**Proposed ASHP Mitsubishi Noise Assessment Calculations**

**MCS 020** calculation for the **Mitsubishi Ecodan 8.5 kW (PUZ-WM85VAA)** at **4.6 m**, keeping the site assumptions as in the previous noise assessment report for the Midea model (Q = 2, solid barrier −10 dB, background 40 dB). The Mitsubishi Ecodan sound data lists **Sound Power Level (LwA) = 58 dB(A)**.

**Inputs (same as previous noise assessment)**

- **Q = 2**, **barrier = −10 dB**, **background = 40 dB**
- From the MCS distance-reduction table for **Q = 2**, the nearest entry to **4.6 m** is **5 m → −21 dB** (Step 4).
- Decibel correction table (Step 9): for a 13 dB difference, **add +0.2 dB** to the higher level

**Calculation (using nearest table value: 5 m)**

1. **SPL at receiver (Step 6)** = LwA 58 − 21 − 10 = **27 dB(A)**.
2. **Difference to background (Step 8)** = 40 − 27 = **13 dB**.
3. **Final corrected level (Step 9)** = 40 + **0.2** = **≈ 40.2 dB(A)** → **40 dB(A)** (rounded) → **PASS**.

**Note on interpolation**

If you interpolate between **4 m (−20 dB)** and **5 m (−21 dB)**, then **4.6 m → −20.6 dB**:

- SPL = 58 − 20.6 − 10 = **27.4 dB(A)**
- Difference ≈ **12.6 dB** → correction ≈ **+0.3 dB**
- Final ≈ **40.3 dB(A)**

**CONCLUSION**

At **4.6 m**, the Mitsubishi comes out at about **40.3 dB(A)**, within the 42dB planning limit.