

Ref. No. 14056-FCC-004

29 July 2015

To Whom It May Concern:

Re: FCC Exposure Evaluation for Simultaneous transmission

We, TAIYO YUDEN CO., LTD., hereby declare the following product complies with exposure limit specified in ANSI/IEEE Std. C95.1 as simultaneous transmission operation.

1. Product information

<Transmitter Module 1>

Model Number: WYSAAVDXB-E (installed to Smart Headset; H725A)
Manufacturer: TAIYO YUDEN CO., LTD.
Trade Name: EPSON
Product Description: Wireless Module
FCC ID: RYYWYSAAVDXB-E

<Transmitter Module 2>

Model Number: EYSFCN (installed to Smart Headset; H725A)
Manufacturer: TAIYO YUDEN CO., LTD.
Trade Name: TAIYO YUDEN
Product Description: Bluetooth Low Energy module
FCC ID: RYYEYSFCN

2. Summary of Calculations of Simultaneous transmission SAR test exclusion

No	Combination	Sum of all simultaneous transmitting antennas	Limit (1-g SAR)	SAR test Exclusion (Simultaneous transmission)
1	BLE + Bluetooth	0.12	1.6	APPLIED
2	BLE + W-LAN(2.4GHz)	0.234	1.6	APPLIED
3	BLE + W-LAN(5GHz)	0.748	1.6	APPLIED

WYSAVDXB-E is operated as time-division, thus, each function (Bluetooth, W-LAN (2.4GHz) and W-LAN (5GHz)) doesn't transmit simultaneously. However, each function of WYSAVDXB-E and EYSFCN are capable to transmit simultaneously.

3. Simultaneous Test Exclusion Considerations (KDB447498_D01)

According to 4.3.2 of KDB447498, simultaneous SAR test exclusion thresholds at test separation distance $\leq 50\text{mm}$ are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}/x]$

(x=7.5 for 1-g SAR)

3-1) Simultaneous transmission

(BLE of EYSFCN and Bluetooth of WYSAAVDXB-E):

Band	Frequency (MHz)	Reported 1-g SAR (W/kg)	Max. power		Min. separation distance (mm)	Threshold	Simultaneous SAR test exclusion
			(mW)	(dBm)			
Bluetooth (WYSAAV DXB-E)	2480	N/A	0.94	-0.27	5	1.6	Applied ^{*1}
BLE (EYSFCN)	2480	N/A	1.96	2.92	5	1.6	Applied ^{*1}

*1: Bluetooth (WYSAAVDXB-E): $(0.94/5) \times (\sqrt{2.48/7.5}) = \underline{\underline{0.04}}$

BLE (EYSFCN): $(1.96/5) \times (\sqrt{2.48/7.5}) = \underline{\underline{0.08}}$

Sum = 0.04 + 0.08 = 0.12

As the sum of 1-g of all simultaneous transmitting antennas is ≤ 1.6 , this configuration is applicable to SAR simultaneous test exclusion.

3-2) Simultaneous transmission @ 2.4GHz

(BLE of EYSFCN and 2.4 GHz W-LAN of WYSAAVDXB-E):

Band	Frequency (MHz)	Reported 1-g SAR (W/kg)	Max. power		Min. separation distance (mm)	Threshold	Simultaneous SAR test exclusion
			(mW)	(dBm)			
W-LAN (WYSAAV DXB-E)	2462	0.154	N/A	N/A	5	1.6	Applied ^{*2}
BLE (EYSFCN)	2480	N/A	1.96	2.92	5	1.6	Applied ^{*2}

*2: W-LAN (WYSAAVDXB-E): 0.154 (Reported)

BLE (EYSFCN): $(1.96/5) \times (1.57/7.5) = \underline{0.08}$

$0.154 + 0.08 = 0.234$

As the sum of 1-g of all simultaneous transmitting antennas is ≤ 1.6 , this configuration is applicable to SAR simultaneous test exclusion.

**3-3) Simultaneous transmission @ 5GHz and 2.4GHz
(BLE of EYSFCN and 5 GHz W-LAN of WYSAAVDXB-E):**

Band	Frequency (MHz)	Reported 1-g SAR (W/kg)	Max. power		Min. separation distance (mm)	Threshold	Simultaneous SAR test exclusion
			(mW)	(dBm)			
W-LAN (WYSAAV DXB-E)	5825	0.668	N/A	N/A	5	1.6	Applied ^{*3}
BLE (EYSFCN)	2480	N/A	1.96	2.92	5	1.6	Applied ^{*3}

*3: W-LAN (WYSAAVDXB-E): 0.668 (Reported)

BLE (EYSFCN): $(1.96/5) \times (1.57/7.5) = \underline{0.08}$

$0.668 + 0.08 = 0.748$

As the sum of 1-g of all simultaneous transmitting antennas is ≤ 1.6 , this configuration is applicable to SAR simultaneous test exclusion.

Sincerely,



Manabu Satomi, Deputy Manager
INTEGRATED MODULE & DEVICE BUSINESS DIV.