ZMID520X EMC RECOMMENDATION

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SYSTEM ENGINEERING TEAM
RENESAS ELECTRONICS CORPORATION

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SYSTEM LEVEL TESTS
OVERVIEW

• Emission		
• CISPR 25	Radiated Emission – ALSE method	Level V
• CISPR 25	Conducted Emission – Voltage method	
• Immunity		
• ISO 11452-2	Radiated Immunity- ALSE method	200 V/m CW/AM
• ISO 11452-4	Bulk Current Injection, Common Mode	200 mA
• ISO 11452-5	Radiated Immunity – Stripline method	280 V/m < 50MHz
• ISO 11452-8	Immunity to magnetic fields (Stray Field Immunity)	20kA @ DC
• ISO 7637-3	Immunity to fast transient pulses (CCC)	+/-200V
• ISO 7637-3	Immunity to slow transient pulses (ICC)	+/- 6V
• ESD		
• ISO 10605	Packaging & Handling Test 330Ohm/150pF	8kV

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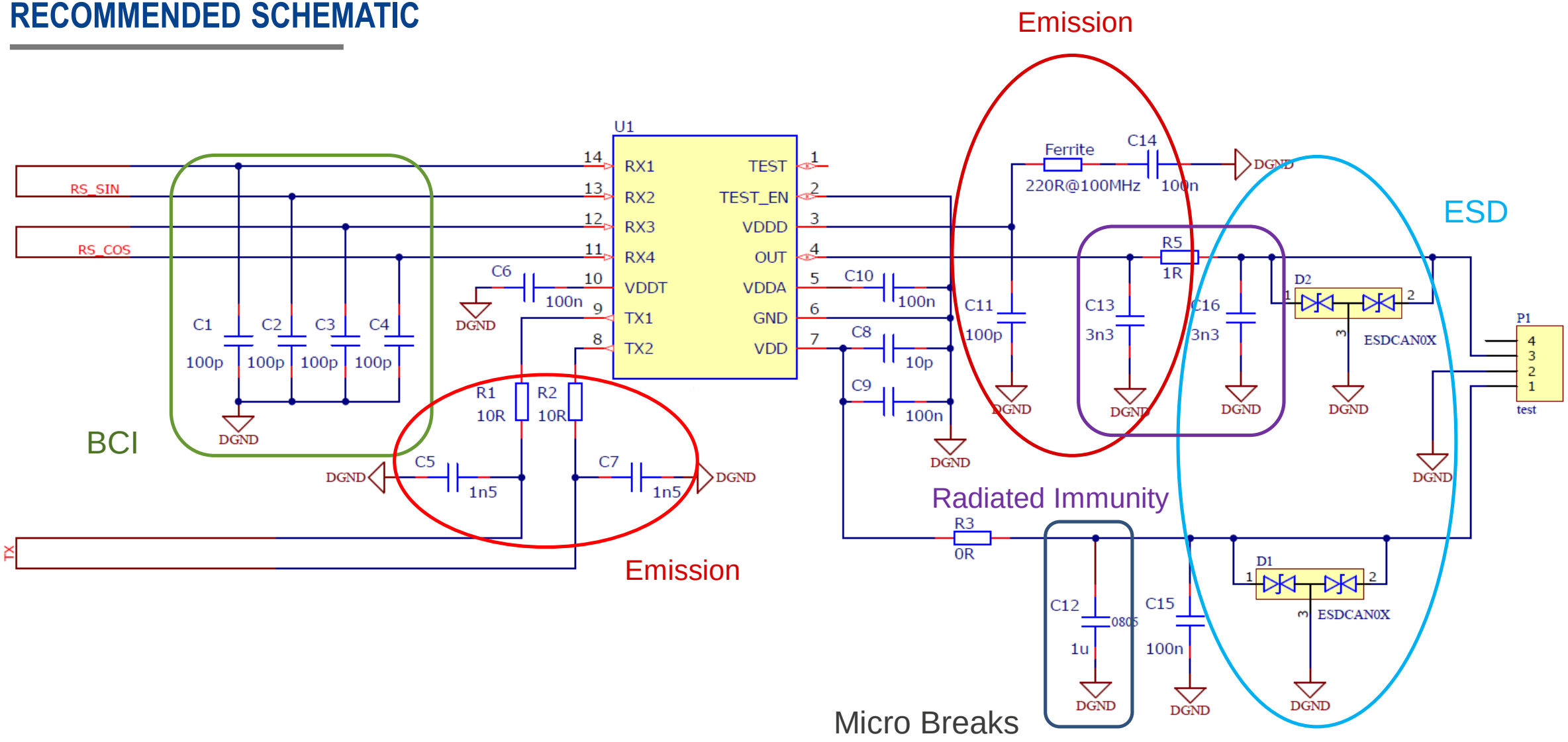
ZMID520X SYSTEM LEVEL EMC

RECOMMENDED SCHEMATIC



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REMARKS

- In general component count strongly depends on the actual EMC requirements.

- For C5 and C7 COG or NP0 capacitors should be used to ensure a low temperature drift and a high Q factor. The actual values must be chosen according to the used TX coil inductance.
  Do not use capacitor values below 1nF to avoid emission of TX frequency harmonics due to higher lowpass corner frequency.

- C11 should be placed as close as possible between Pin3 and Pin6. Additional reduction of emissions can be achieved if a ferrite (220Ohm @100MHz) and C14 = 100nF are placed. If ferrite and C14 are populated C3 should be 100pF instead of 100nF.

- For all other caps X7R or even lower quality is recommended.

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