RF Exposure Evaluation Declaration

Product Name	：	UHD861-P
Trade Name	：	Vestel
Model No.	：	UHD861-P
FCC ID.	：	XU6-UHD861P

Applicant	:	VESTEL TRADE CO.
Address	:	Organize Sanayi Bölgesi (45030) Manisa/Türkiye

Date of Receipt	:	Mar. 21, 2017
Issued Date	:	Aug. 11, 2017
Report No.	:	1770393R-RF-US-EXP
Report Version	:	V2.0

Testing Laboratory
3024

The declaration results relate only to the samples calculated.
The declaration shall not be reproduced except in full without the written approval of DEKRA Testing and Certification Co., Ltd.

1. RF Exposure Evaluation

1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $Pd = (Pout*G)/(4*pi*r^2)$

Where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

Pd id the limit of MPE, 1 mW/cm^2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18℃and 78％ RH.

1.3. Test Result of RF Exposure Evaluation

Product	UHD861-P
Test Mode	Transmit Mode
Test Condition	RF Exposure Evaluation

Antenna Gain

Antenna Gain: The maximum Gain measured in fully anechoic chamber are 2dBi or 1.58 in linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance:

BT2.0			
Channel	Channel Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)
00	2402	1.6558	0.00052
39	2441	1.7258	0.00054
78	2480	1.7947	0.00056

Output Power into Antenna & RF Exposure Evaluation Distance:

BT4.0			
Channel	Channel Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)
00	2402	1.9454	0.00061
19	2440	2.0370	0.00064
39	2480	2.0370	0.00064

The power density Pd (4th column) at a distance of 20 cm calculated from the Friis transmission formula is far below the limit of 1 mW/cm^2.

Note:

BT 2.0 and BT 4.0 can’t transmit simultaneously so the calculations have been done in standalone mode.