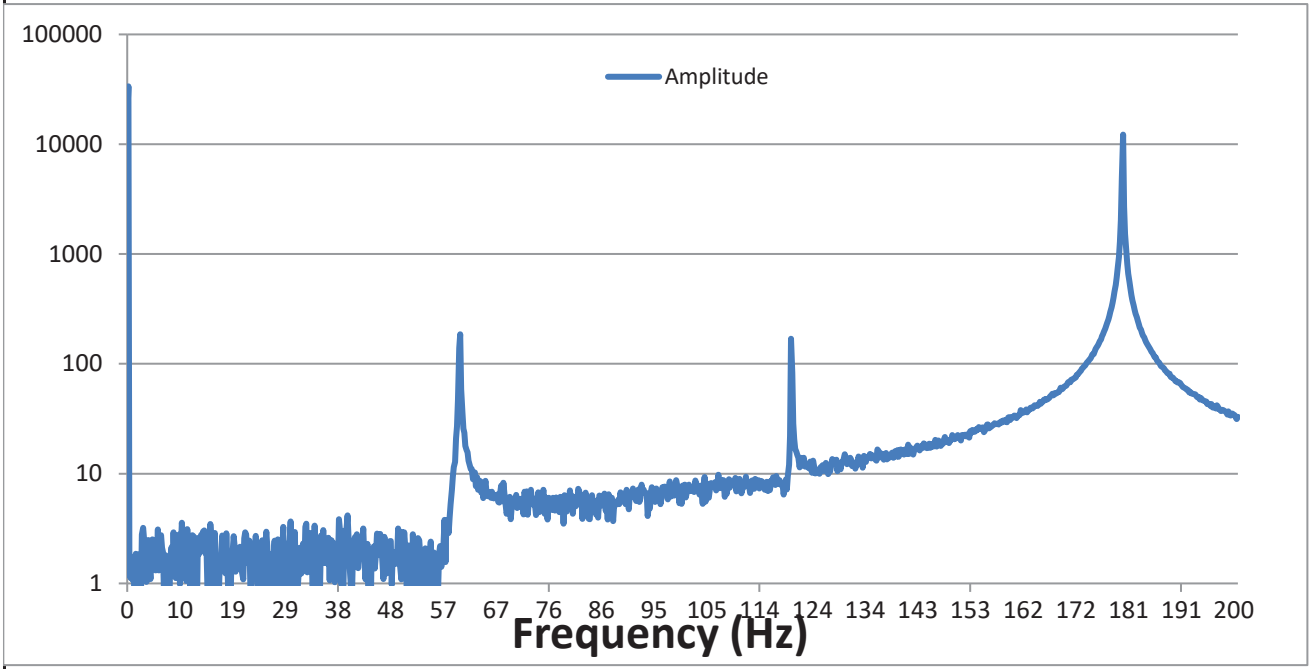
screen diagonal:		130.6°		
pupil area:		5.14 mm²		
c_0:		248.2 cd/m²		
n	1	2	3	4
f,n [Hz]	30	60	90	120
AMPn [1]	0.0004	0.0221	0.0008	0.0202
Eobs,n [td]	0.6	28.2	1.1	25.7
Epred,n [td]	10.0	209.4	4161.5	79641.6

Condition 2 (low luminance)
Brightness: 0/100
Contrast: 29/100

screen diagonal:		130.6°		
pupil area:		7.22 mm²		
c_0:		30.0 cd/m²		
n	1	2	3	4
f,n [Hz]	31	60	90	120
AMPn [1]	0.0012	0.0410	0.0016	0.0408
Eobs,n [td]	0.3	8.9	0.4	8.9
Epred,n [td]	11.4	209.4	4007.0	79641.6

Attribute

See the Fourier Transform of Condition 1 (default luminance) below:



See the Fourier Transform of Condition 2 (low luminance) below: