**Nemko Canada, Inc.**
**303 River Road, Ottawa**
**Ontario K1V1H2**
**Canada**

**Re: Letter of Explanation for Audio Technica Model ATW-T1001 SAR Exemption**

FCC ID: JFZT1001
Product Type: 2.4 GHz Digital Beltpack Wireless Microphone Transmitter

To Whom It May Concern

## 2.4 GHz Digital Wireless Beltpack Microphone Transmitter SAR Exemption for FCC TCB Certification under Part 15.247

This beltpack wireless transmitter is excempted from routine SAR evaluation according to FCC part 2.1093(c).

## Operational Description

The equipment is a digital wireless microphone transmitter that operates in the 2.4 GHz frequency band. When registered to a ATW-R1100 Receiver the transmitter transmits continuously a digitized audio signal. The bitrate, modulation and duty cycle is constant. The system automatically selects the least disturbed channel from the 40 available system channels.

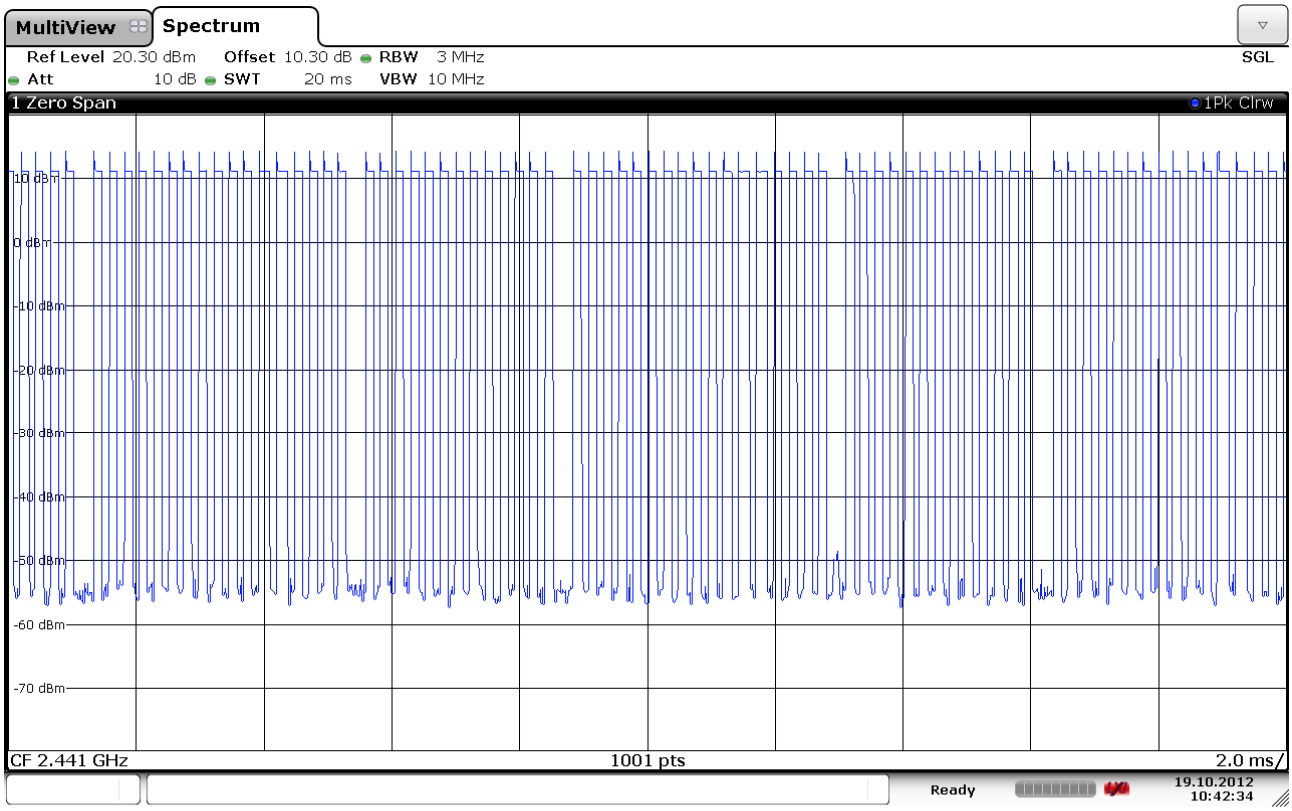
## RF Exposure Conditions

The transmitter is intended for use in the portable exposure condition and General Population/ Uncontrolled exposure environment.

## Transmission Mode

The transmitter uses DECT technology but slot length and frame length is proprietary. When registered to a Receiver, the EUT transmits continuously with a duty cycle of 49.8%.

## Duty Cycle

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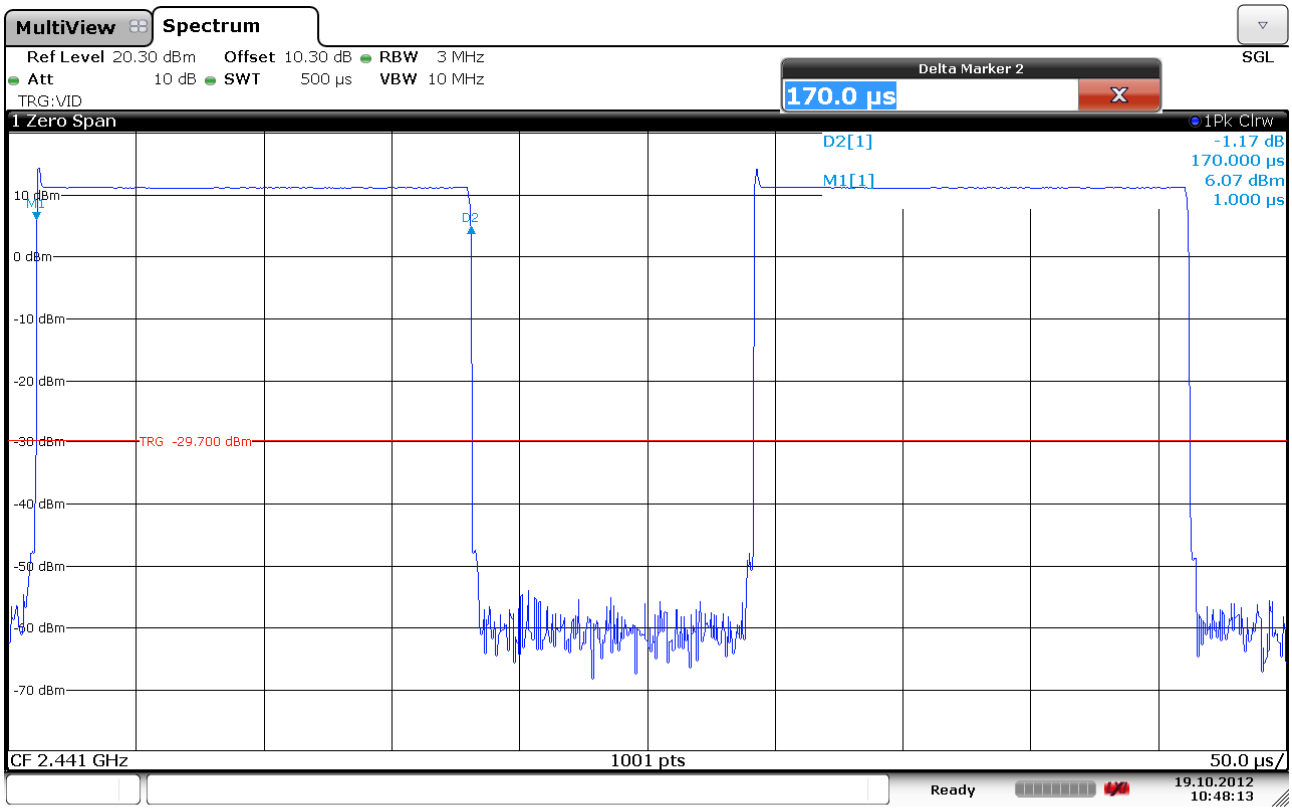
The EUT transmits a sequence of 15 short slots and 2 longer slots, then pauses for the Receiver to transmit and then transmits 13 short slots before pausing again.

Duty Cycle = (28x122µs + 2x170µs) / (26x235µs + 2x281µs + 2x437µs) = 3756µs / 7546µs = 49.77 %

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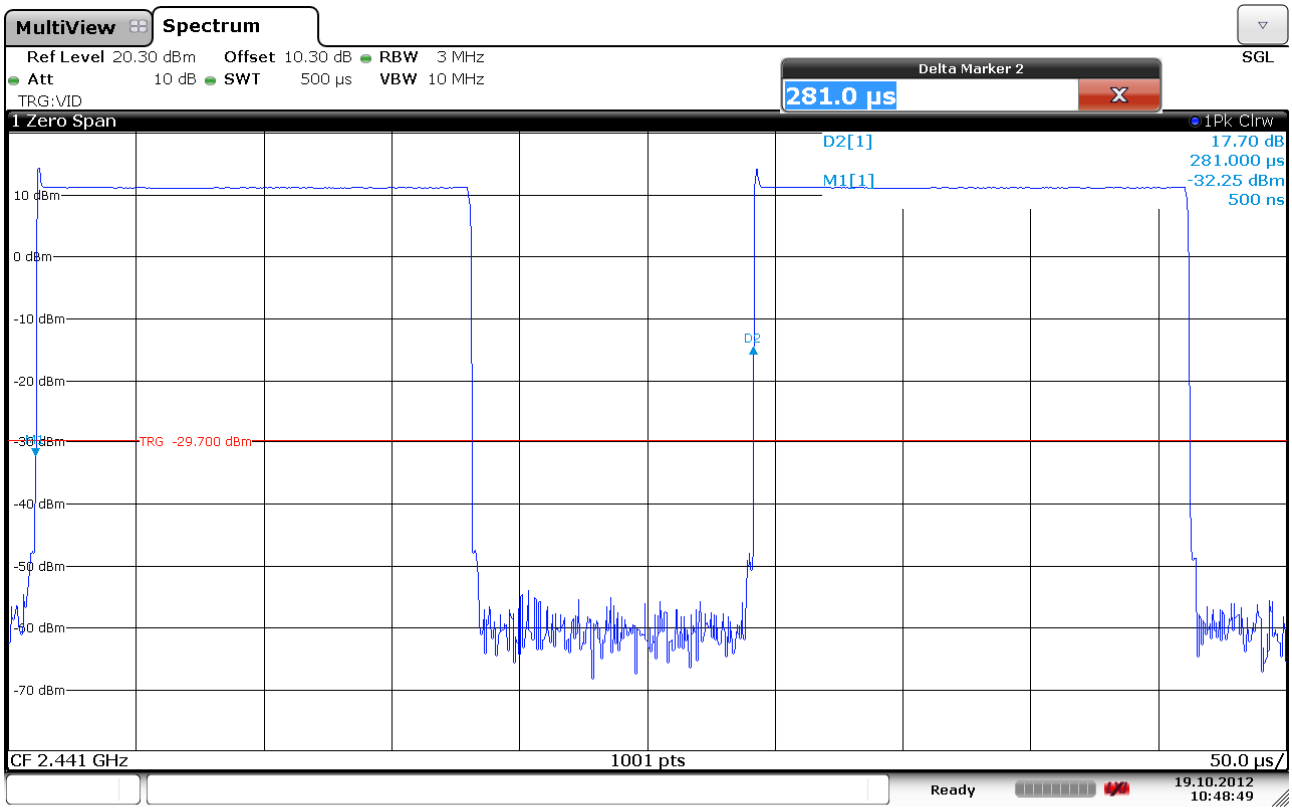


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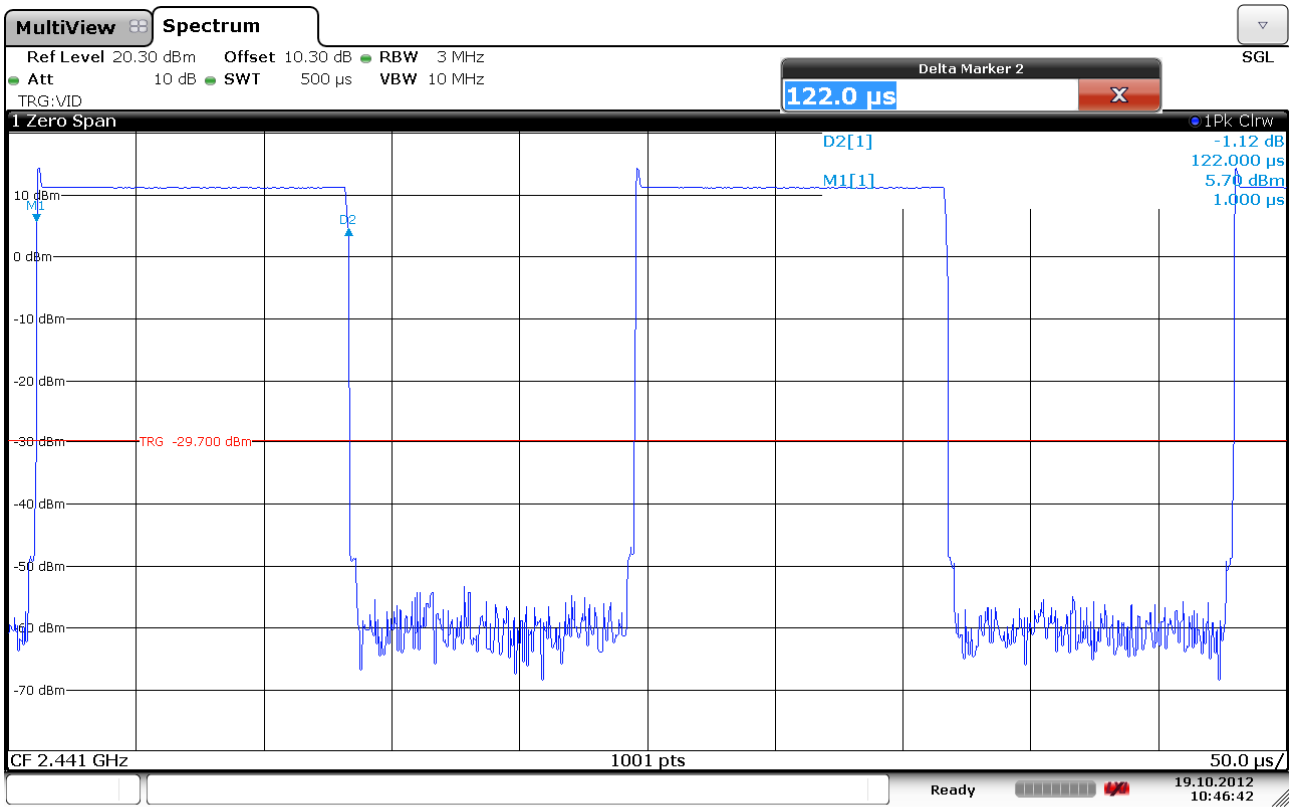
## Long Slot

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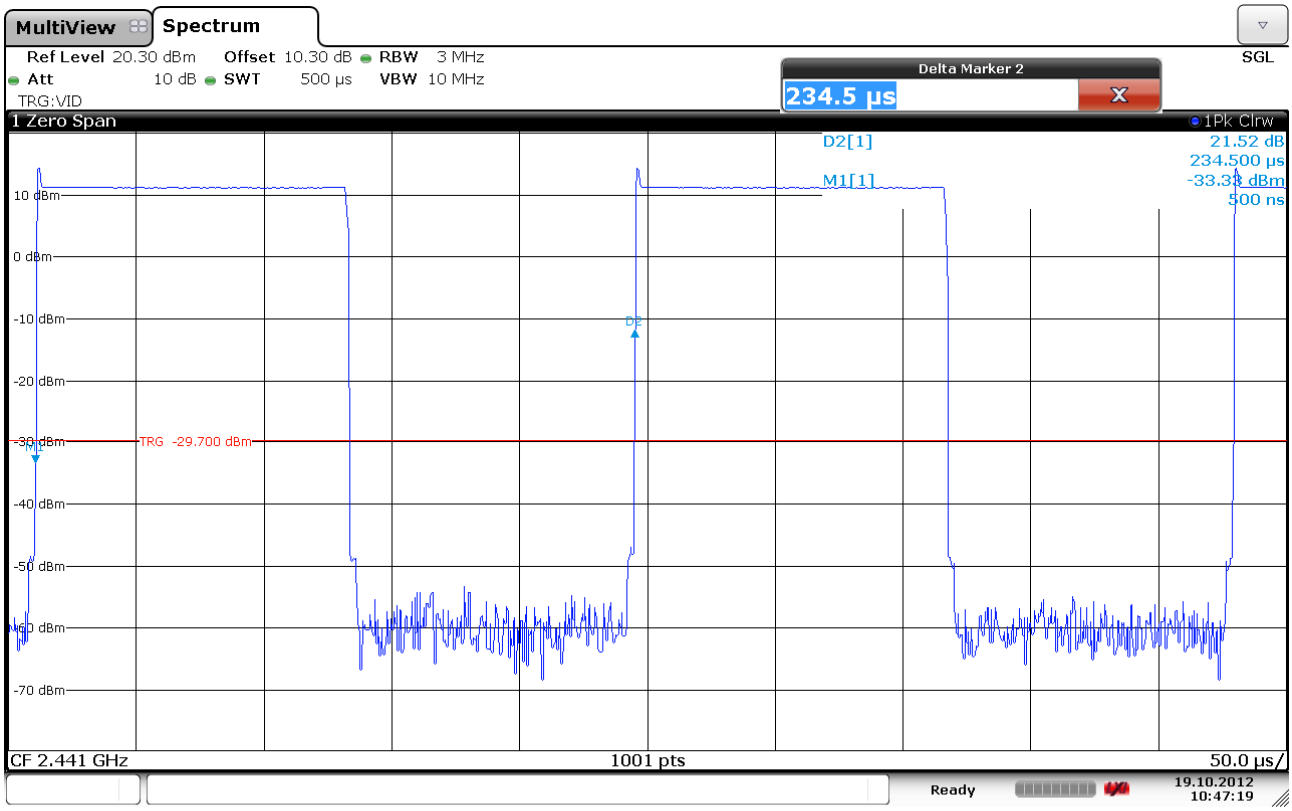


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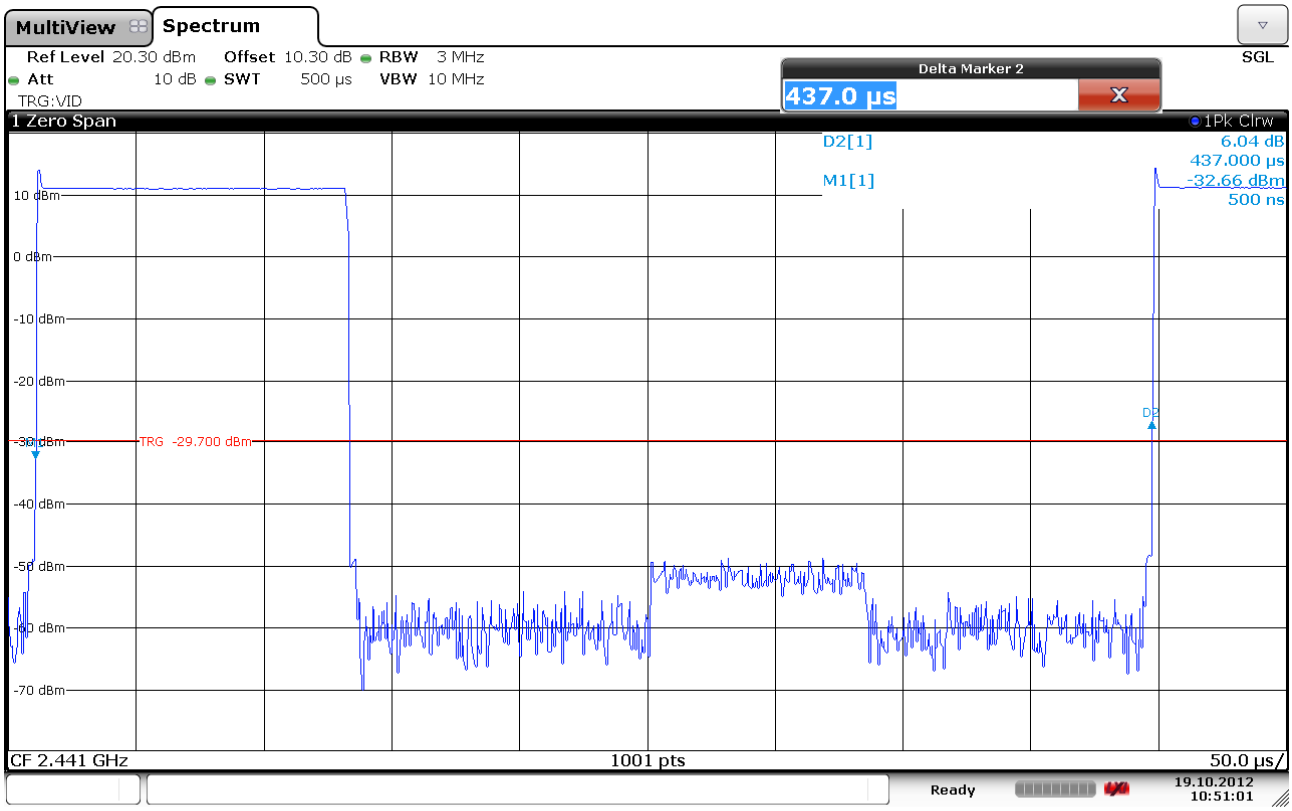
## Short Frame

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## Short Frame with Pause

**RF Output Power**

| | |
|---|---|
| TX Frequency Range: | 2403 – 2481 MHz |
| Maximum Time Averaged Output Power: | 0.00676 Watts (Conducted) |
| Antenna Gain: | 4.2 dBi |
| Maximum Time Averaged Output Power: | 0.0178 Watts (Radiated) |
| Maximum Duty Cycle: | 49.8 % |
| 60 / f (GHz) mW: | 24.58 mW |

Time Averaged RMS Power is measured with the TD Power measurement function of a R&S FSW Spectrum Analyzer.

Frode Sveinsen

Chief Engineer

Nemko AS

Kjeller, 19-Oct-2012