

**SAR test exclusion**

Date: 19 Apr 2016

Subject: SAR test exclusion for: 2AGGH-EMB

Pursuant to KDB 447498 D01 General RF Exposure Guidance v06, the applicant requests SAR test to be excluded

Applicable conditions:

- 1-g head or body, as the device can be temporarily in proximity to head or body despite it is worn on the wrist (e.g. while sleeping)
- 100MHz to 6 GHz and test separation distance $\leq 50\text{mm}$
- continuous Bluetooth communication at maximum power
- maximum output power of 5.0mW (=7dBm), as specified in Table 4.1 "RF Characteristics" of Toshiba Corporation "TZ1000 Series Reference Manual - Bluetooth® Low Energy"

Table 4.1 RF Characteristics

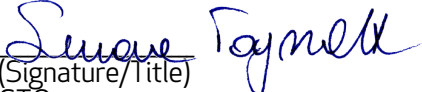
Test Purposes No.	Test Item	Sub Item	Packet	bit	ch	Condition	Unit	min	Typ.	max
TRM-LE/CA/01/C (Output power at NOC)	Output Power		37 octets	PRBS9	0,12, 19,39	peak	[dBm]	-4	-1	Pavg + 3 dB
TRM-LE/CA/02/C (Output power at EOC)						average				4
TRM-LE/CA/03/C (In-band emissions at NOC)	In-band Spurious Emissions		37 octets	PRBS9	0,2, 12, 19,37, 39	-5 MHz	[dBm]			-30
TRM-LE/CA/04/C (In-band emissions at EOC)						-4 MHz				-30
						-3 MHz				-30
						-2 MHz				-20
						2 MHz				-20
						3 MHz				-30
4 MHz									-30	
5 MHz			-30							
TRM-LE/CA/05/C (Modulation Characteristics)	Modulation Characteristics		37 octets	11110000	0,12, 19,39	Δf_{1avg} (11110000)	[kHz]	225	250	275
				10101010		Δf_{2max} (min-min) (10101010)		185	225	
						$\Delta f_{2avg} / \Delta f_{1avg}$	Ratio	0.8	0.9	
TRM-LE/CA/06/C (Carrier frequency offset and drift at NOC)	Carrier frequency offset (CFO)		37 octets	10101010	0,12, 19,39	ave.	[kHz]	-150	0	150
	Drift		37 octets	10101010		max			0	
						abs.max.	[kHz]		0	50
TRM-LE/CA/07/C (Carrier frequency offset and drift at EOC)	Drift Rate		37 octets	10101010		abs.max.	[kHz/50μs]		5	20

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$$

$$5\text{mW}/5\text{mm} \cdot \sqrt{2.48\text{GHz}} \leq 3.0$$
1.6 $\leq$ 3.0

Sincerely,

By:


(Signature/Title)
CTO

Simone Tognetti
(Print name)

Title: