## List of Tables

Table	Title	page
2.1	Literature review for synthesis of MW absorbing Ni-Zn spinel ferrites and their composites	20
2.2	Literature review for synthetic route for pure Z-type Ba/Sr hexaferrite powders	22
2.3	Literature review for synthesis of MW absorbing core-shell nanomaterials and their composites	24
2.4	Literature review for synthesis of MW absorbing $BaTiO_3$ and their composites	26
2.5	Literature review for synthesis of MW absorbing BiFeO <sub>3</sub> and its composites	25
3.1	List of additives used in rubber processing	33
3.2	List of dimension of rectangular wave guide sample holders for different MW frequency bands	43
4.1	Variation in magnetic moment with distribution of cations in Ni-Zn ferrite system	47
4.2	Stoichiometric ratio of salt precursors for preparation of ferrite powders (50g batch size)	47
4.3	List of Ni <sub>0.5</sub> Zn <sub>0.5</sub> Fe <sub>2</sub> O <sub>4</sub> ferrite loaded rubber composites	48
4.4	Elemental analysis of NiFe <sub>2</sub> O <sub>4</sub> and Ni <sub>0.5</sub> Zn <sub>0.5</sub> Fe <sub>2</sub> O <sub>4</sub> ferrite compositions	51
5.1	List of sample N <sub>4</sub> loaded rubber composites	63
5.2	Identified FTIR modes of vibration and corresponding wavenumber	65
6.1	List of tetragonal BaTiO <sub>3</sub> powder loaded rubber composites	75
6.2	List of rubber composites loaded with BFO powder annealed at 600°C for 4h duration	84
7.1	List of Sr <sub>3</sub> Co <sub>2</sub> Z ferrite loaded rubber composites	94